# Amazon Elastic Compute Cloud

## API Reference

## API Version 2010-11-15

# Amazon Elastic Compute Cloud: API Reference

# Table of Contents

# Welcome

This is the Amazon Elastic Compute Cloud API Reference. This guide is for developers who need detailed information about the Amazon EC2 API actions, data types, and errors. For detailed information about Amazon EC2 features and their associated API calls, go to the Amazon Elastic Compute Cloud User Guide.

# WSDL Location

The current WSDL is at:  http://ec2.amazonaws.com/doc/2010-11-15/AmazonEC2.wsdl

This reference has a single set of topics for both the Query and SOAP APIs (the actions are the same for both APIs). The topic for a given action shows the Query API request parameters. The XML request elements for the SOAP API have names that are very similar to the Query API parameter names. You can view the XML request elements in the WSDL, or look at the proxy classes that a SOAP toolkit generates from the WSDL. Therefore you can look at the topic for a given action and see what you need to provide for either the Query API or the SOAP API. You can also see what the XML response looks like (it's the same for both APIs).

# How Do I...?

| How Do I? | Relevant Sections |
|---|---|
| Get a list of common parameters used in all Query requests | Common Query Parameters (p. 2) |
| Get a list of actions by function | List of Actions by Function (p. 4) |
| Get details about each API action | Actions (p. 8) |
| Get details about the EC2 data types | Data Types (p. 205) |
| Get a list of API errors returned | Error Codes (p. 253) |

# 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.<br>Example: `RunInstances` | Yes |
| *Version* | The API version to use, as specified in the WSDL.<br>Example: `2010-11-15` | 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 with which the Access Key ID is associated must be signed up for Amazon EC2, or requests will not be accepted.<br>`AKIADQKE4SARGYLE` | Yes |
| *Timestamp* | The date and time at which the request is signed, in the format YYYY-MM-DDThh:mm:ssZ. For more information, go to ISO 8601.<br>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.<br>Example: `2006-07-07T15:04:56Z` | Yes |
| *Signature* | The request signature. For more information, go to Making Query Requests in the *Amazon Elastic Compute Cloud User Guide*.<br>Example: `Qnpl4Qk/7tINHzfXCiT7VbBatDA=` | Yes |
| *SignatureMethod* | The hash algorithm you use to create the request signature. Valid values: `HmacSHA256` \| `HmacSHA1`. For more information, go to Making Query Requests in the *Amazon Elastic Compute Cloud User Guide*.<br>Example: `HmacSHA256` | Yes |

| Name | Description | Required |
|------|-------------|----------|
| *SignatureVersion* | The signature version you use to sign the request. Set this value to 2. For more information, go to Making Query Requests in the *Amazon Elastic Compute Cloud User Guide*.<br><br>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.

# List of Actions by Function

**Amazon DevPay**

**AMIs**

**Availability Zones and Regions**

**Amazon Elastic Block Store**

**Elastic IP Addresses**

**General**

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## Placement Groups

## Reserved Instances

## Security Groups

## Spot Instances

## Tags

## VM Import

### Windows

# Actions

**Topics**

# AllocateAddress

## Description

Acquires an elastic IP address for use with your account. For more information about elastic IP addresses, go to Instance Addressing in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

The `AllocateAddress` operation does not have any request parameters.

## Response Elements

The elements in the following table come wrapped in an `AllocateAddressResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| publicIp | IP address for use with your account.<br>Type: xsd:string |

## Examples

### Example Request

This example returns an elastic IP address for use with the account.

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

### Example Response

```
<AllocateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <publicIp>67.202.55.255</publicIp>
</AllocateAddressResponse>
```

## Related Operations

- DescribeAddresses (p. 62)
- ReleaseAddress (p. 174)
- AssociateAddress (p. 11)
- DisassociateAddress (p. 142)

# AssociateAddress

## Description

Associates an elastic IP address with an instance. If the IP address is currently assigned to another instance, the IP address is assigned to the new instance. This is an idempotent operation. If you enter it more than once, Amazon EC2 does not return an error.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *PublicIp* | IP address to assign to the instance.<br>Type: String<br>Default: None | Yes |
| *InstanceId* | The instance to associate with the IP address.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in an `AssociateAddressResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example associates an IP address with an instance.

```
https://ec2.amazonaws.com/?Action=AssociateAddress
&InstanceId=i-2ea64347
&PublicIp=67.202.55.255
&AUTHPARAMS
```

### Example Response

```
<AssociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <return>true</return>
</AssociateAddressResponse>
```

# Related Operations

- AllocateAddress (p. 10)
- DescribeAddresses (p. 62)
- ReleaseAddress (p. 174)
- DisassociateAddress (p. 142)

# AttachVolume

## Description

Attaches an Amazon EBS volume to a running instance and exposes it as the specified device.

📝 **Note**

> Windows instances currently support devices xvda through xvdp. Device xvda is assigned to
> drive C:\, and, depending on the instance type, devices xvdb through xvde might be reserved by
> the ephemeral stores. Any device that is not reserved can be attached to an Amazon EBS volume.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *VolumeId* | The ID of the Amazon EBS volume. The volume and instance must be within the same Availability Zone and the instance must be running.<br>Type: String<br>Default: None | Yes |
| *InstanceId* | The ID of the instance to which the volume attaches. The volume and instance must be within the same Availability Zone and the instance must be running.<br>Type: String<br>Default: None | Yes |
| *Device* | How the device is exposed to the instance (e.g., /dev/sdh, or xvdh).<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in an `AttachVolumeResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| volumeId | The ID of the volume.<br>Type: xsd:string |
| instanceId | The ID of the instance.<br>Type: xsd:string |
| device | The device as it is exposed to the instance (e.g., /dev/sdh, or xvdh).<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| `status` | Volume state.<br>Type: xsd:string<br>Valid Values: `attaching` \| `attached` \| `detaching` \| `detached` |
| `attachTime` | Time stamp when the attachment initiated.<br>Type: xsd:dateTime |

# Examples

## Example Request

This example attaches volume `vol-4d826724` to instance `i-6058a509` and exposes it as `/dev/sdh`. For information on standard storage locations, go to the Amazon Elastic Compute Cloud User Guide.

```
https://ec2.amazonaws.com/?Action=AttachVolume
&VolumeId=vol-4d826724
&InstanceId=i-6058a509
&Device=/dev/sdh
&AUTHPARAMS
```

## Example Response

```
<AttachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-4d826724</volumeId>
  <instanceId>i-6058a509</instanceId>
  <device>/dev/sdh</device>
  <status>attaching</status>
  <attachTime>2008-05-07T11:51:50.000Z</attachTime>
</AttachVolumeResponse>
```

# Related Operations

- CreateVolume (p. 44)
- DeleteVolume (p. 58)
- DescribeVolumes (p. 136)
- DetachVolume (p. 140)

# AuthorizeSecurityGroupIngress

## Description

Adds a *rule* to a security group. Specifically, this either 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 in your account. A source group can be in your own AWS account, or another.

The permission is comprised of the IP protocol (TCP, UDP or ICMP) and the CIDR range or source group. For TCP and UDP, you also specify the source and destination port ranges; for ICMP, you also specify the ICMP types. You can use -1 as a wildcard for the ICMP type.

Permission 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.

> **Caution**
>
> Adding hundreds of rules to a security group might cause problems when you access the instance. We recommend you condense your rules as much as possible.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| `UserId` | Deprecated | No |
| `GroupName` | Name of the group to modify. The name must be valid, and the group must belong to your account.<br>Type: String<br>Default: None | Yes |
| `IpPermissions.n.IpProtocol` | IP protocol.<br>Type: String<br>Valid Values: `tcp` \| `udp` \| `icmp`<br>Default: None | Yes |
| `IpPermissions.n.FromPort` | Start of port range for the TCP and UDP protocols, or an ICMP type number. An ICMP type number of -1 indicates a wildcard (i.e., any ICMP type number).<br>Type: Integer<br>Default: None | Yes |
| `IpPermissions.n.ToPort` | End of port range for the TCP and UDP protocols, or an ICMP code. An ICMP code of -1 indicates a wildcard (i.e., any ICMP code).<br>Type: Integer<br>Default: None | Yes |

| Name | Description | Required |
|------|-------------|----------|
| `IpPermissions.n.Groups.m.UserId` | AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.<br>Type: String<br>Default: None<br>Condition: Required if giving access to one or more source security groups. | Conditional |
| `IpPermissions.n.Groups.m.GroupName` | Name of the source security group. Cannot be used when specifying a CIDR IP address.<br>Type: String<br>Default: None<br>Condition: Required if giving access to one or more source security groups. | Conditional |
| `IpPermissions.n.IpRanges.m.CidrIp` | CIDR range. Cannot be used when specifying a source security group.<br>Type: String<br>Default: None<br>Constraints: Valid CIDR IP address range.<br>Condition: Required if giving access to one or more IP address ranges. | Conditional |

# Response Elements

The elements in the following table come wrapped in an `AuthorizeSecurityGroupIngressResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if request is successful. Otherwise, returns an error.<br>Type: xsd:boolean |

# Examples

## Example Request

This example grants the 205.192.0.0/16 and 205.159.0.0/16 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=205.192.0.0/16
```

```
&IpPermissions.1.IpRanges.2.CidrIp=205.159.0.0/16
&AUTHPARAMS
```

# Example Request

This example grants TCP port 80 access from the source group called OtherAccountGroup (in AWS account 999988887777) 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=999988887777
&AUTHPARAMS
```

# Example Response

```
<AuthorizeSecurityGroupIngressResponse xmlns="http://ec2.amazonaws.com/doc/2010-
11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</AuthorizeSecurityGroupIngressResponse>
```

# Related Operations

# BundleInstance

## Description

Bundles an Amazon S3-backed Windows instance.

> **Note**
>
> During bundling, only the root store (C:\) is bundled. Data on the ephemeral stores is not preserved. This procedure is not applicable for Linux and UNIX instances or Windows instances that use Amazon EBS volumes as their root devices.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | The ID of the instance to bundle.<br>Type: String<br>Default: None | 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.<br>Type: String<br>Default: None | Yes |
| *Storage.S3.Prefix* | The beginning of the file name of the AMI.<br>Type: String<br>Default: None | Yes |
| *Storage.S3.AWSAccess KeyId* | The Access Key ID of the owner of the Amazon S3 bucket.<br>Type: String<br>Default: None | Yes |
| *Storage.S3.UploadPol icy* | A Base64-encoded Amazon S3 upload policy that gives Amazon EC2 permission to upload items into Amazon S3 on your behalf.<br>Type: String<br>Default: None | Yes |
| *Storage.S3.UploadPol icySignature* | The signature of the Base64 encoded JSON document.<br>Type: String<br>Default: None | 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, go to the sections about policy construction and signatures in the Amazon Simple Storage Service Developer Guide.

| Name | Description | Required |
|------|-------------|----------|
| expiration | The expiration of the policy. We recommend 12 hours or longer. | Yes |
| conditions | A list of restrictions on what can be uploaded to Amazon S3. Must contain the bucket and ACL conditions in this table. | Yes |
| bucket | The bucket to store the AMI. | Yes |
| acl | This must be set to ec2-bundle-read. | Yes |

# Response Elements

The elements in the following table come wrapped in a `BundleInstanceResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| bundleInstanceTask | Bundle task.<br>Type: BundleInstanceTaskType (p. 211) |

# Examples

## Example Request

This example bundles the `i-e468cd8d` instance.

```
https://ec2.amazonaws.com/?Action=BundleInstance
&InstanceId=i-e468cd8d
&Storage.S3.AWSAccessKeyId=10QMXFEV71ZS32XQFTR2
&Storage.S3.Bucket=my-bucket
&Storage.S3.Prefix=winami
&Storage.S3.UploadPolicy=eyJleHBpcmF0aW9uIjogIjIwMDgtMDgtMzBUMDg6NDk6MDlaIi
wiY29uZGl0aW9ucyI6IFt7ImJ1Y2tldCI6ICJteS1idWNrZXQifSxbInN0YXJ0cy13aXRoIiwgIiR
rZXkiLCAibXktbWV3WltYWdlIl0seyJhY2wiOiAiZWMyLWJ1bmRsZS1yZWFkIn1dfQ%3D%3D
&Storage.S3.UploadPolicySignature=fh5tyyyQD8W4COEthj3nlGNtJMU%3D
&AUTHPARAMS
```

## Example Response

```
<BundleInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <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>my-bucket</bucket>
            <prefix>winami</prefix>
          </S3>
        </storage>
  </bundleInstanceTask>
</BundleInstanceResponse>
```

# Related Operations

# CancelBundleTask

## Description

Cancels a bundling operation for an Amazon S3-backed Windows instance (see BundleInstance (p. 18)).

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *BundleId* | The ID of the bundle task to cancel.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `CancelBundleTaskResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| bundleInstanceTask | Bundle task to cancel.<br>Type: BundleInstanceTaskType (p. 211) |

## 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/2010-11-15/">
  <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>my-bucket</bucket>
          <prefix>my-new-image</prefix>
        </S3>
      </storage>
  </bundleInstanceTask>
</CancelBundleTaskResponse>
```

# Related Operations

- BundleInstance (p. 18)
- DescribeBundleTasks (p. 67)

# CancelConversionTask

## Description

Cancels an active conversion task. The task can be the import of an instance or volume. The command 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, go to Importing Your Virtual Machines and Volumes into Amazon EC2 in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ConversionTaskId* | The ID of the task you want to cancel.<br>Type: String<br>Default: None | Yes |

## Response Elements

| Name | Description |
|------|-------------|
| *requestId* | ID of the request.<br>Type: string |
| *return* | Specifies whether the cancellation was successful or not.<br>Type: 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/2010-11-15/">

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

# Related Operations

- ImportInstance (p. 148)
- ImportVolume (p. 154)
- DescribeConversionTasks (p. 70)

# 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, go to 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

| Name | Description | Required |
|------|-------------|----------|
| *SpotInstanceRequestId.n* | One or more Spot Instance request IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `CancelSpotInstanceRequestsResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `spotInstanceRequestSet` | A list of Spot Instance requests. Each request is wrapped in an `item` element.<br>Type: CancelSpotInstanceRequestsResponseSetItemType (p. 212) |

## Examples

### Example Request

This example cancels a Spot Instance request.

```
https://ec2.amazonaws.com/?Action=CancelSpotInstanceRequests
&SpotInstanceRequestId.1=sir-e95fae02
&AUTHPARAMS
```

# Example Response

```
<CancelSpotInstanceRequestsResponse xmlns="http://ec2.amazonaws.com/doc/2010-
11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-e95fae02</spotInstanceRequestId>
      <state>cancelled</state>
    </item>
  </spotInstanceRequestSet></CancelSpotInstanceRequestsResponse>
```

# Related Operations

- DescribeSpotInstanceRequests (p. 123)
- RequestSpotInstances (p. 176)
- DescribeSpotPriceHistory (p. 128)

# ConfirmProductInstance

## Description

Verifies whether a Amazon DevPay product code is associated with an instance. This can only be executed by the owner of the AMI and is useful when an AMI owner wants to verify whether another EC2 user's instance is eligible for support.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ProductCode* | The product code to confirm.<br>Type: String<br>Default: None | Yes |
| *InstanceId* | The instance to confirm.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `ConfirmProductInstanceResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the product code is attached to the instance. Otherwise, returns an error.<br>Type: xsd:boolean |
| ownerId | The instance owner's account ID. Only present if the product code is attached to the instance.<br>Type: xsd:string |

## Examples

### Example Request

This example describes the confirms the product code 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/2010-11-
15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
  <ownerId>254933287430</ownerId>
</ConfirmProductInstanceResponse>
```

# Related Operations

- DescribeInstances (p. 84)
- RunInstances (p. 190)

# CreateImage

## Description

Creates an Amazon EBS-backed AMI from an Amazon EBS-backed instance that is in either the `running` or `stopped` state. For more information about Amazon EBS-backed AMIs, go to Amazon EBS-Backed AMIs and Instances.

> 📕 **Note**
>
> If you customized your instance with ephemeral storage devices or additional EBS volumes besides the root device, the new AMI contains block device mapping information for those storage devices and volumes. When you then launch an instance from your new AMI, the instance automatically launches with the additional devices and volumes.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | The ID of the instance.<br>Type: String<br>Default: None | Yes |
| *Name* | A name for the new image you're creating.<br>Type: String<br>Default: None<br>Constraints: 3-128 alphanumeric characters, parenthesis (()), commas (,), slashes (/), dashes (-), or underscores(_) | Yes |
| *Description* | A description of the new image.<br>Type: String<br>Default: None<br>Constraints: Up to 255 characters | 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 reboots the instance afterwards. 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.<br>Type: Boolean<br>Default: false | No |

## Response Elements

The elements in the following table come wrapped in a `CreateImageResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| imageId | The ID of the AMI.<br>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/2010-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <imageId>ami-4fa54026</imageId>
</CreateImageResponse>
```

# Related Operations

- RunInstances (p. 190)
- DescribeInstances (p. 84)
- TerminateInstances (p. 201)

# 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. If you'd like to create a key pair that works in all Regions, see ImportKeyPair (p. 152).

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *KeyName* | A unique name for the key pair.<br>Type: String<br>Default: None<br>Constraints: Accepts alphanumeric characters, spaces, dashes, and underscores. | Yes |

## Response Elements

The elements in the following table come wrapped in a `CreateKeyPairResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `keyName` | The key pair name you provided.<br>Type: xsd:string |
| `keyFingerprint` | A SHA-1 digest of the DER encoded private key.<br>Type: xsd:string |
| `keyMaterial` | An unencrypted PEM encoded RSA private key.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keyName>gsg-keypair</keyName>
  <keyFingerprint>
    1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f
  </keyFingerprint>
  <keyMaterial>-----BEGIN RSA PRIVATE KEY-----
MIIEoQIBAAKCAQBuLFg5ujHrtm1jnutSuoO8Xe56LlT+HM8v/xkaa39EstM3/aFxTHgElQiJLChp
HungXQ29VTc8rc1bW0lkdi23OH5eqkMHGhvEwqa0HWASUMll4o3o/IX+0f2UcPoKCOVUR+jx71Sg
5AU52EQfanIn3ZQ8lFW7Edp5a3q4DhjGlUKToHVbicL5E+g45zfB95wIyywWZfeW/UUF3LpGZyq/
ebIUlq1qTbHkLbCC2r7RTn8vpQWp47BGVYGtGSBMpTRP5hnbzzuqj3itkiLHjU39S2sJCJ0TrJx5
i8BygR4s3mHKBj8l+ePQxG1kGbF6R4yg6sECmXn17MRQVXODNHZbAgMBAAECggEAY1tsiUsIwDl5
91CXirkYGuVfLyLflXenxfI50mDFms/mumTqloHO7tr0oriHDR5K7wMcY/YY5YkcXNo7mvUVD1pM
ZNUJs7rw9gZRTrf7LylaJ58kOcyajw8TsC4e4LPbFaHwS1d6K8rXh64o6WgW4SrsB6ICmr1kGQI7
3wcfgt5ecIu4TZf0OE9IHjn+2eRlsrjBdeORi7KiUNC/pAG23I6MdDOFEQRcCSigCj+4/mciFUSA
SWS4dMbrpb9FNSIcf9dcLxVM7/6KxgJNfZc9XWzUw77Jg8x92Zd0fVhHOux5IZC+UvSKWB4dyfcI
tE8C3p9bbU9VGyY5vLCAiIb4qQKBgQDLiO24GXrIkswF32YtBBMuVgLGCwU9h9HlO9mKAc2m8Cm1
jUE5IpzRjTedc9I2qiIMUTwtgnw42auSCzbUeYMURPtDqyQ7p6AjMujp9EPemcSVOK9vXYL0Ptco
xW9MC0dtV6iPkCN7gOqiZXPRKaFbWADp16p8UAIvS/a5XXk5jwKBgQCCKkpHi2EISh1uRkhxljyWC
iDCiK6JBRsMvpLbc0v5dKwP5alo1fmdR5PJaV2qvZSj5CYNpMAy1/EDNTY5OSIJU+0KFmQbyhsbm
rdLNLDL4+TcnT7c62/aH01ohYaf/VCbRhtLlBfqGoQc7+sAc8vmKkesnF7CqCEKDyF/dhrxYdQKB
gC0iZzzNAapayz1+JcVTwwEid6j9JqNXbBc+Z2YwMi+T0Fv/P/hwkX/ypeOXnIUcw0Ih/YtGBVAC
DQbsz7LcYlHqXiHKYNWNvXgwwO+oiChjxvEkSdsTTIfnK4VSCvU9BxDbQHjdiNDJbL6oar92UN7V
rBYvChJZF7LvUH4YmVpHAoGAbZ2X7XvoeEO+uZ58/BGKOIGHByHBDiXtzMhdJr15HTYjxK7OgTZm
gK+8zp4L9IbvLGDMJO8vft32XPEWuvI8twCzFH+CsWLQADZMZKSsBasOZ/h1FwhdMgCMcY+Qlzd4
JZKjTSu3i7vhvx6RzdSedXEMNTZWN4qlIx3kR5aHcukCgYA9T+Zrvm1F0seQPbLknn7EqhXIjBaT
P8TTvW/6bdPi23ExzxZn7KOdrfclYRph1LHMpAONv/x2xALIf91UB+v5ohy1oDoasL0gij1houRe
2ERKKdwz0ZL9SWq6VTdhr/5G994CK72fy5WhyERbDjUIdHaK3M849JJuf8cSrvSb4g==
-----END RSA PRIVATE KEY-----</keyMaterial>
</CreateKeyPairResponse>
```

# Related Operations

- RunInstances (p. 190)
- DescribeKeyPairs (p. 93)
- DeleteKeyPair (p. 46)

# 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, go to Using Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| GroupName | A name for the placement group.<br>Type: string<br>Default: None | Yes |
| Strategy | The placement group strategy.<br>Type: string<br>Valid Values: `cluster` | Yes |

## Response Elements

The elements in the following table come wrapped in a `CreatePlacementGroupResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">
```

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

# Related Operations

# CreateSecurityGroup

## Description

Creates a new security group. Group names must be unique per account.

Every instance is launched in a security group. If no security group is specified during launch, the instances are launched in the default security group. Instances within the same security group have unrestricted network access to each other. Instances will reject network access attempts from other instances in a different security group. As the owner of instances you can grant or revoke specific permissions using the `AuthorizeSecurityGroupIngress` and `RevokeSecurityGroupIngress` operations.

For more information about security groups, go to Security Groups in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *GroupName* | Name of the security group.<br>Type: String<br>Default: None<br>Constraints: Accepts alphanumeric characters, spaces, dashes, and underscores. | Yes |
| *GroupDescription* | Description of the group. This is informational only.<br>Type: String<br>Default: None<br>Constraints: Accepts alphanumeric characters, spaces, dashes, and underscores. | Yes |

## Response Elements

The elements in the following table come wrapped in a `CreateSecurityGroupResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## 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/2010-11-15/">

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

## Related Operations

- RunInstances (p. 190)
- DescribeSecurityGroups (p. 110)
- AuthorizeSecurityGroupIngress (p. 15)
- RevokeSecurityGroupIngress (p. 187)
- DeleteSecurityGroup (p. 50)

# CreateSnapshot

## Description

Creates a snapshot of an Amazon EBS volume and stores it in Amazon S3. You can use snapshots for backups, to make identical copies of instance devices, and to save data before shutting down an instance. For more information about Amazon EBS, go to the Amazon Elastic Compute Cloud User Guide.

When taking a snapshot of a file system, we recommend unmounting it first. This ensures the file system metadata is in a consistent state, that the 'mounted indicator' is cleared, and that all applications using that file system are stopped and in a consistent state. Some file systems, such as xfs, can freeze and unfreeze activity so a snapshot can be made without unmounting.

For Linux/UNIX, enter the following command from the command line to unmount the volume.

```
umount -d device_name
```

For example:

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

For Windows, open Disk Management, right-click the volume to unmount, and select Change Drive Letter and Path. Then, select the mount point to remove and click Remove.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *VolumeId* | The ID of the Amazon EBS volume of which to take a snapshot.<br>Type: String<br>Default: None | Yes |
| *Description* | Description of the Amazon EBS snapshot.<br>Type: String<br>Default: None<br>Constraints: Up to 255 characters | No |

## Response Elements

The elements in the following table come wrapped in a CreateSnapshotResponse structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| snapshotId | The ID of the snapshot.<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| volumeId | The ID of the volume.<br>Type: xsd:string |
| status | Snapshot state<br>Type: xsd:string<br>Valid Values: pending \| completed \| error |
| startTime | Time stamp when the snapshot was initiated.<br>Type: xsd:dateTime |
| progress | The progress of the snapshot, in percentage.<br>Type: xsd:string |
| ownerId | The AWS account ID of the Amazon EBS snapshot owner.<br>Type: xsd:string |
| volumeSize | The size of the volume, in GiB.<br>Type: xsd:string |
| description | Description of the snapshot.<br>Type: xsd:string |

# Examples

## Example Request

This example creates a snapshot of volume vol-4d826724.

