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User Guide

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Document conventions

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

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1.Manage Dedicated Host

1.1. Create a dedicated host

This topic describes how to create a subscription dedicated host in the Elastic Compute Service (ECS) console.

Prerequisites

An Alibaba Cloud account is created and the required account information is provided. For more information, see Sign up with Alibaba Cloud.

Procedure

1.
2.
3.
4. On the Dedicated Hosts page, click **Create DDH**.
5. On the page that appears, configure the following parameters.

Parameter	Description	Example
Billing Method	Select **Subscription**. For more information, see Billing overview.	Subscription
Region	The region and zone where you want to create a dedicated host. For more information, see Regions and zones.	China (Beijing)
Dedicated Host Type	The dedicated host type determines the instance family and the maximum number of ECS instances that you can deploy on the dedicated host. The host types g6s, c6s, and r6s allow you to customize the vCPU-to-memory ratio. This allows you to flexibly allocate computing resources when you create ECS instances. For more information, see Dedicated host types. **Notice** ECS instances on local SSD type i2 dedicated hosts do not support manual migration or automatic failover. If a local SSD dedicated hosts fails, you can submit a ticket to apply for manual migration. However, the data in the local disk is lost after manual migration.	Local SSD Type i2
DDH Name	The name of the dedicated host. The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), colons (:), and hyphens (-). It must start with a letter.	DDH-test

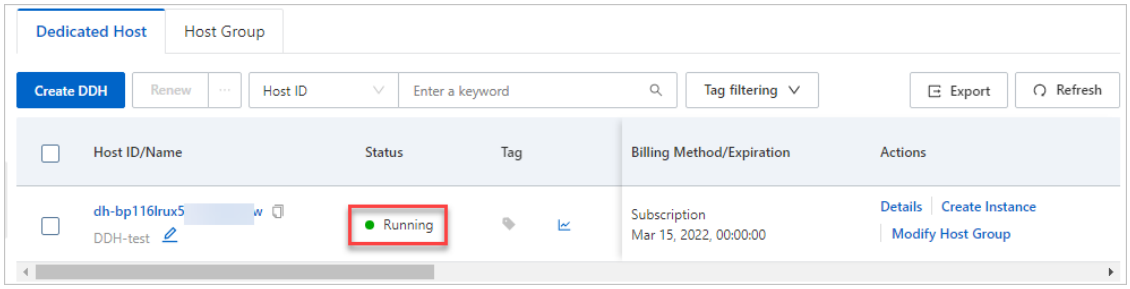
Parameter	Description	Example
Quantity	The number of dedicated hosts that you want to purchase.	1
Tags	Each tag consists of a case-sensitive key-value pair. You can attach tags to dedicated hosts and manage dedicated hosts in groups. For more information, see Overview.	Default
Resource Group	Resource groups are used to group your resources based on usage, permissions, and regions, so that you can manage the resources in a hierarchical manner based on users and projects. You can add the dedicated host to a resource group. For more information, see Resource groups.	Default
DDH Settings	The features in this section are available only to some dedicated host types. The actual features on the DDH console shall prevail. ○ **Allow Automatic Deployment** ■ If you select Allow Automatic Deployment, ECS instances are automatically deployed on available dedicated hosts. For more information, see Features. ■ If you do not select Allow Automatic Deployment, you must specify a dedicated host when you create an ECS instance. By default, Allow Automatic Deployment is turn on. ○ **Automatic Instance Migration upon DDH Failure** ■ If you select Automatic Instance Migration upon DDH Failure, the ECS instances on the dedicated host are automatically migrated to a healthy dedicated host if the current dedicated host fails. ■ If you do not select this option, you must submit a ticket to apply for a new dedicated host. By default, the Automatic Instance Migration upon DDH Failure option is selected. You can change this setting after the dedicated host is created. For more information, see Configure auto failover. **Notice** This option is unavailable for local SSD type i2. ○ **CPU Overprovisioning Ratio**: You can configure the CPU overprovisioning ratio only for the overprovisioned type. The CPU overprovisioning ratio affects the number of available vCPUs on a dedicated host. You can use the following formula to calculate the number of available vCPUs on a dedicated host of the overprovisioned type: Number of available vCPUs = (Number of CPU cores × 2 -	Default

Parameter	Description	Example
	Number of vCPUs that are reserved by the dedicated host) × CPU overprovisioning ratio. In scenarios where high CPU stability is not required, such as development and test environments, you can increase the number of available vCPUs on a dedicated host by increasing the CPU overprovisioning ratio. This way, you can deploy more ECS instances of the same specification on the dedicated host and reduce the deployment cost. For example, the number of CPU cores on each g6s dedicated host is 52. If you set the CPU overprovisioning ratio of a g6s dedicated host to 4, the number of available vCPUs on the dedicated host is 416. **Notice** You can set the CPU overprovisioning ratio for overprovisioned types g6s, c6s, and r6s. You cannot set the CPU overprovisioning ratio for overprovisioned type v5.	
Duration	Select a subscription duration based on your business requirements.	1 Month
Auto-renewal	Specify whether to enable auto-renewal based on your needs. ○ Weekly subscription: The auto-renewal period is one week. ○ Monthly subscription: The auto-renewal period is one month. ○ Yearly subscription: The auto-renewal period is one year.	Turned off
Terms of Service	Read and select Dedicated Host Terms of Service.	Select **Dedicated Host Terms of Service**

6. Click **Preview**.
7. In the **Preview** dialog box, confirm the configurations and click **Create Order**.
8. Complete the payment as prompted.

Result

You can view the created dedicated host on the Dedicated Hosts page. If the dedicated host enters the **Running** state, it can be used as expected. If the created dedicated host does not appear on the Dedicated Hosts page, wait for a while and refresh the page.



1.2. Create one or more ECS instances on a dedicated host

This topic describes how to create and configure one or more Elastic Compute Service (ECS) instances on a dedicated host.

Context

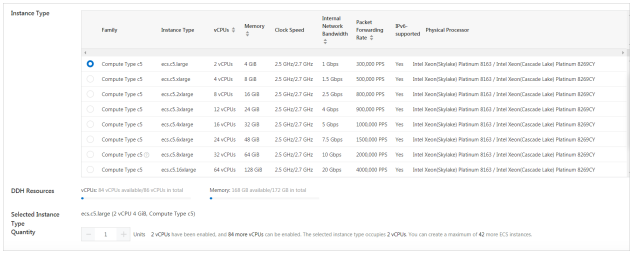
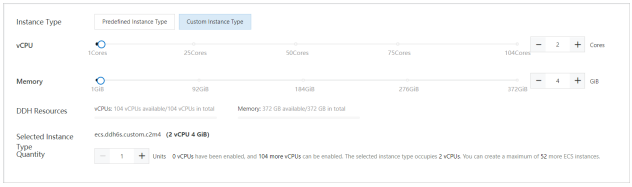
Only VPC-connected ECS instances can be created on a dedicated host. The ECS instances on a dedicated host have different features from the ECS instances on a shared host. For more information, see Differences between ECS instances on a dedicated host and those on a shared host.

> **Note** We recommend that you create pay-as-you-go ECS instances on a dedicated host and select a combination of billing methods to optimize your costs without compromising flexibility. For more information, see Resource billing for ECS instances on a dedicated host.

Procedure

1.
2.
3.
4. Find the dedicated host on which you want to create ECS instances, and click **Create Instance** in the **Actions** column.
5. Configure the parameters in the **Basic Configurations** step. The following table describes the parameters.

Parameter	Description	Example
Dedicated Host	Select the dedicated host on which you want to create ECS instances and specify whether to select Associate with DDH. ○ If you select **Associate with DDH**, the ECS instances are deployed on the current dedicated host. If the resources of the dedicated host are insufficient, the ECS instances fail to be restarted. ○ If you do not select **Associate with DDH**, the ECS instances may be deployed on another dedicated host that belongs to your Alibaba Cloud account when the instances are restarted. For more information, see Features.	DDH-test/dh-bp116lrux5x1qxh9****

Parameter	Description	Example
Billing Method	Select a billing method for the ECS instances based on the billing method of the dedicated host. You can select **Subscription** or **Pay-As-You-Go** as the billing method of ECS instances that run on a subscription dedicated host. For more information, see Resource billing for ECS instances on a dedicated host.	Pay-As-You-Go
Instance Type	The region and zone of the ECS instances must be the same as those of the dedicated host. The available instance types depend on the type and available computing resources of the dedicated host. For more information, see Dedicated host types. ○ If the dedicated host supports only predefined instance types, click Predefined Instance Type. Then, select the instance type in the Instance Type section.  ○ If the dedicated host supports custom instance types, click **Custom Instance Type**. Then, you can adjust the sliders to specify the number of vCPUs and the size of the memory. The minimum scaling step size of vCPUs is 1. If more than one vCPU is required, you must set this parameter to an even number, for example, 2 or 4. The minimum scaling step size of the memory is 1 GiB. 	ecs.i2.xlarge
DDH Resources	The resources of the dedicated host.	Default
Selected Instance Type	The selected instance type.	Default
Quantity	Specify the number of ECS instances that you want to purchase based on your needs.	1

Parameter	Description	Example
Image	You can select public images, custom images, shared images, or images that is purchased from Alibaba Cloud Marketplace. For more information, see Select an image. **Note** ○ To associate an SSH key pair with each ECS instance, you must select a Linux operating system from the drop-down list for the image. ○ To configure user data of the ECS instances, you must select an image that supports user data. For more information, see Manage the user data of Linux instances.	Alibaba Cloud Linux 2.1903 LTS 64-bit
	○ **System Disk**: Required. The system disk is used to install the operating system. You must specify the type and capacity of the system disk. ■ Disk Type: All available types of disks in the current region are listed in this section. ■ Capacity: The default capacity of the system disk is 40 GiB. The maximum capacity is 500 GiB. If the size of the selected image is larger than 40 GiB, the image size is the default value. The minimum size of the system disk is related to the image. The actual size is displayed on the buy page. The system disks for different images have different capacities: ■ Linux (excluding CoreOS and Red Hat): 20 to 500 GiB ■ FreeBSD: 30 to 500 GiB ■ CoreOS: 30 to 500 GiB ■ Red Hat: 40 to 500 GiB ■ Windows: 40 to 500 GiB ○ **Data Disk**: To add data disks, you must specify the disk type, capacity, and quantity. You must also specify whether to enable **disk encryption**. You can create an empty data disk or create a data disk from a snapshot.	

