Amazon Elastic Compute Cloud

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Welcome

This is the Amazon Elastic Compute Cloud API Reference. It provides descriptions, syntax, and usage examples for each of the actions and data types for Amazon EC2 and Amazon Virtual Private Cloud (Amazon VPC).

The topic for each action shows the Query API request parameters and the XML response. You can also view the XML request elements in the WSDL.

Alternatively, you can use one of the AWS SDKs to access an API that's tailored to the programming language or platform that you're using. For more information, see AWS SDKs.

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**Note**
We have deprecated the SOAP API for Amazon EC2. We will continue to support SOAP requests for API versions up to and including version 2014-02-01, until the end of December 2014. For more information, see SOAP Requests.

To learn more about Amazon EC2 and Amazon VPC, see the following resources:

- Amazon EC2 product page
- Amazon Elastic Compute Cloud User Guide
- Amazon Virtual Private Cloud User Guide
- Amazon Elastic Compute Cloud Command Line Reference
List of Actions by Function

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AcceptVpcPeeringConnection

Description

Accepts a VPC peering connection request. To accept a request, the VPC peering connection must be in the `pending-acceptance` state, and you must be the owner of the peer VPC. Use the `DescribeVpcPeeringConnections` (p. 340) request to view your outstanding VPC peering connection requests.

Request Parameters

- **VpcPeeringConnectionId**
  - The ID of the VPC peering connection.
  - Type: String
  - Default: None
  - Required: Yes

Response Elements

The following elements are returned in an `CreateVpcPeeringConnection` element.

- **vpcPeeringConnection**
  - Information about the peering connection.
  - Type: `VpcPeeringConnectionType` (p. 569)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `ActiveVpcPeeringConnectionPerVpcLimitExceeded` (p. 600)
- `InvalidStateTransition` (p. 600)
- `InvalidVpcPeeringConnectionId.Malformed` (p. 600)
- `InvalidVpcPeeringConnectionId.NotFound` (p. 600)
- `MissingParameter` (p. 600)
- `VpcPeeringConnectionAlreadyExists` (p. 600)

Examples

Example Request

This example accepts the specified VPC peering connection request.

```
https://ec2.amazonaws.com/?Action=AcceptVpcPeeringConnection
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS
```
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcPeeringConnection>
    <vpcPeeringConnectionId>pcx-1a2b3c4d</vpcPeeringConnectionId>
    <requesterVpcInfo>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.0.0/28</cidrBlock>
    </requesterVpcInfo>
    <accepterVpcInfo>
      <ownerId>777788889999</ownerId>
      <vpcId>vpc-111aaa22</vpcId>
      <cidrBlock>10.0.1.0/28</cidrBlock>
    </accepterVpcInfo>
    <status>
      <code>active</code>
      <message>Active</message>
    </status>
  </vpcPeeringConnection>
</AcceptVpcPeeringConnectionResponse>
```

Related Actions

- DescribeVpcPeeringConnections (p. 340)
- CreateVpcPeeringConnection (p. 126)
- RejectVpcPeeringConnection (p. 420)
- DeleteVpcPeeringConnection (p. 169)
- CreateRoute (p. 102)
- ReplaceRoute (p. 429)

AllocateAddress

Description

Acquires an Elastic IP address.

An Elastic IP address is for use either in the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

**Domain**

Set to `vpc` to allocate the address for use with instances in a VPC.

Type: String

Valid values: `vpc`

Default: The address is for use in EC2-Classic.
Required: Conditional
Condition: Required when allocating the address for use in a VPC.

Response Elements
The following elements are returned in an AllocateAddressResponse element.

- requestId
  The ID of the request.
  Type: xsd:string

- publicIp
  The Elastic IP address.
  Type: xsd:string

- domain
  Indicates whether this Elastic IP address is for use with instances in EC2-Classic (standard) or instances in a VPC (vpc).
  Type: xsd:string
  Valid values: standard | vpc

- allocationId
  [EC2-VPC] The ID that AWS assigns to represent the allocation of the Elastic IP address for use with a VPC.
  Type: xsd:string

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- AddressLimitExceeded (p. 600)

Examples

Example Request
This example request allocates an Elastic IP address for use with instances in EC2-Classic.

https://ec2.amazonaws.com/?Action=AllocateAddress
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <publicIp>192.0.2.1</publicIp>
  <domain>standard</domain>
</AllocateAddressResponse>
Example Request

This example request allocates an Elastic IP address for use with instances in a VPC.

https://ec2.amazonaws.com/?Action=AllocateAddress
Domain=vpc
&AUTHPARAMS

Example Response

  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE"
  <publicIp>198.51.100.1</publicIp>
  <domain>vpc</domain>
  <allocationId>eipalloc-5723d13e</allocationId>
</AllocateAddressResponse>

Related Actions

- DescribeAddresses (p. 182)
- ReleaseAddress (p. 422)
- AssociateAddress (p. 19)
- DisassociateAddress (p. 366)
AssignPrivateIpAddresses

Description

Assigns one or more secondary private IP addresses to the specified network interface. You can specify one or more specific secondary IP addresses, or you can specify the number of secondary IP addresses to be automatically assigned within the subnet's CIDR block range. The number of secondary IP addresses that you can assign to an instance varies by instance type. For information about instance types, see Instance Types in the Amazon Elastic Compute Cloud User Guide. For more information about Elastic IP addresses, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

This action is available only in EC2-VPC.

Request Parameters

NetworkInterfaceId
- The ID of the network interface.
  Type: String
  Default: None
  Required: Yes

PrivateIpAddress.n
- One or more IP addresses to be assigned as a secondary private IP address to the network interface.
  If you don't specify an IP address, Amazon EC2 automatically selects an IP address within the subnet range.
  Type: AssignPrivateIpAddressesSetItemRequestType (p. 483)
  Default: None
  Required: Conditional
  Condition: You can't specify this parameter when also specifying SecondaryPrivateIpAddressCount.

SecondaryPrivateIpAddressCount
- The number of secondary IP addresses to assign to the network interface.
  Type: Integer
  Default: None
  Required: Conditional
  Condition: You can't specify this parameter when also specifying PrivateIpAddress.n.

AllowReassignment
- Indicates whether to allow an IP address that is already assigned to another network interface or instance to be reassigned to the specified network interface.
  Type: Boolean
  Default: false
  Required: No

Response Elements

The following elements are returned in an AssignPrivateIpAddressesResponse element.

requestId
- The ID of the request.
  Type: xsd:string
return
  Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceID.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- PrivateIpAddressLimitExceeded (p. 600)

Examples

Example Request

This example request assigns two secondary private IP addresses (10.0.2.1 and 10.0.2.11) to the specified network interface.

https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&PrivateIpAddress.0=10.0.2.1
&PrivateIpAddress.1=10.0.2.11
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AssignPrivateIpAddresses>

Example Request

This example request assigns two secondary private IP addresses to the specified network interface. Amazon EC2 automatically assigns these IP addresses from the available IP addresses within the subnet's CIDR block range.

https://ec2.amazonaws.com/?Action=AssignPrivateIpAddresses
&NetworkInterfaceId=eni-d83388b1
&SecondaryPrivateIpAddressCount=2
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</AssignPrivateIpAddresses>
<return>true</return>
</AssignPrivateIpAddresses>

Related Actions

- DescribeAddresses (p. 182)
- ReleaseAddress (p. 422)
- AssociateAddress (p. 19)
- DisassociateAddress (p. 366)
AssociateAddress

Description

Associates an Elastic IP address with an instance or a network interface. For more information about Elastic IP addresses, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

[EC2-Classic, default VPC] If the Elastic IP address is already associated with a different instance, it is disassociated from that instance and associated with the specified instance.

[EC2-VPC] If you don't specify a private IP address, the Elastic IP address is associated with the primary IP address. If the Elastic IP address is already associated with a different instance or a network interface, you get an error unless you specify the AllowReassociation parameter.

This is an idempotent operation. If you perform the operation more than once, Amazon EC2 doesn't return an error.

Request Parameters

PublicIp
The Elastic IP address.
Type: String
Default: None
Required: Conditional
Condition: Required for Elastic IP addresses for use with instances in EC2-Classic.

InstanceId
The ID of the instance. The operation fails if you specify an instance ID unless exactly one network interface is attached.
Type: String
Default: None
Required: Conditional
Condition: Required for EC2-Classic. For a VPC, you can specify either InstanceID or NetworkInterfaceID, but not both.

AllocationId
[EC2-VPC] The allocation ID.
Type: String
Default: None
Required: Conditional
Condition: Required for EC2-VPC.

NetworkInterfaceId
[EC2-VPC] The ID of the network interface.
Type: String
Default: None
Required: Conditional
Condition: If the instance has more than one network interface, you must specify a network interface ID.

PrivateIpAddress
[EC2-VPC] The primary or secondary private IP address to associate with the Elastic IP address. If no private IP address is specified, the Elastic IP address is associated with the primary private IP address.
Type: String
Response Elements

The following elements are returned in an AssociateAddressResponse element.

requestId
  The ID of the request.
  Type: xsd:string

return
  Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

associationId
  [EC2-VPC] The ID that represents the association of the Elastic IP address with an instance.
  Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- Gateway.NotAttached (p. 600)
- IncorrectInstanceState (p. 600)
- InvalidAllocationID.NotFound (p. 600)
- InvalidInstanceID (p. 600)
- InvalidInstanceID.NotFound (p. 600)
- InvalidNetworkInterfaceID.NotFound (p. 600)
- MissingParameter (p. 600)
- Resource.AlreadyAssociated (p. 600)

Examples

Example Request

This example request associates an Elastic IP address with an instance in EC2-Classica.

https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-2ea64347
Example Response

```xml
< AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  < requestId >59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  < return >true</return>
</ AssociateAddressResponse>
```

Example Request

This example request associates a Elastic IP address with an instance in a VPC. The `AllowReassignment` parameter allows the Elastic IP address to be associated with the specified instance even if it's already associated with a different instance or a network interface.

```url
https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-4fd2431a
&AllocationId=eipalloc-5723d13e
&AllowReassignment=true
&AUTHPARAMS
```

Example Response

```xml
< AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  < requestId >59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  < return >true</return>
  < associationId >eipassoc-fc5ca095</associationId>
</ AssociateAddressResponse>
```

Related Actions

- AllocateAddress (p. 13)
- DescribeAddresses (p. 182)
- ReleaseAddress (p. 422)
- DisassociateAddress (p. 366)
**AssociateDhcpOptions**

**Description**

Associates a set of DHCP options (that you've previously created) with the specified VPC, or associates no DHCP options with the VPC.

After you associate the options with the VPC, any existing instances and all new instances that you launch in that VPC use the options. You don't need to restart or relaunch the instances. They automatically pick up the changes within a few hours, depending on how frequently the instance renews its DHCP lease. You can explicitly renew the lease using the operating system on the instance.

For more information, see DHCP Options Sets in the *Amazon Virtual Private Cloud User Guide*.

**Request Parameters**

- **DhcpOptionsId**
  - The ID of the DHCP options set, or default to associate no DHCP options with the VPC.
  - Type: String
  - Default: None
  - Required: Yes

- **VpcId**
  - The ID of the VPC.
  - Type: String
  - Default: None
  - Required: Yes

**Response Elements**

The following elements are returned in an **AssociateDhcpOptionsResponse** element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- **InvalidVpcID.NotFound** (p. 600)
Examples

Example Request

This example request associates the DHCP options with the ID dopt-7a8b9c2d with the VPC with the ID vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=dopt-7a8b9c2d
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Example Response

<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</AssociateDhcpOptionsResponse>

Example Request

This example request changes the VPC with the ID vpc-1a2b3c4d to have no associated DHCP options set.

https://ec2.amazonaws.com/?Action=AssociateDhcpOptions
&DhcpOptionsId=default
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Example Response

<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</AssociateDhcpOptionsResponse>

Related Actions

- CreateDhcpOptions (p. 66)
- DescribeDhcpOptions (p. 198)
- DeleteDhcpOptions (p. 138)
AssociateRouteTable

Description

Associates a subnet with a route table. The subnet and route table must be in the same VPC. This association causes traffic originating from the subnet to be routed according to the routes in the route table. The action returns an association ID, which you need in order to disassociate the route table from the subnet later. A route table can be associated with multiple subnets.

For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

RouteTableId
The ID of the route table.
Type: String
Default: None
Required: Yes

SubnetId
The ID of the subnet.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in an AssociateRouteTableResponse element.

requestId
The ID of the request.
Type: xsd:string

associationId
The route table association ID (needed to disassociate the route table).
Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)
- InvalidRouteTableID.NotFound (p. 600)
- InvalidSubnetID.NotFound (p. 600)
Examples

Example Request

This example request associates a route table with the ID rtb-e4ad488d with a subnet with the ID subnet-15ad487c.

https://ec2.amazonaws.com/?Action=AssociateRouteTable
&RouteTableId=rtb-e4ad488d
&SubnetId=subnet-15ad487c

Example Response

```xml
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>
```

Related Actions

- CreateRouteTable (p. 105)
- DisassociateRouteTable (p. 368)
- DescribeRouteTables (p. 284)
- ReplaceRouteTableAssociation (p. 432)
AttachInternetGateway

Description

Attaches an Internet gateway to a VPC, enabling connectivity between the Internet and the VPC. For more information about your VPC and Internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

InternetGatewayId

The ID of the Internet gateway.

Type: String

Default: None

Required: Yes

VpcId

The ID of the VPC.

Type: String

Default: None

Required: Yes

Response Elements

The following elements are returned in an AttachInternetGatewayResponse element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInternetGatewayID.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- Resource.AlreadyAssociated (p. 600)

Examples

Example Request

This example request attaches the Internet gateway with the ID igw-eaad4883 to the VPC with the ID vpc-11ad4878.
Example Response

```
<AttachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AttachInternetGatewayResponse>
```

Related Actions

- CreateInternetGateway (p. 76)
- DeleteInternetGateway (p. 140)
- DetachInternetGateway (p. 355)
- DescribeInternetGateways (p. 237)
AttachNetworkInterface

Description

Attaches a network interface to an instance.

Request Parameters

NetworkInterfaceId
  The ID of the network interface.
  Type: String
  Default: None
  Required: Yes

InstanceId
  The ID of the instance.
  Type: String
  Default: None
  Required: Yes

DeviceIndex
  The index of the device for the network interface attachment.
  Type: Integer
  Default: None
  Required: Yes

Response Elements

The following elements are returned in an AttachNetworkInterfaceResponse element.

requestId
  The ID of the attachment request.
  Type: xsd:string

attachmentId
  The ID of the network interface attachment.
  Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidInstanceId.NotFound (p. 600)
- InvalidNetworkInterfaceId.NotFound (p. 600)
- InvalidParameterValue (p. 600)
Examples

Example Request

This example request attaches the specified network interface to the specified instance.

https://ec2.amazonaws.com/?Action=AttachNetworkInterface
&DeviceIndex=1
&InstanceId=i-9cc316fe
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS

Example Response

<AttachNetworkInterfaceResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/"><requestId>ace8cd1e-e685-4e44-90fb-92014d907212</requestId><attachmentId>eni-attach-d94b09b0</attachmentId></AttachNetworkInterfaceResponse>

Related Actions

- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
AttachVolume

Description

Attaches an Amazon EBS volume to a running or stopped instance and exposes it to the instance with the specified device name.

Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

For a list of supported device names, see Attaching the Volume to an Instance. Any device names that aren't reserved for instance store volumes can be used for Amazon EBS volumes. For more information, see Amazon EC2 Instance Store in the Amazon Elastic Compute Cloud User Guide.

Note

If a volume has an AWS Marketplace product code:

• The volume can only be attached to the root device of a stopped instance.
• You must be subscribed to the AWS Marketplace code that is on the volume.
• The configuration (instance type, operating system) of the instance must support that specific AWS Marketplace code. For example, you cannot take a volume from a Windows instance and attach it to a Linux instance.
• AWS Marketplace product codes are copied from the volume to the instance.

For an overview of the AWS Marketplace, see https://aws.amazon.com/marketplace/help/200900000. For details on how to use the AWS Marketplace, see AWS Marketplace.

Request Parameters

VolumeId

The ID of the Amazon EBS volume. The volume and instance must be within the same Availability Zone.

Type: String
Default: None
Required: Yes

InstanceId

The ID of the instance.

Type: String
Default: None
Required: Yes

Device

The device name to expose to the instance (for example, /dev/sdh or xvdh).

Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in an AttachVolumeResponse element.
requestId
   The ID of the request.
   Type: xsd:string

volumeId
   The ID of the volume.
   Type: xsd:string

instanceId
   The ID of the instance.
   Type: xsd:string

device
   The device name.
   Type: xsd:string

status
   The attachment state of the volume.
   Type: xsd:string
   Valid values: attaching | attached | detaching | detached

attachTime
   The time stamp when the attachment initiated.
   Type: xsd:dateTime

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- AttachmentLimitExceeded (p. 600)
- EncryptedVolumesNotSupported (p. 600)
- IncorrectState (p. 600)
- InvalidInstanceId.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- InvalidVolume.NotFound (p. 600)
- InvalidVolume.ZoneMismatch (p. 600)
- VolumeInUse (p. 600)

Examples

Example Request

This example request attaches the volume with the ID vol-1a2b3c4d to the instance with the ID i-1a2b3c4d and exposes it as /dev/sdh.

https://ec2.amazonaws.com/?Action=AttachVolume
&VolumeId=vol-1a2b3c4d
&InstanceId=i-1a2b3c4d
&Device=/dev/sdh
&AUTHPARAMS
Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <instanceId>i-1a2b3c4d</instanceId>
  <device>/dev/sdh</device>
  <status>attaching</status>
</AttachVolumeResponse>

Related Actions

- CreateVolume (p. 120)
- DeleteVolume (p. 166)
- DescribeVolumes (p. 328)
- DetachVolume (p. 359)
AttachVpnGateway

Description

Attaches a virtual private gateway to a VPC. For more information, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

- **VpnGatewayId**
  - The ID of the virtual private gateway.
  - Type: String
  - Default: None
  - Required: Yes

- **VpcId**
  - The ID of the VPC.
  - Type: String
  - Default: None
  - Required: Yes

Response Elements

The following elements are returned in an AttachVpnGatewayResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **attachment**
  - Information about the attachment.
  - Type: AttachmentType (p. 484)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcID.NotFound (p. 600)
- VpnGatewayAttachmentLimitExceeded (p. 600)
- InvalidVpcState (p. 600)

Examples

Example Request

This example request attaches the virtual private gateway with the ID `vgw-8db04f81` to the VPC with the ID `vpc-la2b3c4d`.

API Version 2014-05-01
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <attachment>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <state>attaching</state>
  </attachment>
</AttachVpnGatewayResponse>
```

Related Actions

- CreateVpnGateway (p. 134)
- DescribeVpnGateways (p. 351)
- DetachVpnGateway (p. 362)
- CreateVpc (p. 124)
- CreateVpnConnection (p. 129)
AuthorizeSecurityGroupEgress

Description

Adds one or more egress rules to a security group for use with a VPC. Specifically, this action permits instances to send traffic to one or more destination CIDR IP address ranges, or to one or more destination security groups for the same VPC.

Important

You can have up to 50 rules per security group (covering both ingress and egress rules).

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. This action doesn't apply to security groups for use in EC2-Classic. For more information, see Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide.

Each rule consists of the protocol (for example, TCP), plus either a CIDR range or a source group. For the TCP and UDP protocols, you must also specify the destination port or port range. For the ICMP protocol, you must also specify the ICMP type and code. You can use -1 for the type or code to mean all types or all codes.

Rule changes are propagated to affected instances as quickly as possible. However, a small delay might occur.

Request Parameters

GroupId

The ID of the security group.

Type: String

Default: None

Required: Yes

IpPermissions.n.IpProtocol

The IP protocol name or number (see Protocol Numbers).

When you call DescribeSecurityGroups, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, tcp, udp, or icmp).

Type: String

Valid values: tcp | udp | icmp or any protocol number (see Protocol Numbers). Use -1 to specify all.

Required: Yes

IpPermissions.n.FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, you can use -1 to specify all ICMP types.

Type: Integer

Default: None

Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.ToPort

The end of port range for the TCP and UDP protocols, or an ICMP code number. For the ICMP code number, you can use -1 to specify all ICMP codes for the ICMP type.

Type: Integer

Default: None

Required: Required for ICMP and any protocol that uses ports.
IpPermissions.n.Groups.m.GroupId
The name of the destination security group. You can't specify a destination security group and a CIDR IP address range.
Type: String
Default: None
Required: Yes

IpPermissions.n.IpRanges.m.CidrIp
The CIDR IP address range. You can't specify this parameter when specifying a destination security group.
Type: String
Default: 0.0.0.0/0
Constraints: A valid CIDR IP address range.
Required: No

Response Elements
The following elements are returned in an AuthorizeSecurityGroupEgressResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.NotFound (p. 600)
- InvalidPermission.Duplicate (p. 600)
- RulesPerSecurityGroupLimitExceeded (p. 600)

Examples

Example Request
This example request grants your security group with the ID sg-1a2b3c4d access to the 192.0.2.0/24 and 198.51.100.0/24 address ranges on TCP port 80.

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
Example Request

This example request grants egress access from the security group with the ID sg-1a2b3c4d to the destination security group with the ID sg-9a8d7f5c on TCP port 1433.

&GroupId=sg-1a2b3c4d
&IpPermissions.1.Ipprotocol=tcp
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AuthorizeSecurityGroupEgressResponse>

Related Actions

- CreateSecurityGroup (p. 107)
- DescribeSecurityGroups (p. 289)
- RevokeSecurityGroupEgress (p. 453)
- AuthorizeSecurityGroupIngress (p. 38)
- RevokeSecurityGroupIngress (p. 456)
- DeleteSecurityGroup (p. 156)
AuthorizeSecurityGroupIngress

Description

Adds one or more ingress rules to a security group.

Important

EC2-Classic: You can have up to 100 rules per group.
EC2-VPC: You can have up to 50 rules per group (covering both ingress and egress rules).

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the Amazon Elastic Compute Cloud User Guide and Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide.

[EC2-Classic] This action gives one or more CIDR IP address ranges permission to access a security group in your account, or gives one or more security groups (called the source groups) permission to access a security group for your account. A source group can be for your own AWS account, or another.

[EC2-VPC] This action gives one or more CIDR IP address ranges permission to access a security group in your VPC, or gives one or more other security groups (called the source groups) permission to access a security group for your VPC. The security groups must all be for the same VPC.

Request Parameters

GroupId

The ID of the security group.
Type: String
Default: None
Required: Required for a nondefault VPC; can be used instead of GroupName otherwise.

GroupName

[EC2-Classic, default VPC] The name of the security group.
Type: String
Default: None
Required: No

IpPermissions.n.IpProtocol

The IP protocol name or number (see Protocol Numbers). For EC2-Classic, security groups can have rules only for TCP, UDP, and ICMP. For EC2-VPC, security groups can have rules assigned to any protocol number.

When you use DescribeSecurityGroups, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, tcp, udp, or icmp).
Type: String
Valid values for EC2-Classic: tcp | udp | icmp or the corresponding protocol number (6 | 17 | 1).
Valid values for EC2-VPC: tcp | udp | icmp or any protocol number (see Protocol Numbers). Use -1 to specify all.
Required: Required for EC2-VPC.

IpPermissions.n.FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, you can use -1 to specify all ICMP types.
Type: Integer
Default: None
Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.ToPort
The end of port range for the TCP and UDP protocols, or an ICMP code number. For the ICMP code number, you can use -1 to specify all ICMP codes for the ICMP type.
Type: Integer
Default: None
Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.Groups.m.GroupName
[EC2-Classic, default VPC] The name of the source security group. You can’t specify a source security group and a CIDR IP address range.
Type: String
Default: None
Required: No

IpPermissions.n.Groups.m.GroupId
The ID of the source security group. You can’t specify a source security group and a CIDR IP address range.
Type: String
Default: None
Required: Required for nondefault VPCs; can be used instead of GroupName otherwise.

IpPermissions.n.Groups.m.UserId
[EC2-Classic] The ID of the AWS account that owns the source security group, if it’s not the current AWS account.
Type: String
Default: None
Required: No

IpPermissions.n.IpRanges.m.CidrIp
The CIDR IP address range. You can’t specify this parameter when specifying a source security group.
Type: String
Default: 0.0.0.0/0
Constraints: A valid CIDR IP address range.
Required: No

Response Elements
The following elements are returned in an AuthorizeSecurityGroupIngressResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.NotFound (p. 600)
- InvalidParameterCombination (p. 600)
- InvalidParameterValue (p. 600)
- InvalidPermission.Duplicate (p. 600)
- InvalidPermission.Malformed (p. 600)
- RulesPerSecurityGroupLimitExceeded (p. 600)

Examples

Example Request

This example request grants TCP port 80 access from the 192.0.2.0/24 and 198.51.100.0/24 address ranges to the security group for EC2-Classic named websrv.

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress&GroupName=websrv&IpPermissions.1.IpProtocol=tcp&IpPermissions.1.FromPort=80&IpPermissions.1.ToPort=80&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24

Example Request

This example request grants TCP port 80 access from the source group for EC2-Classic named OtherAccountGroup (in AWS account 111122223333) to the security group for EC2-Classic named websrv.


Example Request

This example request grants TCP port 80 access from the source group named OtherGroupInMyVPC (with the ID sg-2a2b3c4d) to the security group named VpcWebServers (with the ID sg-1a2b3c4d). In EC2-VPC, you must use the security group IDs in a request, not the security group names. In this example, your AWS account ID is 111122223333.
Example Request

This example request grants your local system the ability to use SSH (port 22) to connect to any instance in the security group named default.


Example Request

This example request grants your local system the ability to use Remote Desktop (port 3389) to connect to any instance in the security group named default.


Example Response


Related Actions

- CreateSecurityGroup (p. 107)
- DescribeSecurityGroups (p. 289)
- RevokeSecurityGroupIngress (p. 456)
- DeleteSecurityGroup (p. 156)
BundleInstance

Description

Bundles an Amazon instance store-backed Windows instance.

During bundling, only the root device volume (C:) is bundled. Data on other instance store volumes is not preserved.

Note
This procedure is not applicable for Linux/Unix instances or Windows instances that are backed by Amazon EBS.

Request Parameters

InstanceId
The ID of the instance to bundle.
Type: String
Default: None
Required: Yes

Storage.S3.Bucket
The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error.
Type: String
Default: None
Required: Yes

Storage.S3.Prefix
The beginning of the file name of the AMI.
Type: String
Default: None
Required: Yes

Storage.S3.AWSAccessKeyId
The access key ID of the owner of the Amazon S3 bucket. Before you specify a value for this parameter, review and follow the guidance in Best Practices for Managing AWS Access Keys.
Type: String
Default: None
Required: Yes

Storage.S3.UploadPolicy
A Base64-encoded Amazon S3 upload policy that gives Amazon EC2 permission to upload items into Amazon S3 on your behalf.
Type: String
Default: None
Required: Yes

Storage.S3.UploadPolicySignature
The signature of the Base64 encoded JSON document.
Type: String
Default: None
Required: Yes
JSON Parameters

The upload policy gives Amazon EC2 limited permission to upload items into your Amazon S3 bucket. The following table describes the required parameters for the upload policy JSON document. Parameter names are case-sensitive. For more information about upload policies and how to sign them, see the sections about policy construction and signatures in the Amazon Simple Storage Service Developer Guide.

expiration
The expiration of the policy. We recommend 12 hours or longer.
Required: Yes

conditions
A list of restrictions on what can be uploaded to Amazon S3. Must contain the bucket and ACL conditions in this table.
Required: Yes

bucket
The bucket to store the AMI.
Required: Yes

acl
This must be set to ec2-bundle-read.
Required: Yes

Response Elements

The following elements are returned in a BundleInstanceResponse element.

requestId
The ID of the request.
Type: xsd:string

bundleInstanceTask
The bundle task.
Type: BundleInstanceTaskType (p. 488)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- BundlingInProgress (p. 600)
- InvalidInstanceType (p. 600)
- InvalidState (p. 600)

Examples

Example Request

This example request bundles the specified instance.
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
    <instanceId>i-12345678</instanceId>
    <bundleId>bun-c1a540a8</bundleId>
    <state>bundling</state>
    <startTime>2008-10-07T11:41:50.000Z</startTime>
    <updateTime>2008-10-07T11:51:50.000Z</updateTime>
    <progress>70%</progress>
    <storage>
      <S3>
        <bucket>myawsbucket</bucket>
        <prefix>winami</prefix>
      </S3>
    </storage>
  </bundleInstanceTask>
</BundleInstanceResponse>
```

Related Actions

- CancelBundleTask (p. 45)
- DescribeBundleTasks (p. 189)
- CreateImage (p. 69)
CancelBundleTask

Description
Cancels a bundling operation for an instance store-backed Windows instance.

Request Parameters

BundleId
The ID of the bundle task.
Type: String
Default: None
Required: Yes

Response Elements
The following elements are returned in a CancelBundleTaskResponse element.

requestId
The ID of the request.
Type: xsd:string
bundleInstanceTask
The bundle task.
Type: BundleInstanceTaskType (p. 488)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidBundleID.NotFound (p. 600)

Examples

Example Request
This example request cancels the specified bundle task.

https://ec2.amazonaws.com/?Action=CancelBundleTask
&BundleId=bun-cla322b9
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</CancelBundleTaskResponse>
<bundleInstanceTask>
  <instanceId>i-12345678</instanceId>
  <bundleId>bun-cla322b9</bundleId>
  <state>canceling</state>
  <startTime>2008-10-07T11:41:50.000Z</startTime>
  <updateTime>2008-10-07T11:51:50.000Z</updateTime>
  <progress>20%</progress>
  <storage>
    <S3>
      <bucket>myawsbucket</bucket>
      <prefix>my-new-image</prefix>
    </S3>
  </storage>
</bundleInstanceTask>
</CancelBundleTaskResponse>

Related Actions

- BundleInstance (p. 42)
- DescribeBundleTasks (p. 189)
CancelConversionTask

Description

Cancels an active conversion task. The task can be the import of an instance or volume. The action removes all artifacts of the conversion, including a partially uploaded volume or instance. If the conversion is complete or is in the process of transferring the final disk image, the command fails and returns an exception.

For more information, see Using the Command Line Tools to Import Your Virtual Machine to Amazon EC2 in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ConversionTaskId

The ID of the conversion task.

Type: String

Default: None

Required: Yes

Response Elements

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidConversionTaskId (p. 600)

Examples

Example Request

This example request cancels the conversion task with the ID import-i-fh95npoc.

https://ec2.amazonaws.com/?Action=CancelConversionTask
&ConversionTaskId=import-i-fh95npoc
&AUTHPARAMS
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CancelConversionTaskResponse>
```

Related Actions

- ImportInstance (p. 378)
- ImportVolume (p. 385)
- DescribeConversionTasks (p. 192)
CancelExportTask

Description

Cancels an active export task. The request removes all artifacts of the export, including any partially-creating Amazon S3 objects. If the export task is complete or is in the process of transferring the final disk image, the command fails and returns an error.

Request Parameters

ExportTaskId

The ID of the export task. This is the ID returned by CreateInstanceExportTask.

Type: String
Default: None
Required: Yes

Response Elements

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidExportTaskID.NotFound (p. 600)

Examples

Example Request

This example request cancels the export task with the ID export-i-1234wxyz.

https://ec2.amazonaws.com/?Action=CancelExportTask
&exportTaskId=export-i-1234wxyz
&AUTHPARAMS

Example Response

<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</CANCELExportTask>
<return>true</return>
</CancelExportTask>

## Related Actions

- CreateInstanceExportTask (p. 73)
- DescribeExportTasks (p. 202)
CancelReservedInstancesListing

Description

Cancels the specified Reserved Instance listing in the Reserved Instance Marketplace.

For more information about Reserved Instance Marketplace, see Reserved Instance Marketplace in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

reservedInstancesListingId

The ID of the Reserved Instance listing to be canceled.

Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a CancelReservedInstancesListingResponseType element.

requestId

The ID of the request.

Type: xsd:string

reservedInstancesListingsSet

The Reserved Instance listing for cancellation. The listing information is wrapped in an item element.

Type: DescribeReservedInstancesListingsResponseSetItemType (p. 495)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInput (p. 600)

Examples

Example Request

This example request cancels a Reserved Instance listing in the Reserved Instance Marketplace.

https://ec2.amazonaws.com/?Action=CancelReservedInstancesListing
&ReservedInstancesListingId=3ebe97b5-f273-43b6-a204-7a18cEXAMPLE
&AUTHPARAMS

API Version 2014-05-01
51
Example Response

The response shows that status is CANCELLED.

```xml
<CancelReservedInstancesListingResponse>
  <requestId>bec2cf62-98ef-434a-8a15-886fexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>3ebef977f-f273-43b6-a204-7a18cEXAMPLE</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5dEXAMPLE</reservedInstancesId>
      <createDate>2012-07-12T16:55:28.000Z</createDate>
      <updateDate>2012-07-12T16:55:28.000Z</updateDate>
      <status>cancelled</status>
      <statusMessage>CANCELLED</statusMessage>
    </item>
    <instanceCounts>
      <item>
        <state>Available</state>
        <instanceCount>0</instanceCount>
      </item>
      <item>
        <state>Sold</state>
        <instanceCount>0</instanceCount>
      </item>
      <item>
        <state>Cancelled</state>
        <instanceCount>1</instanceCount>
      </item>
      <item>
        <state>Pending</state>
        <instanceCount>0</instanceCount>
      </item>
    </instanceCounts>
    <priceSchedules>
      <item>
        <term>5</term>
        <price>166.64</price>
        <currencyCode>USD</currencyCode>
        <active>false</active>
      </item>
      <item>
        <term>4</term>
        <price>133.32</price>
        <currencyCode>USD</currencyCode>
        <active>false</active>
      </item>
      <item>
        <term>3</term>
        <price>99.99</price>
        <currencyCode>USD</currencyCode>
        <active>false</active>
      </item>
      <item>
        <term>2</term>
        <price>66.66</price>
        <currencyCode>USD</currencyCode>
      </item>
    </priceSchedules>
  </reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
```
Related Actions

- CreateReservedInstancesListing (p. 93)
- DescribeReservedInstancesListings (p. 267)
CancelSpotInstanceRequests

Description

Cancels one or more Spot Instance requests. Spot Instances are instances that Amazon EC2 starts on
your behalf when the maximum price that you specify exceeds the current Spot Price. Amazon EC2
periodically sets the Spot Price based on available Spot Instance capacity and current Spot Instance
requests. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute
Cloud User Guide.

Important
Canceling a Spot Instance request does not terminate running Spot Instances associated with
the request.

Request Parameters

SpotInstanceRequestId.n
One or more Spot Instance request IDs.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a CancelSpotInstanceRequestsResponse element.

requestId
- The ID of the request.
- Type: xsd:string

spotInstanceRequestSet
- A list of Spot Instance requests. Each request is wrapped in an item element.
- Type: CancelSpotInstanceRequestsResponseSetItemType (p. 489)

Errors

The following are some of the client API errors you might encounter when using this request. For more
information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a
summary of API error codes, see Client Error Codes (p. 586).

- InvalidSpotInstanceRequestId.NotFound (p. 600)

Examples

Cancel a Spot Instance Request

To cancel Spot Instance requests

1. Construct the following Query request to view your open Spot Instance requests.
2. Construct a Query request to cancel the Spot Instance requests.
Tip
You can filter the list of Spot Instance requests to return only certain instance types. For more
information about how to filter the results, see DescribeSpotInstanceRequests in the Amazon
Elastic Compute Cloud API Reference.

Example Request
This example gets a list of your open Spot Instance requests.

```
https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&Filter.1.Name=state
&Filter.1.Value.1=open
```

Example Response
```
  <requestId>8cd6486a-80e1-494d-8a4f-be36cEXAMPLE</requestId>
  <spotInstanceRequestSet>
    ...
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <spotPrice>0.002000</spotPrice>
      <type>one-time</type>
      <state>open</state>
      <status>
        <code>not-scheduled-yet</code>
        <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
        <message>Your Spot request will not be evaluated until YYYY-MM-DDTHH:MM:SS.000Z+0000 due to your 'Valid From' constraint.</message>
      </status>
      <validFrom>YYYY-MM-DDTHH:MM:SS.000Z</validFrom>
      <validUntil>YYYY-MM-DDTHH:MM:SS.000Z</validUntil>
      <launchSpecification>
        <imageId>ami-1a2b3c4d</imageId>
        <keyName>my-security-group</keyName>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>Linux</groupName>
          </item>
        </groupSet>
        <instanceType>t1.micro</instanceType>
        <blockDeviceMapping>
          <item>
            <deviceName>/dev/sda1</deviceName>
            <ebs>
              <volumeSize>8</volumeSize>
              <deleteOnTermination>true</deleteOnTermination>
              <volumeType>standard</volumeType>
            </ebs>
          </item>
        </blockDeviceMapping>
        <monitoring>
          <enabled>false</enabled>
        </monitoring>
    </item>
  </spotInstanceRequestSet>
</DescribeSpotInstanceRequestsResponse>
```
Example Request

This example cancels a Spot Instance request.

https://ec2.amazonaws.com/?Action=CancelSpotInstanceRequests&SpotInstanceRequestId.1=sir-1a2b3c4d

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet>
</CancelSpotInstanceRequestsResponse>

Related Actions

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- DescribeSpotPriceHistory (p. 312)
ConfirmProductInstance

Description

Determines whether a product code is associated with an instance. This action can only be used by the owner of the product code. It is useful when a product code owner needs to verify whether another user’s instance is eligible for support.

Request Parameters

ProductCode
   The product code. This must be an Amazon DevPay product code that you own.
   Type: String
   Default: None
   Required: Yes

InstanceId
   The instance.
   Type: String
   Default: None
   Required: Yes

Response Elements

The following elements are returned in a ConfirmProductInstanceResponse element.

requestId
   The ID of the request.
   Type: xsd:string

return
   Returns true if the request succeeds. Otherwise, returns an error.
   Type: xsd:boolean

ownerId
   The AWS account ID of the instance owner. This is only present if the product code is attached to the instance.
   Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.NotFound (p. 600)
Examples

Example Request

This example request determines whether the specified product code is associated with the specified instance.

https://ec2.amazonaws.com/?Action=ConfirmProductInstance
&ProductCode=774F4FF8
&InstanceId=i-10a64379
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <ownerId>111122223333</ownerId>
</ConfirmProductInstanceResponse>

Related Actions

- DescribeInstances (p. 219)
- RunInstances (p. 459)
CopyImage

Description
Initiates the copy of an AMI from the specified source region to the current region. You specify the destination region by using its endpoint when making the request.

Note
The CopyImage action does not work for AMIs that use encrypted snapshots.

Request Parameters

SourceRegion
The name of the region that contains the AMI to copy.
Type: String
Default: None
Required: Yes

SourceImageId
The ID of the AMI to copy.
Type: String
Default: None
Required: Yes

Name
The name of the new AMI in the destination region.
Type: String
Default: Same name as the AMI being copied.
Required: No

Description
A description for the new AMI in the destination region.
Type: String
Default: Same description as the AMI being copied.
Constraints: Up to 255 characters
Required: No

ClientToken
Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see How to Ensure Idempotency in the Amazon Elastic Compute Cloud User Guide.
Type: String
Default: None
Constraints: Up to 255 characters
Required: No

Response Elements
The following elements are returned in a CopyImage element.

requestId
The ID of the request.
Type: xsd:string
imageId
  The ID of the new AMI.
  Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more
information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a
summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIId.NotFound (p. 600)

Examples

Example Request

This example request copies the AMI in us-west-2 with the ID ami-1a2b3c4d, naming the new AMI
My-Standard-AMI.

https://ec2.amazonaws.com/?Action=CopyImage
  &SourceRegion=us-west-2
  &SourceImageId=ami-1a2b3c4d
  &Name=My-Standard-AMI
  &Description=This%20is%20the%20new%20version%20of%20My-Standard-AMI
  &ClientToken=550e8400-e29b-41d4-a716-446655440000
  &AUTHPARAMS

Example Response

  <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
  <imageId>ami-4d3c2b1a</imageId>
</CopyImageResponse>
CopySnapshot

Description

Copies a point-in-time snapshot of an Amazon Elastic Block Store (Amazon EBS) volume and stores it in Amazon Simple Storage Service (Amazon S3). You can copy the snapshot within the same region or from one region to another. The snapshot is copied to the regional endpoint that you send the HTTP request to. For more information, see Regions and Endpoints.

Copies of encrypted Amazon EBS snapshots remain encrypted. Copies of unencrypted snapshots remain unencrypted.

You can use the snapshot to create Amazon EBS volumes or Amazon Machine Images (AMIs).

For more information about Amazon EBS, see Amazon Elastic Block Store (Amazon EBS).

Request Parameters

SourceRegion
The ID of the region that contains the snapshot to be copied.
Type: String
Default: None
Required: Yes

SourceSnapshotId
The ID of the Amazon EBS snapshot to copy.
Type: String
Default: None
Required: Yes

Description
A description for the new Amazon EBS snapshot.
Type: String
Default: None
Constraints: Up to 255 characters
Required: No

DestinationRegion
The destination region of the snapshot copy operation.
Type: String
Required: Conditional
Condition: Required in the PresignedUrl.

PresignedUrl
The pre-signed URL that facilitates copying an encrypted snapshot. The PresignedUrl should use the snapshot source endpoint, the CopySnapshot action, and include the SourceRegion, SourceSnapshotId, and DestinationRegion parameters. The PresignedUrl must be signed using AWS Signature Version 4. Because Amazon EBS snapshots are stored in Amazon S3, the signing algorithm for this parameter uses the same logic that is described in Authenticating Requests by Using Query Parameters (AWS Signature Version 4) in the Amazon Simple Storage Service API Reference. An invalid or improperly signed PresignedUrl will cause the copy operation to fail asynchronously, and the snapshot will move to an error state.
Type: String
Default: None
Required: Conditional
Condition: Required for copying encrypted snapshots.

Response Elements

The following elements are returned in a CopySnapshotResponse element.

requestId
The ID of the request.
Type: xsd:string

snapshotId
The ID of the new snapshot.
Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidSnapshot.NotFound (p. 600)
- ResourceLimitExceeded (p. 600)

Examples

Example Request

This example request copies the snapshot in the us-west-1 region with the ID snap-1a2b3c4d.

https://ec2.amazonaws.com/?Action=CopySnapshot
&SourceRegion=us-west-1
&SourceSnapshotId=snap-1a2b3c4d
&Description=My%20snapshot
&AUTHPARAMS

Example Response

Example Request

This example request copies an encrypted snapshot in the ap-southeast-2 region with the ID snap-1a2b3c4d to the sa-east-1 region.

Because this snapshot is encrypted, the PresignedUrl is required. For this example, the PresignedUrl takes the following form with the source region as the endpoint.
This URL should be signed using AWS Signature Version 4, and used in the API call to the destination region as the `PresignedUrl` parameter (the URL in the example below is not actually signed, but it illustrates the required parameters that would need to be signed to copy encrypted snapshots).

```
https://ec2.sa-east-1.amazonaws.com/?Action=CopySnapshot
&SourceRegion=ap-southeast-2
&SourceSnapshotId=snap-1a2b3c4d
&DestinationRegion=sa-east-1
&Description=My%20snapshot
&SourceRegion=ap-southeast-2
&SourceSnapshotId=snap-1a2b3c4d
&DestinationRegion=sa-east-1
&AUTHPARAMS
```

**Example Response**

```
  <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
  <snapshotId>snap-2a2b3c4d</snapshotId>
</CopySnapshotResponse>
```

**Related Actions**

- CreateSnapshot (p. 110)
- DeleteSnapshot (p. 158)
- DescribeSnapshots (p. 297)
CreateCustomerGateway

Description

Provides information to AWS about your VPN customer gateway device. The customer gateway is the appliance at your end of the VPN connection. (The device on the AWS side of the VPN connection is the virtual private gateway.) You must provide the Internet-routable IP address of the customer gateway's external interface. The IP address must be static and can't be behind a device performing network address translation (NAT).

For devices that use Border Gateway Protocol (BGP), you can also provide the device's BGP Autonomous System Number (ASN). You can use an existing ASN assigned to your network. If you don't have an ASN already, you can use a private ASN (in the 64512 - 65534 range).

Note
Amazon EC2 supports all 2-byte ASN numbers in the range of 1 - 65534, with the exception of 7224, which is reserved in the US East (Northern Virginia) Region, and 9059, which is reserved in the EU (Ireland) Region.

For more information about ASNs, see the Wikipedia article.

For more information about VPN customer gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

Type
The type of VPN connection that this customer gateway supports.
Type: String
Valid values: ipsec.1
Default: None
Required: Yes

IpAddress
The Internet-routable IP address for the customer gateway's outside interface. The address must be static.
Type: String
Default: None
Required: Yes

BgpAsn
For devices that support BGP, the customer gateway's BGP ASN.
Type: Integer
Default: 65000
Required: No

Response Elements

The following elements are returned in a CreateCustomerGatewayResponse element.

requestId
The ID of the request.
Type: xsd:string
customerGateway
  Information about the customer gateway.
  Type: CustomerGatewayType (p. 491)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• CustomerGatewayLimitExceeded (p. 600)

Examples

Example Request

This example request passes information to AWS about the customer gateway with the IP address 12.1.2.3 and BGP ASN 65534.

https://ec2.amazonaws.com/?Action=CreateCustomerGateway
&Type=ipsec.1
&IpAddress=12.1.2.3
&BgpAsn=65534
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <customerGateway>
    <customerGatewayId>cgw-b4dc3961</customerGatewayId>
    <state>pending</state>
    <type>ipsec.1</type>
    <IpAddress>12.1.2.3</IpAddress>
    <bgpAsn>65534</bgpAsn>
    <tagSet/>
  </customerGateway>
</CreateCustomerGatewayResponse>

Related Actions

• DescribeCustomerGateways (p. 194)
• DeleteCustomerGateway (p. 136)
CreateDhcpOptions

**Description**

Creates a set of DHCP options for your VPC. After creating the set, you must associate it with the VPC, causing all existing and new instances that you launch in the VPC to use this set of DHCP options. The following are the individual DHCP options you can specify. For more information about the options, see RFC 2132.

<table>
<thead>
<tr>
<th>DHCP Option Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>domain-name-servers</td>
<td>The IP addresses of up to four domain name servers, or AmazonProvidedDNS. The default DHCP option set specifies AmazonProvidedDNS. If specifying more than one domain name server, specify the IP addresses in a single parameter, separated by commas.</td>
</tr>
<tr>
<td>domain-name</td>
<td>If you're using AmazonProvidedDNS in us-east-1, specify ec2.internal. If you're using AmazonProvidedDNS in another region, specify region.compute.internal (for example, ap-northeast-1.compute.internal). Otherwise, specify a domain name (for example, MyCompany.com).</td>
</tr>
<tr>
<td>ntp-servers</td>
<td>The IP addresses of up to four Network Time Protocol (NTP) servers.</td>
</tr>
<tr>
<td>netbios-name-servers</td>
<td>The IP addresses of up to four NetBIOS name servers.</td>
</tr>
<tr>
<td>netbios-node-type</td>
<td>The NetBIOS node type (1, 2, 4, or 8). We recommend that you specify 2 (broadcast and multicast are not currently supported). For more information about these node types, see RFC 2132.</td>
</tr>
</tbody>
</table>

**Important**

Your VPC automatically starts out with a set of DHCP options that includes only a DNS server that we provide (AmazonProvidedDNS). If you create a set of options, and if your VPC has an Internet gateway, make sure to set the domain-name-servers option either to AmazonProvidedDNS or to a domain name server of your choice.

For more information about DHCP options, see DHCP Options Sets in the Amazon Virtual Private Cloud User Guide.

**Request Parameters**

`DhcpConfiguration.n.Key`

- The name of a DHCP option.
- Type: String
- Default: None
- Required: Yes
DhcpConfiguration.n.Value.m
A value for the DHCP option.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a CreateDhcpOptionsResponse element.

requestId
The ID of the request.
Type: xsd:string
dhcpOptions
A set of DHCP options.
Type: DhcpOptionsType (p. 504)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)

Examples

Example Request

This example request creates a set of DHCP options with a domain name example.com and two DNS servers (10.2.5.1 and 10.2.5.2). The DNS servers’ IP addresses are specified in a single parameter, separated by commas, to preserve the order in which they are specified.

https://ec2.amazonaws.com/?Action=CreateDhcpOptions
&DhcpConfiguration.1.Key=domain-name
&DhcpConfiguration.1.Value.1=example.com
&DhcpConfiguration.2.Key=domain-name-servers
&DhcpConfiguration.2.Value.1=10.2.5.1,10.2.5.2

Example Response

<?xml version="1.0" encoding="UTF-8"?>
<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptions>
    <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
    <dhcpConfigurationSet>
      <item>
        <key>domain-name</key>
      </item>
    </dhcpConfigurationSet>
  </dhcpOptions>
</CreateDhcpOptionsResponse>
<valueSet>
  <item>
    <value>example.com</value>
  </item>
</valueSet>

<item>
  <key>domain-name-servers</key>
  <valueSet>
    <item>
      <value>10.2.5.1</value>
    </item>
    <item>
      <value>10.2.5.2</value>
    </item>
  </valueSet>
</item>

</dhcpConfigurationSet>
<tagSet/>
</dhcpOptions>
</CreateDhcpOptionsResponse>

### Related Actions

- [AssociateDhcpOptions](p. 22)
- [DescribeDhcpOptions](p. 198)
- [DeleteDhcpOptions](p. 138)
CreateImage

Description

Creates an Amazon EBS-backed AMI from an Amazon EBS-backed instance that is either running or stopped.

Note

If you customized your instance with instance store volumes or EBS volumes in addition to the root device volume, the new AMI contains block device mapping information for those volumes. When you launch an instance from this new AMI, the instance automatically launches with those additional volumes.

For more information, see Creating Amazon EBS-Backed Linux AMIs in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

InstanceId

The ID of the instance.

Type: String

Default: None

Required: Yes

Name

A name for the new image.

Type: String

Default: None

Constraints: 3-128 alphanumeric characters, parenthesis (()), periods (.), slashes (/), dashes (-), or underscores(_)

Required: Yes

Description

A description for the new image.

Type: String

Default: None

Constraints: Up to 255 ASCII characters

Required: No

NoReboot

By default, this parameter is set to false, which means Amazon EC2 attempts to shut down the instance cleanly before image creation and then reboots the instance. When the parameter is set to true, Amazon EC2 doesn't shut down the instance before creating the image. When this option is used, file system integrity on the created image can't be guaranteed.

Type: Boolean

Default: false

Required: No

BlockDeviceMapping.n.DeviceName

The device name exposed to the instance (for example, /dev/sdh or xvdh). For more information, see Block Device Mapping in the Amazon Elastic Compute Cloud User Guide.

Type: String

Default: None

Required: Conditional
Condition: If you're registering an Amazon EBS-backed AMI from a snapshot, you must specify
DeviceName with the root device name and BlockDeviceMapping.n.Ebs.SnapshotId with the
snapshot ID.

BlockDeviceMapping.n.NoDevice
Suppresses a device mapping.
Type: Boolean
Default: true
Required: No

BlockDeviceMapping.n.VirtualName
The name of the virtual device, ephemeral[0..3]. The number of instance store volumes depends on
the instance type.
Type: String
Default: None
Constraint: For M3 instances, you must specify instance store volumes in the block device mapping
for the instance. When you launch an M3 instance, we ignore any instance store volumes specified
in the block device mapping for the AMI.
Required: No

BlockDeviceMapping.n.Ebs.SnapshotId
The ID of the snapshot.
Type: String
Default: None
Required: Conditional
Condition: If you're registering an Amazon EBS-backed AMI from a snapshot, you must at least
specify SnapshotId with the snapshot ID, and BlockDeviceMapping.n.DeviceName with the
root device name.

BlockDeviceMapping.n.Ebs.VolumeSize
The size of the volume, in GiBs.
Type: Integer
Default: If you're creating the volume from a snapshot and don't specify a volume size, the default
is the size of the snapshot.
Constraints: If the volume type is io1, the minimum size of the volume is 10 GiB. If you specify
SnapshotId and VolumeSize, VolumeSize must be equal to or larger than the size of the snapshot.
Required: No

BlockDeviceMapping.n.Ebs.DeleteOnTermination
Indicates whether the volume is deleted on instance termination.
Type: Boolean
Default: true
Required: No

BlockDeviceMapping.n.Ebs.VolumeType
The volume type.
Type: String
Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes,
and standard for Magnetic volumes.
Default: standard
Required: No

BlockDeviceMapping.n.Ebs.Iops
The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4,000.
Default: None
Required: Required when the volume type is io1; not used with standard or gp2 volumes.

BlockDeviceMapping.n.Ebs.Encrypted

Specifies whether the volume is encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. If your AMI uses encrypted volumes, you can only launch it on supported instance types. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean
Default: false
Required: No

Response Elements

The following elements are returned in a CreateImageResponse element.

requestId
The ID of the request.
Type: xsd:string

imageId
The ID of the new AMI.
Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIName.Duplicate (p. 600)
- InvalidAMIName.Malformed (p. 600)
- InvalidBlockDeviceMapping (p. 600)
- InvalidInstanceId.NotFound (p. 600)

Examples

Example Request

This example request creates an AMI from the specified instance.

https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-10a64379
&Name=standard-web-server-v1.0
&AUTHPARAMS
**Example Request**

This example request creates an AMI with three volumes. The first volume is based on an Amazon EBS snapshot. The second volume is an empty 100 GiB Amazon EBS volume. The third volume is an instance store volume, `ephemeral0`.

```
https://ec2.amazonaws.com/?Action=CreateImage
&Description=Standard+Web+Server+v1.0
&InstanceId=i-10a64379
&Name=standard-web-server-v1.0
&BlockDeviceMapping.1.DeviceName=/dev/sdf
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1a2b3c4d
&BlockDeviceMapping.2.DeviceName=/dev/sdg
&BlockDeviceMapping.2.Ebs.VolumeSize=100
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.VirtualName=ephemeral0
&AUTHPARAMS
```

**Related Actions**

- RunInstances (p. 459)
- DescribeInstances (p. 219)
- TerminatelInstances (p. 473)
CreateInstanceExportTask

Description

Exports a running or stopped instance to an Amazon S3 bucket.

For information about the supported operating systems, image formats, and known limitations for the types of instances you can export, see Exporting EC2 Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

Description

A description for the conversion task or the resource being exported. The maximum length is 255 bytes.

Type: String
Default: None
Required: No

InstanceId

The ID of the instance.

Type: String
Default: None
Required: Yes

TargetEnvironment

The target virtualization environment.

Type: String
Valid values: vmware | citrix | microsoft
Default: None
Required: Yes

ExportToS3.DiskImageFormat

The format for the exported image.

Type: String
Valid values: vmdk | vhd
Default: vmdk if TargetEnvironment = vmware, otherwise vhd
Required: No

ExportToS3.ContainerFormat

The container format used to combine disk images with metadata (such as OVF). If absent, only the disk image is exported.

Type: String
Valid values: ova
Default: ova if TargetEnvironment = vmware, otherwise blank
Required: No

ExportToS3.S3Bucket

The Amazon S3 bucket for the destination image. The destination bucket must exist and grant WRITE and READ_ACL permissions to the AWS account vm-import-export@amazon.com.

Type: String
Default: None
Required: Yes
Response Elements

The following elements are returned in a CreateInstanceExportTaskResponse element.

requestId
The ID of the request.
Type: xsd:string

exportTask
The details of the created ExportVM task.
Type: ExportTaskResponseType (p. 508)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidInstanceID.NotFound (p. 600)
• NotExportable (p. 600)

Examples

Example Request

This example request creates an Export VM task that makes a Windows instance available as an OVA.

```
https://ec2.amazonaws.com/?Action=CreateInstanceExportTask
&Description=Example%20for%20docs
&InstanceId=i-12345678
&TargetEnvironment=VMWare
&ExportToS3.DiskImageFormat=VMDK
&ExportToS3.ContainerFormat=OVA
&ExportToS3.S3bucket=my-bucket-for-exported-vm
&ExportToS3.S3prefix=my-exports/

AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <exportTask>
    
</exportTask>
</CreateInstanceExportTaskResponse>
```
<exportTaskId>export-i-1234wxyz</exportTaskId>
<description>Example for docs</description>
<state>active</state>
<statusMessage>Running</statusMessage>
<instanceExport>
  <instanceId>i-12345678</instanceId>
  <targetEnvironment>VMWare</targetEnvironment>
</instanceExport>
<exportToS3>
  <diskImageFormat>VMDK</diskImageFormat>
  <containerFormat>OVA</containerFormat>
  <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
  <s3Key>my-exports/export-i-1234wxyz.ova</s3Key>
</exportToS3>
</exportTask>
</CreateInstanceExportTaskResponse>

Related Actions

- CancelExportTask (p. 49)
- DescribeExportTasks (p. 202)
CreateInternetGateway

Description

Creates an Internet gateway for use with a VPC. After creating the Internet gateway, you attach it to a VPC using AttachInternetGateway (p. 26).

For more information about your VPC and Internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

No parameters.

Response Elements

The following elements are returned in a CreateInternetGatewayResponse element.

requestId
The ID of the request.
Type: xsd:string

internetGateway
Information about the Internet gateway.
Type: InternetGatewayType (p. 527)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InternetGatewayLimitExceeded (p. 600)

Examples

Example Request

This example request creates an Internet gateway.

https://ec2.amazonaws.com/?Action=CreateInternetGateway
&AUTHPARAMS

Example Response

<CreateInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <internetGateway>
</CreateInternetGatewayResponse>
<internetGatewayId>igw-eaad4883</internetGatewayId>
<attachmentSet/>
<tagSet/>
</internetGateway>
</CreateInternetGatewayResponse>

## Related Actions

- DeleteInternetGateway (p. 140)
- AttachInternetGateway (p. 26)
- DetachInternetGateway (p. 355)
- DescribeInternetGateways (p. 237)
CreateKeyPair

Description

Creates a 2048-bit RSA key pair with the specified name. Amazon EC2 stores the public key and displays the private key for you to save to a file. The private key is returned as an unencrypted PEM encoded PKCS#8 private key. If a key with the specified name already exists, Amazon EC2 returns an error.

You can have up to five thousand key pairs per region.

Tip

The key pair returned to you is available only in the region in which you create it. To create a key pair that is available in all regions, use ImportKeyPair (p. 382).

For more information about key pairs, see Key Pairs in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

KeyName

A unique name for the key pair.

Type: String

Default: None

Constraints: Up to 255 ASCII characters.

Required: Yes

Response Elements

The following elements are returned in a CreateKeyPairResponse element.

requestId

The ID of the request.

Type: xsd:string

keyName

The name of the key pair name.

Type: xsd:string

keyFingerprint

A SHA-1 digest of the DER encoded private key.

Type: xsd:string

keyMaterial

An unencrypted PEM encoded RSA private key.

Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidKeyPair.Duplicate (p. 600)
Examples

Example Request

This example request creates a key pair named my-key-pair.

```
https://ec2.amazonaws.com/?Action=CreateKeyPair
&KeyName=my-key-pair
&AUTHPARAMS
```

Example Response

```
<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <keyName>my-key-pair</keyName>
  <keyFingerprint>
  </keyFingerprint>
  <keyMaterial>
    ---- BEGIN RSA PRIVATE KEY ----
    MIICiTCCAfICCQD6m7oRWuX0j4ANBgkqhkiG9w0BAQUFAQDChBwIDMAkGA1UEBhMC
    VVMxZjA2JBGKNVBAaTa1dBMRAaQdYDQVQHEwdTZWF0dGx1MQ8wDQYDVQKEx2BBW6
    b24xFDASBGNVBAaTC01BTSDb25zbx1MRIwEAYDQVQDEw1U2XNOQ21sYWNxH8Ad
    BgkqhkiG9w0BCQEG56v2b51QGfTYPvbi5j2b20WhhcNMTExMjIyO0N0Iwn7Wb:
    VQQHExdTZWFOdGmx1MQ8wDQYDVQFKEw2BBW6b24xFDASBGNVBAaTC01BTSDb25z
    b2x1MRIwEAYDQVQDEw1U2XNOQ21sYWNxH8AdBgkqhkiG9w0BCQEG56v2b51QGfT
    YPvbi5j2b20WhhcNMTExMjIyO0N0Iwn7Wb:
    79
    Amazon Elastic Compute Cloud API Reference
    Examples
```

Create a file named my-key-pair.pem and paste the entire key from the response into this file, including the following lines.

```
"---- BEGIN RSA PRIVATE KEY ----"

"---- END RSA PRIVATE KEY ----"
```

Confirm that the file contents are similar to the following and save the file to a local directory.

```
---- BEGIN RSA PRIVATE KEY ----
```

```
MIICiTCCAfICCQD6m7oRWuX0j4ANBgkqhkiG9w0BAQUFAQDChBwIDMAkGA1UEBhMC
VVMxZjA2JBGKNVBAaTa1dBMRAaQdYDQVQHEwdTZWF0dGx1MQ8wDQYDVQKEx2BBW6
b24xFDASBGNVBAaTC01BTSDb25zbx1MRIwEAYDQVQDEw1U2XNOQ21sYWNxH8Ad
BgkqhkiG9w0BCQEG56v2b51QGfTYPvbi5j2b20WhhcNMTExMjIyO0N0Iwn7Wb:
VQQHExdTZWFOdGmx1MQ8wDQYDVQFKEw2BBW6b24xFDASBGNVBAaTC01BTSDb25z
b2x1MRIwEAYDQVQDEw1U2XNOQ21sYWNxH8AdBgkqhkiG9w0BCQEG56v2b51QGfT
YPvbi5j2b20WhhcNMTExMjIyO0N0Iwn7Wb:
```

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Keep this file in a safe place; it is required to decrypt login information when you connect to an instance that you launched using this key pair.

If you’re using an SSH client on a Linux computer to connect to your instance, use the following command to set the permissions of your private key file so that only you can read it.

```bash
$ chmod 400 my-key-pair.pem
```

## Related Actions

- RunInstances (p. 459)
- DescribeKeyPairs (p. 240)
- DeleteKeyPair (p. 142)
CreateNetworkAcl

Description

Creates a network ACL in a VPC. Network ACLs provide an optional layer of security (in addition to security groups) for the instances in your VPC.

For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

VpcId
  The ID of the VPC.
  Type: String
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a CreateNetworkAclResponse element.

requestId
  The ID of the request.
  Type: xsd:string

networkAcl
  Information about the network ACL.
  Type: NetworkAclType (p. 534)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcId.NotFound (p. 600)
- NetworkAclLimitExceeded (p. 600)

Examples

Example Request

This example request creates a network ACL in the specified VPC. The response includes a default entry for egress, and another for ingress, each with a very high rule number. These are the last entries we process to decide whether traffic is allowed in or out of an associated subnet. If the traffic doesn't match any rules with a lower rule number, then these default entries ultimately deny the traffic.
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <networkAcl>
    <networkAclId>acl-5fb85d36</networkAclId>
    <vpcId>vpc-11ad4878</vpcId>
    <default>false</default>
    <entrySet>
      <item>
        <ruleNumber>32767</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>true</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
      <item>
        <ruleNumber>32767</ruleNumber>
        <protocol>all</protocol>
        <ruleAction>deny</ruleAction>
        <egress>false</egress>
        <cidrBlock>0.0.0.0/0</cidrBlock>
      </item>
    </entrySet>
    <associationSet/>
    <tagSet/>
  </networkAcl>
</CreateNetworkAclResponse>
```

Related Actions

- DeleteNetworkAcl (p. 144)
- DescribeNetworkAcls (p. 243)
- ReplaceNetworkAclAssociation (p. 424)
CreateNetworkAclEntry

Description

Creates an entry (a rule) in a network ACL with the specified rule number. Each network ACL has a set of numbered ingress rules and a separate set of numbered egress rules. When determining whether a packet should be allowed in or out of a subnet associated with the ACL, we process the entries in the ACL according to the rule numbers, in ascending order. Each network ACL has a set of ingress rules and a separate set of egress rules.

Tip
We recommend that you leave room between the rule numbers (for example, 100, 110, 120, ...,), and not number them one right after the other (for example, 101, 102, 103, ...). This makes it easier to add a rule between existing ones without having to renumber the rules.

After you add an entry, you can't modify it; you must either replace it, or create an entry and delete the old one.

For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

NetworkAclId
The ID of the ACL.
Type: String
Default: None
Required: Yes

RuleNumber
The rule number for the entry (for example, 100). ACL entries are processed in ascending order by rule number.
Type: Integer
Default: None
Constraints: Positive integer from 1 to 32766
Required: Yes

Protocol
The IP protocol to which the rule applies. You can use -1 to mean all protocols.
Type: Integer
Valid values: -1 or a protocol number (see Protocol Numbers).
Required: Yes

RuleAction
Allows or denies traffic that matches the rule.
Type: String
Default: None
Valid values: allow | deny
Required: Yes

Egress
Indicates whether this rule applies to egress traffic from the subnet (true) or ingress traffic to the subnet (false).
Type: Boolean
Default: false
Required: No

**CidrBlock**
- The CIDR range to allow or deny, in CIDR notation (for example, 172.16.0.0/24).
- Type: String
- Default: None
- Required: Yes

**Icmp.Code**
- For the ICMP protocol, the ICMP code. You can use -1 to specify all ICMP codes for the given ICMP type.
- Type: Integer
- Default: None
- Required: Conditional
  - Condition: Required if specifying 1 (ICMP) for the protocol.

**Icmp.Type**
- For the ICMP protocol, the ICMP type. You can use -1 to specify all ICMP types.
- Type: Integer
- Default: None
- Required: Conditional
  - Condition: Required if specifying 1 (ICMP) for the protocol.

**PortRange.From**
- The first port in the range.
- Type: Integer
- Default: None
- Required: Conditional
  - Condition: Required if specifying 6 (TCP) or 17 (UDP) for the protocol.

**PortRange.To**
- The last port in the range.
- Type: Integer
- Default: None
- Required: Conditional
  - Condition: Required if specifying 6 (TCP) or 17 (UDP) for the protocol.

## Response Elements

The following elements are returned in a CreateNetworkAclEntryResponse element.

**requestId**
- The ID of the request.
  - Type: xsd:string

**return**
- Returns true if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

## Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).
Examples

Example Request

This example request creates an entry with rule number 110 in the network ACL with the ID acl-2cb85d45. The rule allows ingress traffic from anywhere (0.0.0.0/0) on UDP port 53 into any associated subnet.

