Amazon Elastic Compute Cloud

API Reference

API Version 2013-02-01

Amazon Elastic Compute Cloud: API Reference

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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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AllocateAddress

Description

Acquires an Elastic IP address for use with your 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*.

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

Specifies whether this Elastic IP address is for use with instances in EC2-Classic (`standard`) or instances in a 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 returns an Elastic IP address for use in EC2-Classic.

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

Example Response

```
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <publicIp>192.0.2.1</publicIp>
   <domain>standard</domain>
</AllocateAddressResponse>
```

Example Request

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

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

Example Response

```
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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. 163)
- ReleaseAddress (p. 373)
- AssociateAddress (p. 16)
- DisassociateAddress (p. 328)

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 network interface to which the IP address is assigned.
>
> 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.
>
> Type: AssignPrivateIpAddressesSetItemRequestType (p. 435)
>
> Default: None
>
> Required: Conditional
>
> Condition: You cannot 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 cannot 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 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

```
<AssignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AssignPrivateIpAddresses>
```

Example Request

This example assigns two secondary private IP addresses to the network interface. The IP addresses are automatically assigned 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

```
<AssignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</AssignPrivateIpAddresses>
```

Related Actions

- DescribeAddresses (p. 163)
- ReleaseAddress (p. 373)
- AssociateAddress (p. 16)
- DisassociateAddress (p. 328)

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 EC2-Classic.

InstanceId
> The ID of the instance.
>
> Type: String
>
> Default: None
>
> Required: Conditional
>
> Condition: Required for EC2-Classic. For a VPC, you can specify either an instance ID or a network interface ID, but not both.

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

NetworkInterfaceId
> [EC2-VPC] The ID of the network interface. Association fails when specifying an instance ID unless exactly one interface is attached.
>
> 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. If the Elastic IP address is associated, and this option is not specified, 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 associates an Elastic IP address with an instance in EC2-Classic.

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

Example Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AssociateAddressResponse>
```

Example Request

This example associates a Elastic IP address with an instance in a VPC and allows the Elastic IP address to be re-assigned to this instance if it's currently assigned to another instance or network interface.

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

```
&AllowReassignment=true
&AUTHPARAMS
```

Example Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
    <associationId>eipassoc-fc5ca095</associationId>
</AssociateAddressResponse>
```

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 163)
- ReleaseAddress (p. 373)
- DisassociateAddress (p. 328)

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. If you want, you can explicitly renew the lease using the operating system on the instance.

For more information about the supported DHCP options and using them with a VPC, see Using DHCP Options in Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

DhcpOptionsId
> The ID of the DHCP options you want to associate with the VPC, or `default` if you want the VPC to use no DHCP options.
>
> Type: String
>
> Default: None
>
> Required: Yes

VpcId
> The ID of the VPC to associate the DHCP options with.
>
> 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 associates the DHCP options with ID dopt-7a8b9c2d with the VPC with ID vpc-1a2b3c4d.

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

```
&VpcId=vpc-1a2b3c4d
&AUTHPARAMS
```

Example Response

```
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Example Request

This example changes the VPC with ID vpc-1a2b3c4d to use no DHCP options.

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

Example Response

```
<AssociateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateDhcpOptions (p. 59)
- DescribeDhcpOptions (p. 178)
- DeleteDhcpOptions (p. 122)

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 if you want 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 ID that AWS provides to represent the association of the route table and the subnet.
>
> Type: xsd:string

Examples

Example Request

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

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

Example Response

```
<AssociateRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <associationId>rtbassoc-f8ad4891</associationId>
</AssociateRouteTableResponse>
```

Related Actions

- CreateRouteTable (p. 91)
- DisassociateRouteTable (p. 330)
- DescribeRouteTables (p. 260)
- ReplaceRouteTableAssociation (p. 382)

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

The example attaches the Internet gateway with ID igw-eaad4883 to the VPC with ID vpc-11ad4878.

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

Example Response

```
<AttachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
```

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

Related Actions

- CreateInternetGateway (p. 68)
- DeleteInternetGateway (p. 124)
- DetachInternetGateway (p. 318)
- DescribeInternetGateways (p. 219)

AttachNetworkInterface

Description

Attaches a network interface to an instance.

Request Parameters

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

InstanceId
> The ID of the instance to attach to the network interface.
>
> 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 attachment.
>
> Type: xsd:string

Examples

Example Request

This example attaches an elastic network interface (ENI) `eni-ffda3197` to the specified instance `i-9cc316fe`.

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

Example Response

```
<AttachNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>ace8cd1e-e685-4e44-90fb-92014d907212</requestId>
    <attachmentId>eni-attach-d94b09b0</attachmentId>
</AttachNetworkInterfaceResponse>
```

Related Actions

- DetachNetworkInterface (p. 320)
- CreateNetworkInterface (p. 77)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 355)
- ResetNetworkInterfaceAttribute (p. 399)

AttachVolume

Description

Attaches an Amazon EBS volume to a running 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.

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

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

Request Parameters

VolumeId
> The ID of the Amazon EBS volume. The volume and instance must be within the same Availability Zone.
>
> Type: String
>
> Default: None
>
> Required: Yes

InstanceId
> The ID of the instance. The instance must be running.
>
> Type: String
>
> Default: None
>
> Required: Yes

Device
> The device name as exposed to the instance (e.g., /dev/sdh, or xvdh).
>
> Type: String
>
> Default: None
>
> Required: Yes

Response Elements

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

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

volumeId

 The ID of the volume.

 Type: xsd:string

instanceId

 The ID of the instance.

 Type: xsd:string

device

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

 Type: xsd:string

status

 The volume 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 attaches volume `vol-1a2b3c4d` to instance `i-1a2b3c4d` and exposes it as `/dev/sdh`. For information on standard storage locations, see the Amazon Elastic Compute Cloud User Guide.

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

Example Response

```
<AttachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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. 104)
- DeleteVolume (p. 149)
- DescribeVolumes (p. 295)
- DetachVolume (p. 322)

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. 436)

Examples

Example Request

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

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

Example Response

```
<AttachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <attachment>
```

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

Related Actions

- CreateVpnGateway (p. 118)
- DescribeVpnGateways (p. 315)
- DetachVpnGateway (p. 324)
- CreateVpc (p. 107)
- CreateVpnConnection (p. 109)

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 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 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.

```
https://ec2.amazonaws.com/?Action=AuthorizeSecurityGroupEgress
&GroupId=sg-1a2b3c4d
&IpPermissions.1.IpProtocol=tcp
&IpPermissions.1.FromPort=80
&IpPermissions.1.ToPort=80
&IpPermissions.1.IpRanges.1.CidrIp=192.0.2.0/24
&IpPermissions.1.IpRanges.2.CidrIp=198.51.100.0/24
&AUTHPARAMS
```

Example Request

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

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

```
<AuthorizeSecurityGroupEgressResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</AuthorizeSecurityGroupEgressResponse>
```

Related Actions

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).

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.

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 instances within the security group as quickly as possible. However, a small delay might occur.

Request Parameters

UserId

    Deprecated

    Required: No

GroupId

    The ID of the security group to modify. The security group must belong to your account.

    Type: String

    Default: None

    Required: Conditional

    Condition: Required for EC2-VPC; can be used instead of GroupName otherwise

GroupName

    The name of the security group to modify.

    Type: String

    Default: None

    Required: Conditional

    Condition: For EC2-Classic, can be used instead of GroupId.

IpPermissions.n.IpProtocol

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

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

Type: String

Valid values for EC2-Classic: `tcp` | `udp` | `icmp` or the corresponding protocol number (`6` | `17` | `1`).

Valid values for EC2-VPC: `tcp` | `udp` | `icmp` or any protocol number (see Protocol Numbers). Use `-1` to specify all.

Required: Yes

IpPermissions.n.FromPort

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

Type: Integer

Default: None

Required: Conditional

Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.ToPort

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

Type: Integer

Default: None

Required: Conditional

Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.Groups.m.UserId

The AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: For security groups in EC2-Classic only. Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupName

The name of the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupId

The ID of the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: For EC2-VPC only. Required if modifying access for one or more source security groups.

IpPermissions.n.IpRanges.m.CidrIp

The CIDR range. Cannot be used when specifying a source security group.

Type: String

Default: None

Constraints: Valid CIDR IP address range.

Required: Conditional

Condition: Required if modifying access for one or more IP address ranges.

Response Elements

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

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

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

Examples

Example Request

This example is for an EC2 security group. The request grants the 192.0.2.0/24 and 198.51.100.0/24 address ranges access to your `websrv` security group on TCP port 80.

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

Example Request

This example is for an EC2 security group. The request grants TCP port 80 access from the source group called `OtherAccountGroup` (in AWS account 111122223333) to your `websrv` security group.

```
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
&AUTHPARAMS
```

Example Request

This example is for a security group for EC2-VPC. The request grants TCP port 80 access from the source group called `OtherGroupInMyVPC` (sg-2a2b3c4d) to your `VpcWebServers` security group (sg-1a2b3c4d). The request requires the group IDs and not the group names. 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
&AUTHPARAMS
```

Example Request

This example is for an EC2 security group. The request grants your local system the ability to use SSH (port 22) to connect to any instance in the `default` security group

```
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
&AUTHPARAMS
```

Example Request

This example is for an EC2 security group. The request gives your local system the ability to use Remote Desktop (port 3389) to connect to any instance in the `default` security group.

```
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
&AUTHPARAMS
```

Example Response

```
<AuthorizeSecurityGroupIngressResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AuthorizeSecurityGroupIngressResponse>
```

Related Actions

- CreateSecurityGroup (p. 93)
- DescribeSecurityGroups (p. 264)
- RevokeSecurityGroupIngress (p. 406)
- DeleteSecurityGroup (p. 139)

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. 440)

Examples

Example Request

This example bundles the `i-e468cd8d` instance.

```
https://ec2.amazonaws.com/?Action=BundleInstance
&InstanceId=i-e468cd8d
&Storage.S3.AWSAccessKeyId='AKIAIOSFODNN7EXAMPLE'
&Storage.S3.Bucket=myawsbucket
&Storage.S3.Prefix=winami
&Storage.S3.UploadPolicy=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIi
wiY29uZGl0aW9ucyI6IFt7ImJ1Y2tldCI6ICJteS1idWNrZXQifSxbInN0YXJ0cy13aXRoIiwgIiR
rZXkiLCAibXktbWV3LWltYWdlIl0seyJhY2wiOiAiZWMyLWJ1bmRsZS1yZWFkIn1dfEXAMPLE
&Storage.S3.UploadPolicySignature=fh5tyyyQD8W4COEthj3nlGNEXAMPLE
&AUTHPARAMS
```

Example Response

```
<BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <bundleInstanceTask>
      <instanceId>i-12345678</instanceId>
      <bundleId>bun-c1a540a8</bundleId>
      <state>bundling</state>
      <startTime>2008-10-07T11:41:50.000Z</startTime>
      <updateTime>2008-10-07T11:51:50.000Z</updateTime>
      <progress>70%</progress>
      <storage>
        <S3>
           <bucket>myawsbucket</bucket>
           <prefix>winami</prefix>
        </S3>
      </storage>
  </bundleInstanceTask>
</BundleInstanceResponse>
```

Related Actions

CancelBundleTask

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. 440)

Examples

Example Request

This example cancels the `bun-cla322b9` bundle task.

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

Example Response

```
<CancelBundleTaskResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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>
        <S3>
```

```
            <bucket>myawsbucket</bucket>
            <prefix>my-new-image</prefix>
        </S3>
      </storage>
  </bundleInstanceTask>
</CancelBundleTaskResponse>
```

Related Actions

- BundleInstance (p. 38)
- DescribeBundleTasks (p. 170)

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 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 cancels the conversion task with ID import-i-fh95npoc.

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

Example Response

```
<CancelConversionTaskResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01">

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

Related Actions

CancelExportTask

Description

Cancels an active export task. The command 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.
> 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 cancels the export task with ID export-i-1234wxyz.

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

Example Response

```
<CancelExportTask xmlns="http://ec2.amazonaws.com/doc/EC2UserGuide">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<return>true</return>
</CancelExportTask>
```

Related Actions

- CreateInstanceExportTask (p. 65)
- DescribeExportTasks (p. 182)

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. 447)

Examples

Example Request

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

```
https://ec2.amazonaws.com/?Action=CancelReservedInstancesListing
&ReservedInstancesListingId.0=3ebe97b5-f273-43b6-a204-7a18cexample
```

Example Response

The response will show `status` is *cancelled*.

```
<CancelReservedInstancesListingResponse>
    <requestId>bec2cf62-98ef-434a-8a15-886fcexample</requestId>
    <reservedInstancesListingsSet>
        <item>
            <reservedInstancesListingId>3ebe97b5-f273-43b6-a204-
7a18cexample</reservedInstancesListingId>
            <reservedInstancesId>af9f760e-9b3f-417a-ad5e-93f0cexample</reserved
```

```
InstancesId>
            <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>
        </item>
```

```
    </reservedInstancesListingsSet>
</CancelReservedInstancesListingResponse>
```

Related Actions

- CreateReservedInstancesListing (p. 84)
- 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. 441)

Examples

Example Request

This example cancels a Spot Instance request.

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

Example Response

```
<CancelSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
```

```
  <item>
    <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
    <state>cancelled</state>
  </item>
</spotInstanceRequestSet></CancelSpotInstanceRequestsResponse>
```

Related Actions

- DescribeSpotInstanceRequests (p. 276)
- RequestSpotInstances (p. 387)
- DescribeSpotPriceHistory (p. 282)

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 EC2 user's instance is eligible for support.

Request Parameters

ProductCode
> The product code.
>
> 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 displays the product code that is associated with the instance.

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

Example Response

```
<ConfirmProductInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <ownerId>111122223333</ownerId>
</ConfirmProductInstanceResponse>
```

Related Actions

- DescribeInstances (p. 197)
- RunInstances (p. 409)

CopyImage

Description

Initiates the copy of an AMI from the specified source region to the region in which the API call is executed.

Request Parameters

SourceRegion
> The ID of the AWS region that contains the AMI to be copied (source).
> Type: String
> Default: None
> Required: Yes

SourceImageId
> The ID of the Amazon EC2 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 of 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 copies the AMI *ami-1a2b3c4d* in us-west-2, giving the new AMI the name *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=us-west-1
&AUTHPARAMS
```

Example Response

```
<CopyImageResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
 <requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
 <imageId>ami-4d3c2b1a</imageId>
</CopyImageResponse>
```

CopySnapshot

Description

Copies a point-in-time snapshot of an Amazon Elastic Block Store (Amazon EBS) volume and stores it in Amazon Simple Storage Service (Amazon S3). You can copy the snapshot within the same region or from one region to another. You can use the snapshot to create new 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 AWS 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 of 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 copies Amazon EBS snapshot `snap-1a2b3c4d` located in the us-west-1 region.

```
https://ec2.amazonaws.com/?Action=CopySnapshot
&AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE
&Description=My%20snapshot
&Signature=VjpSFePIKxDc1IUy92W3SBApdLiap7nno4pEc9iEXAMPLE
&SignatureMethod=HmacSHA256
&SignatureVersion=2
&SourceRegion=us-west-1
&SourceSnapshotId=snap-1a2b3c4d
&Timestamp=2012-12-11T02%3A03%3A35.713Z
&Version=2012-12-01
```

Example Response

```
<CopySnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
<requestId>60bc441d-fa2c-494d-b155-5d6a3EXAMPLE</requestId>
<snapshotId>snap-2a2b3c4d</snapshotId>
</CopySnapshotResponse>
```

Related Actions

- CreateSnapshot (p. 95)
- DeleteSnapshot (p. 141)
- DescribeSnapshots (p. 270)

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 Region, and 9059, which is reserved in the EU West Region.

For more information about ASNs, see the Wikipedia article.

For more information about VPN customer gateways, see Adding an IPsec 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

Default: None

Valid values: `ipsec.1`

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
The customer gateway's Border Gateway Protocol (BGP) Autonomous System Number (ASN) for devices that support BGP.

Type: Integer

Default: 65000

Required: No

Response Elements

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

requestId
    The ID of the request.

    Type: xsd:string

customerGateway
    Information about the customer gateway.

    Type: CustomerGatewayType (p. 443)

Examples

Example Request

This example passes information to AWS about the VPN customer gateway with 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

```
<CreateCustomerGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

   <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. 175)
- DeleteCustomerGateway (p. 120)

CreateDhcpOptions

Description

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

DHCP Option Name	Description
domain-name	A domain name of your choice (for example, example.com).
domain-name-servers	The IP address of a domain name server. You can specify up to four addresses.
ntp-servers	The IP address of a Network Time Protocol (NTP) server. You can specify up to four addresses.
netbios-name-servers	The IP address of a NetBIOS name server. You can specify up to four addresses.
netbios-node-type	The NetBIOS node type (1, 2, 4, or 8). For more information about the values, see RFC 2132. We recommend you only use 2 at this time (broadcast and multicast are currently not supported).

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 new 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 Using DHCP Options with Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

DhcpConfiguration.n.Key
  The name of a DHCP option.
  Type: String
  Default: None
  Required: Yes

DhcpConfiguration.n.Value.m
  A value for the DHCP option.
  Type: String
  Default: None
  Required: Yes

Response Elements

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

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

dhcpOptions
> A set of DHCP options.
>
> Type: DhcpOptionsType (p. 454)

Examples

Example Request

This example creates a new 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

```
<CreateDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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>
      <tagSet/>
  </dhcpOptions>
</CreateDhcpOptionsResponse>
```

Related Actions

CreateImage

Description

Creates an Amazon EBS-backed AMI from an Amazon EBS-backed instance that is either running or stopped. For more information about Amazon EBS-backed AMIs, see Storage for the Root Device.

> **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.

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 of 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 does not shut down the instance before creating the image. When this option is used, file system integrity on the created image cannot 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.
>
> 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
> 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 AMI.
    Type: xsd:string

Examples

Example Request

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

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

Example Response

```
<CreateImageResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
```

Related Actions

- RunInstances (p. 409)
- DescribeInstances (p. 197)
- TerminateInstances (p. 425)

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 of the conversion task or the resource being exported.

Type: String

Default: None

Required: No

InstanceId
The ID of the instance being exported.

Type: String

Default: None

Required: Yes

TargetEnvironment
The target virtualization environment.

Type: String

Default: None

Valid values: `vmware` | `citrix` | `microsoft`

Required: Yes

ExportToS3.DiskImageFormat
The format for the exported image.

Type: String

Default: `vmdk` if `TargetEnvironment = vmware`, otherwise `vhd`

Valid values: `vmdk` | `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

Default: `ova` if `TargetEnvironment = vmare`, otherwise blank

Valid values: `ova`

Required: No

ExportToS3.S3Bucket
The Amazon S3 bucket for the destination image. The bucket must exist and grant write permissions to 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. 458)

Examples

Example Request

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

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

Example Response

```
<CreateInstanceExportTaskResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
<requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
<exportTask>
<exportTaskId>export-i-1234wxyz</exportTaskId>
<description>Example for docs</description>
<state>active</state>
<statusMessage>Running</statusMessage>
<instanceExport>
<instanceId>i-12345678</instanceId >
<targetEnvironment>VMWare</targetEnvironment >
</instanceExport>
<exportToS3>
<diskImageFormat>VMDK</diskImageFormat >
<containerFormat>OVA</containerFormat>
<s3Bucket>my-bucket-for-exported-vm</s3Bucket>
<s3Key>my-exports/ export-i-1234wxyz .ova</s3Key>
</exportToS3>
</exportTask>
</CreateInstanceExportTaskResponse>
```

Related Actions

CreateInternetGateway

Description

Creates a new Internet gateway for use with a VPC. After creating the Internet gateway, you attach it to a VPC using AttachInternetGateway (p. 23). For more information about your VPC and Internet gateway, see Amazon Virtual Private Cloud User Guide.

Request Parameters

This action has no request 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. 477)

Examples

Example Request

This example creates an Internet gateway.

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

Example Response

```
CreateInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01">

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

Related Actions

- DeleteInternetGateway (p. 124)
- AttachInternetGateway (p. 23)
- DetachInternetGateway (p. 318)

- DescribeInternetGateways (p. 219)

CreateKeyPair

Description

Creates a new 2048-bit RSA key pair with the specified name. The public key is stored by Amazon EC2 and the private key is returned to you. 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.

> **Tip**
> The key pair returned to you works only in the region you're using when you create the key pair.
> To create a key pair that works in all regions, use .

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 key pair name you provided.
>
> 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 creates a key pair named gsg-keypair.

```
https://ec2.amazonaws.com/?Action=CreateKeyPair
&KeyName=gsg-keypair
&AUTHPARAMS
```

Example Response

```
<CreateKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keyName>gsg-keypair</keyName>
  <keyFingerprint>
      00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
  </keyFingerprint>
  <keyMaterial>---- BEGIN RSA PRIVATE KEY ----
MIICiTCCAfICCQD6m7oRw0uXOjANBgkqhkiG9w0BAQUFADCBiDELMAkGA1UEBhMC
VVMxCzAJBgNVBAgTAldBMRAwDgYDVQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6
b24xFDASBgNVBAsTC0lBTSBDb25zb2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAd
BgkqhkiG9w0BCQEWEG5vb25lQGFtYXpvbi5jb20wHhcNMTEwNDI1MjA0NTIxWhcN
MTIwNDI0MjA0NTIxWjCBiDELMAkGA1UEBhMCVVMxCzAJBgNVBAgTAldBMRAwDgYD
VQQHEwdTZWF0dGxlMQ8wDQYDVQQKEwZBbWF6b24xFDASBgNVBAsTC0lBTSBDb25z
b2xlMRIwEAYDVQQDEwlUZXN0Q2lsYWMxHzAdBgkqhkiG9w0BCQEWEG5vb25lQGFt
YXpvbi5jb20wgZ8wDQYJKoZIhvcNAQEBBQADgY0AMIGJAoGBAMaK0dn+a4GmWIWJ
21uUSfwfEvySWtC2XADZ4nB+BLYgVIk60CpiwsZ3G93vUEIO3IyNoH/f0wYK8m9T
rDHudUZg3qX4waLG5M43q7Wgc/MbQITxOUSQv7c7ugFFDzQGBzZswY6786m86gpE
Ibb3OhjZnzcvQAaRHhdlQWIMm2nrAgMBAAEwDQYJKoZIhvcNAQEFBQADgYEAtCu4
nUhVVxYUntneD9+h8Mg9q6q+auNKyExzyLwaxlAoo7TJHidbtS4J5iNmZgXL0Fkb
FFBjvSfpJIlJ00zbhNYS5f6GuoEDmFJl0ZxBHjJnyp378OD8uTs7fLvjx79LjSTb
NYiytVbZPQUQ5Yaxu2jXnimvw3rrszlaEXAMPLE=
-----END RSA PRIVATE KEY-----
</keyMaterial>
</CreateKeyPairResponse>
```

Related Actions

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. 485)

Examples

Example Request

The example creates a new network ACL in the VPC with 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

```
<CreateNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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. 127)
- DescribeNetworkAcls (p. 224)
- ReplaceNetworkAclAssociation (p. 375)

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, etc.), and not number them one right after the other (for example, 101, 102, 103, etc.). 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 creates an entry with rule number 110 in the network ACL with 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

```
<CreateNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- DeleteNetworkAclEntry (p. 129)
- ReplaceNetworkAclEntry (p. 377)
- DescribeNetworkAcls (p. 224)

CreateNetworkInterface

Description

Creates a network interface in the specified subnet.

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.

Type: String

Default: None

Required: No

PrivateIpAddresses.n.PrivateIpAddress

The private IP address of the specified network interface. 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.

You cannot specify this parameter with the `PrivateIpAddresses.n.Primary` value of `true` if you specify the `PrivateIpAddress` option.

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 cannot specify this parameter with the value of `true` and the `PrivateIpAddresses.n.PrivateIpAddress` option if you specify the `PrivateIpAddress` option.

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, AWS automatically assigns these IP addresses within the subnet's range.

The number of IP addresses you can assign to a network interface varies by instance type. For more information, see Available Instance Types in the *Amazon Elastic Compute Cloud User Guide*.

For a single network interface, you cannot specify this option and specify more than one private IP address using `PrivateIpAddress.n`.

Type: Integer

Default: None

Required: No

Description

The description of the network interface.

Type: String

Default: None

Required: No

SecurityGroupId.n

The list of security group IDs for the network interface.

Type: SecurityGroupIdSetItemType (p. 504)

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. 487)

Examples

Example Request

This example creates an elastic network interface (ENI) in the specified subnet with a primary IP address that is automatically assigned to the network interface.

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

Example Response

```
<CreateNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
 <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>
        <groupSet>
            <item>
                <groupId>sg-1a2b3c4d</groupId>
```

```
            <groupName>default</groupName>
        </item>
    </groupSet>
    <tagSet/>
    <privateIpAddressesSet>
        <item>
            <privateIpAddress>10.0.2.157</privateIpAddress>
            <primary>true</primary>
        </item>
    </privateIpAddressesSet>
    </networkInterface>
</CreateNetworkInterfaceResponse>
```

Example Request

This example creates an elastic network interface (ENI) in the specified subnet with a primary IP address of 10.0.2.140 and four secondary private IP addresses that are automatically assigned to the network interface.

```
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

```
<CreateNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
 <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:b0:70:7f:1a</macAddress>
        <privateIpAddress>10.0.2.140</privateIpAddress>
        <sourceDestCheck>true</sourceDestCheck>
        <groupSet>
            <item>
                <groupId>sg-1a2b3c4d</groupId>
                <groupName>default</groupName>
            </item>
        </groupSet>
        <tagSet/>
        <privateIpAddressesSet>
            <item>
                <privateIpAddress>10.0.2.140</privateIpAddress>
                <primary>true</primary>
            </item>
```

```
            <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

```
<CreateNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
<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>
            <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. 25)
- DetachNetworkInterface (p. 320)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 355)
- ResetNetworkInterfaceAttribute (p. 399)

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 Using 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 group 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 creates a placement group named XYZ-cluster.

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

Example Response

```
<CreatePlacementGroupResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
```

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

Related Actions

- DeletePlacementGroup (p. 133)
- DescribePlacementGroups (p. 237)

CreateReservedInstancesListing

Description

Creates a new 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, go to Reserved Instance Marketplace in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

reservedInstancesId

The ID of the Reserved Instance that will be listed.

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. 491)

Required: Yes

clientToken

Unique, case-sensitive identifier you provide to ensure idempotency of your listings. This helps avoid duplicate listings. For more information, go to Ensuring Idempotency in the *Amazon Elastic Compute Cloud User Guide*.

Type: String

Default: None

Required: Yes

Response Elements

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

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

reservedInstancesListingSet
> The Reserved Instances listing that was created. The listing information is wrapped in an `item` element.
>
> Type: DescribeReservedInstancesListingsResponseSetItemType (p. 447)

Examples

Example Request

This example creates a Reserved Instance Marketplace listing from the existing Reserved Instance named *f127bd27-a218-43a4-926d-870e8a4307c1*, 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:

Term (months)	Upfront Price
11, 10, 9	$2.50
8, 7, 6	$2.00
5, 4	$1.50
3, 2	$0.70
1	$0.10

```
https://ec2.amazonaws.com/?Action=CreateReservedInstancesListing
&ClientToken=myIdempToken1
&InstanceCount=1
&PriceSchedules.0.Price=2.5
&PriceSchedules.0.Term=11
&PriceSchedules.1.Price=2.0
&PriceSchedules.1.Term=8
&PriceSchedules.2.Price=1.5
&PriceSchedules.2.Term=5
&PriceSchedules.3.Price=0.7
&PriceSchedules.3.Term=3
&PriceSchedules.4.Price=0.1
&PriceSchedules.4.Term=1
&ReservedInstancesId=f127bd27-a218-43a4-926d-870e8a4307c1
&AUTHPARAMS
```

Example Response

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

```
9e57dexample</reservedInstancesListingId>
            <reservedInstancesId>f127bd27-a218-43a4-926d-870e8example</reserved
InstancesId>
              <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>
                        <item>
                            <term>5</term>
                            <price>1.5</price>
                            <currencyCode>USD</currencyCode>
                            <active>false</active>
                        </item>
                        <item>
                            <term>4</term>
                            <price>1.5</price>
                            <currencyCode>USD</currencyCode>
                            <active>false</active>
                        </item>
                        <item>
                            <term>3</term>
                            <price>0.7</price>
                            <currencyCode>USD</currencyCode>
                            <active>false</active>
                        </item>
                        <item>
                            <term>2</term>
                            <price>0.7</price>
                            <currencyCode>USD</currencyCode>
                            <active>false</active>
                        </item>
                        <item>
                            <term>1</term>
                            <price>0.1</price>
                            <currencyCode>USD</currencyCode>
                            <active>false</active>
                        </item>
                    </priceSchedules>
                    <tagSet/>
                    <clientToken>myIdempToken1</clientToken>
                </item>
        </reservedInstancesListingsSet>
</CreateReservedInstancesListingResponse>
```

Related Actions

- CancelReservedInstancesListing (p. 46)
- 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 where the route will be added.

　　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 a gateway attached to your VPC.

　　Type: String

　　Default: None

　　Required: Conditional

　　Condition: You must provide only one of the following: a `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: a `GatewayId`, `InstanceId`, or `NetworkInterfaceId`.

