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Elastic Compute Service

Quick Start

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Document conventions

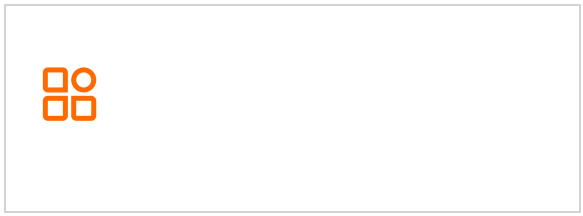
Style	Description	Example
Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	Danger: Resetting will result in the loss of user configuration data.
Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	Notice: If the weight is set to 0, the server no longer receives new requests.
Note	A note indicates supplemental instructions, best practices, tips, and other content.	Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click **Settings**> **Network**> **Set network type**.
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click **OK**.
`Courier font`	Courier font is used for commands	Run the `cd /d C:/window` command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	`ipconfig [-all|-t]`
{} or {a|b}	This format is used for a required value, where only one item can be selected.	`switch {active|stand}`

Table of Contents

1.Overview

This topic describes how to create an ECS instance in the console or by using CLI commands or SDKs. This topic also describes how to select an instance type based on scenarios and applications.

How to manage an ECS instance



Console (express version)

- Manage an ECS instance in the console (exp..

Console (detailed version)

- Quick start for Linux instances (console)
- Quick start for Windows instances (console)

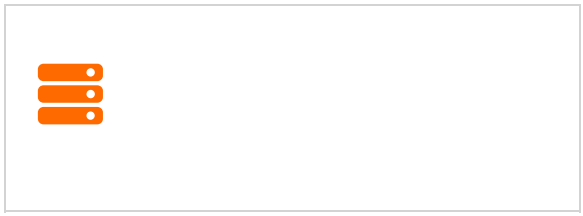
CLI

- Create an ECS instance by using CLI comma...

SDK

- Create an ECS instance by using SDKs

How to select an ECS instance type



Instance type selection

- Instance type selection

2.Manage an ECS instance in the console (express version)

This topic describes how to create a subscription instance for users who need only one or two instances and do not need complex network configurations.
create an ECS instance quick start quick purchase

Go to the buy page

Go to the Custom Launch page.

> **Note**
> If you have not created an Alibaba Cloud account, create one first. For more information, see Sign up with Alibaba Cloud.

Purchase an instance

1. Configure parameters in the **Basic Configurations** step and click **Next: Networking**.
   This table describes some parameters to which you must pay attention. For the other parameters, keep the default values if you have no specific requirements.

Parameter	Description
Region	Select a region that is close to the region of your customer. This provides your customer with a higher access speed and lower latency. The **China (Hangzhou)** region is used in this example.
Instance Type	Select an appropriate instance type. ○ Individual applications: The **ecs.s6-c1m2.small** instance type with 1 vCPU and 2 GiB memory is recommended. ○ Applications for small and medium-sized enterprises: The **ecs.c5.large** instance type with 2 vCPUs and 4 GiB memory is recommended.
Image	Specify the operating system of the instance. ○ **Public Image**: Select a pure operating system, such as Linux or Windows. ○ **Custom Image**: Select an operating system that is deployed with an application environment. The **Aliyun Linux 2.1903 LTS 64-bit public image** is used in this example.
Quantity	The quantity is set to 1 by default.
Duration	The duration is set to 1 month by default.

2. In the **Networking** step, configure the public IP address, and click **Next: System Configurations**.

Set the Bandwidth parameter, and use the default settings of the Network Type and Security Group parameters.

Parameter	Description
Network Type	A VPC is created by default.
Public IP Address	Set the public bandwidth. The default value is 1 Mbit/s.
Security Group	A security group is created by default.

3. In the **System Configurations (Optional)** step, set the logon password of the instance and click **Preview**.
4. Read and select the service terms and click **Create Order**.
5. Confirm and pay for the order.

> **Note** For more information about all the parameters, see Create an instance by using the provided wizard.

Connect to the ECS instance

1. Go back to the Instances page.
2. In the **Actions** column corresponding to the instance, click **Connect**.
3. In the **Enter VNC password** dialog box that appears, click **Modify VNC password**.
4. Change the password as prompted. In the **Enter VNC password** dialog box that appears, enter your new password. Click **OK**.
5. On the instance logon page, enter the username and password of the instance.

Release an expired instance

You can manually release a subscription instance after it expires. If you do not renew the instance after it expires, the instance is automatically released.

Related information

- Manually build an LNMP environment on a CentOS 7 instance
- Build a LAMP environment

3.Manage an ECS instance in the console (detailed version)

3.1. Quick start for Linux instances

This tutorial walks you through the procedure to configure Apache for an instance that is of the ecs.g6.large instance type and runs Alibaba Cloud Linux 2.1903 LTS 64-bit. You can use this tutorial to familiarize yourself with operations in the ECS console.

Preparations

1. Create an account and complete the account information.
   - Sign up with Alibaba Cloud.
   - Bind your credit card or PayPal account. For more information, see Add a payment method.
   - To purchase ECS instances in mainland China regions, you must complete real-name verification. For more information, see Real-name registration FAQ.
2. (Optional)Alibaba Cloud provides a default Virtual Private Cloud (VPC). If you do not want to use the default VPC, you can create a VPC and a VSwitch in the target region.For more information, see Create an IPv4 VPC network.
3. (Optional)Alibaba Cloud provides a default security group. If you do not want to use the default security group, you can create a security group in the target region.For more information about how to create a security group, see Create a security group.

Step 1: Create an ECS instance

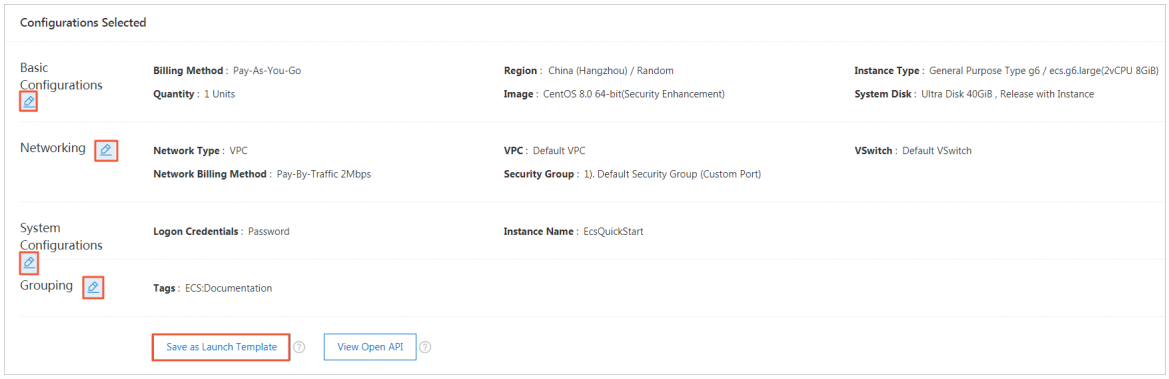
1. Go to the Custom Launch tab in the ECS console.
2. In the first four configuration steps of the buy page, complete the instance launch configurations.The following configurations are used in this tutorial. Keep the default settings for parameters that are not described in this tutorial.

Step	Parameter	Example	Description
	Billing Method	Pay-As-You-Go	The pay-as-you-go billing method allows more flexible operations. For more information, see Billing overview. Note If an ICP filing is required for your domain name, you must select Subscription.

