

# Alibaba Cloud

专有宿主机

Product Introduction

Document Version: 20220706

# Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed because of product version upgrade, adjustment, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and an updated version of this document will be released through Alibaba Cloud-authorized channels from time to time. You should pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides this document based on the "status quo", "being defective", and "existing functions" of its products and services. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not take legal responsibility for any errors or lost profits incurred by any organization, company, or individual arising from download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, take responsibility for any indirect, consequential, punitive, contingent, special, or punitive damages, including lost profits arising from the use or trust in this document (even if Alibaba Cloud has been notified of the possibility of such a loss).
5. By law, all the contents in Alibaba Cloud documents, including but not limited to pictures, architecture design, page layout, and text description, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade secrets. No part of this document shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates.
6. Please directly contact Alibaba Cloud for any errors of this document.

# Document conventions

Style	Description	Example
 <b>Danger</b>	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
 <b>Warning</b>	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 <b>Notice</b>	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> If the weight is set to 0, the server no longer receives new requests.
 <b>Note</b>	A note indicates supplemental instructions, best practices, tips, and other content.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click <b>Settings&gt; Network&gt; Set network type</b> .
<b>Bold</b>	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
<code>Courier font</code>	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>

# Table of Contents

1.What is DDH? .....	05
2.Features .....	07
3.Benefits .....	12
4.Scenarios .....	13
5.Terms .....	14
6.Limits .....	16
7.Dedicated host types .....	18

# 1. What is DDH?

Dedicated Host (DDH) is a specialized solution that Alibaba Cloud provides for enterprise customers. It offers highly cost-effective features, such as dedicated physical resources, flexible deployment, and rich configurations. DDH reduces the total cost of ownership (TCO) to migrate resources to the cloud for enterprises.

A dedicated host is a cloud host whose physical resources are dedicated to a single tenant. As the only tenant of a host, you do not need to share the physical resources of the host with other tenants. You can obtain the physical attributes of the host, including the number of CPU sockets, the number of physical CPU cores, and the memory size. You can also create Elastic Compute Service (ECS) instances of an instance family that is compatible with the host type. For more information, see [Dedicated host types](#).

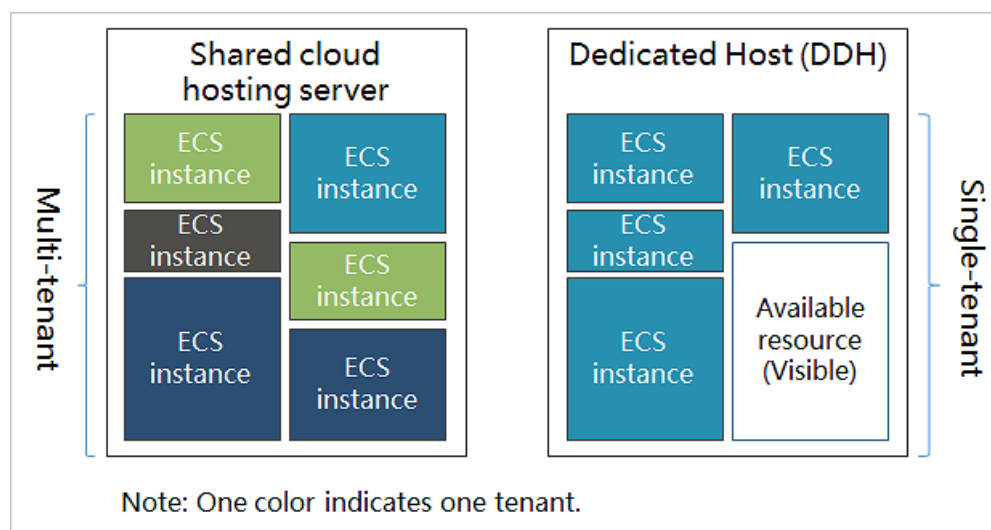
## Features

DDH supports automatic deployment and host association. You can use DDH to flexibly deploy your business. For more information, see [Features](#).