Parameter	Description	Example
Storage	Note In this case, the data disk has the following features: ■ The billing method of the data disk is the same as that of the ECS instances. ■ When you enable or disable the Release Disk with Instance feature for a system disk or a data disk, take note of the following information: ■ If the Release Disk with Instance feature is enabled for the disk, the disk is automatically released when its associated instance is released. ■ If the Release Disk with Instance feature is disabled for the disk, the disk is retained as a pay-as-you-go data disk 15 days after its associated instance expires, 15 days after a payment becomes overdue for the instance, or when the instance is manually released. If you create a disk in the Chinese mainland, you must complete real-name verification for your account to ensure that the disk can be retained. Note The retained disk is billed on a pay-as-you-go basis. You can log on to the Billing Management console and view consumption details by disk ID. ■ A maximum of 16 data disks can be attached to a single instance. For more information, see the "Elastic Block Storage (EBS) limits" section in Limits. ○ If you create an instance from an instance family with local SSDs, such as the i2 type, the information of the local SSDs is displayed and cannot be modified. For more information about the local SSDs of an instance family, see Instance family.	Default

Parameter	Description	Example
Snapshot	You can use automatic snapshot policies to periodically back up disks to prevent data loss risks arising from various situations such as virus attacks and accidental data deletion. You can specify the backup cycle and a system disk or data disk for backup.	Default

6. Click **Next: Network and Security Group** and configure the parameters in the **Network and Security Group** step. The following table describes the parameters.

Parameter	Description	Example
Network Type	Alibaba Cloud provides a default virtual private cloud (VPC). If you do not want to use the default VPC, you can create a VPC and a vSwitch in the region where you want to create ECS instances. For more information, see Create an IPv4 VPC.	◦ VPC: ddh-vpc/vpc-bp1j4z1sr8**** ◦ vSwitch: test/vsw-bp155oak33*** *

Parameter	Description	Example
Public IP	○ If you want to assign public IP addresses to the ECS instances, you must select **Assign Public IP Address**. Then, select **Pay-By-Traffic** or **Pay-By-Bandwidth** as the billing method of the public bandwidth, and specify the bandwidth. The public IP addresses cannot be detached from the ECS instances. For more information about the billing method of public bandwidth, see Public bandwidth. ○ If your instances do not need to access the Internet or your VPC-type instances use elastic IP addresses (EIP) to access the Internet, you do not need to assign public IP addresses. You can associate an EIP with or disassociate an EIP from an instance at any time.	Default
Security Group	Alibaba Cloud provides a default security group. If you do not want to use the default security group, you can create a security group in the region where you want to create ECS instances. For more information, see Create a security group.	sg-20200622/sg-bp1542zl60b5q6hx****
Elastic Network Interface	If the selected instance type supports Elastic Network Interface (ENI), you can add ENIs and select vSwitches for the ENIs. **Note** By default, the ENIs are released together with the ECS instances. You can also call the DetachNetworkInterface operation to detach the ENIs from the instances.	test
IPv6	Specify whether to use an IPv6 address based on your business requirements. For information about the instance families that support IPv6, see Instance family.	Default

7. (Optional)Click **System Configurations** and configure the parameters in the **System Configurations** step. The following table describes the parameters.

Parameter	Description	Example

Parameter	Description	Example
Logon Credentials	You can specify key pairs and passwords. You can also select **Set Later** to configure the logon credential after the ECS instances are created. Select logon credentials based on the operating systems of the images. ○ **Key Pair**: Select an existing key pair or click **Create Key Pair** to create a key pair. For more information, see Create an SSH key pair. ○ **Password**: Enter a password and confirm it. ○ **Set Later**: After the instances are created, bind the key pairs or reset the instance passwords. For more information, see Reset the logon password of an instance.	Set Later
Instance Name	The name of the ECS instance. The name must be 2 to 128 characters in length, and can contain letters, digits, periods (.), underscores (_), colons (:), and hyphens (-). It must start with a letter.	DDH-ecs
Description	Enter a description. The description must be 2 to 256 characters in length and cannot start with `http://` or `https://`.	test
Hostname	Enter a hostname.	ddh-test
Advanced	○ RAM Role: A Resource Access Management (RAM) role must be created for an ECS instance and authorized to access the ECS instance if you want the instance to assume a RAM role. For more information, see Attach an instance RAM role to an ECS instance. ○ User Data: You can configure user data based on your business requirements. For more information, see Overview of ECS instance user data.	Default

8. (Optional)Click **Grouping** and configure the parameters in the **Grouping** step.
   - **Tags**: Each tag consists of a case-sensitive key-value pair. If you have multiple instances, we recommend that you tag the instances for easy identification.
   - **Resource Group**: If you are an enterprise user, and you have activated Resource Management and created resource groups, you can manage instances by using the resource groups. Resource groups allow you to manage cross-region and cross-service resources based on your business requirements and manage the permissions of resource groups. For more information, see What is Resource Management?
9. Click **Preview** to confirm the order.

   Before the ECS instances are created, make sure that the selected configurations such as the use duration meet your requirements.

   i. In the **Configurations Selected** section, confirm the configurations of the ECS instances.

   You can click the icon to modify the configurations.

ii. Configure the use duration of the ECS instances.

- If the billing method of the ECS instances is **Subscription**, you must specify the duration, and specify whether to turn on the **Enable Auto-renewal** switch.

  > **Note** The expiration date of the subscription ECS instances cannot be later than that of the subscription dedicated host.

- If the billing method of the ECS instances is **Pay-As-You-Go**, you can select **Automatic Release** and specify the time to automatically release the instances.

iii. Read and accept the **ECS Terms of Service**.

iv. In the lower part of the page, view the total fees of the ECS instances, confirm the order, and then complete the payment.

Result

After the ECS instances are created, click **Console** in the upper-right corner of the page to go back to the ECS console. On the **Instances** page, select the region where the created ECS instances reside. Then, you can view the instance ID, public IP address, and private IP address of the created instances. To view the information of the dedicated host where each ECS instance is created, perform the following operations: Click the **Column Filters** button. In the Column Filters dialog box, select Dedicated Host and click OK.

> **Note** For more information about **Column Filters**, see Migrate ECS instances between different dedicated hosts in the DDH console.

What's next

- You can build an FTP site on an ECS instance to upload files to the instance. For more information about how to deploy the FTP service, see Build an FTP site on an ECS instance.
- If you have created data disks along with the ECS instances, you can use the data disks only after they are partitioned and formatted. For more information, see Partition and format a data disk on a Linux instance or Partition and format a data disk on a Windows instance.

Related information

- RunInstances

1.3. Lifecycle of dedicated hosts

The lifecycle of a dedicated host starts when it is created and ends when it is released. The status of the dedicated host changes during the lifecycle. This topic describes the statuses of a dedicated host.

The following table lists the statuses of a dedicated host.

Status	Attribute	Description	Visible in the console
Starting	Transitory	After a dedicated host is created, the dedicated host is in the Starting state before its status changes to **Running**. If the dedicated host stays in the Starting state for a long time, an error has occurred.	Yes

Status	Attribute	Description	Visible in the console
Running	Stable	The dedicated host is running. You can create and manage Elastic Compute Service (ECS) instances on the dedicated host.	Yes
Physical Machine Risk	Stable	The dedicated host is available. However, the dedicated host has potential risks and the ECS instances on the dedicated host may fail. You can migrate the dedicated host to another dedicated host. For more information, see Migrate a dedicated host with hidden failures.	Yes
Error	Stable	An error has occurred on the dedicated host. You can submit a ticket to report and resolve the error.	Yes
Expired	Stable	When a subscription dedicated host expires, it is in the Expired state. After you renew the dedicated host, its status changes from Expired to **Running**. For more information, see Manually renew a dedicated host.	Yes
Released	Stable	When a subscription dedicated host is released due to expiration, its status changes to Released. All the resources of the dedicated host become unavailable. For more information, see Subscription.	No

1.4. View and import the information of a dedicated host

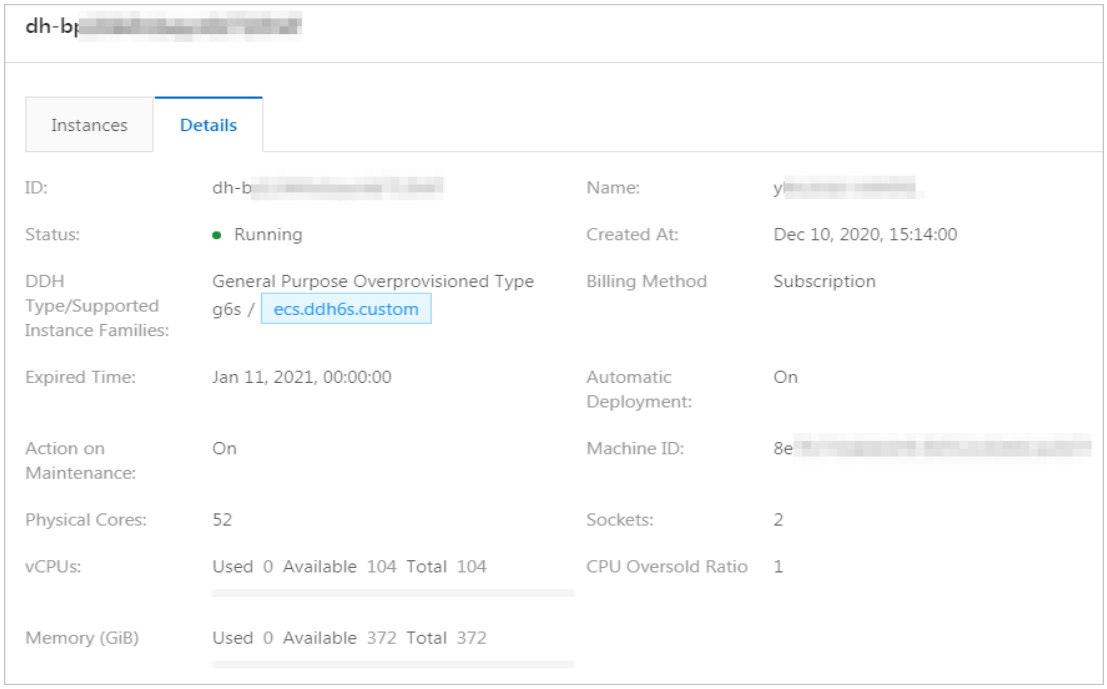
This topic describes how to view and export the information of a dedicated host. The information includes the resource usage of the dedicated host and the information of the Elastic Compute Service (ECS) instances that run on the dedicated host.

View the information of a dedicated host

On the **DDH Details** tab, you can view the information of a dedicated host, including the ID, name, billing method, machine ID, and the number of physical CPU cores.

1.
2.
3.
4. On the **Dedicated Hosts** page, click the **Dedicated Host** tab.
5. Find the dedicated host that you want to view and click **Details** in the **Actions** column.
6. In the panel that appears, view the information of the dedicated host.
   - If you want to view the ECS instances that run on the dedicated host, click the **Instances** tab.
   - If you want to view the properties of the dedicated host, click the **Details** tab.

The properties of the dedicated host include whether to enable automatic deployment, whether to enable automatic migration, vCPU usage, and memory usage, as shown in the following figure.