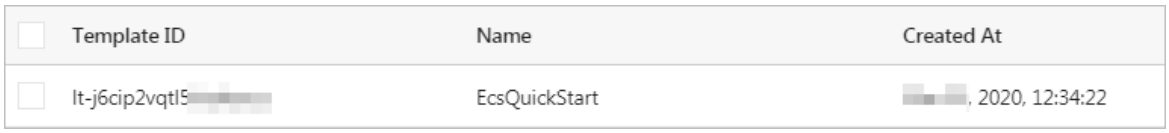
Step	Parameter	Example	Description
Basic Configurations	Region	○ Region: China (Hangzhou) ○ Zone: Random	You cannot change the region or zone after the instance is created. Exercise caution when you configure this parameter.
	Instance Type	○ Family: General Purpose Type g6 ○ Instance Type: ecs.g6.large	Instance types that are available are determined by the region you select and the inventory in the region. You can go to the ECS Instance Types Available for Each Region page to view the instance types available in each region.
	Image	○ Type: Public Image ○ Version: Alibaba Cloud Linux 2.1903 LTS 64-bit	After the instance is started, the operating system and application data of the image are copied to the system disk.
Networking	VPC	[Default]vpc-bp1opxu1zkhn00g****	Select a created VPC based on your actual needs. Resources that are prefixed with **[Default]** are automatically created in the ECS console.
	Assign Public IP Address	Select Assign Public IP Address.	The system allocates a public IPv4 address if you select Assign Public IP Address.
	Bandwidth Billing	Pay-By-Traffic	In **Pay-By-Traffic** mode, bandwidth is billed based on the network usage. For more information, see Billing methods of public bandwidth.
	Peak Bandwidth	2 Mbps	None.
	Security Group	[Default]sg-bp1bhjjsoiyx44hd****	Select a created security group based on your actual needs. Resources that are prefixed with **[Default]** are automatically created in the ECS console.
	Logon Credentials	Password	In this tutorial, select **Password** and set a password for remote connection and logon to the ECS instance.

Step	Parameter	Example	Description
System Configurations (Optional)	Logon Password	Ecs123456	You must set the Logon Password and Confirm Password parameters if you set **Logon Credentials** to **Password**. The `root` logon username and the logon password you set are required when you connect to the ECS instance.
	Instance Name	EcsQuickStart	In this tutorial, EcsQuickStart is used as the instance name.
Grouping (Optional)	Tags	ECS:Documentation	If multiple instances are created, we recommend that you bind tags to these instances to facilitate management.

3. Click **Next: Preview**. In the Preview step, confirm **Configurations Selected** or click the 
icon to modify configurations.

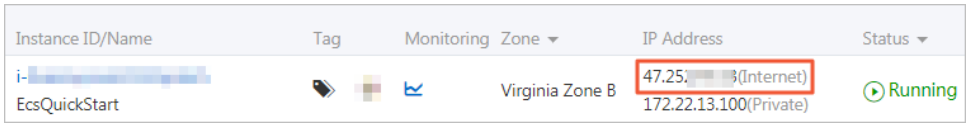


4. (Optional)Click **Save as Launch Template**. Set Template Name and Version Description.



> **Note** Save the configurations selected for the current instance as a launch template. You can create an instance in one click by using the template.

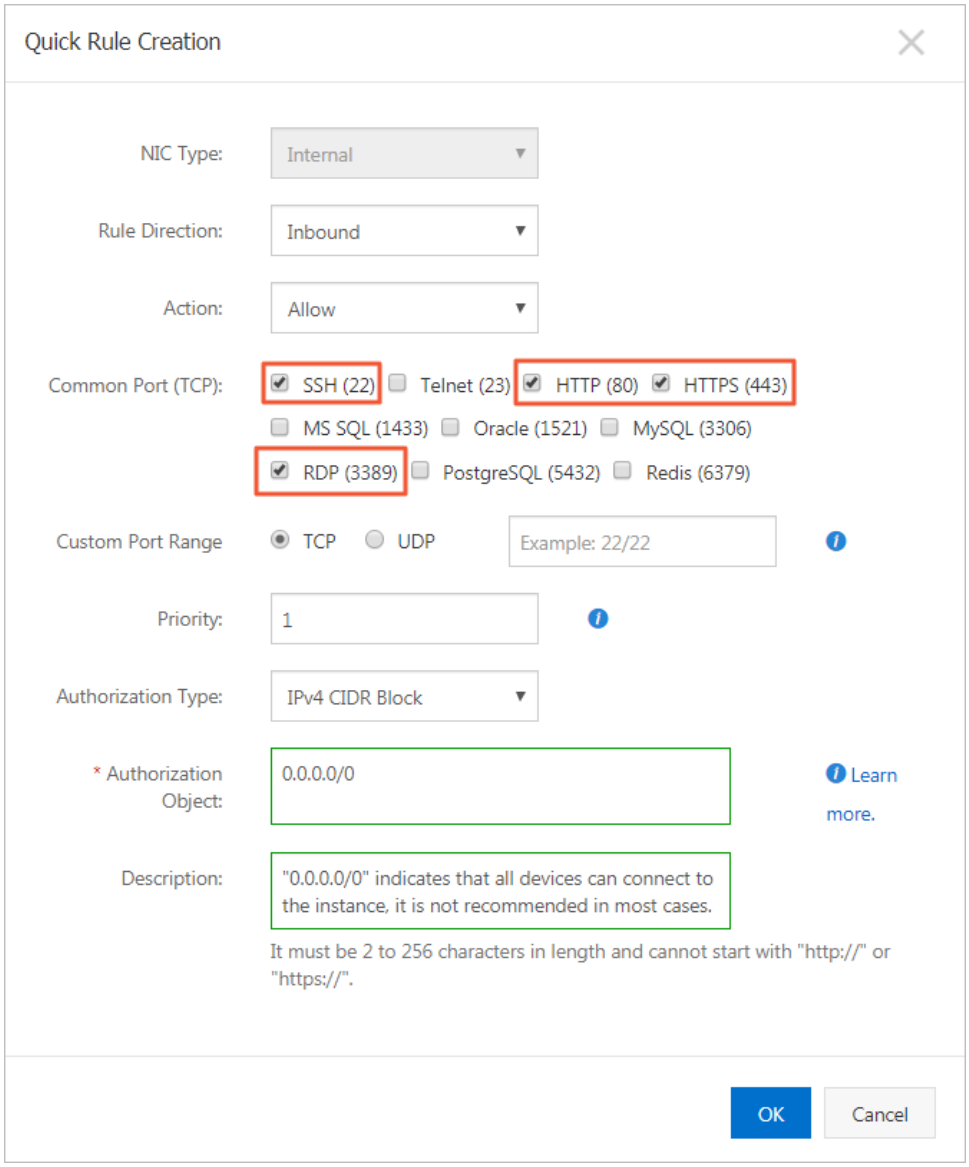
5. Read and select **ECS Terms of Service**. Click **Create Instance**.
6. In the **Created** message that appears, click **Console** to go to the Instances page and view the creation progress.
   If the instance status is **Running**, the instance is created. Copy the public IP address for use when you connect to the ECS instance.



Step 2: Add security group rules

If you do not add rules to the default security group when you create an instance or the instance is added to a new security group, perform the following operations:

1. Click the instance ID to go to the instance details page.
2. In the left-side navigation pane, click **Security Groups**. Click the security group ID to go to the security group details page.
3. On the **Security Groups Rules** page, click the **Inbound** tab.
4. Click **Quick Rule Creation** and add security group rules as described in the following table. Keep the default settings for parameters that are not described in this tutorial.



