Amazon Elastic Compute Cloud

API Reference

API Version 2013-06-15
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Welcome

This is the *Amazon Elastic Compute Cloud API Reference*. It provides descriptions, syntax, and usage examples for each of the actions and data types for Amazon EC2 and Amazon 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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- Amazon Elastic Compute Cloud User Guide
- Amazon Virtual Private Cloud User Guide
- Amazon Elastic Compute Cloud Command Line Reference
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• UnassignPrivateIpAddresses (p. 429)
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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
&amp;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. 379)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 331)
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. 437)
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

```xml
  <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

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

## Related Actions

- [DescribeAddresses](p. 168)
- [ReleaseAddress](p. 379)
• AssociateAddress (p. 17)
• DisassociateAddress (p. 331)
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.

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

#### Example Response

```xml
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <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/2013-06-15/">
  <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. 379)
- DisassociateAddress (p. 331)
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
&DhcpOptionsId=dopt-7a8b9c2d
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS

API Version 2013-06-15
Example Response

```xml
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <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/2013-06-15/">
  <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.

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

```xml
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>
```

Related Actions

- CreateRouteTable (p. 99)
- DisassociateRouteTable (p. 333)
- DescribeRouteTables (p. 260)
- ReplaceRouteTableAssociation (p. 388)
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. 321)
- DescribeInternetGateways (p. 219)
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

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

Related Actions

- DetachNetworkInterface (p. 323)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 359)
- ResetNetworkInterfaceAttribute (p. 405)
“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](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
Examples

Example Request

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

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

Example Response

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

Related Actions

- CreateVolume (p. 113)
- DeleteVolume (p. 154)
- DescribeVolumes (p. 300)
- DetachVolume (p. 325)
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. 438)

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>
<attachment>
  <vpcId>vpc-1a2b3c4d</vpcId>
  <state>attaching</state>
</attachment>
</AttachVpnGatewayResponse>

Related Actions

- CreateVpnGateway (p. 123)
- DescribeVpnGateways (p. 318)
- DetachVpnGateway (p. 327)
- 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.

&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

Example Request

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

&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
Example Response

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

Related Actions

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 264)
- RevokeSecurityGroupEgress (p. 409)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 412)
- 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

GroupId

The ID of the security group. The security group must belong to your AWS 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.
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: Conditional
Condition: Required for EC2-VPC
**IpPermissions.n.FromPort**

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

- **Type**: Integer
- **Default**: None
- **Required**: 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
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
```

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
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.Groups.1.GroupName=OtherAccountGroup
&IpPermissions.1.Groups.1.UserId=111122223333
```

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
&IpPermissions.1.Groups.1.GroupId=sg-2a2b3c4d
&IpPermissions.1.Groups.1.UserId=111122223333
```

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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. 264)
- RevokeSecurityGroupIngress (p. 412)
- 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. 442)

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=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIiwibXktbmV3LWltYWdlIl0s
&Storage.S3.UploadPolicySignature=fh5tyyyQD8W4COEthj3n1GEXAMPLE
&AUTHPARAMS
```
Example Response

```xml
(BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <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. 442)

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

  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
    <instanceId>i-12345678</instanceId>
    <bundleId>bun-cla322b9</bundleId>
    <state>canceling</state>
    <startTime>2008-10-07T11:41:50.000Z</startTime>
    <updateTime>2008-10-07T11:51:50.000Z</updateTime>
    <progress>20%</progress>
    <storage/>
  </bundleInstanceTask>
</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. 343)
- ImportVolume (p. 349)
- 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. 449)

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-8a15-886fceexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>3ebe97b5-f273-43b6-a204-7a18cEXAMPLE</reservedInstancesListingId>
    </item>
  </reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
<reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EX</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. 247)
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. 443)

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

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

The following is an example response.
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. 276)
- RequestSpotInstances (p. 393)
- DescribeSpotPriceHistory (p. 284)
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

&PurposeCode=774F4FF8
&InstanceId=i-10a64379
&AUTHPARAMS
Example Response

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

Related Actions

- DescribeInstances (p. 202)
- RunInstances (p. 415)
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/>
</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

```
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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 a CreateCustomerGatewayResponse element.
**Examples**

### Example Request

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

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

### Example Response

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

### Related Actions

- [DescribeCustomerGateways](p. 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 a CreateDhcpOptionsResponse element.

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

**dhcpOptions**
- A set of DHCP options.
- Type: DhcpOptionsType (p. 456)

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
<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <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>
```
<dhcpConfigurationSet>
<tagSet/>
</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. 415)
- DescribeInstances (p. 202)
- TerminateInstances (p. 427)
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
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. 460)

Examples

Example Request

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

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

Example Response

<requestId>59dbff89-35bd-4ec8-99ed-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. 479)

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. 321)
• DescribeInternetGateways (p. 219)
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. 347).

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

```xml
<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/">
  <keyName>my-key-pair</keyName>
</CreateKeyPairResponse>
```

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

```
"---- BEGIN 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 ----"

```

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

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

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

### Related Actions

- RunInstances (p. 415)
- DescribeKeyPairs (p. 222)
- 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. 487)

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>
<associationSet/>
<tagSet/>
</networkAcl>
</CreateNetworkAclResponse>

**Related Actions**

- [DeleteNetworkAcl](p. 132)
- [DescribeNetworkAcls](p. 224)
- [ReplaceNetworkAclAssociation](p. 381)
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. 383)
- DescribeNetworkAcls (p. 224)
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. 506)
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. 489)

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

<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.

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

Example Response

:requestId>bd78c839-0895-4fac-a17f-98b559b6b630</requestId>
<networkInterface>
    <networkInterfaceId>eni-1bcb7772</networkInterfaceId>
    <subnetId>subnet-a61dafcf</subnetId>
    <vpcId>vpc-c31dafaa</vpcId>
    <availabilityZone>ap-southeast-1b</availabilityZone>
    <description/>
    <ownerId>251839141158</ownerId>
    <requesterManaged>false</requesterManaged>
    <status>pending</status>
    <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>
        </item>
    </privateIpAddressesSet>
</networkInterface>
</CreateNetworkInterfaceResponse>
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<primary>true</primary>
</item>
<item>
<privateIpAddress>10.0.2.172</privateIpAddress>
<primary>false</primary>
</item>
<item>
<privateIpAddress>10.0.2.169</privateIpAddress>
<primary>false</primary>
</item>
<item>
<privateIpAddress>10.0.2.170</privateIpAddress>
<primary>false</primary>
</item>
<item>
<privateIpAddress>10.0.2.171</privateIpAddress>
<primary>false</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
&AUTHPARAMS

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>
<privateIpAddress>10.0.2.130</privateIpAddress>
<sourceDestCheck>true</sourceDestCheck>
<groupSet>

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<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. 323)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 359)
- ResetNetworkInterfaceAttribute (p. 405)
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-afde-a9cc3EXAMPLE</requestId>
  <return>true</return>
</CreatePlacementGroupResponse>
```

Related Actions

- DeletePlacementGroup (p. 138)
- DescribePlacementGroups (p. 237)
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. 493)
  
  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.
**Example**

**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>


**Example Response**

```
<CreateReservedInstancesListingResponse>
  <requestId>a42481af-335a-4e9e-b291-bd18dexample</requestId>
  <reservedInstancesListingsSet>
    <item>
      <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-0b5d0EXAMPLE</reservedInstancesListingId>
    </item>
  </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```
<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>
</reservedInstancesListingId>
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. 243).

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-35ba-4e9e-b291-bd18dEXAMPLE</requestId>
  <reservedInstancesListingsSet>
<item>
  <reservedInstancesListingId>5ec28771-05ff-4b9b-aa31-9e57dEXAMPLE</reservedInstancesListingId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
  <createDate>2012-08-30T17:11:09.449Z</createDate>
  <updateDate>2012-08-30T17:11:09.468Z</updateDate>
  <status>active</status>
  <statusMessage>active</statusMessage>
  <instanceCounts>
    <item>
      <state>Available</state>
      <instanceCount>3</instanceCount>
    </item>
    <item>
      <state>Sold</state>
      <instanceCount>0</instanceCount>
    </item>
    <item>
      <state>Cancelled</state>
      <instanceCount>0</instanceCount>
    </item>
    <item>
      <state>Pending</state>
      <instanceCount>0</instanceCount>
    </item>
  </instanceCounts>
  <priceSchedules>
    <item>
      <term>11</term>
      <price>2.5</price>
      <currencyCode>USD</currencyCode>
      <active>true</active>
    </item>
    <item>
      <term>10</term>
      <price>2.5</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>9</term>
      <price>2.5</price>
      <currencyCode>USD</currencyCode>
      <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. 247).

The command should look like this example:

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

Following is an example response.

```xml
<DescribeReservedInstancesListingsResponse>
  <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
  <reservedInstancesListingsSet>
    <item>
      <term>6</term>
      <price>2.0</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>5</term>
      <price>1.5</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>4</term>
      <price>1.5</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>3</term>
      <price>0.7</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>2</term>
      <price>0.7</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
    <item>
      <term>1</term>
      <price>0.1</price>
      <currencyCode>USD</currencyCode>
      <active>false</active>
    </item>
  </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
```
<reservedInstancesListingId>253dfbf9-c335-4808-b956-d942cEXAMPLE</reservedInstancesListingId>
<reservedInstancesListingId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesListingId>
<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>
Related Actions

- CancelReservedInstancesListing (p. 47)
- DescribeReservedInstancesListings (p. 247)
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.
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>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</CreateRouteResponse>
Related Actions

- DeleteRoute (p. 140)
- ReplaceRoute (p. 386)
- DescribeRouteTables (p. 260)
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. 501)

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/2013-06-15/"
  <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. 333)
- DescribeRouteTables (p. 260)
- DeleteRouteTable (p. 142)
- ReplaceRouteTableAssociation (p. 388)
- 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**

```
  <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**

```
  <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. 415)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 412)
- 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

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

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

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

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

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

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

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

Examples

Example Request

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

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

Example Response

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

**Related Actions**

- DeleteSnapshot (p. 146)
- DescribeSnapshots (p. 270)
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. 507)

Examples

Example Request

This example request creates the data feed for the account.

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

Example Response

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

Related Actions

- DeleteSpotDatafeedSubscription (p. 148)
- DescribeSpotDatafeedSubscription (p. 275)
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.
**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. 288)
- 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
Constrains: 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
Constrains: 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. 292)
- 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

```
  <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. 300)
- AttachVolume (p. 28)
- DetachVolume (p. 325)
- 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. 518)

Examples

Example Request

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

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

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

Example Response

REQUESTID=a9e49797-a74f-4f68-b302-a134a51fd054
<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. 311)
- 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

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

vpnConnection
Information about the VPN connection.
Type: VpnConnectionType (p. 520)

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.

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>
      ...
    </customerGatewayConfiguration>
    <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
    <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
    <options>
      <staticRoutesOnly>true</staticRoutesOnly>
    </options>
    <routes/>
  </vpnConnection>
</CreateVpnConnectionResponse>
```

Related Actions

- DescribeVpnConnections (p. 314)
- 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/2013-06-15/"
    requestId="4f35a1b2-c2c3-4093-b51f-abb9d7311990"
    return="true"/>
</CreateVpnConnectionRouteResponse>
```

Related Actions

- DeleteVpnConnectionRoute (p. 160)
- DeleteVpnConnection (p. 158)
- DescribeVpnConnections (p. 314)
- 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. 521)

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. 318)
- DeleteVpnGateway (p. 162)
- AttachVpnGateway (p. 30)
- DetachVpnGateway (p. 327)
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

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

- CreateInternetGateway (p. 70)
- AttachInternetGateway (p. 24)
- DetachInternetGateway (p. 321)
- DescribeInternetGateways (p. 219)
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

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

Related Actions

- CreateKeyPair (p. 72)
- DescribeKeyPairs (p. 222)
- ImportKeyPair (p. 347)
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. 224)
• ReplaceNetworkAclAssociation (p. 381)
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. 383)
- DescribeNetworkAcls (p. 224)
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
&AUTHPARAMS

Example Response

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

Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 323)
• CreateNetworkInterface (p. 80)
• DescribeNetworkInterfaceAttribute (p. 229)
• DescribeNetworkInterfaces (p. 231)
• ModifyNetworkInterfaceAttribute (p. 359)
• ResetNetworkInterfaceAttribute (p. 405)
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. 237)
DeleteRoute

Description

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

Request Parameters

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

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

Response Elements

The following elements are returned in a ReplaceRouteResponse element.

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

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

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

```xml
  <requestId>59dbff89-35bd-4ac9-99ed-be587EXAMPLE</requestId>
</DeleteRouteResponse>
```
Related Actions

- CreateRoute (p. 96)
- ReplaceRoute (p. 386)
- DescribeRouteTables (p. 260)
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/2013-06-15/"
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteRouteTableResponse>

Related Actions

- AssociateRouteTable (p. 22)
- DisassociateRouteTable (p. 333)
- DescribeRouteTables (p. 260)
- CreateRouteTable (p. 99)
- ReplaceRouteTableAssociation (p. 388)
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`.

