

Alibaba Cloud

Elastic Compute Service Pricing

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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 <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1. Billing overview

This topic describes the billable resources of Elastic Compute Service (ECS) and billing methods of these resources.

The prices of ECS resources may vary by region. For more information about ECS resource prices, see the [Pricing](#) tab of the Elastic Compute Service product page.

Billable resources and their billing methods

An ECS instance includes the computing resources (vCPUs and memory), an image, and Elastic Block Storage (EBS) devices. The following table describes the billable resources.

Resource	Description	Billing method	References
Computing resource (vCPUs and memory)	You are charged based on the instance type. The instance type determines the number of vCPUs and the size of memory that you can use.	<ul style="list-style-type: none"> Subscription Pay-as-you-go Pay-as-you-go and reserved instances Preemptible instances Pay-as-you-go and savings plans 	Instance types
Image	Image fees are determined based on the image type and your usage.	<ul style="list-style-type: none"> Subscription Pay-as-you-go Pay-as-you-go and reserved instances 	Images
EBS device (cloud disk or local disk)	<p>Cloud disk fees are determined based on the disk capacity and use duration.</p> <p>Note Local disks are tied to specific instance types and cannot be separately purchased. Prices of local disks are included in those of the instance type of instances to which the local disks are attached.</p>	<ul style="list-style-type: none"> Subscription Pay-as-you-go Storage capacity units (SCUs) Pay-as-you-go and savings plans 	Elastic Block Storage devices
Public bandwidth	<p>If you use a public IP address to access the Internet, you are charged only for the outbound public bandwidth.</p> <p>Note You can also use an elastic IP address (EIP) or NAT gateway to access the Internet. For more information about the billing, see EIP Billing overview or NAT gateway Billing overview.</p>	<ul style="list-style-type: none"> Pay-by-bandwidth Pay-by-traffic 	Public bandwidth

Resource	Description	Billing method	References
Snapshot	Snapshot fees are determined based on the snapshot size and storage duration.	<ul style="list-style-type: none"> Pay-as-you-go SCUs 	Snapshots

 **Note** ECS resources support the subscription and pay-as-you-go billing methods. You can combine different billing methods based on the ECS resource types to reduce costs. For more information, see [Overview](#).

Change billing methods

If the billing methods of your purchased resources do not meet your business requirements, you can change the billing methods. The following table describes ECS resources whose billing methods can be changed.

Resource	Description	References
Instance	<p>When you change the billing method of an ECS instance, the billing methods of its computing resources (vCPUs and memory) and system disk are also changed.</p> <ul style="list-style-type: none"> You can change the billing method of an ECS instance from subscription to pay-as-you-go. This allows you to recover some of the subscription costs and use the instance in a more flexible manner. <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 10px; margin: 10px 0;"> <p> Note Alibaba Cloud determines whether the billing method of your instance can be changed based on your ECS usage. You can go to the ECS console to check whether the corresponding entry point exists. If the corresponding entry point does not exist, the billing method of the instance cannot be changed.</p> </div> <ul style="list-style-type: none"> You can change the billing method of an ECS instance from pay-as-you-go to subscription. This allows you to obtain some discounts. 	<ul style="list-style-type: none"> Change the billing method of an instance from subscription to pay-as-you-go Change the billing method of an instance from pay-as-you-go to subscription
Disk	<ul style="list-style-type: none"> The billing methods of data disks that are attached to a subscription instance can be separately changed. The billing methods of the system disk and data disks that are attached to a pay-as-you-go instance must be changed together with that of the instance. 	<ul style="list-style-type: none"> Change the billing method of a disk Change the billing method of an instance from subscription to pay-as-you-go Change the billing method of an instance from pay-as-you-go to subscription

Resource	Description	References
Public bandwidth	For an instance that uses a public IP address, you can change the billing method for network usage by upgrading or downgrading the instance configurations.	Change the billing method for network usage

Renewal management

When a subscription instance expires, the services provided by the instance may be affected. If you want to continue to use the instance, you must renew it within the specified period. Otherwise, instance resources such as vCPUs, memory, and disks are released and data stored on them is permanently lost. For more information about renewal, see [Renewal overview](#).

Payment methods

You can use the following methods to pay for ECS resources:

- Bank card
- PayPal

Alibaba Cloud pre-authorizes your PayPal account after your pay-as-you-go resources begin being billed.

- Paytm (India)

This payment method is available only for users in India. Alibaba Cloud pre-authorizes your Paytm account after your pay-as-you-go resources begin being billed.

 **Note** Coupons are used to pay for your resource usage before bills are generated. No actual payments are involved.

Before you purchase ECS resources, you must bind a bank card, PayPal account, or Paytm (India) account to your Alibaba Cloud account. For more information, see [Add a payment method](#) in *Account Management documentation*.

If you want to purchase ECS resources in mainland China, you must complete real-name verification for your account. For more information, see the *How do I complete real-name registration?* section in [Real-name registration FAQ](#) of *Account Management documentation*.

After you purchase and use ECS resources, you can view the bills and consumption details. For more information, see [View billing details](#).

2. Billing items

2.1. Instance types

The billing of Elastic Compute Service (ECS) instance types refers to the billing of computing resources (vCPUs and memory). This topic describes the billing methods of instance types, comparison of these billing methods, and how to choose billing methods based on scenarios.

Overview

Instance types are billed based on computing resources, including vCPUs and memory. Prices of an instance type may vary with regions. For more information, see the [Pricing](#) tab on the Elastic Compute Service page.

 **Note** If you select an instance type that is equipped with local disks, the price of the instance type includes that of local disks.

Billing methods

The following table describes the billing methods of instance types.

Billing method	Description	References
Subscription	A billing method that allows you to use instance types only after you pay for them. Price = Unit price of an instance type × Subscription duration.	Subscription
Pay-as-you-go	A billing method that allows you to use instance types before you pay for them. Price = Unit price of an instance type × Billing duration. The billing cycle is accurate to the second.	Pay-as-you-go
Preemptible instance	Preemptible instances are on-demand instances that you can use before you pay for them. Preemptible instances offer some discounts compared with pay-as-you-go instances and are charged based on the actual usage duration. Prices of preemptible instances fluctuate based on the changes to supply and demand.	Preemptible instances
Reserved instance	Reserved instances are coupons that must be used together with pay-as-you-go instances. Compared with pay-as-you-go instances, reserved instances offer some discounts. Prices of reserved instances are determined based on the region, instance type, operating system, payment option, term, and instance quantity. Reserved instances are used to offset the bills of pay-as-you-go instances based on the resources that you specified when you purchased the reserved instances. Reserved instances can be applied only when they are matched to pay-as-you-go instances.	Reserved instances

Billing method	Description	References
Savings plan	Savings plans are discount plans that are used together with pay-as-you-go instances and provide billing discounts on the pay-as-you-go instances in exchange for a usage commitment. Prices of savings plans are determined based on the hourly commitment, payment method, and subscription duration. After you purchase savings plans, the pay-as-you-go billing discounts that you can obtain are determined based on the selected savings plan type, payment option, subscription duration, and attributes of matched pay-as-you-go instances such as regions and instance types. Savings plans are used to offset the bills of pay-as-you-go instances based on the usage commitment and are not restricted by regions or instance families.	Savings plans

 **Note** You can purchase reserved instances and savings plans at the same time. Reserved instances take precedence over savings plans to offset the bills of pay-as-you-go instances.

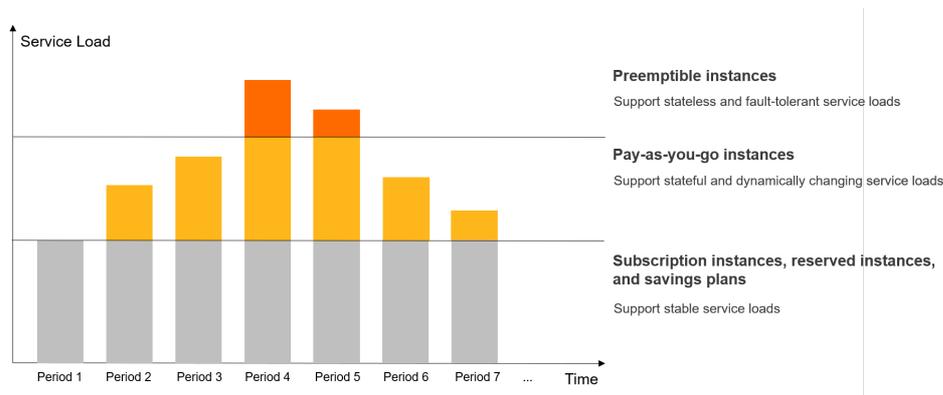
Comparison of billing methods

The following table describes the comparison of billing methods.

Item	Subscription	Pay-as-you-go	Preemptible instance	Reserved instance	Savings plan
Usage	All operations are linked to the purchased instance.	All operations are linked to the purchased instance.	All operations are linked to the purchased instance.	Resources are decoupled from bills. Reserved instances must be used together with pay-as-you-go instances.	Resources are decoupled from bills. Savings plans must be used together with pay-as-you-go instances.
Payment option	You make a full payment for instance types before you use them.	You pay for instance types after you use them. The instance types are charged by second and billed by hour.	You pay for instance types after you use them. The instance types are charged by second and billed by hour.	You can choose All Upfront, Partial Upfront, or No Upfront.	You can choose All Upfront, Partial Upfront, or No Upfront.

Item	Subscription	Pay-as-you-go	Preemptible instance	Reserved instance	Savings plan
Price feature	Subscription instances are more cost-effective than pay-as-you-go instances.	Pay-as-you-go instances are the least cost-effective.	Prices of preemptible instances fluctuate based on the changes to supply and demand. The discounts can be up to 90% of pay-as-you-go prices.	Compared with pay-as-you-go instances, reserved instances offer some discounts. The discounted prices are close to those of subscription instances.	Savings plans offer some discounts and are more flexible compared with pay-as-you-go instances, but come with slightly higher prices than reserved instances.
Instance release	You can manually release instances or they can be released by the system. If you want to release an instance before it expires, you must unsubscribe from the instance or change its billing method to pay-as-you-go. If you do not renew an instance within the required period of time after it expires, the instance is automatically released.	You can release instances at any time.	You can manually release instances or they can be released by the system. Preemptible instances can be reclaimed and may be automatically released after the protection period ends.	Reserved instances must be used together with pay-as-you-go instances. Pay-as-you-go instances that match reserved instances can be released at any time. After the pay-as-you-go instances are released, the reserved instances can be used to match and offset the bills of new pay-as-you-go instances.	Savings plans must be used together with pay-as-you-go instances. Pay-as-you-go instances that match savings plans can be released at any time. After the pay-as-you-go instances are released, the savings plans can be used to match and offset the bills of new pay-as-you-go instances.
Scenario	Subscription instances are applicable to services that run for 24 hours a day and seven days a week, such as web services and databases.	Pay-as-you-go instances are applicable to services that experience traffic spikes, such as temporary scaling, interim testing, and scientific computing.	Preemptible instances are applicable to services that experience traffic spikes, such as temporary scaling, interim testing, and scientific computing.	Reserved instances are used to match and offset the bills of pay-as-you-go instances, and are applicable to web services and databases.	Savings plans are used to match and offset the bills of pay-as-you-go instances, and are applicable to web services and databases.

You can choose appropriate billing methods for ECS instances on which different applications are deployed to reduce costs. The following figure shows the recommended combinations of billing methods.



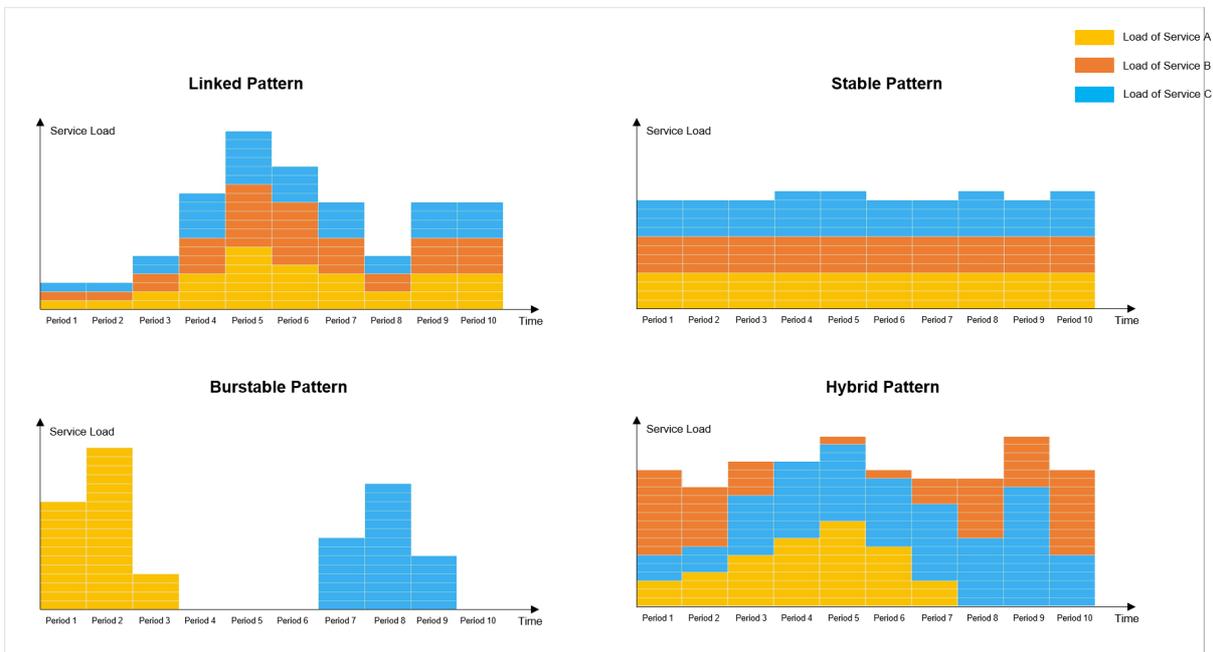
For stable business loads, you can use the subscription billing method and reserved instances or savings plans to obtain some discounts. When ECS instances have the same subscription duration, savings plans are the most flexible, and reserved instances are more flexible than subscription. The following table describes the comparison between subscription, reserved instances, and savings plans.

Feature	Subscription	Reserved instance	Savings plan
Discount limits	Discounts are offered only for a single instance.	A reserved instance can match a maximum of 100 specified pay-as-you-go instances to offer discounts.	Savings plans are used to offset bills without limits on the number of instances. Savings plans are flexible.
Resource reservation	Supported.	Supported. You must use zonal reserved instances.	Not supported.
Use across services	Not supported.	Supported. Reserved instances can be used in ECS and Elastic Container Instance.	Supported. Savings plans can be used in ECS and Elastic Container Instance.
Use across regions	Not supported.	Not supported.	Supported. General-purpose savings plans can be used across regions.
Use across zones in the same region	Not supported.	Supported. You must use regional reserved instances.	Supported.
Use across instance families	Not supported.	Not supported.	Supported. General-purpose savings plans can be used across instance families.
Use across instance types in the same instance family	Not supported.	Supported.	Supported.
Use across operating systems	Not supported.	Not supported.	Supported.

Feature	Subscription	Reserved instance	Savings plan
Use across accounts (based on the established trusteeship)	Not supported.	Supported.	Supported.
Installment	Not supported.	Supported. You can choose All Upfront, Partial Upfront, or No Upfront.	Supported. You can choose All Upfront, Partial Upfront, or No Upfront.

Examples of typical scenarios

The following figure shows some typical scenarios to which you can refer to choose appropriate billing methods.



Business type	Linked pattern	Stable pattern	Burstable pattern	Hybrid pattern
Business characteristic	All business segments are closely linked. When traffic loads of one business segment increase, traffic loads of other business segments also increase.	Business loads are stable with no obvious peak hours or off-peak hours.	All business segments are loosely linked. Business loads may become burstable at some points in time.	A variety of business segments exist. Each business segment has a unique requirement for computing power during a specific time period. The business segments have different priorities.

Business type	Linked pattern	Stable pattern	Burstable pattern	Hybrid pattern
Example scenario	Hot issues, e-commerce promotions, and traffic spikes of IoT.	Stable online business, such as internal office automation (OA) systems.	Event-based tasks, job tasks, and simulation tasks.	Scenarios where online, offline, and job tasks are deployed in a hybrid manner and where multiple environments are used alternately, such as blue-green deployment.
Recommended billing method	Pay-as-you-go and savings plans (or reserved instances).	<ul style="list-style-type: none"> Subscription. Pay-as-you-go and savings plans (or reserved instances). 	Pay-as-you-go. You can combine the pay-as-you-go billing method with savings plans or reserved instances if traffic bursts frequently occur.	Pay-as-you-go and savings plans (or reserved instances).

References

You can change the billing method of an instance from subscription to pay-as-you-go or from pay-as-you-go to subscription.

- For information about how to change the billing method of an instance from subscription to pay-as-you-go, see [Change the billing method of an instance from subscription to pay-as-you-go](#).
- For information about how to change the billing method of an instance from pay-as-you-go to subscription, see [Change the billing method of an instance from pay-as-you-go to subscription](#).

2.2. Images

This topic describes the billing methods of images and provides examples of how to calculate image fees.

Overview

You may be charged for images that you use. The following table describes the billing details for different types of images.

Type	Billing description
Public image	Public images are provided by Alibaba Cloud and are billed based on the operating system. <ul style="list-style-type: none"> • Windows Server: The price is subject to the instance type that you choose. The price information is displayed on the buy page when you create an instance. • Red Hat Enterprise Linux: The price information of the image is displayed on the buy page when you create an instance. • Public images that run other operating systems are free of charge.

Type	Billing description
Custom image	<p>Custom images are created from instances or snapshots, or imported from your local device. The billing involves the following two parts:</p> <ul style="list-style-type: none"> • Snapshot fee: A snapshot is automatically generated when you create a custom image. You are charged for the snapshot if you retain the custom image. The snapshot is billed based on the storage space it occupies. For more information, see Snapshots. • Image fee: If you use a custom image derived from a paid image, you are still charged for the source paid image. <div style="background-color: #e6f2ff; padding: 10px; margin: 10px 0;"> <p>Note If the custom image is an imported custom image of a Windows operating system, you are charged based on the system license type. If the license type is Aliyun or Auto, you are charged for the image. If the license type is BYOL, you are not charged for the image. For more information about license types, see the "What kinds of licenses can be used when I import custom images?" section in Image FAQ.</p> </div> <p>For example, assume that Instance A is created from Paid Image A. You create a custom image from Instance A and then you create an instance from the custom image. You must pay for Paid Image A in addition to the snapshot fee.</p>
Shared image	<p>Shared images are shared with you by other Alibaba Cloud accounts. If a shared image is derived from a paid image, you are charged for the source paid image when you use the shared image.</p> <p>For example, assume that you use a paid image that is shared with you by another Alibaba Cloud account to create an instance. You must pay for the source paid image.</p>
Alibaba Cloud Marketplace image	<p>Alibaba Cloud Marketplace images are provided by independent software vendors (ISVs). The prices are shown on the buy page of Alibaba Cloud Marketplace images.</p>

Billing methods

You must select an ECS image when you create an instance. The billing method and billing cycle of the image are the same as those of the instance.

Billing method	Billing rule	Reference
Subscription	The billing method of the image is the same as that of the instance. Price = Unit price of the image × Subscription duration.	Subscription
Pay-as-you-go	The billing method of the image is the same as that of the instance. Price = Unit price of the image × Billing duration. The billing cycle is accurate to seconds.	Pay-as-you-go

Note Images can be used only along with ECS instances. Prices of Windows reserved instances include the prices of images and Windows reserved instances can be used to offset image bills.

Billing examples

The following table lists examples of how to calculate image fees. Assume that you purchase an image that contains the Red Hat Enterprise Linux 8.1 64-bit operating system in the China (Hangzhou) region.

Note The prices in the following table are for reference only and the prices on the Pricing tab of Elastic Compute Service page prevails.

Billing method	Billing condition	Price (USD)
Subscription	<ul style="list-style-type: none"> Unit price of the image: USD 43.00/month Subscription duration: one month 	$43.00 \times 1 = 43.00$
Pay-as-you-go	<ul style="list-style-type: none"> Unit price of the image: USD 0.089/hour Billing duration: one month 	$0.089 \times 24 \times 30 = 64.08$

References

For more information about image billing, see the "FAQ about commercial availability of images" section in [Image FAQ](#).

2.3. Elastic Block Storage devices

This topic describes the billing methods of Elastic Block Storage (EBS) devices and provides examples on how to calculate their fees.

Overview

EBS devices are classified into cloud disks and local disks. The following section describes the billing methods of EBS devices:

- Cloud disks: Cloud disks include enhanced SSDs (ESSDs) and standard SSDs. You are charged for cloud disks based on their unit price, capacity, and use duration.

The prices of cloud disks of the same category may vary with regions. You can go to the **Pricing** tab of the [Elastic Compute Service](#) page and click the **Storage** tab to view the prices of cloud disks in different regions.

- Local disks: Local disks must be created together with instances and cannot be separately purchased. The prices of local disks are included in the prices of instance types.

For information about instance families equipped with local disks, see [Instance family](#).

Billing methods

The following table describes the billing methods of cloud disks and the billing rule of each billing method.

Billing method	Billing rule	References
Subscription	Price = Cloud disk capacity × Unit price of a cloud disk × Subscription duration	Subscription
Pay-as-you-go	Price = Cloud disk capacity × Unit price of a cloud disk × Billing duration	Pay-as-you-go
SCU	Storage capacity units (SCUs) are subscription storage resource plans that automatically match pay-as-you-go cloud disks to offset their bills.	Storage capacity units

The billing methods of cloud disks depend on how they are created.

- Cloud disks that are created along with an ECS instance use the same billing method as the ECS instance.
- If a cloud disk is created for a subscription instance and attached to the instance, the billing method of the cloud disk can be subscription or pay-as-you-go. If a cloud disk is created for a pay-as-you-go instance and attached to the instance, the billing method of the cloud disk can only be pay-as-you-go.
- If a cloud disk is separately created and is not attached to an instance, the billing method of the cloud disk can only be pay-as-you-go.

Billing examples

The following table describes examples on how to calculate EBS device fees. For example, you purchase a system disk and a data disk when you create an instance in China (Hangzhou).

- System disk: a PL0 ESSD with a capacity of 50 GiB
- Data disk: a PL1 ESSD with a capacity of 100 GiB

 **Note** The prices in the following table are for reference only. Prices on the Pricing tab of the Elastic Compute Service page prevail.

Billing method	Billing condition	Price (USD)
Subscription	<ul style="list-style-type: none"> • System disk: The unit price of the PL0 ESSD is USD 7.65/100 GiB/month. • Data disk: The unit price of the PL1 ESSD is USD 15.30/100 GiB/month. • Subscription duration: one month. 	<ul style="list-style-type: none"> • System disk: $(50/100) \times 7.65 \times 1 = 3.825$ • Data disk: $(100/100) \times 15.30 \times 1 = 15.30$ • Total price: $3.825 + 15.30 = 19.125$
Pay-as-you-go	<ul style="list-style-type: none"> • System disk: The unit price of the PL0 ESSD is USD 0.0160/100 GiB/hour. • Data disk: The unit price of the PL1 ESSD is USD 0.0320/100 GiB/hour. • Billing duration: 24 hours. 	<ul style="list-style-type: none"> • System disk: $(50/100) \times 0.0160 \times 24 = 0.192$ • Data disk: $(100/100) \times 0.0320 \times 24 = 0.768$ • Total price: $0.192 + 0.768 = 0.96$

References

The billing methods of cloud disks can be changed from subscription to pay-as-you-go or from pay-as-you-go to subscription. For more information, see [Change the billing method of a disk](#).