```
https://ec2.amazonaws.com/?Action=CreateSnapshot
&VolumeId=vol-4d826724
&Description=Daily+Backup
&AUTHPARAMS
```

## Example Response

```
<CreateSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotId>snap-78a54011</snapshotId>
  <volumeId>vol-4d826724</volumeId>
  <status>pending</status>
  <startTime>2008-05-07T12:51:50.000Z</startTime>
  <progress>60%</progress>
  <ownerId>213457642086</ownerId>
  <volumeSize>10</volumeSize>
  <description>Daily Backup</description>
</CreateSnapshotResponse>
```

# Related Operations

- DeleteSnapshot (p. 52)
- DescribeSnapshots (p. 116)

# 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, go to Spot Instances in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *Bucket* | The Amazon S3 bucket in which to store the Spot Instance datafeed. <br> Type: String <br> Default: None <br> Constraints: Must be a valid bucket associated with your account. | Yes |
| *Prefix* | Prefix that is prepended to datafeed files. <br> Type: String <br> Default: None | No |

## Response Elements

The elements in the following table come wrapped in a `CreateSpotDatafeedSubscriptionResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request. <br> Type: xsd:string |
| spotDatafeedSubscription | Datafeed subscription. <br> Type: SpotDatafeedSubscriptionType (p. 246) |

## Examples

### Example Request

This example creates the data feed for the account.

```
https://ec2.amazonaws.com/?Action=CreateSpotDatafeedSubscription
&Bucket=my-bucket
&AUTHPARAMS
```

# Example Response

```
<CreateSpotDatafeedSubscriptionResponse xmlns="http://ec2.amazonaws.com/doc/2010-
11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <spotDatafeedSubscription>
        <ownerId>254933287430</ownerId>
        <bucket>my-bucket</bucket>
        <prefix/>
        <state>Active</state>
    </spotDatafeedSubscription>
</CreateSpotDatafeedSubscriptionResponse>
```

# Related Operations

- DeleteSpotDatafeedSubscription (p. 54)
- DescribeSpotDatafeedSubscription (p. 121)

# CreateTags

## Description

Adds or overwrites one or more tags for the specified 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, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ResourceId.n* | ID of a resource to tag. For example, `ami-1a2b3c4d`. You can specify multiple resources to assign the tags to.<br>Type: String<br>Default: None | Yes |
| *Tag.n.Key* | Key for a tag.<br>Type: String<br>Default: None<br>Constraints: Tag keys are case sensitive and accept a maximum of 128 Unicode characters. | Yes |
| *Tag.n.Value* | Value for a tag. If you don't want the tag to have a value, specify the parameter with no value, and we will set the value to an empty string.<br>Type: String<br>Default: None<br>Constraints: Tag values are case sensitive and accept a maximum of 256 Unicode characters. | Yes |

## Response Elements

The elements in the following table come wrapped in a `CreateTagsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">
  <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
  <return>true</return>
</CreateTagsResponse>
```

# Related Operations

- DescribeTags (p. 131)
- DeleteTags (p. 55)

# CreateVolume

## Description

Creates a new Amazon EBS volume that any Amazon EC2 instance in the same Availability Zone can attach to. For more information about Amazon EBS, go to the Amazon Elastic Compute Cloud User Guide.

> 📋 **Note**
>
> You must specify an Availability Zone when creating a volume. The volume and the instance to which it attaches must be in the same Availability Zone.

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *Size* | The size of the volume, in GiBs.<br>Type: String<br>Valid Values: `1 -1024`<br>Default: If you're creating a volume from a snapshot and don't specify a size, the default is the snapshot size.<br>Condition: Required if you're not creating a volume from a snapshot. | Conditional |
| *SnapshotId* | The snapshot from which to create the new volume.<br>Type: String<br>Default: None<br>Condition: Required if you are creating a volume from a snapshot. | Conditional |
| *AvailabilityZone* | The Availability Zone in which to create the new volume.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `CreateVolumeResponse` structure.

| Name | Description |
|---|---|
| requestId | The ID of the request.<br>Type: xsd:string |
| volumeId | The ID of the volume.<br>Type: xsd:string |
| size | The size of the volume, in GiBs.<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| snapshotId | Snapshot from which the volume was created, if applicable. Type: xsd:string |
| availabilityZone | Availability Zone in which the volume was created. Type: xsd:string |
| status | Volume state. Type: xsd:string Valid Values: `creating` \| `available` \| `in-use` \| `deleting` \| `deleted` \| `error` |
| createTime | Time stamp when volume creation was initiated. Type: xsd:dateTime |

# 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-4d826724</volumeId>
  <size>80</size>
  <snapshotId/>
  <availabilityZone>us-east-1a</availabilityZone>
  <status>creating</status>
  <createTime>2008-05-07T11:51:50.000Z</createTime>
</CreateVolumeResponse>
```

# Related Operations

- DeleteVolume (p. 58)
- DescribeVolumes (p. 136)
- AttachVolume (p. 13)
- DetachVolume (p. 140)
- DescribeAvailabilityZones (p. 64)

# DeleteKeyPair

## Description

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

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *KeyName* | Name of the key pair to delete.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeleteKeyPairResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteKeyPairResponse>
```

## Related Operations

- DescribeKeyPairs (p. 93)
- ImportKeyPair (p. 152)

# 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, go to Using Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| GroupName | The name of the placement group to delete.<br>Type: string<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeletePlacementGroupResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">

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

# Related Operations

# DeleteSecurityGroup

## Description

Deletes a security group that you own.

> **Note**
>
> If you attempt to delete a security group that contains instances, a fault is returned.
>
> If you attempt to delete a security group that is referenced by another security group, a fault is returned. For example, if security group B has a rule that allows access from security group A, security group A cannot be deleted until the allow rule is removed.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *GroupName* | Name of the security group to delete.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeleteSecurityGroupResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example deletes the `websrv` security group.

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

# Example Response

```
<DeleteSecurityGroupResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">

  <return>true</return>
</DeleteSecurityGroupResponse>
```

# Related Operations

- CreateSecurityGroup (p. 35)
- DescribeSecurityGroups (p. 110)
- AuthorizeSecurityGroupIngress (p. 15)
- RevokeSecurityGroupIngress (p. 187)

# DeleteSnapshot

## Description

Deletes a snapshot of an Amazon EBS volume that you own.

> **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

| Name | Description | Required |
|------|-------------|----------|
| *SnapshotId* | The ID of the Amazon EBS snapshot to delete.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeleteSnapshotResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example deletes snapshot `snap-78a54011`.

```
https://ec2.amazonaws.com/?Action=DeleteSnapshot
&SnapshotId.1=snap-78a54011
&AUTHPARAMS
```

# Example Response

```
<DeleteSnapshotResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeleteSnapshotResponse>
```

# Related Operations

- CreateSnapshot (p. 37)
- DescribeSnapshots (p. 116)

# DeleteSpotDatafeedSubscription

## Description

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

## Request Parameters

The `DeleteSpotDatafeedSubscription` operation does not have any request parameters.

## Response Elements

The elements in the following table come wrapped in a `DeleteSpotDatafeedSubscriptionResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-
11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <return>true</return>
</DeleteSpotDatafeedSubscriptionResponse>
```

## Related Operations

- CreateSpotDatafeedSubscription (p. 40)
- DescribeSpotDatafeedSubscription (p. 121)

# 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, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ResourceId.n* | ID of the resource. For example, `ami-1a2b3c4d`. You can specify more than one resource ID.<br>Type: String<br>Default: None | Yes |
| *Tag.n.Key* | The tag's key. You can specify more than one tag to delete.<br>Type: String<br>Default: None | Yes |
| *Tag.n.Value* | The tag's value.<br>Type: String<br>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. | No |

## Response Elements

The elements in the following table come wrapped in a `DeleteTagsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">
    <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/2010-11-15/">
    <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 Operations

# DeleteVolume

## Description

Deletes an Amazon EBS volume that you own. The volume must be in the `available` state (not attached to an instance). For more information about Amazon EBS, go to 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

| Name | Description | Required |
| --- | --- | --- |
| *VolumeId* | The ID of the volume to delete.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeleteVolumeResponse` structure.

| Name | Description |
| --- | --- |
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example deletes volume `vol-4282672b`.

```
https://ec2.amazonaws.com/?Action=DeleteVolume
&VolumeId=vol-4282672b
&AUTHPARAMS
```

### Example Response

```
<DeleteVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
   <return>true</return>
</DeleteVolumeResponse>
```

# Related Operations

- CreateVolume (p. 44)
- DescribeVolumes (p. 136)
- AttachVolume (p. 13)
- DetachVolume (p. 140)

# 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

| Name | Description | Required |
|------|-------------|----------|
| *ImageId* | ID of the AMI to deregister.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DeregisterImageResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</DeregisterImageResponse>
```

# Related Operations

# DescribeAddresses

## Description

Lists elastic IP addresses assigned to your account or provides information about a specific address.

You can filter the results to return information only about elastic IP addresses that match criteria you specify. For example, you could get information only about addresses tagged with a certain value. You can specify multiple values for a filter. An address must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the address is a particular value, and is tagged with a certain value). The result includes information for an address 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `instance-id` | Instance the address is associated with (if any).<br>Type: String |
| `public-ip` | The elastic IP address.<br>Type: String |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *PublicIp.n* | One or more Elastic IP addresses.<br>Type: String<br>Default: None | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

## Response Elements

The elements in the following table come wrapped in a `DescribeAddressesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `addressesSet` | A list of IP addresses. Each IP address's information is wrapped in an `item` element.<br>Type: DescribeAddressesResponseItemType (p. 214) |

# Examples

## Example Request

This example describes elastic IP addresses assigned to the account. Amazon EC2 returns 67.202.55.255, which is assigned to instance i-f15ebb98, and 67.202.55.233, which is not assigned to an instance.

```
https://ec2.amazonaws.com/?Action=DescribeAddresses
&PublicIp.1=67.202.55.255
&PublicIp.2=67.202.55.233
&AUTHPARAMS
```

## Example Response

```
<DescribeAddressesResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <addressesSet>
     <item>
        <publicIp>67.202.55.255</publicIp>
        <instanceId>i-f15ebb98</instanceId>
     </item>
     <item>
        <publicIp>67.202.55.233</publicIp>
        <instanceId/>
     </item>
  </addressesSet>
</DescribeAddressesResponse>
```

# Related Operations

- AllocateAddress (p. 10)
- ReleaseAddress (p. 174)
- AssociateAddress (p. 11)
- DisassociateAddress (p. 142)

# DescribeAvailabilityZones

## Description

Displays 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.

You can filter the results to return information only about zones that match criteria you specify. For example, you could filter the results to return only the zones whose state is `available`. You can specify multiple filters (e.g., the zone is in a particular Region, and the state is `available`). The result includes information for a particular zone 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `message` | Message giving information about the Availability Zone. <br> Type: String |
| `region-name` | Region the Availability Zone is in (e.g., us-east-1). <br> Type: String |
| `state` | State of the Availability Zone <br> Type: String <br> Valid Values: `available` |
| `zone-name` | Name of the zone. <br> Type: String |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *ZoneName.n* | One or more Availability Zones. <br> Type: String <br> Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeAvailabilityZonesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `availabilityZoneInfo` | A list of Availability Zones. Each zone's information is wrapped in an `item` element.<br>Type: AvailabilityZoneItemType (p. 207) |

# 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/2010-11-
15/">
  <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 Operations

- RunInstances (p. 190)
- DescribeRegions (p. 99)

# DescribeBundleTasks

## Description

Describes current bundling tasks for Amazon S3-backed Windows instances.

> **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.

You can filter the results to return information only about tasks that match criteria you specify. For example, you could filter the results to return only the tasks whose state is `complete`. You can specify multiple values for a filter. A bundle task must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the bundle is stored in a particular Amazon S3 bucket and the state is `complete`). The result includes information for a particular bundle task 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| bundle-id | ID of the bundle task.<br>Type: String |
| error-code | If the task failed, the error code returned.<br>Type: String |
| error-message | If the task failed, the error message returned.<br>Type: String |
| instance-id | ID of the instance that was bundled.<br>Type: String |
| progress | Level of task completion, in percent (e.g., 20%).<br>Type: String |
| s3-bucket | Amazon S3 bucket where the AMI will be stored.<br>Type: String |
| s3-prefix | Beginning of the AMI name.<br>Type: String |
| start-time | Time the task started, e.g., 2008-09-15T17:15:20.000Z.<br>Type: xsd:dateTime |

| Filter Name | Description |
|---|---|
| `state` | State of the task.<br>Type: String<br>Valid Values: `pending` \| `waiting-for-shutdown` \| `bundling` \| `storing` \| `cancelling` \| `complete` \| `failed` |
| `update-time` | Time of the most recent update for the task, e.g., 2008-09-15T17:15:20.000Z.<br>Type: xsd:dateTime |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *BundleId.n* | One or more bundle task IDs.<br>Type: String<br>Default: If no ID is specified, all bundle tasks are described. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeBundleTasksResponse` structure.

| Name | Description |
|---|---|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `bundleInstanceTasksSet` | A list of bundle tasks. Each task's information is wrapped in an `item` element.<br>Type: BundleInstanceTaskType (p. 211) |

# 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/2010-11-15/">

  <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>mybucket</bucket>
            <prefix>winami</prefix>
          </S3>
        </storage>
        <progress>20%</progress>
    </item>
  <bundleInstanceTasksSet>
</DescribeBundleTasksResponse>
```

# Example Request

This example filters the results to display only bundle tasks whose state is either `complete` or `failed`, and in addition are targeted for the Amazon S3 bucket called `mybucket`.

```
https://ec2.amazonaws.com/?Action=DescribeBundleTasks
&Filter.1.Name=s3-bucket
&Filter.1.Value.1=mybucket
&Filter.2.Name=state
&Filter.2.Name.1=complete
&Filter.2.Name.2=failed
&AUTHPARAMS
```

# Related Operations

- BundleInstance (p. 18)
- CancelBundleTask (p. 21)

# DescribeConversionTasks

## Description

Describes your conversion tasks. For more information, go to Importing Your Virtual Machines and Volumes into Amazon EC2 in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ConversionTaskId.n* | One or more conversion task IDs.<br>Type: String | No |

## Response Elements

The elements in the following table come wrapped in a `DescribeConversionTasksResponse` structure.

| Name | Description |
|------|-------------|
| `conversionTasks` | A list of conversion tasks. Each task's information is wrapped in an `item` element.<br>Type: ConversionTaskType (p. 213) |

## 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/2010-11-
15/">
  <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/MyImportBucket/a3a5e1b6-590d-43cc-
97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAc
cessKeyId=AKIAIR2I45FHYEXAMPLE&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 Operations

# DescribeImageAttribute

## Description

Returns information about an attribute of an AMI. You can get information about only one attribute per call. 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 code associated with the AMI (if any)
- **blockDeviceMapping—**Block device mapping of the AMI

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ImageId* | The AMI ID.<br>Type: String<br>Default: None | Yes |
| *Attribute* | The AMI attribute to get.<br>Type: String<br>Default: None<br>Valid Values: `description` \| `kernel` \| `ramdisk` \| `launchPermission` \| `productCodes` \| `blockDeviceMapping` | Yes |

## Response Elements

The elements in the following table come wrapped in a `DescribeImageAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `imageId` | The ID of the AMI.<br>Type: xsd:string |
| `launchPermission` | A list of launch permissions. Each launch permission's information is wrapped in an `item` element.<br>Type: LaunchPermissionItemType (p. 233) |
| `productCodes` | A list of product codes. Each product code's information is wrapped in an `item` element.<br>Type: ProductCodeItemType (p. 239) |

| Name | Description |
|------|-------------|
| kernel | Kernel ID, wrapped in a `value` element.<br>Type: xsd:string |
| ramdisk | RAM disk ID, wrapped in a `value` element.<br>Type: xsd:string |
| description | User-created description of the AMI, wrapped in a `value` element.<br>Type: xsd:string |
| blockDeviceMapping | List of block device mappings. Each mapping's information is wrapped in an `item` element.<br>Type: BlockDeviceMappingItemType (p. 208) |

# 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/2010-11-
15/">
  <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/2010-11-
15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <imageId>ami-2bb65342</imageId>
    <productCodes>
        <item>
            <productCode>774F4FF8</productCode>
        </item>
    </productCodes>
</DescribeImageAttributeResponse>
```

# Related Operations

- DescribeImages (p. 75)
- ModifyImageAttribute (p. 157)
- ResetImageAttribute (p. 181)

# DescribeImages

## Description

Returns information about AMIs, AKIs, and ARIs. 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:

| Launch Permission | Description |
|---|---|
| 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, a fault 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.

If you specify a list of executable users, 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.

You can filter the results to return information only about images that match criteria you specify. For example, you could get information only about images that use a certain kernel. You can specify multiple values for a filter (e.g., the image uses either kernel aki-1a2b3c4d or kernel aki-9b8c7d6f). An image must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the image uses a certain kernel, and uses an Amazon EBS volume as the root device). The result includes information for a particular image 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `architecture` | Image architecture.<br>Type: String<br>Valid Values: `i386` \| `x86_64` |
| `block-device-mapping.delete-on-termination` | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: Boolean |
| `block-device-mapping.device-name` | Device name (e.g., /dev/sdh) for an Amazon EBS volume mapped to the image.<br>Type: String |
| `block-device-mapping.snapshot-id` | Snapshot ID for an Amazon EBS volume mapped to the image.<br>Type: String |
| `block-device-mapping.volume-size` | Volume size for an Amazon EBS volume mapped to the image.<br>Type: Integer |
| `description` | Description of the AMI (provided during image creation).<br>Type: String |
| `hypervisor` | Hypervisor type of the image.<br>Type: String<br>Valid Values: `ovm` \| `xen` |
| `image-id` | ID of the image.<br>Type: String |
| `image-type` | Type of image.<br>Type: String<br>Valid Values: `machine` \| `kernel` \| `ramdisk` |
| `is-public` | Whether the image is public.<br>Type: Boolean |
| `kernel-id` | Kernel ID.<br>Type: String |
| `manifest-location` | Location of the image manifest.<br>Type: String |
| `name` | Name of the AMI (provided during image creation).<br>Type: String |
| `owner-alias` | AWS account alias (e.g., `amazon` or `self`) or AWS account ID that owns the AMI.<br>Type: String |

| Filter Name | Description |
|---|---|
| `owner-id` | AWS account ID of the image owner.<br>Type: String |
| `platform` | Use `windows` if you have Windows based AMIs; otherwise leave blank.<br>Type: String<br>Valid Value: `windows` |
| `product-code` | Product code associated with the AMI.<br>Type: String |
| `ramdisk-id` | RAM disk ID.<br>Type: String |
| `root-device-name` | Root device name of the AMI (e.g., /dev/sda1).<br>Type: String |
| `root-device-type` | Root device type the AMI uses.<br>Type: String<br>Valid Values: `ebs` \| `instance-store` |
| `state` | State of the image.<br>Type: String<br>Valid Values: `available` \| `pending` \| `failed` |
| `state-reason-code` | Reason code for the state change.<br>Type: String |
| `state-reason-message` | Message for the state change.<br>Type: String |
| `tag-key` | 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=X, see the `tag:`*`key`* filter later in this table.<br>For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String |
| `tag-value` | Value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.<br>Type: String |

| Filter Name | Description |
|---|---|
| tag:*key* | Filters the results based on a specific tag/value combination.<br><br>Example: To list just the resources assigned tag Purpose=X, then specify:<br><br>`Filter.1.Name=tag:Purpose`<br><br>`Filter.1.Value.1=X`<br><br>Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify:<br><br>`Filter.1.Name=tag:Purpose`<br><br>`Filter.1.Value.1=X`<br><br>`Filter.1.Value.2=Y` |
| virtualization-type | Virtualization type of the image.<br>Type: String<br>Valid Values: `paravirtual` \| `hvm` |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *ExecutableBy.n* | Returns 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.<br>Type: String<br>Default: None | No |
| *ImageId.n* | One or more AMI IDs.<br>Type: String<br>Default: Returns all AMIs, or only those otherwise specified. | No |
| *Owner.n* | Returns AMIs owned by the specified owner. Multiple owner values can be specified. The IDs `amazon` and `self` can be used to include AMIs owned by Amazon or AMIs owned by you, respectively.<br>Type: String<br>Default: None | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeImagesResponse` structure.

| Name | Description |
| --- | --- |
| requestId | The ID of the request.<br>Type: xsd:string |
| imagesSet | A list of images. Each image's information is wrapped in an `item` element.<br>Type: DescribeImagesResponseItemType (p. 215) |

# 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-be3adfd7</imageId>
      <imageLocation>amazon/getting-started</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>206029621532</imageOwnerId>
      <isPublic>true</isPublic>
      <architecture>i386</architecture>
      <imageType>machine</imageType>
      <kernelId>aki-d3376696</kernelId>
      <ramdiskId>ari-e73766a2</ramdiskId>
      <imageOwnerAlias>amazon</imageOwnerAlias>
      <name>getting-started</name>
      <description>Fedora 8 v1.11 i386 lvm-rootVG-rootFS ext3 ec2pnp enabled</de
scription>
      <rootDeviceType>ebs</rootDeviceType>
      <rootDeviceName>/dev/sda</rootDeviceName>
      <blockDeviceMapping>
        <item>
          <deviceName>/dev/sda</deviceName>
          <ebs>
            <snapshotId>snap-32885f5a</snapshotId>
            <volumeSize>15</volumeSize>
            <deleteOnTermination>false</deleteOnTermination>
          </ebs>
```

```
            </item>
        </blockDeviceMapping>
        <virtualizationType>paravirtual</virtualizationType>
        <tagSet/>
        <hypervisor>xen</hypervisor>
    </item>
  </imagesSet>
</DescribeImagesResponse>
```

# Example Request

This example filters the results to display 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imagesSet>
    <item>
      <imageId>ami-dd20c3b4</imageId>
      <imageLocation>ec2-public-windows-images/Server2003r2-x86_64-Win-
v1.07.manifest.xml</imageLocation>
      <imageState>available</imageState>
      <imageOwnerId>206029621532</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>
```

# Related Operations

- DescribeInstances (p. 84)
- DescribeImageAttribute (p. 72)

# DescribeInstanceAttribute

## Description

Returns information about an attribute of an instance. You can get information about only one attribute per call. These are the available attributes:

- **instanceType—**Instance type (e.g., m1.small)
- **kernel—**ID of the kernel associated with the instance
- **ramdisk—**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—**Root device name of the instance (e.g., /dev/sda1, or xvda)
- **blockDeviceMapping—**Block device mapping of the instance

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | The instance ID.<br>Type: String<br>Default: None | Yes |
| *Attribute* | The instance attribute to get.<br>Type: String<br>Default: None<br>Valid Values: `instanceType` \| `kernel` \| `ramdisk` \| `userData` \| `disableApiTermination` \| `instanceInitiatedShutdownBehavior` \| `rootDeviceName` \| `blockDeviceMapping` | Yes |

## Response Elements

The elements in the following table come wrapped in a `DescribeInstanceAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `instanceId` | The ID of the instance.<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| `instanceType` | The instance type (e.g., m1.small), wrapped in a `value` element.<br>Type: xsd:string |
| `kernel` | The kernel ID, wrapped in a `value` element.<br>Type: xsd:string |
| `ramdisk` | The RAM disk ID, wrapped in a `value` element.<br>Type: xsd:string |
| `userData` | MIME, Base64-encoded user data, wrapped in a `value` element.<br>Type: xsd:string |
| `disableApiTermination` | Boolean indicating 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.<br>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.<br>Type: xsd:string<br>Valid Values: `stop` \| `terminate` |
| `rootDeviceName` | The root device name (e.g., /dev/sda1), wrapped in a `value` element.<br>Type: xsd:string |
| `blockDeviceMapping` | List of block device mappings for the instance. Each mapping's information is wrapped in an `item` element.<br>Type: InstanceBlockDeviceMappingResponseItemType (p. 228) |