```
https://ec2.amazonaws.com/?Action=CreateNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=udp
&RuleAction=allow
&Egress=false
&CidrBlock=0.0.0.0/0
&PortRange.From=53
&PortRange.To=53

AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CreateNetworkAclEntryResponse>
```

Related Actions

- DeleteNetworkAclEntry (p. 146)
- ReplaceNetworkAclEntry (p. 426)
- DescribeNetworkAcls (p. 243)
CreateNetworkInterface

Description

Creates a network interface in the specified subnet.

For more information about network interfaces, see Elastic Network Interfaces in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

SubnetId
The ID of the subnet to associate with the network interface.
Type: String
Default: None
Required: Yes

PrivateIpAddress
The primary private IP address of the network interface. If you don't specify an IP address, Amazon EC2 selects one for you from the subnet range.
Type: String
Default: None
Required: No

PrivateIpAddresses.n.PrivateIpAddress
The private IP address of the specified network interface. You can use this parameter multiple times to specify explicit private IP addresses for a network interface, but only one private IP address can be designated as primary.
You can't specify this parameter when PrivateIpAddresses.n.Primary is true if you specify PrivateIpAddress.
Type: String
Default: None
Required: No

PrivateIpAddresses.n.Primary
Indicates whether the private IP address is the primary private IP address.
Only one IP address can be designated as primary. You can't specify this parameter as true and specify PrivateIpAddresses.n.PrivateIpAddress if you also specify PrivateIpAddress.
Type: Boolean
Default: false
Required: No

SecondaryPrivateIpAddressCount
The number of secondary private IP addresses to assign to a network interface. When you specify a number of secondary IP addresses, Amazon EC2 selects these IP addresses within the subnet range.
The number of IP addresses you can assign to a network interface varies by instance type. For more information, see Private IP Addresses Per ENI Per Instance Type in the Amazon Elastic Compute Cloud User Guide.
For a single network interface, you can't specify this option and specify more than one private IP address using PrivateIpAddress.n.
Type: Integer
Default: None
Required: No
**Description**

- **A description for the network interface.**
  - Type: String
  - Default: None
  - Required: No

**SecurityGroupId.n**

- **The list of security group IDs for the network interface.**
  - Type: SecurityGroupIdSetItemType (p. 555)
  - Default: None
  - Required: No

**Response Elements**

The following elements are returned in a `CreateNetworkInterfaceResponse` element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **networkInterface**
  - The network interface that was created.
  - Type: NetworkInterfaceType (p. 537)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- InvalidSecurityGroupId.NotFound (p. 600)
- InvalidSubnetId.NotFound (p. 600)

**Examples**

**Example Request**

This example request creates a network interface in the specified subnet with a primary IP address that is automatically selected by Amazon EC2.

```
https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&SubnetId=subnet-b2a249da
&AUTHPARAMS
```

**Example Response**

```
```

---

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Example Request

This example request creates a network interface in the specified subnet with a primary IP address of 10.0.2.140 and four secondary private IP addresses that are automatically selected by Amazon EC2.

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.0.Primary=true
&PrivateIpAddresses.0.PrivateIpAddress=10.0.2.140
&SecondaryPrivateIpAddressCount=4
&SubnetId=subnet-a61dafcf
&AUTHPARAMS

Example Response

  <requestId>bd78c839-0895-4fac-a17f-98b559b6b630</requestId>
  <networkInterface>
    <networkInterfaceId>eni-1bcb7772</networkInterfaceId>
    <subnetId>subnet-a61dafcf</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>pending</status>
  </networkInterface>
</CreateNetworkInterfaceResponse>
Example Request

This example request creates a network interface with a primary private IP address of 10.0.2.130 and two secondary IP addresses of 10.0.2.132 and 10.0.2.133.

https://ec2.amazonaws.com/?Action=CreateNetworkInterface
&PrivateIpAddresses.0.Primary=true
&PrivateIpAddresses.0.PrivateIpAddress=10.0.2.130
&PrivateIpAddresses.1.Primary=false
&PrivateIpAddresses.1.PrivateIpAddress=10.0.2.132
&PrivateIpAddresses.2.Primary=false
&PrivateIpAddresses.2.PrivateIpAddress=10.0.2.133
&SubnetId=subnet-a61dacf
&AUTHPARAMS

Example Response

  <requestId>a9565f4c-f928-4113-859b-905886d11658</requestId>
</CreateNetworkInterfaceResponse>
<networkInterface>
  <networkInterfaceId>eni-41c47828</networkInterfaceId>
  <subnetId>subnet-a61dafcf</subnetId>
  <vpcId>vpc-c31dafaa</vpcId>
  <availabilityZone>ap-southeast-1b</availabilityZone>
  <description/>
  <ownerId>251839141158</ownerId>
  <requesterManaged>false</requesterManaged>
  <status>pending</status>
  <macAddress>02:74:b0:78:bf:ab</macAddress>
  <privateIpAddress>10.0.2.130</privateIpAddress>
  <sourceDestCheck>true</sourceDestCheck>
  <groupSet>
    <item>
      <groupId>sg-188d9f74</groupId>
      <groupName>default</groupName>
    </item>
  </groupSet>
  <tagSet/>
  <privateIpAddressesSet>
    <item>
      <privateIpAddress>10.0.2.130</privateIpAddress>
      <primary>true</primary>
    </item>
    <item>
      <privateIpAddress>10.0.2.133</privateIpAddress>
      <primary>false</primary>
    </item>
    <item>
      <privateIpAddress>10.0.2.132</privateIpAddress>
      <primary>false</primary>
    </item>
  </privateIpAddressesSet>
</networkInterface>
</CreateNetworkInterfaceResponse>

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
CreatePlacementGroup

Description

Creates a placement group that you launch cluster instances into. You must give the group a name that's unique within the scope of your account.

For more information about placement groups and cluster instances, see Cluster Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

GroupName
A name for the placement group.
Type: String
Default: None
Constraints: Up to 255 ASCII characters
Required: Yes

Strategy
The placement strategy.
Type: String
Valid values: cluster
Required: Yes

Response Elements

The following elements are returned in a CreatePlacementGroupResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidPlacementGroup.Duplicate (p. 600)

Examples

Example Request

This example request creates a placement group named XYZ-cluster.
Example Response

```xml
  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <return>true</return>
</CreatePlacementGroupResponse>
```

Related Actions

- DeletePlacementGroup (p. 150)
- DescribePlacementGroups (p. 257)
CreateReservedInstancesListing

Description

Creates a listing for Amazon EC2 Reserved Instances to be sold in the Reserved Instance Marketplace. You can submit one Reserved Instance listing at a time.

The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

To sell your Reserved Instances, you must first register as a Seller in the Reserved Instance Marketplace. After completing the registration process, you can create a Reserved Instance Marketplace listing of some or all of your Reserved Instances, and specify the upfront price to receive for them. Your Reserved Instance listings then become available for purchase.

For more information about Reserved Instance Marketplace, see Reserved Instance Marketplace in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

reservedInstancesId
    The ID of the active Reserved Instance.
    Type: String
    Default: None
    Required: Yes

instanceCount
    The number of instances that are a part of a Reserved Instance account to be listed in the Reserved Instance Marketplace. This number should be less than or equal to the instance count associated with the Reserved Instance ID specified in this call.
    Type: Integer
    Default: None
    Required: Yes

priceSchedules
    A list specifying the price of the Reserved Instance for each month remaining in the Reserved Instance term.
    Type: PriceScheduleRequestSetItemType (p. 541)
    Required: Yes

clientToken
    Unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, see Ensuring Idempotency in the Amazon Elastic Compute Cloud User Guide.
    Type: String
    Default: None
    Required: Yes

Response Elements

The following elements are returned in a CreateReservedInstancesListingResponseType element.
requestId
  The ID of the request.
  Type: xsd:string

reservedInstancesListingSet
  The Reserved Instances listing that was created. The listing information is wrapped in an item
element.
  Type: DescribeReservedInstancesListingsResponseSetItemType (p. 495)

Errors

The following are some of the client API errors you might encounter when using this request. For more
information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a
summary of API error codes, see Client Error Codes (p. 586).

- InvalidInput (p. 600)

Examples

Example Request

This example request creates a Reserved Instance Marketplace listing from the existing Reserved Instance
e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE, which has 11 months remaining in its term. In this
example, we set the upfront price at $2.50, and the price drops over the course of the 11-month term if
the instance is still not sold.

<table>
<thead>
<tr>
<th>Term (months)</th>
<th>Upfront Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>11, 10, 9</td>
<td>$2.50</td>
</tr>
<tr>
<td>8, 7, 6</td>
<td>$2.00</td>
</tr>
<tr>
<td>5, 4</td>
<td>$1.50</td>
</tr>
<tr>
<td>3, 2</td>
<td>$0.70</td>
</tr>
<tr>
<td>1</td>
<td>$0.10</td>
</tr>
</tbody>
</table>

https://ec2.amazonaws.com/?Action=CreateReservedInstancesListing
&ClientToken=myIdempToken1
&InstanceCount=1
&PriceSchedules.0.Price=2.5
&PriceSchedules.0.Term=11
&PriceSchedules.1.Price=2.0
&PriceSchedules.1.Term=8
&PriceSchedules.2.Price=1.5
&PriceSchedules.2.Term=5
&PriceSchedules.3.Price=0.7
&PriceSchedules.3.Term=3
&PriceSchedules.4.Price=0.1
&PriceSchedules.4.Term=1
&ReservedInstancesId=e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE
&AUTHPARAMS
Example Response

```xml
<CreateReservedInstancesListingResponse>
  <requestId>a42481af-335a-4e9e-b291-bd18dexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-9e57dEXAMPLE</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <createDate>2012-07-17T17:11:09.449Z</createDate>
      <updateDate>2012-07-17T17:11:09.468Z</updateDate>
      <status>active</status>
      <statusMessage>ACTIVE</statusMessage>
      <instanceCounts>
        <item>
          <state>Available</state>
          <instanceCount>1</instanceCount>
        </item>
        <item>
          <state>Sold</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Cancelled</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
      <priceSchedules>
        <item>
          <term>11</term>
          <price>2.5</price>
          <currencyCode>USD</currencyCode>
          <active>true</active>
        </item>
        <item>
          <term>10</term>
          <price>2.5</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>9</term>
          <price>2.5</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>8</term>
          <price>2.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
List a Reserved Instance in the Reserved Instance Marketplace

To list a Reserved Instance in the Reserved Instance Marketplace

1.   Get a list of your Reserved Instances by calling DescribeReservedInstances (p. 263).
Note the Reserved Instance ID of the Reserved Instance that you want to list in the Reserved Instance Marketplace.

2. Create a listing for three Reserved Instances from Reserved Instance ID e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE and specify the following pricing schedule.

<table>
<thead>
<tr>
<th>Term (remaining months)</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price specified for period</td>
<td>2.5</td>
<td>2.0</td>
<td>1.5</td>
<td>0.7</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
<td>1.5</td>
<td>1.5</td>
<td>0.7</td>
<td>0.7</td>
<td>0.1</td>
</tr>
</tbody>
</table>

3. To view the details of your Reserved Instance listing, run DescribeReservedInstancesListings (p. 267).

**Example Request**

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesListings

**Example Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesSet>
    ...
    <item>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <instanceType>m1.xlarge</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>31536000</duration>
      <fixedPrice>61.0</fixedPrice>
      <usagePrice>0.034</usagePrice>
      <instanceCount>3</instanceCount>
      <productDescription>Linux/UNIX</productDescription>
      <state>active</state>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Light Utilization</offeringType>
      <recurringCharges/>
    </item>
    ...
  </reservedInstancesSet>
</DescribeReservedInstancesListingsResponse>

**Example Request**

https://ec2.amazonaws.com/?Action=CreateReservedInstancesListing
&ClientToken=myIdempToken1
&ReservedInstancesId=e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE
&InstanceCount=3
Example Response

```xml
<CreateReservedInstancesListingResponse>
<requestId>a42481af-335a-4e9e-b291-bd18dEXAMPLE</requestId>
<reservedInstancesListingsSet>
  <item>
    <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-9e57dEXAMPLE</reservedInstancesListingId>
    <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
    <createDate>2012-08-30T17:11:09.449Z</createDate>
    <updateDate>2012-08-30T17:11:09.468Z</updateDate>
    <status>active</status>
    <statusMessage>active</statusMessage>
    <instanceCounts>
      <item>
        <state>Available</state>
        <instanceCount>3</instanceCount>
      </item>
      <item>
        <state>Sold</state>
        <instanceCount>0</instanceCount>
      </item>
      <item>
        <state>Cancelled</state>
        <instanceCount>0</instanceCount>
      </item>
      <item>
        <state>Pending</state>
        <instanceCount>0</instanceCount>
      </item>
    </instanceCounts>
    <priceSchedules>
      <item>
        <term>11</term>
        <price>2.5</price>
        <currencyCode>USD</currencyCode>
        <active>true</active>
      </item>
      <item>
        <term>10</term>
        <price>2.5</price>
        <currencyCode>USD</currencyCode>
        <active>false</active>
      </item>
      <item>
        <term>9</term>
        <price>2.5</price>
        <currencyCode>USD</currencyCode>
      </item>
    </priceSchedules>
  </item>
</reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<active>false</active>
</item>
<item>
  <term>8</term>
  <price>2.00</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>7</term>
  <price>2.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>6</term>
  <price>2.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>5</term>
  <price>1.5</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>4</term>
  <price>1.5</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>3</term>
  <price>0.7</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>2</term>
  <price>0.7</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>1</term>
  <price>0.1</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
</priceSchedules>
<tagSet/>
<clientToken>listRI1</clientToken>
</item>
</reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
Example Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesListings
&AUTHPARAMS

Example Response

<DescribeReservedInstancesListingsResponse>
  <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <createDate>2012-07-06T19:35:29.000Z</createDate>
      <updateDate>2012-07-06T19:35:30.000Z</updateDate>
      <status>active</status>
      <statusMessage>ACTIVE</statusMessage>
      <instanceCounts>
        <item>
          <state>Available</state>
          <instanceCount>20</instanceCount>
        </item>
        <item>
          <state>Sold</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Cancelled</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
      <priceSchedules>
        <item>
          <term>8</term>
          <price>480.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>7</term>
          <price>420.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>6</term>
          <price>360.0</price>
          <currencyCode>USD</currencyCode>
          <active>active</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
<item>
  <term>5</term>
  <price>300.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>

<item>
  <term>4</term>
  <price>240.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>

<item>
  <term>3</term>
  <price>180.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>

<item>
  <term>2</term>
  <price>120.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>

<item>
  <term>1</term>
  <price>60.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>

</priceSchedules>
<tagSet />
</clientToken>myclienttoken1</clientToken>

</item>
</reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>

Related Actions

- CancelReservedInstancesListing (p. 51)
- DescribeReservedInstancesListings (p. 267)
CreateRoute

**Description**

Creates a route in a route table within a VPC. The route's target can be an Internet gateway or virtual private gateway attached to the VPC, a VPC peering connection, or a NAT instance in the VPC.

When determining how to route traffic, we use the route with the most specific match. For example, let's say the traffic is destined for 192.0.2.3, and the route table includes the following two routes:

- 192.0.2.0/24 (goes to some target A)
- 192.0.2.0/28 (goes to some target B)

Both routes apply to the traffic destined for 192.0.2.3. However, the second route in the list covers a smaller number of IP addresses and is therefore more specific, so we use that route to determine where to target the traffic.

For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

**Request Parameters**

- **RouteTableId**
  The ID of the route table for the route.
  - Type: String
  - Default: None
  - Required: Yes

- **DestinationCidrBlock**
  The CIDR address block used for the destination match. Routing decisions are based on the most specific match.
  - Type: String
  - Default: None
  - Required: Yes

- **GatewayId**
  The ID of an Internet gateway or virtual private gateway attached to your VPC.
  - Type: String
  - Default: None
  - Required: Conditional
  - Condition: You must specify one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.

- **InstanceId**
  The ID of a NAT instance in your VPC. The operation fails if you specify an instance ID unless exactly one network interface is attached.
  - Type: String
  - Default: None
  - Required: Conditional
  - Condition: You must specify one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.

- **NetworkInterfaceId**
  The ID of a network interface.
Response Elements

The following elements are returned in a CreateRouteResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGatewayID.NotFound (p. 600)
- InvalidInstanceID.Malformed (p. 600)
- InvalidInstanceID.NotFound (p. 600)
- InvalidNetworkInterfaceId.Malformed (p. 600)
- InvalidNetworkInterfaceId.NotFound (p. 600)
- InvalidRouteTableId.Malformed (p. 600)
- InvalidRouteTableId.NotFound (p. 600)
- InvalidVpcPeeringConnectionId.Malformed (p. 600)
- InvalidVpcPeeringConnectionId.NotFound (p. 600)
- RouteAlreadyExists (p. 600)

Examples

Example Request

This example request creates a route in the route table with the ID rtb-e4ad488d. The route matches all traffic (0.0.0.0/0) and routes it to the Internet gateway with the ID igw-eaad4883.
Example Request

This example request creates a route in the route table with the ID `rtb-g8ff4ea2`. The route sends all traffic (0.0.0.0/0) to the NAT instance with the ID `i-1a2b3c4d`.

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&DestinationCidrBlock=0.0.0.0/0
&InstanceId=i-1a2b3c4d
&AUTHPARAMS
```

Example Request

This example command creates a route in route table `rtb-g8ff4ea2`. The route matches traffic for the CIDR block `10.0.0.0/16` and routes it to VPC peering connection, `pcx-111aaa22`. This route enables traffic to be directed to the peer VPC in the VPC peering connection.

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-g8ff4ea2
&DestinationCidrBlock=10.0.0.0/16
&VpcPeeringConnectionId=pcx-111aaa22
&AUTHPARAMS
```

Example Response

```
<CreateRouteResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CreateRouteResponse>
```

Related Actions

- [DeleteRoute](#) (p. 152)
- [ReplaceRoute](#) (p. 429)
- [DescribeRouteTables](#) (p. 284)
CreateRouteTable

Description

Creates a route table for the specified VPC. After you create a route table, you can add routes and associate the table with a subnet.

For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

VpcId
The ID of the VPC.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a CreateRouteTableResponse element.

requestId
The ID of the request.
Type: xsd:string

routeTable
Information about the route table.
Type: RouteTableType (p. 550)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcId.NotFound (p. 600)
- RouteTableLimitExceeded (p. 600)

Examples

Example Request

This example request creates a route table for the VPC with the ID vpc-11ad4878.

https://ec2.amazonaws.com/?Action=CreateRouteTable
&VpcId=vpc-11ad4878
&AUTHPARAMS
Example Response

By default, every route table includes a local route that enables traffic to flow within the VPC. The following response shows that route.

```
<CreateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <routeTable>
    <routeTableId>rtb-f9ad4890</routeTableId>
    <vpcId>vpc-11ad4878</vpcId>
    <routeSet>
      <item>
        <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
        <gatewayId>local</gatewayId>
        <state>active</state>
      </item>
    </routeSet>
    <associationSet/>
    <tagSet/>
  </routeTable>
</CreateRouteTableResponse>
```

Related Actions

- AssociateRouteTable (p. 24)
- DisassociateRouteTable (p. 368)
- DescribeRouteTables (p. 284)
- DeleteRouteTable (p. 154)
- ReplaceRouteTableAssociation (p. 432)
- CreateRoute (p. 102)
**CreateSecurityGroup**

**Description**

Creates a security group.

**Important**

EC2-Classic: You can have up to 500 security groups.

EC2-VPC: You can create up to 100 security groups per VPC.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the Amazon Elastic Compute Cloud User Guide and Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide.

When you create a security group, you specify a friendly name of your choice. You can have a security group for use in EC2-Classic with the same name as a security group for use in a VPC. However, you can't have two security groups for use in EC2-Classic with the same name or two security groups for use in a VPC with the same name.

You have a default security group for use in EC2-Classic and a default security group for use in your VPC. If you don't specify a security group when you launch an instance, the instance is launched into the appropriate default security group. A default security group includes a default rule that grants instances unrestricted network access to each other.

You can add or remove rules from your security groups using AuthorizeSecurityGroupIngress, AuthorizeSecurityGroupEgress, RevokeSecurityGroupIngress, and RevokeSecurityGroupEgress.

**Request Parameters**

- **GroupName**
  - The name of the security group.
  - Type: String
  - Default: None
  - Constraints: Up to 255 characters in length
  - Constraints for EC2-Classic: ASCII characters
  - Constraints for EC2-VPC: a-z, A-Z, 0-9, spaces, and .-_/:(@[]+&;|$)*
  - Required: Yes

- **GroupDescription**
  - A description for the security group. This is informational only.
  - Type: String
  - Default: None
  - Constraints: Up to 255 characters in length
  - Constraints for EC2-Classic: ASCII characters
  - Constraints for EC2-VPC: a-z, A-Z, 0-9, spaces, and .-_/:(@[]+&;|$)*
  - Required: Yes

- **VpcId**
  - [EC2-VPC] The ID of the VPC.
  - Type: String
  - Default: None
  - Required: Conditional
  - Condition: Required for EC2-VPC.
Response Elements

The following elements are returned in a CreateSecurityGroupResponse element.

requestId
- The ID of the request.
- Type: xsd:string

return
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

groupId
- The ID of the security group.
- Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.Duplicate (p. 600)
- InvalidGroup.Reserved (p. 600)
- InvalidVpcID.NotFound (p. 600)
- SecurityGroupLimitExceeded (p. 600)

Examples

Example Request

This example request creates a security group named websrv for EC2-Classic.

https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=websrv
&GroupDescription=Web Servers
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <groupId>sg-1a2b3c4d</groupId>
</CreateSecurityGroupResponse>

Example Request

This example request creates a security group named WebServerSG for the specified VPC.
https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=WebServerSG
&GroupDescription=Web Servers
&VpcId=vpc-3325caf2
&AUTHPARAMS

Example Response

<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<return>true</return>
<groupId>sg-0a42d66a</groupId>
</CreateSecurityGroupResponse>

Related Actions

- RunInstances (p. 459)
- DescribeSecurityGroups (p. 289)
- AuthorizeSecurityGroupIngress (p. 38)
- RevokeSecurityGroupIngress (p. 456)
- DeleteSecurityGroup (p. 156)
CreateSnapshot

Description

Creates a snapshot of an Amazon EBS volume and stores it in Amazon S3. You can use snapshots for backups, to make copies of instance store volumes, and to save data before shutting down an instance.

When a snapshot is created, any AWS Marketplace product codes from the volume are propagated to the snapshot.

You can take a snapshot of an attached volume that is in use. However, snapshots only capture data that has been written to your Amazon EBS volume at the time the snapshot command is issued. This may exclude any data that has been cached by any applications or the operating system. If you can pause any file writes to the volume long enough to take a snapshot, your snapshot should be complete. However, if you can't pause all file writes to the volume, you should unmount the volume from within the instance, issue the snapshot command, and then remount the volume to ensure a consistent and complete snapshot. You may remount and use your volume while the snapshot status is pending.

To create a snapshot for Amazon EBS volumes that serve as root devices, you should stop the instance before taking the snapshot.

To unmount the volume in Linux/Unix, use the following command:

```
umount -d device_name
```

Where `device_name` is the device name (for example, `/dev/sdh`).

To unmount the volume in Windows, open Disk Management, right-click the volume to unmount, and select Change Drive Letter and Path. Select the mount point to remove, and then click Remove.

Snapshots that are taken from encrypted volumes are automatically encrypted. Volumes that are created from encrypted snapshots are also automatically encrypted. Your encrypted volumes and any associated snapshots always remain protected. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

For more information, see Amazon Elastic Block Store in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

---

**VolumeId**

- The ID of the Amazon EBS volume.
- Type: String
- Default: None
- Required: Yes

**Description**

- A description for the snapshot.
- Type: String
- Default: None
- Constraints: Up to 255 characters
- Required: No
Response Elements

The following elements are returned in a CreateSnapshotResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **snapshotId**
  - The ID of the snapshot.
  - Type: xsd:string

- **volumeId**
  - The ID of the volume.
  - Type: xsd:string

- **status**
  - The snapshot state.
  - Type: xsd:string
  - Valid values: pending | completed | error

- **startTime**
  - The time stamp when the snapshot was initiated.
  - Type: xsd:dateTime

- **progress**
  - The progress of the snapshot, as a percentage.
  - Type: xsd:string

- **ownerId**
  - The AWS account ID of the Amazon EBS snapshot owner.
  - Type: xsd:string

- **volumeSize**
  - The size of the volume, in GiB.
  - Type: xsd:string

- **description**
  - The description for the snapshot.
  - Type: xsd:string

- **encrypted**
  - Indicates whether the snapshot is encrypted.
  - Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- ConcurrentSnapshotLimitExceeded (p. 600)
- IncorrectState (p. 600)
- InvalidParameterValue (p. 600)
- InvalidState (p. 600)
- InvalidVolumeID.Malformed (p. 600)
- InvalidVolume.NotFound (p. 600)
- MissingParameter (p. 600)
Examples

Example Request

This example creates a snapshot of the volume with the ID vol-1a2b3c4d.

https://ec2.amazonaws.com/?Action=CreateSnapshot
&VolumeId=vol-1a2b3c4d
&Description=Daily+Backup
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1a2b3c4d</snapshotId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <status>pending</status>
  <startTime>YYYY-MM-DDTHH:MM:SS.000Z</startTime>
  <progress>60%</progress>
  <ownerId>111122223333</ownerId>
  <volumeSize>30</volumeSize>
  <encrypted>true</encrypted>
  <description>Daily Backup</description>
</CreateSnapshotResponse>

Related Actions

- DeleteSnapshot (p. 158)
- DescribeSnapshots (p. 297)
CreateSpotDatafeedSubscription

Description

Creates the datafeed for Spot Instances, enabling you to view Spot Instance usage logs. You can create one data feed per account. For more information, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

Bucket
The Amazon S3 bucket in which to store the Spot Instance datafeed.
Type: String
Default: None
Constraints: Must be a valid bucket associated with your account.
Required: Yes

Prefix
A prefix for the datafeed file names.
Type: String
Default: None
Required: No

Response Elements

The following elements are returned in a CreateSpotDatafeedSubscriptionResponse element.

requestId
The ID of the request.
Type: xsd:string

spotDatafeedSubscription
The Spot Instance datafeed subscription.
Type: SpotDatafeedSubscriptionType (p. 557)

Examples

Example Request

This example request creates the data feed for the account.

https://ec2.amazonaws.com/?Action=CreateSpotDatafeedSubscription
&Bucket=myawsbucket
&AUTHPARAMS

Example Response


API Version 2014-05-01
113
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<spotDatafeedSubscription>
  <ownerId>111122223333</ownerId>
  <bucket>myawsbucket</bucket>
  <prefix>spotdata_</prefix>
  <state>Active</state>
</spotDatafeedSubscription>
</CreateSpotDatafeedSubscriptionResponse>

**Related Actions**

- DeleteSpotDatafeedSubscription (p. 160)
- DescribeSpotDatafeedSubscription (p. 302)
CreateSubnet

Description

Creates a subnet in an existing VPC.

When you create each subnet, you provide the VPC ID and the CIDR block you want for the subnet. After you create a subnet, you can't change its CIDR block. The subnet's CIDR block can be the same as the VPC's CIDR block (assuming you want only a single subnet in the VPC), or a subset of the VPC's CIDR block. If you create more than one subnet in a VPC, the subnets' CIDR blocks must not overlap. The smallest subnet (and VPC) you can create uses a /28 netmask (16 IP addresses), and the largest uses a /16 netmask (65,536 IP addresses).

**Important**
AWS reserves both the first four and the last IP address in each subnet's CIDR block. They're not available for use.

If you add more than one subnet to a VPC, they're set up in a star topology with a logical router in the middle.

For more information about subnets, see Your VPC and Subnets in the Amazon Virtual Private Cloud User Guide.

If you launch an instance in a VPC using an Amazon EBS-backed AMI, the IP address doesn't change if you stop and restart the instance (unlike a similar instance launched outside a VPC, which gets a new IP address when restarted). It's therefore possible to have a subnet with no running instances (they're all stopped), but no remaining IP addresses available. For more information about Amazon EBS-backed AMIs, see AMI Basics in the Amazon Elastic Compute Cloud User Guide.

For more information about subnets, see Your VPC and Subnets in the Amazon Virtual Private Cloud User Guide.

Request Parameters

**VpcId**
- The ID of the VPC.
- Type: String
- Default: None
- Required: Yes

**CidrBlock**
- The CIDR block for the subnet. For example, 10.0.0.0/24.
- Type: String
- Default: None
- Required: Yes

**AvailabilityZone**
- The Availability Zone for the subnet.
- Type: String
- Default: Amazon EC2 selects one for you (recommended).
- Required: No
Response Elements

The following elements are returned in a CreateSubnetResponse element.

requestId
   The ID of the request.
   Type: xsd:string

subnet
   Information about the subnet.
   Type: SubnetType (p. 562)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)
- InvalidSubnet.Conflict (p. 600)
- InvalidVpcID.NotFound (p. 600)
- SubnetLimitExceeded (p. 600)

Examples

Example Request

This example request creates a subnet with CIDR block 10.0.1.0/24 in the VPC with the ID vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=CreateSubnet
&VpcId=vpc-1a2b3c4d
&CidrBlock=10.0.1.0/24
&AUTHPARMS

Example Response

 <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
 <subnet>
   <subnetId>subnet-9d4a7b6c</subnetId>
   <state>pending</state>
   <vpcId>vpc-1a2b3c4d</vpcId>
   <cidrBlock>10.0.1.0/24</cidrBlock>
   <availableIpAddressCount>251</availableIpAddressCount>
   <availabilityZone>us-east-1a</availabilityZone>
   <tagSet/>
 </subnet>
</CreateSubnetResponse>
Related Actions

- DescribeSubnets (p. 316)
- DeleteSubnet (p. 161)
CreateTags

Description

Adds or overwrites one or more tags for the specified Amazon EC2 resource or resources. Each resource can have a maximum of 10 tags. Each tag consists of a key and optional value. Tag keys must be unique per resource.

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ResourceId.n
- The IDs of one or more resources to tag. For example, ami-1a2b3c4d.
  Type: String
  Default: None
  Required: Yes

Tag.n.Key
- The key for a tag.
  Type: String
  Default: None
  Required: Yes
  Constraints: Tag keys are case-sensitive and accept a maximum of 127 Unicode characters. May not begin with aws:

Tag.n.Value
- The value for a tag. If you don’t want the tag to have a value, specify the parameter with no value, and we set the value to an empty string.
  Type: String
  Default: None
  Constraints: Tag values are case-sensitive and accept a maximum of 255 Unicode characters.
  Required: Yes

Response Elements

The following elements are returned in a CreateTagsResponse element.

requestId
- The ID of the request.
  Type: xsd:string

return
- Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).
Examples

Example Request

This example request adds (or overwrites) two tags for an AMI and an instance. One of the tags is just a key (webserver), with no value (we set the value to an empty string). The other tag consists of a key (stack) and value (Production).

```
https://ec2.amazonaws.com/?Action=CreateTags
&ResourceId.1=ami-1a2b3c4d
&ResourceId.2=i-7f4d3a2b
&Tag.1.Key=webserver
&Tag.1.Value=
&Tag.2.Key=stack
&Tag.2.Value=Production
&AUTHPARAMS
```

Example Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</CreateTagsResponse>
```

Related Actions

- DescribeTags (p. 320)
- DeleteTags (p. 163)
CreateVolume

Description

Creates an Amazon EBS volume that can be attached to an instance in the same Availability Zone. The volume is created in the regional endpoint that you send the HTTP request to. For more information, see Regions and Endpoints.

You can create a new empty volume or restore a volume from an Amazon EBS snapshot. Any AWS Marketplace product codes from the snapshot are propagated to the volume.

You can create encrypted volumes with the Encrypted parameter. Encrypted volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are also automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

For more information about Amazon EBS, see Amazon Elastic Block Store in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

Size
The size of the volume, in GiBs.
Type: String
Valid values: 1–1024
Constraints: If the volume type is io1, the minimum size of the volume is 10 GiB.
Default: If you’re creating the volume from a snapshot and don’t specify a volume size, the default is the snapshot size.
Required: No

SnapshotId
The snapshot from which to create the volume.
Type: String
Default: None
Condition: Required if you are creating a volume from a snapshot.
Required: Conditional

AvailabilityZone
The Availability Zone in which to create the volume. Use DescribeAvailabilityZones (p. 186) to list the Availability Zones that are currently available to you.
Type: String
Default: None
Required: Yes

VolumeType
The volume type.
Type: String
Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
Default: standard
Required: No

Iops
The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4,000.
Default: None
Required: Conditional
Condition: Required when the volume type is io1; not used with standard or gp2 volumes.

Encrypted
Specifies whether the volume should be encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. If your AMI uses encrypted volumes, you can only launch it on supported instance types. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.

Type: Boolean
Default: false
Required: No

Response Elements
The following elements are returned in a CreateVolumeResponse element.

requestId
The ID of the request.
Type: xsd:string

volumeId
The ID of the volume.
Type: xsd:string

size
The size of the volume, in GiBs.
Type: xsd:string

snapshotId
The snapshot from which the volume was created, if applicable.
Type: xsd:string

availabilityZone
The Availability Zone for the volume.
Type: xsd:string

status
The volume state.
Type: xsd:string
Valid values: creating | available | in-use | deleting | deleted | error

createTime
The time stamp when volume creation was initiated.
Type: xsd:dateTime

volumeType
The volume type.
Type: xsd:string
Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.

iops
The number of I/O operations per second (IOPS) that the volume supports.
Type: xsd:int
Valid values: Range is 100 to 4,000.

encrypted
Indicates whether the volume will be encrypted.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidSnapshot.NotFound (p. 600)
- InvalidZone.NotFound (p. 600)
- MaxIOPSLimitExceeded (p. 600)
- UnknownVolumeType (p. 600)
- VolumeLimitExceeded (p. 600)

Examples

Example Request

This example request creates an 80 GiB encrypted volume in the Availability Zone us-east-1a.

https://ec2.amazonaws.com/?Action=CreateVolume
&Size=80
&AvailabilityZone=us-east-1a
&Encrypted=1
&AUTHPARAMS

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <size>80</size>
  <snapshotId/>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
  <volumeType>standard</volumeType>
  <encrypted>true</encrypted>
</CreateVolumeResponse>
```

Example Request

This example request creates a new Provisioned IOPS (SSD) volume with 1000 provisioned IOPS from a snapshot in the Availability Zone us-east-1a.
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <size>500</size>
  <snapshotId>snap-example</snapshotId>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
  <volumeType>io1</volumeType>
</CreateVolumeResponse>
```

Related Actions

- DeleteVolume (p. 166)
- DescribeVolumes (p. 328)
- AttachVolume (p. 30)
- DetachVolume (p. 359)
- DescribeAvailabilityZones (p. 186)
CreateVpc

Description

Creates a VPC with the specified CIDR block.

The smallest VPC you can create uses a /28 netmask (16 IP addresses), and the largest uses a /16 netmask (65,536 IP addresses). To help you decide how big to make your VPC, see Your VPC and Subnets in the Amazon Virtual Private Cloud User Guide.

By default, each instance you launch in the VPC has the default DHCP options, which includes only a default DNS server that we provide (AmazonProvidedDNS). For more information about DHCP options, see DHCP Options Sets in the Amazon Virtual Private Cloud User Guide.

Request Parameters

CidrBlock

The CIDR block for the VPC (for example, 10.0.0.0/16).
Type: String
Default: None
Required: Yes

instanceTenancy

The supported tenancy options for instances launched into the VPC. A value of default means that instances can be launched with any tenancy; a value of dedicated means all instances launched into the VPC are launched as dedicated tenancy instances regardless of the tenancy assigned to the instance at launch. Dedicated tenancy instances runs on single-tenant hardware.
Type: String
Valid values: default | dedicated
Default: default
Required: No

Response Elements

The following elements are returned in a CreateVpcResponse element.

requestId

The ID of the request.
Type: xsd:string

vpc

Information about the VPC.
Type: VpcType (p. 568)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidVpcRange (p. 600)
• VpcLimitExceeded (p. 600)
Examples

Example Request

This example request creates a VPC with the CIDR block 10.0.0.0/16.

https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpc>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <state>pending</state>
    <cidrBlock>10.0.0.0/16</cidrBlock>
    <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
    <instanceTenancy>default</instanceTenancy>
    <tagSet/>
  </vpc>
</CreateVpcResponse>

Example Request

This example request creates a VPC with the dedicated tenancy option.

https://ec2.amazonaws.com/?Action=CreateVpc
&CidrBlock=10.0.0.0/16
&InstanceTenancy=dedicated
&AUTHPARAMS

Example Response

  <requestId>a9e49797-a74f-4f68-b302-a134a51fd054</requestId>
  <vpc>
    <vpcId>vpc-11a63c78</vpcId>
    <state>pending</state>
    <cidrBlock>10.32.0.0/16</cidrBlock>
    <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
    <instanceTenancy>dedicated</instanceTenancy>
    </vpc>
</CreateVpcResponse>

Related Actions

- DescribeVpcs (p. 343)
- DeleteVpc (p. 168)
- CreateDhcpOptions (p. 66)
CreateVpcPeeringConnection

**Description**

Requests a VPC peering connection between two VPCs: a requester VPC that you own and a peer VPC with which to create the connection. The peer VPC can belong to another AWS account. The requester VPC and peer VPC cannot have overlapping CIDR blocks.

The owner of the peer VPC must accept the peering request to activate the peering connection. The VPC peering connection request expires after 7 days, after which it cannot be accepted or rejected.

A `CreateVpcPeeringConnection` request between VPCs with overlapping CIDR blocks results in the VPC peering connection having a status of `failed`.

**Request Parameters**

- **VpcId**
  - The ID of the requester VPC.
  - Type: String
  - Default: None
  - Required: Yes

- **PeerVpcId**
  - The ID of the VPC with which you are creating the peering connection.
  - Type: String
  - Default: None
  - Required: Yes

- **PeerOwnerId**
  - The AWS account ID of the owner of the peer VPC.
  - Type: String
  - Default: Your AWS account ID
  - Required: Conditional
  - Condition: Required if the peer VPC is not in the same account as the requester VPC.

**Response Elements**

The following elements are returned in an `CreateVpcPeeringConnection` element.

- **vpcPeeringConnection**
  - Information about the peering connection.
  - Type: `VpcPeeringConnectionType` (p. 569)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see `Common Causes of EC2 API Client Errors` (p. 585). For a summary of API error codes, see `Client Error Codes` (p. 586).
Examples

Example Request 1

This example requests a peering connection between your VPC (vpc-1a2b3c4d), and a VPC (vpc-a1b2c3d4) that belongs to AWS account 123456789012.

https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-a1b2c3d4
&PeerOwnerId=123456789012
&AUTHPARAMS

Example Response 1

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcPeeringConnection>
    <vpcPeeringConnectionId>pcx-73a5401a</vpcPeeringConnectionId>
    <requesterVpcInfo>
      <ownerId>777788889999</ownerId>
      <vpcId>vpc-vpc-1a2b3c4d</vpcId>
      <cidrBlock>10.0.0.0/28</cidrBlock>
    </requesterVpcInfo>
    <accepterVpcInfo>
      <ownerId>123456789012</ownerId>
      <vpcId>vpc-a1b2c3d4</vpcId>
    </accepterVpcInfo>
    <status>
      <code>initiating-request</code>
      <message>Initiating Request to 123456789012</message>
    </status>
    <expirationTime>2014-02-18T14:37:25.000Z</expirationTime>
    <tagSet/>
  </vpcPeeringConnection>
</CreateVpcPeeringConnectionResponse>

Example Request 2

This example requests a peering connection between your VPCs vpc-1a2b3c4d and vpc-11122233.

https://ec2.amazonaws.com/?Action=CreateVpcPeeringConnection
&VpcId=vpc-1a2b3c4d
&PeerVpcId=vpc-11122233
&AUTHPARAMS
Related Actions

- DescribeVpcPeeringConnections (p. 340)
- AcceptVpcPeeringConnection (p. 12)
- RejectVpcPeeringConnection (p. 420)
- DeleteVpcPeeringConnection (p. 169)
- CreateRoute (p. 102)
- ReplaceRoute (p. 429)
CreateVpnConnection

Description

Creates a VPN connection between an existing virtual private gateway and a VPN customer gateway. The only supported connection type is ipsec.1.

The response includes information that you need to give to your network administrator to configure your customer gateway. We recommend that you use the command line version of this operation (ec2-create-vpn-connection), which lets you get the configuration information formatted in a friendlier way. For information about the command, see ec2-create-vpn-connection in the Amazon Elastic Compute Cloud Command Line Reference.

Important

We strongly recommend that you use HTTPS when calling this operation because the response contains sensitive cryptographic information for configuring your customer gateway.

If you decide to shut down your VPN connection for any reason and later create a new VPN connection, you must reconfigure your customer gateway with the new information returned from this call.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

Type

The type of VPN connection.
Type: String
Valid values: ipsec.1
Default: None
Required: Yes

CustomerGatewayId

The ID of the customer gateway.
Type: String
Default: None
Required: Yes

VpnGatewayId

The ID of the virtual private gateway.
Type: String
Default: None
Required: Yes

Options.StaticRoutesOnly

Indicates whether the VPN connection requires static routes. If you are creating a VPN connection for a device that does not support BGP, you must specify true.
Type: Boolean
Default: false
Required: No

Response Elements

The following elements are returned in a CreateVpnConnectionResponse element.
requestId
  The ID of the request.
  Type: xsd:string

vpnConnection
  Information about the VPN connection.
  Type: VpnConnectionType (p. 571)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidCustomerGateway.DuplicateIpAddress (p. 600)
• InvalidCustomerGatewayID.NotFound (p. 600)
• InvalidOption.Conflict (p. 600)
• VpnConnectionLimitExceeded (p. 600)

Examples

Example Request

This example request creates a VPN connection between the virtual private gateway with the ID vgw-8db04f81 and the customer gateway with the ID cgw-b4dc3961. The response includes configuration information for the customer gateway. Because it's a long set of information, we haven't included the complete response here. To see an example of the configuration information, see the Amazon Virtual Private Cloud Network Administrator Guide.

https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnConnection>
    <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
    <state>pending</state>
    <customerGatewayConfiguration>
      ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <type>ipsec.1</type>
    <customerGatewayId>cwg-b4dc3961</customerGatewayId>
    <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
    <tagSet/>
  </vpnConnection>
</CreateVpnConnectionResponse>
Example Request

This example request creates a VPN connection with the static routes option between the virtual private
gateway with the ID vgw-8db04f81, and the customer gateway with the ID cgw-b4dc3961, for a device
that does not support the Border Gateway Protocol (BGP). The response includes configuration information
for the VPN connection's customer gateway. Because it's a long set of information, we haven't included
the complete response here.

https://ec2.amazonaws.com/?Action=CreateVpnConnection
&Type=ipsec.1
&CustomerGatewayId=cgw-b4dc3961
&VpnGatewayId=vgw-8db04f81
&Options.StaticRoutesOnly=true
&AUTHPARAMS

Example Response

  <requestId>5cc7891f-1f3b-4fc4-a626-bdea8f63ff5a</requestId>
  <vpnConnection>
    <vpnConnectionId>vpn-83ad48ea</vpnConnectionId>
    <state>pending</state>
    <customerGatewayConfiguration>
      ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
    <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
    <options>
      <staticRoutesOnly>true</staticRoutesOnly>
    </options>
    <routes/>
  </vpnConnection>
</CreateVpnConnectionResponse>

Related Actions

- DescribeVpnConnections (p. 347)
- DeleteVpnConnection (p. 171)
- CreateVpc (p. 124)
- CreateSubnet (p. 115)
- AttachVpnGateway (p. 33)
CreateVpnConnectionRoute

Description

Creates a static route associated with a VPN connection between an existing virtual private gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual private gateway to the VPN customer gateway.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

DestinationCidrBlock

The CIDR block associated with the local subnet of the customer network.

Type: String
Default: None
Required: Yes

VpnConnectionId

The ID of the VPN connection.

Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a CreateVpnConnectionRouteResponse element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpnConnectionID (p. 600)
Examples

Example Request

This example request creates a static route to the VPN connection for the VPN connection with the ID vpn-83ad48ea to the destination CIDR block 11.12.0.0/16. Note that when using the Query API the "/" is denoted as "%2F".

https://ec2.amazonaws.com/?Action=CreateVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS

Example Response

<CreateVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</CreateVpnConnectionRouteResponse>

Related Actions

- DeleteVpnConnectionRoute (p. 173)
- DeleteVpnConnection (p. 171)
- DescribeVpnConnections (p. 347)
- CreateVpc (p. 124)
- CreateSubnet (p. 115)
- AttachVpnGateway (p. 33)
CreateVpnGateway

Description

Creates a virtual private gateway. A virtual private gateway is the endpoint on the VPC side of your VPN connection. You can create a virtual private gateway before creating the VPC itself.

For more information about virtual private gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

**Type**

The type of VPN connection this virtual private gateway supports.

- Type: String
- Valid values: ipsec.1
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a `CreateVpnGatewayResponse` element.

- `requestId`
  - The ID of the request.
  - Type: xsd:string
- `vpnGateway`
  - Information about the virtual private gateway.
  - Type: VpnGatewayType (p. 572)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidParameterValue` (p. 600)
- `VpnGatewayLimitExceeded` (p. 600)

Examples

Example Request

This example request creates a virtual private gateway.

```
https://ec2.amazonaws.com/?Action=CreateVpnGateway
&Type=ipsec.1
&AUTHPARAMS
```
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGateway>
    <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
    <state>pending</state>
    <type>ipsec.1</type>
    <availabilityZone>us-east-1a</availabilityZone>
  </vpnGateway>
</CreateVpnGatewayResponse>
```

Related Actions

- DescribeVpnGateways (p. 351)
- DeleteVpnGateway (p. 175)
- AttachVpnGateway (p. 33)
- DetachVpnGateway (p. 362)
DeleteCustomerGateway

Description

Deletes the specified customer gateway. You must delete the VPN connection before you can delete the customer gateway.

For more information about customer gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

CustomerGatewayId
- The ID of the customer gateway.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DeleteCustomerGatewayResponse element.

requestId
- The ID of the request.
- Type: xsd:string

return
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidCustomerGatewayId.Malformed (p. 600)
- InvalidCustomerGatewayId.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified customer gateway.

https://ec2.amazonaws.com/?Action=DeleteCustomerGateway
&CustomerGatewayId=cgw-b4dc3961
&AUTHPARAMS
Example Response

```xml
    requestId=7a62c49f-347e-4fc4-9331-6e8eEXAMPLE/>
<return>true</return>
</DeleteCustomerGatewayResponse>
```

Related Actions

- CreateCustomerGateway (p. 64)
- DescribeCustomerGateways (p. 194)
DeleteDhcpOptions

Description

Deletes the specified set of DHCP options. You must disassociate the set of DHCP options before you can delete it. You can disassociate the set of DHCP options by associating either a new set of options or the default set of options with the VPC.

For more information about DHCP options sets, see DHCP Options Sets in the Amazon Virtual Private Cloud User Guide.

Request Parameters

DhcpOptionsId

The ID of the DHCP options set.

Type: String

Default: None

Required: Yes

Response Elements

The following elements are returned in a DeleteDhcpOptionsResponse element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- InvalidDhcpOptionsId.Malformed (p. 600)
- InvalidDhcpOptionsID.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified set of DHCP options.
Example Response

```
<DeleteDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteDhcpOptionsResponse>
```

Related Actions

- AssociateDhcpOptions (p. 22)
- CreateDhcpOptions (p. 66)
- DescribeDhcpOptions (p. 198)
DeleteInternetGateway

Description

Deletes the specified Internet gateway. You must detach the Internet gateway from the VPC before you can delete it. For more information about your VPC and Internet gateway, see the Amazon Virtual Private Cloud User Guide.

Request Parameters

InternetGatewayId
- The ID of the Internet gateway.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DeleteInternetGatewayResponse element.

requestId
- The ID of the request.
- Type: xsd:string

return
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- InvalidInternetGatewayID.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified Internet gateway.

https://ec2.amazonaws.com/?Action=DeleteInternetGateway
&InternetGatewayId=igw-eaad4883
&AUTHPARAMS
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteInternetGatewayResponse>
```

Related Actions

- CreateInternetGateway (p. 76)
- AttachInternetGateway (p. 26)
- DetachInternetGateway (p. 355)
- DescribeInternetGateways (p. 237)
DeleteKeyPair

Description

Deletes the specified key pair, by removing the public key from Amazon EC2. You must own the key pair.

Request Parameters

KeyName
   The name of the key pair.
   Type: String
   Default: None
   Required: Yes

Response Elements

The following elements are returned in a DeleteKeyPairResponse element.

requestId
   The ID of the request.
   Type: xsd:string

return
   Returns true if the request succeeds. Otherwise, returns an error.
   Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterCombination (p. 600)
- MissingParameter (p. 600)

Examples

Example Request

This example request deletes the key pair named my-key-pair.

https://ec2.amazonaws.com/?Action=DeleteKeyPair
&KeyName=my-key-pair
&AUTHPARAMS
Example Response

```xml
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DeleteKeyPairResponse>
```

Related Actions

- CreateKeyPair (p. 78)
- DescribeKeyPairs (p. 240)
- ImportKeyPair (p. 382)
DeleteNetworkAcl

Description

Deletes the specified network ACL. You can't delete the ACL if it's associated with any subnets. You can't delete the default network ACL. For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

NetworkAclId
- The ID of the network ACL.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DeleteNetworkAclResponse element.

requestId
- The ID of the request.
- Type: xsd:string

return
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- InvalidNetworkAclID.NotFound (p. 600)
- InvalidParameterValue (p. 600)

Examples

Example Request

This example request deletes the specified network ACL.

https://ec2.amazonaws.com/?Action=DeleteNetworkAcl
&NetworkAclId=acl-2cb85d45
&AUTHPARAMS
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteNetworkAclResponse>
```

Related Actions

- DeleteNetworkAcl (p. 144)
- DescribeNetworkAcls (p. 243)
- ReplaceNetworkAclAssociation (p. 424)
DeleteNetworkAclEntry

Description

Deletes the specified ingress or egress entry (rule) from the specified network ACL. For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

**NetworkAclId**
- The ID of the network ACL.
- Type: String
- Default: None
- Required: Yes

**RuleNumber**
- The rule number of the entry to delete.
- Type: Integer
- Default: None
- Required: Yes

**Egress**
- Indicates whether the rule is an egress rule (true) or ingress rule (false).
- Type: Boolean
- Default: false
- Required: No

Response Elements

The following elements are returned in a `DeleteNetworkAclEntryResponse` element.

**requestId**
- The ID of the request.
- Type: `xsd:string`

**return**
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: `xsd:boolean`

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidNetworkAclID.NotFound` (p. 600)
- `InvalidNetworkAclEntry.NotFound` (p. 600)
Examples

Example Request

This example request deletes ingress rule number 100 from the specified network ACL.

https://ec2.amazonaws.com/?Action=DeleteNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=100
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteNetworkAclEntryResponse>

Related Actions

- CreateNetworkAclEntry (p. 83)
- ReplaceNetworkAclEntry (p. 426)
- DescribeNetworkAcls (p. 243)
DeleteNetworkInterface

Description

Deletes the specified network interface. You must detach the network interface before you can delete it.

Request Parameters

NetworkInterfaceId
The ID of the network interface.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteNetworkInterfaceResponse element.

requestId
The ID of the request.
Type: xsd:string
return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceId.NotFound (p. 600)
- InvalidNetworkInterface.InUse (p. 600)
- InvalidParameterValue (p. 600)
- MissingParameter (p. 600)

Examples

Example Request

This example request deletes the specified network interface.

https://ec2.amazonaws.com/?Action=DeleteNetworkInterface
&NetworkInterfaceId=eni-ffda3197
&AUTHPARAMS
Example Response

```xml
  ><requestId>e1c6d73b-edaa-4e62-9909-6611404e1739</requestId>
  <return>true</return>
</DeleteNetworkInterfaceResponse>
```

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
DeletePlacementGroup

Description

Deletes the specified placement group. You must terminate all instances in the placement group before you can delete the placement group. For more information about placement groups and cluster instances, see Cluster Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

GroupName

The name of the placement group.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeletePlacementGroupResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidPlacementGroup.InUse (p. 600)
- InvalidPlacementGroup.Unknown (p. 600)

Examples

Example Request

This example request deletes the placement group named XYZ-cluster.

https://ec2.amazonaws.com/?Action=DeletePlacementGroup
&GroupName=XYZ-cluster
&AUTHPARAMS
Example Response

```xml
    <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
    <return>true</return>
</DeletePlacementGroupResponse>
```

Related Actions

- CreatePlacementGroup (p. 91)
- DescribePlacementGroups (p. 257)
DeleteRoute

Description

Deletes the specified route from the specified route table. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

RouteTableId
  The ID of the route table.
  Type: String
  Default: None
  Required: Yes

DestinationCidrBlock
  The CIDR range for the route. The value you specify must match the CIDR for the route exactly.
  Type: String
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a ReplaceRouteResponse element.

requestId
  The ID of the request.
  Type: xsd:string

return
  Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidRoute.NotFound (p. 600)
- InvalidRouteTableId.Malformed (p. 600)

Examples

Example Request

This example request deletes the route with destination CIDR 172.16.1.0/24 from the specified route table.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteResponse>
```

Related Actions

- CreateRoute (p. 102)
- ReplaceRoute (p. 429)
- DescribeRouteTables (p. 284)
DeleteRouteTable

Description

Deletes the specified route table. You must disassociate the route table from any subnets before you can delete it. You can't delete the main route table. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

RouteTableId

- The ID of the route table.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DeleteRouteTableResponse element.

requestId

- The ID of the request.
- Type: xsd:string

return

- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- InvalidRouteTableID.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified route table.

https://ec2.amazonaws.com/?Action=DeleteRouteTable
&RouteTableId=rtb-e4ad488d
&AUTHPARAMS

API Version 2014-05-01
Example Response

```
<DeleteRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteTableResponse>
```

Related Actions

- AssociateRouteTable (p. 24)
- DisassociateRouteTable (p. 368)
- DescribeRouteTables (p. 284)
- CreateRouteTable (p. 105)
- ReplaceRouteTableAssociation (p. 432)
## DeleteSecurityGroup

### Description

Deletes a security group.

**Important**

If you attempt to delete a security group that is associated with an instance, or is referenced by another security group, the operation fails with `InvalidGroup.InUse` in EC2-Classic or `DependencyViolation` in EC2-VPC.

### Request Parameters

**GroupName**

[EC2-Classic, default VPC] The name of the security group.
- Type: String
- Default: None
- Required: Conditional
- Condition: [EC2-Classic, default VPC] You can specify either `GroupName` or `GroupId`

**GroupId**

The ID of the security group.
- Type: String
- Default: None
- Required: Conditional
- Condition: Required for a nondefault VPC; for EC2-Classic or a default VPC, you can specify either `GroupName` or `GroupId`.

### Response Elements

The following elements are returned in a `DeleteSecurityGroupResponse` element.

**requestId**

The ID of the request.
- Type: xsd:string

**return**

Returns `true` if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

### Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- CannotDelete (p. 600)
- DependencyViolation (p. 600)
- InvalidGroup.InUse (p. 600)
- InvalidGroup.NotFound (p. 600)
- InvalidGroup.Reserved (p. 600)
• InvalidParameterCombination (p. 600)
• MissingParameter (p. 600)

Examples

Example Request

This example request deletes the specified security group for EC2-Classic.

https://ec2.amazonaws.com/?Action=DeleteSecurityGroup &GroupName=websrv &AUTHPARAMS

Example Request

This example request deletes the specified security group for EC2-VPC.

https://ec2.amazonaws.com/?Action=DeleteSecurityGroup &GroupId=sg-1a2b3c4d &AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSecurityGroupResponse>

Related Actions

• CreateSecurityGroup (p. 107)
• DescribeSecurityGroups (p. 289)
• AuthorizeSecurityGroupIngress (p. 38)
• RevokeSecurityGroupIngress (p. 456)
DeleteSnapshot

Description

Deletes the specified snapshot. When you make periodic snapshots of a volume, the snapshots are incremental, and only the blocks on the device that have changed since your last snapshot are saved in the new snapshot. When you delete a snapshot, only the data not needed for any other snapshot is removed. So regardless of which prior snapshots have been deleted, all active snapshots will have access to all the information needed to restore the volume.

Note
You cannot delete a snapshot of the root device of an EBS volume used by a registered AMI. You must first de-register the AMI before you can delete the snapshot. For more information, see Deregistering Your AMI in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

SnapshotId
The ID of the Amazon EBS snapshot.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteSnapshotResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)
- InvalidSnapshot.InUse (p. 600)
- InvalidSnapshot.NotFound (p. 600)

Examples

Example Request

This example request deletes the snapshot with the ID snap-la2b3c4d.
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSnapshotResponse>
```

Related Actions

- CreateSnapshot (p. 110)
- DescribeSnapshots (p. 297)
DeleteSpotDatafeedSubscription

Description

Deletes the datafeed for Spot Instances. For more information, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

No parameters.

Response Elements

The following elements are returned in a DeleteSpotDatafeedSubscriptionResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Examples

Example Request

This example request deletes the data feed for the account.

https://ec2.amazonaws.com/?Action=DeleteSpotDatafeedSubscription
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSpotDatafeedSubscriptionResponse>

Related Actions

• CreateSpotDatafeedSubscription (p. 113)
• DescribeSpotDatafeedSubscription (p. 302)
DeleteSubnet

Description

Deletes the specified subnet. You must terminate all running instances in the subnet before you can delete the subnet.

Request Parameters

SubnetId

The ID of the subnet.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteSubnetResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- InvalidSubnetID.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified subnet.

https://ec2.amazonaws.com/?Action=DeleteSubnet
&SubnetId=subnet-9d4a7b6c
&AUTHPARAMS
Example Response

    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</DeleteSubnetResponse>

Related Actions

- CreateSubnet (p. 115)
- DescribeSubnets (p. 316)
DeleteTags

**Description**

Deletes the specified set of tags from the specified set of resources. This call is designed to follow a DescribeTags call.

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.

**Request Parameters**

ResourceId.n

The ID of the resource. For example, ami-1a2b3c4d. You can specify more than one resource ID.
   Type: String
   Default: None
   Required: Yes

Tag.n.Key

The tag's key. You can specify more than one tag to delete.
   Type: String
   Default: None
   Required: Yes

Tag.n.Value

The tag's value.
   Type: String
   Default: If you omit this parameter, we delete the tag regardless of its value. If you specify this parameter with an empty string as the value, we delete the key only if its value is an empty string.
   Required: No

**Response Elements**

The following elements are returned in a DeleteTagsResponse element.

requestId

The ID of the request.
   Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
   Type: xsd:boolean

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidID (p. 600)
- MissingParameter (p. 600)
Examples

Example Request 1

This example deletes the tags for the AMI with the ID `ami-1a2b3c4d`.

First, get a list of the tags using the `DescribeTags` request.

https://ec2.amazonaws.com/?Action=DescribeTags
&ResourceId.1=ami-1a2b3c4d
&AUTHPARAMS

Next, delete the tags.

https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=ami-1a2b3c4d
&Tag.1.Key=webserver
&Tag.2.Key=stack
&AUTHPARAMS

Example Response 1

The following is the example response for the `DescribeTags` request.

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
  </tagSet>
</DescribeTagsResponse>

The following is the example response for the `DeleteTags` request.

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteTagsResponse>

Example Request 2

This example deletes the stack tag from two particular instances.
Example Request 3

This example request deletes the stack and webserver tags for two particular instances.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-5f4e3d2a
&ResourceId.2=i-12345678
&Tag.1.Key=stack
&Tag.2.Key=webserver
&AUTHPARAMS
```

Example Request 4

You can specify a tag key without a corresponding tag value to delete the tag regardless of its value. This example request deletes all tags whose that have a key of Purpose, regardless of the tag value.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-5f4e3d2a
&Tag.1.Key=Purpose
&AUTHPARAMS
```

Example Request 5

When you create a tag, you can set the tag value to the empty string. Correspondingly, you can delete only tags that have a specific key and whose value is the empty string. This example request deletes all tags for the specified instance where the key is Purpose and the tag value is the empty string.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-5f4e3d2a
&Tag.1.Key=Purpose
&Tag.2.Value=
&AUTHPARAMS
```

Related Actions

- CreateTags (p. 118)
- DescribeTags (p. 320)
DeleteVolume

Description

Deletes the specified Amazon EBS volume. The volume must be in the available state (not attached to an instance). For more information about Amazon EBS, see Amazon Elastic Block Store in the Amazon Elastic Compute Cloud User Guide.

Note

The volume may remain in the deleting state for several minutes.

Request Parameters

VolumeId

The ID of the volume.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteVolumeResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidState (p. 600)
- InvalidVolume.NotFound (p. 600)
- VolumeInUse (p. 600)

Examples

Example Request

This example request deletes the volume with the ID vol-1a2b3c4d.
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteVolumeResponse>
```

Related Actions

- CreateVolume (p. 120)
- DescribeVolumes (p. 328)
- AttachVolume (p. 30)
- DetachVolume (p. 359)
DeleteVpc

Description

Deletes the specified VPC. You must detach or delete all gateways and resources that are associated with the VPC before you can delete it. For example, you must terminate all instances running in the VPC, delete all security groups associated with the VPC (except the default one), delete all route tables associated with the VPC (except the default one), and so on.

Request Parameters

VpcId
The ID of the VPC.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteVpcResponse element.

requestId
The ID of the request.
Type: xsd:string
return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• DependencyViolation (p. 600)
• InvalidVpcId.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified VPC.

https://ec2.amazonaws.com/?Action=DeleteVpc
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpcResponse>
```

Related Actions

- CreateVpc (p. 124)
- DescribeVpcs (p. 343)

DeleteVpcPeeringConnection

Description

Deletes a VPC peering connection. Either the owner of the requester VPC or the owner of the peer VPC can delete the VPC peering connection if it's in the active state. The owner of the requester VPC can delete a VPC peering connection in the pending-acceptance state.

Note

To reject a VPC peering connection request that's pending your approval, use the RejectVpcPeeringConnection (p. 420) command.

Request Parameters

VpcPeeringConnectionId

- The ID of the VPC peering connection.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DeleteVpcPeeringConnection element.

requestId

- The ID of the request.
- Type: xsd:string

return

- Returns true if the request succeeds; otherwise, it returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).
Examples

Example Request

This example deletes the specified VPC peering connection.

https://ec2.amazonaws.com/?Action=DeleteVpcPeeringConnection
&VpcPeeringConnectionId=pcx-1a2b3c4d
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpcPeeringConnectionResponse>

Related Actions

- DescribeVpcPeeringConnections (p. 340)
- CreateVpcPeeringConnection (p. 126)
- AcceptVpcPeeringConnection (p. 12)
- RejectVpcPeeringConnection (p. 420)
- CreateRoute (p. 102)
- ReplaceRoute (p. 429)
DeleteVpnConnection

Description

Deletes the specified VPN connection.

If you're deleting the VPC and its associated components, we recommend that you detach the virtual private gateway from the VPC and delete the VPC before deleting the VPN connection.

Another reason to delete the VPN connection is if you believe that the tunnel credentials for your VPN connection have been compromised. In that situation, you can delete the VPN connection and create a new one that has new keys, without needing to delete the VPC or virtual private gateway. If you create a new VPN connection, you must reconfigure the customer gateway using the new configuration information returned with the new VPN connection ID.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

VpnConnectionId
  The ID of the VPN connection.
  Type: String
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a DeleteVpnConnectionResponse element.

requestId
  The ID of the request.
  Type: xsd:string

return
  Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpnConnectionId.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified VPN connection.
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpnConnectionResponse>
```

Related Actions

- CreateVpnConnection (p. 129)
- DescribeVpnConnections (p. 347)
- DetachVpnGateway (p. 362)
- DeleteVpc (p. 168)
DeleteVpnConnectionRoute

Description

Deletes the specified static route associated with a VPN connection between an existing virtual private gateway and a VPN customer gateway. The static route allows traffic to be routed from the virtual private gateway to the VPN customer gateway.

Request Parameters

DestinationCidrBlock
The CIDR block associated with the local subnet of the customer network.
Type: String
Default: None
Required: Yes

VpnConnectionId
The ID of the VPN connection.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a DeleteVpnConnectionRouteResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidRoute.Malformed (p. 600)
• InvalidVpnConnectionID (p. 600)

Examples

Example Request

This example request deletes a static route to the destination CIDR block 11.12.0.0/16 associated with the VPN connection with the ID vpn-83ad48ea. Note that when using the Query API, the "/" is denoted as "%2F".
Example Response

```xml
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</DeleteVpnConnectionRouteResponse>
```

Related Actions

- CreateVpnConnectionRoute (p. 132)
- DeleteVpnConnection (p. 171)
- DescribeVpnConnections (p. 347)
- CreateVpc (p. 124)
- CreateSubnet (p. 115)
- AttachVpnGateway (p. 33)
DeleteVpnGateway

Description

Deletes the specified virtual private gateway. We recommend that before you delete a virtual private gateway, you detach it from the VPC and delete the VPN connection. Note that you don't need to delete the virtual private gateway if you plan to delete and recreate the VPN connection between your VPC and your network.

Request Parameters

VpnGatewayId

The ID of the virtual private gateway.

Type: String

Default: None

Required: Yes

Response Elements

The following elements are returned in a DeleteVpnGatewayResponse element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidVpnGatewayId.NotFound (p. 600)

Examples

Example Request

This example request deletes the specified virtual private gateway.

https://ec2.amazonaws.com/?Action=DeleteVpnGateway
&vpngatewayid=vgw-8db04f81
&AUTHPARAMS
Example Response

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteVpnGatewayResponse>
```

Related Actions

- CreateVpnGateway (p. 134)
- DescribeVpnGateways (p. 351)
- DeleteVpnConnection (p. 171)
DeregisterImage

Description

Deregisters the specified AMI. After you deregister an AMI, it can't be used to launch new instances.