NetworkInterfaceId
　　Allows the routing of network interface IDs. Exactly one interface must be attached when specifying an instance ID or it fails.

Type: String

Default: None

Required: Conditional

Condition: You must provide only one of the following: a `GatewayId`, `InstanceId`, or `NetworkInterfaceId`.

Response Elements

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

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

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

Examples

Example Request

This example creates a route in the route table with ID rtb-e4ad488d. The route matches all traffic (0.0.0.0/0) and routes it to the Internet gateway with 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 creates a route in the route table with ID rtb-g8ff4ea2. The route sends all traffic (0.0.0.0/0) to the NAT instance with ID i-1a2b3c4d.

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

Example Response

```
<CreateRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</CreateRouteResponse>
```

Related Actions

- DeleteRoute (p. 135)
- ReplaceRoute (p. 380)
- DescribeRouteTables (p. 260)

CreateRouteTable

Description

Creates a route table within a VPC. After you create a new 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. 499)

Examples

Example Request

This example creates a route table within the VPC with ID of 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/2013-02-01 /">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <routeTable>
        <routeTableId>rtb-f9ad4890</routeTableId>
        <vpcId>vpc-11ad4878</vpcId>
        <routeSet>
```

```
        <item>
            <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
            <gatewayId>local</gatewayId>
            <state>active</state>
        </item>
    </routeSet>
    <associationSet/>
    <tagSet/>
  </routeTable>
</CreateRouteTableResponse>
```

Related Actions

- AssociateRouteTable (p. 21)
- DisassociateRouteTable (p. 330)
- DescribeRouteTables (p. 260)
- DeleteRouteTable (p. 137)
- ReplaceRouteTableAssociation (p. 382)
- CreateRoute (p. 88)

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 EC2-Classic with the same name as a security group for a VPC. However, you can't have two security groups for EC2-Classic with the same name or two security groups for a VPC with the same name.

You have a default security group for EC2-Classic and a default security group for 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 the `AuthorizeSecurityGroupIngress`, `AuthorizeSecurityGroupEgress`, `RevokeSecurityGroupIngress`, and `RevokeSecurityGroupEgress` actions.

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 that AWS assigns to the security group.
>
> Type: xsd:string

Examples

Example Request

This example creates the `websrv` security group.

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

Example Response

```
<CreateSecurityGroupResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- RunInstances (p. 409)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupIngress (p. 34)
- RevokeSecurityGroupIngress (p. 406)
- DeleteSecurityGroup (p. 139)

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

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 cannot pause all file writes to the volume, you need to unmount the volume from within the instance, issue the snapshot command, and then remount the volume to ensure a consistent and complete snapshot.

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

- Enter the following command from the command line.

```
umount -d device_name
```

For example:

```
# umount -d /dev/sdh
```

To unmount the volume in Windows

1. In Disk Management, right-click the volume to unmount, and select **Change Drive Letter and Path**.
2. Select the mount point to remove and click **Remove**.

Request Parameters

VolumeId
    Required: Yes

Description
    A description of the Amazon EBS 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
    A description of the snapshot.

    Type: xsd:string

Examples

Example Request

This example creates a snapshot of volume `vol-1a2b3c4d`.

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

Example Response

```
<CreateSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <snapshotId>snap-1a2b3c4d</snapshotId>
  <volumeId>vol-1a2b3c4d</volumeId>
  <status>pending</status>
  <startTime>YYYY-MM-DDTHH:MM:SS.000Z</startTime>
  <progress>60%</progress>
  <ownerId>111122223333</ownerId>
  <volumeSize>30</volumeSize>
  <description>Daily Backup</description>
</CreateSnapshotResponse>
```

Related Actions

- DeleteSnapshot (p. 141)
- 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. 505)

Examples

Example Request

This example creates the data feed for the account.

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

Example Response

```
<CreateSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
    <spotDatafeedSubscription>
        <ownerId>111122223333</ownerId>
        <bucket>myawsbucket</bucket>
        <prefix>spotdata_</prefix>
        <state>Active</state>
    </spotDatafeedSubscription>
</CreateSpotDatafeedSubscriptionResponse>
```

Related Actions

- DeleteSpotDatafeedSubscription (p. 143)
- DescribeSpotDatafeedSubscription (p. 275)

CreateSubnet

Description

Creates a subnet in an existing VPC. You can create up to 20 subnets in a VPC. 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. If you need more than 20 subnets, you can request more by going to Request to Increase Amazon VPC Limits.

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 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*.

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: AWS selects a zone for you (recommended)
> Required: No

Response Elements

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

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

subnet
    Information about the subnet.
    Type: SubnetType (p. 510)

Examples

Example Request

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

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

Example Response

```
<CreateSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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. 286)
- DeleteSubnet (p. 144)

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 Using Tags in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

ResourceId.n
> The ID of a resource to tag. For example, `ami-1a2b3c4d`. You can specify multiple resources to assign the tags to.
>
> Type: String
>
> Default: None
>
> Required: Yes

Tag.n.Key
> The key for a tag.
>
> Type: String
>
> Default: None
>
> Constraints: Tag keys are case sensitive and accept a maximum of 128 Unicode characters.
>
> Required: Yes

Tag.n.Value
> The value for a tag. If you don't want the tag to have a value, specify the parameter with no value, and we set the value to an empty string.
>
> Type: String
>
> Default: None
>
> Constraints: Tag values are case sensitive and accept a maximum of 256 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 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 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

```
<CreateTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</CreateTagsResponse>
```

Related Actions

CreateVolume

Description

Creates an Amazon EBS volume that can be attached to any Amazon EC2 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.

Request Parameters

Size

> The size of the volume, in GiBs.
>
> Type: String
>
> Valid values: `1-1024`
>
> 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

SnapshotId

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

AvailabilityZone

> The Availability Zone for the new volume. Use DescribeAvailabilityZones (p. 167) to display Availability Zones that are currently available to your account.
>
> 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 creates a new 80 GiB volume in Availability Zone `us-east-1a`.

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

Example Response

```
<CreateVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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. 149)
- DescribeVolumes (p. 295)
- AttachVolume (p. 27)
- DetachVolume (p. 322)
- DescribeAvailabilityZones (p. 167)

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 Using DHCP Options with Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

CidrBlock

The CIDR block you want the VPC to cover (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 are launched as dedicated tenancy instances regardless of the tenancy assigned to the instance at launch. Setting the instance tenancy to `dedicated` runs your instance on single-tenant hardware.

Type: String

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. 516)

Examples

Example Request

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

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

Example Response

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <vpc>
      <vpcId>vpc-1a2b3c4d</vpcId>
      <state>pending</state>
      <cidrBlock>10.0.0.0/16</cidrBlock>
      <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
      <instanceTenancy>default</instanceTenancy>
      <tagSet/>
   </vpc>
</CreateVpcResponse>
```

Example Request

This example 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

```
<CreateVpcResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>a9e49797-a74f-4f68-b302-a134a51fd054</requestId>
   <vpc>
      <vpcId>vpc-11a63c78</vpcId>
      <state>pending</state>
      <cidrBlock>10.32.0.0/16</cidrBlock>
      <dhcpOptionsId>dopt-1a2b3c4d2</dhcpOptionsId>
      <instanceTenancy>dedicated</instanceTenancy>
   </vpc>
</CreateVpcResponse>
```

Related Actions

- DescribeVpcs (p. 308)
- DeleteVpc (p. 151)
- CreateDhcpOptions (p. 59)
- AssociateDhcpOptions (p. 19)

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 configure your customer gateway, in XML format. 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 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 CreateVpnConnection.

For more information about VPN connections, see Adding an IPsec 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
>
> Default: None
>
> Valid values: `ipsec.1`
>
> 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

AvailabilityZone
> Deprecated. The action ignores this parameter.
>
> Type: String
>
> Default: None
>
> Required: No

Options.StaticRoutesOnly
> Indicates whether the VPN connection requires static routes. If you are creating a VPN connection for a device that does not support BGP, you must specify `true`.
>
> Type: Boolean
>
> Default: `false`

Required: No

Response Elements

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

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

vpnConnection
 Information about the VPN connection.
 Type:

Examples

Example Request

This example creates a VPN connection between the virtual private gateway (VGW) with ID vgw-8db04f81 and the customer gateway with ID cgw-b4dc3961. The response includes configuration information for the VPN connection's customer gateway (in the native XML format, but escaped).

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

Example Response

```
<CreateVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

  <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>
            <ipsec_tunnel>
              <customer_gateway>
                <tunnel_outside_address>
                  <ip_address>YOUR_UPLINK_ADDRESS</ip_address>
                </tunnel_outside_address>
                <tunnel_inside_address>
                  <ip_address>169.254.255.1</ip_address>
                  <network_mask>255.255.255.252</network_mask>
                  <network_cidr>30</network_cidr>
                </tunnel_inside_address>
                <bgp>
```

```
                    <asn>YOUR_BGP_ASN</asn>
                    <hold_time>30</hold_time>
                  </bgp>
              </customer_gateway>
              <vpn_gateway>
                <tunnel_outside_address>
                    <ip_address>72.21.209.193</ip_address>
                </tunnel_outside_address>
                <tunnel_inside_address>
                    <ip_address>169.254.255.2</ip_address>
                    <network_mask>255.255.255.252</network_mask>
                    <network_cidr>30</network_cidr>
                </tunnel_inside_address>
                <bgp>
                    <asn>7224</asn>
                    <hold_time>30</hold_time>
                </bgp>
              </vpn_gateway>
              <ike>
                <authentication_protocol>sha1</authentication_protocol>
                <encryption_protocol>aes-128-cbc</encryption_protocol>
                <lifetime>28800</lifetime>
                <perfect_forward_secrecy>group2</perfect_forward_secrecy>
                <mode>main</mode>
                <pre_shared_key>plain-text-password1</pre_shared_key>
              </ike>
              <ipsec>
                <protocol>esp</protocol>
                <authentication_protocol>hmac-sha1-96</authentication_protocol>
                <encryption_protocol>aes-128-cbc</encryption_protocol>
                <lifetime>3600</lifetime>
                <perfect_forward_secrecy>group2</perfect_forward_secrecy>
                <mode>tunnel</mode>
                <clear_df_bit>true</clear_df_bit>
                <fragmentation_before_encryption>true</fragmentation_before_en
cryption>
                <tcp_mss_adjustment>1396</tcp_mss_adjustment>
                <dead_peer_detection>
                    <interval>10</interval>
                    <retries>3</retries>
                </dead_peer_detection>
              </ipsec>
          </ipsec_tunnel>
          <ipsec_tunnel>
              <customer_gateway>
                <tunnel_outside_address>
                    <ip_address>YOUR_UPLINK_ADDRESS</ip_address>
                </tunnel_outside_address>
                <tunnel_inside_address>
                    <ip_address>169.254.255.5</ip_address>
                    <network_mask>255.255.255.252</network_mask>
                    <network_cidr>30</network_cidr>
                </tunnel_inside_address>
                <bgp>
                    <asn>YOUR_BGP_ASN</asn>
                    <hold_time>30</hold_time>
                </bgp>
              </customer_gateway>
```

```
                  <vpn_gateway>
                    <tunnel_outside_address>
                      <ip_address>72.21.209.225</ip_address>
                    </tunnel_outside_address>
                    <tunnel_inside_address>
                      <ip_address>169.254.255.6</ip_address>
                      <network_mask>255.255.255.252</network_mask>
                      <network_cidr>30</network_cidr>
                    </tunnel_inside_address>
                    <bgp>
                      <asn>7224</asn>
                      <hold_time>30</hold_time>
                    </bgp>
                  </vpn_gateway>
                  <ike>
                    <authentication_protocol>sha1</authentication_protocol>
                    <encryption_protocol>aes-128-cbc</encryption_protocol>
                    <lifetime>28800</lifetime>
                    <perfect_forward_secrecy>group2</perfect_forward_secrecy>
                    <pre_shared_key>plain-text-password2</pre_shared_key>
                    <mode>main</mode>
                  </ike>
                  <ipsec>
                    <protocol>esp</protocol>
                    <authentication_protocol>hmac-sha1-96</authentication_protocol>
                    <encryption_protocol>aes-128-cbc</encryption_protocol>
                    <lifetime>3600</lifetime>
                    <perfect_forward_secrecy>group2</perfect_forward_secrecy>
                    <mode>tunnel</mode>
                    <clear_df_bit>true</clear_df_bit>
                    <fragmentation_before_encryption>true</fragmentation_before_en
cryption>
                    <tcp_mss_adjustment>1396</tcp_mss_adjustment>
                    <dead_peer_detection>
                      <interval>10</interval>
                      <retries>3</retries>
                    </dead_peer_detection>
                  </ipsec>
                </ipsec_tunnel>
            </vpn_connection>
        </customerGatewayConfiguration>
        <type>ipsec.1</type>
        <customerGatewayId>cgw-b4dc3961</customerGatewayId>
        <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
        <tagSet/>
    </vpnConnection>
</CreateVpnConnectionResponse>
```

Example Request

This example creates a VPN connection with the static routes option between the virtual private gateway (VGW), with ID vgw-8db04f81, and the customer gateway, with 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).

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

Example Response

```
<CreateVpnConnectionResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>

    <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>
  <ipsec_tunnel>
    <customer_gateway>
      <tunnel_outside_address>
        <ip_address>111.112.113.11</ip_address>
      </tunnel_outside_address>
      <tunnel_inside_address>
        <ip_address>169.254.200.18</ip_address>
        <network_mask>255.255.255.252</network_mask>
        <network_cidr>30</network_cidr>
      </tunnel_inside_address>
    </customer_gateway>
    <vpn_gateway>
      <tunnel_outside_address>
        <ip_address>92.168.1.2</ip_address>
      </tunnel_outside_address>
      <tunnel_inside_address>
        <ip_address>169.254.200.17</ip_address>
        <network_mask>255.255.255.252</network_mask>
        <network_cidr>30</network_cidr>
      </tunnel_inside_address>
    </vpn_gateway>
    <ike>
      <authentication_protocol>sha1</authentication_protocol>
      <encryption_protocol>aes-128-cbc</encryption_protocol>
      <lifetime>28800</lifetime>
      <perfect_forward_secrecy>group2</perfect_forward_secrecy>
      <mode>main</mode>
      <pre_shared_key>UNoSTegjalhXf_Sc3iFyHeyPWvKLg4PF</pre_shared_key>
    </ike>
    <ipsec>
      <protocol>esp</protocol>
      <authentication_protocol>hmac-sha1-96</authentication_protocol>
      <encryption_protocol>aes-128-cbc</encryption_protocol>
      <lifetime>3600</lifetime>
      <perfect_forward_secrecy>group2</perfect_forward_secrecy>
```

```
      <mode>tunnel</mode>
      <clear_df_bit>true</clear_df_bit>
      <fragmentation_before_encryption>true</fragmentation_before_encryption>
      <tcp_mss_adjustment>1387</tcp_mss_adjustment>
      <dead_peer_detection>
        <interval>10</interval>
        <retries>3</retries>
      </dead_peer_detection>
    </ipsec>
  </ipsec_tunnel>
  <ipsec_tunnel>
    <customer_gateway>
      <tunnel_outside_address>
        <ip_address>111.112.113.11</ip_address>
      </tunnel_outside_address>
      <tunnel_inside_address>
        <ip_address>169.254.200.22</ip_address>
        <network_mask>255.255.255.252</network_mask>
        <network_cidr>30</network_cidr>
      </tunnel_inside_address>
    </customer_gateway>
    <vpn_gateway>
      <tunnel_outside_address>
        <ip_address>192.168.49.23</ip_address>
      </tunnel_outside_address>
      <tunnel_inside_address>
        <ip_address>169.254.200.21</ip_address>
        <network_mask>255.255.255.252</network_mask>
        <network_cidr>30</network_cidr>
      </tunnel_inside_address>
    </vpn_gateway>
    <ike>
      <authentication_protocol>sha1</authentication_protocol>
      <encryption_protocol>aes-128-cbc</encryption_protocol>
      <lifetime>28800</lifetime>
      <perfect_forward_secrecy>group2</perfect_forward_secrecy>
      <mode>main</mode>
      <pre_shared_key>ihG3vT7xtPfNqDa9o3Sn2sjARDigAWI9</pre_shared_key>
    </ike>
    <ipsec>
      <protocol>esp</protocol>
      <authentication_protocol>hmac-sha1-96</authentication_protocol>
      <encryption_protocol>aes-128-cbc</encryption_protocol>
      <lifetime>3600</lifetime>
      <perfect_forward_secrecy>group2</perfect_forward_secrecy>
      <mode>tunnel</mode>
      <clear_df_bit>true</clear_df_bit>
      <fragmentation_before_encryption>true</fragmentation_before_encryption>
      <tcp_mss_adjustment>1387</tcp_mss_adjustment>
      <dead_peer_detection>
        <interval>10</interval>
        <retries>3</retries>
      </dead_peer_detection>
    </ipsec>
  </ipsec_tunnel>
</vpn_connection>
</customerGatewayConfiguration>
        <customerGatewayId>cgw-63ae4b0a</customerGatewayId>
```

```
            <vpnGatewayId>vgw-4ea04527</vpnGatewayId>
            <options>
                <staticRoutesOnly>true</staticRoutesOnly>
            </options>
            <routes/>
        </vpnConnection>
</CreateVpnConnectionResponse>
```

Related Actions

- DescribeVpnConnections (p. 311)
- DeleteVpnConnection (p. 153)
- CreateVpc (p. 107)
- CreateSubnet (p. 100)
- AttachVpnGateway (p. 29)

CreateVpnConnectionRoute

Description

Creates a new 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.

Important
We strongly recommend 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 an IPsec 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 an `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 creates a static route to the VPN connection for the VPN connection ID vpn-83ad48ea to the destination CIDR block 11.12.0.0/16. Note that when using the Query API the "/" is denoted as "%2F".

```
https://ec2.amazonaws.com/?Action=CreateVpnConnectionRoute
&DestinationCidrBlock=11.12.0.0%2F16
```

```
&VpnConnectionId=vpn-83ad48ea
&AUTHPARAMS
```

Example Response

```
<CreateVpnConnectionRouteResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</CreateVpnConnectionRouteResponse>
```

Related Actions

- DeleteVpnConnectionRoute (p. 155)
- DeleteVpnConnection (p. 153)
- DescribeVpnConnections (p. 311)
- CreateVpc (p. 107)
- CreateSubnet (p. 100)
- AttachVpnGateway (p. 29)

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 an IPsec 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
> Default: None
> Valid values: `ipsec.1`
> Required: Yes

AvailabilityZone
> The Availability Zone option has been deprecated. The API ignores this parameter.
> Type: String
> Default: None
> Required: No

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. 518)

Examples

Example Request

This example creates a virtual private gateway.

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

Example Response

```
<CreateVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <vpnGateway>
    <vpnGatewayId>vgw-8db04f81</vpnGatewayId>
    <state>pending</state>
    <type>ipsec.1</type>
    <availabilityZone>us-east-1a</availabilityZone>
    <attachments/>
    <tagSet/>
  </vpnGateway>
</CreateVpnGatewayResponse>
```

Related Actions

- DescribeVpnGateways (p. 315)
- DeleteVpnGateway (p. 157)
- AttachVpnGateway (p. 29)
- DetachVpnGateway (p. 324)

DeleteCustomerGateway

Description

Deletes a VPN customer gateway. You must delete the VPN connection before deleting the customer gateway.

For more information about VPN customer gateways, see Adding an IPsec 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 an `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 deletes the customer gateway with ID cgw-b4dc3961.

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

Example Response

```
<DeleteCustomerGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateCustomerGateway (p. 57)
- DescribeCustomerGateways (p. 175)

DeleteDhcpOptions

Description

Deletes a set of DHCP options that you specify. The API action returns an error if the set of options you specify is currently associated with a VPC. You can disassociate the set of options by associating either a new set of options or the default options with the VPC.

For more information about DHCP options sets, see Using DHCP Options with Your VPC 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 an `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 deletes the set of DHCP options with ID dopt-7a8b9c2d.

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

Example Response

```
<DeleteDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</DeleteDhcpOptionsResponse>
```

Related Actions

- AssociateDhcpOptions (p. 19)
- CreateDhcpOptions (p. 59)
- DescribeDhcpOptions (p. 178)

DeleteInternetGateway

Description

Deletes an Internet gateway from your AWS account. The gateway must not be attached to a 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

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 deletes the Internet gateway with ID igw-eaad4883.

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

Example Response

```
<DeleteInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

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 deletes the `gsg-keypair` key pair.

```
https://ec2.amazonaws.com/?Action=DeleteKeyPair
&KeyName=gsg-keypair
&AUTHPARAMS
```

Example Response

```
<DeleteKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteKeyPairResponse>
```

Related Actions

- CreateKeyPair (p. 70)
- DescribeKeyPairs (p. 222)
- ImportKeyPair (p. 344)

DeleteNetworkAcl

Description

Deletes a network ACL from a VPC. The ACL must not have any subnets associated with it. 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 deletes the network ACL with ID acl-2cb85d45.

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

Example Response

```
<DeleteNetworkAclResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteNetworkAclResponse>
```

Related Actions

- DescribeNetworkAcls (p. 224)
- ReplaceNetworkAclAssociation (p. 375)

DeleteNetworkAclEntry

Description

Deletes an ingress or egress entry (i.e., rule) from 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 network ACL.
>
> Type: String
>
> Default: None
>
> Required: Yes

RuleNumber
> The rule number for the entry to delete.
>
> Type: Integer
>
> Default: None
>
> Required: Yes

Egress
> Specifies whether the rule to delete is an egress rule (`true`) or ingress rule (`false`).
>
> Type: Boolean
>
> Default: `false`
>
> Valid values: `true` | `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 deletes the ingress entry with rule number 100 from the network ACL with ID acl-2cb85d45.

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

Example Response

```
<DeleteNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

DeleteNetworkInterface

Description

Deletes the specified network interface.

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 deletes an elastic network interface (ENI) `eni-ffda3197`.

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

Example Response

```
<DeleteNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>e1c6d73b-edaa-4e62-9909-6611404e1739</requestId>
    <return>true</return>
</DeleteNetworkInterfaceResponse>
```

Related Actions

DeletePlacementGroup

Description

Deletes a placement group from your account. You must terminate all instances in the placement group before deleting it. For more information about placement groups and cluster instances, see Using 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 deletes the placement group named XYZ-cluster.

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

Example Response

```
<DeletePlacementGroupResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

DeleteRoute

Description

Deletes a route from 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 range for the route to delete. The value you specify must exactly match the CIDR for the route.
>
> 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 removes the route with destination CIDR 172.16.1.0/24 from the route table with ID rtb-e4ad488d.

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

Example Response

```
<DeleteRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteRouteResponse>
```

Related Actions

- CreateRoute (p. 88)
- ReplaceRoute (p. 380)
- DescribeRouteTables (p. 260)

DeleteRouteTable

Description

Deletes a route table from a VPC. The route table must not be associated with a subnet. 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 deletes the route table with ID rtb-e4ad488d.

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

Example Response

```
<DeleteRouteTableResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</DeleteRouteTableResponse>
```

Related Actions

- AssociateRouteTable (p. 21)

- DisassociateRouteTable (p. 330)
- DescribeRouteTables (p. 260)
- CreateRouteTable (p. 91)
- ReplaceRouteTableAssociation (p. 382)

DeleteSecurityGroup

Description

Deletes a security group.

> **Important**
> If you attempt to delete a security group that contains instances, or is referenced by another
> security group, the operation fails with `InvalidGroup.InUse` for EC2-Classic or
> `DependencyViolation` for 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: For 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, 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 deletes the security group for EC2-Classic named `websrv`.

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

Example Request

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

```
https://ec2.amazonaws.com/?Action=DeleteSecurityGroup
&GroupId=sg-1a2b3c4d
&AUTHPARAMS
```

Example Response

```
<DeleteSecurityGroupResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateSecurityGroup (p. 93)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupIngress (p. 34)
- RevokeSecurityGroupIngress (p. 406)

DeleteSnapshot

Description

Deletes a snapshot of an Amazon EBS volume.

Note
If you make periodic snapshots of a volume, the snapshots are incremental so that only the blocks on the device that have changed since your last snapshot are 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 deletes snapshot `snap-1a2b3c4d`.

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

Example Response

```
<DeleteSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSnapshotResponse>
```

Related Actions

- CreateSnapshot (p. 95)
- 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

The `DeleteSpotDatafeedSubscription` operation does not have any request 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 deletes the data feed for the account.

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

Example Response

```
<DeleteSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DeleteSpotDatafeedSubscriptionResponse>
```

Related Actions

- CreateSpotDatafeedSubscription (p. 98)
- DescribeSpotDatafeedSubscription (p. 275)

DeleteSubnet

Description

Deletes a subnet from a VPC. You must terminate all running instances in the subnet before deleting it, otherwise the API action returns an error.

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 deletes the subnet with ID subnet-9d4a7b6c.

```
https://ec2.amazonaws.com/?Action=DeleteSubnet
&SubnetId=subnet-9d4a7b6c
&AUTHPARAMS
```

Example Response

```
<DeleteSubnetResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateSubnet (p. 100)

- DescribeSubnets (p. 286)

DeleteTags

Description

Deletes a specific set of tags from a specific set of resources. This call is designed to follow a `DescribeTags` call. You first determine what tags a resource has, and then you call `DeleteTags` with the resource ID and the specific tags you want to delete.

For more information about tags, see Using Tags 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 ID ami-1a2b3c4d. You first get a list of the tags.

```
https://ec2.amazonaws.com/?Action=DescribeTags
&ResourceId.1=ami-1a2b3c4d
&AUTHPARAMS
```

Sample response:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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>
```

Then you delete the tags. Specifying the value for the *stack* tag is optional.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=ami-1a2b3c4d
&Tag.1.Key=webserver
&Tag.2.Key=stack
&AUTHPARAMS
```

Sample response:

```
<DeleteTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <return>true</return>
</DeleteTagsResponse>
```

Example Request

This example deletes the stack tag from two particular instances.

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

Example Request

This example deletes the stack and webserver tags for one particular instance.

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

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 deletes all tags whose key=Purpose, regardless of the tag value.

```
https://ec2.amazonaws.com/?Action=DeleteTags
&ResourceId.1=i-5f4e3d2a
&Tag.1.Key=Purpose
&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 deletes all tags for the specified instance where key=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. 102)
- DescribeTags (p. 290)

DeleteVolume

Description

Deletes an Amazon EBS volume. The volume must be in the `available` state (not attached to an instance). For more information about Amazon EBS, see Using Amazon Elastic Block Store in the *Amazon Elastic Compute Cloud User Guide*.

> **Note**
> The volume remains in the deleting state for several minutes after you call this action.

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 deletes volume `vol-1a2b3c4d`.

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

Example Response

```
<DeleteVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteVolumeResponse>
```

Related Actions

- CreateVolume (p. 104)
- DescribeVolumes (p. 295)
- AttachVolume (p. 27)
- DetachVolume (p. 322)

DeleteVpc

Description

Deletes a VPC. You must detach or delete all gateways or other objects that are dependent on the VPC first. For example, you must terminate all running instances, delete all security groups (except the default), delete all the route tables (except the default), 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 deletes the VPC with ID vpc-1a2b3c4d.

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

Example Response

```
<DeleteVpcResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DeleteVpcResponse>
```

Related Actions

- DescribeVpcs (p. 308)

DeleteVpnConnection

Description

Deletes a VPN connection. Use this if you want to delete a VPC and all its associated components. Another reason to use this operation is if you believe 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.

If you're deleting the VPC and all its associated parts, we recommend you detach the virtual private gateway from the VPC and delete the VPC before deleting the VPN connection.

For more information about VPN connections, see Adding an IPsec 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 deletes the VPN connection with ID vpn-44a8938f.

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

Example Response

```
<DeleteVpnConnectionResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateVpnConnection (p. 109)
- DescribeVpnConnections (p. 311)
- DetachVpnGateway (p. 324)
- DeleteVpc (p. 151)

DeleteVpnConnectionRoute

Description

Deletes 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.

Important
We strongly recommend 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 an IPsec 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 data center.
    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 an `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 deletes a static route to the destination CIDR block 11.12.0.0/16 associated with the VPN connection with 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

```
<DeleteVpnConnectionRouteResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
    <return>true</return>
</DeleteVpnConnectionRouteResponse>
```

Related Actions

- CreateVpnConnectionRoute (p. 116)
- DeleteVpnConnection (p. 153)
- DescribeVpnConnections (p. 311)
- CreateVpc (p. 107)
- CreateSubnet (p. 100)
- AttachVpnGateway (p. 29)

DeleteVpnGateway

Description

Deletes a virtual private gateway. Use this when you want to delete a VPC and all its associated components because you no longer need them. 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 just want to delete and recreate the VPN connection between your VPC and data center.

For more information about virtual private gateways, see Adding an IPsec 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 deletes the virtual private gateway with ID vgw-8db04f81.

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

Example Response

```
<DeleteVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

```
    <return>true</return>
</DeleteVpnGatewayResponse>
```

Related Actions

DeregisterImage

Description

Deregisters the specified AMI. Once deregistered, the AMI cannot be used to launch new instances.

Note
This command does not delete the AMI.