# 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/2010-11-
15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
  <instanceId>i-10a64379</instanceId>
  <kernel>
    <value>aki-f70657b2</value>
  </kernel>
</DescribeInstanceAttributeResponse>
```

# Related Operations

- DescribeInstances (p. 84)
- ModifyInstanceAttribute (p. 160)
- ResetInstanceAttribute (p. 183)

# DescribeInstances

## Description

Returns information about instances that you own.

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, a fault is returned. If you specify an instance that you do not own, it will not be included in the returned results.

Recently terminated instances might appear in the returned results. This interval is usually less than one hour.

You can filter the results to return information only about instances that match criteria you specify. For example, you could get information about only instances launched with a certain key pair. You can specify multiple values for a filter (e.g., the instance was launched with either key pair A or key pair B). An instance must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the instance was launched with a certain key pair and uses an Amazon EBS volume as the root device). An instance must match *all* the filters for it to be included in the results. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| architecture | Instance architecture.<br>Type: String<br>Valid Values: `i386` \| `x86_64` |
| availability-zone | Instance's Availability Zone.<br>Type: String |
| block-device-mapping.attach-time | Attach time for an Amazon EBS volume mapped to the instance, e.g., 2010-09-15T17:15:20.000Z<br>Type: xsd:dateTime |
| block-device-mapping.delete-on-termination | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: Boolean |
| block-device-mapping.device-name | Device name (e.g., /dev/sdh) for an Amazon EBS volume mapped to the instance.<br>Type: String |
| block-device-mapping.status | Status for an Amazon EBS volume mapped to the instance.<br>Type: String<br>Valid Values: `attaching` \| `attached` \| `detaching` \| `detached` |

| Filter Name | Description |
|---|---|
| `block-device-mapping.volume-id` | ID for an Amazon EBS volume mapped to the instance.<br>Type: String |
| `client-token` | Idempotency token you provided when you launched the instance.<br>Type: String |
| `dns-name` | Public DNS name of the instance.<br>Type: String |
| `group-id` | A security group the instance is in.<br>Type: String |
| `hypervisor` | Hypervisor type of the instance.<br>Type: String<br>Valid Values: `ovm` \| `xen` |
| `image-id` | ID of the image used to launch the instance.<br>Type: String |
| `instance-id` | ID of the instance.<br>Type: String |
| `instance-lifecycle` | Whether this is a Spot Instance.<br>Type: String<br>Valid Values: `spot` |
| `instance-state-code` | Code identifying the instance's state. A 16-bit unsigned integer. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented<br>Type: String<br>Valid Values: `0` (pending) \| `16` (running) \| `32` (shutting-down) \| `48` (terminated) \| `64` (stopping) \| `80` (stopped) |
| `instance-state-name` | Instance's state.<br>Type: String<br>Valid Values: `pending` \| `running` \| `shutting-down` \| `terminated` \| `stopping` \| `stopped` |
| `instance-type` | Type of instance (e.g., m1.small).<br>Type: String |
| `ip-address` | Public IP address of the instance.<br>Type: String |
| `kernel-id` | Kernel ID.<br>Type: String |

| Filter Name | Description |
|---|---|
| `key-name` | Name of the key pair used when the instance was launched.<br>Type: String |
| `launch-index` | When launching multiple instances at once, this is the index for the instance in the launch group (e.g., 0, 1, 2, etc.).<br>Type: String |
| `launch-time` | Time instance was launched, e.g., 2010-08-07T11:54:42.000Z.<br>Type: xsd:dateTime |
| `monitoring-state` | Whether monitoring is enabled for the instance.<br>Type: String<br>Valid Values: `disabled` \| `enabled` |
| `owner-id` | AWS account ID of the instance owner.<br>Type: String |
| `placement-group-name` | Name of the placement group the instance is in.<br>Type: String |
| `platform` | Use `windows` if you have Windows based instances; otherwise, leave blank.<br>Type: String<br>Valid Value: `windows` |
| `private-dns-name` | Private DNS name of the instance.<br>Type: String |
| `private-ip-address` | Private IP address of the instance.<br>Type: String |
| `product-code` | Product code associated with the AMI used to launch the instance.<br>Type: String |
| `ramdisk-id` | RAM disk ID.<br>Type: String |
| `reason` | Reason for the instance's current state (e.g., shows "User Initiated [date]" when you stop or terminate the instance). Similar to the state-reason-code filter.<br>Type: String |
| `requester-id` | ID of the entity that launched the instance on your behalf (e.g., AWS Management Console, Auto Scaling, etc.)<br>Type: String |

| Filter Name | Description |
| --- | --- |
| `reservation-id` | ID of the instance's reservation.<br>Type: String |
| `root-device-name` | Root device name of the instance (e.g., /dev/sda1).<br>Type: String |
| `root-device-type` | Root device type the instance uses.<br>Type: String<br>Valid Values: `ebs` \| `instance-store` |
| `spot-instance-request-id` | ID of the Spot Instance request.<br>Type: String |
| `state-reason-code` | Reason code for the state change.<br>Type: String |
| `state-reason-message` | Message for the state change.<br>Type: String |
| `subnet-id` | ID of the subnet the instance is in (if using Amazon Virtual Private Cloud).<br>Type: String |
| `tag-key` | 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=X, see the `tag:`*`key`* filter later in this table.<br>For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String |
| `tag-value` | Value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.<br>Type: String |
| `tag:`*`key`* | Filters the results based on a specific tag/value combination.<br>Example: To list just the resources assigned tag Purpose=X, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>`Filter.1.Value.2=Y` |

| Filter Name | Description |
|---|---|
| `virtualization-type` | Virtualization type of the instance.<br>Type: String<br>Valid Values: `paravirtual` \| `hvm` |
| `vpc-id` | ID of the VPC the instance is in (if using Amazon Virtual Private Cloud).<br>Type: String |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: Returns all instances, or only those otherwise specified. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeInstancesResponse` structure.

| Name | Description |
|---|---|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `reservationSet` | A list of reservations. Each reservation's information is wrapped in an `item` element.<br>Type: ReservationInfoType (p. 241) |

# 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/2010-11-15/">
  <requestId>98e3c9a4-848c-4d6d-8e8a-b1bdEXAMPLE</requestId>
  <reservationSet>
    <item>
      <reservationId>r-b27e30d9</reservationId>
      <ownerId>999988887777</ownerId>
      <groupSet>
        <item>
          <groupId>default</groupId>
        </item>
      </groupSet>
      <instancesSet>
        <item>
          <instanceId>i-c5cd56af</instanceId>
          <imageId>ami-1a2b3c4d</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
         <privateDnsName>domU-12-31-39-10-56-34.compute-1.internal</privateDns
Name>
          <dnsName>ec2-174-129-165-232.compute-1.amazonaws.com</dnsName>
          <reason/>
          <keyName>GSG_Keypair</keyName>
          <amiLaunchIndex>0</amiLaunchIndex>
          <productCodes/>
          <instanceType>m1.small</instanceType>
          <launchTime>2010-08-17T01:15:18.000Z</launchTime>
          <placement>
            <availabilityZone>us-east-1b</availabilityZone>
            <groupName/>
          </placement>
          <kernelId>aki-94c527fd</kernelId>
          <ramdiskId>ari-96c527ff</ramdiskId>
          <monitoring>
            <state>disabled</state>
          </monitoring>
          <privateIpAddress>10.198.85.190</privateIpAddress>
          <ipAddress>174.129.165.232</ipAddress>
          <architecture>i386</architecture>
          <rootDeviceType>ebs</rootDeviceType>
          <rootDeviceName>/dev/sda1</rootDeviceName>
          <blockDeviceMapping>
            <item>
              <deviceName>/dev/sda1</deviceName>
              <ebs>
                <volumeId>vol-a082c1c9</volumeId>
                <status>attached</status>
                <attachTime>2010-08-17T01:15:21.000Z</attachTime>
                <deleteOnTermination>false</deleteOnTermination>
              </ebs>
```

```
                </item>
             </blockDeviceMapping>
             <instanceLifecycle>spot</instanceLifecycle>
             <spotInstanceRequestId>sir-7a688402</spotInstanceRequestId>
             <virtualizationType>paravirtual</virtualizationType>
             <clientToken/>
             <tagSet/>
             <hypervisor>xen</hypervisor>
         </item>
       </instancesSet>
       <requesterId>854251627541</requesterId>
    </item>
    <item>
       <reservationId>r-b67e30dd</reservationId>
       <ownerId>999988887777</ownerId>
       <groupSet>
          <item>
             <groupId>default</groupId>
          </item>
       </groupSet>
       <instancesSet>
          <item>
             <instanceId>i-d9cd56b3</instanceId>
             <imageId>ami-1a2b3c4d</imageId>
             <instanceState>
                <code>16</code>
                <name>running</name>
             </instanceState>
          <privateDnsName>domU-12-31-39-10-54-E5.compute-1.internal</privateDns
Name>
             <dnsName>ec2-184-73-58-78.compute-1.amazonaws.com</dnsName>
             <reason/>
             <keyName>GSG_Keypair</keyName>
             <amiLaunchIndex>0</amiLaunchIndex>
             <productCodes/>
             <instanceType>m1.large</instanceType>
             <launchTime>2010-08-17T01:15:19.000Z</launchTime>
             <placement>
                <availabilityZone>us-east-1b</availabilityZone>
                <groupName/>
             </placement>
             <kernelId>aki-94c527fd</kernelId>
             <ramdiskId>ari-96c527ff</ramdiskId>
             <monitoring>
                <state>disabled</state>
             </monitoring>
             <privateIpAddress>10.198.87.19</privateIpAddress>
             <ipAddress>184.73.58.78</ipAddress>
             <architecture>i386</architecture>
             <rootDeviceType>ebs</rootDeviceType>
             <rootDeviceName>/dev/sda1</rootDeviceName>
             <blockDeviceMapping>
                <item>
                   <deviceName>/dev/sda1</deviceName>
                   <ebs>
                      <volumeId>vol-a282c1cb</volumeId>
                      <status>attached</status>
                      <attachTime>2010-08-17T01:15:23.000Z</attachTime>
```

```
                    <deleteOnTermination>false</deleteOnTermination>
                </ebs>
              </item>
            </blockDeviceMapping>
            <instanceLifecycle>spot</instanceLifecycle>
            <spotInstanceRequestId>sir-55a3aa02</spotInstanceRequestId>
            <virtualizationType>paravirtual</virtualizationType>
            <clientToken/>
            <tagSet/>
            <hypervisor>xen</hypervisor>
          </item>
        </instancesSet>
        <requesterId>854251627541</requesterId>
      </item>
    </reservationSet>
</DescribeInstancesResponse>
```

# Example Request

This example filters the results to display 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservationSet>
    <item>
      <reservationId>r-bc7e30d7</reservationId>
      <ownerId>999988887777</ownerId>
      <groupSet>
        <item>
          <groupId>default</groupId>
        </item>
      </groupSet>
      <instancesSet>
        <item>
          <instanceId>i-c7cd56ad</instanceId>
          <imageId>ami-b232d0db</imageId>
          <instanceState>
            <code>16</code>
            <name>running</name>
          </instanceState>
         <privateDnsName>domU-12-31-39-01-76-06.compute-1.internal</privateDns
Name>
```

```
                <dnsName>ec2-72-44-52-124.compute-1.amazonaws.com</dnsName>
                <keyName>GSG_Keypair</keyName>
                <amiLaunchIndex>0</amiLaunchIndex>
                <productCodes/>
                <instanceType>m1.small</instanceType>
                <launchTime>2010-08-17T01:15:16.000Z</launchTime>
                <placement>
                    <availabilityZone>us-east-1b</availabilityZone>
                </placement>
                <kernelId>aki-94c527fd</kernelId>
                <ramdiskId>ari-96c527ff</ramdiskId>
                <monitoring>
                    <state>disabled</state>
                </monitoring>
                <privateIpAddress>10.255.121.240</privateIpAddress>
                <ipAddress>72.44.52.124</ipAddress>
                <architecture>i386</architecture>
                <rootDeviceType>ebs</rootDeviceType>
                <rootDeviceName>/dev/sda1</rootDeviceName>
                <blockDeviceMapping>
                    <item>
                        <deviceName>/dev/sda1</deviceName>
                        <ebs>
                            <volumeId>vol-a482c1cd</volumeId>
                            <status>attached</status>
                            <attachTime>2010-08-17T01:15:26.000Z</attachTime>
                            <deleteOnTermination>true</deleteOnTermination>
                        </ebs>
                    </item>
                </blockDeviceMapping/>
                <virtualizationType>paravirtual</virtualizationType>
                <clientToken/>
                <tagSet/>
                <hypervisor>xen</hypervisor>
            </item>
        </instancesSet>
    </item>
  </reservationSet>
</DescribeInstancesResponse>
```

# Related Operations

- RunInstances (p. 190)
- StopInstances (p. 199)
- StartInstances (p. 197)
- TerminateInstances (p. 201)

# DescribeKeyPairs

## Description

Returns information about key pairs available to you. If you specify key pairs, information about those key pairs is returned. Otherwise, information for all your key pairs is returned.

You can filter the results to return information only about key pairs that match criteria you specify. For example, you could filter the results to return only the key pairs whose names include the string `Dave`. You can specify multiple values for a filter. A key pair must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the key pair name includes the string `Dave`, and the fingerprint equals a certain value). The result includes information for a particular key pair 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `fingerprint` | Fingerprint of the key pair.<br>Type: String |
| `key-name` | Name of the key pair.<br>Type: String |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *KeyName.n* | One or more key pair names.<br>Type: String<br>Default: Describes all key pairs you own, or only those otherwise specified. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeKeyPairsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| keySet | List of key pairs. Each key pair's information is wrapped in an `item` element.<br>Type: DescribeKeyPairsResponseItemType (p. 217) |

# 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <keySet>
    <item>
      <keyName>gsg-keypair</keyName>
      <keyFingerprint>
        1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f
      </keyFingerprint>
    </item>
  </keySet>
</DescribeKeyPairsResponse>
```

## Example Request

This example filters the results to display 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 Operations

- CreateKeyPair (p. 31)
- ImportKeyPair (p. 152)

- DeleteKeyPair (p. 46)

# DescribePlacementGroups

## Description

Returns information about one or more placement groups in your account. For more information about placement groups and cluster instances, go to Using Cluster Instances in the *Amazon Elastic Compute Cloud User Guide*.

You can filter the results to return information only about placement groups that match criteria you specify. For example, you could filter the results to return only the groups whose state is `deleted`. You can specify multiple values for a filter. A placement group must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the group's state is `deleted` and the name includes the string `Project`). The result includes information for a particular 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| group-name | Name of the placement group.<br>Type: String |
| state | Placement group's state.<br>Type: String<br>Valid Values: `pending` \| `available` \| `deleting` \| `deleted` |
| strategy | Placement group's strategy.<br>Type: String<br>Valid Value: `cluster` |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| GroupName.n | One or more placement group names.<br>Type: string<br>Default: Describes all your placement groups, or only those otherwise specified. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribePlacementGroupsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| placementGroupSet | A list of placement groups. Each group's information is wrapped in an `item` element.<br>Type: PlacementGroupInfoType (p. 237) |

# 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/2010-11-
15/">
    <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 results to display 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
```

# Related Operations

- CreatePlacementGroup (p. 33)
- DeletePlacementGroup (p. 48)

# DescribeRegions

## Description

Describes Regions that are currently available to the account.

You can use filters with this call just as you can with other "describe" calls.

You can use wildcards with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `endpoint` | Region's endpoint (e.g., ec2.us-east-1.amazonaws.com).<br>Type: String |
| `region-name` | Name of the Region.<br>Type: String |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *RegionName.n* | One or more Region names.<br>Type: String<br>Default: Describes all Regions available to the account. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

## Response Elements

The elements in the following table come wrapped in a `DescribeRegionsResponse` structure.

| Name | Description |
|---|---|
| `requestId` | The ID of the request.<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| regionInfo | List of Regions. Each Region's information is wrapped in an `item` element.<br>Type: RegionItemType (p. 241) |

# 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/2010-11-15/">
  <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/2010-11-15/">
    <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 Operations

-
-

# DescribeReservedInstances

## Description

Describes Reserved Instances that you purchased. For more information about Reserved Instances, go to Reserving Amazon EC2 Instances in the *Amazon Elastic Compute Cloud User Guide*.

You can filter the results to return information only about Reserved Instances that match criteria you specify. For example, you could get information about only Reserved Instances in a particular Availability Zone. You can specify multiple values for a filter. A Reserved Instance must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the instance is in a particular Availability Zone and is tagged with a particular value). The result includes information for a particular instance 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `availability-zone` | Availability Zone where the Reserved Instance can be used. <br> Type: String |
| `duration` | Duration of the Reserved Instance (e.g., one year or three years), in seconds. <br> Type: xs:long <br> Valid Values: `31536000` \| `94608000` |
| `fixed-price` | Purchase price of the Reserved Instance (e.g., `9800.0`) <br> Type: xs:double |
| `instance-type` | Instance type on which the Reserved Instance can be used. <br> Type: String |
| `product-description` | Reserved Instance description. <br> Type: String <br> Valid Values: `Linux/UNIX` \| `Linux/UNIX (Amazon VPC)` \| `Windows` \| `Windows (Amazon VPC)` |
| `reserved-instances-id` | Reserved Instance's ID. <br> Type: String |
| `start` | Time the Reserved Instance purchase request was placed, e.g., 2010-08-07T11:54:42.000Z. <br> Type: xsd:dateTime |
| `state` | State of the Reserved Instance. <br> Type: String <br> Valid Values: `pending-payment` \| `active` \| `payment-failed` \| `retired` |

| Filter Name | Description |
|---|---|
| tag-key | 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=X, see the tag:*key* filter later in this table.<br><br>For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.<br><br>Type: String |
| tag-value | Value of a tag assigned to the resource. This filter is independent of the tag-key filter.<br><br>Type: String |
| tag:*key* | Filters the results based on a specific tag/value combination.<br><br>Example: To list just the resources assigned tag Purpose=X, then specify:<br><br>Filter.1.Name=tag:Purpose<br><br>Filter.1.Value.1=X<br><br>Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify:<br><br>Filter.1.Name=tag:Purpose<br><br>Filter.1.Value.1=X<br><br>Filter.1.Value.2=Y |
| usage-price | Usage price of the Reserved Instance, per hour (e.g., 0.84)<br><br>Type: xs:double |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *ReservedInstancesId.n* | One or more Reserved Instance IDs.<br>Type: String<br>Default: Describes all your Reserved Instances, or only those otherwise specified. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeReservedInstancesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `reservedInstancesSet` | A list of Reserved Instances. Each Reserved Instance's information is wrapped in an `item` element.<br>Type: DescribeReservedInstancesResponseSetItemType (p. 218) |

# 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/2010-11-
15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesSet>
        <item>
          <reservedInstancesId>4b2293b4-5813-4cc8-9ce3-1957fc1dcfc8</reservedIn
stancesId>
            <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>
            <tagSet/>
        </item>
    </reservedInstancesSet>
</DescribeReservedInstancesResponse>
```

## Example Request

This example filters the results to display only one-year, m1.small Linux/UNIX Reserved Instances. If you want Linux/UNIX Reserved Instances specifically for use with Amazon VPC, set the product descripton 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 Operations

- PurchaseReservedInstancesOffering (p. 166)
- DescribeReservedInstancesOfferings (p. 106)

# 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 (without getting insufficient capacity errors) and pay a lower usage rate for the actual time used. For more information about Reserved Instances, go to On-Demand and Reserved Instances in the *Amazon Elastic Compute Cloud User Guide*

> **Note**
>
> Our policy is to provide filters for all *describe* calls so you can limit the results to your specified criteria. Therefore, you can use filters to limit the results when describing Reserved Instances offerings, even though you can use the regular request parameters to do something similar.

For example, you could use the regular request parameters or a filter to get the offerings for a particular instance type. You can specify multiple request parameters or multiple filters (e.g., limit the results to the m2.xlarge instance type, and only for Windows instances). The result includes information for a particular offering only if it matches *all* your request parameters or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `availability-zone` | Availability Zone where the Reserved Instance can be used.<br>Type: String |
| `duration` | Duration of the Reserved Instance (e.g., one year or three years), in seconds.<br>Type: xs:long<br>Valid Values: `31536000` \| `94608000` |
| `fixed-price` | Purchase price of the Reserved Instance (e.g., `9800.0`)<br>Type: xs:double |
| `instance-type` | Instance type on which the Reserved Instance can be used.<br>Type: String |
| `product-description` | Reserved Instance description.<br>Type: String<br>Valid Values: `Linux/UNIX` \| `Linux/UNIX (Amazon VPC)` \| `Windows` \| `Windows (Amazon VPC)` |

| Filter Name | Description |
|---|---|
| `reserved-instances-offering-id` | Reserved Instances offering ID.<br>Type: String |
| `usage-price` | Usage price of the Reserved Instance, per hour (e.g., `0.84`)<br>Type: xs:double |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| `ReservedInstancesOfferingId.n` | One or more Reserved Instances offering IDs.<br>Type: String<br>Default: None | No |
| `InstanceType` | The instance type on which the Reserved Instance can be used.<br>Type: String<br>Default: None | No |
| `AvailabilityZone` | The Availability Zone in which the Reserved Instance can be used.<br>Type: String<br>Default: None | No |
| `ProductDescription` | The Reserved Instance description. Instances that include `(Amazon VPC)` in the description are for use with Amazon VPC.<br>Type: String<br>Valid Values: `Linux/UNIX` \| `Linux/UNIX (Amazon VPC)` \| `Windows` \| `Windows (Amazon VPC)`<br>Default: None | No |
| `Filter.n.Name` | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| `Filter.n.Value.m` | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeReservedInstancesOfferingsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| reservedInstancesOff eringsSet | A list of Reserved Instances offerings. Each offering's information is wrapped in an `item` element.<br>Type:<br>DescribeReservedInstancesOfferingsResponseSetItemType (p. 217) |

# Examples

## 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/2010-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesOfferingsSet>
        <item>
            <reservedInstancesOfferingId>4b2293b4-b01c-4392-98d7-
ea2629b4ad558</reservedInstancesOfferingId>
            <instanceType>m1.small</instanceType>
            <availabilityZone>us-east-1b</availabilityZone>
            <duration>94608000</duration>
            <fixedPrice>350.0</fixedPrice>
            <usagePrice>0.03</usagePrice>
            <productDescription>Linux/UNIX</productDescription>
        </item>
        ...
    </reservedInstancesOfferingsSet>
</DescribeReservedInstancesOfferingsResponse>
```

## Example Request

This example uses filters to return one-year offerings for Linux/UNIX m1.small or m1.large instances.

```
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 Operations

- PurchaseReservedInstancesOffering (p. 166)
- DescribeReservedInstances (p. 102)

# DescribeSecurityGroups

## Description

Returns information about security groups that you own.

You can filter the results to return information only about security groups that match criteria you specify. For example, you could get information about groups whose name contains a particular string. You can specify multiple values for a filter. A security group must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the group's name contains a particular string, and the group gives permission to another security group with a different string in its name). The result includes information for a particular group only if it matches *all* your filters. 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, let's say you want to get all groups that have access on port 22. And let's say 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), GroupA will not be returned in the results. It will only be returned in the results if you specify `ip-permission.from-port=20` or `ip-permission.to-port=30` (or both).

You can use wildcards with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
| --- | --- |
| `description` | Description of the security group. <br> Type: String |
| `group-name` | Name of the security group. <br> Type: String |
| `ip-permission.cidr` | CIDR range that has been granted the permission. <br> Type: String |
| `ip-permission.from-port` | Start of port range for the TCP and UDP protocols, or an ICMP type number. An ICMP type number of -1 indicates a wildcard (i.e., any ICMP type number). <br> Type: String |
| `ip-permission.group-name` | Name of security group that has been granted the permission. <br> Type: String |

| Filter Name | Description |
|---|---|
| `ip-permission.protocol` | IP protocol for the permission.<br>Type: String<br>Valid Values: `tcp` \| `udp` \| `icmp` |
| `ip-permission.to-port` | End of port range for the TCP and UDP protocols, or an ICMP code. An ICMP type number of -1 indicates a wildcard (i.e., any ICMP type number).<br>Type: String |
| `ip-permission.user-id` | ID of AWS account that has been granted the permission.<br>Type: String |
| `owner-id` | AWS account ID of the owner of the security group.<br>Type: String |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *GroupName.n* | One or more security group names.<br>Type: String<br>Default: Describes all groups you own, or only those otherwise specified. | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeSecurityGroupsResponse` structure.

| Name | Description |
|---|---|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `securityGroupInfo` | List of security groups. Each group's information is wrapped in an `item` element.<br>Type: SecurityGroupItemType (p. 245) |

# 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/2010-11-
15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <securityGroupInfo>
    <item>
      <ownerId>999988887777</ownerId>
      <groupName>WebServers</groupName>
      <groupDescription>Web Servers</groupDescription>
      <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>
    </item>
    <item>
      <ownerId>999988887777</ownerId>
      <groupName>RangedPortsBySource</groupName>
      <groupDescription>Group A</groupDescription>
      <ipPermissions>
        <item>
          <ipProtocol>tcp</ipProtocol>
          <fromPort>6000</fromPort>
          <toPort>7000</toPort>
          <groups/>
          <ipRanges/>
        </item>
      </ipPermissions>
    </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 Operations

- CreateSecurityGroup (p. 35)
- AuthorizeSecurityGroupIngress (p. 15)
- RevokeSecurityGroupIngress (p. 187)
- DeleteSecurityGroup (p. 50)

# DescribeSnapshotAttribute

## Description

Returns information about an attribute of a snapshot. You can get information about only one attribute per call. Currently the only attribute you can get describes who has permission to create a volume from the snapshot.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *SnapshotId* | The ID of the Amazon EBS snapshot.<br>Type: String<br>Default: None | Yes |
| *Attribute* | The attribute to get.<br>Type: String<br>Default: None<br>Valid Value: `createVolumePermission` | Yes |

## Response Elements

The elements in the following table come wrapped in a `DescribeSnapshotAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `snapshotId` | The ID of the Amazon EBS snapshot.<br>Type: xsd:string |
| `createVolumePermission` | List of permissions for creating volumes from the snapshot. Each permission is wrapped in an `item` element.<br>Type: CreateVolumePermissionItemType (p. 214) |

## Examples

### Example Request

This example describes permissions for the snap-78a54011 snapshot.

```
https://ec2.amazonaws.com/?Action=DescribeSnapshotAttribute
&SnapshotId=snap-78a54011
&Attribute=createVolumePermission
&AUTHPARAMS
```

# Example Response

```
<DescribeSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-
15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <snapshotId>snap-78a54011</snapshotId>
    <createVolumePermission>
      <item>
        <group>all</group>
      </item>
    </createVolumePermission>
</DescribeSnapshotAttributeResponse>
```

# Related Operations

- ModifySnapshotAttribute (p. 162)
- DescribeSnapshots (p. 116)
- ResetSnapshotAttribute (p. 185)
- CreateSnapshot (p. 37)

# DescribeSnapshots

## Description

Returns information about 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:

| Permission | Description |
|---|---|
| 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, a fault 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.