Export the information of a dedicated host

You can export a list of all dedicated hosts in a region for backup. You can also save the information as a report. The information includes the host type, vCPU usage, and memory usage.

1.
2.
3.
4. On the **Dedicated Host** tab, click the icon to export a list of dedicated hosts.

   The list of dedicated hosts is saved in a *CSV* file, for example, *ecs_dedicatedHost_list_cn-hangzhou_2020-07-29.csv*.

Related information

- DescribeDedicatedHosts

1.5. View the host where an ECS instance resides

Elastic Compute Service (ECS) instances can run on dedicated hosts or shared hosts. ECS instances can be migrated between a dedicated host and a shared host, or between two dedicated hosts. This topic describes how to view the host where an ECS instance resides.

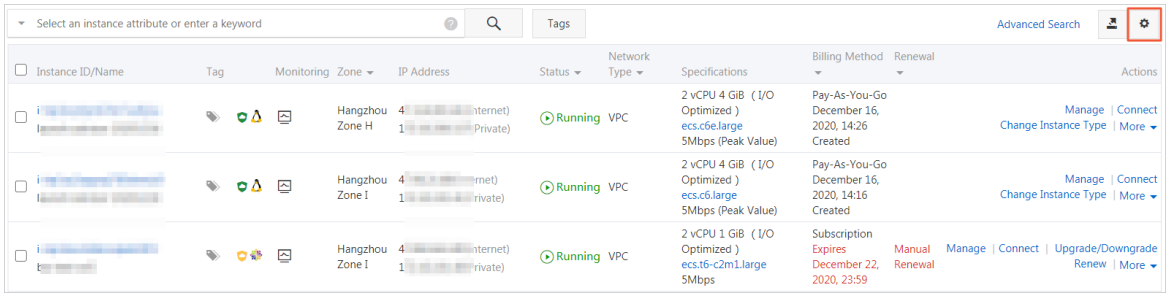
Procedure

1.

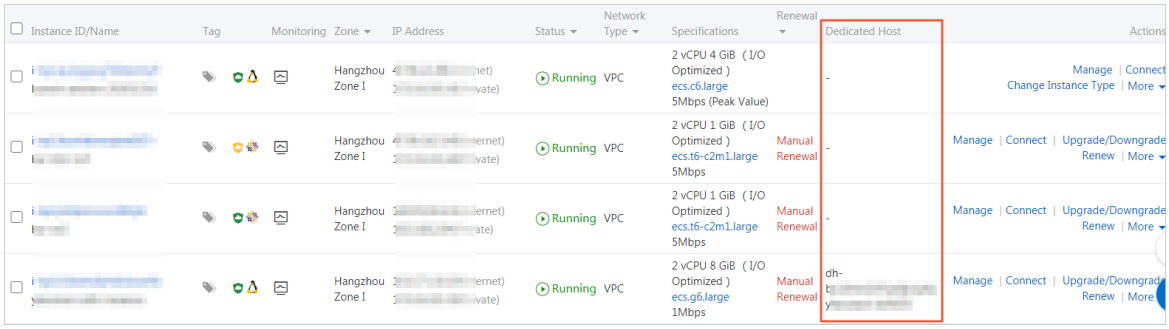
2.

3.

4. On the Instances page, click the icon.



5. In the **Column Filters** dialog box, select **Dedicated Host** and click **OK**.
6. In the **Dedicated Host** column, view the host on which the ECS instance resides.
   - If the ID and name of a dedicated host are displayed, the ECS instance is running on the dedicated host.
   - If - is displayed, the ECS instance is running on a shared host.



Related information

- DescribeInstances
- 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

1.6. Enable automatic deployment

If you enable automatic deployment for a dedicated host, the dedicated host is added to the resource pool of your Alibaba Cloud account for automatic deployment. When you create an Elastic Compute Service (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. This improves deployment flexibility.

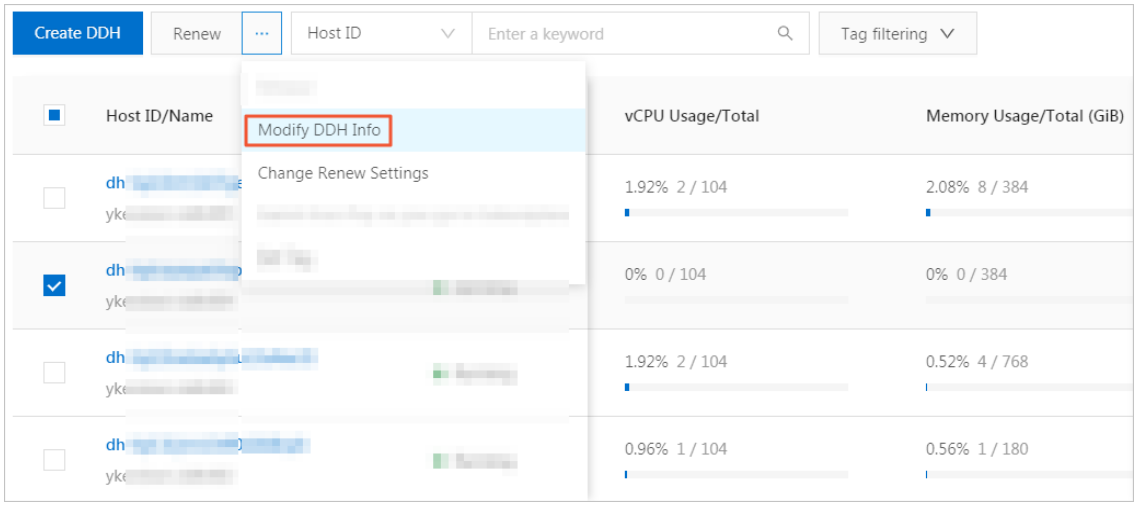
Context

Alibaba Cloud provides the following methods to deploy an ECS instance on a dedicated host:

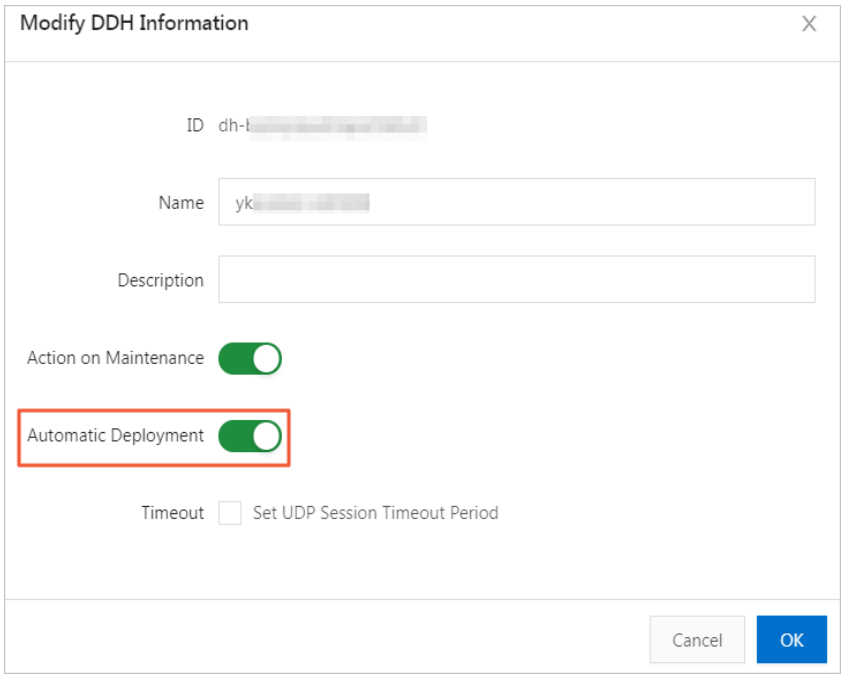
- Enable automatic deployment for the ECS instance. The system then selects a dedicated host from the resource pool to deploy the instance. For more information, see Automatic deployment.
- Specify a dedicated host when you create the instance. For more information, see Create one or more ECS instances on a dedicated host.

Procedure

1.
2.
3.
4. Select the dedicated host. On the Dedicated Host tab, choose ··· > **Modify DDH Info**.



5. In the **Modify DDH Info** dialog box, enable **Automatic Deployment**.



6. Click **OK**.

Related information

- ModifyDedicatedHostAttribute

1.7. Configure auto failover

The auto failover feature allows you to migrate the Elastic Compute Service (ECS) instances deployed on a dedicated host if the dedicated host fails. The feature minimizes the impact of physical failures on your business. This topic describes how to enable or disable auto failover for a dedicated host.

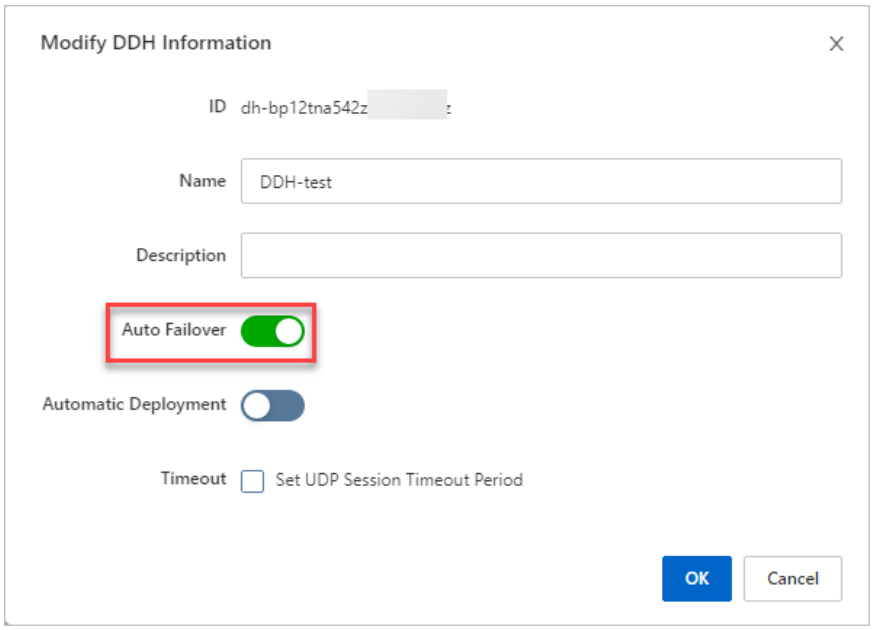
Context

After the auto failover feature is enabled for a dedicated host, the ECS instances on the dedicated host are migrated to another host if the dedicated host fails. If the auto failover feature is disabled and your dedicated host fails, you can submit a ticket to apply for a new dedicated host.