Request Parameters

ImageId
The ID of the AMI to deregister.
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 deregisters the `ami-4fa54026` AMI.

```
https://ec2.amazonaws.com/?Action=DeregisterImage
&ImageId=ami-4fa54026
&AUTHPARAMS
```

Example Response

```
<DeregisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeregisterImageResponse>
```

Related Actions

- DescribeImages (p. 187)

DescribeAccountAttributes

Description

Describes the specified attribute of your AWS account.

The following are the supported account attributes.

supported-platforms
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. 434)

Examples

Example Request

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

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

Example Response

The following is an example response for an account that must launch instances into EC2-VPC.

```
<DescribeAccountAttributesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>VPC</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

Example Response

The following is an example response for an account that can launch instances into EC2-Classic or EC2-VPC.

```
<DescribeAccountAttributesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <accountAttributeSet>
    <item>
      <attributeName>supported-platforms</attributeName>
      <attributeValueSet>
        <item>
          <attributeValue>EC2</attributeValue>
        </item>
        <item>
          <attributeValue>VPC</attributeValue>
        </item>
      </attributeValueSet>
    </item>
  </accountAttributeSet>
</DescribeAccountAttributesResponse>
```

DescribeAddresses

Description

Describes one or more of your Elastic IP addresses.

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

Request Parameters

PublicIp.n

One or more EC2 Elastic IP addresses.

Type: String

Default: None

Required: No

AllocationId.n

One or more allocation IDs corresponding to the address or addresses to describe (VPC addresses only).

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 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.

    Type: String

    Valid values: `standard | vpc`

instance-id
    The instance the address is associated with (if any).

    Type: String

public-ip
    The Elastic IP address.

    Type: String

allocation-id
    The allocation ID for the address (VPC only).

    Type: String

association-id
    The association ID for the address (VPC only).

    Type: String

network-interface-id
    The network interface (if any) that the address is associated with (VPC only).

    Type: String

network-interface-owner-id
    The owner IID.

    Type: String

private-ip-address
    The private IP address associated with the Elastic IP address (VPC only).

    Type: String

Response Elements

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

requestId
    The ID of the request.

    Type: xsd:string

addressesSet
    A list of IP addresses, each one wrapped in an `item` element.

    Type: DescribeAddressesResponseItemType (p. 444)

Examples

Example Request

EC2-Classic: This example describes two specific Elastic IP addresses assigned to the account. Amazon EC2 returns information about 192.0.2.1, which is assigned to instance i-f15ebb98, and for 198.51.100.2, which 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

```
<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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

EC2-VPC: This example describes a specific Elastic IP address allocated to your account. You must use
the allocation ID to specify the address.

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&AllocationId.1= eipalloc-08229861
&AUTHPARAMS
```

Example Response

```
<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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

EC2-VPC: This example lists all of your addresses for EC2-VPC, but none for EC2-Classic (assuming
you have both types of addresses).

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&Filter.1.Name=domain
```

```
&Filter.1.Value.1=vpc
&AUTHPARAMS
```

Related Actions

- AllocateAddress (p. 12)
- ReleaseAddress (p. 373)
- AssociateAddress (p. 16)
- DisassociateAddress (p. 328)

DescribeAvailabilityZones

Description

Describes one or more of the Availability Zones that are currently available to the account. 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 Zones.
>
> 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. 436)

Examples

Example Request

This example displays information about Availability Zones that are available to the account. The results includes zones only in the region (endpoint) you're currently using.

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

Example Response

```
<DescribeAvailabilityZonesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
   <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>
```

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

Related Actions

- RunInstances (p. 409)
- 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: If no ID is specified, all bundle tasks are described.

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

    Valid values: `pending` | `waiting-for-shutdown` | `bundling` | `storing` | `cancelling` | `complete` | `failed`

update-time
    The time of the most recent update for the task (for example, 2008-09-15T17:15:20.000Z).

    Type: DateTime

Response Elements

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

requestId
    The ID of the request.

    Type: xsd:string

bundleInstanceTasksSet
    A list of bundle tasks, each one wrapped in an `item` element.

    Type: BundleInstanceTaskType (p. 440)

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

```
<DescribeBundleTasksResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <bundleInstanceTasksSet>
        <item>
            <instanceId>i-12345678</instanceId>
            <bundleId>bun-c1a540a8</bundleId>
            <state>cancelling</state>
            <startTime>2008-10-07T11:41:50.000Z</startTime>
            <updateTime>2008-10-07T11:51:50.000Z</updateTime>
            <storage>
                <S3>
                    <bucket>myawsbucket</bucket>
                    <prefix>winami</prefix>
                </S3>
            </storage>
            <progress>20%</progress>
        </item>
    <bundleInstanceTasksSet>
</DescribeBundleTasksResponse>
```

Example Request

This example filters the response to include only bundle tasks whose state is either `complete` or `failed`, and in addition are targeted for the Amazon S3 bucket called `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. 38)
- CancelBundleTask (p. 41)

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. 441)

Examples

Example Request

This example describes all your conversion tasks.

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

Example Response

```
<DescribeConversionTasksResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <conversionTasks>
    <item>
      <conversionTask>
        <conversionTaskId>import-i-fh95npoc</conversionTaskId>
        <expirationTime>2010-12-22T12:01Z</expirationTime>
        <importVolume>
          <bytesConverted>1000</bytesConverted>
          <availabilityZone>us-east-1a</availabilityZone>
          <description/>
          <image>
            <format>VDMK</format>
            <size>128696320</size>
            <importManifestUrl>
            https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-
```

```
15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccess
KeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TlTtL0uR7KEx
tEXAMPLE%3D
                    </importManifestUrl>
            </image>
            <volume>
                <size>8</size>
                <id>vol-34d8a2ff</id>
            </volume>
        </importVolume>
        <state>active</state>
        <statusMessage/>
      </conversionTask>
    </item>
  </conversionTasks>
</DescribeConversionTasksResponse>
```

Related Actions

- ImportInstance (p. 340)
- ImportVolume (p. 346)
- CancelConversionTask (p. 43)

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
> A customer gateway ID. You can specify more than one in the request.
>
> 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 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. 443)

Examples

Example Request

This example gives a description of the customer gateway with ID cgw-b4dc3961.

```
https://ec2.amazonaws.com/?Action=DescribeCustomerGateways
&CustomerGatewayId.1=cgw-b4dc3961
&AUTHPARAMS
```

Example Response

```
<DescribeCustomerGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <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 uses filters to give a description of 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. 57)
- DeleteCustomerGateway (p. 120)

DescribeDhcpOptions

Description

Describes one or more of your sets of DHCP options.

For more information about DHCP options sets, see Using DHCP Options with Your VPC in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

DhcpOptionsId.n
    A DHCP options set ID. You can specify more than one in the request.
    Type: String
    Default: Describes your sets of DHCP options, 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 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. 454)

Examples

Example Request

This example gives a description of the DHCP options set with ID dopt-7a8b9c2d.

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

Example Response

```
<DescribeDhcpOptionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <dhcpOptionsSet>
    <item>
      <dhcpOptionsId>dopt-7a8b9c2d</dhcpOptionsId>
      <dhcpConfigurationSet>
        <item>
          <key>domain-name</key>
          <valueSet>
            <item>
              <value>example.com</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.1</value>
            </item>
          </valueSet>
        </item>
        <item>
          <key>domain-name-servers</key>
          <valueSet>
            <item>
              <value>10.2.5.2</value>
              </item>
          </valueSet>
        </item>
      </dhcpConfigurationSet>
      <tagSet/>
    </item>
  </dhcpOptionsSet>
</DescribeDhcpOptionsResponse>
```

Example Request

This example uses filters to give a description of 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. 59)
- AssociateDhcpOptions (p. 19)

- DeleteDhcpOptions (p. 122)

DescribeExportTasks

Description

Describes one or more of your export tasks.

Request Parameters

ExportTaskId.n
> One or more export task IDs. If no task IDs are provided, all active export tasks are described.
> Type: String
> Default: None
> 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. 458)

Examples

Example Request

This example describes a single export task.

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

Example Response

```
<DescribeExportTasksResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
<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>
```

```
</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. 45)
- CreateInstanceExportTask (p. 65)

DescribeImageAttribute

Description

Describes an attributes of an AMI. You can specify only one attribute at a time. These are the available attributes:

- **description—**Description of the AMI provided at image creation
- **kernel—**ID of the kernel associated with the AMI
- **ramdisk—**ID of the RAM disk associated with the AMI
- **launchPermission—**Launch permissions for the AMI
- **productCodes—**Product codes associated with the AMI (if any). Each product code contains a product code and a type.
- **blockDeviceMapping—**Block device mapping of the AMI

Request Parameters

ImageId
    The ID of the AMI.

    Type: String

    Default: None

    Required: Yes

Attribute
    The AMI attribute.

    Type: String

    Default: None

    Valid values: `description` | `kernel` | `ramdisk` | `launchPermission` | `productCodes` |
    `blockDeviceMapping`

    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. 479)

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. 494)

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 of 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:

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

```
<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <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

```
<DescribeImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <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. 187)
- ModifyImageAttribute (p. 349)
- ResetImageAttribute (p. 395)

DescribeImages

Description

Describes 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 AMIs returned can be modified by specifying AMI IDs, AMI owners, or AWS accounts with launch permissions. If no options are specified, Amazon EC2 returns all AMIs for which you have launch permissions.

If you specify one or more AMI IDs, only AMIs that have the specified IDs are returned. If you specify an invalid AMI ID, an error is returned. If you specify an AMI ID for which you do not have access, it will not be included in the returned results.

If you specify one or more AMI owners, only AMIs 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 AMIs owned by Amazon or *self*, for AMIs that you own, or *marketplace* for AMIs 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 AMIs with launch permissions for those users are returned. You can specify account IDs (if you own the AMI(s)), *self* for AMIs for which you own or have explicit permissions, or *all* for public AMIs.

> **Note**
> Deregistered images are included in the returned results for an unspecified interval after deregistration.

Request Parameters

ExecutableBy.n
> The AMIs for which the specified user ID has explicit launch permissions. The user ID can be an AWS account ID, `self` to return AMIs for which the sender of the request has explicit launch permissions, or `all` to return AMIs with public launch permissions.
> Type: String
> Default: None
> Required: No

ImageId.n
> One or more AMI IDs.

Type: String

Default: Returns all AMIs, or only those otherwise specified.

Required: No

Owner.n

The AMIs owned by the specified owner. Multiple owner values can be specified. The IDs `amazon`, `aws-marketplace`, and `self` can be used to include AMIs owned by Amazon, AWS Marketplace, or AMIs owned by you, respectively.

Type: String

Default: None

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

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. 444)

Examples

Example Request

This example describes the ami-be3adfd7 AMI.

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

Example Response

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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>
```

```
            <virtualizationType>paravirtual</virtualizationType>
            <tagSet/>
            <hypervisor>xen</hypervisor>
        </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

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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

```
<DescribeImagesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
        <requestId>4a4a27a2-2e7c-475d-b35b-ca822EXAMPLE</requestId>
    <imagesSet>
        <item>
            <imageId>ami-1a2b3c4d</imageId>
            <imageLocation>aws-marketplace/example-marketplace-amzn-ami.1</im
ageLocation>
            <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. 197)
- DescribeImageAttribute (p. 184)

DescribeInstanceAttribute

Description

Describes an attribute of the specified instance. You can specify only one attribute at a time. These are the available attributes:

- **instanceType—**The instance type (for example, `m1.small`). See Available Instance Types for more information.
- **kernel—**The ID of the kernel associated with the instance
- **ramdisk—**The ID of the RAM disk associated with the instance
- **userData—**MIME, Base64-encoded user data provided to the instance
- **disableApiTermination—**Whether the instance can be terminated using the Amazon EC2 API (`false` means the instance can be terminated with the API)
- **instanceInitiatedShutdownBehavior—**Whether the instance stops or terminates when an instance shutdown is initiated (default is stop)
- **rootDeviceName—**The name of the root device volume.
- **blockDeviceMapping—**The block device mapping.
- **sourceDestCheck—**This attribute exists to enable a Network Address Translation (NAT) instance in a VPC to perform NAT. The attribute controls whether source/destination checking is enabled on the instance. A value of `true` means checking is enabled. The value must be `false` for the instance to perform NAT.
- **groupSet—**The security groups the instance belongs to.
- **productCodes—**The product codes associated with the instance. Each product code contains a product code and a type.
- **ebsOptimized—**Whether the instance is optimized for EBS I/O.

Request Parameters

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

Attribute
> The instance attribute.
>
> Type: String
>
> Default: None
>
> Valid values: `instanceType` | `kernel` | `ramdisk` | `userData` | `disableApiTermination` | `instanceInitiatedShutdownBehavior` | `rootDeviceName` | `blockDeviceMapping` | `sourceDestCheck` | `groupSet` | `productCodes` | `ebsOptimized`
>
> 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

instanceType

    The instance type (for example, `m1.small`), wrapped in a `value` element. See Available Instance Types for more information.

    Type: xsd:string

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

userData

    MIME, Base64-encoded user data, wrapped in a `value` element.

    Type: xsd:string

disableApiTermination

    Indicates whether the instance can be terminated through the Amazon EC2 API. The value is wrapped in a `value` element. A value of `true` means you can't terminate the instance using the API (i.e., the instance is "locked"); a value of `false` means you can. You must modify this attribute before you can terminate any "locked" instances using the API.

    Type: xsd:boolean

instanceInitiatedShutdownBehavior

    If an instance shutdown is initiated, this determines whether the instance stops or terminates. The value is wrapped in a `value` element.

    Type: xsd:string

    Valid values: `stop` | `terminate`

rootDeviceName

    The name of the root device (for example, /dev/sda1), wrapped in a `value` element.

    Type: xsd:string

blockDeviceMapping

    Type: InstanceBlockDeviceMappingResponseItemType (p. 465)

sourceDestCheck

    This attribute exists to enable a Network Address Translation (NAT) instance in a VPC to perform NAT. The attribute controls whether source/destination checking is enabled on the instance. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

    Type: xsd:boolean

groupSet

    The security groups the instance belongs to. Each group's information is wrapped in an `item` element.

    Type: GroupItemType (p. 460)

productCodes

    A list of product codes, each one wrapped in an item element that contains a product code and a product code type.

    Type: ProductCodesSetItemType (p. 494)

ebsOptimized

    Whether the instance is optimized for EBS I/O.

Type: xsd:boolean

Examples

Example Request

This example lists the kernel ID of the i-10a64379 instance.

```
https://ec2.amazonaws.com/?Action=DescribeInstanceAttribute
&InstanceId=i-10a64379
&Attribute=kernel
&AUTHPARAMS
```

Example Response

```
<DescribeInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-10a64379</instanceId>
  <kernel>
    <value>aki-f70657b2</value>
  </kernel>
</DescribeInstanceAttributeResponse>
```

Related Actions

- DescribeInstances (p. 197)
- ModifyInstanceAttribute (p. 352)
- ResetInstanceAttribute (p. 397)

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: Returns all instances, 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 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 a VPC, use `instance.group-id` instead.

Type: String

group-name

The name of the security group for the instance. If the instance is in a VPC, use `instance.group-name` 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 a VPC, use `group-id` instead.

Type: String

instance.group-name

The name of the security group for the instance. if the instance is in a VPC, use `group-name` 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. 497)

Examples

Example Request

This example describes the current state of the instances owned by your AWS account.

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

Example Response

```
<DescribeInstancesResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>
  <requestId>fdcdcab1-ae5c-489e-9c33-4637c5dda355</requestId>
    <reservationSet>
      <item>
        <reservationId>r-1a2b3c4d</reservationId>
        <ownerId>111122223333</ownerId>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>my-security-group</groupName>
          </item>
        </groupSet>
        <instancesSet>
          <item>
            <instanceId>i-1a2b3c4d</instanceId>
            <imageId>ami-1a2b3c4d</imageId>
            <instanceState>
              <code>16</code>
              <name>running</name>
            </instanceState>
            <privateDnsName/>
            <dnsName/>
            <reason/>
            <keyName>gsg-keypair</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>
                <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>198.51.100.177</publicIp>
```

```
                <ipOwnerId>111122223333</ipOwnerId>
              </association>
            </item>
          </privateIpAddressesSet>
        </item>
      </networkInterfaceSet>
    </item>
  </instancesSet>
</item>
<item>
  <reservationId>r-2a2b3c4d</reservationId>
  <ownerId>111122223333</ownerId>
  <groupSet>
    <item>
      <groupId>sg-2a2b3c4d</groupId>
      <groupName>my-security-group-2</groupName>
    </item>
  </groupSet>
  <instancesSet>
    <item>
      <instanceId>i-2a2b3c4d</instanceId>
      <imageId>ami-2a2b3c4d</imageId>
      <instanceState>
        <code>16</code>
        <name>running</name>
      </instanceState>
      <privateDnsName>ip-10-251-50-35.ec2.internal</privateDnsName>
      <dnsName>ec2-67-202-51-223.compute-1.amazonaws.com</dnsName>
      <reason/>
      <keyName>gsg-keypair</keyName>
      <amiLaunchIndex>0</amiLaunchIndex>
      <productCodes/>
      <instanceType>t1.micro</instanceType>
      <launchTime>YYYY-MM-DDTHH:MM:SS+0000</launchTime>
      <placement>
        <availabilityZone>us-west-2b</availabilityZone>
        <groupName/>
        <tenancy>default</tenancy>
      </placement>
      <platform>windows</platform>
      <monitoring>
        <state>disabled</state>
      </monitoring>
      <privateIpAddress>10.139.34.251</privateIpAddress>
      <ipAddress>122.248.233.255</ipAddress>
      <groupSet>
        <item>
          <groupId>sg-2a2b3c4d</groupId>
          <groupName>my-security-group-2</groupName>
        </item>
      </groupSet>
      <architecture>x86_64</architecture>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda1</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda1</deviceName>
          <ebs>
```

```
                    <volumeId>vol-2a2b3c4d</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>EC2 Instance</value>
                </item>
              </tagSet>
              <hypervisor>xen</hypervisor>
              <networkInterfaceSet/>
            </item>
          </instancesSet>
        </item>
      </reservationSet>
</DescribeInstancesResponse>
```

Example Request

This example filters the response to include only the m1.small or m1.large instances that have an Amazon EBS volume that is both attached and set to delete 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 Response

```
<DescribeInstancesResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>
  <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>
          <reservationId>r-2a2b3c4d</reservationId>
```

```
            <ownerId>111122223333</ownerId>
            <groupSet>
              <item>
                <groupId>sg-2a2b3c4d</groupId>
                <groupName>my-security-group-2</groupName>
              </item>
            </groupSet>
            <instancesSet>
              <item>
                <instanceId>i-2a2b3c4d</instanceId>
                <imageId>ami-2a2b3c4d</imageId>
                <instanceState>
                  <code>16</code>
                  <name>running</name>
                </instanceState>
                <privateDnsName>ip-10-251-50-35.ec2.internal</privateDnsName>
                <dnsName>ec2-67-202-51-223.compute-1.amazonaws.com</dnsName>
                <reason/>
                <keyName>gsg-keypair</keyName>
                <amiLaunchIndex>0</amiLaunchIndex>
                <productCodes/>
                <instanceType>m1.large</instanceType>
                <launchTime>YYYY-MM-DDTHH:MM:SS+0000</launchTime>
                <placement>
                  <availabilityZone>us-west-2b</availabilityZone>
                  <groupName/>
                  <tenancy>default</tenancy>
                </placement>
                <platform>windows</platform>
                <monitoring>
                  <state>disabled</state>
                </monitoring>
                <privateIpAddress>10.139.34.251</privateIpAddress>
                <ipAddress>122.248.233.255</ipAddress>
                <groupSet>
                  <item>
                    <groupId>sg-2a2b3c4d</groupId>
                    <groupName>my-security-group-2</groupName>
                  </item>
                </groupSet>
                <architecture>x86_64</architecture>
                <rootDeviceType>ebs</rootDeviceType>
                <rootDeviceName>/dev/sda1</rootDeviceName>
                <blockDeviceMapping>
                  <item>
                    <deviceName>/dev/sda1</deviceName>
                    <ebs>
                      <volumeId>vol-2a2b3c4d</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>EC2 Instance</value>
              </item>
            </tagSet>
            <hypervisor>xen</hypervisor>
            <networkInterfaceSet/>
          </item>
        </instancesSet>
      </item>
    </reservationSet>
</DescribeInstancesResponse>
```

Example Request

The following example describes an instance running in a VPC with instance ID i-1a2b3c4d.

```
https://ec2.amazonaws.com/?Action=DescribeInstances
&Filter.1.Name=instance-id
&Filter.1.Value.1=i-1a2b3c4d
&AUTHPARAMS
```

Example Response

```
<DescribeInstancesResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>
  <requestId>fdcdcab1-ae5c-489e-9c33-4637c5dda355</requestId>
      <reservationSet>
        <item>
          <reservationId>r-1a2b3c4d</reservationId>
          <ownerId>111122223333</ownerId>
          <groupSet>
            <item>
              <groupId>sg-1a2b3c4d</groupId>
              <groupName>my-security-group</groupName>
            </item>
          </groupSet>
          <instancesSet>
            <item>
              <instanceId>i-1a2b3c4d</instanceId>
              <imageId>ami-1a2b3c4d</imageId>
              <instanceState>
                <code>16</code>
                <name>running</name>
              </instanceState>
              <privateDnsName/>
              <dnsName/>
              <reason/>
              <keyName>gsg-keypair</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>
              <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>
                          <publicDnsName>198.51.100.63</publicDnsName>
                          <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>198.51.100.177</publicIp>
                              <ipOwnerId>111122223333</ipOwnerId>
                            </association>
                          </item>
                        </privateIpAddressesSet>
                      </item>
                  </networkInterfaceSet>
              </item>
          </instancesSet>
        </item>
    </reservationSet>
</DescribeInstancesResponse>
```

Related Actions

- RunInstances (p. 409)
- StopInstances (p. 423)
- StartInstances (p. 421)
- TerminateInstances (p. 425)

DescribeInstanceStatus

Description

Describes the status of one or more Amazon EC2 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 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 instances 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 instances 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
    The list of instance IDs. If not specified, all instances are described.
    Type: String
    Default: None

Constraints: Maximum 100 explicitly specified instance IDs.

Required: No

IncludeAllInstances

When `true`, returns the health status for all instances (for example, running, stopped, pending, shutting down). When `false`, returns only the health status for running instances.

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. 475)

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=2013-02-01
&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=2013-02-01
&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=2013-02-01
&AuthParams
```

Example Response

```
<DescribeInstanceStatusResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <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>
            <eventsSet>
                <code>instance-reboot</code>
```

```
                    <notBefore>YYYY-MM-DDTHH:MM:SS+0000</notBefore>
                    <notAfter>YYYY-MM-DDTHH:MM:SS+0000</notAfter>
                    <description>
                        The instance is scheduled for a reboot
                    </description>
            </eventsSet>
        </item>
        <item>
            <instanceId>i-3a2b3c4d</instanceId>
            <availabilityZone>us-east-1c</availabilityZone>
            <instanceState>
                <code>16</code>
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </instanceStatus>
        </item>
        <item>
            <instanceId>i-4a2b3c4d</instanceId>
            <availabilityZone>us-east-1c</availabilityZone>
            <instanceState>
                <code>16</code>
                <name>running</name>
            </instanceState>
            <systemStatus>
                <status>ok</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <status>passed</status>
                    </item>
                </details>
            </systemStatus>
            <instanceStatus>
                <status>insufficient-data</status>
                <details>
                    <item>
                        <name>reachability</name>
                        <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: 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 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. 477)

Examples

Example Request

This example describes your Internet gateways.

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

Example Response

```
<DescribeInternetGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
```

```
<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. 68)
- DeleteInternetGateway (p. 124)
- DetachInternetGateway (p. 23)
- DetachInternetGateway (p. 318)

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 key pairs you own, 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 filters so that the response includes information for only certain key pairs. For example, you can use a filter to specify that you're interested in key pairs whose names include the string `Dave`. You can specify multiple values for a filter. The response includes information for a key pair only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify key pairs whose names include the string `Dave` and whose fingerprint is a specific value. The response includes information for a key pair only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

fingerprint
> The fingerprint of the key pair.
>
> Type: String

key-name
> The name of the key pair.
>
> Type: String

Response Elements

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

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

keySet
>   A list of key pairs, each one wrapped in an `item` element.
>   Type: DescribeKeyPairsResponseItemType (p. 446)

Examples

Example Request

This example describes the keypair with name gsg-keypair.

```
https://ec2.amazonaws.com/?Action=DescribeKeyPairs
&KeyName.1=gsg-keypair
&AUTHPARAMS
```

Example Response

```
<DescribeKeyPairsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <keySet>
      <item>
         <keyName>gsg-keypair</keyName>
         <keyFingerprint>
         00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
         </keyFingerprint>
      </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. 70)
- ImportKeyPair (p. 344)
- DeleteKeyPair (p. 126)

DescribeNetworkAcls

Description

Describes the network ACLs in your VPC.

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

Request Parameters

NetworkAclId.n
> One or more network ACL IDs.
>
> Type: String
>
> Default: None
>
> Required: No

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

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

Supported Filters

You can specify filters so that the response includes information for only certain ACLs. For example, you can use a filter to specify that you're interested in the ACLs associated with a particular subnet. You can specify multiple values for a filter. The response includes information for an ACL only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify ACLs that are associated with a specific subnet and have an egress entry that denies traffic to a specific port. The response includes information for an ACL only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

association.association-id
> The ID of an association ID for the ACL.
>
> Type: String

association.network-acl-id
> The ID of the network ACL involved in the association.
>
> Type: String

association.subnet-id

The ID of the subnet involved in the association.

Type: String

default

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

Type: Boolean

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. 485)

Examples

Example Request

This example describes all the network ACLs in your VPC.

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

Example Response

The first ACL in the returned list is the VPC's default ACL.

```
<DescribeNetworkAclsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <networkAclSet>
   <item>
     <networkAclId>acl-5566953c</networkAclId>
     <vpcId>vpc-5266953b</vpcId>
     <default>true</default>
     <entrySet>
       <item>
         <ruleNumber>100</ruleNumber>
         <protocol>all</protocol>
         <ruleAction>allow</ruleAction>
         <egress>true</egress>
```

```
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>deny</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>100</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>allow</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
        <item>
          <ruleNumber>32767</ruleNumber>
          <protocol>all</protocol>
          <ruleAction>deny</ruleAction>
          <egress>false</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
        </item>
    </entrySet>
    <associationSet/>
    <tagSet/>
  </item>
  <item>
    <networkAclId>acl-5d659634</networkAclId>
    <vpcId>vpc-5266953b</vpcId>
    <default>false</default>
    <entrySet>
        <item>
          <ruleNumber>110</ruleNumber>
          <protocol>6</protocol>
          <ruleAction>allow</ruleAction>
          <egress>true</egress>
          <cidrBlock>0.0.0.0/0</cidrBlock>
          <portRange>
            <from>49152</from>
            <to>65535</to>
          </portRange>
        </item>
        <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>
```

```
        <to>80</to>
      </portRange>
    </item>
    <item>
      <ruleNumber>120</ruleNumber>
      <protocol>6</protocol>
      <ruleAction>allow</ruleAction>
      <egress>false</egress>
      <cidrBlock>0.0.0.0/0</cidrBlock>
      <portRange>
        <from>443</from>
        <to>443</to>
      </portRange>
    </item>
    <item>
      <ruleNumber>32767</ruleNumber>
      <protocol>all</protocol>
      <ruleAction>deny</ruleAction>
      <egress>false</egress>
      <cidrBlock>0.0.0.0/0</cidrBlock>
    </item>
  </entrySet>
  <associationSet>
    <item>
      <networkAclAssociationId>aclassoc-5c659635</networkAclAssociationId>
      <networkAclId>acl-5d659634</networkAclId>
      <subnetId>subnet-ff669596</subnetId>
    </item>
    <item>
      <networkAclAssociationId>aclassoc-c26596ab</networkAclAssociationId>
      <networkAclId>acl-5d659634</networkAclId>
      <subnetId>subnet-f0669599</subnetId>
    </item>
  </associationSet>
  <tagSet/>
  </item>
 </networkAclSet>
</DescribeNetworkAclsResponse>
```

Related Actions

- CreateNetworkAcl (p. 72)
- DeleteNetworkAcl (p. 127)
- ReplaceNetworkAclAssociation (p. 375)
- CreateNetworkAclEntry (p. 74)
- DeleteNetworkAclEntry (p. 129)
- ReplaceNetworkAclEntry (p. 377)

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
    Default: None
    Valid values: `description` | `groupSet` | `sourceDestCheck` | `attachment`
    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

Examples

Example Request

This example describes the attributes of a network interface.

```
http://ec2.us-east-1.amazonaws.com/?Action=DescribeNetworkInterfaceAttribute&Net
workInterfaceId=eni-686ea200&Attribute=sourceDestCheck&AUTH_PARAMS
```

Example Response

```
<DescribeNetworkInterfaceAttributeResponse
    xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>7a20c6b2-d71c-45fb-bba7-37306850544b</requestId>
    <networkInterfaceId>eni-686ea200</networkInterfaceId>
    <sourceDestCheck>
```

```
        <value>true</value>
    </sourceDestCheck>
</DescribeNetworkInterfaceAttributeResponse>
```

Related Actions

- AttachNetworkInterface (p. 25)
- DetachNetworkInterface (p. 320)
- CreateNetworkInterface (p. 77)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 355)
- ResetNetworkInterfaceAttribute (p. 399)

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.