You can filter the results to return information only about snapshots that match criteria you specify. For example, you could get information about snapshots whose status is `pending`. You can specify multiple values for a filter (e.g., the snapshot's status is either `pending` or `completed`). A snapshot must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the snapshot's status is `pending`, and it is tagged with a particular value). The result includes information for a particular snapshot 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| description | Description of the snapshot.<br>Type: String |
| owner-alias | The AWS account alias (e.g., `amazon`) that owns the snapshot.<br>Type: String |
| owner-id | ID of the AWS account that owns the snapshot.<br>Type: String |
| progress | The progress of the snapshot, in percentage (e.g., `80%`).<br>Type: String |
| snapshot-id | Snapshot ID.<br>Type: String |
| start-time | Time stamp when the snapshot was initiated.<br>Type: xsd:dateTime |
| status | Status of the snapshot.<br>Type: String<br>Valid Values: `pending` \| `completed` \| `error` |
| tag-key | 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=X, see the `tag:`*`key`* filter later in this table.<br>For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String |
| tag-value | Value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.<br>Type: String |
| tag:*key* | Filters the results based on a specific tag/value combination.<br>Example: To list just the resources assigned tag Purpose=X, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>`Filter.1.Value.2=Y` |
| volume-id | ID of the volume the snapshot is for.<br>Type: String |
| volume-size | The size of the volume, in GiB (e.g., `20`).<br>Type: String |

# Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *SnapshotId.n* | One or more snapshot IDs.<br>Type: String<br>Default: Describes snapshots for which you have launch permissions. | No |
| *Owner.n* | Returns snapshots owned by the specified owner. Multiple owners can be specified.<br>Type: String<br>Valid Values: `self` \| `amazon` \| AWS Account ID<br>Default: None | No |
| *RestorableBy.n* | One or more AWS accounts IDs that can create volumes from the snapshot.<br>Type: String<br>Default: None | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeSnapshotsResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `snapshotSet` | List of snapshots. Each snapshot's information is wrapped in an `item` element.<br>Type: DescribeSnapshotsSetItemResponseType (p. 220) |

# Examples

## Example Request

This example describes snapshot `snap-78a54011`.

```
https://ec2.amazonaws.com/?Action=DescribeSnapshots
&SnapshotId=snap-78a54011
&AUTHPARAMS
```

# Example Response

```
<DescribeSnapshotsResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotSet>
    <item>
      <snapshotId>snap-78a54011</snapshotId>
      <volumeId>vol-4d826724</volumeId>
      <status>pending</status>
      <startTime>2008-05-07T12:51:50.000Z</startTime>
      <progress>80%</progress>
      <ownerId>999988887777</ownerId>
      <volumeSize>10</volumeSize>
      <description>Daily Backup</description>
      <tagSet/>
    </item>
  </snapshotSet>
</DescribeSnapshotsResponse>
```

# Example Request

This example filters the results to display 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <snapshotSet>
    <item>
      <snapshotId>snap-1a2b3c4d</snapshotId>
      <volumeId>vol-8875daef</volumeId>
      <status>pending</status>
      <startTime>2010-07-29T04:12:01.000Z</startTime>
      <progress>30%</progress>
      <ownerId>999988887777</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 Operations

- CreateSnapshot (p. 37)
- DeleteSnapshot (p. 52)

# DescribeSpotDatafeedSubscription

## Description

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

## Request Parameters

The `DescribeSpotDatafeedSubscription` operation does not have any request parameters.

## Response Elements

The elements in the following table come wrapped in a `DescribeSpotDatafeedSubscriptionResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `spotDatafeedSubscription` | The Spot Instance datafeed subscription.<br>Type: SpotDatafeedSubscriptionType (p. 246) |

## 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/2010-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <spotDatafeedSubscription>
        <ownerId>999988887777</ownerId>
        <bucket>mybucket</bucket>
        <prefix>spotdata</prefix>
        <state>Active</state>
    </spotDatafeedSubscription>
</DescribeSpotDatafeedSubscriptionResponse>
```

## Related Operations

- CreateSpotDatafeedSubscription (p. 40)

- DeleteSpotDatafeedSubscription (p. 54)

# DescribeSpotInstanceRequests

## Description

Describes 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, go to Spot Instances in the *Amazon Elastic Compute Cloud User Guide*.

You can filter the results to return information only about Spot Instance requests that match criteria you specify. For example, you could get information about requests where the Spot Price you specified is a certain value (you can't use greater than or less than comparison, but you can use * and ? wildcards). You can specify multiple values for a filter. A Spot Instance request must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the Spot Price is equal to a particular value, and the instance type is m1.small). The result includes information for a particular request 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `availability-zone-group` | 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.<br>Type: String |
| `create-time` | Time stamp when the Spot Instance request was created.<br>Type: String |
| `fault-code` | Fault code related to the request.<br>Type: String |
| `fault-message` | Fault message related to the request.<br>Type: String |
| `instance-id` | ID of the instance that fulfilled the request.<br>Type: String |
| `launch-group` | Spot Instance launch group. Launch groups are Spot Instances that launch together and terminate together.<br>Type: String |
| `launch.block-device-mapping.delete-on-termination` | Whether an Amazon EBS volume mapped to the instance is deleted on instance termination.<br>Type: Boolean |

| Filter Name | Description |
|---|---|
| `launch.block-device-mapping.device-name` | Device name (e.g., /dev/sdh) for an Amazon EBS volume mapped to the instance.<br>Type: String |
| `launch.block-device-mapping.snapshot-id` | ID for a snapshot mapped to the instance.<br>Type: String |
| `launch.block-device-mapping.volume-size` | Size of an Amazon EBS volume mapped to the instance (in GiB).<br>Type: String |
| `launch.group-id` | A security group the instance is in.<br>Type: String |
| `launch.image-id` | The AMI ID.<br>Type: String |
| `launch.instance-type` | Type of instance (e.g., m1.small).<br>Type: String |
| `launch.kernel-id` | Kernel ID.<br>Type: String |
| `launch.key-name` | Name of the key pair the instance launched with.<br>Type: String |
| `launch.monitoring-enabled` | Whether monitoring is enabled for the Spot Instance.<br>Type: Boolean |
| `launch.ramdisk-id` | RAM disk ID.<br>Type: String |
| `product-description` | Product description associated with the instance.<br>Type: String<br>Valid Values: `Linux/UNIX` \| `Windows` |
| `spot-instance-request-id` | Spot Instance request ID.<br>Type: String |
| `spot-price` | Maximum hourly price for any Spot Instance launched to fulfill the request.<br>Type: String |
| `state` | State of the Spot Instance request.<br>Type: String<br>Valid Values: `active` \| `cancelled` \| `open` \| `closed` \| `failed` |

| Filter Name | Description |
|---|---|
| `tag-key` | 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=X, see the `tag:`*`key`* filter later in this table. |
| | For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*. |
| | Type: String |
| `tag-value` | Value of a tag assigned to the resource. This filter is independent of the `tag-key` filter. |
| | Type: String |
| `tag:`*`key`* | Filters the results based on a specific tag/value combination. |
| | Example: To list just the resources assigned tag Purpose=X, then specify: |
| | `Filter.1.Name=tag:Purpose` |
| | `Filter.1.Value.1=X` |
| | Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify: |
| | `Filter.1.Name=tag:Purpose` |
| | `Filter.1.Value.1=X` |
| | `Filter.1.Value.2=Y` |
| `type` | Type of Spot Instance request. |
| | Type: String |
| | Valid Values: `one-time` \| `persistent` |
| `valid-from` | Start date of the request. |
| | Type: xsd:dateTime |
| `valid-until` | End date of the request. |
| | Type: xsd:dateTime |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *`SpotInstanceRequestId.n`* | One or more Spot Instance request IDs.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeSpotInstanceRequestsResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `spotInstanceRequestSet` | A list of Spot Instance requests. Each request's information is wrapped in an `item` element.<br>Type: SpotInstanceRequestSetItemType (p. 247) |

# 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/2010-
11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <spotInstanceRequestSet>
    <item>
      <spotInstanceRequestId>sir-e1471206</spotInstanceRequestId>
      <spotPrice>0.09</spotPrice>
      <type>one-time</type>
      <state>active</state>
      <launchSpecification>
        <imageId>ami-813968c4</imageId>
        <keyName>MyKey</keyName>
        <groupSet>
```

```
            <item>
                <groupId>default</groupId>
            </item>
        </groupSet>
        <instanceType>m1.small</instanceType>
        <blockDeviceMapping/>
        <monitoring>
            <enabled>false</enabled>
        </monitoring>
    </launchSpecification>
    <instanceId>i-992cf7dd&lt;/instanceId>
    <createTime>2010-09-13T23:50:44.000Z</createTime>
    <productDescription>Linux/UNIX</productDescription>
    <tagSet/>
  </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 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
&AUTHPARAMS
```

# Related Operations

- RequestSpotInstances (p. 176)
- CancelSpotInstanceRequests (p. 25)
- DescribeSpotPriceHistory (p. 128)

# DescribeSpotPriceHistory

## Description

Describes 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, go to Spot Instances in the *Amazon Elastic Compute Cloud User Guide*.

> **Note**
>
> Although you can specify an Availability Zone or Availability Zone group when placing a Spot Instances request, the Spot Price does not vary by Availability Zone.

> **Note**
>
> Our policy is to provide filters for all "describe" calls so you can limit the results to your specified criteria. Therefore, you can use filters to limit the results when describing Spot Price histories, even though you can use the regular request parameters to do something similar.

For example, you could use the regular request parameters or a filter to get the history for a particular instance type. You can specify multiple request parameters or multiple filters (e.g., limit the results to the m2.xlarge instance type, and only for Windows instances). The result includes information for a particular price history only if it matches *all* your request parameters or filters. If there's no match, no special message is returned; the response is simply empty.

You can use wildcards with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| instance-type | Type of instance (e.g., m1.small). <br> Type: String |
| product-description | Product description for the Spot Price. <br> Type: String <br> Valid Values: `Linux/UNIX` \| `SUSE Linux` \| `Windows` |
| spot-price | Spot Price. The value must match exactly (or use wildcards; greater than or less than comparison is not supported). <br> Type: String |
| timestamp | Timestamp of the Spot Price history, e.g., 2010-08-16T05:06:11.000Z. You can use wildcards (* and ?). Greater than or less than comparison is not supported. <br> Type: xsd:dateTime |

# Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *StartTime* | Start date and time of the Spot Instance price history data.<br>Type: DateTime<br>Default: None | No |
| *EndTime* | End date and time of the Spot Instance price history data.<br>Type: DateTime<br>Default: None | No |
| *InstanceType.n* | The instance type to return.<br>Type: String<br>Valid Values: `m1.small` \| `m1.large` \| `m1.xlarge` \| `c1.medium` \| `c1.xlarge` \| `m2.xlarge` \| `m2.2xlarge` \| `m2.4xlarge` \| `t1.micro`<br>Default: None | No |
| *ProductDescription.n* | Filters the results by basic product description.<br>Type: String<br>Valid Values: `Linux/UNIX` \| `SUSE Linux` \| `Windows`<br>Default: Returns all information | No |
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeSpotPriceHistoryResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `spotPriceHistorySet` | List of historical Spot Prices. Each price's information is wrapped in an `item` element.<br>Type: SpotPriceHistorySetItemType (p. 249) |

# Examples

## Example Request

This example returns Spot Price history for a particular day in December 2009.

```
https://ec2.amazonaws.com/?Action=DescribeSpotPriceHistory
&StartTime=2009-12-04T00:00:00.000Z
&EndTime=2009-12-04T23:59:59.000Z
&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*
&AUTHPARAMS
```

## Example Response

```
<DescribeSpotPriceHistoryResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-
15/">
  <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>
    </item>
    <item>
      <instanceType>m1.small</instanceType>
      <productDescription>Windows</productDescription>
      <spotPrice>0.033</spotPrice>
      <timestamp>2009-12-04T22:33:47.000Z</timestamp>
    </item>
  </ spotPriceHistorySet>
</DescribeSpotPriceHistoryResponse>
```

# Related Operations

- DescribeSpotInstanceRequests (p. 123)
- RequestSpotInstances (p. 176)
- CancelSpotInstanceRequests (p. 25)

# DescribeTags

## Description

Lists your tags. For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.

You can use filters to limit the results when describing tags. For example, you could get only the tags for a particular resource type. You can specify multiple values for a filter. A tag must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., limit the results to a specific resource type, and get only tags with values that contain the string `database`). The result includes information for a particular tag 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `key` | Tag key.<br>Type: String |
| `resource-id` | Resource ID.<br>Type: String |
| `resource-type` | Resource type.<br>Type: String<br>Valid Values: `customer-gateway`\|`dhcp-options`\|`image`\|`instance`\|`reserved-instances`\|`snapshot`\|`spot-instances-request`\|`subnet`\|`volume`\|`vpc`\|`vpn-connection`\|`vpn-gateway` |
| `value` | Tag value.<br>Type: String |

## Request Parameters

| Name | Description | Required |
|---|---|---|
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeTagsResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| tagSet | List of tags. Each tag's information is wrapped in an `item` element.<br>Type: TagSetItemType (p. 251) |

# 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/2010-11-15/">
   <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/2010-11-15/">
    <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/2010-11-15/">
    <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/2010-11-15/">
    <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/2010-11-15/">
    <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 Operations

-
-

# DescribeVolumes

## Description

Describes your Amazon EBS volumes. For more information about Amazon EBS, go to Amazon Elastic Block Store in the *Amazon Elastic Compute Cloud User Guide*.

You can filter the results to return information only about volumes that match criteria you specify. For example, you could get information about volumes whose status is `available`. You can specify multiple values for a filter (e.g., the volume's status is either `available` or `in-use`). A volume must match at least one of the specified values for it to be included in the results.

You can specify multiple filters (e.g., the volume's status is `available`, and it is tagged with a particular value). The result includes information for a particular volume 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 with the filter values: * matches zero or more characters, and ? 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 table shows the available filters.

| Filter Name | Description |
|---|---|
| `attachement.attach-time` | Time stamp when the attachment initiated. <br> Type: xsd:dateTime |
| `attachment.delete-on-termination` | Whether the volume will be deleted on instance termination. <br> Type: Boolean |
| `attachement.device` | How the volume is exposed to the instance (e.g., /dev/sda1). <br> Type: String |
| `attachment.instance-id` | ID of the instance the volume is attached to. <br> Type: String |
| `attachment.status` | Attachment state. <br> Type: String <br> Valid Values: `attaching`\|`attached`\|`detaching`\|`detached` |
| `availability-zone` | Availability Zone in which the volume was created. <br> Type: String |
| `create-time` | Time stamp when the volume was created. <br> Type: xsd:dateTime |
| `size` | Size of the volume, in GiB (e.g., `20`). <br> Type: String |
| `snapshot-id` | Snapshot from which the volume was created. <br> Type: String |

| Filter Name | Description |
|---|---|
| `status` | Status of the volume.<br>Type: String<br>Valid Values: `creating` \| `available` \| `in-use` \| `deleting` \| `deleted` \| `error` |
| `tag-key` | 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=X, see the `tag:`*`key`* filter later in this table.<br>For more information about tags, go to Using Tags in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String |
| `tag-value` | Value of a tag assigned to the resource. This filter is independent of the `tag-key` filter.<br>Type: String |
| `tag:`*`key`* | Filters the results based on a specific tag/value combination.<br>Example: To list just the resources assigned tag Purpose=X, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>Example: To list just resources assigned tag Purpose=X OR Purpose=Y, then specify:<br>`Filter.1.Name=tag:Purpose`<br>`Filter.1.Value.1=X`<br>`Filter.1.Value.2=Y` |
| `volume-id` | Volume ID.<br>Type: String |

# Request Parameters

| Name | Description | Required |
|---|---|---|
| *VolumeId.n* | One or more volume IDs.<br>Type: String<br>Default: Describes all volumes that you own, or only those otherwise specified. | No |

| Name | Description | Required |
|------|-------------|----------|
| *Filter.n.Name* | Name of a filter. See the preceding table for a list of allowed filter names.<br>Type: String<br>Default: None | No |
| *Filter.n.Value.m* | A value for the filter. See the preceding table for a list of allowed values for each filter.<br>Type: String<br>Default: None | No |

# Response Elements

The elements in the following table come wrapped in a `DescribeVolumesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `volumeSet` | A list of volumes. Each volume's information is wrapped in an `item` element.<br>Type: DescribeVolumesSetItemResponseType (p. 221) |

# 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeSet>
    <item>
      <volumeId>vol-4282672b</volumeId>
      <size>80</size>
      <snapshotId/>
      <availabilityZone>us-east-1a</availabilityZone>
      <status>in-use</status>
      <createTime>2008-05-07T11:51:50.000Z</createTime>
      <attachmentSet>
        <item>
          <volumeId>vol-4282672b</volumeId>
          <instanceId>i-6058a509</instanceId>
```

```
            <device>/dev/sdh</device>
            <status>attached</status>
            <attachTime>2008-05-07T12:51:50.000Z</attachTime>
            <deleteOnTermination>false</deleteOnTermination>
        </item>
      </attachmentSet>
      <tagSet/>
    </item>
  </volumeSet>
</DescribeVolumesResponse>
```

## Example Request

This example describes all volumes that are both attached to instance i-1a2b3c4d and also set to delete when the instance terminates.

```
https://ec2.amazonaws.com/?Action=DescribeVolumes
&Filter.1.Name=attachment.instance-id
&Filter.1.Value.1=i-1a2b3c4d
&Filter.2.Name=attachment.delete-on-termination
&Filter.2.Value.1=true
&AUTHPARAMS
```

## Related Operations

- CreateVolume (p. 44)
- DeleteVolume (p. 58)
- AttachVolume (p. 13)
- DetachVolume (p. 140)

# DetachVolume

## Description

Detaches an Amazon EBS volume from an instance. For more information about Amazon EBS, go to Amazon Elastic Block Store in the *Amazon Elastic Compute Cloud User Guide*.

> ⚠️ **Important**
>
> Make sure to unmount any file systems on the device within your operating system before detaching the volume. Failure to unmount file systems, or otherwise properly release the device from use, can result in lost data and will corrupt the file system.

> 📑 **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.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *VolumeId* | The ID of the volume.<br>Type: String<br>Default: None | Yes |
| *InstanceId* | The ID of the instance.<br>Type: String<br>Default: None | No |
| *Device* | The device name.<br>Type: String<br>Default: None | 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 will not have an opportunity to flush file system caches nor file system meta data. If you use this option, you must perform file system check and repair procedures.<br>Type: Boolean<br>Default: None | No |

## Response Elements

The elements in the following table come wrapped in a `DetachVolumeResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| volumeId | The ID of the volume.<br>Type: xsd:string |
| instanceId | The ID of the instance.<br>Type: xsd:string |
| device | The device as it is exposed to the instance.<br>Type: xsd:string |
| status | Attachment state.<br>Type: xsd:string<br>Valid Values: `attaching | attached | detaching | detached` |
| attachTime | Time stamp when the attachment initiated.<br>Type: xsd:dateTime |

# Examples

## Example Request

This example detaches volume `vol-4d826724`.

```
https://ec2.amazonaws.com/?Action=DetachVolume
&VolumeId=vol-4d826724
&InstanceId=i-6058a509
&AUTHPARAMS
```

## Example Response

```
<DetachVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <volumeId>vol-4d826724</volumeId>
  <instanceId>i-6058a509</instanceId>
  <device>/dev/sdh</device>
  <status>detaching</status>
  <attachTime>2008-05-08T11:51:50.000Z</attachTime>
</DetachVolumeResponse>
```

# Related Operations

- CreateVolume (p. 44)
- DeleteVolume (p. 58)
- DescribeVolumes (p. 136)
- AttachVolume (p. 13)

# DisassociateAddress

## Description

Disassociates the specified elastic IP address from the instance to which it is assigned. This is an idempotent operation. If you enter it more than once, Amazon EC2 does not return an error.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *PublicIp* | IP address that you are disassociating from the instance. Type: String Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `DisassociateAddressResponse` structure.

| Name | Description |
|------|-------------|
| 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 `67.202.55.255` IP address from the instance to which it is assigned.