> Note

Procedure

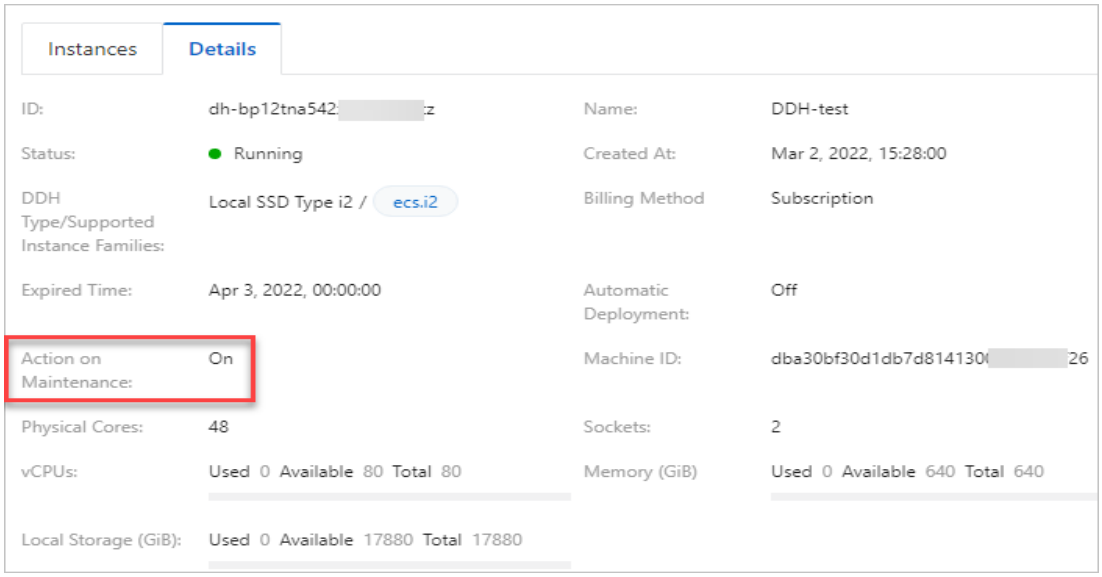
1.
2.
3.
4. Find the dedicated host that you want to modify. In the **Host ID/Name** column, move the pointer over the name or ID of the dedicated host. Click the icon next to the name of the dedicated host.
5. In the **Modify DDH Information** dialog box, click to turn on or turn off **Auto Failover**.



6. Click **OK**.

Result

On the Dedicated Host tab, find the dedicated host and click **Details** in the **Actions** column. On the **Details** tab of the panel that appears, make sure that the **Action on Maintenance** parameter is specified as expected.



1.8. Configure the CPU overcommit ratio

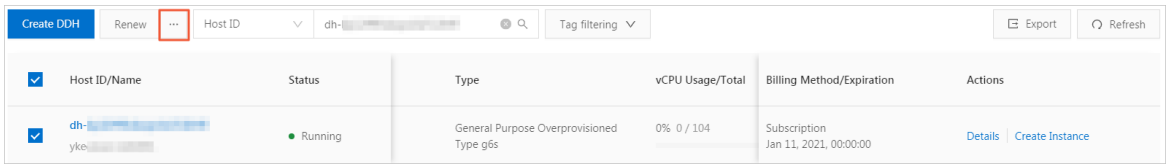
In scenarios where low CPU stability is required or the CPU load is not heavy, you can increase the CPU overcommit ratio of a dedicated host. This way, you can increase the number of available vCPUs on the dedicated host. You can also deploy more ECS instances on the dedicated host and reduce the deployment cost.

Prerequisites

- The instance type of the dedicated host can be customized. These instance types include g6s, c6s, and r6s. You can configure the CPU overcommit ratio only for custom instance types, such as g6s, c6s, and r6s. For more information, see Dedicated host types.
- All the ECS instances on the dedicated host are in the **Stopped** state.

Procedure

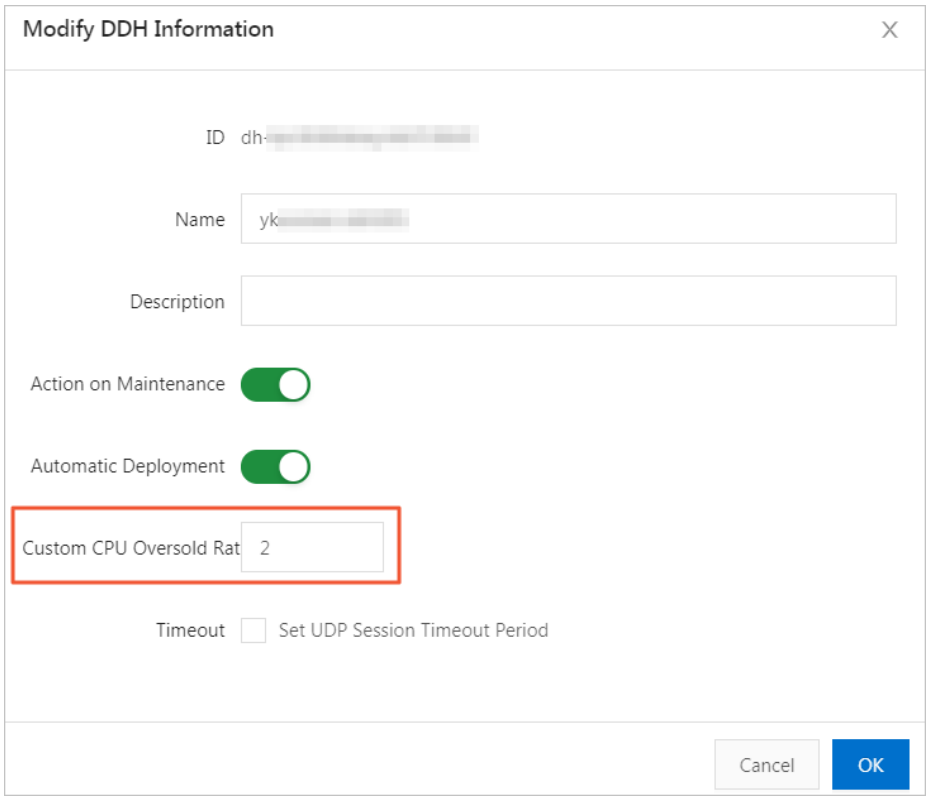
1.
2.
3.
4. Select the dedicated host for which you want to configure the CPU overcommit ratio. On the Dedicated Host tab, choose ··· >**Modify DDH Info**.



5. In the **Modify DDH Information** dialog box, specify the CPU overcommit ratio.

   Valid values of the Custom CPU Oversold Ratio parameter ranges from 1 to 5. The number of available vCPUs of a dedicated host is calculated based on the following formula: Number of available vCPUs of a dedicated host = Number of CPU cores × 2 × CPU overcommit ratio. For example, the number of physical CPU cores on each g6s dedicated host is 52. If you set the CPU overcommit ratio of a g6s dedicated host to 2, the number of available vCPUs on the dedicated

host is 208.



6. Click **OK**.

Related information

- ModifyDedicatedHostAttribute

1.9. Associate an ECS instance with a dedicated host

You can stop an ECS instance and release the CPU and memory resources. If you want the instance to be still deployed on the original dedicated host when you restart the instance, you can associate the instance with the dedicated host. This topic describes how to associate an ECS instance with a dedicated host.

Prerequisites

Make sure that you have created an ECS instance on a dedicated host. For more information, see Create one or more ECS instances on a dedicated host.

Procedure

1.
2.
3.
4. Select the target ECS instance. In the **Actions** column, choose **More > Instance Settings > Modify DDH Deployment**.

5. In the **Modify DDH Deployment** dialog box, from the **Associate with DDH** list, select **Yes**.

   Once the ECS instance is associated with the dedicated host, if the instance is stopped with its computing resources released, the restarted instance is still deployed on the dedicated host. If the available resources of the dedicated host are insufficient, the instance fails to be restarted. For more information about associating a host, see Host association.

6. Click **OK**.

Result

In the **Associate with DDH** column of the instance, the value is changed to **Yes**. You can view the results by performing the following steps:

1. In the left-side navigation pane, choose **Dedicated Hosts**.
2. Select the dedicated host where the target ECS instance resides. In the **Operations** column, click **Details**.
3. In the **Instances** list, select the target ECS instance and check the **Associate with DDH** column.

2.Migrate ECS instances

2.1. Migrate ECS instances between different dedicated hosts in the DDH console

You can migrate Elastic Compute Service (ECS) instances between different dedicated hosts that belong to your Alibaba Cloud account to flexibly deploy your business. This topic describes how to migrate ECS instances between different dedicated hosts in the Dedicated Host (DDH) console.

Prerequisites

- The ECS instance that your want to migrate is stopped. For more information, see Stop an instance.

  > **Notice** If you stop an ECS instance, your business is interrupted. Proceed with caution.

- The destination dedicated host must meet the following requirements:
  - The dedicated host and the ECS instance belong to the same account, region, and zone.
  - The available resources of the dedicated host meet the requirements of the ECS instance. For information about how to view the available resources of a dedicated host, see View and import the information of a dedicated host.
  - The dedicated host supports the instance family of the ECS instance. For more information, see Dedicated host types.

    > **Note** You cannot migrate an ECS instance attached with a local SSD to a local SSD dedicated host.

  - If the dedicated host and ECS instance use the subscription billing method, the instance expires earlier than the dedicated host.

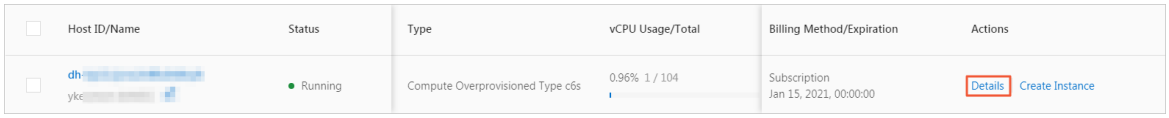
    You can also run pay-as-you-go ECS instances on a subscription dedicated host.

Context

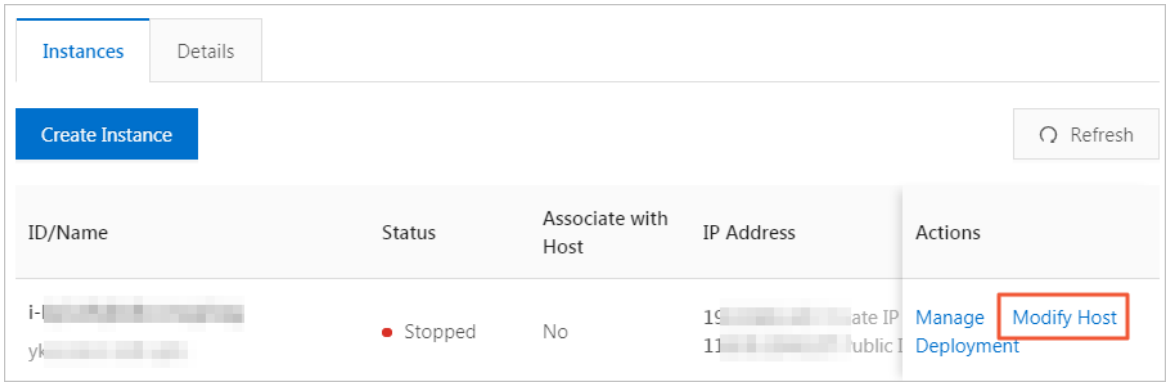
You can migrate the custom ECS instances of the ecs.ddh6s.custom type only to custom dedicated hosts, such as g6s, c6s, and r6s.