Type: String

addresses.association.owner-id
The owner ID of the addresses associated with the network interface.

Type: String

association.association-id
The association ID returned when the network interface was associated with an IP address.

Type: String

association.allocation-id
The allocation ID that AWS returned when you allocated the Elastic IP address for your network interface.

Type: String

association.ip-owner-id
The owner of the Elastic IP address associated with the network interface.

Type: String

association.public-ip
The address of the Elastic IP address bound to the network interface.

Type: String

attachment.attachment-id
The ID of the interface attachment.

Type: String

attachment.instance-id
The ID of the instance to which the network interface is attached.

Type: String

attachment.instance-owner-id
The owner ID of the instance to which the network interface is attached.

Type: String

attachment.device-index
The device index to which the network interface is attached.

Type: Integer

attachment.status
The status of the attachment.

Type: String

Valid values: `attaching` | `attached` | `detaching` | `detached`

attachment.attach.time
The time that the network interface was attached to an instance.

Type: DateTime

attachment.delete-on-termination
Indicates whether the attachment is deleted when an instance is terminated.

Type: Boolean

availability-zone
The Availability Zone of the network interface.

Type: String

description
The description of the network interface.

Type: String

group-id
The ID of a security group associated with the network interface.

Type: String

group-name

The name of a security group associated with the network interface.

Type: String

mac-address

The MAC address of the network interface.

Type: String

network-interface-id

The ID of the network interface.

Type: String

owner-id

The AWS account ID of the network interface owner.

Type: String

private-ip-address

The private IP address or addresses of the network interface.

Type: String

private-dns-name

The private DNS name of the network interface.

Type: String

requester-id

The ID of the entity that launched the instance on your behalf (for example, AWS Management Console, Auto Scaling, and so on).

Type: String

requester-managed

Indicates whether the network interface is being managed by an AWS service (for example, AWS Management Console, Auto Scaling, and so on).

Type: Boolean

source-dest-check

Indicates whether the network interface performs source/destination checking. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the network interface to perform Network Address Translation (NAT) in your VPC.

Type: Boolean

status

The status of the network interface. If the network interface is not attached to an instance, the status shows `available`; if a network interface is attached to an instance the status shows `in-use`.

Type: String

Valid values: `available` | `in-use`

subnet-id

The ID of the subnet for the network interface.

Type: String

tag-key

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

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

Type: String

tag-value

The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: String

tag:*key*
>   Filters the response based on a specific tag/value combination.
>
>   Example: To list just the resources that have been assigned tag Purpose=X, specify:
>
>   ```
>   Filter.1.Name=tag:Purpose
>   Filter.1.Value.1=X
>   ```
>
>   Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:
>
>   ```
>   Filter.1.Name=tag:Purpose
>   Filter.1.Value.1=X
>   Filter.1.Value.2=Y
>   ```

vpc-id
>   The ID of the VPC for the network interface.
>
>   Type: String

Response Elements

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

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

networkInterfaceSet
>   Information about the network interfaces, each one wrapped in an `item` element.
>
>   Type: NetworkInterfaceType (p. 487)

Examples

Example Request

This example describes network interfaces.

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

Example Response

```
<DescribeNetworkInterfacesResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>fc45294c-006b-457b-bab9-012f5b3b0e40</requestId>
     <networkInterfaceSet>
       <item>
          <networkInterfaceId>eni-0f62d866</networkInterfaceId>
          <subnetId>subnet-c53c87ac</subnetId>
          <vpcId>vpc-cc3c87a5</vpcId>
          <availabilityZone>ap-southeast-1b</availabilityZone>
          <description/>
          <ownerId>053230519467</ownerId>
          <requesterManaged>false</requesterManaged>
          <status>in-use</status>
          <macAddress>02:81:60:cb:27:37</macAddress>
```

```
            <privateIpAddress>10.0.0.146</privateIpAddress>
            <sourceDestCheck>true</sourceDestCheck>
            <groupSet>
              <item>
                <groupId>sg-3f4b5653</groupId>
                <groupName>default</groupName>
              </item>
            </groupSet>
            <attachment>
              <attachmentId>eni-attach-6537fc0c</attachmentId>
              <instanceId>i-22197876</instanceId>
              <instanceOwnerId>053230519467</instanceOwnerId>
              <deviceIndex>0</deviceIndex>
              <status>attached</status>
              <attachTime>2012-07-01T21:45:27.000Z</attachTime>
              <deleteOnTermination>true</deleteOnTermination>
            </attachment>
            <tagSet/>
            <privateIpAddressesSet>
              <item>
                <privateIpAddress>10.0.0.146</privateIpAddress>
                <primary>true</primary>
              </item>
              <item>
                <privateIpAddress>10.0.0.148</privateIpAddress>
                <primary>false</primary>
              </item>
              <item>
                <privateIpAddress>10.0.0.150</privateIpAddress>
                <primary>false</primary>
              </item>
            </privateIpAddressesSet>
          </item>
          <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</instanceOwnerId>
              <deviceIndex>0</deviceIndex>
              <status>attached</status>
              <attachTime>2012-06-27T20:08:44.000Z</attachTime>
```

```
              <deleteOnTermination>true</deleteOnTermination>
          </attachment>
          <tagSet/>
          <privateIpAddressesSet>
            <item>
              <privateIpAddress>10.0.1.233</privateIpAddress>
              <primary>true</primary>
            </item>
            <item>
              <privateIpAddress>10.0.1.20</privateIpAddress>
              <primary>false</primary>
            </item>
          </privateIpAddressesSet>
        </item>
      </networkInterfaceSet>
</DescribeNetworkInterfacesResponse>
```

Related Actions

- AttachNetworkInterface (p. 25)
- DetachNetworkInterface (p. 320)
- CreateNetworkInterface (p. 77)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaceAttribute (p. 229)
- ModifyNetworkInterfaceAttribute (p. 355)
- ResetNetworkInterfaceAttribute (p. 399)

DescribePlacementGroups

Description

Describes one or more of your placement groups. For more information about placement groups and cluster instances, see Using 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.

Type: String

Valid value: `cluster`

Response Elements

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

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

placementGroupSet
> A list of placement groups, each one wrapped in an `item` element.
>
> Type: PlacementGroupInfoType (p. 489)

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

```
<DescribePlacementGroupsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <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
```

```
<DescribePlacementGroupsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <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. 82)
- DeletePlacementGroup (p. 133)

DescribeRegions

Description

Describes one or more regions that are currently available to you.

For a list of the regions supported by Amazon EC2, see Regions and Endpoints.

Request Parameters

RegionName.n
> One or more region names.
>
> Type: String
>
> Default: Describes all regions available to the account.
>
> Required: No

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

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

Supported Filters

You can specify filters so that the response includes information for only certain regions.

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

The following are the available filters.

endpoint
> The endpoint of the region (for example, ec2.us-east-1.amazonaws.com).
>
> Type: String

region-name
> The name of the region.
>
> Type: String

Response Elements

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

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

regionInfo

A list of regions, each one wrapped in an `item` element.

Type: RegionItemType (p. 496)

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

```
<DescribeRegionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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

```
<DescribeRegionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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. 167)
- RunInstances (p. 409)

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:

Examples

Example Request

This example describes Reserved Instances owned by your account.

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

Example Response

```
<DescribeReservedInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesSet>
        <item>
            <reservedInstancesId>4b2293b4-5813-4cc8-9ce3-1957fc1dcfc8EXAMPLE</re
servedInstancesId>
            <instanceType>m1.xlarge</instanceType>
            <availabilityZone>us-east-1a</availabilityZone>
            <duration>31536000</duration>
            <fixedPrice>1820.0</fixedPrice>
            <usagePrice>0.24</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>
```

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/UNIX
&AUTHPARAMS
```

Related Actions

- PurchaseReservedInstancesOffering (p. 364)
- 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. 448)
 Default: None
 Required: No

ReservedInstancesId.n
 The set of Reserved Instances IDs which are used to see associated listings.
 Type: DescribeReservedInstancesSetItemType (p. 451)
 Default: None
 Required: No

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

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

Supported Filters

Our policy is to provide filters for all `ec2-describe` calls so that you can limit the response to your specified criteria. Therefore, you can use filters to limit the response when describing Reserved Instances listings, even though you can use other options instead.

For example, you can use a filter or an option to get the listing of Reserved Instances that are in an active state. You can also specify multiple options or filters (for example, to limit the response to the Reserved Instances listings that are in the closed state with a specific status message). The response includes information for a listing only if it matches all options or filters. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

status
    Status of the Reserved Instance listing.
    Valid values: `pending` | `active` | `cancelled` | `closed`
    Type: String

status-message
    Reason for the status.
    Type: String

reserved-instances-listing-id
    The ID of the Reserved Instances listing.
    Type: String

reserved-instances-id
    The ID of the Reserved Instances.
    Type: String

Response Elements

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

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

reservedInstancesListingsSet
    The Reserved Instance listing information wrapped in an `item` element.
    Type: DescribeReservedInstancesListingsResponseSetItemType (p. 447)

Examples

Example Request

This example shows all the listings associated with your account.

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

Example Response

```
<DescribeReservedInstancesListingsResponse>
    <requestId>cec5c904-8f3a-4de5-8f5a-ff7f9EXAMPLE</requestId>
    <reservedInstancesListingsSet>
        <item>
            <reservedInstancesListingId>253dfbf9-c335-4808-b956-
d942c9ef5c83</reservedInstancesListingId>
            <reservedInstancesId>af9f760e-64a5-4739-b416-a27540bf4b19</reserved
InstancesId>
            <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>
                <item>
                    <term>5</term>
```

```
                        <price>300.0</price>
                        <currencyCode>USD</currencyCode>
                        <active>false</active>
                    </item>
                    <item>
                        <term>4</term>
                        <price>240.0</price>
                        <currencyCode>USD</currencyCode>
                        <active>false</active>
                    </item>
                    <item>
                        <term>3</term>
                        <price>180.0</price>
                        <currencyCode>USD</currencyCode>
                        <active>false</active>
                    </item>
                    <item>
                        <term>2</term>
                        <price>120.0</price>
                        <currencyCode>USD</currencyCode>
                        <active>false</active>
                    </item>
                    <item>
                        <term>1</term>
                        <price>60.0</price>
                        <currencyCode>USD</currencyCode>
                        <active>false</active>
                    </item>
                </priceSchedules>
                <tagSet/>
                <clientToken>myclienttoken1</clientToken>
            </item>
        </reservedInstancesListingsSet>
</DescribeReservedInstancesListingsResponse>
```

Related Actions

- CancelReservedInstancesListing (p. 46)
- CreateReservedInstancesListing (p. 84)

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

Required: No

ProductDescription

The Reserved Instance description. Instances that include `(Amazon VPC)` in the description are for use with Amazon VPC.

Type: String

Valid Values: `Linux/UNIX` | `Linux/UNIX (Amazon VPC)` | `Windows` | `Windows (Amazon VPC)`

Default: None

Required: No

Filter.n.Name

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

Type: String

Default: None

Required: No

Filter.n.Value.m

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

Type: String

Default: None

Required: No

InstanceTenancy

The tenancy of the Reserved Instance offering. A Reserved Instance with tenancy of dedicated will run on single-tenant hardware and can only be launched within a VPC.

Type: String

Valid Values: `default` | `dedicated`

Default: `default`

Required: No

OfferingType

The Reserved Instance offering type.

Type: String

Valid values: `Heavy Utilization` | `Medium Utilization` | `Light Utilization`

Default: None

Required: No

IncludeMarketplace

Include Marketplace offerings in the response.

Type: Boolean

Default: true

Required: No

MinDuration

Minimum duration (in seconds) to filter when searching for offerings.

Type: Long

Default: 2592000 (1 month)

Required: No

MaxDuration

Maximum duration (in seconds) to filter when searching for offerings.

Type: Long

Default: 94608000 (3 years)

Required: No

MaxInstanceCount

Maximum number of instances to filter when searching for offerings.

Type: Integer

Default: 20

Required: No

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: 1000

Maximum: 1000

Required: No

Supported Filters

Our policy is to provide filters for all `ec2-describe` calls so that you can limit the response to your specified criteria. Therefore, you can use filters to limit the response when describing Reserved Instances offerings, even though you can use other options instead.

For example, you could use an option or a filter to get the offerings for a specific instance type. You can specify multiple options or filters (for example, limit the response to the m2.xlarge instance type, and only for Windows instances). The response includes information for an offering only if it matches all options or filters. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

availability-zone

The Availability Zone where the Reserved Instance can be used.

Type: String

duration

The duration of the Reserved Instance (for example, one year or three years), in seconds.

Type: Long

Valid values: `31536000` | `94608000`

fixed-price

The purchase price of the Reserved Instance (for example, `9800.0`)

Type: Double

instance-type

The Amazon EC2 instance type on which the Reserved Instance can be used.

Type: String

marketplace

Set to `true` to show only Reserved Instance Marketplace offerings. When this filter is not used, which is the default behavior, all offerings from AWS and Reserved Instance Marketplace are listed.

Type: Boolean

product-description

The description of the Reserved Instance.

Type: String

Valid values: `Linux/UNIX` | `Linux/UNIX (Amazon VPC)` | `Windows` | `Windows (Amazon VPC)`

reserved-instances-offering-id
> The Reserved Instances offering ID.
>
> Type: String

usage-price
> The usage price of the Reserved Instance, per hour (for example, `0.84`)
>
> Type: Double

Response Elements

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

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

reservedInstancesOfferingsSet
> A list of Reserved Instances offerings. Each offering's information is wrapped in an `item` element.
>
> Type:

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.

```
http://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.0.Name=marketplace
&Filter.0.Value.1=true
&IncludeMarketplace=true
&OfferingType=Light+Utilization
&ProductDescription=Linux%2FUNIX&
&Version=2012-08-15
&AUTHPARAMS
```

> **Note**
> When using the Query API the "/" is denoted as "%2F".

This is the response listing Reserved Instance Marketplace offerings only.

```
<DescribeReservedInstancesOfferingsResponse xmlns='http://ec2.amazon
aws.com/doc/2013-02-01/'>
    <requestId>2bc7dafa-dafd-4257-bdf9-c0814EXAMPLE</requestId>
    <reservedInstancesOfferingsSet>
        <item>
            <reservedInstancesOfferingId>a6ce8269-7b8c-42cd-a7f5-
0841c726be4c</reservedInstancesOfferingId>
```

```
            <instanceType>m1.large</instanceType>
            <availabilityZone>us-east-1a</availabilityZone>
            <duration>90720000</duration>
            <fixedPrice>4083.333333</fixedPrice>
            <usagePrice>0.124</usagePrice>
            <productDescription>Linux/UNIX</productDescription>
            <instanceTenancy>default</instanceTenancy>
            <currencyCode>USD</currencyCode>
            <offeringType>Light Utilization</offeringType>
            <recurringCharges/>
            <marketplace>true</marketplace>
            <pricingDetailsSet>
                <item>
                    <price>4083.333333</price>
                    <count>1</count>
                </item>
            </pricingDetailsSet>
        </item>
        <item>
            <reservedInstancesOfferingId>9948307c-4e03-4ffb-8bd3-
8dea689513cb</reservedInstancesOfferingId>
            <instanceType>m1.xlarge</instanceType>
            <availabilityZone>us-east-1b</availabilityZone>
            <duration>28512000</duration>
            <fixedPrice>430.0</fixedPrice>
            <usagePrice>0.0</usagePrice>
            <productDescription>Linux/UNIX</productDescription>
            <instanceTenancy>default</instanceTenancy>
            <currencyCode>USD</currencyCode>
            <offeringType>Light Utilization</offeringType>
            <recurringCharges>
                <item>
                    <frequency>Hourly</frequency>
                    <amount>0.29</amount>
                </item>
            </recurringCharges>
            <marketplace>true</marketplace>
            <pricingDetailsSet>
                <item>
                    <price>430.0</price>
                    <count>2</count>
                </item>
            </pricingDetailsSet>
        </item>
    </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

Example Describing AWS Offerings Only

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

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

```
&Version=2012-08-15
&AUTHPARAMS
```

Example Using MaxResults and nextToken to Manage Results

API version 2012-08-15 provides pagination support, which means that you can query the results sequentially and in parts. Use `MaxResults` to specify the maximum number of results that 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.

```
http://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&Version=2012-08-15
&AUTHPARAMS
```

The response should look similar to the following example.

```
<DescribeReservedInstancesOfferingsResponse>
    <requestId>d072f652-cc57-458c-89e0-e6c02EXAMPLE</requestId>
    <reservedInstancesOfferingsSet>
        <item>
            <reservedInstancesOfferingId>649fd0c8-7846-46b8-8f84-
a6400ea2a8f4</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-dbd0016cad
db</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>
            <recurringCharges/>
```

```
            <marketplace>false</marketplace>
            <pricingDetailsSet/>
        </item>
...
    </reservedInstancesOfferingsSet>
    <nextToken>h/C8YKPQBHEjW8xKz1827/Zzyb0VqsqkjRo3TqhFYeE=</nextToken>
</DescribeReservedInstancesOfferingsResponse>
```

Then, you can use the `nextToken` to fetch the next page. The request should look like the following example.

```
http://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&MaxResults=5
&NextToken=h/C8YKPQBHEjW8xKz1827/Zzyb0VqsqkjRo3TqhFYeE=
&Version=2012-08-15
&AUTHPARAMS
```

The response should be similar to the following example.

```
<DescribeReservedInstancesOfferingsResponse>
    <requestId>652900ca-902c-42fa-b8ae-da67bEXAMPLE</requestId>
    <reservedInstancesOfferingsSet>
        <item>
            <reservedInstancesOfferingId>438012d3-496e-4ab3-b1f6-
38ffe8469244</reservedInstancesOfferingId>
            <instanceType>m1.large</instanceType>
            <availabilityZone>us-east-1a</availabilityZone>
            <duration>94608000</duration>
            <fixedPrice>425.2</fixedPrice>
            <usagePrice>0.124</usagePrice>
            <productDescription>Linux/UNIX</productDescription>
            <instanceTenancy>default</instanceTenancy>
            <currencyCode>USD</currencyCode>
            <offeringType>Light Utilization</offeringType>
            <recurringCharges/>
            <marketplace>false</marketplace>
            <pricingDetailsSet/>
        </item>
        <item>
            <reservedInstancesOfferingId>248e7b75-579e-4599-a34d-
cb6aa9ba2ac8</reservedInstancesOfferingId>
            <instanceType>m1.large</instanceType>
            <availabilityZone>us-east-1a</availabilityZone>
            <duration>31536000</duration>
            <fixedPrice>780.0</fixedPrice>
            <usagePrice>0.0</usagePrice>
            <productDescription>Linux/UNIX</productDescription>
            <instanceTenancy>default</instanceTenancy>
            <currencyCode>USD</currencyCode>
            <offeringType>Heavy Utilization</offeringType>
            <recurringCharges>
                <item>
                    <frequency>Hourly</frequency>
                    <amount>0.064</amount>
                </item>
            </recurringCharges>
```

```
            <marketplace>false</marketplace>
            <pricingDetailsSet/>
        </item>
...
    </reservedInstancesOfferingsSet>
    <nextToken>69AJRhm9bxVUF8YCKAs2HsQjyqa246eTkVv23eNFTKw=</nextToken>
</DescribeReservedInstancesOfferingsResponse>
```

Example Request

This example describes available Reserved Instance offerings.

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

Example Response

```
<DescribeReservedInstancesOfferingsResponse xmlns="http://ec2.amazon
aws.com/doc/2013-02-01/">
      <requestId>48692a1d-3036-48fd-8c0e-d34681b97efdEXAMPLE</requestId>
      <reservedInstancesOfferingsSet>
        <item>
          <reservedInstancesOfferingId>248e7b75-c83a-48c1-bcf7-
b7f03e9c43feEXAMPLE</reservedInstancesOfferingId>
          <instanceType>c1.medium</instanceType>
          <availabilityZone>us-east-1b</availabilityZone>
          <duration>94608000</duration>
          <fixedPrice>700.0</fixedPrice>
          <usagePrice>0.06</usagePrice>
          <productDescription>Linux/UNIX (Amazon VPC)</productDescription>
          <instanceTenancy>default</instanceTenancy>
          <currencyCode>USD</currencyCode>
          <offeringType>Medium Utilization</offeringType>
          <recurringCharges/>
        </item>
      ...
    </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

Example Request

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

```
https://ec2.amazonaws.com/?Action=DescribeReservedInstancesOfferings
&Filter.1.Name=duration
&Filter.1.Value.1=31536000
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.2.Value.2=m1.large
&Filter.3.Name=product-description
```

```
&Filter.3.Value.1=Linux/UNIX
&AUTHPARAMS
```

Related Actions

- PurchaseReservedInstancesOffering (p. 364)
- 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: Returns all route tables, 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 filters so that the response includes information for only certain tables. For example, you can use a filter to specify that you're interested in the tables associated with a particular subnet. You can specify multiple values for a filter. The response includes information for a table only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify tables that have a specific route and are associated with a specific subnet. The response includes information for a table only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

`association.route-table-association-id`
> The ID of an association ID for the route table.
>
> Type: String

`association.route-table-id`
> The ID of the route table involved in the association.
>
> Type: String

association.subnet-id

The ID of the subnet involved in the association.

Type: String

association.main

Indicates whether the route table is the main route table for the VPC.

Type: Boolean

route-table-id

The ID of the route table.

Type: String

route.destination-cidr-block

The CIDR range specified in a route in the table.

Type: String

route.gateway-id

The ID of a gateway specified in a route in the table.

Type: String

route.instance-id

The ID of an instance specified in a route in the table.

Type: String

route.origin

Describes how the route was created.

Type: String

Valid values: `CreateRouteTable` | `CreateRoute` | `EnableVgwRoutePropogation`

`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

Examples

Example Request

This example describes all route tables in the VPC.

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

Example Response

The first route table in the returned list is the VPC's main route table. Its association ID represents the association between the table and the VPC

```
DescribeRouteTablesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>6f570b0b-9c18-4b07-bdec-73740dcf861a</requestId>
    <routeTableSet>
        <item>
            <routeTableId>rtb-13ad487a</routeTableId>
            <vpcId>vpc-11ad4878</vpcId>
            <routeSet>
                <item>
                    <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
                    <gatewayId>local</gatewayId>
                    <state>active</state>
                    <origin>CreateRouteTable</origin>
                </item>
            </routeSet>
            <associationSet>
                <item>
                    <routeTableAssociationId>rtbassoc-12ad487b</routeTableAssoci
ationId>
                    <routeTableId>rtb-13ad487a</routeTableId>
                    <main>true</main>
                </item>
            </associationSet>
            <tagSet/>
```

```
        </item>
        <item>
            <routeTableId>rtb-f9ad4890</routeTableId>
            <vpcId>vpc-11ad4878</vpcId>
            <routeSet>
                <item>
                    <destinationCidrBlock>10.0.0.0/22</destinationCidrBlock>
                    <gatewayId>local</gatewayId>
                    <state>active</state>
                    <origin>CreateRouteTable</origin>
                </item>
                <item>
                    <destinationCidrBlock>0.0.0.0/0</destinationCidrBlock>
                    <gatewayId>igw-eaad4883</gatewayId>
                    <state>active</state>
                </item>
            </routeSet>
            <associationSet>
                <item>
                    <routeTableAssociationId>rtbassoc-faad4893</routeTableAssoci
ationId>
                    <routeTableId>rtb-f9ad4890</routeTableId>
                    <subnetId>subnet-15ad487c</subnetId>
                </item>
            </associationSet>
            <tagSet/>
        </item>
    </routeTableSet>
</DescribeRouteTablesResponse>
```

Related Actions

- AssociateRouteTable (p. 21)
- DisassociateRouteTable (p. 330)
- DeleteRouteTable (p. 137)
- CreateRouteTable (p. 91)
- ReplaceRouteTableAssociation (p. 382)

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, or only those otherwise specified.
>
>Condition: For 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, or only those otherwise specified.
>
>Condition: Required for a EC2-VPC; for EC2-Classic, 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. 504)

Examples

Example Request

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

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&GroupName.1=WebServers
&GroupName.2=RangedPortsBySource
&AUTHPARAMS
```

Example Response

```
<DescribeSecurityGroupsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
   <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/>
               <ipRanges>
                  <item>
                     <cidrIp>0.0.0.0/0</cidrIp>
                  </item>
               </ipRanges>
            </item>
         </ipPermissions>
         <ipPermissionsEgress/>
      </item>
      <item>
         <ownerId>111122223333</ownerId>
         <groupId>sg-2a2b3c4d</groupId>
```

```
            <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/>
        </item>
    </securityGroupInfo>
</DescribeSecurityGroupsResponse>
```

Example Request

This example returns information about all security groups that grant access over TCP specifically on port 22 from instances in either the `app_server_group` or `database_group`.

```
https://ec2.amazonaws.com/?Action=DescribeSecurityGroups
&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. 93)
- AuthorizeSecurityGroupIngress (p. 34)
- RevokeSecurityGroupIngress (p. 406)
- DeleteSecurityGroup (p. 139)

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
    Default: None
    Valid values: `createVolumePermission | productCodes`
    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. 442)

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. 494)

Examples

Example Request

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

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

```
&Attribute=createVolumePermission
&AUTHPARAMS
```

Example Response

```
<DescribeSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <snapshotId>snap-1a2b3c4d</snapshotId>
    <createVolumePermission>
        <item>
            <group>all</group>
        </item>
    </createVolumePermission>
</DescribeSnapshotAttributeResponse>
```

Example Request

This example describes product codes associated with the snap-1a2b3c4d snapshot.

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

Example Response

```
<DescribeSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <snapshotId>snap-1a2b3c4d</snapshotId>
    <productCodes>
        <item>
          <productCode>a1b2c3d4e5f6g7h8i9j10k11</productCode>
          <type>marketplace</type>
        </item>
    </productCodes>
</DescribeSnapshotAttributeResponse>
```

Related Actions

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 3 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. 452)

Examples

Example Request

This example describes snapshot `snap-1a2b3c4d`.

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

Example Response

```
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotSet>
      <item>
         <snapshotId>snap-1a2b3c4d</snapshotId>
         <volumeId>vol-1a2b3c4d</volumeId>
         <status>pending</status>
         <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
         <progress>80%</progress>
         <ownerId>111122223333</ownerId>
         <volumeSize>15</volumeSize>
         <description>Daily Backup</description>
         <tagSet/>
      </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

```
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotSet>
      <item>
         <snapshotId>snap-1a2b3c4d</snapshotId>
         <volumeId>vol-1a2b3c4d</volumeId>
         <status>pending</status>
         <startTime>YYYY-MM-DDTHH:MM:SS.SSSZ</startTime>
         <progress>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. 95)
- DeleteSnapshot (p. 141)

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

The `DescribeSpotDatafeedSubscription` operation does not have any request 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. 505)

Examples

Example Request

This example describes the datafeed for the account.

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

Example Response

```
<DescribeSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazon
aws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <spotDatafeedSubscription>
      <ownerId>111122223333</ownerId>
      <bucket>myawsbucket></bucket>
      <prefix>spotdata_</prefix>
      <state>Active</state>
   </spotDatafeedSubscription>
</DescribeSpotDatafeedSubscriptionResponse>
```

Related Actions

- CreateSpotDatafeedSubscription (p. 98)
- DeleteSpotDatafeedSubscription (p. 143)

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. 506)

networkInterfaceSet
Information about the network interface.

Type: InstanceNetworkInterfaceSetItemRequestType (p. 469)

Examples

Example Request

This example returns information about current Spot Instance requests.

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

Example Response

```
<DescribeSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/"
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
      <spotPrice>0.09</spotPrice>
      <type>one-time</type>
      <state>active</state>
      <status>
        <code>fulfilled</code>
        <updateTime>YYYY-MM-DDTHH:MM:SS.000Z</updateTime>
        <message>Your Spot request is fulfilled.</message>
      </status>
      <launchSpecification>
        <imageId>ami-1a2b3c4d</imageId>
        <keyName>gsg-keypair</keyName>
        <groupSet>
          <item>
            <groupId>sg-1a2b3c4d</groupId>
            <groupName>default</groupName>
          </item>
        </groupSet>
        <instanceType>m1.small</instanceType>
        <monitoring>
          <enabled>false</enabled>
        </monitoring>
        <ebsOptimized>false</ebsOptimized>
      </launchSpecification>
      <instanceId>i-1a2b3c4d</instanceId>
      <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
      <productDescription>Linux/UNIX</productDescription>
      <launchedAvailabilityZone>us-east-1c</launchedAvailabilityZone>
    </item>
  <spotInstanceRequestSet/>
<DescribeSpotInstanceRequestsResponse>
```

Example Request

This example describes all persistent Spot Instance requests that have resulted in the launch of at least one m1.small instance, that has been fulfilled in the us-east-1a Availability Zone, and that also has monitoring enabled.

```
https://ec2.amazonaws.com/?Action=DescribeSpotInstanceRequests
&Filter.1.Name=type
&Filter.1.Value.1=persistent
&Filter.2.Name=instance-type
&Filter.2.Value.1=m1.small
&Filter.3.Name=monitoring-enabled
&Filter.3.Value.1=true
&Filter.4.Name=launched-availability-zone
&Filter.4.Value.1=us-east-1a
&AUTHPARAMS
```

Related Actions

- RequestSpotInstances (p. 387)
- CancelSpotInstanceRequests (p. 49)
- DescribeSpotPriceHistory (p. 282)

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

timestamp
> The timestamp of the Spot Price history (for example, 2010-08-16T05:06:11.000Z). You can use wildcards (* and ?). Greater than or less than comparison is not supported.
>
> Type: DateTime

availability-zone
> The Availability Zone for which prices should be returned.
>
> Type: String

Response Elements

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

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

spotPriceHistorySet
> A list of historical Spot Prices. Each price is wrapped in an `item` element.
>
> Type: SpotPriceHistorySetItemType (p. 509)

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 request 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

```
<DescribeSpotPriceHistoryResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
```

```
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <spotPriceHistorySet>
        <item>
            <instanceType>m1.small</instanceType>
            <productDescription>Linux/UNIX</productDescription>
            <spotPrice>0.287</spotPrice>
            <timestamp>2009-12-04T20:56:05.000Z</timestamp>
            <availabilityZone>us-east-1a</availabilityZone>
        </item>
        <item>
            <instanceType>m1.small</instanceType>
            <productDescription>Windows</productDescription>
            <spotPrice>0.033</spotPrice>
            <timestamp>2009-12-04T22:33:47.000Z</timestamp>
            <availabilityZone>us-east-1a</availabilityZone>
        </item>
    </spotPriceHistorySet>
    <nextToken/>
</DescribeSpotPriceHistoryResponse>
```

Related Actions

DescribeSubnets

Description

Describes one or more of your subnets.