Action	Common Port (TCP)	Authorization Object
Allow	○ SSH (22) ○ RDP (3389) ○ HTTP (80) ○ HTTPS (443)	0.0.0.0/0

> **Note**
>
> - For **Common Port (TCP)**, select the ports that must be enabled for applications that run on the ECS instance. For example, if you want to use SSH and Apache in Step 4: Configure Apache, you must select SSH (22) and HTTP (80) in this step. Otherwise, the instance will not respond in subsequent operations.
> - 0.0.0.0/0 indicates that devices in all CIDR blocks are allowed to access the specified ports. If you know the IP address of the requester, we recommend that you set Authorization Object to a specific IP address range that contains this IP address.

5. Click **OK**.

Step 3: Connect to the ECS instance

1. Return to the Instances page and find the EcsQuickStart instance.
2. In the **Actions** column, click **Connect**.
3. In the **Enter VNC password** dialog box that appears, click **Modify VNC password**.
4. Change the password as prompted. In the **Enter VNC password** dialog box that appears, enter your new password. Click **OK**.
5. Configure the logon credentials.
   - **Username**: Enter *root*.
   - **Password**: Enter the **Logon Password** value that you set in the **Logon Credentials** section. `Ecs123456` is used in this tutorial.

   When you are entering the password, the section next to Password: remains black and no messages are displayed.

Step 4: Configure Apache

1. Install Apache.

```
yum install -y httpd
```

2. Start Apache.

```
systemctl start httpd
```

3. Enable Apache to run at system startup.

```
systemctl enable httpd
```

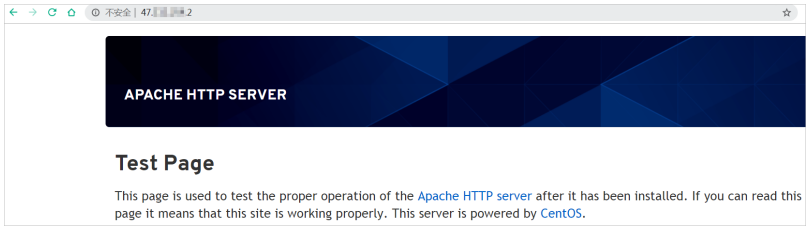
4. Check whether Apache is running.

```
systemctl status httpd
```

The `active (running)` command output indicates that Apache is running.

5. Open a web page in the current browser. Enter the public IP address of the instance in the address bar and press the Enter key.

```
http://<Public IP address of the instance>
```



Step 5: (Optional) Resolve domain names

Direct access to Apache by using the public IP address of the instance may degrade server security. If you already have a domain name or want to register one for the Apache website, follow these steps:

1. Register the domain name.For more information, see Register a genericdomain name.
2. If the website to which the domain name points is hosted on an ECS instance in a mainland China region, you must apply for an ICP filing for the domain name.For more information, see ICP filing application overview.
3. Resolve the domain name to point to the public IP address of the instance.Domain name resolution is a prerequisite for using domain names to access your website. For more information, see Add and manage records.
4. Use the resolved domain name to access Apache. Example: *https://ecs-quickstarts.info*.

Step 6: (Optional) Release the ECS instance

You can release the instance if you no longer need it. After the instance is released, billing stops and data cannot be recovered.

> **Note** You can follow the instructions in this section to release only pay-as-you-go instances.

1. Return to the Instances page and find the EcsQuickStart instance.
2. In the **Actions** column, choose **More** > **Instance Status** > **Release**.
3. In the Release dialog box that appears, set Release Mode to **Release Now**, and then click **Next**.
4. Verify the instance to be released and then click **OK**.

Step 7: View bills

1. In the top navigation bar, choose **Billing > User Center**.
2. In the left-side navigation pane, choose **Spending Summary > Instance Spending Detail**.
3. Set **Search By** to **Instance ID**. Enter the ID of the EcsQuickStart instance. Press the Enter key to start the search.

What's next

- For more information about ECS instance families that are available for purchase, see Instance families.
- For more information about how to create an ECS instance, see Creation method overview.
- For more information about images, see Image overview.
- For more information about security groups, see Overview.
- For more information about VPCs, see What is a VPC?.
- For more information about the common operations of ECS, see Quick reference.
- For more information about the APIs operations provided by ECS, see List of operations by function.

3.2. Quick start for Windows instances

This tutorial walks you through the procedure to configure Internet Information Services (IIS) for a Windows Server 2016 instance of the ecs.g6.large instance type. You can use this tutorial to familiarize yourself with operations in the ECS console.

Preparations

1. Create an account and complete the account information.
   - Sign up with Alibaba Cloud.
   - Bind your credit card or PayPal account. For more information, see Add a payment method.
   - To purchase ECS instances in mainland China regions, you must complete real-name verification. For more information, see Real-name registration FAQ.
2. (Optional)Alibaba Cloud provides a default Virtual Private Cloud (VPC). If you do not want to use the default VPC, you can create a VPC and a VSwitch in the target region.For more information, see Create an IPv4 VPC network.
3. (Optional)Alibaba Cloud provides a default security group. If you do not want to use the default security group, you can create a security group in the target region.For more information about how to create a security group, see Create a security group.

Step 1. Create an ECS instance

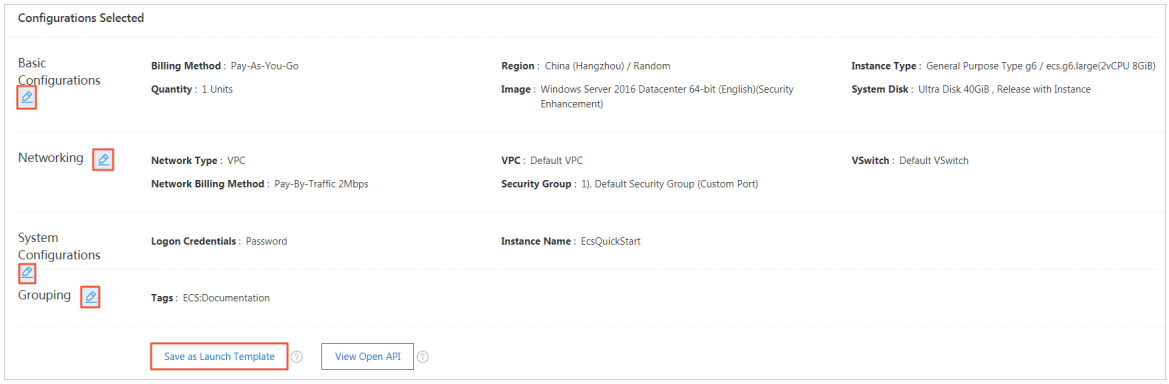
1. Go to the Custom Launch tab in the ECS console.
2. In the first four configuration steps of the buy page, complete the instance launch configuration. The following configurations are used in this tutorial. Keep the default settings for parameters that are not described in this tutorial.

