Amazon Elastic Compute Cloud

API Reference

API Version 2013-07-15
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 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.

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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

Examples

Example Request

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

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

Example Response

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

Related Actions

- DescribeAddresses (p. 168)
- ReleaseAddress (p. 380)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 332)
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 Available 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
   The IP address to be assigned as a secondary private IP address to the network interface. This option can be used multiple times to assign multiple secondary private IP addresses to the network interface.
   If you do not specify an IP address, Amazon EC2 automatically selects an IP address within the subnet range.
   Type: AssignPrivateIpAddressesSetItemRequestType (p. 438)
   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
   Specifies 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

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>
  <return>true</return>
</AssignPrivateIpAddresses>

Related Actions

• DescribeAddresses (p. 168)
• ReleaseAddress (p. 380)
• AssociateAddress (p. 17)
• DisassociateAddress (p. 332)
**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 enter it more than once, Amazon EC2 does not return an error.

**Request Parameters**

**PublicIp**
- The Elastic IP address.
- Type: String
- Default: None
- Required: Conditional
- Condition: Required for Elastic IP addresses for use 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
Default: None
Required: No

**AllowReassociation**

[EC2-VPC] Allows an Elastic IP address that is already associated with an instance or network interface to be re-associated with the specified instance or network interface. Otherwise, the operation fails.

Type: Boolean
Default: false if not specified
Required: No

### 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

### Examples

#### Example Request

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

```
https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-2ea64347
&PublicIp=192.0.2.1
&AUTHPARAMS
```

#### Example Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <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.
Example Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <associationId>eipassoc-fc5ca095</associationId>
</AssociateAddressResponse>
```

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 168)
- ReleaseAddress (p. 380)
- DisassociateAddress (p. 332)
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

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&VpcId=vpc-1a2b3c4d&DhcpOptionsId=dopt-7a8b9c2d
Example Response

```xml
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
    <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

```xml
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</AssociateDhcpOptionsResponse>
```

Related Actions

- CreateDhcpOptions (p. 61)
- DescribeDhcpOptions (p. 183)
- DeleteDhcpOptions (p. 127)
## 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

### Examples

#### Example Request

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

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

```xml
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>
```

Related Actions

- CreateRouteTable (p. 99)
- DisassociateRouteTable (p. 334)
- DescribeRouteTables (p. 261)
- ReplaceRouteTableAssociation (p. 389)
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

Examples

Example Request

This example request attaches the Internet gateway with the ID igw-eaad4883 to the VPC with the ID vpc-1lad4878.

https://ec2.amazonaws.com/?Action=AttachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-1lad4878
&AUTHPARAMS
Example Response

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

Related Actions

- CreateInternetGateway (p. 70)
- DeleteInternetGateway (p. 129)
- DetachInternetGateway (p. 322)
- DescribeInternetGateways (p. 220)
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

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

```xml
  <requestId>ace8cd1e-e685-4e44-90fb-92014d907212</requestId>
  <attachmentId>eni-attach-d94b09b0</attachmentId>
</AttachNetworkInterfaceResponse>
```

Related Actions

- DetachNetworkInterface (p. 324)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 230)
- DescribeNetworkInterfaces (p. 232)
- ModifyNetworkInterfaceAttribute (p. 360)
- ResetNetworkInterfaceAttribute (p. 406)
AttachVolume

Description

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

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
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`.

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

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <instanceId>i-1a2b3c4d</instanceId>
  <device>/dev/sdh</device>
  <status>attaching</status>
  <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
</AttachVolumeResponse>
```

Related Actions

- [CreateVolume](#) (p. 113)
- [DeleteVolume](#) (p. 154)
- [DescribeVolumes](#) (p. 301)
- [DetachVolume](#) (p. 326)
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. 439)

Examples

Example Request

This example request attaches the virtual private gateway with the ID vgw-8db04f81 to the VPC with the ID vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=AttachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

Example Response

   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAmple</requestId>
</AttachVpnGatewayResponse>
Related Actions

- CreateVpnGateway (p. 123)
- DescribeVpnGateways (p. 319)
- DetachVpnGateway (p. 328)
- CreateVpc (p. 116)
- CreateVpnConnection (p. 118)
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 to modify.
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: Conditional
Condition: 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 given ICMP type.
Type: Integer
Default: None
Required: Conditional
Condition: Required for ICMP and any protocol that uses ports
**IpPermissions.n.Groups.m.GroupId**
- The name of the destination security group. Cannot be used when specifying a CIDR IP address.
- Type: String
- Default: None
- Condition: Required if modifying access for one or more destination security groups.
- Required: Conditional

**IpPermissions.n.IpRanges.m.CidrIp**
- The CIDR range. Cannot be used when specifying a destination security group.
- Type: String
- Default: None
- Constraints: Valid CIDR IP address range.
- Required: Conditional
- Condition: Required if modifying access for one or more IP address ranges.

**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

**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.

```bash
&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
&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24
&AUTHPARAMS
```

**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.

```bash
&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**

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

**Related Actions**

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 265)
- RevokeSecurityGroupEgress (p. 410)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 413)
- DeleteSecurityGroup (p. 144)
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

UserId

Deprecated
Required: No

GroupId
The ID of the security group to modify. The security group must belong to your account.
Type: String
Default: None
Required: Conditional
Condition: Required for EC2-VPC; can be used instead of GroupName otherwise

GroupName
The name of the security group to modify.
Type: String
Default: None
Required: Conditional
Condition: For EC2-Classic, can be used instead of GroupId.

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 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 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.
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: Conditional
Condition: 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 given ICMP type.
Type: Integer
Default: None
Required: Conditional
Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.Groups.m.UserId
The AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: For security groups in EC2-Classic only. Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupName
The name of the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupId
The ID of the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: For EC2-VPC only. Required if modifying access for one or more source security groups.

IpPermissions.n.IpRanges.m.CidrIp
The CIDR range. Cannot be used when specifying a source security group.
Type: String
Default: None
Constraints: Valid CIDR IP address range.
Required: Conditional
Condition: Required if modifying access for one or more IP address ranges.

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

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
&AUTHPARAMS

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.

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupName=websrv
&Groups.1.GroupName=OtherAccountGroup
&Groups.1.UserId=111122223333
&AUTHPARAMS

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.

https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupIngress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&Groups.1.GroupId=sg-2a2b3c4d
&Groups.1.UserId=111122223333
&AUTHPARAMS
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.

https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=22
&IpPermissions.1.ToPort=22
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32

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.

https://ec2.amazonaws.com/
?Action=AuthorizeSecurityGroupIngress
&GroupName=default
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=3389
&IpPermissions.1.ToPort=3389
&IpPermissions.1.IpRanges.1.CidrIp=your-local-system's-public-ip-address/32

Example Response

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

Related Actions

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 265)
- RevokeSecurityGroupIngress (p. 413)
- DeleteSecurityGroup (p. 144)
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.
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. 443)

Examples

Example Request

This example request bundles the instance with the ID i-e468cd8d.

https://ec2.amazonaws.com/?Action=BundleInstance
&InstanceId=i-e468cd8d
&Storage.S3.AWSAccessKeyId='AKIAIOSFODNN7EXAMPLE'
&Storage.S3.Bucket=myawsbucket
&Storage.S3.Prefix=winami
&Storage.S3.UploadPolicy=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIiwgIiRrZXkiLCAibXktbmV3LWltYWdlIl0seyJhY2wiOiAiZWMyLWJ1bmRsZS1yZWFkIn1dfEXAMPLE
&Storage.S3.UploadPolicySignature=fh5tyyyQD8W4C0Ethj3n1GNEXAMPLE
&AUTHPARAMS
Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
    <instanceId>i-12345678</instanceId>
    <bundleId>bun-cla540a8</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. 42)
- DescribeBundleTasks (p. 175)
- CreateImage (p. 64)
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. 443)

Examples

Example Request
This example request cancels the bundle task with the ID bun-cla322b9.

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

Example Response

<CANCELBUNDLETASKRESPONSE
  <REQUESTID>59dbff89-35bd-4eac-99ed-be587EXAMPLE</REQUESTID>
  <BUNDELINSTANCETASK>
    <INSTANCEID>i-12345678</INSTANCEID>
    <BUNDELID>bun-cla322b9</BUNDELID>
    <STATE>canceling</STATE>
    <STARTTIME>2008-10-07T11:41:50.000Z</STARTTIME>
    <UPDATETIME>2008-10-07T11:51:50.000Z</UPDATETIME>
    <PROGRESS>20%</PROGRESS>
    <STORAGE/>
  </BUNDELINSTANCETASK>
</CANCELBUNDLETASKRESPONSE>
<bucket>myawsbucket</bucket>
<prefix>my-new-image</prefix>
</S3>
</storage>
</bundleInstanceTask>
</CancelBundleTaskResponse>

Related Actions

- BundleInstance (p. 39)
- DescribeBundleTasks (p. 175)
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

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. 344)
- ImportVolume (p. 350)
- DescribeConversionTasks (p. 178)
CancelExportTask

Description

Cancels an active export task. The request removes all artifacts of the export, including any partially created 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

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>
  <return>true</return>
</CANCELExportTask>

Related Actions

- CreateInstanceExportTask (p. 67)
- DescribeExportTasks (p. 187)
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. 450)

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

Example Response

The response shows that status is CANCELLED.

<CancelReservedInstancesListingResponse>
  <requestId>bec2cf62-98ef-434a-8a15-886fexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>3ebe97b5-f273-43b6-a204-7a18cEXAMPLE</reservedInstancesListingId>
    </item>
  </reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
<reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
<createDate>2012-07-12T16:55:28.000Z</createDate>
<updateDate>2012-07-12T16:55:28.000Z</updateDate>
<status>cancelled</status>
<statusMessage>CANCELLED</statusMessage>
<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>
    <active>false</active>
  </item>
  <item>
    <term>1</term>
    <price>33.33</price>
    <currencyCode>USD</currencyCode>
    <active>false</active>
  </item>
</priceSchedules>
<tagSet/>
<clientToken>XqJIt1342112125076</clientToken>
Related Actions

- CreateReservedInstancesListing (p. 87)
- DescribeReservedInstancesListings (p. 248)
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. 444)

Examples

Cancel a Spot Instance Request

To cancel Spot Instance requests

1. Construct the following Query request to view your open Spot Instance requests.

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

   The following is an 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+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>
      </launchSpecification>
      <createTime>2013-06-14T16:00:40.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
    </item>
    ...
  </spotInstanceRequestSet>
</DescribeSpotInstanceRequestsResponse>

2. Construct a Query request to cancel the Spot Instance requests.

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

   The following is an example response.
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet>
</CancelSpotInstanceRequestsResponse>

**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*.

**Related Actions**

- DescribeSpotInstanceRequests (p. 277)
- RequestSpotInstances (p. 394)
- DescribeSpotPriceHistory (p. 285)
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 instance owner’s account ID. Only present if the product code is attached to the instance.
    Type: xsd:string

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. 202)
- RunInstances (p. 416)
CopyImage

Description
Initiates the copy of an AMI from the specified source region to the region in which the request was made.

Request Parameters

**SourceRegion**
The name of the region that contains the AMI to be copied (source).
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
Tip
You can use the common option --region to specify the region against which the command is executed. For AMI Copy, this will be the destination region.

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. 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

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

Examples

Example Request

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

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

Related Actions

- CreateSnapshot (p. 104)
- DeleteSnapshot (p. 146)
- DescribeSnapshots (p. 271)
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).

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 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 Border Gateway Protocol (BGP) Autonomous System Number (ASN).
Type: Integer
Default: 65000
Required: No

Response Elements

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

**customerGateway**
- Information about the customer gateway.
  - Type: CustomerGatewayType (p. 446)

---

**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**

```xml
  <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. 180)
- DeleteCustomerGateway (p. 125)
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.</td>
</tr>
<tr>
<td>domain-name</td>
<td>If you're using AmazonProvidedDNS in US East (Northern Virginia) Region, specify compute-1.amazonaws.com. If you're using AmazonProvidedDNS in another region, specify region.compute.amazonaws.com. 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 an CreateDhcpOptionsResponse element.

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

**dhcpOptions**
- A set of DHCP options.
- Type: DhcpOptionsType (p. 457)

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).

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
&DhcpConfiguration.2.Value.2=10.2.5.2
&AUTHPARAMS

Example Response

<?xml version="1.0" encoding="UTF-8"?>
<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptions>
    <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>
          <item>
            <value>10.2.5.2</value>
          </item>
        </valueSet>
      </item>
    </dhcpConfigurationSet>
  </dhcpOptions>
</CreateDhcpOptionsResponse>
Related Actions

- AssociateDhcpOptions (p. 20)
- DescribeDhcpOptions (p. 183)
- DeleteDhcpOptions (p. 127)
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 (()), commas (,), slashes (/), dashes (-), or underscores(_)
Required: Yes

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

NoReboot
By default this parameter is set to false, which means Amazon EC2 attempts to cleanly shut down the instance 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 (for example, /dev/sda1 or xvda), 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
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
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.
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: standard | io1
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 4000.
Default: None
Required: Required when the volume type is io1; not used with standard volumes.
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

Examples

Example Request

This example request creates an AMI from the instance with the ID i-10a64379.

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

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
```

Related Actions

- RunInstances (p. 416)
- DescribeInstances (p. 202)
- TerminateInstances (p. 428)
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 will be 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

API Version 2013-07-15
**ExportToS3.S3Prefix**

The image is written to a single object in the Amazon S3 bucket at the S3 key `s3prefix + exportTaskId + '.' + diskImageFormat`.

- **Type:** String
- **Default:** None
- **Required:** No

## 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. 461)

## Examples

### Example Request

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

```xml
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

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <exportTask>
    <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>
    </exportToS3>
</CreateInstanceExportTaskResponse>
```
Related Actions

- CancelExportTask (p. 46)
- DescribeExportTasks (p. 187)
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. 24).

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

Request Parameters

AttachInternetGateway has 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. 480)

Examples

Example Request

This example request creates an Internet gateway.

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

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <internetGateway>
    <internetGatewayId>igw-eaad4883</internetGatewayId>
    <attachmentSet/>
    <tagSet/>
  </internetGateway>
</CreateInternetGatewayResponse>
```

Related Actions

- DeleteInternetGateway (p. 129)
• AttachInternetGateway (p. 24)
• DetachInternetGateway (p. 322)
• DescribeInternetGateways (p. 220)
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. 348).

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: Accepts alphanumeric characters, spaces, dashes, and underscores.
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

Examples

Example Request

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

Create a file named `my-key-pair.pem` and paste the entire key in this file, including the following lines.

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

-----END RSA PRIVATE KEY-----

Create a file named `my-key-pair.pem` and paste the entire key in 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 ----

-----END RSA PRIVATE KEY-----
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.

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

Related Actions

- RunInstances (p. 416)
- DescribeKeyPairs (p. 223)
- DeleteKeyPair (p. 131)
CreateNetworkAcl

Description

Creates a network ACL in a VPC. Network ACLs provide an optional layer of security (on top of 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 new network ACL.
Type: NetworkAclType (p. 488)

Examples

Example Request

This example request creates a network ACL in the VPC with the ID vpc-11ad4878. Notice that 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 our 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.

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

Example Response

  <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>

Related Actions

- DeleteNetworkAcl (p. 132)
- DescribeNetworkAcls (p. 225)
- ReplaceNetworkAclAssociation (p. 382)
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 new 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 a new 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 to assign to 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 the rule applies to. You can use -1 to mean all protocols.
Type: Integer
Valid values: -1 or a protocol number (see Protocol Numbers).
Required: Yes

RuleAction

Indicates whether to allow or deny 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
Valid values: true | 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
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. 134)
- ReplaceNetworkAclEntry (p. 384)
- DescribeNetworkAcls (p. 225)
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 will select 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
Specifies 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 Available 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 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. 507)
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. 491)

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

```xml
  <requestId>8dbe591e-5a22-48cb-b948-dd0aadd55adf</requestId>
  <networkInterface>
    <networkInterfaceId>eni-cfca76a6</networkInterfaceId>
    <subnetId>subnet-b2a249da</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>available</status>
    <macAddress>02:74:b0:72:79:61</macAddress>
    <privateIpAddress>10.0.2.157</privateIpAddress>
    <sourceDestCheck>true</sourceDestCheck>
</networkInterface>
</CreateNetworkInterfaceResponse>
```
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.


Example Response

  <requestId>bd78c839-0895-4fac-a17f-9b559b6b630</requestId>
  <networkInterface>
    <networkInterfaceId>eni-1bcb7772</networkInterfaceId>
    <subnetId>subnet-a61dafcfa</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description />
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>pending</status>
    <macAddress>02:74:b0:7f:1a</macAddress>
    <privateIpAddress>10.0.2.140</privateIpAddress>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
      <item>
        <groupId>sg-1a2b3c4d</groupId>
        <groupName>default</groupName>
      </item>
    </groupSet>
    <tagSet/>
    <privateIpAddressesSet>
      <item>
        <privateIpAddress>10.0.2.140</privateIpAddress>
        <primary>true</primary>
      </item>
    </privateIpAddressesSet>
  </networkInterface>
</CreateNetworkInterfaceResponse>
Example Request

The following requests 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-a61dafcf
```

Example Response

```
  <requestId>a9565f4c-f928-4113-859b-905886d11658</requestId>
  <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>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
    </groupSet>
  </networkInterface>
</CreateNetworkInterfaceResponse>
```
<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. 26)
- DetachNetworkInterface (p. 324)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 230)
- DescribeNetworkInterfaces (p. 232)
- ModifyNetworkInterfaceAttribute (p. 360)
- ResetNetworkInterfaceAttribute (p. 406)
CreatePlacementGroup

Description

Creates a placement group that you launch cluster instances into. You must give the group a name 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
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

Examples

Example Request

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

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

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

Related Actions

- DeletePlacementGroup (p. 138)
- DescribePlacementGroups (p. 238)
CreateReservedInstancesListing

Description

Creates a listing for Amazon EC2 Reserved Instances that will 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.

If you want 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 you want 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 that will 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. 495)
Required: Yes

clientToken
Unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, go to 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. 450)

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
&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

Example Response

```xml
<CreateReservedInstancesListingResponse>
  <requestId>a42481af-335a-4e9e-b291-bd18dexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-88</reservedInstancesListingId>
    </item>
  </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<reservedInstancesListingId>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>
  <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>
</priceSchedules>
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. 244).

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

The following is an example response.

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>1.5</td>
<td>1.5</td>
<td>0.7</td>
<td>0.7</td>
<td>0.1</td>
<td></td>
</tr>
</tbody>
</table>

The call should look like this example:

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

The following is an example response.

```
<CreateReservedInstancesListingResponse>
  <requestId>a42481af-335a-4e9e-b291-bd18dEXAMPLE</requestId>
  <reservedInstancesListingsSet>
    ...
  </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<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>
      <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>
  </priceSchedules>
</item>
3. To view the details of your Reserved Instance listing, run `DescribeReservedInstancesListings` (p. 248).

The command should look like this example:

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

Following is an example response.

```
<DescribeReservedInstancesListingsResponse>
  <reservedInstancesListingsSet>
    <item>
      <priceSchedules>
        <tagSet/>
        <clientToken>listRI1</clientToken>
      </item>
    </reservedInstancesListingsSet>
  </DescribeReservedInstancesListingsResponse>
```
<reservedInstancesListingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesListingId>
<reservedInstancesListingId>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>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>
</priceSchedules>
<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. 47)
- DescribeReservedInstancesListings (p. 248)
CreateRoute

Description

Creates a route in a route table within a VPC. The route's target can be either a gateway attached to the VPC 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 attached to your VPC.

Type: String
Default: None
Required: Conditional
Condition: You must specify one of the following: GatewayId, InstanceId, 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, or NetworkInterfaceId.

**NetworkInterfaceId**

The ID of a network interface.
Type: String  
Default: None  
Required: Conditional  
Condition: You must specify one of the following: GatewayId, InstanceId, or NetworkInterfaceId.