```plaintext
https://ec2.amazonaws.com/?Action=DeleteSecurityGroup &GroupName=websrv &AUTHPARAMS
```

Example Response

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

Related Actions

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 412)
DeleteSnapshot

Description

Deletes the specified snapshot.

Note
If you make periodic snapshots of an Amazon EBS volume, the snapshots are incremental so that only the blocks on the device that have changed since your last snapshot are incrementally 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.

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-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSnapshotResponse>
Related Actions

- CreateSnapshot (p. 104)
- DescribeSnapshots (p. 270)
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

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

Related Actions

- CreateSpotDatafeedSubscription (p. 107)
- DescribeSpotDatafeedSubscription (p. 275)
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. 288)
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:

```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>
  </tagSet>
</DescribeTagsResponse>
```

Next, delete the tags.

Sample response:

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

**Example Request**

This example deletes the stack tag from two particular instances.

```xml
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
&ResourceId.2=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. 292)
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. 300)
- AttachVolume (p. 28)
- DetachVolume (p. 325)
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. 311)
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

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

Related Actions

- CreateVpnConnection (p. 118)
- DescribeVpnConnections (p. 314)
- DetachVpnGateway (p. 327)
- 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

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

Related Actions

- CreateVpnConnectionRoute (p. 121)
- DeleteVpnConnection (p. 158)
- DescribeVpnConnections (p. 314)
- 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. 318)
- 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. 375)
• 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. 436)

Examples

Example Request

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

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.

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>EC2</item>
        <item>VPC</item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```
DescribeAddresses

Description

Describes one or more of your Elastic IP addresses.

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

Request Parameters

**PublicIp.n**

[EC2-Classic] One or more Elastic IP addresses.

Type: String
Default: Describes all your Elastic IP addresses.
Required: No

**AllocationId.n**

[EC2-VPC] One or more allocation IDs.

Type: String
Default: Describes all your Elastic IP addresses.
Required: No

**Filter.n.Name**

The name of a filter. 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. 446)

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

```xml
  <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

```xml
  <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. 379)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 331)
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. 438)

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>
Related Actions

- RunInstances (p. 415)
- DescribeRegions (p. 240)
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 you 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
error-code
If the task failed, the error code returned.
Type: String

**error-message**
If the task failed, the error message returned.
Type: String

**instance-id**
The ID of the instance that was bundled.
Type: String

**progress**
The level of task completion, as a percentage (for example, 20%).
Type: String

**s3-bucket**
The Amazon S3 bucket to store the AMI.
Type: String

**s3-prefix**
The beginning of the AMI name.
Type: String

**start-time**
The time the task started (for example, 2008-09-15T17:15:20.000Z).
Type: DateTime

**state**
The state of the task.
Type: String

**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. 442)

---

**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
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.

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. 443)

Examples

Example Request

This example describes all your conversion tasks.

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

Example Response

  <conversionTasks>
    <item>
      <conversionTask>
        <conversionTaskId>import-i-fh95npoc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
        <importVolume>
          <getBytesConverted>1000</getBytesConverted>
          <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. 343)
- ImportVolume (p. 349)
- 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 filter values that you specified.

You can specify multiple filters; for example, specify customer gateways that have a specific IP address for the Internet-routable external interface and are in the pending or available state. The response includes information for a customer gateway only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of "*amazon?\" searches for the literal string *amazon?\.

The following are the available filters.

bgp-asn
The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN).
Type: String

customer-gateway-id
The ID of the customer gateway.
Type: String
**ip-address**
The IP address of the customer gateway's Internet-routable external interface (for example, 12.1.2.3).
Type: String

**state**
The state of the customer gateway.
Type: String
Valid values: pending | available | deleting | deleted

**type**
The type of customer gateway. Currently the only supported type is ipsec.1.
Type: String
Valid values: ipsec.1

**tag-key**
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value x (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key 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 an `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. 445)
Examples

Example Request

This example request describes of 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
value
The value for one of the options.
Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag:key 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 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. 456)

Examples

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

https://ec2.amazonaws.com/?Action=DescribeDhcpOptions&doptOptionsId.1=dopt-7a8b9c2d&AUTHPARAMS
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>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <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. 460)

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>
<instanceExport>
  <exportToS3>
    <diskImageFormat>VMDK</diskImageFormat>
    <containerFormat>OVA</containerFormat>
    <s3Bucket>my-bucket-for-exported-vm</s3Bucket>
    <s3Key>my-exports/ export-i-1234wxyz.ova</s3Key>
  </exportToS3>
</item>
</exportTaskSet>
</DescribeExportTasksResponse>

Related Actions

- CancelExportTask (p. 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. 481)

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. 496)

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. 439)

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. 352)
- ResetImageAttribute (p. 401)
DescribeImages

Description

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. Otherwise, leave blank.
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. 446)

Examples

Example Request

This example describes the ami-be3adfd7 AMI.

```
https://ec2.amazonaws.com/?Action=DescribeImages
&ImageId.1=ami-be3adfd7
&AUTHPARAMS
```

Example Response

```
  <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

```xml
  <requestId>4a4a27a2-2e7c-475d-b35b-ca822EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-1a2b3c4d</imageId>
      <imageLocation>aws-marketplace/example-marketplace-amzn-ami.1</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>111122223333</imageOwnerId>
      <isPublic>true</isPublic>
      <productCodes>
        <item>
          <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
          <type>marketplace</type>
        </item>
      </productCodes>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-1a2b3c4d</kernelId>
      <imageOwnerAlias>aws-marketplace</imageOwnerAlias>
      <name>example-marketplace-amzn-ami.1</name>
      <description>Amazon Linux AMI i386 EBS</description>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/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. 467)

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

groupBy
The security groups associated with the instance.
Type: GroupItemType (p. 462)

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. 496)

**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

```xml
  <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

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-10a64379</instanceId>
  <disableApiTermination>
    <value>false</value>
  </disableApiTermination>
</DescribeInstanceAttributeResponse>
```

Related Actions

- DescribeInstances (p. 202)
- ModifyInstanceAttribute (p. 355)
- ResetInstanceAttribute (p. 403)
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 you 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.
Type: String
Valid values: i386 | x86_64

availability-zone
The Availability Zone of the instance.
Type: String

block-device-mapping.attach-time
The attach time for an Amazon EBS volume mapped to the instance (for example, 2010-09-15T17:15:20.000Z)
Type: DateTime

block-device-mapping.delete-on-termination
Indicates whether the Amazon EBS volume is deleted on instance termination.
Type: Boolean

block-device-mapping.device-name
The device name (for example, /dev/sdh) for the Amazon EBS volume.
Type: String

block-device-mapping.status
The status for the Amazon EBS volume.
Type: String
Valid values: attaching | attached | detaching | detached

block-device-mapping.volume-id
The volume ID of the Amazon EBS volume.
Type: String

client-token
The idempotency token you provided when you launched the instance.
Type: String

dns-name
The public DNS name of the instance.
Type: String

group-id
The ID of the security group for the instance. If the instance is in EC2-Classic or a default VPC, you can use group-name instead.
Type: String

group-name
The name of the security group for the instance. If the instance is in a nondefault VPC, you must use group-id instead.
Type: String

image-id
The ID of the image used to launch the instance.
Type: String

instance-id
The ID of the instance.
Type: String

instance-lifecycle
Indicates whether this is a Spot Instance.
Type: String
Valid values: spot

instance-state-code
The state of the instance. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented.
Type: Integer (16-bit unsigned integer)
Valid values: 0 (pending) | 16 (running) | 32 (shutting-down) | 48 (terminated) | 64 (stopping) | 80 (stopped)

**instance-state-name**
The state of the instance.
Type: String
Valid values: pending | running | shutting-down | terminated | stopping | stopped

**instance-type**
The type of instance (for example, m1.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. 499)

---

**Examples**

**Example Request**

This example describes all instances owned by your AWS account.

https://ec2.amazonaws.com/?Action=DescribeInstances
&AUTHPARAMS
Example Response

This example response shows information for one instance.

```
  <requestId>fdcdcab1-ae5c-489e-9c33-4637c5dda355</requestId>
  <reservationSet>
    <item>
      <reservationId>r-1a2b3c4d</reservationId>
      <ownerId>111122223333</ownerId>
      <groupSet>
        <item>
          <groupId>sg-1a2b3c4d</groupId>
          <groupName>my-security-group</groupName>
        </item>
      </groupSet>
      <instancesSet>
        <item>
          <instanceId>i-1a2b3c4d</instanceId>
          <imageId>ami-1a2b3c4d</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
          <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/sda1</rootDeviceName>
          <blockDeviceMapping>
            <item>
```

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<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>
    <privateIpAddressesSet>
      <item>
        <privateIpAddress>10.0.0.12</privateIpAddress>
        <primary>true</primary>
        <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>
    </privateIpAddressesSet>
  </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

Related Actions

- RunInstances (p. 415)
- StartInstances (p. 423)
- StopInstances (p. 425)
- TerminateInstances (p. 427)
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
**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. 477)

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=2013-06-15
&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=2013-06-15
&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=2013-06-15
&AuthParams

Example Response

<requestId>3be1508e-c444-4fef-89cc-0b1223c4f02fEXAMPLE</requestId>
<instanceStatusSet>
<item>
<instanceId>i-1a2b3c4d</instanceId>
<availabilityZone>us-east-1d</availabilityZone>
<instanceState>
  <code>16</code>
  <name>running</name>
</instanceState>
<systemStatus>
  <status>impaired</status>
  <details>
    <item>
      <name>reachability</name>
      <status>failed</status>
      <impairedSince>YYYY-MM-DDTHH:MM:SS.000Z</impairedSince>
    </item>
  </details>
</systemStatus>
<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>
<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
internet-gateway-id
The ID of the Internet gateway.
Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value X (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key 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. 479)

Examples

Example Request
This example describes your Internet gateways.

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

Example Response

```xml
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<internetGatewaySet>
  <item>
    <internetGatewayId>igw-eaad4883EXAMPLE</internetGatewayId>
    <attachmentSet>
      <item>
        <vpcId>vpc-11ad4878</vpcId>
        <state>available</state>
      </item>
    </attachmentSet>
    <tagSet/>
  </item>
</internetGatewaySet>
</DescribeInternetGatewaysResponse>

## Related Actions

- [CreateInternetGateway](p. 70)
- [DeleteInternetGateway](p. 129)
- [DetachInternetGateway](p. 24)
- [DetachInternetGateway](p. 321)
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: `DescribeKeyPairsResponseType` (p. 448)

Examples

**Example Request**

This example describes the keypair with name `my-key-pair`.

```
https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&KeyName.1=my-key-pair
&AUTHPARAMS
```

**Example Response**

```
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>my-key-pair</keyName>
    </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. 347)
- `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

\textit{NetworkAclId.n}
- One or more network ACL IDs.
- Type: String
- Default: None
- Required: No

\textit{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

\textit{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.

\textbf{association.association-id}
- The ID of an association ID for the ACL.
- Type: String