2.4. Public bandwidth

This topic describes public bandwidth types, billing methods for network usage, and examples on how to calculate network usage fees.

Overview

An Elastic Compute Service (ECS) instance can access the Internet by using one of the following resources:

- Public IP address

Public IP addresses are automatically assigned by the system. You are charged only for outbound public bandwidth and not for the use of public IP addresses. Two billing methods for network usage are available: pay-by-bandwidth and pay-by-traffic.

- Elastic IP address (EIP)

EIPs are public IP addresses that you can purchase and use individually. Only instances that are deployed in virtual private clouds (VPCs) support EIPs. For information about the billing details of EIPs, see [Overview](#).

- NAT gateway

NAT gateways are Internet gateways that you can individually purchase. For information about the billing details of NAT gateways, see [Billing overview](#).

This topic focuses on the billing methods for network usage and how to use public IP addresses to access the Internet. After an ECS instance is assigned a public IP address, you can use the instance to access the Internet and receive requests from the Internet. The following table describes the public bandwidth types involved.

Public bandwidth type	Billed	Description	Example
<i>Outbound bandwidth</i>	Yes	The bandwidth for traffic from ECS instances to the Internet.	FTP clients download resources from ECS instances by using public IP addresses.
<i>Inbound bandwidth</i>	No	The bandwidth for traffic from the Internet to ECS instances.	FTP clients upload resources to ECS instances by using public IP addresses.

Note You are not charged for internal bandwidth usage. Within the same region, you are not charged for traffic generated when ECS instances communicate with each other or with other Alibaba Cloud services by using private IP addresses. For example, communication between Alibaba Cloud services within the same VPC is free of charge. If an ECS instance communicates with other Alibaba Cloud services over the Internet, you are charged for outbound bandwidth or traffic. For example, you are charged for communication between an instance within the China (Hangzhou) region and an instance within the China (Shanghai) region.

For information about the limits on the public bandwidth of ECS instances, see the "Public bandwidth limits" section of the [Limits](#) topic.

Billing methods for network usage

Two billing methods for network usage are available: pay-by-bandwidth and pay-by-traffic.

- **Pay-by-bandwidth:** You are charged based on the bandwidth that you specify. The actual outbound bandwidth will not exceed the specified bandwidth.
- **Pay-by-traffic:** a pay-as-you-go billing method. You are charged based on the actual traffic volume. You must configure a maximum bandwidth for outbound traffic to avoid out-of-control fees caused by outbound traffic bursts.

 **Notice** When the **pay-by-traffic** billing method is used for network usage, the maximum inbound and outbound bandwidths are used as the upper limits of bandwidths instead of guaranteed performance specifications. In scenarios where demand outstrips resource supplies, these maximum bandwidths may be limited. If you want guaranteed bandwidths for your instance, use the **pay-by-bandwidth** billing method for network usage.

 **Note** You can also purchase a data transfer plan to offset the network traffic fees. For more information, see the [Data Transfer Plan](#) documentation.

The pricing of bandwidth varies based on regions. For more information, visit the [Pricing](#) tab of the Elastic Compute Service product page. The following table describes the billing methods for network usage and their relationship with the billing methods of ECS instances.

Billing method for network usage	Billing method of ECS instances	Billing rule for network usage
Pay-by-bandwidth	Subscription	<p>You must pay upfront for the bandwidth and subscription duration that you purchase. You are charged for the bandwidth (in Mbit/s) based on a tiered billing model. Unit: USD/month.</p> <ul style="list-style-type: none"> • 1 to 5 Mbit/s: Each bandwidth value corresponds to a different unit price. • ≥ 6 Mbit/s: You are billed at a flat rate per Mbit/s.
	Pay-as-you-go	<p>Bandwidth bills are accurate to the second. The bills are generated on the hour every hour. You are charged for the bandwidth (in Mbit/s) based on a tiered billing model. Unit: USD/hour.</p> <ul style="list-style-type: none"> • 1 to 5 Mbit/s: Each bandwidth value corresponds to a different unit price. • ≥ 6 Mbit/s: You are billed at a flat rate per Mbit/s.
Pay-by-traffic	Subscription and pay-as-you-go	The bills are generated on the hour every hour. You are charged based on the actual traffic volume (in GB). Unit: USD/GB.

Billing examples

The following table describes how you are billed for network usage. In the examples, instances within the China (Hangzhou) region are used.

Note The unit prices are for reference only, and the actual prices are displayed on the Pricing tab of the Elastic Compute Service page.

Billing method for network usage	Billing method of ECS instances	Example of billing conditions	Fee (USD)
Pay-by-bandwidth	Subscription	<ul style="list-style-type: none"> Usage period: one month Bandwidth value: 2 Mbit/s Unit price for 2 Mbit/s: USD 6.8 per month 	$1 \times 6.8 = 6.8$
		<ul style="list-style-type: none"> Usage period: one month Bandwidth value: 7 Mbit/s Unit price for 5 Mbit/s: USD 17 per month Unit price for ≥ 6 Mbit/s: USD 11.8 per Mbit/s per month 	$1 \times [17 + (7 - 5) \times 11.8] = 40.6$
	Pay-as-you-go	<ul style="list-style-type: none"> Usage period: one month Bandwidth value: 2 Mbit/s Unit price for 2 Mbit/s: USD 0.012 per hour 	$24 \times 30 \times 0.012 = 8.64$
		<ul style="list-style-type: none"> Usage period: one month Bandwidth value: 7 Mbit/s Unit price for 5 Mbit/s: USD 0.03 per hour Unit price for ≥ 6 Mbit/s: USD 0.021 per Mbit/s per hour 	$24 \times 30 \times [0.03 + (7 - 5) \times 0.021] = 51.84$
Pay-by-traffic	Subscription and pay-as-you-go	<ul style="list-style-type: none"> Traffic volume: 1 GB Unit price: USD 0.123 per GB Usage duration: N/A. You are charged based on the actual traffic volume. 	$1 \times 0.123 = 0.123$

References

You can change the billing method for network usage from pay-by-bandwidth to pay-by-traffic or from pay-by-traffic to pay-by-bandwidth. For more information, see [Change the billing method for network usage](#).

If the current public bandwidth does not meet your business requirements, you can upgrade or downgrade the public bandwidth. For more information, see [Overview of instance upgrade and downgrade](#).

2.5. Snapshots

This topic describes the billing methods and billing rules of ECS snapshots, and how to manage overdue payments. This topic also provides an example of how to calculate a snapshot fee.

Billable items

A snapshot is a backup of data on a disk at a specific point in time. Typically, snapshots are used for disaster recovery and environment clone. The following table describes the billable items of snapshots.

Billable item	Description	Billing method
Snapshot	Snapshots have disaster recovery capabilities and are stored in OSS buckets that are in the same region as the snapshots. However, an extended period of time is required to create a snapshot.	Pay-as-you-go The pay-as-you-go bills of snapshots can be offset by storage capacity units (SCUs).
Snapshot replication	When a snapshot is copied from one region to another, a copy of the snapshot is created in the destination region.	Pay-as-you-go
Instant access	A snapshot becomes available for use within seconds after it is created. This feature is applicable only to enhanced SSDs (ESSDs).	Pay-as-you-go

You are charged for the instant access feature on a pay-as-you-go basis. The billing is based on the number of times that the feature is enabled and the snapshot size. For more information, see the [Billing rules](#) section in this topic.

Billing methods

You are charged based on the snapshot size and storage duration. By default, the pay-as-you-go billing method is used. To reduce costs, you can use SCUs to offset the bills of snapshots. You are charged from the time when a snapshot is created to the time when the snapshot is released.

Billing method	Description	Reference
Pay-as-you-go	A billing method that allows you to pay for a resource after you use the resource. The snapshot fee is calculated based on the billing cycle of an hour. A bill is generated at the end of each billing cycle, and the fee is deducted from your account.	Pay-as-you-go
SCU	A subscription resource plan that can be used to offset the bills of multiple pay-as-you-go storage resources, such as disks, OSS buckets, NAS file systems, and snapshots. After you purchase an SCU, the SCU is automatically used to offset the subsequent bills generated for pay-as-you-go snapshots.	Storage capacity units

Billing rules

Billable item	Billing rule
Storage fees for snapshots	<p>Snapshots are billed every hour based on the storage capacity occupied by the snapshots.</p> <p>Snapshot fees = Snapshot unit price × Snapshot size × Billing duration. The following section describes the billing rules of each item in the formula:</p> <ul style="list-style-type: none"> • The snapshot unit price is measured in USD/GiB/month. You can calculate the hourly snapshot unit price based on this monthly unit price. • The snapshot size is measured in GiB. You have a free storage quota of 5 GiB each month. <p>The first snapshot of a disk is a full snapshot. Subsequent snapshots of the disk are incremental snapshots. Each incremental snapshot consists only of the data changes since the last snapshot. For more information, see Incremental snapshots.</p> <ul style="list-style-type: none"> • The billing duration is measured in hours. <p>You are charged from the time when a snapshot is created to the time when the snapshot is released. A storage duration of less than one hour is calculated as one hour.</p>
Service fees for snapshot replication	<p>Service fees for snapshot replication = Service unit price for snapshot replication ^② × Snapshot size</p> <div style="background-color: #e6f2ff; padding: 10px; border: 1px solid #c6e2ff;"> <p> Notice For information about the storage fees of snapshot copies, see the "Storage fees for snapshots" item in this table.</p> </div>
Service fees for instant access	<p>Service fees for instant access include the feature usage fee and the storage fee of snapshots.</p> <ul style="list-style-type: none"> • The feature usage fee is billed based on the number of times that the feature is enabled. • Storage fees for snapshots = Storage unit price for instant access × Snapshot size × Billing duration. <ul style="list-style-type: none"> ◦ The storage unit price for instant access is measured in USD/GiB/month. You can calculate the snapshot unit price per second based on this monthly unit price. ◦ The snapshot size is measured in GiB. ◦ The billing duration is measured in seconds. You are charged from the time when the instant access feature is enabled to the time when the feature is disabled. <div style="background-color: #e6f2ff; padding: 10px; border: 1px solid #c6e2ff;"> <p> Notice After instant access is disabled, you are still charged storage fees for snapshots. For more information, see the "Storage fees for snapshots" item in this table.</p> </div>

② For information about the prices of snapshots, copying snapshots, and instant access, see the snapshot price list. To view snapshot prices in different regions, go to the [Elastic Compute Service](#) page and click the **Pricing** tab. Then, select a region and click the **Snapshot** tab.

Example of calculating snapshot fees

 **Note** The following example is for reference only. To check your actual snapshot bills, go to the Billing Management console.

For example, if you have three disks in the China (Hangzhou) region that belongs to your account. You created a snapshot for each disk at 10:20. The snapshots are 50 GiB, 220 GiB, and 40 GiB in size. If you do not delete these snapshots on the same day, the fees of the three snapshots are determined based on the following calculations:

- Billing conditions
 - Snapshot size: 50 GiB + 220 GiB + 40 GiB = 310 GiB.
If you have not used the 5 GiB free storage quota of this month, the billed snapshot size is 305 GiB.
 - Snapshot unit price: Assume that the pay-as-you-go price for snapshots in the China (Hangzhou) region is USD 0.0200/GiB/month, which is equivalent to USD 0.0000277778/GiB/hour.
 - Billing duration: The period from 10:20 to 11:00 is calculated as an hour. A total of 13 hours is calculated until 23:00 when a bill is generated.
- Billing calculation

Snapshot fee = Snapshot unit price × Snapshot size × Billing duration. 305 GiB × USD 0.0000277778/GiB/hour × 13 = USD 0.008472.

 - The actual payable amount shown on the billing page is USD 0.008.
 - The generated bill shows the amount of USD 0.0085.

Overdue payments

If your account balance in the current billing cycle is less than the payable amount of the previous billing cycle, the system sends you an SMS or email notification. The snapshot service is suspended 24 hours after payments become overdue within your account.

The following section describes how snapshots are retained from the day when the payment becomes overdue:

- In the first 15 days, snapshots that exceed the retention periods are deleted, and other snapshots are retained.
- After 15 days, all snapshots are deleted except for those that have been used to create disks or custom images. The automatic snapshot policy is also deleted.

References

- [Snapshot overview](#)
- [Reduce snapshot fees](#)
- [Snapshot FAQ](#)

3. Billing methods

3.1. Overview

You can choose an appropriate billing method based on the Elastic Compute Service (ECS) resource types. This topic describes all billing methods used in ECS, compares the subscription and pay-as-you-go billing methods, and elaborates the cost-effective billing methods such as preemptible instance and savings plans.

Basic billing methods

An ECS instance includes computing resources (vCPUs and memory), an image, and Elastic Block Storage (EBS) devices, and uses one of the following basic billing methods: subscription, pay-as-you-go, or preemptible instance. The following table describes the applicable resources and scenarios of each billing method.

Billing method	Applicable resources	Description	References
Subscription	<ul style="list-style-type: none"> Computing resources (vCPUs and memory) Image Disk Public bandwidth 	<p>A billing method that allows you to use ECS resources only after you pay for them. Subscription is applicable to services that run for 24 hours a day and seven days a week, such as web services. You must pay for subscription resources before you can use them.</p>	Subscription
Pay-as-you-go	<ul style="list-style-type: none"> Computing resources (vCPUs and memory) Image Disk Public bandwidth Snapshot 	<p>A billing method that allows you to use ECS resources and pay for them afterwards. Pay-as-you-go is applicable to applications or services that experience traffic spikes, such as temporary scaling, interim testing, and scientific computing. You can activate and use pay-as-you-go resources before you pay for them. The system generates bills in each billing cycle and deducts corresponding fees from your account.</p>	Pay-as-you-go
Preemptible instance	Computing resources (vCPUs and memory)	<p>Preemptible instances are on-demand instances that you can use before you pay for them. Preemptible instances offer some discounts compared with pay-as-you-go instances and are charged based on the actual usage duration. Prices of preemptible instances fluctuate based on the changes in supply and demand.</p>	Preemptible instances

Subscription and pay-as-you-go instances support different features. The following table describes the differences.

Feature	Subscription	Pay-as-you-go	Preemptible instance
Release instances	<ul style="list-style-type: none"> To release an instance before it expires, you must first change its billing method from subscription to pay-as-you-go. If you do not renew an instance within the required period of time after the instance expires, the instance is automatically released. 	<p>Supported.</p> <p>Release pay-as-you-go instances that you no longer need at the earliest opportunity. If you do not release them, the ECS resources continue to incur charges until the instances are stopped and released due to overdue payments.</p>	<p>Supported. The system may also release an instance when the market price exceeds your bid or when the resources of the instance are insufficient.</p>
Change instance types	Supported.	Supported.	Not supported.
Change bandwidth configurations	Supported.	Supported.	Not supported.
Change billing methods	Supported.	Supported.	Not supported.
Use subscription images from Alibaba Cloud Marketplace	Supported.	Not supported.	Not supported.
Apply for ICP filings for websites that are deployed on ECS instances in mainland China	<p>Supported.</p> <p>You can apply for ICP filings only for ECS instances that have a subscription period of at least three months.</p>	Not supported.	Not supported.
Create instances by calling API operations	Supported.	Supported.	Supported.
Use Alibaba Cloud Security, CloudMonitor, and Server Load Balancer (SLB) for free	Supported.	Supported.	Supported.

Cost-effective combinations of billing methods

In addition to subscription, pay-as-you-go and preemptible instance, Alibaba Cloud provides some combinations of billing methods for different ECS resources to reduce costs. You can use a proper combination of billing methods based on your business requirements.

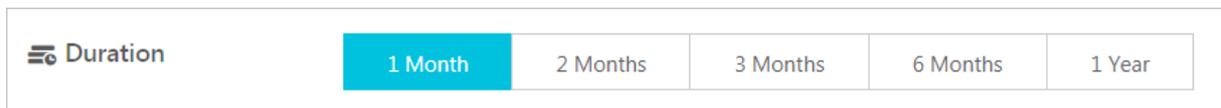
Billing method	Applicable resources	Description	References
Reserved instance	<ul style="list-style-type: none"> • Compute resources (vCPUs and memory) • Image 	Reserved instances are coupons that can be used to offset the bills of pay-as-you-go instances.	Reserved instances
SCU	<ul style="list-style-type: none"> • Disk • Snapshot 	Storage capacity units (SCUs) are storage resource plans that can be used to offset the bills of different pay-as-you-go storage resources.	Storage capacity units
Data transfer plan	Public bandwidth	Data transfer plans are effective and economical solutions that can be used to offset the bills of IPv4 data transfers generated by pay-as-you-go instances.	Data Transfer Plan

3.2. Subscription

Subscription is a billing method that allows you to pay in advance for the use of resources. This billing method allows you to reserve resources and reduce costs with discounted rates. This topic describes the billing rules for subscription Elastic Compute Service (ECS) resources.

Overview

Before you can use subscription resources, you must create a subscription instance. The following figure shows the subscription durations that you can specify for instances.



When you create a subscription instance, resources are billed separately to generate a total price. You can use the subscription resources only after you pay the total price. For more information about how prices are calculated, see [Billing](#).

After a subscription instance is created, you can change its configurations or extend the subscription cloud disks that are attached to the instance. For more information, see [Overview of instance upgrade and downgrade](#) and [Overview](#).

After a subscription instance expires, you can renew the instance to continue to use it. For more information, see [Renewal overview](#).

Applicable resources

The combination of computing resources (vCPUs and memory), Elastic Block Storage (EBS) devices, an image, and a network type uniquely determines the service form of an instance. The following table describes the ECS resources that support the subscription billing method.

Resource	Description
Computing resource (vCPUs and memory)	When you create an instance, you must specify whether to use the subscription billing method.
Image	The image that you select when you create a subscription instance also uses the subscription billing method.
Cloud disk	Cloud disks created along with subscription instances also use the subscription billing method. After a subscription instance is created, you can create subscription disks for the instance or attach pay-as-you-go disks that were separately created to the instance. For more information, see Create a subscription disk and Attach a data disk .
Public bandwidth (pay-by-bandwidth)	If you select pay-by-bandwidth as the billing method for network usage when you create a subscription instance, the public bandwidth consumed by the instance is also billed on a subscription basis. For more information, see Public bandwidth .

You can view the total price of the preceding resources in the lower-left part of the instance buy page in the ECS console, as shown in the following figure.

Duration: 1 Month v Total: \$ [blurred] USD + Marketplace Image Fees: \$ [blurred] USD
Bandwidth: 1Mbps Pay-By-Bandwidth

- **Total** indicates the total price of the following resources:
 - Computing resources (vCPUs and memory)
 - Cloud disks
 - Public bandwidth (pay-by-bandwidth)

? **Note** If you select pay-by-traffic as the billing method for network usage, the total price does not include the price of public bandwidth. For more information, see [Public bandwidth](#).

- **Marketplace Image Fees** indicates that you selected a paid Alibaba Cloud Marketplace image.

You can use the ECS [TCO Calculator](#) to analyze your cloud migration costs.

Billing

The billing cycle of a subscription instance is the time commitment you made when you purchased the instance (based on UTC+8:00). The billing cycle begins at the time when the subscription resource is purchased or renewed (accurate to the second) and ends at 00:00:00 on the day after the expiration date.

For example, assume that you created a one-month subscription instance at 13:00:00 on August 9, 2019, which had computing resources (vCPUs and memory), an image, and a cloud disk (system disk). Assume that you manually renewed the instance with another one-month commitment. The following billing cycles apply:

- The first billing cycle is from 13:00:00 on August 9, 2019 to 00:00:00 on September 10, 2019.

- The second billing cycle is from 00:00:00 on September 10, 2019 to 00:00:00 on October 10, 2019.

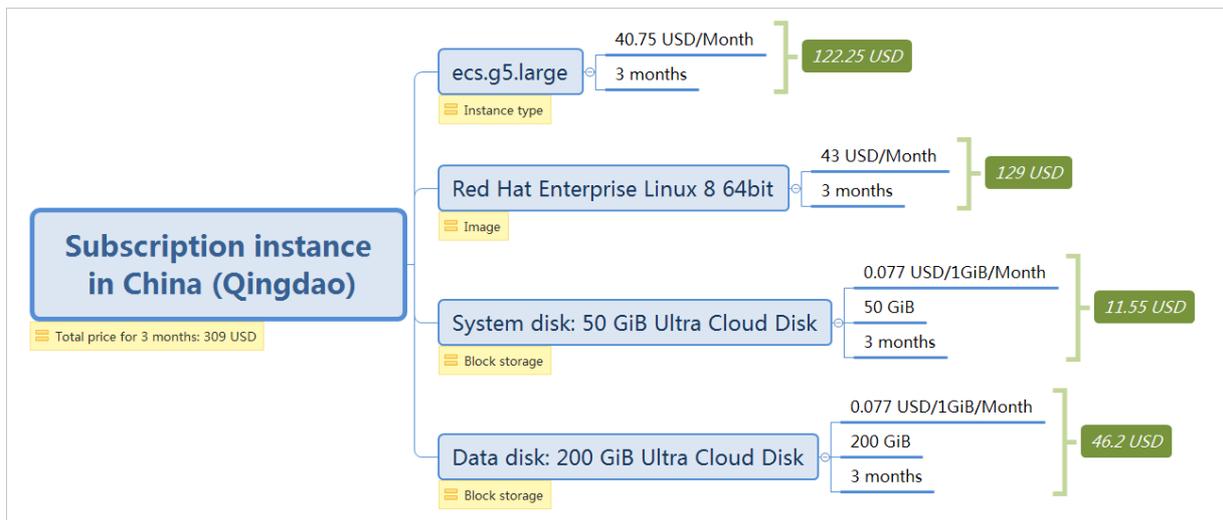
Resources are billed separately. You must pay for the resources before you can use them. You can calculate the total price for each billing cycle based on your selected configurations. The following table describes the formulas used to calculate the fee of each resource.

Resource	Formula	Unit price
Computing resource (vCPUs and memory)	Unit price of an instance type × Subscription duration	<p>For more information, see the Instance section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px;"> <p>Note Local disks are tied to specific instance types. The prices of local disks are included in the prices of corresponding instance types.</p> </div>
Image	Unit price of an image × Subscription duration	You can view the price on the instance buy page in the ECS console or in Alibaba Cloud Marketplace.
Cloud disk (system disk)	Unit price of a disk × Disk capacity × Subscription duration	<p>For more information, see System Cloud Disk Fee of the Storage section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px;"> <p>Note The prices for pay-as-you-go disks on the page are displayed in the unit of USD/100 GiB/hour. You can divide the unit price by 100 to obtain the unit price per GiB.</p> </div>

Resource	Formula	Unit price
Cloud disk (data disk)	Unit price of a disk × Disk capacity × Subscription duration	<p>For more information, see Data Cloud Disk Fee of the Storage section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #add8e6; padding: 5px;"> <p>Note The prices for pay-as-you-go disks on the page are displayed in the unit of USD/100 GiB/hour. You can divide the unit price by 100 to obtain the unit price per GiB.</p> </div>
Public bandwidth (pay-by-bandwidth)	<p>Unit price of bandwidth × Bandwidth value × Subscription duration</p> <p>For more information, see Public bandwidth.</p>	A tiered billing model is used for bandwidth. You can select a bandwidth value on the instance buy page to view the fee schedule.

For example, assume that you created a three-month subscription instance in the China (Qingdao) region. The following figure shows the process of calculating the instance price.

Note The price in the following figure is for reference only. For more information about actual prices, visit the URLs in the preceding table.