Note

This command does not delete the AMI.

Request Parameters

ImageId

The ID of the AMI.

Type: String

Default: None

Required: Yes

Response Elements

The following elements are returned in a DeregisterImageResponse element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIId.Malformed (p. 600)
- InvalidAMIId.NotFound (p. 600)
- InvalidAMIId.Unavailable (p. 600)

Examples

Example Request

This example request deregisters the specified AMI.

https://ec2.amazonaws.com/?Action=DeregisterImage
&ImageId=ami-4fa54026
&AUTHPARAMS
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeregisterImageResponse>
```

Related Actions

- RegisterImage (p. 415)
- DescribeImages (p. 207)
DescribeAccountAttributes

Description

Describes the specified attribute of your AWS account.

The following are the supported account attributes.

- **supported-platforms**: Indicates whether your account can launch instances into EC2-Classic and EC2-VPC, or only into EC2-VPC. For more information, see Supported Platforms.
- **default-vpc**: The ID of the default VPC for your account, or none. For more information, see Your Default VPC and Subnets.

Request Parameters

```
AttributeName.n
```

One or more account attribute names.

Type: String

Valid values: supported-platforms | default-vpc

Response Elements

The following elements are returned in a DescribeAccountAttributesResponse structure.

- **requestId**: The ID of the request.
  
  Type: xsd:string

- **accountAttributeSet**: A list of the names and values of the requested attributes, each one wrapped in an item element.
  
  Type: AccountAttributeSetItemType (p. 482)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameter (p. 600)

Examples

Example Request

This example describes the platforms that are supported by your AWS account.
Example Response 1

The following is an example response for an account that must launch instances into a VPC, such as the default VPC.

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8fEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>VPC</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

Example Response 2

The following is an example response for an account that can launch instances into EC2-Classic or into a VPC.

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8fEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>EC2</attributeValue>
        </item>
        <item>
          <attributeValue>VPC</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

Example Request

This example describes the ID of your default VPC.
Example Response 1

The following is an example response for an account with a default VPC.

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>default-vpc</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>vpc-xxxxxxxx</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

Example Response 2

The following is an example response for an account without a default VPC.

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>default-vpc</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>none</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```
DescribeAddresses

Description

Describes one or more of your Elastic IP addresses.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

PublicIp.n

[EC2-Classic] One or more Elastic IP addresses.
Type: String
Default: Describes all your Elastic IP addresses.
Required: No

AllocationId.n

[EC2-VPC] One or more allocation IDs.
Type: String
Default: Describes all your Elastic IP addresses.
Required: No

Filter.n.Name

The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain Elastic IP addresses. For example, you can use a filter to specify that you're interested in addresses that have a specific tag. You can specify multiple values for a filter. The response includes information for an address only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify addresses of a specific value that have a specific tag. The response includes information for an address only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of /*.amazon/?\ searches for the literal string *amazon?在意.

The following are the available filters.
domain
- Indicates whether the address is for use in a VPC.
  - Type: String
  - Valid values: standard | vpc

instance-id
- The instance the address is associated with (if any).
  - Type: String

public-ip
- The Elastic IP address.
  - Type: String

allocation-id
- The allocation ID for the address (VPC only).
  - Type: String

association-id
- The association ID for the address (VPC only).
  - Type: String

network-interface-id
- The network interface (if any) that the address is associated with (VPC only).
  - Type: String

network-interface-owner-id
- The owner IID.
  - Type: String

private-ip-address
- The private IP address associated with the Elastic IP address (VPC only).
  - Type: String

**Response Elements**

The following elements are returned in a `DescribeAddressesResponse` element.

requestId
- The ID of the request.
  - Type: xsd:string

addressesSet
- A list of Elastic IP addresses, each one wrapped in an `item` element.
  - Type: `DescribeAddressesResponseItemType` (p. 492)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidAddress.NotFound` (p. 600)
- `InvalidAllocationID.NotFound` (p. 600)
- `InvalidParameterValue` (p. 600)
Examples

Example Request

This example request describes two specific Elastic IP addresses allocated to your account. Both addresses were created for instances in EC2-Classic, so you must specify them using their IP addresses. The address 192.0.2.1 is assigned to instance i-f15ebb98, and 198.51.100.2 is not assigned to an instance.

https://ec2.amazonaws.com/?Action=DescribeAddresses
&PublicIp.1=192.0.2.1
&PublicIp.2=198.51.100.2

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <addressesSet>
    <item>
      <publicIp>192.0.2.1</publicIp>
      <domain>standard</domain>
      <instanceId>i-f15ebb98</instanceId>
    </item>
    <item>
      <publicIp>198.51.100.2</publicIp>
      <domain>standard</domain>
      <instanceId/>
    </item>
  </addressesSet>
</DescribeAddressesResponse>

Example Request

This example request describes a specific Elastic IP address allocated to your account. This address was created for instances in EC2-VPC, so you must use the allocation ID to specify the address.

https://ec2.amazonaws.com/?Action=DescribeAddresses
&AllocationId.1= eipalloc-08229861

Example Response

  <requestId>f7de5e98-491a-4c19-a92d-908d6EXAMPLE</requestId>
  <addressesSet>
    <item>
      <publicIp>203.0.113.41</publicIp>
      <allocationId>eipalloc-08229861</allocationId>
      <domain>vpc</domain>
      <instanceId>i-64600030</instanceId>
      <associationId>eipassoc-f0229899</associationId>
      <networkInterfaceId>eni-ef229886</networkInterfaceId>
    </item>
  </addressesSet>
</DescribeAddressesResponse>
Example Request

This example describes your Elastic IP addresses for EC2-VPC only.

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&Filter.1.Name=domain
&Filter.1.Value.1=vpc
&AUTHPARAMS
```

Related Actions

- AllocateAddress (p. 13)
- ReleaseAddress (p. 422)
- AssociateAddress (p. 19)
- DisassociateAddress (p. 366)
DescribeAvailabilityZones

Description

Describes one or more of the Availability Zones that are available to you. The results include zones only for the region you're currently using. If there is an event impacting an Availability Zone, you can use this request to view the state and any provided message for that Availability Zone.

Note
Availability Zones are not the same across accounts. The Availability Zone us-east-1a for account A is not necessarily the same as us-east-1a for account B. Zone assignments are mapped independently for each account.

Request Parameters

ZoneName.n
One or more Availability Zone names.
Type: String
Default: None
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain Availability Zones. For example, you can use a filter to specify that you're interested in Availability Zones in the available state. You can specify multiple values for a filter. The response includes information for an Availability Zone only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify Availability Zones that are in a particular region and are in the available state. The response includes information for an Availability Zone only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.
message
  Information about the Availability Zone.
  Type: String

region-name
  The region for the Availability Zone (for example, us-east-1).
  Type: String

state
  The state of the Availability Zone
  Type: String
  Valid values: available | impaired | unavailable

zone-name
  The name of the zone.
  Type: String

**Response Elements**

The following elements are returned in a `DescribeAvailabilityZonesResponse` element.

**requestId**
  The ID of the request.
  Type: xsd:string

**availabilityZoneInfo**
  A list of Availability Zones, each one wrapped in an `item` element.
  Type: `AvailabilityZoneItemType` (p. 484)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidParameterValue` (p. 600)

**Examples**

**Example Request**

This example request describes the Availability Zones that are available to you. The response includes Availability Zones only for the current region.

```xml
https://ec2.amazonaws.com/?Action=DescribeAvailabilityZones
&AUTHPARAMS
```

**Example Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</DescribeAvailabilityZonesResponse>
```
<availabilityZoneInfo>
  <item>
    <zoneName>us-east-1a</zoneName>
    <zoneState>available</zoneState>
    <regionName>us-east-1</regionName>
    <messageSet/>
  </item>
  <item>
    <zoneName>us-east-1b</zoneName>
    <zoneState>available</zoneState>
    <regionName>us-east-1</regionName>
    <messageSet/>
  </item>
  <item>
    <zoneName>us-east-1c</zoneName>
    <zoneState>available</zoneState>
    <regionName>us-east-1</regionName>
    <messageSet/>
  </item>
  <item>
    <zoneName>us-east-1d</zoneName>
    <zoneState>available</zoneState>
    <regionName>us-east-1</regionName>
    <messageSet/>
  </item>
</availabilityZoneInfo>

Related Actions

- RunInstances (p. 459)
- DescribeRegions (p. 260)
DescribeBundleTasks

Description

Describes one or more of your bundling tasks.

Note

Completed bundle tasks are listed for only a limited time. If your bundle task is no longer in the list, you can still register an AMI from it. Just use the RegisterImage action with the Amazon S3 bucket name and image manifest name you provided to the bundle task.

Request Parameters

BundleId.n

One or more bundle task IDs.
Type: String
Default: Describes all your bundle tasks.
Required: No

Filter.n.Name

The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain bundle tasks. For example, you can use a filter to specify that you're interested in the bundle tasks in the complete state. You can specify multiple values for a filter. The response includes information for a bundle task only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify bundles that are stored in a specific Amazon S3 bucket and are in the complete state. The response includes information for a bundle task only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "\*amazon\?\" searches for the literal string *amazon?\.

The following are the available filters.

bundle-id

The ID of the bundle task.
Type: String
error-code
   If the task failed, the error code returned.
   Type: String
error-message
   If the task failed, the error message returned.
   Type: String
instance-id
   The ID of the instance that was bundled.
   Type: String
progress
   The level of task completion, as a percentage (for example, 20%).
   Type: String
s3-bucket
   The Amazon S3 bucket to store the AMI.
   Type: String
s3-prefix
   The beginning of the AMI name.
   Type: String
start-time
   The time the task started (for example, 2008-09-15T17:15:20.000Z).
   Type: DateTime
state
   The state of the task.
   Type: String
   Valid values: pending | waiting-for-shutdown | bundling | storing | cancelling | complete |
| failed
update-time
   The time of the most recent update for the task (for example, 2008-09-15T17:15:20.000Z).
   Type: DateTime

Response Elements

The following elements are returned in a DescribeBundleTasksResponse element.

requestId
   The ID of the request.
   Type: xsd:string
bundleInstanceTasksSet
   A list of bundle tasks, each one wrapped in an item element.
   Type: BundleInstanceTaskType (p. 488)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidBundleID.NotFound (p. 600)
Examples

Example Request

This example describes the status of the specified bundle task.

```
https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&bundleId.1=bun-c1a540a8
&AUTHPARAMS
```

Example Response

```
<DescribeBundleTasksResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTasksSet>
    <item>
      <instanceId>i-12345678</instanceId>
      <bundleId>bun-c1a540a8</bundleId>
      <state>cancelling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <storage>
        <S3>
          <bucket>myawsbucket</bucket>
          <prefix>winami</prefix>
        </S3>
      </storage>
      <progress>20%</progress>
    </item>
  </bundleInstanceTasksSet>
</DescribeBundleTasksResponse>
```

Example Request

This example filters the response to include only bundle tasks whose state is either complete or failed, and in addition are targeted for the Amazon S3 bucket named myawsbucket.

```
https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&Filter.1.Name=s3-bucket
&Filter.1.Value.1=myawsbucket
&Filter.2.Name=state
&Filter.2.Name.1=complete
&Filter.2.Name.2=failed
&AUTHPARAMS
```

Related Actions

- BundleInstance (p. 42)
- CancelBundleTask (p. 45)
DescribeConversionTasks

Description

Describes one or more of your conversion tasks. For more information, see Using the Command Line Tools to Import Your Virtual Machine to Amazon EC2 in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ConversionTaskId.n

One or more conversion task IDs.

Type: String

Required: No

Response Elements

The following elements are returned in a DescribeConversionTasksResponse element.

conversionTasks

A list of conversion tasks, each one wrapped in an item element.

Type: ConversionTaskType (p. 490)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidConversionTaskId (p. 600)

Examples

Example Request

This example describes all your conversion tasks.

https://ec2.amazonaws.com/?Action=DescribeConversionTasks &AUTHPARAMS

Example Response

  <conversionTasks>
    <item>
      <conversionTask>
        <conversionTaskId>import-i-fh95npoc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
      </conversionTask>
    </item>
  </conversionTasks>
</DescribeConversionTasksResponse>
<importVolume>
  <bytesConverted>1000</bytesConverted>
  <availabilityZone>us-east-1a</availabilityZone>
  <description/>
  <image>
    <format>VDMK</format>
    <size>128696320</size>
    <importManifestUrl>
      https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T1TtL0uR7KEtEXAMPLE%3D
    </importManifestUrl>
  </image>
  <volume>
    <size>8</size>
    <id>vol-34d8a2ff</id>
  </volume>
</importVolume>

<state>active</state>
=statusMessage/>
</conversionTask>
</item>
</conversionTasks>
</DescribeConversionTasksResponse>

Related Actions

- ImportInstance (p. 378)
- ImportVolume (p. 385)
- CancelConversionTask (p. 47)
DescribeCustomerGateways

Description

Describes one or more of your VPN customer gateways.

For more information about VPN customer gateways, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

CustomerGatewayId.n

One or more customer gateway IDs.
Type: String
Default: Describes all your customer gateways.
Required: No

Filter.n.Name

The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain customer gateways. For example, you can use a filter to specify that you're interested in customer gateways in the pending or available state. You can specify multiple values for a filter. The response includes information for a customer gateway only if it matches at least one of the of the filter values that you specified.

You can specify multiple filters; for example, specify customer gateways that have a specific IP address for the Internet-routable external interface and are in the pending or available state. The response includes information for a customer gateway only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \\*amazon\\?\\ searches for the literal string *amazon?\.

The following are the available filters.

bgp-asn

The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
Type: String
customer-gateway-id

The ID of the customer gateway.
Type: String
ip-address
The IP address of the customer gateway’s Internet-routable external interface (for example, 12.1.2.3).
Type: String
state
The state of the customer gateway.
Type: String
Valid values: pending | available | deleting | deleted
type
The type of customer gateway. Currently, the only supported type is ipsec.1.
Type: String
Valid values: ipsec.1
tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag’s value is), and the tag value X (regardless of what the tag’s key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String
tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag’s key, and the tag’s value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

Response Elements

The following elements are returned in a DescribeCustomerGatewaysResponse element.

requestId
The ID of the request.
Type: xsd:string
customerGatewaySet
A list of customer gateways, each one wrapped in an item element.
Type: CustomerGatewayType (p. 491)
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidCustomerGatewayID.NotFound (p. 600)

Examples

Example Request

This example request describes the specified customer gateway.

https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&CustomerGatewayId.1=cgw-b4dc3961
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <customerGatewaySet>
    <item>
      <customerGatewayId>cgw-b4dc3961</customerGatewayId>
      <state>available</state>
      <type>ipsec.1</type>
      <ipAddress>12.1.2.3</ipAddress>
      <bgpAsn>65534</bgpAsn>
      <tagSet/>
    </item>
  </customerGatewaySet>
</DescribeCustomerGatewaysResponse>

Example Request

This example request uses filters to describe any customer gateway you own whose IP address is 12.1.2.3, and whose state is either pending or available.

https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&Filter.1.Name=ip-address
&Filter.1.Value.1=12.1.2.3
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS

Related Actions

- CreateCustomerGateway (p. 64)
- DeleteCustomerGateway (p. 136)
DescribeDhcpOptions

Description

Describes one or more of your DHCP options sets.

For more information about DHCP options sets, see DHCP Options Sets in the Amazon Virtual Private Cloud User Guide.

Request Parameters

DhcpOptionsId.n
The IDs of one or more DHCP options sets.
Type: String
Default: Describes all your DHCP options sets.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain sets of DHCP options. For example, you can use a filter to specify that you're interested in sets of DHCP options with a particular value for the domain-name option. You can specify multiple values for a filter. The response includes information for a set of DHCP options only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify sets of DHCP options that have a specific value for the domain-name option and a specific tag. The response includes information for a set of DHCP options only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash () before the character. For example, a value of "*amazon/" searches for the literal string *amazon?/.

The following are the available filters.

dhcp-options-id
The ID of a set of DHCP options.
Type: String

key
The key for one of the options (for example, domain-name).
Type: String
value
   The value for one of the options.
   Type: String
tag-key
   The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
   For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
   Type: String
tag-value
   The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
   Type: String
tag: key=value
   The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
   Example: To list the resources with the tag Purpose=X, use:
      Filter.1.Name=tag:Purpose
      Filter.1.Value.1=X
   Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
      Filter.1.Name=tag:Purpose
      Filter.1.Value.1=X
      Filter.1.Value.2=Y

Response Elements

The following elements are returned in a DescribeDhcpOptionsResponse element.

requestId
   The ID of the request.
   Type: xsd:string
dhcpOptionsSet
   A list of DHCP options sets, each one wrapped in an item element.
   Type: DhcpOptionsType (p. 504)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidDhcpOptionID.NotFound (p. 600)
Examples

Example Request

This example describes the specified DHCP options set.

https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&DhcpOptionsId.1=dopt-7a8b9c2d
&AUTHPARAMS

Example Response

<DescribeDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptionsSet>
    <item>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <dhcpConfigurationSet>
        <item>
          <key>domain-name</key>
          <valueSet>
            <item>
              <value>example.com</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.1</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.2</value>
            </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
    </item>
    <tagSet/>
  </dhcpOptionsSet>
</DescribeDhcpOptionsResponse>

Example Request

This example uses filters to describe any DHCP options set that includes a domain-name option whose value includes the string example.
Related Actions

- CreateDhcpOptions (p. 66)
- AssociateDhcpOptions (p. 22)
- DeleteDhcpOptions (p. 138)
DescribeExportTasks

Description

Describes one or more of your export tasks.

Request Parameters

`ExportTaskIds.n`

One or more export task IDs.

Type: String

Default: Describes all your export tasks.

Required: No

Response Elements

The following elements are returned in a DescribeExportTasks element.

`requestId`

The ID of the request.

Type: xsd:string

`exportTaskSet`

A list of export tasks, each one wrapped in an item element.

Type: ExportTaskResponseType (p. 508)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidExportTaskID.NotFound (p. 600)

Examples

Example Request

This example describes a single export task.

`https://ec2.amazonaws.com/?Action=DescribeExportTasks&exportTaskId.1=export-i-1234wxyz&AUTHPARAMS`

Example Response

<DescribeExportTasksResponse>

<exportTaskSet>
  <item>
    <exportTaskId>export-i-1234wxyz</exportTaskId>
    <description>Example for docs</description>
    <state>active</state>
    <statusMessage>Running</statusMessage>
    <instanceExport>
      <instanceId>i-12345678</instanceId>
      <targetEnvironment>VMWare</targetEnvironment>
    </instanceExport>
    <exportToS3>
      <diskImageFormat>VMDK</diskImageFormat>
      <containerFormat>OVA</containerFormat>
      <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
      <s3Key>my-exports/export-i-1234wxyz.ova</s3Key>
    </exportToS3>
  </item>
</exportTaskSet>

</DescribeExportTasksResponse>

Related Actions

- CancelExportTask (p. 49)
- CreateInstanceExportTask (p. 73)
DescribeImageAttribute

Description

Describes the specified attribute of the specified AMI. You can specify only one attribute at a time.

Request Parameters

ImageId
The ID of the AMI.
Type: String
Default: None
Required: Yes

Attribute
The AMI attribute.
Type: String
Valid values: description | blockDeviceMapping | launchPermission | productCodes | kernel | ramdisk | sriovNetSupport
Default: None
Required: Yes

Response Elements

The following elements are returned in a DescribeImageAttributeResponse element.

requestId
The ID of the request.
Type: xsd:string

imageId
The ID of the AMI.
Type: xsd:string

description
A description for the AMI, wrapped in a value element.
Type: xsd:string

blockDeviceMapping
One or more block device mapping entries, each one wrapped in an item element.
Type: BlockDeviceMappingItemType (p. 486)

launchPermission
A list of launch permissions, each one wrapped in an item element.
Type: LaunchPermissionItemType (p. 529)

productCodes
A list of product codes, each one wrapped in an item element that contains a product code and a product code type.
Type: ProductCodeItemType (p. 544)

kernel
The kernel ID, wrapped in a value element.
Type: xsd:string
ramdisk
   The RAM disk ID, wrapped in a value element.
   Type: xsd:string
sriovNetSupport
   Enhanced networking for the AMI. A value of simple means that enhanced networking is enabled.
   Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIID.NotFound (p. 600)
- InvalidAMIID.Unavailable (p. 600)

Examples

Example Request

This example lists the launch permissions for the specified AMI.

https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
&AUTHPARAMS

Example Response

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-61a54008</imageId>
   <launchPermission>
      <item>
         <group>all</group>
      </item>
      <item>
         <userId>495219933132</userId>
      </item>
   </launchPermission>
</DescribeImageAttributeResponse>

Example Request

This example lists the product codes for the specified AMI.

https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-2bb65342
Example Response

```xml
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-2bb65342</imageId>
   <productCodes>
      <item>
         <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
         <type>marketplace</type>
      </item>
   </productCodes>
</DescribeImageAttributeResponse>
```

Related Actions

- DescribeImages (p. 207)
- ModifyImageAttribute (p. 388)
- ResetImageAttribute (p. 445)
DescribleImages

Description

Describes one or more of the images (AMls, AKIs, and ARls) available to you. Images available to you include public images, private images that you own, and private images owned by other AWS accounts but for which you have explicit launch permissions.

Launch permissions fall into three categories:

**public**
- The owner of the AMI granted launch permissions for the AMI to the all group. All AWS accounts have launch permissions for these AMls.

**explicit**
- The owner of the AMI granted launch permissions to a specific AWS account.

**implicit**
- An AWS account has implicit launch permissions for all the AMls it owns.

The list of images returned can be modified by specifying IDs, owners, or AWS accounts with launch permissions. If no options are specified, Amazon EC2 returns all images for which you have launch permissions.

If you specify one or more image IDs, only images that have the specified IDs are returned. If you specify an image to which you don’t have access, it’s not included in the returned results.

If you specify one or more owners, only images from the specified owners and for which you have access are returned. The results can include the account IDs of the specified owners—amazon for images owned by Amazon or self, for images that you own, or marketplace for images from the AWS Marketplace.

**Note**

If you specify a list users with launch permissions, only images with launch permissions for those users are returned. You can specify account IDs (if you own the images), self for images that you own or have explicit permissions for, or all for public images.

**Note**
Deregistered images are included in the returned results for an unspecified interval after deregistration.

Request Parameters

**ExecutableBy.n**
Filters the images by users with explicit launch permissions. Specify an AWS account ID, self (the sender of the request), or all (public AMls).

- **Type:** String
- **Valid values:** all | self | AWS account ID
- **Default:** None
- **Required:** No

**ImageId.n**
One or more image IDs.

- **Type:** String
**Owner.n**
Filters the images by the owner. Specify an AWS account ID, amazon (owner is Amazon), aws-marketplace (owner is AWS Marketplace), self (owner is the sender of the request), or all (all owners).
- **Type:** String
- **Valid values:** amazon | aws-marketplace | self | AWS account ID | all
- **Default:** None
- **Required:** No

**Filter.n.Name**
The name of a filter. For more information about supported filter names, see the Supported Filters section.
- **Type:** String
- **Default:** None
- **Required:** No

**Filter.n.Value.m**
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
- **Type:** String
- **Default:** None
- **Required:** No

## Supported Filters

You can specify filters so that the response includes information for only certain images. For example, you can use a filter to specify that you're interested in images that use a specific kernel. You can specify multiple values for a filter. The response includes information for an image only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify images that use a specific kernel and use an Amazon EBS volume as the root device. The response includes information for an image only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of `*amazon?\` searches for the literal string `amazon?\`.

The following are the available filters.

**architecture**
The image architecture.
- **Type:** String
- **Valid values:** i386 | x86_64

**block-device-mapping.delete-on-termination**
Whether the Amazon EBS volume is deleted on instance termination.
- **Type:** Boolean

**block-device-mapping.device-name**
The device name (for example, /dev/sdh) for the Amazon EBS volume.
- **Type:** String
block-device-mapping.snapshot-id
   The ID of the snapshot used for the Amazon EBS volume.
   Type: String

block-device-mapping.volume-size
   The volume size of the Amazon EBS volume, in GiB.
   Type: Integer

block-device-mapping.volume-type
   The volume type of the Amazon EBS volume.
   Type: String
   Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.

description
   The description of the image (provided during image creation).
   Type: String

image-id
   The ID of the image.
   Type: String

image-type
   The image type.
   Type: String
   Valid values: machine | kernel | ramdisk

is-public
   Whether the image is public.
   Type: Boolean

kernel-id
   The kernel ID.
   Type: String

manifest-location
   The location of the image manifest.
   Type: String

name
   The name of the AMI (provided during image creation).
   Type: String

owner-alias
   The AWS account alias (for example, amazon).
   Type: String

owner-id
   The AWS account ID of the image owner.
   Type: String

platform
   The platform. To only list Windows-based AMIs, use windows.
   Type: String
   Valid value: windows

product-code
   The product code.
   Type: String

product-code.type
   The type of the product code.
   Type: String
**Valid values**: devpay | marketplace

**ramdisk-id**
The RAM disk ID.
Type: String

**root-device-name**
The name of the root device volume (for example, /dev/sda1).
Type: String

**root-device-type**
The type of the root device volume.
Type: String
Valid values: ebs | instance-store

**state**
The state of the image.
Type: String
Valid values: available | pending | failed

**state-reason-code**
The reason code for the state change.
Type: String

**state-reason-message**
The message for the state change.
Type: String

**tag-key**
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value x (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String

**tag-value**
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String

**tag:**key=value
The key/value combination of a tag assigned to the resource, where tag:key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.

Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X

Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

**virtualization-type**
The virtualization type.
Type: String
Valid values: paravirtual | hvm

**hypervisor**
The hypervisor type.
Type: String
**Response Elements**

The following elements are returned in a `DescribeImagesResponse` element.

- **requestId**
  - The ID of the request.
  - Type: `xsd:string`

- **imagesSet**
  - A list of images, each one wrapped in an `item` element.
  - Type: `DescribeImagesResponseItemType` (p. 493)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidAMIID.Malformed` (p. 600)
- `InvalidAMIID.NotFound` (p. 600)
- `InvalidUserId.Malformed` (p. 600)
- `InvalidUserId.NotFound` (p. 600)
- `MissingParameter` (p. 600)

**Examples**

**Example Request**

This example describes the specified AMI.

```text
https://ec2.amazonaws.com/?Action=DescribeImages
&ImageId.1=ami-be3adfd7
&AUTHPARAMS
```

**Example Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>amazon/getting-started</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>111122223333</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <ramdiskId>ari-1a2b3c4d</ramdiskId>
    </item>
  </imagesSet>
</DescribeImagesResponse>
```
Example Request

This example filters the response to include only the public Windows images with an x86_64 architecture.

https://ec2.amazonaws.com/?Action=DescribeImages
&Filter.1.Name=is-public
&Filter.1.Value.1=true
&Filter.2.Name=architecture
&Filter.2.Value.1=x86_64
&Filter.3.Name=platform
&Filter.3.Value.1=windows
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>ec2-public-windows-images/Server2003r2-x86_64-Win-v1.07.manifest.xml</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>111122223333</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>x86_64</architecture>
      <imageType>machine</imageType>
      <platform>windows</platform>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <rootDeviceType>instance-store</rootDeviceType>
      <blockDeviceMapping/>
      <virtualizationType>hvm</virtualizationType>
    </item>
  </imagesSet>
</DescribeImagesResponse>
Example Request

This example returns the results to display images where the owner is `aws-marketplace`.

https://ec2.amazonaws.com/?Action=DescribeImages
&Owner.0=aws-marketplace
&AUTHPARAMS

Example Response

```
  <requestId>4a4a27a2-2e7c-475d-b35b-ca822EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>aws-marketplace/example-marketplace-amzn-ami.1</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>111122223333</imageOwnerId>
      <isPublic>true</isPublic>
      <productCodes>
        <item>
          <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
          <type>marketplace</type>
        </item>
      </productCodes>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <imageOwnerAlias>aws-marketplace</imageOwnerAlias>
      <name>example-marketplace-amzn-ami.1</name>
      <description>Amazon Linux AMI i386 EBS</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sdal</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
            <snapshotId>snap-1a2b3c4d</snapshotId>
            <volumeSize>8</volumeSize>
            <deleteOnTermination>true</deleteOnTermination>
          </ebs>
        </item>
      </blockDeviceMapping>
      <virtualizationType>paravirtual</virtualizationType>
      <hypervisor>xen</hypervisor>
    </item>
  </imagesSet>
</DescribeImagesResponse>
```
Related Actions

- DescribeInstances (p. 219)
- DescribeImageAttribute (p. 204)
DescribeInstanceAttribute

Description

Describes the specified attribute of the specified instance. You can specify only one attribute at a time.

Request Parameters

InstanceId
- The ID of the instance.
- Type: String
- Default: None
- Required: Yes

Attribute
- The instance attribute.
- Type: String
- Valid values: blockDeviceMapping | disableApiTermination | ebsOptimized | groupSet | instanceInitiatedShutdownBehavior | instanceType | kernel | productCodes | ramdisk | rootDeviceName | sourceDestCheck | sriovNetSupport | userData
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a DescribeInstanceAttributeResponse element.

requestId
- The ID of the request.
- Type: xsd:string

instanceId
- The ID of the instance.
- Type: xsd:string

blockDeviceMapping
- The block device mapping of the instance.
- Type: InstanceBlockDeviceMappingResponseType (p. 515)

disableApiTermination
- If the value is true, you can't terminate the instance through the Amazon EC2 console, CLI, or API; otherwise, you can.
- Type: xsd:boolean

ebsOptimized
- Indicates whether the instance is optimized for EBS I/O.
- Type: xsd:boolean

groupSet
- The security groups associated with the instance.
- Type: GroupItemType (p. 510)

instanceInitiatedShutdownBehavior
- Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).
- Type: xsd:string
Valid values: stop | terminate

instanceType
The instance type. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.
Type: xsd:string

kernel
The kernel ID.
Type: xsd:string

productCodes
A list of product codes.
Type: ProductCodesSetItemType (p. 544)

ramdisk
The RAM disk ID.
Type: xsd:string

rootDeviceName
The name of the root device (for example, /dev/sda1).
Type: xsd:string

sourceDestCheck
Indicates whether source/destination checking is enabled. A value of true means checking is enabled, and false means checking is disabled. This value must be false for a NAT instance to perform NAT.
Type: xsd:boolean

sriovNetSupport
Enhanced networking for the instance. A value of simple means that enhanced networking is enabled.
Type: xsd:string

userData
The Base64-encoded MIME user data.
Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceID.NotFound (p. 600)

Examples

Example Request

This example lists the instance type of the specified instance.

https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-10a64379
&Attribute=instanceType
&AUTHPARAMS
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-10a64379</instanceId>
  <instanceType>
    <value>t1.micro</value>
  </instanceType>
</DescribeInstanceAttributeResponse>
```

Example Request

This example lists the current value of the `InstanceInitiatedShutdownBehavior` attribute for the specified instance.

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-10a64379
&Attribute=instanceInitiatedShutdownBehavior
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-10a64379</instanceId>
  <instanceInitiatedShutdownBehavior>
    <value>stop</value>
  </instanceInitiatedShutdownBehavior>
</DescribeInstanceAttributeResponse>
```

Example Request

This example lists the current value of the `DisableApiTermination` attribute for the specified instance.

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-10a64379
&Attribute=disableApiTermination
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-10a64379</instanceId>
  <disableApiTermination>
    <value>false</value>
  </disableApiTermination>
</DescribeInstanceAttributeResponse>
```
Related Actions

- DescribeInstances (p. 219)
- ModifyInstanceAttribute (p. 391)
- ResetInstanceAttribute (p. 447)
DescribeInstances

Description

Describes one or more of your instances.

If you specify one or more instance IDs, Amazon EC2 returns information for those instances. If you do not specify instance IDs, you receive information for all relevant instances. If you specify an invalid instance ID, you receive an error. If you specify an instance that you don’t own, we don’t include it in the results.

Recently terminated instances might appear in the returned results. This interval is usually less than one hour.

Request Parameters

InstanceId.n
One or more instance IDs.
Type: String
Default: Describes all your instances.
Required: No
MaxResults
The maximum number of items to return for this call. The call also returns a token that you can specify in a subsequent call to get the next set of results.
Type: Integer
Default: The call returns all items.
Constraint: If the value is greater than 1000, we return only 1000 items.
Required: No
NextToken
The token for the next set of items to return. (You received this token from a prior call.)
Type: String
Default: None
Required: No
Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No
Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain instances. For example, you can use a filter to specify that you’re interested in instances launched with a specific key pair. You
You can specify multiple values for a filter. The response includes information for an instance only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify instances that are launched with a specific key pair and use an Amazon EBS volume as the root device. The response includes information for an instance only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of *amazon? searches for the literal string *amazon?.

The following are the available filters.

architecture
  The instance architecture.
  Type: String
  Valid values: i386 | x86_64
availability-zone
  The Availability Zone of the instance.
  Type: String
block-device-mapping.attach-time
  The attach time for an Amazon EBS volume mapped to the instance (for example, 2010-09-15T17:15:20.000Z)
  Type: DateTime
block-device-mapping.delete-on-termination
  Indicates whether the Amazon EBS volume is deleted on instance termination.
  Type: Boolean
block-device-mapping.device-name
  The device name (for example, /dev/sdh) for the Amazon EBS volume.
  Type: String
block-device-mapping.status
  The status for the Amazon EBS volume.
  Type: String
  Valid values: attaching | attached | detaching | detached
block-device-mapping.volume-id
  The volume ID of the Amazon EBS volume.
  Type: String
client-token
  The idempotency token you provided when you launched the instance.
  Type: String
dns-name
  The public DNS name of the instance.
  Type: String
group-id
  The ID of the security group for the instance. If the instance is in EC2-Classic or a default VPC, you can use group-name instead.
  Type: String
group-name
  The name of the security group for the instance. If the instance is in a nondefault VPC, you must use group-id instead.
  Type: String
image-id
   The ID of the image used to launch the instance.
   Type: String

instance-id
   The ID of the instance.
   Type: String

instance-lifecycle
   Indicates whether this is a Spot Instance.
   Type: String
   Valid values: spot

instance-state-code
   The state of the instance. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented.
   Type: Integer (16-bit unsigned integer)
   Valid values: 0 (pending) | 16 (running) | 32 (shutting-down) | 48 (terminated) | 64 (stopping) | 80 (stopped)

instance-state-name
   The state of the instance.
   Type: String
   Valid values: pending | running | shutting-down | terminated | stopping | stopped

instance-type
   The type of instance (for example, ml.small).
   Type: String

instance.group-id
   The ID of the security group for the instance. If the instance is in EC2-Classic or a default VPC, you can use instance.group-name instead.
   Type: String

instance.group-name
   The name of the security group for the instance. If the instance is in a nondefault VPC, you must use instance.group-id instead.
   Type: String

ip-address
   The public IP address of the instance.
   Type: String

kernel-id
   The kernel ID.
   Type: String

key-name
   The name of the key pair used when the instance was launched.
   Type: String

launch-index
   When launching multiple instances, this is the index for the instance in the launch group (for example, 0, 1, 2, and so on).
   Type: String

launch-time
   The time when the instance was launched (for example, 2010-08-07T11:54:42.000Z).
   Type: DateTime

monitoring-state
   Indicates whether monitoring is enabled for the instance.
   Type: String
Valid values: disabled | enabled

owner-id
The AWS account ID of the instance owner.
Type: String

placement-group-name
The name of the placement group for the instance.
Type: String

platform
The platform. Use windows if you have Windows based instances; otherwise, leave blank.
Type: String
Valid value: windows

private-dns-name
The private DNS name of the instance.
Type: String

private-ip-address
The private IP address of the instance.
Type: String

product-code
The product code associated with the AMI used to launch the instance.
Type: String

product-code.type
The type of product code.
Type: String
Valid values: devpay | marketplace

ramdisk-id
The RAM disk ID.
Type: String

reason
The reason for the current state of the instance (for example, shows "User Initiated [date]" when you stop or terminate the instance). Similar to the state-reason-code filter.
Type: String

requester-id
The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on)
Type: String

reservation-id
The ID of the instance's reservation. A reservation ID is created any time you launch an instance. A reservation ID has a one-to-one relationship with an instance launch request, but can be associated with more than one instance if you launch multiple instances using the same launch request. For example, if you launch one instance, you'll get one reservation ID. If you launch ten instances using the same launch request, you'll also get one reservation ID.
Type: String

root-device-name
The name of the root device for the instance (for example, /dev/sda1).
Type: String

root-device-type
The type of root device that the instance uses.
Type: String
Valid values: ebs | instance-store
source-dest-check
Indicates whether the instance performs source/destination checking. A value of true means that checking is enabled, and false means checking is disabled. The value must be false for the instance to perform network address translation (NAT) in your VPC.
  Type: Boolean

spot-instance-request-id
The ID of the Spot Instance request.
  Type: String

state-reason-code
The reason code for the state change.
  Type: String

state-reason-message
A message that describes the state change.
  Type: String

subnet-id
The ID of the subnet for the instance.
  Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value x (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
  For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
  Type: String

ntag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
  Type: String

tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
  Example: To list the resources with the tag Purpose=X, use:
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
  Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
  Filter.1.Value.2=Y

virtualization-type
The virtualization type of the instance.
  Type: String
  Valid values: paravirtual | hvm

vpc-id
The ID of the VPC that the instance is running in.
  Type: String

hypervisor
The hypervisor type of the instance.
  Type: String
  Valid values: ovm | xen
network-interface.description
  The description of the network interface.
  Type: String
network-interface.subnet-id
  The ID of the subnet for the network interface.
  Type: String
network-interface.vpc-id
  The ID of the VPC for the network interface.
  Type: String
network-interface.network-interface.id
  The ID of the network interface.
  Type: String
network-interface.owner-id
  The ID of the owner of the network interface.
  Type: String
network-interface.availability-zone
  The Availability Zone for the network interface.
  Type: String
network-interface.requester-id
  The requester ID for the network interface.
  Type: String
network-interface.requester-managed
  Indicates whether the network interface is being managed by AWS.
  Type: Boolean
network-interface.status
  The status of the network interface.
  Type: String
  Valid values: available | in-use
network-interface.mac-address
  The MAC address of the network interface.
  Type: String
network-interface-private-dns-name
  The private DNS name of the network interface.
  Type: String
network-interface.source-destination-check
  Whether the network interface performs source/destination checking. A value of true means checking is enabled, and false means checking is disabled. The value must be false for the network interface to perform network address translation (NAT) in your VPC.
  Type: Boolean
network-interface.group-id
  The ID of a security group associated with the network interface.
  Type: String
network-interface.group-name
  The name of a security group associated with the network interface.
  Type: String
network-interface.attachment.attachment-id
  The ID of the interface attachment.
  Type: String
network-interface.attachment.instance-id
  The ID of the instance to which the network interface is attached.
Type: String

network-interface.attachment.instance-owner-id
The owner ID of the instance to which the network interface is attached.
Type: String

network-interface.addresses.private-ip-address
The private IP address associated with the network interface.
Type: String

network-interface.attachment.device-index
The device index to which the network interface is attached.
Type: Integer

network-interface.attachment.status
The status of the attachment.
Type: String
Valid values: attaching | attached | detaching | detached

network-interface.attachment.attach-time
The time that the network interface was attached to an instance.
Type: Date

network-interface.attachment.delete-on-termination
Specifies whether the attachment is deleted when an instance is terminated.
Type: Boolean

network-interface.addresses.primary
Specifies whether the IP address of the network interface is the primary private IP address.
Type: Boolean

network-interface.addresses.association.public-ip
The ID of the association of an Elastic IP address with a network interface.
Type: String

network-interface.addresses.association.ip-owner-id
The owner ID of the private IP address associated with the network interface.
Type: String

association.public-ip
The address of the Elastic IP address bound to the network interface.
Type: String

association.ip-owner-id
The owner of the Elastic IP address associated with the network interface.
Type: String

association.allocation-id
The allocation ID returned when you allocated the Elastic IP address for your network interface.
Type: String

association.association-id
The association ID returned when the network interface was associated with an IP address.
Type: String

Response Elements

The following elements are returned in a DescribeInstancesResponse element.

requestId
The ID of the request.
Type: xsd:string
reservationSet
   A list of reservations, each one wrapped in an item element.
   Type: ReservationInfoType (p. 547)

nextToken
   The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.
   Type: xsd:string

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceID.Malformed (p. 600)
- InvalidInstanceID.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- MissingParameter (p. 600)

Examples

Example Request
This example describes all instances owned by your AWS account.

https://ec2.amazonaws.com/?Action=DescribeInstances
&AUTHPARAMS

Example Response
This example response shows information for one instance.

```
  <requestId>fdcdcab1-ae5c-489e-9c33-4637c5dda355</requestId>
  <reservationSet>
    <item>
      <reservationId>r-1a2b3c4d</reservationId>
      <ownerId>111122223333</ownerId>
      <groupSet>
        <item>
          <groupId>sg-1a2b3c4d</groupId>
          <groupName>my-security-group</groupName>
        </item>
      </groupSet>
      <instancesSet>
        <item>
          <instanceId>i-1a2b3c4d</instanceId>
          <imageId>ami-1a2b3c4d</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
        </item>
      </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
```
<privateDnsName/>
<dnsName/>
<reason/>
<keyName>my-key-pair</keyName>
<amiLaunchIndex>0</amiLaunchIndex>
<productCodes/>
<instanceType>c1.medium</instanceType>
<launchTime>YYYY-MM-DDTHH:MM:SS+0000</launchTime>
<placement>
   <availabilityZone>us-west-2a</availabilityZone>
   <groupName/>
   <tenancy>default</tenancy>
</placement>
<platform>windows</platform>
<monitoring>
   <state>disabled</state>
</monitoring>
<brickNetId>subnet-1a2b3c4d</brickNetId>
<ipAddress>46.51.219.63</ipAddress>
<sourceDestCheck>true</sourceDestCheck>
<groupSet>
   <item>
      <groupId>sg-1a2b3c4d</groupId>
      <groupName>my-security-group</groupName>
   </item>
</groupSet>
<architecture>x86_64</architecture>
<rootDeviceType>ebs</rootDeviceType>
<rootDeviceName>/dev/sda1</rootDeviceName>
<blockDeviceMapping>
   <item>
      <deviceName>/dev/sda1</deviceName>
      <ebs>
         <volumeId>vol-1a2b3c4d</volumeId>
         <status>attached</status>
         <attachTime>YYYY-MM-DDTHH:MM:SS.SSSZ</attachTime>
         <deleteOnTermination>true</deleteOnTermination>
      </ebs>
   </item>
</blockDeviceMapping>
<virtualizationType>hvm</virtualizationType>
<clientToken>ABCDE1234567890123</clientToken>
<tagSet>
   <item>
      <key>Name</key>
      <value>Windows Instance</value>
   </item>
</tagSet>
<hypervisor>xen</hypervisor>
<networkInterfaceSet>
   <item>
      <networkInterfaceId>eni-1a2b3c4d</networkInterfaceId>
      <subnetId>subnet-1a2b3c4d</subnetId>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <description>Primary network interface</description>
Example Request

This example describes only the instances that have the m1.small or m1.large instance type and an attached Amazon EBS volume that will be deleted on termination.

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-type
&Filter.1.Value.1=m1.small
Example Request

This example describes all instances that are running in a VPC.

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=vpc-id
&Filter.1.Value.1=*  
&AUTHPARAMS

Example Request

This example describes any instances that have a tag with the key Owner and the value DbAdmin.

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag:Name
&Filter.1.Value.1=DbAdmin
&AUTHPARAMS

Example Request

This example describes any instances that have a tag with the key Owner, regardless of the value of the tag.

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag-key
&Filter.1.Value.1=Owner
&AUTHPARAMS

Related Actions

- RunInstances (p. 459)
- StartInstances (p. 469)
- StopInstances (p. 471)
- TerminateInstances (p. 473)
DescribeInstanceStatus

Description

Describes the status of one or more instances, including any scheduled events.

Instance status has two main components:

- System Status reports impaired functionality that stems from issues related to the systems that support an instance, such as hardware failures and network connectivity problems. The DescribeInstanceStatus response elements report such problems as impaired reachability.
- Instance Status reports impaired functionality that arises from problems internal to the instance. The DescribeInstanceStatus response elements report such problems as impaired reachability.

Instance status provides information about four types of scheduled events for an instance that may require your attention:

- Scheduled Reboot: When Amazon EC2 determines that an instance must be rebooted, the instance's status returns one of two event codes: system-reboot or instance-reboot. System reboot commonly occurs if certain maintenance or upgrade operations require a reboot of the underlying host that supports an instance. Instance reboot commonly occurs if the instance must be rebooted, rather than the underlying host. Rebooting events include a scheduled start and end time.
- System Maintenance: When Amazon EC2 determines that an instance requires maintenance that requires power or network impact, the instance's status will return an event code called system-maintenance. System maintenance is either power maintenance or network maintenance. For power maintenance, your instance will be unavailable for a brief period of time and then rebooted. For network maintenance, your instance will experience a brief loss of network connectivity. System maintenance events include a scheduled start and end time. You will also be notified by email if one of your instances is set for system maintenance. The email message indicates when your instance is scheduled for maintenance.
- Scheduled Retirement: When Amazon EC2 determines that an instance must be shut down, the instance's status returns an event code called instance-retirement. Retirement commonly occurs when the underlying host is degraded and must be replaced. Retirement events include a scheduled start and end time. You will also be notified by email if one of your instances is set to retiring. The email message indicates when your instance will be permanently retired.
- Scheduled Stop: When Amazon EC2 determines that an instance must be shut down, the instance's status returns an event code called instance-stop. Stop events include a scheduled start and end time. You will also be notified by email if one of your instances is set to stop. The email message indicates when your instance will be stopped.

When your instance is retired, it will either be terminated (if its root device type is the instance-store) or stopped (if its root device type is an EBS volume). Instances stopped due to retirement will not be restarted, but you can do so manually. You can also avoid retirement of EBS-backed instances by manually restarting your instance when its event code is instance-retirement. This ensures that your instance is started on a different underlying host.

For more information about failed status checks, see Troubleshooting Instances with Failed Status Checks in the Amazon Elastic Compute Cloud User Guide. For more information about working with scheduled events, see Working with an Instance That Has a Scheduled Event in the Amazon Elastic Compute Cloud User Guide.
Request Parameters

InstanceId
- One or more instance IDs.
- Type: String
- Default: Describes all your instances.
- Constraints: Maximum 100 explicitly specified instance IDs.
- Required: No

IncludeAllInstances
- When true, includes the health status for all instances. When false, includes the health status for running instances only.
- Type: Boolean
- Default: false
- Required: No

MaxResults
- The maximum number of items to return for this call. The call also returns a token that you can specify in a subsequent call to get the next set of results.
- Type: Integer
- Default: The call returns all items.
- Constraint: If the value is greater than 1000, we return only 1000 items.
- Required: No

NextToken
- The token for the next set of items to return. (You received this token from a prior call.)
- Type: String
- Default: None
- Required: No

Filter.n.Name
- The name of a filter. For more information about supported filter names, see the Supported Filters section.
- Type: String
- Default: None
- Required: No

Filter.n.Value.m
- A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
- Type: String
- Default: None
- Required: No

Supported Filters

You can specify filters so that the response includes information for only certain instances. For example, you can use a filter to specify that you're interested in instances in a specific Availability Zone. You can specify multiple values for a filter. The response includes information for an instance only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify instances that are in a specific Availability Zone and have a status of retiring. The response includes information for an instance only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.
You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

**availability-zone**
- The Availability Zone of the instance.
  - Type: String

**event.code**
- The code identifying the type of event.
  - Type: String
  - Valid values: instance-reboot | system-reboot | system-maintenance | instance-retirement | instance-stop

**event.description**
- A description of the event.
  - Type: String

**event.not-after**
- The latest end time for the scheduled event.
  - Type: DateTime

**event.not-before**
- The earliest start time for the scheduled event.
  - Type: DateTime

**instance-state-name**
- The state of the instance.
  - Type: String
  - Valid values: pending | running | shutting-down | terminated | stopping | stopped

**instance-state-code**
- A code representing the state of the instance. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented.
  - Type: Integer (16-bit unsigned integer)
  - Valid values: 0 (pending) | 16 (running) | 32 (shutting-down) | 48 (terminated) | 64 (stopping) | 80 (stopped)

**system-status.status**
- The system status of the instance.
  - Type: String
  - Valid values: ok | impaired | initializing | insufficient-data | not-applicable

**system-status.reachability**
- Filters on system status where the name is reachability.
  - Type: String
  - Valid values: passed | failed | initializing | insufficient-data

**instance-status.status**
- The status of the instance.
  - Type: String
  - Valid values: ok | impaired | initializing | insufficient-data | not-applicable

**instance-status.reachability**
- Filters on instance status where the name is reachability.
  - Type: String
  - Valid values: passed | failed | initializing | insufficient-data
Response Elements

The following elements are returned in a `DescribeInstanceStatusResponse` element.

`requestId`
- The ID of the request.
- Type: `xsd:string`

`instanceStatusSet`
- A list of instances status descriptions, each one wrapped in an `item` element.
- Type: `InstanceStatusItemType` (p. 525)

`nextToken`
- The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.
- Type: `xsd:string`

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidInstanceId.Malformed` (p. 600)
- `InvalidInstanceId.NotFound` (p. 600)
- `InvalidRequest` (p. 600)

Examples

Example Request

This example returns instance status descriptions for all instances.

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&AUTHPARAMS
```

Example Request

This example returns instance status descriptions for the specified instances.

```
https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&InstanceId.0=i-1a2b3c4d
&InstanceId.1=i-2a2b3c4d
&AUTHPARAMS
```

Example Request

This example returns instance status descriptions for all instances specified by supported `DescribeInstanceStatus` filters.
Example Response

```xml
  <requestId>3be1508e-c444-4fef-89cc-0b1223c4f02fEXAMPLE</requestId>
  <instanceStatusSet>
    <item>
      <instanceId>i-1a2b3c4d</instanceId>
      <availabilityZone>us-east-1d</availabilityZone>
      <instanceState>
        <code>16</code>
        <name>running</name>
      </instanceState>
      <systemStatus>
        <status>impaired</status>
        <details>
          <item>
            <name>reachability</name>
            <status>failed</status>
            <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
          </item>
        </details>
      </systemStatus>
    </item>
    <item>
      <instanceId>i-2a2b3c4d</instanceId>
      <availabilityZone>us-east-1d</availabilityZone>
      <instanceState>
        <code>16</code>
      </instanceState>
      <systemStatus>
        <status>impaired</status>
        <details>
          <item>
            <name>reachability</name>
            <status>failed</status>
            <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
          </item>
        </details>
      </systemStatus>
    </item>
  </instanceStatusSet>
  <eventsSet>
    <item>
      <code>instance-retirement</code>
      <description>The instance is running on degraded hardware</description>
      <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
      <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
    </item>
  </eventsSet>
</DescribeInstanceStatusResponse>
```
<name>running</name>
</instanceState>
<systemStatus>
  <status>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</systemStatus>
<instanceStatus>
  <status>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</instanceStatus>
<eventsSet>
  <item>
    <code>instance-reboot</code>
    <description>The instance is scheduled for a reboot</description>
    <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
    <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
  </item>
</eventsSet>

<item>
  <instanceId>i-3a2b3c4d</instanceId>
  <availabilityZone>us-east-1c</availabilityZone>
  <instanceState>
    <code>16</code>
    <name>running</name>
  </instanceState>
  <systemStatus>
    <status>ok</status>
    <details>
      <item>
        <name>reachability</name>
        <status>passed</status>
      </item>
    </details>
  </systemStatus>
</item>

<item>
  <instanceId>i-4a2b3c4d</instanceId>
</item>
<availabilityZone>us-east-1c</availabilityZone>
<instanceState>
  <code>16</code>
  <name>running</name>
</instanceState>
<systemStatus>
  <status>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</systemStatus>
<instanceStatus>
  <status>insufficient-data</status>
  <details>
    <item>
      <name>reachability</name>
      <status>insufficient-data</status>
    </item>
  </details>
</instanceStatus>
</instanceStatusSet>
</DescribeInstanceStatusResponse>
DescribeInternetGateways

Description

Describes one or more of your Internet gateways.

Request Parameters

InternetGatewayId.n
- One or more Internet gateway IDs.
  - Type: String
  - Default: Describes all your Internet gateways.
  - Required: No

Filter.n.Name
- The name of a filter. For more information about supported filter names, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

Supported Filters

You can specify filters so that the response includes information for only certain Internet gateways. For example, you can use a filter to specify that you’re interested in the Internet gateways with particular tags. You can specify multiple values for a filter. The response includes information for an Internet gateway only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify Internet gateways that are attached to a specific VPC and have a specific tag. The response includes information for an Internet gateway only if it matches all the filters that you specified. If there’s no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

attachment.state
- The current state of the attachment between the gateway and the VPC. Returned only if a VPC is attached.
  - Type: String
  - Valid value: available

attachment.vpc-id
- The ID of an attached VPC.
internet-gateway-id
The ID of the Internet gateway.

Type: String
tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.

Type: String
tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.

Type: String
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

Response Elements

The following elements are returned in a DescribeInternetGatewaysResponse element.

requestId
The ID of the request.
Type: xsd:string
internetGatewaySet
A list of Internet gateways, each one wrapped in an item element.
Type: InternetGatewayType (p. 527)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInternetGatewayID.NotFound (p. 600)
Examples

Example Request

This example describes your Internet gateways.

https://ec2.amazonaws.com/?Action=DescribeInternetGateways &AUTHPARAMS

Example Response

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <internetGatewaySet>
      <item>
         <internetGatewayId>igw-eaad4883EXAMPLE</internetGatewayId>
         <attachmentSet>
            <item>
               <vpcId>vpc-11ad4878</vpcId>
               <state>available</state>
            </item>
         </attachmentSet>
         <tagSet/>
      </item>
   </internetGatewaySet>
</DescribeInternetGatewaysResponse>

Related Actions

- CreateInternetGateway (p. 76)
- DeleteInternetGateway (p. 140)
- DetachInternetGateway (p. 26)
- DetachInternetGateway (p. 355)
DescribeKeyPairs

Description

Describes one or more of your key pairs.

Request Parameters

KeyName.n
  One or more key pair names.
  Type: String
  Default: Describes all your key pairs.
  Required: No

Filter.n.Name
  The name of a filter. For more information about supported filter names, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Supported Filters

You can specify filters so that the response includes information for only certain key pairs. For example, you can use a filter to specify that you’re interested in key pairs whose names include the string Dave. You can specify multiple values for a filter. The response includes information for a key pair only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify key pairs whose names include the string Dave and whose fingerprint is a specific value. The response includes information for a key pair only if it matches all the filters that you specified. If there’s no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

  fingerprint
    The fingerprint of the key pair.
    Type: String

  key-name
    The name of the key pair.
    Type: String
Response Elements

The following elements are returned in a DescribeKeyPairsResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **keySet**
  - A list of key pairs, each one wrapped in an item element.
  - Type: DescribeKeyPairsResponseItemType (p. 495)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidKeyPair.NotFound (p. 600)

Examples

Example Request

This example describes the keypair with name my-key-pair.

https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&KeyName.1=my-key-pair
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>my-key-pair</keyName>
      <keyFinger
print>
    </item>
  </keySet>
</DescribeKeyPairsResponse>

Example Request

This example filters the response to include only key pairs whose names include the string Dave.

https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&Filter.1.Name=key-name
Related Actions

- CreateKeyPair (p. 78)
- ImportKeyPair (p. 382)
- DeleteKeyPair (p. 142)
DescribeNetworkAcls

Description

Describes one or more of your network ACLs.

For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

NetworkAclId.n
One or more network ACL IDs.
Type: String
Default: Describes all your network ACLs.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain ACLs. For example, you can use a filter to specify that you're interested in the ACLs associated with a particular subnet. You can specify multiple values for a filter. The response includes information for an ACL only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify ACLs that are associated with a specific subnet and have an egress entry that denies traffic to a specific port. The response includes information for an ACL only if it matches all the filters that you specified. If there’s no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon?\" searches for the literal string *amazon?\.

The following are the available filters.

association.association-id
The ID of an association ID for the ACL.
Type: String

association.network-acl-id
The ID of the network ACL involved in the association.
Type: String

association.subnet-id
  The ID of the subnet involved in the association.
  Type: String

default
  Indicates whether the ACL is the default network ACL for the VPC.
  Type: Boolean

tag-key
  The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag:key=value filter.
  For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
  Type: String

tag-value
  The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag’s key, and the tag’s value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y
vpc-id
The ID of the VPC for the network ACL.
Type: String

Response Elements
The following elements are returned in a DescribeNetworkAclsResponse element.

requestId
The ID of the request.
Type: xsd:string

networkAclSet
A list of network ACLs, each one wrapped in an item element.
Type: NetworkAclType (p. 534)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidNetworkAclID.NotFound (p. 600)

Examples
Example Request
This example describes all your network ACLs.

https://ec2.amazonaws.com/?Action=DescribeNetworkAcls
&AUTHPARAMS

Example Response
The first ACL in the returned list is the VPC’s default ACL.
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <networkAclSet>
    <item>
      <networkAclId>acl-5566953c</networkAclId>
      <vpcId>vpc-5266953b</vpcId>
      <default>true</default>
      <entrySet>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>allow</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>deny</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>allow</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>deny</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
      </entrySet>
    </item>
    <item>
      <networkAclId>acl-5d659634</networkAclId>
      <vpcId>vpc-5266953b</vpcId>
      <default>false</default>
      <entrySet>
        <item>
          <ruleNumber>110</ruleNumber>
          <protocol>6</protocol>
          <ruleAction>allow</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
          <portRange>
            <from>49152</from>
            <to>65535</to>
          </portRange>
        </item>
      </entrySet>
    </item>
  </networkAclSet>
</DescribeNetworkAclsResponse>
<ruleNumber>32767</ruleNumber> <protocol>all</protocol> <ruleAction>deny</ruleAction> <egress>true</egress> <cidrBlock>0.0.0.0/0</cidrBlock>
</item>

<item> <ruleNumber>110</ruleNumber> <protocol>6</protocol> <ruleAction>allow</ruleAction> <egress>false</egress> <cidrBlock>0.0.0.0/0</cidrBlock> <portRange> <from>80</from> <to>80</to> </portRange>
</item>

<item> <ruleNumber>120</ruleNumber> <protocol>6</protocol> <ruleAction>allow</ruleAction> <egress>false</egress> <cidrBlock>0.0.0.0/0</cidrBlock> <portRange> <from>443</from> <to>443</to> </portRange>
</item>

<item> <ruleNumber>32767</ruleNumber> <protocol>all</protocol> <ruleAction>deny</ruleAction> <egress>false</egress> <cidrBlock>0.0.0.0/0</cidrBlock>
</item>

</entrySet>

<associationSet>
<item> <networkAclAssociationId>aclassoc-5c659635</networkAclAssociationId> <networkAclId>acl-5d659634</networkAclId> <subnetId>subnet-ff669596</subnetId> </item>
</associationSet>

<tagSet/>
</item>
</networkAclSet>
</DescribeNetworkAclsResponse>

Related Actions

- CreateNetworkAcl (p. 81)
- DeleteNetworkAcl (p. 144)
• ReplaceNetworkAclAssociation (p. 424)
• CreateNetworkAclEntry (p. 83)
• DeleteNetworkAclEntry (p. 146)
• ReplaceNetworkAclEntry (p. 426)
DescribeNetworkInterfaceAttribute

Description

Describes the specified attribute of the specified network interface. You can specify only one attribute at a time.

Request Parameters

NetworkInterfaceId
- The ID of the network interface.
  - Type: String
  - Default: None
  - Required: Yes

Attribute
- The attribute of the network interface.
  - Type: String
  - Valid values: description | groupSet | sourceDestCheck | attachment
  - Default: None
  - Required: Yes

Response Elements

The following elements are returned in a DescribeNetworkInterfaceAttributeResponse element.

requestId
- The ID of the request.
  - Type: xsd:string

networkInterfaceId
- The ID of the network interface.
  - Type: xsd:string

description
- The description of the network interface.
  - Type: xsd:string

sourceDestCheck
- Indicates whether source/destination checking is enabled.
  - Type: xsd:boolean

groupSet
- The security groups associated with the network interface.
  - Type: GroupItemType (p. 510)

attachment
- The attachment (if any) of the network interface.
  - Type: NetworkInterfaceAttachmentType (p. 536)
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceID.NotFound (p. 600)

Examples

Example Request

This example describes the sourceDestCheck attribute of the specified network interface.

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute
&NetworkInterfaceId=eni-686ea200
&Attribute=sourceDestCheck
&AUTHPARAMS

Example Response

  <requestId>7a20c6b2-d71c-45fb-bba7-37306850544b</requestId>
  <networkInterfaceId>eni-686ea200</networkInterfaceId>
  <sourceDestCheck>
    <value>true</value>
  </sourceDestCheck>
</DescribeNetworkInterfaceAttributeResponse>

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
DescribeNetworkInterfaces

Description

Describes one or more of your network interfaces.

Request Parameters

NetworkInterfaceId.n
  One or more network interface IDs.
  Type: String
  Default: Describes all your network interfaces.
  Required: No

Filter.n.Name
  The name of a filter. For more information about supported filter names, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Supported Filters

You can specify filters so that the response includes information for only certain network interfaces. For example, you can use a filter to specify that you're interested in network interfaces launched in a specific Availability Zone. You can specify multiple values for a filter. The response includes information for a network interface only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify network interfaces in a specific Availability Zone, and that have a specific owner ID. The response includes information for a network interface only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon\?\" searches for the literal string "*amazon?".