\textbf{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

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

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

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

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

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

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

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

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

**entry.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. 487)`

---

### 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>
```
<entrySet>
  <item>
    <ruleNumber>32767</ruleNumber>
    <protocol>all</protocol>
    <ruleAction>deny</ruleAction>
    <egress>true</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
  <item>
    <ruleNumber>100</ruleNumber>
    <protocol>all</protocol>
    <ruleAction>allow</ruleAction>
    <egress>false</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
  <item>
    <ruleNumber>32767</ruleNumber>
    <protocol>all</protocol>
    <ruleAction>deny</ruleAction>
    <egress>false</egress>
    <cidrBlock>0.0.0.0/0</cidrBlock>
  </item>
</entrySet>

<associationSet/>
<tagSet/>

<item>
  <networkAclId>acl-5d659634</networkAclId>
  <vpcId>vpc-5266953b</vpcId>
  <default>false</default>
  <entrySet>
    <item>
      <ruleNumber>110</ruleNumber>
      <protocol>6</protocol>
      <ruleAction>allow</ruleAction>
      <egress>true</egress>
      <cidrBlock>0.0.0.0/0</cidrBlock>
      <portRange>
        <from>49152</from>
        <to>65535</to>
      </portRange>
    </item>
    <item>
      <ruleNumber>32767</ruleNumber>
      <protocol>all</protocol>
      <ruleAction>deny</ruleAction>
      <egress>true</egress>
      <cidrBlock>0.0.0.0/0</cidrBlock>
    </item>
    <item>
      <ruleNumber>110</ruleNumber>
      <protocol>6</protocol>
      <ruleAction>allow</ruleAction>
      <egress>false</egress>
      <cidrBlock>0.0.0.0/0</cidrBlock>
      <portRange>
        <from>80</from>
      </portRange>
    </item>
  </entrySet>
</item>
<to>80</to>
</portRange>
</item>
</item>
<item>
<ruleNumber>120</ruleNumber>
<protocol>6</protocol>
<ruleAction>allow</ruleAction>
<egress>false</egress>
<cidrBlock>0.0.0.0/0</cidrBlock>
<portRange>
<from>443</from>
<to>443</to>
</portRange>
</item>
</item>
</entrySet>

<associationSet>
<item>
<networkAclAssociationId>aclassoc-5c659635</networkAclAssociationId>
<networkAclId>acl-5d659634</networkAclId>
<subnetId>subnet-ff669596</subnetId>
</item>
</item>
</associationSet>
</DescribeNetworkAclsResponse>

Related Actions

- CreateNetworkAcl (p. 75)
- DeleteNetworkAcl (p. 132)
- ReplaceNetworkAclAssociation (p. 381)
- CreateNetworkAclEntry (p. 77)
- DeleteNetworkAclEntry (p. 134)
- ReplaceNetworkAclEntry (p. 383)
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. 462)

**attachment**
- The attachment (if any) of the network interface.
- Type: `NetworkInterfaceAttachmentType` (p. 488)
Examples

Example Request

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

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

Example Response

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

Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 323)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 359)
- ResetNetworkInterfaceAttribute (p. 405)
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
### Request Parameters

- **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. 489)

Examples

Example Request

This example describes network interfaces.

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

Example Response

  <requestId>fc45294c-006b-457b-bab9-012f5b3b0e40</requestId>
  <networkInterfaceSet>
    <item>
      <networkInterfaceId>eni-0f62d866</networkInterfaceId>
      <subnetId>subnet-c53c87ac</subnetId>
      <vpcId>vpc-cc3c87a5</vpcId>
      <availabilityZone>ap-southeast-1b</availabilityZone>
      <description/>
      <ownerId>053230519467</ownerId>
      <requesterManaged>false</requesterManaged>
      <status>in-use</status>
      <macAddress>02:81:60:cb:27:37</macAddress>
  </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><groupSet><item><groupId>sg-a2a0b2ce</groupId><groupName>quick-start-1</groupName></item></groupSet><attachment><attachmentId>eni-attach-a99c57c0</attachmentId><instanceId>i-886401dc</instanceId><instanceOwnerId>053230519467</instanceId><deviceIndex>0</deviceIndex><status>attached</status><attachTime>2012-06-27T20:08:44.000Z</attachTime>
Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 323)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 229)
- ModifyNetworkInterfaceAttribute (p. 359)
- ResetNetworkInterfaceAttribute (p. 405)
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. 491)

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.

https://ec2.amazonaws.com/?Action=DescribePlacementGroups
&Filter.1.Name=group-name
&Filter.1.Value=*Project*
&AUTHPARAMS
  <requestID>d4904fd9-82c2-4ea5-adfe-a9cc3EXAMPLE</requestID>
  <placementGroupSet>
    <item>
      <groupName>Project-cluster</groupName>
      <strategy>cluster</strategy>
      <state>available</state>
    </item>
  </placementGroupSet>
</DescribePlacementGroupsResponse>

Related Actions

- CreatePlacementGroup (p. 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.

download
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. 498)

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.

https://ec2.amazonaws.com/?Action=DescribeRegions
&Filter.1.Name=endpoint
&Filter.1.Value.1=*ap*
&AUTHPARAMS
Example Response

```xml
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <regionInfo>
      <item>
         <regionName>ap-southeast-1</regionName>
         <regionEndpoint>ec2.ap-southeast-1.amazonaws.com</regionEndpoint>
      </item>
   </regionInfo>
</DescribeRegionsResponse>
```

Related Actions

- DescribeAvailabilityZones (p. 172)
- RunInstances (p. 415)
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

### reservedInstancesSet

A list of Reserved Instances, each one wrapped in an `item` element.
Type: `DescribeReservedInstancesResponseSetItemType` (p. 452)

## Examples

### Example Request

This example describes Reserved Instances owned by your account.

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

### Example Response

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  ...
  <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. 368)
- DescribeReservedInstancesOfferings (p. 251)
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.

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

Request Parameters

ReservedInstancesListingId.n
The information about the Reserved Instance listing wrapped in an item element.
Type: DescribeReservedInstancesListingSetItemType (p. 450)
Default: None
Required: No

ReservedInstancesId.n
The set of Reserved Instances IDs which are used to see associated listings.
Type: DescribeReservedInstancesSetItemType (p. 453)
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.

```plaintext
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.

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

reservedInstancesListingsSet
   The Reserved Instance listing information wrapped in an `item` element.
   Type: `DescribeReservedInstancesListingsResponseSetItemType` (p. 449)
```

Examples

Example Request

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

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

For information about Reserved Instances pricing, 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.

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.

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

Request Parameters

ReservedInstancesOfferingId.n
  One or more Reserved Instances offering IDs.
  Type: String
  Default: None
  Required: No

InstanceType
  The Amazon EC2 instance type on which the Reserved Instance can be used. See Available Instance Types 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


**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

guided-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)
**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. 450)

- **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=2013-06-15

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

This is the response listing Reserved Instance Marketplace offerings only.

```
  <requestId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    <item>
      <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-0841cEXAMPLE</reservedInstancesOfferingId>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
Example Describing AWS Offerings Only

By default, with the 2012-08-15 API version, DescribeReservedInstancesOfferings returns information about AWS Reserved Instances and Reserved Instance Marketplace offerings. If you want a list of AWS offerings only, set IncludeMarketplace to false.

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

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&Version=2013-06-15
&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>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
    </item>
    <item>
      <reservedInstancesOfferingId>e5a2ff3b-a4f3-477c-8928-db00EXAMPLE</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.

```plaintext
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&NextToken=h%2FC8YKPQBHEjW8xKz1827%2Fzyb0VqsqkJRo3TqhFYE%3D
&Version=2013-06-15
&AUTHPARAMS
```

The response should be similar to the following example.

```xml
<DescribeReservedInstancesOfferingsResponse>
  <requestId>652900ca-902c-42fa-b8ae-da67bEXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ... <item>...
    </item>
    <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>Heavy Utilization</offeringType>
      <recurringCharges/>
      <marketplace>false</marketplace>
      <pricingDetailsSet/>
    </item>
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```
Example Request

This example describes available Reserved Instance offerings.

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

Example Response

<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/>
  <requestId>48692a1d-3036-48fd-8c0e-d34681b97efdEXAMPLE</requestId>
  <reservedInstancesOfferingsSet>
    ...
    <item>
      <reservedInstancesOfferingId>248e7b75-c83a-48c1-bcf7-b7f03e9c438eEXAMPLE</reservedInstancesOfferingId>
      <instanceType>c1.medium</instanceType>
      <availabilityZone>us-east-1b</availabilityZone>
      <duration>94608000</duration>
      <fixedPrice>700.0</fixedPrice>
      <usagePrice>0.06</usagePrice>
      <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
      <instanceTenancy>default</instanceTenancy>
      <currencyCode>USD</currencyCode>
      <offeringType>Medium Utilization</offeringType>
      <recurringCharges/>
    </item>
    ...
  </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>

Example Request

This example filters the response to include only one-year, m1.small or m1.large Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with a VPC, set the product description to Linux/UNIX (Amazon VPC).

https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
Related Actions

- PurchaseReservedInstancesOffering (p. 368)
- DescribeReservedInstances (p. 243)
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

destination-cidr-block
   The CIDR range specified in a route in the table.
   Type: String

gateway-id
   The ID of a gateway specified in a route in the table.
   Type: String

instance-id
   The ID of an instance specified in a route in the table.
   Type: String

destination
   Describes how the route was created.
   Type: String

Valid values:

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: 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 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. 501)

### 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.

```xml
  <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. 333)
- DeleteRouteTable (p. 142)
- CreateRouteTable (p. 99)
- ReplaceRouteTableAssociation (p. 388)
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. 507)

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

```xml
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>111122223333</ownerId>
      <groupId>sg-1a2b3c4d</groupId>
      <groupName>WebServers</groupName>
      <groupDescription>Web Servers</groupDescription>
      <vpcId/>
      <ipPermissions>
        <item>
          <ipProtocol>tcp</ipProtocol>
          <fromPort>80</fromPort>
          <toPort>80</toPort>
          <groups/>
        </item>
        <item>
          <cidrIp>0.0.0.0/0</cidrIp>
        </item>
      </ipPermissions>
    </item>
    <item>
      <ownerId>111122223333</ownerId>
      <groupId>sg-2a2b3c4d</groupId>
    </item>
  </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```
<groupName>RangedPortsBySource</groupName>
<groupDescription>Group A</groupDescription>
<ipPermissions>
  <item>
    <ipProtocol>tcp</ipProtocol>
    <fromPort>6000</fromPort>
    <toPort>7000</toPort>
    <groups>
      <item>
        <userId>111122223333</userId>
        <groupId>sg-3a2b3c4d</groupId>
        <groupName>Group B</groupName>
      </item>
    </groups>
    <ipRanges/>
  </item>
</ipPermissions>
<ipPermissionsEgress/>
</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. 412)
- 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. 444)

**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. 496)

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.

```xml
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. 361)
- DescribeSnapshots (p. 270)
- ResetSnapshotAttribute (p. 407)
- CreateSnapshot (p. 104)
DescribeSnapshots

Description

Describes one or more of the Amazon EBS snapshots available to you. Snapshots available to you include public snapshots available for any AWS account to launch, private snapshots you own, and private snapshots owned by another AWS account but for which you’ve been given explicit create volume permissions.

The create volume permissions fall into the following categories:

public
The owner of the snapshot granted create volume permissions for the snapshot to the all group. All AWS accounts have create volume permissions for these snapshots.

explicit
The owner of the snapshot granted create volume permissions to a specific AWS account.

implicit
An AWS account has implicit create volume permissions for all snapshots it owns.

The list of snapshots returned can be modified by specifying snapshot IDs, snapshot owners, or AWS accounts with create volume permissions. If no options are specified, Amazon EC2 returns all snapshots for which you have create volume permissions.

If you specify one or more snapshot IDs, only snapshots that have the specified IDs are returned. If you specify an invalid snapshot ID, an error is returned. If you specify a snapshot ID for which you do not have access, it 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
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 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. 454)

### Examples

#### Example Request

This example describes snapshot snap-1a2b3c4d.

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

  <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

  <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. 507)

Examples

Example Request

This example describes the datafeed for the account.

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

Example Response

 <requestId>59dbff89-35bd-4eac-99ed-be587EXMAPLE</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.
Type: String

status-message
The message explaining the status of the Spot Instance request.
Type: String

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag's value is), and the tag value x (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the tag: key 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 Spot Instance request.
Type: String
Valid values: one-time | persistent

launched-availability-zone
The Availability Zone in which the bid is launched.
Type: String

valid-from
The start date of the request.
Type: DateTime

valid-until
The end date of the request.
Type: DateTime

Response Elements

The following elements are returned in a DescribeSpotInstanceRequestsResponse element.

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

spotInstanceRequestSet
A list of Spot Instance requests. Each request is wrapped in an item element.
Type: SpotInstanceRequestSetItemType (p. 508)
networkInterfaceSet
   Information about the network interface.
   Type: InstanceNetworkInterfaceSetItemType (p. 471)

Examples

Example Request

This example returns information about current Spot Instance requests.

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

Example Response

```xml
  <requestId>59dbff89-35b4d-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>
        <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.

```xml
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 `instanceLifecyle` contains `spot`. The following is an example request.

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

The following is an example response.

```xml
  <requestId>b1719f2a-5334-4479-b2f1-26926EXAMPLE</requestId>
  <reservationSet>
    <item>
      <reservationId>r-1a2b3c4d</reservationId>
      <ownerId>111122223333</ownerId>
      <groupSet>
        <item>
          <groupId>sg-1a2b3c4d</groupId>
          <groupName>Linux</groupName>
        </item>
      </groupSet>
      <instancesSet>
        <item>
          <instanceId>i-1a2b3c4d</instanceId>
          <imageId>ami-1a2b3c4d</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
        </item>
      </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
```
Related Actions

- RequestSpotInstances (p. 393)
- CancelSpotInstanceRequests (p. 50)
• DescribeSpotPriceHistory (p. 284)
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.
Type: String  
Default: None  
Required: No

**AvailabilityZone**  
Filters the results by availability zone.  
Type: String  
Valid values: us-east-1a, etc.  
Default: None  
Required: No

**MaxResults**  
The 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
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. 511)

**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

```
```

Amazon Elastic Compute Cloud API Reference
Response Elements
<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. 276)
- RequestSpotInstances (p. 393)
- 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. 513)
Examples

Example Request

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

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

Example Response

<requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
<subnetSet>
  <item>
    <subnetId>subnet-9d4a7b6c</subnetId>
    <state>available</state>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <cidrBlock>10.0.1.0/24</cidrBlock>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-1a</availabilityZone>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <tagSet/>
  </item>
  <item>
    <subnetId>subnet-6e7f829e</subnetId>
    <state>available</state>
    <vpcId>vpc-1a2b3c4d</vpcId>
    <cidrBlock>10.0.0.0/24</cidrBlock>
    <availableIpAddressCount>251</availableIpAddressCount>
    <availabilityZone>us-east-1a</availabilityZone>
    <defaultForAz>false</defaultForAz>
    <mapPublicIpOnLaunch>false</mapPublicIpOnLaunch>
    <tagSet/>
  </item>
</subnetSet>
</DescribeSubnetsResponse>

Example Request

This example uses filters to describe any subnet you own that is in the VPC with the ID vpc-1a2b3c4d or vpc-6e7f8a92, and whose state is available.

https://ec2.amazonaws.com/?Action=DescribeSubnets
&Filter.1.Name=vpc-id
&Filter.1.Value.1=vpc-1a2b3c4d
&Filter.1.Value.2=vpc-6e7f8a92
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS
Related Actions

- CreateSubnet (p. 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.

desc
The tag key.
Type: String

desc-id
The resource ID.
Type: String

desc-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. 514)

Examples

Example Request

This example describes all the tags in your account.