Changes in resource states after an instance expires

Notice After an instance expires, it may be stopped. The system sends you notifications for renewing the instance. Renew your instance at your earliest convenience to ensure service availability. If you have other questions, [submit a ticket](#).

If the auto-renewal feature is not enabled for a subscription instance, the instance stops providing services at some point from 00:00:00 on the expiration date to 00:00:00 the next day.

 **Note** You cannot enable the auto-renewal feature for an expired subscription instance.

The following table describes the resource states for a subscription instance after the instance expires.

Resource	Within 15 days after the instance expires	More than 15 days after the instance expires
Computing resource (vCPUs and memory)	<p>The computing resources (vCPUs and memory) are retained, but the instance stops providing services.</p> <div style="background-color: #e1f5fe; padding: 5px; margin-top: 10px;"> <p> Note After an instance is stopped, you cannot connect to the instance or access websites deployed on the instance, and service errors may occur.</p> </div>	The computing resources (vCPUs and memory) are released.
Image	The image is unavailable.	The image is unavailable.
EBS device	<ul style="list-style-type: none"> Cloud disks and their data are retained, but the cloud disks cannot be used. Local disks and their data are retained, but the local disks cannot be used. 	<ul style="list-style-type: none"> Subscription disks are released and their data cannot be recovered. <div style="background-color: #e1f5fe; padding: 5px; margin-top: 10px;"> <p> Note If you have manually attached a pay-as-you-go cloud disk to the subscription instance and have not set the release mode to Release with Instance, the pay-as-you-go cloud disk stops working.</p> </div> <ul style="list-style-type: none"> Local disks are released and their data cannot be recovered.
Public IP address	<ul style="list-style-type: none"> If the instance is located in the classic network, its public IP address is retained. If the instance is located in a virtual private cloud (VPC), the following rules apply: <ul style="list-style-type: none"> The public IP address is retained. The elastic IP address (EIP) associated with the instance remains unchanged. 	<ul style="list-style-type: none"> If the instance is located in the classic network, its public IP address is released. If the instance is located in a VPC, the following rules apply: <ul style="list-style-type: none"> The public IP address is released. The EIP is disassociated from the instance.

If the auto-renewal feature is enabled for a subscription instance but the instance fails to renew, the instance stops providing services at some point from 00:00:00 on the 15th day after it expires to 00:00:00 on the 16th day after it expires.

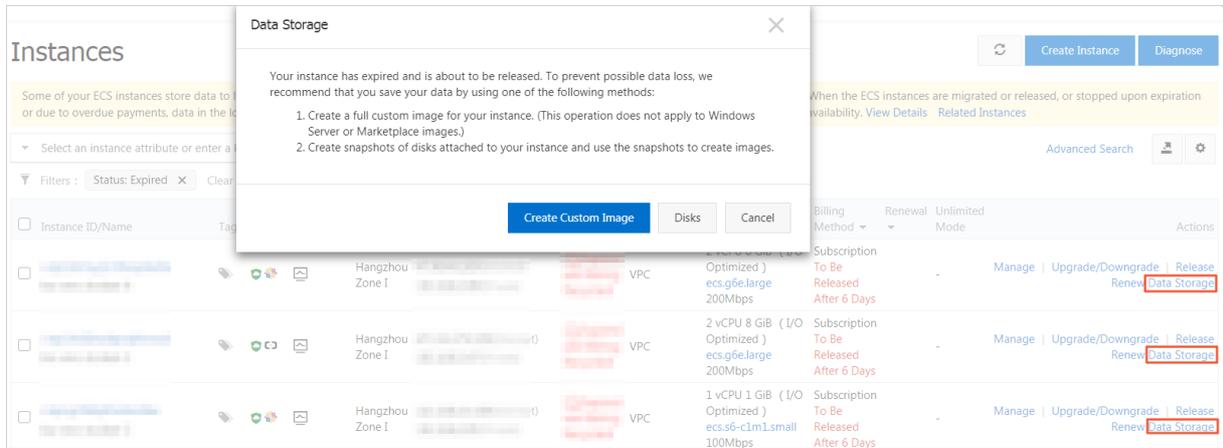
The following table describes the resource states for a subscription instance after the instance expires.

Resource	Within 15 days after the instance expires	16 to 30 days after the instance expires	More than 30 days after the instance expires
Computing resource (vCPUs and memory)	<p>The computing resources (vCPUs and memory) are retained, and the instance works normally.</p> <p>Note When an instance works normally, you can start or stop the instance, and connect to the instance by using management terminals or other connection methods.</p>	<p>The computing resources (vCPUs and memory) are retained, but the instance stops providing services.</p> <p>Note After an instance is stopped, you cannot connect to the instance or access websites deployed on the instance, and service errors may occur.</p>	<p>The computing resources (vCPUs and memory) are released.</p>
Image	The image is available.	The image is unavailable.	The image is unavailable.
EBS device	<ul style="list-style-type: none"> Cloud disks and their data are retained. The cloud disks can work normally. Local disks and their data are retained. The local disks can work normally. 	<ul style="list-style-type: none"> Cloud disks and their data are retained, but the cloud disks cannot be used. Local disks and their data are retained, but the local disks cannot be used. 	<ul style="list-style-type: none"> Subscription disks are released and their data cannot be recovered. <p>Note If you have manually attached a pay-as-you-go cloud disk to the subscription instance and have not set the release mode to Release with Instance, the pay-as-you-go cloud disk stops working.</p> <ul style="list-style-type: none"> Local disks are released and their data cannot be recovered.

Resource	Within 15 days after the instance expires	16 to 30 days after the instance expires	More than 30 days after the instance expires
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Public IP address	<ul style="list-style-type: none"> • If the instance is located in the classic network, its public IP address is retained. • If the instance is located in a VPC, the following rules apply: <ul style="list-style-type: none"> ◦ The public IP address is retained. ◦ The EIP associated with the instance remains unchanged. 	<ul style="list-style-type: none"> • If the instance is located in the classic network, its public IP address is retained. • If the instance is located in a VPC, the following rules apply: <ul style="list-style-type: none"> ◦ The public IP address is retained. ◦ The EIP associated with the instance remains unchanged. 	<ul style="list-style-type: none"> • If the instance is located in the classic network, its public IP address is released. • If the instance is located in a VPC, the following rules apply: <ul style="list-style-type: none"> ◦ The public IP address is released. ◦ The EIP is disassociated from the instance.
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After the instance expires, **Data Storage** is displayed in the **Actions** column of the **Instances** page. Before the instance is released, you can create a custom image from the instance or create snapshots to back up disk data.



Overdue payments

If you have overdue payments in your account, you can use your subscription resources normally but cannot perform operations that incur charges on them, such as purchasing instances, upgrading instance configurations, or renewing resources. For more information, see [Overdue payments](#).

3.3. Pay-as-you-go

Pay-as-you-go is a billing method that allows you to use resources first and pay for them afterward. Pay-as-you-go Elastic Compute Service (ECS) resources can be purchased and released on demand and provide cost savings of 30% to 80% compared with traditional hosts. This topic describes the billing and settlement rules for pay-as-you-go ECS resources.

Overview

You are billed for pay-as-you-go resources on an hourly basis. If you have a quota agreement with Alibaba Cloud, fees are deducted only when the cumulative consumption of your account exceeds the quota. You must complete the payment at least once a month.

You can change the configurations of your pay-as-you-go resources. For more information, see [Change the instance type of a pay-as-you-go instance](#) and [Modify the bandwidth configurations of pay-as-you-go instances](#).

You can change the billing methods of your pay-as-you-go resources. For more information, see [Change the billing method of an instance from pay-as-you-go to subscription](#).

You can use one of the following methods to view the consumption details of your pay-as-you-go resources:

- For information about how fees are calculated, see [Billing](#).
- For information about how the resource status affects the billing duration, see [Billing duration](#).

Note If you stop an instance but do not release its resources, you continue to be charged for these resources.

- For information about settlement, see [Settlement cycle](#).

Applicable resources

The pay-as-you-go billing method is applicable to the following ECS resources:

- Computing resources (vCPUs and memory)
- Images
- Disks
- Public bandwidth (pay-by-bandwidth)
- Snapshots

When you create an instance, you must configure the computing resources (vCPUs and memory), Elastic Block Storage (EBS) devices, an image, and a network type. When you create a pay-as-you-go instance, the image and disks created along with the instance use the pay-as-you-go billing method. However, you can also use a billing method for network usage.

Note After you create a pay-as-you-go instance, you can attach pay-as-you-go disks that are separately created to the instance. For more information, see [Attach a data disk](#).

After you create a snapshot, you are immediately charged for the snapshot.

You can view the total price of the preceding resources in the lower part of the instance buy page in the ECS console.

Bandwidth: 1Mbps Pay-By-Bandwidth Total: \$  USD per Hour + Marketplace Image Fees: \$  USD per Hour

- **Total** indicates the total price of the following resources:
 - Computing resources (vCPUs and memory)
 - Cloud disks
 - Public bandwidth (pay-by-bandwidth)

Note If you select pay-by-traffic as the billing method for network usage, the total price does not include the price of public bandwidth. For more information, see [Public bandwidth](#).

- **Marketplace Image Fees** indicates that you selected a paid Alibaba Cloud Marketplace image.

Billing

You are charged for pay-as-you-go resources based on their billing cycles. The billing cycle of a pay-as-you-go resource immediately begins after the resource is created. You can calculate the total fee that you must pay for a period of time based on the configurations of your choice. The following table describes the billing cycle of each ECS resource and the formula used to calculate the fee of each resource.

Resource	Billing cycle	Formula	Unit price
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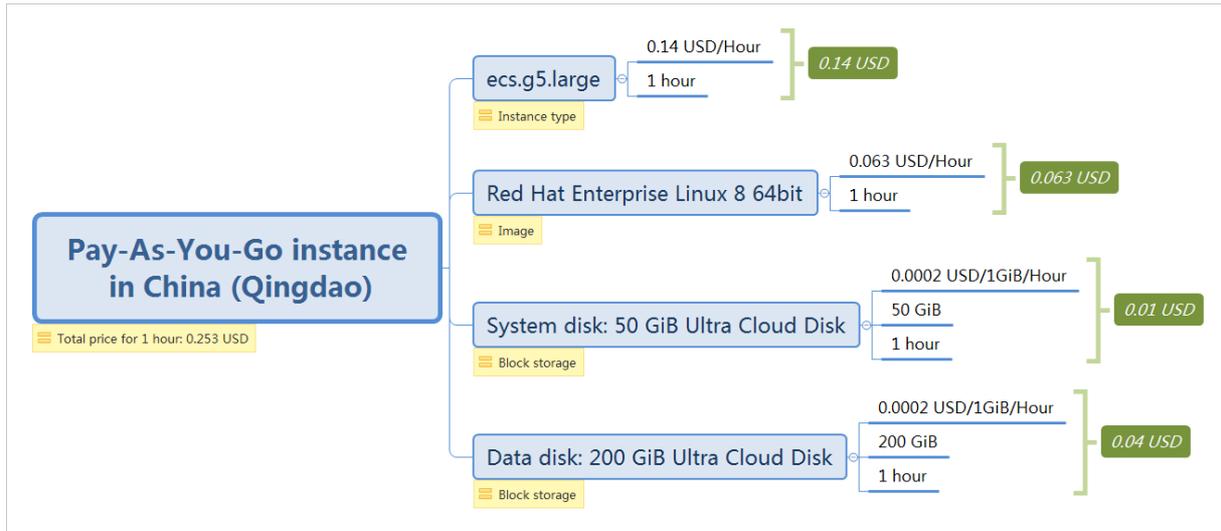
Resource	Billing cycle	Formula	Unit price
Computing resource (vCPUs and memory)	<p>Varies based on the number of the vCPUs of the instance type.</p> <ul style="list-style-type: none"> • 1 vCPU: 10 minutes, with a minimum of 10 minutes • 2 vCPUs: 5 minutes, with a minimum of 5 minutes • 4 vCPUs: 2 minutes, with a minimum of 2 minutes • More than 4 vCPUs: 1 second 	Unit price of an instance type × Billing duration	<p>For more information, see the Instance section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px;"> <p> Note Local disks are tied to specific instance types. The prices of local disks are included in the prices of corresponding instance types.</p> </div>
Image	1 second	Unit price of an image × Billing duration	You can view the price on the instance buy page of the ECS console and in Alibaba Cloud Marketplace.
Cloud disk (system disk)	1 second	Unit price of a cloud disk × Disk capacity × Billing duration	<p>For more information, see System Cloud Disk Fee of the Storage section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 5px;"> <p> Note The prices for pay-as-you-go disks on the page are displayed in the unit of USD/100 GiB/hour. You can divide the unit price by 100 to obtain the unit price per GiB.</p> </div>

Resource	Billing cycle	Formula	Unit price
Cloud disk (data disk)	1 second	Unit price of a cloud disk × Disk capacity × Billing duration	<p>For more information, see Data Cloud Disk Fee of the Storage section on the Pricing tab of the Elastic Compute Service product page.</p> <div style="border: 1px solid #add8e6; padding: 5px; background-color: #e6f2ff;"> <p>Note The prices for pay-as-you-go disks on the page are displayed in the unit of USD/100 GiB/hour. You can divide the unit price by 100 to obtain the unit price per GiB.</p> </div>
Public bandwidth (pay-by-bandwidth)	1 second	<p>Unit price of bandwidth × Bandwidth value × Billing duration</p> <p>For more information, see Public bandwidth.</p>	A tiered billing model is used for bandwidth. You can select a bandwidth value on the instance buy page to view the fee schedule.
Snapshot	1 hour, with a minimum of 1 hour	<p>Unit price of a snapshot × Snapshot capacity × Billing duration</p> <p>For more information, see Snapshots.</p>	For more information, see the Snapshot section on the Pricing tab of the Elastic Compute Service product page.

Note If the billing cycle is 1 second, you are charged for resources in 1-second increments. If an hourly price is displayed, you can divide the price by 3600 to obtain the price per second.

For example, you created a pay-as-you-go instance in the China (Qingdao) region and used this instance from 11:00:00 to 12:00:00 on August 8, 2019. The following figure shows the process of calculating the instance price.

Note The price in the following figure is for reference only. For more information about actual prices, visit the URLs in the preceding table.



Billing duration

If a pay-as-you-go instance is automatically stopped due to overdue payments, the billing of some resources suspends. The billing resumes after you complete the overdue payment and reactivate the instance.

The following table describes the billing duration of each resource type on the premise that you have no overdue payments within your account.

Resource	Billing duration
Computing resource (vCPUs and memory)	<p>The billing duration of computing resources (vCPUs and memory) is affected by the network type of the instance.</p> <ul style="list-style-type: none"> For an instance of the classic network type, billing begins when the instance is created and ends when the instance is released. For an instance of the virtual private cloud (VPC) type, the billing duration varies based on whether the economical mode is enabled. <ul style="list-style-type: none"> If the economical mode is disabled, billing begins when the instance is created and ends when the instance is released. If the economical mode is enabled, billing begins when the instance is created and suspends when the instance is stopped in the ECS console. Billing resumes when the instance is started again in the ECS console and ends when the instance is released. For more information, see Economical mode. <div style="border: 1px solid #ccc; background-color: #e6f2ff; padding: 10px; margin: 10px 0;"> <p>Notice If you stop the instance by shutting down its operating system, the economical mode cannot be not triggered.</p> </div> <p>You can purchase reserved instances to minimize costs. For more information, see Overview.</p>

Resource	Billing duration
Image	Billing begins when the instance is created and ends when the instance is released.
Cloud disk (system disk)	Billing begins when the instance is created and ends when the system disk is released along with the instance.
Cloud disk (data disk)	Billing begins when the data disk is created and ends when the data disk is released.
Public bandwidth (pay-by-bandwidth)	Billing begins when public bandwidth (pay-by-bandwidth) is enabled and ends when public bandwidth is disabled or when the instance is released. For information about how to disable public bandwidth, see Modify the bandwidth configurations of pay-as-you-go instances .
Snapshot	Billing begins when the snapshot is created and ends when the snapshot is deleted.

 **Note** If a pay-as-you-go instance incurs charges of less than USD 0.01 during its entire lifecycle, you are charged USD 0.01.

To prevent unexpected charges incurred when a pay-as-you-go instance is not released in a timely manner, we recommend that you enable the automatic release feature. If automatic release is enabled, billing ends when the instance is released. The automatic release time is accurate to the second.

Settlement cycle

You are billed for pay-as-you-go resources on an hourly basis. The fees for pay-as-you-go resources are paid together with those for other pay-as-you-go resources within your account. If you have a quota agreement with Alibaba Cloud, fees are deducted only when the cumulative consumption of your account exceeds the quota. If the cumulative monthly consumption of your account is less than the quota, fees are deducted on the first day of the next month.

- If your default payment method is bank card, the quota is USD 1,000.
- If your default payment method is PayPal or Paytm (India), the quota varies based on your ECS usage.

The system attempts to deduct fees three times: on the due date (T), day T+7, and day T+14. If the fees cannot be deducted on the due date (T), the payment becomes overdue for the corresponding instance and the system attempts to deduct the fees again on day T+7 and day T+14. If all three attempts to deduct the fees fail, the instance is stopped on day T+15 and its billing also stops. For more information, see the "Pay-as-you-go resources" section in [Pay-as-you-go resources](#)

Overdue payments

When you have overdue payments within your account, pay-as-you-go resources cannot be used. Your pay-as-you-go instances may be stopped and the resources may even be released. To prevent the consequences of overdue payments, such as instance stop or release from affecting your business, add funds to your account to complete the overdue payments at your earliest convenience. For information about changes in resource status when payments become overdue, see [Overdue payments](#).

3.4. Economical mode

If economical mode is enabled and an Elastic Compute Service (ECS) instance is stopped under the trigger conditions described in this topic, some resources of the instance are recycled to reduce instance costs and no longer incur charges.

Conditions for enabling economical mode

ECS instances that meet the following conditions support economical mode:

- The network type of the instances is Virtual Private Cloud (VPC).
You can migrate ECS instances from the classic network to VPCs. For more information, see [Migrate ECS instances from the classic network to a VPC](#).
- The instances are pay-as-you-go or preemptible instances.
You can change the billing method of ECS instances from subscription to pay-as-you-go. For more information, see [Change the billing method of an instance from subscription to pay-as-you-go](#).
- The instance families are not equipped with local storage.
Instance families that are equipped with local storage do not support economical mode, such as big data and local SSD instance families. For more information, see the *Local storage (GiB)* column in [Instance family](#).
- The instance families are not equipped with persistent memory.
Instance families that are equipped with persistent memory do not support economical mode, such as re6p and re6p-redis instance families. For more information, see the *Persistent memory (GiB)* column in [Instance family](#).

You can enable or disable economical mode. For more information, see [Enable economical mode](#) and [Disable economical mode](#).

Applicable resources

You can enable economical mode to recycle some resources to reduce costs while retaining instances.

- When ECS instances are stopped in economical mode, their resources that support economical mode are recycled and no longer incur charges. ECS resources that support economical mode include the following ones:
 - Computing resources including vCPUs and memory. The GPUs, FPGAs and NPUs of heterogeneous computing instances also support economical mode and can be recycled when the instances are stopped.
 - Public IP addresses and public bandwidth.
- When ECS instances are stopped in economical mode, their resources that do not support economical mode are retained and continue to incur charges. ECS resources that do not support economical mode include but are not limited to the following ones:
 - System disks
 - Data disks attached to instances
 - Elastic IP addresses (EIPs) and EIP bandwidth
 - Images
 - Snapshots

Conditions for triggering economical mode

After economical mode is enabled, it can be triggered only for pay-as-you-go or preemptible instances that are stopped by one of the following methods or factors:

- Operations in the ECS console. For more information, see [Stop an instance](#).
- API requests initiated by Alibaba Cloud CLI or SDKs. For more information, see [StopInstance](#).
- Overdue payments.

 **Notice** If you stop an instance from within its operating system, economical mode cannot be triggered.

When an instance starts for the first time and is transitioning from the Stopped state to the Running state, economical mode cannot be triggered. For more information, see [Instance lifecycle](#).

Impacts

If economical mode is triggered while an instance is stopped, the computing resources (vCPUs and memory) and public IP address of the instance are recycled and no longer incur charges. However, the following risks exist:

- After the computing resources (vCPUs and memory) are recycled, the instance may fail to start due to insufficient resources. If this occurs, you can try again later or switch to another instance type. For more information, see [Change the instance type of a pay-as-you-go instance](#).

 **Note** Before you stop an instance in economical mode, we recommend that you restart the instance to ensure that sufficient resources are available to the instance when it starts again. This prevents service interruptions caused by instance startup failures.

- After the public IP address is recycled, a new public IP address is assigned when the instance is started again and may be different from the previous recycled address. The private IP address remains unchanged.

 **Note** If your application depends on a specific public IP address, we recommend that you disable economical mode or convert the public IP address into an EIP. For more information, see [Disable economical mode](#) or [Convert the public IP address of a VPC-type instance to an EIP](#).

- If the instance is a burstable instance, the instance stops earning CPU credits and its current CPU credit balance is cleared. When you start the instance, the instance starts to earn CPU credits again. For more information about CPU credits of burstable instances, see [CPU credits](#).

In some cases, you may need to start your instances multiple times within a short period of time. We recommend that you disable economical mode to ensure that the instances can be started and provide services. You can disable economical in the following scenarios:

- [Replace a system disk \(ReplaceSystemDisk\)](#)
- [Roll back a disk by using a snapshot \(Reset Disk\)](#)
- [Re-initialize a system disk \(ReInit Disk\)](#)

For an instance that was stopped due to an overdue payment, if you settle the overdue payment within the specified period of time and reactivate the instance, the economical mode state determines whether the public IP address is retained.

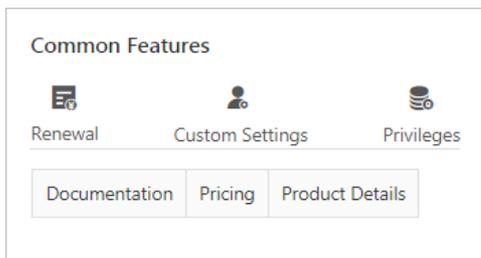
- If economical mode is enabled, it is triggered while the instance is stopped due to an overdue payment. The computing resources (vCPUs and memory) and public IP address of the instance are automatically released. The instance may have a different public IP address when you reactivate it.
- If economical mode is disabled, the billing of the instance stops when the instance is stopped due to an overdue payment. The public IP address is retained and remains unchanged when you reactivate the instance.

Note If all three attempts to deduct fees fail, the instance is stopped. For information about the state changes of resources when payments become overdue, see [Pay-as-you-go](#).

Enable economical mode

This section describes how to enable economical mode for all instances within all regions in your account. After you enable economical mode, you still must set the stop mode for instances when you stop them.

1. Log on to the [ECS console](#).
2. In the **Common Features** section of the **Overview** page, click **Custom Settings**.



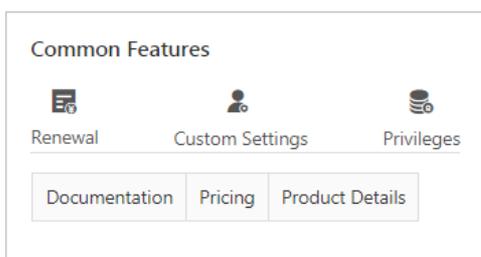
3. Turn on **Economical Mode**.
4. In the message that appears, read the notes and click **OK** in the lower part.
5. Click **OK**.

Disable economical mode

This section describes how to disable economical mode for all instances within all regions in your account. After you disable economical mode, you still must set the stop mode for instances when you stop them.