## Benefits

DDH provides a dedicated hosting environment for a single tenant based on the virtualization technology of Alibaba Cloud. DDH offers flexible services that enable you to exclusively use all the physical resources of a cloud host at low cost. For more information, see [Benefits](#).

The following figure shows the differences between dedicated hosts and shared hosts.



## Scenarios

DDH meets strict security and compliance requirements and allows you to bring your own licenses (BYOLs) to the cloud. DDH significantly reduces the cost of migrating your business to the cloud. For more information, see [Scenarios](#).

## Relevant services

For information about Alibaba Cloud services that are supported by ECS instances running on dedicated hosts, see [What is ECS?](#).

The ECS instances on a dedicated host have different features from the ECS instances on a shared host. For more information, see [Differences between ECS instances on a dedicated host and those on a shared host](#).

## Usage notes

For information about the limits on the use of DDH resources, see [Limits](#).

You can use the ECS console to create a dedicated host. For more information, see [Create a dedicated host](#).

After you create a dedicated host, you can perform the following operations:

- [Create one or more ECS instances on a dedicated host](#)
- [Migrate ECS instances between different dedicated hosts in the DDH console](#)
- [Migrate an ECS instance from a shared host to a dedicated host](#)
- [Upgrade or downgrade a subscription ECS instance](#)
- [Switch the billing method from pay-as-you-go to subscription](#)
- [Enable auto-renewal](#) or [Manually renew a dedicated host](#)

## Billing

When you use a dedicated host, take note of the following billing information of the dedicated host and the ECS instances deployed on the host:

- **Dedicated host:** You are charged based on the subscription billing method. For more information, see the **Dedicated Host** tab in the Pricing section of the [ECS product page](#).
- **ECS instances:** The billing method depends on the resource type. For more information, see [Overview](#).

For more information, see [Billing overview](#).

## 2.Features

A dedicated host is a single-tenant physical server that runs on the Alibaba Cloud virtualization stack. This topic describes the features of Dedicated Host (DDH).

### Physical isolation

DDH provides the physical isolation feature:


- The CPU, memory, and network resources of a dedicated host are physically isolated from other hosts. This guarantee a high level of security. As the only tenant of a host, the physical resources of the host are not shared with other tenants.
- You can obtain the physical attributes of the host, including the number of physical CPU cores, the memory size, the number of vCPUs, and a unique machine code. You can also view the resource usage in real time.

### Automatic deployment

After you enable automatic deployment for a dedicated host, the dedicated host resides in the resource pool of your Alibaba Cloud account for automatic deployment. When you create an ECS instance, you do not need to specify a dedicated host. The system selects a dedicated host from the resource pool to deploy the instance. For more information, see [Enable automatic deployment](#). Automatic deployment allows you to flexibly deploy your business.

The following table describes the use scenarios of automatic deployment.

Scenario	Operation	Result	References
Create an ECS instance	Specify a dedicated host	The ECS instance is deployed on the dedicated host.	<ul style="list-style-type: none"><li>• Console operation: <a href="#">Create an instance by using the wizard</a></li><li>• API operation: <a href="#">CreateInstance</a> or <a href="#">RunInstances</a>.</li></ul>
	Select <b>Allow Automatic Deployment</b>	The ECS instance is automatically deployed on a dedicated host.	
Migrate an ECS instance from a shared host to a dedicated host	Specify a dedicated host	The ECS instance is deployed on the dedicated host.	<ul style="list-style-type: none"><li>• Console operation: <a href="#">Migrate an ECS instance from a shared host to a dedicated host</a></li><li>• API operation: <a href="#">ModifyInstanceDeployment</a></li></ul>
	Do not specify a dedicated host	The ECS instance is automatically deployed on a dedicated host.	<ul style="list-style-type: none"><li>• Console operation: The console does not support this scenario.</li><li>• API operation: <a href="#">ModifyInstanceDeployment</a></li></ul>