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

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

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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. 496)

Example

Example Request

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

https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute &Attribute=autoEnableIO
Example Response

```xml
  <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

```xml
  <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. 304)
- ModifyVolumeAttribute (p. 363)
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. 455)

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. 325)
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. 337) 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.
Type: Integer
Default: None
Required: No

**NextToken**
A string specifying the next paginated set of results to return using the pagination token returned by a previous call to this API.
Type: String
Default: None
Required: No

### Supported Filters

You can specify filters so that the response includes information for only certain volumes. For example, you can use a filter to specify that you're interested in volumes that have *impaired* status. You can specify multiple values for a filter. The response includes information for a volume only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify volumes that are in a specific Availability Zone and have the status *impaired*. The response includes information for a volume only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

You can use wildcards in a filter value. An asterisk (*) matches zero or more characters, and a question mark (?) matches exactly one character. You can escape special characters using a backslash (\) before the character. For example, a value of \*amazon\?\ searches for the literal string *amazon?\.

The following are the available filters.

**availability-zone**
The Availability Zone of the instance.
Type: String

**volume-status.status**
The status of the volume.
Type: String
Valid values: ok | impaired | warning | insufficient-data

**volume-status.details-name**
The cause for the *volume-status.status*.
Type: String
Valid values: io-enabled | io-performance

**volume-status.details-status**
The status of the *volume-status.details-name*.
Type: String
Valid values for io-enabled: passed | failed
Valid values for io-performance: normal | degraded | severely-degraded | stalled

**event.description**
A description of the event.
Type: String

**event.not-after**
The latest end time for the event.
Type: DateTime

**event.not-before**
The earliest start time for the event.
Type: DateTime
**event.event-id**
The event ID.
Type: String

**event.event-type**
The event type.
Type: String

Valid values for `io-enabled`:
- potential-data-inconsistency

Valid values for `io-performance`:
- io-performance:degraded
- io-performance:severely-degraded
- io-performance:stalled

**action.code**
The action code for the event, for example, `enable-volume-io`
Type: String

**action.event-id**
The event ID associated with the action.
Type: String

**action.description**
A description of the action.
Type: String

---

**Response Elements**

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

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

**volumeStatusSet**
A list of volumes. Each volume is wrapped in an `item` element.
Type: `VolumeStatusItemType` (p. 515)

**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**

```
  <requestId>5jkdf074-37ed-4004-8671-a78ee82b1cbEXAMPLE</requestId>
  <volumeStatusSet>
    <item>
```

---

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<VolumeId>vol-11111111</VolumeId>
<availabilityZone>us-east-1d</availabilityZone>
<volumeStatus>
  <status>ok</status>
  <details>
    <item>
      <name>io-enabled</name>
      <status>passed</status>
    </item>
  </details>
</volumeStatus>

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. 363)
- DescribeVolumeAttribute (p. 298)
- EnableVolumeIO (p. 337)
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`.

```url
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. 365)
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.

cidr
The CIDR block of the VPC. The CIDR block you specify must exactly match the VPC's CIDR block for information to be returned for the VPC.
Type: String
Constraints: Must contain the slash followed by one or two digits (for example, /28)

dhcp-options-id
The ID of a set of DHCP options.
Type: String

isDefault
Indicates whether the VPC is the default VPC.
**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. 518)

**Examples**

**Example Request**

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

**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
Example Response

```
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpcSet>
    <item>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>available</state>
      <cidrBlock>10.0.0.0/23</cidrBlock>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <instanceTenancy>default</instanceTenancy>
      <isDefault>false</isDefault>
      <tagSet/>
    </item>
  </vpcSet>
</DescribeVpcsResponse>
```

Example Request

This example uses filters to describe any VPC you own that uses the set of DHCP options with the ID `dopt-7a8b9c2d` or `dopt-2b2a3d3c` and whose state is `available`.

```
https://ec2.amazonaws.com/?Action=DescribeVpcs
&Filter.1.Name=dhcp-options-id
&Filter.1.Value.1=dopt-7a8b9c2d
&Filter.1.Value.2=dopt-2b2a3d3c
&Filter.2.Name=state
&Filter.2.Value.1=available
&AUTHPARAMS
```

Related Actions

- CreateVpc (p. 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

state
The state of the VPN connection.
  Type: String
  Valid values: pending | available | deleting | deleted

option.static-routes-only
Indicates whether the connection has static routes only. Used for devices that do not support Border Gateway Protocol (BGP).
  Type: Boolean

route.destination-cidr-block
The destination CIDR block. This corresponds to the subnet used in a customer data center.
  Type: String

bgp-asn
The BGP Autonomous System Number (ASN) associated with a BGP device.
  Type: Integer

tag-key
The key of a tag assigned to the resource. This filter is independent of the tag-value filter. For example, if you use both the filter "tag-key=Purpose" and the filter "tag-value=X", you get any resources assigned both the tag key Purpose (regardless of what the tag’s value is), and the tag value X (regardless of what the tag’s key is). If you want to list only resources where Purpose is X, see the tag: key 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 a 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. 520)

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**

```xml
  <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.
### 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. 521)
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`.

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

**Example Response**

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

- CreateInternetGateway (p. 70)
- DeleteInternetGateway (p. 129)
- DetachInternetGateway (p. 24)
- DescribeInternetGateways (p. 219)
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. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 359)
- ResetNetworkInterfaceAttribute (p. 405)
**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
**volumeId**
The ID of the volume.
Type: xsd:string

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

**device**
The device name exposed to the instance.
Type: xsd:string

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

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

### Examples

#### Example Request

This example detaches volume *vol-1a2b3c4d*.

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

#### 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. 300)
- 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-la2b3c4d.

```
https://ec2.amazonaws.com/?Action=DetachVpnGateway
&VpnGatewayId=vgw-8db04f81
&VpcId=vpc-la2b3c4d
&AUTHPARAMS
```
Example Response

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

Related Actions

- AttachVpnGateway (p. 30)
- DescribeVpnGateways (p. 318)
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. 329)
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</requestId>
  <return>true</return>
</DisassociateAddressResponse>

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 168)
- ReleaseAddress (p. 379)
- 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/2013-06-15/"
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DisassociateRouteTableResponse>
Related Actions

- CreateRouteTable (p. 99)
- AssociateRouteTable (p. 22)
- DeleteRouteTable (p. 142)
- DescribeRouteTables (p. 260)
- ReplaceRouteTableAssociation (p. 388)
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. 329)
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
&AUTHPARAMS

Example Response

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

Related Actions

- DescribeVolumeStatus (p. 304)
- ModifyVolumeAttribute (p. 363)
• DescribeVolumeAttribute (p. 298)
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

```xml
  <requestId>59dbff89-35bd-4ec9-99ed-be587EXAMPLE</requestId>
  <instanceId>i-28a64341</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>
  <output>example output</output>
</GetConsoleOutputResponse>
```

Related Actions

- RunInstances (p. 415)
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
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. 415)
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

  
  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. 443)

Examples

Example Request

This example creates an import instance task that migrates a Windows Server 2008 SP2 (32-bit) VM into the AWS us-east-1 region.

https://ec2.amazonaws.com/?Action=ImportInstance
&LaunchSpecification.Architecture=x86_64
&LaunchSpecification.InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
&DiskImage.1.Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/a3a5elb6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS

Example Response

  <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/a3a5elb6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TtL0uR7KExtEXAMPLE%3D</importManifestUrl>
          </image>
        </item>
      </volumes>
    </importInstance>
  </conversionTask>
</ImportInstanceResponse>
Related Actions

- ImportVolume (p. 349)
- 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=MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxCzAJBgNVBAgTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwTC01BTSBDb25z
b24xDHAD
BGkqhkiG9w0BCQEWEWEG5vb251QfT
Xpvbi5j2b0wHhcNMTEwNDI1MjAOONTIxWhcN
MTIwNDI0MjA0NTmCMVVMXczAJBgNVAggTC01BTSBDb25zb2xlMRIwEAYDVQQDEDASBgNe
YQQHewtTZWFW0dGx1MQ8wDQYDVQQKEwZBbWF6b24w
71uUSfwfEvrvStC2XAD24nB+BLYgV1k6OCpiwsZ3G93vUEIO3yNoH/f0wYk8m91
rDHudU2g3qX4walGSMz47qWg/CmBqITX0USV7c7ugFDrzQGBz2swY6786m86gP
Ibbo3ohj2rzcvQAaRhd5QlWIm2nraQMBAEwDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWI
uhVvXUntne09+h8Mq29f6+auNKeyExzyLwao1Aoo7TJHidbtS4J5iN2qXLofk
FFBjvSfpJ11jO0zbhNY5f6GzuEDMjF102xKHzjJnyp3780D8uTs7fLvjx79LjSTb
NYiyVbZPQU5Yxuu2JXnimwv3rrszaEXAMPLE
&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/2013-06-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <keyName>my-key-pair</keyName>
</ImportKeyPairResponse>

Related Actions

- CreateKeyPair (p. 72)
- DescribeKeyPairs (p. 222)
- 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. 443)

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-97c1-5c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T1Tl0uR7KEextEXAMPLE%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>VDMK</format>
        <size>128696320</size>
        <importManifestUrl>
          https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01T1Tl0uR7KEextEXAMPLE%3D
        </importManifestUrl>
        <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
      </image>
      <volume>
        <size>8</size>
        <id>vol-34d8a2ff</id>
      </volume>
    </importVolume>
    <state>active</state>
  </conversionTask>
</ImportVolumeResponse>
Related Actions

- ImportInstance (p. 343)
- 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. 401)
- 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
Default: None
Required: No

**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. 466)
Default: None

Example: `&BlockDeviceMapping.1.Ebs.DeleteOnTermination=true`
Required: No

**SourceDestCheck.Value**
Indicates whether source/destination checking is enabled. A value of `true` means checking is enabled, and `false` means checking is disabled. This value must be `false` for a NAT instance to perform NAT.

Type: Boolean
Default: None
Required: No

**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-4eac-99ed-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-4eac-99ed-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. 403)
- 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

  <requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
  <return>true</return>
</ModifyNetworkInterfaceAttributeResponse>

Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 323)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ResetNetworkInterfaceAttribute (p. 405)
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-1a2b3c4d snapshot public, and gives the account with ID 111122223333 permission to create volumes from the snapshot.

```xml
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-1a2b3c4d
&CreateVolumePermission.Add.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

This example makes the snap-1a2b3c4d snapshot public, and removes the account with ID 111122223333 from the list of users with permission to create volumes from the snapshot.

```xml
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-1a2b3c4d
&CreateVolumePermission.Remove.1.UserId=111122223333
&CreateVolumePermission.Add.1.Group=all
&AUTHPARAMS
```

Example Response

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

Related Actions

- DescribeSnapshotAttribute (p. 268)
- DescribeSnapshots (p. 270)
- ResetSnapshotAttribute (p. 407)
- 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. 337) 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. 337) 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

```xml
    <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
    <return>true</return>
</ModifyVolumeAttributeResponse>
```

Related Actions

- DescribeVolumeAttribute (p. 298)
- DescribeVolumeStatus (p. 304)
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. 485)

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>

API Version 2013-06-15
<item>
  <instanceId>i-23a3397d</instanceId>
  <monitoring>
    <state>pending</state>
  </monitoring>
</item>
</instancesSet>
</MonitorInstancesResponse>

**Related Actions**

- UnmonitorInstances (p. 431)
- RunInstances (p. 415)
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. 500)
- 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>
</PurchaseReservedInstancesOfferingResponse>
```

### 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. 251) to get a list of Reserved Instance offerings that match your specifications. In this example, we'll request a list of Linux/UNIX, Light Utilization Reserved Instances that are available through the Reserved Instance Marketplace only.

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

The following is an example response.
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.

```
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazonaws.com/doc/2012-08-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservedInstancesId>e5a2ff3b-7d14-494f-90af-0b5d0EXAMPLE</reservedInstancesId>
</PurchaseReservedInstancesOfferingResponse>
```

3. To verify the purchase, check for your new Reserved Instance with DescribeReservedInstances (p. 243).
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>
      <recurringCharges/>
    </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. 251)
- DescribeReservedInstances (p. 243)
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
&AUTHPARAMS

Example Response

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

- RunInstances (p. 415)
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.