Step	Parameter	Example	Description

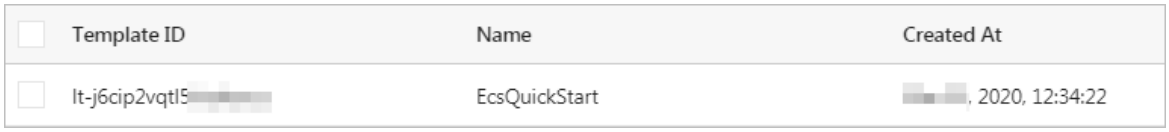
Step	Parameter	Example	Description
Basic Configurations	Billing Method	Pay-As-You-Go	The pay-as-you-go billing method allows more flexible operations. For more information, see Billing overview. Note If an ICP filing is required for your domain name, you must select Subscription.
	Region	○ Region: China (Hangzhou) ○ Zone: Random	You cannot change the region or zone after the instance is created. Exercise caution when you configure this parameter.
	Instance Type	○ Instance family: General Purpose Type g6 ○ Instance type: ecs.g6.large	Instance types that are available are determined by the region you select and the inventory in the region. You can go to the ECS Instance Types Available for Each Region page to view the instance types available in each region.
	Image	○ Type: Public Image ○ Version: Windows Server 2016 Datacenter 64-bit	After the instance is started, the operating system and application data of the image are copied to the system disk.
Networking	VPC	[Default]vpc-bp1opxu1zkhn00g******	Resources that are prefixed with [Default] are automatically created in the ECS console.
	Public IP Address	Select	The system allocates a public IPv4 address if you select Assign Public IP Address.
	Bandwidth Billing	Pay-By-Traffic	In Pay-By-Traffic mode, bandwidth is billed based on the amount of actual network usage. For more information, see Billing methods of public bandwidth.
	Peak Bandwidth	2 Mbps	None.

Step	Parameter	Example	Description
	Security Group	○ Security Group ID: [Default]sg-bp1bhjjsoiyx44****** ○ Rule: Select ICMP, SSH 22, RDP 3389, HTTP 80, and HTTPS 443.	Resources that are prefixed with [Default] are automatically created in the ECS console.
System Configurations (Optional)	Logon Credentials	Password	Record the password. It is the password for the administrator and is required when you connect to the ECS instance. For more information, see the Connect to the ECS instance section.
	Instance Name	EcsQuickStart	In this tutorial, EcsQuickStart is used as the instance name.
Grouping (Optional)	Tags	ECS:Documentation	If multiple instances are created, we recommend that you add tags to facilitate management.

3. Click **Next: Preview**. In the Preview step, confirm **Configurations Selected** or click the 
icon to modify configurations.



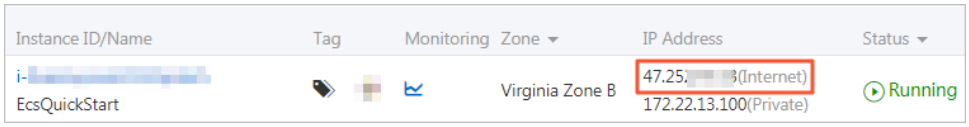
4. (Optional)Click **Save as Launch Template**. Set Template Name and Version Description.



Note Save the configurations selected for the current instance as a launch template. You can create an instance in one click by using the template.

5. Read and select **ECS Terms of Service**. Click **Create Instance**.

6. In the **Created** message that appears, click **Console** to go to the Instances page and view the creation progress.
   If the instance status is **Running**, the instance is created. Copy the public IP address for use when you connect to the ECS instance.



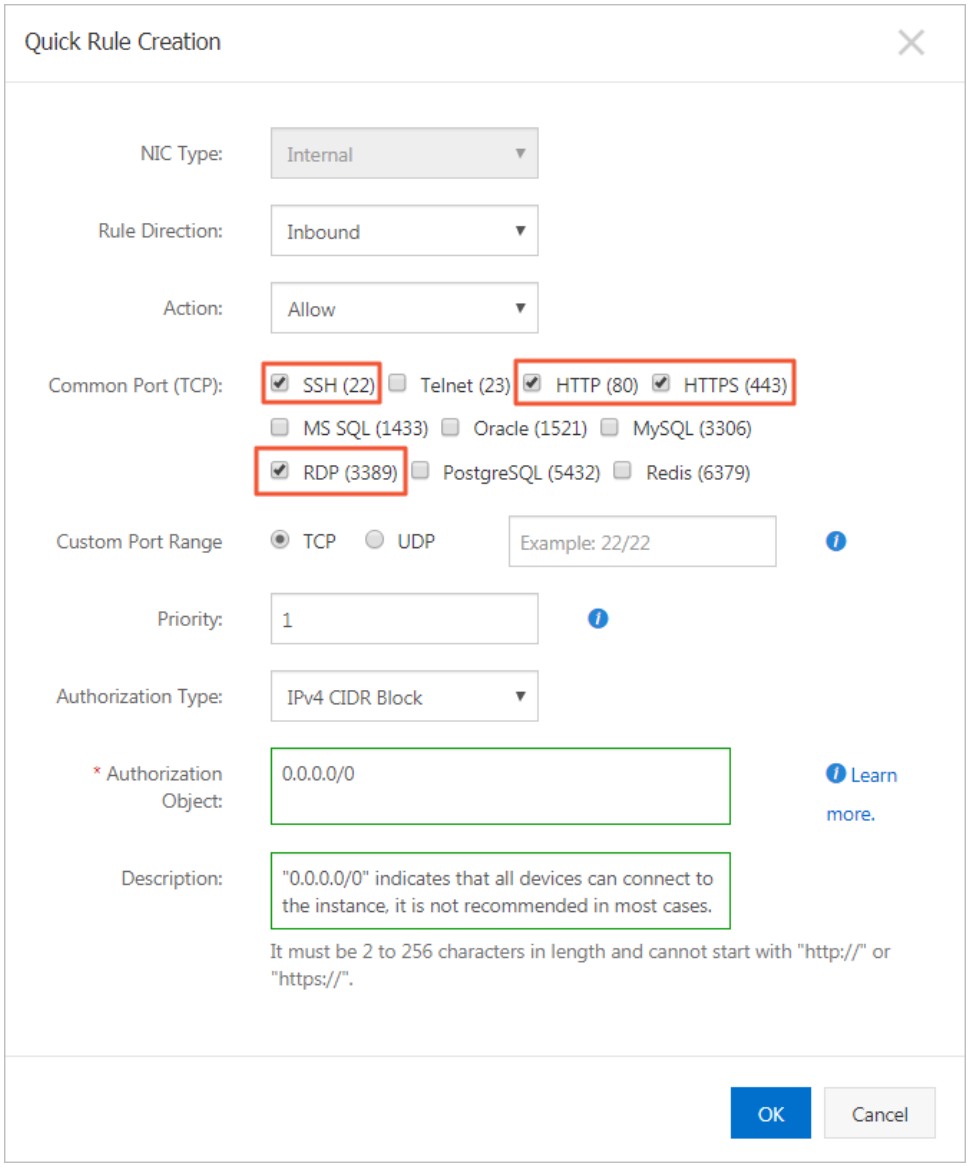
Step 2. Add security group rules

If you do not add rules to the default security group when you create an instance or the instance is added to a new security group, perform the following operations:

1. Click the instance ID to go to the instance details page.
2. In the left-side navigation pane, click **Security Groups**. Click the security group ID to go to the security group details page.
3. On the **Security Groups Rules** page, click the **Inbound** tab.
4. Click **Quick Rule Creation** and add security group rules as described in the following table. Keep the default settings for parameters that are not described in this tutorial.

Action	Common Port (TCP)	Authorization Object
Allow	○ SSH (22) ○ RDP (3389) ○ HTTP (80) ○ HTTPS (443)	0.0.0.0/0

> **Note**
>
> - For the **Common Port (TCP)** section, select the port that must be enabled for the applications that run on the ECS instance. For example, select HTTP 80 when you perform the operations in the Step 4. Configure IIS section.
> - 0.0.0.0/0 indicates that devices in all CIDR blocks are allowed to access the specified ports. If you know the IP address of the requester, we recommend that you set Authorization Object to a specific IP address range that contains this IP address.