Scenario	Operation	Result	References
Migrate an ECS instance between two dedicated hosts	Specify a dedicated host	The ECS instance is deployed on the dedicated host.	<ul style="list-style-type: none"> <li>Console operation: <a href="#">Migrate ECS instances between different dedicated hosts in the DDH console</a></li> <li>API operation: <a href="#">ModifyInstanceDeployment</a></li> </ul>
	Do not specify a dedicated host	<p>The ECS instance is automatically deployed on a dedicated host.</p> <div>  <b>Note</b> If the dedicated host where the ECS instance resides allows automatic deployment and has the most available resources, the instance is still deployed on the dedicated host. </div>	<ul style="list-style-type: none"> <li>Console operation: The console does not support this scenario.</li> <li>API operation: <a href="#">ModifyInstanceDeployment</a></li> </ul>

## CPU overcommit ratio

You can configure the CPU overcommit ratio for g6s, c6s, and r6s dedicated hosts. If you change the CPU overcommit ratio of a dedicated host, the number of its available vCPUs is changed. The CPU overcommit ratio of a dedicated host is calculated based on the following formula: Number of available vCPUs of the dedicated host = (Number of CPU cores × 2 - Number of reserved vCPUs) × CPU overcommit ratio. In scenarios where lower CPU stability is required or CPU load is not heavy, you can increase the CPU overcommit ratio of a dedicated host. This way, you can increase the number of available vCPUs on the dedicated host. You can also deploy more ECS instances of the same specifications on the dedicated host and reduce the unit deployment cost. For more information, see [Configure the CPU overcommit ratio](#).

## Automatic instance migration upon hardware failures

A dedicated host is based on a physical server. The dedicated host may shut down if a failure occurs on the server hardware. To minimize the impact of hardware failures on your business, Alibaba Cloud supports automatic instance migration upon hardware failures. If a hardware failure occurs after you enable this feature for a dedicated host, the ECS instances on the dedicated host are migrated to another host.

The following table describes the use scenarios of automatic deployment.

Scenario	Operation
Enable automatic instance migration for a dedicated host.	<ul style="list-style-type: none"><li>When you create the dedicated host, select <b>Automatic Instance Migration upon DDH Failure</b> in the <b>DDH Settings</b> section of the Create DDH page. For more information, see <a href="#">Create a dedicated host</a>.</li><li>For information about how to enable automatic instance migration for an existing dedicated host, see <a href="#">Configure auto failover</a>.</li></ul>
A dedicated host has potential risks.	Migrate the dedicated host to another dedicated host to protect your services. For more information, see <a href="#">Migrate a dedicated host with hidden failures</a> .
A dedicated host fails.	<ul style="list-style-type: none"><li>If automatic instance migration is enabled for the dedicated host, the ECS instances on the dedicated host are migrated to another host.</li><li>If automatic instance migration is not enabled for the dedicated host, <a href="#">submit a ticket</a> to apply for a new dedicated host.</li></ul>

#### Notice

- You cannot perform manual migration of ECS instances on local SSD dedicated hosts such as Local SSD type i2 upon hardware failures. In addition, you cannot perform automatic migration of ECS instances on local SSD dedicated hosts. If local SSD dedicated hosts fail, you can [submit a ticket](#) to apply for manual migration. However, the data in the local disk is lost after manual migration.
- After all the ECS instances on a failed dedicated host are migrated to another dedicated host, the host ID and the metadata of the ECS instances remain unchanged. The metadata includes the ID, private IP address, and public IP address of each ECS instance. However, the machine ID of the dedicated host is changed.

## Host association

Host association is suitable for ECS instances that have enabled the economical mode. Even if the instance enters the Stopped state, it is deployed on the original physical server. The feature also helps you maintain the same deployment method for ECS instances.

The following table describes the use scenarios of host association.

Scenario	Operation	Result
Stop and restart an ECS instance that has enabled the economical mode	Enable the host association feature. For more information, see <a href="#">Associate an ECS instance with a dedicated host</a> .	The ECS instance is still deployed on the original dedicated host. If the available resources of the dedicated host are insufficient, the instance fails to be restarted.
	Disable the host association feature. For more information, see <a href="#">Associate an ECS instance with a dedicated host</a> .	ECS first attempts to deploy the ECS instance on the original dedicated host. If the available resources of the dedicated host are insufficient, ECS deploys the instance on another dedicated host.