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.

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


Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 168)
- AssociateAddress (p. 17)
- DisassociateAddress (p. 331)
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

    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>

Related Actions

- CreateNetworkAcl (p. 75)
- DeleteNetworkAcl (p. 132)
- DescribeNetworkAcls (p. 224)
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.

```plaintext
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

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

Related Actions

- CreateNetworkAclEntry (p. 77)
- DeleteNetworkAclEntry (p. 134)
- DescribeNetworkAcls (p. 224)
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.
Type: xsd:string

return

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

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

<pre>&lt;ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-06-15/"
 &lt;requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE&lt;/requestId&gt;
 &lt;return&gt;true&lt;/return&gt;
 &lt;/ReplaceRouteResponse&gt;</pre>

Related Actions

- DeleteRoute (p. 140)
- CreateRoute (p. 96)
- DescribeRouteTables (p. 260)
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/2013-06-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <newAssociationId>rtbassoc-faad4893</newAssociationId>
</ReplaceRouteTableAssociationResponse>
```

Related Actions

- CreateRouteTable (p. 99)
- DisassociateRouteTable (p. 333)
- DeleteRouteTable (p. 142)
- DescribeRouteTables (p. 260)
- 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 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=2013-06-15
&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>b8131cff-dfbd-4277-bafe-be006fd0c4da</requestId>
  <return>true</return>
</ReportInstanceStatusResponse>
```
RequestSpotInstances

Description

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

Note

Users must be subscribed to the required product to run an instance with AWS Marketplace product codes.

Request Parameters

SpotPrice

The maximum hourly price for any Spot Instance launched to fulfill the request.
Type: String
Default: None
Required: Yes

InstanceCount

The maximum number of Spot Instances to launch.
Type: Integer
Default: 1
Required: No

Type

The Spot Instance request type.
Type: String
Valid values: one-time | persistent
Default: one-time
Required: No

ValidFrom

The start date of the request. If this is a one-time request, the request becomes active at this date and time and remains active until all instances launch, the request expires, or the request is canceled. If the request is persistent, the request becomes active at this date and time and remains active until it expires or is canceled.
Type: DateTime
Default: Request is effective 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
Default: Instances are launched and terminated individually
Required: No

AvailabilityZoneGroup
The user-specified name for a logical grouping of bids.
When you specify AvailabilityZoneGroup in a Spot Instance request, all Spot Instances in the request are launched in the same Availability Zone. Instance proximity is maintained with this parameter, but choice of Availability Zone is not. AvailabilityZoneGroup applies only to bids for Spot Instances of the same instance type. Any additional Spot Instance requests that are specified with the same AvailabilityZoneGroup name 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 | cc1.4xlarge | 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 named 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 LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress option.
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 LaunchSpecification.NetworkInterface.n.PrivateIpAddress option.
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 LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress option.
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
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. 508)

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.
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

```
  <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>
        <groupId>sg-1a2b3c4d</groupId>
        <groupName>websrv</groupName>
      </launchSpecification>
      <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
    </item>
  </spotInstanceRequestSet>
</RequestSpotInstancesResponse>
```

Related Actions

- DescribeSpotInstanceRequests (p. 276)
• CancelSpotInstanceRequests (p. 50)
• DescribeSpotPriceHistory (p. 284)
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. 352)
- 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 2013-06-15
Example Response

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

Related Actions

- ModifyInstanceAttribute (p. 355)
- 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>
</ResetNetworkInterfaceAttributeResponseResponse>
```
<return>true</return>
</ResetNetworkInterfaceAttributeResponse>

Related Actions

- AttachNetworkInterface (p. 26)
- DetachNetworkInterface (p. 323)
- CreateNetworkInterface (p. 80)
- DeleteNetworkInterface (p. 136)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 359)
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. 361)
- [DescribeSnapshotAttribute](#) (p. 268)
- [DescribeSnapshots](#) (p. 270)
- [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 EC2-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

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

Related Actions

- CreateSecurityGroup (p. 101)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupEgress (p. 32)
- AuthorizeSecurityGroupIngress (p. 35)
- AuthorizeSecurityGroupIngress (p. 412)
- 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

GroupId
The ID of the security group. The security group must belong to your AWS 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.
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: Conditional
Condition: Required for EC2-VPC

IpPermissions.n.FromPort
The start of port range for the TCP and UDP protocols, or an ICMP type number. For the ICMP type number, you can use -1 to specify all ICMP types.
Type: Integer
Default: None
Required: 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. 264)
- 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.
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.
**Request Parameters**

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

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. 462)

instancesSet
  A list of instances. Each instance is wrapped in an item element.
  Type: RunningInstancesItemType (p. 503)
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
&AUTHPARAMS
```

Example Request

This example launches an m1.small instance into a subnet. Because no network interface is specified, the default network interface is used.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-31814f58
&InstanceType=m1.small
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&SubnetId=subnet-b2a249da
&AUTHPARAMS
```

Example Request

This example launches an m1.large instance into a subnet. The network interface specifies a primary private IP address of 10.0.2.106 and two secondary private IP addresses (10.0.2.107 and 10.0.2.108).