5. Click **OK**.

Step 3. Connect to the ECS instance

1. Return to the Instances page and find the EcsQuickStart instance.
2. In the **Actions** column, click **Connect**.
3. In the **Enter VNC password** dialog box that appears, click **Modify VNC password**.
4. Change the password as prompted. In the **Enter VNC password** dialog box that appears, enter your new password. Click **OK**.
5. In the upper-left corner of the **VNC** page, choose **Send Remote Call** > **CTRL+ALT+DELETE**.

6. Go to the logon page of the Windows instance and configure the logon credentials.

- **Username**: Enter *administrator*.
- **Password**: Enter the **Logon Password** that you set for the **Logon Credentials** parameter when you created the ECS instance.

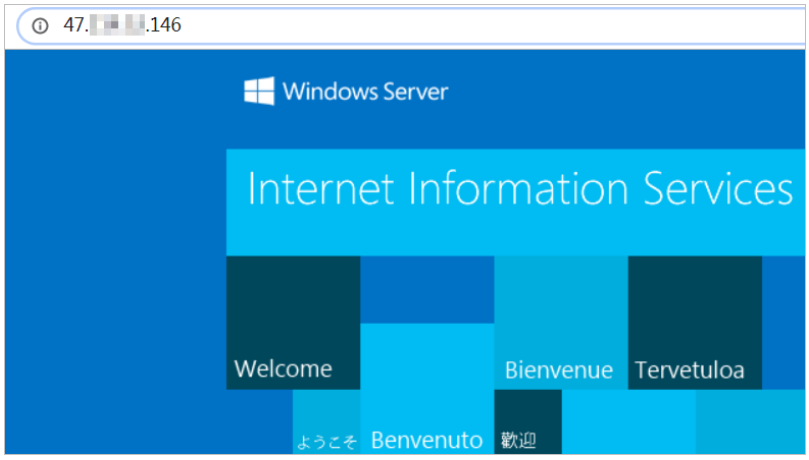
Step 4. Configure IIS

1. Launch Command Prompt.
2. Enter *powershell* to switch to PowerShell.
3. Install IIS and the management tools.

```
Install-WindowsFeature -name Web-Server -IncludeAllSubFeature -IncludeManagementTools
```

4. After IIS is installed, open a web page in the current browser. Enter the public IP address of the instance in the address bar and press the Enter key.

```
http://<Public IP address of the instance>
```



Step 5 (optional). Resolve domain names

Direct access to IIS by using the public IP address of the instance may degrade server security. If you have an existing domain name or want to register one, perform the following steps:

1. Register the domain name.For more information, see Register a genericdomain name.
2. If the website to which the domain name points is hosted on an ECS instance in a mainland China region, you must apply for an ICP filing for the domain name.For more information, see ICP filing application overview.
3. Resolve the domain name to point to the public IP address of the instance.Domain name resolution is a prerequisite for using domain names to access your website. For more information, see Add and manage records.
4. Use the resolved domain name to access IIS. Example: *https://ecs-quickstarts.info*.

Step 6: (Optional) Release the ECS instance

You can release the instance if you no longer need it. After the instance is released, billing stops and data cannot be recovered.

> **Note** You can follow the instructions in this section to release only pay-as-you-go instances.

1. Return to the Instances page and find the EcsQuickStart instance.
2. In the **Actions** column, choose **More** > **Instance Status** > **Release**.
3. In the Release dialog box that appears, set Release Mode to **Release Now**, and then click **Next**.
4. Verify the instance to be released and then click **OK**.

Step 7: View bills

1. In the top navigation bar, choose **Billing** > **User Center**.
2. In the left-side navigation pane, choose **Spending Summary** > **Instance Spending Detail**.
3. Set **Search By** to **Instance ID**. Enter the ID of the EcsQuickStart instance. Press the Enter key to start the search.

What's next

- For more information about ECS instance families that are available for purchase, see Instance families.
- For more information about how to create an ECS instance, see Creation method overview.
- For more information about images, see Image overview.
- For more information about security groups, see Overview.
- For more information about VPCs, see What is a VPC?.
- For more information about the common operations of ECS, see Quick reference.
- For more information about the APIs operations provided by ECS, see List of operations by function.

4.Create an ECS instance by using CLI commands

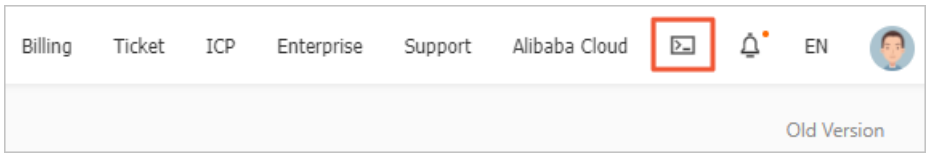
If you are familiar with using Alibaba Cloud Command Line Interface (CLI) commands to manage Alibaba Cloud resources, you can use CLI commands to quickly create ECS instances in the Cloud Shell console.

Log on to the Cloud Shell console

1. Log on to the ECS console.

   > **Note**
   > If you have not created an Alibaba Cloud account, create one first. For more information, see Sign up with Alibaba Cloud.

2. In the upper-right corner, click the Cloud Shell icon to go to the Cloud Shell console.



Preparations

Before you create an ECS instance, you must create a VPC and a security group.

1. Create a VPC.Create a VPC in the **China (Hangzhou)** region. The CIDR block of the VPC is 192.168.0.0/16.

API	Parameter	Example
CreateVpc	RegionId	The region ID of the VPC. Example: *cn-hangzhou*.
	CidrBlock	The CIDR block of the VPC. Example: *192.168.0.0/16*

   Run the following command to create a VPC:

```
aliyun vpc CreateVpc \
--RegionId cn-hangzhou \
--CidrBlock 192.168.0.0/16
```

   The following command output is generated:

```
{
    "RequestId": "EC94C73B-8103-4B86-B353-E65C7C9E****",
    "ResourceGroupId": "rg-acfmzw2jz2z****",
    "RouteTableId": "vtb-bp1jxpr9ji5wcn4yv****",
    "VRouterId": "vrt-bp1dyxemup2q4ouga****",
    "VpcId": "vpc-bp1d9v4763ym2hlzt****"
}
```

2. Creates a VSwitch.Create a VSwitch in the VPC. The CIDR block of the VSwitch is 192.168.0.0/24.

API	Parameter	Example
CreateVSwitch	ZoneId	The zone ID of the instance. Example: *cn-hangzhou-i*.
	VpcId	The ID of the VPC, which is the parameter value returned by the CreateVpc operation. Example: *vpc-bp1d9v4763ym2hlzt****.
	CidrBlock	The CIDR block of the VSwitch. Example: *192.168.0.0/24*.

Run the following command to create a VSwitch:

```
aliyun vpc CreateVSwitch \
--CidrBlock 192.168.0.0/24 \
--VpcId vpc-bp1d9v4763ym2hlzt**** \
--ZoneId=cn-hangzhou-i
```

The following command output is generated:

```
{
    "RequestId": "AF1787C4-0D81-44F0-A324-D5C54EA0****",
    "VSwitchId": "vsw-bp11hf5r945gewysp****"
}
```

3. Create a security group.

API	Parameter	Example
CreateSecurityGrou	RegionId	The region ID of the security group. Example: *cn-hangzhou*.

API	Parameter	Example
	VpcId	The ID of the VPC, which is the parameter value returned by the CreateVpc operation. Example: *vpc-bp1d9v4763ym2hlzt****.