If economical mode is triggered while an instance is stopped, the computing resources (vCPUs and memory) and public IP address of the instance are recycled. Even if you disable economical mode, no computing resources incur charges for the instance. The instance are re-allocated computing resources and may have a different public IP address when it is started.

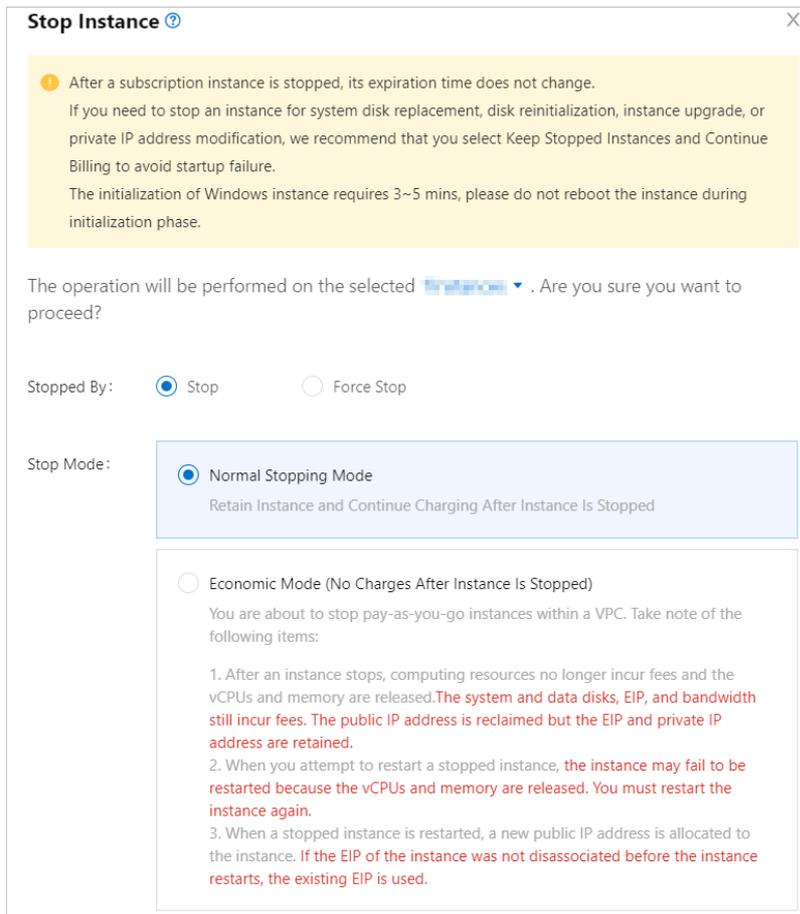
1. Log on to the [ECS console](#).
2. In the **Common Features** section of the **Overview** page, click **Custom Settings**.



3. Turn off **Economical Mode**.
4. In the message that appears, read the notes and click **OK**.
5. Click **OK**.

Set the stop mode of a single instance

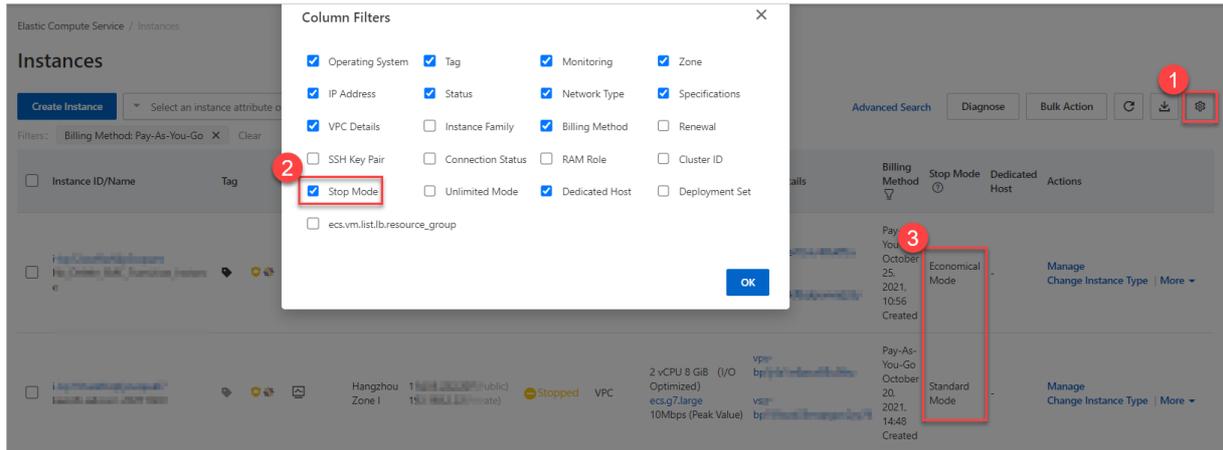
After you enable or disable economical mode, you still must set the stop mode for an instance when you stop the instance. For more information, see [Stop an instance](#).



View the stop mode

After a pay-as-you-go instance is stopped, you can check whether economical mode is triggered for the instance in the ECS console. On the **Instances** page, click the **Column Filters** icon and select **Stop Mode** to view the stop mode of the stopped instance.

- **Standard Mode** indicates that economical mode is not triggered.
- **Economical Mode** indicates that economical mode is triggered.



References

You can use the scheduled start up and shutdown feature of Operation Orchestration Service (OOS) to manage the start up and shutdown time of multiple ECS instances. You can use this feature together with economical mode to reduce costs. For more information, see [Scheduled start up and shutdown](#).

3.5. Preemptible instances

Preemptible instances are a type of on-demand instances and are discounted compared to pay-as-you-go instances. After a preemptible instance is created, you are guaranteed a protection period to use the instance. After the period, if the market price is higher than your bid or if the resources of the instance type are insufficient, your instance is automatically released. This topic describes the billing methods and billing rules of preemptible instances.

Billing methods

When you create a preemptible instance, you must specify a maximum price per hour to bid for a specific instance type. If your bid is higher than the current market price and the resources of the instance type are sufficient, your instance is created and charged at the current market price. Preemptible instances use the pay-as-you-go billing method. You pay for preemptible instances after you use them. Bills are calculated based on the market price and billing duration.

Note The market price is only the price of the instance type. It does not include the prices of resources such as disks and public bandwidth.

- The market price of a preemptible instance fluctuates based on changes to the supply and demand for its instance type.
- The billing duration of a preemptible instance is the period when the instance is in service. This period lasts from the time when the instance is created to the time when the instance is released.

You continue to be charged for a preemptible instance after it is stopped. When you no longer need a preemptible instance, we recommend that you create snapshots to back up your data and environment and then release the instance. You can purchase new preemptible instances at any time.

When the market price exceeds your bid or when the resources of the instance are insufficient, your preemptible instance enters the To Be Recycled state. After five minutes, the instance is automatically released.

Note Preemptible instances can reduce overall ECS instance costs, but have a risk of being reclaimed. You can use auto provisioning groups to alleviate the instability caused by preemptible instances being reclaimed. For more information, see [Overview](#).

Billing rules

Preemptible instances are billed by second. The market price of a preemptible instance is an hourly price. To get the price per second, you can divide the hourly price by 3,600. During the protection period after a preemptible instance is created, the instance is billed at the market price at the time of purchase. After the protection period ends, the instance is billed based on the real-time market price.

Billing example

Assume that you purchase a preemptible instance at 8:00 with a bid of USD 2 per hour. After the protection period ends, the instance is released at 10:00 because the market price is higher than your bid. The following table describes how to calculate the fee of the preemptible instance.

Note The market price varies with changes to supply and demand of instance types. The following table is only for reference.

Time	Market price (USD/hour)	Billing factor	Total fee (USD)
8:00	1.5	/	/
8:30	2.5	<ul style="list-style-type: none"> Market price: USD 1.5/hour Duration: 30 minutes 	$1.5 / 60 \times 30 = 0.75$
9:00	1.8	<ul style="list-style-type: none"> Market price: USD 1.5/hour Duration: 30 minutes 	$0.75 + 1.5 / 60 \times 30 = 1.5$
9:30	1.6	<ul style="list-style-type: none"> Market price: USD 1.8/hour Duration: 30 minutes 	$1.5 + 1.8 / 60 \times 30 = 2.4$
10:00	3	<ul style="list-style-type: none"> Market price: USD 1.6/hour Duration: 30 minutes 	$2.4 + 1.6 / 60 \times 30 = 3.2$

References

- [Overview](#)
- [View bills of a preemptible instance](#)

3.6. Reserved instances

Reserved instances are independently billed coupons that can be used to offset the bills of pay-as-you-go instances. This topic describes the payment options and billing rules of reserved instances.

Payment options

Reserved instances cannot be used independently and must be used together with pay-as-you-go instances. Reserved instances can offset the bills of computing resources based on the computing power of the reserved instances. You cannot use reserved instances to offset the bills of network and storage resources of pay-as-you-go instances. For more information, see [Overview](#).

The following payment options are supported for reserved instances:

- All Upfront: Full payment is required upfront at purchase. No fees are paid during the term.
- Partial Upfront: Partial payment (about 50%) is required upfront at purchase. The remaining fees are paid on an hourly basis during the term.
- No Upfront: No payment is required upfront at purchase. All fees are paid on an hourly basis during the term.

 **Note** Whether you can use the No Upfront option depends on your ECS usage.

For the Partial Upfront and No Upfront options, reserved instances are billed by second. Bills are generated by hour and paid by month. For more information, see the Pricing tab on the [Elastic Compute Service](#) page. If the payable amount reaches USD 1,000, the amount is automatically deducted from your account. Any amount less than USD 1,000 is added to the monthly bill.

Billing rules

After a reserved instance is purchased, it automatically matches and offsets the bills of pay-as-you-go instances on an hourly basis. You are charged based on the payment option that you selected regardless of whether the reserved instance matches pay-as-you-go instances. The All Upfront option is most cost-effective.

A reserved instance takes effect and is billed starting on the hour of your purchase. The reserved instance expires at 24:00:00 of the expiration day. For example, if you purchase a reserved instance with a one-year term at 22:45:00 on May 1, 2020, the reserved instance takes effect and is billed starting from 22:00:00 on May 1, 2020. The reserved instance expires at 24:00:00 on May 2, 2021. If you already have eligible pay-as-you-go instances when you purchase a reserved instance, the reserved instance is applied to offset the bills generated by the pay-as-you-go instances starting from the hour of 22:00 to 23:00 on May 1, 2020 until the reserved instance expires.

3.7. Savings plans

A savings plan is a discount plan that allows you to receive pay-as-you-go billing discounts in exchange for a commitment to use a consistent amount of resources (measured in USD/hour) over a one-year or three-year period. After you purchase a savings plan, the hourly bills of your pay-as-you-go instances are covered up to the amount of the plan. This topic describes the billing methods and application rules of savings plans.

Billing methods

When you purchase a savings plan, you make a commitment to use a consistent amount of resources (measured in USD/hour) over a one-year or three-year period. After you purchase the savings plan, hourly bills of your pay-as-you-go instances are covered up to the amount of the plan. Savings plans must be used in conjunction with pay-as-you-go instances. Savings plans cannot be separately used. For more information, see [Overview](#).

Your usage commitment is made on an hourly basis. A one-year or three-year commitment can be calculated based on the following formula: Hourly commitment × 24 hours × 365 days × Duration.

 **Notice** When you select the hourly commitment, use the savings plan discount price for calculation. For more information about the hourly commitment, see [Purchase and apply savings plans](#).

Savings plans support the following payment options:

- **All Upfront:** Full payment is required upfront at purchase. No other fees are charged for the duration of the term.
- **Partial Upfront:** Partial payment (about 50% of the full amount) is required upfront at purchase. The remainder is paid on an hourly basis for the duration of the term.
- **No Upfront:** No upfront payment is required at purchase. The total fee is paid on an hourly basis for the duration of the term.

 **Note** In different payment options, the total fee required is the same, but you can obtain different discounts. The more you pay upfront, the greater the discount you can obtain and the more pay-as-you-go bills your savings plan can offset. Whether you can use the No Upfront payment option is based on your Elastic Compute Service (ECS) usage. If you want to use the No Upfront payment option, [submit a ticket](#).

For example, you purchased a one-year savings plan with an hourly commitment of USD 0.1/hour, and the total fee is calculated based on the following formula: $\text{USD } 0.1/\text{hour} \times 24 \text{ hours} \times 365 \text{ days} = \text{USD } 876$. Payments based on the three payment options are made in the following ways:

- **All Upfront:** The full amount of USD 876 is paid upfront at purchase.
- **Partial Upfront:** 50% of the full amount, USD 438, is paid upfront at purchase. The remaining USD 438 is charged at a rate of USD 0.05/hour on an hourly basis for the duration of the term, which is one year in this case.
- **No Upfront:** No upfront payment is made at purchase. The total fee is charged at a rate of USD 0.1/hour on an hourly basis for the duration of the term.

 **Note** A savings plan immediately takes effect after it is purchased. The savings plan takes effect and expires on the hour. For example, you purchased a one-year savings plan at 13:45:00 of May 29, 2020. The savings plan takes effect at 13:00:00 of May 29, 2020 and expires at 24:00:00 of May 30, 2021. If you select the Partial Upfront or No Upfront payment option for your savings plan, the savings plan is applied to your resource usage starting on the next hour of purchase. If you select the All Upfront payment option, your resource usage on the day of purchase is free of charge. Therefore, the total fee payable when the Partial Upfront or No Upfront payment option is used is higher than that when the All Upfront payment option is used. The fee difference is the amount for the few hours from the hour of purchase till the end of the day. In addition, the All Upfront payment option provides a higher discount.

Application rules

You can receive different discounts based on your selected payment option for your savings plans within the term. For more information, go to the [Discount Details](#) page.

The discount provided by a savings plan is based on the following factors:

- The type of the saving plan
 - ECS compute savings plans offer higher discounts than general-purpose savings plans.

- The term of the savings plan
A longer term of a savings plan provides a higher discount.
- The payment option of the savings plan
The discount provided by a savings plan decreases in the following order of payment options: All Upfront > Partial Upfront > No Upfront.
- The instance family of the eligible instance
- The region of the eligible instance
- The operating system of the eligible instance

Savings plans can be applied to offset the bills of your pay-as-you-go instances based on the following rules:

- If you have both general-purpose and ECS compute savings plans, the ECS compute savings plan is first applied.
- If your pay-as-you-go instances are billed based on a discount higher than that of your savings plans, the higher discount is first applied, and the discounted charges are covered by your commitment of the savings plans.
- If you have different types of savings plans that offer different discounts, the plans take effect in the order in which they were purchased. For example, if you purchased an All Upfront savings plan and then a Partial Upfront savings plan, the All Upfront savings plan is first applied, and then the Partial Upfront savings plan.

Examples

The following table provides examples of how savings plans apply in common scenarios. The unit prices and discounts described in the table are for reference only. The actual prices and discounts on the Pricing tab of the Elastic Compute Service page and the Discount Details page shall prevail.

Pay-as-you-go instance	Savings plan	Hourly bill
<ul style="list-style-type: none"> • Quantity: 15 • Unit price: USD 1/hour 	<ul style="list-style-type: none"> • Commitment: USD 5/hour • Savings plan price: USD 0.4/hour 	<ul style="list-style-type: none"> • Number of eligible ECS instances: $5/0.4 = 12.5$ • Pay-as-you-go amount: $(15 - 12.5) \times 1 = \text{USD } 2.5$ • Total: $5 + 2.5 = \text{USD } 7.5$

Pay-as-you-go instance	Savings plan	Hourly bill
<ul style="list-style-type: none"> ECS Instance A <ul style="list-style-type: none"> Quantity: 15 Unit price: USD 1/hour ECS Instance B <ul style="list-style-type: none"> Quantity: 10 Unit price: USD 1.2/hour 	<ul style="list-style-type: none"> Commitment: USD 10/hour Savings plan price of Instance A: USD 0.4/hour Savings plan price of Instance B: USD 0.8/hour 	<ul style="list-style-type: none"> Amount applicable to Instances A: $15 \times 0.4 = \text{USD } 6$ Number of Instances B to which the remainder of the savings plan applies: $(10 - 6)/0.8 = 5$ Pay-as-you-go amount: $(10 - 5) \times 1.2 = \text{USD } 6$ Total: $10 + 6 = \text{USD } 16$ <div style="background-color: #e0f2f7; padding: 10px; border: 1px solid #ccc;"> <p> Note When multiple savings plans are applied to pay-as-you-go instances, the system optimizes how the savings plans are applied to maximize the discount.</p> </div>

References

- [Billing FAQ](#)
- [Overview](#)
- [Purchase and apply savings plans](#)

3.8. Storage capacity units

You can use storage capacity units (SCUs) to offset the pay-as-you-go bills of storage resources such as disks, Object Storage Service (OSS) buckets, Apsara File Storage NAS (NAS) file systems, and snapshots. SCUs use the subscription billing method and support the all upfront payment method.

Billing

SCUs use the subscription billing method and are billed based on their capacity and validity periods. For more information about pricing, visit the Pricing tab on the [Storage Capacity Unit](#) page.

- SCU capacity: For information about the capacity specifications that SCUs support, see [Overview](#).
- Validity period: You can subscribe to an SCU for a period of one month, two months, three months, six months, one year, three years, or five years. For annual or multi-year subscription, you can receive some discounts.

SCUs support only the all upfront payment method. You must make a full payment at purchase.

Sum = Validity period × SCU capacity × SCU unit price. Unit: USD.

Usage rules

After you purchase an SCU in a region, the SCU automatically matches eligible pay-as-you-go storage resources within that region to offset their bills until the SCU expires. When the deductible used capacity exceeds the SCU capacity, the excess capacity is billed on a pay-as-you-go basis.

The amount of storage capacity that an SCU can offset varies based on the types of resources to which the SCU is applied. For more information, see [Usage rules](#).

Expiration

After an SCU expires, you cannot use it to offset the bills of pay-as-you-go storage resources. If you have no other SCUs within the same region as the expired SCU, the pay-as-you-go storage resources are billed on a pay-as-you-go basis.

Renewal or upgrade

SCUs cannot be renewed or upgraded. You can purchase multiple SCUs based on your storage usage.

- If an SCU is insufficient to offset the bills of pay-as-you-go storage resources, you can purchase more SCUs.
- If an SCU is about to expire, you can purchase more SCUs and specify a time for them to take effect.

4. Change the billing method

4.1. Change the billing method of an instance from subscription to pay-as-you-go

This topic describes how to change the billing method of an Elastic Compute Service (ECS) instance from subscription to pay-as-you-go. After you create a subscription instance, you can change its billing method to pay-as-you-go to recover some costs and use the instance in a more flexible manner. After the billing method of the instance is changed from subscription to pay-as-you-go, make sure that your account balance is sufficient. Otherwise, overdue payments occur and services provided by the instance are affected.

Prerequisites

The instance whose billing method you want to change is in the **Running** or **Stopped** state.

Context

Alibaba Cloud determines whether the billing method of your instance can be changed based on your calculated ECS instance usage. You can perform the operations described in this topic to check whether an entry point for changing the billing method of your instance exists in the ECS console. If the entry point does not exist, the billing method of your instance cannot be changed.

The following section describes the results after you change the billing method of an ECS instance from subscription to pay-as-you-go:

- The billing methods of the ECS instance, system disk, and subscription data disks attached to the instance are changed to pay-as-you-go. The billing method for network usage remains unchanged.
- The subscription duration that was previously offered for reasons such as the Internet Content Provider (ICP) filing, system failures, or migration from data centers is automatically invalidated.

 **Note** If the economical mode is enabled and the subscription instance is in the Stopped state before the billing method of the instance is changed, the economical mode is not automatically triggered after the billing method of the instance is changed to pay-as-you-go. You must manually start and then stop the pay-as-you-go instance to trigger the economical mode.

The following refund rules apply after you change the billing method of the instance from subscription to pay-as-you-go:

- A refund generated from the billing method change counts against the monthly refund quota. If the refund quota within your account has been used up, you cannot apply for new refunds until the refund quota is set on the first day of the next month. For information about the refund quota, see [Limits](#).

When you change the billing method of the instance, the refund amount for the instance is calculated based on the number of vCPUs and the remaining hours in the current billing cycle.

Example: 1 refund unit = $1 \text{ vCPU} \times 1 \text{ hour}$.

For example, you have purchased a six-month subscription instance that has four vCPUs. Four months later, you want to change the billing method of the instance to pay-as-you-go. In this case, the refund amount for the instance is calculated based on the following formula: $4 \text{ (vCPUs)} \times 60 \text{ (remaining days)} \times 24 \text{ (hours/day)} = 5760 \text{ (refund)}$.

- If you have renewal or upgrade orders that have not taken effect for the instance, full refunds are made for the orders. If you have orders that have already taken effect for the instance, only partial refunds are made for the orders.

Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Use one of the following methods to change the billing method of an instance from subscription to pay-as-you-go:
 - To change the billing method of a single instance at a time, find the instance and choose **More > Configuration Change > Switch to Pay-As-You-Go** in the **Actions** column.
 - To change the billing methods of multiple instances at a time, find the instances and choose **More > Configuration Change > Switch to Pay-As-You-Go** in the lower part of the page.
5. Read the notes. Read and select *ECS Service Terms* and then click **Switch**.

Result

After the billing method is changed, you can go to the ECS console to view the billing method of the instance:

- On the **Instances** page, the billing method of the instance has been changed to **Pay-As-You-Go** in the **Billing Method** column.
- Click the instance ID to go to the **Instance Details** page. Click the **Cloud Disk** tab. In the **Billing Method(All)** column, the billing methods of the system disk and data disks (if any) are changed to **Pay-As-You-Go**.

What's next

You can set the automatic release time for the instance to be automatically released when the instance is no longer needed to minimize costs. For more information, see [Release an instance](#).

Related information

- [ModifyInstanceChargeType](#)

4.2. Change the billing method of an instance from pay-as-you-go to subscription

After you create a pay-as-you-go Elastic Compute Service (ECS) instance, you can change its billing method to subscription to reserve resources at a discounted rate. This topic describes how to change the billing method of an instance from pay-as-you-go to subscription in the ECS console.

Prerequisites

The ECS instance for which you want to change the billing method meets the following requirements:

- The instance type of the instance is not retired. For more information, see [Retired instance types](#).
- The instance is not a preemptible instance.
- You do not have unpaid orders for the instance.

If you have unpaid orders for the instance, you must pay for the orders or cancel the orders before you can change the billing method of the instance.

- The automatic release time is not set for the instance.

If the automatic release time is set for the instance, you must cancel the automatic release of the instance before you change its billing method. For more information, see [Disable automatic release](#).

- The instance is in the **Running** or **Stopped** state.

Example: An order to change the billing method is placed while the ECS instance is in the Running or Stopped state. However, the instance state changes before the payment completes. The order fails and the billing method does not change. You can go to the Billing Management console and pay for the order when the instance is in the Running or Stopped state again.

Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Use one of the following methods to change the billing method of an instance from pay-as-you-go to subscription:
 - Change the billing method of a single instance: Find the instance and choose **More > Configuration Change > Switch to Subscription** in the **Actions** column.
 - Change the billing method of multiple instances: Select the instances and click **Switch to Subscription** in the lower part of the page.

 **Note** You can change the billing method of up to 20 pay-as-you-go instances at a time.

5. In the Switch to Subscription dialog box, complete the settings for the billing method change.
 - i. Select the duration of the subscription.

Instances whose billing methods are changed at the same time must have the same subscription duration.
 - ii. Select the Switch to Subscription option for data disks if you want to change the billing method of the disks attached to the instances.
6. Click **Create Order** and then complete the payment.