### 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

### 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.

```
https://ec2.amazonaws.com/?Action=CreateRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=0.0.0.0/0
&GatewayId=igw-eaad4883
&AUTHPARAMS
```

#### 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 Response

```
  <requestId>59dbf89-35bd-4eac-99ed-be587EXAMPLE</requestId>  
  <return>true</return>  
</CreateRouteResponse>
```
Related Actions

- DeleteRoute (p. 140)
- ReplaceRoute (p. 387)
- DescribeRouteTables (p. 261)
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 newly created route table.
Type: RouteTableType (p. 503)

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/2013-07-15/"
<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. 22)
- DisassociateRouteTable (p. 334)
- DescribeRouteTables (p. 261)
- DeleteRouteTable (p. 142)
- ReplaceRouteTableAssociation (p. 389)
- CreateRoute (p. 96)
CreateSecurityGroup

**Description**

Creates a security group.

**Important**
- EC2-Classic: You create 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 new security group.
- Type: xsd:string

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

```xml
  <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 VPC with the ID vpc-3325caf2.

https://ec2.amazonaws.com/?Action=CreateSecurityGroup
&GroupName=WebServerSG
&GroupDescription=Web Servers
&VpcId=vpc-3325caf2
&AUTHPARAMS

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <groupId>sg-1a2b3c4d</groupId>
</CreateSecurityGroupResponse>
```
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<return>true</return>
<groupId>sg-0a42d66a</groupId>
</CreateSecurityGroupResponse>

Related Actions

- RunInstances (p. 416)
- DescribeSecurityGroups (p. 265)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 413)
- DeleteSecurityGroup (p. 144)
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.

For more information about Amazon EBS, 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

toId
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

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>59dbff89-3bd-499ed-be587EXAMPLE</requestId>
<snapshotId>snap-1a2b3c4d</snapshotId>
<volumeId>vol-1a2b3c4d</volumeId>
<status>pending</status>
<startTime>YYYY-MM-DDTHH:MM:SS.000Z</startTime>
<progress>60%</progress>
</CreateSnapshotResponse>
Related Actions

- DeleteSnapshot (p. 146)
- DescribeSnapshots (p. 271)
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 about Spot Instances, 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
Type: SpotDatafeedSubscriptionType (p. 509)

Examples

Example Request

This example request creates the data feed for the account.

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

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
</CreateSpotDatafeedSubscriptionResponse>
Related Actions

- DeleteSpotDatafeedSubscription (p. 148)
- DescribeSpotDatafeedSubscription (p. 276)
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. By default, you can create up to 20 subnets in a VPC. If you need more than 20 subnets, you can request more by going to Request to Increase Amazon VPC Limits.

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. 514)

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
&AUTHPARAMS

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. 289)
- DeleteSubnet (p. 149)
CreateTags

**Description**

Adds or overwrites one or more tags for the specified 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
  - Constraints: Tag keys are case sensitive and accept a maximum of 127 Unicode characters.
  - Required: Yes

- **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
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. 293)
- DeleteTags (p. 151)
CreateVolume

Description

Creates an Amazon EBS volume that can be attached to any instance in the same Availability Zone.

Any AWS Marketplace product codes from the snapshot are propagated to the volume.

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. 172) 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: standard | io1
  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 4000.
  Default: None
  Required: Conditional
  Condition: Required when the volume type is io1; not used with standard volumes.
### 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: `standard` | `io1`

- **iops**
  - The number of I/O operations per second (IOPS) that the volume supports.
  - Type: `xsd:int`
  - Valid values: Range is 100 to 4000.

### Examples

#### Example Request

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

```
https://ec2.amazonaws.com/?Action=CreateVolume
&Size=80
&AvailabilityZone=us-east-1a
&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>
</CreateVolumeResponse>
```

Related Actions

- DeleteVolume (p. 154)
- DescribeVolumes (p. 301)
- AttachVolume (p. 28)
- DetachVolume (p. 326)
- DescribeAvailabilityZones (p. 172)
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. 520)

**Examples**

**Example Request**

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

```xml
  <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.

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

Example Response

```xml
  <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. 312)
- DeleteVpc (p. 156)
- CreateDhcpOptions (p. 61)
- AssociateDhcpOptions (p. 20)
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 an `CreateVpnConnectionResponse` element.
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 (in the native XML format, but escaped). Because it's a long set of information, we haven't included the complete response here. To see an example of the information returned, 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>
      <?xml version="1.0" encoding="UTF-8"?>
      <vpn_connection id="vpn-44a8938f">
        <customer_gateway_id>cgw-b4dc3961</customer_gateway_id>
        <vpn_gateway_id>vgw-8db04f81</vpn_gateway_id>
        <vpn_connection_type>ipsec.1</vpn_connection_type>
      </vpn_connection>
    </customerGatewayConfiguration>
    <type>ipsec.1</type>
    <customerGatewayId>cgw-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 (in the native XML format, but escaped). Because it's a long set of information, we haven't included the complete response here.

```xml
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>
      <xml version="1.0" encoding="UTF-8">?
        <vpn_connection id="vpn-83ad48ea">
          <customer_gateway_id>cgw-63ae4b0a</customer_gateway_id>
          <vpn_gateway_id>vgw-4ea04527</vpn_gateway_id>
          <vpn_connection_type>ipsec.1</vpn_connection_type>
          <vpn_connection_attributes>NoBGPVPNConnection</vpn_connection_attributes>
        </vpn_connection>
      </xml version="1.0" encoding="UTF-8">
    </customerGatewayConfiguration>
    <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
    <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
    <options>
      <staticRoutesOnly>true</staticRoutesOnly>
    </options>
  </vpnConnection>
</CreateVpnConnectionResponse>
```

### Related Actions

- DescribeVpnConnections (p. 315)
- DeleteVpnConnection (p. 158)
- CreateVpc (p. 116)
- CreateSubnet (p. 109)
- AttachVpnGateway (p. 30)
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

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

```xml
<CreateVpnConnectionRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/"
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</CreateVpnConnectionRouteResponse>
```

Related Actions

- DeleteVpnConnectionRoute (p. 160)
- DeleteVpnConnection (p. 158)
- DescribeVpnConnections (p. 315)
- CreateVpc (p. 116)
- CreateSubnet (p. 109)
- AttachVpnGateway (p. 30)
CreateVpnGateway

Description

Creates a virtual private gateway. A virtual private gateway is the VPC-side endpoint for 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. 522)

Examples

Example Request

This example request creates a virtual private gateway.

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

Example Response

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

**Related Actions**

- DescribeVpnGateways (p. 319)
- DeleteVpnGateway (p. 162)
- AttachVpnGateway (p. 30)
- DetachVpnGateway (p. 328)
DeleteCustomerGateway

Description

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

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

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

Examples

Example Request

This example request deletes the customer gateway with the ID cgw-b4dc3961.

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

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteCustomerGatewayResponse>
Related Actions

- CreateCustomerGateway (p. 59)
- DescribeCustomerGateways (p. 180)
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

Examples

Example Request

This example request deletes the set of DHCP options with the ID dopt-7a8b9c2d.

https://ec2.amazonaws.com/?Action=DeleteDhcpOptions&DhcpOptionsId=dopt-7a8b9c2d&AUTHPARAMS

Example Response

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</DeleteDhcpOptionsResponse>
Related Actions

- AssociateDhcpOptions (p. 20)
- CreateDhcpOptions (p. 61)
- DescribeDhcpOptions (p. 183)
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

Examples

Example Request

This example request deletes the Internet gateway with the ID igw-eaad4883.

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

Example Response

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

- CreateInternetGateway (p. 70)
- AttachInternetGateway (p. 24)
- DetachInternetGateway (p. 322)
- DescribeInternetGateways (p. 220)
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

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

<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteKeyPairResponse>

Related Actions

- CreateKeyPair (p. 72)
- DescribeKeyPairs (p. 223)
- ImportKeyPair (p. 348)
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

Examples

Example Request

This example request deletes the network ACL with the ID acl-2cb85d45.

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

Example Response

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

Related Actions

• DeleteNetworkAcl (p. 132)
• DescribeNetworkAcls (p. 225)
• ReplaceNetworkAclAssociation (p. 382)
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 for 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
- Valid values: true | false
- 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

Examples

Example Request

This example request deletes the ingress entry with rule number 100 from the network ACL with the ID acl-2cb85d45.

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

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

Related Actions

- CreateNetworkAclEntry (p. 77)
- ReplaceNetworkAclEntry (p. 384)
- DescribeNetworkAcls (p. 225)
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

**Examples**

**Example Request**

This example request deletes the network interface with the ID `eni-ffda3197`.

```
https://ec2.amazonaws.com/?Action=DeleteNetworkInterface
&NetworkInterfaceId=eni-ffda3197
&amp;AUTHPARAMS
```

**Example Response**

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

**Related Actions**

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 324)
• CreateNetworkInterface (p. 80)
• DescribeNetworkInterfaceAttribute (p. 230)
• DescribeNetworkInterfaces (p. 232)
• ModifyNetworkInterfaceAttribute (p. 360)
• ResetNetworkInterfaceAttribute (p. 406)
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

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


  <requestId>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestId>
  <return>true</return>
</DeletePlacementGroupResponse>
Related Actions

- CreatePlacementGroup (p. 85)
- DescribePlacementGroups (p. 238)
DeleteRoute

Description

Deleting 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

Examples

Example Request

This example request deletes the route with destination CIDR 172.16.1.0/24 from the route table with the ID rtb-e4ad488d.

```
https://ec2.amazonaws.com/?Action=DeleteRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=172.16.1.0/24
&AUTHPARMS
```

Example Response

```
  <requestId>59dbff89-35bd-4ac9-99ed-be587EXAMPLE</requestId>
</DeleteRouteResponse>
```
<return>true</return>
</DeleteRouteResponse>

Related Actions

- CreateRoute (p. 96)
- ReplaceRoute (p. 387)
- DescribeRouteTables (p. 261)
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

Examples

Example Request

This example request deletes the route table with the ID rtb-e4ad488d.

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

Example Response

<DeleteRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteTableResponse>

Related Actions

- AssociateRouteTable (p. 22)
• DisassociateRouteTable (p. 334)
• DescribeRouteTables (p. 261)
• CreateRouteTable (p. 99)
• ReplaceRouteTableAssociation (p. 389)
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.

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

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

Examples

Example Request

This example request deletes the security group for EC2-Classic named websrv.
Example Request

This example request deletes the security group for EC2-VPC with the ID sg-1a2b3c4d.

Example Response

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

Related Actions

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 265)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 413)
DeleteSnapshot

Description

Deletes the specified snapshot.

Note

- If you make periodic snapshots of a volume, the snapshots are incremental so that only the blocks on the device that have changed since your last snapshot are saved in the new snapshot. Even though snapshots are saved incrementally, the snapshot deletion process is designed so that you need to retain only the most recent snapshot in order to restore the volume.
- 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.

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

Examples

Example Request

This example request deletes the snapshot with the ID snap-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DeleteSnapshot
&SnapshotId.1=snap-1a2b3c4d
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4ecf-99ed-be587EXAMPLE</requestId>
</DeleteSnapshotResponse>
Related Actions

- CreateSnapshot (p. 104)
- DescribeSnapshots (p. 271)
DeleteSpotDatafeedSubscription

Description

Deletes the datafeed for Spot Instances. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

DeleteSpotDatafeedSubscription has 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. 107)
- DescribeSpotDatafeedSubscription (p. 276)
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

Examples

Example Request

This example request deletes the subnet with the ID subnet-9d4a7b6c.

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. 109)
• DescribeSubnets (p. 289)
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

Examples

Example Request

This example deletes the tags for the AMI with the ID ami-1a2b3c4d. First, get a list of the tags using the following request.
Sample response:

```
  <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>
```

Next, delete the tags.

Sample response:

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

**Example Request**

This example deletes the stack tag from two particular instances.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-5f4e3d2a
&Tag.1.Key=stack
&ResourceId.2=i-12345678
&Tag.2.Key=stack
&AUTHPARAMS
```

**Example Request**

This example request deletes the `stack` and `webserver` tags for two particular instances.
Example Request

You can specify a tag key without a corresponding tag value if you want 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=stack
&Tag.2.Key=webserver
&AUTHPARAMS
```

Example Request

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. 111)
- DescribeTags (p. 293)
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 remains 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

Examples

Example Request

This example request deletes the volume with the ID vol-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DeleteVolume
&VolumeId=vol-1a2b3c4d
&AUTHPARAMS

Example Response

  <RequestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</RequestId>
  <Return>true</Return>
</DeleteVolumeResponse>
Related Actions

• CreateVolume (p. 113)
• DescribeVolumes (p. 301)
• AttachVolume (p. 28)
• DetachVolume (p. 326)
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

Examples

Example Request

This example request deletes the VPC with the ID vpc-1a2b3c4d.

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

Example Response

    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</DeleteVpcResponse>
Related Actions

- CreateVpc (p. 116)
- DescribeVpcs (p. 312)
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 use this command 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 an `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

Examples

Example Request

This example request deletes the VPN connection with the ID `vpn-44a8938f`.

```
https://ec2.amazonaws.com/?Action=DeleteVpnConnection
&vpnConnectionId=vpn-44a8938f
&AUTHPARAMS
```
Example Response

<pre>&lt;DeleteVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  &lt;requestId&gt;7a62c49f-347e-4fc4-9331-6e8eEXAMPLE&lt;/requestId&gt;
  &lt;return&gt;true&lt;/return&gt;
&lt;/DeleteVpnConnectionResponse&gt;</pre>

Related Actions

- CreateVpnConnection (p. 118)
- DescribeVpnConnections (p. 315)
- DetachVpnGateway (p. 328)
- DeleteVpc (p. 156)
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.

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 `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

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".

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

```xml
    <requestId>4f35ab2-c2c3-4093-b51f-abb9d731l990</requestId>
    <return>true</return>
</DeleteVpnConnectionRouteResponse>
```

Related Actions

- CreateVpnConnectionRoute (p. 121)
- DeleteVpnConnection (p. 158)
- DescribeVpnConnections (p. 315)
- CreateVpc (p. 116)
- CreateSubnet (p. 109)
- AttachVpnGateway (p. 30)
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.

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

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

Examples

Example Request

This example request deletes the virtual private gateway with the ID vgw-8db04f81.

https://ec2.amazonaws.com/?Action=DeleteVpnGateway
&vpnGatewayId=vgw-8db04f81
&AUTHPARAMS

Example Response

    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</DeleteVpnGatewayResponse>
Related Actions

- CreateVpnGateway (p. 123)
- DescribeVpnGateways (p. 319)
- DeleteVpnConnection (p. 158)
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

Examples

Example Request
This example request deregisters the AMI with the ID ami-4fa54026.

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. 376)
• DescribeImages (p. 192)
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. 437)

Examples

Example Request

This example request describes the platforms that are supported by your account.

```plaintext
https://ec2.amazonaws.com/?Action=DescribeAccountAttributes
&AttributeName.1=supported-platforms
&AUTHPARAMS
```

Example Response 1

The following is an example response for an account that must launch instances into a VPC, such as the default VPC.
Example Response 2

The following is an example response for an account that can launch instances into EC2-Classic or into a VPC.
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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?\.

The following are the available filters.

domain
Indicates whether the address is for use in a VPC.
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. 447)`

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
&AUTHPARAMS
```
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
&AUTHPARAMS

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>
      <networkInterfaceOwnerId>053230519467</networkInterfaceOwnerId>
      <privateIpAddress>10.0.0.228</privateIpAddress>
    </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. 12)
- ReleaseAddress (p. 380)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 332)
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.

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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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

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. 439)

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.

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

Example Response

```
   requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <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>
   </availabilityZoneInfo>
```

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<item>
    <zoneName>us-east-1c</zoneName>
    <zoneState>available</zoneState>
    <regionName>us-east-1</regionName>
    <messageSet/>
</item>
</availabilityZoneInfo>
</DescribeAvailabilityZonesResponse>

Related Actions

- RunInstances (p. 416)
- DescribeRegions (p. 241)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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

errorCode

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. 443)

### Examples

#### Example Request

This example describes the status of the **bun-57a5403e** bundle task.

https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&bundleId.1=bun-c1a540a8
&AUTHPARAMS

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Example Response

```xml
  <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.

```url
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. 39)
- CancelBundleTask (p. 42)
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. 444)

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-fh95npsc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
        <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-
Related Actions

- ImportInstance (p. 344)
- ImportVolume (p. 350)
- CancelConversionTask (p. 44)
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 your customer gateways.
- Required: No

Filter.n.Name
The name of a filter. See the Supported Filters section for a list of supported filter names.
- Type: String
- Default: None
- Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
- 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 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 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:**
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 446)
Examples

Example Request

This example request describes the customer gateway with the ID cgw-b4dc3961.

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. 59)
• DeleteCustomerGateway (p. 125)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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
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 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:header
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 457)

Examples

Example Request
This example describes the DHCP options set with the ID dopt-7a8b9c2d.

https://ec2.amazonaws.com/?Action=DescribeDhcpOptions&AutoParams&DhcpOptionsId.1=dopt-7a8b9c2d

API Version 2013-07-15
184
Example Response

```xml
  <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>
            <item>
              <value>10.2.5.2</value>
            </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
      <tagSet/>
    </item>
  </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`.

```
https://ec2.amazonaws.com/?Action=DescribeDhcpOptions
&Filter.1.Name=key
&Filter.1.Value.1=domain-name
&Filter.2.Name=value
&Filter.2.Value.1=*example*
&AUTHPARAMS
```

Related Actions

- CreateDhcpOptions (p. 61)
- AssociateDhcpOptions (p. 20)
• DeleteDhcpOptions (p. 127)
DescribeExportTasks

Description

Describes one or more of your export tasks.

Request Parameters

ExportTaskId.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. 461)

Examples

Example Request

This example describes a single export task.

https://ec2.amazonaws.com/?Action=DescribeExportTasks
&exportTaskId.1=export-i-1234wxyz
&AUTHPARAMS

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <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>
    </item>
  </exportTaskSet>
</DescribeExportTasksResponse>
Related Actions

- CancelExportTask (p. 46)
- CreateInstanceExportTask (p. 67)
DescribeImageAttribute

Description
Describes an attributes of an 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 | kernel | ramdisk | launchPermission | productCodes | blockDeviceMapping
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

launchPermission
A list of launch permissions, each one wrapped in an item element.
Type: LaunchPermissionItemType (p. 482)

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. 497)

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

description
A user-created 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. 440)

Examples

Example Request
This example lists the launch permissions for the ami-61a54008 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 code for the ami-2bb65342 AMI.

https://ec2.amazonaws.com/?Action=DescribeImageAttribute
&ImageId=ami-2bb65342
&Attribute=productCodes
&AUTHPARAMS

Example Response

  <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. 192)
- ModifyImageAttribute (p. 353)
- ResetImageAttribute (p. 402)
Describes one or more of the images (AMIs, AKIs, and ARIs) 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 AMIs.
- **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 AMIs 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**
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.

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*
Describes the images for which the specified user has explicit launch permissions. The user ID can be an AWS account ID, self to return images for which the sender of the request has explicit launch permissions, or all to return AMIs with public launch permissions.

- **Type**: String
- **Valid values**: all | self | AWS account ID
- **Default**: None
- **Required**: No

*ImageId.n*
One or more image IDs.
Type: String  
Default: Describes all images available to you.  
Required: No

**Owner.n**  
Describes images owned by the specified owners. Use the IDs `amazon`, `aws-marketplace`, and `self` to describe images owned by Amazon, AWS Marketplace, or you, respectively.

Type: String  
Valid values: `amazon` | `aws-marketplace` | `self` | `AWS account ID` | `all`

Default: None  
Required: No

**Filter.n.Name**  
The name of a filter. See the Supported Filters section for a list of supported filter names.

Type: String  
Default: None  
Required: No

**Filter.n.Value.m**  
A value for the filter. See the Supported Filters section for a list of supported values for each filter.