Run the following command to create a security group:

```
aliyun ecs CreateSecurityGroup \
--RegionId cn-hangzhou \
--VpcId vpc-bp1d9v4763ym2hlzt****
```

The following command output is generated:

```
{
    "RequestId": "B1C25C34-9B84-49E3-9E50-FB7D7970****",
    "SecurityGroupId": "sg-bp18z2q1jg4gq95t****"
}
```

4. Add an inbound rule to the security group.

API	Parameter	Example
AuthorizeSecurityGroup	RegionId	The region ID of the security group. Example: *cn-hangzhou*.
	SecurityGroupId	The ID of the security group, which is the parameter value returned by the CreateSecurityGroup operation. Example: *sg-bp18z2q1jg4gq95t****.
	IpProtocol	The Internet protocol. Example: *tcp*.
	SourceCidrIp	The source CIDR block. Example: *0.0.0.0/0*.
	PortRange	The port range: ○ Linux instances: *22/22* ○ Windows instances: *3389/3389*

Run the following command to create a security group rule:

```
aliyun ecs AuthorizeSecurityGroup \
--RegionId cn-hangzhou \
--SecurityGroupId sg-bp18z2q1jg4gq95t**** \
--IpProtocol tcp \
--SourceCidrIp 0.0.0.0/0 \
--PortRange 22/22
```

The following command output is generated:

```
{
    "RequestId": "FA8B1E61-C9C9-4D91-9628-64B8E2F4****"
}
```

Purchase an ECS instance

Purchase a subscription ECS instance.

API	Parameter	Example
RunInstances	RegionId	The region ID of the instance. Example: *cn-hangzhou*.
	ImageId	The ID of the image. The *aliyun_2_1903_x64_20G_alibase_20200324.vhd* Alibaba Cloud Linux image is recommended.
	InstanceType	The instance type. • Individual applications: The *ecs.s6-c1m2.small* instance type with 1 vCPU and 2 GiB memory is recommended. • Applications for small and medium-sized enterprises: The *ecs.c5.large* instance type with 2 vCPUs and 4 GiB memory is recommended.
	SecurityGroupId	The ID of the security group, which is the parameter value returned by the CreateSecurityGroup operation. Example: *sg-bp18z2q1jg4gq95t****.
	VSwitchId	The ID of the VSwitch, which is the parameter value returned by the CreateVSwitch operation. Example: *vsw-bp11hf5r945gewysp****.

API	Parameter	Example
	InstanceName	The name of the instance to be created. Example: *ecs_cli_demo*.
	InstanceChargeType	The billing method. For a subscription instance, the corresponding value is *PrePaid*. **Note** You must make sure that you have sufficient account balance.
	PeriodUnit	The unit of the billing cycle. Example: *Month*.
	Period	The period of the billing cycle. Example: *1*.
	InternetMaxBandwidthOut	The maximum outbound bandwidth to the Internet. Example: *1*.
	Password	The logon password of the instance: *<Your password>*. **Note** You must customize a complex password to ensure instance security.

Run the following command to create a subscription instance:

```
aliyun ecs RunInstances \
--RegionId cn-hangzhou \
--ImageId aliyun_2_1903_x64_20G_alibase_20200324.vhd \
--InstanceType ecs.s6-c1m2.small \
--SecurityGroupId sg-bp18z2q1jg4gq95t**** \
--VSwitchId vsw-bp11hf5r945gewys**** \
--InstanceName ecs_cli_demo \
--InstanceChargeType PrePaid \
--PeriodUnit Month \
--Period 1 \
--InternetMaxBandwidthOut 1 \
--Password <yourPassword>
```

The following command output is generated:

```
{
    "InstanceIdSets": {
        "InstanceIdSet": [
            "i-bp1ducce5hs1jm98****"
        ]
    },
    "RequestId": "7F0166F9-9466-4AE1-8799-E68D6514****",
    "TradePrice": ****
}
```

Connect to the ECS instance

This section describes how to connect to a Linux instance by using Cloud Shell. For information about how to connect to a Windows instance, see Connect to a Windows instance from a local client.

1. Query the public IP address of the instance.

API	Parameter	Example
DescribeInstances	RegionId	The region ID of the instance. Example: *cn-hangzhou*.
	InstanceIds	The ID of the instance, which is the parameter value returned by the RunInstances operation. Example: *'["i-bp1ducce5hs1jm98****"]'*.

Run the following command to query the public IP address of the instance:

```
aliyun ecs DescribeInstances \
--RegionId cn-hangzhou \
--InstanceIds '["i-bp1ducce5hs1jm98****"]'
```

The following command output is generated.

```
"PublicIpAddress": {
        "IpAddress": [
                "115.29.    "
        ]
},
```

2. Use an SSH key pair to log on to the instance.

```
shell@Alicloud:~$ ssh root@115.29.
The authenticity of host '115.29.      (115.29.      )' can't be established.
ECDSA key fingerprint is SHA256:ro4F08JHxWW                              dcI.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '115.29.      ' (ECDSA) to the list of known hosts.
root@115.29.      )'s password:

Welcome to Alibaba Cloud Elastic Compute Service !

[root@                    ~]#
```

Release an expired instance

You can manually release a subscription instance after it expires. If you do not renew the instance after it expires, the instance is automatically released.

5.Create an ECS instance by using SDKs

If you are a developer, you can create an ECS instance by using SDKs. This topic describes how to use SDK for Java to create an ECS instance.

Prepare the SDK for Java environment

Before you create an instance by using SDK for Java, you must configure the SDK for Java environment and add the aliyun-java-sdk-core, aliyun-java-sdk-ecs, aliyun-java-sdk-vpc, and fastjson dependencies to the *pom.xml* file in the Maven project. For more information, see Install ECS SDK for Java.

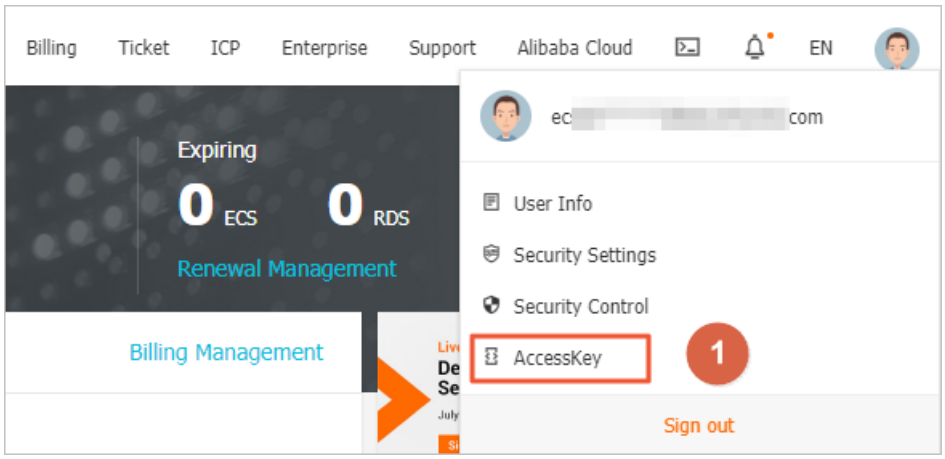
The following code shows how to add the aliyun-java-sdk-vpc dependency to the *pom.xml* file:

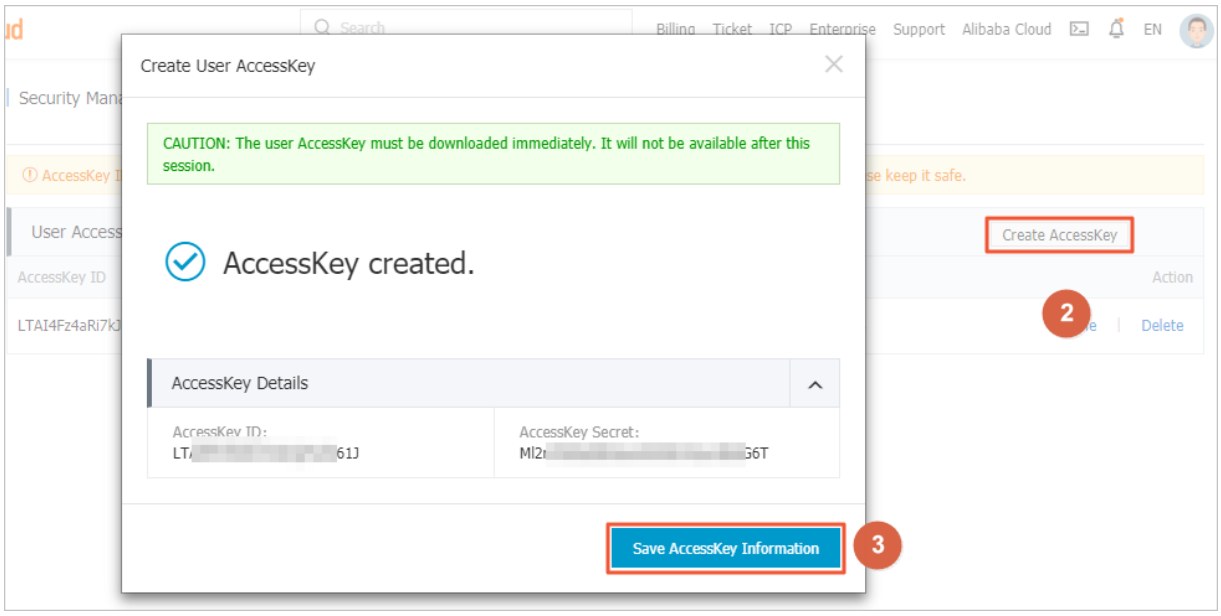
```
<dependencies>
    <dependency>
      <groupId>com.aliyun</groupId>
      <artifactId>aliyun-java-sdk-core</artifactId>
      <version>4.4.3</version>
    </dependency>
    <dependency>
      <groupId>com.aliyun</groupId>
      <artifactId>aliyun-java-sdk-ecs</artifactId>
      <version>4.17.1</version>
    </dependency>
    <dependency>
      <groupId>com.alibaba</groupId>
      <artifactId>fastjson</artifactId>
      <version>1.2.60</version>
    </dependency>
    <dependency>
      <groupId>com.aliyun</groupId>
      <artifactId>aliyun-java-sdk-vpc</artifactId>
      <version>3.0.9</version>
    </dependency>
  </dependencies>
```

Obtain AccessKey pair information

For more information about how to create an AccessKey pair, see Create an AccessKey pair.

Note To protect the AccessKey pair of your Alibaba Cloud account, we recommend that you create a RAM user, grant the RAM user permissions to access ECS instances, and then use the AccessKey pair of the RAM user to call SDK for Java. For more information, see Implement access control by using RAM.





Resources needed to create an instance

Before you create an instance, you must create a VPC and a security group.

Note If a VPC and a security group already exist, you can purchase an instance after you obtain the VSwitch ID and the security group ID. For more information, see Purchase an ECS instance.

1. **Create a VPC.Create a VPC in the China (Hangzhou) region. The CIDR block of the VPC is 192.168.0.0/16.**

API	Parameter	Example
	RegionId	The ID of the region. Example: *cn-hangzhou*.

API	Parameter	Example
CreateVpc	CidrBlock	The CIDR block of the VPC. Example: *192.168.0.0/16*

The following code shows how to create a VPC:

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import com.aliyuncs.vpc.model.v20160428.*;

public class CreateVpc {

   public static void main(String[] args) {
      DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou","<accessKeyId>", "<accessSe
cret>");
      IAcsClient client = new DefaultAcsClient(profile);

      CreateVpcRequest request = new CreateVpcRequest();
      request.setRegionId("cn-hangzhou");
      request.setCidrBlock("192.168.0.0/16");

      try {
         CreateVpcResponse response = client.getAcsResponse(request);
         System.out.println(new Gson().toJson(response));
      } catch (ServerException e) {
         e.printStackTrace();
      } catch (ClientException e) {
         System.out.println("ErrCode:" + e.getErrCode());
         System.out.println("ErrMsg:" + e.getErrMsg());
         System.out.println("RequestId:" + e.getRequestId());
      }

   }
}
```

The following command output is generated:

```
{
  "requestId":"5BE6AEA4-347F-46A9-9808-B429EF02****",
  "vpcId":"vpc-bp1h99qfh290thxml****",
  "vRouterId":"vrt-bp1cbum5ozelljyet****",
  "routeTableId":"vtb-bp1qm6p3yoww2cv10****",
  "resourceGroupId":"rg-acfmzw2jz2z****"
}
```


2. Creates a VSwitch.Create a VSwitch in the VPC. The CIDR block of the VSwitch is 192.168.0.0/24.

API	Parameter	Example
CreateVSwitch	ZoneId	The ID of the zone. Example: *cn-hangzhou-i*.
	VpcId	The ID of the VPC, which is the parameter value returned in the section. Example: *vpc-bp1h99qfh290thxml****.
	CidrBlock	The CIDR block of the VSwitch. Example: *192.168.0.0/24*.

The following code shows how to create a VSwitch:

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.vpc.model.v20160428.*;

public class CreateVSwitch {

    public static void main(String[] args) {
        DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou", "<accessKeyId>", "<accessSe
cret>");
        IAcsClient client = new DefaultAcsClient(profile);

        CreateVSwitchRequest request = new CreateVSwitchRequest();
        request.setRegionId("cn-hangzhou");
        request.setCidrBlock("192.168.0.0/24");
        request.setVpcId("vpc-bp1h99qfh290thxml****");
        request.setZoneId("cn-hangzhou-i");

        try {
            CreateVSwitchResponse response = client.getAcsResponse(request);
            System.out.println(new Gson().toJson(response));
        } catch (ServerException e) {
            e.printStackTrace();
        } catch (ClientException e) {
            System.out.println("ErrCode:" + e.getErrCode());
            System.out.println("ErrMsg:" + e.getErrMsg());
            System.out.println("RequestId:" + e.getRequestId());
        }

    }
}
```

The following command output is generated:

```
{
  "requestId": "BAFBC8C4-3C65-427B-B470-3D257288****",
  "vSwitchId": "vsw-bp1mihse903i05oxn****"
}
```

3. Create a security group.

API	Parameter	Example
CreateSecurityGroup	RegionId	The ID of the region. Example: *cn-hangzhou*.
	VpcId	The ID of the VPC, which is the parameter value returned in the section. Example: *vpc-bp1h99qfh290thxml****.