Request Parameters

SubnetId.n
    A subnet ID. You can specify more than one in the request.
    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. 510)

Examples

Example Request

This example gives a description of two subnets with IDs subnet-9d4a7b6c and subnet-6e7f829e.

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

Example Response

```
<DescribeSubnetsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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 give a description of any subnet you own that is in the VPC with 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. 100)
- DeleteSubnet (p. 144)

DescribeTags

Description

Describes one or more of the tags for your EC2 resources. For more information about tags, see Tagging Your Resources in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

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

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

Supported Filters

You can specify filters to limit the response when describing tags. For example, you can use a filter to get only the tags for a specific resource type. You can specify multiple values for a filter. The response includes information for a tag only if it matches at least one of the filter values that you specified.

You can specify multiple filters (for example, specify a specific resource type and tag values that contain the string `database`). The response includes information for a tag only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

key
> The tag key.
> Type: String

resource-id
> The resource ID.
> Type: String

resource-type
> The resource type.
> Type: String
> Valid values: `customer-gateway` | `dhcp-options` | `image` | `instance` | `internet-gateway` | `network-acl` | `network-interface` | `reserved-instances` | `route-table` | `security-group` | `snapshot` | `spot-instances-request` | `subnet` | `volume` | `vpc` | `vpn-connection` | `vpn-gateway`

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. 511)

Examples

Example Request

This example describes all the tags in your account.

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

Sample response:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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>
      <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 only the tags for the AMI with ID ami-1a2b3c4d.

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-id
&Filter.1.Value.1=ami-1a2b3c4d
&AUTHPARAMS
```

Sample response:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <tagSet>
        <item>
            <resourceId>ami-1a2b3c4d</resourceId>
            <resourceType>image</resourceType>
            <key>webserver</key>
            <value/>
        </item>
        <item>
            <resourceId>ami-1a2b3c4d</resourceId>
            <resourceType>image</resourceType>
            <key>stack</key>
            <value>Production</value>
        </item>
    </tagSet>
</DescribeTagsResponse>
```

Example Request

This example describes the tags for all your instances.

```
https://ec2.amazonaws.com/?Action=DescribeTags
&Filter.1.Name=resource-type
&Filter.1.Value.1=instance
&AUTHPARAMS
```

Sample response:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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:

```
<DescribeTagsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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. 102)
- DeleteTags (p. 146)

DescribeVolumes

Description

Describes one or more of your 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 volumes that you own, 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 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. 453)

Examples

Example Request

This example describes all volumes associated with your account.

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

Example Response

```
<DescribeVolumesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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

```
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
```

Related Actions

- CreateVolume (p. 104)
- DeleteVolume (p. 149)
- AttachVolume (p. 27)
- DetachVolume (p. 322)

DescribeVolumeAttribute

Description

Describes an attribute of a volume. You can specify only one attribute at a time.

Currently, volumes have two attributes, `autoEnableIO` and `productCodes`.

Request Parameters

VolumeId
> The ID of the volume.
> Type: String
> Default: None
> Required: Yes

Attribute
> The instance attribute.
> Type: String
> Default: None
> Valid values: `autoEnableIO` | `productCodes`
> 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. 494)

Example

Example Request

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

```
https://ec2.amazonaws.com/?Action=DescribeVolumeAttribute
&Attribute=autoEnableIO
&VolumeId=vol-12345678
&AUTHPARAMS
```

Example Response

```
<DescribeVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <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

```
<DescribeVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <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

Description

Describes the status of one or more 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. 334) 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 volumes that you own, 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

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. 513)

`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

```
<DescribeVolumeStatus xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>5jkdf074-37ed-4004-8671-a78ee82bf1cbEXAMPLE</requestId>
  <volumeStatusSet>
    <item>
```

```
        <VolumeId>vol-11111111</volumeId>
        <availabilityZone>us-east-1d</availabilityZone>
        <volumeStatus>
          <status>ok</status>
          <details>
            <item>
              <name>io-enabled</name>
              <status>passed</status>
            </item>
          </details>
        </volumeStatus>
        </item>
      <item>
        <volumeId>vol-22222222</volumeId>
        <availabilityZone>us-east-1d</availabilityZone>
        <volumeStatus>
          <status>impaired</status>
          <details>
            <item>
              <name>io-enabled</name>
              <status>failed</status>
            </item>
          </details>
        </volumeStatus>
        <eventsSet>
              <item>
                <eventId>evol-61a54008</eventId>
                <eventType>potential-data-inconsistency</eventType>
                <description>THIS IS AN EXAMPLE</description>
                <notBefore>2011-12-01T14:00:00.000Z</notBefore>
                <notAfter>2011-12-01T15:00:00.000Z</notAfter>
              </item>
            </eventsSet>
        <actionsSet>
          <item>
            <code>enable-volume-io</code>
            <eventId> evol-61a54008</eventId>
            <eventType>potential-data-inconsistency</eventType>
            <description>THIS IS AN EXAMPLE</description>
          </item>
        </actionsSet>
      </item>
      </volumeStatusSet>
</DescribeVolumesStatusResponse>
```

Example Request

This example describes all the volumes in the `us-east-1d` Availability Zone with `failed io-enabled` status.

```
https://ec2.amazonaws.com/?Action=DescribeVolumeStatus
&Filter.1.Name=availability-zone
&Filter.1.Value.1=us-east-1d
&Filter.2.Name=volume-status.details-name
&Filter.2.Value.1=io-enabled
&Filter.3.Name=volume-status.details-status
```

```
&Filter.3.Value.1=failed
&AUTHPARAMS
```

Related Actions

- ModifyVolumeAttribute (p. 359)
- DescribeVolumeAttribute (p. 299)
- EnableVolumeIO (p. 334)

DescribeVpcAttribute

Description

Describes the specify attribute of the specified VPC.

Request Parameters

VpcId
>   The ID of the VPC.
>
>   Type: String
>
>   Required: Yes

Attribute
>   The VPC attribute.
>
>   Type: String
>
>   Default: None
>
>   Valid values: `enableDnsSupport` | `enableDnsHostnames`
>
>   Required: Yes

Response Elements

The following elements are returned in a `DescribeVpcAttributeResponse` structure.

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

`enableDnsSupport`
>   Specifies whether the DNS server provided by is enabled for the VPC.
>
>   Type: xsd:boolean

`enableDnsHostnames`
>   Specifies whether DNS hostnames are provided for the instances launched in this VPC.
>
>   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.

```
<DescribeVpcAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

  <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`.

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

Example Response

This example response indicates that DNS hostnames are supported.

```
<DescribeVpcAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- CreateVpc (p. 107)
- DeleteVpc (p. 151)
- ModifyVpcAttribute (p. 361)

DescribeVpcs

Description

Describes one or more of your VPCs.

Request Parameters

vpcId.n

    One or more VPC IDs.

    Type: String

    Default: Describes your VPCs, 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 filters so that the response includes information for only certain VPCs. For example, you can use a filter to specify that you're interested in VPCs in the `available` state. You can specify multiple values for a filter. The response includes information for a VPC only if it matches at least one of the filter values that you specified.

You can specify multiple filters; for example, specify VPCs that use one of several sets of DHCP options and are in the `available` state. The results include information for a VPC only if it matches all the filters that you specified. If there's no match, no special message is returned, the response is simply empty.

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

The following are the available filters.

cidr

    The CIDR block of the VPC. The CIDR block you specify must exactly match the VPC's CIDR block for information to be returned for the VPC.

    Type: String

    Constraints: Must contain the slash followed by one or two digits (for example, `/28`)

dhcp-options-id

    The ID of a set of DHCP options.

    Type: String

isDefault

    Indicates whether the VPC is the default VPC.

Type: Boolean

state

The state of the VPC.

Type: String

Valid values: `pending` | `available`

tag-key

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

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

Type: String

tag-value

The value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.

Type: String

tag:_key_

Filters the response based on a specific tag/value combination.

Example: To list just the resources that have been assigned tag Purpose=X, specify:

`Filter.1.Name=tag:Purpose`

`Filter.1.Value.1=X`

Example: To list just resources that have been assigned tag Purpose=X OR Purpose=Y, specify:

`Filter.1.Name=tag:Purpose`

`Filter.1.Value.1=X`

`Filter.1.Value.2=Y`

vpc-id

The ID of the VPC.

Type: String

Response Elements

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

requestId

The ID of the request.

Type: xsd:string

vpcSet

A list of VPCs. Each VPC is wrapped in an `item` element.

Type: VpcType (p. 516)

Examples

Example Request

This example gives a description of the VPC with ID vpc-1a2b3c4d.

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

Example Response

```
<DescribeVpcsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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 give a description of any VPC you own that uses the set of DHCP options with 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. 107)
- DeleteVpc (p. 151)
- CreateDhcpOptions (p. 59)
- AssociateDhcpOptions (p. 19)

DescribeVpnConnections

Description

Describes one of 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 an IPsec 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
> A VPN connection ID. You can specify more than one in the request.
>
> 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.

Type: String

Response Elements

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

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

vpnConnectionSet
> A list of VPN connections. Each VPN connection is wrapped in an `item` element.
>
> Type:

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

```
<DescribeVpnConnectionsResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <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`.

```
https://ec2.amazonaws.com/?Action=DescribeVpnConnections
&Filter.1.Name=customer-gateway-id
&Filter.1.Value.1=cgw-b4dc3961
&Filter.2.Name=state
&Filter.2.Value.1=pending
&Filter.2.Value.2=available
&AUTHPARAMS
```

Related Actions

- CreateVpnConnection (p. 109)
- DeleteVpnConnection (p. 153)

DescribeVpnGateways

Description

Describes one or more of your virtual private gateways.

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

Request Parameters

VpnGatewayId.n
    A virtual private gateway ID. You can specify more than one in the request.
    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.

Type: String

availability-zone

The Availability Zone for the virtual private gateway.

Type: String

state

The state of the virtual private gateway.

Type: String

Valid values: `pending` | `available` | `deleting` | `deleted`

tag-key

The key of a tag assigned to the resource. This filter is independent of the `tag-value` filter. For example, if you use both the filter "`tag-key=Purpose`" and the filter "`tag-value=X`", you get any resources assigned both the tag key `Purpose` (regardless of what the tag's value is), and the tag value `X` (regardless of what the tag's key is). If you want to list only resources where Purpose is X, see the `tag:`*key* 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. 518)

Examples

Example Request

This example gives a description of the virtual private gateway with ID vgw-8db04f81.

```
https://ec2.amazonaws.com/?Action=DescribeVpnGateways
&VpnGatewayId.1=vgw-8db04f81
&AUTHPARAMS
```

Example Response

```
<DescribeVpnGatewaysResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

  <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 give a description of 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

DetachInternetGateway

Description

Detaches an Internet gateway from a VPC, disabling connectivity between the Internet and the VPC. The VPC must not contain any running instances with Elastic IP addresses.

Request Parameters

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

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

Response Elements

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

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

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

Examples

Example Request

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

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

Example Response

```
 <DetachInternetGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
    <return>true</return>
</DetachInternetGatewayResponse>
```

Related Actions

- CreateInternetGateway (p. 68)
- DeleteInternetGateway (p. 124)
- DetachInternetGateway (p. 23)
- 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

```
<DetachNetworkInterfaceResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-
01/'>
    <requestId>ce540707-0635-46bc-97da-33a8a362a0e8</requestId>
    <return>true</return>
</DetachNetworkInterfaceResponse>
```

Related Actions

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 volume being stuck in "busy" state while detaching. For more information about Amazon EBS, see Using 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 cannot 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

```
<DetachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <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

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

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

Example Response

```
<DetachVpnGatewayResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
   <return>true</return>
</DetachVpnGatewayResponse>
```

Related Actions

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

```
<DisableVgwRoutePropagationResponse xmlns='http://ec2.amazonaws.com/doc/2013-
02-01/'>>
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
```

```
    <return>true</return>
</DisableVgwRoutePropagationResponse>
```

Related Actions

-

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 corresponding to the Elastic IP address.
>
>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 67.202.55.255 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

```
<DisassociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 163)
- ReleaseAddress (p. 373)
- AssociateAddress (p. 16)

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/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DisassociateRouteTableResponse>
```

Related Actions

- CreateRouteTable (p. 91)
- AssociateRouteTable (p. 21)
- DeleteRouteTable (p. 137)
- DescribeRouteTables (p. 260)
- ReplaceRouteTableAssociation (p. 382)

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

```
<EnableVgwRoutePropagation xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>>
    <requestId>4f35a1b2-c2c3-4093-b51f-abb9d7311990</requestId>
```

```
    <return>true</return>
</EnableVgwRoutePropagation>
```

Related Actions

- DisableVgwRoutePropagation (p. 326)

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 volume ID.
> 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

```
<EnableVolumeIOResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</EnableVolumeIOResponse>
```

Related Actions

- DescribeVolumeAttribute (p. 299)

GetConsoleOutput

Description

Retrieves console output for the specified instance.

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.

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 instance ID.
    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.

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

Example Response

```
<GetConsoleOutputResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-28a64341</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hb
WF6b25zYSkgKGdj
YyB2ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IChSZWQgSGF0IDQuMC4xLTUpKSAjMSBTTVAgVGh1IE9j
dCAyNiAwODo0MToyNiBTVVNUIDIwMDYKQklPUy1wcm92aWRlZCBwaHlzaWNhbCBSQU0gbWFwOgpY
ZW46IDAwMDAwMDAwMDAwMDAgLSAwMDAwMDAwMDNhNDAwMDAwICh1c2FibGUpCjk4ME1CIEhJR0hN
R0hNRU0gYXZhaWxhYmxlLgo3MjdNQiBMT1dNRU0gYXZhaWxhYmxlLgpOWCAoRXhlY3V0ZSBEaXNh
YmxlKSBwcm90ZWN0aW9uOiBhY3RpdmUKSVJJRGxvY2t1cCBkZXRlY3Rpb24gZGlzYWJsZWQKQnVp
bHQgMSB6b25lbGlzdHMKS2VybmVsIGNvbW1hbmQgbGluZTogcm9vdD0vZGV2L3NkYTEgcm8gNApF
bmFibGluZyBmYXN0IEZQVSBzYXZlIGFuZCByZXN0b3JlLi4uIGRvbmUuCg==</output>
</GetConsoleOutputResponse>
```

Related Actions

- RunInstances (p. 409)

GetPasswordData

Description

Retrieves the encrypted administrator password for an instance running Windows.

Note
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 provided.

Request Parameters

InstanceId
A Windows instance ID.

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

```
<GetPasswordDataResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-2574e22a</instanceId>
  <timestamp>2009-10-24 15:00:00</timestamp>
  <passwordData>TGludXggdmVyc2lvbiAyLjYuMTYteGVuUSAoYnVpbGRlckBwYXRjaGJhc5hb
WF6b25zYSkgKGdj</passwordData>
</GetPasswordDataResponse>
```

Related Actions

- RunInstances (p. 409)

ImportInstance

Description

Creates a new 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 of the instance being imported.
Type: String
Default: None
Required: No

LaunchSpecification.Architecture
The architecture of the instance.
Type: String
Default: None
Valid values: `i386 | x86_64`
Required: Yes

LaunchSpecification.GroupName.n
One or more security group names.
Type: String
Default: None
Required: No

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

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

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

LaunchSpecification.Monitoring.Enabled
Specifies whether to enable detailed monitoring for the instance.
Type: Boolean
Default: false
Required: No

LaunchSpecification.SubnetId

[EC2-VPC] The ID of the subnet to launch the instance into.

Type: String

Default: None

Required: No

LaunchSpecification.InstanceInitiatedShutdownBehavior

Specifies whether the instance stops or terminates on instance-initiated 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

Default: None

Valid values: VMDK | RAW | VHD

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 of 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. 441)

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/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signa
ture=5snej01TlTtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

Example Response

```
<ImportInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <conversionTask>
    <conversionTaskId>import-i-ffvko9js</conversionTaskId>
    <expirationTime>2010-12-22T12:01Z</expirationTime>
    <importInstance>
      <volumes>
        <item>
          <bytesConverted>0</bytesConverted>
          <availabilityZone>us-east-1a</availabilityZone>
          <image>
            <format>VMDK</format>
            <size>1179593728</size>
            <importManifestUrl>
             https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-43cc-97c1-
15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccess
KeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TlTtL0uR7KEx
tEXAMPLE%3D
            </importManifestUrl>
          </image>
          <description/>
```

```
            <volume>
                <size>12</size>
                <id>vol-1a2b3c4d</id>
            </volume>
            <status>active</status>
            <statusMessage/>
        </item>
    </volumes>
    <instanceId>i-12655a7f</instanceId>
    <description/>
  </importInstance>
 </conversionTask>
</ImportInstanceResponse>
```

Related Actions

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.

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.
Type: xsd:string

Examples

Example Request

This example uploads the public key for a key pair you name gsg-keypair.

```
https://ec2.amazonaws.com/?Action=ImportKeyPair
&KeyName=gsg-keypair
&PublicKeyMaterial=LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tDQpNSUlDZHp
DQ0FlQ2dBd0lCQWdJR0FQQalRyR3pQQ
TUEwR0NTcUdTSWIzRFFFQkJRVUFNRk14Q3pBSkJnTlZCQVlUQpBbFZVTVJNd0VRWURWUFLRXdw
QmJJXRjZiMjR1WTI5dE1Rd3dDZZ1lEVlFRRTEV3TkjWMU14SVRBZkJnTlZCQVl1UDQpHRUZYVXlCQ1TWFX
MXBkR1ZrTFVGGemMzZVnlZVzVqWlNNRFFFUQWVGdzB3T1RBM016RXlNVFEzTXpwWYUZ3MHhNREEzRDQpN
ekV5TVRRM016VmFNRkl4Q3pBSkJnTlZCQVlUQWxWVE1STXdFUVlEVlFRS0V3cEJiV0Y2YjI0dVky
OXRNUmN3N3DQpHUVlEVlFRTEV3NUJWWU10UkdVWmlpXeHZkjR1Z5Y3pFVk1CTUdBMVVFQXhNTWJJUSnVi
RGhxZW00MWVHVUjFNSUdmDQpNQTBHQlNxR1NJYjNNEUUVCQVFVQUE0R05BRENaVFLQmdRQ1dOYzBOazBKm
QytrcExBRnnp2YkFQc3U1TDU5bFMwUnI0DQprZEpaM0RFak1ppL0IwZ2ZDSzhpjS2hWWYWt1WitHSnJt
NDdMUHZCaFZKWk9IeHVVU0VXakFDMNmlybDJzKzlSWXVjjDQpFZXg0TjJi4ZlpCZGpPRlAzdEazdEgwZ2Nu
WjdibXmxXZ4aFBrTEtvRTdpZFZi4Nm5GWUhdDHpHRnRPQ0ZQTmdUSE92VDE5DqoyR3l1Zb1VyU3BDVVGFC
UUlEQVFBQm84xY3dVEFPQmdOVkhROEJBZjhFQkFNQ0JhUU0JhQXdDZ1lEVlIwbwEFRSC9CQXd3DQpDZ1lJ
S3dZQkJRVUhBd0l3REFZRFZSMFRBUUgvQkFJd0FEQVRCZ05WSFE9RUZnZ1U1RVNuUUUZZUdyTDNX
TUdLDQpqejMxVXZ5TThnaE1HdEVUVlkKS29aSWh2Y05BUVVGBRGdZRUFnbWdZZ1lJWHHRUWFM1NHVq
bU5jjTR0NWRNc3krDQpCM0Z3VVNkUd4WUI2eGQvSUVWMTFLLRVEyZ0hpZUdkMU21jUWg4c2JYTTdt
KzcrYm9UNmc2U2hLbU1jjblkzWkRTDQpWRVFZZ25qcEt1aEZRd2pmaVpUUEc1UG5SVENhdkVqS3lT
TUpPVGxpdFdTTjMrR2J3J3cFU5Uzg3K21GM2tsMGRmDQpZNlIrbEl5SWcrU3ROOTg9DQotLS1LUVO
RCBDRVJUSUZJQ0FURS0tLS0tEXAMPLE
&AUTHPARAMS
```

Example Response

```
<ImportKeyPairResponse xmlns="http://ec2.&api-domain;/doc/2013-02-01/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <keyName>gsg-keypair</keyName>
    <keyFingerprint>
      00:00:00: 00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00:00
    </keyFingerprint>
</ImportKeyPairResponse>
```

Related Actions

ImportVolume

Description

Creates a new 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
>
> Default: None
>
> Valid values: VMDK | RAW | VHD
>
> 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 of 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. 441)

Examples

Example Request

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

```
https://ec2.amazonaws.com/?Action=ImportVolume
&AvailabilityZone=us-east-1c
&Image.Format=VMDK
&Image.Bytes=128696320
&Image.ImportManifestUrl=https://s3.amazonaws.com/myawsbucket/a3a5e1b6-590d-
43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmani
fest.xml?AWSAccessKeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signa
ture=5snej01TlTtL0uR7KExtEXAMPLE%3D
&VolumeSize=8
&AUTHPARAMS
```

Example Response

```
<ImportVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <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?AWSAccess
KeyId=AKIAIOSFODNN7EXAMPLE&Expires=1294855591&Signature=5snej01TlTtL0uR7KEx
tEXAMPLE%3D
              </importManifestUrl>
              <checksum>ccb1b0536a4a70e86016b85229b5c6b10b14a4eb</checksum>
          </image>
          <volume>
              <size>8</size>
              <id>vol-34d8a2ff</id>
          </volume>
      </importVolume>
      <state>active</state>
```

```
      <statusMessage/>
  </conversionTask>
</ImportVolumeResponse>
```

Related Actions

- ImportInstance (p. 340)
- DescribeConversionTasks (p. 173)
- CancelConversionTask (p. 43)

ModifyImageAttribute

Description

Modifies an attribute of an AMI.

> **Note**
> AWS Marketplace product codes cannot be modified. Images with an AWS Marketplace product
> code cannot be made public.

Request Parameters

ImageId
The AMI ID.
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

Default: None

Required: No

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 (i.e., so any AWS account can launch it).

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

Example Request

This example makes the AMI private (i.e., so only you as the owner can launch 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
```

```
&LaunchPermission.Remove.1.UserId=111122223333
&AUTHPARAMS
```

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

```
<ModifyImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- ResetImageAttribute (p. 395)
- DescribeImageAttribute (p. 184)

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's 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
Changes the instance's `DisableApiTermination` flag to the specified value. A value of `true` means you can't terminate the instance using the API (i.e., the instance is "locked"); a value of `false` means you can. You must modify this attribute before you can terminate any "locked" instances using the API.

Type: Boolean

Default: None

Required: No

InstanceInitiatedShutdownBehavior.Value
Changes the instance's `InstanceInitiatedShutdownBehavior` flag to the specified value.

Type: String

Default: None

Valid values: `stop` | `terminate`

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 value defaults to 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. 464)

Default: None

Example:

```
&BlockDeviceMapping1.DeviceName=/dev/sdh
&BlockDeviceMapping.1.Ebs.DeleteOnTermination=true
```

Required: No

SourceDestCheck.Value

Enables a network address translation (NAT) instance in a VPC to perform NAT. The attribute controls whether source/destination checking is enabled on the instance. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

Type: Boolean

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

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 kernel for the instance.

```
https://ec2.amazonaws.com/?Action=ModifyInstanceAttribute
&InstanceId=i-10a64379
&Kernel.Value=aki-f70657b2
&AUTHPARAMS
```

Example Response

```
<ModifyInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>
```

Related Actions

ModifyNetworkInterfaceAttribute

Description

Modifies 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

Description.Value
> The description of 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
> Enables a Network Address Translation (NAT) instance in a VPC to perform NAT. The attribute controls whether source/destination checking is enabled on the instance. A value of `true` means checking is enabled, and `false` means checking is disabled. The value must be `false` for the instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.
>
> Type: Boolean
>
> 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 sets source/destination checking to `false` for the elastic network interface (ENI)
`eni-ffda3197`.

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

Example Response

```
<ModifyNetworkInterfaceAttributeResponse xmlns='http://ec2.amazon
aws.com/doc/2013-02-01/'>
    <requestId>657a4623-5620-4232-b03b-427e852d71cf</requestId>
    <return>true</return>
</ModifyNetworkInterfaceAttributeResponse>
```

Related Actions

- AttachNetworkInterface (p. 25)
- DetachNetworkInterface (p. 320)
- CreateNetworkInterface (p. 77)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ResetNetworkInterfaceAttribute (p. 399)

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.

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

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

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

Example Response

```
<ModifySnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</ModifySnapshotAttributeResponse>
```

Related Actions

- DescribeSnapshotAttribute (p. 268)
- DescribeSnapshots (p. 270)
- ResetSnapshotAttribute (p. 401)
- CreateSnapshot (p. 95)

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. 334) 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. 334) 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
>
>   Default: None
>
>   Required: Yes

AutoEnableIO.Value
>   This attribute exists to auto-enable the I/O operations to the volume.
>
>   Type: Boolean
>
>   Default: `false`
>
>   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

```
<ModifyVolumeAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- DescribeVolumeAttribute (p. 299)
- DescribeVolumeStatus (p. 301)

ModifyVpcAttribute

Description

Modifies the specified attribute of the specified VPC.

Request Parameters

VpcId
> The ID of the VPC.
>
> Type: String
>
> Required: Yes

enableDnsSupport
> Indicates whether the DNS resolution is supported for the VPC. If this attribute is `true`, the Amazon DNS server resolves DNS hostnames for your instances to their corresponding IP addresses; otherwise, it does not.
>
> Type: Boolean
>
> Required: No

enableDnsHostnames
> Indicates whether the 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 this attribute 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. 483)

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

```
<MonitorInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <instancesSet>
      <item>
        <instanceId>i-43a4412a</instanceId>
        <monitoring>
          <state>pending</state>
        </monitoring>
      </item>
```

```
    <item>
      <instanceId>i-23a3397d</instanceId>
        <monitoring>
          <state>pending</state>
        </monitoring>
    </item>
    </instancesSet>
</MonitorInstancesResponse>
```

Related Actions

- UnmonitorInstances (p. 429)
- RunInstances (p. 409)

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. 497)

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=4b2293b4-5813-4cc8-9ce3-1957fc1dcfc8
&LimitPrice.Amount=200
&InstanceCount=2
&AUTHPARAMS
```

The response looks like the following example.

```
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazon
aws.com/doc/2013-02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesId>af9f760e-c1c1-449b-8128-1342d3a6927a</reservedIn
stancesId>
</PurchaseReservedInstancesOfferingResponse>
```

Example Request

This example illustrates a purchase of a Reserved Instances offering.

```
https://ec2.amazonaws.com/?Action=PurchaseReservedInstancesOffering
&ReservedInstancesOfferingId=4b2293b4-5813-4cc8-9ce3-1957fc1dcfc8
&InstanceCount=2
&AUTHPARAMS
```

Example Response

```
<PurchaseReservedInstancesOfferingResponse xmlns="http://ec2.amazon
aws.com/doc/2013-02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesId>af9f760e-c1c1-449b-8128-1342d3a6927a</reservedIn
stancesId>
</PurchaseReservedInstancesOfferingResponse>
```

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

```
<RebootInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RebootInstancesResponse>
```

Related Actions

- RunInstances (p. 409)

RegisterImage

Description

Registers a new AMI with Amazon EC2. 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 of the 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. Some kernels require additional drivers at launch. Check the kernel requirements for information on whether you need to specify a RAM disk. To find kernel requirements, refer to the Resource Center and search for the kernel ID.

   Type: String

   Default: None

   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

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`.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&ImageLocation=myawsbucket/my-new-image.manifest.xml
&AUTHPARAMS
```

Example Request

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

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

Example Request

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

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

Example Response

```
<RegisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-1a2b3c4d</imageId>
</RegisterImageResponse>
```

Related Actions

ReleaseAddress

Description

Releases an Elastic IP address allocated to your account.

> **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-diassociate-address` command.