4.3. Change the billing method of a disk

This topic describes how to change the billing method of a disk when the current billing method of the disk does not meet your requirements. The billing methods of data disks attached to subscription instances can be separately changed. The billing methods of system disks and data disks attached to pay-as-you-go instances can be changed only together with that of the instances.

Prerequisites

The disk is attached to an instance, and the instance is in the **Running** or **Stopped** state.

Context

The following limits apply when you change the billing method of a disk:

- Alibaba Cloud determines whether the billing method of your instance can be changed based on your calculated instance usage. You can perform the operations described in this topic to go to the Elastic Compute Service (ECS) console to check whether the corresponding entry point exists. If the corresponding entry point does not exist, the billing method of the instance cannot be changed.
- You must wait at least 5 minutes between two consecutive billing method changes.

Change the billing method from subscription to pay-as-you-go

This section describes how to change the billing method of a data disk attached to a subscription instance from subscription to pay-as-you-go. For information about how to change the billing methods of system disks, see [Change the billing method of an instance from subscription to pay-as-you-go](#).

 **Note** You may receive a refund when you use the configuration downgrade feature to change the billing method of a data disk from subscription to pay-as-you-go. The refund amount is the difference between the price of the new configurations and the remaining price of the original configurations before the configuration downgrade.

1. Log on to the [ECS console](#).
2. In the top navigation bar, select a region.
3. Choose one of the following methods to change the billing methods of your disks:
 - If you want to change the billing methods of multiple data disks that are attached to the same instance, we recommend that you perform the operations on the Instances page.
 - a. In the left-side navigation pane, choose **Instances & Images > Instances**.
 - b. Find the instance and click **Upgrade/Downgrade** in the **Actions** column.
 - c. In the Upgrade/Downgrade Wizard dialog box, choose **Downgrade > Disk Billing Method to Pay-as-you-go**, and click **Continue**.
 - d. Select the subscription data disks whose billing methods you want to change.
 - If you want to change the billing method of a specific data disk, we recommend that you perform the operations on the Disks page.
 - a. In the left-side navigation pane, choose **Storage & Snapshots > Disks**.
 - b. Find the data disk and choose **More > Switch to Pay-As-You-Go** in the **Actions** column.
4. Verify the refund amount, read and select *ECS Service Terms*, and then click **Downgrade Now**. By default, after the billing method of a disk is changed to pay-as-you-go, the disk is retained after the instance to which the disk is attached is released. You can configure whether the disk is released together with the instance to which the disk is attached in the ECS console. For more information, see [Release a disk](#).

Change the billing method from pay-as-you-go to subscription

This section describes how to change the billing method of a data disk attached to a subscription instance from pay-as-you-go to subscription. For information about how to change the billing methods of system disks and pay-as-you-go data disks attached to pay-as-you-go instances, see [Change the billing method of an instance from pay-as-you-go to subscription](#).

1. Log on to the [ECS console](#).
2. In the top navigation bar, select a region.
3. Choose one of the following methods to change the billing methods of your disks:
 - If you want to change the billing methods of multiple data disks that are attached to the same instance, we recommend that you perform the operations on the Instances page.
 - a. In the left-side navigation pane, choose **Instances & Images > Instances**.
 - b. Find the instance and click **Upgrade/Downgrade** in the **Actions** column.
 - c. In the Upgrade/Downgrade Wizard dialog box, select **Upgrade** and then click **Continue**.
 - d. Select the pay-as-you-go data disks whose billing method you want to change.
 - If you want to change the billing method of a specific data disk, we recommend that you perform the operations on the Disks page.
 - a. In the left-side navigation pane, choose **Storage & Snapshots > Disks**.
 - b. Find the data disk and choose **More > Switch to Subscription** in the **Actions** column.
4. Read the notes, read and select *ECS Service Terms*, and then click **Create Order**.
5. Complete the payment and confirm that the billing method of the disk is changed to subscription.

Related information

- [ModifyDiskChargeType](#)

4.4. Change the billing method for network usage

If the billing method for network usage of an instance that uses a public IP address does not meet your business requirements, you can change the billing method.

Prerequisites

Before you change the billing method for network usage of a subscription instance from pay-by-bandwidth to pay-by-traffic, make sure that your account has the configuration downgrade privilege.

 **Note** You can click **Privileges & Quotas** on the **Overview** page to go to the **Privileges and Quotas** page and check whether your account has the configuration downgrade privilege.

Context

The billing methods available for network usage are pay-by-bandwidth and pay-by-traffic. You can change the billing method based on your needs.

- **Pay-by-bandwidth:** You are charged based on the specified bandwidth. The actual outbound bandwidth does not exceed the specified bandwidth.

- **Pay-by-traffic:** You are charged based on the traffic that you actually used. You can configure a peak bandwidth value for outbound traffic to avoid excess costs caused by bursts in outbound traffic.

 **Notice** When the **Pay-By-Traffic** billing method is used, the peak inbound and outbound bandwidth values are used as traffic limits instead of guaranteed performance. In scenarios where demands exceed resource supplies, the peak bandwidth values may be limited. If you need guaranteed bandwidth performance, select the **Pay-By-Bandwidth** billing method.

This topic describes how to change the billing method for network usage of an instance. For information about how to change the bandwidth size, see the following topics:

- [Modify the bandwidth configurations of subscription instances](#)
- [Modify the bandwidth configurations of pay-as-you-go instances](#)

This topic describes how to change the billing method for network usage of an instance that uses a public IP address. For more information about how to change the billing method for network usage of an instance that uses an elastic IP address (EIP), see [变更EIP带宽](#).

Change from pay-by-bandwidth to pay-by-traffic

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the instance for which you want to change the billing method for network usage. Then, use one of the following methods to go to the configuration page based on the billing method of the instance:
 - **Subscription**

Find the subscription instance for which you want to change the billing method for network usage. Click **Upgrade/Downgrade** in the corresponding **Actions** column. In the Upgrade/Downgrade Wizard dialog box, select **Downgrade** and **Bandwidth Configuration** and then click **Continue**.
 - **Pay-as-you-go**
 - **A single instance:** Find the pay-as-you-go instance for which you want to change the billing method for network usage. Choose **More > Configuration Change > Change Pay-as-you-go Instance Bandwidth** in the corresponding **Actions** column.
 - **Multiple instances:** Select the pay-as-you-go instances for which you want to change the billing method for network usage. In the lower part of the page, choose **More > Configuration Change > Change Pay-as-you-go Instance Bandwidth**.
5. On the Change Bandwidth page, find the Bandwidth section, select **Pay-By-Traffic**, and then set a peak bandwidth value.
6. Read the notes and terms of service. If you do not have questions, select *ECS Service Terms*.
7. Confirm the configuration costs, click **Confirm** in the lower part of the page, and then perform the subsequent operations as instructed on the page.

The new configurations take effect immediately after you change the billing method.

Change from pay-by-traffic to pay-by-bandwidth

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the instance for which you want to change the billing method for network usage. Then, use one of the following methods to go to the configuration page based on the billing method of the instance:
 - Subscription
 - A single instance: Find the subscription instance for which you want to change the billing method for network usage. Click **Upgrade/Downgrade** in the corresponding **Actions** column. In the Upgrade/Downgrade Wizard dialog box, select **Upgrade** and click **Continue**.
 - Multiple instances: Select the subscription instances for which you want to change the billing method for network usage. In the lower part of the page, choose **More > Configuration Change > Change Subscription Instance Bandwidth**. In the dialog box that appears, select **Modify Peak Bandwidth Value** and click **Continue**.
 - Pay-as-you-go
 - A single instance: Find the pay-as-you-go instance for which you want to change the billing method for network usage. Choose **More > Configuration Change > Change Pay-as-you-go Instance Bandwidth** in the corresponding **Actions** column.
 - Multiple instances: Select the pay-as-you-go instances for which you want to change the billing method for network usage. In the lower part of the page, choose **More > Configuration Change > Change Pay-as-you-go Instance Bandwidth**.
5. On the Change Bandwidth page, find the Bandwidth section, select **Pay-By-Bandwidth**, and then set a bandwidth value.
6. Read the notes and terms of service. If you do not have questions, select *ECS Service Terms*.
7. Confirm the configuration costs, click **Confirm** in the lower part of the page, and then perform the subsequent operations as instructed on the page.

The new configurations take effect immediately after you change the billing method.

5. Renew instances

5.1. Renewal overview

When a subscription Elastic Compute Service (ECS) instance expires, the instance stops providing services. To continue using the instance, you must renew it within the specified period. Otherwise, instance resources such as vCPUs, memory, and disks are released and data stored on them is permanently lost. This topic describes the renewal feature of ECS instances.

Overview

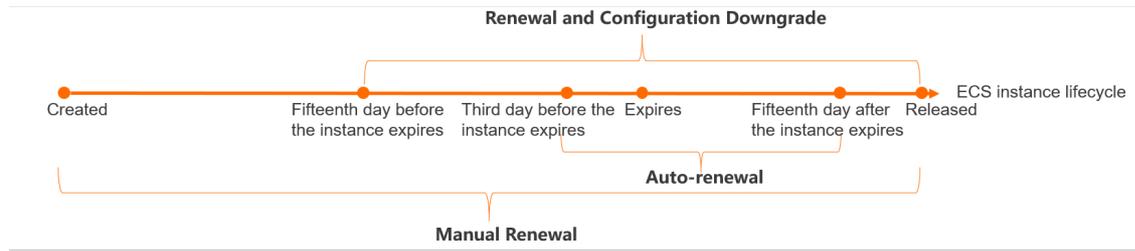
The renewal feature can be applied only to subscription instances. Pay-as-you-go instances do not need to be renewed, but you must make sure that you have sufficient balance in your linked bank card, PayPal, or Paytm (India) account to cover the related costs.

If you renew an instance before it expires, the instance continues to run normally and all its resources are retained. For information about the state of a subscription instance after it expires, see [Subscription](#).

The following table describes features related to the renewal of a subscription instance.

Feature	Description	References
Manual renewal	Instances can be manually renewed in the ECS console at any time before the instances are automatically released.	Manually renew an instance
Auto-renewal	<ul style="list-style-type: none"> After the auto-renewal feature is enabled for an instance, the instance is automatically renewed before it expires. You can enable this feature for instances to prevent them from being automatically released and reduce management costs. If the auto-renewal feature is disabled for an instance, you can configure the instance to not be renewed. Then, when the instance expires, it is stopped and an expiration notification is sent to you only once. You can modify the renewal settings at any time before the instance is stopped. 	<ul style="list-style-type: none"> Manually renew an instance Disable auto-renewal
Renewal and configuration downgrade	If the configurations of your instance exceed your requirements, you can renew the instance and downgrade its configurations within 15 days before the instance expires or when the instance has expired and not been automatically released.	Downgrade the configurations of an instance during renewal
Synchronization of expiration dates	If you have multiple subscription instances that expire on different dates, the instances are difficult to manage, incur additional management costs, and are more likely to be released if you forget to renew the instances. You can synchronize the expiration dates of the subscription instances to the same day of each month for centralized management.	Synchronize the expiration dates of subscription instances

You can use one of the following methods to renew a subscription instance in various phases of the instance lifecycle.



Note You can enable the auto-renewal feature for a subscription instance before the instance expires. Alibaba Cloud first attempts to deduct the instance renewal payment on the third day before the instance expires. If this deduction attempt fails, Alibaba Cloud attempts to deduct the payment again up to four times on the following days until all the allowed deduction attempts fail or until the payment is deducted: the day before the instance expires (T-1), the day when the instance expires (T), the seventh day after the instance expires (T+6), and the fifteenth day after the instance expires (T+14).

Applicable timeframe	Renewal method	Applicable scenario	Result
Before the instance expires	Manual renewal	The instance is renewed and its configurations are not changed.	The new billing cycle starts from the original expiration date.
	Auto-renewal	The instance is renewed and its configurations are not changed. The renewal operation is performed by the system based on your settings to ensure business availability.	
Within 15 days before the instance expires	Renewal and configuration downgrade	The instance is renewed and its configurations are downgraded. For example, you can downgrade the instance type, modify the public bandwidth configurations, or change the billing methods of data disks.	

Applicable timeframe	Renewal method	Applicable scenario	Result
After the instance expires but before the instance is automatically released	Renewal and configuration downgrade	The instance is renewed and its configurations are downgraded. For example, you can modify the public bandwidth configurations or change the billing methods of data disks.	The new billing cycle starts from the renewal date.
	Manual renewal	The instance is renewed and its configurations are not changed.	The new billing cycle starts from the renewal date. <div style="border: 1px solid #add8e6; padding: 5px; margin-top: 10px;"> <p> Note If the auto-renewal feature is enabled for an instance, the instance remains in the Running state for 15 days after the instance expires. If you manually renew the instance during this period, the new billing cycle starts from the original expiration date.</p> </div>

Manual renewal

You can use the manual renewal method to postpone the expiration date of an instance but cannot modify the instance configurations. When you manually renew an instance, the baseline public bandwidth of the instance is renewed, whereas the temporarily upgraded public bandwidth is not renewed.

You can manually renew an instance before it is automatically released. The following rules apply to the new billing cycle:

- When you manually renew an instance that is in the Running state, the new billing cycle starts from the original expiration date.
- When you manually renew an instance that has expired, the new billing cycle starts from the renewal date.

 **Note** If the auto-renewal feature is enabled for an instance, the instance can continue to run for 15 days after it expires.

You can select one of the following renewal durations when you manually renew an instance:

- One month, two months, three months, four months, five months, six months, seven months, eight months, and nine months
- One year

Auto-renewal

When the auto-renewal feature is enabled for an instance, the renewal payment is automatically deducted based on the corresponding rules. Alibaba Cloud first attempts to deduct the amount of the payment from the coupons within your account. If the coupons within your account are insufficient to cover the payment, Alibaba Cloud deducts the remaining amount of the payment from your account balance.

Before an instance expires, you can enable auto-renewal on the instance buy, Instances, or Renewal page. The following table describes the available renewal durations.

Method for enabling auto-renewal	Available renewal duration
On the instance buy page	<p>The duration for which your instance is renewed by auto-renewal is determined by the original subscription duration of your instance. The auto-renewal duration cannot be changed on this page.</p> <ul style="list-style-type: none"> When you purchase an instance for a duration of one month, two months, three months, or six months, the auto-renewal duration is one month. When you purchase an instance for one year, the auto-renewal duration is one year. <div style="background-color: #e6f2ff; padding: 5px; border: 1px solid #d9e1f2;"> <p> Note You can modify the auto-renewal duration on the Instances or Renewal page.</p> </div>
On the Instances page	You can set the renewal duration to one month or one year.
On the Renewal page	You can set the renewal duration to one month, two months, three months, six months, or one year.

When you enable the auto-renewal feature, take note of the following items:

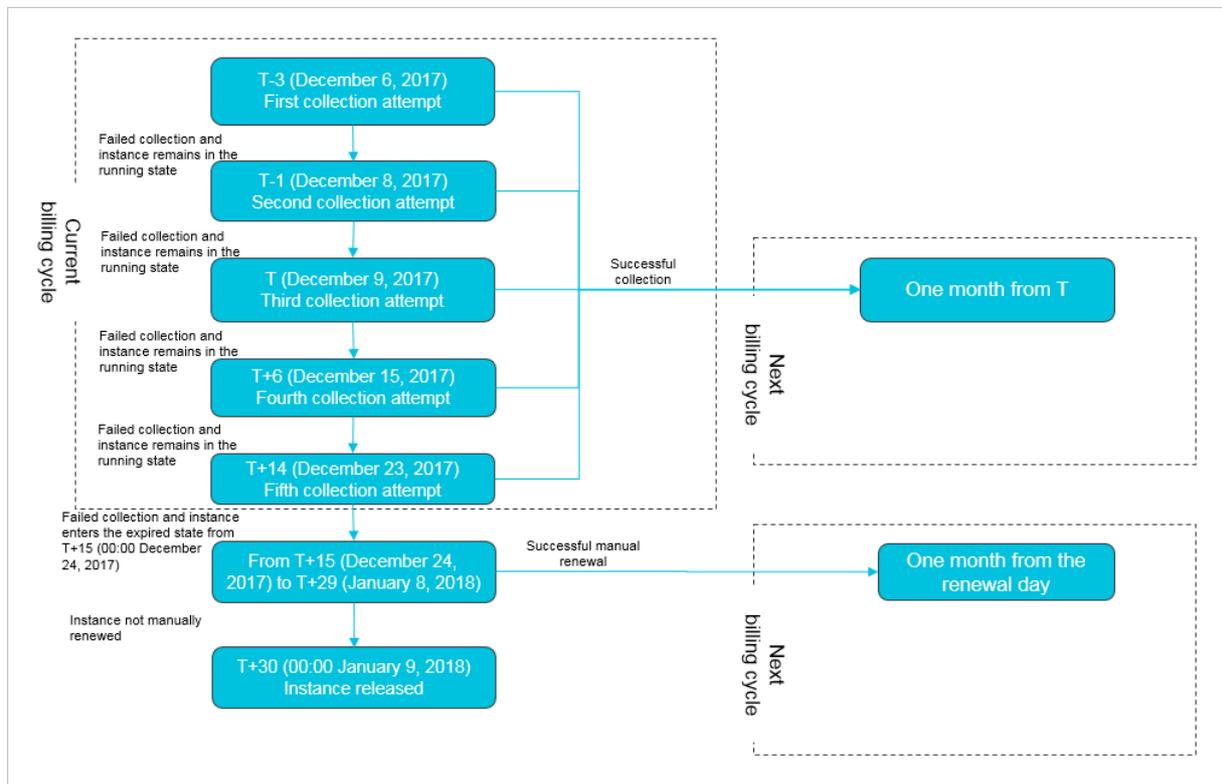
- The first auto-renewal date and billing cycle are calculated based on the expiration date of the instance.
- You can select the auto-renewal duration for your instance. For example, if you select three months, ECS renews your instance for three months each time before it expires until you disable auto-renewal.
- If you have manually renewed an instance before the renewal payment is deducted, the auto-renewal operation is not performed during the current billing cycle.
- If the renewal payment cannot be deducted, the system sends a notification to the email address that is bound to your account. Check your email and handle the messages in a timely manner to ensure that your business remains available.

After auto-renewal is enabled for an instance, the instance is automatically renewed before it expires. The following rules apply:

- Alibaba Cloud sends an email reminder on the seventh day before the instance expires (T-7).
- Alibaba Cloud first attempts to deduct the payment for the next billing cycle from your bank card, PayPal, or Paytm (India) account on the third day before the instance expires (T-3). If this deduction attempt fails, Alibaba Cloud attempts to deduct the payment again up to four times on the following days until all the allowed deduction attempts fail or until the payment is deducted: the day before the instance expires (T-1), the day when the instance expires (T), the seventh day after the instance expires (T+6), and the fifteenth day after the instance expires (T+14).

- At 08:00:00 on a deduction day (UTC+8), Alibaba Cloud performs auto-renewal on all expired ECS instances in succession. This causes the actual renewal time to be in the range of 08:00:00 (UTC+8) to 18:00:00 (UTC+8).
- If the payment can be deducted before the fifteenth day after the instance expires (T+14), the next billing cycle of the instance starts on the day when the instance expires.
- If all five deduction attempts fail, the instance enters the Stopped state on the sixteenth day after the instance expires (T+15). After the instance enters the Stopped state, you cannot log on to or connect to the instance. In this case, you must manually renew the instance. If the instance is not manually renewed within 15 days after it enters the Stopped state, the instance is released and its data is permanently lost.

Assume that you purchased an instance at 10:00:00 on November 8, 2017. The instance has a subscription duration of one month and the auto-renewal feature was enabled for the instance. The instance was set to expire at 00:00:00 on December 9, 2017. The following figure shows the operations performed to automatically renew the instance for the first time. For information about state changes after subscription resources expire, see [Subscription](#).



Renewal and configuration downgrade

You can renew an instance and downgrade its configurations during the following periods of time:

- Within 15 days before the instance expires
- After the instance expires but before the instance is automatically released

The following table describes the configurations that can be downgraded when you renew an instance.

Configuration	Description
Instance Type	<p>You can downgrade the instance type.</p> <div style="background-color: #e1f5fe; padding: 10px; border: 1px solid #cfcfcf;"> <p> Note When you renew an instance that has expired and not been automatically released and downgrade the configurations of the instance, you cannot change the instance type.</p> </div>
Public bandwidth	<p>You can modify the public bandwidth configurations.</p> <ul style="list-style-type: none"> • If the instance uses the pay-by-bandwidth billing method for network usage, you can perform the following operations: <ul style="list-style-type: none"> ◦ Downgrade the public bandwidth. ◦ Change the billing method to pay-by-traffic and set a maximum bandwidth. • If the instance uses the pay-by-traffic billing method for network usage, you can perform the following operations: <ul style="list-style-type: none"> ◦ Modify the maximum bandwidth.
Billing methods of data disks	<p>You can change the billing methods of data disks from subscription to pay-as-you-go.</p>

You can select one of the following renewal durations when you renew an instance and downgrade its configurations:

- One month, two months, three months, four months, five months, six months, seven months, eight months, and nine months
- One year

Synchronization of expiration dates

You can synchronize the expiration dates of subscription instances to the same day of each month to simplify management and renewal.

When you synchronize the expiration dates of subscription instances, take note of the following limits:

- The interval between the expiration date of the current billing cycle and the synchronized expiration date cannot be less than one month.

If the interval is less than one month, instances are renewed on the first synchronized expiration date after 30 days. The renewal prices of instances during this period are calculated based on the pricing standard of a monthly subscription. For more information, see the [Pricing](#) tab on the Elastic Compute Service product page.

Assume that you have two subscription instances that were originally set to expire on September 10, 2018 and May 17, 2018. You synchronize their expiration dates to the first day of each month. The two instances are now set to expire on November 1, 2018 and July 1, 2018.

- This feature is applicable only to subscription ECS instances that have not expired.

If one of the selected instances has expired, the expiration dates cannot be synchronized. To synchronize the expiration dates, remove or manually renew the expired ECS instance first.

5.2. Manually renew an instance

This topic describes how to manually renew a subscription instance. Before a subscription instance is automatically released, you can manually renew the instance to extend its service duration.

Context

When you manually renew an instance, you can extend the period of time to use its Elastic Compute Service (ECS) resources, but you cannot change its configurations. When you renew an instance, you are charged for the public bandwidth of the instance based on the original base public bandwidth, not based on the temporarily upgraded public bandwidth. For information about how to upgrade the base public bandwidth of an instance, see [Modify the bandwidth configurations of subscription instances](#).

Options for renewal duration vary based on the number of instances that you select for renewal. For more information, visit the buy page.

Renew one instance

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the instance that you want to renew and click **Renew** in the **Actions** column.
5. Select a renewal duration.
6. Read and select *ECS Service Terms*, and then click **Create Order**.
7. Follow the instructions to complete the payment.

Renew multiple instances

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Select multiple ECS instances that you want to renew on the Instances page.
5. Click **Renew** in the lower part of the page.
6. Select a renewal duration.
7. Read and select *ECS Service Terms*, and then click **Create Order**.
8. Follow the instructions to complete the payment.

Related information

- [RenewInstance](#)

5.3. Enable auto-renewal for an instance

Compared with manual renewal, auto-renewal helps minimize management costs and prevent service interruptions of ECS instances if you fail to renew the instances. This topic describes how to enable the auto-renewal feature for a subscription instance.

Prerequisites

The subscription ECS instance does not expire.