The following are the available filters.

addresses.private-ip-address
  The private IP addresses associated with the network interface.
  Type: String

addresses.primary
  Whether the private IP address is the primary IP address associated with the network interface.
  Type: Boolean
addresses.association.public-ip
  The association ID returned when the network interface was associated with the Elastic IP address.
  Type: String
addresses.association.owner-id
  The owner ID of the addresses associated with the network interface.
  Type: String
association.association-id
  The association ID returned when the network interface was associated with an IP address.
  Type: String
association.allocation-id
  The allocation ID returned when you allocated the Elastic IP address for your network interface.
  Type: String
association.ip-owner-id
  The owner of the Elastic IP address associated with the network interface.
  Type: String
association.public-ip
  The address of the Elastic IP address bound to the network interface.
  Type: String
association.public-dns-name
  The public DNS name for the network interface.
  Type: String
attachment.attachment-id
  The ID of the interface attachment.
  Type: String
attachment.instance-id
  The ID of the instance to which the network interface is attached.
  Type: String
attachment.instance-owner-id
  The owner ID of the instance to which the network interface is attached.
  Type: String
attachment.device-index
  The device index to which the network interface is attached.
  Type: Integer
attachment.status
  The status of the attachment.
  Type: String
  Valid values: attaching | attached | detaching | detached
attachment.attach.time
  The time that the network interface was attached to an instance.
  Type: DateTime
attachment.delete-on-termination
  Indicates whether the attachment is deleted when an instance is terminated.
  Type: Boolean
availability-zone
  The Availability Zone of the network interface.
  Type: String
description
  The description of the network interface.
  Type: String
group-id
The ID of a security group associated with the network interface.
Type: String

group-name
The name of a security group associated with the network interface.
Type: String

mac-address
The MAC address of the network interface.
Type: String

network-interface-id
The ID of the network interface.
Type: String

owner-id
The AWS account ID of the network interface owner.
Type: String

private-ip-address
The private IP address or addresses of the network interface.
Type: String

private-dns-name
The private DNS name of the network interface.
Type: String

requester-id
The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on).
Type: String

requester-managed
Indicates whether the network interface is being managed by an AWS service (for example, AWS Management Console, Auto Scaling, and so on).
Type: Boolean

source-dest-check
Indicates whether the network interface performs source/destination checking. A value of true means checking is enabled, and false means checking is disabled. The value must be false for the network interface to perform Network Address Translation (NAT) in your VPC.
Type: Boolean

status
The status of the network interface. If the network interface is not attached to an instance, the status shows available; if a network interface is attached to an instance the status shows in-use.
Type: String
Valid values: available | in-use

subnet-id
The ID of the subnet for the network interface.
Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String
tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y
vpc-id
The ID of the VPC for the network interface.
Type: String

Response Elements
The following elements are returned in a DescribeNetworkInterfacesResponse element.

requestId
The ID of the request.
Type: xsd:string

networkInterfaceSet
Information about the network interfaces, each one wrapped in an item element.
Type: NetworkInterfaceType (p. 537)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidNetworkInterfaceId.Malformed (p. 600)
• InvalidNetworkInterfaceId.NotFound (p. 600)

Examples
Example Request
This example describes all your network interfaces.

https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaces
&AUTHPARAMS
Example Response


  <requestId>fc45294c-006b-457b-bab9-012f5b3b0e40</requestId>

  <networkInterfaceSet>
    <item>
      <networkInterfaceId>eni-0f62d866</networkInterfaceId>
      <subnetId>subnet-c53c87ac</subnetId>
      <vpcId>vpc-cc3c87a5</vpcId>
      <availabilityZone>ap-southeast-1b</availabilityZone>
      <description/>
      <ownerId>053230519467</ownerId>
      <requesterManaged>false</requesterManaged>
      <status>in-use</status>
      <macAddress>02:81:60:cb:27:37</macAddress>
      <privateIpAddress>10.0.0.146</privateIpAddress>
      <sourceDestCheck>true</sourceDestCheck>
      <groupSet>
        <item>
          <groupId>sg-3f4b5653</groupId>
          <groupName>default</groupName>
        </item>
      </groupSet>
      <attachment>
        <attachmentId>eni-attach-6537fc0c</attachmentId>
        <instanceId>i-22197876</instanceId>
        <instanceOwnerId>053230519467</instanceOwnerId>
        <deviceIndex>0</deviceIndex>
        <status>attached</status>
        <attachTime>2012-07-01T21:45:27.000Z</attachTime>
        <deleteOnTermination>true</deleteOnTermination>
      </attachment>
      <tagSet/>
      <privateIpAddressesSet>
        <item>
          <privateIpAddress>10.0.0.146</privateIpAddress>
          <primary>true</primary>
        </item>
        <item>
          <privateIpAddress>10.0.0.148</privateIpAddress>
          <primary>false</primary>
        </item>
        <item>
          <privateIpAddress>10.0.0.150</privateIpAddress>
          <primary>false</primary>
        </item>
      </privateIpAddressesSet>
    </item>
  </networkInterfaceSet>

  <networkInterfaceSet>
    <item>
      <networkInterfaceId>eni-a66ed5cf</networkInterfaceId>
      <subnetId>subnet-cd8a35a4</subnetId>
      <vpcId>vpc-f28a359b</vpcId>
      <availabilityZone>ap-southeast-1b</availabilityZone>
      <description>Primary network interface</description>
      <ownerId>053230519467</ownerId>
      <requesterManaged>false</requesterManaged>
    </item>
  </networkInterfaceSet>

</DescribeNetworkInterfacesResponse>
<status>in-use</status>
<macAddress>02:78:d7:00:8a:1e</macAddress>
<privateIpAddress>10.0.1.233</privateIpAddress>
<sourceDestCheck>true</sourceDestCheck>
<groupSet>
  <item>
    <groupId>sg-a2a0b2ce</groupId>
    <groupName>quick-start-1</groupName>
  </item>
</groupSet>
<attachment>
  <attachmentId>eni-attach-a99c57c0</attachmentId>
  <instanceId>i-886401dc</instanceId>
  <instanceOwnerId>053230519467</instanceOwnerId>
  <deviceIndex>0</deviceIndex>
  <status>attached</status>
  <attachTime>2012-06-27T20:08:44.000Z</attachTime>
  <deleteOnTermination>true</deleteOnTermination>
</attachment>
<tagSet/>
<privateIpAddressesSet>
  <item>
    <privateIpAddress>10.0.1.233</privateIpAddress>
    <primary>true</primary>
  </item>
  <item>
    <privateIpAddress>10.0.1.20</privateIpAddress>
    <primary>false</primary>
  </item>
</privateIpAddressesSet>
</networkInterfaceSet>
</DescribeNetworkInterfacesResponse>

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
DescribePlacementGroups

Description

Describes one or more of your placement groups. For more information about placement groups and cluster instances, see Cluster Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

GroupName.n
  One or more placement group names.
  Type: String
  Default: Describes all your placement groups, or only those otherwise specified.
  Required: No

Filter.n.Name
  The name of a filter. For more information about supported filter names, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Supported Filters

You can specify a filter so that the response includes information for only certain placement groups. For example, you can use a filter to specify that you're interested in groups in the deleted state. You can specify multiple values for a filter. The response includes information for a placement group only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify group's that are in the deleted state and have a name that includes the string Project. The response includes information for a group only if it matches all your filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon\?\" searches for the literal string *amazon?\.

The following are the available filters.

group-name
  The name of the placement group.
  Type: String

state
  The state of the placement group.
  Type: String
  Valid values: pending | available | deleting | deleted
strategy
The strategy of the placement group.
Type: String
Valid value: cluster

Response Elements
The following elements are returned in a DescribePlacementGroupsResponse element.

requestId
The ID of the request.
Type: xsd:string

placementGroupSet
A list of placement groups, each one wrapped in an item element.
Type: PlacementGroupInfoType (p. 539)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidPlacementGroup.Unknown (p. 600)

Examples

Example Request
This example describes the placement group named XYZ-cluster.

https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&GroupName.1=XYZ-cluster
&AUTHPARAMS

Example Response

  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>XYZ-cluster</groupName>
      <strategy>cluster</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>
Example Request

This example filters the response to include only placement groups that include the string Project in the name.

```
https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&Filter.1.Name=group-name
&Filter.1.Value=*/Project*/
&AUTHPARAMS
```

```
  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>Project-cluster</groupName>
      <strategy>cluster</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>
```

Related Actions

- CreatePlacementGroup (p. 91)
- DeletePlacementGroup (p. 150)
DescribeRegions

Description

Describes one or more regions that are currently available to you.

For a list of the regions supported by Amazon EC2, see Regions and Endpoints.

Request Parameters

RegionName.n
  One or more region names.
  Type: String
  Default: Describes all regions available to the account.
  Required: No

Filter.n.Name
  The name of a filter. For more information about supported filter names, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Supported Filters

You can specify filters so that the response includes information for only certain regions.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon/\ searches for the literal string *amazon/\.

The following are the available filters.

endpoint
  The endpoint of the region (for example, ec2.us-east-1.amazonaws.com).
  Type: String

region-name
  The name of the region.
  Type: String

Response Elements

The following elements are returned in a DescribeRegionsResponse element.
requestId
   The ID of the request.
   Type: xsd:string

regionInfo
   A list of regions, each one wrapped in an item element.
   Type: RegionItemType (p. 546)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)

Examples

Example Request
This example displays information about all regions.

https://ec2.amazonaws.com/?Action=DescribeRegions
&AUTHPARAMS

Example Request
This example displays information about just the specified regions.

https://ec2.amazonaws.com/?Action=DescribeRegions
&RegionName.1=us-east-1
&RegionName.2=eu-west-1
&AUTHPARAMS

Example Response

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <regionInfo>
      <item>
         <regionName>us-east-1</regionName>
         <regionEndpoint>ec2.us-east-1.amazonaws.com</regionEndpoint>
      </item>
      <item>
         <regionName>eu-west-1</regionName>
         <regionEndpoint>ec2.eu-west-1.amazonaws.com</regionEndpoint>
      </item>
   </regionInfo>
</DescribeRegionsResponse>
Example Request

This example displays information about all regions that have the string `ap` in the endpoint.

```plaintext
https://ec2.amazonaws.com/?Action=DescribeRegions
&Filter.1.Name=endpoint
&Filter.1.Value.1=*ap*
&AUTHPARAMS
```

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <regionInfo>
    <item>
      <regionName>ap-southeast-1</regionName>
      <regionEndpoint>ec2.ap-southeast-1.amazonaws.com</regionEndpoint>
    </item>
  </regionInfo>
</DescribeRegionsResponse>
```

Related Actions

- DescribeAvailabilityZones (p. 186)
- RunInstances (p. 459)
DescribeReservedInstances

Description

Describes one or more of the Reserved Instances that you purchased.

Starting with the 2011-11-01 API version, AWS expanded its offering of Amazon EC2 Reserved Instances to address a range of projected instance use. There are three types of Reserved Instances based on customer utilization levels: Heavy Utilization, Medium Utilization, and Light Utilization. You determine the type of the Reserved Instances offerings by including the optional offeringType parameter. The Medium Utilization offering type is equivalent to the Reserved Instance offering available before API version 2011-11-01. If you are using tools that predate the 2011-11-01 API version, you only have access to the Medium Utilization Reserved Instance offering type.

For more information about Reserved Instances, see Reserved Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ReservedInstancesId.n
  One or more Reserved Instance IDs.
  Type: String
  Default: Describes all your Reserved Instances, or only those otherwise specified.
  Required: No

offeringType
  The Reserved Instance offering type.
  Type: String
  Valid values: Heavy Utilization | Medium Utilization | Light Utilization
  Required: No

Filter.n.Name
  The name of a filter. For more information about supported filter names, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  Type: String
  Default: None
  Required: No

Supported Filters

You can specify a filter so that the response includes information for only certain Reserved Instances. For example, you can use a filter to specify that you're interested in Reserved Instances in a specific Availability Zone. You can specify multiple values for a filter. The response includes information for a Reserved Instance only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify Reserved Instances that are in a specific Availability Zone and have a specific tag. The response includes information for a Reserved Instance only if it matches
all of the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon?\ searches for the literal string *amazon?.

The following are the available filters.

**availability-zone**
- The Availability Zone where the Reserved Instance can be used.
- Type: String

**duration**
- The duration of the Reserved Instance (one year or three years), in seconds.
- Type: Long
- Valid values: 31536000 | 94608000

**end**
- The time when the Reserved Instance expires.
- Type: DateTime

**fixed-price**
- The purchase price of the Reserved Instance (for example, 9800.0).
- Type: Double

**instance-type**
- The instance type on which the Reserved Instance can be used.
- Type: String

**product-description**
- The product description of the Reserved Instance.
- Type: String
- Valid values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

**reserved-instances-id**
- The ID of the Reserved Instance.
- Type: String

**start**
- The time at which the Reserved Instance purchase request was placed (for example, 2010-08-07T11:54:42.000Z).
- Type: DateTime

**state**
- The state of the Reserved Instance.
- Type: String
- Valid values: pending-payment | active | payment-failed | retired

**tag-key**
- The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
- Type: String
- For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.

**tag-value**
- The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
- Type: String
**tag:** key=value

The key/value combination of a tag assigned to the resource, where *tag:* key is the tag's key, and the tag's value is provided in the Filter.n.Value parameter.

Example: To list the resources with the tag Purpose=X, use:

Filter.1.Name=tag:Purpose
Filter.1.Value.1=X

Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:

Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

**usage-price**

The usage price of the Reserved Instance, per hour (for example, 0.84).

Type: Double

---

**Response Elements**

The following elements are returned in a `DescribeReservedInstancesResponse` element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **reservedInstancesSet**
  - A list of Reserved Instances, each one wrapped in an `item` element.
  - Type: `DescribeReservedInstancesResponseSetItemType` (p. 499)

---

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)

---

**Examples**

**Example Request**

This example describes Reserved Instances owned by your account.

https://ec2.amazonaws.com/?Action=DescribeReservedInstances

**Example Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesSet>
```

---

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Example Request

This example filters the response to include only one-year, m1.small Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to Linux/UNIX (Amazon VPC).

https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX
&AUTHPARAMS

Related Actions

- PurchaseReservedInstancesOffering (p. 407)
- DescribeReservedInstancesOfferings (p. 275)
DescribeReservedInstancesListings

Description

Describes your account's Reserved Instance listings in the Reserved Instance Marketplace. This call returns information, such as the ID of the Reserved Instance with which a listing is associated.

The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

As a seller, you choose to list some or all of your Reserved Instances, and you specify the upfront price to receive for them. Your Reserved Instances are then listed in the Reserved Instance Marketplace and are available for purchase.

As a buyer, you specify the configuration of the Reserved Instance to purchase, and the Marketplace matches what you're searching for with what's available. The Marketplace first sells the lowest priced Reserved Instances to you, and continues to sell available Reserved Instance listings to you until your demand is met. You are charged based on the total price of all of the listings that you purchase.

For more information about Reserved Instance Marketplace, see Reserved Instance Marketplace in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ReservedInstancesListingId.n

The information about the Reserved Instance listing wrapped in an item element.

Type: DescribeReservedInstancesListingSetItemType (p. 496)
Default: None
Required: No

ReservedInstancesId.n

The set of Reserved Instances IDs which are used to see associated listings.

Type: DescribeReservedInstancesSetItemType (p. 501)
Default: None
Required: No

Filter.n.Name

The name of a filter. For more information about supported filter names, see the Supported Filters section.

Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.

Type: String
Default: None
Required: No
Supported Filters

Our policy is to provide filters for all ec2-describe calls so that you can limit the response to your specified criteria. Therefore, you can use filters to limit the response when describing Reserved Instances listings, even though you can use other options instead.

For example, you can use a filter or an option to get the listing of Reserved Instances that are in an active state. You can also specify multiple options or filters (for example, to limit the response to the Reserved Instances listings that are in the closed state with a specific status message). The response includes information for a listing only if it matches all options or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

status
  Status of the Reserved Instance listing.
  Valid values: pending | active | cancelled | closed
  Type: String
status-message
  Reason for the status.
  Type: String
reserved-instances-listing-id
  The ID of the Reserved Instances listing.
  Type: String
reserved-instances-id
  The ID of the Reserved Instances.
  Type: String

Response Elements

The following elements are returned in a DescribeReservedInstancesListingsResponseType element.

requestId
  The ID of the request.
  Type: xsd:string
reservedInstancesListingsSet
  The Reserved Instance listing information wrapped in an item element.
  Type: DescribeReservedInstancesListingsResponseSetItemType (p. 495)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- OptInRequired (p. 600)
Examples

Example Request

This example shows all the listings associated with your account.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesListings
&AUTHPARAMS

Example Response

<DescribeReservedInstancesListingsResponse>
  <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesListingId>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <createDate>2012-07-06T19:35:29.000Z</createDate>
      <updateDate>2012-07-06T19:35:30.000Z</updateDate>
      <status>active</status>
      <statusMessage>ACTIVE</statusMessage>
      <instanceCounts>
        <item>
          <state>Available</state>
          <instanceCount>20</instanceCount>
        </item>
        <item>
          <state>Sold</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Cancelled</state>
          <instanceCount>0</instanceCount>
        </item>
        <item>
          <state>Pending</state>
          <instanceCount>0</instanceCount>
        </item>
      </instanceCounts>
      <priceSchedules>
        <item>
          <term>8</term>
          <price>480.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
        <item>
          <term>7</term>
          <price>420.0</price>
          <currencyCode>USD</currencyCode>
          <active>false</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
<item>
  <term>6</term>
  <price>360.0</price>
  <currencyCode>USD</currencyCode>
  <active>true</active>
</item>
<item>
  <term>5</term>
  <price>300.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>4</term>
  <price>240.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>3</term>
  <price>180.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>2</term>
  <price>120.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
<item>
  <term>1</term>
  <price>60.0</price>
  <currencyCode>USD</currencyCode>
  <active>false</active>
</item>
</priceSchedules>
<tagSet/>
<clientToken>myclienttoken1</clientToken>
</item>
</reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>

Related Actions

- CancelReservedInstancesListing (p. 51)
- CreateReservedInstancesListing (p. 93)
DescribeReservedInstancesModifications

**Description**

Describes the modifications made to your Reserved Instances. If no parameter is specified, information about all your Reserved Instances modification requests is returned. If a modification ID is specified, only information about the specific modification is returned.

For more information, see Modifying Reserved Instances in the Amazon Elastic Compute Cloud User Guide.

**Request Parameters**

`reservedInstancesModificationId.n`

IDs for the submitted modification request.
- Type: String
- Default: None
- Required: No

`nextToken`

The token for the next page of data.
- Type: String
- Default: None
- Required: No

`Filter.n.Name`

The name of a filter. For more information about supported filter names, see the Supported Filters section.
- Type: String
- Default: None
- Required: No

`Filter.n.Value.m`

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
- Type: String
- Default: None
- Required: No

**Supported Filters**

Our policy is to provide filters for all `ec2-describe` calls so that you can limit the response to your specified criteria. Therefore, you can use filters to limit the response when describing Reserved Instances modifications, even though you can also use other options instead.

For example, you can use a filter or an option to get the listing of Reserved Instances that are in an active state. You can also specify multiple options or filters (for example, to limit the response to the Reserved Instances listings that are in the closed state with a specific status message). The response includes information for a listing only if it matches all options or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon/?\ searches for the literal string *amazon?\.
The following are the available filters.

**client-token**
- The idempotency token for the modification request.
  - Type: String

**create-date**
- Time when the modification request was created.
  - Type: DateTime

**effective-date**
- Time when the modification becomes effective.
  - Type: DateTime

**modification-result.reserved-instances-id**
- ID for the Reserved Instances created as part of the modification request. This ID is only available when the status of the modification is `fulfilled`.
  - Type: String

**modification-result.target-configuration.availability-zone**
- The Availability Zone for the new Reserved Instances.
  - Type: String

**modification-result.target-configuration.instance-count**
- The number of new Reserved Instances.
  - Type: Integer

**modification-result.target-configuration.instance-type**
- Instance type of the new Reserved Instances.
  - Type: String

**modification-result.target-configuration.platform**
- The network platform of the new Reserved Instances.
  - Type: String
  - Valid values: EC2-Classic, EC2-VPC

**reserved-instances-id**
- The ID of the Reserved Instances modified.
  - Type: String

**reserved-instances-modification-id**
- ID of the modification request.
  - Type: String

**status**
- The status of the Reserved Instances modification request.
  - Type: String
  - Valid values: `processing` | `fulfilled` | `failed`

**status-message**
- The reason for the status.
  - Type: String

**update-date**
- Time when the modification request was last updated.
  - Type: DateTime

---

## Response Elements

The following elements are returned in a `DescribeReservedInstancesModificationsResponse` element.

---

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requestId
   The unique ID for the request.
   Type: xsd:string
reservedInstancesModifications
   The Reserved Instance modification information.
   Type: DescribeReservedInstancesModificationsResponseSetItemType (p. 496)
nextToken
   The token for the next page of data.
   Type: xsd:string

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidInput (p. 600)

Examples
Example Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications&AUTH
PARAMS

Example Response

<DescribeReservedInstancesModificationsResponse xmlns='http://ec2.amazonaws.com/doc/2013-08-15/'>
   <requestId>eb4a6e3c-3689-445c-b536-19e38df35898</requestId>
   <reservedInstancesModificationsSet>
      ...
      <item>
         <reservedInstancesModificationId>rimod-49b9433e-fdc7-464a-a6e5-9dabcexample</reservedInstancesModificationId>
         <reservedInstancesSet>
            <item>
               <reservedInstancesId>2567o137-8a55-48d6-82fb-7258506bb497</reservedInstancesId>
            </item>
         </reservedInstancesSet>
      </item>
   </reservedInstancesModificationsSet>
   <modificationResultSet>
      <item>
         <reservedInstancesId>9d5cb137-5d65-4479-b4ac-8c337example</reservedInstancesId>
         <targetConfiguration>
            <availabilityZone>us-east-1b</availabilityZone>
            <platform>EC2-VPC</platform>
            <instanceCount>1</instanceCount>
            <instanceType>m1.small</instanceType>
         </targetConfiguration>
   </modificationResultSet>
</DescribeReservedInstancesModificationsResponse>
Example Request

This example filters the response to include only Reserved Instances modification requests with status processing.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesModifications
&Filter.1.Name=status
&Filter.1.Value.1=processing
&AUTHPARAMS

Related Actions

- ModifyReservedInstances (p. 397)
- DescribeReservedInstances (p. 263)
DescribeReservedInstancesOfferings

Description

Describes Reserved Instance offerings that are available for purchase. With Amazon EC2 Reserved Instances, you purchase the right to launch Amazon EC2 instances for a period of time. During that time period, you do not receive insufficient capacity errors, and you pay a lower usage rate than the rate charged for On-Demand instances for the actual time used.

Starting with the 2011-11-01 API version, AWS expanded its offering of Amazon EC2 Reserved Instances to address a range of projected instance usage. There are three types of Reserved Instances based on customer utilization levels: Heavy Utilization, Medium Utilization, and Light Utilization. You determine the type of the Reserved Instances offerings by including the optional offeringType parameter when calling DescribeReservedInstancesOfferings. The Medium Utilization offering type is equivalent to the Reserved Instance offering available before API version 2011-11-01. If you are using tools that predate the 2011-11-01 API version, DescribeReservedInstancesOfferings only lists information about the Medium Utilization Reserved Instance offering type.

For information about Reserved Instances pricing, see Understanding Reserved Instance Pricing Tiers in the Amazon Elastic Compute Cloud User Guide. For more information about Reserved Instances, see Reserved Instances also in the Amazon Elastic Compute Cloud User Guide.

Starting with the 2012-08-15 API version, AWS offers the Reserved Instance Marketplace, where you can buy and sell Reserved Instances. The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

By default, with the 2012-08-15 API version, DescribeReservedInstancesOfferings returns information about AWS and Reserved Instance Marketplace offerings. If you are using tools that predate the 2012-08-15 API version, DescribeReservedInstancesOfferings only lists information about the Amazon EC2 Reserved Instance offerings.

For more information about the Reserved Instance Marketplace, see Reserved Instance Marketplace in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ReservedInstancesOfferingId.n
- One or more Reserved Instances offering IDs.
  Type: String
  Default: None
  Required: No

InstanceType
- The Amazon EC2 instance type on which the Reserved Instance can be used. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.
  Type: String
  Default: None
  Required: No

AvailabilityZone
- The Availability Zone in which the Reserved Instance can be used.
  Type: String
  Default: None
Required: No

**ProductDescription**
The Reserved Instance description. Instances that include (Amazon VPC) in the description are for use with Amazon VPC.
Type: String
Valid values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)
Default: None
Required: No

**Filter.n.Name**
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

**Filter.n.Value.m**
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

**InstanceTenancy**
The tenancy of the Reserved Instance offering. A Reserved Instance with tenancy of dedicated runs on single-tenant hardware and can only be launched within a VPC.
Type: String
Valid values: default | dedicated
Default: default
Required: No

**OfferingType**
The Reserved Instance offering type.
Type: String
Valid values: Heavy Utilization | Medium Utilization | Light Utilization
Default: None
Required: No

**IncludeMarketplace**
Include Marketplace offerings in the response.
Type: Boolean
Default: true
Required: No

**MinDuration**
The minimum duration (in seconds) to filter when searching for offerings.
Type: Long
Default: 2592000 (1 month)
Required: No

**MaxDuration**
The maximum duration (in seconds) to filter when searching for offerings.
Type: Long
Default: 94608000 (3 years)
Required: No
**MaxInstanceCount**
- The maximum number of instances to filter when searching for offerings.
  - Type: Integer
  - Default: 20
  - Required: No

**NextToken**
- The token to use when requesting the next paginated set of offerings.
  - Type: String
  - Default: First page of results if the string is empty.
  - Required: No

**MaxResults**
- The maximum number of offerings to return.
  - Type: Integer
  - Default: 100
  - Maximum: 100
  - Required: No

## Supported Filters

Our policy is to provide filters for all `ec2-describe` calls so that you can limit the response to your specified criteria. Therefore, you can use filters to limit the response when describing Reserved Instances offerings, even though you can use other options instead.

For example, you could use an option or a filter to get the offerings for a specific instance type. You can specify multiple options or filters (for example, limit the response to the m2.xlarge instance type, and only for Windows instances). The response includes information for an offering only if it matches all options or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of `\*amazon\?\` searches for the literal string `*amazon?\`

The following are the available filters.

**availability-zone**
- The Availability Zone where the Reserved Instance can be used.
  - Type: String

**duration**
- The duration of the Reserved Instance (for example, one year or three years), in seconds.
  - Type: Long
  - Valid values: 31536000 | 94608000

**fixed-price**
- The purchase price of the Reserved Instance (for example, 9800.0).
  - Type: Double

**instance-type**
- The instance type on which the Reserved Instance can be used.
  - Type: String

**marketplace**
- Set to `true` to show only Reserved Instance Marketplace offerings. When this filter is not used, which is the default behavior, all offerings from AWS and Reserved Instance Marketplace are listed.
  - Type: Boolean
product-description

The description of the Reserved Instance.
Type: String
Valid values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

reserved-instances-offering-id

The Reserved Instances offering ID.
Type: String

usage-price

The usage price of the Reserved Instance, per hour (for example, 0.84).
Type: Double

Response Elements

The following elements are returned in a DescribeReservedInstancesOfferingsResponse element.

requestId

The ID of the request.
Type: xsd:string

reservedInstancesOfferingsSet

A list of Reserved Instances offerings. Each offering's information is wrapped in an item element.
Type: DescribeReservedInstancesOfferingsResponseSetItemType (p. 497)

nextToken

The next paginated set of results to return.
Type: String

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidParameterValue (p. 600)

Examples

Example Describing Reserved Instance Marketplace Offerings Only

This example requests a list of Linux/Unix, Light Utilization Reserved Instances that are available through the Reserved Instance Marketplace only.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.0.Name=marketplace
&Filter.0.Value.1=true
&IncludeMarketplace=true
&OfferingType=Light+Utilization
&ProductDescription=Linux%2FUNIX
&Version=2014-05-01
&AUTHPARAMS
When using the Query API, all strings must be URL-encoded.

This is the response listing Reserved Instance Marketplace offerings only.

```xml
<requestId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</requestId>
<reservedInstancesOfferingsSet>
  <item>
    <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-0841cEXAMPLE</reservedInstancesOfferingId>
    <instanceType>m1.large</instanceType>
    <availabilityZone>us-east-1a</availabilityZone>
    <duration>90720000</duration>
    <fixedPrice>96.03</fixedPrice>
    <usagePrice>0.027</usagePrice>
    <productDescription>Linux/UNIX</productDescription>
    <instanceTenancy>default</instanceTenancy>
    <currencyCode>USD</currencyCode>
    <offeringType>Light Utilization</offeringType>
    <recurringCharges/>
    <marketplace>true</marketplace>
    <pricingDetailsSet>
      <item>
        <price>96.03</price>
        <count>1</count>
      </item>
    </pricingDetailsSet>
  </item>
  <item>
    <reservedInstancesOfferingId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</reservedInstancesOfferingId>
    <instanceType>m1.xlarge</instanceType>
    <availabilityZone>us-east-1b</availabilityZone>
    <duration>28512000</duration>
    <fixedPrice>61.0</fixedPrice>
    <usagePrice>0.034</usagePrice>
    <productDescription>Linux/UNIX</productDescription>
    <instanceTenancy>default</instanceTenancy>
    <currencyCode>USD</currencyCode>
    <offeringType>Light Utilization</offeringType>
    <recurringCharges>
      <item>
        <frequency>Hourly</frequency>
        <amount>0.29</amount>
      </item>
    </recurringCharges>
    <marketplace>true</marketplace>
    <pricingDetailsSet>
      <item>
        <price>61.0</price>
        <count>2</count>
      </item>
    </pricingDetailsSet>
  </item>
</reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
Example Describing AWS Offerings Only

By default, with the 2012-08-15 API version, DescribeReservedInstancesOfferings returns information about AWS Reserved Instances and Reserved Instance Marketplace offerings. If you want a list of AWS offerings only, set IncludeMarketplace to false.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&IncludeMarketplace=false
&Version=2014-05-01
&AUTHPARAMS

Example Using MaxResults and nextToken to Manage Results

API version 2012-08-15 provides pagination support, which means that you can query the results sequentially and in parts. Use MaxResults to specify the maximum number of results that are returned in the response. Then, each paginated response contains a nextToken, which can be provided as input to a subsequent DescribeReservedInstancesOfferings call to fetch the next page.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&Version=2014-05-01
&AUTHPARAMS

The response should look similar to the following example.

<DescribeReservedInstancesOfferingsResponse>
  <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ...
    <item>
      <reservedInstancesOfferingId>649fd0c8-7846-46b8-8f84-a6400EXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.large</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>1200.0</fixedPrice>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Heavy Utilization</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.052</amount>
        </item>
      </recurringCharges>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
    </item>
    <item>
      <reservedInstancesOfferingId>e5a2ff3b-a4f3-477c-8928-dbd00EXAMPLE</reservedInstancesOfferingId>
      <instanceType>...</item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Then, you can use the NextToken to fetch the next page. The request should look like the following example. Make sure that you use URL encoding for the NextToken value.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&NextToken=h%2FC8YKPQBHEjW8xKz1827%2FZzyb0VqsqkJRo3TqhFyE%3D
&Version=2014-05-01
&AUTHPARAMS

The response should be similar to the following example.

<DescribeReservedInstancesOfferingsResponse>
  <requestId>652900ca-902c-42fa-b8ae-da67bEXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ... 
    <item>
      <reservedInstancesOfferingId>438012d3-496e-4ab3-b1f6-38ffeEXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.large</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>425.2</fixedPrice>
      <usagePrice>0.124</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Light Utilization</offeringType>
      <recurringCharges/>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
    </item>
    <item>
      <reservedInstancesOfferingId>248e7b75-579e-4599-a34d-cb6aaEXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.large</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>31536000</duration>
      <fixedPrice>780.0</fixedPrice>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Request

This example describes available Reserved Instance offerings.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings &AUTHPARAMS

Example Response

<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>48692a1d-3036-48fd-8c0e-d34681b97efdEXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ...<item>
      <reservedInstancesOfferingId>248e7b75-c83a-48c1-bcf7-b7f03e9c43feEXAMPLE</reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>700.0</fixedPrice>
      <usagePrice>0.06</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Medium Utilization</offeringType>
      <recurringCharges/>
    </item>
    ...
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
Example Request

This example filters the response to include only one-year, m1.small or m1.large Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to Linux/UNIX (Amazon VPC).

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.2.Value.2=m1.large
&Filter.3.Name=product-description
&Filter.3.Value.1=Linux%2FUNIX
&AUTHPARAMS

Related Actions

• PurchaseReservedInstancesOffering (p. 407)
• DescribeReservedInstances (p. 263)
DescribeRouteTables

Description

Describes one or more of your route tables.

For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

RouteTableId.n
One or more route table IDs.
Type: String
Default: Describes all your route tables.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain tables. For example, you can use a filter to specify that you're interested in the tables associated with a particular subnet. You can specify multiple values for a filter. The response includes information for a table only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify tables that have a specific route and are associated with a specific subnet. The response includes information for a table only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?.

The following are the available filters.

association.route-table-association-id
The ID of an association ID for the route table.
Type: String

association.route-table-id
The ID of the route table involved in the association.
Type: String

association.subnet-id
  The ID of the subnet involved in the association.
  Type: String

association.main
  Indicates whether the route table is the main route table for the VPC.
  Type: Boolean

route-table-id
  The ID of the route table.
  Type: String

route.destination-cidr-block
  The CIDR range specified in a route in the table.
  Type: String

route.gateway-id
  The ID of a gateway specified in a route in the table.
  Type: String

route.instance-id
  The ID of an instance specified in a route in the table.
  Type: String

route.vpc-peering-connection-id
  The ID of a VPC peering connection specified in a route in the table.
  Type: String

route.origin
  Describes how the route was created.
  Type: String
  Valid values: CreateRouteTable | CreateRoute | EnableVgwRoutePropagation

  CreateRouteTable indicates that the route was automatically created when the route table was created.
  CreateRoute indicates that the route was manually added to the route table.
  EnableVgwRoutePropagation indicates that the route was propagated by route propagation.

route.state
  The state of a route in the route table. The blackhole state indicates that the route’s target isn’t available (for example, the specified gateway isn’t attached to the VPC, the specified NAT instance has been terminated, and so on).
  Type: String
  Valid values: active | blackhole

tag-key
  The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag’s value is), and the tag value X (regardless of what the tag’s key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.

  For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
  Type: String

tag-value
  The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
  Type: String
tag: key=value

The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.

Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X

Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

vpc-id

The ID of the VPC for the route table.

Type: String

Response Elements

The following elements are returned in a DescribeRouteTablesResponse element.

requestId

The ID of the request.

Type: xsd:string

routeTableSet

A list of route tables, each one wrapped in an item element.

Type: RouteTableType (p. 550)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidRouteTableID.NotFound (p. 600)

Examples

Example Request

This example describes all your route tables.

https://ec2.amazonaws.com/?Action=DescribeRouteTables
&AUTHPARAMS

Example Response

The first route table in the returned list is the VPC's main route table. Its association ID represents the association between the table and the VPC.
<?xml version="1.0" encoding="UTF-8"?>
<DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>6f570b0b-9c18-4b07-bdec-73740dcf861a</requestId>
  <routeTableSet>
    <item>
      <routeTableId>rtb-13ad487a</routeTableId>
      <vpcId>vpc-11ad4878</vpcId>
      <routeSet>
        <item>
          <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
          <gatewayId>local</gatewayId>
          <state>active</state>
          <origin>CreateRouteTable</origin>
        </item>
      </routeSet>
      <associationSet>
        <item>
          <routeTableAssociationId>rtbassoc-12ad487b</routeTableAssociationId>
          <routeTableId>rtb-13ad487a</routeTableId>
          <main>true</main>
        </item>
      </associationSet>
      <tagSet/>
    </item>
    <item>
      <routeTableId>rtb-f9ad4890</routeTableId>
      <vpcId>vpc-11ad4878</vpcId>
      <routeSet>
        <item>
          <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
          <gatewayId>local</gatewayId>
          <state>active</state>
          <origin>CreateRouteTable</origin>
        </item>
        <item>
          <destinationCidrBlock>0.0.0.0/0</destinationCidrBlock>
          <gatewayId>igw-eaad4883</gatewayId>
          <state>active</state>
        </item>
      </routeSet>
      <associationSet>
        <item>
          <routeTableAssociationId>rtbassoc-faad4893</routeTableAssociationId>
          <routeTableId>rtb-f9ad4890</routeTableId>
          <subnetId>subnet-15ad487c</subnetId>
        </item>
      </associationSet>
      <tagSet/>
    </item>
  </routeTableSet>
</DescribeRouteTablesResponse>

Related Actions

- AssociateRouteTable (p. 24)
Related Actions

- DisassociateRouteTable (p. 368)
- DeleteRouteTable (p. 154)
- CreateRouteTable (p. 105)
- ReplaceRouteTableAssociation (p. 432)
DescribeSecurityGroups

Description

Describes one or more of your security groups.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the Amazon Elastic Compute Cloud User Guide and Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

GroupName.n
One or more security group names.
Type: String
Default: Describes all your security groups.
Condition: [EC2-Classic, default VPC] You can specify either GroupName or GroupId
Required: No

GroupId.n
One or more security group IDs.
Type: String
Default: Describes all your security groups.
Condition: Required for a nondefault VPC; for EC2-Classic or a default VPC, you can specify either GroupName or GroupId.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain security groups. For example, you can use a filter to specify that you're interested in groups whose name contains a specific string. You can specify multiple values for a filter. The response includes information for a security group only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify group's whose name contains a specific string, and that give permission to another security group with a different string in its name. The response includes information for a group only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.
Important
Filters are based on literal strings only. This is important to remember when you want to use filters to return only security groups with access allowed on a specific port number or numbers. For example, suppose that you want to get all groups that have access on port 22, and that GroupA gives access on a range of ports using fromPort=20 and toPort=30. If you filter with ip-permission.from-port=22 or ip-permission.to-port=22 (or both), the response does not contain information for GroupA. You get information for GroupA only if you specify ip-permission.from-port=20 or ip-permission.to-port=30 (or both).

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?.

The following are the available filters.

description
   The description of the security group.
   Type: String

group-id
   The ID of the security group.
   Type: String

group-name
   The name of the security group.
   Type: String

ip-permission.cidr
   A CIDR range that has been granted permission.
   Type: String

ip-permission.from-port
   The start of the port range for the TCP and UDP protocols, or an ICMP type number.
   Type: String

ip-permission.group-id
   The ID of a security group that has been granted permission.
   Type: String

ip-permission.group-name
   The name of a security group that has been granted permission.
   Type: String

ip-permission.protocol
   The IP protocol for the permission.
   Type: String
   Valid values: tcp | udp | icmp or a protocol number

ip-permission.to-port
   The end of the port range for the TCP and UDP protocols, or an ICMP code.
   Type: String

ip-permission.user-id
   The ID of an AWS account that has been granted permission.
   Type: String

owner-id
   The AWS account ID of the owner of the security group.
   Type: String

tag-key
   The key of a tag assigned to the security group.
   Type: String
The value of a tag assigned to the security group.
Type: String

The ID of the VPC specified when the security group was created.
Type: String

**Response Elements**

The following elements are returned in a `DescribeSecurityGroupsResponse` element.

- **requestId**
  The ID of the request.
  Type: xsd:string

- **securityGroupInfo**
  A list of security groups, each one wrapped in an `item` element.
  Type: `SecurityGroupItemType` (p. 556)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroupId.Malformed (p. 600)
- InvalidGroup.NotFound (p. 600)
- InvalidParameterValue (p. 600)
- VPCIdNotSpecified (p. 600)

**Examples**

**Example Request**

This example returns information about two security groups that are configured for the account.

```xml
&GroupName.1=WebServers
&GroupName.2=RangedPortsBySource
&AUTHPARAMS
```

**Example Response**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>111122223333</ownerId>
      <groupId>sg-1a2b3c4d</groupId>
    </item>
  </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```
Example Request

This example describes all security groups that grant access over TCP specifically on port 22 from instances in either the app_server_group or database_group.

&Filter.1.Name=ip-permission.protocol
&Filter.1.Value.1=tcp
&Filter.2.Name=ip-permission.from-port
&Filter.2.Value.1=22
&Filter.3.Name=ip-permission.to-port
&Filter.3.Value.1=22
&Filter.4.Name=ip-permission.group-name
Related Actions

- CreateSecurityGroup (p. 107)
- AuthorizeSecurityGroupIngress (p. 38)
- RevokeSecurityGroupIngress (p. 456)
- DeleteSecurityGroup (p. 156)
DescribeSnapshotAttribute

Description

Describes the specified attribute of the specified snapshot. You can specify only one attribute at a time.

Request Parameters

SnapshotId

The ID of the Amazon EBS snapshot.

Type: String

Default: None

Required: Yes

Attribute

The snapshot attribute.

Type: String

Valid values: createVolumePermission | productCodes

Default: None

Required: Yes

Response Elements

The following elements are returned in a DescribeSnapshotAttributeResponse element.

requestId

The ID of the request.

Type: xsd:string

snapshotId

The ID of the Amazon EBS snapshot.

Type: xsd:string

createVolumePermission

A list of permissions for creating volumes from the snapshot. Each permission is wrapped in an item element.

Type: CreateVolumePermissionItemType (p. 490)

productCodes

A list of product codes. Each product code is wrapped in an item element type that contains a product code and a type.

Type: ProductCodesSetItemType (p. 544)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidSnapshot.NotFound (p. 600)
Examples

Example Request

This example describes permissions for the snap-1a2b3c4d snapshot.

https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1a2b3c4d
&Attribute=createVolumePermission
&AUTHPARAMS

Example Response

  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE"
  snapshotId=snap-1a2b3c4d>
  <createVolumePermission>
    <item>
      <group>all</group>
    </item>
  </createVolumePermission>
</DescribeSnapshotAttributeResponse>

Example Request

This example describes product codes associated with the snap-1a2b3c4d snapshot.

https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1a2b3c4d
&Attribute=productCodes
&AUTHPARAMS

Example Response

  requestId=59dbff89-35bd-4eac-99ed-be587EXAMPLE"
  snapshotId=snap-1a2b3c4d>
  <productCodes>
    <item>
      <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
      <type>marketplace</type>
    </item>
  </productCodes>
</DescribeSnapshotAttributeResponse>

Related Actions

- ModifySnapshotAttribute (p. 399)
- DescribeSnapshots (p. 297)
Related Actions

- ResetSnapshotAttribute (p. 451)
- CreateSnapshot (p. 110)
DescribeSnapshots

Description

Describes one or more of the Amazon EBS snapshots available to you. Snapshots available to you include public snapshots available for any AWS account to launch, private snapshots you own, and private snapshots owned by another AWS account but for which you've been given explicit create volume permissions.

The create volume permissions fall into the following categories:

- **public**: The owner of the snapshot granted create volume permissions for the snapshot to the all group. All AWS accounts have create volume permissions for these snapshots.
- **explicit**: The owner of the snapshot granted create volume permissions to a specific AWS account.
- **implicit**: An AWS account has implicit create volume permissions for all snapshots it owns.

The list of snapshots returned can be modified by specifying snapshot IDs, snapshot owners, or AWS accounts with create volume permissions. If no options are specified, Amazon EC2 returns all snapshots for which you have create volume permissions.

If you specify one or more snapshot IDs, only snapshots that have the specified IDs are returned. If you specify an invalid snapshot ID, an error is returned. If you specify a snapshot ID for which you do not have access, it is not included in the returned results.

If you specify one or more snapshot owners, only snapshots from the specified owners and for which you have access are returned. The results can include the AWS account IDs of the specified owners, `amazon` for snapshots owned by Amazon, or `self` for snapshots that you own.

If you specify a list of restorable users, only snapshots with create snapshot permissions for those users are returned. You can specify AWS account IDs (if you own the snapshots), `self` for snapshots for which you own or have explicit permissions, or `all` for public snapshots.

Request Parameters

- **SnapshotId.n**: One or more snapshot IDs.
  - Type: String
  - Default: Describes snapshots for which you have launch permissions.
  - Required: No

- **Owner.n**: Returns the snapshots owned by the specified owner. Multiple owners can be specified.
  - Type: String
  - Valid values: `self` | `amazon` | AWS Account ID
  - Default: None
  - Required: No

- **RestorableBy.n**: One or more AWS accounts IDs that can create volumes from the snapshot.
  - Type: String
  - Default: None
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain snapshots. For example, you can use a filter to specify that you're interested in snapshots whose status is pending. You can specify multiple values for a filter. The response includes information for a snapshot only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify snapshot's that have a pending status, and have a specific tag. The response includes information for a snapshot only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

description
A description of the snapshot.
Type: String

encrypted
The encryption status of the snapshot.
Type: Boolean

owner-alias
The AWS account alias (for example, amazon) that owns the snapshot.
Type: String

owner-id
The ID of the AWS account that owns the snapshot.
Type: String

progress
The progress of the snapshot, as a percentage (for example, 80%).
Type: String

snapshot-id
The snapshot ID.
Type: String

start-time
The time stamp when the snapshot was initiated.
Type: DateTime
status
The status of the snapshot.
Type: String
Valid values: pending | completed | error

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String
tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

volume-id
The ID of the volume the snapshot is for.
Type: String
volume-size
The size of the volume, in GiB (for example, 20).
Type: String

Response Elements
The following elements are returned in a DescribeSnapshotsResponse element.

requestId
The ID of the request.
Type: xsd:string
snapshotSet
A list of snapshots. Each snapshot is wrapped in an item element.
Type: DescribeSnapshotsSetItemResponseType (p. 501)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).
Examples

Example Request

This example describes snapshot snap-1a2b3c4d.

```plaintext
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&SnapshotId=snap-1a2b3c4d

Example Response

<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2014-02-01/"
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <snapshotSet>
        <item>
            <snapshotId>snap-1a2b3c4d</snapshotId>
            <volumeId>vol-1a2b3c4d</volumeId>
            <status>pending</status>
            <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
            <progress>80%</progress>
            <ownerId>111122223333</ownerId>
            <volumeSize>15</volumeSize>
            <description>Daily Backup</description>
            <tagSet/>
            <encrypted>true</encrypted>
        </item>
    </snapshotSet>
</DescribeSnapshotsResponse>
```

Example Request

This example filters the response to include only snapshots with the `pending` status, and that are also tagged with a value that includes the string `db_`.

```plaintext
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&Filter.1.Name=status
&Filter.1.Value.1=pending
&Filter.2.Name=tag-value
&Filter.2.Value.1=*db_*

Example Response

<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2014-02-01/"
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <snapshotSet>
        <item>
            <snapshotId>snap-1a2b3c4d</snapshotId>
            <volumeId>vol-1a2b3c4d</volumeId>
            <status>pending</status>
            <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
            <progress>80%</progress>
            <ownerId>111122223333</ownerId>
            <volumeSize>15</volumeSize>
            <description>Daily Backup</description>
            <tagSet/>
            <encrypted>true</encrypted>
        </item>
    </snapshotSet>
</DescribeSnapshotsResponse>

API Version 2014-05-01
Related Actions

- CreateSnapshot (p. 110)
- DeleteSnapshot (p. 158)
DescribeSpotDatafeedSubscription

Description

Describes the datafeed for Spot Instances. For more information, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

No parameters.

Response Elements

The following elements are returned in a DescribeSpotDatafeedSubscriptionResponse element.

requestId
  The ID of the request.
  Type: xsd:string

spotDatafeedSubscription
  The Spot Instance datafeed subscription.
  Type: SpotDatafeedSubscriptionType (p. 557)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidSpotDatafeed.NotFound (p. 600)

Examples

Example Request

This example describes the datafeed for the account.

https://ec2.amazonaws.com/?Action=DescribeSpotDatafeedSubscription
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotDatafeedSubscription>
    <ownerId>111122223333</ownerId>
    <bucket>myawsbucket</bucket>
    <prefix>spotdata_</prefix>
  </spotDatafeedSubscription>

API Version 2014-05-01
302
<state>Active</state>
</spotDatafeedSubscription>
</DescribeSpotDatafeedSubscriptionResponse>

**Related Actions**

- [CreateSpotDatafeedSubscription](p. 113)
- [DeleteSpotDatafeedSubscription](p. 160)
DescribeSpotInstanceRequests

Description

Describes the Spot Instance requests that belong to your account. Spot Instances are instances that Amazon EC2 starts on your behalf when the maximum price that you specify exceeds the current Spot Price. Amazon EC2 periodically sets the Spot Price based on available Spot Instance capacity and current Spot Instance requests. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

SpotInstanceRequestId.n
- One or more Spot Instance request IDs.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Name
- The name of a filter. For more information about supported filter names, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

Supported Filters

You can specify filters so that the response includes information for only certain Spot Instance requests. For example, you can use a filter to specify that you're interested in requests where the Spot Price is a specific value. (You can't use a greater than or less than comparison, however you can use * and ? wildcards.) You can specify multiple values for a filter. The response includes information for a Spot Instance request only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify that the Spot Price is a specific value, and that the instance type is m1.small. The response includes information for a request only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon\?" searches for the literal string *amazon?.

The following are the available filters:

availability-zone-group
- The Availability Zone group. If you specify the same Availability Zone group for all Spot Instance requests, all Spot Instances are launched in the same Availability Zone.
  - Type: String
create-time
   The time stamp when the Spot Instance request was created.
   Type: String
fault-code
   The fault code related to the request.
   Type: String
fault-message
   The fault message related to the request.
   Type: String
instance-id
   The ID of the instance that fulfilled the request.
   Type: String
launch-group
   The Spot Instance launch group. Launch groups are Spot Instances that launch together and terminate
   together.
   Type: String
launch.block-device-mapping.delete-on-termination
   Whether the Amazon EBS volume is deleted on instance termination.
   Type: Boolean
launch.block-device-mapping.device-name
   The device name (for example, /dev/sdh) for the Amazon EBS volume.
   Type: String
launch.block-device-mapping.snapshot-id
   The ID of the snapshot used for the Amazon EBS volume.
   Type: String
launch.block-device-mapping.volume-size
   The volume size of the Amazon EBS volume, in GiB.
   Type: String
launch.block-device-mapping.volume-type
   The volume type of the Amazon EBS volume.
   Type: String
   Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes,
   and standard for Magnetic volumes.
launch.group-id
   The security group for the instance.
   Type: String
launch.image-id
   The ID of the AMI.
   Type: String
launch.instance-type
   The type of instance (for example, m1.small).
   Type: String
launch.kernel-id
   The kernel ID.
   Type: String
launch.key-name
   The name of the key pair the instance launched with.
   Type: String
launch.monitoring-enabled
   Whether monitoring is enabled for the Spot Instance.
Type: Boolean
launch.ramdisk-id
The RAM disk ID.
Type: String
launch.network-interface.network-interface-id
The ID of the network interface.
Type: String
launch.network-interface.device-index
The index of the device for the network interface attachment on the instance.
Type: Integer
launch.network-interface.subnet-id
The ID of the subnet for the instance.
Type: String
launch.network-interface.description
A description of the network interface.
Type: String
launch.network-interface.private-ip-address
The primary private IP address of the network interface.
Type: String
launch.network-interface.delete-on-termination
Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean
launch.network-interface.group-id
The ID of the security group associated with the network interface.
Type: String
launch.network-interface.group-name
The name of the security group associated with the network interface.
Type: String
launch.network-interface.addresses.primary
Indicates whether the IP address is the primary private IP address.
Type: String
product-description
The product description associated with the instance.
Type: String
Valid values: Linux/UNIX | Windows
spot-instance-request-id
The Spot Instance request ID.
Type: String
spot-price
The maximum hourly price for any Spot Instance launched to fulfill the request.
Type: String
state
The state of the Spot Instance request. Spot bid status information can help you track your Amazon EC2 Spot Instance requests. For information, see Tracking Spot Requests with Bid Status Codes in the Amazon Elastic Compute Cloud User Guide.
Type: String
Valid values: open | active | closed | cancelled | failed
status-code
The short code describing the most recent evaluation of your Spot Instance request. For more information, see Spot Bid Status in the Amazon Elastic Compute Cloud User Guide.
Type: String
status-message
The message explaining the status of the Spot Instance request.
Type: String
tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String
tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String
tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y
type
The type of Spot Instance request.
Type: String
Valid values: one-time | persistent
launched-availability-zone
The Availability Zone in which the bid is launched.
Type: String
valid-from
The start date of the request.
Type: DateTime
valid-until
The end date of the request.
Type: DateTime

Response Elements

The following elements are returned in a DescribeSpotInstanceRequestsResponse element.

requestId
The ID of the request.
Type: xsd:string
spotInstanceRequestId
A list of Spot Instance requests. Each request is wrapped in an item element.
Type: SpotInstanceRequestSetItemType (p. 557)
networkInterfaceSet
   Information about the network interface.
   Type: InstanceNetworkInterfaceSetItemType (p. 519)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidSpotInstanceRequestID.NotFound (p. 600)

   Note
   If you get this error, it does not necessarily mean that the Spot Instance request does not exist. Its ID might have not yet propagated through the system. Issue the command again a few more times, but use increasing wait times between your tries. For more information, see Eventual Consistency in the Amazon Elastic Compute Cloud User Guide.

Examples

Example Request

This example returns information about current Spot Instance requests.

https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests&AUTHPARAMS

Example Response

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <spotInstanceRequestSet>
      <item>
         <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
         <spotPrice>0.09</spotPrice>
         <type>one-time</type>
         <state>active</state>
         <status>
            <code>fulfilled</code>
            <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
            <message>Your Spot request is fulfilled.</message>
         </status>
         <launchSpecification>
            <imageId>ami-1a2b3c4d</imageId>
            <keyName>gsg-keypair</keyName>
            <groupSet>
               <item>
                  <groupId>sg-1a2b3c4d</groupId>
                  <groupName>websrv</groupName>
               </item>
            </groupSet>
         </launchSpecification>
      </item>
   </spotInstanceRequestSet>
</DescribeSpotInstanceRequestsResponse>
Example Request

This example describes all persistent Spot Instance requests that have resulted in the launch of at least one m1.small instance, that has been fulfilled in the us-east-1a Availability Zone, and that also has monitoring enabled.

https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&Filter.1.Name=type
&Filter.1.Value.1=persistent
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.3.Name=monitoring-enabled
&Filter.3.Value.1=true
&Filter.4.Name=launched-availability-zone
&Filter.4.Value.1=us-east-1a
&AUTHPARAMS

Find Running Spot Instances

You can use DescribeSpotInstanceRequests to find a running Spot Instance by examining the response. If the status of the Spot Instance is fulfilled, the instanceId appears in the response and contains the identifier of the instance.

Alternatively, you can use DescribeInstances (p. 219) and use a filter to look for instances where instanceLifecycle contains spot.

Example Request

https://ec2.amazonaws.com/
?Action=DescribeInstances
&Filter.1.Name=instance-lifecycle
&Filter.1.Value.1=spot
&AUTHPARAMS

Example Response

 <requestId>b1719f2a-5334-4479-b2f1-26926EXAMPLE</requestId>
 <reservationSet>
Related Actions

- RequestSpotInstances (p. 437)
- CancelSpotInstanceRequests (p. 54)
- DescribeSpotPriceHistory (p. 312)
DescribeSpotPriceHistory

Description

Describes the Spot Price history. Spot Instances are instances that Amazon EC2 starts on your behalf when the maximum price that you specify exceeds the current Spot Price. Amazon EC2 periodically sets the Spot Price based on available Spot Instance capacity and current Spot Instance requests. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

When you use the availability-zone option, this command describes the price history for the specified Availability Zone with the most recent set of prices listed first. If you don’t specify an Availability Zone, the command returns the prices across all Availability Zones, starting with the most recent set. However, if you use this command with versions of the API earlier than the 2011-05-15 version, this command returns the lowest price across the region for the given time period. The prices returned are listed in chronological order — from the oldest to the most recent.

When you use the start time and end time options, the describe Spot price history command returns two pieces of data: the prices of the instance types within the time range that you specified and the time when the price changed. The price is valid within the time period that you specified; the response merely indicates the last time that the price changed.

Request Parameters

StartTime
   The start date and time of the Spot Price history data.
   Type: DateTime
   Default: None
   Required: No

EndTime
   The end date and time of the Spot Price history data.
   Type: DateTime
   Default: None
   Required: No

InstanceType.n
   The instance type to return.
   Type: String
   Valid values: t1.micro | m1.small | m1.medium | m1.large | m1.xlarge | m3.xlarge | m3.2xlarge | c1.medium | c1.xlarge | c3.4xlarge | c3.8xlarge | c1c.4xlarge | cc2.8xlarge | cg1.4xlarge | cr1.8xlarge | g2.2xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.
   Default: None
   Required: No

ProductDescription.n
   Filters the results by basic product description.
   Type: String
   Valid values: Linux/UNIX | SUSE Linux | Windows | Linux/UNIX (Amazon VPC) | SUSE Linux (Amazon VPC) | Windows (Amazon VPC)
   Default: Returns all information
   Required: No
**Filter.n.Name**
- The name of a filter. For more information about supported filter names, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

**Filter.n.Value.m**
- A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
  - Type: String
  - Default: None
  - Required: No

**AvailabilityZone**
- Filters the results by Availability Zone.
  - Type: String
  - Valid values: `us-east-1a`, etc.
  - Default: None
  - Required: No

**MaxResults**
- The maximum number of rows to return.
  - Type: Integer
  - Default: None
  - Required: No

**NextToken**
- The next set of rows to return.
  - Type: String
  - Valid values: A `NextToken` value returned by a previous call of the API.
  - Default: None
  - Required: No

**Supported Filters**

Our policy is to provide filters for all `ec2-describe` calls so you can limit the response to your specified criteria. You can use filters to limit the response when describing Spot Price histories, even though you can use the options instead.

For example, you could use an option or a filter to get the history for a particular instance type. You can specify multiple request parameters or filters (for example, limit the response to the m2.xlarge instance type, and only for Windows instances). The response includes information for a price history only if it matches all your options or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of `\*amazon\?\` searches for the literal string `*amazon?`.

The following are the available filters.

**instance-type**
- The type of instance (for example, `m1.small`).
  - Type: String
product-description
The product description for the Spot Price.
Type: String
Valid values: Linux/UNIX | SUSE Linux | Windows | Linux/UNIX (Amazon VPC) | SUSE Linux (Amazon VPC) | Windows (Amazon VPC)

spot-price
The Spot Price. The value must match exactly (or use wildcards; greater than or less than comparison is not supported).
Type: String

timestamp
The timestamp of the Spot Price history (for example, 2010-08-16T05:06:11.000Z). You can use wildcards ( * and ?). Greater than or less than comparison is not supported.
Type: DateTime

availability-zone
The Availability Zone for which prices should be returned.
Type: String

Response Elements

The following elements are returned in a DescribeSpotPriceHistoryResponse element.

requestId
The ID of the request.
Type: xsd:string

spotPriceHistorySet
A list of historical Spot Prices. Each price is wrapped in an item element.
Type: SpotPriceHistorySetItemType (p. 560)

nextToken
The string marking the next set of results returned. This element is empty if there are no more results to be returned.
Type: xsd:string

Examples

Example Request

This example returns Spot Price history for a particular day in December 2009 for Availability Zone us-east-1a.

https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&StartTime=2009-12-04T00:00:00.000Z
&EndTime=2009-12-04T23:59:59.000Z
&AvailabilityZone=us-east-1a
&AUTHPARAMS

This request uses filters instead of regular parameters to achieve the same results.

https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&Filter.1.Name=timestamp
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotPriceHistorySet>
    <item>
      <instanceType>m1.small</instanceType>
      <productDescription>Linux/UNIX</productDescription>
      <spotPrice>0.287</spotPrice>
      <timestamp>2009-12-04T20:56:05.000Z</timestamp>
      <availabilityZone>us-east-1a</availabilityZone>
    </item>
    <item>
      <instanceType>m1.small</instanceType>
      <productDescription>Windows</productDescription>
      <spotPrice>0.033</spotPrice>
      <timestamp>2009-12-04T22:33:47.000Z</timestamp>
      <availabilityZone>us-east-1a</availabilityZone>
    </item>
  </spotPriceHistorySet>
  <nextToken/>
</DescribeSpotPriceHistoryResponse>
```

Related Actions

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- CancelSpotInstanceRequests (p. 54)
DescribeSubnets

Description

Describes one or more of your subnets.

For more information about subnets, see Your VPC and Subnets in the Amazon Virtual Private Cloud User Guide.

Request Parameters

SubnetId.n
One or more subnet IDs.
Type: String
Default: Describes all your subnets.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain subnets. For example, you can use a filter to specify that you're interested in the subnets in the available state. You can specify multiple values for a filter. The response includes information for a subnet only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify subnets that are in a specific VPC and are in the available state. The response includes information for a subnet only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon\?\" searches for the literal string *amazon?\.

The following are the available filters.

availabilityZone
The Availability Zone for the subnet.
You can also use availability-zone as the filter name.
Type: String
The number of IP addresses in the subnet that are available.
Type: String

cidrBlock
The CIDR block of the subnet. The CIDR block you specify must exactly match the subnet's CIDR block for information to be returned for the subnet.
You can also use cidr or cidr-block as the filter names.
Type: String
Constraints: Must contain the slash followed by one or two digits (for example, /28).

defaultForAz
Indicates whether this is the default subnet for the Availability Zone.
You can also use default-for-az as the filter name.
Type: Boolean

state
The state of the subnet.
Type: String
Valid values: pending | available

subnet-id
The ID of the subnet.
Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag:\key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String

tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String

tag:\key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

vpc-id
The ID of the VPC for the subnet.
Type: String

Response Elements

The following elements are returned in a DescribeSubnetsResponse element.
RequestId
The ID of the request.
Type: xsd:string

SubnetSet
A list of subnets. Each subnet is wrapped in an item element.
Type: SubnetType (p. 562)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidSubnetId.NotFound (p. 600)

Examples

Example Request
This example describes the subnets with the IDs subnet-9d4a7b6c and subnet-6e7f829e.

https://ec2.amazonaws.com/?Action=DescribeSubnets
&SubnetId.1=subnet-9d4a7b6c
&SubnetId.2=subnet-6e7f829e

Example Response

:requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
<subnetSet>
<item>
<subnetId>subnet-9d4a7b6c</subnetId>
<state>available</state>
<vpcId>vpc-1a2b3c4d</vpcId>
<cidrBlock>10.0.1.0/24</cidrBlock>
<availableIpAddressCount>251</availableIpAddressCount>
<availabilityZone>us-east-1a</availabilityZone>
<defaultForAz>false</defaultForAz>
<mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
<tagSet/>
</item>
<item>
<subnetId>subnet-6e7f829e</subnetId>
<state>available</state>
<vpcId>vpc-1a2b3c4d</vpcId>
<cidrBlock>10.0.0.0/24</cidrBlock>
<availableIpAddressCount>251</availableIpAddressCount>
<availabilityZone>us-east-1a</availabilityZone>
<defaultForAz>false</defaultForAz>
<mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
<tagSet/>
</item>
</subnetSet>
</DescribeSubnetsResponse>
Example Request

This example uses filters to describe any subnet you own that is in the VPC with the ID `vpc-1a2b3c4d` or `vpc-6e7f8a92`, and whose state is available.