[nondefault VPC] You must use the `ec2-diassociate-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 that AWS provided when you allocated the address for use with a VPC.
> 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 (67.202.55.255).

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&PublicIp=192.0.2.1
&AUTHPARAMS
```

Example Request

This example releases an Elastic IP address with allocation ID eipalloc-5723d13e.

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&AllocationId=eipalloc-5723d13e
&AUTHPARAMS
```

Example Response

```
<ReleaseAddressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReleaseAddressResponse>
```

Related Actions

- AllocateAddress (p. 12)
- DescribeAddresses (p. 163)
- AssociateAddress (p. 16)
- DisassociateAddress (p. 328)

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

```
<ReplaceNetworkAclAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <newAssociationId>aclassoc-17b85d7e</newAssociationId>
</ReplaceNetworkAclAssociationResponse>
```

Related Actions

- CreateNetworkAcl (p. 72)
- DeleteNetworkAcl (p. 127)
- DescribeNetworkAcls (p. 224)

ReplaceNetworkAclEntry

Description

Replaces an entry (i.e., rule) in a network ACL. For more information about network ACLs, see Network ACLs in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

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

RuleNumber
> The rule number of the entry to replace.
>
> Type: Integer
>
> Default: None
>
> Required: Yes

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

RuleAction
> Indicates whether to allow or deny traffic that matches the rule.
>
> Type: String
>
> Default: None
>
> Valid values: `allow` | `deny`
>
> Required: Yes

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

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

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

Condition: Required if specifying `1` (ICMP) for the protocol.

Icmp.Type
For the ICMP protocol, the ICMP type. You can use -1 to specify all ICMP types.

Type: Integer

Default: None

Required: Conditional

Condition: Required if specifying `1` (ICMP) for the protocol.

PortRange.From
The first port in the range.

Type: Integer

Default: None

Required: Conditional

Condition: Required if specifying `6` (TCP) or `17` (UDP) for the protocol.

PortRange.To
The last port in the range.

Type: Integer

Default: None

Required: Conditional

Condition: Required if specifying `6` (TCP) or `17` (UDP) for the protocol.

Response Elements

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

requestId
The ID of the request.

Type: xsd:string

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

Type: xsd:boolean

Examples

Example Request

This example replaces the egress entry numbered 110 in the network ACL with ID acl-2cb85d45. The new rule denies egress traffic destined for anywhere (0.0.0.0/0) on TCP port 139.

```
https://ec2.amazonaws.com/?Action=ReplaceNetworkAclEntry
&NetworkAclId=acl-2cb85d45
&RuleNumber=110
&Protocol=tcp
&RuleAction=deny
&Egress=true
&CidrBlock=0.0.0.0/0
&PortRange.From=139
&PortRange.To=139
&AUTHPARAMS
```

Example Response

```
<ReplaceNetworkAclEntryResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</ReplaceNetworkAclEntryResponse>
```

Related Actions

- CreateNetworkAclEntry (p. 74)
- DeleteNetworkAclEntry (p. 129)
- 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: a `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: a `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 ID rtb-e4ad488d. The new route matches the CIDR 10.0.0.0/8 and sends the traffic to the virtual private gateway with ID vgw-1d00376e.

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

Example Response

```
<ReplaceRouteResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</ReplaceRouteResponse>
```

Related Actions

- DeleteRoute (p. 135)
- CreateRoute (p. 88)
- 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 ID representing the current association between the original route table and the subnet.
    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

```
<ReplaceRouteTableAssociationResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <newAssociationId>rtbassoc-faad4893</newAssociationId>
</ReplaceRouteTableAssociationResponse>
```

Related Actions

- CreateRouteTable (p. 91)
- DisassociateRouteTable (p. 330)
- DeleteRouteTable (p. 137)
- DescribeRouteTables (p. 260)
- AssociateRouteTable (p. 21)

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.

instance-stuck-in-state
   My instance is stuck in a state.

unresponsive
   My instance is unresponsive.

not-accepting-credentials
   My instance is not accepting my credentials.

password-not-available
   A password is not available for my instance.

performance-network
   My instance is experiencing performance problems which I believe are network related.

performance-instance-store
   My instance is experiencing performance problems which I believe are related to the instance stores.

performance-ebs-volume
   My instance is experiencing performance problems which I believe are related to an EBS volume.

performance-other
   My instance is experiencing performance problems.

other
   Other, explained in the submitted description parameter.

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 section for descriptions of each reason code.
>
> Type: String
>
> Valid values: `instance-stuck-in-state` | `unresponsive` | `not-accepting-credentials` | `password-not-available` | `performance-network` | `performance-instance-store` | `performance-ebs-volume` | `performance-other` | `other`
>
> Required: Yes

Description
> Descriptive text about the instance health state.
>
> Type: String
>
> Default: None
>
> Required: No

Response Elements

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

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

return
> Returns `true` if the request succeeds. Otherwise, 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=2013-02-01
&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.
```

```
&Status=impaired
&InstanceId.0=i-9440effb
&InstanceId.1=i-0cf27c63
&ReasonCode.0=instance-performance-network
&ReasonCode.1=instance-performance-disk
&Version=2013-02-01
&AuthParams
```

Example Response

```
<ReportInstanceStatusResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>

    <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 Using 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.AddressingType

Deprecated.

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. 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

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

LaunchSpecification.BlockDeviceMapping.n.Ebs.SnapshotId
    The ID of the snapshot.
    Type: String
    Default: None
    Required: No

LaunchSpecification.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

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

LaunchSpecification.BlockDeviceMapping.n.Ebs.VolumeType
    The volume type.
    Type: String
    Valid values: `standard` | `io1`
    Default: `standard`
    Required: No

LaunchSpecification.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.

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 new network interfaces.

Type: Integer

Default:

Required: No

LaunchSpecification.NetworkInterface.n.SubnetId

[EC2-VPC] Applies only when creating new network interfaces.

Type: String

Default:

Required: No

LaunchSpecification.NetworkInterface.n.Description

[EC2-VPC] Applies only when creating new network interfaces.

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 new network interfaces. Requires n=1 network interfaces in launch.

Only one private IP address can be designated as primary. Therefore, you cannot 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

LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress

[EC2-VPC] The primary private IP address of the network interface. Applies only when creating new network interfaces. Requires n=1 network interfaces in launch.

Only one private IP address can be designated as primary. Therefore, you cannot 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] Whether the private IP address is the primary private IP address. Applies only when creating new network interfaces. Requires n=1 network interfaces in launch.

Only one private IP address can be designated as primary. Therefore, you cannot specify this parameter with a value of `true` with the `LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress` option if you specify the `LaunchSpecification.NetworkInterface.n.PrivateIpAddress` option.

Type: String

Default: None

Required: No

LaunchSpecification.NetworkInterface.n.SecondaryPrivateIpAddressCount

[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 cannot specify this option and specify more than one private IP address using LaunchSpecification.NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress.

Type: Integer

Default: None

Required: No

LaunchSpecification.NetworkInterface.n.SecurityGroupId.n

The security group IDs to associate with the created instance. Applies only when creating new network interfaces.

Type: String

Default: None

Required: No

LaunchSpecification.NetworkInterface.n.DeleteOnTermination

Applies to all network interfaces.

Type: Boolean

Default:

Required: No

LaunchSpecification.IamInstanceProfile.Arn

The Amazon resource name (ARN) of the IAM Instance Profile (IIP) to associate with the instances.

Type: String

Default: None

Required: No

LaunchSpecification.IamInstanceProfile.Name

The name of the IAM Instance Profile (IIP) to associate with the instances.

Type: String

Default: None

Required: No

LaunchSpecification.EbsOptimized

Whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.

Type: Boolean

Default: `false`

Required: No

Response Elements

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

requestId

The ID of the request.

Type: xsd:string

spotInstanceRequestSet
Information about the Spot Instance request, wrapped in an `item` element.

Type: SpotInstanceRequestSetItemType (p. 506)

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.Group.1=websrv
&LaunchSpecification.InstanceType=m1.small
&LaunchSpecification.IamInstanceProfile.Name=s3access
&AUTHPARAMS
```

Example Response

```
<RequestSpotInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <spotInstanceRequestSet>
      <item>
         <spotInstanceRequestId>sir-1a2b3c4d</spotInstanceRequestId>
         <spotPrice>0.5</spotPrice>
         <type>one-time</type>
         <state>open</state>
         <availabilityZoneGroup>MyAzGroup</availabilityZoneGroup>
         <launchSpecification>
            <imageId>ami-1a2b3c4d</imageId>
            <groupSet>
               <item>
                  <groupId></groupId>
                  <groupName></groupName>
               </item>
            </groupSet>
            <instanceType>m1.small</instanceType>
            <blockDeviceMapping/>
            <monitoring>
               <enabled>false</enabled>
            </monitoring>
            <ebsOptimized>false</ebsOptimized>
         </launchSpecification>
         <createTime>YYYY-MM-DDTHH:MM:SS.000Z</createTime>
         <productDescription>Linux/UNIX</productDescription>
      </item>
      <item>
```

```
        ...
      </item>
   </spotInstanceRequestSet>
</RequestSpotInstancesResponse>
```

Related Actions

ResetImageAttribute

Description

Resets an attribute of an AMI to its default value.

> **Note**
> The productCodes attribute cannot 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

```
<ResetImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">

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

Related Actions

- ModifyImageAttribute (p. 349)
- DescribeImageAttribute (p. 184)

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 exists to enable a Network Address Translation (NAT) instance in a VPC to perform NAT. The attribute controls whether source/destination checking is enabled on the instance. The default value is `true`, which means checking is enabled. The value must be `false` for the instance to perform NAT. For more information, see NAT Instances in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

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

Attribute
The attribute to reset.
Type: String
Default: None
Valid values: `kernel` | `ramdisk` | `sourceDestCheck`
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 `kernel` attribute.

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

Example Response

```
<ResetInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetInstanceAttributeResponse>
```

Related Actions

- ModifyInstanceAttribute (p. 352)
- DescribeInstanceAttribute (p. 194)

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=[sourceDestCheck]
> The name of the attribute to reset; *sourceDestCheck* defaults to `true`.
>
> Type: String
>
> 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 elastic network interface (ENI) `eni-ffda3197`.

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

Example Response

```
<ResetNetworkInterfaceAttributeResponse xmlns='http://ec2.amazonaws.com/doc/2013-
02-01/'>
    <requestId>5187642e-3f16-44a3-b05f-24c3848b5162</requestId>
    <return>true</return>
</ResetNetworkInterfaceAttributeResponse>
```

Related Actions

- AttachNetworkInterface (p. 25)
- DetachNetworkInterface (p. 320)
- CreateNetworkInterface (p. 77)
- DeleteNetworkInterface (p. 131)
- DescribeNetworkInterfaceAttribute (p. 229)
- DescribeNetworkInterfaces (p. 231)
- ModifyNetworkInterfaceAttribute (p. 355)

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

```
<ResetSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
```

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

Related Actions

- ModifySnapshotAttribute (p. 357)
- DescribeSnapshotAttribute (p. 268)
- DescribeSnapshots (p. 270)
- CreateSnapshot (p. 95)

RevokeSecurityGroupEgress

Description

Removes one or more egress rules from a security group for EC2-VPC. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be revoked.

Each rule consists of the protocol and the CIDR range or destination security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

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

For more information, see Security Groups in the *Amazon Virtual Private Cloud User Guide*.

Request Parameters

GroupId
> The ID of the security group to modify.
> Type: String
> Default: None
> Required: Yes

IpPermissions.n.IpProtocol
> The IP protocol name or number (see Protocol Numbers).
> When you call `DescribeSecurityGroups`, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, `tcp`, `udp`, or `icmp`).
> Type: String
> Valid values: `tcp` | `udp` | `icmp` or any protocol number (see Protocol Numbers). Use `-1` to specify all.
> Required: Yes

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

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

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

Required: Conditional

IpPermissions.n.IpRanges.m.CidrIp

The CIDR range. Cannot be used when specifying a destination security group.

Type: String

Default: None

Constraints: Valid CIDR IP address range.

Required: Conditional

Condition: Required if modifying access for one or more IP address ranges.

Response Elements

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

requestId

The ID of the request.

Type: xsd:string

return

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

Type: xsd:boolean

Examples

Example Request

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

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupEgress
&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 ID sg-1a2b3c4d) has to the security group for EC2-VPC with ID sg-9a8d7f5c on TCP port 1433.

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

```
<RevokeSecurityGroupEgressResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-
01/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</RevokeSecurityGroupEgressResponse>
```

Related Actions

- CreateSecurityGroup (p. 93)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupEgress (p. 31)
- AuthorizeSecurityGroupIngress (p. 34)
- AuthorizeSecurityGroupIngress (p. 406)
- DeleteSecurityGroup (p. 139)

RevokeSecurityGroupIngress

Description

Removes one or more ingress rules from a security group. The values that you specify in the revoke request (for example, ports) must match the existing rule's values for the rule to be removed.

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

Each rule consists of the protocol and the CIDR range or source security group. For the TCP and UDP protocols, you must also specify the destination port or range of ports. For the ICMP protocol, you must also specify the ICMP type and code.

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

Request Parameters

UserId
: Deprecated
: Required: No

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

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

IpPermissions.n.IpProtocol
: The IP protocol name or number (see Protocol Numbers). For EC2-Classic, security groups can have rules only for TCP, UDP, and ICMP. For EC2-VPC, security groups can have rules assigned to any protocol number.
: When you call `DescribeSecurityGroups`, the protocol value returned is the number. Exception: For TCP, UDP, and ICMP, the value returned is the name (for example, `tcp`, `udp`, or `icmp`).
: Type: String
: Valid values for EC2-Classic: `tcp | udp | icmp` or the corresponding protocol number (`6 | 17 | 1`).
: Valid values for EC2-VPC: `tcp | udp | icmp` or any protocol number (see Protocol Numbers). Use `-1` to specify all.
: Required: Yes

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

Required: Conditional

Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.ToPort

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

Type: Integer

Default: None

Required: Conditional

Condition: Required for ICMP and any protocol that uses ports

IpPermissions.n.Groups.m.UserId

The AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: For security groups in EC2-Classic only. Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupName

The name of the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: Required if modifying access for one or more source security groups.

IpPermissions.n.Groups.m.GroupId

The ID of the source security group. Cannot be used when specifying a CIDR IP address.

Type: String

Default: None

Required: Conditional

Condition: For EC2-VPC only. Required if modifying access for one or more source security groups.

IpPermissions.n.IpRanges.m.CidrIp

The CIDR range. Cannot be used when specifying a source security group.

Type: String

Default: None

Constraints: Valid CIDR IP address range.

Required: Conditional

Condition: Required if modifying access for one or more IP address ranges.

Response Elements

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

requestId

The ID of the request.

Type: xsd:string

return

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

Type: xsd:boolean

Examples

Example Request

This example revokes TCP port 80 access from the 205.192.0.0/16 address range for the security group named `websrv`. If the security group were for a VPC, you'd specify the ID of the security group instead of the name.

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&GroupName=websrv
&IpProtocol=tcp
&FromPort=80
&ToPort=80
&CidrIp=205.192.0.0/16
&AUTHPARAMS
```

Example Response

```
<RevokeSecurityGroupIngressResponse xmlns="http://ec2.amazonaws.com/doc/2013-
02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RevokeSecurityGroupIngressResponse>
```

Related Actions

- CreateSecurityGroup (p. 93)
- DescribeSecurityGroups (p. 264)
- AuthorizeSecurityGroupIngress (p. 34)
- DeleteSecurityGroup (p. 139)

RunInstances

Description

Launches the specified number of instances of an AMI for which you have permissions.

If capacity is insufficient to launch the maximum number of instances requested in one Availability Zone (the specified Availability Zone for targeted requests, or an Availability Zone chosen by EC2 for untargeted requests), Amazon EC2 launches the minimum number specified. If Amazon EC2 cannot launch the minimum number of instances requested in a single Availability Zone, no instances are launched.

Note
Every instance is launched in a security group (created using the `CreateSecurityGroup` operation). If you don't specify a security group in the `RunInstances` request, the "default" security group is used.

For Linux instances, you can provide an optional key pair ID in the launch request (created using the `CreateKeyPair` or `ImportKeyPair` operation). The instances will have access to the public key at boot. You can use this key to provide secure access to an instance of an image on a per-instance basis. Amazon EC2 public images use this feature to provide secure access without passwords.

Important
Launching public images without a key pair ID will leave them inaccessible.

The public key material is made available to the instance at boot time by placing it in the `openssh_id.pub` file on a logical device that is exposed to the instance as `/dev/sda2` (the instance store). The format of this file is suitable for use as an entry within `~/.ssh/authorized_keys` (the OpenSSH format). This can be done at boot (e.g., as part of `rc.local`) allowing for secure access without passwords.

You can provide optional user data in the launch request. All instances that collectively comprise the launch request have access to this data. For more information, see Instance Metadata in the *Amazon Elastic Compute Cloud User Guide*.

Note
If any of the AMIs have a product code attached for which the user has not subscribed, the `RunInstances` call will fail.

Request Parameters

ImageId
The ID of the AMI.

Type: String

Default: None

Required: Yes

MinCount
The minimum number of instances to launch. If the value is more than Amazon EC2 can launch, no instances are launched at all.

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 the value is more than Amazon EC2 can launch, the largest possible number above `MinCount` will be launched instead.

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

KeyName

The name of the key pair to use.

Type: String

Default: None

Required: No

SecurityGroupId.n

One or more security group IDs.

Type: String

Default: None

Required: Conditional

Condition: Required for nondefault VPC; optional for EC2-Classic, default VPC

SecurityGroup.n

[EC2-Classic, default VPC] One or more security group names.

Type: String

Default: None

Required: Conditional

Condition: For EC2-Classic, default VPC, you must specify either a group ID or a group name

UserData

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

Type: String

Default: None

Required: No

AddressingType

This parameter is deprecated.

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` | `cc1.4xlarge` | `cc2.8xlarge` | `cg1.4xlarge`

Default: `m1.small`

Required: No

Placement.AvailabilityZone

The Availability Zone to launch the instance into.

Type: String

Default: EC2 chooses a zone for you

Required: No

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

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

Default: `default`

Required: No

KernelId

The ID of the kernel with which to launch the instance.

Type: String

Default: None

Required: No

RamdiskId

The ID of the RAM disk. Some kernels require additional drivers at launch. Check the kernel requirements for information on whether you need to specify a RAM disk. To find kernel requirements, refer to the Resource Center and search for the kernel ID.

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.NoDevice

Suppresses the device mapping.

Type: empty element

Default: None

Required: No

BlockDeviceMapping.n.VirtualName

The virtual device name, 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: 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

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.

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

Whether you can terminate the instance using the EC2 API. A value of `true` means you can't terminate the instance using the API (i.e., the instance is "locked"); a value of `false` means you can. If you set this to `true`, and you later want to terminate the instance, you must first change the `disableApiTermination` attribute's value to `false` using `ModifyInstanceAttribute`.

Type: Boolean

Default: `false`

Required: No

InstanceInitiatedShutdownBehavior

Whether the instance stops or terminates on instance-initiated shutdown.

Type: String

Valid values: `stop` | `terminate`

Default: `stop`

Required: No

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 as the primary IP address.

Only one private IP address can be designated as primary. Therefore, you cannot specify this parameter if you are also specifying `PrivateIpAddresses.n.Primary` with a value of `true` with the `PrivateIpAddresses.n.PrivateIpAddress` option.

Type: String

Default: We select an IP address from the IP address range of the subnet for the instance

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

Attaches an existing interface to a single instance. Requires n=1 instances.

Type: String

Default: None

Required: No

NetworkInterface.n.DeviceIndex

Applies to both attaching existing network interfaces and when creating new network interfaces.

Type: Integer

Default: None

Required: No

NetworkInterface.n.SubnetId

Applies only when creating new network interfaces.

Type: String

Default: None

Required: No

NetworkInterface.n.Description

Applies only when creating new network interfaces.

Type: String

Default: None

Required: No

NetworkInterface.n.PrivateIpAddress

The primary private IP address of the network interface. Applies only when creating new network interfaces. Requires n=1 network interfaces in launch.

Type: String

Default: None

Required: No

NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress

The private IP address of the specified network interface. 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 cannot specify this parameter with the `NetworkInterface.n.PrivateIpAddresses.n.Primary` value of `true` if you designate a primary private IP address using the `NetworkInterface.n.PrivateIpAddress` option.

Type: String

Default: None

Required: No

NetworkInterface.n.PrivateIpAddresses.n.Primary

Whether the private IP address is the primary private IP address.

Only one private IP address can be designated as primary. Therefore, you cannot specify this parameter with the `NetworkInterface.n.PrivateIpAddresses.n.Primary` value of `true` and the `NetworkInterface.n.PrivateIpAddresses.n.PrivateIpAddress` option if you designate a primary private IP address using `NetworkInterface.n.PrivateIpAddress`.

Type: Boolean

Default: None

Required: No

NetworkInterface.n.SecondaryPrivateIpAddressCount

The number of private IP addresses to assign to a network interface.

For a single network interface, you cannot specify this option and specify more than one private IP address using `NetworkInterface.n.PrivateIpAddress`.

Required: No

NetworkInterface.n.SecurityGroupId.n

Applies only when creating new network interfaces.

Type: String

Default: None

Required: No

NetworkInterface.n.DeleteOnTermination

Applies to all network interfaces.

Type: Boolean

Default: None

Required: No

IamInstanceProfile.Arn

Amazon resource name (ARN) of the IAM Instance Profile (IIP) 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

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 `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. 460)

instancesSet

A list of instances. Each instance is wrapped in an `item` element.

Type: RunningInstancesItemType (p. 501)

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 of the `ami-60a54009` AMI.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-60a54009
&MaxCount=3
&MinCount=1
&Placement.AvailabilityZone=us-east-1b
&Monitoring.Enabled=true
&AUTHPARAMS
```

Example Response

```
<RunInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservationId>r-47a5402e</reservationId>
  <ownerId>111122223333</ownerId>
  <groupSet>
    <item>
      <groupId>sg-245f6a01</groupId>
      <groupName>default</groupName>
    </item>
  </groupSet>
  <instancesSet>
    <item>
      <instanceId>i-2ba64342</instanceId>
      <imageId>ami-60a54009</imageId>
      <instanceState>
        <code>0</code>
        <name>pending</name>
      </instanceState>
      <privateDnsName/>
      <dnsName/>
      <reason/>
      <amiLaunchIndex>0</amiLaunchIndex>
      <instanceType>m1.small</instanceType>
      <launchTime>2007-08-07T11:51:50.000Z</launchTime>
```

```
      <placement>
        <availabilityZone>us-east-1b</availabilityZone>
        <groupName/>
        <tenancy>default</tenancy>
      </placement>
      <monitoring>
        <state>enabled</state>
      </monitoring>
      <sourceDestCheck>true</sourceDestCheck>
      <groupSet>
          <item>
             <groupId>sg-245f6a01</groupId>
             <groupName>default</groupName>
          </item>
      </groupSet>
      <virtualizationType>paravirtual</virtualizationType>
      <clientToken/>
      <hypervisor>xen</hypervisor>
      <ebsOptimized>false</ebsOptimized>
  </item>
  <item>
      <instanceId>i-2bc64242</instanceId>
      <imageId>ami-60a54009</imageId>
      <instanceState>
        <code>0</code>
        <name>pending</name>
      </instanceState>
      <privateDnsName/>
      <dnsName/>
      <amiLaunchIndex>1</amiLaunchIndex>
      <instanceType>m1.small</instanceType>
      <launchTime>2007-08-07T11:51:50.000Z</launchTime>
      <placement>
          <availabilityZone>us-east-1b</availabilityZone>
          <groupName/>
          <tenancy>default</tenancy>
      </placement>
      <monitoring>
        <state>enabled</state>
      </monitoring>
      <sourceDestCheck>true</sourceDestCheck>
      <groupSet>
          <item>
             <groupId>sg-245f6a01</groupId>
             <groupName>default</groupName>
          </item>
      </groupSet>
      <virtualizationType>paravirtual</virtualizationType>
      <hypervisor>xen</hypervisor>
      <ebsOptimized>false</ebsOptimized>
  </item>
  <item>
      <instanceId>i-2be64332</instanceId>
      <imageId>ami-60a54009</imageId>
      <instanceState>
        <code>0</code>
        <name>pending</name>
      </instanceState>
```

```
            <privateDnsName/>
            <dnsName/>
            <amiLaunchIndex>2</amiLaunchIndex>
            <instanceType>m1.small</instanceType>
            <launchTime>2007-08-07T11:51:50.000Z</launchTime>
            <placement>
                <availabilityZone>us-east-1b</availabilityZone>
                <groupName/>
                <tenancy>default</tenancy>
            </placement>
            <monitoring>
              <state>enabled</state>
            </monitoring>
            <sourceDestCheck>true</sourceDestCheck>
            <groupSet>
                <item>
                    <groupId>sg-245f6a01</groupId>
                    <groupName>default</groupName>
                </item>
            </groupSet>
            <virtualizationType>paravirtual</virtualizationType>
            <hypervisor>xen</hypervisor>
            <ebsOptimized>false</ebsOptimized>
        </item>
    </instancesSet>
</RunInstancesResponse>
```

Example Request

This example launches an instance of the `ami-31814f58` AMI and attaches an elastic network interface to it.

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

Example Response

```
<RunInstancesResponse xmlns='http://ec2.amazonaws.com/doc/2013-02-01/'>
    <requestId>e86ff3c8-2400-45e3-a4e7-f158a69283d4</requestId>
    <reservationId>r-157ad274</reservationId>
    <ownerId>111122223333</ownerId>
    <groupSet/>
    <instancesSet>
        <item>
            <instanceId>i-0ee0356c</instanceId>
            <imageId>ami-31814f58</imageId>
            <instanceState>
                <code>0</code>
                <name>pending</name>
```

```
            </instanceState>
            <privateDnsName/>
            <dnsName/>
            <reason/>
            <amiLaunchIndex>0</amiLaunchIndex>
            <productCodes/>
            <instanceType>m1.small</instanceType>
            <launchTime>2011-12-20T08:29:31.000Z</launchTime>
            <placement>
                <availabilityZone>us-east-1b</availabilityZone>
                <groupName/>
                <tenancy>default</tenancy>
            </placement>
            <kernelId>aki-805ea7e9</kernelId>
            <monitoring>
                <state>disabled</state>
            </monitoring>
            <subnetId>subnet-b2a249da</subnetId>
            <vpcId>vpc-1ea24976</vpcId>
            <privateIpAddress>10.0.0.142</privateIpAddress>
            <sourceDestCheck>true</sourceDestCheck>
            <groupSet>
                <item>
                    <groupId>sg-050c1369</groupId>
                    <groupName>default</groupName>
                </item>
            </groupSet>
            <stateReason>
                <code>pending</code>
                <message>pending</message>
            </stateReason>
            <architecture>i386</architecture>
            <rootDeviceType>ebs</rootDeviceType>
            <rootDeviceName>/dev/sda1</rootDeviceName>
            <blockDeviceMapping/>
            <virtualizationType>paravirtual</virtualizationType>
            <clientToken/>
            <hypervisor>xen</hypervisor>
            <networkInterfaceSet>
                <item>
                    <networkInterfaceId>eni-c6bb50ae</networkInterfaceId>
                    <subnetId>subnet-b2a249da</subnetId>
                    <vpcId>vpc-1ea24976</vpcId>
                    <description/>
                    <ownerId>111122223333</ownerId>
                    <status>in-use</status>
                    <privateIpAddress>10.0.0.142</privateIpAddress>
                    <sourceDestCheck>true</sourceDestCheck>
                    <groupSet>
                        <item>
                            <groupId>sg-050c1369</groupId>
                            <groupName>default</groupName>
                        </item>
                    </groupSet>
                    <attachment>
                        <attachmentId>eni-attach-0326646a</attachmentId>
                        <deviceIndex>0</deviceIndex>
                        <status>attaching</status>
```

```
                        <attachTime>2011-12-20T08:29:31.000Z</attachTime>
                        <deleteOnTermination>true</deleteOnTermination>
                    </attachment>
                </item>
            </networkInterfaceSet>
        </item>
    </instancesSet>
</RunInstancesResponse>
```

Example Request

The following example launches an m1.large instance into a VPC in subnet subnet-a61dafcf with a single
network interface, 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
&Monitoring.Enabled=false
&NetworkInterface.0.DeviceIndex=0
&NetworkInterface.0.PrivateIpAddresses.0.Primary=true
&NetworkInterface.0.PrivateIpAddresses.0.PrivateIpAddress=10.0.2.106
&NetworkInterface.0.PrivateIpAddresses.1.Primary=false
&NetworkInterface.0.PrivateIpAddresses.1.PrivateIpAddress=10.0.2.107
&NetworkInterface.0.PrivateIpAddresses.2.Primary=false
&NetworkInterface.0.PrivateIpAddresses.2.PrivateIpAddress=10.0.2.108
&NetworkInterface.0.SubnetId=subnet-a61dafcf
&AUTHPARAMS
```

Example Request

This example launches a Dedicated Instance into a VPC.