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: standard | io1

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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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
Valid values: ovm | xen
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. 447)

Examples

Example Request

This example describes the ami-be3adfd7 AMI.

```xml
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>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <name>getting-started</name>
      <description>Image Description</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
            <snapshotId>snap-1a2b3c4d</snapshotId>
            <volumeSize>15</volumeSize>
            <deleteOnTermination>false</deleteOnTermination>
            <volumeType>standard</volumeType>
          </ebs>
        </item>
      </blockDeviceMapping>
    </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>
      <tagSet/>
      <hypervisor>xen</hypervisor>
    </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>4a8a27a2-2e7c-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/sda1</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. 202)
- DescribeImageAttribute (p. 189)
DescribeInstanceAttribute

Description

Describes an 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 | 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. 468)

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. 463)

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 Available 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. 498)

**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

**userData**
The Base64-encoded MIME user data.
Type: xsd:string

**Examples**

**Example Request**
This example lists the instance type of the i-10a64379 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 i-10a64379 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 i-10a64379 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. 202)
- Modify Instance Attribute (p. 356)
- Reset Instance Attribute (p. 404)
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, Amazon EC2 returns information for all relevant instances. If you specify an invalid instance ID, an error is returned. If you specify an instance that you do not own, it is not included in the returned 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

Filter.n.Name

The name of a filter. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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 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.
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 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 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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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 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
  Valid values: available | in-use

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 that AWS 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. 500)

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.

```xml
  <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>
          <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>
          <subnetId>subnet-1a2b3c4d</subnetId>
          <vpcId>vpc-1a2b3c4d</vpcId>
          <privateIpAddress>10.0.0.12</privateIpAddress>
          <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/sdal</rootDeviceName>
        </item>
      </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
```
<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>
    <ownerId>111122223333</ownerId>
    <status>in-use</status>
    <macAddress>1b:2b:3c:4d:5e:6f</macAddress>
    <privateIpAddress>10.0.0.12</privateIpAddress>
    <sourceDestCheck>true</sourceDestCheck>
    <groupSet>
      <item>
        <groupId>sg-1a2b3c4d</groupId>
        <groupName>my-security-group</groupName>
      </item>
    </groupSet>
    <attachment>
      <attachmentId>eni-attach-1a2b3c4d</attachmentId>
      <deviceIndex>0</deviceIndex>
      <status>attached</status>
      <attachTime>YYYY-MM-DDTHH:MM:SS+0000</attachTime>
      <deleteOnTermination>true</deleteOnTermination>
    </attachment>
    <association>
      <publicIp>198.51.100.63</publicIp>
      <ipOwnerId>111122223333</ipOwnerId>
    </association>
  </item>
  <item>
    <privateIpAddress>10.0.0.14</privateIpAddress>
    <primary>false</primary>
    <association>
      <publicIp>198.51.100.63</publicIp>
      <ipOwnerId>111122223333</ipOwnerId>
    </association>
  </item>
</item>
</networkInterfaceSet>
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
&Filter.1.Value.2=m1.large
&Filter.2.Name=block-device-mapping.status
&Filter.2.Value.1=attached
&Filter.3.Name=block-device-mapping.delete-on-termination
&Filter.3.Value.1=true
&AUTHPARAMS
```

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 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
```

To list all instances that have a tag with the key Owner, regardless of the value of the tag, use the following request.
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=tag-key
&Filter.1.Value.1=Owner
&AUTHPARAMS

Related Actions

- RunInstances (p. 416)
- StartInstances (p. 424)
- StopInstances (p. 426)
- TerminateInstances (p. 428)
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 will return 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.

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 paginated instance items per response.
Type: Integer
Default: 1000
Required: No

**NextToken**
The next paginated set of results to return.
Type: String
Default: None
Required: No

**Filter.n.Name**
The name of a filter. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

**Filter.n.Value.m**
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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. 478)

nextToken
   The next paginated set of results to return.
   Type: xsd:string

Examples

Example Request

This example returns instance status descriptions for all instances.

https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&Version=2013-07-15
&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
&Version=2013-07-15
&AuthParams

Example Request

This example returns instance status descriptions for all instances specified by supported DescribeInstanceStatus filters.

https://ec2.amazonaws.com/?
Action=DescribeInstanceStatus
&Filter.0.Name=system-status.reachability
&Filter.0.Value.failed
&Version=2013-07-15
&AuthParams

Example Response

  <requestId>3be1508e-c444-4fef-89cc-0b1223c4f02fEXAMPLE</requestId>
  <instanceStatusSet>
    <item>
      <instanceId>i-1a2b3c4d</instanceId>
      <availabilityZone>us-east-1d</availabilityZone>
  </item>
</instanceStatusResponse>
<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>
<instanceStatus>
  <status>impaired</status>
  <details>
    <item>
      <name>reachability</name>
      <status>failed</status>
      <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
    </item>
  </details>
</instanceStatus>
<eventsSet>
  <code>instance-retirement</code>
  <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
  <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
  <description>
    The instance is running on degraded hardware
  </description>
</eventsSet>
</item>
</item>
<instanceId>i-2a2b3c4d</instanceId>
<availabilityZone>us-east-1d</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>ok</status>
  <details>
    <item>
      <name>reachability</name>
      <status>passed</status>
    </item>
  </details>
</instanceStatus>
The instance is scheduled for a reboot.

Example code:
```
<code>instance-reboot</code>
<notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
<notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
<description>
    The instance is scheduled for a reboot.
</description>
```

```
<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>
    <instanceStatus>
        <status>ok</status>
        <details>
            <item>
                <name>reachability</name>
                <status>passed</status>
            </item>
        </details>
    </instanceStatus>
</item>
```

```
<item>
    <instanceId>i-4a2b3c4d</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>
    <instanceStatus>
        <status>insufficient-data</status>
        <details>
            <item>
                <name>reachability</name>
            </item>
        </details>
    </instanceStatus>
</item>
```
<status>insufficient-data</status>
</item>
</details>
</instanceStatus>
</item>
</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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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.
Type: String
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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 480)

Examples

Example Request
This example describes your Internet gateways.

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

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>
  </item>
</internetGatewaySet>
</DescribeInternetGatewaysResponse>

Related Actions

- CreateInternetGateway (p. 70)
- DeleteInternetGateway (p. 129)
- DetachInternetGateway (p. 24)
- DetachInternetGateway (p. 322)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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. 449)

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**

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>my-key-pair</keyName>
    </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
&Filter.1.Value.1=*Dave*
&AUTHPARAMS

**Related Actions**

- `CreateKeyPair` (p. 72)
- `ImportKeyPair` (p. 348)
- `DeleteKeyPair` (p. 131)
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: None
  - Required: No

Filter.n.Name
- The name of a filter. See the Supported Filters section for a list of supported filter names.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  - 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

element.cidr
    The CIDR range specified in the entry.
    Type: String

element.egress
    Indicates whether the entry applies to egress traffic.
    Type: Boolean

element.icmp.code
    The ICMP code specified in the entry, if any.
    Type: Integer

element.icmp.type
    The ICMP type specified in the entry, if any.
    Type: Integer

element.port-range.from
    The start of the port range specified in the entry.
    Type: Integer

element.port-range.to
    The end of the port range specified in the entry.
    Type: Integer

element.protocol
    The protocol specified in the entry.
    Type: String
    Valid values: tcp | udp | icmp or a protocol number

element.rule-action
    Indicates whether the entry allows or denies the matching traffic.
    Type: String
    Valid values: allow | deny

element.rule-number
    The number of an entry (in other words, rule) in the ACL's set of entries.
    Type: Integer

network-acl-id
    The ID of the network ACL.
    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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
`Filter.1.Name=tag:Purpose`
`Filter.1.Value.1=X`
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
`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. 488)

## Examples

### Example Request

This example describes all your network ACLs.

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

### 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>
        </item>
      </entrySet>
    </item>
  </networkAclSet>
</DescribeNetworkAclsResponse>
```
<to>80</to>
</portRange>
</item>
</entrySet>
<associationSet>
<Item>
<networkAclAssociationId>aclassoc-5c659635</networkAclAssociationId>
<networkAclId>acl-5d659634</networkAclId>
<subnetId>subnet-ff669596</subnetId>
</Item>
<Item>
<networkAclAssociationId>aclassoc-c26596ab</networkAclAssociationId>
<networkAclId>acl-5d659634</networkAclId>
<subnetId>subnet-f0669599</subnetId>
</Item>
</associationSet>
<tagSet/>
</DescribeNetworkAclsResponse>

**Related Actions**

- CreateNetworkAcl (p. 75)
- DeleteNetworkAcl (p. 132)
- ReplaceNetworkAclAssociation (p. 382)
- CreateNetworkAclEntry (p. 77)
- DeleteNetworkAclEntry (p. 134)
- ReplaceNetworkAclEntry (p. 384)
DescribeNetworkInterfaceAttribute

Description

Describes 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 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. 463)

attachment
The attachment (if any) of the network interface.
Type: NetworkInterfaceAttachmentType (p. 489)
Examples

Example Request

This example describes the `sourceDestCheck` attribute of the specified network interface.

```text
https://ec2.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute
&NetworkInterfaceId=eni-686ea200
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Example Response

```xml
  <requestId>7a20c6b2-d71c-45fb-bba7-37306850544b</requestId>
  <networkInterfaceId>eni-686ea200</networkInterfaceId>
  <sourceDestCheck>
    <value>true</value>
  </sourceDestCheck>
</DescribeNetworkInterfaceAttributeResponse>
```

Related Actions

- `AttachNetworkInterface` (p. 26)
- `DetachNetworkInterface` (p. 324)
- `CreateNetworkInterface` (p. 80)
- `DeleteNetworkInterface` (p. 136)
- `DescribeNetworkInterfaces` (p. 232)
- `ModifyNetworkInterfaceAttribute` (p. 360)
- `ResetNetworkInterfaceAttribute` (p. 406)
DescribeNetworkInterfaces

Description

Describes one or more of your network interfaces.

Request Parameters

NetworkInterfaceId.n
- One or more network interface IDs.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Name
- The name of a filter. See the Supported Filters section for a list of supported filter names.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  - 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
  - Valid values: true | false

addresses.association.public-ip
- The association ID returned when the network interface was associated with the Elastic IP address.
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 that AWS 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

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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 491)

### Examples

**Example Request**

This example describes network interfaces.

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

**Example Response**

```xml
  <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>
    </item>
  </networkInterfaceSet>
</DescribeNetworkInterfacesResponse>
```
<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>
  <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>
  <status>in-use</status>
  <macAddress>02:78:d7:00:8a:1e</macAddress>
  <privateIpAddress>10.0.1.233</privateIpAddress>
  <sourceDestCheck>true</sourceDestCheck>
</item>
<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>
<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. 26)
- DetachNetworkInterface (p. 324)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 230)
- ModifyNetworkInterfaceAttribute (p. 360)
- ResetNetworkInterfaceAttribute (p. 406)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

**Filter.n.Value.m**
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
Type: String
Default: None
Required: No

Supported Filters

You can specify 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.
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. 492)

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**

```xml
  <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.

Related Actions

- CreatePlacementGroup (p. 85)
- DeletePlacementGroup (p. 138)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

**Filter.n.Value.m**

A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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. 500)

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.

Example Response

```
  <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. 172)
- RunInstances (p. 416)
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. See the Supported Filters section for a list of supported filter names.
   Type: String
   Default: None
   Required: No

Filter.n.Value.m
   A value for the filter. See the Supported Filters section for a list of supported values for each filter.
   Type: String
   Default: None
   Required: No

Supported Filters

You can specify 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

**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 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**
- Filters the response based on a specific tag/value combination.
- Example: To list just the resources that have been assigned tag Purpose=X, specify:
  
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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

- **reserved InstancesSet**
  A list of Reserved Instances, each one wrapped in an `item` element.
  Type: `DescribeReservedInstancesResponseSetItemType` (p. 453)

### Examples

#### Example Request

This example describes Reserved Instances owned by your account.

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

#### Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  ...
  <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>
</DescribeReservedInstancesResponse>
```
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. 369)
- DescribeReservedInstancesOfferings (p. 252)
**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 to 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 you want 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 you want to purchase, and the Marketplace will match what you're searching for with what's available. The Marketplace will first sell the lowest priced Reserved Instances to you, and continue to sell available Reserved Instance listings to you until your demand is met. You will be charged based on the total price of all of the listings that you purchase.


**Request Parameters**

**ReservedInstancesListingId.n**
- The information about the Reserved Instance listing wrapped in an item element.
- Type: DescribeReservedInstancesListingSetItemType (p. 451)
- Default: None
- Required: No

**ReservedInstancesId.n**
- The set of Reserved Instances IDs which are used to see associated listings.
- Type: DescribeReservedInstancesSetItemType (p. 454)
- Default: None
- Required: No

**Filter.n.Name**
- The name of a filter. See the Supported Filters section for a list of supported filter names.
- Type: String
- Default: None
- Required: No

**Filter.n.Value.m**
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
- 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. 450)

Examples

Example Request

This example shows all the listings associated with your account.
Example Response

```xml
<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>true</active>
        </item>
        <item>
          <term>5</term>
          <price>300.0</price>
          <currencyCode>USD</currencyCode>
          <active>true</active>
        </item>
      </priceSchedules>
    </item>
  </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
```
<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/>
</item>
</reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>

Related Actions

- CancelReservedInstancesListing (p. 47)
- CreateReservedInstancesListing (p. 87)
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 will not receive insufficient capacity errors, and you will 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` will only list information about the Medium Utilization Reserved Instance offering type.


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` will only list information about the Amazon EC2 Reserved Instance offerings.


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. See [Available Instance Types](https://docs.aws.amazon.com/AmazonElasticComputeCloud/latest/UserGuide/r_ri.html) for more information.
  - 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. See the Supported Filters section for a list of supported filter names.
  Type: String
  Default: None
  Required: No

**Filter.n.Value.m**
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  Type: String
  Default: None
  Required: No

**InstanceTenancy**
The tenancy of the Reserved Instance offering. A Reserved Instance with tenancy of dedicated will run 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**
Minimum duration (in seconds) to filter when searching for offerings.
  Type: Long
  Default: 2592000 (1 month)
  Required: No

**MaxDuration**
Maximum duration (in seconds) to filter when searching for offerings.
  Type: Long
  Default: 94608000 (3 years)
  Required: No

**MaxInstanceCount**
Maximum number of instances to filter when searching for offerings.
  Type: Integer
**NextToken**
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**
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 Amazon EC2 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. 451)

nextToken
The next paginated set of results to return.
Type: String

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=2013-07-15
&AUTHPARAMS

Note
When using the Query API, all strings must be URL-encoded.

This is the response listing Reserved Instance Marketplace offerings only.
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
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 will be returned in the response. Then each paginated response will contain a `nextToken`, which can be provided as input to a subsequent `DescribeReservedInstancesOfferings` call to fetch the next page.

```xml
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&Version=2013-07-15
&AUTHPARAMS
```

The response should look similar to the following example.

```xml
<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>
    </item>
    <item>
      <reservedInstancesOfferingId>e5a2ff3b-a4f3-477c-8928-dbd00EXAMPLE</reservedInstancesOfferingId>
      <instanceType>m1.large</instanceType>
      <availabilityZone>us-east-1a</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>1000.0</fixedPrice>
      <usagePrice>0.076</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Medium Utilization</offeringType>
    </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 URL encode the NextToken value.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&NextToken=h%2FC8YKPQBHejW8xKz1827%2Fzzyb0VqsqkJRo3TqhFYE%3D
&Version=2013-07-15
&AUTHPARAMS

The response should be similar to the following example.

```xml
<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>
      <usagePrice>0.0</usagePrice>
      <productDescription>Linux/UNIX</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Heavy Utilization</offeringType>
      <recurringCharges>
        <item>
          <frequency>Hourly</frequency>
          <amount>0.064</amount>
```
Example Request

This example describes available Reserved Instance offerings.

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

Example Response

  <requestId>48692a1d-3036-48fd-8c0e-d34681b9e7f0EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ...
    <item>
      <reservedInstancesOfferingId>248e7b75-c83a-48c1-bcf7-b7f03e9c43feEXAMPLE</reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>9460800</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).

Related Actions

- PurchaseReservedInstancesOffering (p. 369)
- DescribeReservedInstances (p. 244)
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. See the Supported Filters section for a list of supported filter names.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  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.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.

**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 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:**
- Filters the response based on a specific tag/value combination.
  - Example: To list just the resources that have been assigned tag Purpose=X, specify:
    Filter.1.Name=tag:Purpose
    Filter.1.Value.1=X
  - Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
    Filter.1.Name=tag:Purpose
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. 503)

Examples

Example Request
This example describes all route tables in the VPC.

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

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.

```
<DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
   <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>
      </item>
   </routeTableSet>
</DescribeRouteTablesResponse>
```
</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/>
</routeTableSet>
</DescribeRouteTablesResponse>

**Related Actions**

- AssociateRouteTable (p. 22)
- DisassociateRouteTable (p. 334)
- DeleteRouteTable (p. 142)
- CreateRouteTable (p. 99)
- ReplaceRouteTableAssociation (p. 389)
DescribeSecurityGroups

Description

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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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**: The CIDR range that has been granted the permission.
  - Type: String
- **ip-permission.from-port**: The start of port range for the TCP and UDP protocols, or an ICMP type number.
  - Type: String
- **ip-permission.group-name**: The name of security group that has been granted the 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 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 the 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
- **tag-value**: The value of a tag assigned to the security group.
  - Type: String
- **vpc-id**: Only return the security groups that belong to the specified EC2-VPC ID.
  - 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. 508)

Examples

Example Request

This example returns information about two security groups that are configured for the account.

```
&GroupName.1=WebServers
&GroupName.2=RangedPortsBySource
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>111122223333</ownerId>
      <groupId>sg-1a2b3c4d</groupId>
      <groupName>WebServers</groupName>
      <groupDescription>Web Servers</groupDescription>
      <ipPermissions>
        <item>
          <ipProtocol>tcp</ipProtocol>
          <fromPort>80</fromPort>
          <toPort>80</toPort>
          <ipRanges/>
        </item>
      </ipPermissions>
    </item>
    <item>
      <ownerId>111122223333</ownerId>
      <groupId>sg-2a2b3c4d</groupId>
      <ipPermissionsEgress/>
    </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
&Filter.4.Value.1=app_server_group
&Filter.4.Value.2=database_group
&AUTHPARAMS
```

Related Actions

- [CreateSecurityGroup](p. 101)
- [AuthorizeSecurityGroupIngress](p. 35)
- [RevokeSecurityGroupIngress](p. 413)
- [DeleteSecurityGroup](p. 144)
DescribeSnapshotAttribute

Description

Describes an 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. 445)

**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. 498)

Examples

Example Request

This example describes permissions for the snap-1a2b3c4d snapshot.

https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-1a2b3c4d
Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1a2b3c4d</snapshotId>
  <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

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-1a2b3c4d</snapshotId>
  <productCodes>
    <item>
      <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
      <type>marketplace</type>
    </item>
  </productCodes>
</DescribeSnapshotAttributeResponse>
```

Related Actions

- ModifySnapshotAttribute (p. 362)
- DescribeSnapshots (p. 271)
- ResetSnapshotAttribute (p. 408)
- CreateSnapshot (p. 104)
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 will not be 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 snapshot(s)), 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
**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

- **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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 455)

Examples

Example Request
This example describes snapshot snap-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DescribeSnapshots
&SnapshotId=snap-1a2b3c4d
&AUTHPARAMS
Example Response

```xml
  <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/>
    </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_`.