```
https://ec2.amazonaws.com/?Action=DisassociateAddress
&PublicIp=67.202.55.255
&AUTHPARAMS
```

## Example Response

```
<DisassociateAddressResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">

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

# Related Operations

- AllocateAddress (p. 10)
- DescribeAddresses (p. 62)
- ReleaseAddress (p. 174)
- AssociateAddress (p. 11)

# 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

| Name | Description | Required |
| --- | --- | --- |
| *InstanceId* | ID of the instance.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `GetConsoleOutputResponse` structure.

| Name | Description |
| --- | --- |
| requestId | The ID of the request.<br>Type: xsd:string |
| instanceId | The instance ID.<br>Type: xsd:string |
| timestamp | The time the output was last updated.<br>Type: xsd:dateTime |
| output | The console output, Base64 encoded.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-28a64341</instanceId>
  <timestamp>2010-10-14T01:12:41.000Z</timestamp>
  <output>TGludXggdmVyc2lvbiAyLjYuMTYteGVuVSAoYnVpbGRlckBwYXRjaGJhdC5hb
WF6b25zYSkgKGdj
YyB2ZXJzaW9uIDQuMC4xIDIwMDUwNzI3IChSZWQgSGF0IDQuMC4xLTUpKSAjMSBTTVAgVGh1IE9j
dCAyNiAwODo0MToyNiBTTVUIDIwMDYKQklPUy1wcm92aWRlZCBwaHlzaWNhbCBSQU0gbWFwOgpY
ZW46IDAwMDAwMDAwMDAwMDAwMDAgLSAwMDAwMDAwMzhNDAwMDAwICh1c2FibGUpCjk4ME1CIEhJ
R0hNRU0gYXZhaWxhYmxlLgo3MjdNQiBMT1dNRU0gYXZhaWxhYmxlLgpOWCAoRXhlY3V0ZSBEaXNh
YmxlKSBwcm90ZWN0aW9uOiBhY3RpdmUKSVJJRGxvY2t1cCBkZXRlY3Rpb24gZGlzYWJsZWQKQnVp
bHQgMSB6b25lbGlzdHMKS2VybmVsIGNvbW1hbmQgbGluZTogcm9vdD0vZGV2L3NkYTEgcm8gNApF
bmFibGUyBmYXN0IEQVSBzYXZlIGFuZCByZXN0b3JlLi4uIGRvbmUuCg==</output>
</GetConsoleOutputResponse>
```

# Related Operations

# 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

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | A Windows instance ID.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `GetPasswordDataResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `instanceId` | The ID of the instance.<br>Type: xsd:string |
| `timestamp` | The time the data was last updated.<br>Type: xsd:dateTime |
| `passwordData` | The password of the instance.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <instanceId>i-2574e22a</instanceId>
  <timestamp>2009-10-24 15:00:00</timestamp>
  <passwordData>TGludXggdmVyc2lvbiAyLjYuMTYteGVuUVAoYnVpbGRlckBwYXRjaGJhdC5hb
WF6b25zYSkgKGdj</passwordData>
</GetPasswordDataResponse>
```

# Related Operations

- RunInstances (p. 190)

# 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, go to Importing Your Virtual Machines and Volumes into Amazon EC2 in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| `Description` | Description of the instance being imported<br>Type: String<br>Default: None | No |
| `Architecture` | Architecture of the instance.<br>Type: String<br>Default: None<br>Valid Values: i386 | x86_64 | Yes |
| `SecurityGroup.n` | One or more security group names.<br>Type: String<br>Default: None | No |
| `UserData` | User data to be made available to the instance.<br>Type: String<br>Default: None | No |
| `InstanceType` | The instance type.<br>Type: String<br>Valid Values: `m1.small`｜`m1.large`｜`m1.xlarge`｜`c1.medium`｜`c1.xlarge`｜`m2.xlarge`｜`m2.2xlarge`｜`m2.4xlarge`｜`t1.micro`<br>Default: m1.small | Yes |
| `Placement.AvailabilityZone` | The Availability Zone you want to launch the instance into.<br>Type: xsd:string<br>Default: EC2 chooses a zone for you | No |
| `Monitoring.Enabled` | Enables detailed monitoring for the instance.<br>Type: Boolean<br>Default: false | No |
| `SubnetId` | If you're using Amazon Virtual Private Cloud, this specifies the ID of the subnet you want to launch the instance into.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| `InstanceInitiatedShutdownBehavior` | Determines whether the instance stops or terminates on instance-initiated shutdown.<br>Type: String<br>Valid Values: `stop` \| `terminate`<br>Default: `stop` | No |
| `PrivateIpAddress` | If you're using Amazon Virtual Private Cloud, you can optionally use this parameter to assign the instance a specific available IP address from the subnet (e.g., 10.0.0.25).<br>Type: String<br>Default: Amazon VPC selects an IP address from the subnet for the instance | No |
| `DiskImage.n.Image.Format` | File format of the disk image.<br>Type: String<br>Default: None<br>Valid Values: `VMDK` \| `RAW` | Yes |
| `DiskImage.n.Image.Bytes` | Number of bytes in the disk image.<br>Type: xsd:long<br>Default: None | Yes |
| `DiskImage.n.Image.ImportManifestUrl` | The manifest for the disk image, stored in Amazon S3 and presented here as an Amazon S3 pre-signed URL. For information about creating a pre-signed 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*.<br>Type: String<br>Default: None | Yes |
| `DiskImage.n.Image.Description` | Optional description of the disk image.<br>Type: String<br>Default: None | No |
| `DiskImage.n.Volume.Size` | The size, in GB (2^30 bytes), of the Amazon EBS volume that will hold the converted image.<br>Type: Integer<br>Default: None | Yes |
| `Platform` | The EC2 instance operating system.<br>Type: String<br>Default: None<br>Valid Value: `Windows` | Yes |

# Response Elements

The elements in the following table come wrapped in an `ImportInstanceResponse` structure.

| Name | Description |
|------|-------------|
| conversionTask | Information about the import instance task. |
| | Type: ConversionTaskType (p. 213) |

# Examples

## Example Request

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

```
https://ec2.amazonaws.com/?Action=ImportInstance
&Architecture=x86_64
&InstanceType=m1.xlarge
&DiskImage.1.Image.Format=VMDK
&DiskImage.1.Image.Bytes=1179593728
&DiskImage.1.Image.ImportManifestUrl=https://s3.amazonaws.com/MyImportBucket/
a3a5e1b6-590d-43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.
vmdkmanifest.xml?AWSAccessKeyId=AKIAIR2I45FHYEXAMPLE&Expires=1294855591&Signa
ture=5snej01TlTtL0uR7KExtEXAMPLE%3D
&DiskImage.1.Volume.Size=12
&Platform=Windows
&AUTHPARAMS
```

## Example Response

```
<ImportInstanceResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <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/MyImportBucket/a3a5e1b6-590d-43cc-
97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAc
cessKeyId=AKIAIR2I45FHYEXAMPLE&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 Operations

- ImportVolume (p. 154)
- DescribeConversionTasks (p. 70)
- CancelConversionTask (p. 23)

# 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

| Name | Description | Required |
|------|-------------|----------|
| *KeyName* | A unique name for the key pair.<br>Type: String<br>Default: None<br>Constraints: Accepts alphanumeric characters, spaces, dashes, and underscores. | Yes |
| *PublicKeyMaterial* | The public key. You must base64 encode the public key material before sending it to AWS.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `ImportKeyPairResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| keyName | The key pair name you provided.<br>Type: xsd:string |

| Name | Description |
|------|-------------|
| `keyFingerprint` | 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
DQ0FlQ2dBd0lCQWdJR0FQalRyR3pQQ
TUEwR0NTcUdTSWIzRFFFQkJRVUFNRk14Q3pBSkJnTlZCQVlUQpBbFZVTVJNd0VRWURWUVFLRXdw
QmJJXRjZiMjR1WTI5dE1Rd3dDZ1lEVlFRRTEV3TkJWV1U14SVRBZkJnTlZCQVU1UDQpHRUZYVXlCCTWFX
MXBkR1ZrTFVGEZmZsnlZVZqWlNSRFFFUQVGdzB3T1RBBM016RXlNVFEzTXpWWUUZ3MHhnNREEzDQpN
ekV5TVRRRM016VmFNRkl4Q3pBSkJnTlZCQVlUQWxWVE1STXdFUVlEVlFRS0V3cEJiV0Y2Y2JJ0dVky
OXRNUmN3DQpHVVlEVlFRTEV3TkJWV1U10UkdWMlpXeHBeHZjjR1Z5Y3pGVk1CTUdBMVVFQXhNTWJJUSnVi
RGhxZW00MWVHVUjfNSUdmDQpNQTBHQ1NxR1NJYjNEUVVCQVFVQUE0R05BRENaVFLQmdRQ1dO2azBo
QytrcExBRnp2Q2YFQc3U1TDU5bFMwUnI0DQprZEpaM0RFak1pL0IwV2ZDSzhppS2hWYWt1WitHSnJt
NDdMDUHZCaFVKWk9IeHVVU0VXakFDDNmlybDJzKzlSWXVjjQDQpFZXg0TjI4WlpCY2dpORlAzdEgwZ2Nu
WjdJbXZ4aFBrTEtoRdpZb1ViZjNNTGhnRXhkHpHRnnRPQ0ZQTmdUSE92VDE5DQoyR3lZb1VyU3dDVGFC
UUlEQVFBQm04xY3dVEFPQmdkOVkhROEJZ2jhFQkFNQ0JhQXdIUdGZlEVlIwbEFESRSC9CQXd3DQpwDZ1lJ
S3dZQkJRVUhBdlL3REFZRFZFSMFRBUUgvQkJJd0FEQURSCZ05WSFE0RUZnNUVVU1RVNuTUZZUzdyTDNX
TUdLDQpqajMxVXZ5SThhnMHdEUVlKS29aaWh2Y05BUQVUlFBRGdZRUZnjdDZ1lJWHR1WFM1NHVq
bU5jjOTR0NWNRcxtrDQpcCM0Z3WVVNdUd4WUI2eGQGQvSUVWMTFLRVEyZ0hpZUdsNU21jUWg4c2JXTTdt
Kzcr Ym5UVmMc2U2hLbU1jjblkzWkRTDQpWRVFZZ25qcEt1aEZRd2pmaWpTUEc1U1G5SVENhdkVqS3lT
TTUpDVGxpdTdkTTjMrR2J3cFU5Uzg3K21GM2tsMGRmDQpZNlIrbEE15SWerU3ROOTg9DQotLS0tLUVO
RCBDRVJUSUZJQ0FURS0tLS0tEXAMPLE
&AUTHPARAMS
```

## Example Response

```
<ImportKeyPairResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
    <requestId>7a62c49f-347e-4fc4-9331-6e8eEXAMPLE</requestId>
    <keyName>gsg-keypair</keyName>
    <keyFingerprint>
      1f:51:ae:28:bf:89:e9:d8:1f:25:5d:37:2d:7d:b8:ca:9f:f5:f1:6f
    </keyFingerprint>
</ImportKeyPairResponse>
```

# Related Operations

- CreateKeyPair (p. 31)
- DescribeKeyPairs (p. 93)
- DeleteKeyPair (p. 46)

# 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, go to Importing Your Virtual Machines and Volumes into Amazon EC2 in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| `AvailabilityZone` | Availability Zone where the resulting Amazon EBS volume will reside.<br>Type: String<br>Default: None | Yes |
| `Image.Format` | The file format of the disk image.<br>Type: String<br>Default: None<br>Valid Values: `VMDK` \| `RAW` | Yes |
| `Image.Bytes` | Number of bytes in the disk image.<br>Type: xs:long<br>Default: None | Yes |
| `Image.ImportManifest Url` | The manifest for the disk image, stored in Amazon S3 and presented here as an Amazon S3 pre-signed URL. For information about creating a pre-signed 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*.<br>Type: String<br>Default: None | Yes |
| `Description` | Optional description of the volume being imported.<br>Type: String<br>Default: None | No |
| `Volume.Size` | The size, in GB (2^30 bytes), of an Amazon EBS volume that will hold the converted image.<br>Type: Integer<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in an `ImportVolumeResponse` structure.

| Name | Description |
|------|-------------|
| conversionTask | Information about the import volume task. |
| | Type: ConversionTaskType (p. 213) |

# Examples

## Example Request

This example creates an import volume task that migrates a Windows Server 8 (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/MyImportBucket/a3a5e1b6-590d-
43cc-97c1-15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmani
fest.xml?AWSAccessKeyId=AKIAIR2I45FHYEXAMPLE&Expires=1294855591&Signa
ture=5snej01TlTtL0uR7KExtEXAMPLE%3D
&VolumeSize=8
&AUTHPARAMS
```

## Example Response

```
<ImportVolumeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
   <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/MyImportBucket/a3a5e1b6-590d-43cc-97c1-
15c7325d3f41/Win_2008_Server_Data_Center_SP2_32-bit.vmdkmanifest.xml?AWSAccess
KeyId=AKIAIR2I45FHYEXAMPLE&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 Operations

- ImportInstance (p. 148)
- DescribeConversionTasks (p. 70)
- CancelConversionTask (p. 23)

# ModifyImageAttribute

## Description

Modifies an attribute of an AMI.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ImageId* | The AMI ID.<br>Type: String<br>Default: None | Yes |
| *LaunchPermission.Add*<br>*.n.UserId* | Adds the specified AWS account ID to the AMI's list of launch permissions.<br>Type: String<br>Default: None | No |
| *LaunchPermission.Rem*<br>*ove.n.UserId* | Removes the specified AWS account ID from the AMI's list of launch permissions.<br>Type: String<br>Default: None | No |
| *LaunchPermission.Add*<br>*.n.Group* | Adds the specified group to the image's list of launch permissions. The only valid value is `all`.<br>Type: String<br>Valid Value: `all` (for all EC2 users)<br>Default: None | No |
| *LaunchPermission.Rem*<br>*ove.n.Group* | Removes the specified group from the image's list of launch permissions. The only valid value is `all`.<br>Type: String<br>Valid Value: `all` (for all EC2 users)<br>Default: None | No |
| *ProductCode.n* | Adds the specified product code to the specified Amazon S3-backed AMI. Once you add a product code to an AMI, it can't be removed.<br>Type: String<br>Default: None | No |
| *Description.Value* | Changes the AMI's description to the specified value.<br>Type: String<br>Default: None | No |

## Response Elements

The elements in the following table come wrapped in a `ModifyImageAttributeResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| return | Returns true if successful. Otherwise, returns an error.<br>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?Action=ModifyImageAttrib
ute
&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?Action=ModifyImageAttrib
ute
&ImageId=ami-61a54008
&Description.Value=New_Description
&AUTHPARAMS
```

# Example Response

```
<ModifyImageAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">

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

# Related Operations

- ResetImageAttribute (p. 181)
- DescribeImageAttribute (p. 72)

# ModifyInstanceAttribute

## Description

Modifies an attribute of an instance.

> 📑 **Note**
>
> If you want to add ephemeral storage to an Amazon EBS-backed instance, you must add the ephemeral storage at the time you launch the instance. For more information, go to Overriding the AMI's Block Device Mapping in the *Amazon Elastic Compute Cloud User Guide*, or to Adding Default Local Instance Storage in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | The ID of the instance.<br>Type: String<br>Default: None | Yes |
| *InstanceType.Value* | Changes the instance type to the specified value.<br>Type: String<br>Default: None | No |
| *Kernel.Value* | Changes the instance's kernel to the specified value.<br>Type: String<br>Default: None | No |
| *Ramdisk.Value* | Changes the instance's RAM disk to the specified value.<br>Type: String<br>Default: None | No |
| *UserData.Value* | Changes the instance's user data to the specified value.<br>Type: String<br>Default: None | 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.<br>Type: Boolean<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| *InstanceInitiatedShutdownBehavior.Value* | Changes the instance's `InstanceInitiatedShutdownBehavior` flag to the specified value.<br>Type: String<br>Default: None<br>Valid Values: `stop` \| `terminate` | No |

# Response Elements

The elements in the following table come wrapped in a `ModifyInstanceAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if successful. Otherwise, returns an error.<br>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/2010-11-
15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ModifyInstanceAttributeResponse>
```

# Related Operations

- ResetInstanceAttribute (p. 183)
- DescribeInstanceAttribute (p. 81)

# ModifySnapshotAttribute

## Description

Adds or remove permission settings for the specified snapshot.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *SnapshotId* | The ID of the snapshot.<br>Type: String<br>Default: None | Yes |
| *Attribute* | Snapshot attribute to modify (currently you can only modify who can create volumes from the snapshot).<br>Type: String<br>Default: None<br>Valid Value: `createVolumePermission` | Yes |
| *OperationType* | Whether to add or remove permission to create volumes from the snapshot.<br>Type: String<br>Valid Values: `add` \| `remove`<br>Default: None | Yes |
| *UserId.n* | ID of an AWS account that can create volumes from the snapshot.<br>Type: String<br>Default: None | No |
| *UserGroup.n* | Group that is allowed to create volumes from the snapshot.<br>Type: String<br>Default: None<br>Valid Value: `all` | No |

## Response Elements

The elements in the following table come wrapped in a `ModifySnapshotAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if successful. Otherwise, returns an error.<br>Type: xsd:boolean |

# Examples

## Example Request

This example makes the snap-78a54011 snapshot public, and gives the account with ID 495219933132 permission to create volumes from the snapshot.

```
https://ec2.amazonaws.com/?Action=ModifySnapshotAttribute
&snapshotId=snap-78a54011
&Attribute=createVolumePermission
&OperationType=add
&UserGroup.1=all
&UserId.1=495219933132
&AUTHPARAMS
```

## Example Response

```
<ModifySnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-
15/">
   <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
   <return>true</return>
</ModifySnapshotAttributeResponse>
```

# Related Operations

# MonitorInstances

## Description

Enables monitoring for a running instance. For more information about monitoring instances, go to
Monitoring Your Instances and Volumes in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `MonitorInstancesResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| instancesSet | List of instances. Each instance's information is wrapped in an `item` element.<br>Type: MonitorInstancesResponseSetItemType (p. 237) |

## 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/2010-11-15/">
    <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 Operations

- UnmonitorInstances (p. 203)
- RunInstances (p. 190)

# PurchaseReservedInstancesOffering

## Description

Purchases a Reserved Instance for use with your account. With Amazon EC2 Reserved Instances, you purchase the right to launch Amazon EC2 instances for a period of time (without getting insufficient capacity errors) and pay a lower usage rate for the actual time used. For more information about Reserved Instances, go to On-Demand and Reserved Instances in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ReservedInstancesOfferingId* | ID of the Reserved Instance offering you want to purchase.<br>Type: String<br>Default: None | Yes |
| *InstanceCount* | The number of Reserved Instances to purchase.<br>Type: Integer<br>Default: 1 | No |

## Response Elements

The elements in the following table come wrapped in a `PurchaseReservedInstancesOfferingResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| reservedInstancesId | The IDs of the purchased Reserved Instances.<br>Type: xsd:string |

## Examples

### Example Request

This example purchases Reserved Instances.

```
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/2010-11-15/">
    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <reservedInstancesId>af9f760e-c1c1-449b-8128-1342d3a6927a</reservedIn
stancesId>
</PurchaseReservedInstancesOfferingResponse>
```

## Related Operations

- DescribeReservedInstancesOfferings (p. 106)
- DescribeReservedInstances (p. 102)

# 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

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `RebootInstancesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if successful. Otherwise, returns an error.<br>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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</RebootInstancesResponse>
```

# Related Operations

- RunInstances (p. 190)

# 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, go to 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, go to 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 Amazon S3 invalidates its registration. If you make changes to an image, deregister the previous image and register the new image.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ImageLocation* | Full path to your AMI manifest in Amazon S3 storage.<br>Type: String<br>Default: None<br>Condition: Required if registering an Amazon-S3 backed AMI | Conditional |
| *Name* | A name for your AMI.<br>Type: String<br>Default: None<br>Constraints: 3-128 alphanumeric characters, parenthesis (()), commas (,), slashes (/), dashes (-), or underscores(_) | Yes |
| *Description* | The description of the AMI.<br>Type: String<br>Default: None<br>Constraints: Up to 255 characters. | No |
| *Architecture* | The architecture of the image.<br>Type: String<br>Valid Values: `i386` \| `x86_64`<br>Default: None | No |
| *KernelId* | The ID of the kernel to select.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| `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. To find kernel requirements, refer to the Resource Center and search for the kernel ID.<br>Type: String<br>Default: None | No |
| `RootDeviceName` | The root device name (e.g., /dev/sda1, or xvda).<br>Type: String<br>Default: None<br>Condition: Required if registering an Amazon EBS-backed AMI | Conditional |
| `BlockDeviceMapping.n.DeviceName` | The device name (e.g., /dev/sdh, or xvdh).<br>Type: String<br>Default: None<br>Condition: If registering an Amazon EBS-backed AMI from a snapshot, you must at least specify this field with the root device name (e.g., /dev/sda1, or xvda), and `BlockDeviceMapping.n.Ebs.SnapshotId` with the snapshot ID | Conditional |
| `BlockDeviceMapping.n.VirtualName` | The virtual device name.<br>Type: String<br>Default: None | No |
| `BlockDeviceMapping.n.Ebs.SnapshotId` | The ID of the snapshot.<br>Type: String<br>Default: None<br>Condition: If registering an Amazon EBS-backed AMI from a snapshot, you must at least specify this field with the snapshot ID, and `BlockDeviceMapping.n.DeviceName` with the root device name | Conditional |
| `BlockDeviceMapping.n.Ebs.VolumeSize` | The size of the volume, in GiBs.<br>Type: Integer<br>Default: None<br>Condition: Required if you are not creating a volume from a snapshot. | Conditional |
| `BlockDeviceMapping.n.Ebs.NoDevice` | Specifies that no device should be mapped.<br>Type: Boolean<br>Default: true | No |
| `BlockDeviceMapping.n.Ebs.DeleteOnTermination` | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: Boolean<br>Default: true | No |

# Response Elements

The elements in the following table come wrapped in a `RegisterImageResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `imageId` | Unique ID of the newly registered machine image.<br>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 `mybucket`.

```
https://ec2.amazonaws.com/?Action=RegisterImage
&ImageLocation=mybucket/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-6eba6e06
&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-6eba6e06
&BlockDeviceMapping.2.DeviceName=/dev/sdb
&BlockDeviceMapping.2.Ebs.SnapshotId=snap-823ea6df
&BlockDeviceMapping.3.DeviceName=/dev/sdc
&BlockDeviceMapping.3.Ebs.VolumeSize=100
&Name=MyImage
&AUTHPARAMS
```

# Example Response

```
<RegisterImageResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <imageId>ami-78a54043</imageId>
</RegisterImageResponse>
```

# Related Operations

# ReleaseAddress

## Description

Releases an elastic IP address associated with your account.

If you run this operation on an elastic IP address that is already released, the address might be assigned to another account which will cause Amazon EC2 to return an error.

> **Note**
>
> Releasing an IP address automatically disassociates it from any instance with which it is associated. To disassociate an IP address without releasing it, use the `DisassociateAddress` operation.

> **Important**
>
> After releasing an elastic IP address, it is released to the IP address pool and might no longer be available to your account. Make sure to update your DNS records and any servers or devices that communicate with the address.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *PublicIp* | The IP address that you are releasing from your account.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `ReleaseAddressResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if successful. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example releases an elastic IP address associated with the account.

```
https://ec2.amazonaws.com/?Action=ReleaseAddress
&PublicIp=67.202.55.255
&AUTHPARAMS
```

# Example Response

```
<ReleaseAddressResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ReleaseAddressResponse>
```

# Related Operations

- AllocateAddress (p. 10)
- DescribeAddresses (p. 62)
- AssociateAddress (p. 11)
- DisassociateAddress (p. 142)

# 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, go to Spot Instances in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *SpotPrice* | The maximum hourly price for any Spot Instance launched to fulfill the request.<br>Type: String<br>Default: None | Yes |
| *InstanceCount* | The maximum number of Spot Instances to launch.<br>Type: xs:integer<br>Default: 1 | No |
| *Type* | The Spot Instance request type.<br>Type: String<br>Valid Values: `one-time` \| `persistent`<br>Default: one-time | No |
| *ValidFrom* | 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.<br>Type: DateTime<br>Default: Request is effective independently | No |
| *ValidUntil* | 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.<br>Type: DateTime<br>Default: Request is effective indefinitely | No |
| *LaunchGroup* | The instance launch group. Launch groups are Spot Instances that launch together and terminate together.<br>Type: String<br>Default: Instances are launched and terminated individually | No |

| Name | Description | Required |
|------|-------------|----------|
| `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.<br>Type: String<br>Default: Instances are launched in any available Availability Zone. | No |
| `LaunchSpecification.ImageId` | The AMI ID.<br>Type: String<br>Default: None | Yes |
| `LaunchSpecification.KeyName` | The name of the key pair.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.SecurityGroup.n` | Name of the security group.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.UserData` | MIME, Base64-encoded user data to make available to the instances.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.AddressingType` | Deprecated.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.InstanceType` | The instance type.<br>Type: String<br>Valid Values: `m1.small` \| `m1.large` \| `m1.xlarge` \| `c1.medium` \| `c1.xlarge` \| `m2.xlarge` \| `m2.2xlarge` \| `m2.4xlarge` \| `t1.micro`<br>Default: m1.small | Yes |
| `LaunchSpecification.Placement.AvailabilityZone` | The placement constraints (Availability Zone) for launching the instances.<br>Type: String<br>Default: Amazon EC2 selects an Availability Zone. | No |
| `LaunchSpecification.KernelId` | The ID of the kernel to select.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.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.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.DeviceName` | Describes the mapping that defines native device names to use when exposing virtual devices.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.VirtualName` | The virtual device name.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.Ebs.SnapshotId` | The ID of the snapshot.<br>Type: String<br>Default: None | No |
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.Ebs.VolumeSize` | The size of the volume, in GiBs. Required if you are not creating a volume from a snapshot.<br>Type: Integer<br>Default: None | No |
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.Ebs.NoDevice` | Specifies that no device should be mapped.<br>Type: Boolean<br>Default: true | No |
| `LaunchSpecification.`<br>`blockDeviceMapping.n`<br>`.Ebs.DeleteOnTermina`<br>`tion` | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: Boolean<br>Default: true | No |
| `LaunchSpecification.`<br>`Monitoring.Enabled` | Enables monitoring for the instance.<br>Type: String<br>Default: Disabled | No |

# Response Elements

The elements in the following table come wrapped in a `RequestSpotInstancesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `spotInstanceRequestSet` | Information about the Spot Instance request, wrapped in an `item` element.<br>Type: SpotInstanceRequestSetItemType (p. 247) |

# Examples

## Example Request

This example creates a Spot Instances request for ten m1.small instances.

```
https://ec2.amazonaws.com/?Action=RequestSpotInstances
&SpotPrice=0.50
&InstanceCount=2
&Type=one-time
&AvailabilityZoneGroup=MyAzGroup
&LaunchSpecification.ImageId=ami-43a4412a
&LaunchSpecification.KeyName=MyKeypair
&LaunchSpecification.Group.1=websrv
&LaunchSpecification.InstanceType=m1.small
&AUTHPARAMS
```

## Example Response

```
<RequestSpotInstancesResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-15/">

    <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
    <spotInstanceRequestSet>
      <item>
         <spotInstanceRequestId>sir-83d64e02</spotInstanceRequestId>
         <spotPrice>0.5</spotPrice>
         <type>one-time</type>
         <state>open</state>
         <availabilityZoneGroup>MyAzGroup</availabilityZoneGroup>
         <launchSpecification>
            <imageId>ami-43a4412a</imageId>
            <keyName>MyKeypair</keyName>
            <groupSet>
               <item>
                  <groupId>websrv</groupId>
               </item>
            </groupSet>
            <instanceType>m1.small</instanceType>
            <blockDeviceMapping/>
            <monitoring>
               <enabled>false</enabled>
            </monitoring>
         </launchSpecification>
         <createTime>2010-10-20T18:23:41.000Z</createTime>
         <productDescription>Linux/UNIX</productDescription>
      </item>
      <item>
         ...
      </item>
    </spotInstanceRequestSet>
</RequestSpotInstancesResponse>
```

# Related Operations

# ResetImageAttribute

## Description

Resets an attribute of an AMI to its default value.