The following code shows how to create a security group:

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.ecs.model.v20140526.*;

public class CreateSecurityGroup {

  public static void main(String[] args) {
    DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou", "<accessKeyId>", "<accessSe
cret>");
    IAcsClient client = new DefaultAcsClient(profile);

    CreateSecurityGroupRequest request = new CreateSecurityGroupRequest();
    request.setRegionId("cn-hangzhou");
    request.setVpcId("vpc-bp1h99qfh290thxml****");

    try {
      CreateSecurityGroupResponse response = client.getAcsResponse(request);
      System.out.println(new Gson().toJson(response));
    } catch (ServerException e) {
      e.printStackTrace();
    } catch (ClientException e) {
      System.out.println("ErrCode:" + e.getErrCode());
      System.out.println("ErrMsg:" + e.getErrMsg());
      System.out.println("RequestId:" + e.getRequestId());
    }

  }
}
```

The following command output is generated:

```
{
  "requestId": "718D29C6-6183-4196-AD76-A53F6A6E****",
  "securityGroupId": "sg-bp1dve08xy2c8y9g****"
}
```

4. Add an inbound rule to the security group.

API	Parameter	Example
AuthorizeSecurityGroup	RegionId	The ID of the region. Example: *cn-hangzhou*.
	SecurityGroupId	The ID of the security group, which is the parameter value returned in the section. Example: *sg-bp1dve08xy2c8y9g****.
	IpProtocol	The Internet protocol. Example: *tcp*.
	SourceCidrIp	The source CIDR block. Example: *0.0.0.0/0*.
	PortRange	The port range: ○ Linux instances: *22/22* ○ Windows instances: *3389/3389*

The following code shows how to add an inbound rule to the security group:

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.ecs.model.v20140526.*;

public class AuthorizeSecurityGroup {

   public static void main(String[] args) {
      DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou", "<accessKeyId>", "<accessSe
cret>");
      IAcsClient client = new DefaultAcsClient(profile);

      AuthorizeSecurityGroupRequest request = new AuthorizeSecurityGroupRequest();
      request.setRegionId("cn-hangzhou");
      request.setSecurityGroupId("sg-bp1dve08xy2c8y9g****");
      request.setIpProtocol("tcp");
      request.setPortRange("22/22");
      request.setSourceCidrIp("0.0.0.0/0");

      try {
         AuthorizeSecurityGroupResponse response = client.getAcsResponse(request);
         System.out.println(new Gson().toJson(response));
      } catch (ServerException e) {
         e.printStackTrace();
      } catch (ClientException e) {
         System.out.println("ErrCode:" + e.getErrCode());
         System.out.println("ErrMsg:" + e.getErrMsg());
         System.out.println("RequestId:" + e.getRequestId());
      }

   }
}
```

The following command output is generated:

```
{
  "requestId": "7052E70F-4678-4400-81CF-E0133CCB****"
}
```

Purchase an ECS instance

Purchase a subscription ECS instance.

API	Parameter	Example
RunInstances	RegionId	The ID of the region. Example: *cn-hangzhou*.
	ImageId	The ID of the image. The *aliyun_2_1903_x64_20G_alibase_20200324.vhd* Alibaba Cloud Linux image is recommended.
	InstanceType	The instance family. • Individual applications: The *ecs.s6-c1m2.small* instance type with 1 vCPU and 2 GiB memory is recommended. • Applications for small and medium-sized enterprises: The *ecs.c5.large* instance type with 2 vCPUs and 4 GiB memory is recommended.
	SecurityGroupId	The ID of the security group, which is the parameter value returned in the section. Example: *sg-bp1dve08xy2c8y9g****.
	VSwitchId	The ID of the VSwitch, which is the parameter value returned in the section. Example: *vsw-bp1mihse903i05oxn****.
	InstanceName	The name of the instance. Example: *ecs_sdk_demo*.
	InstanceChargeType	The billing method of the instance. For a subscription instance, the corresponding value is *PrePaid*. **Note** You must make sure that you have sufficient account balance.

API	Parameter	Example
	PeriodUnit	The unit of the billing cycle. Example: *Month*.
	Period	The period of the billing cycle. Example: *1*.
	InternetMaxBandwidthOut	The maximum outbound bandwidth to the Internet. Example: *1*.
	Password	The logon password of the instance: *<yourPassword>*. Note You must customize a complex password to ensure instance security.

The following code shows how to create a subscription instance:

```
import com.aliyuncs.DefaultAcsClient;
import com.aliyuncs.IAcsClient;
import com.aliyuncs.exceptions.ClientException;
import com.aliyuncs.exceptions.ServerException;
import com.aliyuncs.profile.DefaultProfile;
import com.google.gson.Gson;
import java.util.*;
import com.aliyuncs.ecs.model.v20140526.*;

public class RunInstances {

   public static void main(String[] args) {
      DefaultProfile profile = DefaultProfile.getProfile("cn-hangzhou", "<accessKeyId>", "<accessSecret
>");
      IAcsClient client = new DefaultAcsClient(profile);

      RunInstancesRequest request = new RunInstancesRequest();
      request.setRegionId("cn-hangzhou");
      request.setImageId("aliyun_2_1903_x64_20G_alibase_20200324.vhd");
      request.setInstanceType("ecs.s6-c1m2.small");
      request.setSecurityGroupId("sg-bp1dve08xy2c8y9g****");
      request.setVSwitchId("vsw-bp1mihse903i05oxn****");
      request.setInstanceName("ecs_sdk_demo");
      request.setInternetMaxBandwidthOut(1);
```

```
        request.setPassword("<yourPassword>");
        request.setPeriod(1);
        request.setPeriodUnit("Month");
        request.setInstanceChargeType("PrePaid");

        try {
            RunInstancesResponse response = client.getAcsResponse(request);
            System.out.println(new Gson().toJson(response));
        } catch (ServerException e) {
            e.printStackTrace();
        } catch (ClientException e) {
            System.out.println("ErrCode:" + e.getErrCode());
            System.out.println("ErrMsg:" + e.getErrMsg());
            System.out.println("RequestId:" + e.getRequestId());
        }

    }
}
```

The following command output is generated:

```
{
    "requestId": "9582F9F2-349C-438E-A6A2-3E7B6B56****",
    "tradePrice": ****,
    "instanceIdSets": ["i-bp1hcv43i3glqxbv****"]
}
```

Connect to the ECS instance

This section describes how to log on to a Linux instance by using Cloud Shell. For information about how to log on to a Window instance, see Connect to a Windows instance from a local client.

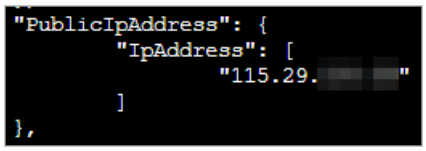
1. Query the public IP address of the instance.

API	Parameter	Example
DescribeInstances	RegionId	The ID of the region. Example: *cn-hangzhou*.
	InstanceIds	The ID of the instance, which is the parameter value returned in the Purchase an ECS instance section. Example: *'["i-bp1hcv43i3glqxbv****"]'*.

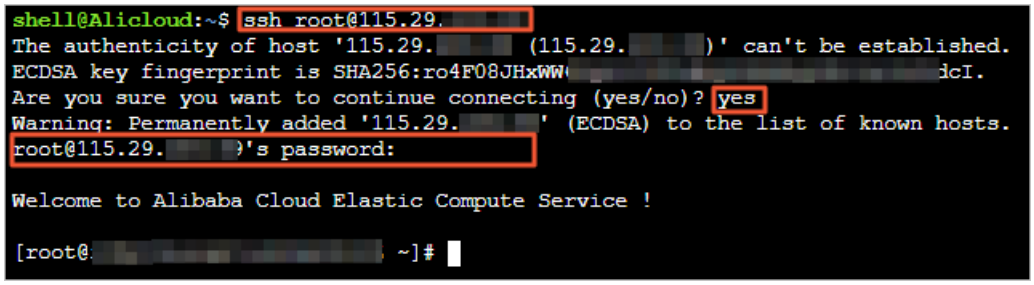
   The following code shows how to query the public IP address of the instance:

```
aliyun ecs DescribeInstances \
--RegionId cn-hangzhou \
--InstanceIds '["i-bp1hcv43i3glqxbv****"]'
```

The following command output is generated.



2. Use an SSH key pair to log on to the instance.



Release an expired instance

You can manually release a subscription instance after it expires. If you do not renew the instance after it expires, the instance is automatically released.