```
https://ec2.amazonaws.com/?Action=DescribeSubnets
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-1a2b3c4d
&Filter.1.Value.2=vpc-6e7f8a92
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS
```

Related Actions

- CreateSubnet (p. 115)
- DeleteSubnet (p. 161)
DescribeTags

Description

Describes one or more of the tags for your EC2 resources.

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

MaxResults
The maximum number of items to return for this call. The call also returns a token that you can specify in a subsequent call to get the next set of results.
Type: Integer
Default: The call returns all items.
Constraint: If the value is greater than 1000, we return only 1000 items.
Required: No

NextToken
The token for the next set of items to return. (You received this token from a prior call.)
Type: String
Default: None
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters to limit the response when describing tags. For example, you can use a filter to get only the tags for a specific resource type. You can specify multiple values for a filter. The response includes information for a tag only if it matches at least one of the filter values that you specified.

You can specify multiple filters (for example, specify a specific resource type and tag values that contain the string database). The response includes information for a tag only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \\*amazon\\?\ searches for the literal string *amazon?\.

The following are the available filters.
key
   - The tag key.
   - Type: String
resource-id
   - The resource ID.
   - Type: String
resource-type
   - The resource type.
   - Type: String
value
   - The tag value.
   - Type: String

Response Elements

The following elements are returned in a DescribeTagsResponse element.

requestId
   - The ID of the request.
   - Type: xsd:string
tagSet
   - A list of tags. Each tag is wrapped in an item element.
   - Type: TagSetItemType (p. 563)
nextToken
   - The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.
   - Type: xsd:string

Examples

Example Request

This example describes all the tags in your account.

https://ec2.amazonaws.com/?Action=DescribeTags
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
    </item>
  </tagSet>
</DescribeTagsResponse>
Example Request

This example describes only the tags for the AMI with ID ami-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-id
&Filter.1.Value.1=ami-1a2b3c4d
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>ami-1a2b3c4d</resourceId>
      <resourceType>image</resourceType>
      <key>webserver</key>
      <value/>
    </item>
  </tagSet>
</DescribeTagsResponse>
Example Request

This example describes the tags for all your instances.

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&AUTHPARAMS

Example Response

  requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-5f4e3d2a</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
    <item>
      <resourceId>i-5f4e3d2a</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
    <item>
      <resourceId>i-12345678</resourceId>
      <resourceType>instance</resourceType>
      <key>database_server</key>
      <value/>
    </item>
    <item>
      <resourceId>i-12345678</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Test</value>
    </item>
  </tagSet>
</DescribeTagsResponse>
Example Request

This example describes the tags for all your instances tagged with the key `webserver`. Note that you can use wildcards with filters, so you could specify the value as `?ebserver` to find tags with the key `webserver` or `Webserver`.

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=key
&Filter.1.Value.1=webserver
&AUTHPARAMS
```

Example Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-5f4e3d2a</resourceId>
      <resourceType>instance</resourceType>
      <key>webserver</key>
      <value/>
    </item>
  </tagSet>
</DescribeTagsResponse>
```

Example Request

This example describes the tags for all your instances tagged with either `stack=Test` or `stack=Production`.

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=stack
&Filter.3.Name=value
&Filter.3.Value.1=Test
&Filter.3.Value.2=Production
&AUTHPARAMS
```

Example Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <tagSet>
    <item>
      <resourceId>i-5f4e3d2a</resourceId>
      <resourceType>instance</resourceType>
      <key>stack</key>
      <value>Production</value>
    </item>
    <item>
      <resourceId>i-12345678</resourceId>
      <resourceType>instance</resourceType>
    </item>
  </tagSet>
</DescribeTagsResponse>
```
Example Request

This example describes the tags for all your instances tagged with Purpose=[empty string].

https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&Filter.2.Name=key
&Filter.2.Value.1=Purpose
&Filter.3.Name=value
&Filter.3.Value.1=
&AUTHPARAMS

Related Actions

- CreateTags (p. 118)
- DeleteTags (p. 163)
DescribeVolumeAttribute

Description

Describes the specified attribute of the specified volume. You can specify only one attribute at a time.

Request Parameters

VolumeId
   The ID of the volume.
   Type: String
   Default: None
   Required: Yes

Attribute
   The instance attribute.
   Type: String
   Valid values: autoEnableIO | productCodes
   Default: None
   Required: Yes

Response Elements

The following elements are returned in a DescribeVolumeAttributeResponse element.

requestId
   The ID of the request.
   Type: xsd:string

volumeId
   The ID of the volume.
   Type: xsd:string

autoEnableIO
   The state of autoEnableIO attribute.
   Type: NullableAttributeBooleanValueType

productCodes
   A list of product codes. Each product code is wrapped in an Item element that contains a product code and a type.
   Type: ProductCodesSetItemType (p. 544)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVolume.NotFound (p. 600)
Example

Example Request

This example describes the autoEnableIO attribute of the volume vol-12345678.


Example Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-12345678</volumeId>
  <autoEnableIO>
    <value>false</value>
  </autoEnableIO>
</DescribeVolumeAttributeResponse>

Example Request

This example describes the productCodes attribute of the volume vol-12345678.

https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute &Attribute=productCodes &VolumeId=vol-12345678 &AUTHPARAMS

Example Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeId>vol-12345678</volumeId>
  <productCodes>
    <item>
      <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
      <type>marketplace</type>
    </item>
  </productCodes>
</DescribeVolumeAttributeResponse>

Related Actions

- DescribeVolumeStatus (p. 333)
- ModifyVolumeAttribute (p. 401)
DescribeVolumes

Description

Describes the specified Amazon EBS volumes.

For more information about Amazon EBS, see Amazon Elastic Block Store in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

VolumeId.n
One or more volume IDs.
Type: String
Default: Describes all your volumes.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain volumes. For example, you can use a filter to specify that you're interested in volumes whose status is available. You can specify multiple values for a filter. The response includes information for a volume only if it matches at least one of the filter values that you specified.

You can specify multiple filters (for example, specify that the volume is available, and has a specific tag. The response includes information for a volume only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \\*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

attachment.attach-time
The time stamp when the attachment initiated.
Type: DateTime

attachment.delete-on-termination
Whether the volume is deleted on instance termination.
attachment.device
The device name that is exposed to the instance (for example, /dev/sda1).
Type: String

attachment.instance-id
The ID of the instance the volume is attached to.
Type: String

attachment.status
The attachment state.
Type: String
Valid values: attaching | attached | detaching | detached

availability-zone
The Availability Zone in which the volume was created.
Type: String

create-time
The time stamp when the volume was created.
Type: DateTime

encrypted
The encryption status of the volume.
Type: Boolean

size
The size of the volume, in GiB (for example, 20).
Type: String

snapshot-id
The snapshot from which the volume was created.
Type: String

status
The status of the volume.
Type: String
Valid values: creating | available | in-use | deleting | deleted | error

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value x (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String

tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String

tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Response Elements

The following elements are returned in a DescribeVolumesResponse element.

requestId
  The ID of the request.
  Type: xsd:string

volumeSet
  A list of volumes. Each volume is wrapped in an item element.
  Type: DescribeVolumesSetItemResponseType (p. 502)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)
- InvalidVolume.NotFound (p. 600)

Examples

Example Request

This example describes all volumes associated with your account.

https://ec2.amazonaws.com/?Action=DescribeVolumes
&AUTHPARAMS

Example Response

<DescribeVolumesResponse xmlns="http://ec2.amazonaws.com/doc/2014-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeSet>
    <item>
      <volumeId>vol-1a2b3c4d</volumeId>
    </item>
  </volumeSet>
</DescribeVolumesResponse>

Filter.1.Value.1=X
Filter.1.Value.2=Y

volume-id
  The volume ID.
  Type: String

volume-type
  The Amazon EBS volume type. If the volume is an io1 volume, the response includes the IOPS as well.
  Type: String
  Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
Example Request

This example describes all volumes that are both attached to instance i-1a2b3c4d and also set to delete when the instance terminates.

https://ec2.amazonaws.com/?Action=DescribeVolumes
&Filter.1.Name=attachment.instance-id
&Filter.1.Value.1=i-1a2b3c4d
&Filter.2.Name=attachment.delete-on-termination
&Filter.2.Value.1=true
&AUTHPARAMS

Example Request

This example describes all volumes that belong to either TeamA or TeamB, and that contain log data. You use a wildcard to find the volumes that have a tag with the Purpose key that have a value that contains Log.

https://ec2.amazonaws.com/?Action=DescribeVolumes
&Filter.1.Name=tag:Owner
&Filter.1.Value.1=TeamA
&Filter.1.Value.2=TeamB
&Filter.2.Name=tag:Purpose
&Filter.2.Value.1=*Log*
&AUTHPARAMS

Example Request

This example lists only your volumes that are in the us-east-1b Availability Zone and have a status of available.
Related Actions

- CreateVolume (p. 120)
- DeleteVolume (p. 166)
- AttachVolume (p. 30)
- DetachVolume (p. 359)
DescribeVolumeStatus

Description

Describes the status of the specified volumes. Volume status provides the result of the checks performed on your volumes to determine events that can impair the performance of your volumes. The performance of a volume can be affected if an issue occurs on the volume's underlying host. If the volume's underlying host experiences a power outage or system issue, once the system is restored there could be data inconsistencies on the volume. Volume events notify you if this occurs. Volume actions notify you if any action needs to be taken in response to the event.

The DescribeVolumeStatus operation provides the following information about the specified volumes:

**Status:** Reflects the current status of the volume. The possible values are `ok`, `impaired`, `warning`, or `insufficient-data`. If all checks pass, the overall status of the volume is `ok`. If the check fails, the overall status is `impaired`. If the status is `insufficient-data`, then the checks may still be taking place on your volume at the time. We recommend you retry the request. For more information on volume status, see Monitoring the Status of Your Volumes.

**Events:** Reflect the cause of a volume status and may require you to take an action. For example, if your volume returns an `impaired` status, then the volume event might be `potential-data-inconsistency`. This means that your volume has been affected by an issue with the underlying host, has all I/O operations disabled, and may have inconsistent data.

**Actions:** Reflect the actions you may have to take in response to an event. For example, if the status of the volume is `impaired` and the volume event shows `potential-data-inconsistency`, then the action shows `enable-volume-io`. This means that you may want to enable the I/O operations for the volume by calling the EnableVolumeIO (p. 372) action and then check the volume for data consistency.

**Note**
Volume status is based on the volume status checks, and does not reflect the volume state. Therefore, volume status does not indicate volumes in the `error` state (for example, when a volume is incapable of accepting I/O.)

Request Parameters

**VolumeId.n**
One or more volume IDs.
Type: String
Default: Describes all your volumes.
Required: No

**Filter.n.Name**
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

**Filter.n.Value.m**
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No
MaxResults
The maximum number of items to return for this call. The call also returns a token that you can specify in a subsequent call to get the next set of results.
Type: Integer
Default: The call returns all items.
Constraint: If the value is greater than 1000, we return only 1000 items.
Required: No

NextToken
The token for the next set of items to return. (You received this token from a prior call.)
Type: String
Default: None
Required: No

Supported Filters
You can specify filters so that the response includes information for only certain volumes. For example, you can use a filter to specify that you’re interested in volumes that have impaired status. You can specify multiple values for a filter. The response includes information for a volume only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify volumes that are in a specific Availability Zone and have the status impaired. The response includes information for a volume only if it matches all the filters that you specified. If there’s no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

availability-zone
The Availability Zone of the instance.
Type: String

volume-status.status
The status of the volume.
Type: String
Valid values: ok | impaired | warning | insufficient-data

volume-status.details-name
The cause for the volume-status.status.
Type: String
Valid values: io-enabled | io-performance

volume-status.details-status
The status of the volume-status.details-name.
Type: String
Valid values for io-enabled: passed | failed
Valid values for io-performance: normal | degraded | severely-degraded | stalled

event.description
A description of the event.
Type: String

event.not-after
The latest end time for the event.
Type: DateTime
event.not-before
  The earliest start time for the event.
  Type: DateTime

event.event-id
  The event ID.
  Type: String

event.event-type
  The event type.
  Type: String
  Valid values for io-enabled: potential-data-inconsistency

action.code
  The action code for the event, for example, enable-volume-io
  Type: String

action.event-id
  The event ID associated with the action.
  Type: String

action.description
  A description of the action.
  Type: String

---

## Response Elements

The following elements are returned in a DescribeVolumeStatusResponse element.

**requestId**
  The ID of the request.
  Type: xsd:string

**volumeStatusSet**
  A list of volumes. Each volume is wrapped in an item element.
  Type: VolumeStatusItemType (p. 565)

**nextToken**
  The token to use when requesting the next set of items. If there are no additional items to return, the string is empty.
  Type: xsd:string

---

## Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- **InvalidVolume.NotFound** (p. 600)
Examples

Example Request

This example describes the status of all the volumes associated with your account.

https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&AUTHPARAMS

Example Response

>  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
<volumeStatusSet>
  <item>
    <VolumeId>vol-11111111</VolumeId>
    <availabilityZone>us-east-1d</availabilityZone>
    <volumeStatus>
      <status>ok</status>
      <details>
        <item>
          <name>io-enabled</name>
          <status>passed</status>
        </item>
      </details>
    </volumeStatus>
  </item>
  <item>
    <volumeId>vol-22222222</volumeId>
    <availabilityZone>us-east-1d</availabilityZone>
    <volumeStatus>
      <status>impaired</status>
      <details>
        <item>
          <name>io-enabled</name>
          <status>failed</status>
        </item>
      </details>
    </volumeStatus>
  </item>
</volumeStatusSet>
<eventsSet>
  <item>
    <eventId>evol-61a54008</eventId>
    <eventType>potential-data-inconsistency</eventType>
    <description>THIS IS AN EXAMPLE</description>
    <notBefore>2011-12-01T14:00:00.000Z</notBefore>
    <notAfter>2011-12-01T15:00:00.000Z</notAfter>
  </item>
</eventsSet>
<actionsSet>
  <item>
    <code>enable-volume-io</code>
    <eventId>evol-61a54008</eventId>
    <eventType>potential-data-inconsistency</eventType>
    <description>THIS IS AN EXAMPLE</description>
  </item>
</actionsSet>
Example Request

This example describes all the volumes in the us-east-1d Availability Zone with failed io-enabled status.

https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-1d
&Filter.2.Name=volume-status.details-name
&Filter.2.Value.1=io-enabled
&Filter.3.Name=volume-status.details-status
&Filter.3.Value.1=failed
&AUTHPARAMS

Related Actions

- ModifyVolumeAttribute (p. 401)
- DescribeVolumeAttribute (p. 326)
- EnableVolumeIO (p. 372)
DescribeVpcAttribute

Description

Describes the specified attribute of the specified VPC. You can specify only one attribute at a time.

Request Parameters

VpcId
- The ID of the VPC.
  Type: String
  Required: Yes

Attribute
- The VPC attribute.
  Type: String
  Valid values: enableDnsSupport | enableDnsHostnames
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a DescribeVpcAttributeResponse structure.

requestId
- The ID of the request.
  Type: xsd:string

enableDnsSupport
- Indicates whether DNS resolution is enabled for the VPC. If this attribute is true, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.
  Type: xsd:boolean

enableDnsHostnames
- Indicates whether the instances launched in the VPC get DNS hostnames. If this attribute is true, instances in the VPC get DNS hostnames; otherwise, they do not.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcId.NotFound (p. 600)
Examples

Example Request

This example describes the `enableDnsSupport` attribute of the specified VPC.

```
https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsSupport
&AUTHPARAMS
```

Example Response

This example response indicates that DNS resolution is supported.

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsSupport>
    <value>true</value>
  </enableDnsSupport>
</DescribeVpcAttributeResponse>
```

Example Request

This request describes the `enableDnsHostnames` attribute of the specified VPC.

```
https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsHostnames
&AUTHPARAMS
```

Example Response

This example response indicates that DNS hostnames are supported.

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsHostnames>
    <value>true</value>
  </enableDnsHostnames>
</DescribeVpcAttributeResponse>
```

Related Actions

- CreateVpc (p. 124)
- DeleteVpc (p. 168)
- ModifyVpcAttribute (p. 403)
DescribeVpcPeeringConnections

Description

Describes one or more of your VPC peering connections.

Request Parameters

VpcPeeringConnectionId
   One or more VPC peering connection IDs.
   Type: String
   Default: Describes all your VPC peering connections
   Required: No

Filter.n.Name
   The name of a filter. For more information about supported filter names, see the Supported Filters section.
   Type: String
   Default: None
   Required: No

Filter.n.Value.m
   A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
   Type: String
   Default: None
   Required: No

Supported Filters

You can specify filters so that the response includes information for only certain VPC peering connections. For example, you can use a filter to specify that you're interested in VPC peering connections in the active state. You can specify multiple values for a filter. The response includes information for a peering connection only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify the VPC peering connections that you have with a specific AWS account owner that are in the active state. The results include information for a peering connection only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \\*amazon\\?\ searches for the literal string *amazon?\.

The following are the available filters.

accepter-vpc-info.cidr-block
   The CIDR block of the peer VPC.
   Type: String
   Constraints: Must contain the slash followed by one or two digits (for example, /28)

accepter-vpc-info.owner-id
   The AWS account ID of the owner of the peer VPC.
   Type: String
accepter-vpc-info.vpc-id
  The ID of the peer VPC.
  Type: String
expiration-time
  The expiration date and time for the VPC peering connection.
  Type: DateTime
requester-vpc-info.cidr-block
  The CIDR block of the requester's VPC.
  Type: String
requester-vpc-info.owner-id
  The AWS account ID of the owner of the requester VPC.
  Type: String
requester-vpc-info.vpc-id
  The ID of the requester VPC.
  Type: String
status-code
  The status of the VPC peering connection.
  Type: String
  Valid values: pending-acceptance | failed | expired | provisioning | active | deleted | rejected
status-message
  A message that provides more information about the status of the VPC peering connection, if applicable.
  Type: String
tag-key
  The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
  For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
  Type: String
tag-value
  The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
  Type: String
tag: key=value
  The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
  Example: To list the resources with the tag Purpose=X, use:
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
  Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
  Filter.1.Value.2=Y
vpc-peering-connection-id
  The ID of the VPC peering connection.
  Type: String
Response Elements

The following elements are returned in a `DescribeVpcPeeringConnections` element.

`vpcPeeringConnectionSet`
Information about the peering connections.
Type: `VpcPeeringConnectionType` (p. 569)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `InvalidVpcPeeringConnectionId.Malformed` (p. 600)
- `InvalidVpcPeeringConnectionId.NotFound` (p. 600)

Examples

Example Request 1

This example describes all of your VPC peering connections.

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&AUTHPARAMS

Example Response 1

```xml
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <vpcPeeringConnectionSet>
       <item>
           <vpcPeeringConnectionId>pcx-111aaa22</vpcPeeringConnectionId>
           <requesterVpcInfo>
               <ownerId>777788889999</ownerId>
               <vpcId>vpc-1a2b3c4d</vpcId>
               <cidrBlock>172.31.0.0/16</cidrBlock>
           </requesterVpcInfo>
           <accepterVpcInfo>
               <ownerId>111122223333</ownerId>
               <vpcId>vpc-aa22cc33</vpcId>
           </accepterVpcInfo>
           <status>
               <code>pending-acceptance</code>
               <message>Pending Acceptance by 111122223333</message>
           </status>
           <expirationTime>2014-02-17T16:00:50.000Z</expirationTime>
           <tagSet/>
       </item>
   </vpcPeeringConnectionSet>
</DescribeVpcPeeringConnectionsResponse>
```
Example Request 2
This example describes all of your VPC peering connections that are in the pending-acceptance state.

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=status-code
&Filter.1.Value=pending-acceptance
&AUTHPARAMS

Example Request 3
This example describes all of your VPC peering connections that have the tag Name=Finance or Name=Accounts.

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=tag:Name
&Filter.1.Value.1=Finance
&Filter.1.Value.2=Accounts
&AUTHPARAMS

Example Request 4
This example describes all of the VPC peering connections for your specified VPC, vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DescribeVpcPeeringConnections
&Filter.1.Name=requester-vpc-info.vpc-id
&Filter.1.Value=vpc-1a2b3c4d
&AUTHPARAMS

Related Actions
- CreateVpcPeeringConnection (p. 126)
- AcceptVpcPeeringConnection (p. 12)
- RejectVpcPeeringConnection (p. 420)
- DeleteVpcPeeringConnection (p. 420)
- CreateRoute (p. 102)
- ReplaceRoute (p. 429)

DescribeVpcs
Description
Describes one or more of your VPCs.
Request Parameters

**vpcId.n**
- One or more VPC IDs.
- **Type:** String
- **Default:** Describes all your VPCs.
- **Required:** No

**Filter.n.Name**
- The name of a filter. For more information about supported filter names, see the Supported Filters section.
- **Type:** String
- **Default:** None
- **Required:** No

**Filter.n.Value.m**
- A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
- **Type:** String
- **Default:** None
- **Required:** No

Supported Filters

You can specify filters so that the response includes information for only certain VPCs. For example, you can use a filter to specify that you're interested in VPCs in the available state. You can specify multiple values for a filter. The response includes information for a VPC only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify VPCs that use one of several sets of DHCP options and are in the available state. The results include information for a VPC only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon?\ searches for the literal string *amazon?\."

The following are the available filters.

**cidr**
- The CIDR block of the VPC. The CIDR block you specify must exactly match the VPC's CIDR block for information to be returned for the VPC.
- **Type:** String
- **Constraints:** Must contain the slash followed by one or two digits (for example, /28)

**dhcp-options-id**
- The ID of a set of DHCP options.
- **Type:** String

**isDefault**
- Indicates whether the VPC is the default VPC.
- **Type:** Boolean

**state**
- The state of the VPC.
- **Type:** String
- **Valid values:** pending | available
tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String

tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String
tag:key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y

vpc-id
The ID of the VPC.
Type: String

Response Elements
The following elements are returned in a DescribeVpcsResponse element.

requestId
The ID of the request.
Type: xsd:string

vpcSet
A list of VPCs. Each VPC is wrapped in an item element.
Type: VpcType (p. 568)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcId.NotFound (p. 600)
Examples

Example Request

This example describes the specified VPC.

https://ec2.amazonaws.com/?Action=DescribeVpcs
&VpcId.1=vpc-1a2b3c4d
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcSet>
    <item>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>available</state>
      <cidrBlock>10.0.0.0/23</cidrBlock>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <instanceTenancy>default</instanceTenancy>
      <isDefault>false</isDefault>
      <tagSet/>
    </item>
  </vpcSet>
</DescribeVpcsResponse>

Example Request

This example uses filters to describe any VPC you own that uses the set of DHCP options with the ID dopt-7a8b9c2d or dopt-2b2a3d3c and whose state is available.

https://ec2.amazonaws.com/?Action=DescribeVpcs
&Filter.1.Name=dhcp-options-id
&Filter.1.Value.1=dopt-7a8b9c2d
&Filter.1.Value.2=dopt-2b2a3d3c
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS

Related Actions

- CreateVpc (p. 124)
- DeleteVpc (p. 168)
- CreateDhcpOptions (p. 66)
- AssociateDhcpOptions (p. 22)
DescribeVpnConnections

Description

Describes one or more of your VPN connections.

For more information about VPN connections, see Adding a Hardware Virtual Private Gateway to Your VPC in the Amazon Virtual Private Cloud User Guide.

Note
You can get the customer gateway configuration information in a friendly format by using the `ec2-describe-vpn-connections` command instead. For more information, see `ec2-describe-vpn-connections`.

Request Parameters

VpnConnectionId.n
One or more VPN connection IDs.
Type: String
Default: Describes your VPN connections.
Required: No

Filter.n.Name
The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain VPN connections. For example, you can use a filter to specify that you're interested in the VPN connections in the pending or available state. You can specify multiple values for a filter. The response includes information for a VPN connection only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify VPN connections that are associated with a specific virtual private gateway, and the gateway is in the pending or available state. The response includes information for a VPN connection only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of `\*amazon\?\` searches for the literal string `*amazon?`.

The following are the available filters.
customer-gateway-configuration
    The configuration information for the customer gateway.
    Type: String

customer-gateway-id
    The ID of a customer gateway associated with the VPN connection.
    Type: String

state
    The state of the VPN connection.
    Type: String
    Valid values: pending | available | deleting | deleted

option.static-routes-only
    Indicates whether the connection has static routes only. Used for devices that do not support Border
    Gateway Protocol (BGP).
    Type: Boolean

route.destination-cidr-block
    The destination CIDR block. This corresponds to the subnet used in a customer data center.
    Type: String

bgp-asn
    The BGP Autonomous System Number (ASN) associated with a BGP device.
    Type: Integer

tag-key
    The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For
    example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any
    resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag
    value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X,
    see the tag: key=value filter.
    For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud
    User Guide.
    Type: String

tag-value
    The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
    Type: String

tag: key=value
    The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and
    the tag's value is provided in the Filter.n.Value.m parameter.
    Example: To list the resources with the tag Purpose=X, use:
    Filter.1.Name=tag:Purpose
    Filter.1.Value.1=X
    Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
    Filter.1.Name=tag:Purpose
    Filter.1.Value.1=X
    Filter.1.Value.2=Y

type
    The type of VPN connection. Currently the only supported type is ipsec.1.
    Type: String
    Valid values: ipsec.1

vpn-connection-id
    The ID of the VPN connection.
    Type: String
Response Elements

The following elements are returned in an DescribeVpnConnectionsResponse element.

requestId
The ID of the request.
Type: xsd:string

vpnConnectionSet
A list of VPN connections. Each VPN connection is wrapped in an item element.
Type: VpnConnectionType (p. 571)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpnConnectionID.NotFound (p. 600)

Examples

Example Request

This example describes the specified VPN connection. The response includes configuration information for the customer gateway. Because it's a long set of information, we haven't displayed it here. To see an example of the configuration information, see the Amazon Virtual Private Cloud Network Administrator Guide.

https://ec2.amazonaws.com/?Action=DescribeVpnConnections&VpnConnectionId.1=vpn-44a8938f&AUTHPARAMS

Example Response


<requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>

<vpnConnectionSet>


<item>

    <vpnConnectionId>vpn-44a8938f</vpnConnectionId>
    <state>available</state>
    <customerGatewayConfiguration>
        ...Customer gateway configuration data in escaped XML format...
    </customerGatewayConfiguration>
    <type>ipsec.1</type>
    <customerGatewayId>cgw-b4dc3961</customerGatewayId>

</item>

</vpnConnectionSet>

</DescribeVpnConnectionsResponse>
Example Request

This example describes any VPN connection you own that is associated with the customer gateway with ID cgw-b4dc3961, and whose state is either pending or available.

https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&Filter.1.Name=customer-gateway-id
&Filter.1.Value.1=cgw-b4dc3961
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS

Related Actions

- CreateVpnConnection (p. 129)
- DeleteVpnConnection (p. 171)
DescribeVpnGateways

Description

Describes one or more of your virtual private gateways.

For more information about virtual private gateways, see Adding an IPsec Hardware VPN to Your VPC in the Amazon Virtual Private Cloud User Guide.

Request Parameters

VpnGatewayId.n

One or more virtual private gateway IDs.
Type: String
Default: Describes all your virtual private gateways.
Required: No

Filter.n.Name

The name of a filter. For more information about supported filter names, see the Supported Filters section.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. For more information about supported values for each filter, see the Supported Filters section.
Type: String
Default: None
Required: No

Supported Filters

You can specify filters so that the response includes information for only certain virtual private gateways. For example, you can use a filter to specify that you're interested in the virtual private gateways in the pending or available state. You can specify multiple values for a filter. The response includes information for a virtual private gateway only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify virtual private gateways that are in a specific Availability Zone and are in the pending or available state. The response includes information for a virtual private gateway only if it matches all the filters that you specified. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \\*amazon\\?\ searches for the literal string *amazon?.

The following are the available filters.

attachment.state

The current state of the attachment between the gateway and the VPC.
Type: String
Valid values: attaching|attached|detaching|detached
attachment.vpc-id
The ID of an attached VPC.
Type: String

availability-zone
The Availability Zone for the virtual private gateway.
Type: String

state
The state of the virtual private gateway.
Type: String
Valid values: pending | available | deleting | deleted

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key=value filter.
For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
Type: String

tag-value
The value of a tag assigned to the resource. This filter is independent of the tag-key filter.
Type: String

tag: key=value
The key/value combination of a tag assigned to the resource, where tag: key is the tag's key, and the tag's value is provided in the Filter.n.Value.m parameter.
Example: To list the resources with the tag Purpose=X, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list resources with the tag Purpose=X or the tag Purpose=Y, use:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Filter.1.Value.2=Y
type
The type of virtual private gateway. Currently the only supported type is ipsec.1.
Type: String
Valid values: ipsec.1

vpn-gateway-id
The ID of the virtual private gateway.
Type: String

Response Elements
The following elements are returned in a DescribeVpnGatewaysResponse element.

requestId
The ID of the request.
Type: xsd:string

vpnGatewaySet
A list of virtual private gateways. Each virtual private gateway is wrapped in an item element.
Type: VpnGatewayType (p. 572)
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpnGatewayId.NotFound (p. 600)

Examples

Example Request

This example describes the specified virtual private gateway.

https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&VpnGatewayId.1=vgw-8db04f81
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGatewaySet>
    <item>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <state>available</state>
      <type>ipsec.1</type>
      <availabilityZone>us-east-1a</availabilityZone>
      <attachments>
        <item>
          <vpcId>vpc-1a2b3c4d</vpcId>
          <state>attached</state>
        </item>
      </attachments>
    </item>
  </vpnGatewaySet>
</DescribeVpnGatewaysResponse>

Example Request

This example uses filters to describe any virtual private gateway you own that is in the us-east-1a Availability Zone, and whose state is either pending or available.

https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-1a
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS
Related Actions

- CreateVpnGateway (p. 134)
- DeleteVpnGateway (p. 175)
DetachInternetGateway

**Description**

Detaches an Internet gateway from a VPC, disabling connectivity between the Internet and the VPC. The VPC must not contain any running instances with Elastic IP addresses.

**Request Parameters**

- **InternetGatewayId**
  - The ID of the Internet gateway.
  - Type: String
  - Default: None
  - Required: Yes

- **VpcId**
  - The ID of the VPC.
  - Type: String
  - Default: None
  - Required: Yes

**Response Elements**

The following elements are returned in a `DetachInternetGatewayResponse` element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns `true` if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- DependencyViolation (p. 600)
- Gateway:NotAttached (p. 600)
- InvalidInternetGatewayID.NotFound (p. 600)

**Examples**

**Example Request**

The example detaches the specified Internet gateway from the specified VPC.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DetachInternetGatewayResponse>
```

Related Actions

- CreateInternetGateway (p. 76)
- DeleteInternetGateway (p. 140)
- DetachInternetGateway (p. 26)
- DescribeInternetGateways (p. 237)
DetachNetworkInterface

Description

Detaches a network interface from an instance.

Request Parameters

AttachmentId

The ID of the attachment.
Type: String
Default: None
Required: Yes

Force

Specifies whether to force a detachment.
Type: Boolean
Default: None
Required: No

Response Elements

The following elements are returned in a DetachNetworkInterfaceResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAttachmentID.NotFound (p. 600)
- InvalidNetworkInterfaceAttachmentID.Malformed (p. 600)
- OperationNotPermitted (p. 600)

Examples

Example Request

This example detaches the specified elastic network interface (ENI).
Example Response

```xml
  <requestId>ce540707-0635-46bc-97da-33a8a362a0e8</requestId>
  <return>true</return>
</DetachNetworkInterfaceResponse>
```

Related Actions

- AttachNetworkInterface (p. 28)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
- ResetNetworkInterfaceAttribute (p. 449)
DetachVolume

Description

Detaches an Amazon EBS volume from an instance. Make sure to unmount any file systems on the device within your operating system before detaching the volume. Failure to do so results in the volume being stuck in a busy state while detaching. For more information about Amazon EBS, see Amazon Elastic Block Store in the Amazon Elastic Compute Cloud User Guide.

Note

If an Amazon EBS volume is the root device of an instance, it can't be detached while the instance is in the "running" state. To detach the root volume, stop the instance first.
If the root volume is detached from an instance with an AWS Marketplace product code, then the AWS Marketplace product codes from that volume are no longer associated with the instance.

Request Parameters

VolumeId

The ID of the volume.
Type: String
Default: None
Required: Yes

InstanceId

The ID of the instance.
Type: String
Default: None
Required: No

Device

The device name.
Type: String
Default: None
Required: No

Force

Forces detachment if the previous detachment attempt did not occur cleanly (logging into an instance, unmounting the volume, and detaching normally). This option can lead to data loss or a corrupted file system. Use this option only as a last resort to detach a volume from a failed instance. The instance won't have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures.
Type: Boolean
Default: None
Required: No

Response Elements

The following elements are returned in a DetachVolumeResponse element.

requestId

The ID of the request.
Type: xsd:string
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidAttachment.NotFound (p. 600)
- InvalidVolume.NotFound (p. 600)

Examples

Example Request

This example detaches volume vol-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DetachVolume
&VolumeId=vol-1a2b3c4d
&AUTHPARMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <instanceId>i-1a2b3c4d</instanceId>
  <device>/dev/sdh</device>
  <status>detaching</status>
  <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</DetachVolumeResponse>
Related Actions

- CreateVolume (p. 120)
- DeleteVolume (p. 166)
- DescribeVolumes (p. 328)
- AttachVolume (p. 30)
DetachVpnGateway

Description

Detaches a virtual private gateway from a VPC. You do this if you're planning to turn off the VPC and not use it anymore. You can confirm a virtual private gateway has been completely detached from a VPC by describing the virtual private gateway (any attachments to the virtual private gateway are also described).

You must wait for the attachment's state to switch to detached before you can delete the VPC or attach a different VPC to the virtual private gateway.

Request Parameters

- **VpnGatewayId**
  - The ID of the virtual private gateway.
  - Type: String
  - Default: None
  - Required: Yes

- **VpcId**
  - The ID of the VPC.
  - Type: String
  - Default: None
  - Required: Yes

Response Elements

The following elements are returned in a DetachVpnGatewayResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpnGatewayAttachment.NotFound (p. 600)
- InvalidVpnGatewayID.NotFound (p. 600)
Examples

Example Request

This example detaches the specified virtual private gateway from the specified VPC.

https://ec2.amazonaws.com/?Action=DetachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DetachVpnGatewayResponse>

Related Actions

- AttachVpnGateway (p. 33)
- DescribeVpnGateways (p. 351)
DisableVgwRoutePropagation

Description
Disables a virtual private gateway (VGW) from propagating routes to the routing tables of a VPC.

Request Parameters

- RouteTableId
  - The ID of the routing table.
  - Type: String
  - Default: None
  - Required: Yes

- GatewayId
  - The ID of the virtual private gateway.
  - Type: String
  - Default: None
  - Required: Yes

Response Elements

The following elements are returned in a `DisableVgwRoutePropagationResponseType` element.

- requestId
  - The ID of the request.
  - Type: xsd:string

- return
  - Returns true if the request succeeds. Otherwise, returns an error.
  - Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidRouteTableID.NotFound (p. 600)

Examples

Example Request

This example disables the virtual private gateway `vgw-d8e09e8a` from automatically propagating routes to the routing table with ID `rtb-c98a35a0`.

https://ec2.amazonaws.com/?Action=DisableVgwRoutePropagationResponse&RouteTableID=rtb-c98a35a0
Example Response

```xml
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
  <return>true</return>
</DisableVgwRoutePropagationResponse>
```

Related Actions

- DisableVgwRoutePropagation (p. 364)
DisassociateAddress

Description

Disassociates an Elastic IP address from the instance or network interface it's associated with.

An Elastic IP address is for use in either the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

This is an idempotent action. If you perform the operation more than once, Amazon EC2 doesn't return an error.

Request Parameters

PublicIp
  [EC2-Classic] The Elastic IP address.
  Type: String
  Default: None
  Required: Conditional
  Condition: Required for EC2-Classic

AssociationId
  [EC2-VPC] The association ID.
  Type: String
  Default: None
  Required: Conditional
  Condition: Required for EC2-VPC

Response Elements

The following elements are returned in a DisassociateAddressResponse element.

requestId
  The ID of the request.
  Type: xsd:string

return
  Returns true if the request succeeds. Otherwise, returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAssociationId.NotFound (p. 600)
Examples

Example Request

This example disassociates the specified Elastic IP address from the instance in EC2-Classic to which it is associated.

```
https://ec2.amazonaws.com/?Action=DisassociateAddress &PublicIp=192.0.2.1 &AUTHPARAMS
```

Example Request

This example disassociates the specified Elastic IP address from the instance in a VPC to which it is associated.

```
https://ec2.amazonaws.com/?Action=DisassociateAddress &AssociationId=eipassoc-aa7486c3 &AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisassociateAddressResponse>
```

Related Actions

- AllocateAddress (p. 13)
- DescribeAddresses (p. 182)
- ReleaseAddress (p. 422)
- AssociateAddress (p. 19)
DisassociateRouteTable

Description
Disassociates a subnet from a route table.

After you perform this action, the subnet no longer uses the routes in the route table. Instead, it uses the routes in the VPC's main route table. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

AssociationId
The association ID representing the current association between the route table and subnet.
Type: String
Default: None
Required: Yes

Response Elements
The following elements are returned in a DisassociateRouteTableResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAssociationId.NotFound (p. 600)

Examples

Example Request
This example disassociates the specified route table from the subnet it's associated to.

https://ec2.amazonaws.com/?Action=DisassociateRouteTable
&AssociationId=rtbassoc-fdad4894
&AUTHPARAMS
Example Response

<DisassociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/"
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DisassociateRouteTableResponse>

Related Actions

- CreateRouteTable (p. 105)
- AssociateRouteTable (p. 24)
- DeleteRouteTable (p. 154)
- DescribeRouteTables (p. 284)
- ReplaceRouteTableAssociation (p. 432)
EnableVgwRoutePropagation

Description

Enables a virtual private gateway (VGW) to propagate routes to the routing tables of a VPC.

Request Parameters

*RouteTableId*
- The ID of the routing table.
- Type: String
- Default: None
- Required: Yes

*GatewayId*
- The ID of the virtual private gateway.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in an EnableVgwRoutePropagationResponseType element.

*requestId*
- The ID of the request.
- Type: xsd:string

$return$
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidRouteTableID.NotFound (p. 600)

Examples

Example Request

This example enables the specified virtual private gateway to propagate routes automatically to the routing table with the ID rtb-c98a35a0.

https://ec2.amazonaws.com/?Action=EnableVgwRoutePropagation
&RouteTableID=rtb-c98a35a0
Example Response

```xml
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</EnableVgwRoutePropagation>
```

Related Actions

- DisableVgwRoutePropagation (p. 364)
EnableVolumeIO

Description

Enables I/O operations for a volume that had I/O operations disabled because the data on the volume was potentially inconsistent.

Request Parameters

VolumeId
The ID of the volume.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in an EnableVolumeIOResponse element.
requestId
The ID of the request.
Type: xsd:string
return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVolume.NotFound (p. 600)

Examples

Example Request

This example enables the I/O operations of the volume vol-8888888.

https://ec2.amazonaws.com/?Action=EnableVolumeIO
&VolumeId= vol-8888888
&AUTHPARAMS
Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</EnableVolumeI0Response>

Related Actions

- DescribeVolumeStatus (p. 333)
- ModifyVolumeAttribute (p. 401)
- DescribeVolumeAttribute (p. 326)
GetConsoleOutput

Description

Gets the console output for the specified instance.

Instances do not have a physical monitor through which you can view their console output. They also lack physical controls that allow you to power up, reboot, or shut them down. To allow these actions, we provide them through the Amazon EC2 API and command line interface.

Instance console output is buffered and posted shortly after instance boot, reboot, and termination. Amazon EC2 preserves the most recent 64 KB output which is available for at least one hour after the most recent post.

For Linux/Unix instances, the instance console output displays the exact console output that would normally be displayed on a physical monitor attached to a machine. This output is buffered because the instance produces it and then posts it to a store where the instance's owner can retrieve it.

For Windows instances, the instance console output displays the last three system event log errors.

Request Parameters

InstanceId

The ID of the instance.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a GetConsoleOutputResponse element.

requestId

The ID of the request.
Type: xsd:string

instanceId

The ID of the instance.
Type: xsd:string

timestamp

The time the output was last updated.
Type: xsd:dateTime

output

The console output, Base64 encoded.
Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).
Examples

Example Request

This example retrieves the console output for the specified instance.

https://ec2.amazonaws.com/?Action=GetConsoleOutput
&InstanceId=i-10a64379
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-28a64341</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGR1ckBwYXRjaGJhdC5hbWF6b25zYSkgKgdj
       YyB2ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IC0gSGF0IDQuMC4xLTUp
       RE9jYmxlLgo3MjdNQiBMT1dNRU0gYXZhaWxhYmxlLgpOWCAoRXh1Y3V0ZSAoEjBjb250aW9ucyBj
       CnVpZmVjdCBwcm90ZWN0Lg==</output>
</GetConsoleOutputResponse>

Related Actions

• RunInstances (p. 459)
GetPasswordData

Description

Retrieves the encrypted administrator password for an instance running Windows.

The Windows password is generated at boot if the EC2Config service plugin, Ec2SetPassword, is enabled. This usually only happens the first time an AMI is launched, and then Ec2SetPassword is automatically disabled. The password is not generated for rebundled AMIs unless Ec2SetPassword is enabled before bundling.

The password is encrypted using the key pair that you specified when you launched the instance. You must provide the corresponding key pair file.

Password generation and encryption takes a few moments. We recommend that you wait up to 15 minutes after launching an instance before trying to retrieve the generated password.

Request Parameters

InstanceId

- The ID of a Windows instance.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a GetPasswordDataResponse element.

requestId

- The ID of the request.
- Type: xsd:string

instanceId

- The ID of the instance.
- Type: xsd:string

timestamp

- The time the data was last updated.
- Type: xsd:dateTime

passwordData

- The password of the instance.
- Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.NotFound (p. 600)
Examples

Example Request

This example returns the encrypted version of the administrator password for the specified instance.

https://ec2.amazonaws.com/?Action=GetPasswordData
&InstanceId=i-10a64379
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-2574e22a</instanceId>
  <timestamp>2009-10-24 15:00:00</timestamp>
  <passwordData>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKGdj</passwordData>
</GetPasswordDataResponse>

Related Actions

- RunInstances (p. 459)
**ImportInstance**

**Description**

Creates an import instance task using metadata from the specified disk image. After importing the image, you then upload it using the `ec2-import-volume` command in the EC2 command line tools. For more information, see Using the Command Line Tools to Import Your Virtual Machine to Amazon EC2 in the Amazon Elastic Compute Cloud User Guide.

**Request Parameters**

- **Description**
  - A description for the instance being imported.
  - Type: String
  - Default: None
  - Required: No

- **LaunchSpecification.Architecture**
  - The architecture of the instance.
  - Type: String
  - Valid values: `i386` | `x86_64`
  - Default: None
  - Required: Yes

- **LaunchSpecification.GroupName.n**
  - One or more security group names. This is not supported for VMs imported into a VPC, which are assigned the default security group. After a VM is imported into a VPC, you can specify another security group using the AWS Management Console.
  - Type: String
  - Default: Your default security group.
  - Required: No

- **LaunchSpecification.UserData**
  - User data to be made available to the instance.
  - Type: String
  - Default: None
  - Required: No

- **LaunchSpecification.InstanceType**
  - The instance type. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide. For more information about the Linux instance types you can import, see Before You Get Started in the Amazon Elastic Compute Cloud User Guide.
  - Type: String
  - Default: None
  - Required: Yes

- **LaunchSpecification.Placement.AvailabilityZone**
  - The Availability Zone to launch the instance into.
  - Type: String
  - Default: Amazon EC2 chooses a zone for you.
  - Required: No

- **LaunchSpecification.Monitoring.Enabled**
  - Indicates whether to enable detailed monitoring for the instance.
  - Type: Boolean
LaunchSpecification.SubnetId
[EC2-VPC] The ID of the subnet to launch the instance into.
Type: String
Default: None
Required: No

LaunchSpecification.InstanceInitiatedShutdownBehavior
Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).
Type: String
Valid values: stop | terminate
Default: stop
Required: No

LaunchSpecification.PrivateIpAddress
[EC2-VPC] Optionally, you can use this parameter to assign the instance a specific available IP address from the IP address range of the subnet.
Type: String
Default: Amazon EC2 selects an IP address from the IP address range of subnet for the instance.
Required: No

DiskImage.n.Image.Format
The file format of the disk image.
Type: String
Valid values: VMDK | RAW | VHD
Default: None
Required: Yes

DiskImage.n.Image.Bytes
The number of bytes in the disk image.
Type: Long
Default: None
Required: Yes

DiskImage.n.Image.ImportManifestUrl
The manifest for the disk image, stored in Amazon S3 and presented here as an Amazon S3 presigned URL. For information about creating a presigned URL for an Amazon S3 object, read the “Signing and Authenticating REST Requests” section of the Signing and Authenticating REST Requests topic in the Amazon Simple Storage Service Developer Guide.
Type: String
Default: None
Required: Yes

DiskImage.n.Image.Description
An optional description for the disk image.
Type: String
Default: None
Required: No

DiskImage.n.Volume.Size
The size, in GiB, of the Amazon EBS volume that will hold the converted image.
Required: Yes

Platform
The instance operating system.
Response Elements

The following elements are returned in an ImportInstanceResponse element.

- conversionTask
  - Information about the import instance task.
  - Type: ConversionTaskType (p. 490)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InstanceLimitExceeded (p. 600)

Examples

Example Request

This example creates an import instance task that migrates a Windows Server 2008 SP2 (32-bit) VM into the AWS us-east-1 region.

```
https://ec2.amazonaws.com/?Action=ImportInstance
&LaunchSpecification.Architecture=x86_64
&LaunchSpecification.InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signa
ture=5snej01TlTtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

Example Response

```
  <conversionTask>
    <conversionTaskId>import-i-ffvko9js</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
  </conversionTask>
</ImportInstanceResponse>
```
Related Actions

- ImportVolume (p. 385)
- DescribeConversionTasks (p. 192)
- CancelConversionTask (p. 47)
ImportKeyPair

Description

Imports the public key from an RSA key pair that you created with a third-party tool. Compare this with CreateKeyPair, in which AWS creates the key pair and gives the keys to you (AWS keeps a copy of the public key). With ImportKeyPair, you create the key pair and give AWS just the public key. The private key is never transferred between you and AWS.

You can easily create an RSA key pair on Windows and Linux using the ssh-keygen command line tool (provided with the standard OpenSSH installation). Standard library support for RSA key pair creation is also available in Java, Ruby, Python, and many other programming languages.

Supported formats:

- OpenSSH public key format (the format in ~/.ssh/authorized_keys)
- Base64 encoded DER format
- SSH public key file format as specified in RFC4716

DSA keys are not supported. Make sure your key generator is set up to create RSA keys.

Supported lengths: 1024, 2048, and 4096.

Note that you can have up to five thousand key pairs per region.

Request Parameters

KeyName

A unique name for the key pair.
Type: String
Default: None
Required: Yes

PublicKeyMaterial

The public key. You must base64 encode the public key material before sending it to AWS.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in an ImportKeyPairResponse element.

requestId

The ID of the request.
Type: xsd:string

keyName

The key pair name you provided.
Type: xsd:string

keyFingerprint

The MD5 public key fingerprint as specified in section 4 of RFC 4716.
Error

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidKey.Format (p. 600)
- InvalidKeyPair.Duplicate (p. 600)

Examples

Example Request

This example imports the public key named my-key-pair.

```
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=my-key-pair
&PublicKeyMaterial=MIICiTCCAfICCQD6m7oRw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEB
MCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb
25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wH
hcNMTEwNDI1MjAONTIxWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxCzA7JBvNBAsTA1dBMR
AwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwE
AYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA0N
TIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYD
VQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41
G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjAONTiXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQ
GA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01B
TSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wH
hcNMTEwNDI1MjA0NTIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdr
ZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q
2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA0NTIXWhcNMTIwNDI
OMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24
xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6
251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA0NTIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh
0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiw
EAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA
0NTIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQY
DVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41
G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA0NTIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQ
GA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01B
TSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2lsYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wH
hcNMTEwNDI1MjA0NTIXWhcNMTIwNDIOMjA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdT
ZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDA5BvNBAsTC01BTSBDb25zb2xlMRiwEAYDVQQDEw1UZXN0Q2l
sYWMxHZAdB0gkq41G9w0BCQEWEG5v6251MQFtYXpvi5jb20wHhcNMTEwNDI1MjA0NTIXWhcNMTIwNDIOM
jA0NTIxWjcbIDEMQGA1UEBhMCVVMxh0BMRAwDgYDVQQHEwdTZWF0dGx1MQ8wDQYDVQQKEwZBbWF6b24xF
DAYDQF4f
```

Example Response

The response includes the MD5 public key fingerprint as specified in section 4 of RFC4716.

```
<ImportKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <keyName>my-key-pair</keyName>
</ImportKeyPairResponse>
```

Related Actions

- CreateKeyPair (p. 78)
- DescribeKeyPairs (p. 240)
• DeleteKeyPair (p. 142)
ImportVolume

Description

Creates an import volume task using metadata from the specified disk image. After importing the image, you then upload it using the `ec2-import-volume` command in the Amazon EC2 command-line interface (CLI) tools. For more information, see Using the Command Line Tools to Import Your Virtual Machine to Amazon EC2 in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

- **AvailabilityZone**
  - The Availability Zone for the resulting Amazon EBS volume.
  - Type: String
  - Default: None
  - Required: Yes

- **Image.Format**
  - The file format of the disk image.
  - Type: String
  - Valid values: VMDK | RAW | VHD
  - Default: None
  - Required: Yes

- **Image.Bytes**
  - The number of bytes in the disk image.
  - Type: Long
  - Default: None
  - Required: Yes

- **Image.ImportManifestUrl**
  - The manifest for the disk image, stored in Amazon S3 and presented here as an Amazon S3 presigned URL. For information about creating a presigned URL for an Amazon S3 object, read the "Signing and Authenticating REST Requests" section of the Signing and Authenticating REST Requests topic in the Amazon Simple Storage Service Developer Guide.
  - Type: String
  - Default: None
  - Required: Yes

- **Description**
  - An optional description for the volume being imported.
  - Type: String
  - Default: None
  - Required: No

- **Volume.Size**
  - The size, in GiB, of an Amazon EBS volume to hold the converted image.
  - Type: Integer
  - Default: None
  - Required: Yes
Response Elements

The following elements are returned in an `ImportVolumeResponse` element.

**conversionTask**
- Information about the import volume task.
  - Type: `ConversionTaskType` (p. 490)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- `ResourceLimitExceeded` (p. 600)

Examples

Example Request

This example creates an import volume task that migrates a Windows Server 2008 SP2 (32-bit) volume into the AWS us-east-1 region.

```xml
https://ec2.amazonaws.com/?Action=ImportVolume
&AvailabilityZone=us-east-1c
&Image.Format=VMDK
&Image.Bytes=128696320
&Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/a3a5eb6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml
&VolumeSize=8
&AUTHPARAMS>
```

Example Response

```xml
  <conversionTask>
    <conversionTaskId>import-i-fh95npoc</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
    <importVolume>
      <bytesConverted>0</bytesConverted>
      <availabilityZone>us-east-1c</availabilityZone>
      <description/>
      <image>
        <format>VMDK</format>
        <size>128696320</size>
        <importManifestUrl>
          https://s3.amazonaws.com/myawsbucket/a3a5eb6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml
        </importManifestUrl>
      </image>
    </importVolume>
  </conversionTask>
</ImportVolumeResponse>
```
Related Actions

- ImportInstance (p. 378)
- DescribeConversionTasks (p. 192)
- CancelConversionTask (p. 47)
ModifyImageAttribute

Description

Modifies the specified attribute of the specified AMI. You can specify only one attribute at a time.

Note
AWS Marketplace product codes cannot be modified. Images with an AWS Marketplace product code cannot be made public.

Request Parameters

ImageId
The ID of the AMI.
Type: String
Default: None
Required: Yes

LaunchPermission.Add.n.UserId
Adds the specified AWS account ID to the list of launch permissions for the AMI.
Type: String
Default: None
Required: No

LaunchPermission.Remove.n.UserId
Removes the specified AWS account ID from the list of launch permissions for the AMI.
Type: String
Default: None
Required: No

LaunchPermission.Add.n.Group
Adds the specified group to the list of launch permissions for the image. The only valid value is all.
Type: String
Valid value: all (for all Amazon EC2 users)
Default: None
Required: No

LaunchPermission.Remove.n.Group
Removes the specified group from the list of launch permissions for the image. The only valid value is all.
Type: String
Valid value: all (for all Amazon EC2 users)
Default: None
Required: No

ProductCode.n
Adds the specified product code to the specified instance store-backed AMI. After you add a product code to an AMI, it can't be removed.
Type: String
Default: None
Required: No

Description.Value
Changes the AMI description to the specified value.
Type: String
Response Elements

The following elements are returned in a ModifyImageAttributeResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIAttributeItemValue (p. 600)
- InvalidAMIIDNotFound (p. 600)

Examples

Example Request

This example makes the AMI public (for example, so any AWS account can use it).

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Add.1.Group=all
&AUTHPARAMS

Example Request

This example makes the AMI private (for example, so that only you as the owner can use it).

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Remove.1.Group=all
&AUTHPARAMS

Example Request

This example grants launch permission to the AWS account with ID 111122223333.
Example Request

This example removes launch permission from the AWS account with ID 111122223333.

```plaintext
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Remove.1.UserId=111122223333
&AUTHPARAMS
```

Example Request

This example adds the 774F4FF8 product code to the ami-61a54008 AMI.

```plaintext
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&ProductCode.1=774F4FF8
&AUTHPARAMS
```

Example Request

This example changes the description of the AMI to New Description.

```plaintext
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&Description.Value=New Description
&AUTHPARAMS
```

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyImageAttributeResponse>
```

Related Actions

- ResetImageAttribute (p. 445)
- DescribeImageAttribute (p. 204)
ModifyInstanceAttribute

Description

Modifies the specified attribute of the specified instance. You can specify only one attribute at a time.

Note
To modify some attributes, the instance must be stopped. For more information, see Modifying a Stopped Instance in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

InstanceId

The ID of the instance.
Type: String
Default: None
Required: Yes

BlockDeviceMapping.Value

Modifies the DeleteOnTermination attribute for volumes that are currently attached. The volume must be owned by the caller. If no value is specified for DeleteOnTermination, the default is true and the volume is deleted when the instance is terminated.

Note
To add instance store volumes to an Amazon EBS-backed instance, you must add them when you launch the instance. For more information, see Updating the Block Device Mapping when Launching an Instance in the Amazon Elastic Compute Cloud User Guide.
Type: InstanceBlockDeviceMappingItemType (p. 514)
Default: None

Example: &BlockDeviceMapping.1.Ebs.DeleteOnTermination=true
Required: No

DisableApiTermination.Value

If the value is true, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can.
Type: Boolean
Default: None
Required: No

EbsOptimized

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
Type: Boolean
Default: false
Required: No

GroupId.n

[EC2-VPC] Changes the instance's security group. You must specify at least one security group, even if it's just the default security group for the VPC. You must specify the security group ID, not the security group name.
For example, if you want the instance to be in sg-1a1a1a1a and sg-9b9b9b9b, specify GroupId.1=sg-1a1a1a1a and GroupId.2=sg-9b9b9b9b.
Type: String
Default: None
Required: No

**InstanceInitiatedShutdownBehavior.Value**
Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).
Type: String
Valid values: stop | terminate
Default: None
Required: No

**InstanceType.Value**
Changes the instance type to the specified value. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide. An InvalidInstanceAttributeValue error is returned if the instance type is not valid.
Type: String
Default: None
Required: No

**Kernel.Value**
Changes the instance’s kernel to the specified value.

> **Important**
> We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.

Type: String
Default: None
Required: No

**Ramdisk.Value**
Changes the instance’s RAM disk to the specified value.

> **Important**
> We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.

Type: String
Default: None
Required: No

**SourceDestCheck.Value**
Indicates whether source/destination checking is enabled. A value of true means checking is enabled, and false means checking is disabled. This value must be false for a NAT instance to perform NAT.
Type: Boolean
Default: None
Required: No

**SriovNetSupport.Value**
Set to simple to enable enhanced networking for the instance and any AMIs that you create from the instance. There is no way to disable enhanced networking at this time. For more information, see Enabling Enhanced Networking on Linux Instances in the Amazon Elastic Compute Cloud User Guide or Enabling Enhanced Networking on Windows Instances in the Amazon Elastic Compute Cloud Microsoft Windows Guide.

> **Warning**
> This option is supported only for HVM instances. Specifying this option with a PV instance can make it unreachable.

Type: String
Valid values: simple
Response Elements

The following elements are returned in a ModifyInstanceAttributeResponse element.

**requestId**
- The ID of the request.
- Type: xsd:string

**return**
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectInstanceState (p. 600)
- InvalidInstanceAttributeValue (p. 600)
- InvalidInstanceID (p. 600)
- InvalidInstanceId.NotFound (p. 600)
- SecurityGroupsPerInstanceLimitExceeded (p. 600)
- UnsupportedOperation (p. 600)

Examples

Example Request

This example changes the instance type of the specified instance. The instance must be in the stopped state.

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-10a64379
&InstanceType.Value=m1.small
&AUTHPARAMS

Example Response

Example Request

This example changes the `InstanceInitiatedShutdownBehavior` attribute of the specified instance.

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-10a64379
&InstanceInitiatedShutdownBehavior.Value=terminate
&AUTHPARAMS

Example Response

Example Request

This example changes the `DisableApiTermination` attribute of the specified instance.

https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-10a64379
&DisableApiTermination.Value=true
&AUTHPARAMS

Example Response

Related Actions

- `ResetInstanceAttribute` (p. 447)
- `DescribeInstanceAttribute` (p. 215)
ModifyNetworkInterfaceAttribute

Description

Modifies the specified network interface attribute. You can specify only one attribute at a time.

Request Parameters

**NetworkInterfaceId**

The ID of the network interface.

- Type: String
- Default: None
- Required: Yes

**Description.Value**

A description for the network interface.

- Type: String
- Default: None
- Required: No

**SecurityGroupId.n**

Changes the security groups for the network interface. The new set of groups you specify replaces the current set. You must specify at least one group, even if it’s just the default security group in the VPC. You must specify the ID of the security group, not the name.

For example, if you want the instance to be in sg-1a1a1a1a and sg-9b9b9b9b, specify GroupId.1=sg-1a1a1a1a and GroupId.2=sg-9b9b9b9b.

- Type: String
- Default: None
- Required: No

**SourceDestCheck.Value**

Indicates whether source/destination checking is enabled. A value of true means checking is enabled, and false means checking is disabled. This value must be false for a NAT instance to perform NAT. For more information, see NAT Instances in the Amazon Virtual Private Cloud User Guide.

- Type: Boolean
- Default: None
- Required: No

**Attachment.AttachmentId**

The ID of the interface attachment.

- Type: String
- Default: None
- Required: Conditional

Condition: This parameter is required if you are modifying the DeleteOnTermination attribute of an interface attachment.

**Attachment.DeleteOnTermination**

Indicates whether to delete the attachment when terminating the instance.

- Type: Boolean
- Default: None
- Required: Conditional

Condition: You must specify a specific attachment ID to change this attribute.
Response Elements

The following elements are returned in a ModifyNetworkInterfaceAttributeResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceID.NotFound (p. 600)
- SecurityGroupsPerInterfaceLimitExceeded (p. 600)

Examples

Example Request

This example sets source/destination checking to false for the specified network interface.

https://ec2.amazonaws.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&SourceDestCheck.Value=false
&AUTHPARAMS

Example Response

<requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
<return>true</return>
</ModifyNetworkInterfaceAttributeResponse>

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ResetNetworkInterfaceAttribute (p. 449)
ModifyReservedInstances

Description

Modifies the Availability Zone, instance count, instance type, or network platform (EC2-Classic or EC2-VPC) of your Reserved Instances. The Reserved Instances to be modified must be identical, except for Availability Zone, network platform, and instance type.

For more information, see Modifying Reserved Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

reservedInstancesID
  The ID of the Reserved Instances to modify.
  Type: String
  Default: None
  Required: Yes

clientToken
  A unique, case-sensitive token you provide to ensure idempotency of your modification request.
  Type: String
  Default: None
  Required: No

targetConfiguration
  The configuration settings for the Reserved Instances to modify.
  Type: ReservedInstancesConfigurationSetItemType (p. 548)
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a ModifyReservedInstancesResponse element.

requestId
  The ID for the request.
  Type: xsd:string

reservedInstancesModificationId
  The ID for the modification.
  Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInput (p. 600)
Examples

Example Request

https://ec2.amazonaws.com/?Action=ModifyReservedInstances
&ClientToken=myClientToken
&ReservedInstancesConfigurationSetItemType.0.AvailabilityZone=us-east-1a
&ReservedInstancesConfigurationSetItemType.0.InstanceCount=1
&ReservedInstancesConfigurationSetItemType.0.Platform=EC2-VPC
&ReservedInstancesConfigurationSetItemType.0.InstanceType=m1.small
&ReservedInstancesId.0=d16f7a91-4d0f-4f19-9d7f-a74d26b1ccfa
&AUTHPARAMS

Example Response

<ModifyReservedInstancesResponse xmlns='http://ec2.amazonaws.com/doc/2013-08-15'/>
:requestId>bef729b6-0731-4489-8881-2258746ae163</requestId>
:reservedInstancesModificationId>rimod-3aae219d-3d63-47a9-a7e9-e764example</reservedInstancesModificationId>
</ModifyReservedInstancesResponse>

Related Actions

• DescribeReservedInstancesModifications (p. 271)
ModifySnapshotAttribute

Description

Adds or remove permission settings for the specified snapshot.

Note
Snapshots with AWS Marketplace product codes cannot be made public.

Request Parameters

SnapshotId
The ID of the snapshot.
Type: String
Default: None
Required: Yes

CreateVolumePermission.Add.n.UserId
Adds the specified AWS account ID to the volume's list of create volume permissions.
Type: String
Default: None
Required: Yes

CreateVolumePermission.Add.n.Group
Adds the specified group to the volume's list of create volume permissions. The only valid value is all.
Type: String
Default: None
Required: Yes

CreateVolumePermission.Remove.n.UserId
Removes the specified AWS account ID from the volume's list of create volume permissions.
Type: String
Default: None
Required: No

CreateVolumePermission.Remove.n.Group
Removes the specified group from the volume's list of create volume permissions.
Type: String
Default: None
Required: No

Response Elements

The following elements are returned in a ModifySnapshotAttributeResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidSnapshot.NotFound (p. 600)

Examples

Example Request

This example makes the snap-1a2b3c4d snapshot public, and gives the account with ID 111122223333 permission to create volumes from the snapshot.

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-1a2b3c4d
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

This example makes the snap-1a2b3c4d snapshot public, and removes the account with ID 111122223333 from the list of users with permission to create volumes from the snapshot.

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-1a2b3c4d
&CreateVolumePermission.Remove.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifySnapshotAttributeResponse>
```

Related Actions

- DescribeSnapshotAttribute (p. 294)
- DescribeSnapshots (p. 297)
- ResetSnapshotAttribute (p. 451)
- CreateSnapshot (p. 110)
ModifyVolumeAttribute

Description

Modifies a volume attribute.

By default, all I/O operations for the volume are suspended when the data on the volume is determined to be potentially inconsistent, to prevent undetectable, latent data corruption. The I/O access to the volume can be resumed by first calling EnableVolumeIO (p. 372) action to enable I/O access and then checking the data consistency on your volume.

You can change the default behavior to resume I/O operations without calling EnableVolumeIO (p. 372) action by setting the AutoEnableIO attribute of the volume to true. We recommend that you change this attribute only for volumes that are stateless, or disposable, or for boot volumes.

Request Parameters

**VolumeId**
- The ID of the volume.
- Type: String
- Required: Yes

**AutoEnableIO.Value**
- Indicates whether the volume should be auto-enabled for I/O operations.
- Type: Boolean
- Required: Yes

Response Elements

The following elements are returned in a ModifyVolumeAttributeResponse element.

**requestId**
- The ID of the request.
- Type: xsd:string

**return**
- Returns true if the request succeeds. Otherwise, returns an error.
- Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVolume.NotFound (p. 600)
Examples

Example Request

This example modifies the attribute of the volume vol-12345678.

https://ec2.amazonaws.com/?Action=ModifyVolumeAttribute
&VolumeId=vol-12345678
&AutoEnableIO.Value=true
&AUTHPARAMS

Example Response

  <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <return>true</return>
</ModifyVolumeAttributeResponse>

Related Actions

- DescribeVolumeAttribute (p. 326)
- DescribeVolumeStatus (p. 333)
ModifyVpcAttribute

Description

Modifies the specified attribute of the specified VPC.

Request Parameters

VpcId

The ID of the VPC.

Type: String

Required: Yes

enableDnsSupport

Indicates whether DNS resolution is supported for the VPC. If this attribute is true, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.

Type: Boolean

Required: No

enableDnsHostnames

Indicates whether the DNS resolution is supported for the VPC. If this attribute is false, the Amazon provided DNS service in the VPC that resolves public DNS hostnames to IP addresses is not enabled. If this attribute is true, queries to the Amazon provided DNS server at the 169.254.169.253 IP address, or the reserved IP address at the base of the VPC network range "plus two" will succeed. You can only set enableDnsHostnames to true if you also set the EnableDnsSupport attribute to true.

Type: Boolean

Required: No

Response Elements

The following elements are returned in a ModifyVpcAttributeResponse structure.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds. Otherwise, returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidVpcId.NotFound (p. 600)
Examples

Example Request

This example disables support for DNS hostnames in the specified VPC.

https://ec2.amazonaws.com/?Action=ModifyVpcAttribute
&VpcId=vpc-1a2b3c4d
&EnableDnsHostnames.Value=false
&AUTHPARAMS
MonitorInstances

Description

Enables monitoring for a running instance. For more information about monitoring instances, see Monitoring Your Instances and Volumes in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

InstanceId.n

- One or more instance IDs.
- Type: String
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a MonitorInstancesResponse element.

requestId

- The ID of the request.
- Type: xsd:string

instancesSet

- A list of instances. Each instance is wrapped in an item element.
- Type: MonitorInstancesResponseSetItemType (p. 532)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceID.NotFound (p. 600)
- InvalidState (p. 600)

Examples

Example Request

This example enables monitoring for two instances.

https://ec2.amazonaws.com/?Action=MonitorInstances
&InstanceId.1=i-43a4412a
&InstanceId.2=i-23a3397d
&AUTHPARAMS
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-43a4412a</instanceId>
      <monitoring>
        <state>pending</state>
      </monitoring>
    </item>
    <item>
      <instanceId>i-23a3397d</instanceId>
      <monitoring>
        <state>pending</state>
      </monitoring>
    </item>
  </instancesSet>
</MonitorInstancesResponse>
```

Related Actions

- UnmonitorInstances (p. 477)
- RunInstances (p. 459)
PurchaseReservedInstancesOffering

Description

Purchases a Reserved Instance for use with your account. With Amazon EC2 Reserved Instances, you obtain a capacity reservation for a certain instance configuration over a specified period of time. You pay a lower usage rate than with On-Demand instances for the time that you actually use the capacity reservation.

Starting with the 2011-11-01 API version, AWS expanded its offering of Reserved Instances to address a range of projected instance usage. There are three types of Reserved Instances based on customer utilization levels: Heavy Utilization, Medium Utilization, and Light Utilization.

The Medium Utilization offering type is equivalent to the Reserved Instance offering available before API version 2011-11-01. If you are using tools that predate the 2011-11-01 API version, DescribeReservedInstancesOfferings only lists information about the Medium Utilization Reserved Instance offering type.

For information about Reserved Instance pricing tiers, see Understanding Reserved Instance pricing tiers in the Amazon Elastic Compute Cloud User Guide. For more information about Reserved Instances, see Reserved Instances also in the Amazon Elastic Compute Cloud User Guide.

You determine the type of the Reserved Instances offerings by including the optional offeringType parameter when calling DescribeReservedInstancesOfferings. After you've identified the Reserved Instance with the offering type you want, specify its ReservedInstancesOfferingId when you call PurchaseReservedInstancesOffering.

Starting with the 2012-08-15 API version, you can also purchase Reserved Instances from the Reserved Instance Marketplace. The Reserved Instance Marketplace matches sellers who want to resell Reserved Instance capacity that they no longer need with buyers who want to purchase additional capacity. Reserved Instances bought and sold through the Reserved Instance Marketplace work like any other Reserved Instances.

By default, with the 2012-08-15 API version, DescribeReservedInstancesOfferings returns information about Amazon EC2 Reserved Instances available directly from AWS, plus instance offerings available on the Reserved Instance Marketplace. If you are using tools that predate the 2012-08-15 API version, the DescribeReservedInstancesOfferings action only lists information about Amazon EC2 Reserved Instances available directly from AWS.

For more information about the Reserved Instance Marketplace, see Reserved Instance Marketplace in the Amazon Elastic Compute Cloud User Guide.

You determine the Reserved Instance Marketplace offerings by specifying true for the optional includeMarketplace parameter when calling DescribeReservedInstancesOfferings. After you've identified the Reserved Instance with the offering type you want, specify its reservedInstancesOfferingId when you call PurchaseReservedInstancesOffering.

Request Parameters

reservedInstancesOfferingId

The ID of the Reserved Instance offering to purchase.
Type: String
Default: None
Required: Yes
instanceCount
   The number of Reserved Instances to purchase.
   Type: Integer
   Default: None
   Required: Yes

limitPrice
   Specified for Reserved Instance Marketplace offerings to limit the total order and ensure that the
   Reserved Instances are not purchased at unexpected prices.
   Type: ReservedInstanceLimitPriceType (p. 547)
   Required: No

Response Elements

The following elements are returned in a PurchaseReservedInstancesOfferingResponse element.

requestId
   The ID of the request.
   Type: xsd:string

reservedInstancesId
   The IDs of the purchased Reserved Instances.
   Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more
information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a
summary of API error codes, see Client Error Codes (p. 586).

- InvalidParameterValue (p. 600)
- ReservedInstancesLimitExceede (p. 600)

Examples

Example Request

This example uses LimitPrice to limit the total purchase order of Reserved Instances from Reserved
Instance Marketplace.

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&LimitPrice.Amount=200
&InstanceCount=2
&AUTHPARAMS

Example Response

Example Request

This example illustrates a purchase of a Reserved Instances offering.

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fEXAMPLE
&InstanceCount=2
&AUTHPARAMS

Example Response

Find and Purchase a Reserved Instance

To find and purchase a Reserved Instance

1. Use DescribeReservedInstancesOfferings (p. 275) to get a list of Reserved Instance offerings that match your specifications. In this example, we'll request a list of Linux/Unix, Light Utilization Reserved Instances that are available through the Reserved Instance Marketplace only.