## ECS instance migration

You can migrate an ECS instance between two dedicated hosts or between a shared host and a dedicated host.

- [Migrate ECS instances between different dedicated hosts in the DDH console](#)
- [Migrate an ECS instance from a shared host to a dedicated host](#)
- [Migrate an ECS instance from a dedicated host to a shared host](#)

## Differences between ECS instances on a dedicated host and those on a shared host

The features of the ECS instances deployed on a dedicated host and the ECS instances deployed on a shared host are different. The following table lists the differences.

Item	ECS instances on a dedicated host	ECS instances on a shared host
Network Type	Virtual private clouds (VPCs) are supported.	VPCs and the classic network are supported. For more information, see <a href="#">Network types</a> .
Billable item	See <a href="#">Resource billing for ECS instances on a dedicated host</a> .	See <a href="#">Overview</a> .
Billing method	Subscription and pay-as-you-go are supported.	Subscription, pay-as-you-go, preemptible instances, and reserved instances are supported.
Renewal	When you specify the renewal period, the expiration date of the instance cannot be later than that of the subscription dedicated host. For more information, see <a href="#">Limits</a> .	You can specify the renewal period based on your business requirements.
Economical mode	If an instance is stopped after the economical mode is enabled, the resources of the dedicated host are released. These resources include the vCPUs and memory. Resources are reallocated to the dedicated host after the instance is restarted. For more information, see <a href="#">Subscription</a> .	See <a href="#">Economical mode</a> .
Switch the billing method from pay-as-you-go to subscription	Before you switch the billing method of an instance, the instance must meet the prerequisites. The feature is applicable only to the instances on a pay-as-you-go dedicated host. After the billing method of an ECS instance is switched to subscription, the expiration date of the instance cannot be later than that of the dedicated host.	Before you switch the billing method of an instance, the instance must meet the prerequisites. For more information, see <a href="#">Change the billing method of an ECS instance from pay-as-you-go to subscription</a> .
Create an ECS instance	See <a href="#">Create one or more ECS instances on a dedicated host</a> .	See <a href="#">Create an instance by using the wizard</a> .

Item	ECS instances on a dedicated host	ECS instances on a shared host
ECS instance type	<ul style="list-style-type: none"> <li>You can create an ECS instance based on a predefined instance family.</li> <li>You can customize the vCPU-to-memory ratio of an ECS instance on multiple types of dedicated hosts.</li> </ul> <p>For more information, see <a href="#">Dedicated host types</a>.</p>	You can create an ECS instance based on a predefined instance family. For more information, see <a href="#">Instance family</a> .
Upgrade or downgrade an ECS instance	See <a href="#">Upgrade or downgrade the instance type</a> .	See <a href="#">Change instance types</a> .
Release an ECS instance	If you do not renew expired dedicated hosts, the ECS instances on the hosts are automatically released.	<ul style="list-style-type: none"> <li>Pay-as-you-go ECS instances can be manually or automatically released. For more information, see <a href="#">Release an instance</a>.</li> <li>If you do not renew a subscription ECS instance after it expires, the instance is automatically released. If a pay-as-you-go ECS instance has overdue payments and your account has insufficient balance, the ECS instance is automatically released.</li> </ul>
Adjust public bandwidth	See <a href="#">Upgrade or downgrade the public bandwidth</a> .	See <a href="#">Modify public bandwidth</a> .

## 3. Benefits

Dedicated Host (DDH) provides a dedicated hosting environment for a single tenant based on the virtualization technology of Alibaba Cloud. DDH offers flexible services that enable you to exclusively use all the physical resources of a cloud host at low cost.

### Security

DDH provides a dedicated hosting environment for a single tenant. You can exclusively use all the physical resources of a cloud host, such as the CPUs, memory, and network interface controller. This way, the data security is ensured. Each dedicated host has a unique machine code to meet the strict security and compliance requirements of various industries and enterprises.