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-beb0caec
&InstanceType=m1.large
&MaxCount=1
&MinCount=1
&KeyName=my-key-pair
&NetworkInterface.0.DeviceIndex=0
&NetworkInterface.0.PrivateIpAddresses.0.Primary=true
&NetworkInterface.0.PrivateIpAddresses.0.PrivateIpAddress=10.0.2.106
&NetworkInterface.0.PrivateIpAddresses.1.Primary=false
&NetworkInterface.0.PrivateIpAddresses.1.PrivateIpAddress=10.0.2.107
&NetworkInterface.0.PrivateIpAddresses.2.Primary=false
&NetworkInterface.0.PrivateIpAddresses.2.PrivateIpAddress=10.0.2.108
```
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-dea63cb7
&Placement.Tenancy=dedicated
&AUTHPARAMS

Related Actions

- DescribeInstances (p. 202)
- StopInstances (p. 425)
- StartInstances (p. 423)
- TerminateInstances (p. 427)
- AuthorizeSecurityGroupIngress (p. 35)
- RevokeSecurityGroupIngress (p. 412)
- DescribeSecurityGroups (p. 264)
- CreateSecurityGroup (p. 101)
- CreateKeyPair (p. 72)
- ImportKeyPair (p. 347)
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. 474)

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. 425)
- RunInstances (p. 415)
- DescribeInstances (p. 202)
- TerminateInstances (p. 427)
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. 474)
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. 423)
- RunInstances (p. 415)
- DescribeInstances (p. 202)
- TerminateInstances (p. 427)
TerminatInstances

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. 474)

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. 415)
- StopInstances (p. 425)
- StartInstances (p. 423)
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. 437)
  Default: None
  Required: Yes

Response Elements

The following elements are returned in an UnassignPrivateIpAddressesResponse element.

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

return
Returns true if the request succeeds. Otherwise, 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 a 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. 485)

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. 366)
- RunInstances (p. 415)
Data Types

Topics
- AccountAttributeSetItemType (p. 436)
- AccountAttributeValueSetItemType (p. 436)
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• VpnConnectionOptionsResponseSetType (p. 519)
• VpnConnectionType (p. 520)
• VpnGatewayType (p. 521)
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. 436)

AccountAttributeValueSetItemType

Describes a value of an account attribute.

**Ancestors**

- AccountAttributeSetItemType (p. 436)

**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. 429)

**Contents**

privateIpAddress

The private IP address.

Type: String

AttachmentSetItemResponseType

Describes an attachment between a volume and an instance.

**Ancestors**

- AttachmentSetResponseType

**Relevant Operations**

- DescribeVolumes (p. 300)

**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. 318)

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. 439)

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. 276)
- RegisterImage (p. 375)
- RequestSpotInstances (p. 393)
- RunInstances (p. 415)

**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. 459)

- **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. 441)

**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. 442)

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. 442)

Relevant Operations

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

Contents

s3
An Amazon S3 storage location.
Type: BundleInstanceS3StorageType (p. 440)

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. 441)

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. 441)

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. 343)
- ImportVolume (p. 349)

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### CreateVolumePermissionItemType

Describes volume creation permissions.

### Ancestors

- CreateVolumePermissionListType

### Relevant Operations

- DescribeSnapshotAttribute (p. 268)
- ModifySnapshotAttribute (p. 361)
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. 500)
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. 496)

- **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. 512)
imageOwnerAlias
  The AWS account alias (for example, amazon, self, etc.) or AWS account ID that owns the AMI.
  Type: String

name
  The name of the AMI that was provided during image creation.
  Type: String

description
  The description of the AMI that was provided during image creation.
  Type: String

rootDeviceType
  The type of root device used by the AMI. The AMI can use an Amazon EBS volume or an instance store volume.
  Type: String
  Valid values: ebs | instance-store

rootDeviceName
  The device name of the root device (for example, /dev/sda1 or xvda).
  Type: String

blockDeviceMapping
  Any block device mapping entries, each one wrapped in an item element.
  Type: BlockDeviceMappingItemType (p. 439)

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. 500)

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

DescribeKeyPairsResponseItemType

Describes a key pair.

Ancestors

• DescribeKeyPairsResponseInfoType

Relevant Operations

• DescribeKeyPairs (p. 222)
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. 247)

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. 468)

priceSchedules
The price of the Reserved Instance listing.
Type: PriceScheduleSetType (p. 494)

tagSet
The tags assigned to the resource. Each tag's information is wrapped in an item element.
Type: ResourceTagSetItemType (p. 500)

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. 247)

Contents

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

DescribeReservedInstancesOfferingsResponseSetItemType
Describes a Reserved Instance offering.

Ancestors

• DescribeReservedInstancesOfferingsResponseSetType

Relevant Operations

• DescribeReservedInstancesOfferings (p. 251)
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. 498)

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. 495).
DescribeReservedInstancesOfferingsResponseType

Describes a Reserved Instance offering.

**Ancestors**

- DescribeReservedInstancesOfferings

**Relevant Operations**

- DescribeReservedInstancesOfferings (p. 251)

**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. 450)
- `nextToken`
  - The next paginated set of results to return.
  - Type: String

DescribeReservedInstancesResponseSetItemType

Describes a Reserved Instance.

**Ancestors**

- DescribeReservedInstancesResponseSetType

**Relevant Operations**

- DescribeReservedInstances (p. 243)

**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 a item element.
  Type: ResourceTagSetItemType (p. 500)

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. 498)
DescribeReservedInstancesListings

Relevant Operations

• DescribeReservedInstances (p. 243)

Contents

reservedInstancesId
  The ID of the Reserved Instance.
  Type: String

DescribeSnapshotsSetItemResponseType

Describes a snapshot.

Ancestors

• DescribeSnapshotsSetResponse

Relevant Operations

• DescribeSnapshots (p. 270)

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. 500)

DescribeVolumesSetItemResponseType

Describes an Amazon EBS volume.

Ancestors

• ItemType-DescribeVolumesSetResponseItemType

Relevant Operations

• DescribeVolumes (p. 300)

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: AttachmentSetItemResponseType (p. 437)

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 500)

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

iops
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. 457)

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. 456)
tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 500)

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. 465)
- ImportVolumeTaskDetailsType (p. 466)

Relevant Operations

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 343)
- ImportVolume (p. 349)

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. 465)
- ImportVolumeTaskDetailsType (p. 466)

Relevant Operations

- DescribeConversionTasks (p. 178)
- ImportInstance (p. 343)
- ImportVolume (p. 349)
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. 439)

Relevant Operations

• DescribeImageAttribute (p. 189)
• DescribeImages (p. 192)
• DescribeSpotInstanceRequests (p. 276)
• RegisterImage (p. 375)
• RequestSpotInstances (p. 393)
• RunInstances (p. 415)

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. 467)

Relevant Operations
• DescribeInstanceAttribute (p. 199)
• DescribeInstances (p. 202)
• RunInstances (p. 415)

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
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. 469)
- `exportToS3`
  - The destination Amazon S3 bucket.
  - Type: ExportToS3TaskResponseType (p. 461)

ExportToS3TaskResponseType

Describes an export task.

Ancestors

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType
- ExportTaskResponseType

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. 276)
- RequestSpotInstances (p. 393)
- RunInstances (p. 415)

**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. 393)
- RunInstances (p. 415)

**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. 393)
- RunInstances (p. 415)

**Contents**

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

**IcmpTypeCodeType**
Describes the ICMP type and code.

**Ancestors**
- NetworkAclEntryType (p. 486)

**Relevant Operations**
- CreateNetworkAcl (p. 75)
- DescribeNetworkAcls (p. 224)

**Contents**

**code**
The ICMP code. A value of -1 means all codes for the specified ICMP type.
Type: Integer

**type**
The ICMP type. A value of -1 means all types.
Type: Integer

**ImportInstanceTaskDetailsType**
Describes an import instance task.

**Ancestors**
- ConversionTaskType (p. 443)

**Relevant Operations**
- DescribeConversionTasks (p. 178)
- ImportInstance (p. 343)
- ImportVolume (p. 349)
Contents

**volumes**
Any instance volumes for import, each one wrapped in an `item` element.
Type: `ImportInstanceVolumeDetailItemType` (p. 465)

**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. 343)
- `ImportVolume` (p. 349)

---

**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. 457)

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

**volume**
The volume.
Type: `DiskImageVolumeDescriptionType` (p. 458)
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. 443)

Relevant Operations
• DescribeConversionTasks (p. 178)
• ImportInstance (p. 343)
• ImportVolume (p. 349)

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. 457)

volume
The volume.
Type: DiskImageVolumeDescriptionType (p. 458)

InstanceBlockDeviceMappingItemType
Describes a block device mapping.
Ancestors

- InstanceBlockDeviceMappingType

Relevant Operations

- ModifyInstanceAttribute (p. 355)

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. 469)

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

InstanceBlockDeviceMappingResponseType

Describes a block device mapping.

Ancestors

- InstanceBlockDeviceMappingResponseType

Relevant Operations

- DescribeInstanceAttribute (p. 199)
- DescribeInstances (p. 202)
- RunInstances (p. 415)

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. 247)

**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. 247)

**Contents**

- **item**
  The Reserved Instance listing item.
  Type: InstanceCountsSetItemType (p. 468)
InstanceEbsBlockDeviceType

Describes parameters used to set up an Amazon EBS volume.

**Ancestors**

- InstanceBlockDeviceMappingItemType (p. 466)

**Relevant Operations**

- ModifyInstanceAttribute (p. 355)

**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
targetEnvironment
The target virtualization environment.
Type: String
Valid values: vmware | citrix

InstanceMonitoringStateType
Describes the monitoring information for an instance.

Ancestors

- MonitorInstancesResponseSetItemType (p. 485)
- RunningInstancesItemType (p. 503)

Relevant Operations

- DescribeInstances (p. 202)
- MonitorInstances (p. 366)
- RunInstances (p. 415)
- UnmonitorInstances (p. 431)

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. 415)

Contents

publicIp
The address of the Elastic IP address bound to the network interface.
InstanceNetworkInterfaceAttachmentType

Describes a network interface attachment.

**Relevant Operations**

- DescribeInstances (p. 202)
- RunInstances (p. 415)

**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. 231)

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. 506)

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: PrivateIpAddressesSetItemTypeRequestType (p. 495)

secondaryPrivateIpAddressCount
  The number of secondary private IP addresses. You cannot specify this option with privateIpAddressesSet.
  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. 462)

attachment
   The network interface attachment.
   Type: InstanceNetworkInterfaceAttachmentType (p. 471)

association
   The association information for an Elastic IP associated with the network interface.
   Type: InstanceNetworkInterfaceAssociationType (p. 470)

privateIpAddressesSet
   The private IP addresses associated with the network interface.
   Type: InstancePrivateIpAddressesSetItemType (p. 474)
InstancePrivateIpAddressesSetItemType

Describes a private IP address.

**Ancestors**

- InstancePrivateIpAddressesSetType

**Relevant Operations**

- DescribeInstances (p. 202)
- RunInstances (p. 415)

**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. 470)

InstanceStateChangedType

Describes an instance state change.

**Ancestors**

- InstanceStateChangedSetType

**Relevant Operations**

- StartInstances (p. 423)
- StopInstances (p. 425)
- TerminateInstances (p. 427)
Contents

**instanceId**
The instance ID.
Type: String

**currentState**
The current state of the instance.
Type: InstanceStateType (p. 475)

**previousState**
The previous state of the instance.
Type: InstanceStateType (p. 475)

**InstanceStateType**
Describes the current state of the instance.

**Ancestors**

- InstanceStateChangeType (p. 474)
- RunningInstancesItemType (p. 503)

**Relevant Operations**

- DescribeInstances (p. 202)
- DescribeInstanceStatus (p. 212)
- RunInstances (p. 415)
- StartInstances (p. 423)
- StopInstances (p. 425)
- TerminateInstances (p. 427)

Contents

**code**
The low byte represents the state. The high byte is an opaque internal value and should be ignored.
Type: Integer (16-bit unsigned)
Valid values: 0 (pending) | 16 (running) | 32 (shutting-down) | 48 (terminated) | 64 (stopping) | 80 (stopped)

**name**
The current state of the instance.
Type: String
Valid values: pending | running | shutting-down | terminated | stopping | stopped
InstanceStatusDetailsSetType

Describes the instance status.

Ancestors

- InstanceStatusItemType (p. 477)
- InstanceStatusType (p. 478)

Relevant Operations

- DescribeInstanceStatus (p. 212)

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. 212)

Contents

item

The scheduled events for the instance.
Type: InstanceStatusEventType (p. 477)
InstanceStatusEventType

Describes an instance event.

Ancestors

- InstanceStatusEventsSetType (p. 476)

Relevant Operations

- DescribeInstanceStatus  (p. 212)

Contents

**code**

The associated code of the event.

Type: String

Valid parameters: instance-reboot | system-reboot | instance-retirement

**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. 212)

Contents

**instanceId**

The ID of the instance.
InstanceStatusSetType

Describes the status of an instance.

**Relevant Operations**

- DescribeInstanceStatus (p. 212)

**Contents**

**item**

The status of the instance.
Type: InstanceStatusItemType (p. 477)

InstanceStatusType

Describes the state of an instance.

**Ancestors**

- InstanceStatusItemType (p. 477)

**Relevant Operations**

- DescribeInstanceStatus (p. 212)
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. 476)

InternetGatewayAttachmentType

Describes the attachment of a VPC to an Internet gateway.

Ancestors

• InternetGatewayAttachmentSetType

Relevant Operations

• AttachInternetGateway (p. 24)
• CreateInternetGateway (p. 70)
• DescribeInternetGateways (p. 219)

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. 219)

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. 479)

tagSet
   Any tags assigned to the resource, each one wrapped in an item element.
   Type: ResourceTagSetItemType (p. 500)

IpPermissionType

Describes a security group rule.

Ancestors

- IpPermissionSetType

Relevant Operations

- AuthorizeSecurityGroupIngress (p. 35)
- DescribeSecurityGroups (p. 264)
- RevokeSecurityGroupIngress (p. 412)

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

fromPort
   The start of port range for the TCP and UDP protocols, or an ICMP type number. A value of -1
   indicates all ICMP types.
   Type: Integer
toPort
The end of port range for the TCP and UDP protocols, or an ICMP code. A value of -1 indicates all ICMP codes for the given ICMP type.
Type: Integer

groups
A list of security group and AWS account ID pairs. Each pair is wrapped in an item element.
Type: UserIdGroupPairType (p. 515)

ipRanges
A list of IP ranges. Each range is wrapped in an item element.
Type: IpRangeItemType (p. 481)

IpRangeItemType
Describes an IP range.

Ancestors
• IpRangeSetType

Relevant Operations
• AuthorizeSecurityGroupIngress (p. 35)
• DescribeSecurityGroups (p. 264)
• RevokeSecurityGroupIngress (p. 412)

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. 352)
LaunchSpecificationRequestType

Describes the launch specification of a Spot Instance.

Ancestors

- RequestSpotInstancesType

Relevant Operations

- RequestSpotInstances (p. 393)

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. 462)

userData
Base64-encoded MIME user data made available to the instance(s) in the reservation.
Type: UserDataType (p. 514)

instanceType
The instance type.
Type: String

placement
The placement information for the instance.
Type: PlacementRequestType (p. 491)

c 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. 439)

monitoring
  The monitoring information for the instance.
  Type: MonitoringInstanceType (p. 484)

subnetId
  The ID of the subnet.
  Type: String

networkInterfaceSet
  The network interfaces associated with the instance.
  Type: InstanceNetworkInterfaceSetItemType (p. 471)

iamInstanceProfile
  The IAM Instance Profile (IIP) associated with the instance.
  Type: IamInstanceProfileRequestType (p. 463)

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

LaunchSpecificationResponseType

Describes the launch specification of a Spot Instance.

Ancestors

• SpotInstanceRequestSetItemType (p. 508)

Relevant Operations

• DescribeSpotInstanceRequests (p. 276)

Contents

imageId
  The AMI ID.
  Type: String

keyName
  The name of the key pair.
MonitoringInstanceType

Describes the monitoring for the instance.

Ancestors

- LaunchSpecificationRequestType (p. 482)
- LaunchSpecificationResponseType (p. 483)
• RunInstancesType

Relevant Operations

• DescribeSpotInstanceRequests (p. 276)
• RequestSpotInstances (p. 393)
• RunInstances (p. 415)

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. 366)
• UnmonitorInstances (p. 431)

Contents

instanceId
   The instance ID.
   Type: String

monitoring
   The monitoring information.
   Type: InstanceMonitoringStateType (p. 470)

NetworkAclAssociationType

Describes an association between a network ACL and a subnet.

Ancestors

• NetworkAclAssociationSetType
**Relevant Operations**

- CreateNetworkAcl (p. 75)
- DescribeNetworkAcls (p. 224)

**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. 224)

**Contents**

**ruleNumber**

The rule number for the entry. ACL entries are processed in ascending order by rule number.

Type: Integer

**protocol**

The protocol. A value of -1 means all protocols.

Type: Integer

Valid values: Any protocol number (see Protocol Numbers).

**ruleAction**

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

Type: String

**egress**

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

Type: Boolean
NetworkAclType

Describes a network ACL.

**Ancestors**

- NetworkAclSetType

** Relevant Operations**

- CreateNetworkAcl (p. 75)
- DescribeNetworkAcls (p. 224)

**Contents**

**networkAclId**

The ID of the network ACL.

Type: String

**vpcId**

The ID of the VPC for the network ACL.

Type: String

**default**

Indicates whether this is the default network ACL for the VPC.

Type: Boolean

**entrySet**

A list of entries (rules) in the network ACL. Each entry is wrapped in a \texttt{item} element.

Type: NetworkAclEntryType (p. 486)

**associationSet**

A list of associations between the network ACL and one or more subnets. Each association is wrapped in a \texttt{item} element.

Type: NetworkAclAssociationType (p. 485)

**tagSet**

Any tags assigned to the resource, each one wrapped in a \texttt{item} element.

Type: ResourceTagSetItemType (p. 500)
NetworkInterfaceAssociationType

Describes association information for an Elastic IP address.

**Ancestors**

- InstanceNetworkInterfaceSetItemType

**Relevant Operations**

- CreateNetworkInterface (p. 80)
- DescribeNetworkInterfaces (p. 231)

**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. 231)

**Contents**