Procedure

1.
2.
3.
4. On the **Dedicated Hosts** page, find the dedicated host on which the ECS instance resides, and then click **Details** in the **Actions** column.

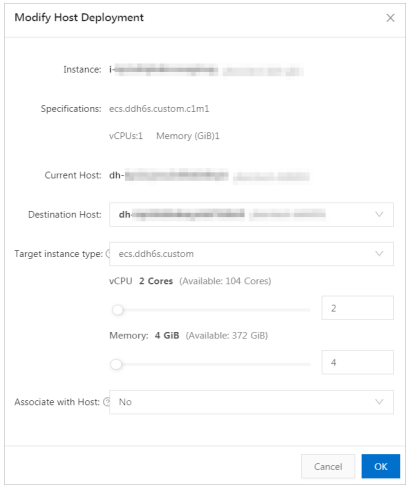
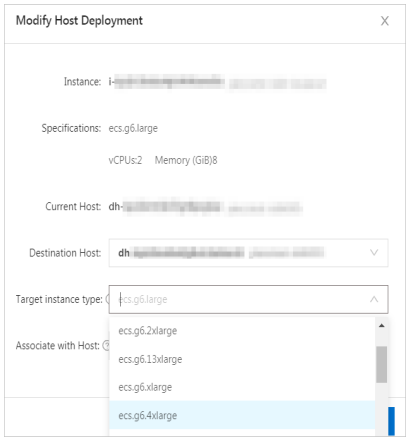


5. Find the ECS instance that you want to migrate, and click **Modify Host Deployment** in the **Actions** column.



6. In the **Modify Host Deployment** dialog box, set the parameters as needed.

Parameter	Description
Destination Host	Select the dedicated host to which you want to migrate the ECS instance from the Destination Host drop-down list. **Note** If no dedicated host meets the requirements to host your ECS instance, the Destination Host drop-down list is empty.

Parameter	Description
Target Instance Type	You can change the instance type when you migrate the ECS instance. The supported instance types depend on the specifications of the dedicated host. ○ If you want to migrate the ECS instance to a custom dedicated host, such as g6s, c6s, or r6s, the type of the destination instance can only be **ecs.ddh6s.custom**. You can adjust the slider to specify the number of vCPUs and the memory size. The minimum scaling step size of vCPUs is 1. If more than one vCPU is required, you must set this parameter to an even number, for example, 2 or 4. The minimum scaling step size of the memory is 1 GiB.  ○ If you want to migrate the ECS instance to a dedicated host except for g6s, c6s, and r6s, available instance types are listed in the Target Instance Type drop-down list. 

Parameter	Description
Associate with Host	Select whether to associate the instance with the dedicated host. ○ **Yes**: The ECS instance is associated with the dedicated host. After the instance is stopped and computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has insufficient available resources, the instance fails to be restarted. ○ **No**: The ECS instance is not associated with the dedicated host. After the instance is stopped and computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has insufficient available resources, the system selects a dedicated host from the pool of dedicated hosts that allow automatic deployment.
Migration Method	Valid value: **Zero-downtime Migration**. The ECS instance that you want to migrate must be in the **Stopped** state.

7. Click **OK**.

   After the migration is complete, the ECS instance automatically starts and enters the **Running** state. You can check whether the ECS instance is running on the destination dedicated host on the details page of the host.

Related information

- ModifyInstanceDeployment

2.2. Migrate ECS instances between different dedicated hosts in the ECS console

You can migrate Elastic Compute Service (ECS) instances between different dedicated hosts that belong to your Alibaba Cloud account to flexibly deploy your business. This topic describes how to migrate ECS instances between different dedicated hosts in the ECS console.

Prerequisites

- The ECS instance that your want to migrate is stopped. For more information, see Stop an instance.

  > **Notice** If you stop an ECS instance, your business is interrupted. Proceed with caution.

- The destination dedicated host must meet the following requirements:
  - The dedicated host and the ECS instance belong to the same account, region, and zone.
  - The available resources of the dedicated host meet the requirements of the ECS instance. For information about how to view the available resources of a dedicated host, see View and import the information of a dedicated host.

- The dedicated host supports the instance family of the ECS instance. For more information, see Dedicated host types.

  > **Note** You cannot migrate an ECS instance attached with a local SSD to a local SSD dedicated host.

- If the dedicated host and ECS instance use the subscription billing method, the instance expires earlier than the dedicated host.

  You can also run pay-as-you-go ECS instances on a subscription dedicated host.

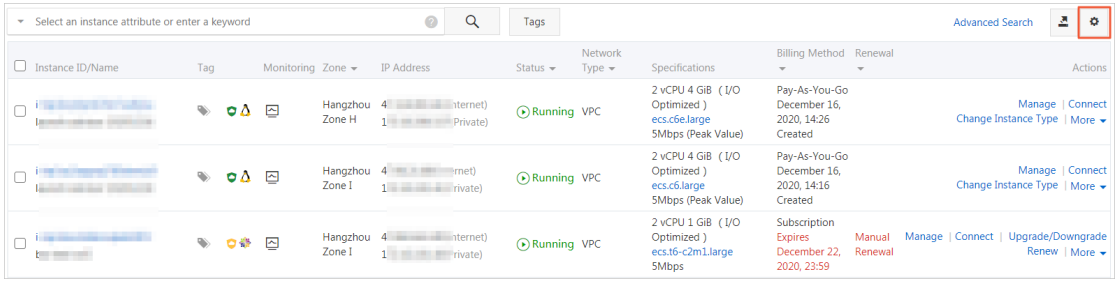
Context

You can migrate the custom ECS instances of the ecs.ddh6s.custom type only to custom dedicated hosts, such as g6s, c6s, and r6s.

Procedure

1.
2.
3.
4. (Optional)on the **Instances** page, find the dedicated host on which the ECS instance resides.

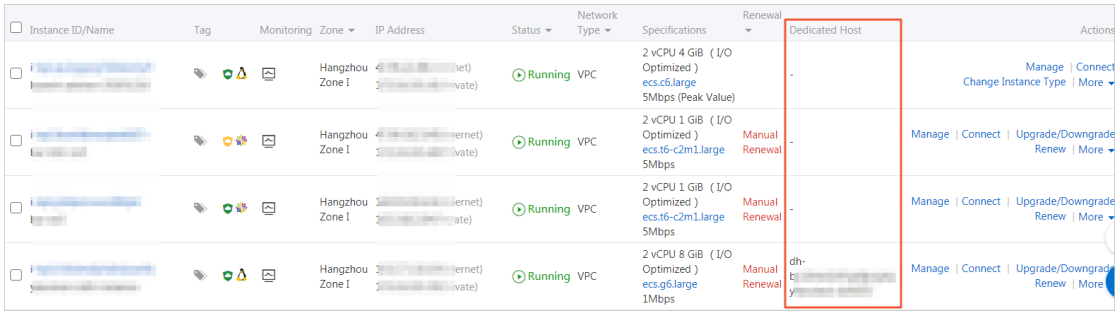
   i. In the upper-right corner of the page, click the icon.

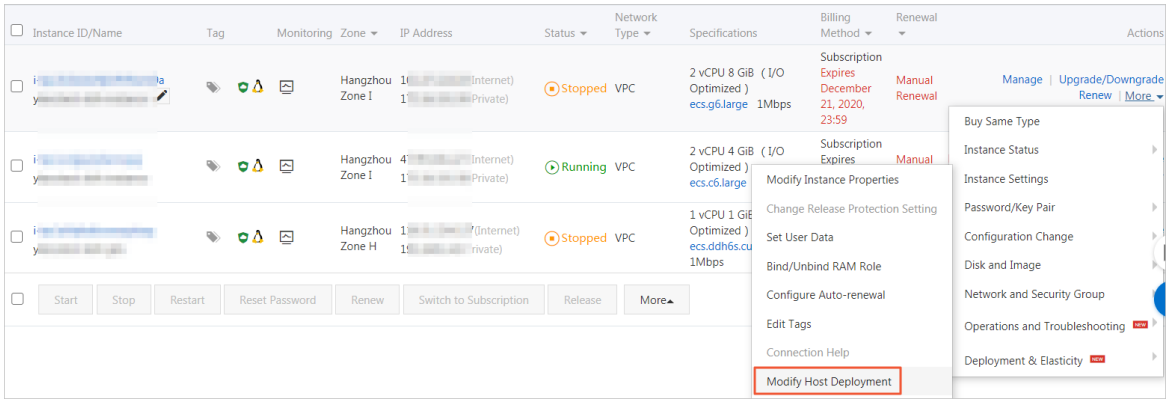
   ii. Select **Dedicated Host**, and then click **OK**.

   iii. In the **Dedicated Host** column, view the host on which the ECS instance resides.

   - If the ID and name of a dedicated host are displayed, the ECS instance is running on the dedicated host.
   - If - is displayed, the ECS instance is running on a shared host.

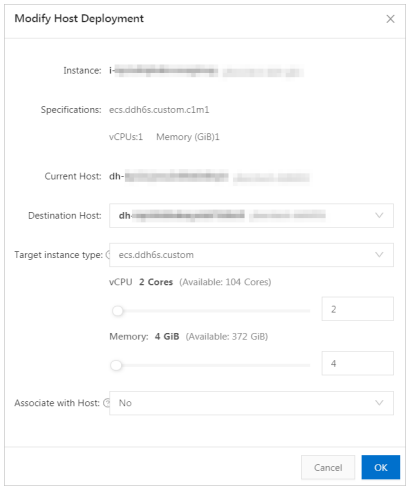
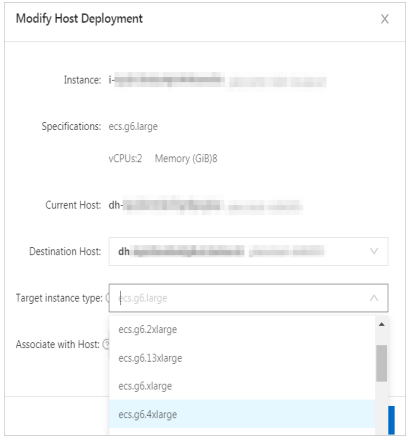
   

5. Select the ECS instance that you want to migrate. In the **Actions** column, choose **More** > **Instance Settings** > **Modify Host Deployment**.