### Flexibility

- Flexible deployment

You can specify a dedicated host when you create an ECS instance. If you do not specify a dedicated host, the system selects a dedicated host to deploy the ECS instance. In addition, the host association feature allows you to associate an ECS instance with a dedicated host. Even if the instance enters the Stopped state, it is deployed on the original physical server. This helps you maintain the same deployment method for ECS instances.

- Flexible migration

You can migrate an ECS instance between two dedicated hosts or between a shared host and a dedicated host.

### Low cost

- DDH provides the CPU overprovisioned dedicated host type. When you create an ECS instance, you can customize its vCPU-to-memory ratio to improve the deployment of services that have a low CPU load, such as development, testing, and system O&M. The cost of cloud migration is reduced. The cost of deploying an ECS instance on a dedicated host can be up to 48% less than the cost of deploying an instance by using a traditional method. For more information about the CPU overprovisioned dedicated host type, see [Dedicated host types](#).
- DDH allows you to bring your own license (BYOL) to Alibaba Cloud. If your license is assigned based on the numbers of CPU cores, CPU sockets, and virtual machines, you can continue to use your own license on a dedicated host. Furthermore, you are still subject to the terms of the license. DDH lowers the cost of migrating your business to the cloud.
- If you enable the economical mode for an ECS instance, the CPU and memory resources that are used by the instance are released after the instance is stopped.

### High availability

DDH provides the automatic instance migration feature. If a DDH failure occurs after you enable this feature for a dedicated host, the ECS instances on the dedicated host are migrated to another host. In addition, you can migrate an ECS instance between two dedicated hosts without stopping the instance. You can also enable load balancing for your ECS instance to improve the availability of your services.

## 4.Scenarios

Dedicated Host (DDH) allows you to flexibly deploy your business, ensures security and compliance, and reduces the cost of cloud migration. This topic describes the use scenarios of DDH.

### Ensure strict security and compliance requirements

DDH is a single-tenant hosting service. The physical resources of a dedicated host are used by only one tenant. Dedicated hosts of different tenants are isolated at the physical server level to meet the strict compliance requirements of specific services. You can create ECS instances on a specified physical server to meet the compliance requirements of the runtime environment for your business.

### Maintain stable performance

Specialized industries, such as the gaming industry, require high computing capability and stability. DDH allows you to exclusively use all resources of a physical server, such as the CPUs, memory, and network interface controller. It also ensures a smooth gaming experience based on the stability of performance and instance access.

### Deploy hardware-bound licenses

If your license is assigned based on the numbers of CPU cores, CPU sockets, and virtual machines, you can continue to use your own license on a dedicated host. Furthermore, you are still subject to the terms of the license. For the licenses that need to be bound to physical hardware, DDH ensures that the hardware is not changed. This prevents license failures caused by vMotion. You can bind an existing software license, such as a Windows Server license or an SQL Server license to an ECS instance created on a dedicated host. This reduces the cost of migrating your business to the cloud.

### Automatic resource deployment

DDH provides the automatic deployment feature. You can use the feature or specify a dedicated host to deploy ECS instances. You can also obtain the topological relationships between ECS instances and physical servers. In addition, you can migrate ECS instances between different hosts. Flexible deployment and migration help you orchestrate your applications.

### Migrate virtual environments to the cloud

The CPU overprovisioned dedicated host type can be used for services that have a low CPU load such as development, testing, and system O&M. You can also use the CPU overprovisioned dedicated host type to migrate virtual environments such as OpenStack and KVM from physical servers to the cloud at low cost. For more information, see [Dedicated host types](#).

# 5. Terms

This topic describes the terms that are used in Dedicated Host (DDH).

## dedicated host

A dedicated host is a cloud host whose physical resources are dedicated to a single tenant. As the only tenant of a host, you do not need to share the physical resources of the host with other tenants.

For more information, see [What is DDH?](#).

## shared host

A shared host is a cloud host whose physical resources are shared by multiple tenants. Generally, an ECS instance is deployed on a shared host.