```
attachmentID
The ID of the network interface attachment.
Type: String
```
instanceID
   The ID of the instance.
   Type: String

NetworkInterfacePrivateIpAddressesSetItemType

Describes the private IP address of a network interface.

Relevant Operations

• DescribeNetworkInterfaces (p. 231)

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: NetworkInterfaceAssociationType (p. 488)

NetworkInterfaceType

Describes a network interface.

Ancestors

• NetworkInterfaceSetType

Relevant Operations

• CreateNetworkInterface (p. 80)
• DescribeNetworkInterfaces (p. 231)

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

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. 462)

attachment
  The network interface attachment.
  Type: NetworkInterfaceAttachmentType (p. 488)
association
The association information for an Elastic IP associated with the network interface.
Type: NetworkInterfaceAssociationType (p. 488)
tagSet
The tags assigned to the resource.
Type: ResourceTagSetItemType (p. 500)
privateIpAddressesSet
The private IP addresses associated with the network interface. Items are returned in a set.
Type: NetworkInterfacePrivateIpAddressesSetItemType (p. 489)

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. 482)
• LaunchSpecificationResponseType (p. 483)
• RunInstancesType
Relevant Operations

- DescribeSpotInstanceRequests (p. 276)
- RequestSpotInstances (p. 393)
- RunInstances (p. 415)

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. 503)

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. 486)

Relevant Operations

• DescribeNetworkAcls (p. 224)

Contents

from
  The first port in the range.
  Type: Integer

to
  The last port in the range.
  Type: Integer

PriceScheduleRequestSetItemType

Describes the price for a Reserved Instance.

Ancestors

• PriceScheduleRequestSetType

Relevant Operations

• CreateReservedInstancesListing (p. 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. 247)

Contents

item

The Reserved Instance listing price schedule item.
Type: PriceScheduleSetItemType (p. 494).

PricingDetailsSetItemType

Describes a Reserved Instance offering.

Ancestors

- DescribeReservedInstancesOfferings

Relevant Operations

- DescribeReservedInstancesOfferings (p. 251)

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. 429)

Contents

privateIpAddressesSet
- The list of private IP addresses.
  Type: AssignPrivateIpAddressesSetItemRequestType (p. 437)

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. 352)

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. 268)
- DescribeVolumeAttribute (p. 298)
- RunInstances (p. 415)

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. 284)

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. 260)

Contents

gatewayID
The ID of the virtual private gateway (VGW).
Type: String

RecurringChargesSetItemType

Describes a recurring charge.

Relevant Operations

- DescribeReservedInstances (p. 243)
- DescribeReservedInstancesOfferings (p. 251)

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. 240)

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 an item element.
  Type: GroupItemType (p. 462)

instancesSet
  A list of instances. Each instance is wrapped in an item element.
  Type: RunningInstancesItemType (p. 503)

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. 251)

**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. 300)
- DescribeSnapshots (p. 270)
- DescribeSpotInstanceRequests (p. 276)

**Contents**

- `key`
  - The tag key.
  - Type: String
RouteTableAssociationType

Describes an association between a route table and a subnet.

Ancestors

• RouteTableAssociationSetType

Relevant Operations

• CreateRouteTable (p. 99)
• DescribeRouteTables (p. 260)

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. 260)
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. 502)

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. 501)

propagatingVgwSet
  The IDs of any virtual private gateways (VGW) propagating routes, each route wrapped in an item element.
  Type: PropagatingVgwType (p. 497)

tagSet
  Any tags assigned to the resource, each one wrapped in an item element.
  Type: ResourceTagSetItemType (p. 500)

RouteType

Describes a route in a route table.

Ancestors

• RouteSetType

Relevant Operations

• CreateRouteTable (p. 99)
• DescribeRouteTables (p. 260)

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.
RunningInstancesItemType

Describes a running instance.

Ancestors

- RunningInstancesSetType

Relevant Operations

- DescribeInstances (p. 202)
- RunInstances (p. 415)

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. 475)
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. 496)
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. 492)
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. 470)
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. 462)

stateReason
   The reason for the most recent state transition. See StateReasonType (p. 512) for a listing of supported
   state change codes.
   Type: StateReasonType (p. 512)

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: InstanceBlockDeviceMappingResponseType (p. 467)

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

cientToken
   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. 500)

**hypervisor**
The instance's hypervisor type.
Type: String
Valid values: ovirt | xen

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

**iamInstanceProfile**
The IAM Instance Profile (IIP) associated with the instance.
Type: IamInstanceProfileResponseType (p. 463)

**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

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### SecurityGroupIdSetItemType

Describes a security group.

**Ancestors**

- LaunchSpecificationResponseType
- LaunchSpecificationRequestType
- InstanceNetworkInterfaceSetItemType

**Relevant Operations**

- CreateNetworkInterface (p. 80)
- DescribeSpotInstanceRequests (p. 276)
- ModifyNetworkInterfaceAttribute (p. 359)
- ModifyInstanceAttribute (p. 355)
- RequestSpotInstances (p. 393)
- RunInstances (p. 415)

**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. 264)

**Contents**

`ownerId`

The AWS account ID of the owner of the security group.
Type: String

`groupId`

The ID of the security group.
Type: String

`groupName`

The name of the security group.
Type: String

`groupDescription`

A description of the security group.
Type: String

`vpcId`

[EC2-VPC] The ID of the VPC for the security group.
Type: String

`ipPermissions`

A list of inbound rules associated with the security group. Each permission is wrapped in an `item` element.
Type: IpPermissionType (p. 480)

`ipPermissionsEgress`

[EC2-VPC] A list of outbound rules associated with the security group. Each permission is wrapped in an `item` element.
Type: IpPermissionType (p. 480)

`tagSet`

Any tags assigned to the resource, each one wrapped in an `item` element.
Type: ResourceTagSetItemType (p. 500)

SpotDatafeedSubscriptionType

Describes the datafeed for a Spot Instance.
Ancestors

• CreateSpotDatafeedSubscriptionResponseType
• DescribeSpotDatafeedSubscriptionResponseType

Relevant Operations

• CreateSpotDatafeedSubscription (p. 107)
• DescribeSpotDatafeedSubscription (p. 275)

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. 510)

SpotInstanceRequestSetItemType

Describe a Spot Instance request.

Ancestors

• SpotInstanceRequestSetType

Relevant Operations

• DescribeSpotInstanceRequests (p. 276)
• RequestSpotInstances (p. 393)
Contents

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

spotPrice
   The maximum hourly price for any Spot Instance launched to fulfill the request.
   Type: String

type
   The Spot Instance request type.
   Type: String
   Valid values: one-time | persistent

state
   The state of the Spot Instance request. Spot bid status information can help you track your Spot
   Instance requests. For information, see Tracking Spot Requests with Bid Status Codes in the Amazon
   Elastic Compute Cloud User Guide.
   Type: String
   Valid values: open | active | closed | cancelled | failed

fault
   The fault codes for the Spot Instance request, if any.
   Type: SpotInstanceStateFaultType (p. 510)

status
   The status code and status message describing the Spot Instance request.
   Type: SpotInstanceStatusMessageType (p. 510)

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. 483)
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. 500)

**SpotInstanceStateFaultType**

Describes a Spot Instance state change.

**Ancestors**

- SpotDatafeedSubscriptionType (p. 507)
- SpotInstanceRequestSetItemType (p. 508)

**Relevant Operations**

- CreateSpotDatafeedSubscription (p. 107)
- DescribeSpotDatafeedSubscription (p. 275)
- DescribeSpotInstanceRequests (p. 276)
- RequestSpotInstances (p. 393)

**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. 508)
Relevant Operations

• DescribeSpotInstanceRequests (p. 276)

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. 284)

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.
StateReasonType

Describes a state change.

Ancestors

- DescribeImagesResponseItemType (p. 446)
- RunningInstancesItemType (p. 503)

Relevant Operations

- DescribeImages (p. 192)
- DescribeInstances (p. 202)
- RunInstances (p. 415)

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. 288)

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. 500)
TagSetItemType

Describes a tag.

**Relevant Operations**

- DescribeTags (p. 292)

**Contents**

**resourceId**

The ID of the resource. For example, ami-1a2b3c4d.

Type: String

**resourceType**

The type of resource.

Type: String

Valid values:

- customer-gateway
- dhcp-options
- image
- internet-gateway
- network-acl
- network-interface
- reserved-instances
- route-table
- security-group
- snapshot
- spot-instances-request
- subnet
- volume
- vpc
- vpn-connection
- vpn-gateway

**key**

The key of the tag.

Type: String

**value**

The value of the tag.

Type: String

UserDataType

Specifies user data.

**Ancestors**

- LaunchSpecificationRequestType (p. 482)

**Relevant Operations**

- DescribeSpotInstanceRequests (p. 276)
- RequestSpotInstances (p. 393)
- RunInstances (p. 415)

**Contents**

**data**

The Base64-encoded MIME user data made available to the instance(s) in the reservation.
UserIdGroupPairType

Describes a security group and AWS account ID pair.

Ancestors

- UserIdGroupPairSetType

Relevant Operations

- AuthorizeSecurityGroupEgress (p. 32)
- AuthorizeSecurityGroupIngress (p. 35)
- DescribeSecurityGroups (p. 264)
- RevokeSecurityGroupEgress (p. 409)
- RevokeSecurityGroupIngress (p. 412)

Contents

userId

The ID of an AWS account. Cannot be used when specifying a CIDR IP address range.
Type: String

groupId

The ID of the security group in the specified AWS account. Cannot be used when specifying a CIDR IP address range.
Type: String

groupName

The name of the security group in the specified AWS account. Cannot be used when specifying a CIDR IP address range.
Type: String

VolumeStatusItemType

Describes the volume status.

Ancestors

- VolumeStatusSetType

Relevant Operation

- DescribeVolumeStatus (p. 304)
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. 516).

eventSet
   A list of events associated with the volume. Each event is wrapped in an item element.
   Type: VolumeStatusEventItemType (p. 517).

actionSet
   The details of the action. Each action detail is wrapped in an item element.
   Type: VolumeStatusActionItemType (p. 518).

VolumeStatusInfoType

   Describes the status of a volume.

Ancestors

   • VolumeStatusItemType

Relevant Operation

   • DescribeVolumeStatus (p. 304)

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. 516).

VolumeStatusDetailsItemType

   Describes a volume status.
### Ancestors

- VolumeStatusInfoType

### Relevant Operation

- DescribeVolumeStatus (p. 304)

### Contents

**name**

The name of the volume status.

- Type: String

**status**

The intended status of the volume status.

- Type: String

Valid values:

- `io-enabled`
- `io-performance`

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. 304)

### 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
**VolumeStatusActionItemType**

Describes a volume status action code.

**Ancestors**

- VolumeStatusItemType

**Relevant Operation**

- DescribeVolumeStatus (p. 304)

**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)
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. 500)

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. 314)

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. 314)

Contents

vpnConnectionId
The ID of the VPN connection.
Type: String

state
The current state of the VPN connection.
Type: String
Valid values: pending | available | deleting | deleted

customerGatewayConfiguration
The configuration information for the VPN connection's customer gateway (in the native XML format).
This element is always present in the CreateVpnConnection response; however, it's present in the DescribeVpnConnections response only if the VPN connection is in the pending or available state.
Type: String

type
The type of VPN connection.
Type: String
Valid values: ipsec.1

customerGatewayId
The ID of the customer gateway at your end of the VPN connection.
Type: String

vpnGatewayId
The ID of the virtual private gateway at the AWS side of the VPN connection.
Type: String

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 500)

gwTelemetry
The virtual private gateway. Each gateway is wrapped in an item element.
Type: VpnTunnelTelemetryType (p. 522)

options
The option set describing the VPN connection.
Type: VpnConnectionOptionsResponseType (p. 519)
routes
The set of static routes associated with a VPN connection.
Type: VpnStaticRouteType (p. 521)

VpnGatewayType
Describes a virtual private gateway.

Ancestors
• VpnGatewaySetType

Relevant Operations
• CreateVpnGateway (p. 123)
• DescribeVpnGateways (p. 318)

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. 438)

tagSet
Any tags assigned to the resource, each one wrapped in an item element.
Type: ResourceTagSetItemType (p. 500)

VpnStaticRouteType
Describes a static route for a VPN connection.
Ancestors

• VpnStaticRoutesSetType

Relevant Operations

• CreateVpnConnection (p. 118)
• DescribeVpnConnections (p. 314)

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. 314)

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>Example: 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>Example: 2013-06-15</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 with</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the access key ID must be signed up for Amazon EC2, or the request isn't</td>
<td></td>
</tr>
<tr>
<td></td>
<td>accepted. 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>Thh:mm:ssZ. For more information, see ISO 8601.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Example: 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, in</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>the format YYYY-MM-DDThh:mm:ssZ.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Example: 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/7tINHzfXCI7VEXAMPLE</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></td>
<td>HmacSHA1. For more information, see Signature Version 2 Signing Process in the Amazon Web Services General Reference. Example: HmacSHA256</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.

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. 526)
- Security Groups (p. 528)
- Volumes (p. 528)

Instances

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> RebootInstances (p. 373)</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>
<tr>
<td><strong>Action:</strong></td>
<td>StartInstances (p. 423)</td>
<td></td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td>StopInstances (p. 425)</td>
<td></td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td>TerminateInstances (p. 427)</td>
<td></td>
</tr>
</tbody>
</table>
## Security Groups

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Security group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security group</td>
<td></td>
<td></td>
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<tr>
<td>Security group</td>
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<tr>
<td>Security group</td>
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<td></td>
</tr>
<tr>
<td>Security group</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Volumes