```
https://ec2.amazonaws.com/?Action=RunInstances
&ImageId=ami-2a1fec43
&SubnetId=subnet-dea63cb7
&Placement.Tenancy=dedicated
&MinCount=1
&MaxCount=1
&AUTHPARAMS
```

Related Actions

- DescribeInstances (p. 197)
- StopInstances (p. 423)
- StartInstances (p. 421)
- TerminateInstances (p. 425)
- AuthorizeSecurityGroupIngress (p. 34)
- RevokeSecurityGroupIngress (p. 406)
- DescribeSecurityGroups (p. 264)

- CreateSecurityGroup (p. 93)
- CreateKeyPair (p. 70)
- ImportKeyPair (p. 344)

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.

> **Note**
> 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 Using Amazon EBS-Backed AMIs and Instances.

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. 472)

Examples

Example Request

This example starts the i-10a64379 instance.

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

Example Response

```
<StartInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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. 423)
- RunInstances (p. 409)
- DescribeInstances (p. 197)
- TerminateInstances (p. 425)

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.

Important
Although Spot Instances can use Amazon EBS-backed AMIs, they don't support Stop/Start. In other words, you can't stop and start Spot Instances launched from an AMI with an Amazon EBS root device.

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.

Note
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 instance to stop. The instance 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. 472)

Examples

Example Request

This example stops the i-10a64379 instance without using the "force" option.

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

Example Response

```
<StopInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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>
  </instancesSet>
</StopInstancesResponse>
```

Related Actions

- StartInstances (p. 421)
- RunInstances (p. 409)
- DescribeInstances (p. 197)
- TerminateInstances (p. 425)

TerminateInstances

Description

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

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

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

You can stop, start, and terminate EBS-backed instances. You can only terminate S3-backed instances. What happens to an instance differs if you stop it or terminate it. For example, when you stop an instance, the root device and any other devices attached to the instance persist. When you terminate an instance, the root device and any other devices attached during the instance launch are automatically deleted. For more information about the differences between stopping and terminating instances, see Stopping Instances in the *Amazon Elastic Compute Cloud User Guide*

Request Parameters

InstanceId.n
One or more instance IDs.
Type: String
Default: None
Required: Yes

Response Elements

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

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

`instancesSet`
A list of instance state changes. Each change is wrapped in an `item` element.
Type: InstanceStateChangeType (p. 472)

Examples

Example Request

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

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

Example Response

```
<TerminateInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
  <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

UnassignPrivateIpAddresses

Description

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

This command is only available in EC2-VPC.

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. 435)
>
> 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

```
<UnassignPrivateIpAddresses xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</UnassignPrivateIpAddresses>
```

Related Actions

- AssignPrivateIpAddresses (p. 14)

UnmonitorInstances

Description

Disables monitoring for a running instance. For more information about monitoring instances, see Monitoring Your Instances and Volumes in the *Amazon Elastic Compute Cloud User Guide*.

Request Parameters

InstanceId.n
> One or more instance IDs.
>
> Type: String
>
> Default: None
>
> Required: Yes

Response Elements

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

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

instancesSet
> A list of monitoring information for one or more instances. Each set of information is wrapped in an `item` element.
>
> Type: MonitorInstancesResponseSetItemType (p. 483)

Examples

Example Request

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

```
https://ec2.amazonaws.com/?Action=UnmonitorInstances
&InstanceId.1=i-43a4412a
&InstanceId.2=i-23a3397d
&AUTHPARAMS
```

Example Response

```
<UnmonitorInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2013-02-01/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <instancesSet>
      <item>
         <instanceId>i-43a4412a</instanceId>
         <monitoring>
            <state>disabled</state>
         </monitoring>
```