## dedicated host type

The type of a dedicated host refers to the specifications of the physical server that corresponds to the dedicated host. These specifications include the CPU model, memory size, local storage space, the number of CPU cores, the number of CPU sockets, and the number of vCPUs. The predefined ECS instances on a dedicated host can be used in the same scenarios as the ECS instances on a shared host.

For more information, see [Dedicated host types](#).

## CPU overcommit ratio

In scenarios that require lower CPU stability, you can increase the CPU overcommit ratio of a dedicated host. This way, you can increase the number of available vCPUs on the dedicated host and reduce the deployment cost of a single ECS instance.

## BYOL

Bring Your Own License (BYOL) allows you to migrate your business to the cloud by using your existing per-socket or per-core licenses that are bound to sockets or physical cores.

## region and zone

A region or zone is the physical location of the data center where the physical server of a dedicated host is located. Regions are independent of each other. Zones are isolated from each other. We recommend that you create a dedicated host in a region close to you or your target users. This reduces network latency and increases data transmission speed.

For more information, see [Regions and zones](#).

## ECS

Elastic Compute Service (ECS) is a basic cloud computing service that is provided by Alibaba Cloud.

For more information, see [What is ECS?](#).

## ECS instance

An ECS instance is a virtual server that includes basic components such as vCPUs, memory, an operating system (OS), network configurations, and disks.

For more information, see [Overview](#).

## resource group

Resource groups are used to group your resources by usage, permission, and region, so that you can manage the resources in a hierarchical manner by user and project. You can add the dedicated host to a resource group.

For more information, see [Resource groups](#).

## ECS console

The [ECS console](#) is the Web interface for managing ECS and DDH resources.

## 6.Limits

This topic describes the limits that apply when you use dedicated hosts.

The following table describes the limits that apply when you use dedicated hosts. In addition, the limits on Elastic Compute Service (ECS) resources also apply to ECS instances that are created on dedicated hosts. For more information, see [Limits](#).

Item	Description	Adjustable
Creation of dedicated hosts	Before you create dedicated hosts in mainland China, you must complete the <a href="#">real-name verification</a> .	N/A
Supported network types	Virtual private clouds (VPCs) are supported. For more information, see <a href="#">What is a VPC?</a> .	N/A
Billing methods of dedicated hosts and ECS instances	You can create pay-as-you-go or subscription ECS instances on subscription dedicated hosts.	N/A
Creation of subscription ECS instances on a subscription dedicated host	The expiration date of subscription ECS instances cannot be later than that of the dedicated host.	N/A
Renewal of subscription ECS instances on a subscription dedicated host	The expiration date of subscription ECS instances cannot be later than that of the dedicated host. If the auto-renewal period of subscription ECS instances do not meet this requirement, the auto-renewal fails.	N/A
Switch of the billing method of ECS instances on a dedicated host from pay-as-you-go to subscription	The expiration date of subscription ECS instances cannot be later than that of the dedicated host.	N/A
Change of the billing method of dedicated hosts	Not supported.	N/A
Migration of ECS instances between a shared host and a dedicated host	Only pay-as-you-go ECS instances can be migrated. Subscription ECS instances and preemptible instances cannot be migrated.	N/A
Migration of ECS instances between different dedicated hosts	You can migrate ECS instances only between the same type of dedicated hosts. The dedicated hosts must belong to the same Alibaba Cloud account. ECS instances that run on local SSD hosts cannot be migrated. For more information about dedicated host types, see <a href="#">Dedicated host types</a> .	N/A

Item	Description	Adjustable
Automatic instance migration	ECS instances that run on local SSD hosts cannot be automatically migrated.	N/A
Images used by ECS instances	In regions outside mainland China, you cannot use Windows images to create ECS instances on ddh.c6s, ddh.g6s, or ddh.r6s dedicated hosts.	N/A
Number of ECS instances	<ul style="list-style-type: none"><li>A maximum of 150 ECS instances can be created on a single dedicated host of the following types:<ul style="list-style-type: none"><li>g6t and c6t</li><li>g6s, c6s, and r6s</li><li>g6, c6, and r6</li><li>i2</li></ul></li><li>A maximum of 100 ECS instances can be created on a single dedicated host of the following types:<ul style="list-style-type: none"><li>g5, c5, and r5</li><li>v5</li><li>g5se and g5ne</li></ul></li></ul>	N/A

# 7.Dedicated host types

The type of a dedicated host determines the type and number of ECS instances that you can create on the dedicated host. This topic describes the types of dedicated hosts.