6. In the **Modify Host Deployment** dialog box, set the parameters as needed.

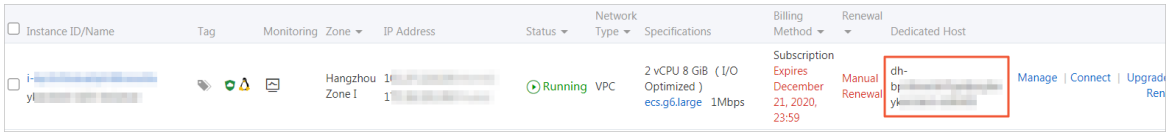
Parameter	Description
Destination Host	Select the dedicated host to which you want to migrate the ECS instance from the Destination Host drop-down list. **Note** If no dedicated host meets the requirements to host your ECS instance, the Destination Host drop-down list is empty.

Parameter	Description
Target Instance Type	You can change the instance type when you migrate the ECS instance. The supported instance types depend on the specifications of the dedicated host. ○ If you want to migrate the ECS instance to a custom dedicated host, such as g6s, c6s, or r6s, the type of the destination instance can only be **ecs.ddh6s.custom**. You can adjust the slider to specify the number of vCPUs and the memory size. The minimum scaling step size of vCPUs is 1. If more than one vCPU is required, you must set this parameter to an even number, for example, 2 or 4. The minimum scaling step size of the memory is 1 GiB.  ○ If you want to migrate the ECS instance to a dedicated host except for g6s, c6s, and r6s, available dedicated hosts are listed in the Target Instance Type drop-down list. 

Parameter	Description
Associate with Host	Select whether to associate the instance with the dedicated host. ○ **Yes**: The ECS instance is associated with the dedicated host. After the instance is stopped and computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has insufficient available resources, the instance fails to be restarted. ○ **No**: The ECS instance is not associated with the dedicated host. After the instance is stopped and the computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has no sufficient available resources, the system selects a dedicated host from the pool of dedicated hosts that allow automatic deployment.
Hot Migration	Valid value: **Zero-downtime Migration**. The ECS instance that you want to migrate must be in the **Stopped** state.

7. Click **OK**.

   Refresh the **Instances** page to check whether the ID and name of the destination dedicated host are displayed in the **Dedicated Host** column.



Related information

- ModifyInstanceDeployment

2.3. Migrate an ECS instance from a shared host to a dedicated host

You can migrate an Elastic Compute Service (ECS) instance from a shared host to a dedicated host. This allows you to flexibly deploy your business.

Prerequisites

- The ECS instance that you want to migrate must meet the following requirements:
  - The ECS instance is stopped. This is because you can migrate an ECS instance only after you stop it. For more information, see Stop an instance.

    Notice If you stop an ECS instance, your business is interrupted. Proceed with caution.

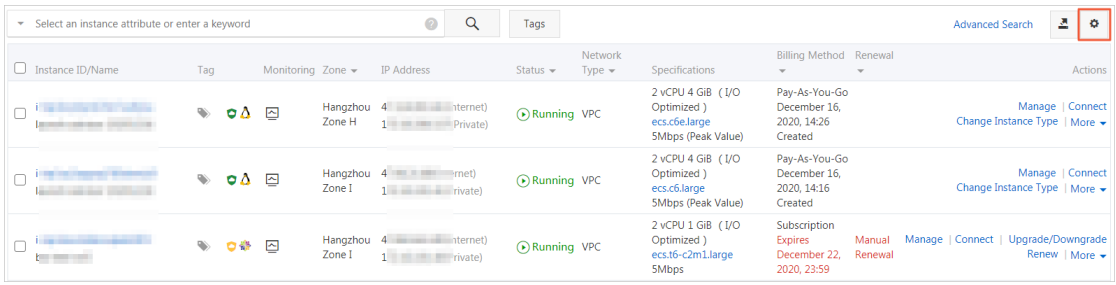
  - The billing method of the ECS instance is pay-as-you-go. You cannot migrate subscription instances or preemptible instances. To migrate subscription instances, you must change the billing method to pay-as-you-go. For more information, see Change the billing method of an instance from subscription to pay-as-you-go.
- The dedicated host must meet the following requirements:
  - The dedicated host and the ECS instance belong to the same account, region, and zone.

- The available resources of the dedicated host meet the requirements of the ECS instance. For information about how to view the available resources of a dedicated host, see View and import the information of a dedicated host.
- The dedicated host supports the instance family of the ECS instance. For more information, see Dedicated host types.

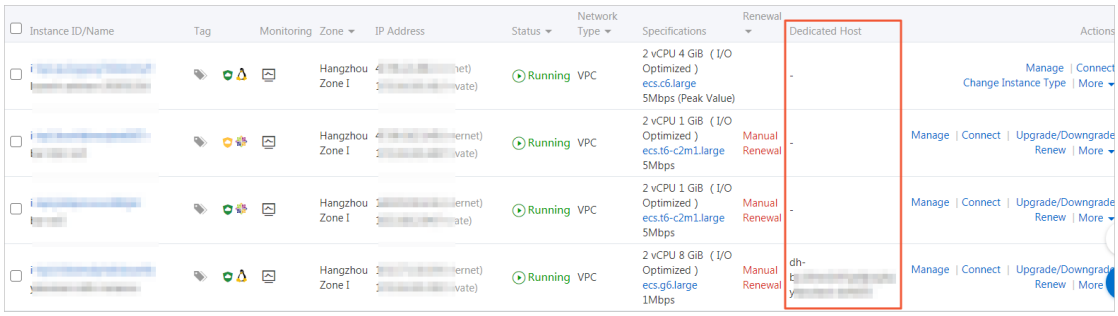
> **Note** You cannot migrate an ECS instance attached with a local SSD to a local SSD dedicated host.

Procedure

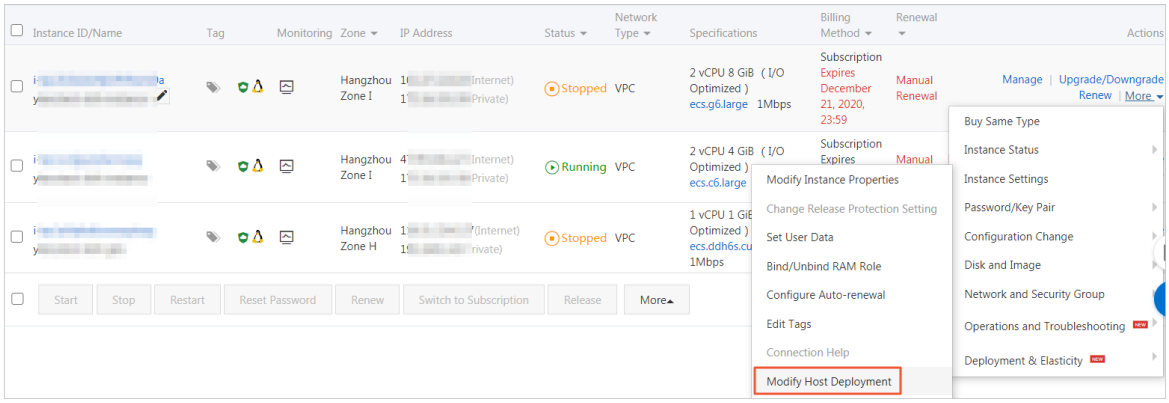
1.
2.
3.
4. (Optional)on the **Instances** page, find the dedicated host on which the ECS instance resides.
   i. In the upper-right corner of the page, click the icon.



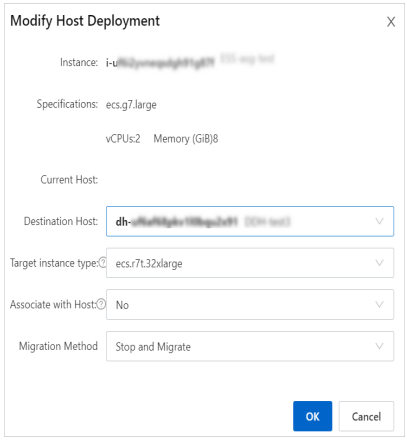
   ii. Select **Dedicated Host**, and then click **OK**.
   iii. In the **Dedicated Host** column, view the host on which the ECS instance resides.
      - If the ID and name of a dedicated host are displayed, the ECS instance is running on the dedicated host.
      - If - is displayed, the ECS instance is running on a shared host.



5. Select the ECS instance that you want to migrate. In the **Actions** column, choose **More > Instance Settings > Modify Host Deployment**.



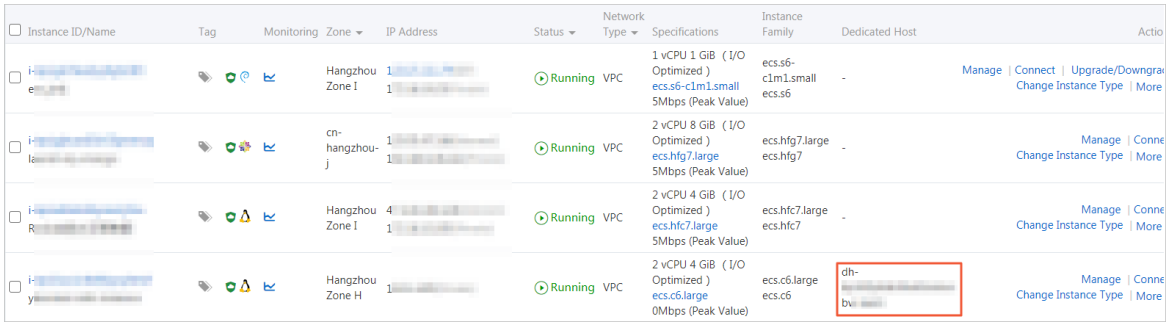
6. In the **Modify Host Deployment** dialog box, set the required parameters.

Parameter	Description
Destination Host	Select the dedicated host to which you want to migrate the ECS instance from the Destination Host drop-down list. **Note** If no dedicated host meets the requirements to host your ECS instance, the Destination Host drop-down list is empty.
Target Instance Type	You can change the instance type when you migrate the ECS instance. The supported instance types depend on the specifications of the dedicated host. 
Associate with Host	Select whether to associate the instance with the dedicated host. ○ **Yes**: The ECS instance is associated with the dedicated host. After the instance is stopped and computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has insufficient available resources, the instance fails to be restarted. ○ **No**: The ECS instance is not associated with the dedicated host. After the instance is stopped and the computing resources are released, the instance is still deployed on the dedicated host when it is restarted. If the dedicated host has no sufficient available resources, the system selects a dedicated host from the pool of dedicated hosts that allow automatic deployment.

Parameter	Description
Hot Migration	Valid value: **Zero-downtime Migration**. The ECS instance that you want to migrate must be in the **Stopped** state.

7. Click **OK**.

   Refresh the **Instances** page to check whether the ID and name of the destination dedicated host are displayed in the **Dedicated Host** column.