<table>
<thead>
<tr>
<th>Resource</th>
<th>ARN Format</th>
<th>Condition Keys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action:</strong> AttachVolume (p. 28)</td>
<td>arn:aws:ec2:region:account:instance/instance-id</td>
<td>ec2:AvailabilityZone, ec2:EbsOptimized, ec2:InstanceProfile, ec2:InstanceType, ec2:PlacementGroup, ec2:Region, ec2:ResourceTag/tag-key, ec2:RootDeviceType, 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 |

**Action: DetachVolume** (p. 325)

| Instance | arn:aws:ec2:region:account:instance/instance-id | ec2:AvailabilityZone  
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.
# Summary of Client Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AddressLimitExceeded</td>
<td>You've reached the limit on the number of Elastic IP addresses you can have.</td>
<td>Each AWS account can allocate a limited number of Elastic IP addresses for EC2-Classic. For new accounts, this limit is 5. If you need additional Elastic IP addresses, please complete the Amazon EC2 Elastic IP Address Request Form. We will ask you to think through your use case and help us understand your business need for additional addresses. You have a separate limit for Elastic IP addresses for EC2-VPC. To request an increase in this limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>AttachmentLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS volumes that can be attached to a single instance.</td>
<td></td>
</tr>
<tr>
<td>AuthFailure</td>
<td>You are not authorized.</td>
<td>You might be trying to use an AMI for which you do not have permissions.</td>
</tr>
<tr>
<td>Blocked</td>
<td>Your account is currently blocked.</td>
<td>Contact <a href="mailto:aws-verification@amazon.com">aws-verification@amazon.com</a> if you have questions.</td>
</tr>
<tr>
<td>ConcurrentTagAccess</td>
<td>The tags for the specified resource cannot be modified as they are currently being modified by another request.</td>
<td>You can’t run simultaneous commands to modify a tag for a specific resource. Allow sufficient wait time for the previous request to complete, then retry your request. For more information, see Error Retries and Exponential Backoff in AWS.</td>
</tr>
<tr>
<td>CustomerGatewayLimitExceeded</td>
<td>You’ve reached the limit on the number of customer gateways you can create.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DependencyViolation</td>
<td>The specified object has dependent resources.</td>
<td></td>
</tr>
<tr>
<td>DiskImageSizeTooLarge</td>
<td>The disk image exceeds the allowed limit (for instance or volume import).</td>
<td></td>
</tr>
<tr>
<td>DryRunOperation</td>
<td>The user has the required permissions so the request would have succeeded.</td>
<td>but the <code>DryRun</code> parameter was used.</td>
</tr>
<tr>
<td>FilterLimitExceeded</td>
<td>The request uses too many filters or too many filter values.</td>
<td></td>
</tr>
<tr>
<td>Gateway.NotAttached</td>
<td>The specified gateway isn't attached, so it can't be detached.</td>
<td></td>
</tr>
<tr>
<td>IdempotentParameterMismatch</td>
<td>The request uses the same client token as a previous, but non-identical request.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>IncorrectState</td>
<td>The resource is in an incorrect state.</td>
<td>This error can occur if you are trying to attach a volume that is still being created, for example. Ensure the volume is in the available state.</td>
</tr>
<tr>
<td>InstanceLimitExceeded</td>
<td>You've reached the limit on the number of instances you can run concurrently.</td>
<td>Each AWS account has a limit on the number of concurrently running instances. For new accounts, this limit is 20. If you need additional instances, please complete the Amazon EC2 Instance Request Form and your request will be considered.</td>
</tr>
<tr>
<td>InsufficientInstanceCapacity</td>
<td>There is insufficient capacity available for the requested instance type.</td>
<td>The returned message provides additional information about how to solve this problem.</td>
</tr>
<tr>
<td>InsufficientReservedInstancesCapacity</td>
<td>There is insufficient capacity for the requested Reserved Instances.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>InternetGatewayLimitExceeded</td>
<td>You've reached the limit on the number of Internet gateways you can create.</td>
<td>To request an increase in this limit, complete the Amazon VPC Limits form.</td>
</tr>
<tr>
<td>InvalidAMIAttributeItemValue</td>
<td>The value of an item added to, or removed from, an image attribute is not valid.</td>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>InvalidAMIID.NotFound</td>
<td>The specified AMI does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidAMIID.Unavailable</td>
<td>The specified AMI has been deregistered and is no longer available.</td>
<td></td>
</tr>
<tr>
<td>InvalidAssociationID.NotFound</td>
<td>The specified association does not exist.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>InvalidConversionTaskId</td>
<td>The specified conversion task ID (for instance or volume import) is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidCustomerGateway.DuplicateIpAddress</td>
<td>There is a conflict among the specified gateway IP addresses.</td>
<td></td>
</tr>
<tr>
<td>InvalidCustomerGatewayID.NotFound</td>
<td>The specified customer gateway does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidDevice.InUse</td>
<td>The device to which you are trying to attach (for example, <code>/dev/sdh</code>) is already in use on the instance.</td>
<td></td>
</tr>
<tr>
<td>InvalidDhcpOptionsID.NotFound</td>
<td>The specified DHCP options set does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidFormat</td>
<td>The specified disk format (for the instance or volume import) is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidFilter</td>
<td>The specified filter is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidGatewayID.NotFound</td>
<td>The specified gateway does not exist.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidGroup.Duplicate</td>
<td>Indicates an attempt to create a duplicate group.</td>
<td></td>
</tr>
<tr>
<td>InvalidGroupId.Malformed</td>
<td>The specified security group ID is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidGroup.InUse</td>
<td>The specified security group can't be deleted because it's in use.</td>
<td></td>
</tr>
<tr>
<td>InvalidGroup.NotFound</td>
<td>The specified security group does not exist.</td>
<td>This error may occur because the security group ID has not propagated through the system. For more information, see Eventual Consistency.</td>
</tr>
<tr>
<td>InvalidGroup.Reserved</td>
<td>The specified security group name is a reserved name.</td>
<td></td>
</tr>
<tr>
<td>InvalidInstanceAttributeValue</td>
<td>The specified instance attribute value is not valid.</td>
<td>This error is most commonly encountered when trying to set the InstanceType—instance-type attribute to an unrecognized value.</td>
</tr>
<tr>
<td>InvalidInstanceID.Malformed</td>
<td>The specified instance ID is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidInstanceID.NotFound</td>
<td>The specified instance does not exist.</td>
<td>This error may occur because the instance ID has not propagated through the system. For more information, see Eventual Consistency.</td>
</tr>
<tr>
<td>InvalidInternetGatewayID.NotFound</td>
<td>The specified Internet gateway does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidIPAddress.InUse</td>
<td>The specified IP address is already in use.</td>
<td></td>
</tr>
<tr>
<td>InvalidKeyPair.Duplicate</td>
<td>Indicates an attempt to create a duplicate key pair.</td>
<td></td>
</tr>
<tr>
<td>InvalidKeyPair.Format</td>
<td>The format of the public key you've attempted to import is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidKeyPair.NotFound</td>
<td>The specified key pair name does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidManifest</td>
<td>The specified AMI has an unparsable manifest.</td>
<td></td>
</tr>
<tr>
<td>InvalidNetworkAclEntry.NotFound</td>
<td>The specified network ACL entry does not exist.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>InvalidNetworkAclID.NotFound</td>
<td>The specified network ACL does not exist.</td>
<td>For example, calling RunInstances with both minCount and maxCount set to 0, or minCount &gt; maxCount.</td>
</tr>
<tr>
<td>InvalidParameterCombination</td>
<td>Indicates an invalid combination of parameters.</td>
<td>Requests that could cause this error include (for example) supplying an invalid image attribute to the DescribeImageAttribute request or an invalid version or encoding value for the userData in a RunInstances request.</td>
</tr>
<tr>
<td>InvalidParameterValue</td>
<td>The value specified for a parameter is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidPermission.Duplicate</td>
<td>Indicates an attempt to authorize a permission that has already been authorized.</td>
<td></td>
</tr>
<tr>
<td>InvalidPermission.Malformed</td>
<td>The specified permission is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidReservationID.Malformed</td>
<td>The specified reservation ID is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidReservationID.NotFound</td>
<td>The specified reservation does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidRoute.NotFound</td>
<td>The specified route does not exist in the route table.</td>
<td></td>
</tr>
<tr>
<td>InvalidRouteTableID.NotFound</td>
<td>The specified route table does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidSecurity.RequestHasExpired</td>
<td>The difference between the request timestamp and the AWS server time is greater than 5 minutes.</td>
<td>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>
<td></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>
<td></td>
</tr>
<tr>
<td>InvalidSnapshot.NotFound</td>
<td>The specified snapshot does not exist.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>-------</td>
</tr>
<tr>
<td>InvalidReservedInstancesId</td>
<td>The specified Reserved Instance does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidReservedInstancesOfferingId</td>
<td>The specified Reserved Instances Offering does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidSubnetID.NotFound</td>
<td>The specified subnet does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidVolumeID.Duplicate</td>
<td>The EBS volume already exists.</td>
<td></td>
</tr>
<tr>
<td>InvalidVolumeID.Malformed</td>
<td>The specified volume ID is not valid.</td>
<td></td>
</tr>
<tr>
<td>InvalidVolumeID.ZoneMismatch</td>
<td>The specified volume and instance are in different Availability Zones.</td>
<td></td>
</tr>
<tr>
<td>InvalidVolume.NotFound</td>
<td>The specified volume does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidVpcID.NotFound</td>
<td>The specified VPC does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidVpnConnectionID.NotFound</td>
<td>The specified VPN connection does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidVpnGatewayID.NotFound</td>
<td>The specified virtual private gateway does not exist.</td>
<td></td>
</tr>
<tr>
<td>InvalidZone.NotFound</td>
<td>The specified Availability Zone does not exist.</td>
<td></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>
<td></td>
</tr>
<tr>
<td>MissingParameter</td>
<td>The request is missing a required parameter.</td>
<td></td>
</tr>
<tr>
<td>NetworkAclEntryAlreadyExists</td>
<td>The specified rule number already exists in this network ACL.</td>
<td></td>
</tr>
<tr>
<td>NetworkAclEntryLimitExceeded</td>
<td>You've reached the limit on the number of network ACL entries you can add to the ACL.</td>
<td></td>
</tr>
<tr>
<td>NetworkAclLimitExceeded</td>
<td>You've reached the limit on the number of network ACLs you can create.</td>
<td></td>
</tr>
<tr>
<td>Error Code</td>
<td>Description</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>NonEBSInstance</td>
<td>The instance specified does not support Amazon EBS.</td>
<td>Please restart the instance and try again. This will ensure that the code is run on an instance with updated code.</td>
</tr>
<tr>
<td>OptInRequired</td>
<td>You are not subscribed to this service.</td>
<td>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>
<td></td>
</tr>
<tr>
<td>PendingVerification</td>
<td>The account is pending verification.</td>
<td>Contact <a href="mailto:aws-verification@amazon.com">aws-verification@amazon.com</a> if you have questions.</td>
</tr>
<tr>
<td>RequestLimitExceeded</td>
<td>The maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account.</td>
<td>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>
<td></td>
</tr>
<tr>
<td>Resource.AlreadyAssociated</td>
<td>The specified gateway is already attached, or specified subnet is already associated with another object.</td>
<td></td>
</tr>
<tr>
<td>ResourceLimitExceeded</td>
<td>Exceeded an EC2 resource limit.</td>
<td>For example, you 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>
<td></td>
</tr>
<tr>
<td>RouteLimitExceeded</td>
<td>You've reached the limit on the number of routes you can add to a route table.</td>
<td></td>
</tr>
<tr>
<td>RouteTableLimitExceeded</td>
<td>You've reached the limit on the number of route tables you can create.</td>
<td></td>
</tr>
<tr>
<td>RulesPerSecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of rules you can add to a security group.</td>
<td></td>
</tr>
</tbody>
</table>
### Summary of Client Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SecurityGroupLimitExceeded</td>
<td>You've reached the limit on the number of security groups you can create.</td>
<td></td>
</tr>
<tr>
<td>SecurityGroupsPerInstanceLimitExceeded</td>
<td>You've reached the limit on the number of security groups you can put an instance into.</td>
<td></td>
</tr>
<tr>
<td>SnapshotLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS snapshots you can create.</td>
<td></td>
</tr>
<tr>
<td>SubnetLimitExceeded</td>
<td>You've reached the limit on the number of subnets you can create for the VPC.</td>
<td></td>
</tr>
<tr>
<td>TagLimitExceeded</td>
<td>You've reached the limit on the number of tags you can assign to the specified resource.</td>
<td>For more information, see <a href="#">Tag Restrictions</a>.</td>
</tr>
<tr>
<td>UnauthorizedOperation</td>
<td>You are not authorized to perform this operation.</td>
<td>For more information, see <a href="#">Controlling Access</a>.</td>
</tr>
<tr>
<td>UnknownParameter</td>
<td>An unknown or unrecognized parameter was supplied.</td>
<td>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>UnsupportedOperation</td>
<td>The instance type or feature is not supported in your requested Availability Zone or with the requested configuration.</td>
<td>The returned message gives guidance on how to solve the problem.</td>
</tr>
<tr>
<td>VolumeInUse</td>
<td>The specified volume is already attached to an instance.</td>
<td>Ensure that the specified volume is in an 'available' state, and not already in use by an instance.</td>
</tr>
<tr>
<td>VolumeLimitExceeded</td>
<td>You've reached the limit on the number of Amazon EBS volumes you can create.</td>
<td></td>
</tr>
<tr>
<td>VpcLimitExceeded</td>
<td>You've reached the limit on the number of VPCs you can create.</td>
<td></td>
</tr>
<tr>
<td>VpnConnectionLimitExceeded</td>
<td>You've reached the limit on the number of VPN connections you can create.</td>
<td></td>
</tr>
</tbody>
</table>
### Summary of Server Error Codes

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<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>
<td></td>
</tr>
<tr>
<td>VpnGatewayLimitExceeded</td>
<td>You've reached the limit on the number of virtual private gateways you can create.</td>
<td></td>
</tr>
<tr>
<td>InsufficientAddressCapacity</td>
<td>Not enough available addresses to satisfy your minimum request.</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
<td>This error should not occur. If this persists, please contact us with details by posting a message on the AWS forums.</td>
</tr>
<tr>
<td>Unavailable</td>
<td>The server is overloaded and can't handle the request.</td>
<td></td>
</tr>
</tbody>
</table>

### Request Error Response

The following shows the structure of a request error response.

```xml
<Response>
  <Errors>
    <Error>
      <API Version 2013-06-15>
```
Example Error Response Request

The following shows an example of an error response.

```
<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.