## Overview

The type of a dedicated host refers to the specifications of the physical server that corresponds to the dedicated host. These specifications include the CPU model, memory size, local storage space, number of CPU cores, number of CPU sockets, and number of vCPUs.

The predefined ECS instances on a dedicated host can be used in the same scenarios as the ECS instances on a shared host. Therefore, you can create ECS instances on a dedicated host whose type is compatible with the ECS instances. For example, you can create all types of ECS instances that belong to the **g6**, **c6**, **r6**, and **ic6** instance families on a **general purpose type g6** dedicated host. For more information, see [Instance family](#).

Custom instance types allow you to customize the vCPU-to-memory ratio. For example, you can create custom types of ECS instances on a dedicated host whose type is **general purpose overprovisioned type g6s**. You can also change the number of vCPUs and the memory size.

## Available types

The following table lists the available types of dedicated hosts.

Dedicated host type	Supported ECS instance family	Number of CPU sockets	Physical CPU model	Number of CPU cores	Number of vCPUs	Memory (GiB)	Local SSD (GiB) <sup>3</sup>	Inbound or outbound bandwidth (Gbit/s) <sup>4</sup>	Inbound or outbound packet forwarding rate (10,000 packets per second) <sup>4</sup>
General purpose type g7	<ul style="list-style-type: none"><li>r7</li><li>g7</li><li>c7</li></ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	1024	N/A	64	2400
Memory optimized type r7	<ul style="list-style-type: none"><li>r7</li><li>g7</li><li>c7</li></ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	512	N/A	64	2400

Dedicated host type	Supported ECS instance family	Number of CPU sockets	Physical CPU model	Number of CPU cores	Number of vCPUs	Memory (GiB)	Local SSD (GiB) <sup>3</sup>	Inbound or outbound bandwidth (Gbit/s) <sup>4</sup>	Inbound or outbound packet forwarding rate (10,000 packets per second) <sup>4</sup>
Compute optimized type c7	<ul style="list-style-type: none"> <li>r7</li> <li>g7</li> <li>c7</li> </ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	256	N/A	64	2400
Security enhanced & memory optimized type r7t	<ul style="list-style-type: none"> <li>r7t</li> <li>g7t</li> <li>c7t</li> </ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	1024	N/A	64	2400
Security enhanced & general purpose type g7t	<ul style="list-style-type: none"> <li>r7t</li> <li>g7t</li> <li>c7t</li> </ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	512	N/A	64	2400
Security enhanced & compute optimized type r7t	<ul style="list-style-type: none"> <li>r7t</li> <li>g7t</li> <li>c7t</li> </ul>	2	Intel Xeon Platinum 8369B (Ice Lake)	64	128 <sup>1</sup>	256	N/A	64	2400
Security enhanced & general purpose type g6t	g6t	2	Intel Xeon Platinum 8269 (Cascade Lake)	52	104 <sup>1</sup>	384	N/A	32	2400
Security enhanced & compute optimized type c7t	c6t	2	Intel Xeon Platinum 8269 (Cascade Lake)	52	104 <sup>1</sup>	192	N/A	32	2400
Compute overprovisioned type c6s	Custom	2	Intel Xeon 8269CY (Cascade Lake)	52	520 <sup>2</sup>	180	N/A	25	600