   Note
   When using the Query API, all strings must be URL-encoded.

2. From the list of available Reserved Instances in the previous example, select the marketplace offering and specify a limit price.

3. To verify the purchase, check for your new Reserved Instance with DescribeReservedInstances (p. 263).

You can run your Reserved Instance any time after your purchase is complete. To run your Reserved Instance, you launch it in the same way you launch an On-Demand Instance. Make sure to specify the same criteria that you specified for your Reserved Instance. AWS automatically charges you the lower hourly rate.

Example Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.0.Name=marketplace
&Filter.0.Value.1=true
&IncludeMarketplace=true
&OfferingType=Light+Utilization
&ProductDescription=Linux%2FUNIX
Example Response

```
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>2bc7dafa-daf8-4257-bdf9-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-0841cEXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.large</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>90720000</duration>
      <fixedPrice>96.03</fixedPrice>
      <usagePrice>0.027</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Light Utilization</offeringType>
      <recurringCharges/>
      <marketplace>true</marketplace>
      <pricingDetailsSet>
        <item>
          <price>96.03</price>
          <count>1</count>
        </item>
      </pricingDetailsSet>
    </item>
    <item>
      <reservedInstancesOfferingId>2bc7dafa-daf8-4257-bdf9-c0814EXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.xlarge</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>28512000</duration>
      <fixedPrice>61.0</fixedPrice>
      <usagePrice>0.034</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Light Utilization</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.29</amount>
        </item>
      </recurringCharges>
      <marketplace>true</marketplace>
      <pricingDetailsSet>
        <item>
          <price>61.0</price>
          <count>2</count>
        </item>
      </pricingDetailsSet>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
Example Request

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE
&InstanceCount=1
&LimitPrice.Amount=200
&AUTHPARAMS

Example Response

<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/doc/2012-08-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>

Example Request

https://ec2.amazonaws.com/?Action=DescribeReservedInstances
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesSet>
    ...
    <item>
      <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
      <instanceType>m1.xlarge</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>31536000</duration>
      <fixedPrice>61.0</fixedPrice>
      <usagePrice>0.034</usagePrice>
      <instanceCount>3</instanceCount>
      <productDescription>Linux/UNIX</productDescription>
      <state>active</state>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Light Utilization</offeringType>
      <recurringCharges/>
    </item>
    ...
  </reservedInstancesSet>
</DescribeReservedInstancesResponse>
Related Actions

- DescribeReservedInstancesOfferings (p. 275)
- DescribeReservedInstances (p. 263)
RebootInstances

Description
Requests a reboot of one or more instances. This operation is asynchronous; it only queues a request to reboot the specified instances. The operation succeeds if the instances are valid and belong to you. Requests to reboot terminated instances are ignored.

Note
If a Linux/Unix instance does not cleanly shut down within four minutes, Amazon EC2 performs a hard reboot.

For more information about troubleshooting, see Getting Console Output and Rebooting Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

InstanceId.n
One or more instance IDs.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a RebootInstancesResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds. Otherwise, returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectState (p. 600)
- InvalidInstanceId.NotFound (p. 600)

Examples

Example Request
This example reboots two instances.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RebootInstancesResponse>
```

Related Actions

- RunInstances (p. 459)
RegisterImage

Description

Registers an AMI. When you're creating an AMI, this is the final step you must complete before you can launch an instance from the AMI. For more information about creating AMIs, see Creating Your Own AMIs in the Amazon Elastic Compute Cloud User Guide.

Note
For Amazon EBS-backed instances, the CreateImage (p. 69) operation creates and registers the AMI in a single request, so you don't have to register the AMI yourself.

You can also use the RegisterImage action to create an EBS-backed AMI from a snapshot of a root device volume. For more information, see Launching an Instance from a Snapshot in the Amazon Elastic Compute Cloud User Guide.

If needed, you can deregister an AMI at any time. Any modifications you make to an AMI backed by an instance store volume invalidates its registration. If you make changes to an image, deregister the previous image and register the new image.

Note
You cannot register an image where a secondary (non-root) snapshot has AWS Marketplace product codes.

Request Parameters

ImageLocation
The full path to your AMI manifest in Amazon S3 storage.
Type: String
Default: None
Required: Conditional
Condition: Required if registering an instance store-backed AMI

Name
A name for your AMI.
Type: String
Default: None
Constraints: 3-128 alphanumeric characters, parenthesis (()), commas (,), slashes (/), dashes (-), or underscores (_)  
Required: Yes

Description
A description for your AMI.
Type: String
Default: None
Constraints: Up to 255 characters.
Required: No

Architecture
The architecture of the AMI.
Type: String
Valid values: i386 | x86_64
Default: For Amazon EBS-backed AMIs, i386. For instance store-backed AMIs, the architecture specified in the manifest file.
Required: No
RootDeviceName
The name of the root device (for example, /dev/sda1, or xvda).
Type: String
Default: None
Required: Conditional
Condition: Required if registering an Amazon EBS-backed AMI

BlockDeviceMapping.n.DeviceName
The device name exposed to the instance (for example, /dev/sdh or xvdh). For more information, see Block Device Mapping.
Type: String
Default: None
Required: Conditional
Condition: If you're registering an Amazon EBS-backed AMI from a snapshot, you must specify DeviceName with the root device name and BlockDeviceMapping.n.Ebs.SnapshotId with the snapshot ID.

BlockDeviceMapping.n.NoDevice
Suppresses a device mapping.
Type: Boolean
Default: true
Required: No

BlockDeviceMapping.n.VirtualName
The name of the virtual device, ephemeral[0..3]. The number of instance store volumes depends on the instance type.
Type: String
Default: None
Constraint: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.
Required: No

BlockDeviceMapping.n.Ebs.SnapshotId
The ID of the snapshot.
Type: String
Default: None
Required: Conditional
Condition: If you're registering an Amazon EBS-backed AMI from a snapshot, you must at least specify SnapshotId with the snapshot ID, and BlockDeviceMapping.n.DeviceName with the root device name.

BlockDeviceMapping.n.Ebs.VolumeSize
The size of the volume, in GiBs.
Type: Integer
Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.
Constraints: If the volume type is io1, the minimum size of the volume is 10 GiB. If you specify SnapshotId and VolumeSize, VolumeSize must be equal to or larger than the size of the snapshot.
Required: Conditional
Condition: Required unless you're creating the volume from a snapshot.

BlockDeviceMapping.n.Ebs.DeleteOnTermination
Indicates whether the volume is deleted on instance termination.
Type: Boolean
Default: true
Required: No

BlockDeviceMapping.n.Ebs.VolumeType
   The volume type.
   Type: String
   Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
   Default: standard
   Required: No

BlockDeviceMapping.n.Ebs.Iops
   The number of I/O operations per second (IOPS) that the volume supports.
   Type: Integer
   Valid values: Range is 100 to 4,000.
   Default: None
   Required: Conditional
   Condition: Required when the volume type is io1; not used with standard or gp2 volumes.

BlockDeviceMapping.n.Ebs.Encrypted
   Specifies whether the volume is encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. Volumes that are created from encrypted snapshots are automatically encrypted. There is no way to create an encrypted volume from an unencrypted snapshot or vice versa. If your AMI uses encrypted volumes, you can only launch it on supported instance types. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.
   Type: Boolean
   Default: false
   Required: No

VirtualizationType
   The type of virtualization.
   Type: String
   Valid values: paravirtual | hvm
   Default: paravirtual
   Required: No

KernelId
   The ID of the kernel.
   Important
   We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.
   Type: String
   Default: None
   Required: No

RamdiskId
   The ID of the RAM disk.
   Important
   We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.
   Type: String
   Default: None
   Required: No

SriovNetSupport
   Set to simple to enable enhanced networking for the AMI and any instances that you launch from the AMI. There is no way to disable enhanced networking at this time. For more information, see

**Warning**

This option is supported only for HVM AMIs. Specifying this option with a PV AMI can make instances launched from the AMI unreachable.

Type: String

Default: None

Required: No

**Response Elements**

The following elements are returned in a `RegisterImageResponse` element.

- `requestId`
  - The ID of the request.
  - Type: xsd:string

- `imageId`
  - The ID of the newly registered AMI.
  - Type: xsd:string

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectInstanceState (p. 600)
- InvalidAMIName.Duplicate (p. 600)
- InvalidAMIName.Malformed (p. 600)
- InvalidBlockDeviceMapping (p. 600)
- InvalidManifest (p. 600)

**Examples**

**Example Request**

This example registers an AMI using the specified `my-new-image.manifest.xml` manifest file, located in the bucket named `myawsbucket`.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&ImageLocation=myawsbucket/my-new-image.manifest.xml
&AUTHPARAMS
```

**Example Request**

This example specifies a snapshot for the root device of an Amazon EBS-backed AMI.
Example Request

This example registers an AMI with a block device mapping for three Amazon EBS volumes. The first volume is the root device volume based on an Amazon EBS snapshot. The second volume is based on another snapshot. The third volume is an empty 100 GiB Amazon EBS volume.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1a2b3c4d
&Name=MyImage
&AUTHPARAMS
```

Example Request

This example registers an AMI with two volumes. The first volume is the root device volume based on an Amazon EBS snapshot. The `DeleteOnTermination` flag of the root volume is set to `false`. The second volume is an instance store volume, `ephemeral0`.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1a2b3c4d
&BlockDeviceMapping.1.Ebs.VolumeSize=80
&BlockDeviceMapping.1.Ebs.DeleteOnTermination=false
&BlockDeviceMapping.2.DeviceName=/dev/sdc
&BlockDeviceMapping.2.VirtualName=ephemeral0
&Name=MyImage
&AUTHPARAMS
```

Related Actions

- DescribeImages (p. 207)
- DeregisterImage (p. 177)
RejectVpcPeeringConnection

Description

Rejects a VPC peering connection request. The VPC peering connection must be in the pending-acceptance state. Use the DescribeVpcPeeringConnections request to view your outstanding VPC peering connection requests.

Note

To delete an active VPC peering connection, or to delete a VPC peering connection request that you initiated, use the DeleteVpcPeeringConnection command.

Request Parameters

VpcPeeringConnectionId

The ID of the VPC peering connection.

Type: String

Default: None

Required: Yes

Response Elements

The following elements are returned in a RejectVpcPeeringConnection element.

requestId

The ID of the request.

Type: xsd:string

return

Returns true if the request succeeds; otherwise, it returns an error.

Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors. For a summary of API error codes, see Client Error Codes.

• InvalidStateTransition
• InvalidVpcPeeringConnectionId.Malformed
• InvalidVpcPeeringConnectionId.NotFound
• MissingParameter

Examples

Example Request

This example rejects the specified VPC peering connection request.
Example Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</RejectVpcPeeringConnectionResponse>
```

Related Actions

- DescribeVpcPeeringConnections (p. 340)
- CreateVpcPeeringConnection (p. 126)
- AcceptVpcPeeringConnection (p. 12)
- DeleteVpcPeeringConnection (p. 169)
- CreateRoute (p. 102)
- ReplaceRoute (p. 429)
**ReleaseAddress**

**Description**

Releases the specified Elastic IP address.

**Important**

After releasing an Elastic IP address, it is released to the IP address pool and might be unavailable to you. Be sure to update your DNS records and any servers or devices that communicate with the address. If you attempt to release an Elastic IP address that you already released, you’ll get an AuthFailure error if the address is already allocated to another AWS account.

An Elastic IP address is for use either in the EC2-Classic platform or in a VPC. For more information, see Elastic IP Addresses in the Amazon Elastic Compute Cloud User Guide.

[EC2-Classic, default VPC] Releasing an Elastic IP address automatically disassociates it from any instance that it’s associated with. To disassociate an Elastic IP address without releasing it, use DisassociateAddress.

[Nondefault VPC] You must use DisassociateAddress to disassociate the Elastic IP address before you try to release it. Otherwise, Amazon EC2 returns an error (InvalidIPAddress.InUse).

**Request Parameters**

- **PublicIp**
  - [EC2-Classic] The Elastic IP address.
  - Type: String
  - Default: None
  - Required: Conditional
  - Condition: Required for EC2-Classic

- **AllocationId**
  - [EC2-VPC] The allocation ID.
  - Type: String
  - Default: None
  - Required: Conditional
  - Condition: Required for EC2-VPC

**Response Elements**

The following elements are returned in a ReleaseAddressResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds; otherwise, it returns an error.
  - Type: xsd:boolean
Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAddressID.NotFound (p. 600)
- InvalidIPAddress.InUse (p. 600)

Examples

Example Request

This example releases an Elastic IP address (192.0.2.1).

https://ec2.amazonaws.com/?Action=ReleaseAddress
&PublicIp=192.0.2.1
&AUTHPARAMS

Example Request

This example releases an Elastic IP address with the allocation ID eipalloc-5723d13e.

https://ec2.amazonaws.com/?Action=ReleaseAddress
&AllocationId=eipalloc-5723d13e
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReleaseAddressResponse>

Related Actions

- AllocateAddress (p. 13)
- DescribeAddresses (p. 182)
- AssociateAddress (p. 19)
- DisassociateAddress (p. 366)
ReplaceNetworkAclAssociation

Description
Changes which network ACL a subnet is associated with. By default when you create a subnet, it's automatically associated with the default network ACL. For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

AssociationId
  The ID of the current association between the original network ACL and the subnet.
  Type: String
  Default: None
  Required: Yes

NetworkAclId
  The ID of the new ACL to associate with the subnet.
  Type: String
  Default: None
  Required: Yes

Response Elements
The following elements are returned in a ReplaceNetworkAclAssociationResponse element.

requestId
  The ID of the request.
  Type: xsd:string

newAssociationId
  The ID of the new association.
  Type: xsd:string

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidAssociationID.NotFound (p. 600)

Examples
Example Request
This example starts with a network ACL associated with a subnet, and a corresponding association ID aclassoc-e5b95c8c. You want to associate a different network ACL (acl-5fb85d36) with the subnet. The result is a new association ID representing the new association.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>
```

Related Actions

- CreateNetworkAcl (p. 81)
- DeleteNetworkAcl (p. 144)
- DescribeNetworkAcls (p. 243)
ReplaceNetworkAclEntry

Description
Replaces an entry (rule) in a network ACL. For more information about network ACLs, see Network ACLs in the Amazon Virtual Private Cloud User Guide.

Request Parameters

NetworkAclId
The ID of the ACL.
Type: String
Default: None
Required: Yes

RuleNumber
The rule number of the entry to replace.
Type: Integer
Default: None
Required: Yes

Protocol
The IP protocol to which the rule applies. You can use -1 to mean all protocols.
Type: Integer
Valid values: -1 or a protocol number (see Protocol Numbers).
Required: Yes

RuleAction
Allows or denies traffic that matches the rule.
Type: String
Default: None
Valid values: allow | deny
Required: Yes

Egress
Indicates whether this rule applies to egress traffic from the subnet (true) or ingress traffic to the subnet (false).
Type: Boolean
Default: false
Required: No

CidrBlock
The CIDR range to allow or deny, in CIDR notation (for example, 172.16.0.0/24).
Type: String
Default: None
Required: Yes

Icmp.Code
For the ICMP protocol, the ICMP code. You can use -1 to specify all ICMP codes for the given ICMP type.
Type: Integer
Default: None
Required: Conditional
Condition: Required if specifying 1 (ICMP) for the protocol.
Icmp.Type
For the ICMP protocol, the ICMP type. You can use -1 to specify all ICMP types.
Type: Integer
Default: None
Required: Conditional
Condition: Required if specifying 1 (ICMP) for the protocol.

PortRange.From
The first port in the range.
Type: Integer
Default: None
Required: Conditional
Condition: Required if specifying 6 (TCP) or 17 (UDP) for the protocol.

PortRange.To
The last port in the range.
Type: Integer
Default: None
Required: Conditional
Condition: Required if specifying 6 (TCP) or 17 (UDP) for the protocol.

Response Elements
The following elements are returned in a ReplaceNetworkAclEntryResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds; otherwise, it returns an error.
Type: xsd:boolean

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

• InvalidNetworkAclID.NotFound (p. 600)

Examples
Example Request
This example replaces the egress entry numbered 110 in the network ACL with ID acl-2cb85d45. The new rule denies egress traffic destined for anywhere (0.0.0.0/0) on TCP port 139.

https://ec2.amazonaws.com/?Action=ReplaceNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReplaceNetworkAclEntryResponse>
```

Related Actions

- CreateNetworkAclEntry (p. 83)
- DeleteNetworkAclEntry (p. 146)
- DescribeNetworkAcls (p. 243)
ReplaceRoute

Description

Replaces an existing route within a route table in a VPC. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

Request Parameters

RouteTableId
The ID of the route table.
Type: String
Default: None
Required: Yes

DestinationCidrBlock
The CIDR address block used for the destination match. The value you provide must match the CIDR of an existing route in the table.
Type: String
Default: None
Required: Yes

GatewayId
The ID of an Internet gateway attached to your VPC.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.

InstanceId
The ID of a NAT instance in your VPC.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.

NetworkInterfaceId
The ID of a network interface.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.

VpcPeeringConnectionId
The ID of a VPC peering connection.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following: GatewayId, InstanceId, VpcPeeringConnectionId, or NetworkInterfaceId.
Response Elements

The following elements are returned in a ReplaceRouteResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds; otherwise, it returns an error.
  - Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGatewayID.NotFound (p. 600)
- InvalidInstanceID.Malformed (p. 600)
- InvalidInstanceID.NotFound (p. 600)
- InvalidNetworkInterfaceId.Malformed (p. 600)
- InvalidNetworkInterfaceID.NotFound (p. 600)
- InvalidRouteTableId.Malformed (p. 600)
- InvalidRouteTableId.NotFound (p. 600)
- InvalidVpcPeeringConnectionId.Malformed (p. 600)
- InvalidVpcPeeringConnectionId.NotFound (p. 600)
- RouteAlreadyExists (p. 600)

Examples

Example Request

This example replaces a route in the specified route table. The new route matches the CIDR 10.0.0.0/8 and sends the traffic to the virtual private gateway with the ID vgw-1d00376e.

```plaintext
https://ec2.amazonaws.com/?Action=ReplaceRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=10.0.0.0/8
&GatewayId=vgw-1d00376e
&AUTHPARAMS
```

Example Response

```xml
<ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReplaceRouteResponse>
```
Related Actions

- DeleteRoute (p. 152)
- CreateRoute (p. 102)
- DescribeRouteTables (p. 284)
ReplaceRouteTableAssociation

Description

Changes the route table associated with a given subnet in a VPC. After the operation completes, the subnet uses the routes in the new route table it's associated with. For more information about route tables, see Route Tables in the Amazon Virtual Private Cloud User Guide.

You can also use this action to change which table is the main route table in the VPC. You just specify the main route table's association ID and the route table to be the new main route table.

Request Parameters

AssociationId
  The association ID.
  Type: String
  Default: None
  Required: Yes

RouteTableId
  The ID of the new route table to associate with the subnet.
  Type: String
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a ReplaceRouteTableAssociationResponse element.

requestId
  The ID of the request.
  Type: xsd:string

newAssociationId
  The ID of the new association.
  Type: xsd:string

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAssociationID.NotFound (p. 600)
Examples

Example Request

This example starts with a route table associated with a subnet, and a corresponding association ID rtbassoc-f8ad4891. You want to associate a different route table (table rtb-f9ad4890) to the subnet. The result is a new association ID representing the new association.

https://ec2.amazonaws.com/?Action=ReplaceRouteTableAssociation
&AssociationId=rtbassoc-f8ad4891
&RouteTableId=rtb-f9ad4890
&AUTHPARAMS

Example Response

<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>rtbassoc-faad4893</newAssociationId>
</ReplaceRouteTableAssociationResponse>

Related Actions

- CreateRouteTable (p. 105)
- DisassociateRouteTable (p. 368)
- DeleteRouteTable (p. 154)
- DescribeRouteTables (p. 284)
- AssociateRouteTable (p. 24)
ReportInstanceStatus

Description

Submits feedback about an instance’s status. The instance must be in the running state. If your experience with the instance differs from the instance status returned by DescribeInstanceStatus, use ReportInstanceStatus to report your experience with the instance. Amazon EC2 collects this information to improve the accuracy of status checks.

Note
Use of this action does not change the value returned by DescribeInstanceStatus.

To report an instance’s status, specify an instance ID with the InstanceId.n parameter and a reason code with the ReasonCode.n parameter that applies to that instance. The following table contains descriptions of all available reason codes.

<table>
<thead>
<tr>
<th>Reason Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>instance-stuck-in-state</td>
<td>My instance is stuck in a state.</td>
</tr>
<tr>
<td>unresponsive</td>
<td>My instance is unresponsive.</td>
</tr>
<tr>
<td>not-accepting-credentials</td>
<td>My instance is not accepting my credentials.</td>
</tr>
<tr>
<td>password-not-available</td>
<td>A password is not available for my instance.</td>
</tr>
<tr>
<td>performance-network</td>
<td>My instance is experiencing performance problems which I believe are network related.</td>
</tr>
<tr>
<td>performance-instance-store</td>
<td>My instance is experiencing performance problems which I believe are related to the instance stores.</td>
</tr>
<tr>
<td>performance-ebs-volume</td>
<td>My instance is experiencing performance problems which I believe are related to an EBS volume.</td>
</tr>
<tr>
<td>performance-other</td>
<td>My instance is experiencing performance problems.</td>
</tr>
<tr>
<td>other</td>
<td>Other, explained in the submitted description parameter.</td>
</tr>
</tbody>
</table>

Request Parameters

InstanceId.n
One or more instance IDs.
Type: String
Required: Yes

Status
The status of all instances listed in the InstanceId.n parameter.
Type: String
Valid values: ok | impaired
Required: Yes

StartTime
The time at which the reported instance health state began.
Type: DateTime
Required: No
EndTime
End time at which the reported instance health state ended.
Type: DateTime
Required: No

ReasonCode
A reason code that describes a specific instance's health state. Each code you supply corresponds to an instance ID that you supply with the InstanceId parameter. For more information about each reason code, see the Description (p. 434) section.
Type: String
Valid values:
- instance-stuck-in-state
- unresponsive
- not-accepting-credentials
- password-not-available
- performance-network
- performance-instance-store
- performance-ebs-volume
- performance-other
- other
Required: Yes

Description
Descriptive text about the instance health state.
Type: String
Default: None
Required: No

Response Elements
The following elements are returned in a ReportInstanceStatusResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds; otherwise, it returns an error.
Type: xsd:boolean

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.NotFound (p. 600)

Examples

Example Request
This example reports instance health state for two instances.

https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Status=impaired
&InstanceId.0=i-9440effb
&InstanceId.1=i-0cf27c63
&AUTHPARAMS

API Version 2014-05-01
435
Example Request

This example reports instance health state for two instances with reason codes.

https://ec2.amazonaws.com/?Action=ReportInstanceStatus
&Description=Description+of+my+issue.
&Status=impaired
&InstanceId.0=i-9440effb
&InstanceId.1=i-0cf27c63
&ReasonCode.0=instance-performance-network
&ReasonCode.1=instance-performance-disk
&AUTHPARAMS

Example Response

  <requestId>b8131cff-dfbd-4277-bafe-be006fd0c4da</requestId>
  <return>true</return>
</ReportInstanceStatusResponse>
RequestSpotInstances

Description

Creates a Spot Instance request. Spot Instances are instances that Amazon EC2 starts on your behalf when the maximum price that you specify exceeds the current Spot Price. Amazon EC2 periodically sets the Spot Price based on available Spot Instance capacity and current Spot Instance requests. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Note

Users must be subscribed to the required product to run an instance with AWS Marketplace product codes.

Request Parameters

SpotPrice
The maximum hourly price for any Spot Instance launched to fulfill the request.
Type: String
Default: None
Required: Yes

InstanceCount
The maximum number of Spot Instances to launch.
Type: Integer
Default: 1
Required: No

Type
The Spot Instance request type.
Type: String
Valid values: one-time | persistent
Default: one-time
Required: No

ValidFrom
The start date of the request. If this is a one-time request, the request becomes active at this date and time and remains active until all instances launch, the request expires, or the request is canceled. If the request is persistent, the request becomes active at this date and time and remains active until it expires or is canceled.
Type: DateTime
Default: Request is effective indefinitely.
Required: No

ValidUntil
The end date of the request. If this is a one-time request, the request remains active until all instances launch, the request is canceled, or this date is reached. If the request is persistent, it remains active until it is canceled or this date and time is reached.
Type: DateTime
Default: Request is effective indefinitely.
Required: No

LaunchGroup
The instance launch group. Launch groups are Spot Instances that launch together and terminate together.
Type: String
Default: Instances are launched and terminated individually
Required: No

**AvailabilityZoneGroup**
The user-specified name for a logical grouping of bids.
When you specify `AvailabilityZoneGroup` in a Spot Instance request, all Spot Instances in the request are launched in the same Availability Zone. Instance proximity is maintained with this parameter, but choice of Availability Zone is not. `AvailabilityZoneGroup` applies only to bids for Spot Instances of the same instance type. Any additional Spot Instance requests that are specified with the same `AvailabilityZoneGroup` name are launched in that same Availability Zone, as long as at least one instance from the group is still active.

If there is no active instance running in the Availability Zone group that you specify for a new Spot Instance request (i.e., all instances are terminated, the bid is expired, or the bid falls below current market), then Amazon EC2 launches the instance in any Availability Zone where the constraint can be met. Consequently, the subsequent set of Spot Instances could be placed in a different zone from the original request, even if the same `AvailabilityZoneGroup` name was specified.

To ensure that all Spot Instances across all bids are launched into a particular Availability Zone, specify `LaunchSpecification.Placement.AvailabilityZone` in the API or `-availability-zone` in the CLI.

Type: String
Default: Instances are launched in any available Availability Zone.
Required: No

**LaunchSpecification.ImageId**
The ID of the AMI.
Type: String
Default: None
Required: Yes

**LaunchSpecification.KeyName**
The name of the key pair.
Type: String
Default: None
Required: No

**LaunchSpecification.SecurityGroupId.n**
The ID of the security group.
Type: String
Default: The instance uses the default security group.
Required: Conditional
Condition: To specify one or more security groups, you can use either `LaunchSpecification.SecurityGroupId.n` or `LaunchSpecification.SecurityGroup.n`.

**LaunchSpecification.SecurityGroup.n**
[EC2-Classic, default VPC] The name of the security group.
Type: String
Default: The instance uses the default security group.
Required: Conditional
Condition: To specify one or more security groups, you can use either `LaunchSpecification.SecurityGroupId.n` or `LaunchSpecification.SecurityGroup.n`.

**LaunchSpecification.UserData**
The MIME, Base64-encoded user data to make available to the instances.
Type: String
Default: None
Required: No
LaunchSpecification

**LaunchSpecification.InstanceType**

The instance type.

Type: String

Valid values: t1.micro | m1.small | m1.medium | m1.large | m1.xlarge | m3.xlarge | m3.2xlarge | c1.medium | c1.xlarge | c3.4xlarge | c3.8xlarge | ccl.4xlarge | cc2.8xlarge | cr1.8xlarge | g2.2xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.

Default: m1.small

Required: Yes

**LaunchSpecification.Placement.AvailabilityZone**

The placement constraint (for example, specific Availability Zone) for launching the instances. Specify if you want all of the Spot Instances in all of your bids to be launched in a particular Availability Zone. Specifying this option requires Amazon EC2 to find capacity in the specified Availability Zone instead of letting Amazon EC2 pick the best Availability Zone available; this can potentially delay the fulfillment of your bid, or require a higher bid price.

Type: String

Default: Amazon EC2 selects an Availability Zone.

Required: No

**LaunchSpecification.Placement.GroupName**

The name of an existing placement group to launch the instance into (for cluster instances).

Type: String

Default: None.

Required: No

**LaunchSpecification.KernelId**

The ID of the kernel.

Type: String

Default: None

Required: No

**LaunchSpecification.RamdiskId**

The ID of the RAM disk.

Type: String

Default: None

Required: No

**LaunchSpecification.BlockDeviceMapping.n.DeviceName**

The device name exposed to the instance (for example, /dev/sdh or xvdh). For more information, see Block Device Mapping.

Type: String

Default: None

Required: No

**LaunchSpecification.BlockDeviceMapping.n.NoDevice**

Suppresses the device mapping.

Type: Boolean

Default: true

Required: No

**LaunchSpecification.BlockDeviceMapping.n.VirtualName**

The name of the virtual device, ephemeral[0..3]. The number of instance store volumes depends on the instance type.

Type: String

Default: None
Constraint: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

Required: No

The ID of the snapshot.
Type: String
Default: None
Required: No

The size of the volume, in GiBs.
Type: Integer
Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.
Constraints: If the volume type is io1, the minimum size of the volume is 10 GiB. If you specify SnapshotId and VolumeSize, VolumeSize must be equal to or larger than the size of the snapshot.
Required: No

Indicates whether the volume is deleted on instance termination.
Type: Boolean
Default: true
Required: No

The volume type.
Type: String
Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
Default: standard
Required: No

The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4,000.
Default: None
Required: Required when the volume type is io1; not used with standard or gp2 volumes.

LaunchSpecification.Monitoring.Enabled
Enables monitoring for the instance.
Type: String
Default: Disabled
Required: No

LaunchSpecification.SubnetId
The ID of the subnet in which to launch the Spot Instance.
Type: String
Default: None
Required: No

LaunchSpecification.NetworkInterface.n.NetworkInterfaceId
[EC2-VPC] Attaches an existing interface to a single instance. Requires n=1 instances.
Type: String
Default:
LaunchSpecification.NetworkInterface.n.DeviceIndex

[EC2-VPC] Applies to both attaching existing network interfaces and when creating a network interface.
Type: Integer
Default:
Required: No

LaunchSpecification.NetworkInterface.n.SubnetId

[EC2-VPC] Applies only when creating a network interface.
Type: String
Default:
Required: No

LaunchSpecification.NetworkInterface.n.Description

[EC2-VPC] Applies only when creating a network interface.
Type: String
Default: None
Required: No

LaunchSpecification.NetworkInterface.n.PrivateIpAddress

[EC2-VPC] The primary private IP address of the network interface. Applies only when creating a network interface. Requires n=1 network interfaces in launch.
Only one private IP address can be designated as primary. Therefore, you can't specify this parameter if you are also specifying
LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.Primary with a value of true with the
Type: String
Default: None
Required: No


[EC2-VPC] The primary private IP address of the network interface. Applies only when creating a network interface. Requires n=1 network interfaces in launch.
Only one private IP address can be designated as primary. Therefore, you can't specify this parameter with LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.Primary with a value of true if you are also specifying the
Type: String
Default: None
Required: No

LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.Primary

[EC2-VPC] Indicates whether the private IP address is the primary private IP address. Applies only when creating a network interface. Requires n=1 network interfaces in launch.
Only one private IP address can be designated as primary. Therefore, you can't specify this parameter with a value of true if you specify the
Type: String
Default: None
Required: No

[EC2-VPC] The number of secondary private IP addresses to assign to a network interface. When you specify a number of secondary IP addresses, AWS automatically assigns these IP addresses within the subnet's range.

The number of IP addresses you can assign to a network interface varies by instance type. For more information, see Instance Types in the Amazon Elastic Compute Cloud User Guide.

For a single network interface, you can't specify this option and specify more than one private IP address using LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress.

Type: Integer
Default: None
Required: No

LaunchSpecification.NetworkInterface.n.AssociatePublicIpAddress

Indicates whether to assign an AWS public IP address to the instance that will be launched. Instances launched into a default subnet are assigned a public IP address by default. For information about instance IP addressing, see Amazon EC2 Instance IP Addressing.

Type: Boolean
Default: If launching into a default subnet, the default value is true. If launching into a nondefault subnet, the default value is false.
Required: No

LaunchSpecification.NetworkInterface.n.SecurityGroupId.n

The security group IDs to associate with the created instance. Applies only when creating a network interface.

Type: String
Default: None
Required: No

LaunchSpecification.NetworkInterface.n.DeleteOnTermination

Indicates whether to delete the network interface on instance termination. Applies to all network interfaces.

Type: Boolean
Default: 
Required: No

LaunchSpecification.IamInstanceProfile.Arn

The Amazon resource name (ARN) of the IAM instance profile to associate with the instances.

Type: String
Default: None
Required: No

LaunchSpecification.IamInstanceProfile.Name

The name of the IAM Instance Profile (IIP) to associate with the instances.

Type: String
Default: None
Required: No

LaunchSpecification.EbsOptimized

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Type: Boolean
Default: false
Required: No
Response Elements
The following elements are returned in a RequestSpotInstancesResponse element.

{} requestId
   The ID of the request.
   Type: xsd:string

{} spotInstanceRequestSet
   Information about the Spot Instance request, wrapped in an item element.
   Type: SpotInstanceRequestSetItemType (p. 557)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIID.NotFound (p. 600)
- InvalidGroup.NotFound (p. 600)
- InvalidSubnetID.NotFound (p. 600)
- MaxSpotInstanceCountExceeded (p. 600)

Examples
Example Request
This example creates a Spot Instance request for two m1.small instances and associates an IAM instance profile called s3access with them.

https://ec2.amazonaws.com/?Action=RequestSpotInstances
&SpotPrice=0.50
&InstanceCount=2
&Type=one-time
&AvailabilityZoneGroup=MyAzGroup
&LaunchSpecification.ImageId=ami-1a2b3c4d
&LaunchSpecification.KeyName=gsg-keypair
&LaunchSpecification.SecurityGroup.1=websrv
&LaunchSpecification.InstanceType=m1.small
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS

Example Response

<pre>&lt;RequestSpotInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2014-05-01/"&gt;
  &lt:requestId&gt;59dbff89-35bd-4eac-99ed-be587EXAMPLE&lt;/requestId&gt;
  &lt;spotInstanceRequestSet&gt;
    &lt;item&gt;
      &lt;spotInstanceRequestId&gt;sir-1a2b3c4d&lt;/spotInstanceRequestId&gt;
      &lt;spotPrice&gt;0.5&lt;/spotPrice&gt;
  &lt;/spotInstanceRequestSet&gt;
&lt;/RequestSpotInstancesResponse&gt;</pre>
Your Spot request has been submitted for review, and is pending evaluation.

Related Actions

- DescribeSpotInstanceRequests (p. 304)
- CancelSpotInstanceRequests (p. 54)
- DescribeSpotPriceHistory (p. 312)
ResetImageAttribute

Description

Resets an attribute of an AMI to its default value.

Note
The productCodes attribute can't be reset.

Request Parameters

ImageId
The ID of the AMI.
Type: String
Default: None
Required: Yes

Attribute
The attribute to reset (currently you can only reset the launch permission attribute).
Type: String
Default: None
Valid value: launchPermission
Required: Yes

Response Elements

The following elements are returned in a ResetImageAttributeResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds; otherwise, it returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidAMIId.NotFound (p. 600)

Examples

Example Request

This example resets the launchPermission attribute for the specified AMI.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetImageAttributeResponse>
```

Related Actions

- ModifyImageAttribute (p. 388)
- DescribeImageAttribute (p. 204)
ResetInstanceAttribute

Description

Resets an attribute of an instance to its default value. To reset the kernel or RAM disk, the instance must be in a stopped state. To reset the SourceDestCheck, the instance can be either running or stopped.

The SourceDestCheck attribute controls whether source/destination checking is enabled. The default value is true, which means checking is enabled. This value must be false for a NAT instance to perform NAT. For more information, see NAT Instances in the Amazon Virtual Private Cloud User Guide.

Request Parameters

InstanceId
- The ID of the instance.
  Type: String
  Default: None
  Required: Yes

Attribute
- The attribute to reset.
  Type: String
  Valid values: kernel | ramdisk | sourceDestCheck
  Default: None
  Required: Yes

Response Elements

The following elements are returned in a ResetInstanceAttributeResponse element.

requestId
- The ID of the request.
  Type: xsd:string

return
- Returns true if the request succeeds; otherwise, it returns an error.
  Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.NotFound (p. 600)
Examples

Example Request

This example resets the sourceDestCheck attribute.

https://ec2.amazonaws.com/?Action=ResetInstanceAttribute
&InstanceId=i-1a2b3c4d
&Attribute=sourceDestCheck
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetInstanceAttributeResponse>

Related Actions

- ModifyInstanceAttribute (p. 391)
- DescribeInstanceAttribute (p. 215)
**ResetNetworkInterfaceAttribute**

**Description**

Resets a network interface attribute. You can specify only one attribute at a time.

**Request Parameters**

*NetworkInterfaceId*

- The ID of the network interface.
- Type: String
- Default: None
- Required: Yes

*Attribute*

- The name of the attribute to reset.
- Type: String
- Valid values: SourceDestCheck (reset to true)
- Default: None
- Required: Yes

**Response Elements**

The following elements are returned in a `ResetNetworkInterfaceAttributeResponse` element.

*requestId*

- The ID of the request.
- Type: xsd:string

*return*

- Returns `true` if the request succeeds; otherwise, it returns an error.
- Type: xsd:boolean

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceID.NotFound (p. 600)

**Examples**

**Example Request**

This example resets the `sourceDestCheck` attribute for the specified network interface.

https://ec2.amazonaws.com/?Action=ResetNetworkInterfaceAttribute&NetworkInterfaceId=eni-ffda3197
Example Response

  <requestId>5187642e-3f16-44a3-b05f-24c3848b5162</requestId>
  <return>true</return>
</ResetNetworkInterfaceAttributeResponse>

Related Actions

- AttachNetworkInterface (p. 28)
- DetachNetworkInterface (p. 357)
- CreateNetworkInterface (p. 86)
- DeleteNetworkInterface (p. 148)
- DescribeNetworkInterfaceAttribute (p. 249)
- DescribeNetworkInterfaces (p. 251)
- ModifyNetworkInterfaceAttribute (p. 395)
ResetSnapshotAttribute

Description

Resets permission settings for the specified snapshot.

Request Parameters

**SnapshotId**
- The ID of the snapshot.
- Type: String
- Default: None
- Required: Yes

**Attribute**
- The attribute to reset (currently only the attribute for permission to create volumes can be reset)
- Type: String
- Default: None
- Valid value: `createVolumePermission`
- Required: Yes

Response Elements

The following elements are returned in a `ResetSnapshotAttributeResponse` element.

- **requestId**
  - The ID of the request.
  - Type: `xsd:string`

- **return**
  - Returns `true` if the request succeeds; otherwise, it returns an error.
  - Type: `xsd:boolean`

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidSnapshot.NotFound (p. 600)

Examples

Example Request

This example resets the permissions for `snap-1a2b3c4d`, making it a private snapshot that can only be used by the account that created it.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetSnapshotAttributeResponse>
```

Related Actions

- ModifySnapshotAttribute (p. 399)
- DescribeSnapshotAttribute (p. 294)
- DescribeSnapshots (p. 297)
- CreateSnapshot (p. 110)
RevokeSecurityGroupEgress

Description

Removes one or more egress rules from a security group for EC2-VPC. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be revoked.

Each rule consists of the protocol and the CIDR range or destination security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

Rule changes are propagated to instances within the security group as quickly as possible. However, a small delay might occur.

For more information, see Security Groups in the Amazon Virtual Private Cloud User Guide.

Request Parameters

GroupId

The ID of the security group.
Type: String
Default: None
Required: Yes

IpPermissions.n.IpProtocol

The IP protocol name or number (see Protocol Numbers).
When you call DescribeSecurityGroups, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, tcp, udp, or icmp).
Type: String
Valid values: tcp | udp | icmp or any protocol number (see Protocol Numbers). Use -1 to specify all.
Required: Yes

IpPermissions.n.FromPort

The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, you can use -1 to specify all ICMP types.
Type: Integer
Default: None
Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.ToPort

The end of port range for the TCP and UDP protocols, or an ICMP code number. For the ICMP code number, you can use -1 to specify all ICMP codes for the ICMP type.
Type: Integer
Default: None
Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.Groups.m.GroupId

The name of the destination security group. You can’t specify a destination security group and a CIDR IP address range.
Type: String
Default: None
Required: Yes
IpPermissions.n.IpRanges.m.CidrIp

The CIDR IP address range. You can't specify this parameter when specifying a destination security group.
Type: String
Default: 0.0.0.0/0
Constraints: A valid CIDR IP address range.
Required: No

Response Elements

The following elements are returned in a RevokeSecurityGroupEgressResponse element.

requestId

The ID of the request.
Type: xsd:string

return

Returns true if the request succeeds; otherwise, it returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.NotFound (p. 600)
- InvalidPermission.NotFound (p. 600)

Examples

Example Request

This example revokes the access that the specified security group has to the 205.192.0.0/16 and 205.159.0.0/16 address ranges on TCP port 80.

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=205.192.0.0/16
&IpPermissions.1.IpRanges.2.CidrIp=205.159.0.0/16
&AUTHPARAMS

Example Request

This example revokes the access that the specified security group has to the security group with the ID sg-9a8d7f5c on TCP port 1433.
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=1433
&IpPermissions.1.ToPort=1433
&IpPermissions.1.Groups.1.GroupId=sg-9a8d7f5c
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RevokeSecurityGroupEgressResponse>

Related Actions

- CreateSecurityGroup (p. 107)
- DescribeSecurityGroups (p. 289)
- AuthorizeSecurityGroupEgress (p. 35)
- AuthorizeSecurityGroupIngress (p. 38)
- AuthorizeSecurityGroupIngress (p. 456)
- DeleteSecurityGroup (p. 156)
RevokeSecurityGroupIngress

Description

Removes one or more ingress rules from a security group. The values that you specify in the revoke request (for example, ports) must match the existing rule’s values for the rule to be removed.

A security group is for use with instances either in the EC2-Classic platform or in a specific VPC. For more information, see Amazon EC2 Security Groups in the Amazon Elastic Compute Cloud User Guide and Security Groups for Your VPC in the Amazon Virtual Private Cloud User Guide.

Each rule consists of the protocol and the CIDR range or source security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

Rule changes are propagated to instances within the security group as quickly as possible. However, depending on the number of instances, a small delay might occur.

Request Parameters

**GroupId**
- The ID of the security group.
- Type: String
- Default: None
- Required: Required for a nondefault VPC; can be used instead of **GroupName** otherwise.

**GroupName**
- [EC2-Classic, default VPC] The name of the security group.
- Type: String
- Default: None
- Required: No

**IpPermissions.n.IpProtocol**
- The IP protocol name or number (see Protocol Numbers). For EC2-Classic, security groups can have rules only for TCP, UDP, and ICMP. For EC2-VPC, security groups can have rules assigned to any protocol number.
- When you use DescribeSecurityGroups, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, tcp, udp, or icmp).
- Type: String
- Valid values for EC2-Classic: tcp | udp | icmp or the corresponding protocol number (6 | 17 | 1).
- Valid values for EC2-VPC: tcp | udp | icmp or any protocol number (see Protocol Numbers). Use -1 to specify all.
- Required: Required for EC2-VPC.

**IpPermissions.n.FromPort**
- The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, you can use -1 to specify all ICMP types.
- Type: Integer
- Default: None
- Required: Required for ICMP and any protocol that uses ports.

**IpPermissions.n.ToPort**
- The end of port range for the TCP and UDP protocols, or an ICMP code number. For the ICMP code number, you can use -1 to specify all ICMP codes for the ICMP type.
- Type: Integer
Default: None
Required: Required for ICMP and any protocol that uses ports.

IpPermissions.n.Groups.m.GroupName
[EC2-Classic, default VPC] The name of the source security group. You can't specify a source security group and a CIDR IP address range.
Type: String
Default: None
Required: No

IpPermissions.n.Groups.m.GroupId
The ID of the source security group. You can't specify a source security group and a CIDR IP address range.
Type: String
Default: None
Required: Required for nondefault VPCs; can be used instead of GroupName otherwise.

IpPermissions.n.Groups.m.UserId
[EC2-Classic] The ID of the AWS account that owns the source security group, if it's not the current AWS account.
Type: String
Default: None
Required: No

IpPermissions.n.IpRanges.m.CidrIp
The CIDR IP address range. You can't specify this parameter when specifying a source security group.
Type: String
Default: 0.0.0.0/0
Constraints: A valid CIDR IP address range.
Required: No

Response Elements

The following elements are returned in a RevokeSecurityGroupIngressResponse element.

requestId
The ID of the request.
Type: xsd:string

return
Returns true if the request succeeds; otherwise, it returns an error.
Type: xsd:boolean

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidGroup.NotFound (p. 600)
- InvalidPermission.Malformed (p. 600)
- InvalidPermission.NotFound (p. 600)
Examples

Example Request

This example revokes TCP port 80 access from the 205.192.0.0/16 address range for the security group named websrv. If the security group is for a VPC, specify the ID of the security group instead of the name.

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpProtocol=tcp
&FromPort=80
&ToPort=80
&CidrIp=205.192.0.0/16
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RevokeSecurityGroupIngressResponse>
```

Related Actions

- CreateSecurityGroup (p. 107)
- DescribeSecurityGroups (p. 289)
- AuthorizeSecurityGroupIngress (p. 38)
- DeleteSecurityGroup (p. 156)
RunInstances

Description

Launches the specified number of instances using an AMI for which you have permissions.

When you launch an instance, it enters the pending state. After the instance is ready for you, it enters the running state. To check the state of your instance, call DescribeInstances (p. 219).

If you don't specify a security group when launching an instance, Amazon EC2 uses the default security group. For more information, see Security Groups in the Amazon Elastic Compute Cloud User Guide.

Linux instances have access to the public key of the key pair at boot. You can use this key to provide secure access to the instance. Amazon EC2 public images use this feature to provide secure access without passwords. For more information, see Key Pairs in the Amazon Elastic Compute Cloud User Guide.

You can provide optional user data when launching an instance. For more information, see Instance Metadata in the Amazon Elastic Compute Cloud User Guide.

Warning

If any of the AMIs have a product code attached for which the user has not subscribed, RunInstances fails.

For more information about troubleshooting, see What To Do If An Instance Immediately Terminates, and Troubleshooting Connecting to Your Instance in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

ImageId

The ID of the AMI, which you can get by calling DescribeImages.

Type: String
Default: None
Required: Yes

MinCount

The minimum number of instances to launch. If you specify a minimum that is more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches no instances.

Type: Integer
Default: None
Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see How many instances can I run in Amazon EC2 in the Amazon EC2 General FAQ.

Required: Yes

MaxCount

The maximum number of instances to launch. If you specify more instances than Amazon EC2 can launch in the target Availability Zone, Amazon EC2 launches the largest possible number of instances above MinCount.

Type: Integer
Default: None
Constraints: Between 1 and the maximum number you're allowed for the specified instance type. For more information about the default limits, and how to request an increase, see How many instances can I run in Amazon EC2 in the Amazon EC2 General FAQ.

Required: Yes
KeyName
The name of the key pair. You can create a key pair using `CreateKeyPair` or `ImportKeyPair`.

Important
If you launch an instance without specifying a key pair, you can’t connect to the instance.

Type: String
Default: None
Required: No

SecurityGroupId.n
One or more security group IDs. You can create a security group using `CreateSecurityGroup`.

Type: String
Default: Amazon EC2 uses the default security group.
Required: No

SecurityGroup.n
[EC2-Classic, default VPC] One or more security group names. For a nondefault VPC, you must use `SecurityGroupId.n`.

Type: String
Default: Amazon EC2 uses the default security group.
Required: No

UserData
The Base64-encoded MIME user data for the instances.

Type: String
Default: None
Required: No

InstanceType
The instance type. For more information, see Instance Types in the *Amazon Elastic Compute Cloud User Guide*.

Type: String
Valid values: m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large |
| m3.xlarge | m3.2xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge |
c3.4xlarge | c3.8xlarge | cc2.8xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | r3.large |
r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | cr1.8xlarge | hi1.4xlarge |
h1.4xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | t1.micro | cg1.4xlarge |
g2.2xlarge
Default: m1.small
Required: No

Placement.AvailabilityZone
The Availability Zone for the instance.

Type: String
Default: Amazon EC2 selects the Availability Zone.
Required: No

Placement.GroupName
The name of an existing placement group.

Type: String
Default: None
Required: No

Placement.Tenancy
The tenancy of the instance. An instance with a tenancy of dedicated runs on single-tenant hardware and can only be launched into a VPC.

Type: String
Valid values: default | dedicated
Default: default
Required: No

**KernelId**
The ID of the kernel.

**Important**
We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.

Type: String
Default: None
Required: No

**RamdiskId**
The ID of the RAM disk.

**Important**
We recommend that you use PV-GRUB instead of kernels and RAM disks. For more information, see PV-GRUB in the Amazon Elastic Compute Cloud User Guide.

Type: String
Default: None
Required: No

**BlockDeviceMapping.n.DeviceName**
The device name exposed to the instance (for example, /dev/sdh or xvdh). For more information, see Block Device Mapping.

Type: String
Default: None
Required: No

**BlockDeviceMapping.n.VirtualName**
The virtual device name (ephemeral[0..3]). The number of available instance store volumes depends on the instance type. After you connect to the instance, you must mount the volume.

Type: String
Default: None
Constraint: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.
Required: No

**BlockDeviceMapping.n.Ebs.SnapshotId**
The ID of the snapshot.

Type: String
Default: None
Required: No

**BlockDeviceMapping.n.Ebs.VolumeSize**
The size of the volume, in GiBs.

Type: Integer
Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.

Constraints: If the volume type is io1, the minimum size of the volume is 10 GiB. If you specify `SnapshotId` and `VolumeSize`, `VolumeSize` must be equal to or larger than the size of the snapshot.
Required: No

**BlockDeviceMapping.n.Ebs.DeleteOnTermination**
Indicates whether to delete the volume on instance termination.

Type: Boolean
Default: true
Required: No

BlockDeviceMapping.n.Ebs.VolumeType
The volume type.
Type: String
Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
Default: standard
Required: No

BlockDeviceMapping.n.Ebs.Iops
The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4,000.
Default: None
Required: Required when the volume type is io1; not used with standard or gp2 volumes.

BlockDeviceMapping.n.Ebs.Encrypted
Specifies whether the volume is encrypted. Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.
Type: Boolean
Default: false
Required: No

BlockDeviceMapping.n.NoDevice
Suppresses the device mapping.
Type: empty element
Default: None
Required: No

Monitoring.Enabled
Enables monitoring for the instance.
Type: Boolean
Default: false
Required: No

SubnetId
[EC2-VPC] The ID of the subnet to launch the instance into.
Type: String
Default: None
Required: No

DisableApiTermination
If you set this parameter to true, you can't terminate the instance using the Amazon EC2 console, CLI, or API; otherwise, you can. If you set this parameter to true and then later want to be able to terminate the instance, you must first change the value of the disableApiTermination attribute to false using ModifyInstanceAttribute. Alternatively, if you set InstanceInitiatedShutdownBehavior to terminate, you can terminate the instance by running the shutdown command from the instance.
Type: Boolean
Default: false
Required: No

InstanceInitiatedShutdownBehavior
Indicates whether an instance stops or terminates when you initiate shutdown from the instance (using the operating system command for system shutdown).
Type: String
Valid values: `stop` | `terminate`  
Default: `stop`  
Required: No  

**PrivateIpAddresses**  
[EC2-VPC] The primary IP address. You must specify a value from the IP address range of the subnet.  
Only one private IP address can be designated as primary. Therefore, you can't specify this parameter if `PrivateIpAddresses.n.Primary` is set to `true` and `PrivateIpAddresses.n.PrivateIpAddress` is set to an IP address.  
Type: String  
Default: Amazon EC2 selects an IP address from the IP address range of the subnet.  
Required: No  

**ClientToken**  
Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, see [How to Ensure Idempotency](http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ensure-idempotency.html) in the *Amazon Elastic Compute Cloud User Guide*.  
Type: String  
Default: None  
Constraints: Maximum 64 ASCII characters  
Required: No  

**NetworkInterface.n.NetworkInterfaceId**  
An existing interface to attach to a single instance. Requires n=1 instances.  
Type: String  
Default: None  
Required: No  

**NetworkInterface.n.DeviceIndex**  
The device index. Applies both to attaching an existing network interface and creating a network interface.  
Type: Integer  
Default: None  
Required: Conditional  
Condition: If you are specifying a network interface in the request, you must provide the device index.  

**NetworkInterface.n.SubnetId**  
The subnet ID. Applies only when creating a network interface.  
Type: String  
Default: None  
Required: No  

**NetworkInterface.n.Description**  
A description. Applies only when creating a network interface.  
Type: String  
Default: None  
Required: No  

**NetworkInterface.n.PrivateIpAddress**  
The primary private IP address. Applies only when creating a network interface. Requires n=1 network interfaces in launch.  
Type: String  
Default: None  
Required: No  

**NetworkInterface.n.SecurityGroupId.n**  
The ID of the security group. Applies only when creating a network interface.
Type: String  
Default: None  
Required: No

**NetworkInterface.n.DeleteOnTermination**  
Indicates whether to delete the network interface on instance termination.  
Type: Boolean  
Default: None  
Required: No

**NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress**  
The private IP address. This parameter can be used multiple times to specify explicit private IP addresses for a network interface, but only one private IP address can be designated as primary.  
Only one private IP address can be designated as primary. Therefore, you can’t specify this parameter if **NetworkInterface.n.PrivateIpAddresses.n.Primary** is set to true and **NetworkInterface.n.PrivateIpAddress** is set to an IP address.  
Type: String  
Default: None  
Required: No

**NetworkInterface.n.PrivateIpAddresses.n.Primary**  
Indicates whether the private IP address is the primary private IP address.  
Type: Boolean  
Default: None  
Required: No

**NetworkInterface.n.SecondaryPrivateIpAddressCount**  
The number of private IP addresses to assign to the network interface.  
For a single network interface, you can’t specify this option and specify more than one private IP address using **NetworkInterface.n.PrivateIpAddress**.  
Required: No

**NetworkInterface.n.AssociatePublicIpAddress**  
Indicates whether to assign a public IP address to an instance in a VPC. The public IP address is assigned to a specific network interface. If set to true, the following rules apply:  
• Can only be assigned to a single network interface with the device index of 0. You can’t assign a public IP address to a second network interface, and you can’t assign a public IP address if you are launching more than one network interface.  
• Can only be assigned to a new network interface, not an existing one.  
Type: Boolean  
Default: If launching into a default subnet, the default value is true. If launching into a nondefault subnet, the default value is false.  
Required: No

**IamInstanceProfile.Arn**  
The Amazon Resource Name (ARN) of the IAM instance profile to associate with the instances.  
Type: String  
Default: None  
Required: No

**IamInstanceProfile.Name**  
The name of the IAM Instance Profile (IIP) to associate with the instances.  
Type: String  
Default: None  
Required: No
**EbsOptimized**

Indicates whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal Amazon EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.

Type: Boolean
Default: false
Required: No

**Response Elements**

The following elements are returned in a RunInstancesResponse element.

- **requestId**
  The ID of the request.
  Type: xsd:string

- **reservationId**
  The ID of the reservation.
  Type: xsd:string

- **ownerId**
  The ID of the AWS account that owns the reservation.
  Type: xsd:string

- **groupSet**
  A list of security groups the instance belongs to. Each group is wrapped in an item element.
  Type: GroupItemType (p. 510)

- **instancesSet**
  A list of instances. Each instance is wrapped in an item element.
  Type: RunningInstancesItemType (p. 552)

- **requesterId**
  The ID of the requester that launched the instances on your behalf (for example, AWS Management Console, Auto Scaling).
  Type: xsd:string

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IdempotentParameterMismatch (p. 600)
- InsufficientFreeAddressesInSubnet (p. 600)
- InvalidAMIID.Malformed (p. 600)
- InvalidAMIID.NotFound (p. 600)
- InvalidAMIID.Unavailable (p. 600)
- InvalidBlockDeviceMapping (p. 600)
- InstanceLimitExceeded (p. 600)
- InvalidGroup.NotFound (p. 600)
- InvalidInterface.IpAddressLimitExceeded (p. 600)
- InvalidKeyPair.NotFound (p. 600)
Examples

Example Request

This example launches three instances using the AMI with the ID `ami-60a54009`.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-60a54009
&MaxCount=3
&MinCount=1
&KeyName=my-key-pair
&Placement.AvailabilityZone=us-east-1d
&AUTHPARAMS
```

Example Request

This example launches an `m1.small` instance into a subnet. Because no network interface is specified, the default network interface is used.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=m1.small
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SubnetId=subnet-b2a249da
&AUTHPARAMS
```

Example Request

This example launches an `m1.large` instance into a subnet. The network interface specifies a primary private IP address of `10.0.2.106` and two secondary private IP addresses (`10.0.2.107` and `10.0.2.108`).

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-beb0caec
&InstanceType=m1.large
```
Example Request

This example launches a Dedicated Instance into the specified subnet.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2a1fec43
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&NetworkInterface.0.DeviceIndex=0
&NetworkInterface.0.PrivateIpAddresses.0.Primary=true
&NetworkInterface.0.PrivateIpAddresses.0.PrivateIpAddress=10.0.2.106
&NetworkInterface.0.PrivateIpAddresses.1.Primary=false
&NetworkInterface.0.PrivateIpAddresses.1.PrivateIpAddress=10.0.2.107
&NetworkInterface.0.PrivateIpAddresses.2.Primary=false
&NetworkInterface.0.PrivateIpAddresses.2.PrivateIpAddress=10.0.2.108
&NetworkInterface.0.SubnetId=subnet-a61dafcf
&AUTHPARAMS
```
Related Actions

- DescribeInstances (p. 219)
- StopInstances (p. 471)
- StartInstances (p. 469)
- TerminateInstances (p. 473)
- AuthorizeSecurityGroupIngress (p. 38)
- RevokeSecurityGroupIngress (p. 456)
- DescribeSecurityGroups (p. 289)
- CreateSecurityGroup (p. 107)
- CreateKeyPair (p. 78)
- ImportKeyPair (p. 382)
StartInstances

Description

Starts an Amazon EBS-backed AMI that you've previously stopped.

Instances that use Amazon EBS volumes as their root devices can be quickly stopped and started. When an instance is stopped, the compute resources are released and you are not billed for hourly instance usage. However, your root partition Amazon EBS volume remains, continues to persist your data, and you are charged for Amazon EBS volume usage. You can restart your instance at any time. Each time you transition an instance from stopped to started, Amazon EC2 charges a full instance hour, even if transitions happen multiple times within a single hour.

Before stopping an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM.

Performing this operation on an instance that uses an instance store as its root device returns an error.

For more information, see Stopping Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

InstanceId.n
One or more instance IDs.
Type: String
Default: None
Required: Yes

Response Elements

The following elements are returned in a StartInstancesResponse element.

requestId
The ID of the request.
Type: xsd:string

instancesSet
A list of instance state changes. Each change is wrapped in an item element.
Type: InstanceStateChangeType (p. 522)

Errors

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectInstanceState (p. 600)
- InstanceLimitExceeded (p. 600)
- InvalidInstanceID.Malformed (p. 600)
- InvalidInstanceID.NotFound (p. 600)
- InvalidParameterValue (p. 600)
Examples

Example Request

This example starts the specified instance.

https://ec2.amazonaws.com/?Action=StartInstances
&InstanceId.1=i-10a64379
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-10a64379</instanceId>
      <currentState>
        <code>0</code>
        <name>pending</name>
      </currentState>
      <previousState>
        <code>80</code>
        <name>stopped</name>
      </previousState>
    </item>
  </instancesSet>
</StartInstancesResponse>

Related Actions

- StopInstances (p. 471)
- RunInstances (p. 459)
- DescribeInstances (p. 219)
- TerminateInstances (p. 473)
**StopInstances**

**Description**

Stops an Amazon EBS-backed instance. Each time you transition an instance from stopped to started, Amazon EC2 charges a full instance hour, even if transitions happen multiple times within a single hour.

You can't start or stop Spot Instances.

Instances that use Amazon EBS volumes as their root devices can be quickly stopped and started. When an instance is stopped, the compute resources are released and you are not billed for hourly instance usage. However, your root partition Amazon EBS volume remains, continues to persist your data, and you are charged for Amazon EBS volume usage. You can restart your instance at any time.

Before stopping an instance, make sure it is in a state from which it can be restarted. Stopping an instance does not preserve data stored in RAM.

Performing this operation on an instance that uses an instance store as its root device returns an error.

You can stop, start, and terminate Amazon EBS-backed instances. You can only terminate instance store-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, its root device and any other devices attached to the instance persist. When you terminate an instance, the instance's root device and any other devices that were attached to the instance during the instance launch are automatically deleted. For more information about the differences between stopping and terminating instances, see Instance Lifecycle in the Amazon Elastic Compute Cloud User Guide.

For more information about troubleshooting, see Troubleshooting Stopping Your Instance in the Amazon Elastic Compute Cloud User Guide.

**Request Parameters**

**InstanceId.n**
- One or more instance IDs.
- Type: String
- Default: None
- Required: Yes

**Force**
- Forces the instances to stop. The instances do not have an opportunity to flush file system caches or file system metadata. If you use this option, you must perform file system check and repair procedures. This option is not recommended for Windows instances.
- Type: Boolean
- Default: false
- Required: No

**Response Elements**

The following elements are returned in a StopInstancesResponse element.

**requestId**
- The ID of the request.
- Type: xsd:string
instancesSet
A list of instance state changes. Each change is wrapped in an item element.
Type: InstanceStateChangeType (p. 522)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- IncorrectInstanceState (p. 600)
- InvalidInstanceID.Malformed (p. 600)
- InvalidInstanceID.NotFound (p. 600)

Examples

Example Request
This example stops the specified instance.

https://ec2.amazonaws.com/?Action=StopInstances&InstanceId.1=i-10a64379

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-10a64379</instanceId>
      <currentState>
        <code>64</code>
        <name>stopping</name>
      </currentState>
      <previousState>
        <code>16</code>
        <name>running</name>
      </previousState>
    </item>
  </instancesSet>
</StopInstancesResponse>

Related Actions

- StartInstances (p. 469)
- RunInstances (p. 459)
- DescribeInstances (p. 219)
- TerminateInstances (p. 473)
**TerminateInstances**

**Description**

Shuts down one or more instances. This operation is idempotent; if you terminate an instance more than once, each call succeeds.

Terminated instances remain visible after termination (for approximately one hour).

**Note**

By default, Amazon EC2 deletes all Amazon EBS volumes that were attached when the instance launched. Volumes attached after instance launch continue running.

You can stop, start, and terminate Amazon EBS-backed instances. You can only terminate instance store-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, its root device and any other devices attached to the instance persist. When you terminate an instance, the instance's root device and any other devices that were attached to the instance during the instance launch are automatically deleted. For more information about the differences between stopping and terminating instances, see Instance Lifecycle in the *Amazon Elastic Compute Cloud User Guide*.

For more information about troubleshooting, see Troubleshooting Terminating Your Instance in the *Amazon Elastic Compute Cloud User Guide*.

**Request Parameters**

`InstanceId.n`

One or more instance IDs.

- **Type**: String
- **Default**: None
- **Required**: Yes

**Response Elements**

The following elements are returned in a `TerminateInstancesResponse` element.

- **requestId**
  - The ID of the request.
  - **Type**: xsd:string

- **instancesSet**
  - A list of instance state changes. Each change is wrapped in an `item` element.
  - **Type**: `InstanceStateChangeType` (p. 522)

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.Malformed (p. 600)
- InvalidInstanceId.NotFound (p. 600)
Examples

Example Request

This example terminates the specified instance.

https://ec2.amazonaws.com/?Action=TerminateInstances
&InstanceId.1=i-3ea74257
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-3ea74257</instanceId>
      <currentState>
        <code>32</code>
        <name>shutting-down</name>
      </currentState>
      <previousState>
        <code>16</code>
        <name>running</name>
      </previousState>
    </item>
  </instancesSet>
</TerminateInstancesResponse>

Related Actions

- DescribeInstances (p. 219)
- RunInstances (p. 459)
- StopInstances (p. 471)
- StartInstances (p. 469)
UnassignPrivateIpAddresses

**Description**

Unassigns one or more secondary private IP addresses from a network interface.

**Request Parameters**

- **NetworkInterfaceId**
  - The ID of the network interface.
  - Type: String
  - Default: None
  - Required: Yes

- **PrivateIpAddress.n**
  - The secondary private IP addresses to unassign from the network interface. You can specify this option multiple times to unassign more than one IP address.
  - Type: AssignPrivateIpAddressesSetItemRequestType (p. 483)
  - Default: None
  - Required: Yes

**Response Elements**

The following elements are returned in an UnassignPrivateIpAddressesResponse element.

- **requestId**
  - The ID of the request.
  - Type: xsd:string

- **return**
  - Returns true if the request succeeds; otherwise, it returns an error.
  - Type: xsd:boolean

**Errors**

The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidNetworkInterfaceID.NotFound (p. 600)
- InvalidParameterValue (p. 600)

**Examples**

**Example Request**

The following example unassigns two secondary private IP addresses from the specified network interface.
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</UnassignPrivateIpAddresses>
```

Related Actions

- AssignPrivateIpAddresses (p. 16)
UnmonitorInstances

Description
Disables monitoring for a running instance. For more information about monitoring instances, see Monitoring Your Instances and Volumes in the Amazon Elastic Compute Cloud User Guide.

Request Parameters
InstanceId.n
- One or more instance IDs.
- Type: String
- Default: None
- Required: Yes

Response Elements
The following elements are returned in an UnmonitorInstancesResponse element.

requestId
- The ID of the request.
- Type: xsd:string

instancesSet
- A list of monitoring information for one or more instances. Each set of information is wrapped in an item element.
- Type: MonitorInstancesResponseSetItemType (p. 532)

Errors
The following are some of the client API errors you might encounter when using this request. For more information about common API errors, see Common Causes of EC2 API Client Errors (p. 585). For a summary of API error codes, see Client Error Codes (p. 586).