```
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_*
&AUTHPARAMS
```

Example Response

```xml
  <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>30%</progress>
      <ownerId>111122223333</ownerId>
      <volumeSize>15</volumeSize>
      <description>Daily Backup</description>
      <tagSet>
        <item>
          <key>Purpose</key>
          <value>demo_db_14_backup</value>
        </item>
      </tagSet>
    </item>
  </snapshotSet>
</DescribeSnapshotsResponse>
```
**Related Actions**

- CreateSnapshot (p. 104)
- DeleteSnapshot (p. 146)
DescribeSpotDatafeedSubscription

Description

Describes the datafeed for Spot Instances. For more information about Spot Instances, see Spot Instances in the Amazon Elastic Compute Cloud User Guide.

Request Parameters

DescribeSpotDatafeedSubscription has 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. 509)

Examples

Example Request

This example describes the datafeed for the account.

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

Example Response

  <requestId>59dbff89-35bd-4e9d-be587EXAMPLE</requestId>
  <spotDatafeedSubscription>
    <ownerId>111122223333</ownerId>
    <bucket>myawsbucket</bucket>
    <prefix>spotdata_</prefix>
    <state>Active</state>
  </spotDatafeedSubscription>
</DescribeSpotDatafeedSubscriptionResponse>

Related Actions

- CreateSpotDatafeedSubscription (p. 107)
- DeleteSpotDatafeedSubscription (p. 148)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m
A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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: standard | io1

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.
**Response Elements**

The following elements are returned in a `DescribeSpotInstanceRequestsResponse` 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: `SpotInstanceRequestSetItemType` (p. 510)

For more information about tags, see Tagging Your Resources in the Amazon Elastic Compute Cloud User Guide.
networkInterfaceSet
Information about the network interface.
Type: InstanceNetworkInterfaceSetItemType (p. 472)

Examples

Example Request

This example returns information about current Spot Instance requests.

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

Example Response

  <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>
        <instanceType>m1.small</instanceType>
        <monitoring>
          <enabled>false</enabled>
        </monitoring>
        <ebsOptimized>false</ebsOptimized>
      </launchSpecification>
      <instanceId>i-1a2b3c4d</instanceId>
      <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
      <launchedAvailabilityZone>us-east-1a</launchedAvailabilityZone>
    </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 will appear in the response and contain the identifier of the instance.

Alternatively, you can use DescribeInstances (p. 202) and use a filter to look for instances where instanceLifecycle contains spot. The following is an example request.

https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-lifecycle
&Filter.1.Value.1=spot
&AUTHPARAMS

The following is an example response.

&lt;DescribeInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">&lt;requestId>b1719f2a-5334-4479-b2f1-26926EXAMPLE&lt;/requestId&gt;&lt;/requestId&gt;&lt;/reservationSet&gt;&lt;/reservationSet&gt;&lt;/instancesSet&gt;&lt;/instancesSet&gt;
<dnsName>DNS_name</dnsName>
<reason/>
<keyName>gsg-keypair</keyName>
<amiLaunchIndex>0</amiLaunchIndex>
<bricknessCodes/>
<instanceType>t1.micro</instanceType>
<launchTime>YYYY-MM-DDTHH:MM:SS.000Z</launchTime>
<placement>
<availabilityZone>us-east-1a</availabilityZone>
<groupName/>
<tenancy>default</tenancy>
</placement>
<kernelId>aki-la2b3c4d</kernelId>
<monitoring>
<state>disabled</state>
</monitoring>
<privateIpAddress>private_IP_address</privateIpAddress>
<ipAddress>IP_address</ipAddress>
<groupSet>
    <item>
        <groupId>sg-la2b3c4d</groupId>
        <groupName>Linux</groupName>
    </item>
</groupSet>
<architecture>x86_64</architecture>
<rootDeviceType>ebs</rootDeviceType>
<rootDeviceName>/dev/sda1</rootDeviceName>
<blockDeviceMapping>
    <item>
        <deviceName>/dev/sda1</deviceName>
        <ebs>
            <volumeId>vol-la2b3c4d</volumeId>
            <status>attached</status>
            <attachTime>YYYY-MM-DDTHH:MM:SS.000Z</attachTime>
            <deleteOnTermination>true</deleteOnTermination>
        </ebs>
    </item>
</blockDeviceMapping>
<instanceLifecycle>spot</instanceLifecycle>
<spotInstanceRequestId>sir-la2b3c4d</spotInstanceRequestId>
<virtualizationType>paravirtual</virtualizationType>
</item>
</instancesSet>
<requesterId>requester_ID</requesterId>
</item>
</reservationSet>
</DescribeInstancesResponse>"
• DescribeSpotPriceHistory (p. 285)
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.

Request Parameters

StartTime
- The start date and time of the Spot Instance price history data.
  - Type: DateTime
  - Default: None
  - Required: No

EndTime
- The end date and time of the Spot Instance 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 | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | cc1.4xlarge | cc2.8xlarge | cg1.4xlarge. See Available Instance Types for more information.
  - 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. See the Supported Filters section for a list of supported filter names.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
AvailabilityZone
Filters the results by availability zone.
Type: String
Valid values: us-east-1a, etc.
Default: None
Required: No

MaxResults
The 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

Note
Our policy is to provide filters for all ec2-describe calls so you can limit the response to your
specified criteria. Therefore, 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. 512)

nextToken
The string marking the next set of results returned. Displays 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
&Filter.1.Value.1=2009-12-04*
&Filter.2.Name=availability-zone
&Filter.2.Value.1=us-east-1a
&AUTHPARAMS

Example Response

<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>

Related Actions

- DescribeSpotInstanceRequests (p. 277)
- RequestSpotInstances (p. 394)
- CancelSpotInstanceRequests (p. 50)
DescribeSubnets

Description

Describes one or more of your subnets.

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. See the Supported Filters section for a list of supported filter names.
- Type: String
- Default: None
- Required: No

**Filter.n.Value.m**
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
- 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.

- **availability-zone**
  - The Availability Zone for the subnet.
  - Type: String

- **available-ip-address-count**
  - The number of IP addresses in the subnet that are available.
  - Type: String

- **cidr**
  - 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.
  - 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.
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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 514)
Examples

Example Request

This example describes the subnets with the IDs `subnet-9d4a7b6c` and `subnet-6e7f829e`.

```xml
https://ec2.amazonaws.com/?Action=DescribeSubnets
&SubnetId.1=subnet-9d4a7b6c
&SubnetId.2=subnet-6e7f829e

  <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 Response

```xml
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.

```xml
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

  <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>
Related Actions

- CreateSubnet (p. 109)
- DeleteSubnet (p. 149)
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

Filter.n.Name
  The name of a filter. See the Supported Filters section for a list of supported filter names.
  Type: String
  Default: None
  Required: No

Filter.n.Value.m
  A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  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. 515)

Examples

Example Request

This example describes all the tags in your account.

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

Sample response:

```xml
  <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>
    <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>
  </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

Sample response:

  <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>

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
Sample response:

```xml
  <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
```

Sample response:

```xml
  <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
```

Sample 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>
            <key>stack</key>
            <value>Test</value>
        </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. 111)
• DeleteTags (p. 151)
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. 498)

Example

Example Request

This example describes the autoEnableIO attribute of the volume vol-12345678.

https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=autoEnableIO
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. 305)
- ModifyVolumeAttribute (p. 364)
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. See the Supported Filters section for a list of supported filter names.
Type: String
Default: None
Required: No

Filter.n.Value.m

A value for the filter. See the Supported Filters section for a list of supported values for each filter.
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.
Type: Boolean
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

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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
filter.1.Name=tag:Purpose
filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
filter.1.Name=tag:Purpose
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: standard | io1

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. 456)

Examples

Example Request

This example describes all volumes associated with your account.

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

Example Response

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeSet>
    <item>
      <volumeId>vol-1a2b3c4d</volumeId>
      <size>80</size>
      <snapshotId/>
      <availabilityZone>us-east-1a</availabilityZone>
      <status>in-use</status>
      <createTime>YYYY-MM-DDTHH:MM:SS.SSSZ</createTime>
      <attachmentSet>
        <item>
          <volumeId>vol-1a2b3c4d</volumeId>
          <instanceId>i-1a2b3c4d</instanceId>
          <device>/dev/sdh</device>
          <status>attached</status>
          <attachTime>YYYY-MM-DDTHH:MM:SS.SSSZ</attachTime>
          <deleteOnTermination>false</deleteOnTermination>
        </item>
      </attachmentSet>
      <volumeType>standard</volumeType>
    </item>
  </volumeSet>
</DescribeVolumesResponse>
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

Related Actions

- CreateVolume (p. 113)
- DeleteVolume (p. 154)
- AttachVolume (p. 28)
- DetachVolume (p. 326)
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 will show `enable-volume-io`. This means that you may want to enable the I/O operations for the volume by calling the EnableVolumeIO (p. 338) 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. See the Supported Filters section for a list of supported filter names.

Type: String
Default: None
Required: No

**Filter.n.Value.m**

A value for the filter. See the Supported Filters section for a list of supported values for each filter.

Type: String
Default: None
Required: No

**MaxResults**

The maximum number of paginated volume items per response.
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
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. 517)

**nextToken**
- A string specifying the next paginated set of results to return.
- Type: xsd:string

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

```xml
  requestId="5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE"/>
<volumeStatusSet>
  <item>
```
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
```
Related Actions

- ModifyVolumeAttribute (p. 364)
- DescribeVolumeAttribute (p. 299)
- EnableVolumeIO (p. 338)
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

Examples

Example Request

This request describes the enableDnsSupport attribute of the VPC with the ID vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsSupport
&AUTHPARAMS
Example Response

This example response indicates that DNS resolution is supported.

```xml
  <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 VPC with the ID `vpc-1a2b3c4d`.

```bash
https://ec2.amazonaws.com/?Action=DescribeVpcAttribute
&VpcId=vpc-1a2b3c4d
&Attribute=enableDnsHostnames
&AUTHPARAMS
```

Example Response

This example response indicates that DNS hostnames are supported.

```xml
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <enableDnsHostnames>
    <value>true</value>
  </enableDnsHostnames>
</DescribeVpcAttributeResponse>
```

Related Actions

- CreateVpc (p. 116)
- DeleteVpc (p. 156)
- ModifyVpcAttribute (p. 366)
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. See the Supported Filters section for a list of supported filter names.
  - Type: String
  - Default: None
  - Required: No

Filter.n.Value.m
- A value for the filter. See the Supported Filters section for a list of supported values for each filter.
  - 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.

<table>
<thead>
<tr>
<th>Filter Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cidr</td>
<td>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.</td>
</tr>
<tr>
<td>dhcp-options-id</td>
<td>The ID of a set of DHCP options.</td>
</tr>
<tr>
<td>isDefault</td>
<td>Indicates whether the VPC is the default VPC.</td>
</tr>
</tbody>
</table>
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 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
Filters the response based on a specific tag/value combination.
Example: To list just the resources that have been assigned tag Purpose=X, specify:
Filter.1.Name=tag:Purpose
Filter.1.Value.1=X
Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
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. 520)

---

**Examples**

**Example Request**

This example describes the VPC with the ID vpc-1a2b3c4d.
Example Response

```xml
  <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`.

```xml
https://ec2.amazonaws.com/?Action=DescribeVpcs
&VpcId.1=vpc-1a2b3c4d
&AUTHPARAMS
```

Related Actions

- `CreateVpc (p. 116)`
- `DeleteVpc (p. 156)`
- `CreateDhcpOptions (p. 61)`
- `AssociateDhcpOptions (p. 20)`
DescribeVpnConnections

Description

Describes one or more of your VPN connections.

Important

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

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. See the Supported Filters section for a list of supported filter names.

Type: String

Default: None

Required: No

Filter.n.Value.m

A value for the filter. See the Supported Filters section for a list of supported values for each filter.

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

date
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 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
Filters the response based on a specific tag/value combination.
  Example: To list just the resources that have been assigned tag Purpose=X, specify:
  Filter.1.Name=tag:Purpose
  Filter.1.Value.1=X
  Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
  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

vpn-gateway-id
The ID of a virtual private gateway associated with the VPN connection.
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. 521)

Examples

Example Request

This example describes the VPN connection with ID vpn-44a8938f. The response includes the customer gateway configuration information. Because it's a long set of information, we haven't displayed it here. You can see an example in the topic for CreateVpnConnection.

```
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>
      <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
      <tagSet/>
    </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.
Amazon Elastic Compute Cloud API Reference

Related Actions

- CreateVpnConnection (p. 118)
- DeleteVpnConnection (p. 158)
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 your virtual private gateways.
   Required: No

Filter.n.Name
   The name of a filter. See the Supported Filters section for a list of supported filter names.
   Type: String
   Default: None
   Required: No

Filter.n.Value.m
   A value for the filter. See the Supported Filters section for a list of supported values for each filter.
   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.
**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 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**
- Filters the response based on a specific tag/value combination.
- Example: To list just the resources that have been assigned tag Purpose=X, specify:
  - Filter.1.Name=tag:Purpose
  - Filter.1.Value.1=X
- Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
  - 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. 522)
Examples

Example Request

This example describes the virtual private gateway with the ID **vgw-8db04f81**.

```
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>
      <tagSet/>
    </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. 123)
- DeleteVpnGateway (p. 162)
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

Examples

Example Request

The example detaches the Internet gateway with ID igw-eaad4883 from the VPC with ID vpc-11ad4878.

https://ec2.amazonaws.com/?Action=DetachInternetGateway
&InternetGatewayId=igw-eaad4883
&VpcId=vpc-11ad4878
&AUTHPARAMS

Example Response

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

Related Actions

- CreateInternetGateway (p. 70)
- DeleteInternetGateway (p. 129)
- DetachInternetGateway (p. 24)
- DescribeInternetGateways (p. 220)
DetachNetworkInterface

Description
Detaches a network interface from an instance.

Request Parameters

AttachmentId
The ID of the attachment.
Type: String
Default: None
Required: Yes

Force
Set to true 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

Examples

Example Request
This example detaches an elastic network interface (ENI) eni-attach-d94b09b0.

https://ec2.amazonaws.com/?Action=DetachNetworkInterface
&AttachmentId=eni-attach-d94b09b0
&AUTHPARAMS

Example Response

  <requestId>ce540707-0635-46bc-97da-33a8a362a0e8</requestId>
  <return>true</return>
</DetachNetworkInterfaceResponse>
Related Actions

- AttachNetworkInterface (p. 26)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 230)
- DescribeNetworkInterfaces (p. 232)
- ModifyNetworkInterfaceAttribute (p. 360)
- ResetNetworkInterfaceAttribute (p. 406)
**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 will result in the volume being stuck in "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
**Examples**

**Example Request**

This example detaches volume *vol-1a2b3c4d*.

```
https://ec2.amazonaws.com/?Action=DetachVolume&VolumeId=vol-1a2b3c4d
```

**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. 113)
- DeleteVolume (p. 154)
- DescribeVolumes (p. 301)
- AttachVolume (p. 28)
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.

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
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

Examples

Example Request

This example request detaches the virtual private gateway with the ID vgw-8db04f81 from the VPC with the ID vpc-1a2b3c4d.

https://ec2.amazonaws.com/?Action=DetachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
Example Response

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

Related Actions

- AttachVpnGateway (p. 30)
- DescribeVpnGateways (p. 319)
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

**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
&GatewayId= vgw-d8e09e8a
&AUTHPARAMS
```

**Example Response**

```
  <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
</DisableVgwRoutePropagationResponse>
```
<return>true</return>
</DisableVgwRoutePropagationResponse>

Related Actions

- DisableVgwRoutePropagation (p. 330)
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 enter it more than once, Amazon EC2 does not 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

Examples

Example Request

This example disassociates the EC2 Elastic IP address 192.0.2.1 from the instance to which it is assigned.

https://ec2.amazonaws.com/?Action=DisassociateAddress
&PublicIp=192.0.2.1
&AUTHPARAMS
Example Request

This example disassociates the Elastic IP address with association ID eipassoc-aa7486c3 from the instance in a VPC to which it is assigned.

https://ec2.amazonaws.com/?Action=DisassociateAddress
&AssociationID=eipassoc-aa7486c3
&AUTHPARAMS

Example Response

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

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 168)
- ReleaseAddress (p. 380)
- AssociateAddress (p. 17)
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

Examples

Example Request

This example disassociates the route table with association ID rtbassoc-fdad4894 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/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DisassociateRouteTableResponse>
Related Actions

- CreateRouteTable (p. 99)
- AssociateRouteTable (p. 22)
- DeleteRouteTable (p. 142)
- DescribeRouteTables (p. 261)
- ReplaceRouteTableAssociation (p. 389)
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

Examples

Example Request

This example enables the virtual private gateway vgw-d8e09e8a to automatically propagate routes to the routing table with ID rtb-c98a35a0.

https://ec2.amazonaws.com/?Action=EnableVgwRoutePropagation
&RouteTableID=rtb-c98a35a0
&GatewayId=vgw-d8e09e8a
&AUTHPARAMS

Example Response

 <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId> 
</EnableVgwRoutePropagation>
<return>true</return>
</EnableVgwRoutePropagation>

Related Actions

- DisableVgwRoutePropagation (p. 330)
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

Examples

Example Request

This example enables the I/O operations of the volume vol-8888888.

https://ec2.amazonaws.com/?Action=EnableVolumeIO&VolumeId=vol-8888888

Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587Example</requestId>
  <return>true</return>
</EnableVolumeIOResponse>
```

Related Actions

- DescribeVolumeStatus (p. 305)
- ModifyVolumeAttribute (p. 364)
• DescribeVolumeAttribute (p. 299)
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 will be 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

Examples

Example Request

This example retrieves the console output for the i-10a64379 Linux and UNIX instance.
Example Response

  <requestId>59dbff89-35bd-4ecac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-28a64341</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc21vbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hbWF6b25zYSkgKGdj
   YyB2ZXJzaW9uIG9mZSwvIDQuMC4xLTIwMDUtMjIwMDItMDExIDQg
   dCBhcyBzb2xvcmQgZm9yICh1c2FibGUpCjk4ME1CIEhJQk9BQkNDRU0gYXZhaWxhYmxlLi4uIGRvbnMg
   aXNhYmxlLgpZcml0dXRzICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2x
   vcmQgZm9yIChhbnR5ICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xv
   cmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC
   5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXR
   jaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFu
   ZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQVSBzY
   XZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xlIEdQV
   SBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ2xl
   IEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUgQ29vZ
   2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCjckMDUg
   Q29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibGUpCj
   ckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG
   UpCjckMDUgQ29vZ2xlIEdQVSBzYXZlIGFuZCBzYXRjaGJhdC5vb2xvcmQgZm9yIChob2xvcmQgZm9yICh1c2FibG

Related Actions

- RunInstances (p. 416)
GetPasswordData

Description

Retrieves the encrypted administrator password for an instance running Windows.

The Windows password is only generated the first time an AMI is launched. It is not generated for rebundled AMIs or after the password is changed on an instance.

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. Please 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

Examples

Example Request

This example returns the encrypted version of the administrator password for the i-2574e22a instance.

https://ec2.amazonaws.com/?Action=GetPasswordData
&InstanceId=i-10a64379
&AUTHPARAMS

API Version 2013-07-15
342
Example Response

```xml
  <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. 416)
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-upload-disk-image` 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.
  - Type: String
  - Default: None
  - Required: No

- **LaunchSpecification.UserData**: User data to be made available to the instance.
  - Type: String
  - Default: None
  - Required: No

- **LaunchSpecification.InstanceType**: The instance type. See Available Instance Types for more information.
  - Type: String
  - Default: None
  - Required: Yes

- **LaunchSpecification.Placement.AvailabilityZone**: The Availability Zone to launch the instance into.
  - Type: String
  - Default: We choose a zone for you
  - Required: No

- **LaunchSpecification.Monitoring.Enabled**: Specifies whether to enable detailed monitoring for the instance.
  - Type: Boolean
  - Default: false
  - Required: No
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] You can optionally use this parameter to assign the instance a specific available IP
  address from the IP address range of the subnet.
  Type: String
  Default: We 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 GB (2^30 bytes), of the Amazon EBS volume that will hold the converted image.
  Required: Yes

Platform
  The instance operating system.
  Type: String
  Default: None
Valid value: Windows
Required: No

Response Elements

The following elements are returned in an ImportInstanceResponse element.

**conversionTask**

Information about the import instance task.
Type: ConversionTaskType (p. 444)

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.