> 📙 **Note**
>
> The productCodes attribute cannot be reset.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *ImageId* | ID of the AMI.<br>Type: String<br>Default: None | Yes |
| *Attribute* | Attribute to reset (currently you can only reset the launch permission attribute).<br>Type: String<br>Default: None<br>Valid Value: `launchPermission` | Yes |

## Response Elements

The elements in the following table come wrapped in a `ResetImageAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>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/2010-11-15/">

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

# Related Operations

- ModifyImageAttribute (p. 157)
- DescribeImageAttribute (p. 72)

# ResetInstanceAttribute

## Description

Resets an attribute of an instance to its default value.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId* | ID of the instance.<br>Type: String<br>Default: None | Yes |
| *Attribute* | Attribute to reset (currently you can reset either the kernel ID or the RAM disk ID).<br>Type: String<br>Default: None<br>Valid Values: `kernel` \| `ramdisk` | Yes |

## Response Elements

The elements in the following table come wrapped in a `ResetInstanceAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example resets the `kernel` attribute.

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

### Example Response

```
<ResetInstanceAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-
15/">
```

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

# Related Operations

- ModifyInstanceAttribute (p. 160)
- DescribeInstanceAttribute (p. 81)

# ResetSnapshotAttribute

## Description

Resets permission settings for the specified snapshot.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *SnapshotId* | The ID of the snapshot.<br>Type: String<br>Default: None | Yes |
| *Attribute* | Attribute to reset (currently only the attribute for permission to create volumes can be reset)<br>Type: String<br>Default: None<br>Valid Value: `createVolumePermission` | Yes |

## Response Elements

The elements in the following table come wrapped in a `ResetSnapshotAttributeResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

## Examples

### Example Request

This example resets the permissions for snap-78a54011, making it a private snapshot that can only be used by the account that created it.

```
https://ec2.amazonaws.com/?Action=ResetSnapshotAttribute
&SnapshotId=snap-78a54011
&Attribute=createVolumePermission
&AUTHPARAMS
```

# Example Response

```
<ResetSnapshotAttributeResponse xmlns="http://ec2.amazonaws.com/doc/2010-11-
15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <return>true</return>
</ResetSnapshotAttributeResponse>
```

# Related Operations

- ModifySnapshotAttribute (p. 162)
- DescribeSnapshotAttribute (p. 114)
- DescribeSnapshots (p. 116)
- CreateSnapshot (p. 37)

# RevokeSecurityGroupIngress

## Description

Revokes permissions from a security group. The permissions used to revoke must be specified using the same values used to grant the permissions.

The permission is comprised of the IP protocol (TCP, UDP or ICMP) and the CIDR range or source group. For TCP and UDP, you also specify the source and destination port ranges; for ICMP, you also specify the ICMP types. You can use -1 as a wildcard for the ICMP type.

Permission changes are quickly propagated to instances within the security group. However, depending on the number of instances in the group, a small delay might occur.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *UserId* | Deprecated | No |
| *GroupName* | Name of the group to modify. The name must be valid, and the group must belong to your account.<br>Type: String<br>Default: None | Yes |
| *IpPermissions.n.IpProtocol* | IP protocol.<br>Type: String<br>Valid Values: `tcp` \| `udp` \| `icmp`<br>Default: None | Yes |
| *IpPermissions.n.FromPort* | Start of port range for the TCP and UDP protocols, or an ICMP type number. An ICMP type number of -1 indicates a wildcard (i.e., any ICMP type number).<br>Type: Integer<br>Default: None | Yes |
| *IpPermissions.n.ToPort* | End of port range for the TCP and UDP protocols, or an ICMP code. An ICMP code of -1 indicates a wildcard (i.e., any ICMP code).<br>Type: Integer<br>Default: None | Yes |
| *IpPermissions.n.Groups.m.UserId* | AWS account ID that owns the source security group. Cannot be used when specifying a CIDR IP address.<br>Type: String<br>Default: None<br>Condition: Required if giving access to one or more source security groups. | Conditional |

| Name | Description | Required |
|---|---|---|
| *IpPermissions.n.Groups.m.GroupName* | Name of the source security group. Cannot be used when specifying a CIDR IP address.<br>Type: String<br>Default: None<br>Condition: Required if giving access to one or more source security groups. | Conditional |
| *IpPermissions.n.IpRanges.m.CidrIp* | CIDR range. Cannot be used when specifying a source security group.<br>Type: String<br>Default: None<br>Constraints: Valid CIDR IP address range.<br>Condition: Required if giving access to one or more IP address ranges. | Conditional |

# Response Elements

The elements in the following table come wrapped in a `RevokeSecurityGroupIngressResponse` structure.

| Name | Description |
|---|---|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `return` | Returns true if the request succeeds. Otherwise, returns an error.<br>Type: xsd:boolean |

# Examples

## Example Request

This example revokes TCP port 80 access from the 205.192.0.0/16 address range for the `websrv` security group.

```
https://ec2.amazonaws.com/?Action=RevokeSecurityGroupIngress
&IpProtocol=tcp
&FromPort=80
&ToPort=80
&CidrIp=205.192.0.0/16
&AUTHPARAMS
```

## Example Response

```
<RevokeSecurityGroupIngressResponse xmlns="http://ec2.amazonaws.com/doc/2010-
11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
```

```
   <return>true</return>
</RevokeSecurityGroupIngressResponse>
```

# Related Operations

# RunInstances

## Description

Launches a specified number of instances of an AMI for which you have permissions.

If Amazon EC2 cannot launch the minimum number of instances you request, no instances will be launched. If there is insufficient capacity to launch the maximum number of instances you request, Amazon EC2 launches the minimum number specified and allocates the remaining available instances using round robin.

> 📋 **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, go to 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

| Name | Description | Required |
|------|-------------|----------|
| *ImageId* | ID of the AMI you want to launch. <br> Type: String <br> Default: None | Yes |

| Name | Description | Required |
|------|-------------|----------|
| *MinCount* | Minimum number of instances to launch. If the value is more than Amazon EC2 can launch, no instances are launched at all.<br>Type: Integer<br>Default: None<br>Constraints: Between 1 and the maximum number allowed for your account (default: 20). | Yes |
| *MaxCount* | 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.<br>Type: Integer<br>Default: None<br>Constraints: Between 1 and the maximum number allowed for your account (default: 20). | Yes |
| *KeyName* | The name of the key pair to use.<br>Type: String<br>Default: None | No |
| *SecurityGroup.n* | One or more security group names.<br>Type: String<br>Default: None | No |
| *UserData* | Base64-encoded MIME user data to be made available to the instance(s) in this reservation.<br>Type: String<br>Default: None | No |
| *AddressingType* | This parameter is deprecated.<br>Type: String<br>Default: None | No |
| *InstanceType* | The instance type.<br>Type: String<br>Valid Values: `m1.small` \| `m1.large` \| `m1.xlarge` \| `c1.medium` \| `c1.xlarge` \| `m2.xlarge` \| `m2.2xlarge` \| `m2.4xlarge` \| `cc1.4xlarge` \| `cg1.4xlarge` \| `t1.micro`<br>Default: m1.small | No |
| *Placement.AvailabilityZone* | The Availability Zone you want to launch the instance into.<br>Type: xsd:string<br>Default: EC2 chooses a zone for you | No |
| *Placement.GroupName* | The name of an existing placement group you want to launch the instance into (for cluster instances).<br>Type: xsd:string<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| `KernelId` | The ID of the kernel with which to launch the instance.<br>Type: String<br>Default: None | No |
| `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. To find kernel requirements, refer to the Resource Center and search for the kernel ID.<br>Type: String<br>Default: None | No |
| `BlockDeviceMapping.n`<br>`.DeviceName` | The device name (e.g., /dev/sdh, or xvdh). For information about block device mapping, go to Block Device Mapping in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String<br>Default: None | No |
| `BlockDeviceMapping.n`<br>`.VirtualName` | The virtual device name.<br>Type: String<br>Default: None | No |
| `BlockDeviceMapping.n`<br>`.Ebs.SnapshotId` | The ID of the snapshot.<br>Type: String<br>Default: None | No |
| `BlockDeviceMapping.n`<br>`.Ebs.VolumeSize` | The size of the volume, in GiBs. Required if you are not creating a volume from a snapshot.<br>Type: Integer<br>Default: None | No |
| `BlockDeviceMapping.n`<br>`.Ebs.NoDevice` | Specifies that no device should be mapped.<br>Type: Boolean<br>Default: true | No |
| `BlockDeviceMapping.n`<br>`.Ebs.DeleteOnTermina`<br>`tion` | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: Boolean<br>Default: true | No |
| `Monitoring.Enabled` | Enables monitoring for the instance.<br>Type: Boolean<br>Default: false | No |
| `SubnetId` | If you're using Amazon Virtual Private Cloud, this specifies the ID of the subnet you want to launch the instance into.<br>Type: String<br>Default: None | No |

| Name | Description | Required |
|------|-------------|----------|
| *DisableApiTermination* | Specifies 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`.<br>Type: Boolean<br>Default: false | No |
| *InstanceInitiatedShutdownBehavior* | Determines whether the instance stops or terminates on instance-initiated shutdown.<br>Type: String<br>Valid Values: `stop` \| `terminate`<br>Default: `stop` | No |
| *PrivateIpAddress* | If you're using Amazon Virtual Private Cloud, you can optionally use this parameter to assign the instance a specific available IP address from the subnet (e.g., 10.0.0.25).<br>Type: String<br>Default: Amazon VPC selects an IP address from the subnet for the instance | No |
| *ClientToken* | Unique, case-sensitive identifier you provide to ensure idempotency of the request. For more information, go to How to Ensure Idempotency in the *Amazon Elastic Compute Cloud User Guide*.<br>Type: String<br>Default: None<br>Constraints: Maximum 64 ASCII characters | No |

# Response Elements

The elements in the following table come wrapped in a `RunInstancesResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| reservationId | Unique ID of the reservation.<br>Type: xsd:string |
| ownerId | ID of the AWS account that owns the reservation.<br>Type: xsd:string |
| groupSet | List of security groups the instance belongs to. Each group's information is wrapped in an `item` element.<br>Type: GroupItemType (p. 224) |

| Name | Description |
|------|-------------|
| instancesSet | A list of instances. Each instance's information is wrapped in an `item` element. <br> Type: RunningInstancesItemType (p. 242) |
| requesterId | ID of the requester that launched the instances on your behalf (e.g., AWS Management Console, Auto Scaling). <br> 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/2010-11-15/">
  <requestId>59dbff89-35bd-4eac-99ed-be587EXAMPLE</requestId>
  <reservationId>r-47a5402e</reservationId>
  <ownerId>999988887777</ownerId>
  <groupSet>
    <item>
      <groupId>default</groupId>
    </item>
  </groupSet>
  <instancesSet>
    <item>
      <instanceId>i-2ba64342</instanceId>
      <imageId>ami-60a54009</imageId>
      <instanceState>
        <code>0</code>
        <name>pending</name>
      </instanceState>
      <privateDnsName></privateDnsName>
      <dnsName></dnsName>
      <keyName>example-key-name</keyName>
      <amiLaunchIndex>0</amiLaunchIndex>
      <instanceType>m1.small</instanceType>
      <launchTime>2007-08-07T11:51:50.000Z</launchTime>
      <placement>
        <availabilityZone>us-east-1b</availabilityZone>
      </placement>
      <monitoring>
```