- InvalidInstanceId.NotFound (p. 600)
- InvalidState (p. 600)

Examples

Example Request
This example disables monitoring for the specified instances.

https://ec2.amazonaws.com/?Action=UnmonitorInstances
&InstanceId.1=i-43a4412a
&InstanceId.2=i-23a3397d
&AUTHPARAMS
Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instancesSet>
    <item>
      <instanceId>i-43a4412a</instanceId>
      <monitoring>
        <state>disabled</state>
      </monitoring>
    </item>
    <item>
      <instanceId>i-23a3397d</instanceId>
      <monitoring>
        <state>disabled</state>
      </monitoring>
    </item>
  </instancesSet>
</UnmonitorInstancesResponse>
```

Related Actions

- MonitorInstances (p. 405)
- RunInstances (p. 459)
Data Types

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- AccountAttributeValueSetItemType (p. 482)
- AssignPrivateIpAddressesSetItemRequestType (p. 483)
- AttachmentSetItemResponseType (p. 483)
- AttachmentType (p. 484)
- AvailabilityZoneItemType (p. 484)
- AvailabilityZoneMessageType (p. 485)
- BlockDeviceMappingItemType (p. 486)
- BundleInstanceS3StorageType (p. 486)
- BundleInstanceTaskErrorType (p. 487)
- BundleInstanceTaskStorageType (p. 488)
- BundleInstanceTaskType (p. 488)
- CancelSpotInstanceRequestsSetItemResponseType (p. 489)
- ConversionTaskType (p. 490)
- CreateVolumePermissionItemType (p. 490)
- CustomerGatewayType (p. 491)
- DescribeAddressesResponseType (p. 492)
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- DescribeReservedInstancesOfferingsResponseSetItemResponse (p. 497)
- DescribeReservedInstancesOfferingsResponseType (p. 499)
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- DhcpConfigurationItemType (p. 503)
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• ExportTaskResponseType (p. 508)
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• GroupItemType (p. 510)
• iamInstanceProfileRequestType (p. 510)
• iamInstanceProfileResponseType (p. 511)
• IcmpTypeCodeType (p. 511)
• ImportInstanceTaskDetailsType (p. 512)
• ImportInstanceVolumeDetailItemType (p. 512)
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• InstanceStateType (p. 522)
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• NetworkAclEntryType (p. 533)
• NetworkAclType (p. 534)
• NetworkInterfaceAssociationType (p. 535)
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• RouteTableType (p. 550)
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• SpotDatafeedSubscriptionType (p. 557)
• SpotInstanceRequestSetItemType (p. 557)
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• UserDataType (p. 563)
• UserIdGroupPairType (p. 564)
• VolumeStatusItemtype (p. 565)
• VolumeStatusInfoType (p. 565)
• VolumeStatusDetailsItemtype (p. 566)
• VolumeStatusEventItemtype (p. 566)
• VolumeStatusActionItemtype (p. 567)
• VpcType (p. 568)
AccountAttributeSetItemType

Describes an account attribute.

Ancestors

• AccountAttributeSetType

Relevant Operations

• DescribeAccountAttributes (p. 179)

Contents

attributeName
  The name of the attribute.
  Type: String
attributeValueSet
  A list of the attribute values, each one wrapped in an item element.
  Type: AccountAttributeValueSetItemType (p. 482)

AccountAttributeValueSetItemType

Describes a value of an account attribute.

Ancestors

• AccountAttributeSetItemType (p. 482)

Relevant Operations

• DescribeAccountAttributes (p. 179)
Contents

attributeValue
The value of the attribute.
Type: String

AssignPrivateIpAddressesSetItemType
Description of a private IP address.

Ancestors

• AssignPrivateIpAddressesType

Relevant Operations

• AssignPrivateIpAddresses (p. 16)
• UnassignPrivateIpAddresses (p. 475)

Contents

privateIpAddress
The private IP address.
Type: String

AttachmentSetItemResponseType
Description of an attachment between a volume and an instance.

Ancestors

• AttachmentSetResponseType

Relevant Operations

• DescribeVolumes (p. 328)

Contents

volumeId
The ID of the volume.
Type: String
instanceId
   The ID of the instance.
   Type: String
device
   The device name exposed to the instance (for example, /dev/sdh).
   Type: String
status
   The attachment state.
   Type: String
   Valid values: attaching | attached | detaching | detached
attachTime
   The time stamp when the attachment initiated.
   Type: DateTime
deleteOnTermination
   Indicates whether the volume is deleted on instance termination.
   Type: Boolean

AttachmentType

Describes an attachment between a virtual private gateway and a VPC.

Ancestors

- AttachmentSetType

Relevant Operations

- AttachVpnGateway (p. 33)
- CreateVpnGateway (p. 134)
- DescribeVpnGateways (p. 351)

Contents

vpcId
   The ID of the VPC.
   Type: String
state
   The current state of the attachment.
   Type: String
   Valid values: attaching | attached | detaching | detached

AvailabilityZoneItemType

Describes an Availability Zone.
**Ancestors**

- AvailabilityZoneSetType

**Relevant Operations**

- DescribeAvailabilityZones (p. 186)

**Contents**

- **zoneName**
  - The name of the Availability Zone.
  - Type: String

- **zoneState**
  - The state of the Availability Zone.
  - Type: String
  - Valid values: available | impaired | unavailable

- **regionName**
  - The name of the region.
  - Type: String

- **messageSet**
  - Any messages about the Availability Zone, each one wrapped in an item element.
  - Type: AvailabilityZoneMessageType (p. 485)

**AvailabilityZoneMessageType**

Describes a message about an Availability Zone.

**Ancestors**

- AvailabilityZoneMessageSetType

**Relevant Operations**

- DescribeAvailabilityZones (p. 186)

**Contents**

- **message**
  - The message about the Availability Zone.
  - Type: String
BlockDeviceMappingItemType

Describes a block device mapping.

Ancestors

- BlockDeviceMappingType

Relevant Operations

- DescribeImageAttribute (p. 204)
- DescribeImages (p. 207)
- DescribeSpotInstanceRequests (p. 304)
- RegisterImage (p. 415)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)

Contents

deviceName

The device name exposed to the instance (for example, /dev/sdh).

Type: String

virtualName

The virtual device name (ephemeral[0..3]). The number of available instance store volumes depends on the instance type.

Type: String

Constraint: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

ebs

Parameters used to set up Amazon EBS volumes automatically when the instance is launched.

Type: EbsBlockDeviceType (p. 506)

noDevice

Include this empty element to suppress the specified device included in the block device mapping of the AMI.

BundleInstanceS3StorageType

Describes the Amazon S3 bucket for an instance store-backed AMI.

Ancestors

- BundleInstanceTaskStorageType (p. 488)
Relevant Operations

- BundleInstance (p. 42)
- CancelBundleTask (p. 45)
- DescribeBundleTasks (p. 189)

Contents

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>awsAccessKeyId</td>
<td>The access key ID of the owner of the bucket. Before you specify a value, review and follow the guidance in Best Practices for Managing AWS Access Keys. Type: String</td>
</tr>
<tr>
<td>bucket</td>
<td>The bucket in which to store the AMI. You can specify a bucket that you already own or a new bucket that Amazon EC2 creates on your behalf. If you specify a bucket that belongs to someone else, Amazon EC2 returns an error. Type: String</td>
</tr>
<tr>
<td>prefix</td>
<td>The beginning of the file name of the AMI. Type: String</td>
</tr>
<tr>
<td>uploadPolicy</td>
<td>A base64-encoded Amazon S3 upload policy that gives Amazon EC2 permission to upload items into Amazon S3 on the user’s behalf. Type: String</td>
</tr>
<tr>
<td>uploadPolicySignature</td>
<td>The signature of the base64-encoded JSON document. Type: String</td>
</tr>
</tbody>
</table>

BundleInstanceTaskErrorType

Describes an error for BundleInstance.

Ancestors

- BundleInstanceTaskType (p. 488)

Relevant Operations

- BundleInstance (p. 42)
- CancelBundleTask (p. 45)
- DescribeBundleTasks (p. 189)
Contents

code
  The error code.
  Type: String
message
  The error message.
  Type: String

BundleInstanceTaskStorageType

Describes the storage location for an instance store-backed AMI.

Ancestors

  • BundleInstanceTaskType (p. 488)

Relevant Operations

  • BundleInstance (p. 42)
  • CancelBundleTask (p. 45)
  • DescribeBundleTasks (p. 189)

Contents

S3
  An Amazon S3 storage location.
  Type: BundleInstanceS3StorageType (p. 486)

BundleInstanceTaskType

Describes a bundle task.

Ancestors

  • BundleInstanceTasksSetType

Relevant Operations

  • BundleInstance (p. 42)
  • CancelBundleTask (p. 45)
  • DescribeBundleTasks (p. 189)
instanceId
  The ID of the instance associated with this bundle task.
  Type: String
bundleId
  The ID for this bundle task.
  Type: String
state
  The state of the task.
  Type: String
    Valid values: pending | waiting-for-shutdown | bundling | storing | cancelling | complete | failed
startTime
  The time this task started.
  Type: DateTime
updateTime
  The time of the most recent update for the task.
  Type: DateTime
storage
  The Amazon S3 storage locations.
  Type: BundleInstanceTaskStorageType (p. 488)
progress
  The level of task completion, as a percent (for example, 20%).
  Type: String
error
  If the task fails, a description of the error.
  Type: BundleInstanceTaskErrorType (p. 487)

CancelSpotInstanceRequestsResponseSetItemType

Describes a request to cancel a Spot Instance.

Ancestors

- CancelSpotInstanceRequestsResponseSetType

Relevant Operations

- CancelSpotInstanceRequests (p. 54)

Contents

spotInstanceRequestId
  The ID of the Spot Instance request.
  Type: String
ConversionTaskType

Describes a conversion task.

Ancestors

- ConversionTaskSetType

Relevant Operations

- DescribeConversionTasks (p. 192)
- ImportInstance (p. 378)
- ImportVolume (p. 385)

Contents

conversionTaskId
The ID of the conversion task
Type: String

expirationTime
The time when the task expires. If the upload isn’t complete before the expiration time, we automatically cancel the task.
Type: String

importVolume
If the task is for importing a volume, this contains information about the import volume task.
Type: ImportVolumeTaskDetailsType (p. 513)

importInstance
If the task is for importing an instance, this contains information about the import instance task.
Type: ImportInstanceTaskDetailsType (p. 512)

state
The state of the conversion task.
Type: String
Valid values: active | cancelling | cancelled | completed

statusMessage
The status message related to the conversion task.
Type: String

CreateVolumePermissionItemType

Describes volume creation permissions.
Ancestors

- CreateVolumePermissionListType

Relevant Operations

- DescribeSnapshotAttribute (p. 294)
- ModifySnapshotAttribute (p. 399)

Contents

userId
   The ID of an AWS account that can create volumes from the snapshot.
   Type: String

group
   The group that is allowed to create volumes from the snapshot.
   Type: String
   Valid value: all

CustomerGatewayType

Describes a customer gateway.

Ancestors

- CustomerGatewaySetType

Relevant Operations

- CreateCustomerGateway (p. 64)
- DescribeCustomerGateways (p. 194)

Contents

customerGatewayId
   The ID of the customer gateway.
   Type: String

state
   The current state of the customer gateway.
   Type: String
   Valid values: pending | available | deleting | deleted

type
   The type of VPN connection that the customer gateway supports.
   Type: String
Valid values: ipsec.1

ipAddress
The Internet-routable IP address of the customer gateway's outside interface.
Type: String

bgpAsn
The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
Type: Integer

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItem (p. 549)

DescribeAddressesResponseItemType

Describes an IP address.

Ancestors

• DescribeAddressesResponseInfoType

Relevant Operations

• DescribeAddresses (p. 182)

Contents

publicIp
The public IP address.
Type: String

allocationId
The ID representing the allocation of the address for use with EC2-VPC.
Type: String

domain
Indicates whether this Elastic IP address is for instances in EC2-Classic or EC2-VPC.
Type: String
Valid values: standard | vpc

instanceId
The ID of the instance the address is associated with (if any).
Type: String

associationId
The ID representing the association of an Elastic IP address with an instance in a VPC.
Type: String

networkInterfaceId
The ID of the network interface.
Type: String

networkInterfaceOwnerId
The ID of the AWS account that owns the network interface.
DescribeImagesResponseItemType

Describes an image.

Ancestors

• DescribeImagesResponseInfoType

Relevant Operations

• DescribeImages (p. 207)

Contents

imageId
The ID of the AMI.
Type: String

imageLocation
The location of the AMI.
Type: String

imageState
The current state of the AMI. If the state is available, the image is successfully registered and can be used to launch an instance.
Type: String
Valid values: available | pending | failed

imageOwnerId
The AWS account ID of the image owner.
Type: String

isPublic
Indicates whether the image has public launch permissions. The value is true if this image has public launch permissions or false if it has only implicit and explicit launch permissions.
Type: Boolean

productCodes
Any product codes associated with the AMI, each one wrapped in an item element.
Type: ProductCodesSetItemType (p. 544)

architecture
The architecture of the image.
Type: String
Valid values: i386 | x86_64

imageType
The type of image.
Type: String
Valid values: machine | kernel | ramdisk

kernelId
The kernel associated with the image, if any. Only applicable for machine images.
Type: String
ramdiskId
The RAM disk associated with the image, if any. Only applicable for machine images.
Type: String
platform
The value is Windows for Windows AMIs; otherwise blank.
Type: String
srивNetSupport
Specifies whether enhanced networking is enabled.
Type: String
Valid values: simple
stateReason
The reason for the state change.
Type: StateReasonType (p. 561)
imageOwnerAlias
The AWS account alias (for example, amazon, self) or the AWS account ID of the AMI owner.
Type: String
name
The name of the AMI that was provided during image creation.
Type: String
description
The description of the AMI that was provided during image creation.
Type: String
rootDeviceType
The type of root device used by the AMI. The AMI can use an Amazon EBS volume or an instance store volume.
Type: String
Valid values: ebs | instance-store
rootDeviceName
The device name of the root device (for example, /dev/sdal or xvda).
Type: String
blockDeviceMapping
Any block device mapping entries, each one wrapped in an item element.
Type: BlockDeviceMappingItemType (p. 486)
virtualizationType
The type of virtualization of the AMI.
Type: String
Valid values: paravirtual | hvm
tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)
hypervisor
The hypervisor type of the image.
Type: String
Valid values: ovm | xen
DescribeKeyPairsResponseItemType

Describes a key pair.

Ancestors

• DescribeKeyPairsResponseInfoType

Relevant Operations

• DescribeKeyPairs (p. 240)

Contents

keyName
The name of the key pair.
Type: String
keyFingerprint
If you used CreateKeyPair to create the key pair, this is the SHA-1 digest of the DER encoded private key. If you used ImportKeyPair to provide AWS with the public key, this is the MD5 public key fingerprint as specified in section 4 of RFC4716.
Type: String

DescribeReservedInstancesListingsResponseSetItemType

Describes a Reserved Instance listing.

Ancestors

• DescribeReservedInstancesListingsResponseType

Relevant Operations

• DescribeReservedInstancesListings (p. 267)

Contents

reservedInstancesListingId
The ID of the Reserved Instance listing.
Type: String
reservedInstancesId
The ID of the Reserved Instance.
Type: String
createDate
The time the listing was created.
DescribeReservedInstancesListingSetItemType

Describes a Reserved Instance listing.

Ancestors

- DescribeReservedInstancesListings

Relevant Operations

- DescribeReservedInstancesListings (p. 267)

Contents

reservedInstancesListingId

The ID of the Reserved Instance listing.

Type: String

clientToken

The idempotency token that you provided when you created the listing.

Type: String

status

The status of the Reserved Instance listing.

Type: String

Valid values: active | pending | cancelled | closed.

statusMessage

The reason for the current status of the Reserved Instance listing. The response can be blank.

Type: String

instanceCounts

The number of instances in this state.

Type: InstanceCountsSetType (p. 516)

priceSchedules

The price of the Reserved Instance listing.

Type: PriceScheduleSetType (p. 542)

tagSet

The tags assigned to the resource. Each tag's information is wrapped in an item element.

Type: ResourceTagSetItemType (p. 549)

DescribeReservedInstancesModificationsResponseSetItemType

Describes a Reserved Instance modification.

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Ancestors

- DescribeReservedInstancesModificationsResponseSetType

Relevant Operations

- DescribeReservedInstancesModifications (p. 271)

Contents

reservedInstancesModificationId
    Unique ID for the Reserved Instance modification.
    Type: String

clientToken
    Unique, case-sensitive key supplied by the client to ensure that the modification request is idempotent.
    Type: String

reservedInstancesId
    IDs of Reserved Instances supplied as part of the modification request.
    Type: String

modificationResults
    Contains target configurations along with their corresponding new Reserved Instance IDs.
    Type: ReservedInstancesConfigurationSetItemType (p. 548)

createDate
    Time when the modification request was created.
    Type: String

updateDate
    Time when the modification request was last updated.
    Type: String

effectiveDate
    Time for the modification to become effective.
    Type: String

status
    The status of the Reserved Instances modification request.
    Type: String
    Valid Values: processing|fulfilled|failed

statusMessage
    The reason for the status.
    Type: String

DescribeReservedInstancesOfferingsResponseSetItemType

Descries a Reserved Instance offering.

Ancestors

- DescribeReservedInstancesOfferingsResponseSetType
Relevant Operations

- DescribeReservedInstancesOfferings (p. 275)

Contents

reservedInstancesOfferingId
  - The ID of the Reserved Instance offering.
  - Type: String

instanceType
  - The instance type on which the Reserved Instance can be used.
  - Type: String

availabilityZone
  - The Availability Zone in which the Reserved Instance can be used.
  - Type: String

duration
  - The duration of the Reserved Instance, in seconds.
  - Type: Long

fixedPrice
  - The purchase price of the Reserved Instance.
  - Type: Double

usagePrice
  - The usage price of the Reserved Instance, per hour.
  - Type: Double

productDescription
  - The Reserved Instance description.
  - Type: String
  - Valid values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)

instanceTenancy
  - The tenancy of the reserved instance.
  - Type: String
  - Valid values: default | dedicated

currencyCode
  - The currency of the Reserved Instance offering you are purchasing. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is USD.
  - Type: String

offeringType
  - The Reserved Instance offering type.
  - Type: String
  - Valid values: Heavy Utilization | Medium Utilization | Light Utilization

recurringCharges
  - The recurring charge tag assigned to the resource.
  - Type: RecurringChargesSetItemType (p. 546)

marketplace
  - Indicates whether the offering is available through the Reserved Instance Marketplace (resale) or AWS. Returns true if it is a Marketplace offering.
  - Type: Boolean
The pricing details of the Reserved Instance offering wrapped in an item element. Type: PricingDetailsSetItemType (p. 543).

DescribeReservedInstancesOfferingsResponseType

Describes a Reserved Instance offering.

Ancestors

• DescribeReservedInstancesOfferings

Relevant Operations

• DescribeReservedInstancesOfferings (p. 275)

Contents

requestId
The ID of the Reserved Instance offering request. Type: String

reservedInstancesOfferingsSet
The instance type on which the Reserved Instance can be used. Type: DescribeReservedInstancesOfferingsResponseSetItemType (p. 497)

nextToken
The next paginated set of results to return. Type: String

DescribeReservedInstancesResponseSetItemType

Describes a Reserved Instance.

Ancestors

• DescribeReservedInstancesResponseSetType

Relevant Operations

• DescribeReservedInstances (p. 263)

Contents

reservedInstancesId
The ID of the Reserved Instance.
Type: String
instanceType
The instance type on which the Reserved Instance can be used.
Type: String
availabilityZone
The Availability Zone in which the Reserved Instance can be used.
Type: String
start
The date and time the Reserved Instance started.
Type: DateTime
duration
The duration of the Reserved Instance, in seconds.
Type: Long
duration
The time when the Reserved Instance expires.
Type: DateTime
fixedPrice
The purchase price of the Reserved Instance.
Type: Double
usagePrice
The usage price of the Reserved Instance, per hour.
Type: Double
instanceCount
The number of Reserved Instances purchased.
Type: Integer
productDescription
The Reserved Instance description.
Type: String
Valid values: Linux/UNIX | Linux/UNIX (Amazon VPC) | Windows | Windows (Amazon VPC)
state
The state of the Reserved Instance purchase.
Type: String
Valid values: payment-pending | active | payment-failed | retired
tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)
instanceTenancy
The tenancy of the reserved instance.
Type: String
Valid values: default | dedicated
currencyCode
The currency of the Reserved Instance. It's specified using ISO 4217 standard currency codes. At this time, the only supported currency is USD.
Type: String
offeringType
The Reserved Instance offering type.
Type: String
Valid values: Heavy Utilization | Medium Utilization | Light Utilization
recurringCharges
The recurring charge tag assigned to the resource.
Type: RecurringChargesSetItemType (p. 546)

DescribeReservedInstancesSetItemType

Describes a Reserved Instance.

Ancestors

- DescribeReservedInstancesListings

Relevant Operations

- DescribeReservedInstances (p. 263)

Contents

reservedInstancesId
The ID of the Reserved Instance.
Type: String

DescribeSnapshotsSetItemResponseType

Describes a snapshot.

Ancestors

- DescribeSnapshotsSetResponseItemType

Relevant Operations

- DescribeSnapshots (p. 297)

Contents

snapshotId
The ID of the snapshot.
Type: String

volumeId
The ID of the volume.
Type: String

status
The snapshot state.
DescribeVolumesSetItemResponseType

Describes an Amazon EBS volume.

Ancestors

- Item: DescribeVolumesSetResponse

Relevant Operations

- DescribeVolumes (p. 328)

Contents

- volumeId
  - The ID of the volume.
  - Type: String
- size
  - The size of the volume, in GiBs.
  - Type: String
- snapshotId
  - The snapshot from which the volume was created (optional).
availabilityZone
The Availability Zone in which the volume was created.

status
The state of the volume.

createTime
The time stamp when volume creation was initiated.

attachmentSet
Any volumes attached, each one wrapped in an item element.

volumeType
The volume type.

iops
The number of I/O operations per second (IOPS) that the volume supports.

encrypted
The encryption status of the volume.

DhcpConfigurationItemType
Describes a DHCP configuration option.

Ancestors
- DhcpConfigurationItemType

Relevant Operations
- CreateDhcpOptions (p. 66)
- DescribeDhcpOptions (p. 198)
Contents

key
   The name of a DHCP option.
   Type: String
valueSet
   Any values for a DHCP option, each one wrapped in an item element.
   Type: DhcpValueType (p. 504)

DhcpOptionsType

Describes a set of DHCP options.

Ancestors

• DhcpOptionsSetType

Relevant Operations

• CreateDhcpOptions (p. 66)
• DescribeDhcpOptions (p. 198)

Contents

dhcpOptionsId
   The ID of the set of DHCP options.
   Type: String
dhcpConfigurationSet
   The DHCP options in the set. Each option's key and set of values are wrapped in an item element.
   Type: DhcpConfigurationItemType (p. 503)
tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 549)

DhcpValueType

Describes the value of a DHCP option.

Ancestors

• DhcpValueSetType
Relevant Operations

• CreateDhcpOptions (p. 66)
• DescribeDhcpOptions (p. 198)

Contents

value
A value for the DHCP option.
Type: String

DiskImageDescriptionType

Describes a disk image.

Ancestors

• ImportInstanceVolumeDetailItemType (p. 512)
• ImportVolumeTaskDetailsType (p. 513)

Relevant Operations

• DescribeConversionTasks (p. 192)
• ImportInstance (p. 378)
• ImportVolume (p. 385)

Contents

format
The disk image format.
Type: String

size
The size of the disk image.
Type: Long

importManifestUrl
A presigned URL for the import manifest stored in Amazon S3. For information about creating a presigned URL for an Amazon S3 object, see the "Query String Request Authentication Alternative" section of the Authenticating REST Requests topic in the Amazon Simple Storage Service Developer Guide.
Type: String

checksum
The checksum computed for the disk image.
Type: String
DiskImageVolumeDescriptionType

Describes the disk image for a volume.

Ancestors

- ImportInstanceVolumeDetailItemType (p. 512)
- ImportVolumeTaskDetailsType (p. 513)

Relevant Operations

- DescribeConversionTasks (p. 192)
- ImportInstance (p. 378)
- ImportVolume (p. 385)

Contents

size
The size of the volume.
Type: Integer

id
The volume identifier.
Type: String

EbsBlockDeviceType

Describe an Amazon EBS block device.

Ancestors

- BlockDeviceMappingItemType (p. 486)

Relevant Operations

- DescribeImageAttribute (p. 204)
- DescribeImages (p. 207)
- DescribeSpotInstanceRequests (p. 304)
- RegisterImage (p. 415)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)
Contents

snapshotId
  The ID of the snapshot.
  Type: String

volumeSize
  The size of the volume, in GiB.
  Type: Integer
  Valid values: If the volume type is io1, the minimum size of the volume is 10 GiB.
  Default: If you're creating the volume from a snapshot and don't specify a volume size, the default is the snapshot size.

deleteOnTermination
  Indicates whether the Amazon EBS volume is deleted on instance termination.
  Type: Boolean

volumeType
  The volume type.
  Type: String
  Valid values: gp2 for General Purpose (SSD) volumes, io1 for Provisioned IOPS (SSD) volumes, and standard for Magnetic volumes.
  Default: standard

iops
  The number of I/O operations per second (IOPS) that the volume supports.
  Type: Integer
  Valid values: Range is 100 to 4,000.
  Default: None
  Required: Conditional
  Condition: Required when the volume type is io1; not used with standard or gp2 volumes.

encrypted
  Indicates whether or not the Amazon EBS volume is encrypted.
  Type: Boolean
  Default: No
  Required: No

EbsInstanceBlockDeviceMappingResponseType

Describes a parameter used to set up an Amazon EBS volume in a block device mapping.

Ancestors

• InstanceBlockDeviceMappingResponseTypeItem (p. 515)

Relevant Operations

• DescribeInstanceAttribute (p. 215)
• DescribeInstances (p. 219)
• RunInstances (p. 459)
Contents

volumeId
   The ID of the Amazon EBS volume.
   Type: String
status
   The attachment state.
   Type: String
   Valid values: attaching | attached | detaching | detached
attachTime
   The time stamp when the attachment initiated.
   Type: DateTime
deleteOnTermination
   Indicates whether the volume is deleted on instance termination.
   Type: Boolean

ExportTaskResponseType

Describes an export task.

Ancestors

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType

Relevant Operations

- CreateInstanceExportTask (p. 73)
- DescribeExportTasks (p. 202)

Contents

exportTaskId
   The ID of the export task.
   Type: String
description
   A description of the resource being exported.
   Type: String
state
   The state of the conversion task.
   Type: String
   Valid values: active | cancelling | cancelled | completed
statusMessage
   The status message related to the export task.
ExportToS3TaskResponseType

Describes an export task.

**Ancestors**

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponse
- ExportTaskSetResponse
- ExportTaskResponse

**Relevant Operations**

- CreateInstanceExportTask (p. 73)
- DescribeExportTasks (p. 202)

**Contents**

diskImageFormat
  The format for the exported image.
  Type: String
  Valid values: vmdk | vhd

containerFormat
  The container format used to combine disk images with metadata (such as OVF).
  Type: String
  Valid values: ova

s3Bucket
  The Amazon S3 bucket for the destination image.
  Type: String

s3Key
  The image written to a single object in an Amazon S3 bucket at the S3 key s3prefix + exportTaskId + '.' + diskImageFormat.
  Type: String
**GroupItemType**

Describes a security group.

**Ancestors**

- GroupSetType

**Relevant Operations**

- CreateNetworkInterface (p. 86)
- DescribeInstanceAttribute (p. 215)
- DescribeInstances (p. 219)
- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)

**Contents**

- **groupId**
  - The ID of the security group.
  - Type: String

- **groupName**
  - The name of the security group.
  - Type: String

**IamInstanceProfileRequestType**

Describes an IAM instance profile.

**Ancestors**

- LaunchSpecificationRequestType
- LaunchSpecificationResponseType
- RunInstancesType

**Relevant Operations**

- RequestSpotInstances (p. 437)
- RunInstances (p. 459)
Contents

arn
The Amazon Resource Name (ARN) of the instance profile.
Type: String

name
The name of the instance profile.
Type: String

IamInstanceProfileResponseType

Describes an IAM instance profile.

Ancestors

• RunningInstancesItemType

Relevant Operations

• RequestSpotInstances (p. 437)
• RunInstances (p. 459)

Contents

arn
The Amazon Resource Name (ARN) of the instance profile.
Type: String

id
The ID of the instance profile.
Type: String

IcmpTypeCodeType

Describes the ICMP type and code.

Ancestors

• NetworkAclEntryType (p. 533)

Relevant Operations

• CreateNetworkAcl (p. 81)
• DescribeNetworkAcls (p. 243)
Contents

code
   The ICMP code. A value of -1 means all codes for the specified ICMP type.
   Type: Integer

type
   The ICMP type. A value of -1 means all types.
   Type: Integer

ImportInstanceTaskDetailsType

Describes an import instance task.

Ancestors

• ConversionTaskType (p. 490)

Relevant Operations

• DescribeConversionTasks (p. 192)
• ImportInstance (p. 378)
• ImportVolume (p. 385)

Contents

volumes
   Any instance volumes for import, each one wrapped in an item element.
   Type: ImportInstanceVolumeDetailItemType (p. 512)

instanceId
   The ID of the instance.
   Type: String

platform
   The value is Windows for Windows AMIs; otherwise, blank.
   Type: String

description
   An optional description of the instance.
   Type: String

ImportInstanceVolumeDetailItemType

Describes an import instance volume task.

Ancestors

• ImportInstanceVolumeDetailSetType
Relevant Operations

- DescribeConversionTasks (p. 192)
- ImportInstance (p. 378)
- ImportVolume (p. 385)

Contents

bytesConverted
  The number of bytes converted so far.
  Type: Long

availabilityZone
  The Availability Zone where the resulting instance volume will reside.
  Type: String

image
  The image.
  Type: DiskImageDescriptionType (p. 505)

description
  The description that you provided when starting the import instance volume task.
  Type: String

volume
  The volume.
  Type: DiskImageVolumeDescriptionType (p. 506)

status
  The status of the import of this particular disk image.
  Type: String

statusMessage
  The status information or errors related to the disk image.
  Type: String

ImportVolumeTaskDetailsType

Describes an import volume task.

Ancestors

- ConversionTaskType (p. 490)

Relevant Operations

- DescribeConversionTasks (p. 192)
- ImportInstance (p. 378)
- ImportVolume (p. 385)
Contents

bytesConverted
   The number of bytes converted so far.
   Type: Long

availabilityZone
   The Availability Zone where the resulting volume will reside.
   Type: String

description
   The description that you provided when starting the import volume task.
   Type: String

image
   The image.
   Type: DiskImageDescriptionType (p. 505)

volume
   The volume.
   Type: DiskImageVolumeDescriptionType (p. 506)

InstanceBlockDeviceMappingItemType

Describes a block device mapping.

Ancestors

• InstanceBlockDeviceMappingType

Relevant Operations

• ModifyInstanceAttribute (p. 391)

Contents

deviceName
   The device name exposed to the instance (for example, /dev/sdh or xvdh).
   Type: String

virtualName
   The virtual device name (ephemeral[0..3]). The number of available instance store volumes depends on the instance type.
   Type: String
   Constraint: For M3 instances, you must specify instance store volumes in the block device mapping for the instance. When you launch an M3 instance, we ignore any instance store volumes specified in the block device mapping for the AMI.

ebs
   Parameters used to automatically set up Amazon EBS volumes when the instance is launched.
   Type: InstanceEbsBlockDeviceType (p. 516)
noDevice
Include this empty element to suppress the specified device included in the block device mapping of the AMI.

InstanceBlockDeviceMappingResponseItemType
Describes a block device mapping.

Ancestors
• InstanceBlockDeviceMappingResponseItemType

Relevant Operations
• DescribeInstanceAttribute (p. 215)
• DescribeInstances (p. 219)
• RunInstances (p. 459)

Contents
deviceName
The device name exposed to the instance (for example, /dev/sdh, or xvdh).
Type: String
ebs
Parameters used to set up Amazon EBS volumes automatically when the instance is launched.
Type: EbsInstanceBlockDeviceMappingResponseType (p. 507)

InstanceCountsSetItemType
Describes a count for a specified Reserved Instance listing state.

Ancestors
• DescribeReservedInstancesListingSetType
• InstanceCountsSetType

Relevant Operations
• DescribeReservedInstancesListings (p. 267)
Contents

state
   The states of the listed Reserved Instances.
   Type: String
   Valid values: available | sold | cancelled | pending

instanceCount
   The number of listed Reserved Instances in the state specified by state.
   Type: Integer

InstanceCountsSetType

Contains a set of Reserved Instance listing states.

Ancestors

• DescribeReservedInstancesListingSetType

Relevant Operations

• DescribeReservedInstancesListings (p. 267)

Contents

item
   The Reserved Instance listing item.
   Type: InstanceCountsSetItemType (p. 515)

InstanceEbsBlockDeviceType

Describes parameters used to set up an Amazon EBS volume.

Ancestors

• InstanceBlockDeviceMappingItemType (p. 514)

Relevant Operations

• ModifyInstanceAttribute (p. 391)

Contents

deleteOnTermination
   Indicates whether the volume is deleted on instance termination.
InstanceExportTaskResponseType

Describes an instance export task.

**Ancestors**

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType
- ExportTaskResponseType

**Relevant Operations**

- CreateInstanceExportTask (p. 73)
- DescribeExportTasks (p. 202)

**Contents**

- instanceId
  - The ID of the resource being exported.
  - Type: String
- targetEnvironment
  - The target virtualization environment.
  - Type: String
  - Valid values: vmware | citrix

InstanceMonitoringStateType

Describes the monitoring information for an instance.

**Ancestors**

- MonitorInstancesResponseSetItemType (p. 532)
- RunningInstancesItemType (p. 552)

**Relevant Operations**

- DescribeInstances (p. 219)
Contents

The state of monitoring for the instance. The disabled state means that detailed monitoring is disabled for the instance. The enabled state means that detailed monitoring is enabled for the instance. The pending state means that the instance is launching or that you recently enabled detailed monitoring for the instance.

Type: String
Valid values: disabled | enabled | pending

InstanceNetworkInterfaceAssociationType

Describes association information for an Elastic IP address.

Relevant Operations

- DescribelInstances (p. 219)
- RunInstances (p. 459)

Contents

publicIp
  The public IP address or Elastic IP address bound to the network interface.
  Type: String

publicDnsName
  The public DNS name.
  Type: String

ipOwnerId
  The ID of the owner of the Elastic IP address.
  Type: String

InstanceNetworkInterfaceAttachmentType

Describes a network interface attachment.

Relevant Operations

- DescribelInstances (p. 219)
- RunInstances (p. 459)
Contents

attachmentID
The ID of the network interface attachment.
Type: String
deviceIndex
The index of the device on the instance for the network interface attachment.
Type: Integer
status
The attachment state.
Type: String
Valid values: attaching | attached | detaching | detached
attachTime
The time stamp when the attachment initiated.
Type: DateTime
deleteOnTermination
Indicates whether the network interface is deleted when the instance is terminated.
Type: Boolean

InstanceNetworkInterfaceSetItemRequestType

Describes a network interface.

Ancestors

• InstanceNetworkInterfaceSetRequestType

Relevant Operations

• DescribeNetworkInterfaces (p. 251)

Contents

networkInterfaceId
The ID of the network interface.
Type: String
deviceIndex
The index of the device on the instance for the network interface attachment.
Type: Integer
subnetId
The ID of the subnet associated with the network string.
Type: String
description
The description of the network interface.
Type: String
privateIpAddress
   The private IP address of the network interface.
   Type: String
groupSet
   The IDs of the security groups for the network interface.
   Type: SecurityGroupIdSetItemType (p. 555)
deleteOnTermination
   Indicates whether the interface is deleted when the instance is terminated.
   Type: Boolean
privateIpAddressesSet
   The list of IP addresses to assign to the network interface.
   Type: PrivateIpAddressesSetItemType (p. 543)
secondaryPrivateIpAddressCount
   The number of secondary private IP addresses. You cannot specify this option with
   privateIpAddressSet.
   Type: Integer

InstanceNetworkInterfaceSetItemType

Describes a network interface.

**Ancestors**

- InstanceNetworkInterfaceSetType

**Relevant Operations**

- DescribeInstances (p. 219)
- RunInstances (p. 459)

**Contents**

networkInterfaceId
   The ID of the network interface.
   Type: String
subnetId
   The ID of the subnet.
   Type: String
vpcId
   The ID of the VPC.
   Type: String
description
   The description.
   Type: String
ownerId
   The ID of the AWS account that created the network interface.
   Type: String
status
   The status of the network interface.
   Type: String
   Valid values: available | attaching | in-use | detaching
macAddress
   The MAC address.
   Type: String
privateIpAddress
   The IP address of the network interface within the subnet.
   Type: String
privateDnsName
   The private DNS name.
   Type: String
sourceDestCheck
   Indicates whether to validate network traffic to or from this network interface.
   Type: Boolean
groupSet.item
   A security group.
   Type: GroupItemType (p. 510)
attachment
   The network interface attachment.
   Type: InstanceNetworkInterfaceAttachmentType (p. 518)
association
   The association information for an Elastic IP address associated with the network interface.
   Type: InstanceNetworkInterfaceAssociationType (p. 518)
privateIpAddressesSet
   The private IP addresses associated with the network interface.
   Type: InstancePrivateIpAddressesSetItemType (p. 521)

### InstancePrivateIpAddressesSetItemType

Describes a private IP address.

#### Ancestors

- InstancePrivateIpAddressesSetType

#### Relevant Operations

- DescribeInstances (p. 219)
- RunInstances (p. 459)

#### Contents

- privateIpAddress
   The private IP address of the network interface.
privateDnsName
The private DNS name.
Type: String

primary
Indicates whether this IP address is the primary private IP address of the network interface.
Type: Boolean

association
The association information for an Elastic IP address for the network interface.
Type: InstanceNetworkInterfaceAssociationType (p. 518)

InstanceStateChangeType
Describes an instance state change.

Ancestors
• InstanceStateChangeSetType

Relevant Operations
• StartInstances (p. 469)
• StopInstances (p. 471)
• TerminateInstances (p. 473)

Contents

instanceId
The instance ID.
Type: String
currentState
The current state of the instance.
Type: InstanceStateType (p. 522)
previousState
The previous state of the instance.
Type: InstanceStateType (p. 522)

InstanceStateType
Describes the current state of the instance.

Ancestors
• InstanceStateChangeType (p. 522)
• RunningInstancesItemType (p. 552)
Relevant Operations

- DescribeInstances (p. 219)
- DescribeInstanceStatus (p. 230)
- RunInstances (p. 459)
- StartInstances (p. 469)
- StopInstances (p. 471)
- TerminateInstances (p. 473)

Contents

code
The low byte represents the state. The high byte is an opaque internal value and should be ignored.
  Type: Integer (16-bit unsigned)
  Valid values: 0 (pending) | 16 (running) | 32 (shutting-down) | 48 (terminated) | 64 (stopping) | 80 (stopped)

name
The current state of the instance.
  Type: String
  Valid values: pending | running | shutting-down | terminated | stopping | stopped

InstanceStatusDetailsSetType

Describes the instance status with the cause and more detail.

Ancestors

- InstanceStatusItemType (p. 525)
- InstanceStatusType (p. 526)

Relevant Operations

- DescribeInstanceStatus (p. 230)

Contents

name
The type of instance status.
  Type: String
  Valid values: reachability

status
The status.
  Type: String
  Valid values: passed | failed | insufficient-data
impairedSince
The time when a status check failed. For an instance that was launched and impaired, this is the time when the instance was launched.
Type: DateTime

InstanceStatusEventsSetType
Describes a set of instance events.

Relevant Operations
• DescribeInstanceStatus (p. 230)

Contents
item
The scheduled events for the instance.
Type: InstanceStatusEventType (p. 524)

InstanceStatusEventType
Describes an instance event.

Ancestors
• InstanceStatusEventsSetType (p. 524)

Relevant Operations
• DescribeInstanceStatus (p. 230)

Contents
code
The associated code of the event.
Type: String
Valid parameters: instance-reboot | system-reboot | system-maintenance |
instance-retirement | instance-stop
description
A description of the event.
Type: String
notBefore
The earliest scheduled start time for the event.
Type: DateTime
notAfter
  The latest scheduled end time for the event.
  Type: DateTime

InstanceStatusItemType

Describes the instance status, cause, details, and potential actions to take in response.

Ancestors

- InstanceStatusSetType

Relevant Operations

- DescribeInstanceStatus (p. 230)

Contents

instanceId
  The ID of the instance.
  Type: String

availabilityZone
  The Availability Zone of the instance.
  Type: String

eventsSet
  Extra information regarding events associated with the instance.
  Type: InstanceStatusEventsSetType (p. 524)

instanceState
  The intended state of the instance. Calls to DescribeInstanceStatus require that an instance be in the running state.
  Type: InstanceStateType (p. 522)

systemStatus
  Reports impaired functionality that stems from issues related to the systems that support an instance, such as hardware failures and network connectivity problems.
  Type: InstanceStatusType (p. 526)

instanceStatus
  Reports impaired functionality that stems from issues internal to the instance, such as impaired reachability.
  Type: InstanceStatusType (p. 526)

InstanceStatusSetType

Describes the status of an instance.
Relevant Operations

- DescribeInstanceStatus  (p. 230)

Contents

item
  The status of the instance.
  Type: InstanceStatusItemType (p. 525)

InstanceStatusType

Describes the status of an instance with details.

Ancestors

- InstanceStatusItemType (p. 525)

Relevant Operations

- DescribeInstanceStatus  (p. 230)

Contents

status
  The instance status.
  Type: String
  Valid values: ok | impaired | insufficient-data | not-applicable

details
  The system instance health or application instance health.
  Type: InstanceStatusDetailsSetType (p. 523)

InternetGatewayAttachmentType

Describes the attachment of a VPC to an Internet gateway.

Ancestors

- InternetGatewayAttachmentSetType

Relevant Operations

- AttachInternetGateway (p. 26)
Contents

vpcId
   The ID of the VPC.
   Type: String

state
   The current state of the attachment.
   Type: String
   Valid values: attaching | attached | detaching | detached

InternetGatewayType

Describes an Internet gateway.

Ancestors

• InternetGatewaySetType

Relevant Operations

• CreateInternetGateway (p. 76)
• DescribeInternetGateways (p. 237)

Contents

internetGatewayId
   The ID of the Internet gateway.
   Type: String

attachmentSet
   Any VPCs attached to the Internet gateway, each one wrapped in an item element.
   Type: InternetGatewayAttachmentType (p. 526)

tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 549)

IpPermissionType

Describes a security group rule.
Ancestors

- IpPermissionSetType

Relevant Operations

- AuthorizeSecurityGroupIngress (p. 38)
- DescribeSecurityGroups (p. 289)
- RevokeSecurityGroupIngress (p. 456)

Contents

**ipProtocol**
The protocol.
When you call DescribeSecurityGroups, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, tcp, udp, or icmp). For information about a list of protocol numbers, see Protocol Numbers.
Type: String

**fromPort**
The start of port range for the TCP and UDP protocols, or an ICMP type number. A value of -1 indicates all ICMP types.
Type: Integer

**toPort**
The end of port range for the TCP and UDP protocols, or an ICMP code. A value of -1 indicates all ICMP codes for the specified ICMP type.
Type: Integer

**groups**
A list of security group and AWS account ID pairs. Each pair is wrapped in an item element.
Type: UserIdGroupPairType (p. 564)

**ipRanges**
A list of IP ranges. Each range is wrapped in an item element.
Type: IpRangeItemType (p. 528)

**IpRangeItemType**

Describes an IP range.

Ancestors

- IpRangeSetType

Relevant Operations

- AuthorizeSecurityGroupIngress (p. 38)
- DescribeSecurityGroups (p. 289)
• RevokeSecurityGroupIngress (p. 456)

Contents

cidrIp
  The CIDR range. You can either specify a CIDR range or a source security group, not both.
  Type: String

LaunchPermissionItemType

  Describes a launch permission.

Ancestors

  • LaunchPermissionListType

Relevant Operations

  • DescribeImageAttribute (p. 204)
  • ModifyImageAttribute (p. 388)

Contents

group
  The name of the group.
  Type: String
  Valid value: all

userId
  The AWS account ID.
  Type: String

LaunchSpecificationRequestType

  Describes the launch specification of a Spot Instance.

Ancestors

  • RequestSpotInstancesType

Relevant Operations

  • RequestSpotInstances (p. 437)
Contents

imageId
  The AMI ID.
  Type: String
keyName
  The name of the key pair.
  Type: String
groupSet
  A list of security groups. Each group is wrapped in an item element.
  Type: GroupItemType (p. 510)
userData
  Base64-encoded MIME user data made available to the instances in the reservation.
  Type: UserDataType (p. 563)
instanceType
  The instance type.
  Type: String
placement
  The placement information for the instance.
  Type: PlacementRequestType (p. 539)
kernelId
  The ID of the kernel to select.
  Type: String
ramdiskId
  The ID of the RAM disk to select. Some kernels require additional drivers at launch. Check the kernel requirements for information on whether you need to specify a RAM disk and search for the kernel ID.
  Type: String
blockDeviceMapping
  Any block device mapping entries for the instance. Each entry is wrapped in an item element.
  Type: BlockDeviceMappingItemType (p. 486)
monitoring
  The monitoring information for the instance.
  Type: MonitoringInstanceType (p. 532)
subnetId
  The ID of the subnet.
  Type: String
networkInterfaceSet
  The network interfaces associated with the instance.
  Type: InstanceNetworkInterfaceSetItemRequestType (p. 519)
iamInstanceProfile
  The IAM instance profile associated with the instance.
  Type: IamInstanceProfileRequestType (p. 510)
ebsOptimized
  Indicates whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal Amazon EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.
  Type: Boolean
  Default: false
LaunchSpecificationResponseType

Describes the launch specification of a Spot Instance.

Ancestors

- SpotInstanceRequestSetItemType (p. 557)

Relevant Operations

- DescribeSpotInstanceRequests (p. 304)

Contents

imageId
  - The AMI ID.
  - Type: String

keyName
  - The name of the key pair.
  - Type: String

groupSet
  - A list of security groups. Each group is wrapped in an item element.
  - Type: GroupItemType (p. 510)

instanceType
  - The instance type.
  - Type: String

placement
  - The placement information for the instance.
  - Type: PlacementRequestType (p. 539)

kernelId
  - The ID of the kernel to select.
  - Type: String

ramdiskId
  - The ID of the RAM disk to select. Some kernels require additional drivers at launch. Check the kernel requirements for information on whether you need to specify a RAM disk and search for the kernel ID.
  - Type: String

blockDeviceMapping
  - Any block device mapping entries for the instance. Each entry is wrapped in an item element.
  - Type: BlockDeviceMappingItemType (p. 486)

monitoring
  - The monitoring information for the instance.
  - Type: MonitoringInstanceType (p. 532)

subnetId
  - The ID of the subnet.
  - Type: String
MonitoringInstanceType

Describes the monitoring for the instance.

Ancestors

- LaunchSpecificationRequestType (p. 529)
- LaunchSpecificationResponseType (p. 531)
- RunInstancesType

Relevant Operations

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)

Contents

enabled

Indicates whether monitoring is enabled for the instance.

Type: Boolean

MonitorInstancesResponseSetItemType

Describes the monitoring for the instance.

Ancestors

- MonitorInstancesResponseSetType
Relevant Operations

- MonitorInstances (p. 405)
- UnmonitorInstances (p. 477)

Contents

instanceId
  The instance ID.
  Type: String

monitoring
  The monitoring information.
  Type: InstanceMonitoringStateType (p. 517)

NetworkAclAssociationType

Describes an association between a network ACL and a subnet.

Ancestors

- NetworkAclAssociationSetType

Relevant Operations

- CreateNetworkAcl (p. 81)
- DescribeNetworkAcls (p. 243)

Contents

networkAclAssociationId
  The ID of the association between a network ACL and a subnet.
  Type: String

networkAclId
  The ID of the network ACL.
  Type: String

subnetId
  The ID of the subnet.
  Type: String

NetworkAclEntryType

Describes an entry in a network ACL.
Ancestors

- NetworkAclEntrySetType

Relevant Operations

- CreateNetworkAcl (p. 81)
- DescribeNetworkAcls (p. 243)

Contents

ruleNumber
The rule number for the entry. ACL entries are processed in ascending order by rule number.
Type: Integer

protocol
The protocol. A value of -1 means all protocols.
Type: Integer
Valid values: Any protocol number (see Protocol Numbers).

ruleAction
Indicates whether to allow or deny the traffic that matches the rule.
Type: String

egress
Indicates whether the rule is an egress rule (applied to traffic leaving the subnet). A value of true indicates egress.
Type: Boolean

cidrBlock
The network range to allow or deny, in CIDR notation.
Type: String

icmpTypeCode
ICMP protocol: The ICMP type and code.
Type: IcmpTypeCodeType (p. 511)

portRange
TCP or UDP protocols: The range of ports to which the rule applies.
Type: PortRangeType (p. 540)

NetworkAclType

Describes a network ACL.

Ancestors

- NetworkAclSetType
Relevant Operations

- CreateNetworkAcl (p. 81)
- DescribeNetworkAcls (p. 243)

Contents

networkAclId
  The ID of the network ACL.
  Type: String
vpcId
  The ID of the VPC for the network ACL.
  Type: String
default
  Indicates whether this is the default network ACL for the VPC.
  Type: Boolean
entrySet
  A list of entries (rules) in the network ACL. Each entry is wrapped in an item element.
  Type: NetworkAclEntryType (p. 533)
associationSet
  A list of associations between the network ACL and one or more subnets. Each association is wrapped in an item element.
  Type: NetworkAclAssociationType (p. 533)
tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 549)

NetworkInterfaceAssociationType

Describes association information for an Elastic IP address.

Ancestors

- InstanceNetworkInterfaceSetItemType

Relevant Operations

- CreateNetworkInterface (p. 86)
- DescribeNetworkInterfaces (p. 251)

Contents

publicIp
  The public IP address or Elastic IP address bound to the network interface.
  Type: String
publicDnsName
    The public DNS name.
    Type: String

ipOwnerId
    The ID of the Elastic IP address owner.
    Type: String

allocationId
    The allocation ID.
    Type: String

associationId
    The association ID.
    Type: String

NetworkInterfaceAttachmentType

Describes a network interface attachment.

Relevant Operations

- CreateNetworkInterface (p. 86)
- DescribeNetworkInterfaces (p. 251)

Contents

attachmentId
    The ID of the network interface attachment.
    Type: String

instanceId
    The ID of the instance.
    Type: String

instanceOwnerId
    The owner of the instance.
    Type: String

deviceIndex
    The device index of the network interface attachment on the instance.
    Type: Integer

status
    The attachment state.
    Type: String
    Valid values: attaching | attached | detaching | detached

attachTime
    The timestamp indicating when the attachment initiated.
    Type: dateTime

deleteOnTermination
    Indicates whether the network interface is deleted when the instance is terminated.
    Type: Boolean
NetworkInterfacePrivateIpAddressesSetItemType

Describes the private IP address of a network interface.

relevant operations

• DescribeNetworkInterfaces (p. 251)

contents

privateIpAddress
  The private IP address.
  Type: String
privateDnsName
  The private DNS name.
  Type: String
primary
  Indicates whether this IP address is the primary private IP address of the network interface.
  Type: Boolean
association
  The association information for an Elastic IP address associated with the network interface.
  Type: NetworkInterfaceAssociationType (p. 535)

NetworkInterfaceType

Describes a network interface.

ancestors

• NetworkInterfaceSetType

relevant operations

• CreateNetworkInterface (p. 86)
• DescribeNetworkInterfaces (p. 251)

contents

networkInterfaceId
  The ID of the network interface.
  Type: String
subnetId
  The ID of the subnet.
  Type: String
vpcId
    The ID of the VPC.
    Type: String
availabilityZone
    The Availability Zone.
    Type: String
description
    A description.
    Type: String
ownerId
    The AWS account ID of the owner of the network interface.
    Type: String
requesterId
    The ID of the entity that launched the instance on your behalf (for example, AWS Management
    Console or Auto Scaling).
    Type: String
requesterManaged
    Indicates whether the network interface is being managed by AWS.
    Type: String
status
    The status of the network interface.
    Type: String
    Valid values: available | attaching | in-use | detaching
macAddress
    The MAC address.
    Type: String
privateIpAddress
    The IP address of the network interface within the subnet.
    Type: String
privateDnsName
    The private DNS name.
    Type: String
sourceDestCheck
    Indicates whether traffic to or from the instance is validated.
    Type: Boolean
groupSet
    Any security groups for the network interface.
    Type: GroupItem (p. 510)
attachment
    The network interface attachment.
    Type: NetworkInterfaceAttachment (p. 536)
association
    The association information for a public IP address or Elastic IP address associated with the network
    interface.
    Type: NetworkInterfaceAssociation (p. 535)
tagSet
    The tags assigned to the resource.
    Type: ResourceTagSet (p. 549)
privateIpAddressesSet
    The private IP addresses associated with the network interface. Items are returned in a set.
PlacementGroupInfoType

Describes a placement group.

**Ancestors**

- PlacementGroupSetType

**Relevant Operations**

- DeletePlacementGroup (p. 150)

**Contents**

- **groupName**
  - The name of the placement group.
  - Type: String

- **strategy**
  - The placement strategy.
  - Type: String
  - Valid values: cluster

- **state**
  - The status of the placement group.
  - Type: String
  - Valid values: pending | available | deleting | deleted

PlacementRequestType

Describes a placement group.

**Ancestors**

- LaunchSpecificationRequestType (p. 529)
- LaunchSpecificationResponseType (p. 531)
- RunInstancesType

**Relevant Operations**

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)
Contents

availabilityZone
   The Availability Zone for the instance.
   Type: String

groupName
   The name of a placement group for the instance.
   Type: String

PlacementResponseType

Describes a placement group.

Ancestors

- RunningInstancesItemType (p. 552)

Relevant Operations

- DescribeInstances
- RunInstances

Contents

availabilityZone
   The Availability Zone of the instance.
   Type: String

groupName
   The name of the placement group the instance is in (for cluster compute instances).
   Type: String
tenancy
   The tenancy of the instance (if the instance is running within a VPC). An instance with a tenancy of
dedicated runs on single-tenant hardware.
   Type: String
   Valid values: default | dedicated

PortRangeType

Describes a range of ports.

Ancestors

- NetworkAclEntryType (p. 533)
**Relevant Operations**

- DescribeNetworkAcls (p. 243)

**Contents**

```plaintext
from
The first port in the range.
Type: Integer
to
The last port in the range.
Type: Integer
```

**PriceScheduleRequestSetItemType**

Describes the price for a Reserved Instance.

**Ancestors**

- PriceScheduleRequestSetType

**Relevant Operations**

- CreateReservedInstancesListing (p. 93)

**Contents**