Context

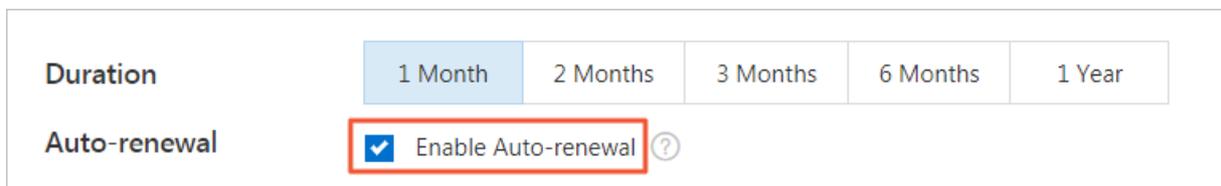
When you enable the auto-renewal feature, take note of the following items:

- The first auto-renewal date and billing cycle are calculated based on the expiration date of the instance.
- You can select the auto-renewal duration for your instance. For example, if you select three months, ECS renews your instance for three months each time before it expires until you disable auto-renewal.
- If you have manually renewed an instance before the renewal payment is deducted, the auto-renewal operation is not performed during the current billing cycle.
- If the renewal payment cannot be deducted, the system sends a notification to the email address that is bound to your account. Check your email and handle the messages in a timely manner to ensure that your business remains available.

For more information about the payment deduction process of auto-renewal, see [Renewal overview](#).

Enable auto-renewal on the instance creation page

The following figure shows how to enable auto-renewal on the instance creation page. For information about how to create an ECS instance, see [Create an instance by using the wizard](#).



Enable auto-renewal on the Instances page

On the Instances page, you can enable auto-renewal for one or more ECS instances or change the renewal duration.

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Select one of the following methods to enable auto-renewal:
 - Enable auto-renewal for one ECS instance: Find the instance and choose **More > Instance Settings > Configure Auto-renewal** in the **Actions** column.
 - Enable auto-renewal for one or more ECS instances: Select the instances and choose **More > Instance Settings > Configure Auto-renewal** in the lower part of the Instances page.
5. In the Configure Auto-renewal dialog box, turn on **Auto-renewal**, set Renewal Duration, and then click **OK**.

Enable auto-renewal on the Renew page

On the Renew page, you can enable auto-renewal for one or more ECS instances or change the renewal duration.

1. Log on to the [ECS console](#).
2. In the top navigation bar, choose **Expenses > Renew Management**.
3. In the left-side navigation pane, click **Elastic Compute Service**.
4. Click the **Manual** tab.

If the non-renewal option is set for some instances, click the **Nonrenewal** tab to modify the

configuration.

5. Select one of the following methods to enable auto-renewal:
 - o Enable auto-renewal for one ECS instance: Find the instance and click **Enable Auto Renewal** in the **Actions** column.
 - o Enable auto-renewal for one or more ECS instances: Select the instances and click **Enable Auto Renewal** in the lower part of the page.
6. Set Unified Auto Renewal Cycle and click **Auto Renew**.
If the managed instances are displayed on the **Auto** tab, auto-renewal is enabled.

5.4. View the auto-renewal status

If auto-renewal is enabled for a subscription instance, the instance is automatically renewed before it expires. This topic describes how to view the auto-renewal status of an ECS instance.

Context

After auto-renewal is enabled for an instance, the system renews the instance based on the configured auto-renewal duration. This can prevent the instance from being stopped or released to ensure your business availability. Before an instance expires, you can enable or disable auto-renewal.

View the auto-renewal status of an ECS instance on the Instances page

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the ECS instance and view its auto-renewal status in the **Renewal** column.

If **Auto-renewal** and a renewal duration such as **1 Month** are displayed in the Renewal column, auto-renewal is enabled for the instance.

 **Note** If the **Renewal** column is not displayed, click  in the upper-right corner, select **Renewal**, and then click OK.

View the auto-renewal status of an ECS instance on the Renewal page

1. Log on to the [ECS console](#).
2. In the top navigation bar, choose **Expenses > Renewal Management**.
3. In the left-side navigation pane, click **Elastic Compute Service**.
4. Click the **Auto** tab.

If the ECS instance is listed on the **Auto** tab, auto-renewal is enabled for the instance.

5.5. Disable auto-renewal

If you do not need the instance to be automatically renewed when its current billing cycle ends, we recommend that you disable the auto-renewal feature in advance. If auto-renewal is enabled, the system automatically attempts to deduct fees from your account from the third day before the instance expires. Disable auto-renewal before the fund deduction if needed.

Context

When you disable auto-renewal, you can set the Nonrenewal function.

- If you do not select Nonrenewal for an instance, the instance is manually renewed through **Manual Renewal**.
- If you select **Nonrenewal** for an instance, the instance will not be renewed upon expiration. You can manually renew the ECS instance before it expires. However, the ECS instance is stopped immediately after it expires. Before that, you will be reminded only once to change your selection.

Disable auto-renewal on the Instances page

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Select a method to disable auto-renewal.
 - Disable auto-renewal for one ECS instance: Find the instance and choose **More > Instance Settings > Configure Auto-renewal** in the **Actions** column.
 - Disable auto-renewal for one or more ECS instances: Select the instances. In the lower part of the instances list, choose **More > Instance Settings > Configure Auto-renewal**.
5. In the Configure Auto-renewal dialog box that appears, turn off **Auto-renewal** and choose whether to select **Not Renew**. Click **OK**.

Enable manual renewal on the Renew page

1. Log on to the [ECS console](#).
2. In the top navigation bar, choose **Billing > Renew**.
3. In the left-side navigation pane, click **Elastic Compute Service**.
4. Click the **Auto-Renew** tab.
5. Select a method to enable manual renewal.
 - Enable manual renewal for one ECS instance: Find the instance and click **Modify Auto-Renew** in the **Actions** column.
 - Enable manual renewal for one or more ECS instances: Select the instances. In the lower part of the instances list, click **Edit Auto Renewal**.
6. Select **Disable Auto-Renew**. Click **OK**.
Click the **Manual** tab. The previously selected instances are displayed in the list, indicating that manual renewal is enabled.

5.6. Downgrade the configurations of an instance during renewal

This topic describes how to downgrade the configurations of a subscription instance when you renew the instance. The new configurations take effect starting from the next billing cycle. The original configurations remain unchanged during the remainder of the current billing cycle.

Prerequisites

You can renew an instance and downgrade its configurations during the following periods of time:

- Within 15 days before the instance expires
- After the instance expires but before the instance is automatically released

Context

When you renew an instance and downgrade its configurations, you can downgrade the following configurations:

- You can downgrade the instance type.

 **Note** When you perform renewal and configuration downgrade after an instance expires but before the instance is automatically released, you cannot change the instance type.

- You can change the public bandwidth configurations. You can downgrade the public bandwidth or change the billing method to pay-by-traffic and set a peak value for the bandwidth.
- You can change the billing method of data disks from subscription to pay-as-you-go.

When you renew an instance and downgrade its configurations, take note of the following items:

- After the instance is renewed and its configurations are downgraded, the new configurations take effect starting from the next billing cycle. The original configurations remain unchanged during the remainder of the current billing cycle.
- If you perform the following operations when you renew an instance and downgrade its configurations, you must restart the instance by using the console or calling the `RebootInstance` operation within the first seven days of the new billing cycle to make the new configurations take effect. The operations include:
 - Change the instance type.
 - Change the public bandwidth value of a classic network-type instance from 0 Mbit/s to a non-zero value for the first time.
- If you perform renewal and configuration downgrade for an instance before it expires, you cannot perform the following operations during the remainder of the current billing cycle:
 - Upgrade the instance type.
 - Temporarily upgrade the public bandwidth.
 - Resize disks, including the partitions and file systems.

Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Find the ECS instance that you want to renew and click **Upgrade/Downgrade** in the **Actions** column.
5. In the Upgrade/Downgrade Wizard dialog box, select **Renewal and Downgrade** and click

Continue.

6. On the Renewal and Downgrade page, perform the following operations:

i. Select an instance type.

The instance types to which you can downgrade the instance are displayed on the page.

 **Note** When you perform renewal and configuration downgrade after an instance expires but before the instance is automatically released, you cannot change the instance type.

ii. Set the restart time of the instance.

This operation is required only when you change the instance type. The restart time cannot be later than the seventh day of the next billing cycle. We recommend that you set the restart time to a point in time during off-peak hours.

iii. (Optional) Set the public bandwidth.

Current billing method	Supported operation
Pay-by-bandwidth	<ul style="list-style-type: none"> ▪ Reduce the bandwidth value. <p>If you reduce the bandwidth value to 0 Mbit/s, the following impacts on public IP addresses apply:</p> <ul style="list-style-type: none"> ▪ For classic network-type ECS instances, public IP addresses are not changed. ▪ For VPC-type ECS instances, public IP addresses are released when the next billing cycle starts. <ul style="list-style-type: none"> ▪ Change the billing method to pay-by-traffic and set a peak value for the bandwidth.
Pay-by-traffic	Set a peak value for the bandwidth.

iv. (Optional) Change the billing method of data disks from subscription to pay-as-you-go.

If you do not change the billing method, the data disks and the instance will have the same billing cycle starting from the next billing cycle.

v. Set the renewal duration.

7. Select *ECS Service Terms* and click **Create Order**.

8. Follow the instructions to complete the payment.

References

For information about how to upgrade or downgrade configurations of other ECS resources, see [Overview of instance upgrade and downgrade](#).

5.7. Synchronize the expiration dates of subscription instances

If you have multiple subscription instances that expire on different dates, you can synchronize their expiration dates to the same day of the month to simplify management and renewal.

Context

Synchronized expiration dates are expressed in the format of `Day x of Each Month 00:00`, which indicates that instances may expire at 00:00:00 on Day *x* of the month. For example, assume that you have multiple subscription instances that were to expire on January 1, 2022, February 10, 2022, and March 20, 2022. After you synchronize their expiration dates to Day 1 of the month, you need only to renew instances prior to Day 1 of the month, without the need to record multiple expiration dates.

 **Note** Subscription instances whose expiration dates are synchronized are renewed once to the specified day of the month, but do not have auto-renewal enabled. For information about how to enable auto-renewal for an instance, see [Enable auto-renewal for an instance](#).

When you synchronize the expiration dates of subscription instances, take note of the following limits:

- The interval between the expiration date of the current billing cycle and the synchronized expiration date cannot be less than one month.

If the interval is less than one month, instances are renewed on the first synchronized expiration date after 30 days. The renewal prices of instances during this period are calculated based on the pricing standard of a monthly subscription. For more information, see the [Pricing](#) tab on the Elastic Compute Service product page.

Assume that you have two subscription instances that were originally set to expire on September 10, 2018 and May 17, 2018. You synchronize their expiration dates to the first day of each month. The two instances are now set to expire on November 1, 2018 and July 1, 2018.

- This feature is applicable only to subscription ECS instances that have not expired.

If one of the selected instances has expired, the expiration dates cannot be synchronized. To synchronize the expiration dates, remove or manually renew the expired ECS instance first.

Procedure

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select a region.
4. Select the instances whose expiration dates you want to synchronize.
5. In the lower part of the Instances page, choose **More > Instance Settings > Synchronize Expiration Date**.
6. On the **Synchronize Expiration Date** page, complete the settings.

Synchronize Expiration Date The expiration dates of 1 instances will be synchronized.

Instance ID/Name	Instance Type	Base Bandwidth	Renewal Period	Overview	Price
i- t-	1 vCPU 1 GiB (ecs.t5- t5m1.small)	1 Mbps	28 Feb 2022, 10:59:59 GMT-5 to 28 Mar 2022, 10:59:59 GMT-4	Show Details	

Synchronize Expiration Date

28th of Each Month

Click [here](#) to specify or modify the synchronized expiration date.

After you set the synchronized expiration date, all involved instances are renewed to 00:00:00 of Day 28 of the corresponding month.
The time zone of your device is UTC - 5, whereas your selected time zone is UTC+8. Proceed with caution.
 For example, assume that Instance A was set to expire on October 8, 2018 and Instance B was set to expire on October 18, 2018. If you set Synchronized Expiration Date to Day 12 of Each Month for these instances, the system renewed Instance A to November 12, 2018 and Instance B to December 12, 2018, and you must pay the renewal fees.

Service Agreement

[ECS Service Terms](#) | [Product Terms of Service](#)

i. Confirm the information of the selected subscription instances.

Confirm the renewal cycle and cost of each instance. If one of the selected instances has expired, no cost information is displayed in the Price column corresponding to the instance. Perform one of the following operations on the expired instance before you proceed:

- Click **Remove** in the **Actions** column corresponding to the expired instance.
- Go back to the Instances page to manually renew the expired instance and then synchronize the expiration dates of instances. For more information, see [Manually renew an instance](#).

ii. In the Synchronize Expiration Date section, click **Set Synchronized Expiration Date**.

Note By default, the synchronized expiration date is 00:00:00 on Day 1 of the month in UTC+8. Pay attention to your time zone. If you want to use the default synchronized expiration date or if you have set a synchronized expiration date, skip this step.

iii. In the ECS Instances: Set Unified Expiration Date dialog box, select a date and click **OK**.

ECS Instances: Set Unified Expiration Date ✕

Currently, the unified expiration date can only be configured for ECS instances that have not expired. After the configuration is complete, you can select an expiration date when you renew the instances. [Procedures](#)

Currently, the unified expiration date is set to **Day 1 of Each Month**. You can select another date as required from the following drop-down list.

Unified Expiration Date: Day 1 of Each Month 00:00

After the configuration is complete, you can select an expiration date when you renew the instances.

OK
Cancel

iv. Go back to the **Synchronize Expiration Date** page and click the icon.

v. Read the ECS Terms of Service. If you agree to it, select **ECS Service Terms**.

vi. Confirm the price, click **Create Order**, and then complete the payment.

Related information

- [DescribeRenewalPrice](#)
- [RenewInstance](#)

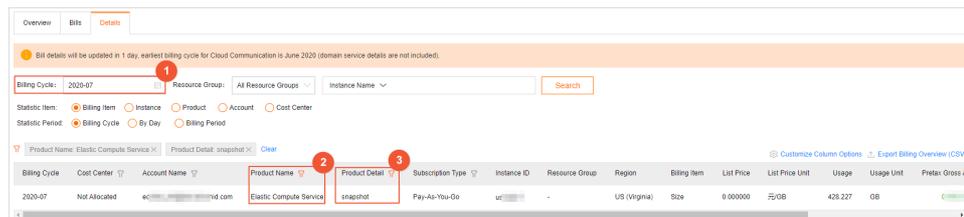
6.View billing details

You can go to the User Center to view the bills and consumption details of your Elastic Compute Service (ECS) resources.

Procedure

1. Log on to the [ECS console](#).
2. In the top navigation bar, choose **Expenses > User Center**.
3. In the left-side navigation pane, choose **Spending Summary > Spending Summary**.
4. On the Bills page, click a tab to view billing information.
 - o Click the **Overview** tab to view the overall consumption and service-specific consumption by billing cycle.
 - o Click the **Bills** tab to view the list of orders in a specified billing cycle or search for billing information by order.
 - o Click the **Details** tab to view consumption details by statistic item and statistic period. These details include billable items, usage, price, and deduction details of a specific service.

For example, if you want to view the billing details of ECS snapshots created in July 2020, you can filter bills based on the conditions shown in the following figure.



Note

- o You can click **Customize Column Options** in the upper-right corner of the consumption detail list and select billable items to display.
- o To analyze bills, you can click **Export Billing Overview (CSV)** to export and view bills on your computer.

7. Overdue payments

This topic describes how Elastic Compute Service (ECS) resources are handled after payments become overdue for them within your account.

Subscription resources

You have paid upfront fees for subscription resources and can use subscription resources before they expire regardless of whether payments become overdue within your account. However, when payments become overdue, you cannot perform operations that incur charges, such as purchasing new instances, upgrading instance configurations, or renewing subscription resources.

 **Note** If your subscription instance uses the pay-by-traffic billing method for network usage, the instance can no longer use the public bandwidth service after payments become overdue.

Subscription resources have a validity period based on the subscription duration that you specify when you purchase the resources. After the subscription duration of a subscription resource ends, the resource cannot be used. If you do not renew the resource within a specific period, the resource is automatically released. For more information, see [Changes in resource states after an instance expires](#) in the Subscription topic.

Pay-as-you-go resources

The system attempts to deduct the fees of pay-as-you-go resources three times: on the due date (T), day T+7, and day T+14. If the fees of a pay-as-you-go instance cannot be deducted on the due date (T), payment becomes overdue for the instance and the system attempts to deduct the fees again on day T+7 and day T+14. If all three attempts to deduct the fees fail, the instance is stopped on day T+15 and its billing also stops.

 **Notice** If payments become overdue within your account, your pay-as-you-go instances may be stopped. The system sends you notifications about the overdue payments. We recommend that you complete the overdue payments in a timely manner to ensure that your service remains available. If you still have problems, [submit a ticket](#).

The following status changes occur on pay-as-you-go resources after payments become overdue:

1. Within the 15 days after payments become overdue, you can continue to use existing resources but cannot purchase new instances, upgrade instance configurations, or renew resources.
2. Within the 15 days after a pay-as-you-go instance is stopped due to overdue payments, you must submit a ticket to complete the overdue payments and reactivate the instance. Otherwise, the instance is released.

Note An instance can be reactivated or restarted, but the two terms apply to different scenarios.

- reactivate* indicates that a pay-as-you-go instance that has entered the Expired state due to an overdue payment is restored to the Running state. After the overdue payment is completed, the instance is automatically reactivated. If the instance cannot be automatically reactivated, you can manually reactivate it. For more information, see [Start an instance](#).
- restart* indicates that an instance in the Running state is restarted.

3. More than 15 days after pay-as-you-go resources are stopped due to overdue payments, the pay-as-you-go resources are released, detached, or disassociated.

If all three attempts to deduct fees fail, the instance is stopped. The following table describes the changes in resource status after your pay-as-you-go instance is stopped due to overdue payments.

Resource	Within 15 days after the instance is stopped	More than 15 days after the instance is stopped
Computing resource (vCPUs and memory)	<p>The computing resources (vCPUs and memory) are retained, but the instance is stopped and does not provide services.</p> <p>When a pay-as-you-go instance is automatically <i>stopped</i> due to overdue payments, it enters the Expired state and its billing ends. After an instance is stopped, you cannot connect to the instance or access websites deployed on the instance, and service errors may occur.</p>	<p>The computing resources (vCPUs and memory) are released.</p> <p>Note If your computing resources (vCPUs and memory) are released due to overdue payments, the system sends you an email notification.</p>
Image	The image is unavailable.	The image is unavailable.
Elastic Block Storage (EBS) device	<ul style="list-style-type: none"> Cloud disks and data stored on them are retained, but the cloud disks cannot be used. Local disks and data stored on them are retained, but the local disks cannot be used. <p>Note After cloud disks or local disks become unusable, they cannot properly process read/write requests. This affects how the instances to which these disks are attached run. For example, the read/write performance of applications may significantly degrade, it may take an extended period of time to perform operations, or instances may be unexpectedly powered down or cannot be restarted if they use specific operating systems.</p>	<ul style="list-style-type: none"> Cloud disks are released and data stored on them cannot be restored. <p>Note Data disks created along with pay-as-you-go instances and pay-as-you-go data disks separately created on the Disks page in the ECS console are released.</p> <ul style="list-style-type: none"> Local disks are released and data stored on them cannot be restored.

Resource	Within 15 days after the instance is stopped	More than 15 days after the instance is stopped
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IP address	<ul style="list-style-type: none"> If the instance is of the classic network type, its public IP address is retained. If the instance is of the virtual private cloud (VPC) type, the following rules apply: <ul style="list-style-type: none"> The public IP address is retained. <div style="border: 1px solid #ccc; background-color: #e1f5fe; padding: 5px; margin: 10px 0;"> <p> Notice 如果实例停机前已默认启用节省停机模式，则实例欠费停机后，公网IP地址可能被回收，重启后，公网IP地址可能变更。</p> </div> <ul style="list-style-type: none"> The elastic IP address (EIP) associated with the instance remains unchanged. 	<ul style="list-style-type: none"> If the instance is of the classic network type, its public IP address is released. If the instance is of the VPC type, the following rules apply: <ul style="list-style-type: none"> The public IP address is released. The EIP is disassociated from the instance.
Snapshot	All snapshots are retained, but automatic snapshots cannot be created.	All snapshots are deleted, except for those that were used to create cloud disks or custom images.

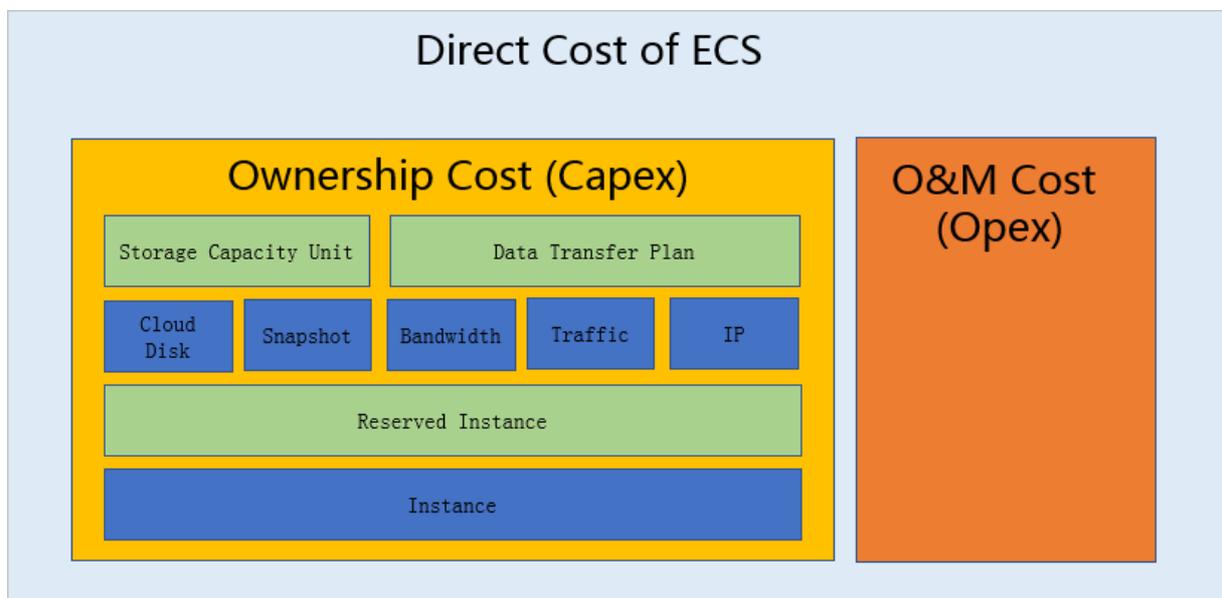
8. Best practices for cost optimization

This topic describes the cost components and benefits of Elastic Compute Service (ECS) and the recommended cost management solutions. These solutions can maximize cost effectiveness and ensure rapid business development.

Cost components

The cost of using ECS consists of the following components:

- Ownership cost: the costs of resources and resource plans.
- O&M cost: the labor costs incurred when you use ECS.



Cost benefits of cloud migration

To build a data center, you must consider direct costs such as those related to hardware, network, electricity, and O&M. You must also consider scaling costs from upgrades and capacity increases, and the risk costs from the implementation of data backup and high availability. When you scale up your data center to meet growing business needs, the resource unit cost and complexity of the data center increase while its fault tolerance decreases. Additional costs occur if you select improper models.

Compared with self-managed data centers, cloud resources do not require hardware, physical environments, or labor. The unit cost of cloud resources is relatively linear and all resources allow on-demand access and delivery. Cloud resources also support multiple billing methods to further optimize costs.