```plaintext
https://ec2.amazonaws.com/?Action=ImportInstance
&LaunchSpecification.Architecture=x86_64
&LaunchSpecification.InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
&DiskImage.1.Image.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=5snej01TtL0uR7KExtEXvAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

Example Response

```xml
<conversionTask>
  <conversionTaskId>import-i-ffvko9js</conversionTaskId>
  <expirationTime>2010-12-22T12:01Z</expirationTime>
  <importInstance>
    <volumes>
      <item>
        <bytesConverted>0</bytesConverted>
        <availabilityZone>us-east-1a</availabilityZone>
        <image>
          <format>VMDK</format>
          <size>1179593728</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=5snej01TtL0uR7KExtEXvAMPLE%3D</importManifestUrl>
        </image>
      </item>
    </volumes>
  </importInstance>
</conversionTask>
</ImportInstanceResponse>
```
<description/>
<volume>
  <size>12</size>
  <id>vol-1a2b3c4d</id>
</volume>
<status>active</status>
<statusMessage/>
</item>
</volumes>
<instanceId>i-12655a7f</instanceId>
<description/>
</importInstance>
</conversionTask>
</ImportInstanceResponse>

Related Actions

- ImportVolume (p. 350)
- DescribeConversionTasks (p. 178)
- CancelConversionTask (p. 44)
**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 (e.g., 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 RFC4716.
Examples

Example Request

This example imports the public key named my-key-pair.

```
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=my-key-pair
&PublicKeyMaterial=MIICiTCCAfICCQD6m70Rw0uX0jANBgkqhkiG9w0BAQUFADCBiDELMAkGALUEBhMC
VVMxCzAJBnVBAgTAldBMRAwDgYDVQQHEwdTZWFOdGx1MQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAcTC01BTSBdb25zI2x1MRIwEAYDVQQDEwU2XNQ21sYWMxHzAd
BgkqhkiG9w0BCQEWEWES5vb251QGFlTYxpbvi5jb20wHhcNMTEwNDI1MjAONTIxwhcN
MTlwNDI0MjAONTIxwhcCBjBmELMAkGALUEBhMCVVMxCzAJBnVBAgTAldBMRAwDgYD
VQQHEwdTZWFD0dGx1MQ8wDQYDVQQKEwZBbWF6b24xFDASBGNVBAcTC01BTSBdb25z
b2xlMRIwEAYDVQQDEwU2XNQ21sYWMxHzAdBgkqhkiG9w0BCQEWEWES5vb251QGFlT
Yxpbvi5jb20wgg28wDQYJKoZIhvcNAQEBBQADgY0AMIGAoGBAaK0dn+a4GmWiWJ
2l1USxfEvWyV1ck2C2XAD24nB+BL议vIk60CpiwsZ3G93vUEi03IyNoH/f0wYK8m9T
rDHudU2grqxiWAlGSM43q7Wgc/MbQITX0USQv7c7ugFFDzQQBz2swY678686gpeE
Ib3oPahJ2nzcvQAaRAlh91Q5tMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBAQdYEAAtCu4
nUHYVXUntneD9+haMs2qGf+3u9NEzyLwax1Aoo7TJHidbtS4J5iNm2qXL0Fkb
FFBjvSfpJ11J00zbnhNY5s6gGuOE5FDJ10ZxBHjJnyp3780D8uTs7fLvjq79LjSTb
NYiytVbZPQ5Yaxu2jXnimvw3rrs1aEXAMPLE
&AUTHPARAMS
```

Example Response

The response includes the MD5 public key fingerprint as specified in section 4 of RFC4716.

```
<ImportKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPL3</requestId>
  <keyName>my-key-pair</keyName>
</ImportKeyPairResponse>
```

Related Actions

- CreateKeyPair (p. 72)
- DescribeKeyPairs (p. 223)
- DeleteKeyPair (p. 131)
**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-upload-disk-image` 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**

- **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 GB (2^30 bytes), 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. 444)

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.

https://ec2.amazonaws.com/?Action=ImportVolume
&AvailabilityZone=us-east-1c
&Image.Format=VMDK
&Image.Bytes=128696320
&Image.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=5snej01TlTtLoR7KExtEXAMPLE%3D
&VolumeSize=8
&AUTHPARAMS>

Example Response

  <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/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TlTtLoR7KExtEXAMPLE%3D
      </importManifestUrl>
      <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
    </image>
    <volume>
      <size>8</size>
      <id>vol-34d8a2ff</id>
    </volume>
  </importVolume>
  <state>active</state>
</ImportVolumeResponse>
Related Actions

- ImportInstance (p. 344)
- DescribeConversionTasks (p. 178)
- CancelConversionTask (p. 44)
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 AMI's list of launch permissions.
Type: String
Default: None
Required: No

LaunchPermission.Remove.n.UserId
Removes the specified AWS account ID from the AMI's list of launch permissions.
Type: String
Default: None
Required: No

LaunchPermission.Add.n.Group
Adds the specified group to the image's list of launch permissions. The only valid value is all.
Type: String
Valid value: all (for all EC2 users)
Default: None
Required: No

LaunchPermission.Remove.n.Group
Removes the specified group from the image's list of launch permissions. The only valid value is all.
Type: String
Valid value: all (for all 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's 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

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.

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&LaunchPermission.Add.1.UserId=111122223333
&AUTHPARAMS
```

**Example Request**

This example removes launch permission from the AWS account with ID 111122223333.

```
https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
```
Example Request

This example adds the 774F4FF8 product code to the ami-61a54008 AMI.

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

https://ec2.amazonaws.com/?Action=ModifyImageAttribute
&ImageId=ami-61a54008
&Description.Value=New Description
&AUTHPARAMS

Example Response

  <return>true</return>
</ModifyImageAttributeResponse>

Related Actions

- ResetImageAttribute (p. 402)
- DescribeImageAttribute (p. 189)
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 Attributes of 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

InstanceType.Value

Changes the instance type to the specified value. See Available Instance Types for more information.
An InvalidInstanceAttributeValue error will be 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.
Type: String
Default: None
Required: No

Ramdisk.Value

Changes the instance's RAM disk to the specified value.
Type: String
Default: None
Required: No

UserData.Value

Changes the instance's user data to the specified value.
Type: String
Default: None
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

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
**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. 467)

Default: None

Example: \&BlockDeviceMapping.1.Ebs.DeleteOnTermination=true

**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

**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

**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 `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`
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

  <requestId>59dbff89-35bd-49ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>

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

  <requestId>59dbff89-35bd-49ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>

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

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

Related Actions

- ResetInstanceAttribute (p. 404)
- DescribeInstanceAttribute (p. 199)
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 that a network interface is in. 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 group ID and not the 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

**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**
- Specifies 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

Examples

Example Request

This example request sets source/destination checking to false for the network interface eni-ffda3197.

https://ec2.amazonaws.com/?Action=ModifyNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&SourceDestCheck.Value=false
&AUTHPARAMS

Example Response

```xml
   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
   <return>true</return>
</ModifyNetworkInterfaceAttributeResponse>
```

Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 324)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 230)
- DescribeNetworkInterfaces (p. 232)
- ResetNetworkInterfaceAttribute (p. 406)
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
Examples

Example Request

This example makes the `snap-la2b3c4d` snapshot public, and gives the account with ID `111122223333` permission to create volumes from the snapshot.

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-la2b3c4d
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

This example makes the `snap-la2b3c4d` 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-la2b3c4d
&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. 269)
- DescribeSnapshots (p. 271)
- ResetSnapshotAttribute (p. 408)
- CreateSnapshot (p. 104)
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. 338) 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. 338) 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

Specifies 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

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>5jkd074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <return>true</return>
</ModifyVolumeAttributeResponse>

Related Actions

- DescribeVolumeAttribute (p. 299)
- DescribeVolumeStatus (p. 305)
ModifyVpcAttribute

Description

Modifies the specified attribute of the specified VPC.

Request Parameters

VpcId

- The ID of the VPC.
- Type: String
- Required: Yes

enableDnsSupport

- Specifies 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

- Specifies 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.
- 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

Examples

Example Request

This request disables support for DNS hostnames in the VPC with the ID vpc-1a2b3c4d.

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. 486)

Examples

Example Request

This example enables monitoring for i-43a4412a and i-23a3397d.

https://ec2.amazonaws.com/?Action=MonitorInstances
&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>pending</state>
      </monitoring>
    </item>
  </instancesSet>
</MonitorInstancesResponse>
<item>
  <instanceId>i-23a3397d</instanceId>
  <monitoring>
    <state>pending</state>
  </monitoring>
</item>
</instancesSet>
</MonitorInstancesResponse>

Related Actions

- UnmonitorInstances (p. 432)
- RunInstances (p. 416)
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 will only list information about the Medium Utilization Reserved Instance offering type.

For information about Reserved Instance pricing tiers, go to Understanding Reserved Instance pricing tiers in the Amazon Elastic Compute Cloud User Guide. For more information about Reserved Instances, go to 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 will only list information about Amazon EC2 Reserved Instances available directly from AWS.

For more information about the Reserved Instance Marketplace, go to 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 you want 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. 501)
  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

Examples

Set the limit price for Reserved Instance Marketplace purchase

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

The response looks like the following example.

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>

Example Request

This example illustrates a purchase of a Reserved Instances offering.
Find and Purchase a Reserved Instance

To find and purchase a Reserved Instance

1. Use DescribeReservedInstancesOfferings (p. 252) 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.

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.0.Name=marketplace
&Filter.0.Value.1=true
&IncludeMarketplace=true
&OfferingType=Light+Utilization
&ProductDescription=Linux%2FUNIX
&Version=2013-07-15
&AUTHPARAMS

Note
When using the Query API, all strings must be URL-encoded.

The following is an example response.

  <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>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
2. From the list of available Reserved Instances in the previous example, select the marketplace offering and specify a limit price.

https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE
&InstanceCount=1
&LimitPrice.Amount=200
&AUTHPARAMS

The following is an example response.

<?xml version="1.0" encoding="UTF-8"?>
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/doc/2012-08-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2f3b7-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>

3. To verify the purchase, check for your new Reserved Instance with DescribeReservedInstances (p. 244).
The following is an 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>
    </item>
    ...
  </reservedInstancesSet>
</DescribeReservedInstancesResponse>
```

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 EC2 instance. Make sure to specify the same criteria that you specified for your Reserved Instance. AWS will automatically charge you the lower hourly rate.

**Related Actions**

- DescribeReservedInstancesOfferings (p. 252)
- DescribeReservedInstances (p. 244)
RebootInstances

Description

Requests a reboot of one or more instances. This operation is asynchronous; it only queues a request to reboot the specified instance(s). The operation will succeed 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 will perform a hard reboot.

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

Examples

Example Request

This example reboots two instances.

https://ec2.amazonaws.com/?Action=RebootInstances
&InstanceId.1=i-1a2b3c4d
&InstanceId.2=i-4d3acf62
&sAUTHPARAMS

Example Response

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

- RunInstances (p. 416)
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 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 instance store 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 image.
Type: String
Valid values: i386 | x86_64
Default: i386 for Amazon EBS-backed AMIs. Instance store-backed AMIs try to use the architecture specified in the manifest file.
Required: No
KernelId
  The ID of the kernel.
  Type: String
  Default: None
  Required: No

RamdiskId
  The ID of the RAM disk.
  Type: String
  Default: None
  Required: No

VirtualizationType
  The type of virtualization.
  Type: String
  Valid values:
  | paravirtual | hvm
  Default: paravirtual
  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 (for example, /dev/sda1 or xvda), 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
  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
- 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.
- 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: `standard` | `io1`
- 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 4000.
- Default: None
- Required: Conditional
  - Condition: Required when the volume type is `io1`; not used with `standard` volumes.

**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`

**Examples**

**Example Request**

This example registers the AMI specified in the `my-new-image.manifest.xml` manifest file, located in the bucket called `myawsbucket`. 
Example Request

This example registers an Amazon EBS snapshot to create an AMI backed by Amazon EBS.

```
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 the AMI with an Amazon EBS snapshot as the root device, a separate snapshot as a secondary device, and an empty 100 GiB Amazon EBS volume as a storage device.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&RootDeviceName=/dev/sda1
&BlockDeviceMapping.1.DeviceName=/dev/sda1
&BlockDeviceMapping.1.Ebs.SnapshotId=snap-1a2b3c4d
&BlockDeviceMapping.2.DeviceName=/dev/sdb
&BlockDeviceMapping.2.Ebs.SnapshotId=snap-2a2b3c4d
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&Name=MyImage
&AUTHPARAMS
```

Example Response

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

Related Actions

- DescribeImages (p. 192)
- DeregisterImage (p. 164)
**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 the ec2-disassociate-address command.

[Nondefault VPC] You must use the ec2-disassociate-address command 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, returns an error.
- Type: xsd:boolean
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. 12)
- DescribeAddresses (p. 168)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 332)
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 representing 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

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.

https://ec2.amazonaws.com/?Action=ReplaceNetworkAclAssociation
&AssociationId=aclassoc-e5b95c8c
&NetworkAclId=acl-5fb85d36
&AUTHPARAMS
Example Response

```xml
  <requestId>59d8ff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>
```

Related Actions

- CreateNetworkAcl (p. 75)
- DeleteNetworkAcl (p. 132)
- DescribeNetworkAcl (p. 225)
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 the rule applies to. You can use -1 to mean all protocols.
- Type: Integer
- Valid values: -1 or a protocol number (see Protocol Numbers).
- Required: Yes

**RuleAction**
- Indicates whether to allow or deny 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
- Valid values: true | 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, returns an error.
Type: xsd:boolean

### 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
&Protocol=tcp
&RuleAction=deny
&Egress=true
&CidrBlock=0.0.0.0/0
&PortRange.From=139
&PortRange.To=139
&AUTHPARAMS
```
Example Response

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

Related Actions

- CreateNetworkAclEntry (p. 77)
- DeleteNetworkAclEntry (p. 134)
- DescribeNetworkAcls (p. 225)
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 a gateway attached to your VPC.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following: GatewayId, InstanceId, 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, or NetworkInterfaceId.

NetworkInterfaceId
Allows routing to network interface attachments.
Type: String
Default: None
Required: Conditional
Condition: You must provide only one of the following:GatewayId, InstanceId, or NetworkInterfaceId.

Response Elements

The following elements are returned in a ReplaceRouteResponse element.

requestId
The ID of the request.
**Examples**

**Example Request**

This example replaces a route in the route table with the ID rtb-e4ad488d. 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.

```
https://ec2.amazonaws.com/?Action=ReplaceRoute
&RouteTableId=rtb-e4ad488d
&DestinationCidrBlock=10.0.0.0/8
&GatewayId=vgw-1d00376e
&AUTHPARAMS
```

**Example Response**

```
<ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReplaceRouteResponse>
```

**Related Actions**

- DeleteRoute (p. 140)
- CreateRoute (p. 96)
- DescribeRouteTables (p. 261)
ReplaceRouteTableAssociation

Description

Changes the route table associated with a given subnet in a VPC. After you execute this action, 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 that you want 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

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

```xml
<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2013-07-15/">
  <requestId>59dbff89-d35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>rtbassoc-faad4893</newAssociationId>
</ReplaceRouteTableAssociationResponse>
```

Related Actions

- CreateRouteTable (p. 99)
- DisassociateRouteTable (p. 334)
- DeleteRouteTable (p. 142)
- DescribeRouteTables (p. 261)
- AssociateRouteTable (p. 22)
ReportInstanceStatus

Description

Use this action to submit feedback about an instance's status. This action works only for instances that are in the running state. If your experience with the instance differs from the instance status returned by the DescribeInstanceStatus action, 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
The time at which the reported instance health state ended.
Type: DateTime
Required: No

ReasonCode.n
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.n parameter. See the Description (p. 391) section for descriptions of each reason code.
Type: String
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, returns an error.
Type: xsd:boolean

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
&Version=2013-07-15
&AuthParams

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.
Example Response

```xml
  <requestId>b8131c0f-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 independently
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
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 will be 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 will launch 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: If you want 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: If you want 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.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 | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | m3.2xlarge | cc2.8xlarge | cg1.4xlarge. See Available Instance Types for more information.
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, and/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 you want 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
Required: No
The ID of the snapshot.
Type: String
Default: None
Required: No

The size of the volume, in GiBs.
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.
Required: No

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

The volume type.
Type: String
Valid values: standard | io1
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 4000.
Default: None
Required: Required when the volume type is io1; not used with standard 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:
Required: No

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, go to Available 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
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
Applies to all network interfaces.
Type: Boolean
Default: false
Required: No

LaunchSpecification.IamInstanceProfile.Arn
The Amazon resource name (ARN) of the IAM Instance Profile (IIP) 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. 510)
Examples

Example Request

This example creates a Spot Instances request for two m1.small instances and associates an IAM instance profile called s3access with them.

```xml
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

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <spotPrice>0.5</spotPrice>
      <type>one-time</type>
      <state>open</state>
      <status>
        <code>pending-evaluation</code>
        <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
        <message>Your Spot request has been submitted for review, and is pending evaluation.</message>
      </status>
      <availabilityZoneGroup>MyAzGroup</availabilityZoneGroup>
      <launchSpecification>
        <imageId>ami-1a2b3c4d</imageId>
        <keyName>gsg-keypair</keyName>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>websrv</groupName>
          </item>
        </groupSet>
        <instanceType>m1.small</instanceType>
        <blockDeviceMapping/>
        <monitoring>
          <enabled>false</enabled>
        </monitoring>
        <ebsOptimized>false</ebsOptimized>
      </launchSpecification>
      <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
    </item>
  </spotInstanceRequestSet>
</RequestSpotInstancesResponse>
```
Related Actions

- DescribeSpotInstanceRequests (p. 277)
- CancelSpotInstanceRequests (p. 50)
- DescribeSpotPriceHistory (p. 285)
**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, returns an error.

Type: xsd:boolean

**Examples**

**Example Request**

This example resets the `launchPermission` attribute for the specified AMI.

https://ec2.amazonaws.com/?Action=ResetImageAttribute
&ImageId=ami-61a54008
&Attribute=launchPermission
&AUTHPARAMS
Example Response

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

Related Actions

- ModifyImageAttribute (p. 353)
- DescribeImageAttribute (p. 189)
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, returns an error.

Type: xsd:boolean

Examples

Example Request

This example resets the sourceDestCheck attribute.

https://ec2.amazonaws.com/?Action=ResetInstanceAttribute
&InstanceId=i-1a2b3c4d
&Attribute=sourceDestCheck
&AUTHPARAMS

API Version 2013-07-15

404
Example Response

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAM</requestId>
   <return>true</return>
</ResetInstanceAttributeResponse>

Related Actions

- ModifyInstanceAttribute (p. 356)
- DescribeInstanceAttribute (p. 199)
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, returns an error.

- Type: xsd:boolean

Examples

Example Request

This example resets the sourceDestCheck attribute for the network interface eni-ffda3197.

```
https://ec2.amazonaws.com/?Action=ResetNetworkInterfaceAttribute
&NetworkInterfaceId=eni-ffda3197
&Attribute=sourceDestCheck
&AUTHPARAMS
```

Example Response

```
  <requestId>5187642e-3f16-44a3-b05f-24c3848b5162</requestId>
</ResetNetworkInterfaceAttributeResponse>
```
Related Actions

• AttachNetworkInterface (p. 26)
• DetachNetworkInterface (p. 324)
• CreateNetworkInterface (p. 80)
• DeleteNetworkInterface (p. 136)
• DescribeNetworkInterfaceAttribute (p. 230)
• DescribeNetworkInterfaces (p. 232)
• ModifyNetworkInterfaceAttribute (p. 360)
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, returns an error.
- Type: xsd:boolean

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.

```
https://ec2.amazonaws.com/?Action=ResetSnapshotAttribute
&SnapshotId=snap-1a2b3c4d
&Attribute=createVolumePermission
&AUTHPARAMS
```

Example Response

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

**Related Actions**

- ModifySnapshotAttribute (p. 362)
- DescribeSnapshotAttribute (p. 269)
- DescribeSnapshots (p. 271)
- CreateSnapshot (p. 104)
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 to modify.
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: Conditional
Condition: 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 given ICMP type.
Type: Integer
Default: None
Required: Conditional
Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.Groups.m.GroupId

The name of the destination security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Condition: Required if modifying access for one or more destination security groups.
Required: Conditional

**IpPermissions.n.IpRanges.m.CidrIp**
- The CIDR range. Cannot be used when specifying a destination security group.
- Type: String
- Default: None
- Constraints: Valid CIDR IP address range.
- Required: Conditional
- Condition: Required if modifying access for one or more IP address ranges.