```
      <enabled>true</enabled>
   </monitoring>
   <virtualizationType>paravirtual</virtualizationType>
   <clientToken/>
   <tagSet/>
   <hypervisor>xen</hypervisor>
 </item>
 <item>
   <instanceId>i-2bc64242</instanceId>
   <imageId>ami-60a54009</imageId>
   <instanceState>
     <code>0</code>
     <name>pending</name>
   </instanceState>
   <privateDnsName></privateDnsName>
   <dnsName></dnsName>
   <keyName>example-key-name</keyName>
   <amiLaunchIndex>1</amiLaunchIndex>
   <instanceType>m1.small</instanceType>
   <launchTime>2007-08-07T11:51:50.000Z</launchTime>
   <placement>
       <availabilityZone>us-east-1b</availabilityZone>
   </placement>
   <monitoring>
     <enabled>true</enabled>
   </monitoring>
   <virtualizationType>paravirtual</virtualizationType>
   <clientToken/>
   <tagSet/>
   <hypervisor>xen</hypervisor>
 <item>
   <instanceId>i-2be64332</instanceId>
   <imageId>ami-60a54009</imageId>
   <instanceState>
     <code>0</code>
     <name>pending</name>
   </instanceState>
   <privateDnsName></privateDnsName>
   <dnsName></dnsName>
   <keyName>example-key-name</keyName>
   <amiLaunchIndex>2</amiLaunchIndex>
   <instanceType>m1.small</instanceType>
   <launchTime>2007-08-07T11:51:50.000Z</launchTime>
   <placement>
       <availabilityZone>us-east-1b</availabilityZone>
   </placement>
   <monitoring>
     <enabled>true</enabled>
   </monitoring>
   <virtualizationType>paravirtual</virtualizationType>
   <clientToken/>
   <tagSet/>
   <hypervisor>xen</hypervisor>
 </item>
 </instancesSet>
</RunInstancesResponse>
```

# Related Operations

- DescribeInstances (p. 84)
- StopInstances (p. 199)
- StartInstances (p. 197)
- TerminateInstances (p. 201)
- AuthorizeSecurityGroupIngress (p. 15)
- RevokeSecurityGroupIngress (p. 187)
- DescribeSecurityGroups (p. 110)
- CreateSecurityGroup (p. 35)
- CreateKeyPair (p. 31)
- ImportKeyPair (p. 152)

# 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, go to Amazon EBS-Backed AMIs and Instances.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `StartInstancesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `instancesSet` | List of instance state changes. Each change's information is wrapped in an `item` element.<br>Type: InstanceStateChangeType (p. 230) |

## 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/2010-11-15/">
  <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 Operations

# 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.

For more information, go to Amazon EBS-Backed AMIs and Instances.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |
| *Force* | Forces the instance to stop. The instance will not have an opportunity to flush file system caches nor file system meta data. If you use this option, you must perform file system check and repair procedures. This option is not recommended for Windows instances.<br>Type: Boolean<br>Default: False | No |

## Response Elements

The elements in the following table come wrapped in a `StopInstancesResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| instancesSet | List of instance state changes. Each change's information is wrapped in an `item` element.<br>Type: InstanceStateChangeType (p. 230) |

# 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/2010-11-15/">
  <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 Operations

- StartInstances (p. 197)
- RunInstances (p. 190)
- DescribeInstances (p. 84)
- TerminateInstances (p. 201)

# 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.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `TerminateInstancesResponse` structure.

| Name | Description |
|------|-------------|
| `requestId` | The ID of the request.<br>Type: xsd:string |
| `instancesSet` | List of instance state changes. Each change's information is wrapped in an `item` element.<br>Type: InstanceStateChangeType (p. 230) |

## 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/2010-11-15/">
  <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 Operations

- DescribeInstances (p. 84)
- RunInstances (p. 190)
- StopInstances (p. 199)
- StartInstances (p. 197)

# UnmonitorInstances

## Description

Disables monitoring for a running instance. For more information about monitoring instances, go to Monitoring Your Instances and Volumes in the *Amazon Elastic Compute Cloud User Guide*.

## Request Parameters

| Name | Description | Required |
|------|-------------|----------|
| *InstanceId.n* | One or more instance IDs.<br>Type: String<br>Default: None | Yes |

## Response Elements

The elements in the following table come wrapped in a `UnmonitorInstancesResponse` structure.

| Name | Description |
|------|-------------|
| requestId | The ID of the request.<br>Type: xsd:string |
| instancesSet | List of monitoring information for one or more instances. Each set of information is wrapped in an `item` element.<br>Type: MonitorInstancesResponseSetItemType (p. 237) |

## 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/2010-11-15/">
   <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 Operations

- MonitorInstances (p. 164)
- RunInstances (p. 190)

# Data Types

**Topics**

# AttachmentSetItemResponseType

The AttachmentSetItemResponseType data type.

## Ancestors

- AttachmentSetResponseType

## Relevant Operations

- DescribeVolumes

## Contents

The following table describes the elements contained in AttachmentSetItemResponseType.

| Name | Description |
|------|-------------|
| volumeId | The ID of the volume.<br>Type: xs:string |
| instanceId | The ID of the instance.<br>Type: xs:string |
| device | How the device is exposed to the instance (e.g., /dev/sdh).<br>Type: xs:string |
| status | Attachment state.<br>Type: xs:string<br>Valid Values: `attaching` \| `attached` \| `detaching` \| `detached` |
| attachTime | Time stamp when the attachment initiated.<br>Type: xs:dateTime |
| deleteOnTermination | Whether the Amazon EBS volume is deleted on instance termination.<br>Type: xs:boolean |

# AvailabilityZoneItemType

The AvailabilityZoneItemType data type.

## Ancestors

- AvailabilityZoneSetType

## Relevant Operations

- DescribeAvailabilityZones

## Contents

The following table describes the elements contained in AvailabilityZoneItemType.

| Name | Description |
|------|-------------|
| zoneName | Name of the Availability Zone.<br>Type: xs:string |
| zoneState | State of the Availability Zone.<br>Type: xs:string |
| regionName | Name of the Region.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| `messageSet` | A list of messages about the Availability Zone. Each message is wrapped in an `item` element.<br>Type: AvailabilityZoneMessageType (p. 208) |

# AvailabilityZoneMessageType

The AvailabilityZoneMessageType data type.

## Ancestors

- AvailabilityZoneMessageSetType

## Relevant Operations

- DescribeAvailabilityZones

## Contents

The following table describes the elements contained in AvailabilityZoneMessageType.

| Name | Description |
|------|-------------|
| `message` | The Availability Zone message.<br>Type: xs:string |

# BlockDeviceMappingItemType

The BlockDeviceMappingItemType data type.

## Ancestors

- BlockDeviceMappingType

## Relevant Operations

- DescribeImageAttribute
- DescribeImages
- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RegisterImage

- RunInstances

## Contents

The following table describes the elements contained in BlockDeviceMappingItemType.

| Name | Description |
| --- | --- |
| deviceName | The device name (e.g., /dev/sdh).<br>Type: xs:string |
| virtualName | The virtual device name.<br>Type: xs:string |
| ebs | Parameters used to automatically set up Amazon EBS volumes when the instance is launched.<br>Type: EbsBlockDeviceType (p. 223) |
| noDevice | Include this empty element to indicate that you want to suppress the specified device from the mapping. |

# BundleInstanceS3StorageType

The BundleInstanceS3StorageType data type.

## Ancestors

- BundleInstanceTaskStorageType (p. 211)

## Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask
- BundleInstance

## Contents

The following table describes the elements contained in BundleInstanceS3StorageType.

| Name | Description |
| --- | --- |
| awsAccessKeyId | The Access Key ID of the owner of the Amazon S3 bucket.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| `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.<br><br>Type: xs:string |
| `prefix` | The beginning of the file name of the AMI.<br><br>Type: xs: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.<br><br>Type: xs:string |
| `uploadPolicySignature` | The signature of the Base64 encoded JSON document.<br><br>Type: xs:string |

# BundleInstanceTaskErrorType

The BundleInstanceTaskErrorType data type.

## Ancestors

- BundleInstanceTaskType (p. 211)

## Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask

## Contents

The following table describes the elements contained in BundleInstanceTaskErrorType.

| Name | Description |
|------|-------------|
| `code` | Error code.<br>Type: xs:string |
| `message` | Error message.<br>Type: xs:string |

# BundleInstanceTaskStorageType

The BundleInstanceTaskStorageType data type.

## Ancestors

-
- BundleInstanceType

## Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask
- BundleInstance

## Contents

The following table describes the elements contained in BundleInstanceTaskStorageType.

| Name | Description |
|------|-------------|
| S3 | Amazon S3 storage location. <br> Type: BundleInstanceS3StorageType (p. 209) |

# BundleInstanceTaskType

The BundleInstanceTaskType data type.

## Ancestors

- BundleInstanceResponseType
- BundleInstanceTasksSetType
- CancelBundleTaskResponseType

## Relevant Operations

- BundleInstance
- DescribeBundleTasks
- CancelBundleTask

# Contents

The following table describes the elements contained in BundleInstanceTaskType.

| Name | Description |
|------|-------------|
| instanceId | Instance associated with this bundle task.<br>Type: xs:string |
| bundleId | Identifier for this task.<br>Type: xs:string |
| state | The state of the task.<br>Type: xs:string<br>Valid Values: `pending` \| `waiting-for-shutdown` \| `bundling` \| `storing` \| `cancelling` \| `complete` \| `failed` |
| startTime | The time this task started.<br>Type: xs:dateTime |
| updateTime | The time of the most recent update for the task.<br>Type: xs:dateTime |
| storage | Amazon S3 storage locations.<br>Type: BundleInstanceTaskStorageType (p. 211) |
| progress | The level of task completion, in percent (e.g., 20%).<br>Type: xs:string |
| error | If the task fails, a description of the error.<br>Type: BundleInstanceTaskErrorType (p. 210) |

# CancelSpotInstanceRequestsResponseSetItemType

The CancelSpotInstanceRequestsResponseSetItemType data type.

## Ancestors

- CancelSpotInstanceRequestsResponseSetType

## Relevant Operations

- CancelSpotInstanceRequests

## Contents

The following table describes the elements contained in CancelSpotInstanceRequestsResponseSetItemType.

| Name | Description |
|------|-------------|
| `spotInstanceRequestId` | The ID of the Spot Instance request.<br>Type: xs:string |
| `state` | The state of the Spot Instance request.<br>Type: xs:string<br>Valid Values: `active` \| `open` \| `closed` \| `cancelled` \| `failed` |

# ConversionTaskType

The ConversionTaskType data type.

## Ancestors

- ConversionTaskSetType
- ImportInstanceResponse
- ImportVolumeResponse

## Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

## Contents

The following table describes the elements contained in ConversionTaskType.

| Name | Description |
|------|-------------|
| `conversionTaskId` | ID of the conversion task<br>Type: xs:string |
| `expirationTime` | When the task expires. If the upload isn't complete before the expiration time, we automatically cancel the task.<br>Type: xs:string |
| `importVolume` | If the task is for importing a volume, this contains information about the import volume task.<br>Type: ImportVolumeTaskDetailsType (p. 227) |
| `importInstance` | If the task is for importing an instance, this contains information about the import instance task.<br>Type: ImportInstanceTaskDetailsType (p. 225) |

| Name | Description |
|------|-------------|
| `state` | State of the conversion task.<br>Type: xs:string<br>Valid Values: `active` \| `cancelling` \| `cancelled` \| `completed` |
| `statusMessage` | Status message related to the conversion task.<br>Type: xs:string |

# CreateVolumePermissionItemType

The CreateVolumePermissionItemType data type.

## Ancestors

- CreateVolumePermissionListType

## Relevant Operations

- ModifySnapshotAttribute
- DescribeSnapshotAttribute

## Contents

The following table describes the elements contained in CreateVolumePermissionItemType.

| Name | Description |
|------|-------------|
| `userId` | ID of an AWS account that can create volumes from the snapshot.<br>Type: xs:string |
| `group` | Group that is allowed to create volumes from the snapshot.<br>Type: xs:string<br>Valid Value: `all` |

# DescribeAddressesResponseItemType

The DescribeAddressesResponseItemType data type.

## Ancestors

- DescribeAddressesResponseInfoType

# Relevant Operations

- DescribeAddresses

# Contents

The following table describes the elements contained in DescribeAddressesResponseItemType.

| Name | Description |
|------|-------------|
| `publicIp` | The public IP address.<br>Type: xs:string |
| `instanceId` | The ID of the instance.<br>Type: xs:string |

# DescribeImagesResponseItemType

The DescribeImagesResponseItemType data type.

## Ancestors

- DescribeImagesResponseInfoType

## Relevant Operations

- DescribeImages

## Contents

The following table describes the elements contained in DescribeImagesResponseItemType.

| Name | Description |
|------|-------------|
| `imageId` | The ID of the AMI.<br>Type: xs:string |
| `imageLocation` | The location of the AMI.<br>Type: xs:string |
| `imageState` | Current state of the AMI. If the operation returns `available`, the image is successfully registered and available for launching.<br>Type: xs:string<br>`available`\|`pending`\|`failed` |
| `imageOwnerId` | AWS account ID of the image owner.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| isPublic | Returns `true` if this image has public launch permissions. Returns `false` if it only has implicit and explicit launch permissions.<br>Type: xs:boolean |
| productCodes | Product codes associated with the AMI. Each code's information is wrapped in an `item` element.<br>Type: ProductCodesSetItemType (p. 239) |
| architecture | The architecture of the image.<br>Type: xs:string |
| imageType | The type of image (machine, kernel, or RAM disk).<br>Type: xs:string |
| kernelId | The kernel associated with the image, if any. Only applicable for machine images.<br>Type: xs:string |
| ramdiskId | The RAM disk associated with the image, if any. Only applicable for machine images.<br>Type: xs:string |
| platform | Value is `Windows` for Windows AMIs; otherwise blank.<br>Type: xs:string |
| stateReason | The reason for the state change. See StateReasonType (p. 249) for a list of supported state change codes.<br>Type: StateReasonType (p. 249) |
| imageOwnerAlias | The AWS account alias (e.g., `amazon`, `self`, etc.) or AWS account ID that owns the AMI.<br>Type: xs:string |
| name | The name of the AMI that was provided during image creation.<br>Type: xs:string |
| description | The description of the AMI that was provided during image creation.<br>Type: xs:string |
| rootDeviceType | The root device type used by the AMI. The AMI can use an Amazon EBS or instance store root device.<br>Type: xs:string<br>Valid Values: `ebs` \| `instance-store` |
| rootDeviceName | The root device name (e.g., /dev/sda1, or xvda).<br>Type: xs:string |
| blockDeviceMapping | A list of block device mappings for the image. Each mapping's information is wrapped in an `item` element.<br>Type: BlockDeviceMappingItemType (p. 208) |

| Name | Description |
|------|-------------|
| virtualizationType | The type of virtualization of the AMI.<br>Type: xs:string<br>Valid Values: `paravirtual` \| `hvm` |
| tagSet | Tags assigned to the resource. Each tag's information is wrapped in an `item` element.<br>Type: ResourceTagSetItemType (p. 242) |
| hypervisor | The image's hypervisor type.<br>Type: xs:string<br>Valid Values: `ovm` \| `xen` |

# DescribeKeyPairsResponseItemType

The DescribeKeyPairsResponseItemType data type.

## Ancestors

- DescribeKeyPairsResponseInfoType

## Relevant Operations

- DescribeKeyPairs

## Contents

The following table describes the elements contained in DescribeKeyPairsResponseItemType.

| Name | Description |
|------|-------------|
| keyName | Name of the key pair.<br>Type: xs: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.<br>Type: xs:string |

# DescribeReservedInstancesOfferingsResponseSetItemType

The DescribeReservedInstancesOfferingsResponseSetItemType data type.

# Ancestors

- DescribeReservedInstancesOfferingsResponseSetType

# Relevant Operations

- DescribeReservedInstancesOfferings

# Contents

The following table describes the elements contained in
DescribeReservedInstancesOfferingsResponseSetItemType.

| Name | Description |
|------|-------------|
| reservedInstancesOff eringId | The ID of the Reserved Instance offering. <br> Type: xs:string |
| instanceType | The instance type on which the Reserved Instance can be used. <br> Type: xs:string |
| availabilityZone | The Availability Zone in which the Reserved Instance can be used. <br> Type: xs:string |
| duration | The duration of the Reserved Instance, in seconds. <br> Type: xs:long |
| fixedPrice | The purchase price of the Reserved Instance. <br> Type: xs:double |
| usagePrice | The usage price of the Reserved Instance, per hour. <br> Type: xs:double |
| productDescription | The Reserved Instance description. <br> Type: xs:string <br> Valid Values: `Linux/UNIX` \| `Linux/UNIX (Amazon VPC)` \| `Windows` \| `Windows (Amazon VPC)` |

# DescribeReservedInstancesResponseSetItemType

The DescribeReservedInstancesResponseSetItemType data type.

## Ancestors

- DescribeReservedInstancesResponseSetType

# Relevant Operations

- DescribeReservedInstances

# Contents

The following table describes the elements contained in DescribeReservedInstancesResponseSetItemType.

| Name | Description |
|------|-------------|
| reservedInstancesId | The ID of the Reserved Instance.<br>Type: xs:string |
| instanceType | The instance type on which the Reserved Instance can be used.<br>Type: xs:string |
| availabilityZone | The Availability Zone in which the Reserved Instance can be used.<br>Type: xs:string |
| start | The date and time the Reserved Instance started.<br>Type: xs:dateTime |
| duration | The duration of the Reserved Instance, in seconds.<br>Type: xs:long |
| fixedPrice | The purchase price of the Reserved Instance.<br>Type: xs:double |
| usagePrice | The usage price of the Reserved Instance, per hour.<br>Type: xs:double |
| instanceCount | The number of Reserved Instances purchased.<br>Type: xs:integer |
| productDescription | The Reserved Instance description.<br>Type: xs:string<br>Valid Values: `Linux/UNIX` \| `Linux/UNIX (Amazon VPC)` \| `Windows` \| `Windows (Amazon VPC)` |
| state | The state of the Reserved Instance purchase.<br>Type: xs:string<br>Valid Values: `payment-pending` \| `active` \| `payment-failed` \| `retired` |
| tagSet | Tags assigned to the resource. Each tag's information is wrapped in an `item` element.<br>Type: ResourceTagSetItemType (p. 242) |

# DescribeSnapshotsSetItemResponseType

The DescribeSnapshotsSetItemResponseType data type.

## Ancestors

- DescribeSnapshotsSetResponseType

## Relevant Operations

- DescribeSnapshots

## Contents

The following table describes the elements contained in DescribeSnapshotsSetItemResponseType.

| Name | Description |
|------|-------------|
| snapshotId | The ID of the snapshot.<br>Type: xs:string |
| volumeId | The ID of the volume.<br>Type: xs:string |
| status | Snapshot state.<br>Type: xs:string<br>Valid Values: pending \| completed \| error |
| startTime | Time stamp when the snapshot was initiated.<br>Type: xs:dateTime |
| progress | The progress of the snapshot, in percentage.<br>Type: xs:string |
| ownerId | ID of the AWS account that owns the snapshot.<br>Type: xs:string |
| volumeSize | The size of the volume, in GiB.<br>Type: xs:string |
| description | Description of the snapshot.<br>Type: xs:string |
| ownerAlias | The AWS account alias (amazon, self, etc.) or AWS account ID that owns the AMI.<br>Type: xs:string |
| tagSet | Tags assigned to the resource. Each tag's information is wrapped in an item element.<br>Type: ResourceTagSetItemType (p. 242) |

# DescribeVolumesSetItemResponseType

The DescribeVolumesSetItemResponseType data type.

## Ancestors

- ItemType-DescribeVolumesSetResponseType

## Relevant Operations

- DescribeVolumes

## Contents

The following table describes the elements contained in DescribeVolumesSetItemResponseType.

| Name | Description |
|------|-------------|
| `volumeId` | The ID of the volume. <br> Type: xs:string |
| `size` | The size of the volume, in GiBs. <br> Type: xs:string |
| `snapshotId` | Snapshot from which the volume was created (optional). <br> Type: xs:string |
| `availabilityZone` | Availability Zone in which the volume was created. <br> Type: xs:string |
| `status` | State of the volume. <br> Type: xs:string <br> Valid Values: `creating` \| `available` \| `in-use` \| `deleting` \| `deleted` \| `error` |
| `createTime` | Time stamp when volume creation was initiated. <br> Type: xs:dateTime |
| `attachmentSet` | Volume attachment information, wrapped in an `item` element. <br> Type: AttachmentSetItemResponseType (p. 206) |
| `tagSet` | Tags assigned to the resource. Each tag's information is wrapped in an `item` element. <br> Type: ResourceTagSetItemType (p. 242) |

# DiskImageDescriptionType

The DiskImageDescriptionType data type.

# Ancestors

- ImportInstanceVolumeDetailItemType (p. 226)
- ImportVolumeTaskDetailsType (p. 227)

## Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

## Contents

The following table describes the elements contained in DiskImageDescriptionType.

| Name | Description |
|------|-------------|
| `format` | Disk image format. <br> Type: xs:string |
| `size` | Size of the disk image. <br> Type: xs:long |
| `importManifestUrl` | A pre-signed URL for the import manifest stored in Amazon S3. For information about creating a pre-signed 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*. <br> Type: xs:string |
| `checksum` | Checksum computed for the disk image. <br> Type: xs:string |

# DiskImageVolumeDescriptionType

The DiskImageVolumeDescriptionType data type.

## Ancestors

- ImportInstanceVolumeDetailItemType (p. 226)
- ImportVolumeTaskDetailsType (p. 227)

## Relevant Operations

- DescribeConversionTasks
- ImportInstance

• ImportVolume

## Contents

The following table describes the elements contained in DiskImageVolumeDescriptionType.

| Name | Description |
|------|-------------|
| size | Size of the volume.<br>Type: xs:integer |
| id | Volume identifier.<br>Type: xs:string |

# EbsBlockDeviceType

The EbsBlockDeviceType data type.

## Ancestors

• BlockDeviceMappingItemType (p. 208)

## Relevant Operations

• DescribeImageAttribute

• DescribeImages

• RequestSpotInstances

• DescribeSpotInstanceRequests

• RequestSpotInstances

• RegisterImage

• RunInstances

## Contents

The following table describes the elements contained in EbsBlockDeviceType.

| Name | Description |
|------|-------------|
| snapshotId | The ID of the snapshot.<br>Type: xs:string |
| volumeSize | The size of the volume, in GiBs. If you're specifying a block device mapping, this is required if you're not creating a volume from a snapshot.<br>Type: integer |

| Name | Description |
|------|-------------|
| `deleteOnTermination` | Whether the Amazon EBS volume is deleted on instance termination. Type: xs:boolean |

# EbsInstanceBlockDeviceMappingResponseType

The EbsInstanceBlockDeviceMappingResponseType data type.

## Ancestors

- InstanceBlockDeviceMappingResponseItemType (p. 228)

## Relevant Operations

- DescribeInstanceAttribute
- DescribeInstances
- RunInstances

## Contents

The following table describes the elements contained in EbsInstanceBlockDeviceMappingResponseType.

| Name | Description |
|------|-------------|
| `volumeId` | The ID of the Amazon EBS volume. Type: xs:string |
| `status` | Attachment state. Type: xs:string Valid Values: `attaching` \| `attached` \| `detaching` \| `detached` |
| `attachTime` | Time stamp when the attachment initiated. Type: xs:dateTime |
| `deleteOnTermination` | Whether the Amazon EBS volume is deleted on instance termination. Type: xs:boolean |

# GroupItemType

The GroupItemType data type.

## Ancestors

- GroupSetType

# Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- DescribeInstances
- RunInstances
- RunInstances

# Contents

The following table describes the elements contained in GroupItemType.

| Name | Description |
| --- | --- |
| `groupId` | Name of the security group.<br>Type: xs:string |

# ImportInstanceTaskDetailsType

The ImportInstanceTaskDetailsType data type.

## Ancestors

- ConversionTaskType (p. 213)

## Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

## Contents

The following table describes the elements contained in ImportInstanceTaskDetailsType.

| Name | Description |
| --- | --- |
| `volumes` | A list of instance volumes for import. Each volume's information is wrapped in an `item` element.<br>Type: ImportInstanceVolumeDetailItemType (p. 226) |
| `instanceId` | The ID of the resulting instance in Amazon EC2.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| platform | Instance operating system.<br>Type: xs:string<br>Valid Value: `Windows` |
| description | Optional description of the instance.<br>Type: xs:string |

# ImportInstanceVolumeDetailItemType

The ImportInstanceVolumeDetailItemType data type.

## Ancestors

- ImportInstanceVolumeDetailSetType

## Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

## Contents

The following table describes the elements contained in ImportInstanceVolumeDetailItemType.

| Name | Description |
|------|-------------|
| bytesConverted | Number of bytes converted so far.<br>Type: xs:long |
| availabilityZone | The Availability Zone where the resulting instance will reside.<br>Type: xs:string |
| image | Information about the image.<br>Type: DiskImageDescriptionType (p. 221) |
| description | Description you provided when starting the import instance task.<br>Type: xs:string |
| volume | Information about the volume.<br>Type: DiskImageVolumeDescriptionType (p. 222) |
| status | Status of the import of this particular disk image.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| statusMessage | Status information or errors related to the disk image.<br>Type: xs:string |

# ImportVolumeTaskDetailsType

The ImportVolumeTaskDetailsType data type.

## Ancestors

- ConversionTaskType (p. 213)

## Relevant Operations

- DescribeConversionTasks
- ImportInstance
- ImportVolume

## Contents

The following table describes the elements contained in ImportVolumeTaskDetailsType.

| Name | Description |
|------|-------------|
| bytesConverted | Number of bytes converted so far.<br>Type: xs:long |
| availabilityZone | The Availability Zone where the resulting volume will reside.<br>Type: xs:string |
| description | Description you provided when starting the import volume task.<br>Type: xs:string |
| image | Information about the image.<br>Type: DiskImageDescriptionType (p. 221) |
| volume | Information about the volume.<br>Type: DiskImageVolumeDescriptionType (p. 222) |

# InstanceBlockDeviceMappingItemType

The InstanceBlockDeviceMappingItemType data type.

## Ancestors

- InstanceBlockDeviceMappingType

## Relevant Operations

- ModifyInstanceAttribute

## Contents

The following table describes the elements contained in InstanceBlockDeviceMappingItemType.

| Name | Description |
|------|-------------|
| deviceName | The device name (e.g., /dev/sdh, or xvdh).<br>Type: xs:string |
| virtualName | The virtual device name.<br>Type: xs:string |
| ebs | Parameters used to automatically set up Amazon EBS volumes when the instance is launched.<br>Type: InstanceEbsBlockDeviceType (p. 229) |
| noDevice | Include this empty element to indicate that you want to suppress the specified device from the mapping. |

# InstanceBlockDeviceMappingResponseItemType

The InstanceBlockDeviceMappingResponseItemType data type.

## Ancestors

- InstanceBlockDeviceMappingResponseType

## Relevant Operations

- DescribeInstanceAttribute
- DescribeInstances
- RunInstances

## Contents

The following table describes the elements contained in InstanceBlockDeviceMappingResponseItemType.

| Name | Description |
|------|-------------|
| deviceName | How the device is exposed to the instance (e.g., /dev/sdh, or xvdh). <br> Type: xs:string |
| ebs | Parameters used to automatically set up Amazon EBS volumes when the instance is launched. <br> Type: EbsInstanceBlockDeviceMappingResponseType (p. 224) |

# InstanceEbsBlockDeviceType

The InstanceEbsBlockDeviceType data type.

## Ancestors

- InstanceBlockDeviceMappingItemType (p. 227)

## Relevant Operations

- ModifyInstanceAttribute

## Contents

The following table describes the elements contained in InstanceEbsBlockDeviceType.

| Name | Description |
|------|-------------|
| deleteOnTermination | Whether the Amazon EBS volume is deleted on instance termination. <br> Type: xs:boolean |
| volumeId | The ID of the Amazon EBS volume. <br> Type: xs:string |

# InstanceMonitoringStateType

The InstanceMonitoringStateType data type.

## Ancestors

- MonitorInstancesResponseSetItemType (p. 237)
- RunningInstancesItemType (p. 242)

## Relevant Operations

- MonitorInstances

- UnmonitorInstances
- DescribeInstances
- RunInstances

## Contents

The following table describes the elements contained in InstanceMonitoringStateType.

| Name | Description |
|------|-------------|
| state | State of monitoring for the instance.<br>Type: xs:string<br>Valid Values: `disabled` \| `enabled` |

# InstanceStateChangeType

The InstanceStateChangeType data type.

## Ancestors

- InstanceStateChangeSetType

## Relevant Operations

- StartInstances
- StopInstances
- TerminateInstances

## Contents

The following table describes the elements contained in InstanceStateChangeType.

| Name | Description |
|------|-------------|
| instanceId | The instance ID.<br>Type: xs:string |
| currentState | The current state of the instance.<br>Type: InstanceStateType (p. 231) |
| previousState | The previous state of the instance.<br>Type: InstanceStateType (p. 231) |

# InstanceStateType

The InstanceStateType data type.

## Ancestors

- InstanceStateChangeType (p. 230)
- InstanceStateChangeType (p. 230)
- RunningInstancesItemType (p. 242)

## Relevant Operations

- StartInstances
- StopInstances
- TerminateInstances
- DescribeInstances
- RunInstances

## Contents

The following table describes the elements contained in InstanceStateType.

| Name | Description |
|------|-------------|
| `code` | A 16-bit unsigned integer. The high byte is an opaque internal value and should be ignored. The low byte is set based on the state represented. <br> Type: integer <br> Valid Values: `0` (pending) \| `16` (running) \| `32` (shutting-down) \| `48` (terminated) \| `64` (stopping) \| `80` (stopped) <br><br> 📓 **Note** <br><br> A code of 272 typically indicates a problem with the host running the instance. A reboot might resolve the problem (be aware that for a Windows system, a reboot is a hard reboot that might result in data corruption). If a reboot doesn't work, post a message to the EC2 forums with the instance ID. Typically someone from the EC2 team can get your instance back to a normal state. |
| `name` | The current state of the instance. <br> Type: xs:string <br> Valid Values: `pending` \| `running` \| `shutting-down` \| `terminated` \| `stopping` \| `stopped` |

# IpPermissionType

The IpPermissionType data type.

## Ancestors

- IpPermissionSetType

## Relevant Operations

- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

## Contents

The following table describes the elements contained in IpPermissionType.

| Name | Description |
|------|-------------|
| `ipProtocol` | IP protocol.<br>Type: xs:string<br>Valid Values: `tcp` \| `udp` \| `icmp` |
| `fromPort` | Start of port range for the TCP and UDP protocols, or an ICMP type number. An ICMP type number of -1 indicates a wildcard (i.e., any ICMP type number).<br>Type: integer |
| `toPort` | End of port range for the TCP and UDP protocols, or an ICMP code. An ICMP code of -1 indicates a wildcard (i.e., any ICMP code).<br>Type: integer |
| `groups` | A list of security group and AWS account ID pairs. Each pair is wrapped in an `item` element.<br>Type: UserIdGroupPairType (p. 252) |
| `ipRanges` | A list of IP ranges. Each range is wrapped in an `item` element.<br>Type: IpRangeItemType (p. 232) |

# IpRangeItemType

The IpRangeItemType data type.

## Ancestors

- IpRangeSetType

# Relevant Operations

- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

# Contents

The following table describes the elements contained in IpRangeItemType.

| Name | Description |
|------|-------------|
| `cidrIp` | CIDR range. Cannot be used when specifying a source security group.<br>Type: xs:string |

# LaunchPermissionItemType

The LaunchPermissionItemType data type.

## Ancestors

- LaunchPermissionListType