Cost optimization suggestions

We recommend that you manage ECS costs from the following aspects:

- [Optimize resources](#)
- [Upgrade instance families](#)
- [Regular cost saving measures](#)

- **Implement automated O&M**

Optimize resources

If you find resources with high costs, you can monitor the resources from multiple aspects, determine the reasons for the high costs, and then take specific optimization measures.

1. Monitor resource usage.
 - i. Monitor the usage of resources such as CPU, memory, disks, and bandwidth. Determine whether the current configuration is higher than required.
 - ii. Monitor idle resources to avoid waste. Idle resources include instances that are upgraded but not restarted, reserved instances that do not match pay-as-you-go instances, disks that are not attached to instances, and elastic IP addresses (EIPs) that are not associated with instances.
 - iii. Monitor resource usage cycles. If you want to use resources such as instances and disks on demand for an extended period of time, we recommend that you purchase the resources on a subscription basis or purchase resource plans to reduce costs.
 - iv. Monitor the lifecycle of resources. Pay attention to the expiration dates of subscription resources such as subscription instances, reserved instances, and storage capacity units (SCUs). Renew the resources in a timely manner.
2. Select appropriate instance types.

Instance types have significant impacts on ECS costs. Select the most cost-effective instance type and adjust the instance quantity based on business scenarios. This way, you can maximize resource utilization and reduce costs while meeting business needs.

For example, assume that you are using 60 d1ne.14xlarge instances for short video scenarios. The monitoring results indicate that the memory usage of the instances is reasonable but the CPU utilization is relatively low. Use the following solution to increase CPU utilization while meeting your business requirements:

To reduce the CPU-to-memory ratio, you can use 85 d2s.8xlarge instances whose CPU-to-memory ratio is 1:5.5 to replace 60 d1ne.14xlarge instances whose CPU-to-memory ratio is 1:4. The instance type is downgraded from 14xlarge to 8xlarge, which reduces costs by about 23%.

For more information about instance configurations, see [Best practices for instance type selection](#).

3. Combine multiple billing methods.

Different types of business have different requirements for resource usage cycles. Select an appropriate billing method for each type of business and combine billing methods to optimize costs.

 - Subscription and reserved instances are used for stable business workloads.
 - Pay-as-you-go instances are used for stateful and dynamic business workloads.
 - Preemptible instances are used for stateless and fault-tolerant business workloads.
4. Use dedicated hosts to reuse ECS instance resources.

For scenarios that have minimal requirements for CPU stability, such as development and test environments, you can use CPU-overprovisioned dedicated hosts to deploy more ECS instances of the same specifications to reduce the unit deployment cost.

Stopped ECS instances that are deployed on dedicated hosts do not occupy resources. Therefore, during off-peak hours in the production environment, you can stop some ECS instances. Then, you can use other resources in the production environment to run test tasks whose periods are predictable, such as offline computing and automated tests.

Upgrade instance families

Hardware such as processors is continuously upgraded to improve performance and reduce costs. ECS is also upgraded to provide more cost-effective services.

Later instance types are more cost-effective than earlier instance types. For example, the following table describes the differences between g5.2xlarge and g6.2xlarge in performance and price.

Performance	Price
<ul style="list-style-type: none"> The integer computing performance is improved by 40%. The floating-point computing performance is improved by 30%. The memory bandwidth is increased by 15%. The memory idle latency is decreased by 40%. The internal bandwidth is increased by 220%. 	<ul style="list-style-type: none"> The cost of subscription ECS resources is reduced by 6%. The cost of pay-as-you-go ECS resources is reduced by 43%.

To ensure that you can use the next-generation instance types in a timely manner, we recommend that you take the following measures:

- Design robust applications that can run on different instance types.
- Evaluate whether to upgrade instance types based on the updates on the official website of Alibaba Cloud.

Examples of instance family upgrade

You can use the following upgrade schemes to improve business performance without changing CPU and memory configurations and reduce instance cost by at least 15%.

Current instance family	Recommended compatible instance family	Recommended alternative instance family
sn1 and sn2	<ul style="list-style-type: none"> c6 g6 r6 	<ul style="list-style-type: none"> c5 and sn1ne g5 and sn2ne r5 and se1ne
c4	hfc6 and c6	hfc5 and c5
ce4	r6	r5 and se1ne
cm4	hfc6	hfc5 and g5
n1, n2, and e3	<ul style="list-style-type: none"> c6 g6 r6 	<ul style="list-style-type: none"> c5 and sn1ne g5 and sn2ne r5 and se1ne

Current instance family	Recommended compatible instance family	Recommended alternative instance family
<ul style="list-style-type: none"> • t1 • s1, s2, and s3 • m1 and m2 • c1 and c2 	<ul style="list-style-type: none"> • c6 • g6 • r6 	<ul style="list-style-type: none"> • c5 and sn1ne • g5 and sn2ne • r5 and se1ne

Regular cost saving measures

Cloud resources can be used on demand and save you the investment and cost of operating self-managed data centers. However, you must constantly optimize costs in your daily work to obtain the ideal results. You can refine the following typical operations to make a practical scheme:

- Hold regular cost meetings. Review budget implementation with cost-related parties such as finance and R&D teams, evaluate optimization results, and improve optimization strategies on a regular basis.
- Enforce the use of tags. Mark resources with tags of business, environment, and owners to keep track of daily costs.
- Classify resources and select appropriate usage methods. For example, pay-as-you-go instances are preferred for deploying development and testing environments for short-term projects, and the instances are released in a timely manner after the projects are complete.
- Avoid idle resources. Check resource usage on a regular basis and determine the notification and disposal workflows of idle resources.
- Renew resources in a timely manner. Apply for a budget for subscription resources in advance to avoid the additional cost of purchasing and deploying new resources after existing resources are released upon expiration.

Implement automated O&M

Alibaba Cloud provides a variety of O&M services to help you improve O&M efficiency and reduce O&M labor costs. Examples:

- **Auto Scaling**: constantly maintains instance clusters of different billing methods across instance types and zones. This service is ideal for scenarios where business workloads fluctuate from time to time.
- **Auto Provisioning**: deploys instance clusters of different billing methods across instance types and zones. This service is ideal for scenarios where stable computing power must be provisioned in a quick manner and preemptible instances are used to reduce costs.
- **Operation Orchestration Service**: defines a series of O&M operations in a template to perform O&M tasks in an efficient manner. This service is ideal for scenarios where event-driven O&M, scheduled O&M, batch O&M, or cross-region O&M is required.
- **Resource Orchestration Service**: deploys and maintains stacks that contain multiple cloud resources and dependencies among the resources. This service is ideal for scenarios where delivery of an integrated system or environment clone is required.

9. Billing FAQ

This topic provides answers to frequently asked questions about Elastic Compute Service (ECS) billing.

- Account FAQ
 - [Why am I unable to purchase pay-as-you-go instances?](#)
 - [How are invoices issued for pay-as-you-go instances?](#)
- FAQ about refunds for instance configuration downgrades
 - [How is the refundable amount for an instance configuration downgrade calculated?](#)
 - [Why is the actual refundable amount for an instance configuration downgrade less than that I expected?](#)
- FAQ about instance billing
 - Savings plans
 - [What is a savings plan?](#)
 - [What are the advantages of savings plans?](#)
 - [What is the hourly commitment of a savings plan?](#)
 - [When the number of instances to which a savings plan can be applied is not a whole number, how does the savings plan work?](#)
 - [What are the types of savings plans?](#)
 - [What are the payment options of a savings plan?](#)
 - [Where do I view the recommendation and buy pages for a savings plan?](#)
 - [How do I query the discount offered in a savings plan?](#)
 - [How do I query the cost savings provided by a savings plan?](#)
 - [Can I have multiple savings plans in effect at the same time?](#)
 - [Can I purchase reserved instances if I have purchased savings plans?](#)
 - [Can I purchase storage capacity units \(SCUs\) if I have purchased savings plans?](#)
 - [Do savings plans provide reserved resources?](#)
 - [Can savings plans be applied to preemptible instances?](#)
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 - Billing of subscription instances
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- Billing of pay-as-you-go instances
 - How is the billable time of a pay-as-you-go instance calculated? For example, if I created a pay-as-you-go ECS instance at 01:30:00 of December 12, 2019 and released it at 02:00:00 of December 12, 2019, was the instance billed for a 30-minute or 1-hour period?
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 - In what ECS instances can subscription images be used?
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 - Can I use a subscription image after it expires? How do I continue to use an expired subscription image?
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 - Can a subscription image be converted into a pay-as-you-go image?
 - Can I replace a subscription image with an image of another type or vice versa? How are fees calculated?
 - Am I charged when I use a custom image created based on a subscription image? How will the created custom image be affected if the subscription image expires?
- FAQ about billing of Elastic Block Storage (EBS) devices
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- How do I purchase a standard SSD? What are the pricing options for I/O optimized instances and standard SSDs?
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 - The snapshots from which existing disks or custom images were created are retained 15 days after a payment becomes overdue. Do I continue to be charged for these snapshots, which will cause the overdue amount to increase?
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 - How is the network usage of ECS instances billed?
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 - If the pay-by-traffic billing method is used for a subscription instance, can the instance continue to use the public bandwidth service when a payment becomes overdue due to insufficient account balance?
 - If the pay-by-traffic billing method is used for a subscription instance, will I be notified when a payment becomes overdue in my account?
 - If the pay-by-traffic billing method is used for a subscription instance, can I upgrade the instance configurations after a payment becomes overdue in my account?
 - If the pay-by-traffic billing method is used for a subscription instance, does the public bandwidth service of the instance automatically resume after I settle overdue payments?
 - How am I billed for network usage after I change the billing method for network usage of a subscription instance from pay-by-bandwidth to pay-by-traffic?

Why am I unable to purchase pay-as-you-go instances?

You may be unable to purchase pay-as-you-go instances due to one of the following reasons:

- You have not completed real-name verification. To purchase ECS instances within a region inside mainland China, you must complete [real-name verification](#).
- The number of vCPUs to be consumed by the selected pay-as-you-go instance type exceeds the remaining vCPU quota for the instance type within your account.
- Currently, resources for the selected instance type are unavailable for purchase within the selected region. Try again later or go to the [ECS Instance Types Available for Each Region](#) page to view instance types available in each region.

How are invoices issued for pay-as-you-go instances?

You can apply for invoices for your pay-as-you-go instances. A single invoice is provided based on your monthly statement. Go to the [Billing Management](#) console to apply for invoices.

How is the refundable amount for an instance configuration downgrade calculated?

Alibaba Cloud determines how to calculate the refundable amount for an instance configuration downgrade based on the payment currency specified on your order to purchase the instance.

- If the payment currency is USD, the **price difference-based method** is used to calculate the refundable amount.
- If the payment currency is a currency other than USD such as Malaysian ringgit (MYR) or Indian rupee (INR), the **ratio-based method** is used.

Remaining value: Alibaba Cloud linearly amortizes the value of each subscription ECS instance over its subscription period. The value of each subscription instance diminishes over time. The value that a subscription instance has is its remaining value. If you cancel the subscription for an instance that has been in use for a period of time, the remaining value of the instance can be refunded to you. For example, assume that you purchased a 30-day subscription instance at the price of USD 30. If you cancel the subscription for the instance after it has been in use for 10 days, the remaining value of the instance of USD 20 will be refunded to you.

When you used a currency other than USD to pay for the instance during purchase, the amount on the instance purchase order was converted to your payment currency at the prevailing exchange rate at the time of payment. Therefore, this exchange rate will be considered during the calculation of the instance remaining value. As opposed to the **price difference-based method**, the **ratio-based method** ensures that refunds are made based on the prevailing exchange rate at the time of payment. This prevents the amounts refunded for instance configuration downgrades from being affected by fluctuations in the exchange rate.

Note

- Instance configuration downgrades do not change the lifecycles of instances.
- If you have used different currencies to purchase an instance and upgrade its configurations, the instance cannot have its configurations downgraded.

The following examples demonstrate how to use the price difference-based method to calculate the refundable amounts for instance configuration downgrades:

- **Example 1:** The configurations of a new instance are downgraded after it has been in use for a period of time.

Assume that on the first day of a calendar month, you purchased a 30-day subscription instance (Instance A) at the price of USD 1/day and paid USD 30 in total. On the 11th day of the calendar month, you initiate a configuration downgrade for the instance. The price of the new instance configurations is USD 0.5/day. The refundable amount for the downgrade is calculated in the following steps:

- i. Calculate the remaining value M of Instance A.

$$M = \text{USD } 30 \times (30 \text{ days} - 10 \text{ days}) / 30 \text{ days} = \text{USD } 20$$

- ii. Calculate the value N of the new instance configurations.

The instance lifecycle remains unchanged before and after the downgrade. You can use the new instance configurations only for the remaining 20 days of the instance subscription period. The following formula is used to calculate N: $N = \text{USD } 0.5/\text{day} \times 20 \text{ days} = \text{USD } 10$.

- iii. Calculate the refundable amount.

$$\text{Refundable amount} = M - N = \text{USD } 20 - \text{USD } 10 = \text{USD } 10$$

In this example, Alibaba Cloud will refund USD 10 for the instance configuration downgrade.

- Example 2: The configurations of a new instance were upgraded after it had been in use for a period of time, and are downgraded after another period of time.

Assume that on the first day of a calendar month, you purchased a 30-day subscription instance (Instance B) at the price of USD 1/day and paid USD 30 in total. On the 11th day of the calendar month, you upgraded the configurations of the instance. The price of the new instance configurations was USD 2/day. You paid the price difference P between the original and new instance configurations. The following formula is used to calculate P: $P = (\text{USD } 2/\text{day} - \text{USD } 1/\text{day}) \times (30 \text{ days} - 10 \text{ days}) = \text{USD } 20$. On the 21st day of the calendar month, you initiate a configuration downgrade for the instance. The price of the new instance configurations is USD 0.5/day. The refundable amount is calculated in the following steps:

- i. Calculate the remaining value M of Instance B.

The configurations of the instance were upgraded. Therefore, the remaining value of the instance consists of the remaining value M1 from instance purchase and the remaining value M2 from the configuration upgrade. The following formulas are used to calculate M1 and M2:

- $M1 = \text{USD } 30 \times (30 \text{ days} - 20 \text{ days})/30 \text{ days} = \text{USD } 10$
- $M2 = \text{USD } 20 \times (20 \text{ days} - 10 \text{ days})/20 \text{ days} = \text{USD } 10$

$$M = M1 + M2 = \text{USD } 20$$

- ii. Calculate the value N of the new instance configurations.

The instance lifecycle remains unchanged before and after the downgrade. You can use the new instance configurations for the remaining 10 days of the instance subscription period. The following formula is used to calculate N: $N = \text{USD } 0.5/\text{day} \times 10 \text{ days} = \text{USD } 5$.

- iii. Calculate the refundable amount.

$$\text{Refundable amount} = M - N = \text{USD } 20 - \text{USD } 5 = \text{USD } 15$$

In this example, Alibaba Cloud will refund USD 15 for the instance configuration downgrade.

The following examples demonstrate how to use the ratio-based method to calculate the refundable amount in MYR for instance configuration downgrades:

- Example 1: The configurations of a new instance are downgraded after it has been in use for a period of time.

Assume that on the first day of a calendar month, you placed an order to purchase a 30-day subscription instance (Instance A) and the order amount was USD 30. The MYR to USD exchange rate was 1:10 at the time of your purchase, and you paid MYR 300 in total. On the 11th day of the calendar month, you initiate a configuration downgrade for the instance. The price of the new instance configurations is USD 0.5/day. The refundable amount for the downgrade is calculated in the following steps:

- i. Calculate the remaining value M of Instance A.

$$M = \text{MYR } 300 \times (30 \text{ days} - 10 \text{ days})/30 \text{ days} = \text{MYR } 200$$

- ii. Calculate the refund ratio R.

$$R = (\text{USD } 1/\text{day} - \text{USD } 0.5/\text{day})/\text{USD } 1/\text{day} = 1/2$$

- iii. Calculate the refundable amount.

$$\text{Refundable amount} = M \times R = \text{MYR } 200 \times 1/2 = \text{MYR } 100$$

In this example, Alibaba Cloud will refund MYR 100 for the instance configuration downgrade.

- Example 2: The configurations of a new instance were upgraded after it had been in use for a period of time, and are downgraded after another period of time.

Assume that on the first day of a calendar month, you placed an order to purchase a 30-day subscription instance (Instance B) and the order amount was USD 30. The MYR to USD exchange rate was 1:10 at the time of your purchase. You paid MYR 300 in total. On the 11th day of the calendar month, you upgraded the configurations of instance. The price of the new instance configurations was USD 2/day. The MYR to USD exchange rate was 1:11 at the time of upgrade. You paid the price difference P between the original and new instance configurations. The following formula is used to calculate P: $P = (\text{USD } 2/\text{day} - \text{USD } 1/\text{day}) \times (30 \text{ days} - 10 \text{ days}) \times 11 = \text{MYR } 220$. On the 21st day of the calendar month, you initiate a configuration downgrade for the instance. The price of the new instance configurations is USD 0.5/day. The refundable amount is calculated in the following manner:

- i. Calculate the remaining value M of Instance B.

The configurations of the instance were upgraded. Therefore, the remaining value of the instance consists of the remaining value M1 from instance purchase and the remaining value M2 from the configuration upgrade. The following formulas are used to calculate M1 and M2:

- $M1 = \text{USD } 30 \times (30 \text{ days} - 20 \text{ days})/30 \text{ days} \times 10 = \text{MYR } 100$

- $M2 = \text{USD } 20 \times (20 \text{ days} - 10 \text{ days})/20 \text{ days} \times 11 = \text{MYR } 110$

$$M = M1 + M2 = \text{MYR } 210$$

- ii. Calculate the refund ratio R.

$$R = (\text{USD } 2/\text{day} - \text{USD } 0.5/\text{day})/\text{USD } 2/\text{day} = 3/4$$

- iii. Calculate the refundable amount.

$$\text{Refundable amount} = M \times R = M1 \times R + M2 \times R = \text{MYR } 100 \times 3/4 + \text{MYR } 110 \times 3/4 = \text{MYR } 157.5$$

In this example, Alibaba Cloud will refund MYR 157.5 for the instance configuration downgrade.

Why is the actual refundable amount for an instance configuration downgrade less than that I expected?

If you purchased the instance at a discounted rate or if the instance price changed before the downgrade, the actual refundable amount may be less than that you expected.

For example, assume that you purchased a 30-day subscription instance at the price of USD 1/day, and that the MYR to USD exchange rate was 1:10 at the time of your purchase. You paid MYR 300 for the instance. 10 days later, you initiate a configuration downgrade for the instance, and the price of the new instance configurations is USD 0.5/day. The refundable amount is MYR 100 as calculated based on the original price of USD 1/day. However, if you purchased the instance at a discounted rate or if the instance price changed before the downgrade, the actual refundable amount is calculated based on the non-discounted or new instance price. For example, assume that the instance price has changed to USD 0.7/day before the downgrade. The refundable amount is calculated in the following steps:

1. Calculate the remaining value M of Instance A.

$$M = \text{MYR } 300 \times (30 \text{ days} - 10 \text{ days}) / 30 \text{ days} = \text{MYR } 200$$

2. Calculate the refund ratio R.

$$R = (\text{USD } 0.7/\text{day} - \text{USD } 0.5/\text{day}) / \text{USD } 1/\text{day} = 1/5$$

3. Calculate the refundable amount.

$$\text{Refundable amount} = M \times R = \text{MYR } 200 \times 1/5 = \text{MYR } 40$$

In this example, the actual refundable amount is MYR 40 instead of MYR 100.

What is a savings plan?

A savings plan is a discount plan that allows you to receive pay-as-you-go billing discounts in exchange for a commitment to use a consistent amount (measured in USD/hour) of resources over a one-year or three-year period. After you purchase a savings plan, the hourly bills of your pay-as-you-go instances are covered up to the amount of the plan. For more information, see [Overview](#).

What are the advantages of savings plans?

- **Flexible in price and payment:** Savings plans are available for purchase for as little as one cent and have no price limits. Savings plans can be paid in installments to minimize the impact on your cash flow.
- **Cost-effective:** Savings plans can significantly reduce costs and provide discounts on pay-as-you-go resources as great as 76% off.
- **Easy to manage:** A single savings plan can be applied to pay-as-you-go ECS instances or elastic container instances across different regions, instance types, and accounts.

What is the hourly commitment of a savings plan?

When you purchase a savings plan, you commit to a usage duration and an amount of expense. The hourly commitment is the minimum amount of resources (measured in USD) that you commit to use per hour. Each hour when hourly bills are generated, the charges for the amount of resources that you committed to in the savings plan are discounted. If you select the Partial Upfront payment option for your savings plan, you must pay 50% of your hourly commitment when your hourly bill is less than your hourly commitment. If you select the No Upfront payment option for your savings plan, you must pay 100% of your hourly commitment when your hourly bill is less than your hourly commitment. For information about how to select an appropriate hourly commitment, see [Purchase and apply savings plans](#).

Each savings plan can be applied to offset discounted hourly pay-as-you-go charges up to the hourly commitment that you made to purchase the plan. Within the hourly commitment, the price of a pay-as-you-go bill is discounted first and then offset. Example:

 **Note** The following prices are for reference only. The actual prices are displayed on the buy page.

The unit price of pay-as-you-go ecs.c5.large instances for the China (Shanghai) region is USD 0.62/hour. A discount of 57.8% off is provided for the instances after you purchase a three-year general-purpose savings plan by using the All Upfront payment option. Assume that an hourly commitment of USD 10 is specified. In this case, the number of ecs.c5.large instances to which the savings plan can be applied per hour is calculated based on the following formula: $10 / (0.62 \times 0.422) = 38.22$.

When the number of instances to which a savings plan can be applied is not a whole number, how does the savings plan work?

Assume that your savings plan can be applied to 38.22 instances per hour. If you have 39 running instances, the hourly fees for 38 of your instances are fully covered by your savings plan. For one of your instances, 22% of the hourly fees are covered by your savings plan, and the remaining 78% of the hourly fees are paid at regular pay-as-you-go rates. If you have 38 running instances, the coverage for 0.22 instance per hour is wasted in this savings plan.

What are the types of savings plans?

Savings plans come in two types:

- General-purpose

General-purpose savings plans can be applied to offset the bills of pay-as-you-go ECS instances and elastic container instances. General-purpose savings plans are automatically applied to eligible pay-as-you-go instances regardless of region, instance family, instance size, and operating system.

- ECS compute

ECS compute savings plans can be applied only to offset the bills of pay-as-you-go ECS instances. ECS compute savings plans can be applied only to a specific instance family within a single region regardless of instance size and operating system.

General-purpose savings plans can be used more flexibly than ECS compute savings plans, but ECS compute savings plans offer higher discounts and cost savings. For more information, see [Savings plan types](#).

What are the payment options of a savings plan?

Savings plans support three payment options: All Upfront, Partial Upfront, and No Upfront. The discount that you can obtain varies based on your specified duration and payment option. You can obtain the maximum discount when you purchase a three-year all upfront savings plan. The following combinations of different durations and payment options are ranked based on their discounts from largest to smallest: three-year partial upfront > three-year no upfront > one-year all upfront > one-year partial upfront > one-year zero upfront. For more information, see [Savings plans](#).

Where do I view the recommendation and buy pages for a savings plan?

- Method 1:

You can directly access the [Savings plan buy page](#) to purchase a savings plan. You can also go to the [Savings plan purchase recommendation page](#) to obtain recommendations. Appropriate savings plans are recommended based on your selected conditions such as historical consumption of a specified period of time, savings plan type, and payment option.