## 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, returns an error.
  - Type: xsd:boolean

## Examples

### Example Request

This example revokes the access that the `websrv` security group for EC-VPC (with the ID `sg-1a2b3c4d`) has to the `205.192.0.0/16` and `205.159.0.0/16` address ranges on TCP port 80.

```
&GroupName=websrv
&GroupName=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 security group for EC2-VPC (with the ID `sg-1a2b3c4d`) has to the security group for EC2-VPC 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. 101)
- DescribeSecurityGroups (p. 265)
- AuthorizeSecurityGroupEgress (p. 32)
- AuthorizeSecurityGroupIngress (p. 35)
- AuthorizeSecurityGroupIngress (p. 413)
- DeleteSecurityGroup (p. 144)
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

UserId
  Deprecated
  Required: No

GroupId
  The ID of the security group to modify. The security group must belong to your account.
  Type: String
  Default: None
  Required: Conditional
  Condition: Required for EC2-VPC; can be used instead of GroupName otherwise

GroupName
  The name of the security group to modify.
  Type: String
  Default: None
  Required: Conditional
  Condition: For EC2-Classic, can be used instead of GroupId.

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 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 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: 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: Conditional
Condition: 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 given ICMP type.
Type: Integer
Default: None
Required: Conditional
Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.Groups.m.UserID
The AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: For security groups in EC2-Classic only. Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupName
The name of the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupId
The ID of the source security group. Cannot be used when specifying a CIDR IP address.
Type: String
Default: None
Required: Conditional
Condition: For EC2-VPC only. Required if modifying access for one or more source security groups.

IpPermissions.n.IpRanges.m.CidrIp
The CIDR range. Cannot be used when specifying a source security group.
Type: String
Default: None
Constraints: Valid CIDR IP address range.
Required: Conditional
Condition: Required if modifying access for one or more IP address ranges.

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, returns an error.
Type: xsd:boolean
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 were for a VPC, you’d 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. 101)
- DescribeSecurityGroups (p. 265)
- AuthorizeSecurityGroupIngress (p. 35)
- DeleteSecurityGroup (p. 144)
RunInstances

Description

Launches the specified number of instances of 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. 202).

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.

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 allowed for your account (the default for each account is 20, but this limit can be increased).
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 allowed for your account (the default limit for each account is 20, but this limit can be increased).
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. See [Available Instance Types](#) for more information.
Type: String
Valid values:
t1.micro | m1.small | m1.medium | m1.large | m1.xlarge | m3.xlarge | m3.2xlarge | c1.medium | c1.xlarge | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | hi1.4xlarge | hs1.8xlarge | cc2.8xlarge | cg1.4xlarge
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: A New Amazon Kernel Image in the Amazon Elastic Compute Cloud User Guide.

Type: String
Default: None
Required: No

RamdiskId
The ID of the RAM disk.
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
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
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.
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: standard | io1
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 4000.  
**Default**: None  
**Required**: Required when the volume type is `io1`; not used with `standard` volumes.

**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

**PrivateIpAddress**  
[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**: We select 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 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 to both attaching an existing network interface and when 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 associated with a specific network interface. If set to true, the following rules apply:
  • Can only be associated with a single network interface with the device index of 0. You can't associate a public IP address with a second network interface, and you can't associate a public IP address if you are launching more than one network interface.
  • Can only be associated with 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. 463)

instancesSet
A list of instances. Each instance is wrapped in an item element.
Type: RunningInstancesItemType (p. 505)

requesterId
The ID of the requester that launched the instances on your behalf (for example, AWS Management Console, Auto Scaling).
Type: xsd:string

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

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

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
&SubnetId=subnet-a61dafcf
&Placement.Tenancy=dedicated
&AUTHPARAMS
```

Example Request

This request launches an instance into a nondefault subnet, and requests a public IP address for a new network interface with the device index of 0.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-1a2b3c4d
&MaxCount=1
&MinCount=1
&NetworkInterface.0.DeviceIndex=0
&NetworkInterface.0.AssociatePublicIpAddress=true
&NetworkInterface.0.SubnetId=subnet-1a2b3c4d
&AUTHPARAMS
```

Related Actions

- DescribeInstances (p. 202)
- StopInstances (p. 426)
- StartInstances (p. 424)
- TerminateInstances (p. 428)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 413)
- DescribeSecurityGroups (p. 265)
- CreateSecurityGroup (p. 101)
- CreateKeyPair (p. 72)
- ImportKeyPair (p. 348)
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, we charge 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. 475)

Examples

Example Request

This example starts the i-10a64379 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. 426)
- RunInstances (p. 416)
- DescribeInstances (p. 202)
- TerminateInstances (p. 428)
StopInstances

Description

Stops an Amazon EBS-backed instance. Each time you transition an instance from stopped to started, we charge 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 EBS-backed instances. You can only terminate S3-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between stopping and terminating instances, 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

Force
Forces the instances to stop. The instances will 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. 475)
Examples

Example Request

This example stops the instance with the ID i-10a64379.

https://ec2.amazonaws.com/?Action=StopInstances
&InstanceId.1=i-10a64379
&AUTHPARAMS

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. 424)
• RunInstances (p. 416)
• DescribeInstances (p. 202)
• TerminateInstances (p. 428)
**TerminateInstances**

**Description**

Shuts down one or more instances. This operation is idempotent; if you terminate an instance more than once, each call will succeed.

Terminated instances will remain visible after termination (approximately one hour).

**Note**

By default, Amazon EC2 deletes all Amazon EBS volumes that were attached when the instance launched. Amazon EBS volumes attached after instance launch continue running.

You can stop, start, and terminate EBS-backed instances. You can only terminate S3-backed instances.

What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between stopping and terminating instances, 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 `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. 475)

**Examples**

**Example Request**

This example terminates the instance with the ID `i-3ea74257`.

```
https://ec2.amazonaws.com/?Action=TerminateInstances
&InstanceId.1=i-3ea74257
&AUTHPARAMS
```
Example Response

```xml
  <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. 202)
- RunInstances (p. 416)
- StopInstances (p. 426)
- StartInstances (p. 424)
UnassignPrivateIpAddresses

Description

Unassigns one or more secondary private IP addresses from a network interface.

Request Parameters

NetworkInterfaceId

- The network interface from which the secondary private IP address will be unassigned.
- Type: String
- Default: None
- Required: Yes

PrivateIpAddress.n

- The secondary private IP addresses that you want to unassign from the network interface. You can specify this option multiple times to unassign more than one IP address.
- Type: AssignPrivateIpAddressesSetItemRequestType (p. 438)
- Default: None
- Required: Yes

Response Elements

The following elements are returned in a UnassignPrivateIpAddressesResponse 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

The following request unassigns two secondary private IP addresses from the specified network interface.

https://ec2.amazonaws.com/?Action=UnassignPrivateIpAddresses
&NetworkInterfaceId=eni-197d9972
&PrivateIpAddress.0=10.0.2.60
&PrivateIpAddress.1=10.0.2.65
&AUTHPARAMS

Example Response

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

Related Actions

- AssignPrivateIpAddresses (p. 14)
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. 486)

Examples

Example Request

This example disables monitoring for the instances with the IDs i-43a4412a and i-23a3397d.

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>
  </instancesSet>
</UnmonitorInstancesResponse>
Related Actions

- MonitorInstances (p. 367)
- RunInstances (p. 416)
Data Types

Topics

- AccountAttributeSetItemType (p. 437)
- AccountAttributeValueSetItemType (p. 437)
- AssignPrivateIpAddressesSetItemRequestType (p. 438)
- AttachmentSetItemResponseType (p. 438)
- AttachmentType (p. 439)
- AvailabilityZoneItemType (p. 439)
- AvailabilityZoneMessageType (p. 440)
- BlockDeviceMappingItemType (p. 440)
- BundleInstanceS3StorageType (p. 441)
- BundleInstanceTaskErrorType (p. 442)
- BundleInstanceTaskStorageType (p. 442)
- BundleInstanceTaskType (p. 443)
- CancelSpotInstanceRequestsResponseSetItemType (p. 444)
- ConversionTaskType (p. 444)
- CreateVolumePermissionItemType (p. 445)
- CustomerGatewayType (p. 446)
- DescribeAddressesResponseSetItemType (p. 447)
- DescribeImagesResponseSetItemType (p. 447)
- DescribeKeyPairsResponseSetItemType (p. 449)
- DescribeReservedInstancesListingsResponseSetItemType (p. 450)
- DescribeReservedInstancesListingSetItemType (p. 451)
- DescribeReservedInstancesOfferingsResponseSetItemType (p. 451)
- DescribeReservedInstancesOfferingsResponseType (p. 453)
- DescribeReservedInstancesResponseSetItemType (p. 453)
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- DescribeSnapshotsSetItemResponseType (p. 455)
- DhcpConfigurationItemType (p. 457)
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• DiskImageDescriptionType (p. 458)
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• EbsBlockDeviceType (p. 460)
• EbsInstanceBlockDeviceMappingResponseType (p. 461)
• ExportTaskResponseType (p. 461)
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• IamInstanceProfileResponseType (p. 464)
• IcmpTypeCodeType (p. 465)
• ImportInstanceTaskDetailsType (p. 465)
• ImportInstanceVolumeDetailItemType (p. 466)
• ImportVolumeTaskDetailsType (p. 467)
• InstanceBlockDeviceMappingItemType (p. 467)
• InstanceBlockDeviceMappingResponseItemType (p. 468)
• InstanceCountsSetItemType (p. 469)
• InstanceCountsSetType (p. 469)
• InstanceEbsBlockDeviceType (p. 470)
• InstanceExportTaskResponseType (p. 470)
• InstanceMonitoringStateType (p. 471)
• InstanceNetworkInterfaceAssociationType (p. 471)
• InstanceNetworkInterfaceAttachmentType (p. 472)
• InstanceNetworkInterfaceSetItemRequestType (p. 472)
• InstanceNetworkInterfaceSetItemType (p. 473)
• InstancePrivateIpAddressesSetItemType (p. 475)
• InstanceStateChangeType (p. 475)
• InstanceStateType (p. 476)
• InstanceStatusDetailsSetType (p. 477)
• InstanceStatusEventsSetType (p. 477)
• InstanceStatusEventItemType (p. 478)
• InstanceStatusItemtype (p. 478)
• InstanceStatusSetType (p. 479)
• InstanceStatusType (p. 479)
• InternetGatewayAttachmentType (p. 480)
• InternetGatewayType (p. 480)
• IpPermissionType (p. 481)
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• LaunchPermissionItemtype (p. 482)
• LaunchSpecificationRequestType (p. 483)
• LaunchSpecificationResponseType (p. 484)
• MonitoringInstanceType (p. 486)
• MonitorInstancesResponseSetItemType (p. 486)
• NetworkAclAssociationType (p. 487)
• NetworkAclEntryType (p. 487)
• NetworkAclType (p. 488)
• NetworkInterfaceAssociationType (p. 489)
AccountAttributeSetItemType

Describes an account attribute.

Ancestors

- AccountAttributeSetType

Relevant Operations

- DescribeAccountAttributes (p. 166)

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. 437)

AccountAttributeValueSetItemType

Describes a value of an account attribute.

Ancestors

- AccountAttributeSetItemType (p. 437)

Relevant Operations

- DescribeAccountAttributes (p. 166)

Contents

attributeValue
  The value of the attribute.
  Type: String
AssignPrivateIpAddressesSetItemRequestType

Describes a private IP address.

Ancestors

- AssignPrivateIpAddressesType

Relevant Operations

- AssignPrivateIpAddresses (p. 14)
- UnassignPrivateIpAddresses (p. 430)

Contents

privateIpAddress

The private IP address.
Type: String

AttachmentSetItemResponseResponseType

Describes an attachment between a volume and an instance.

Ancestors

- AttachmentSetResponseType

Relevant Operations

- DescribeVolumes (p. 301)

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.
AttachmentType

Describes an attachment between a virtual private gateway and a VPC.

Ancestors

- AttachmentSetType

Relevant Operations

- AttachVpnGateway (p. 30)
- CreateVpnGateway (p. 123)
- DescribeVpnGateways (p. 319)

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. 172)
Contents

zoneName
  The name of the Availability Zone.
  Type: String

zoneState
  The state of the Availability Zone.
  Type: String
  Valid values: available

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. 440)

AvailabilityZoneMessageType

Describes a message about an Availability Zone.

Ancestors

• AvailabilityZoneMessageSetType

Relevant Operations

• DescribeAvailabilityZones (p. 172)

Contents

message
  The message about the Availability Zone.
  Type: String

BlockDeviceMappingItemType

Describes a block device mapping.

Ancestors

• BlockDeviceMappingType
Relevant Operations

- DescribeImageAttribute (p. 189)
- DescribeImages (p. 192)
- DescribeSpotInstanceRequests (p. 277)
- RegisterImage (p. 376)
- RequestSpotInstances (p. 394)
- RunInstances (p. 416)

Contents

devicename
   The device name exposed to the instance (for example, /dev/sdh).
   Type: String

virtualName
   The virtual device name.
   Type: String

ebs
   Parameters used to automatically set up Amazon EBS volumes when the instance is launched.
   Type: EbsBlockDeviceType (p. 460)

noDevice
   Include this empty element to suppress the specified device included in the block device mapping of the AMI.

BundleInstanceS3StorageType

Describes the S3 bucket for an instance store-backed AMI.

Ancestors

- BundleInstanceTaskStorageType (p. 442)

Relevant Operations

- BundleInstance (p. 39)
- CancelBundleTask (p. 42)
- DescribeBundleTasks (p. 175)

Contents

awsAccessKeyId
   The access key ID of the owner of the bucket.
   Type: String
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

prefix
The beginning of the file name of the AMI.
Type: String

uploadPolicy
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

uploadPolicySignature
The signature of the Base64 encoded JSON document.
Type: String

BundleInstanceTaskErrorType
Describes an error for BundleInstance.

Ancestors
• BundleInstanceTaskType (p. 443)

Relevant Operations
• BundleInstance (p. 39)
• CancelBundleTask (p. 42)
• DescribeBundleTasks (p. 175)

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. 443)

Relevant Operations

- BundleInstance (p. 39)
- CancelBundleTask (p. 42)
- DescribeBundleTasks (p. 175)

Contents

s3
An Amazon S3 storage location.
Type: BundleInstanceS3StorageType (p. 441)

BundleInstanceTaskType

Describes a bundle task.

Ancestors

- BundleInstanceTasksSetType

Relevant Operations

- BundleInstance (p. 39)
- CancelBundleTask (p. 42)
- DescribeBundleTasks (p. 175)

Contents

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. 442)

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. 442)

CancelSpotInstanceRequestsResponseSetItemType

Describes a request to cancel a Spot Instance.

Ancestors

• CancelSpotInstanceRequestsResponseSetType

Relevant Operations

• CancelSpotInstanceRequests (p. 50)

Contents

spotInstanceRequestId
   The ID of the Spot Instance request.
   Type: String

state
   The state of the Spot Instance request.
   Type: String
   Valid values: active | open | closed | cancelled | failed

ConversionTaskType

Describes a conversion task.

Ancestors

• ConversionTaskSetType
Relevant Operations

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 344)
- ImportVolume (p. 350)

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. 467)

importInstance
   If the task is for importing an instance, this contains information about the import instance task.
   Type: ImportInstanceTaskDetailsType (p. 465)

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. 269)
- ModifySnapshotAttribute (p. 362)
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. 59)
- DescribeCustomerGateways (p. 180)

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 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: ResourceTagSetItemType (p. 502)
DescribeAddressesResponseItemType

Describes an IP address.

Ancestors

- DescribeAddressesResponseInfoType

Relevant Operations

- DescribeAddresses (p. 168)

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.
Type: String

DescribeImagesResponseItemType

Describes an image.

Ancestors

- DescribeImagesResponseInfoType
Relevant Operations

- DescribeImages (p. 192)

Contents

**imageId**
The ID of the AMI.
Type: String

**imageLocation**
The location of the AMI.
Type: String

**imageState**
Current state of the AMI. If the operation returns available, the image is successfully registered and available for launching.
Type: String
Valid values: available | pending | failed

**imageOwnerId**
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. 498)

**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

**stateReason**
The reason for the state change.
Type: StateReasonType (p. 513)
imageOwnerAlias
  The AWS account alias (for example, amazon, self, etc.) or AWS account ID that owns the AMI.
  Type: String

ame
  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/sda1 or xvda).
  Type: String

blockDeviceMapping
  Any block device mapping entries, each one wrapped in an item element.
  Type: BlockDeviceMappingItemType (p. 440)

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. 502)

hypervisor
  The image’s hypervisor type.
  Type: String
  Valid values: ovm | xen

DescribeKeyPairsResponseItemType

Describes a key pair.

Ancestors

• DescribeKeyPairsResponseInfoType

Relevant Operations

• DescribeKeyPairs (p. 223)
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 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. 248)

**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.
- Type: DateTime

**updateDate**
- The last modified timestamp of the listing.
- Type: DateTime

**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. 469)

priceSchedules
The price of the Reserved Instance listing.
Type: PriceScheduleSetType (p. 496)

tagSet
The tags assigned to the resource. Each tag's information is wrapped in an item element.
Type: ResourceTagSetItemType (p. 502)

clientToken
The idempotency token you provided when you created the listing.
Type: String

DescribeReservedInstancesListingSetItemType
Describes a Reserved Instance listing.

Ancestors
• DescribeReservedInstancesListings

Relevant Operations
• DescribeReservedInstancesListings (p. 248)

Contents
reservedInstancesListingId
The ID of the Reserved Instance listing.
Type: String

DescribeReservedInstancesOfferingsResponseSetItemType
Describes a Reserved Instance offering.

Ancestors
• DescribeReservedInstancesOfferingsResponseSetType

Relevant Operations
• DescribeReservedInstancesOfferings (p. 252)
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. 499)

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

pricingDetailsSet
   The pricing details of the Reserved Instance offering wrapped in an item element.
   Type: PricingDetailsSetItemType (p. 496).
DescribeReservedInstancesOfferingsResponseType

Describes a Reserved Instance offering.

Ancestors

• DescribeReservedInstancesOfferings

Relevant Operations

• DescribeReservedInstancesOfferings (p. 252)

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. 451)

nextToken
The next paginated set of results to return.
Type: String

DescribeReservedInstancesResponseSetItemType

Describes a Reserved Instance.

Ancestors

• DescribeReservedInstancesResponseSetType

Relevant Operations

• DescribeReservedInstances (p. 244)

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

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. 502)

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. 499)

DescribeReservedInstancesSetItemType
Describes a Reserved Instance.
Ancestors

- DescribeReservedInstancesListings

Relevant Operations

- DescribeReservedInstances (p. 244)

Contents

reservedInstancesId
  The ID of the Reserved Instance.
  Type: String

DescribeSnapshotsSetItemResponseType

Describes a snapshot.

Ancestors

- DescribeSnapshotsSetResponseType

Relevant Operations

- DescribeSnapshots (p. 271)

Contents

snapshotId
  The ID of the snapshot.
  Type: String

volumeId
  The ID of the volume.
  Type: String

status
  The snapshot state.
  Type: String
  Valid values: pending | completed | error

startTime
  The time stamp when the snapshot was initiated.
  Type: DateTime

progress
  The progress of the snapshot, as a percentage.
  Type: String
ownerId
The ID of the AWS account that owns the snapshot.
Type: String

volumeSize
The size of the volume, in GiB.
Type: String
description
The description of the snapshot.
Type: String

ownerAlias
The AWS account alias (for example, amazon, self) or AWS account ID that owns the AMI.
Type: String
tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 502)

DescribeVolumesSetItemResponseType
Describes an Amazon EBS volume.