Related information

- ModifyInstanceDeployment

2.4. Migrate an ECS instance from a dedicated host to a shared host

You can migrate an Elastic Compute Service (ECS) instance from a dedicated host to a shared host. This allows you to flexibly deploy your business.

Prerequisites

The ECS instance that you want to migrate must meet the following requirements:

- The ECS instance is stopped. This is because you can migrate an ECS instance only after you stop it. For more information, see Stop an instance.

  > **Notice** If you stop an ECS instance, your business is interrupted. Proceed with caution.

- You are billed for the ECS instance based on the pay-as-you-go billing method. To migrate subscription instances, you must change the billing method to pay-as-you-go. For more information, see Change the billing method of an instance from subscription to pay-as-you-go.
- The dedicated host is not a local SSD host.

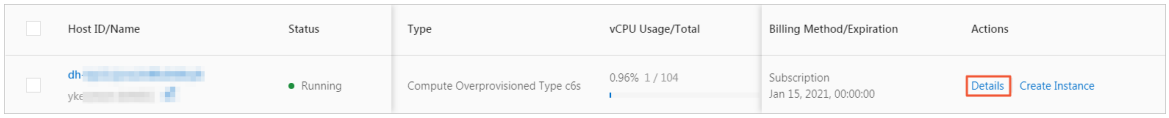
Context

After you migrate an ECS instance from a dedicated host to a shared host, you are charged for the vCPUs, memory, and local disks. The costs of these resources are no longer included in DDH bills. Make sure that your account has sufficient balance. For more information, see Pay-as-you-go.

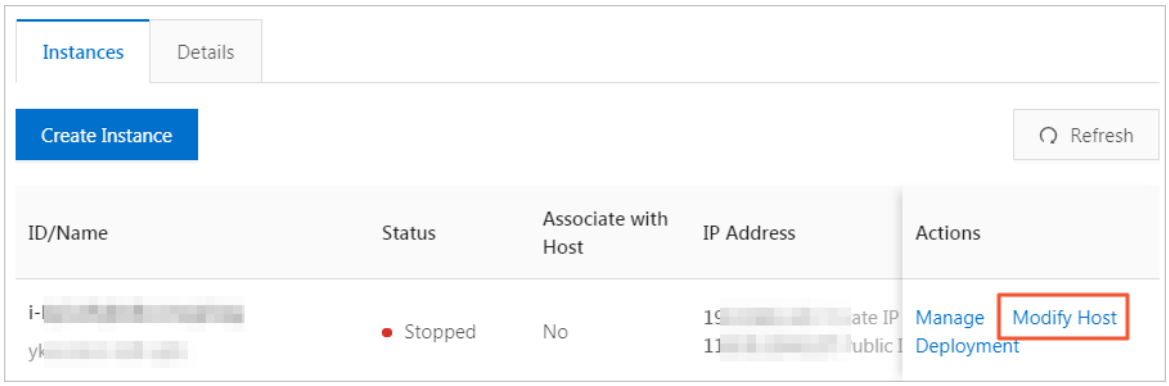
Procedure

1.

2.
3.
4. On the **Dedicated Hosts** page, find the dedicated host on which the ECS instance resides, and then click **Details** in the **Actions** column.

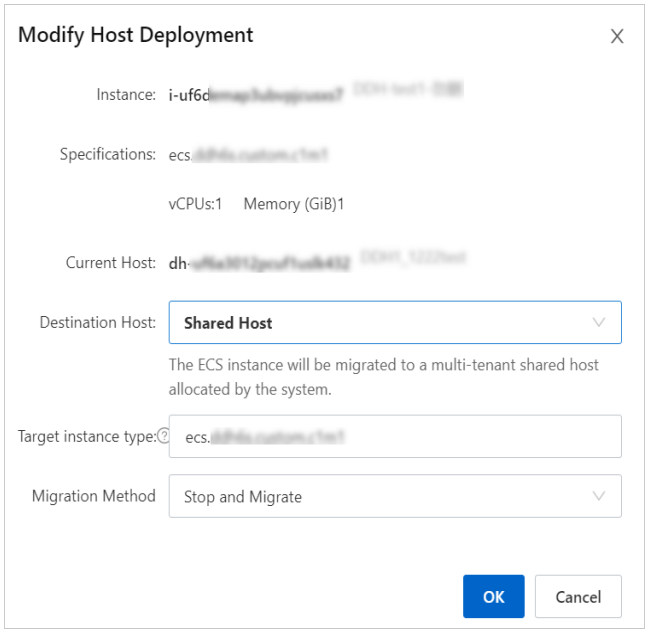


5. Find the ECS instance that you want to migrate, and click **Modify Host Deployment** in the **Actions** column.



6. In the **Modify Host Deployment** dialog box, set the required parameters.

Parameter	Description
Destination Host	Select **Shared Host**.
Target Instance Type	Enter an instance type, for example, ecs.g6.large. For more information, see Instance family. The destination instance type must meet the following requirements. This ensures the success of the migration. ○ The source instance type can be changed to the destination instance type. For more information, see Instance families that support instance type changes. ○ The destination instance type is available in the zone where the dedicated host resides.
Migration Method	Valid value: **Zero-downtime Migration**. The ECS instance that you want to migrate must be in the **Stopped** state.

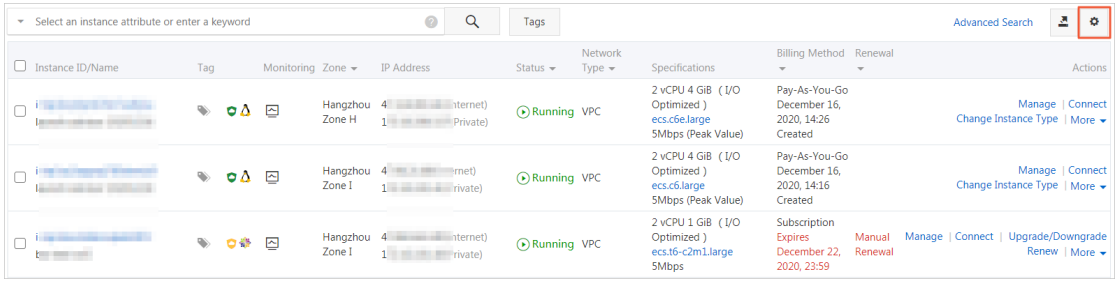


7. Click **OK**.

   After the migration is complete, the ECS instance automatically starts and enters the **Running** state.

8. (Optional)on the **Instances** page, find the dedicated host on which the ECS instance resides.

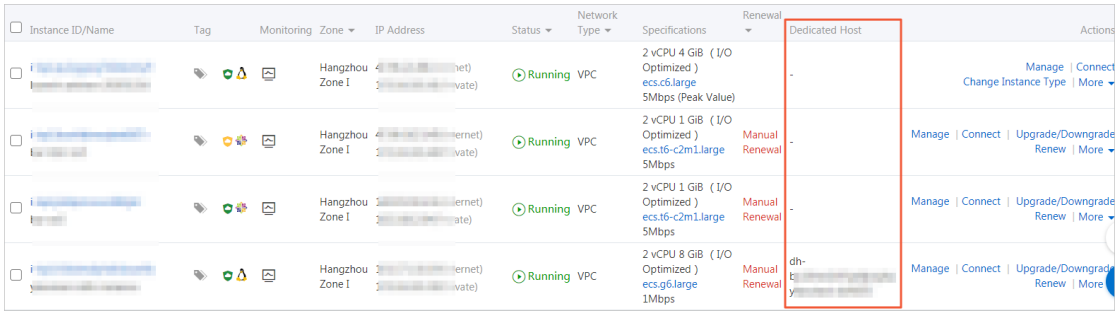
   i. In the upper-right corner of the page, click the icon.



   ii. Select **Dedicated Host**, and then click **OK**.

   iii. In the **Dedicated Host** column, view the host on which the ECS instance resides.

   - If the ID and name of a dedicated host are displayed, the ECS instance is running on the dedicated host.
   - If - is displayed, the ECS instance is running on a shared host.



Related information

- ModifyInstanceDeployment

3.Manage renewals

3.1. Configure auto-renewal

To prevent a subscription dedicated host from being accidentally released, you can enable auto-renewal for the dedicated host. After you enable auto-renewal, the system automatically renews the dedicated host at the specified time. You can disable the auto-renewal feature if necessary. This topic describes how to enable and disable auto-renewal.

Prerequisites

The subscription dedicated host is not in the **Expired** state. For more information, see Lifecycle of dedicated hosts.

Context

If you enable auto-renewal for a dedicated host, fees are deducted from your credit card or PayPal account on the expiration date. If fees fail to be deducted, the system attempts to deduct the fees 6 days and 14 days after the expiration date until the renewal is successful. However, if the renewal fails all three times, the dedicated host is stopped.

The billing cycle of a subscription dedicated host depends on the subscription duration that you selected when you purchased the dedicated host:

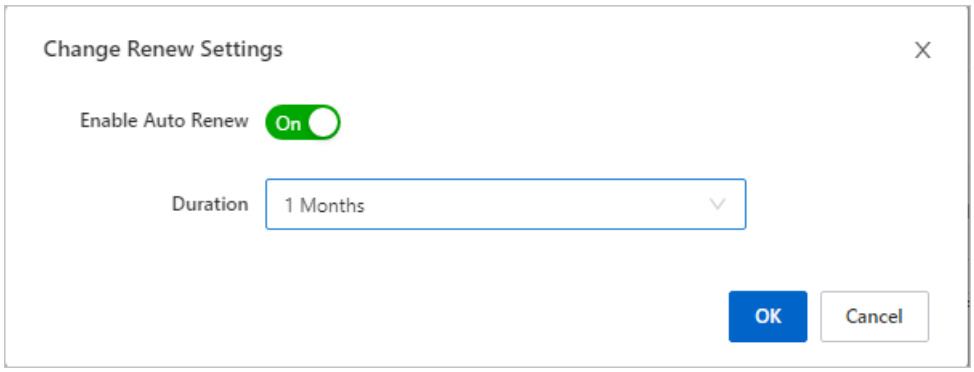
- If a dedicated host is purchased on a yearly basis, its billing cycle is one year.
- If a dedicated host is purchased on a monthly basis, its billing cycle is one month.
- If a dedicated host is purchased on a weekly basis, its billing cycle is one week.