- Method 2

Go to the [ECS console](#). In the left-side navigation pane, choose **Instances & Images > Savings Plan**.

How do I query the discount offered in a savings plan?

You can go to the [Discount Details](#) page to query the discount offered in a savings plan.

How do I query the cost savings provided by a savings plan?

You can go to the Overview tab on the [Savings Plan](#) page to view the cost savings provided by a savings plan, including the total, annual, and monthly saving amounts.

Can I have multiple savings plans in effect at the same time?

Yes, you can purchase and use multiple savings plans at the same time. The system automatically selects the optimal savings plan to apply.

Can I purchase reserved instances if I have purchased savings plans?

Yes, you can purchase both reserved instances and savings plans at the same time. However, reserved instances have a higher priority than savings plans when they are applied to pay-as-you-go instances.

Can I purchase SCUs if I have purchased savings plans?

Yes, you can purchase both SCUs and savings plans at the same time. However, SCUs have a higher priority than savings plans when they are applied to pay-as-you-go instances.

Do savings plans provide reserved resources?

No, savings plans do not provide reserved resources. No resources are specified when you purchase savings plans.

Can savings plans be applied to preemptible instances?

No, savings plans cannot be applied to preemptible instances.

What happens if my savings plans expire?

When your savings plans expire, the discounts provided by your savings plans are no longer applicable. Your eligible pay-as-you-go instances are billed at their regular prices. The pay-as-you-go instances to which your savings plans have already been applied are not released. The expiration of savings plans does not affect your business.

What do I do if the billing method of an instance cannot be changed from subscription to pay-as-you-go?

You may be unable to change the billing method of an instance from subscription to pay-as-you-go due to one of the following reasons:

- The instance is in a state that does not support billing method changes. For example, you have an unpaid order for the instance.
- The instance is in the **Expired** state.
- The instance information has been changed. For example, the bandwidth of the instance has been temporarily upgraded.

If one of the preceding errors is reported, adjust the instance accordingly. If the problem persists, [submit a ticket](#).

Why am I prompted with an overdue payment when my subscription instances have not expired?

After you purchase subscription instances, if you use resources that are billed on a pay-as-you-go basis, such as snapshots and pay-by-traffic public bandwidth, you are charged for the resources separately from the instances. When your account balance is insufficient to pay for the due pay-as-you-go charges, the payment becomes overdue. You can view your consumption details to check whether you have outstanding pay-as-you-go bills. For more information, see [View billing details](#).

How is the billable time of a pay-as-you-go instance calculated? For example, if I created a pay-as-you-go ECS instance at 01:30:00 of December 12, 2019 and released it at 02:00:00 of December 12, 2019, was the instance billed for a 30-minute or 1-hour period?

Pay-as-you-go instances are billed in 1-second increments. Payments are made every hour on the hour. The billable time of pay-as-you-go instances is automatically calculated. For example, if you created a pay-as-you-go instance at 01:30:00 of December 12, 2019 and released it at 02:00:00 of December 12, 2019, the hour from 01:00:00 to 02:00:00 is a billing cycle. The billable time is 1,800 seconds, which is calculated based on the following formula: (30 minutes) × 60 = 1800 seconds.

After a pay-as-you-go instance is stopped manually or due to an overdue payment, am I still charged for it?

Stopped due to an overdue payment: When a payment becomes overdue in your account, your pay-as-you-go instance is automatically stopped and billing for the instance stops. Instances do not always remain in the Stopped state after they are stopped due to overdue payments. For more information, see [Pay-as-you-go](#).

Manually stopped: You can use the ECS console or call the StopInstance operation to stop a running pay-as-you-go instance. When the instance is stopped, it enters the **Stopped** state. How stopped pay-as-you-go instances are billed depends on their network types.

- VPC: You can enable economical mode for pay-as-you-go instances within VPCs.
 - After economical mode is enabled, billing for pay-as-you-go instances begins when they are created, and billing for some instance resources stops when the instances enter the **Stopped** state and resumes when the instances are started. When a pay-as-you-go instance enters the Stopped state, economical mode stops the billing only for the vCPUs, memory, and public IP address of the instance. Other resources such as disks and EIP of the instance continue to be billed. For more information, see [Economical mode](#).
 - After economical mode is disabled, billing for pay-as-you-go instances continues when they enter the **Stopped** state.
- Classic network: Pay-as-you-go instances in the classic network are billed regardless of whether they are in the **Stopped** state.

What do I do if an order cannot be placed to change the billing method of an instance from pay-as-you-go to subscription?

You may be unable to place the order due to one of the following reasons:

- The instance is in a state that does not support billing method changes. For example, you have an unpaid order for the instance.
- Billing method changes are not allowed due to an upcoming scheduled automatic release.
- Billing method changes are not allowed because the instance information has been changed.
- A previous order to change the billing method of the instance has not been paid.

If one of the preceding errors is reported, adjust the instance accordingly.

How long after an order is paid does it take to change the billing method of an instance from pay-as-you-go to subscription?

The billing method of your instance is changed after the order is paid. It can take up to 4 seconds to change the billing method of 20 instances. After the change is complete, you can see that the billing method of your instance has been changed to **Subscription** in the ECS console.

What do I do if the billing method of an instance cannot be changed from pay-as-you-go to subscription?

[Submit a ticket.](#)

When I change the billing method of an instance from pay-as-you-go to subscription, does the billing method for network usage of the instance also change?

No, the billing method for network usage of the instance does not change. Only the billing method of instances and disks can be changed from pay-as-you-go to subscription. For information about how to change the billing method for network usage, see [Overview of instance upgrade and downgrade](#).

I have an unpaid order to change the billing method of an instance from pay-as-you-go to subscription. If I upgrade the configurations of the instance, is the order still valid?

An order is created when you change the billing method of your instance from pay-as-you-go to subscription. You must pay for the order to complete the change. If you upgrade the configurations of the instance before the order is paid, the order payment cannot be completed because the instance components are different and the original order no longer matches. If you still want to change the billing method of your instance, you must cancel the unpaid order and place a new order.

Why am I unable to change a pay-as-you-go instance into a subscription one?

The pay-as-you-go instance whose billing method you want to change must meet the following requirements:

- The instance type of the instance is not retired. For more information, see [Retired instance types](#).
- The instance is not a preemptible instance.
- You do not have unpaid orders for the instance.

If you have unpaid orders for the instance, you must pay for the orders or cancel the orders before you can change the billing method of the instance.

- The automatic release time is not set for the instance.

If the automatic release time is set for the instance, you must cancel the automatic release of the instance before you change its billing method. For more information, see [Disable automatic release](#).

- The instance is in the **Running** or **Stopped** state.

Example: An order to change the billing method is placed while the ECS instance is in the Running or Stopped state. However, the instance state changes before the payment completes. The order fails and the billing method does not change. You can go to the Billing Management console and pay for the order when the instance is in the Running or Stopped state again.

What ECS instances support the economical mode?

The ECS instances that meet all of the following requirements support the economical mode:

- The network type of the instances is Virtual Private Cloud (VPC).
- The instances are pay-as-you-go or preemptible instances.
- The instance families are not equipped with local storage.
- The instance families are not equipped with persistent memory.

For more information, see [Economical mode](#).

Can I retain the compute and network resources of a stopped pay-as-you-go instance after I enable the economical mode?

After you enable the economical mode, you still can configure whether to trigger the economical mode for a pay-as-you-go instance when you stop the instance. If the economical mode is not triggered for a pay-as-you-go instance when the instance is stopped, the compute and network resources of the instance are not released.

If you only need to stop a pay-as-you-go instance for a few minutes and then start it again, we recommend that you perform one of the following operations to stop the economical mode from being triggered: Call the [StopInstance](#) operation with StoppedMode set to *KeepCharging*, or set Stop Mode to **Standard Stop Mode** when you stop the instance from the ECS console.

Can the economical mode be triggered for ECS instances that are stopped from within their operating systems?

No, the economical mode cannot be triggered for ECS instances that are stopped from within their operating systems. After the economical mode is enabled, it can be triggered only when ECS instances are stopped by one of the following methods or factors:

- Use the ECS console. For more information, see [Stop an instance](#).
- Use Alibaba Cloud CLI or SDK to call an API operation. For more information, see [StopInstance](#).
- Overdue payments.

Do instances that are equipped with local storage support the economical mode?

No, instances that are equipped with local storage do not support the economical mode.

When I attempted to immediately start an instance after it is stopped in economical mode, an OperationConflict error was reported. Why?

When the economical mode is triggered for an instance, the compute resources (CPUs and memory) and public IP address of the instance are recycled.

If you only need to stop a pay-as-you-go instance for a few minutes and then start it again, we recommend that you perform one of the following operations to stop the economical mode from being triggered: Call the [StopInstance](#) operation with `StoppedMode` set to `KeepCharging`, or set `Stop Mode` to `Standard Stop Mode` when you stop the instance from the ECS console.

When I called the `StartInstance` operation to start an instance in economical mode, an `OperationDenied.NoStock` error was reported. Why?

When an instance is stopped in economical mode, its compute resources are recycled. If available resources are insufficient, an `OperationDenied.NoStock` error is reported when you attempt to start the instance. We recommend that you try again later.

When I stopped an instance, I set `Stop Mode` to `Economical Mode` (Formerly Known as `No Fees for Stopped Instances Mode`). Then, the instance was stopped in economical mode. When I started the instance again, its public IP address changed. How do I prevent the IP address from changing?

When an instance is stopped in economical mode, its public IP address is recycled. When the instance is started again, it is assigned a new public IP address.

To retain the original public IP address, you can convert it into an elastic IP address (EIP) before you stop the instance. For more information, see [Convert the public IP address of a VPC-type instance to an EIP](#) and [ConvertNatPublicIpToEip](#).

 **Notice** After the IP address is converted into an EIP, this EIP is not released when the instance is stopped in economical mode. You are charged for this EIP. For more information about how Elastic IP addresses are billed, see [Billing overview](#).

Can I release ECS instances on my own?

Yes, you can manually release or schedule the automatic release of pay-as-you-go instances. However, you cannot release subscription instances on your own.

If you have further questions, [submit a ticket](#).

When I attempt to change the billing method of a disk in an instance, an error message is returned indicating that I have already changed the billing method three times. What does this mean?

Each ECS instance can have its configurations downgraded up to three times. Downgrade operations include downgrades of instance specifications, bandwidth downgrades, and the change of the disk billing method from subscription to pay-as-you-go.

Why has a pay-as-you-go bill been generated for my instance? What are the charges on the bill?

You can copy your instance ID and perform the following steps to view the bill details:

1. Log on to the [ECS console](#).
2. In the top navigation bar, choose **Expenses > User Center**.

3. In the left-side navigation pane, choose **Spending Summary > Instance Spending Detail**.
4. Set the search criteria and click Search.

Month	Instance ID	Product Name	Region	Original Cost	Discount	Coupon	Pretax Cost (Before Round Down Discount)	Action
Aug 2019	i-xxxxxx	Elastic Compute Service - Pay-As-You-Go	China North 1 (Qingdao)	0.000000 USD	0.000000 USD	0.000000 USD	0.000000 USD	Detail

Why am I unable to change the billing method of an instance from subscription to pay-as-you-go?

Your ECS usage determines whether the billing method of your subscription instances can be changed to pay-as-you-go. Before you change the billing method of a subscription instance, make sure that the instance is in the **Running** or **Stopped** state.

Do I need to pay for Red Hat images when I use them to create ECS instances?

Yes, you must pay for Red Hat images when you use them to create ECS instances. Red Hat images are paid images. For pricing details, visit the ECS pricing page.

How are Windows licenses billed? Are they billed based on countries and numbers of cores?

Windows licenses are free of charge within regions inside mainland China but are charged in regions outside mainland China. The prices of Windows licenses vary based on countries, regions, and the number of vCPUs. For pricing details, visit the ECS pricing page.

How am I charged when I copy a custom image?

You must perform the following operations to copy a custom image:

1. Copy the snapshot from which the custom image was created from the source region to the destination region.
2. Create a custom image from the snapshot in the destination region.

You may be charged the following fees for the preceding operations:

- Fees for traffic between the two regions. Alibaba Cloud does not charge you for cross-region traffic. For the latest billing details, see the official Alibaba Cloud website for announcements.
- The new snapshot (snapshot copy) consumes snapshot storage space in the destination region. Snapshots are billed based on the storage space used. For more information, see [Snapshots](#).

I am creating an ECS instance. Why is the total instance cost displayed when I select a custom image higher than that displayed when I select a public image?

This situation may occur in the following circumstances:

- The custom image contains data disk snapshots. When such an image is selected, the costs of the data disks cause the total cost of the instance to be higher than that of an instance created from a public image.
- The custom image was derived from a paid public image such as a Windows Server or RHEL image.

Are Alibaba Cloud Marketplace images refundable?

Alibaba Cloud Marketplace images support money-back guarantee within a period of time based on the Alibaba Cloud Marketplace rules. However, you are ineligible for a refund in the following situations:

- You have deployed the purchased image to an ECS instance within the money-back guarantee period.
- You have deployed the purchased image to an ECS instance before your application for a refund for this image is approved.
- You can receive refunds only for images that have not been used.

Are free Alibaba Cloud Marketplace images still available after Alibaba Cloud Marketplace images are commercially available?

Free Alibaba Cloud Marketplace images are still available. However, you must purchase them at a price of USD 0.00 before you can use them.

I have an instance created from an Alibaba Cloud Marketplace image. Do I need to make further payments for the image when I renew the instance or upgrade the configurations of the instance?

No, you do not need to make further payments for the image. After you purchase an Alibaba Cloud Marketplace image, you can use it on instances at no additional costs.

I have an ECS instance created from an Alibaba Cloud Marketplace image. After the instance is released, can I continue to use that image free of charge when I purchase a new ECS instance?

Yes, you can continue to use that image free of charge when you purchase an ECS instance.

I created an ECS instance from an Alibaba Cloud Marketplace image and then created a custom image from the instance. Do I need to pay for the custom image when I use it to create an ECS instance?

Yes, you must pay the original price of the Alibaba Cloud Marketplace image.

If I copy an Alibaba Cloud Marketplace image that I bought to another region to create an ECS instance, do I need to pay for the image?

Yes, you must pay the original price of the Alibaba Cloud Marketplace image.

I created an ECS instance from an Alibaba Cloud Marketplace image and then created a custom image from that instance. If I share the custom image to Account B, does Account B need to pay for the custom image when it uses this image to create an ECS instance?

Yes, Account B must pay the original price of the Alibaba Cloud Marketplace image.

Is a fee charged if I replace a system disk by using an Alibaba Cloud Marketplace image or an image derived from an Alibaba Cloud Marketplace image?

It depends. If the current image of your ECS instance is a different version of the replacement image, no fees are charged. Otherwise, a fee is charged.

My ECS instance is using an Alibaba Cloud Marketplace image. Is a fee charged if I replace the system disk of the instance?

No, no fees are charged if you replace the system disk of the instance.

What are yearly, monthly, and weekly subscription Alibaba Cloud Marketplace images?

Yearly, monthly, or weekly subscription Alibaba Cloud Marketplace images are images that are purchased from Alibaba Cloud Marketplace and billed on a subscription basis. These images are developed and maintained by image providers, who are responsible for both pre-sales consultation and after-sales services. In this topic, these images are collectively referred to as subscription images.

On which ECS instances can I use a subscription image?

A subscription image can be used only on a subscription instance with the same subscription duration.

How do I purchase a subscription image? Can I separately purchase it?

No, you cannot separately purchase a subscription image.

You can use one of the following methods to purchase a subscription image:

- When you create an instance, set Billing Method to **Subscription**, select an **Alibaba Cloud Marketplace** image, and then specify a subscription duration by setting Duration.

 **Note** In this case, you must pay for both the instance and the image. The instance is created on successful payment for both the image and instance.

- To use a subscription image on an existing subscription ECS instance, you can use the image to replace the operating system of the instance. In this case, you must select the image subscription duration based on the instance subscription duration. For more information, see [Replace the operating system of an instance by using a non-public image](#).

 **Note** In this case, you need only to pay for the image.

How do I pay for subscription images?

Subscription images require payment upfront. The subscription duration of a subscription image must be the same as that of the subscription instance on which the image is used.

Image prices are set by the image providers.

Can I use a subscription image after it expires? How do I continue to use it?

When a subscription image expires, it cannot be used unless it is renewed in a timely manner.

You cannot separately renew a subscription image. If you want to continue to use the image, you must renew the image together with the corresponding ECS instance. After the image is renewed, you can continue to use it.

After I purchase a subscription image, can I request a refund if I no longer want to use it?

The image provider determines whether to make a refund. You can consult the image provider before you purchase the image.

What can I expect when a refund is made?

If a refund is available, the image provider makes the refund based on your usage.

Can a subscription image be converted into a pay-as-you-go image?

No, subscription images cannot be converted into pay-as-you-go images. This conversion feature is under development for release in the future. Stay updated on the official Alibaba Cloud website.

Can I replace a subscription image with an image of another type or vice versa? How is the fee calculated?

Yes, you can replace images when you replace system disks of ECS instances. You can make the following replacements:

- Replace an image of another type (such as public image, custom image, or shared image) with a subscription image. After the image is replaced, the system calculates the actual cost based on the image cost and the remaining subscription duration of the ECS instance.
- Replace a subscription image with an image of another type (such as public image, custom image, or shared image). If the image provider allows for refunds, a refund is made based on your actual usage.
- Replace one subscription image with another subscription image. If a refund is available for the replaced image after the replacement, the refund is made based on the refund policy. The actual cost of the replacement image is calculated based on the image price and the remaining subscription duration of the ECS instance.

Is a fee charged for a custom image derived from a subscription image? How is the custom image affected if the subscription image expires?

When you use a custom image derived from a subscription image to create an instance or replace a system disk, you are re-ordering the subscription image on Alibaba Cloud Marketplace. The custom image is unaffected regardless of whether the subscription image expires.

How are you billed for ESSDs?

Enhanced SSDs support the subscription and pay-as-you-go billing methods. For more information, see the [Pricing](#) tab of the Elastic Compute Service page.

How do I purchase a standard SSD? What are the pricing options for I/O optimized instances and standard SSDs?

For more information about pricing, see the [Pricing](#) tab of the Elastic Compute Service page.

How is a separately purchased pay-as-you-go data disk billed?

A pay-as-you-go data disk is billed by hour. Note that if you have insufficient balance within your account, the services of the data disk is suspended.

The snapshots from which existing disks or custom images were created are retained 15 days after a payment becomes overdue. Do I continue to be charged for these snapshots, which will cause the overdue amount to increase?

No, you do not continue to be charged for the snapshots.

For example, assume that you have an overdue payment of USD 0.1. After the 15-day retention period ends, the snapshots from which no existing disks or custom images were created are deleted, whereas snapshots from which existing disks or custom images were created are retained and no longer billed. To use these retained snapshots, you need only to settle the overdue payment.

How am I billed for the network usage of ECS instances?

For more information about billing for the network usage of ECS instances, see [Public bandwidth](#).

How is the inbound and outbound traffic of pay-as-you-go instances billed?

Traffic between ECS instances or between ECS instances and other Alibaba Cloud services within the same VPC is free of charge. Traffic between ECS instances and the Internet is billed based on the following rules:

- Inbound Internet traffic is free of charge. Inbound Internet traffic refers to traffic from the Internet to ECS instances, such as traffic generated when you download resources from the Internet to your ECS instances or when your users upload resources to your ECS instances by using an FTP client.
- Outbound Internet traffic is billed. Outbound Internet traffic refers to traffic from ECS instances to the Internet, such as traffic generated when your ECS instances provide external access or when your users download internal resources from your ECS instances by using an FTP client.

For more information about bandwidth billing, see [Public bandwidth](#).

What is the difference between the pay-by-bandwidth and pay-by-traffic billing methods?

If you select pay-by-bandwidth as the billing method for network usage, you are charged based on the specified bandwidth. Your actual outbound bandwidth will not exceed the specified bandwidth.

If you select pay-by-traffic as the billing method for network usage, you are charged based on actual data transfers. To prevent out-of-control fees caused by traffic bursts, you can set a maximum bandwidth for outbound Internet traffic.

For more information, see [Public bandwidth](#).

Can I adjust the specified maximum bandwidth?

Yes, you can adjust the specified maximum bandwidth. For more information, see [Overview of instance upgrade and downgrade](#).

Will I be charged for the traffic generated by ECS instances under attack?

You will not be charged for the inbound Internet traffic generated by ECS instances under attack, but will be charged for the outbound Internet traffic.

We recommend that you use Alibaba Cloud Security services such as Server Guard to reinforce the security of your ECS instances.

Can I select the pay-by-traffic billing method for network usage when I purchase a subscription instance?

Yes, you can select the pay-by-traffic billing method for network usage when you purchase a subscription instance. For more information, see [Create an instance by using the wizard](#).

For more information about the pay-by-traffic billing method, visit the Pricing tab of the [Elastic Compute Service](#) product page.

How am I charged when I select the pay-by-traffic billing method for network usage?

Pay-by-traffic is a pay-as-you-go billing method in which fees are charged based on the actual amount of data transferred. Payments are settled every hour on the hour. To keep services running properly, make sure that your account balance is sufficient. To prevent out-of-control fees caused by traffic bursts, you can set a maximum bandwidth for traffic.

Can I change the billing method for network usage of a subscription instance from pay-by-bandwidth to pay-by-traffic?

Yes, you can change the billing method for network usage of a subscription instance from pay-by-bandwidth to pay-by-traffic by using the bandwidth downgrade feature. However, you can make this change only a limited number of times. For more information, see [Modify the bandwidth configurations of subscription instances](#).

You can also use the renewal and configuration downgrade feature to change the billing method for network usage. The new configurations do not take effect until the next subscription period starts. For more information, see [Downgrade instance configurations during renewal](#).

Can I adjust the maximum bandwidth for an ECS instance at any time?

Yes, you can use the bandwidth downgrade feature to adjust the maximum bandwidth for an ECS instance at any time. After you set the maximum bandwidth to a smaller value, the new value takes effect immediately. A maximum of three refunds can be made for each instance. Exercise caution when you downgrade the configurations of an instance.

If you downgraded the configurations of a subscription instance when you renewed it, you cannot upgrade or downgrade the instance configurations again until the new subscription period starts.

If the pay-by-traffic billing method is used for a subscription instance, can the instance continue to use the public bandwidth service when a payment becomes overdue due to insufficient account balance?

Overdue payments do not affect the running of subscription instances, but do cause the pay-by-traffic public bandwidth service to be stopped. After the service is stopped, the instances cannot access the Internet. You can continue to use the public bandwidth service only after you settle the overdue payment. To keep services running properly, make sure that your account balance is sufficient.

If the pay-by-traffic billing method is used for a subscription instance, will I be notified when a payment becomes overdue in my account?

Yes, you will be notified by SMS. To keep services running properly, make sure that your account balance is sufficient.

If the pay-by-traffic billing method is used for a subscription instance, can I upgrade the instance configurations after a payment becomes overdue in my account?

No, you can upgrade the instance configurations only after you settle the overdue payment.

If the pay-by-traffic billing method is used for a subscription instance, does the public bandwidth service of the instance automatically resume after I settle overdue payments?

If the public bandwidth service was stopped due to an overdue payment, the service automatically resumes when the overdue payment is settled.

How am I billed for network usage after I change the billing method for network usage of a subscription instance from pay-by-bandwidth to pay-by-traffic?

When you change the billing method for network usage of your subscription instance from pay-by-bandwidth to pay-by-traffic, you are billed for network usage based on actual data transfers. Payments are settled every hour on the hour. For pricing details, visit the [Pricing](#) tab of the Elastic Compute Service product page.