Ancestors

- ItemType-DescribeVolumesSetResponseType

Relevant Operations

- DescribeVolumes (p. 301)

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).
Type: String

availabilityZone
The Availability Zone in which the volume was created.
Type: String

status
The state of the volume.
Type: String
Valid values: creating | available | in-use | deleting | deleted | error
createTime
The time stamp when volume creation was initiated.
Type: DateTime

attachmentSet
Any volumes attached, each one wrapped in an item element.
Type: AttachmentSetItemType (p. 438)

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 502)

volumeType
The volume type.
Type: String
Valid values: standard | io1

eips
The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4000.

DhcpConfigurationItemType
Describes a DHCP configuration option.

Ancestors

• DhcpConfigurationItemSetType

Relevant Operations

• CreateDhcpOptions (p. 61)
• DescribeDhcpOptions (p. 183)

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. 458)

DhcpOptionsType
Describes a set of DHCP options.
Ancestors

- DhcpOptionsSetType

Relevant Operations

- CreateDhcpOptions (p. 61)
- DescribeDhcpOptions (p. 183)

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. 457)
tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 502)

DhcpValueType

Describes the value of a DHCP option.

Ancestors

- DhcpValueSetType

Relevant Operations

- CreateDhcpOptions (p. 61)
- DescribeDhcpOptions (p. 183)

Contents

value
  A value for the DHCP option.
  Type: String

DiskImageDescriptionType

Describes a disk image.
Ancestors

- ImportInstanceVolumeDetailItemType (p. 466)
- ImportVolumeTaskDetailsType (p. 467)

Relevant Operations

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 344)
- ImportVolume (p. 350)

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, read 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. 466)
- ImportVolumeTaskDetailsType (p. 467)

Relevant Operations

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 344)
- ImportVolume (p. 350)
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. 440)

Relevant Operations

- DescribeImageAttribute (p. 189)
- DescribeImages (p. 192)
- DescribeSpotInstanceRequests (p. 277)
- RegisterImage (p. 376)
- RequestSpotInstances (p. 394)
- RunInstances (p. 416)

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: standard | io1
Default: standard
iops
The number of I/O operations per second (IOPS) that the volume supports.
Type: Integer
Valid values: Range is 100 to 4000.
Default: None
Condition: Required when the volume type is io1; not used with standard volumes.

EbsInstanceBlockDeviceMappingResponseType
Describes a parameter used to set up an Amazon EBS volume in a block device mapping.

Ancestors

• InstanceBlockDeviceMappingResponseItemType (p. 468)

Relevant Operations

• DescribeInstanceAttribute (p. 199)
• DescribeInstances (p. 202)
• RunInstances (p. 416)

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. 67)
• DescribeExportTasks (p. 187)

**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.
  - Type: String

- `instanceExport`
  - The instance being exported.
  - Type: InstanceExportTaskResponseType (p. 470)

- `exportToS3`
  - The destination Amazon S3 bucket.
  - Type: ExportToS3TaskResponseType (p. 462)

**ExportToS3TaskResponseType**

Describes an export task.

**Ancestors**

• CreateInstanceExportTaskResponseType
• DescribeExportTasksResponseType
• ExportTaskResponseType
• ExportTaskSetResponseType

**Relevant Operations**

• CreateInstanceExportTask (p. 67)
• DescribeExportTasks (p. 187)
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 s3bucket at the S3 key s3prefix + exportTaskId + "." + diskImageFormat.
  Type: String

GroupItemType
  Describes a security group.

Ancestors
  • GroupSetType

Relevant Operations
  • CreateNetworkInterface (p. 80)
  • DescribeInstanceAttribute (p. 199)
  • DescribeInstances (p. 202)
  • DescribeSpotInstanceRequests (p. 277)
  • RequestSpotInstances (p. 394)
  • RunInstances (p. 416)

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. 394)
- RunInstances (p. 416)

**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. 394)
- RunInstances (p. 416)

**Contents**

- **arn**
  The Amazon Resource Name (ARN) of the instance profile.
  Type: String
id
The ID of the instance profile.
Type: String

IcmpTypeCodeType
Describe the ICMP type and code.

Ancestors
- NetworkAclEntryType (p. 487)

Relevant Operations
- CreateNetworkAcl (p. 75)
- DescribeNetworkAcls (p. 225)

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
Describe an import instance task.

Ancestors
- ConversionTaskType (p. 444)

Relevant Operations
- DescribeConversionTasks (p. 178)
- ImportInstance (p. 344)
- ImportVolume (p. 350)
### Contents

**volumes**
- Any instance volumes for import, each one wrapped in an `item` element.
  - Type: `ImportInstanceVolumeDetailItemType` (p. 466)

**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 volume task.

### Ancestors

- `ImportInstanceVolumeDetailSetType`

### Relevant Operations

- `DescribeConversionTasks` (p. 178)
- `ImportInstance` (p. 344)
- `ImportVolume` (p. 350)

---

### Contents

**bytesConverted**
- The number of bytes converted so far.
  - Type: `Long`

**availabilityZone**
- The Availability Zone where the resulting instance will reside.
  - Type: `String`

**image**
- The image.
  - Type: `DiskImageDescriptionType` (p. 458)

**description**
- The description you provided when starting the import instance task.
  - Type: `String`

**volume**
- The volume.
  - Type: `DiskImageVolumeDescriptionType` (p. 459)
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. 444)

**Relevant Operations**

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 344)
- ImportVolume (p. 350)

**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 you provided when starting the import volume task.
  Type: String

image
  The image.
  Type: DiskImageDescriptionType (p. 458)

volume
  The volume.
  Type: DiskImageVolumeDescriptionType (p. 459)

**InstanceBlockDeviceMappingItemType**

Describes a block device mapping.
Ancestors

• InstanceBlockDeviceMappingType

Relevant Operations

• ModifyInstanceAttribute (p. 356)

Contents

deviceName
The device name exposed to the instance (for example, /dev/sdh or xvdh).
Type: String

virtualName
The virtual device name.
Type: String

ebs
Parameters used to automatically set up Amazon EBS volumes when the instance is launched.
Type: InstanceEbsBlockDeviceType (p. 470)

noDevice
Include this empty element to suppress the specified device included in the block device mapping of the AMI.

InstanceBlockDeviceMappingResponseType

Ancestors

• InstanceBlockDeviceMappingResponseType

Relevant Operations

• DescribeInstanceAttribute (p. 199)
• DescribeInstances (p. 202)
• RunInstances (p. 416)

Contents

deviceName
The device name exposed to the instance (for example, /dev/sdh or xvdh).
Type: String

ebs
Parameters used to automatically set up Amazon EBS volumes when the instance is launched.
InstanceCountsSetItemType

Describes a Reserved Instance listing state.

Ancestors

- DescribeReservedInstancesListingSetType
- InstanceCountsSetType

Relevant Operations

- DescribeReservedInstancesListings (p. 248)

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 the state.
Type: Integer

InstanceCountsSetType

Contains a set of Reserved Instance listing states.

Ancestors

- DescribeReservedInstancesListingSetType

Relevant Operations

- DescribeReservedInstancesListings (p. 248)

Contents

item
The Reserved Instance listing item.
Type: InstanceCountsSetItemType (p. 469)
InstanceEbsBlockDeviceType

Describes parameters used to set up an Amazon EBS volume.

**Ancestors**

- InstanceBlockDeviceMappingItemType (p. 467)

**Relevant Operations**

- ModifyInstanceAttribute (p. 356)

**Contents**

- deleteOnTermination
  - Indicates whether the volume is deleted on instance termination.
  - Type: Boolean
- volumeId
  - The ID of the volume.
  - Type: String

InstanceExportTaskResponseType

Describes an instance export task.

**Ancestors**

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType
- ExportTaskResponseType

**Relevant Operations**

- CreateInstanceExportTask (p. 67)
- DescribeExportTasks (p. 187)

**Contents**

- instanceId
  - The ID of the resource being exported.
  - Type: String
InstanceMonitoringStateType

Describes the monitoring information for an instance.

Ancestors

- MonitorInstancesResponseSetItemType (p. 486)
- RunningInstancesItemType (p. 505)

Relevant Operations

- DescribeInstances (p. 202)
- MonitorInstances (p. 367)
- RunInstances (p. 416)
- UnmonitorInstances (p. 432)

Contents

state

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

- DescribeInstances (p. 202)
- RunInstances (p. 416)

Contents

publicIp

The address of the Elastic IP address bound to the network interface.
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**

- DescribeInstances (p. 202)
- RunInstances (p. 416)

**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. 232)

Contents

**networkInterfaceId**
- The ID of the network interface.
  - Type: String

**deviceIndex**
- Required. 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 use by the network interface.
  - Type: SecurityGroupIdSetItemType (p. 507)

**deleteOnTermination**
- If set to true, 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. 497)

**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. 202)
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 customer who 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. 463)

**attachment**
- The network interface attachment.
  - Type: InstanceNetworkInterfaceAttachmentType (p. 472)

**association**
- The association information for an Elastic IP associated with the network interface.
  - Type: InstanceNetworkInterfaceAssociationType (p. 471)

**privateIpAddressesSet**
- The private IP addresses associated with the network interface.
  - Type: InstancePrivateIpAddressesSetItemType (p. 475)
InstancePrivateIpAddressesSetItemType

Describes a private IP address.

Ancestors

- InstancePrivateIpAddressesSetType

Relevant Operations

- DescribeInstances (p. 202)
- RunInstances (p. 416)

Contents

privateIpAddress
- The private IP address of the network interface
  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: InstanceNetworkInterfaceAssociationType (p. 471)

InstanceStateChangeType

Describes an instance state change.

Ancestors

- InstanceStateChangeSetType

Relevant Operations

- StartInstances (p. 424)
- StopInstances (p. 426)
- TerminateInstances (p. 428)
instanceId
  The instance ID.
  Type: String

currentState
  The current state of the instance.
  Type: InstanceStateType (p. 476)

previousState
  The previous state of the instance.
  Type: InstanceStateType (p. 476)

InstanceStateType
  Describes the current state of the instance.

Ancestors

- InstanceStateChangeType (p. 475)
- RunningInstancesItemType (p. 505)

Relevant Operations

- DescribeInstances (p. 202)
- DescribeInstanceStatus (p. 213)
- RunInstances (p. 416)
- StartInstances (p. 424)
- StopInstances (p. 426)
- TerminateInstances (p. 428)

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.

Ancestors

- InstanceStatusItemType (p. 478)
- InstanceStatusType (p. 479)

Relevant Operations

- DescribeInstanceStatus (p. 213)

Contents

name
  The type of instance status detail.
  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. 213)

Contents

item
  The scheduled events for the instance.
  Type: InstanceStatusEventSetType (p. 478)
InstanceStatusEventType

Describes an instance event.

Ancestors

• InstanceStatusEventsSetType (p. 477)

Relevant Operations

• DescribeInstanceStatus (p. 213)

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 status of an instance.

Ancestors

• InstanceStatusSetType

Relevant Operations

• DescribeInstanceStatus (p. 213)
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. 477)
instanceState
   The intended state of the instance. Calls to DescribeInstanceStatus require that an instance be in the running state.
   Type: InstanceStateType (p. 476)
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. 479)
ingstanceStatus
   Reports impaired functionality that arises from problems internal to the instance. The DescribeInstanceStatus (p. 213) response elements report such problems as impaired reachability.
   Type: InstanceStatusType (p. 479)

InstanceStatusSetType

Describes the status of an instance.

Relevant Operations

- DescribeInstanceStatus (p. 213)

Contents

item
   The status of the instance.
   Type: InstanceStatusItemType (p. 478)

InstanceStatusType

Describes the state of an instance.

Ancestors

- InstanceStatusItemType (p. 478)
Relevant Operations

- DescribeInstanceStatus  (p. 213)

Contents

status
The status.
Type: String
Valid values: ok | impaired | insufficient-data | not-applicable

details
The system instance health or application instance health.
Type: InstanceStatusDetailsSetType (p. 477)

InternetGatewayAttachmentType

Describes the attachment of a VPC to an Internet gateway.

Ancestors

- InternetGatewayAttachmentSetType

Relevant Operations

- AttachInternetGateway (p. 24)
- CreateInternetGateway (p. 70)
- DescribeInternetGateways (p. 220)

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. 70)
- DescribeInternetGateways (p. 220)

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. 480)

tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 502)

IpPermissionType

Describes a security group rule.

Ancestors

- IpPermissionSetType

Relevant Operations

- AuthorizeSecurityGroupIngress (p. 35)
- DescribeSecurityGroups (p. 265)
- RevokeSecurityGroupIngress (p. 413)

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 a list of protocol numbers, see Protocol Numbers.
  Type: String
**IpRangeItemType**

Describes an IP range.

**Ancestors**

- IpRangeSetType

**Relevant Operations**

- AuthorizeSecurityGroupIngress (p. 35)
- DescribeSecurityGroups (p. 265)
- RevokeSecurityGroupIngress (p. 413)

**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. 189)
- ModifyImageAttribute (p. 353)

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. 394)

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. 463)

userData
   Base64-encoded MIME user data made available to the instance(s) in the reservation.
   Type: UserDataType (p. 516)

instanceType
   The instance type.
   Type: String
LaunchSpecificationResponseType

Describes the launch specification of a Spot Instance.

**Ancestors**

- SpotInstanceRequestSetItemType (p. 510)

**Relevant Operations**

- DescribeSpotInstanceRequests (p. 277)
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. 463)

- **instanceType**
  - The instance type.
  - Type: String

- **placement**
  - The placement information for the instance.
  - Type: PlacementRequestType (p. 493)

- **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. 440)

- **monitoring**
  - The monitoring information for the instance.
  - Type: MonitoringInstanceType (p. 486)

- **subnetId**
  - The ID of the subnet.
  - Type: String

- **networkInterfaceSet**
  - The network interfaces for the instance.
  - Type: InstanceNetworkInterfaceSetItemType (p. 472)

- **iamInstanceProfile**
  - The IAM Instance Profile (IIP) associated with the instance.
  - Type: IamInstanceProfileRequestType (p. 464)

- **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
MonitoringInstanceType

Describes the monitoring for the instance.

Ancestors

• LaunchSpecificationRequestType (p. 483)
• LaunchSpecificationResponseType (p. 484)
• RunInstancesType

Relevant Operations

• DescribeSpotInstanceRequests (p. 277)
• RequestSpotInstances (p. 394)
• RunInstances (p. 416)

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. 367)
• UnmonitorInstances (p. 432)

Contents

instanceId
   The instance ID.
   Type: String
monitoring
   The monitoring information.
   Type: InstanceMonitoringStateType (p. 471)
NetworkAclAssociationType

Describes an association between a network ACL and a subnet.

Ancestors

• NetworkAclAssociationSetType

Relevant Operations

• CreateNetworkAcl (p. 75)
• DescribeNetworkAcls (p. 225)

Contents

networkAclAssociationId
An identifier representing 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. 75)
• DescribeNetworkAcls (p. 225)

Contents

ruleNumber
The rule number for the entry. ACL entries are processed in ascending order by rule number.
Type: Integer
The protocol. A value of -1 means all protocols.
Type: Integer
Valid values: Any protocol number (see Protocol Numbers).

Indicates whether to allow or deny the traffic that matches the rule.
Type: String

Indicates an egress rule (rule is applied to traffic leaving the subnet). Value of true indicates egress.
Type: Boolean

The network range to allow or deny, in CIDR notation.
Type: String

ICMP protocol: The ICMP type and code.
Type: IcmpTypeCodeType (p. 465)

TCP or UDP protocols: The range of ports the rule applies to.
Type: PortRangeType (p. 494)

Describes a network ACL.

• NetworkAclSetType

• CreateNetworkAcl (p. 75)
• DescribeNetworkAcls (p. 225)

The ID of the network ACL.
Type: String

The ID of the VPC for the network ACL.
Type: String

Indicates whether this is the default network ACL for the VPC.
Type: Boolean

A list of entries (rules) in the network ACL. Each entry is wrapped in an item element.
NetworkInterfaceAssociationType

Describes association information for an Elastic IP address.

Ancestors

• InstanceNetworkInterfaceSetItemType

Relevant Operations

• CreateNetworkInterface (p. 80)
• DescribeNetworkInterfaces (p. 232)

Contents

publicIp
The address of the 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. 80)
- DescribeNetworkInterfaces (p. 232)

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. 232)

Contents

**privateIpAddress**
- The private IP address of the network interface.
- Type: String

**privateDnsName**
- The private DNS name.
- Type: String
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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. 489)

NetworkInterfaceType
Describes a network interface.

Ancestors
• NetworkInterfaceSetType

Relevant Operations
• CreateNetworkInterface (p. 80)
• DescribeNetworkInterfaces (p. 232)

Contents
networkInterfaceId
The ID of the network interface.
Type: String
subnetId
The ID of the subnet.
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 ID of the customer who created the interface.
Type: String

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**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**
- The security group.
  - Type: GroupItemType (p. 463)

**attachment**
- The network interface attachment.
  - Type: NetworkInterfaceAttachmentType (p. 489)

**association**
- The association information for an Elastic IP associated with the network interface.
  - Type: NetworkInterfaceAssociationType (p. 489)

**tagSet**
- The tags assigned to the resource.
  - Type: ResourceTagSetItemType (p. 502)

**privateIpAddressesSet**
- The private IP addresses associated with the network interface. Items are returned in a set.
  - Type: NetworkInterfacePrivateIpAddressesSetItemType (p. 490)

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**PlacementGroupInfoType**

Describes a placement group.

**Ancestors**

- PlacementGroupSetType
Relevant Operations

- DeletePlacementGroup (p. 138)

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. 483)
- LaunchSpecificationResponseType (p. 484)
- RunInstancesType

Relevant Operations

- DescribeSpotInstanceRequests (p. 277)
- RequestSpotInstances (p. 394)
- RunInstances (p. 416)

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. 505)

**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. 487)

**Relevant Operations**

- DescribeNetworkAcls (p. 225)

**Contents**

from

The first port in the range.

Type: Integer
PriceScheduleRequestSetItemType

Describes the price for a Reserved Instance.

Ancestors

- PriceScheduleRequestSetType

Relevant Operations

- CreateReservedInstancesListing (p. 87)

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

PriceScheduleSetItemType

Describes the price for a Reserved Instance.

Ancestors

- DescribeReservedInstancesListingsResponseSetItemType
- PriceScheduleSetType

Relevant Operations

- CreateReservedInstancesListing (p. 87)
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. 248)

Contents

item
The Reserved Instance listing price schedule item.
Type: PriceScheduleSetItemType (p. 495).

PricingDetailsSetItemType

Describes a Reserved Instance offering.
Ancestors

- DescribeReservedInstancesOfferings

Relevant Operations

- DescribeReservedInstancesOfferings (p. 252)

Contents

price
The price per instance.
Type: Integer

count
The number of instances available for the price.
Type: Integer

PrivateIpAddressesSetItemRequestType

Describes a secondary private IP address for a network interface.

Ancestors

- PrivateIpAddressesSetRequestType

Relevant Operations

- AssignPrivateIpAddresses (p. 14)
- UnassignPrivateIpAddresses (p. 430)

Contents

privateIpAddressesSet
The list of private IP addresses.
Type: AssignPrivateIpAddressesSetItemRequestType (p. 438)

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. 189)
- ModifyImageAttribute (p. 353)

Contents

productCode
  The product code.
  Type: String

ProductCodesSetItemType

Describes a product code.