## Relevant Operations

- DescribeImageAttribute
- ModifyImageAttribute

## Contents

The following table describes the elements contained in LaunchPermissionItemType.

| Name | Description |
|------|-------------|
| `group` | Name of the group.<br>Type: xs:string<br>Valid Value: `all` |
| `userId` | AWS account ID.<br>Type: xs:string |

# LaunchSpecificationRequestType

The LaunchSpecificationRequestType data type.

## Ancestors

- RequestSpotInstancesType

## Relevant Operations

- RequestSpotInstances

## Contents

The following table describes the elements contained in LaunchSpecificationRequestType.

| Name | Description |
|------|-------------|
| imageId | The AMI ID.<br>Type: xs:string |
| keyName | The name of the key pair.<br>Type: xs:string |
| groupSet | A list of security groups. Each group's information is wrapped in an `item` element.<br>Type: GroupItemType (p. 224) |
| userData | Base64-encoded MIME user data made available to the instance(s) in the reservation.<br>Type: UserDataType (p. 251) |
| addressingType | Deprecated.<br>Type: xs:string |
| instanceType | The instance type.<br>Type: xs:string |
| placement | Placement information for the instance.<br>Type: PlacementRequestType (p. 238) |
| kernelId | The ID of the kernel to select.<br>Type: xs: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.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| `blockDeviceMapping` | A list of block device mappings for the instance. Each mapping's information is wrapped in an `item` element.<br>Type: BlockDeviceMappingItemType (p. 208) |
| `monitoring` | Whether to enable monitoring for the instance.<br>Type: MonitoringInstanceType (p. 236) |
| `subnetId` | The Amazon VPC subnet ID within which to launch the instance(s) for Amazon Virtual Private Cloud.<br>Type: xs:string |

# LaunchSpecificationResponseType

The LaunchSpecificationResponseType data type.

## Ancestors

- SpotInstanceRequestSetItemType (p. 247)

## Relevant Operations

- DescribeSpotInstanceRequests

## Contents

The following table describes the elements contained in LaunchSpecificationResponseType.

| Name | Description |
|------|-------------|
| `imageId` | The AMI ID.<br>Type: xs:string |
| `keyName` | The name of the key pair.<br>Type: xs:string |
| `groupSet` | A list of security groups. Each group's information is wrapped in an `item` element.<br>Type: GroupItemType (p. 224) |
| `addressingType` | Deprecated.<br>Type: xs:string |
| `instanceType` | The instance type.<br>Type: xs:string |
| `placement` | Placement information for the instance.<br>Type: PlacementRequestType (p. 238) |

| Name | Description |
|---|---|
| `kernelId` | The ID of the kernel to select.<br>Type: xs: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.<br>Type: xs:string |
| `blockDeviceMapping` | A list of block device mappings for the instance. Each mapping's information is wrapped in an `item` element.<br>Type: BlockDeviceMappingItemType (p. 208) |
| `monitoring` | Whether to enable monitoring for the instance.<br>Type: MonitoringInstanceType (p. 236) |
| `subnetId` | The Amazon VPC subnet ID within which to launch the instance(s) for Amazon Virtual Private Cloud.<br>Type: xs:string |

# MonitoringInstanceType

The MonitoringInstanceType data type.

## Ancestors

- LaunchSpecificationRequestType (p. 234)
- LaunchSpecificationResponseType (p. 235)
- RunInstancesType

## Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

## Contents

The following table describes the elements contained in MonitoringInstanceType.

| Name | Description |
|---|---|
| `enabled` | Whether monitoring is enabled for the instance.<br>Type: xs:boolean |

# MonitorInstancesResponseSetItemType

The MonitorInstancesResponseSetItemType data type.

## Ancestors

- MonitorInstancesResponseSetType

## Relevant Operations

- MonitorInstances
- UnmonitorInstances

## Contents

The following table describes the elements contained in MonitorInstancesResponseSetItemType.

| Name | Description |
|------|-------------|
| `instanceId` | Instance ID.<br>Type: xs:string |
| `monitoring` | Monitoring information.<br>Type: InstanceMonitoringStateType (p. 229) |

# PlacementGroupInfoType

## Relevant Operations

- DescribePlacementGroups

## Contents

The following table describes the elements contained in PlacementGroupInfoType.

| Name | Description |
|------|-------------|
| `groupName` | Name of the placement group.<br>Type: xs:string |
| `strategy` | The placement strategy.<br>Type: xs:string<br>Valid Values: `cluster` |

| Name | Description |
|------|-------------|
| `state` | Status of the placement group.<br>Type: xs:string<br>Valid Values: `pending` \| `available` \| `deleting` \| `deleted` |

# PlacementRequestType

The PlacementRequestType data type.

## Ancestors

- LaunchSpecificationRequestType (p. 234)
- LaunchSpecificationResponseType (p. 235)
- RunInstancesType

## Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

## Contents

The following table describes the elements contained in PlacementRequestType.

| Name | Description |
|------|-------------|
| `availabilityZone` | Availability Zone for launching the instance.<br>Type: xs:string |
| `groupName` | The name of a placement group for the instance.<br>Type: xs:string |

# PlacementResponseType

The PlacementResponseType data type.

## Ancestors

- RunningInstancesItemType (p. 242)

# Relevant Operations

- DescribeInstances
- RunInstances

# Contents

The following table describes the elements contained in PlacementResponseType.

| Name | Description |
|------|-------------|
| `availabilityZone` | The Availability Zone of the instance.<br>Type: xs:string |
| `groupName` | The ID of the placement group the instance is in (for cluster compute instances).<br>Type: xs:string |

# ProductCodeItemType

The ProductCodeItemType data type.

## Ancestors

- ProductCodeListType

## Relevant Operations

- DescribeImageAttribute
- ModifyImageAttribute

## Contents

The following table describes the elements contained in ProductCodeItemType.

| Name | Description |
|------|-------------|
| `productCode` | Product code.<br>Type: xs:string |

# ProductCodesSetItemType

The ProductCodesSetItemType data type.

## Ancestors

- ProductCodesSetType

## Relevant Operations

- DescribeImages
- DescribeInstances
- RunInstances

## Contents

The following table describes the elements contained in ProductCodesSetItemType.

| Name | Description |
| --- | --- |
| `productCode` | Product code.<br>Type: xs:string |

# ProductDescriptionSetItemType

The ProductDescriptionSetItemType data type.

## Ancestors

- ProductDescriptionSetType

## Relevant Operations

- DescribeSpotPriceHistory

## Contents

The following table describes the elements contained in ProductDescriptionSetItemType.

| Name | Description |
| --- | --- |
| `productDescription` | The description of the AMI.<br>Type: xs:string<br>Valid Values: `Linux/UNIX` \| `SUSE Linux` \| `Windows` |

# RegionItemType

The RegionItemType data type.

## Ancestors

- RegionSetType

## Relevant Operations

- DescribeRegions

## Contents

The following table describes the elements contained in RegionItemType.

| Name | Description |
|------|-------------|
| regionName | Name of the Region.<br>Type: xs:string |
| regionEndpoint | Region service endpoint.<br>Type: xs:string |

# ReservationInfoType

The ReservationInfoType data type.

## Ancestors

- ReservationSetType

## Relevant Operations

- DescribeInstances

## Contents

The following table describes the elements contained in ReservationInfoType.

| Name | Description |
|------|-------------|
| reservationId | Unique ID of the reservation.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| `ownerId` | ID of the AWS account that owns the reservation.<br>Type: xs:string |
| `groupSet` | A list of security groups. Each group's information is wrapped in an `item` element.<br>Type: GroupItemType (p. 224) |
| `instancesSet` | A list of instances. Each instance's information is wrapped in an `item` element.<br>Type: RunningInstancesItemType (p. 242) |
| `requesterId` | ID of the requester that launched the instances on your behalf (e.g., AWS Management Console, Auto Scaling).<br>Type: xs:string |

# ResourceTagSetItemType

The ResourceTagSetItemType data type.

## Relevant Operations

- DescribeImages
- DescribeInstances
- DescribeVolumes
- DescribeSnapshots
- DescribeSpotInstanceRequests

## Contents

The following table describes the elements contained in ResourceTagSetItemType.

| Name | Description |
|------|-------------|
| `key` | Tag key.<br>Type: `xs:string` |
| `value` | Tag value.<br>Type: `xs:string` |

# RunningInstancesItemType

The RunningInstancesItemType data type.

# Ancestors

- RunningInstancesSetType

# Relevant Operations

- DescribeInstances
- RunInstances

# Contents

The following table describes the elements contained in RunningInstancesItemType.

| Name | Description |
|------|-------------|
| `instanceId` | Unique ID of the instance launched.<br>Type: xs:string |
| `imageId` | Image ID of the AMI used to launch the instance.<br>Type: xs:string |
| `instanceState` | The current state of the instance.<br>Type: InstanceStateType (p. 231) |
| `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.<br>Type: xs: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.<br>Type: xs:string |
| `reason` | Reason for the most recent state transition. This might be an empty string.<br>Type: xs:string |
| `keyName` | If this instance was launched with an associated key pair, this displays the key pair name.<br>Type: xs:string |
| `amiLaunchIndex` | The AMI launch index, which can be used to find this instance within the launch group.<br>Type: xs:string |
| `productCodes` | Product codes attached to this instance. Each product code's information is wrapped in an `item` element.<br>Type: ProductCodesSetItemType (p. 239) |

| Name | Description |
|------|-------------|
| `instanceType` | The instance type (e.g., m1.small).<br>Type: xs:string |
| `launchTime` | The time the instance launched.<br>Type: xs:dateTime |
| `placement` | The location where the instance launched.<br>Type: PlacementResponseType (p. 238) |
| `kernelId` | Kernel associated with this instance.<br>Type: xs:string |
| `ramdiskId` | RAM disk associated with this instance.<br>Type: xs:string |
| `platform` | Platform of the instance (e.g., Windows).<br>Type: xs:string |
| `monitoring` | Whether monitoring is enabled for the instance.<br>Type: InstanceMonitoringStateType (p. 229) |
| `subnetId` | The Amazon VPC subnet ID in which the instance is running.<br>Type: xs:string |
| `vpcId` | The Amazon VPC in which the instance is running.<br>Type: xs:string |
| `privateIpAddress` | The private IP address assigned to the instance.<br>Type: xs:string |
| `ipAddress` | The IP address of the instance.<br>Type: xs:string |
| `stateReason` | The reason for the most recent state transition. See StateReasonType (p. 249) for a listing of supported state change codes.<br>Type: StateReasonType (p. 249) |
| `architecture` | The architecture of the image.<br>Type: xs:string<br>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.<br>Type: xs:string<br>Valid Values: `ebs` \| `instance-store` |
| `rootDeviceName` | The root device name (e.g., /dev/sda1).<br>Type: xs:string |

| Name | Description |
|------|-------------|
| blockDeviceMapping | A list of block device mappings for the instance. Each mapping's information is wrapped in an item element.<br>Type: InstanceBlockDeviceMappingResponseItemType (p. 228) |
| instanceLifecycle | Whether this is a Spot Instance.<br>Type: xs:string<br>Valid Values: spot \| blank (no value) |
| spotInstanceRequestId | The ID of the Spot Instance request.<br>Type: xs:string |
| virtualizationType | The instance's virtualization type.<br>Type: xs:string<br>Valid Values: paravirtual \| hvm |
| clientToken | Idempotency token you provided when you launched the instance.<br>Type: xs:string |
| tagSet | Tags assigned to the resource. Each tag's information is wrapped in an item element.<br>Type: ResourceTagSetItemType (p. 242) |
| hypervisor | The instance's hypervisor type.<br>Type: xs:string<br>Valid Values: ovm \| xen |

# SecurityGroupItemType

The SecurityGroupItemType data type.

## Ancestors

- SecurityGroupSetType

## Relevant Operations

- DescribeSecurityGroups

## Contents

The following table describes the elements contained in SecurityGroupItemType.

| Name | Description |
|------|-------------|
| ownerId | AWS account ID of the owner of the security group.<br>Type: xs:string |

| Name | Description |
|------|-------------|
| groupName | Name of the security group.<br>Type: xs:string |
| groupDescription | Description of the security group.<br>Type: xs:string |
| ipPermissions | A list of IP permissions associated with the security group. Each permission is wrapped in an `item` element.<br>Type: IpPermissionType (p. 232) |

# SpotDatafeedSubscriptionType

The SpotDatafeedSubscriptionType data type.

## Ancestors

- CreateSpotDatafeedSubscriptionResponseType
- DescribeSpotDatafeedSubscriptionResponseType

## Relevant Operations

- CreateSpotDatafeedSubscription
- DescribeSpotDatafeedSubscription

## Contents

The following table describes the elements contained in SpotDatafeedSubscriptionType.

| Name | Description |
|------|-------------|
| ownerId | The AWS account ID of the account.<br>Type: xs:string |
| bucket | The Amazon S3 bucket where the Spot Instance datafeed is located.<br>Type: xs:string |
| prefix | Prefix that is prepended to datafeed files.<br>Type: xs:string |
| state | The state of the Spot Instance datafeed subscription.<br>Type: xs:string<br>Valid Values: `Active` \| `Inactive` |
| fault | Fault codes for the Spot Instance request, if any.<br>Type: SpotInstanceStateFaultType (p. 248) |

# SpotInstanceRequestSetItemType

The SpotInstanceRequestSetItemType data type.

## Ancestors

- SpotInstanceRequestSetType

## Relevant Operations

- DescribeSpotInstanceRequests
- RequestSpotInstances

## Contents

The following table describes the elements contained in SpotInstanceRequestSetItemType.

| Name | Description |
|------|-------------|
| spotInstanceRequestId | The ID of the Spot Instance request.<br>Type: xs:string |
| spotPrice | The maximum hourly price for any Spot Instance launched to fulfill the request.<br>Type: xs:string |
| type | The Spot Instance request type.<br>Type: xs:string<br>Valid Values: `one-time` \| `persistent` |
| state | The state of the Spot Instance request.<br>Type: xs:string<br>Valid Values: `open` \| `closed` \| `cancelled` \| `failed` |
| fault | Fault codes for the Spot Instance request, if any.<br>Type: SpotInstanceStateFaultType (p. 248) |
| validFrom | 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.<br>Type: xs:dateTime |
| validUntil | 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.<br>Type: xs:dateTime |

| Name | Description |
|------|-------------|
| `launchGroup` | The instance launch group. Launch groups are Spot Instances that launch together and terminate together.<br>Type: xs: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.<br>Type: xs:string |
| `launchSpecification` | Additional information for launching instances.<br>Type: LaunchSpecificationResponseType (p. 235) |
| `instanceId` | The instance ID, if an instance has been launched to fulfill the Spot Instance request.<br>Type: xs:string |
| `createTime` | Time stamp when the Spot Instance request was created.<br>Type: xs:dateTime |
| `productDescription` | The product description associated with the Spot Instance.<br>Type: xs:string |
| `tagSet` | Tags assigned to the resource. Each tag's information is wrapped in an `item` element.<br>Type: ResourceTagSetItemType (p. 242) |

# SpotInstanceStateFaultType

The SpotInstanceStateFaultType data type.

## Ancestors

- SpotDatafeedSubscriptionType (p. 246)
- SpotInstanceRequestSetItemType (p. 247)

## Relevant Operations

- CreateSpotDatafeedSubscription
- DescribeSpotDatafeedSubscription
- DescribeSpotInstanceRequests
- RequestSpotInstances

## Contents

The following table describes the elements contained in SpotInstanceStateFaultType.

| Name | Description |
|------|-------------|
| `code` | Reason code for the Spot Instance state change.<br>Type: xs:string |
| `message` | Message for the Spot Instance state change.<br>Type: xs:string |

# SpotPriceHistorySetItemType

The SpotPriceHistorySetItemType data type.

## Ancestors

- SpotPriceHistorySetType

## Relevant Operations

- DescribeSpotPriceHistory

## Contents

The following table describes the elements contained in SpotPriceHistorySetItemType.

| Name | Description |
|------|-------------|
| `instanceType` | The instance type.<br>Type: xs:string |
| `productDescription` | General description of the AMI.<br>Type: xs:string<br>Valid Values: `Linux/UNIX` \| `SUSE Linux` \| `Windows` |
| `spotPrice` | The maximum price you will pay to launch one or more Spot Instances.<br>Type: xs:string |
| `timestamp` | The date and time the request was created.<br>Type: xs:dateTime |

# StateReasonType

The StateReasonType data type.

# Ancestors

- DescribeImagesResponseItemType (p. 215)
- RunningInstancesItemType (p. 242)

# Relevant Operations

- DescribeImages
- DescribeInstances
- RunInstances

# Contents

The following table describes the elements contained in StateReasonType.

| Name | Description |
|------|-------------|
| code | Reason code for the state change. See the following table for a list of codes.<br>Type: xs:string |
| message | Message for the state change.<br>Type: xs:string |

The following table lists the currently supported state reason codes.

| Code | Description |
|------|-------------|
| 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 shutdown by a user via an API call. |
| Client.VolumeLimitExceeded | The volume limit was exceeded. |
| Client.InvalidSnapshot.NotFound | The specified snapshot was not found. |

# TagSetItemType

The TagSetItemType data type.

## Relevant Operations

- DescribeTags

## Contents

The following table describes the elements contained in TagSetItemType.

| Name | Description |
|------|-------------|
| `resourceId` | The resource's ID. For example, `ami-1a2b3c4d`.<br>Type: String |
| `resourceType` | Type of resource.<br>Type: String<br>Valid Values: `customer-gateway` \| `dhcp-options` \| `image` \| `instance` \| `reserved-instances` \| `snapshot` \| `spot-instances-request` \| `subnet` \| `volume` \| `vpc` \| `vpn-connection` \| `vpn-gateway` |
| `key` | The tag's key.<br>Type: String |
| `value` | The tag's value.<br>Type: String |

# UserDataType

The UserDataType data type.

## Ancestors

- LaunchSpecificationRequestType (p. 234)
- RunInstancesType

## Relevant Operations

- RequestSpotInstances
- DescribeSpotInstanceRequests
- RequestSpotInstances
- RunInstances

## Contents

The following table describes the elements contained in UserDataType.

| Name | Description |
|------|-------------|
| `data` | Base64-encoded MIME user data made available to the instance(s) in the reservation.<br>Type: xs:string |

# UserIdGroupPairType

The UserIdGroupPairType data type.

## Ancestors

- UserIdGroupPairSetType

## Relevant Operations

- AuthorizeSecurityGroupIngress
- RevokeSecurityGroupIngress
- DescribeSecurityGroups

## Contents

The following table describes the elements contained in UserIdGroupPairType.

| Name | Description |
|------|-------------|
| `userId` | ID of an AWS account. Cannot be used when specifying a CIDR IP address range.<br>Type: xs:string |
| `groupName` | Name of the security group in the specified AWS account. Cannot be used when specifying a CIDR IP address range.<br>Type: xs:string |

# Error Codes

## Overview

There are two types of error codes: client and server.

Client error codes suggest that the error was caused by something the client did, such as an authentication failure or an invalid AMI identifier. In the SOAP API, These error codes are prefixed with `Client`. For example: `Client.AuthFailure`. 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 SOAP API, these error codes are prefixed with `Server`. For example: `Server.Unavailable`. 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` | Account has the maximum number of allowed IP addresses. | Each AWS account has an IP address limit. For new accounts, this limit is 5. If you need more than 5 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. |
| `AttachmentLimitExceeded` | The limit on the number of Amazon EBS volumes attached to one instance has been exceeded. | |

| Error Code | Description | Notes |
|---|---|---|
| `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. |
| `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. | |
| `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. |
| `IncorrectState` | Volume is in incorrect state | To attach to an instance, it must be in the 'available' state. |
| `InstanceLimitExceeded` | Account has max 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. |
| `InsufficientReservedInstancesC apacity` | Insufficient Reserved Instances capacity. | |
| `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. | |

| Error Code | Description | Notes |
|---|---|---|
| `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. | |
| `InvalidDevice.InUse` | The device to which you are trying to attach (i.e. /dev/sdh) is already in use on the instance. | |
| `InvalidFormat` | Specified disk format (for instance or volume import) is invalid. | |
| `InvalidGroup.Duplicate` | Attempt to create a duplicate group. | |
| `InvalidGroup.InUse` | Specified group cannot be deleted because it is in use. | |
| `InvalidGroup.NotFound` | Specified group name does not exist. | |
| `InvalidGroup.Reserved` | Specified group name is a reserved name. | |
| `InvalidInstanceID.Malformed` | Specified instance ID is not valid. | |
| `InvalidInstanceID.NotFound` | Specified instance 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. | |
| `InvalidParameter` | The name supplied for a parameter was invalid. | |

| Error Code | Description | Notes |
|---|---|---|
| `InvalidParameterCombination` | RunInstances was called with `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. | |
| `InvalidSnapshotID.Malformed` | The snapshot ID that was passed as an argument was malformed. | |
| `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. | |
| `InvalidVolumeID.Duplicate` | The volume already exists in the system. | |
| `InvalidVolumeID.Malformed` | The volume ID that was passed as an argument was malformed. | |

| Error Code | Description | Notes |
|---|---|---|
| `InvalidVolume.NotFound` | The volume specified does not exist. | |
| `InvalidVolumeID.ZoneMismatch` | The specified volume ID and instance ID are in different Availability Zones. | |
| `InvalidZone.NotFound` | The specified zone does not exist. | |
| `MissingParameter` | The request is missing a required parameter. | |
| `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. |
| `PendingVerification` | The account is pending verification. | Contact aws-verification@amazon.com if you have questions. |
| `PendingSnapshotLimitExceeded` | The limit on the number of Amazon EBS snapshots in the pending state has been exceeded. | |
| `ResourceLimitExceeded` | Exceeded an EC2 resource limit. | Example: You reached the maximum number of import conversion tasks allowed. |
| `ReservedInstancesLimitExceeded` | Your current quota does not allow you to purchase the required number of reserved instances. | |
| `SnapshotLimitExceeded` | The limit on the number of Amazon EBS snapshots has been exceeded. | |
| `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. |
| `Unsupported` | The instance type or feature is not supported in your requested Availability Zone. | The returned message gives guidance on how to solve the problem. |
| `VolumeLimitExceeded` | The limit on the number of Amazon EBS volumes has been exceeded. | |

# 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. |
| `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. | |

# Amazon EC2 Resources

The following table lists related resources that you'll find useful as you work with this service.

| Resource | Description |
| --- | --- |
| Amazon Elastic Compute Cloud Getting Started Guide | Provides a quick tutorial of the service based on a simple use case. Examples and instructions are included. |
| Amazon Elastic Compute Cloud User Guide | Provides conceptual information about Amazon EC2 and describes how to use Amazon EC2 features using the AWS Management Console, command line tools, and Query API. |
| Amazon Elastic Compute Cloud Command Line Reference | Contains a comprehensive description of all the command line tools and their options. |
| Amazon EC2 Technical FAQ | Covers the top questions developers have asked about this product. |
| Amazon EC2 Release Notes | Give a high-level overview of the current release. They specifically note any new features, corrections, and known issues. |
| AWS Developer Resource Center | A central starting point to find documentation, code samples, release notes, and other information to help you build innovative applications with AWS. |
| AWS Management Console | The console lets you perform most of the functions of Amazon EC2 and other AWS products without programming. |
| Discussion Forums | A community-based forum for developers to discuss technical questions related to Amazon Web Services. |
| AWS Support Center | The home page for AWS Technical Support, including access to our Developer Forums, Technical FAQs, Service Status page, and AWS Premium Support (if you are subscribed to this program). |
| AWS Premium Support Information | The primary web page for information about AWS Premium Support, a one-on-one, fast-response support channel to help you build and run applications on AWS Infrastructure Services. |

| Resource | Description |
|---|---|
| Amazon EC2 Product Information | The primary web page for information about Amazon EC2. |
| Form for questions related to your AWS account: Contact Us | This form is *only* for account questions. For technical questions, use the Discussion Forums. |
| Terms of Use | Detailed information about the copyright and trademark usage at Amazon.com and other topics. |

# Document History

This documentation is associated with the 2010-11-15 release of Amazon EC2. This guide was last updated on 29 January 2011.

The following table describes the important changes since the last release of the Amazon EC2 documentation set.

| Change | Description | Release Date |
|--------|-------------|--------------|
| VM Import | Added the following new actions, which allow you to import a virtual machine or volume into Amazon EC2:<br><br>• ImportInstance (p. 148)<br>• ImportVolume (p. 154)<br>• DescribeConversionTasks (p. 70)<br>• CancelConversionTask (p. 23) | In this release |
| Consolidated Documentation | We've consolidated the Query and SOAP API topics. See Actions (p. 8). | 06 December 2010 |
| Parameters for ModifyImageAttribute and ModifyInstanceAttribute | Updated the list of Query parameters for ModifyImageAttribute (p. 157) and for ModifyInstanceAttribute (p. 160). | 20 November 2010 |
| Modifying Block Device Mapping | Removed information from ModifyInstanceAttribute (p. 160) about modifying an instance's block device mapping attribute. You currently can't modify an instance's block device mapping with this action. | 20 November 2010 |
| Filters and Tags | Added information about filters to many of the *describe* actions.<br>Added information about creating, describing, and deleting tags.<br>For more information about the API actions for tags, see CreateTags (p. 42), DeleteTags (p. 55), and DescribeTags (p. 131). | 19 September 2010 |

| Change | Description | Release Date |
|---|---|---|
| Idempotent Instance Launch | Updated `RunInstances` to include a `ClientToken` parameter to ensure idempotency.<br><br>For more information about the change to `RunInstances`, see RunInstances (p. 190). | 19 September 2010 |
| Import Key Pair | Added `ImportKeyPair`.<br><br>For more information, see ImportKeyPair (p. 152). | 19 September 2010 |
| Placement Groups for Cluster Compute Instances | Added information about placement groups, which you use with cluster compute instances.<br><br>For more information about the API actions for placement groups, see CreatePlacementGroup (p. 33), DescribePlacementGroups (p. 96), and DeletePlacementGroup (p. 48). | 12 July 2010 |
| Amazon VPC IP Address Designation | Amazon VPC users can now specify the IP address to assign an instance launched in a VPC.<br><br>For information about using the `PrivateIpAddress` parameter with the `RunInstances` action, see RunInstances (p. 190). | 12 July 2010 |
| Error List Update | Updated the list of errors to include `Client.Blocked`, `Client.InsufficientInstanceCapacity`, `Client.PendingVerification`, and `Client.Unsupported`. For more information, see Error Codes (p. 253). | 21 May 2010 |
| Security Group Permissions | Clarified the information about authorizing security group permissions. For more information, see AuthorizeSecurityGroupIngress (p. 15). | 28 April 2010 |
| New Region | Amazon EC2 now supports the Asia Pacific (Singapore) Region. The new endpoint for requests to this Region is ec2.ap-southeast-1.amazonaws.com. | 28 April 2010 |
| Clarification about Spot Instances | Clarified that you can't stop and start Spot Instances that use an Amazon EBS root device. For more information about stopping instances, see StopInstances (p. 199). | 1 February 2010 |
| Spot Instances | To support customers that use Amazon EC2 instances, but have more flexible usage requirements (e.g., when instances run, how long they run, or whether usage completes within a specific timeframe), Amazon EC2 now provides Spot Instances. A Spot Instance is an instance that Amazon EC2 automatically runs for you when its maximum price is greater than the Spot Price. For conceptual information about Spot Instances, go to the Amazon Elastic Compute Cloud User Guide. | 14 December 2009 |

# Document Conventions

This section lists the common typographical and symbol use conventions for AWS technical publications.

## Typographical Conventions

This section describes common typographical use conventions.

| Convention | Description/Example |
|---|---|
| Call-outs | A call-out is a number in the body text to give you a visual reference. The reference point is for further discussion elsewhere. |
| | You can use this resource regularly. ❶ |
| Code in text | Inline code samples (including XML) and commands are identified with a special font. |
| | You can use the command `java -version`. |
| Code blocks | Blocks of sample code are set apart from the body and marked accordingly. |
| | ```# ls -l /var/www/html/index.html -rw-rw-r-- 1 root root 1872 Jun 21 09:33 /var/www/html/index.html # date Wed Jun 21 09:33:42 EDT 2006``` |
| Emphasis | Unusual or important words and phrases are marked with a special font. |
| | You *must* sign up for an account before you can use the service. |
| Internal cross references | References to a section in the same document are marked. |
| | See Document Conventions (p. 263). |

| Convention | Description/Example |
|---|---|
| Logical values, constants, and regular expressions, abstracta | A special font is used for expressions that are important to identify, but are not code.<br>If the value is `null`, the returned response will be `false`. |
| Product and feature names | Named AWS products and features are identified on first use.<br>Create an *Amazon Machine Image* (AMI). |
| Operations | In-text references to operations.<br>Use the `GetHITResponse` operation. |
| Parameters | In-text references to parameters.<br>The operation accepts the parameter *AccountID*. |
| Response elements | In-text references to responses.<br>A container for one `CollectionParent` and one or more `CollectionItems`. |
| Technical publication references | References to other AWS publications. If the reference is hyperlinked, it is also underscored.<br>For detailed conceptual information, see the *Amazon Mechanical Turk Developer Guide*. |
| User entered values | A special font marks text that the user types.<br>At the password prompt, type **MyPassword**. |
| User interface controls and labels | Denotes named items on the UI for easy identification.<br>On the **File** menu, click **Properties**. |
| Variables | When you see this style, you must change the value of the content when you copy the text of a sample to a command line.<br>% ec2-register *<your-s3-bucket>*/image.manifest<br>See also Symbol Conventions (p. 265). |

# Symbol Conventions

This section describes the common use of symbols.

| Convention | Symbol | Description/Example |
|---|---|---|
| Mutually exclusive parameters | (Parentheses \| and \| vertical \| bars) | Within a code description, bar separators denote options from which one must be chosen.<br><br>`% data = hdfread (start \| stride \| edge)` |
| Optional parameters XML variable text | [square brackets] | Within a code description, square brackets denote completely optional commands or parameters.<br><br>`% sed [-n, -quiet]`<br><br>Use square brackets in XML examples to differentiate them from tags.<br><br>`<CustomerId>[ID]</CustomerId>` |
| Variables | <arrow brackets> | Within a code sample, arrow brackets denote a variable that must be replaced with a valid value.<br><br>`% ec2-register <your-s3-bucket>/image.manifest` |