Dedicated host type	Supported ECS instance family	Number of CPU sockets	Physical CPU model	Number of CPU cores	Number of vCPUs	Memory (GiB)	Local SSD (GiB) <sup>3</sup>	Inbound or outbound bandwidth (Gbit/s) <sup>4</sup>	Inbound or outbound packet forwarding rate (10,000 packets per second) <sup>4</sup>
General overprovisioned type g6s	Custom	2	Intel Xeon 8269CY (Cascade Lake)	52	520 <sup>2</sup>	372	N/A	25	600
Memory overprovisioned type r6s	Custom	2	Intel Xeon 8269CY (Cascade Lake)	52	520 <sup>2</sup>	750	N/A	25	600
General purpose type g6	<ul style="list-style-type: none"> <li>ic6</li> <li>c6</li> <li>g6</li> <li>r6</li> </ul>	2	Intel Xeon 8269CY (Cascade Lake)	52	104 <sup>1</sup>	384	N/A	25	600
Compute optimized type c6	<ul style="list-style-type: none"> <li>ic6</li> <li>c6</li> </ul>	2	Intel Xeon 8269CY (Cascade Lake)	52	104 <sup>1</sup>	192	N/A	25	600
Memory optimized type r6	<ul style="list-style-type: none"> <li>ic6</li> <li>c6</li> <li>g6</li> <li>r6</li> </ul>	2	Intel Xeon 8269CY (Cascade Lake)	52	104 <sup>1</sup>	768	N/A	25	600
Local SSD type i2	i2	2	Intel Xeon Platinum 8163 (Skylake)	48	80 <sup>1</sup>	640	17880	25	550
General purpose type g5	g5	2	Intel Xeon Platinum 8163 (Skylake)	48	84 <sup>1</sup>	336	N/A	25	550

Dedicated host type	Supported ECS instance family	Number of CPU sockets	Physical CPU model	Number of CPU cores	Number of vCPUs	Memory (GiB)	Local SSD (GiB) <sup>3</sup>	Inbound or outbound bandwidth (Gbit/s) <sup>4</sup>	Inbound or outbound packet forwarding rate (10,000 packets per second) <sup>4</sup>
Compute optimized type c5	c5	2	Intel Xeon Platinum 8163 (Skylake)	48	86 <sup>1</sup>	172	N/A	25	550
Memory optimized type r5	r5	2	Intel Xeon Platinum 8163 (Skylake)	48	86 <sup>1</sup>	688	N/A	25	550
CPU overprovisioned type v5	v5	2	Intel Xeon Platinum 8163 (Skylake)	48	336 <sup>2</sup>	672	N/A	25	550
Storage enhanced type g5se	g5se	2	Intel Xeon Platinum 8163 (Skylake)	48	70 <sup>1</sup>	336	N/A	25	550
Network enhanced type g5ne	g5ne	2	Intel Xeon Platinum 8163 (Skylake)	48	72 <sup>1</sup>	288	N/A	25	2400

1. Number of vCPUs for non-overprovisioned type = Number of CPU cores × 2 - Number of vCPUs that are reserved for the dedicated host

2. Number of vCPUs for overprovisioned type = (Number of CPU cores × 2 - Number of vCPUs that are reserved for the dedicated host) × CPU overcommit ratio

3. For more information about local SSDs, see [Local disks](#).

4. The total packet forwarding rate or bandwidth of all the ECS instances types on a dedicated host must be less than that of the dedicated host. For information about the network performance of all the ECS instances, see [Instance family](#).

## Retired types

The following table lists the types of dedicated hosts that are retired.

Dedicated host type	Supported ECS instance family	Number of CPU sockets	Physical CPU model	Number of CPU cores	Number of vCPUs	Memory (GiB)	Local SSD (GiB)	Inbound or outbound bandwidth (Gbit/s)	Inbound or outbound packet forwarding rate (10,000 packets per second)
Compute optimized & network enhanced type sn1ne	sn1ne	2	Intel Xeon E5-2682 v4 (Broadwell)	32	56 <sup>1</sup>	112	N/A	10	450
General purpose & network enhanced type sn2ne	sn2ne	2	Intel Xeon E5-2682 v4 (Broadwell)	32	56 <sup>1</sup>	224	N/A	10	450
Memory optimized & network enhanced type se1ne	se1ne	2	Intel Xeon E5-2682 v4 (Broadwell)	32	56 <sup>1</sup>	480	N/A	10	450