Ancestors

- ProductCodesSetType

Relevant Operations

- DescribeImageAttribute (p. 189)
- DescribeImages (p. 192)
- DescribeInstanceAttribute (p. 199)
- DescribeInstances (p. 202)
- DescribeSnapshotAttribute (p. 269)
- DescribeVolumeAttribute (p. 299)
- RunInstances (p. 416)

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. 285)

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. 99)
• DescribeRouteTables (p. 261)

Contents

gatewayID
The ID of the virtual private gateway (VGW).
Type: String

RecurringChargesSetItemType

Describes a recurring charge.
Relevant Operations

- DescribeReservedInstances (p. 244)
- DescribeReservedInstancesOfferings (p. 252)

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. 241)

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. 202)

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 a item element.
  Type: GroupItemType (p. 463)

instancesSet
  A list of instances. Each instance is wrapped in an item element.
  Type: RunningInstancesItemType (p. 505)

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. 252)

Contents

amount
  Used for Reserved Instance Marketplace offerings. Specifies the limit price on the total order (instanceCount * price).
  Type: Double

currencyCode
  Currency in which the limitPrice amount is specified. At this time, the only supported currency is USD.
  Type: Double
ResourceTagSetItemType

Describes the tags assigned to an EC2 resource.

Ancestors

• ResourceTagSetType

Relevant Operations

• DescribeImages (p. 192)
• DescribeInstances (p. 202)
• DescribeVolumes (p. 301)
• DescribeSnapshots (p. 271)
• DescribeSpotInstanceRequests (p. 277)

Contents

key
The tag key.
Type: String

value
The tag value.
Type: String

RouteTableAssociationType

Describes an association between a route table and a subnet.

Ancestors

• RouteTableAssociationSetType

Relevant Operations

• CreateRouteTable (p. 99)
• DescribeRouteTables (p. 261)

Contents

routeTableAssociationId
An identifier representing 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. 99)
• DescribeRouteTables (p. 261)

Contents

routeTableId
The route table's ID.
Type: String

vpcId
The ID of the VPC for the route table.
Type: String

routeSet
A list of routes in the route table. Each route is wrapped in an item element.
Type: RouteType (p. 504)

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. 502)

propagatingVgwSet
The IDs of any virtual private gateways (VGW) propagating routes, each route wrapped in an item element.
Type: PropagatingVgwType (p. 499)

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 502)
RouteType

Describes a route in a route table.

Ancestors

- RouteSetType

Relevant Operations

- CreateRouteTable (p. 99)
- DescribeRouteTables (p. 261)

Contents

destinationCidrBlock
  The CIDR address 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 owner of the instance.
  Type: String

networkInterfaceId
  The network interface ID.
  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 create.
  - CreateRoute indicates that the route was manually added to the route table.
  - EnableVgwRoutePropagation indicates that the route was propagated by route propagation.
RunningInstancesItemType

Describes a running instance.

Ancestors

• RunningInstancesSetType

Relevant Operations

• DescribeInstances (p. 202)
• RunInstances (p. 416)

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. 476)

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. 498)

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 | m2.xlarge | m2.2xlarge | m2.4xlarge | cr1.8xlarge | hi1.4xlarge | hs1.8xlarge | cc2.8xlarge | cg1.4xlarge

launchTime
The time the instance was launched.
Type: DateTime

placement
The location where the instance launched.
Type: PlacementResponseType (p. 494)

kernelId
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. 471)

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 IP address of 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, go to 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. 463)

stateReason
The reason for the most recent state transition. See StateReasonType (p. 513) for a listing of supported state change codes.
Type: StateReasonType (p. 513)

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. 468)

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 instance's virtualization type.
  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. 502)

hypervisor
  The instance's hypervisor type.
  Type: String
  Valid values: ovm | xen

networkInterfaceSet
  The network interfaces for the instance.
  Type: InstanceNetworkInterfaceSetItemType (p. 473)

iamInstanceProfile
  The IAM Instance Profile (IIP) associated with the instance.
  Type: IamInstanceProfileResponseItemType (p. 464)

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 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

SecurityGroupIdSetItemType
  Describes a security group.
**Ancestors**

- LaunchSpecificationResponseType
- LaunchSpecificationRequestType
- InstanceNetworkInterfaceSetItemRequestType

**Relevant Operations**

- CreateNetworkInterface (p. 80)
- DescribeSpotInstanceRequests (p. 277)
- ModifyNetworkInterfaceAttribute (p. 360)
- ModifyInstanceAttribute (p. 356)
- RequestSpotInstances (p. 394)
- RunInstances (p. 416)

**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. 265)

**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.
SpotDatafeedSubscriptionType

Describes the datafeed for a Spot Instance.

Ancestors

- CreateSpotDatafeedSubscriptionResponseType
- DescribeSpotDatafeedSubscriptionResponseType

Relevant Operations

- CreateSpotDatafeedSubscription (p. 107)
- DescribeSpotDatafeedSubscription (p. 276)

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. 511)

SpotInstanceRequestSetItemType
Describe a Spot Instance request.

Ancestors
- SpotInstanceRequestSetType

Relevant Operations
- DescribeSpotInstanceRequests (p. 277)
- RequestSpotInstances (p. 394)

Contents

spotInstanceId
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. 511)

status
The status code and status message describing the Spot Instance request.
Type: SpotInstanceStatusMessageType (p. 512)

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. 484)

instanceId
The instance ID, if an instance has been launched to fulfill the Spot Instance 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. 502)

SpotInstanceStateFaultType

Describes a Spot Instance state change.

Ancestors

• SpotDatafeedSubscriptionType (p. 509)
• SpotInstanceRequestSetItemType (p. 510)

Relevant Operations

• CreateSpotDatafeedSubscription (p. 107)
• DescribeSpotDatafeedSubscription (p. 276)
• DescribeSpotInstanceRequests (p. 277)
• RequestSpotInstances (p. 394)

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. 510)

Relevant Operations

• DescribeSpotInstanceRequests (p. 277)

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. 285)

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. 447)
- RunningInstancesItemType (p. 505)

Relevant Operations

- DescribeImages (p. 192)
- DescribeInstances (p. 202)
- RunInstances (p. 416)

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.

*Client.InternalError*
A client error caused the instance to terminate on launch.

*Client.InstanceInitiatedShutdown*
The instance initiated shutdown by a shutdown -h command issued from inside the instance.

*Client.UserInitiatedShutdown*
The instance was shut down by a user via an API call.

*Client.VolumeLimitExceeded*
The volume limit was exceeded.

*Client.InvalidSnapshot.NotFound*
The specified snapshot was not found.

---

**SubnetType**

Describes a subnet.

**Ancestors**

- SubnetSetType

**Relevant Operations**

- CreateSubnet (p. 109)
- DescribeSubnets (p. 289)

**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 (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. 502)

TagSetItemType

Describes a tag.

**Relevant Operations**

- DescribeTags (p. 293)

**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. 483)

**Relevant Operations**

- DescribeSpotInstanceRequests (p. 277)
- RequestSpotInstances (p. 394)
- RunInstances (p. 416)

**Contents**

- **data**
  The Base64-encoded MIME user data made available to the instance(s) in the reservation.
  Type: String

**UserIdGroupPairType**

Describes a security group and AWS account ID pair.

**Ancestors**

- UserIdGroupPairSetType

**Relevant Operations**

- AuthorizeSecurityGroupEgress (p. 32)
- AuthorizeSecurityGroupIngress (p. 35)
- DescribeSecurityGroups (p. 265)
- RevokeSecurityGroupEgress (p. 410)
- RevokeSecurityGroupIngress (p. 413)

**Contents**

- **userId**
  The ID of an AWS account. Cannot be used when specifying a CIDR IP address range.
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

VolumeStatusItemTypeDefines the volume status.

Ancestors

• VolumeStatusSetType

Relevant Operation

• DescribeVolumeStatus (p. 305)

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. 517).

eventSet
A list of events associated with the volume. Each event is wrapped in an item element.
Type: VolumeStatusEventItemType (p. 519).

actionSet
The details of the action. Each action detail is wrapped in an item element.
Type: VolumeStatusActionItemType (p. 519).

VolumeStatusInfoTypeDefines the status of a volume.
Ancestors

• VolumeStatusItemType

Relevant Operation

• DescribeVolumeStatus (p. 305)

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. 518).

VolumeStatusDetailsItemType

Describes a volume status.

Ancestors

• VolumeStatusInfoType

Relevant Operation

• DescribeVolumeStatus (p. 305)

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. 305)

**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. 305)
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. 116)
  • DescribeVpcs (p. 312)

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. 502)

**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

---

**VpnConnectionOptionsResponseType**

Describes VPN connection options.

**Relevant Operations**

- CreateVpnConnection (p. 118)
- DescribeVpnConnections (p. 315)

**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. 118)
- DescribeVpnConnections (p. 315)

**Contents**

**vpnConnectionId**

The ID of the VPN connection.
Type: String
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. 502)
vgwTelemetry
The virtual private gateway. Each gateway is wrapped in an item element.

Type: VpnTunnelTelemetryType (p. 524)
options
The option set describing the VPN connection.

Type: VpnConnectionOptionsResponseType (p. 521)
routes
The set of static routes associated with a VPN connection.

Type: VpnStaticRouteType (p. 523)

VpnGatewayType

Describes a virtual private gateway.

Ancestors

• VpnGatewaySetType

Relevant Operations

• CreateVpnGateway (p. 123)
• DescribeVpnGateways (p. 319)
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 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. 439)

**tagSet**
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 502)

VpnStaticRouteType

Describes a static route for a VPN connection.

Ancestors

- VpnStaticRoutesSetType

Relevant Operations

- CreateVpnConnection (p. 118)
- DescribeVpnConnections (p. 315)

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. 118)
• DescribeVpnConnections (p. 315)

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.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> RunInstances</td>
<td></td>
</tr>
<tr>
<td>Version</td>
<td>The API version to use, as specified in the WSDL file.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> 2013-07-15</td>
<td></td>
</tr>
<tr>
<td>AWSAccessKeyId</td>
<td>The access key ID for the request sender. This identifies the account which</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>will be charged for usage of the service. The account that's associated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with the access key ID must be signed up for Amazon EC2, or the request</td>
<td></td>
</tr>
<tr>
<td></td>
<td>isn't accepted.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> AKIAIOSFODNN7EXAMPLE</td>
<td></td>
</tr>
<tr>
<td>DryRun</td>
<td>Checks whether you have the required permissions for the action, without</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>actually making the request. If you have the required permissions, the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>request returns DryRunOperation; otherwise, it returns UnauthorizedOperation.</td>
<td></td>
</tr>
<tr>
<td>Timestamp</td>
<td>The date and time at which the request is signed, in the format YYYY-MM-DD</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Th:mm:ssZ. For more information, see [ISO 8601](<a href="https://en.wikipedia.org/">https://en.wikipedia.org/</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>wiki:ISO_8601).</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> 2006-07-07T15:04:56Z</td>
<td></td>
</tr>
<tr>
<td>Expires</td>
<td>The date and time at which the signature included in the request expires,</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>in the format YYYY-MM-DDTh:mm:ssZ.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> 2006-07-07T15:04:56Z</td>
<td></td>
</tr>
<tr>
<td>SecurityToken</td>
<td>The temporary security token obtained through a call to AWS Security Token</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Service. Default: None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type: String</td>
<td></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>HmacSHA1. 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.

The following sections describe the resources that are 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 modify particular Amazon EC2 resources. (We'll add support for additional actions, ARNs, and condition keys later in 2013.)

Topics
- Instances (p. 527)
- Security Groups (p. 529)
- Volumes (p. 529)

Instances

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action: RebootInstances (p. 374)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>

**Action:** StartInstances (p. 424)


**Action:** StopInstances (p. 426)


**Action:** TerminateInstances (p. 428)

# Security Groups

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> AuthorizeSecurityGroupEgress (p. 32)</td>
<td>security-group/security-group-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action:</strong> AuthorizeSecurityGroupIngress (p. 35)</td>
<td>security-group/security-group-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action:</strong> DeleteSecurityGroup (p. 144)</td>
<td>security-group/security-group-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action:</strong> RevokeSecurityGroupEgress (p. 410)</td>
<td>security-group/security-group-id</td>
<td>ec2:Region</td>
</tr>
<tr>
<td><strong>Action:</strong> RevokeSecurityGroupIngress (p. 413)</td>
<td>security-group/security-group-id</td>
<td>ec2:Region</td>
</tr>
</tbody>
</table>

# Volumes

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> AttachVolume (p. 28)</td>
<td>instance/instance-id</td>
<td>ec2:AvailabilityZone</td>
</tr>
<tr>
<td>Instance</td>
<td>arn:aws:ec2:region:account:instance/instance-id</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>Resource</td>
<td>ARN Format</td>
<td>Condition Keys</td>
</tr>
<tr>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
</tr>
</tbody>
</table>
            |            | ec2:ParentSnapshot
            |            | ec2:Region
            |            | ec2:ResourceTag/tag-key
            |            | ec2:VolumeIops
            |            | ec2:VolumeSize
            |            | ec2:VolumeType |

**Action:** DeleteVolume (p. 154)

            |            | ec2:ParentSnapshot
            |            | ec2:Region
            |            | ec2:ResourceTag/tag-key
            |            | ec2:VolumeIops
            |            | ec2:VolumeSize
            |            | ec2:VolumeType |

            |            | ec2:EbsOptimized
            |            | ec2:InstanceProfile
            |            | ec2:InstanceType
            |            | ec2:PlacementGroup
            |            | ec2:Region
            |            | ec2:ResourceTag/tag-key
            |            | ec2:RootDeviceType
            |            | ec2:Tenancy |
            |            | ec2:ParentSnapshot
            |            | ec2:Region
            |            | ec2:ResourceTag/tag-key
            |            | ec2:VolumeIops
            |            | ec2:VolumeSize
            |            | ec2:VolumeType |
Error Codes

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 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.
- **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.
- **Use a sleep interval between request rates**: Amazon EC2 API requests are throttled to help maintain the performance of the service. For more information, see Query API Request Rate.
• **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. For more information, see Controlling Access.

• **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.

## Summary of Client Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| AddressLimitExceeded        | You’ve reached the limit on the number of Elastic IP addresses that you can allocate.  
For more information, see Elastic IP Address Limit. If you need additional Elastic IP addresses, complete the Amazon EC2 Elastic IP Address Request Form. If you need additional Elastic IP addresses for your VPCs, complete the Amazon VPC Limits form. |
<p>| AttachmentLimitExceeded     | You’ve reached the limit on the number of Amazon EBS volumes that can be attached to a single instance. |
| AuthFailure                 | 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. |
| Blocked                     | Your account is currently blocked. Contact <a href="mailto:aws-verification@amazon.com">aws-verification@amazon.com</a> if you have questions. |
| CannotDelete                | You cannot delete the ‘default’ security group in your VPC, but you can change its rules. For more information, see Amazon EC2 Security Groups. |
| ConcurrentTagAccess         | 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. |
| CustomerGatewayLimitExceeded| 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. |</p>
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>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>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.</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>InsufficientInstanceCapacity</td>
<td>There is insufficient capacity available for the requested instance type. The returned message provides additional information about how to solve this problem.</td>
</tr>
<tr>
<td>InsufficientReservedInstancesCapa</td>
<td>There is insufficient capacity for the requested Reserved Instances.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</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>InvalidAMIAttributeItemValue</td>
<td>The value of an item added to, or removed from, an image attribute is not valid. If you are specifying a <code>userId</code>, check that it is in the form of an AWS account ID.</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 <code>ami-xxxxxx</code>.</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 or a route table) 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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidBlockDeviceMapping</td>
<td>A block device mapping parameter is invalid. The returned message indicates the invalid value.</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.NotFound</td>
<td>The specified customer gateway does not exist.</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>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 a 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-xxxxxxx.</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-xxxxxxx. 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. 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>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 Amazon EC2 Security Groups.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidInstanceAttributeValue</td>
<td>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.</td>
</tr>
<tr>
<td>InvalidID</td>
<td>The specified ID for the resource you are trying to tag is invalid. Ensure that you provide the full resource ID; for example, ami-2bb65342 for an AMI.</td>
</tr>
</tbody>
</table>
| 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 Eventual Consistency. |
| InvalidInterface.IpAddressLimitExceeded      | 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. |
| InvalidInternetGatewayID.NotFound           | 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.                                                   |
| InvalidIPAddress.InUse                       | The specified IP address is already in use. If you are trying to release an address, you must first disassociate it from the instance.                                                                       |
| InvalidKey.Format                            | The key pair is not specified in a valid OpenSSH public key format.                                                                                                                                        |
| InvalidKeyPair.Duplicate                    | 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.                                                                          |</p>
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>You used an invalid ID for the network interface. 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.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>InvalidParameter</td>
<td>A parameter specified in a request is invalid, 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 invalid 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 invalid, 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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------------------------</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>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.NotFound</td>
<td>The specified route does not exist in the route table.</td>
</tr>
<tr>
<td>InvalidRouteTableID.NotFound</td>
<td>The specified route table does not exist. Ensure that you have specified 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 sg-xxxxxx.</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>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>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.</td>
</tr>
<tr>
<td>InvalidUserID.Malformed</td>
<td>The user ID is not valid. You must specify an AWS account ID or one of the special values accepted by owner or executableBy in the DescribeImages call.</td>
</tr>
<tr>
<td>InvalidVolumeID.Duplicate</td>
<td>The EBS volume already exists.</td>
</tr>
<tr>
<td>InvalidVolumeID.Malformed</td>
<td>The specified volume ID is not valid.</td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</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.</td>
</tr>
<tr>
<td>InvalidVpnConnectionID.NotFound</td>
<td>The specified VPN connection does not exist.</td>
</tr>
<tr>
<td>InvalidVpnGatewayID.NotFound</td>
<td>The specified virtual private gateway does not exist.</td>
</tr>
<tr>
<td>InvalidZone.NotFound</td>
<td>The specified Availability Zone does not exist.</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 network ACL entries that you can add to the ACL.</td>
</tr>
<tr>
<td>NetworkAclLimitExceeded</td>
<td>You've reached the limit on the number of network ACLs that you can create.</td>
</tr>
<tr>
<td>NonEBSInstance</td>
<td>The instance specified 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>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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</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>PendingSnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots you can have in the pending state.</td>
</tr>
<tr>
<td>PendingVerification</td>
<td>The account is pending verification. If you have questions, contact <a href="mailto:aws-verification@amazon.com">aws-verification@amazon.com</a>.</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 gateway is already attached, or the specified subnet is already associated with another object.</td>
</tr>
<tr>
<td>ResourceLimitExceeded</td>
<td>You have exceeded an Amazon EC2 resource limit. For example, you might have reached the maximum number of import conversion tasks allowed.</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>RouteTableLimitExceeded</td>
<td>You've reached the limit on the number of route tables that you can create.</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. 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>Error Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</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 Instance Group Membership.</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 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.</td>
</tr>
<tr>
<td>SubnetLimitExceeded</td>
<td>You've reached the limit on the number of subnets that you can create for the VPC.</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.</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 already 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 the number of Amazon EBS volumes that you can create.</td>
</tr>
</tbody>
</table>
## Summary of Server Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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 <a href="#">Amazon VPC Limits</a>. To request an increase on your VPC limit, complete the <a href="#">Amazon VPC Limits form</a>.</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 <a href="#">Amazon VPC Limits</a>. To request an increase on your VPN connection limit, complete the <a href="#">Amazon VPC Limits form</a>.</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>
<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 <a href="#">Amazon VPC Limits</a>. To request an increase on your virtual private gateway limit, complete the <a href="#">Amazon VPC Limits form</a>.</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>Not enough available instances to satisfy your minimum 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 on 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>Internal Error. This error should not occur. If this persists, please contact us with details by posting a message on the <a href="#">AWS forums</a>.</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.
Example Error Response Request

The following shows an example of an error response.

```xml
<Response>
  <Errors>
    <Error>
      <Code>InvalidInstanceID.NotFound</Code>
      <Message>The instance ID 'i-4cbc822a' does not exist</Message>
    </Error>
  </Errors>
  <RequestID>ea966190-f9aa-478e-9ede-cb5432daacc0</RequestID>
</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.