```plaintext
term
The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.
Type: Long
price
The fixed price for the term.
Type: Double
currencyCode
The currency for transacting the Reserved Instance resale. At this time, the only supported currency is USD.
Type: String
Valid value: USD
```

**PriceScheduleSetItemType**

Describes the price for a Reserved Instance.
Ancestors

- DescribeReservedInstancesListingsResponseSetItemType
- PriceScheduleSetType

Relevant Operations

- CreateReservedInstancesListing (p. 93)

Contents

term
The number of months remaining in the reservation. For example, 2 is the second to the last month before the capacity reservation expires.
Type: Long

price
The fixed price for the term.
Type: Double

currencyCode
The currency for transacting the Reserved Instance resale. At this time, the only supported currency is USD.
Type: String
Valid value: USD

active
The current price schedule, as determined by the term remaining for the Reserved Instance in the listing.
A specific price schedule is always in effect, but only one price schedule can be active at any time. Take, for example, a Reserved Instance listing that has five months remaining in its term. When you specify price schedules for five months and two months, this means that schedule 1, covering the first three months of the remaining term, will be active during months 5, 4, and 3. Then schedule 2, covering the last two months of the term, will be active for months 2 and 1.
Type: Boolean

PriceScheduleSetType

Describes the price for a Reserved Instance.

Ancestors

- DescribeReservedInstancesListingSetType

Relevant Operations

- DescribeReservedInstancesListings (p. 267)
Contents

item
  The Reserved Instance listing price schedule item.
  Type: PriceScheduleSetItemType (p. 541).

PricingDetailsSetItemType

  Describes a Reserved Instance offering.

Ancestors

  • DescribeReservedInstancesOfferings

Relevant Operations

  • DescribeReservedInstancesOfferings (p. 275)

Contents

  price
    The price per instance.
    Type: Integer
  count
    The number of instances available for the price.
    Type: Integer

PrivatetIpAddressesSetItemType

  Describes a secondary private IP address for a network interface.

Ancestors

  • PrivatetIpAddressesSetRequestType

Relevant Operations

  • AssignPrivateIpAddresses (p. 16)
  • UnassignPrivateIpAddresses (p. 475)
Contents

privateIpAddressesSet
   The private IP addresses.
   Type: AssignPrivateIpAddressesSetItemRequestType (p. 483)

primary
   Indicates whether the private IP address is the primary private IP address.
   Type: Boolean

ProductCodeItemType

Describes a product code.

Ancestors

• ProductCodeListType

Relevant Operations

• DescribeImageAttribute (p. 204)
• ModifyImageAttribute (p. 388)

Contents

productCode
   The product code.
   Type: String

ProductCodesSetItemType

Describes a product code.

Ancestors

• ProductCodesSetType

Relevant Operations

• DescribeImageAttribute (p. 204)
• DescribeImages (p. 207)
• DescribeInstanceAttribute (p. 215)
• DescribeInstances (p. 219)
• DescribeSnapshotAttribute (p. 294)
DescribeVolumeAttribute (p. 326)
RunInstances (p. 459)

Contents

productCode
  The product code.
  Type: String
type
  The type of product code.
  Type: String
  Valid values: devpay | marketplace

ProductDescriptionSetItemType

Specifies a basic product description.

Ancestors

• ProductDescriptionSetType

Relevant Operations

• DescribeSpotPriceHistory (p. 312)

Contents

productDescription
  The description of the AMI.
  Type: String
  Valid values: Linux/UNIX | SUSE Linux | Windows | Linux/UNIX (Amazon VPC) | SUSE Linux (Amazon VPC) | Windows (Amazon VPC)

PropagatingVgwType

Describes a virtual private gateway propagating route.

Ancestors

• PropagatingVgwSetType

Relevant Operations

• CreateRouteTable (p. 105)
• DescribeRouteTables (p. 284)

Contents

gatewayID
The ID of the virtual private gateway (VGW).
Type: String

RecurringChargesSetItemType

Describes a recurring charge.

Relevant Operations

• DescribeReservedInstances (p. 263)
• DescribeReservedInstancesOfferings (p. 275)

Contents

frequency
The frequency of the recurring charge.
Type: String
Valid value: Hourly
amount
The amount of the recurring charge.
Type: Double

RegionItemType

Describes a region.

Ancestors

• RegionSetType

Relevant Operations

• DescribeRegions (p. 260)

Contents

regionName
The name of the region.
Type: String
regionEndpoint
    The region service endpoint.
    Type: String

ReservationInfoType

Describes a reservation.

Ancestors

• ReservationSetType

Relevant Operations

• DescribeInstances (p. 219)

Contents

reservationId
    The ID of the reservation.
    Type: String

ownerId
    The ID of the AWS account that owns the reservation.
    Type: String

groupSet
    A list of security groups. Each group is wrapped in an item element.
    Type: GroupItemType (p. 510)

instancesSet
    A list of instances. Each instance is wrapped in an item element.
    Type: RunningInstancesItemType (p. 552)

requesterId
    The ID of the requester that launched the instances on your behalf (for example, AWS Management Console or Auto Scaling).
    Type: String

ReservedInstanceLimitPriceType

Describes the limit price of a Reserved Instance offering.

Ancestors

• PurchaseReservedInstancesOfferings
Relevant Operations

- DescribeReservedInstancesOfferings (p. 275)

Contents

amount
  Used for Reserved Instance Marketplace offerings. Specifies the limit price on the total order (instanceCount * price).
  Type: Double

currencyCode
  The currency in which the limitPrice amount is specified. At this time, the only supported currency is USD.
  Type: Double

ReservedInstancesConfigurationSetItemType

The configuration settings for the modified Reserved Instances.

Ancestors

- ReservedInstancesConfigurationSetType

Relevant Operations

- DescribeReservedInstancesModifications (p. 271)
- ModifyReservedInstances (p. 397)

Contents

availabilityZone
  The Availability Zone for the modified Reserved Instances. Required.
  Type: String

platform
  The network platform of the modified Reserved Instances, which is either EC2-Classic or EC2-VPC.
  Type: String

instanceCount
  The number of modified Reserved Instances. Required.
  Type: Integer

instanceType
  The instance type for the modified Reserved Instances.
  Type: String
ReservedInstancesModificationResultSetItemType

Describes a Reserved Instance modification.

**Ancestors**

- ReservedInstancesModificationResultSetType

**Relevant Operations**

- DescribeReservedInstancesModifications (p. 271)

**Contents**

reservedInstancesId

ID for the Reserved Instances that were created as part of the modification request. This field is only available when the modification is *fulfilled*.

Type: String

targetConfiguration

Target Reserved Instances configurations supplied as part of the modification request.

Type: ReservedInstancesConfigurationSetItemType (p. 548)

ResourceTagSetItemType

Describes the tags assigned to an Amazon EC2 resource.

**Ancestors**

- ResourceTagSetType

**Relevant Operations**

- DescribeImages (p. 207)
- DescribeInstances (p. 219)
- DescribeVolumes (p. 328)
- DescribeSnapshots (p. 297)
- DescribeSpotInstanceRequests (p. 304)

**Contents**

key

The tag key.

Type: String
RouteTableAssociationType

Describes an association between a route table and a subnet.

**Ancestors**

- RouteTableAssociationSetType

**Relevant Operations**

- CreateRouteTable (p. 105)
- DescribeRouteTables (p. 284)

**Contents**

- routeTableAssociationId
  - The ID of the association between a route table and a subnet.
  - Type: String
- routeTableId
  - The ID of the route table.
  - Type: String
- subnetId
  - The ID of the subnet.
  - Type: String
- main
  - Indicates whether this is the main route table.
  - Type: Boolean

RouteTableType

Describes a route table.

**Ancestors**

- RouteTableSetType

**Relevant Operations**

- CreateRouteTable (p. 105)
- DescribeRouteTables (p. 284)
Contents

routeTableId
   The ID of the route table.
   Type: String

vpcId
   The ID of the VPC.
   Type: String

routeSet
   A list of routes in the route table. Each route is wrapped in an item element.
   Type: RouteType (p. 551)

associationSet
   A list of associations between the route table and one or more subnets. Each association is wrapped in an item element.
   Type: RouteTableAssociationType (p. 550)

propagatingVgwSet
   The IDs of any virtual private gateways (VGW) propagating routes, each route wrapped in an item element.
   Type: PropagatingVgwType (p. 545)

tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 549)

RouteType

Describes a route in a route table.

Ancestors

• RouteSetType

 Relevant Operations

• CreateRouteTable (p. 105)
• DescribeRouteTables (p. 284)

Contents

destinationCidrBlock
   The CIDR block used for the destination match.
   Type: String

gatewayId
   The ID of a gateway attached to your VPC.
   Type: String

instanceId
   The ID of a NAT instance in your VPC.
Type: String

instanceOwnerId
The AWS account ID of the owner of the instance.
Type: String

networkInterfaceId
The ID of the network interface.
Type: String

state
The state of the route. The `blackhole` state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, or the specified NAT instance has been terminated).
Type: String
Valid values: `active` | `blackhole`

origin
Describes how the route was created.
Type: String
Valid values: CreateRouteTable | CreateRoute | EnableVgwRoutePropagation
- CreateRouteTable indicates that route was automatically created when the route table was created.
- CreateRoute indicates that the route was manually added to the route table.
- EnableVgwRoutePropagation indicates that the route was propagated by route propagation.

vpcPeeringConnectionId
The ID of the VPC peering connection.
Type: String

RunningInstancesItemType

Describes a running instance.

Ancestors

- RunningInstancesSetType

Relevant Operations

- DescribeInstances (p. 219)
- RunInstances (p. 459)

Contents

instanceId
The ID of the instance launched.
Type: String

imageId
The ID of the AMI used to launch the instance.
Type: String
instanceState
The current state of the instance.
Type: InstanceStateType (p. 522)

privateDnsName
The private DNS name assigned to the instance. This DNS name can only be used inside the Amazon EC2 network. This element remains empty until the instance enters the running state.
Type: String
dnsName
The public DNS name assigned to the instance. This element remains empty until the instance enters the running state.
Type: String
reason
The reason for the most recent state transition. This might be an empty string.
Type: String
keyName
The key pair name, if this instance was launched with an associated key pair.
Type: String
amiLaunchIndex
The AMI launch index, which can be used to find this instance in the launch group.
Type: String
productCodes
The product codes attached to this instance. Each product code is wrapped in an item element.
Type: ProductCodesSetItemType (p. 544)
instanceType
The instance type.
Type: String
Valid values: m1.small | m1.medium | m1.large | m1.xlarge | m3.medium | m3.large |
m3.xlarge | m3.2xlarge | c1.medium | c1.xlarge | c3.large | c3.xlarge | c3.2xlarge |
c3.4xlarge | c3.8xlarge | cc2.8xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | r3.xlarge |
r3.xlarge | r3.2xlarge | r3.4xlarge | r3.8xlarge | cr1.8xlarge | hi1.4xlarge |
hs1.8xlarge | i2.xlarge | i2.2xlarge | i2.4xlarge | i2.8xlarge | t1.micro | cg1.4xlarge |
g2.2xlarge
launchTime
The time the instance was launched.
Type: DateTime
placement
The location where the instance launched.
Type: PlacementResponseType (p. 540)
kernalId
The kernel associated with this instance.
Type: String
ramdiskId
The RAM disk associated with this instance.
Type: String
platform
The value is Windows for Windows AMIs; otherwise blank.
Type: String
monitoring
The monitoring information for the instance.
Type: InstanceMonitoringStateType (p. 517)
subnetId
The ID of the subnet in which the instance is running.
Type: String

vpcId
The ID of the VPC in which the instance is running.
Type: String

privateIpAddress
The private IP address assigned to the instance.
Type: String

ipAddress
The public IP address assigned to the instance.
Type: String

sourceDestCheck
Specifies whether to enable an instance launched in a VPC to perform NAT. This controls whether
source/destination checking is enabled on the instance. A value of true means checking is enabled,
and false means checking is disabled. The value must be false for the instance to perform NAT.
For more information, see NAT Instances in the Amazon Virtual Private Cloud User Guide.
Type: Boolean

groupSet
A list of the security groups for the instance. Each group is wrapped in an item element.
Type: GroupItemType (p. 510)

stateReason
The reason for the most recent state transition. For more information about supported state change
codes, see StateReasonType (p. 561).
Type: StateReasonType (p. 561)

architecture
The architecture of the image.
Type: String
Valid values: i386 | x86_64

rootDeviceType
The root device type used by the AMI. The AMI can use an Amazon EBS or instance store root
device.
Type: String
Valid values: ebs | instance-store

rootDeviceName
The root device name (for example, /dev/sda1).
Type: String

blockDeviceMapping
Any block device mapping entries for the instance, each one wrapped in an item element.
Type: InstanceBlockDeviceMappingResponseItemType (p. 515)

instanceLifecycle
Indicates whether this is a Spot Instance.
Type: String
Valid values: spot | blank (no value)

spotInstanceRequestId
The ID of the Spot Instance request.
Type: String

virtualizationType
The virtualization type of the instance.
Type: String
Valid values: paravirtual | hvm

clientToken
The idempotency token you provided when you launched the instance.
Type: String

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)

hypervisor
The hypervisor type of the instance.
Type: String
Valid values: ovm | xen

networkInterfaceSet
[EC2-VPC] One or more network interfaces for the instance.
Type: InstanceNetworkInterfaceSetItemType (p. 520)

iamInstanceProfile
The IAM instance profile associated with the instance.
Type: IamInstanceProfileResponseType (p. 511)

ebsOptimized
Indicates whether the instance is optimized for Amazon EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS-optimized instance.
Type: Boolean
Default: false

sriovNetSupport
Specifies whether enhanced networking is enabled.
Type: String
Valid values: simple

SecurityGroupIdSetItemType
Describes a security group.

Ancestors
- LaunchSpecificationResponseType
- LaunchSpecificationRequestType
- InstanceNetworkInterfaceSetItemType

Relevant Operations
- CreateNetworkInterface (p. 86)
- DescribeSpotInstanceRequests (p. 304)
- ModifyNetworkInterfaceAttribute (p. 395)
- ModifyInstanceAttribute (p. 391)
- RequestSpotInstances (p. 437)
Contents

**groupId**
The ID of the security group associated with the network interface.
Type: String

**SecurityGroupItemType**
Describes a security group.

**Ancestors**

- SecurityGroupSetType

**Relevant Operations**

- DescribeSecurityGroups (p. 289)

Contents

**ownerId**
The AWS account ID of the owner of the security group.
Type: String

**groupId**
The ID of the security group.
Type: String

**groupName**
The name of the security group.
Type: String

**groupDescription**
A description of the security group.
Type: String

**vpcId**
[EC2-VPC] The ID of the VPC for the security group.
Type: String

**ipPermissions**
A list of inbound rules associated with the security group. Each permission is wrapped in an item element.
Type: IpPermissionType (p. 527)

**ipPermissionsEgress**
[EC2-VPC] A list of outbound rules associated with the security group. Each permission is wrapped in an item element.
Type: IpPermissionType (p. 527)
tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 549)

SpotDatafeedSubscriptionType

Describes the datafeed for a Spot Instance.

Ancestors

• CreateSpotDatafeedSubscriptionResponseType
• DescribeSpotDatafeedSubscriptionResponseType

Relevant Operations

• CreateSpotDatafeedSubscription (p. 113)
• DescribeSpotDatafeedSubscription (p. 302)

Contents

ownerId
  The AWS account ID of the account.
  Type: String
bucket
  The Amazon S3 bucket where the Spot Instance datafeed is located.
  Type: String
prefix
  The prefix that is prepended to datafeed files.
  Type: String
state
  The state of the Spot Instance datafeed subscription.
  Type: String
  Valid values: Active | Inactive
fault
  The fault codes for the Spot Instance request, if any.
  Type: SpotInstanceStateFaultType (p. 559)

SpotInstanceRequestSetItemType

Describe a Spot Instance request.

Ancestors

• SpotInstanceRequestSetType
Relevant Operations

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)

Contents

spotInstanceRequestId
  The ID of the Spot Instance request.
  Type: String

spotPrice
  The maximum hourly price for any Spot Instance launched to fulfill the request.
  Type: String

type
  The Spot Instance request type.
  Type: String
  Valid values: one-time | persistent

state
  The state of the Spot Instance request. Spot bid status information can help you track your Spot
  Instance requests. For information, see Tracking Spot Requests with Bid Status Codes in the Amazon
  Elastic Compute Cloud User Guide.
  Type: String
  Valid values: open | active | closed | cancelled | failed

fault
  The fault codes for the Spot Instance request, if any.
  Type: SpotInstanceStateFaultType (p. 559)

status
  The status code and status message describing the Spot Instance request.
  Type: SpotInstanceStatusMessageType (p. 560)

validFrom
  The start date of the request. If this is a one-time request, the request becomes active at this date
  and time and remains active until all instances launch, the request expires, or the request is canceled.
  If the request is persistent, the request becomes active at this date and time and remains active until
  it expires or is canceled.
  Type: DateTime

validUntil
  The end date of the request. If this is a one-time request, the request remains active until all instances
  launch, the request is canceled, or this date is reached. If the request is persistent, it remains active
  until it is canceled or this date is reached.
  Type: DateTime

launchGroup
  The instance launch group. Launch groups are Spot Instances that launch together and terminate
  together.
  Type: String

availabilityZoneGroup
  The Availability Zone group. If you specify the same Availability Zone group for all Spot Instance
  requests, all Spot Instances are launched in the same Availability Zone.
  Type: String
launchedAvailabilityZone
    The Availability Zone in which the bid is launched.
    Type: String
launchSpecification
    Additional information for launching instances.
    Type: LaunchSpecificationResponseType (p. 531)
instanceId
    The instance ID, if an instance has been launched to fulfill the Spot Instance request. For persistent
    requests, the instance ID is for the most recent instance launched by the request.
    Type: String
createTime
    The time stamp when the Spot Instance request was created.
    Type: DateTime
productDescription
    The product description associated with the Spot Instance.
    Type: String
tagSet
    Any tags assigned to the resource, each one wrapped in an item element.
    Type: ResourceTagSetItemType (p. 549)

SpotInstanceStateFaultType

Describes a Spot Instance state change.

Ancestors

• SpotDatafeedSubscriptionType (p. 557)
• SpotInstanceRequestSetItemType (p. 557)

Relevant Operations

• CreateSpotDatafeedSubscription (p. 113)
• DescribeSpotDatafeedSubscription (p. 302)
• DescribeSpotInstanceRequests (p. 304)
• RequestSpotInstances (p. 437)

Contents

code
    The reason code for the Spot Instance state change.
    Type: String
message
    The message for the Spot Instance state change.
    Type: String
SpotInstanceStatusMessageType

Describes a Spot Instance request.

Ancestors

• SpotInstanceRequestSetItemType (p. 557)

Relevant Operations

• DescribeSpotInstanceRequests (p. 304)

Contents

code
  The status code of the request.
  Type: String

updateTime
  The time of the most recent status update.
  Type: DateTime

message
  The description for the status code for the Spot request.
  Type: String

SpotPriceHistorySetItemType

Describes the Spot Price history.

Ancestors

• SpotPriceHistorySetType

Relevant Operations

• DescribeSpotPriceHistory (p. 312)

Contents

instanceType
  The instance type.
  Type: String

productDescription
  A general description of the AMI.
  Type: String
Valid values: Linux/UNIX | SUSE Linux | Windows | Linux/UNIX (Amazon VPC) | SUSE Linux (Amazon VPC) | Windows (Amazon VPC)

`spotPrice`
The maximum price you will pay to launch one or more Spot Instances.
Type: String

`timestamp`
The date and time the request was created.
Type: DateTime

`availabilityZone`
The Availability Zone.
Type: String

---

## StateReasonType

Describes a state change.

### Ancestors

- DescribeImagesResponseItemType (p. 493)
- RunningInstancesItemType (p. 552)

### Relevant Operations

- DescribeImages (p. 207)
- DescribeInstances (p. 219)
- RunInstances (p. 459)

### Contents

`code`
The reason code for the state change.
Type: String

`message`
The message for the state change.
Type: String

- Server.SpotInstanceTermination
  A Spot Instance was terminated due to an increase in the market price.
- Server.InternalError
  An internal error occurred during instance launch, resulting in termination.
- Server.InsufficientInstanceCapacity
  There was insufficient instance capacity to satisfy the launch request.
A client error caused the instance to terminate on launch.

The instance was shut down using the `shutdown -h` command from the instance.

The instance was shut down using the Amazon EC2 API.

The volume limit was exceeded.

The specified snapshot was not found.

SubnetType

Describes a subnet.

Ancestors

- SubnetSetType

Relevant Operations

- CreateSubnet (p. 115)
- DescribeSubnets (p. 316)

Contents

subnetId
The ID of the subnet.
Type: String

state
The current state of the subnet.
Type: String
Valid values: pending | available

vpcId
The ID of the VPC the subnet is in.
Type: String

cidrBlock
The CIDR block assigned to the subnet.
Type: String

availableIpAddressCount
The number of unused IP addresses in the subnet. Note that the IP addresses for any stopped instances are considered unavailable.
Type: Integer

availabilityZone
The Availability Zone of the subnet.
Type: String
defaultForAz
   Indicates whether this is the default subnet for the Availability Zone.
   Type: Boolean
mapPublicIpOnLaunch
   Indicates whether instances launched in this subnet receive a public IP address.
   Type: Boolean
tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 549)

TagSetItemType

  Describes a tag.

  Relevant Operations

  • DescribeTags (p. 320)

Contents

resourceId
   The ID of the resource. For example, ami-1a2b3c4d.
   Type: String
resourceType
   The type of resource.
   Type: String

key
   The key of the tag.
   Type: String
value
   The value of the tag.
   Type: String

UserDataType

  Specifies user data.

Ancestors

  • LaunchSpecificationRequestType (p. 529)
Relevant Operations

- DescribeSpotInstanceRequests (p. 304)
- RequestSpotInstances (p. 437)
- RunInstances (p. 459)

Contents

data
   The base64-encoded MIME user data made available to the instances in the reservation.
   Type: String

UserIdGroupPairType

Describes a security group and AWS account ID pair.

Ancestors

- UserIdGroupPairSetType

Relevant Operations

- AuthorizeSecurityGroupEgress (p. 35)
- AuthorizeSecurityGroupIngress (p. 38)
- DescribeSecurityGroups (p. 289)
- RevokeSecurityGroupEgress (p. 453)
- RevokeSecurityGroupIngress (p. 456)

Contents

userId
   The ID of an AWS account. Cannot be used when specifying a CIDR IP address range.
   Type: String

groupId
   The ID of the security group in the specified AWS account. Cannot be used when specifying a CIDR IP address range.
   Type: String

groupName
   The name of the security group in the specified AWS account. Cannot be used when specifying a CIDR IP address range.
   Type: String
VolumeStatusItemType

Describes the volume status, cause, details, and potential actions to take in response.

Ancestors

• VolumeStatusSetType

Relevant Operation

• DescribeVolumeStatus (p. 333)

Contents

volumeId
  The volume ID.
  Type: String

availabilityZone
  The Availability Zone of the volume.
  Type: String

volumeStatus
  The volume status. The status of each volume is wrapped in an item element.
  Type: VolumeStatusInfoType (p. 565).

eventSet
  A list of events associated with the volume. Each event is wrapped in an item element.
  Type: VolumeStatusEventItemType (p. 566).

actionSet
  The details of the action. Each action detail is wrapped in an item element.
  Type: VolumeStatusActionItemType (p. 567).

VolumeStatusInfoType

Describes the volume status with details.

Ancestors

• VolumeStatusItemType

Relevant Operation

• DescribeVolumeStatus (p. 333)
Contents

status
   The status of the volume.
   Type: String
   Valid values: ok | impaired | insufficient-data
details
   The details of the volume status. Each volume status detail is wrapped in an item type.
   Type: VolumeStatusDetailsItemType (p. 566).

VolumeStatusDetailsItemType

Describes the cause and more detail for a volume status.

Ancestors

• VolumeStatusInfoType

Relevant Operation

• DescribeVolumeStatus (p. 333)

Contents

name
   The name of the volume status.
   Type: String
   Valid values: io-enabled | io-performance
status
   The intended status of the volume status.
   Type: String
   Valid values for io-enabled: passed | failed
   Valid values for io-performance: normal | degraded | severely-degraded | stalled

VolumeStatusEventItemType

Describes a volume status event.

Ancestors

• VolumeStatusItemType
Relevant Operation

- DescribeVolumeStatus (p. 333)

Contents

eventType
  The type of this event.
  Type: String

eventId
  The ID of this event.
  Type: String

description
  A description of the event.
  Type: String

notBefore
  The earliest start time of the event.
  Type: DateTime

notAfter
  The latest end time of the event.
  Type: DateTime

VolumeStatusActionItemType

Describes a volume status action code.

Ancestors

- VolumeStatusItemType

Relevant Operation

- DescribeVolumeStatus (p. 333)

Contents

code
  The code identifying the action, for example, enable-volume-io.
  Type: String

eventType
  The event type associated with this action.
  Type: String

eventId
  The ID of the event associated with this action.
  Type: String
description
A description of the action.
Type: String

VpcType
Describes a VPC.

Ancestors

• VpcSetType

Relevant Operations

• CreateVpc (p. 124)
• DescribeVpcs (p. 343)

Contents

vpcId
The ID of the VPC.
Type: String

state
The current state of the VPC.
Type: String
Valid values: pending | available

cidrBlock
The CIDR block for the VPC.
Type: String

dhcpOptionsId
The ID of the set of DHCP options you’ve associated with the VPC (or default if the default options are associated with the VPC).
Type: String

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)

instanceTenancy
The allowed tenancy of instances launched into the VPC.
Type: String
Valid values: default | dedicated

isDefault
Indicates whether the VPC is the default VPC.
Type: Boolean
VpcPeeringConnectionType

Describes a VPC peering connection.

Ancestors

• VpcPeeringConnectionSetType

Relevant Operations

• AcceptVpcPeeringConnection (p. 12)
• CreateVpcPeeringConnection (p. 126)
• DescribeVpcPeeringConnections (p. 340)

Contents

vpcPeeringConnectionId
The ID of the VPC peering connection.
Type: String

requesterVpcInfo
The information of the requester VPC.
Type: VpcPeeringConnectionVpcInfoType (p. 570)

accepterVpcInfo
The information of the peer VPC.
Type: VpcPeeringConnectionVpcInfoType (p. 570)

status
The status of the VPC peering connection.
Type: VpcPeeringConnectionStateReasonType (p. 569)

expirationTime
The time that an unaccepted VPC peering connection will expire.
Type: Timestamp

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)

VpcPeeringConnectionStateReasonType

Describes the status of a VPC peering connection.

Ancestors

• VpcPeeringConnectionType
Relevant Operations

- AcceptVpcPeeringConnection (p. 12)
- CreateVpcPeeringConnection (p. 126)
- DescribeVpcPeeringConnections (p. 340)

Contents

code
   The status of the VPC peering connection.
   Type: String
   Valid values:
   | initiating-request |
   | pending-acceptance |
   | failed |
   | expired |
   | provisioning |
   | active |
   | deleted |
   | rejected |

message
   A message that provides more information about the status, if applicable.
   Type: String

VpcPeeringConnectionVpcInfoType

Describes a VPC in a VPC peering connection.

Ancestors

- VpcPeeringConnectionType

Relevant Operations

- AcceptVpcPeeringConnection (p. 12)
- CreateVpcPeeringConnection (p. 126)
- DescribeVpcPeeringConnections (p. 340)

Contents

vpcId
   The ID of the VPC.
   Type: String

ownerId
   The AWS account ID of the VPC owner.
   Type: String

cidrBlock
   The CIDR block for the VPC.
   Type: String
VpnConnectionOptionsResponseType

Describes VPN connection options.

**Relevant Operations**

- CreateVpnConnection (p. 129)
- DescribeVpnConnections (p. 347)

**Contents**

staticRoutesOnly

Indicates whether the VPN connection uses static routes only. Static routes must be used for devices that don't support BGP.

Type: Boolean

VpnConnectionType

Describes a VPN connection.

**Ancestors**

- VpnConnectionSetType

**Relevant Operations**

- CreateVpnConnection (p. 129)
- DescribeVpnConnections (p. 347)

**Contents**

vpnConnectionId

The ID of the VPN connection.

Type: String

state

The current state of the VPN connection.

Type: String

Valid values: pending | available | deleting | deleted

customerGatewayConfiguration

The configuration information for the VPN connection's customer gateway (in the native XML format). This element is always present in the CreateVpnConnection response; however, it's present in the DescribeVpnConnections response only if the VPN connection is in the pending or available state.

Type: String
type
  The type of VPN connection.
  Type: String
  Valid values: ipsec.1
customerGatewayId
  The ID of the customer gateway at your end of the VPN connection.
  Type: String
vpnGatewayId
  The ID of the virtual private gateway at the AWS side of the VPN connection.
  Type: String
tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 549)
vgwTelemetry
  The virtual private gateway. Each gateway is wrapped in an item element.
  Type: VpnTunnelTelemetryType (p. 573)
options
  The option set describing the VPN connection.
  Type: VpnConnectionOptionsResponseType (p. 571)
routes
  The set of static routes associated with the VPN connection.
  Type: VpnStaticRouteType (p. 573)

VpnGatewayType

Describes a virtual private gateway.

Ancestors

- VpnGatewaySetType

Relevant Operations

- CreateVpnGateway (p. 134)
- DescribeVpnGateways (p. 351)

Contents

vpnGatewayId
  The ID of the virtual private gateway.
  Type: String
state
  The current state of the virtual private gateway.
  Type: String
  Valid values: pending | available | deleting | deleted
type
The type of VPN connection that the virtual private gateway supports.
Type: String
Valid values: ipsec.1
availabilityZone
The Availability Zone where the virtual private gateway was created.
Type: String
attachments
Any VPCs attached to the virtual private gateway, each one wrapped in an item element.
Type: AttachmentType (p. 484)
tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 549)

VpnStaticRouteType
Describes a static route for a VPN connection.

Ancestors
- VpnStaticRoutesSetType

Relevant Operations
- CreateVpnConnection (p. 129)
- DescribeVpnConnections (p. 347)

Contents
destinationCidrBlock
The CIDR block associated with the local subnet of the customer data center.
Type: String
source
Indicates how the routes were provided.
Type: String
Valid value: Static
state
The current state of the static route.
Type: String
Valid values: pending | available | deleting | deleted

VpnTunnelTelemetryType
Describes telemetry for a VPN tunnel.
Ancestors

- VgwTelemetryType

Relevant Operations

- CreateVpnConnection (p. 129)
- DescribeVpnConnections (p. 347)

Contents

outsideIpAddress
   - The Internet-routable IP address of the virtual private gateway's outside interface.
   - Type: String

status
   - The status of the VPN tunnel.
   - Type: String
   - Valid values: UP | DOWN

lastStatusChange
   - The date and time of the last change in status.
   - Type: DateTime

statusMessage
   - If an error occurs, a description of the error.
   - Type: String

acceptedRouteCount
   - The number of accepted routes.
   - Type: Integer
Common Query Parameters

Most Amazon EC2 API actions support the parameters described in the following table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action</td>
<td>The action to perform. Example: RunInstances</td>
<td>Yes</td>
</tr>
<tr>
<td>Version</td>
<td>The API version to use, as specified in the WSDL file. Example: 2014-05-01</td>
<td>Yes</td>
</tr>
<tr>
<td>AWSAccessKeyId</td>
<td>The access key ID for the request sender. This identifies the account which will be charged for usage of the service. The account that’s associated with the access key ID must be signed up for Amazon EC2, or the request isn’t accepted. AKIAIOSFODNN7EXAMPLE</td>
<td>Yes</td>
</tr>
<tr>
<td>DryRun</td>
<td>Checks whether you have the required permissions for the action, without actually making the request. If you have the required permissions, the request returns DryRunOperation; otherwise, it returns UnauthorizedOperation.</td>
<td>No</td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time at which the request is signed, in the format YYYY-MM-DDTh:mm:ssZ. For more information, see ISO 8601. Example: 2006-07-07T15:04:56Z</td>
<td>Yes</td>
</tr>
<tr>
<td>Expires</td>
<td>The date and time at which the signature included in the request expires, in the format YYYY-MM-DDTh:mm:ssZ. Example: 2006-07-07T15:04:56Z</td>
<td>Yes</td>
</tr>
<tr>
<td>SecurityToken</td>
<td>The temporary security token obtained through a call to AWS Security Token Service. Default: None Type: String</td>
<td>No</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
<td>Required</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Signature</td>
<td>The request signature. For more information, see Signature Version 2 Signing Process in the Amazon Web Services General Reference. Example: Qnp14Qk/7tINHzfXCiT7VEXAMPLE</td>
<td>Yes</td>
</tr>
<tr>
<td>SignatureMethod</td>
<td>The hash algorithm you use to create the request signature. Valid values: HmacSHA256</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>For more information, see Signature Version 2 Signing Process in the Amazon Web Services General Reference. Example: HmacSHA256</td>
<td></td>
</tr>
<tr>
<td>SignatureVersion</td>
<td>The signature version you use to sign the request. Set this value to 2. For more information, see Signature Version 2 Signing Process in the Amazon Web Services General Reference. Example: 2</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Note**

The Timestamp parameter can be used instead of Expires. Requests must include either Timestamp or Expires, but cannot contain both.

Parameter values must be URL-encoded. This is true for any Query parameter passed to Amazon EC2 and is typically necessary in the Signature parameter. Some clients do this automatically, but this is not the norm.
Granting IAM Users Required Permissions for Amazon EC2 Resources

By default, AWS Identity and Access Management (IAM) users don't have permission to create or modify Amazon EC2 resources, or perform tasks using the Amazon EC2 API. To allow IAM users to create or modify resources and perform tasks, you must create IAM policies that grant IAM users permissions for the specific resources and API actions they'll need to use, and then attach those policies to the IAM users or groups that require those permissions.

For more information, see IAM Policies for Amazon EC2 in the Amazon Elastic Compute Cloud User Guide.

When you make an API request, the parameters that you specify in the request determine which resources an IAM user must have permission to use. If the user doesn't have the required permissions, the request fails. For example, if you use RunInstances to launch an instance in a subnet (by specifying the SubnetId parameter), an IAM user must have permission to use the VPC.

If an action creates a resource, an IAM user must have permission to create the resource or the request fails. Many Amazon EC2 resources receive an identifier when they are created. Because you can't know what that identifier is in advance, you must use a wildcard in the ARN for a resource when it is to be created by the request, as shown in the following sections. Note that because you can't tag a resource when you create it, you can't use any of the tag condition keys with a resource that's created by an action. (We'll add support for tagging a resource at creation in 2014.)

The following sections describe the resources that are created or modified by the Amazon EC2 actions, and the ARNs and Amazon EC2 condition keys that you can use in an IAM policy statement to grant users permission to create or modify particular Amazon EC2 resources. (We'll add support for additional actions, ARNs, and condition keys in 2014.)

Topics
- Customer Gateways (p. 578)
- DHCP Options Sets (p. 578)
- Instances (p. 578)
- Internet Gateways (p. 580)
- Network ACLs (p. 581)
Customer Gateways

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: DeleteCustomerGateway (p. 136)</td>
<td>**arn:**aws:ec2:region:account:customer-gateway/cgw-id</td>
<td>ec2:Region, ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td>Customer gateway</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DHCP Options Sets

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: DeleteDhcpOptions (p. 138)</td>
<td>**arn:**aws:ec2:region:account:dhcp-options/dhcp-options-id</td>
<td>ec2:Region, ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td>DHCP options set</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instances

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: RebootInstances (p. 413)</td>
<td>**arn:**aws:ec2:region:account:instance/instance-id</td>
<td>ec2:AvailabilityZone, ec2:Ec2Optimized, ec2:InstanceProfile, ec2:InstanceType, ec2:PlacementGroup, ec2:Region, ec2:ResourceTag/tag-key, ec2:RootDeviceType, ec2:Tenancy</td>
</tr>
<tr>
<td>Instance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<p>| Action: RunInstances (p. 459) | **arn:**aws:ec2:region:image/image-id | ec2:ImageType, ec2:Owner, ec2:Public, ec2:Region, ec2:RootDeviceType, ec2:ResourceTag/tag-key |
| Image                |                                                                            |                                 |</p>
<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key pair</td>
<td>arn:aws:ec2:region:account:key-pair/key-pair-name</td>
<td>ec2:Region</td>
</tr>
<tr>
<td>Network interface</td>
<td>arn:aws:ec2:region:account:network-interface/* (if launching into a VPC, for creating a network interface)</td>
<td>ec2:AvailabilityZone ec2:Region ec2:Subnet ec2:ResourceTag/tags-key ec2:Vpc</td>
</tr>
<tr>
<td></td>
<td>arn:aws:ec2:region:account:network-interface/eni-id (if specifying an existing network interface)</td>
<td></td>
</tr>
</tbody>
</table>

**Action:** StartInstances (p. 469)
### Internet Gateways

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:instance/instance-id</code></td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:EbsOptimized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td><strong>Action:</strong> StopInstances (p. 471)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:instance/instance-id</code></td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:EbsOptimized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td><strong>Action:</strong> TerminateInstances (p. 473)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet gateway</td>
<td><code>arn:aws:ec2:region:account:internet-gateway/igw-id</code></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
</tbody>
</table>
# Network ACLs

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action:</td>
<td><strong>DeleteNetworkAcl</strong> (p. 144)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
<tr>
<td>Action:</td>
<td><strong>DeleteNetworkAclEntry</strong> (p. 146)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
</tbody>
</table>

# Route Tables

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action:</td>
<td><strong>Delete</strong> (p. 152)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
<tr>
<td>Action:</td>
<td><strong>DeleteRouteTable</strong> (p. 154)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
</tbody>
</table>

# Security Groups

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action:</td>
<td><strong>AuthorizeSecurityGroupEgress</strong> (p. 35)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
<tr>
<td>Action:</td>
<td><strong>AuthorizeSecurityGroupIngress</strong> (p. 38)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Vpc</code></td>
</tr>
<tr>
<td>Action:</td>
<td><strong>DeleteSecurityGroup</strong> (p. 156)</td>
<td></td>
</tr>
</tbody>
</table>
### Volumes

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Vpc</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>RevokeSecurityGroupEgress</strong> (p. 453)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Vpc</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>RevokeSecurityGroupIngress</strong> (p. 456)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Vpc</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instance</td>
<td><code>arn:aws:ec2:region:account:instance/instance-id</code></td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:EbsOptimized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceProfile</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:InstanceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:PlacementGroup</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:RootDeviceType</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Tenancy</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>AttachVolume</strong> (p. 30)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ParentSnapshot</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:Region</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:ResourceTag/tag-key</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeIops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeSize</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ec2:VolumeType</td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>DeleteVolume</strong> (p. 166)</td>
<td></td>
</tr>
</tbody>
</table>
### Condition Keys

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
</table>

**Action**: DetachVolume (p. 359)

| Instance  | `arn:aws:ec2:region:account:instance/instance-id` | `ec2:AvailabilityZone`<br>`ec2:EbsOptimized`<br>`ec2:InstanceProfile`<br>`ec2:InstanceType`<br>`ec2:PlacementGroup`<br>`ec2:Region`<br>`ec2:ResourceTag/tag-key`<br>`ec2:RootDeviceType`<br>`ec2:Tenancy` |

### VPC Peering Connections

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPC</td>
<td><code>arn:aws:ec2:region:account:vpc/vpc-id</code></td>
<td><code>ec2:Region</code>&lt;br&gt;<code>ec2:ResourceTag/tag-key</code>&lt;br&gt;<code>ec2:Tenancy</code></td>
</tr>
</tbody>
</table>

**Action**: AcceptVpcPeeringConnection (p. 12)

**Action**: CreateVpcPeeringConnection (p. 126)
<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPC</td>
<td><code>arn:aws:ec2:region:account:vpc/vpc-id</code></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Tenancy</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:RequesterVpc</code></td>
</tr>
<tr>
<td><strong>Action:</strong> DeleteVpcPeeringConnection (p. 169)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:RequesterVpc</code></td>
</tr>
<tr>
<td><strong>Action:</strong> RejectVpcPeeringConnection (p. 420)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:Region</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:ResourceTag/tag-key</code></td>
</tr>
<tr>
<td></td>
<td></td>
<td><code>ec2:RequesterVpc</code></td>
</tr>
</tbody>
</table>
Error Codes

Topics
- Overview (p. 585)
- Common Causes of EC2 API Client Errors (p. 585)
- Client Error Codes (p. 586)
- Summary of Server Error Codes (p. 600)
- Request Error Response (p. 600)
- Example Error Response Request (p. 600)
- Eventual Consistency (p. 601)

Overview

There are two types of error codes: client and server.

Client error codes suggest that the error was caused by something the client did, such as use an action or resource he or she doesn't have permission to use, or specify an identifier that is not valid. In the Query API, these errors are accompanied by a 400-series HTTP response code.

Server error codes suggest a server-side issue caused the error. In the Query API, these errors are accompanied by a 500-series HTTP response code.

Common Causes of EC2 API Client Errors

There are a number of reasons that you might encounter an error while performing a request. Some errors can be prevented or easily solved by following these guidelines:

- **Specify the region**: Some resources can't be shared between regions. If you are specifying a resource that's located in a region other than the default region (us-east-1), you need to specify its region in the request. If the resource cannot be found, you'll get the following kind of error:
  
  ```
  Client.InvalidResource.NotFound; for example, Client.InvalidInstanceID.NotFound.
  ```

- **Allow for eventual consistency**: Some errors are caused because a previous request has not yet propagated thorough the system. For more information, see Eventual Consistency in the Amazon Elastic Compute Cloud User Guide.
• **Use a sleep interval between request rates**: Amazon EC2 API requests are throttled to help maintain the performance of the service. If your requests have been throttled, you'll get the following error: `Client.RequestLimitExceeded`. For more information, see [Query API Request Rate](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UsersGuide/QueryAPITrace.html) in the *Amazon Elastic Compute Cloud User Guide*.

• **Use the full ID of the resource**: When specifying a resource, ensure that you use its full ID, and not its user-supplied name or description. For example, when specifying a security group in a request, use its ID in the form `sg-xxxxxx`.

• **Check your services**: Ensure that you have signed up for all the services you are attempting to use. You can check which services you're signed up for by going to the My Account section of the AWS home page.

• **Check your permissions**: Ensure that you have the required permissions to carry out the request. If you are not authorized, you'll get the following error: `Client.UnauthorizedOperation`. For more information, see [Controlling Access](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/Security.html) in the *Amazon Elastic Compute Cloud User Guide*.

• **Check your VPC**: Some resources cannot be shared between VPCs; for example, security groups.

• **Check your credentials**: Ensure that you provide your access keys when you are making requests; that you have entered the credentials correctly; and, if you have more than one account, that you are using the correct credentials for a particular account. If the provided credentials are incorrect, you may get the following error: `Client.AuthFailure`.

## Client Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ActiveVpcPeeringConnectionPerVpcLimitExceeded</code></td>
<td>You've reached the limit on the number of active VPC peering connections you can have for the specified VPC.</td>
</tr>
<tr>
<td><code>AddressLimitExceeded</code></td>
<td>You've reached the limit on the number of Elastic IP addresses that you can allocate. For more information, see <a href="https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UG/eip-address-limits.html">Elastic IP Address Limit</a>. If you need additional Elastic IP addresses, complete the <a href="https://console.aws.amazon.com/ec2/home">Amazon EC2 Elastic IP Address Request Form</a>. If you need additional Elastic IP addresses for your VPCs, complete the <a href="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC-Limits.html">Amazon VPC Limits form</a>.</td>
</tr>
<tr>
<td><code>AttachmentLimitExceeded</code></td>
<td>You've reached the limit on the number of Amazon EBS volumes that can be attached to a single instance.</td>
</tr>
<tr>
<td><code>AuthFailure</code></td>
<td>The provided credentials could not be validated. You may not be authorized to carry out the request; for example, associating an Elastic IP address that is not yours, or trying to use an AMI for which you do not have permissions. Ensure that your account is authorized to use the Amazon EC2 service, that your credit card details are correct, and that you are using the correct access keys.</td>
</tr>
<tr>
<td><code>Blocked</code></td>
<td>Your account is currently blocked. Contact <code>aws-verification@amazon.com</code> if you have questions.</td>
</tr>
<tr>
<td><code>BundlingInProgress</code></td>
<td>The specified instance already has a bundling task in progress.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CannotDelete</td>
<td>You cannot delete the 'default' security group in your VPC, but you can change its rules. For more information, see Amazon EC2 Security Groups.</td>
</tr>
<tr>
<td>ConcurrentSnapshotLimitExceeded</td>
<td>You've reached the limit on the number of concurrent snapshots you can create on the specified volume. Wait until the 'pending' requests have completed, and check that you do not have snapshots that are in an incomplete state, such as 'error', which count against your concurrent snapshot limit.</td>
</tr>
<tr>
<td>ConcurrentTagAccess</td>
<td>You can't run simultaneous commands to modify a tag for a specific resource. Allow sufficient wait time for the previous request to complete, then retry your request. For more information, see Error Retries and Exponential Backoff in AWS.</td>
</tr>
<tr>
<td>CustomerGatewayLimitExceeded</td>
<td>You've reached the limit on the number of customer gateways you can create for the region. For more information, see Amazon VPC Limits. To request an increase on your customer gateway limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>DependencyViolation</td>
<td>The specified object has dependent resources. A number of resources in a VPC may have dependent resources, which prevent you from deleting or detaching them. Remove the dependencies first, then retry your request. For example, this error occurs if you try to delete a security group in a VPC that is in use by another security group.</td>
</tr>
<tr>
<td>DiskImageSizeTooLarge</td>
<td>The disk image exceeds the allowed limit (for instance or volume import).</td>
</tr>
<tr>
<td>DryRunOperation</td>
<td>The user has the required permissions, so the request would have succeeded, but the DryRun parameter was used.</td>
</tr>
<tr>
<td>EncryptedVolumesNotSupportedException</td>
<td>Encrypted Amazon EBS volumes may only be attached to instances that support Amazon EBS encryption. For more information, see Amazon EBS encryption in the Amazon Elastic Compute Cloud User Guide.</td>
</tr>
<tr>
<td>FilterLimitExceeded</td>
<td>The request uses too many filters or too many filter values.</td>
</tr>
<tr>
<td>Gateway.NotAttached</td>
<td>An Internet gateway is not attached to a VPC. If you are trying to detach an Internet gateway, ensure that you specify the correct VPC. If you are trying to associate an Elastic IP address with a network interface or an instance, ensure that an Internet gateway is attached to the relevant VPC.</td>
</tr>
<tr>
<td>IdempotentParameterMismatch</td>
<td>The request uses the same client token as a previous, but non-identical request. Do not reuse a client token with different requests, unless the requests are identical.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IncorrectInstanceState</td>
<td>The instance is in an incorrect state, so the requested action can't be completed. For example, some instance attributes, such as user data, can only be modified if the instance is in a ‘stopped’ state. If you are associating an Elastic IP address with a network interface, ensure that the instance that the interface is attached to is not in the ‘pending’ state.</td>
</tr>
<tr>
<td>IncorrectState</td>
<td>The resource is in an incorrect state for the request. This error can occur if you are trying to attach a volume that is still being created. Ensure that the volume is in the ‘available’ state. If you are creating a snapshot, ensure that the previous request to create a snapshot on the same volume has completed. If you are deleting a virtual private gateway, ensure that it's detached from the VPC.</td>
</tr>
<tr>
<td>InstanceLimitExceeded</td>
<td>You've reached the limit on the number of instances you can run concurrently. The limit depends on the instance type. For more information, see How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.</td>
</tr>
<tr>
<td>InsufficientFreeAddressesInSubnet</td>
<td>The specified subnet does not contain enough free IP addresses to fulfill your request. Use the DescribeSubnets request to view how many IP addresses are available (unused) in your subnet. IP addresses associated with stopped instances are considered unavailable.</td>
</tr>
<tr>
<td>InsufficientReservedInstancesCapacity</td>
<td>There is insufficient capacity for the requested Reserved Instances.</td>
</tr>
<tr>
<td>InternetGatewayLimitExceeded</td>
<td>You've reached the limit on the number of Internet gateways that you can create. For more information, see Amazon VPC Limits. To request an increase on the Internet gateway limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>InvalidAddress.NotFound</td>
<td>The specified Elastic IP address that you are describing cannot be found. Ensure that you specify the region in which the IP address is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidAddressID.NotFound</td>
<td>The specified allocation ID for the Elastic IP address you are trying to release cannot be found. Ensure that you specify the region in which the IP address is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidAllocationID.NotFound</td>
<td>The specified allocation ID you are trying to describe or associate does not exist. Ensure that you specify the region in which the IP address is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidAMIAttributeItemValue</td>
<td>The value of an item added to, or removed from, an image attribute is not valid. If you are specifying a userId, check that it is in the form of an AWS account ID, without hyphens.</td>
</tr>
<tr>
<td>InvalidAMIID.Malformed</td>
<td>The specified AMI ID is not valid. Ensure that you provide the full AMI ID, in the form ami-xxxxxx.</td>
</tr>
<tr>
<td>InvalidAMIID.NotFound</td>
<td>The specified AMI does not exist. Check the AMI ID, and ensure that you specify the region in which the AMI is located, if it's not in the default region. This error may also occur if you specified an incorrect kernel ID when launching an instance.</td>
</tr>
<tr>
<td>InvalidAMIID.Unavailable</td>
<td>The specified AMI has been deregistered and is no longer available, or is not in a state from which you can launch an instance.</td>
</tr>
<tr>
<td>InvalidAMIName.Duplicate</td>
<td>The specified AMI name is already in use by another AMI. If you have recently deregistered an AMI with the same name, allow enough time for the change to propagate through the system, and retry your request.</td>
</tr>
<tr>
<td>InvalidAMIName.Malformed</td>
<td>AMI names must be between 3 and 128 characters long, and may contain letters, numbers, and only the following characters: ( ) . - / _</td>
</tr>
<tr>
<td>InvalidAssociationID.NotFound</td>
<td>The specified association ID (for an Elastic IP address, a route table, or network ACL) does not exist. Ensure that you specify the region in which the association ID is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidAttachment.NotFound</td>
<td>Indicates an attempt to detach a volume from an instance to which it is not attached.</td>
</tr>
<tr>
<td>InvalidAttachmentID.NotFound</td>
<td>The specified network interface attachment does not exist.</td>
</tr>
<tr>
<td>InvalidBlockDeviceMapping</td>
<td>A block device mapping parameter is not valid. The returned message indicates the incorrect value.</td>
</tr>
<tr>
<td>InvalidBundleID.NotFound</td>
<td>The specified bundle task ID cannot be found. Ensure that you specify the region in which the bundle task is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidConversionTaskId</td>
<td>The specified conversion task ID (for instance or volume import) is not valid.</td>
</tr>
<tr>
<td>InvalidCustomerGateway.DuplicateIpAddress</td>
<td>There is a conflict among the specified gateway IP addresses.</td>
</tr>
<tr>
<td>InvalidCustomerGatewayId.Malformed</td>
<td>The specified customer gateway ID is malformed, or cannot be found. Specify the ID in the form cgw-xxxxxxx, and ensure that you specify the region in which the customer gateway is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidCustomerGatewayID.NotFound</td>
<td>The specified customer gateway ID cannot be found. Ensure that you specify the region in which the customer gateway is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidDevice.InUse</td>
<td>The device to which you are trying to attach (for example, /dev/sdh) is already in use on the instance.</td>
</tr>
<tr>
<td>InvalidDhcpOptionID.NotFound</td>
<td>The specified DHCP options set does not exist. Ensure that you specify the region in which the DHCP options set is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidDhcpOptionsID.NotFound</td>
<td>The specified DHCP options set does not exist. Ensure that you specify the region in which the DHCP options set is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidDhcpOptionsId.Malformed</td>
<td>The specified DHCP options set ID is not valid. Ensure that you provide the full DHCP options set ID in the request, in the form dopt-yyyyyy.</td>
</tr>
<tr>
<td>InvalidExportTaskID.NotFound</td>
<td>The specified export task ID cannot be found.</td>
</tr>
<tr>
<td>InvalidFilter</td>
<td>The specified filter is not valid.</td>
</tr>
<tr>
<td>InvalidFormat</td>
<td>The specified disk format (for the instance or volume import) is not valid.</td>
</tr>
<tr>
<td>InvalidGatewayID.NotFound</td>
<td>The specified gateway does not exist.</td>
</tr>
<tr>
<td>InvalidGroup.Duplicate</td>
<td>You cannot create a security group with the same name as an existing security group in the same VPC, or the same region (EC2-Classic).</td>
</tr>
<tr>
<td>InvalidGroupId.Malformed</td>
<td>The specified security group ID is not valid. Ensure that you provide the full security group ID in the request, in the form sg-yyyyyy.</td>
</tr>
<tr>
<td>InvalidGroup.InUse</td>
<td>The specified security group can't be deleted because it's in use by another security group. You can remove dependencies by modifying or deleting rules in the affected security groups.</td>
</tr>
<tr>
<td>InvalidGroup.NotFound</td>
<td>The specified security group does not exist. Ensure that you provide the full security group ID in the request, in the form sg-yyyyyy.</td>
</tr>
<tr>
<td></td>
<td>This error may occur because the ID of a recently created security group has not propagated through the system. For more information, see Eventual Consistency.</td>
</tr>
<tr>
<td></td>
<td>You cannot specify a security group that is in a different region or VPC to the request. For example, if you are creating a network interface, you cannot specify a security group that is associated with a different VPC to the subnet you've specified in your request.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidGroup.Reserved</td>
<td>The name ‘default’ is reserved, and cannot be used to create a new security group. You also cannot delete the default EC2-Classic security group, but you can change its rules. For more information, see <a href="https://docs.aws.amazon.com/ec2/latest/userguide/">Amazon EC2 Security Groups</a>.</td>
</tr>
</tbody>
</table>
| InvalidID                     | The specified ID for the resource you are trying to tag is not valid. Ensure that you provide the full resource ID; for example, ami-2bb65342 for an AMI.  
If you're using the command line tools on a Windows system, you might need to use quotation marks for the key-value pair; for example, "Name=TestTag". |
| InvalidInput                  | An input parameter in the request is invalid; for example, if you specified an incorrect Reserved Instance listing ID in the request.         |
| InvalidInstanceAttributeValue | The specified instance attribute value is not valid. This error is most commonly encountered when trying to set the InstanceType/--instance-type attribute to an unrecognized value. |
| InvalidInstanceID             | This error commonly occurs when trying to associate an IP address with an instance that is not in the 'running' state. This error can also occur when trying to perform an operation on an instance that has multiple network interfaces.  
A network interface can have individual attributes; therefore, you may need to specify the network interface ID as part of the request, or use a different request. For example, each network interface in an instance can have a source/destination check flag. If you want to modify this attribute, you need to modify the network interface attribute, and not the instance attribute.  
If you want to create a route in a route table, you need to provide a specific network interface ID as part of the request. |
<p>| InvalidInstanceID.Malformed   | The specified instance ID is not valid. Ensure that you provide the full instance ID in the request, in the form i-xxxxxx.                       |
| InvalidInstanceID.NotFound    | The specified instance does not exist. Ensure that you have indicated the region in which the instance is located, if it's not in the default region. This error may occur because the ID of a recently created instance has not propagated through the system. For more information, see <a href="https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/">Eventual Consistency</a>. |
| InvalidInstanceType           | The specified instance does not support bundling. You can only bundle instance store-backed Windows instances.                                |</p>
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>InvalidInterface.IpAddressLimitExceeded</td>
<td>The number of private IP addresses for a specified network interface exceeds the limit for the type of instance you are trying to launch. For more information about the maximum number of private IP addresses per ENI, see Private IP addresses per ENI.</td>
</tr>
<tr>
<td>InvalidInternetGatewayID.NotFound</td>
<td>The specified Internet gateway does not exist. Ensure that you specify the region in which the Internet gateway is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidIPAddress.InUse</td>
<td>The specified IP address is already in use. If you are trying to release an address, you must first disassociate it from the instance.</td>
</tr>
<tr>
<td>InvalidKey.Format</td>
<td>The key pair is not specified in a valid OpenSSH public key format.</td>
</tr>
<tr>
<td>InvalidKeyPair.Duplicate</td>
<td>The key pair name already exists in that region. If you are creating or importing a key pair, ensure that you use a unique name.</td>
</tr>
<tr>
<td>InvalidKeyPair.Format</td>
<td>The format of the public key you are attempting to import is not valid.</td>
</tr>
<tr>
<td>InvalidKeyPair.NotFound</td>
<td>The specified key pair name does not exist. Ensure that you specify the region in which the key pair is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidManifest</td>
<td>The specified AMI has an unparsable manifest, or you may not have access to the location of the manifest file in Amazon S3.</td>
</tr>
<tr>
<td>InvalidNetworkAclEntry.NotFound</td>
<td>The specified network ACL entry does not exist.</td>
</tr>
<tr>
<td>InvalidNetworkAclID.NotFound</td>
<td>The specified network ACL does not exist. Ensure that you specify the region in which the network ACL is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceAttachmentID.Malformed</td>
<td>The ID for the network interface attachment is not valid. Ensure that you use the attachment ID rather than the network interface ID, in the form eni-attach-xxxxxx.</td>
</tr>
<tr>
<td>InvalidNetworkInterface.InUse</td>
<td>The specified interface is currently in use and cannot be deleted. Ensure that you have detached the network interface first.</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceId.Malformed</td>
<td>The specified network interface ID is invalid. Ensure that you specify the network interface ID in the form eni-xxxxxxx.</td>
</tr>
<tr>
<td>InvalidNetworkInterfaceID.NotFound</td>
<td>The specified network interface does not exist. Ensure that you have provided the full ID for the network interface, in the form eni-xxxxxx. Ensure that you specify the region in which the network interface is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidOption.Conflict</td>
<td>A VPN connection between the virtual private gateway and the customer gateway already exists.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>InvalidParameter</td>
<td>A parameter specified in a request is not valid, is unsupported, or cannot be used. The returned message provides an explanation of the error value. For example, if you are launching an instance, you can't specify a security group and subnet that are in different VPCs.</td>
</tr>
<tr>
<td>InvalidParameterCombination</td>
<td>Indicates an incorrect combination of parameters, or a missing parameter. For example, trying to terminate an instance without specifying the instance ID.</td>
</tr>
<tr>
<td>InvalidParameterValue</td>
<td>A value specified in a parameter is not valid, is unsupported, or cannot be used. Ensure that you specify a resource by using its full ID. The returned message provides an explanation of the error value.</td>
</tr>
<tr>
<td>InvalidPermission.Duplicate</td>
<td>The specified inbound or outbound rule already exists for that security group.</td>
</tr>
<tr>
<td>InvalidPermission.Malformed</td>
<td>The specified security group rule is malformed. If you are specifying an IP address range, ensure that you use CIDR notation; for example, 203.0.113.0/24.</td>
</tr>
<tr>
<td>InvalidPermission.NotFound</td>
<td>The specified rule does not exist in this security group.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.Duplicate</td>
<td>The specified placement group already exists in that region.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.InUse</td>
<td>The specified placement group is in use. If you are trying to delete a placement group, ensure that its instances have been terminated.</td>
</tr>
<tr>
<td>InvalidPlacementGroup.Unknown</td>
<td>The specified placement group cannot be found. Ensure that you specify the region in which the placement group is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidRequest</td>
<td>The request is invalid. The returned message provides details about the nature of the error.</td>
</tr>
<tr>
<td>InvalidReservationID.Malformed</td>
<td>The specified reservation ID is not valid.</td>
</tr>
<tr>
<td>InvalidReservationID.NotFound</td>
<td>The specified reservation does not exist.</td>
</tr>
<tr>
<td>InvalidReservedInstancesId</td>
<td>The specified Reserved Instance does not exist.</td>
</tr>
<tr>
<td>InvalidReservedInstancesOfferingId</td>
<td>The specified Reserved Instances offering does not exist.</td>
</tr>
<tr>
<td>InvalidRoute.Malformed</td>
<td>The specified route is not valid. If you are deleting a route in a VPN connection, ensure that you've entered the value for the CIDR block correctly.</td>
</tr>
<tr>
<td>InvalidRoute.NotFound</td>
<td>The specified route does not exist in the specified route table. Ensure that you indicate the exact CIDR range for the route in the request. This error can also occur if you've specified a route table ID in the request that does not exist.</td>
</tr>
<tr>
<td>InvalidRouteTableId.Malformed</td>
<td>The specified route table ID is malformed. Ensure that you specify the route table ID in the form rtb-xxxxxxxx.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidRouteTableID.NotFound</td>
<td>The specified route table does not exist. Ensure that you specify the route table ID in the form <code>rtb-xxxxxxx</code>, and that you specify the region in which the route table is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidSecurityGroupID.NotFound</td>
<td>The specified security group does not exist. If you are creating a network interface, ensure that you specify a VPC security group, and not an EC2-Classic security group. Ensure that you specify the full security group ID, in the form <code>sg-xxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidSecurity.RequestHasExpired</td>
<td>The difference between the request timestamp and the AWS server time is greater than 5 minutes. Ensure that your system clock is accurate and configured to use the correct time zone.</td>
</tr>
<tr>
<td>InvalidSnapshotID.Malformed</td>
<td>The snapshot ID is not valid.</td>
</tr>
<tr>
<td>InvalidSnapshot.InUse</td>
<td>The snapshot that you are trying to delete is in use by one or more AMIs.</td>
</tr>
<tr>
<td>InvalidSnapshot.NotFound</td>
<td>The specified snapshot does not exist. Ensure that you specify the region in which the snapshot is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidSpotDatafeed.NotFound</td>
<td>You have no data feed for Spot Instances.</td>
</tr>
<tr>
<td>InvalidSpotInstanceRequestID.Malformed</td>
<td>The specified Spot Instance request ID is not valid. Ensure that you specify the Spot Instance request ID in the form <code>sir-xxxxxxx</code>.</td>
</tr>
<tr>
<td>InvalidSpotInstanceRequestID.NotFound</td>
<td>The specified Spot Instance request ID does not exist. Ensure that you specify the region in which the Spot Instance request is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidState</td>
<td>The specified resource is not in the correct state for the request; for example, if you are trying to enable monitoring on a recently terminated instance, or if you are trying to create a snapshot when a previous identical request has not yet completed.</td>
</tr>
<tr>
<td>InvalidStateTransition</td>
<td>The specified VPC peering connection is not in the correct state for the request. For example, you may be trying to accept a VPC peering request that has failed, or that was rejected.</td>
</tr>
<tr>
<td>InvalidSubnet.Conflict</td>
<td>The specified CIDR block conflicts with that of another subnet in your VPC.</td>
</tr>
<tr>
<td>InvalidSubnetID.NotFound</td>
<td>The specified subnet does not exist. Ensure that you have indicated the region in which the subnet is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>InvalidUserID.Malformed</td>
<td>The specified user or owner is not valid. If you are performing a DescribeImages request, you must specify a valid value for the owner or executableBy parameters, such as an AWS account ID. If you are performing a DescribeSnapshots request, you must specify a valid value for the owner or restorableBy parameters.</td>
</tr>
<tr>
<td>InvalidVolumeID.Duplicate</td>
<td>The Amazon EBS volume already exists.</td>
</tr>
<tr>
<td>InvalidVolumeID.Malformed</td>
<td>The specified volume ID is not valid. Check the letter-number combination carefully; this error occurs if you have specified more than eight digits after the 'vol-' prefix.</td>
</tr>
<tr>
<td>InvalidVolumeID.ZoneMismatch</td>
<td>The specified volume and instance are in different Availability Zones.</td>
</tr>
<tr>
<td>InvalidVolume.NotFound</td>
<td>The specified volume does not exist. Ensure that you have indicated the region in which the volume is located, if it's not in the default region. Ensure that you are using the correct access credentials.</td>
</tr>
<tr>
<td>InvalidVolume.ZoneMismatch</td>
<td>The specified volume is not in the same Availability Zone as the specified instance. You can only attach an Amazon EBS volume to an instance if they are in the same Availability Zone.</td>
</tr>
<tr>
<td>InvalidVpcID.NotFound</td>
<td>The specified VPC does not exist. Use the full VPC ID in the request, in the form vpc-xxxxxxxx. Ensure that you have indicated the region in which the VPC is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpcPeeringConnectionId.Malformed</td>
<td>The specified VPC peering connection ID is malformed. Ensure that you provide the ID in the form pcx-xxxxxxxx.</td>
</tr>
<tr>
<td>InvalidVpcPeeringConnectionId.NotFound</td>
<td>The specified VPC peering connection ID does not exist. Ensure that you have indicated the region in which the VPC peering connection is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpcRange</td>
<td>The specified CIDR block range is not valid. The block range must be between a /28 netmask and /16 netmask. For more information, see Your VPC and Subnets.</td>
</tr>
<tr>
<td>InvalidVpcState</td>
<td>The specified VPC already has a virtual private gateway attached to it.</td>
</tr>
<tr>
<td>InvalidVpnConnectionID</td>
<td>The specified VPN connection ID cannot be found. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidVpnConnectionID.NotFound</td>
<td>The specified VPN connection ID does not exist. Ensure that you have indicated the region in which the VPN connection ID is located, if it's not in the default region.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidVpnGatewayAttachment.NotFound</td>
<td>An attachment between the specified virtual private gateway and specified VPC does not exist. This error can also occur if you’ve specified an incorrect VPC ID in the request.</td>
</tr>
<tr>
<td>InvalidVpnGatewayID.NotFound</td>
<td>The specified virtual private gateway does not exist. Ensure that you have indicated the region in which the virtual private gateway is located, if it's not in the default region.</td>
</tr>
<tr>
<td>InvalidZone.NotFound</td>
<td>The specified Availability Zone does not exist, or is not available for you to use. Use the DescribeAvailabilityZones request to list the Availability Zones that are currently available to you. Ensure that you have indicated the region for the Availability Zone in the request, if it's not in the default region. Specify the full name of the Availability Zone: for example, us-east-1a.</td>
</tr>
<tr>
<td>LegacySecurityGroup</td>
<td>You must delete the 2009-07-15-default security group before you can attach an Internet gateway.</td>
</tr>
<tr>
<td>MaxIOPSLimitExceeded</td>
<td>You've reached the limit on your IOPS usage for that region. If you need to increase your volume limit, complete the Amazon EC2 EBS Volume Limit Form.</td>
</tr>
<tr>
<td>MaxSpotInstanceCountExceeded</td>
<td>You've reached the limit on the number of Spot Instances that you can launch. The limit depends on the instance type. For more information, see How many instances can I run in Amazon EC2. If you need additional instances, complete the Amazon EC2 Instance Request Form.</td>
</tr>
<tr>
<td>MissingParameter</td>
<td>The request is missing a required parameter. Ensure that you have supplied all the required parameters for the request; for example, the resource ID.</td>
</tr>
<tr>
<td>NetworkAclEntryAlreadyExists</td>
<td>The specified rule number already exists in this network ACL.</td>
</tr>
<tr>
<td>NetworkAclEntryLimitExceeded</td>
<td>You've reached the limit on the number of rules that you can add to the network ACL. For more information, see Amazon VPC Limits.</td>
</tr>
<tr>
<td>NetworkAclLimitExceeded</td>
<td>You've reached the limit on the number of network ACLs that you can create for the specified VPC. For more information, see Amazon VPC Limits. To request an increase on your network ACL limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>NonEBSInstance</td>
<td>The specified instance does not support Amazon EBS. Restart the instance and try again, to ensure that the code is run on an instance with updated code.</td>
</tr>
<tr>
<td>NotExportable</td>
<td>The specified instance cannot be exported. You can only export instances that were previously imported into Amazon EC2. For more information, see Exporting EC2 Instances</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>OperationNotPermitted</td>
<td>The specified operation is not allowed. This error can occur for a number of reasons; for example, you might be trying to terminate an instance that has termination protection enabled, or trying to detach the primary network interface (eth0) from an instance.</td>
</tr>
<tr>
<td>OptInRequired</td>
<td>You are not authorized to use the requested service. Ensure that you have subscribed to the service you are trying to use. If you are new to AWS, your account might take some time to be activated while your credit card details are being verified. This error message can apply to Amazon EC2, or individual AWS Marketplace product codes.</td>
</tr>
<tr>
<td>OutstandingVpcPeeringConnectionLimitExceeded</td>
<td>You've reached the limit on the number of VPC peering connection requests that you can create for the specified VPC.</td>
</tr>
<tr>
<td>PendingSnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots that you can have in the pending state.</td>
</tr>
<tr>
<td>PendingVerification</td>
<td>Your account is pending verification. Until the verification process is complete, you may not be able to carry out requests with this account. If you have questions, contact AWS Support.</td>
</tr>
<tr>
<td>PrivateIpAddressLimitExceeded</td>
<td>You've reached the limit on the number of private IP addresses that you can assign to the specified network interface for that type of instance. For more information about the maximum number of private IP addresses per ENI, see Private IP addresses per ENI.</td>
</tr>
<tr>
<td>RequestLimitExceeded</td>
<td>The maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account. For best results, use an increasing or variable sleep interval between requests. For more information, see Query API Request Rate.</td>
</tr>
<tr>
<td>ReservedInstancesLimitExceeded</td>
<td>Your current quota does not allow you to purchase the required number of Reserved Instances.</td>
</tr>
<tr>
<td>Resource.AlreadyAssociated</td>
<td>The specified resource is already in use. For example, in EC2-VPC, you cannot associate an Elastic IP address with an instance if it’s already associated with another instance. You also cannot attach an Internet gateway to more than one VPC at a time.</td>
</tr>
<tr>
<td>ResourceLimitExceeded</td>
<td>You have exceeded an Amazon EC2 resource limit. For example, you might have too many snapshot copies in progress.</td>
</tr>
<tr>
<td>RouteAlreadyExists</td>
<td>A route for the specified CIDR block already exists in this route table.</td>
</tr>
<tr>
<td>RouteLimitExceeded</td>
<td>You've reached the limit on the number of routes that you can add to a route table.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>RouteTableLimitExceeded</td>
<td>You've reached the limit on the number of route tables that you can create for the specified VPC. For more information about route table limits, see Amazon VPC Limits.</td>
</tr>
<tr>
<td>RulesPerSecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of rules that you can add to a security group. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Security Group Rules.</td>
</tr>
<tr>
<td>SecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of security groups that you can create, or that you can assign to an instance. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Creating Your Own Security Groups.</td>
</tr>
<tr>
<td>SecurityGroupsPerInstanceLimitExceeded</td>
<td>You've reached the limit on the number of security groups that you can assign to an instance. The limit depends on whether you are using EC2-Classic or EC2-VPC. For more information, see Amazon EC2 Security Groups.</td>
</tr>
<tr>
<td>SecurityGroupsPerInterfaceLimitExceeded</td>
<td>You've reached the limit on the number of security groups you can associate with the specified network interface. You are limited to five security groups per network interface.</td>
</tr>
<tr>
<td>SignatureDoesNotMatch</td>
<td>The request signature that Amazon has does not match the signature that you provided. Check your AWS access keys and signing method.</td>
</tr>
<tr>
<td>SnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots that you can create. To request an increase on your snapshot limit, complete the Amazon EC2 EBS Volume Limit Form.</td>
</tr>
<tr>
<td>SubnetLimitExceeded</td>
<td>You've reached the limit on the number of subnets that you can create for the specified VPC. For more information about subnet limits, see Amazon VPC Limits. To request an increase on your subnet limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>TagLimitExceeded</td>
<td>You've reached the limit on the number of tags that you can assign to the specified resource. For more information, see Tag Restrictions.</td>
</tr>
<tr>
<td>UnauthorizedOperation</td>
<td>You are not authorized to perform this operation. Check your IAM policies, and ensure that you are using the correct access keys. For more information, see Controlling Access. If the returned message is encoded, you can decode it using the DecodeAuthorizationMessage action. For more information, see DecodeAuthorizationMessage in the AWS Security Token Service API Reference.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>UnknownParameter</td>
<td>An unknown or unrecognized parameter was supplied. Requests that could cause this error include supplying a misspelled parameter or a parameter that is not supported for the specified API version.</td>
</tr>
<tr>
<td>UnknownVolumeType</td>
<td>The specified volume type is unsupported. The supported volume types are standard and io1.</td>
</tr>
<tr>
<td>Unsupported</td>
<td>The specified request is unsupported. For example, you might be trying to launch an instance in an Availability Zone that currently has constraints on that instance type. The returned message provides details of the unsupported request.</td>
</tr>
<tr>
<td>UnsupportedOperation</td>
<td>The specified request includes an unsupported operation. For example, you can't stop an instance that's instance store-backed. Or you might be trying to launch an instance type that is not supported by the specified AMI. The returned message provides details of the unsupported operation.</td>
</tr>
<tr>
<td>VolumeInUse</td>
<td>The specified Amazon EBS volume is attached to an instance. Ensure that the specified volume is in an ‘available’ state.</td>
</tr>
<tr>
<td>VolumeLimitExceeded</td>
<td>You've reached the limit on your Amazon EBS volume storage. To request an increase, complete the Amazon EC2 EBS Volume Limit Form.</td>
</tr>
<tr>
<td>VolumeTypeNotAvailableInZone</td>
<td>The specified Availability Zone does not support Provisioned IOPS (io1) volumes. Try launching your instance in a different Availability Zone, or don't specify a zone in the request. If you're creating a volume, try specifying a different Availability Zone in the request.</td>
</tr>
<tr>
<td>VPCIdNotSpecified</td>
<td>You have no default VPC in which to carry out the request. Specify a VPC ID or subnet ID, or in the case of security groups, specify the ID, and not the security group name. You can contact AWS Support to create a new default VPC.</td>
</tr>
<tr>
<td>VpcLimitExceeded</td>
<td>You've reached the limit on the number of VPCs that you can create in the region. For more information about VPC limits, see Amazon VPC Limits. To request an increase on your VPC limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>VpcPeeringConnectionAlreadyExists</td>
<td>A VPC peering connection between the VPCs already exists.</td>
</tr>
<tr>
<td>VpnConnectionLimitExceeded</td>
<td>You've reached the limit on the number of VPN connections that you can create. For more information about limits, see Amazon VPC Limits. To request an increase on your VPN connection limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>VpnGatewayAttachmentLimitExceeded</td>
<td>You've reached the limit on the number of VPCs that can be attached to the specified virtual private gateway.</td>
</tr>
</tbody>
</table>
Summary of Server Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>VpnGatewayLimitExceeded</td>
<td>You've reached the limit on the number of virtual private gateways that you can create. For more information about limits, see Amazon VPC Limits. To request an increase on your virtual private gateway limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>InsufficientAddressCapacity</td>
<td>Not enough available addresses to satisfy your minimum request. Reduce the number of addresses you are requesting or wait for additional capacity to become available.</td>
</tr>
<tr>
<td>InsufficientInstanceCapacity</td>
<td>There is not enough capacity to fulfill your instance request. Reduce the number of instances in your request, or wait for additional capacity to become available. The returned message might also give specific guidance about how to solve the problem.</td>
</tr>
<tr>
<td>InsufficientReservedInstanceCapacity</td>
<td>Not enough available Reserved Instances to satisfy your minimum request. Reduce the number of Reserved Instances in your request or wait for additional capacity to become available.</td>
</tr>
<tr>
<td>InternalError</td>
<td>An internal error has occurred. Retry your request, but if the problem persists, contact us with details by posting a message on the AWS forums.</td>
</tr>
<tr>
<td>Unavailable</td>
<td>The server is overloaded and can't handle the request.</td>
</tr>
</tbody>
</table>

Request Error Response

The following shows the structure of a request error response.

```xml
<Response>
  <Errors>
    <Error>
      <Code>Error code text</Code>
      <Message>Error message</Message>
    </Error>
  </Errors>
  <RequestID>request ID</RequestID>
</Response>
```

Example Error Response Request

The following shows an example of an error response.
Eventual Consistency

The Amazon EC2 API follows an eventual consistency model, due to the distributed nature of the system supporting the API. This means that when you run an API command, the result may not be immediately visible to subsequent API commands, which can result in an error.

For more information about eventual consistency and how to manage it, see Eventual Consistency in the Amazon Elastic Compute Cloud User Guide.