```
        </item>
        <item>
            <instanceId>i-23a3397d</instanceId>
            <monitoring>
                <state>disabled</state>
            </monitoring>
        </item>
    </instancesSet>
</UnmonitorInstancesResponse>
```

Related Actions

- MonitorInstances (p. 362)
- RunInstances (p. 409)

Data Types

Topics

- VpnStaticRouteType (p. 519)
- VpnTunnelTelemetryType (p. 520)

AccountAttributeSetItemType

Contains a set of account attributes.

Ancestors

- AccountAttributeSetType

Relevant Operations

- DescribeAccountAttributes (p. 161)

Contents

attributeName
> The name of the attribute.
> Type: String

attributeValueSet
> A list of the values of the requested attributes, each one wrapped in an `item` element.
> Type: AccountAttributeValueSetItemType (p. 434)

AccountAttributeValueSetItemType

Describes the value of an account attribute.

Ancestors

- AccountAttributeSetItemType (p. 434)

Relevant Operations

- DescribeAccountAttributes (p. 161)

Contents

attributeValue
> The value of the attribute.
> Type: String

AssignPrivateIpAddressesSetItemRequestType

Describes a private IP address.

Ancestors

- AssignPrivateIpAddressesType

Relevant Operations

- AssignPrivateIpAddresses (p. 14)
- UnassignPrivateIpAddresses (p. 427)

Contents

privateIpAddress
> The private IP address.
> Type: String

AttachmentSetItemResponseType

The AttachmentSetItemResponseType data type.

Ancestors

- AttachmentSetResponseType

Relevant Operations

- DescribeVolumes

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 (e.g., /dev/sdh).
> Type: String

status
> The attachment state.

Type: String

Valid values: `attaching` | `attached` | `detaching` | `detached`

attachTime

The time stamp when the attachment initiated.

Type: DateTime

deleteOnTermination

Whether the Amazon EBS volume is deleted on instance termination.

Type: Boolean

AttachmentType

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

Ancestors

- AttachmentSetType

Relevant Operations

- AttachVpnGateway (p. 29)
- CreateVpnGateway (p. 118)
- DescribeVpnGateways (p. 315)

Contents

vpcId

The ID of the VPC the virtual private gateway is attached to.

Type: String

state

The current state of the attachment.

Type: String

Valid values: `attaching` | `attached` | `detaching` | `detached`

AvailabilityZoneItemType

The AvailabilityZoneItemType data type.

Ancestors

- AvailabilityZoneSetType

Relevant Operations

- DescribeAvailabilityZones

Contents

zoneName

The name of the Availability Zone.

Type: String

zoneState

The state of the Availability Zone.

Type: String

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. 437)

AvailabilityZoneMessageType

The AvailabilityZoneMessageType data type.

Ancestors

- AvailabilityZoneMessageSetType

Relevant Operations

- DescribeAvailabilityZones

Contents

message

The message about the Availability Zone.

Type: String

BlockDeviceMappingItemType

Describes a block device mapping.

Ancestors

- BlockDeviceMappingType

Relevant Operations

- DescribeImageAttribute (p. 184)

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. 457)

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

BundleInstanceS3StorageType

The BundleInstanceS3StorageType data type.

Ancestors

- BundleInstanceTaskStorageType (p. 439)

Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask
- BundleInstance

Contents

awsAccessKeyId
> The Access Key ID of the owner of the Amazon S3 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

The BundleInstanceTaskErrorType data type.

Ancestors

- BundleInstanceTaskType (p. 440)

Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask

Contents

code
The error code.

Type: String

message
The error message.

Type: String

BundleInstanceTaskStorageType

The BundleInstanceTaskStorageType data type.

Ancestors

- BundleInstanceTaskType (p. 440)

Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask
- BundleInstance

Contents

s3

An Amazon S3 storage location.

Type: BundleInstanceS3StorageType (p. 438)

BundleInstanceTaskType

Describes a bundle task.

Ancestors

- BundleInstanceTasksSetType

Relevant Operations

- BundleInstance (p. 38)
- CancelBundleTask (p. 41)
- DescribeBundleTasks (p. 170)

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. 439)

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. 439)

CancelSpotInstanceRequestsResponseSetItemType

The CancelSpotInstanceRequestsResponseSetItemType data type.

Ancestors

- CancelSpotInstanceRequestsResponseSetType

Relevant Operations

- CancelSpotInstanceRequests

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

The ConversionTaskType data type.

Ancestors

- ConversionTaskSetType

Relevant Operations

- DescribeConversionTasks

- ImportInstance

- ImportVolume

Contents

conversionTaskId
>   The ID of the conversion task
>
>   Type: String

expirationTime
>   The time when the task expires. If the upload isn't complete before the expiration time, we automatically
>   cancel the task.
>
>   Type: String

importVolume
>   If the task is for importing a volume, this contains information about the import volume task.
>
>   Type: ImportVolumeTaskDetailsType (p. 464)

importInstance
>   If the task is for importing an instance, this contains information about the import instance task.
>
>   Type: ImportInstanceTaskDetailsType (p. 462)

state
>   The state of the conversion task.
>
>   Type: String
>
>   Valid values: `active` | `cancelling` | `cancelled` | `completed`

statusMessage
>   The status message related to the conversion task.
>
>   Type: String

CreateVolumePermissionItemType

The CreateVolumePermissionItemType data type.

Ancestors

- CreateVolumePermissionListType

Relevant Operations

- ModifySnapshotAttribute

- DescribeSnapshotAttribute

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. 57)
- DescribeCustomerGateways (p. 175)

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 (ipsec.1).

Type: String

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. 498)

DescribeAddressesResponseItemType

Describes an IP address.

Ancestors

- DescribeAddressesResponseInfoType

Relevant Operations

-

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
> 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

The DescribeImagesResponseItemType data type.

Ancestors

- DescribeImagesResponseInfoType

Relevant Operations

- DescribeImages

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

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. 494)

architecture

The architecture of the image.

Type: String

imageType

The type of image (machine, kernel, or RAM disk).

Type: String

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. 509)

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. 437)

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. 498)

hypervisor

The image's hypervisor type.

Type: String

Valid values: `ovm | xen`

DescribeKeyPairsResponseItemType

The DescribeKeyPairsResponseItemType data type.

Ancestors

- DescribeKeyPairsResponseInfoType

Relevant Operations

- DescribeKeyPairs

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

The DescribeReservedInstancesListingsResponseSetItemType data type.

Ancestors

- DescribeReservedInstancesListingsResponseType

Relevant Operations

- DescribeReservedInstancesListings

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 is 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. 466)

priceSchedules

The price of the Reserved Instance listing.

Type: PriceScheduleSetType (p. 492)

tagSet

The tags assigned to the resource. Each tag's information is wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

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

DescribeReservedInstancesListingSetItemType

The DescribeReservedInstancesListingSetItemType data type.

Ancestors

- DescribeReservedInstancesListings

Relevant Operations

- DescribeReservedInstancesListings

Contents

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

DescribeReservedInstancesOfferingsResponseSetItemType

The DescribeReservedInstancesOfferingsResponseSetItemType data type.

Ancestors

- DescribeReservedInstancesOfferingsResponseSetType

Relevant Operations

- DescribeReservedInstancesOfferings

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

currencyCode
> The currency of the Reserved Instance offering you are purchasing. It's specified using ISO 4217 standard currency codes (e.g., USD, JPY). At this time, the only supported currency is USD.
>
> Type: String

offeringType
> The Reserved Instance offering type.
>
> Type: String

recurringCharges
> The recurring charge tag assigned to the resource.
>
> Type: RecurringChargesSetItemType (p. 496)

marketplace
> Indicates if 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. 493).

DescribeReservedInstancesOfferingsResponseType

The DescribeReservedInstancesOfferingsResponseType data type.

Ancestors

- DescribeReservedInstancesOfferings

Relevant Operations

- DescribeReservedInstancesOfferings

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:

nextToken

The next paginated set of results to return.

Type: String

DescribeReservedInstancesResponseSetItemType

The DescribeReservedInstancesResponseSetItemType data type.

Ancestors

- DescribeReservedInstancesResponseSetType

Relevant Operations

- DescribeReservedInstances

Contents

reservedInstancesId

The ID of the Reserved Instance.

Type: String

instanceType

The instance type on which the Reserved Instance can be used.

Type: String

availabilityZone

The Availability Zone in which the Reserved Instance can be used.

Type: String

start

The date and time the Reserved Instance started.

Type: DateTime

duration

The duration of the Reserved Instance, in seconds.

Type: Long

fixedPrice

The purchase price of the Reserved Instance.

Type: Double

usagePrice

The usage price of the Reserved Instance, per hour.

Type: Double

instanceCount
>   The number of Reserved Instances purchased.
>
>   Type: Integer

productDescription
>   The Reserved Instance description.
>
>   Type: String
>
>   Valid values: `Linux/UNIX` | `Linux/UNIX (Amazon VPC)` | `Windows` | `Windows (Amazon VPC)`

state
>   The state of the Reserved Instance purchase.
>
>   Type: String
>
>   Valid values: `payment-pending` | `active` | `payment-failed` | `retired`

tagSet
>   Any tags assigned to the resource, each one wrapped in an `item` element.
>
>   Type: ResourceTagSetItemType (p. 498)

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.
>
>   Type: String
>
>   Valid values: As specified in ISO 4217 (for example, `USD`, `JPY`)

offeringType
>   The Reserved Instance offering type.
>
>   Type: String

recurringCharges
>   The recurring charge tag assigned to the resource.
>
>   Type: RecurringChargesSetItemType (p. 496)

DescribeReservedInstancesSetItemType

The DescribeReservedInstancesSetItemType data type.

Ancestors

- DescribeReservedInstancesListings

Relevant Operations

- DescribeReservedInstances

Contents

reservedInstancesId
>   The ID of the Reserved Instance.

Type: String

DescribeSnapshotsSetItemResponseType

The DescribeSnapshotsSetItemResponseType data type.

Ancestors

- DescribeSnapshotsSetResponseType

Relevant Operations

- DescribeSnapshots

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. 498)

DescribeVolumesSetItemResponseType

The DescribeVolumesSetItemResponseType data type.

Ancestors

- ItemType-DescribeVolumesSetResponseType

Relevant Operations

- DescribeVolumes

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. 435)

tagSet
>   Any tags assigned to the resource, each one wrapped in an `item` element.
>
>   Type: ResourceTagSetItemType (p. 498)

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. 59)
- DescribeDhcpOptions (p. 178)

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. 455)

DhcpOptionsType

Describes a set of DHCP options.

Ancestors

- DhcpOptionsSetType

Relevant Operations

- CreateDhcpOptions (p. 59)
- DescribeDhcpOptions (p. 178)

Contents

dhcpOptionsId
>The ID of the set of DHCP options.
>
>Type: String

dhcpConfigurationSet
>The options in the set. Each option's key and set of values are wrapped in an `item` element.
>
>Type: DhcpConfigurationItemType (p. 454)

tagSet
>Any tags assigned to the resource, each one wrapped in an `item` element.
>
>Type: ResourceTagSetItemType (p. 498)

DhcpValueType

The DhcpValueType data type.

Ancestors

- DhcpValueSetType

Relevant Operations

- CreateDhcpOptions
- CreateDhcpOptions
- DescribeDhcpOptions

Contents

value
>A value for the DHCP option.
>
>Type: String

DiskImageDescriptionType

The DiskImageDescriptionType data type.

Ancestors

- ImportInstanceVolumeDetailItemType (p. 463)
- ImportVolumeTaskDetailsType (p. 464)

Relevant Operations

- DescribeConversionTasks

- ImportInstance

- ImportVolume

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

The DiskImageVolumeDescriptionType data type.

Ancestors

- ImportInstanceVolumeDetailItemType (p. 463)

- ImportVolumeTaskDetailsType (p. 464)

Relevant Operations

- DescribeConversionTasks

- ImportInstance

- ImportVolume

Contents

size

The size of the volume.

Type: Integer

id

The volume identifier.

Type: String

EbsBlockDeviceType

Describe an Amazon EBS block device.

Ancestors

Relevant Operations

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

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

Ancestors

- InstanceBlockDeviceMappingResponseItemType (p. 465)

Relevant Operations

- DescribeInstanceAttribute (p. 194)
- DescribeInstances (p. 197)
- RunInstances (p. 409)

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
    Whether the Amazon EBS volume is deleted on instance termination.
    Type: Boolean

ExportTaskResponseType

The ExportTaskResponseType data type.

Ancestors

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType

Relevant Operations

- CreateInstanceExportTask
- DescribeExportTasks

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
> Information about the instance being exported.
>
> Type: InstanceExportTaskResponseType (p. 467)

exportToS3
> Information about the destination Amazon S3 bucket.
>
> Type: ExportToS3TaskResponseType (p. 459)

ExportToS3TaskResponseType

The ExportToS3TaskResponseType data type.

Ancestors

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType
- ExportTaskResponseType

Relevant Operations

- CreateInstanceExportTask
- DescribeExportTasks

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

The GroupItemType data type.

Ancestors

- GroupSetType

Relevant Operations

- DescribeInstanceAttribute
- DescribeInstances
- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances
- CreateNetworkInterface

Contents

groupId
    The ID of the security group.
    In API versions before 2011-01-01, this field returned the name of the security group.
    Type: String
groupName
    The name of the security group.
    Type: String

IamInstanceProfileRequestType

The IamInstanceProfileRequestType data type.

Ancestors

- RunInstancesType
- LaunchSpecificationRequestType
- LaunchSpecificationResponseType

Relevant Operations

- RunInstances
- RequestSpotInstances

Contents

arn
> The Amazon resource name (ARN) of the IAM Instance Profile (IIP) to associate with the instance.
> Type: String

name
> The name of the IAM Instance Profile (IIP) to associate with the instance.
> Type: String

IamInstanceProfileResponseType

The IamInstanceProfileResponseType data type.

Ancestors

- RunningInstancesItemType

Relevant Operations

- RunInstances
- RequestSpotInstances

Contents

arn
> The Amazon resource name (ARN) of the IAM Instance Profile (IIP) to associate with the instance.
> Type: String

id
> The ID of the IAM Instance Profile ID (IIP) associated with the instance.
> Type: String

IcmpTypeCodeType

Describes the ICMP type and code.

Ancestors

- NetworkAclEntryType (p. 484)

Relevant Operations

- CreateNetworkAcl (p. 72)
- 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

The ImportInstanceTaskDetailsType data type.

Ancestors

- ConversionTaskType (p. 441)

Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

Contents

volumes
> Any instance volumes for import, each one wrapped in an `item` element.
> Type: ImportInstanceVolumeDetailItemType (p. 463)

instanceId
> The ID of the resulting instance in Amazon EC2.
> Type: String

platform
> The instance operating system.
>
> Type: String
>
> Valid value: `Windows`

description
> An optional description of the instance.
>
> Type: String

ImportInstanceVolumeDetailItemType

The ImportInstanceVolumeDetailItemType data type.

Ancestors

- ImportInstanceVolumeDetailSetType

Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

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 information about the image.
>
> Type: DiskImageDescriptionType (p. 455)

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

volume
> The information about the volume.
>
> Type: DiskImageVolumeDescriptionType (p. 456)

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

The ImportVolumeTaskDetailsType data type.

Ancestors

- ConversionTaskType (p. 441)

Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

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
    Information about the image.

    Type: DiskImageDescriptionType (p. 455)

volume
    Information about the volume.

    Type: DiskImageVolumeDescriptionType (p. 456)

InstanceBlockDeviceMappingItemType

Describes a block device mapping.

Ancestors

- InstanceBlockDeviceMappingType

Relevant Operations

- ModifyInstanceAttribute (p. 352)

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. 466)

noDevice

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

InstanceBlockDeviceMappingResponseItemType

Describes a block device mapping.

Ancestors

- InstanceBlockDeviceMappingResponseType

Relevant Operations

- DescribeInstanceAttribute
- DescribeInstances
- RunInstances

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.

Type: EbsInstanceBlockDeviceMappingResponseType (p. 458)

InstanceCountsSetItemType

The InstanceCountsSetItemType data type.

Ancestors

- DescribeReservedInstancesListingSetType

- InstanceCountsSetType

Relevant Operations

- DescribeReservedInstancesListingsResponseType

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

The InstanceCountsSetType data type.

Ancestors

- DescribeReservedInstancesListingSetType

Relevant Operations

- DescribeReservedInstancesListingsResponseType

Contents

item
   The Reserved Instance listing item.
   Type: InstanceCountsSetItemType (p. 465)

InstanceEbsBlockDeviceType

Describes parameters used to set up an Amazon EBS volume.

Ancestors

- InstanceBlockDeviceMappingItemType (p. 464)

Relevant Operations

Contents

deleteOnTermination
> Whether the Amazon EBS volume is deleted on instance termination.
>
> Type: Boolean

volumeId
> The ID of the Amazon EBS volume.
>
> Type: String

InstanceExportTaskResponseType

The InstanceExportTaskResponseType data type.

Ancestors

- CreateInstanceExportTaskResponseType
- DescribeExportTasksResponseType
- ExportTaskSetResponseType
- ExportTaskResponseType

Relevant Operations

- CreateInstanceExportTask
- DescribeExportTasks

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. 483)
- RunningInstancesItemType (p. 501)

Relevant Operations

- MonitorInstances
- UnmonitorInstances
- DescribeInstances
- RunInstances

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. 197)
- RunInstances (p. 409)

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

InstanceNetworkInterfaceAttachmentType

Describes a network interface attachment.

Relevant Operations

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
    Whether the network interface is deleted when the instance is terminated.
    Type: Boolean

InstanceNetworkInterfaceSetItemRequestType

Describes a network interface.

Ancestors

- InstanceNetworkInterfaceSetRequestType

Relevant Operations

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 group IDs for use by the network interface.
>
> Type: SecurityGroupIdSetItemType (p. 504)

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: PrivateIpAddressesSetItemRequestType (p. 493)

secondaryPrivateIpAddressCount
> The number of secondary private IP addresses. You cannot specify this option with `privateIpAddressSet`.
>
> Type: Integer

InstanceNetworkInterfaceSetItemType

Describes a network interface.

Ancestors

- InstanceNetworkInterfaceSetType

Relevant Operations

- DescribeInstances (p. 197)
- RunInstances (p. 409)

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 network interface's status (`available` or `in-use`).
>
> Type: String

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
> Whether to validate network traffic to or from this network interface.
>
> Type: Boolean

groupSet.item
> A security group.
>
> Type: GroupItemType (p. 460)

attachment
> The network interface attachment.
>
> Type: InstanceNetworkInterfaceAttachmentType (p. 469)

association
> The association information for an Elastic IP associated with the network interface.
>
> Type: InstanceNetworkInterfaceAssociationType (p. 468)

privateIpAddressesSet
> The private IP addresses associated with the network interface.
>
> Type: InstancePrivateIpAddressesSetItemType (p. 471)

InstancePrivateIpAddressesSetItemType

Describes a private IP address.

Ancestors

- InstancePrivateIpAddressesSetType

Relevant Operations

-
-

Contents

privateIpAddress
> The private IP address of the network interface
>
> Type: String

privateDnsName
> The private DNS name.
>
> Type: String

primary
> 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. 468)

InstanceStateChangeType

Describes an instance state change.

Ancestors

- InstanceStateChangeSetType

Relevant Operations

-
-
-

Contents

instanceId
> The instance ID.
>
> Type: String

currentState
> The current state of the instance.
>
> Type: InstanceStateType (p. 473)

previousState
> The previous state of the instance.
>
> Type: InstanceStateType (p. 473)

InstanceStateType

Describes the current state of the instance.

Ancestors

Relevant Operations

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

The InstanceStateType data type.

Ancestors

Relevant Operations

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 events.

Relevant Operations

- DescribeInstanceStatus (p. 212)

Contents

item
>Information about scheduled events for the instance.
>
>Type: InstanceStatusEventType (p. 474)

InstanceStatusEventType

Describes an event.

Ancestors

- InstanceStatusEventsSetType (p. 474)

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.

Type: String

availabilityZone

The Availability Zone of the instance.

Type: String

eventsSet

Extra information regarding events associated with the instance.

Type: InstanceStatusEventsSetType (p. 474)

instanceState

The intended state of the instance. Calls to `DescribeInstanceStatus` require that an instance be in the `running` state.

Type: InstanceStateType (p. 473)

systemStatus

Reports impaired functionality that stems from issues related to the systems that support an instance, such as hardware failures and network connectivity problems.

Type: InstanceStatusType (p. 476)

instanceStatus

Reports impaired functionality that arises from problems internal to the instance. The
DescribeInstanceStatus (p. 212) response elements report such problems as impaired reachability.

Type: InstanceStatusType (p. 476)

InstanceStatusSetType

The InstanceStatusSetType data type.

Relevant Operations

- DescribeInstanceStatus (p. 212)

Contents

item

Information about the status of the instance.

Type: InstanceStatusItemType (p. 475)

InstanceStatusType

Describes the state of an instance.

Ancestors

- InstanceStatusItemType (p. 475)

Relevant Operations

- DescribeInstanceStatus (p. 212)

Contents

status

The status.

Type: String

Valid values: ok | impaired | insufficient-data | not-applicable

details

Information about system instance health or application instance health.

Type: InstanceStatusDetailsSetType (p. 473)

InternetGatewayAttachmentType

Describes the attachment of a VPC to an Internet gateway.

Ancestors

- InternetGatewayAttachmentSetType

Relevant Operations

- AttachInternetGateway (p. 23)
- CreateInternetGateway (p. 68)
- 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. 68)
- 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. 477)

tagSet

Any tags assigned to the resource, each one wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

IpPermissionType

The IpPermissionType data type.

Ancestors

- IpPermissionSetType

Relevant Operations

- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

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 (e.g., `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. 512)

ipRanges

A list of IP ranges. Each range is wrapped in an `item` element.

Type: IpRangeItemType (p. 478)

IpRangeItemType

Describes an IP range.

Ancestors

- IpRangeSetType

Relevant Operations

- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

Contents

cidrIp

The CIDR range. Cannot be used when specifying a source security group.

Type: String

LaunchPermissionItemType

The LaunchPermissionItemType data type.

Ancestors

- LaunchPermissionListType

Relevant Operations

- DescribeImageAttribute
- ModifyImageAttribute

Contents

group

The name of the group.

Type: String

Valid value: `all`

userId

The AWS account ID.

Type: String

LaunchSpecificationRequestType

The LaunchSpecificationRequestType data type.

Ancestors

- RequestSpotInstancesType

Relevant Operations

- RequestSpotInstances

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. 460)

userData
> Base64-encoded MIME user data made available to the instance(s) in the reservation.
>
> Type: UserDataType (p. 512)

addressingType
> Deprecated.
>
> Type: String

instanceType
> The instance type.
>
> Type: String

placement
> The placement information for the instance.
>
> Type: PlacementRequestType (p. 489)

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. 437)

monitoring
> The monitoring information for the instance.
>
> Type: MonitoringInstanceType (p. 482)

subnetId
> The ID of the subnet.
>
> Type: String

networkInterfaceSet
>   The network interfaces associated with the instance.
>
>   Type: InstanceNetworkInterfaceSetItemRequestType (p. 469)

iamInstanceProfile
>   The IAM Instance Profile (IIP) associated with the instance.
>
>   Type: IamInstanceProfileRequestType (p. 460)

ebsOptimized
>   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

The LaunchSpecificationResponseType data type.

Ancestors

* SpotInstanceRequestSetItemType (p. 506)

Relevant Operations

* DescribeSpotInstanceRequests

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. 460)

addressingType
>   Deprecated.
>
>   Type: String

instanceType
>   The instance type.
>
>   Type: String

placement
>   The placement information for the instance.
>
>   Type: PlacementRequestType (p. 489)

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. 437)

monitoring
> The monitoring information for the instance.
>
> Type: MonitoringInstanceType (p. 482)

subnetId
> The ID of the subnet.
>
> Type: String

networkInterfaceSet
> The network interfaces for the instance.
>
> Type: InstanceNetworkInterfaceSetItemRequestType (p. 469)

iamInstanceProfile
> The IAM Instance Profile (IIP) associated with the instance.
>
> Type: IamInstanceProfileRequestType (p. 460)

ebsOptimized
> Whether the instance is optimized for EBS I/O. This optimization provides dedicated throughput to Amazon EBS and an optimized configuration stack to provide optimal EBS I/O performance. This optimization isn't available with all instance types. Additional usage charges apply when using an EBS Optimized instance.
>
> Type: Boolean
>
> Default: `false`

MonitoringInstanceType

The MonitoringInstanceType data type.

Ancestors

- LaunchSpecificationRequestType (p. 479)
- LaunchSpecificationResponseType (p. 481)
- RunInstancesType

Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

Contents

enabled
> Whether monitoring is enabled for the instance.
> Type: Boolean

MonitorInstancesResponseSetItemType

The MonitorInstancesResponseSetItemType data type.

Ancestors

- MonitorInstancesResponseSetType

Relevant Operations

- MonitorInstances
- UnmonitorInstances

Contents

instanceId
> The instance ID.
> Type: String

monitoring
> The monitoring information.
> Type: InstanceMonitoringStateType (p. 467)

NetworkAclAssociationType

Describes an association between a network ACL and a subnet.

Ancestors

- NetworkAclAssociationSetType

Relevant Operations

- CreateNetworkAcl (p. 72)
- 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

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
> 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

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

icmpTypeCode
> ICMP protocol: The ICMP type and code.
>
> Type: IcmpTypeCodeType (p. 462)

portRange

TCP or UDP protocols: The range of ports the rule applies to.

Type: PortRangeType (p. 490)

NetworkAclType

Describes a network ACL.

Ancestors

- NetworkAclSetType

Relevant Operations

- CreateNetworkAcl (p. 72)
- 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

Whether this is the default network ACL for the VPC.

Type: Boolean

entrySet

A list of entries (rules) in the network ACL. Each entry is wrapped in an `item` element.

Type: NetworkAclEntryType (p. 484)

associationSet

A list of associations between the network ACL and one or more subnets. Each association is wrapped in an `item` element.

Type: NetworkAclAssociationType (p. 483)

tagSet

Any tags assigned to the resource, each one wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

NetworkInterfaceAssociationType

Describes association information for an Elastic IP address.

Ancestors

- InstanceNetworkInterfaceSetItemType

Relevant Operations

- CreateNetworkInterface (p. 77)
- 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. 77)
- 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

Contents

privateIpAddress
　　The private IP address of the network interface.
　　Type: String

privateDnsName
　　The private DNS name.
　　Type: String

primary
　　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. 485)

NetworkInterfaceType

Describes a network interface.

Ancestors

- NetworkInterfaceSetType

Relevant Operations

- CreateNetworkInterface (p. 77)
- 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
Whether the network interface is being managed by AWS.

Type: String

status
The status (`available`, `attaching`, `in-use`, `detaching`).

Type: String

macAddress
The MAC address.

Type: String

privateIpAddress
The IP address of the interface within the subnet.

Type: String

privateDnsName
The private DNS name.

Type: String

sourceDestCheck
Whether traffic to or from the instance is validated.

Type: Boolean

groupSet
The security group.

Type: GroupItemType (p. 460)

attachment
The network interface attachment.

Type: NetworkInterfaceAttachmentType (p. 486)

association
The association information for an Elastic IP associated with the network interface.

Type: NetworkInterfaceAssociationType (p. 485)

tagSet
The tags assigned to the resource.

Type: ResourceTagSetItemType (p. 498)

privateIpAddressesSet

The private IP addresses associated with the network interface. Items are returned in a set.

Type: NetworkInterfacePrivateIpAddressesSetItemType (p. 487)

PlacementGroupInfoType

Describes a placement group.

Ancestors

- PlacementGroupSetType

Relevant Operations

- DeletePlacementGroup (p. 133)

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

The PlacementRequestType data type.

Ancestors

- LaunchSpecificationRequestType (p. 479)
- LaunchSpecificationResponseType (p. 481)
- RunInstancesType

Relevant Operations

- RequestSpotInstances

- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

Contents

availabilityZone
> The Availability Zone for launching the instance.
>
> Type: String

groupName
> The name of a placement group for the instance.
>
> Type: String

PlacementResponseType

The PlacementResponseType data type.

Ancestors

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

PortRangeType

Describes a range of ports.

Ancestors

-

Relevant Operations

-

Contents

from
> The first port in the range.
> Type: Integer

to
> The last port in the range.
> Type: Integer

PriceScheduleRequestSetItemType

The PriceScheduleRequestSetItemType data type.

Ancestors

- PriceScheduleRequestSetType

Relevant Operations

- CreateReservedInstancesListing

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.
> Type: String
> Valid value: USD

PriceScheduleSetItemType

The PriceScheduleSetItemType data type.

Ancestors

- DescribeReservedInstancesListingsResponseSetItemType
- PriceScheduleSetType

Relevant Operations

- CreateReservedInstancesListing

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.
>
> 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

The PriceScheduleSetType data type.

Ancestors

- DescribeReservedInstancesListingSetType

Relevant Operations

- DescribeReservedInstancesListingsResponseType

Contents

item
> The Reserved Instance listing price schedule item.
> Type: PriceScheduleSetItemType (p. 492).

PricingDetailsSetItemType

The PricingDetailsSetItemType data type.

Ancestors

- DescribeReservedInstancesOfferings

Relevant Operations

- DescribeReservedInstancesOfferingsResponseType

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
- UnassignPrivateIpAddresses

Contents

privateIpAddressesSet
> The list of private IP addresses.
>
> Type:

primary
> Whether the private IP address is the primary private IP address.
>
> Type: Boolean

ProductCodeItemType

The ProductCodeItemType data type.

Ancestors

- ProductCodeListType

Relevant Operations

- DescribeImageAttribute
- ModifyImageAttribute

Contents

productCode
> The product code.
> Type: String

ProductCodesSetItemType

The ProductCodesSetItemType data type.

Ancestors

- ProductCodesSetType

Relevant Operations

- DescribeImages
- DescribeImageAttribute
- DescribeInstances
- DescribeInstanceAttribute
- DescribeSnapshotAttribute

- DescribeVolumeAttribute
- RunInstances

Contents

productCode
> The product code.
> Type: String

type
> The type of product code.
> Type: String
> Valid values: `devpay` | `marketplace`

ProductDescriptionSetItemType

The ProductDescriptionSetItemType data type.

Ancestors

- ProductDescriptionSetType

Relevant Operations

- DescribeSpotPriceHistory

Contents

productDescription
> The description of the AMI.
> Type: String
> Valid values: `Linux/UNIX` | `SUSE Linux` | `Windows`

PropagatingVgwType

Describes a virtual private gateway propagating route.

Ancestors

- PropagatingVgwSetType

Relevant Operations

- CreateRouteTable

Contents

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

RecurringChargesSetItemType

The RecurringChargesSetItemType data type.

Relevant Operations

- DescribeReservedInstances
- DescribeReservedInstanceOfferings

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

Contents

regionName
> The name of the region.
> Type: String

regionEndpoint
　　The region service endpoint.
　　Type: String

ReservationInfoType

Describes a reservation.

Ancestors

- ReservationSetType

Relevant Operations

-

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. 460)

instancesSet
　　A list of instances. Each instance is wrapped in an `item` element.
　　Type: RunningInstancesItemType (p. 501)

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

ReservedInstanceLimitPriceType

The ReservedInstanceLimitPriceType data type.

Ancestors

- PurchaseReservedInstancesOfferings

Relevant Operations

- DescribeReservedInstancesOfferingsResponseType

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
- DescribeInstances
- DescribeVolumes
- DescribeSnapshots
- DescribeSpotInstanceRequests

Contents

key
> The tag key.
> Type: String

value
> The tag value.
> Type: String

RouteTableAssociationType

Describes an association between a route table and a subnet.

Ancestors

- RouteTableAssociationSetType

Relevant Operations

- CreateRouteTable (p. 91)
- 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
Whether this is the main route table.
Type: Boolean

RouteTableType

Describes a route table.

Ancestors

- RouteTableSetType

Relevant Operations

- CreateRouteTable (p. 91)
- 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. 500)

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. 498)

propagatingVgwSet

The IDs of any virtual private gateways (VGW) propagating routes, each route wrapped in an `item` element.

Type: PropagatingVgwType (p. 495)

tagSet

Any tags assigned to the resource, each one wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

RouteType

Describes a route in a route table.

Ancestors

- RouteSetType

Relevant Operations

- CreateRouteTable (p. 91)
- 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.

Type: String

instanceOwnerId

The owner of the instance.

Type: String

networkInterfaceId

The network interface ID.

Type: String

state

The state of the route. The `blackhole` state indicates that the route's target isn't available (for example, the specified gateway isn't attached to the VPC, or the specified NAT instance has been terminated).

Type: String

Valid values: `active | blackhole`

origin

Describes how the route was created.

Type: String

Valid values: `Valid values: CreateRouteTable | CreateRoute | EnableVgwRoutePropagation`

- CreateRouteTable indicates that route was automatically created when the route table was create.

- CreateRoute indicates that the route was manually added to the route table.

- EnableVgwRoutePropagation indicates that the route was propagated by route propagation.

RunningInstancesItemType

Describes a running instance.

Ancestors

- RunningInstancesSetType

Relevant Operations

- DescribeInstances (p. 197)
- RunInstances (p. 409)

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. 473)

`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 a running state.

Type: String

`dnsName`

The public DNS name assigned to the instance. This DNS name is contactable from outside the Amazon EC2 network. This element remains empty until the instance enters a 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. 494)

instanceType

The instance type (for example, `m1.small`).

Type: String

launchTime

The time the instance was launched.

Type: DateTime

placement

The location where the instance launched.

Type: PlacementResponseType (p. 490)

kernelId

The kernel associated with this instance.

Type: String

ramdiskId

The RAM disk associated with this instance.

Type: String

platform

The platform of the instance (for example, Windows).

Type: String

monitoring

The monitoring information for the instance.

Type: InstanceMonitoringStateType (p. 467)

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. 460)

stateReason

The reason for the most recent state transition. See StateReasonType (p. 509) for a listing of supported state change codes.

Type: StateReasonType (p. 509)

architecture

The architecture of the image.

Type: String

Valid values: `i386` | `x86_64`

rootDeviceType

The root device type used by the AMI. The AMI can use an Amazon EBS or instance store root device.

Type: String

Valid values: `ebs` | `instance-store`

rootDeviceName

The root device name (for example, /dev/sda1).

Type: String

blockDeviceMapping

Any block device mapping entries for the instance, each one wrapped in an `item` element.

Type: InstanceBlockDeviceMappingResponseItemType (p. 465)

instanceLifecycle

Whether this is a Spot Instance.

Type: String

Valid values: `spot` | blank (no value)

spotInstanceRequestId

The ID of the Spot Instance request.

Type: String

virtualizationType

The instance's virtualization type.

Type: String

Valid values: `paravirtual` | `hvm`

clientToken

The idempotency token you provided when you launched the instance.

Type: String

tagSet

Any tags assigned to the resource, each one wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

hypervisor

The instance's hypervisor type.

Type: String

Valid values: `ovm` | `xen`

networkInterfaceSet

The network interfaces for the instance.

Type: InstanceNetworkInterfaceSetItemType (p. 470)

iamInstanceProfile
> The IAM Instance Profile (IIP) associated with the instance.
>
> Type: IamInstanceProfileResponseType (p. 461)

ebsOptimized
> 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`

SecurityGroupIdSetItemType

The SecurityGroupIdSetItemType data type.

Ancestors

- LaunchSpecificationResponseType
- LaunchSpecificationRequestType
- InstanceNetworkInterfaceSetItemRequestType

Relevant Operations

- CreateNetworkInterface
- ModifyNetworkInterfaceAttribute
- ModifyInstanceAttribute
- RequestSpotInstances
- DescribeSpotInstanceRequests
- RunInstances

Contents

groupId
> The ID of the security group associated with the network interface.
> Type: String

SecurityGroupItemType

The SecurityGroupItemType data type.

Ancestors

- SecurityGroupSetType

Relevant Operations

- DescribeSecurityGroups

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. 478)

ipPermissionsEgress

[EC2-VPC] A list of outbound rules associated with the security group. Each permission is wrapped in an `item` element.

Type: IpPermissionType (p. 478)

tagSet

Any tags assigned to the resource, each one wrapped in an `item` element.

Type: ResourceTagSetItemType (p. 498)

SpotDatafeedSubscriptionType

The SpotDatafeedSubscriptionType data type.

Ancestors

- CreateSpotDatafeedSubscriptionResponseType
- DescribeSpotDatafeedSubscriptionResponseType

Relevant Operations

- CreateSpotDatafeedSubscription
- DescribeSpotDatafeedSubscription

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:

SpotInstanceRequestSetItemType

The SpotInstanceRequestSetItemType data type.

Ancestors

- SpotInstanceRequestSetType

Relevant Operations

- DescribeSpotInstanceRequests
- RequestSpotInstances

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 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`

fault

The fault codes for the Spot Instance request, if any.

Type: SpotInstanceStateFaultType (p. 508)

status

The status code and status message describing the Spot Instance request.

Type: SpotInstanceStatusMessageType (p. 508)

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. 481)

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. 498)

SpotInstanceStateFaultType

The SpotInstanceStateFaultType data type.

Ancestors

- SpotDatafeedSubscriptionType (p. 505)
- SpotInstanceRequestSetItemType (p. 506)

Relevant Operations

- CreateSpotDatafeedSubscription
- DescribeSpotDatafeedSubscription
- DescribeSpotInstanceRequests
- RequestSpotInstances

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

The SpotInstanceStatusMessageType data type.

Ancestors

- SpotInstanceRequestSetItemType (p. 506)

Relevant Operations

- DescribeSpotInstanceRequests

Contents

code
> The status code of the request.
> Type: String

updateTime
> The time the status was stated.
>
> Type: DateTime

message
> The description for the status code for the Spot request.
>
> Type: String

SpotPriceHistorySetItemType

The SpotPriceHistorySetItemType data type.

Ancestors

- SpotPriceHistorySetType

Relevant Operations

- DescribeSpotPriceHistory

Contents

instanceType
> The instance type.
>
> Type: String

productDescription
> A general description of the AMI.
>
> Type: String
>
> Valid values: `Linux/UNIX` | `SUSE Linux` | `Windows`

spotPrice
> The maximum price you will pay to launch one or more Spot Instances.
>
> Type: String

timestamp
> The date and time the request was created.
>
> Type: DateTime

availabilityZone
> The Availability Zone.
>
> Type: String

StateReasonType

The StateReasonType data type.

Ancestors

-

Relevant Operations

• DescribeImages

• DescribeInstances

• RunInstances

Contents

code
> The reason code for the state change. See the following table for a list of codes.
> Type: String

message
> The message for the state change.
> Type: String

The following are the currently supported state reason codes.

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

-
-

Contents

subnetId

The ID of the subnet.

Type: String

state

The current state of the subnet.

Type: String

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. 498)

TagSetItemType

The TagSetItemType data type.

Relevant Operations

- DescribeTags

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` | `instance` | `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

The UserDataType data type.

Ancestors

-

Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

Contents

data
> The Base64-encoded MIME user data made available to the instance(s) in the reservation.
>
> Type: String

UserIdGroupPairType

Describes a security group and AWS account ID pair.

Ancestors

- UserIdGroupPairSetType

Relevant Operations

- AuthorizeSecurityGroupEgress
- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupEgress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

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

The VolumeStatusItemType data type.

Ancestors

- VolumeStatusSetType

Relevant Operation

- DescribeVolumeStatus

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. 514).

eventSet
>   A list of events associated with the volume. Each event is wrapped in an `item` element.
>
>   Type: VolumeStatusEventItemType (p. 515).

actionSet
>   The details of the action. Each action detail is wrapped in an `item` element.
>
>   Type: VolumeStatusActionItemType (p. 516).

VolumeStatusInfoType

The VolumeStatusInfoType data type.

Ancestors

- VolumeStatusItemType

Relevant Operation

- DescribeVolumeStatus

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. 514).

VolumeStatusDetailsItemType

The VolumeStatusDetailsItemType data type.

Ancestors

- VolumeStatusInfoType

Relevant Operation

- DescribeVolumeStatus

Contents

name
 The name of the volume's status.
 Type: String
status
 The intended status of the volume status.
 Type: String

VolumeStatusEventItemType

The VolumeStatusEventItemType data type.

Ancestors

- VolumeStatusItemType

Relevant Operation

- DescribeVolumeStatus

Contents

eventType
 The type of this event.
 Type: String
eventId
 The ID of this event.
 Type: String
description
 A description of the event.
 Type: String
notBefore
 The earliest start time of the event.
 Type: DateTime
notAfter
 The latest end time of the event.
 Type: DateTime

VolumeStatusActionItemType

The VolumeStatusActionItemType data type.

Ancestors

- VolumeStatusItemType

Relevant Operation

- DescribeVolumeStatus

Contents

code
> The code identifying the action.
>
> 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. 107)
- DescribeVpcs (p. 308)

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. 498)

instanceTenancy

The allowed tenancy of instances launched into the VPC.

Type: String

isDefault

Indicates whether the VPC is the default VPC.

Type: Boolean

VpnConnectionOptionsResponseType

Describes VPN connection options.

Relevant Operations

- CreateVpnConnection (p. 109)
- DescribeVpnConnections (p. 311)

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

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 (ipsec.1).

Type: String

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. 498)

vgwTelemetry

Information about the virtual private gateway. Each gateway is wrapped in an `item` element.

Type: VpnTunnelTelemetryType (p. 520)

options

The option set describing the VPN connection.

Type: VpnConnectionOptionsResponseType (p. 517)

routes

The set of static routes associated with a VPN connection.

Type: VpnStaticRouteType (p. 519)

VpnGatewayType

Describes a virtual private gateway.

Ancestors

- VpnGatewaySetType

Relevant Operations

- CreateVpnGateway (p. 118)
- DescribeVpnGateways (p. 315)

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 (ipsec.1).

>Type: String

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. 436)

tagSet

>Any tags assigned to the resource, each one wrapped in an `item` element.

>Type: ResourceTagSetItemType (p. 498)

VpnStaticRouteType

Describes a static route for a VPN connection.

Ancestors

- VpnStaticRoutesSetType

Relevant Operations

- CreateVpnConnection (p. 109)
- DescribeVpnConnections (p. 311)

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

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

All Query actions share a set of common parameters that must be present in each call.

Name	Description	Required
Action	Indicates the action to perform. Example: `RunInstances`	Yes
Version	The API version to use, as specified in the WSDL. Example: `2013-02-01`	Yes
AWSAccessKeyId	The access key ID for the request sender. This identifies the account which will be charged for usage of the service. The account that's associated with the access key ID must be signed up for Amazon EC2, or the request isn't accepted. `AKIAIOSFODNN7EXAMPLE`	Yes
Timestamp	The date and time at which the request is signed, in the format YYYY-MM-DDThh:mm:ssZ. For more information, see ISO 8601. Example: `2006-07-07T15:04:56Z`	Yes
Expires	The date and time at which the signature included in the request expires, in the format YYYY-MM-DDThh:mm:ssZ. Example: `2006-07-07T15:04:56Z`	Yes
SecurityToken	The temporary security token obtained through a call to AWS Security Token Service. For more information, see Using Temporary Security Credentials in the *Amazon Elastic Compute Cloud User Guide*. Default: None Type: String	No
Signature	The request signature. For more information, see Signature Version 2 Signing Process in the *Amazon Web Services General Reference*. Example: `Qnpl4Qk/7tINHzfXCiT7VEXAMPLE`	Yes

Name	Description	Required
SignatureMethod	The hash algorithm you use to create the request signature. Valid values: `HmacSHA256` | `HmacSHA1`. For more information, see Signature Version 2 Signing Process in the *Amazon Web Services General Reference*. Example: `HmacSHA256`	Yes
SignatureVersion	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`	Yes

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.

Error Codes

Topics

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 an authentication failure or an invalid AMI identifier. 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 and should be reported. In the Query API, these errors are accompanied by a 500-series HTTP response code.

Summary of Client Error Codes

Error Code	Description	Notes
AddressLimitExceeded	You've reached the limit on the number of elastic IP addresses your account can have.	Each AWS account has an EC2 elastic IP address limit. For new accounts, this limit is 5. If you need more than 5 EC2 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 need for additional addresses. You have a separate limit for VPC elastic IP addresses (5). To request to increase the limit, complete the Amazon VPC Limits form.
AttachmentLimitExceeded	You've reached the limit on the number of Amazon EBS volumes that can be attached to a single instance.	
AuthFailure	User not authorized.	You might be trying to run an AMI for which you do not have permission.
Blocked	The account is currently blocked.	Contact aws-verification@amazon.com if you have questions.
CustomerGatewayLimitExceeded	You've reached the limit on the number of customer gateways you can create.	
DependencyViolation	The specified object has dependent resources.	
DiskImageSizeTooLarge	The disk image exceeds the allowed limit (for instance or volume import).	
FilterLimitExceeded	Request uses too many filters or too many total filter values.	
Gateway.NotAttached	Specified gateway isn't attached, so it can't be detached.	

Error Code	Description	Notes
`IdempotentParameterMismatch`	Request uses the same client token as a previous, but non-identical request.	Do not reuse a client token with different requests, unless the requests are identical.
`IncorrectInstanceState`	Instance is in an incorrect state so the attempted action cannot occur.	
`IncorrectState`	Volume is in an incorrect state.	To attach to an instance, it must be in the 'available' state.
`InstanceLimitExceeded`	Account has maximum allowed concurrent running instances.	Each AWS account has a concurrent running instance limit. For new accounts, this limit is 20. If you need more than 20 instances, please complete the Amazon EC2 Instance Request Form and your request will be considered.
`InsufficientInstanceCapacity`	There is insufficient capacity available for the requested instance type.	The returned message gives guidance on how to solve the problem.
`InsufficientReservedInstancesCapacity`	Insufficient Reserved Instances capacity.	
`InternetGatewayLimitExceeded`	You've reached the limit on the number of Internet gateways you can create.	
`InvalidAMIAttributeItemValue`	The value of an item added to, or removed from, an image attribute is invalid.	If you are specifying a `userId`, check that it is in the form of an AWS account ID.
`InvalidAMIID.Malformed`	Specified AMI ID is not valid.	
`InvalidAMIID.NotFound`	Specified AMI ID does not exist.	
`InvalidAMIID.Unavailable`	Specified AMI ID has been deregistered and is no longer available.	
`InvalidAssociationID.NotFound`	Specified association ID does not exist.	
`InvalidAttachment.NotFound`	The instance cannot detach from a volume to which it is not attached.	
`InvalidConversionTaskId`	Specified conversion task ID (for instance or volume import) is invalid.	

Error Code	Description	Notes
`InvalidCustomerGateway.DuplicateIpAddress`	Conflict among chosen gateway IP addresses.	
`InvalidCustomerGatewayID.NotFound`	The specified customer gateway ID does not exist.	
`InvalidDevice.InUse`	The device to which you are trying to attach (i.e. /dev/sdh) is already in use on the instance.	
`InvalidDhcpOptionsID.NotFound`	Specified DHCP options ID does not exist.	
`InvalidFormat`	Specified disk format (for instance or volume import) is invalid.	
`InvalidFilter`	Specified filter is invalid.	
`InvalidGatewayID.NotFound`	Specified gateway ID does not exist.	
`InvalidGroup.Duplicate`	Attempt to create a duplicate group.	
`InvalidGroupId.Malformed`	Specified group ID is invalid.	
`InvalidGroup.InUse`	Specified group cannot be deleted because it is in use.	
`InvalidGroup.NotFound`	Specified security group does not exist.	This error may occur because the security group ID has not propagated through the system. For more information, see Eventual Consistency.
`InvalidGroup.Reserved`	Specified group name is a reserved name.	
`InvalidInstanceAttributeValue`	The specified instance attribute value is not valid.	This error is most commonly encountered when trying to set the `InstanceType`/`--instance-type` attribute to an unrecognized value.
`InvalidInstanceID.Malformed`	Specified instance ID is not valid.	
`InvalidInstanceID.NotFound`	Specified instance ID does not exist.	This error may occur because the instance ID has not propagated through the system. For more information, see Eventual Consistency.

Error Code	Description	Notes
InvalidInternetGatewayID.NotFound	Specified Internet gateway ID does not exist.	
InvalidIPAddress.InUse	Specified IP address is currently in use.	
InvalidKeyPair.Duplicate	Attempt to create a duplicate key pair.	
InvalidKeyPair.Format	Format of the public key you've attempted to import is invalid.	
InvalidKeyPair.NotFound	Specified key pair name does not exist.	
InvalidManifest	Specified AMI has an unparsable manifest.	
InvalidNetworkAclEntry.NotFound	Specified network ACL entry does not exist.	
InvalidNetworkAclID.NotFound	Specified network ACL ID does not exist.	
InvalidParameterCombination	Example: RunInstances was called with both minCount and maxCount set to 0, or minCount > maxCount.	
InvalidParameterValue	The value supplied for a parameter was invalid.	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.
InvalidPermission.Duplicate	Attempt to authorize a permission that has already been authorized.	
InvalidPermission.Malformed	Specified permission is invalid.	
InvalidReservationID.Malformed	Specified reservation ID is invalid.	
InvalidReservationID.NotFound	Specified reservation ID does not exist.	
InvalidRoute.NotFound	Specified route does not exist in the route table.	
InvalidRouteTableID.NotFound	Specified route table ID does not exist.	

Error Code	Description	Notes
InvalidSecurity.RequestHasExpired	The difference between the request timestamp and the AWS server time is greater than 5 minutes.	Ensure that your system clock is accurate and configured to use the correct time zone.
InvalidSnapshotID.Malformed	The snapshot ID that was passed as an argument was malformed.	
InvalidSnapshot.InUse	The snapshot which you are trying to delete is in use by one or more AMIs.	
InvalidSnapshot.NotFound	The specified snapshot does not exist.	
InvalidUserID.Malformed	The user ID is neither in the form of an AWS account ID or one of the special values accepted by the owner or executableBy flags in the DescribeImages call.	
InvalidReservedInstancesId	Reserved Instances ID not found.	
InvalidReservedInstancesOfferingId	Reserved Instances Offering ID not found.	
InvalidSubnetID.NotFound	Specified subnet ID does not exist.	
InvalidVolumeID.Duplicate	Volume already exists in the system.	
InvalidVolumeID.Malformed	Specified volume ID was malformed.	
InvalidVolumeID.ZoneMismatch	Specified volume ID and instance ID are in different Availability Zones.	
InvalidVolume.NotFound	Specified volume does not exist.	
InvalidVpcID.NotFound	Specified VPC ID does not exist.	
InvalidVpnConnectionID.NotFound	The specified VPN connection ID does not exist.	
InvalidVpnGatewayID.NotFound	Specified virtual private gateway ID does not exist.	
InvalidZone.NotFound	The specified zone does not exist.	

Error Code	Description	Notes
LegacySecurityGroup	You must delete the 2009-07-15-default security group before you can attach an Internet gateway.	
MissingParameter	The request is missing a required parameter.	
NetworkAclEntryAlreadyExists	Specified rule number already exists in this network ACL.	
NetworkAclEntryLimitExceeded	You've reached the limit on the number of network ACL entries you can add to the ACL.	
NetworkAclLimitExceeded	You've reached the limit on the number of network ACLs you can create.	
NonEBSInstance	The instance specified does not support EBS.	Please restart the instance and try again. This will ensure that the code is run on an instance with updated code.
OptInRequired	The user is not authorized to use the requested product.	This error message can apply to Amazon EC2 or individual AWS Marketplace product codes.
PendingSnapshotLimitExceeded	You've reached the limit on the number of Amazon EBS snapshots you can have in the pending state.	
PendingVerification	The account is pending verification.	Contact aws-verification@amazon.com if you have questions.
RequestLimitExceeded	The maximum request rate permitted by the Amazon EC2 APIs has been exceeded for your account.	For best results, use an increasing or variable sleep interval between requests. For more information, see Query API Request Rate.
ReservedInstancesLimitExceeded	Your current quota does not allow you to purchase the required number of reserved instances.	
Resource.AlreadyAssociated	Specified gateway is already attached, or specified subnet is already associated with another object.	

Error Code	Description	Notes
`ResourceLimitExceeded`	Exceeded an EC2 resource limit.	Example: You reached the maximum number of import conversion tasks allowed.
`RouteAlreadyExists`	A route for the specified CIDR block already exists in this route table.	
`RouteLimitExceeded`	You've reached the limit on the number of routes you can add to a route table.	
`RouteTableLimitExceeded`	You've reached the limit on the number of route tables you can create.	
`RulesPerSecurityGroupLimitExceeded`	You've reached the limit on the number of rules you can add to a security group.	
`SecurityGroupLimitExceeded`	You've reached the limit on the number of security groups you can create.	
`SecurityGroupsPerInstanceLimitExceeded`	You've reached the limit on the number of security groups you can put an instance into.	
`SnapshotLimitExceeded`	You've reached the limit on the number of Amazon EBS snapshots you can create.	
`SubnetLimitExceeded`	You've reached the limit on the number of subnets you can create for the VPC.	
`UnauthorizedOperation`	You are not authorized to perform this operation.	
`UnknownParameter`	An unknown or unrecognized parameter was supplied.	Requests that could cause this error include supplying a misspelled parameter or a parameter that is not supported for the specified API version.
`UnsupportedOperation`	The instance type or feature is not supported in your requested Availability Zone or with the requested configuration.	The returned message gives guidance on how to solve the problem.

Error Code	Description	Notes
VolumeInUse	The specified volume is unavailable.	To attach to an instance, the volume must be in the 'available' state. Ensure that the specified volume is not already in use by an instance. If it is not, this error message can also occur if the volume is still being created.
VolumeLimitExceeded	You've reached the limit on the number of Amazon EBS volumes you can create.	
VpcLimitExceeded	You've reached the limit on the number of VPCs you can create.	
VpnConnectionLimitExceeded	You've reached the limit on the number of VPN connections you can create.	
VpnGatewayAttachmentLimitExceeded	You've reached the limit on the number of VPCs that can be attached to the given virtual private gateway.	
VpnGatewayLimitExceeded	You've reached the limit on the number of virtual private gateways you can create.	

Summary of Server Error Codes

Error Code	Description	Notes
InsufficientAddressCapacity	Not enough available addresses to satisfy your minimum request.	Reduce the number of addresses you are requesting or wait for additional capacity to become available.
InsufficientInstanceCapacity	Not enough available instances to satisfy your minimum request.	Reduce the number of instances in your request or wait for additional capacity to become available. The returned message might also give specific guidance on how to solve the problem.

Error Code	Description	Notes
`InsufficientReservedInstanceCapacity`	Not enough available Reserved Instances to satisfy your minimum request.	Reduce the number of Reserved Instances in your request or wait for additional capacity to become available.
`InternalError`	Internal Error.	This error should not occur. If this persists, please contact us with details by posting a message on the AWS forums.
`Unavailable`	The server is overloaded and cannot handle the request.	

Request Error Response

The following shows the structure of a request error response.

```
<Response>
    <Errors>
        <Error>
           <Code>Error code text</Code>
           <Message>Error message</Message>
        </Error>
    </Errors>
    <RequestID>request ID</RequestID>
</Response>
```

Example Error Response Request

The following shows an example of an error response.

```
<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.