Procedure

You can enable auto-renewal when you create a dedicated host. For more information, see Create a dedicated host. You can also enable or disable auto-renewal after you create a dedicated host. To enable or disable auto-renewal for a dedicated host, perform the following steps:

1.
2.
3.
4. Select the dedicated host that you want to modify. Move the pointer over the ... icon next to **Renew** and click **Set Auto Renewal**.
5. In the **Set Auto Renewal** dialog box, turn on or turn off Enable Auto Renew based on your needs.
   - Enable auto-renewal

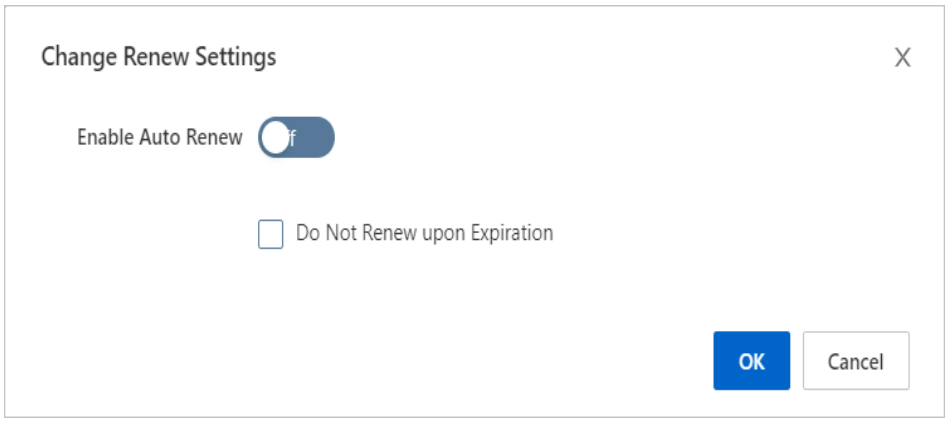
a. Turn on **Enable Auto Renew**.



b. Select an auto-renewal duration from the **Duration** list.

- Disable auto-renewal

a. Turn off **Enable Auto Renew**.



b. (Optional)Select **Do Not Renew upon Expiration**.

6. Click **OK**.

3.2. Manually renew a dedicated host

If a subscription dedicated host is not renewed within a specified period after it expires, it is stopped and automatically released. This topic describes how to manually renew a dedicated host.

Context

If a subscription dedicated host that expires is not renewed before the end of the expiration grace period, it is stopped and automatically released. For more information, see Subscription.

Procedure

1.
2.
3.
4. Select the dedicated host that you want to renew and click **Renew**.
5. On the **Renew** page, perform the following steps:
   i. Select a duration.

ii. Read and agree to the **Dedicated Host Terms of Service**.

iii. Click **Create Order**.

6. On the page that appears, complete the payment as prompted.

4.O&M and management

4.1. Monitor a dedicated host

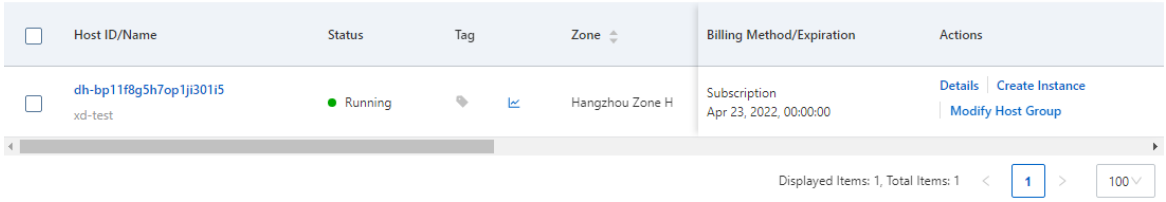
You can view the resource usage of a dedicated host and configure alert rules in the CloudMonitor console. This allows you to monitor the status of a dedicated host.

Context

CloudMonitor allows you to monitor the metrics of Alibaba Cloud services, detect the availability of services, and configure alert rules for specified metrics. This way, you can monitor the usage of your Alibaba Cloud services and the status of your services. You can also resolve alerts at the earliest opportunity to ensure the availability of your applications. For more information, see What is CloudMonitor? .

View the resource usage of a dedicated host

1.
2.
3.
4. On the **Dedicated Hosts** page, click the icon next to the dedicated host. You are redirected to the CloudMonitor console.



5. View the resource usage of a dedicated host.

   You can view the monitoring data of the last 30 days. CloudMonitor monitors the computing, networking, and storage resources of a dedicated host. The following table describes the metrics.

Resource	Metric	Unit	Description
Computing	UserCpuUtilization	%	The average CPU utilization of all the ECS instances on a dedicated host
	UserNetworkRxPPS	pps	The sum of inbound packets of all the ECS instances on a dedicated host per second
	UserNetworkTxPPS	pps	The sum of outbound packets of all the ECS instances on a dedicated host per second

Networking Resource	Metric	Unit	Description
	UserNetworkRxBandwidth	bit/s	The total inbound bandwidth of all the ECS instances on a dedicated host per second
	UserNetworkTxBandwidth	bit/s	The total outbound bandwidth of all the ECS instances on a dedicated host per second
Storage	UserDiskReadIOPS	IOPS	The total number of requests that read data from the disks of all the ECS instances on a dedicated host
	UserDiskWriteIOPS	IOPS	The total number of requests that write data to the disks of all the ECS instances on a dedicated host
	UserDiskReadBPS	Byte/s	The total number of bytes that are read from the disks of all the ECS instances on a dedicated host
	UserDiskWriteBPS	Byte/s	The total number of bytes that are written to the disks of all the ECS instances on a dedicated host

Create an alert rule for a dedicated host

You must create alert contacts and alert contact groups before you create alert rules. For more information, see Create an alert contact or alert contact group.

1. Move the pointer over the metric for which you want to create an alert rule. Click the icon in the upper-right corner.
2. Associate an alert rule with a dedicated host.

   By default, the current dedicated host is associated with the alert rule. However, you can change the associated dedicated host.

   - To associate the alert rule with other dedicated hosts, select a region from the **Region** list. Then, select one or more dedicated hosts from the **Dedicated Host** list.
   - To associate the alert rule with all dedicated hosts, select **All Resources** from the **Resource Range** list.
3. Configure the alert rule.

The following table describes the parameters of a sample alert rule.

Parameter	Example	Description
Rule Name	ddhxxx-cpu	The alert rule monitors the average CPU usage of all the ECS instances on the dedicated host.
Rule Description	○ UserCpuUtilization ○ 1Minute cycle ○ Continue for three cycles ○ Value ○ >= ○ 80%	If the average CPU utilization of all the ECS instances on the dedicated host is greater than or equal to 80% for three consecutive 1-minute cycles, an alert is triggered.
Mute For	30 minutes	If the alert conditions are still met 30 minutes after the first alert, another alert notification is sent.
Effective Period	19:00 to 20:59	Specifies whether to trigger alerts only between 19:00 and 20:59.

4. Configure a notification method.
   i. Select a contact group from the **Contact Group** list. Click  . The selected contact group is displayed in the **Selected Groups** list.
   ii. Select an alert level.

   The alert level determines the notification method. The following three alert levels are supported:

   - Critical. If a critical alert occurs, a notification is sent to specified recipients by using a voice call, text message, DingTalk message, and an email.
   - Warning. If a warning alert occurs, a notification is sent to specified recipients by using a text message, DingTalk message, and an email.
   - Info. If an info alert occurs, a notification is sent to specified recipients by using an email and a DingTalk message.

iii. Set other optional parameters.

The following parameters are optional:

- **Auto Scaling**: Specify a scaling rule that is automatically executed when an alert is triggered.
- **Log Service**: Specify a region, project, and Logstore. If an alert is triggered, the alert information is written to the Logstore.
- **Email Subject**: The default email subject is Product Name + Metric Name + Instance ID.
- **Email Remark**: Enter the email description.
- **HTTP CallBack**: Enter a URL that is accessible from the Internet. CloudMonitor sends HTTP POST requests to push alert messages to this URL.

For more information, see Create an alert rule.

4.2. Migrate a dedicated host with hidden failures

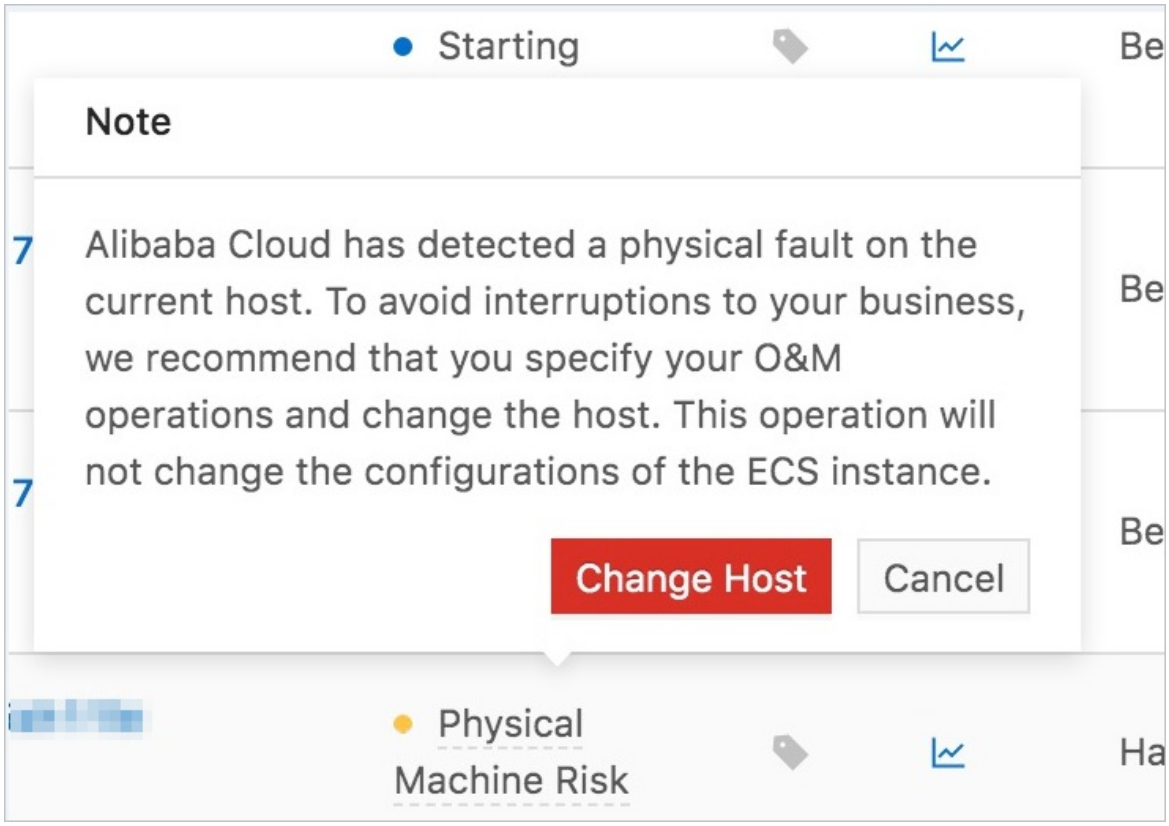
If a dedicated host has potential risks, it is still available. However, the dedicated host and the Elastic Compute Service (ECS) instances on it may fail at any time. To protect your business against risks that result in possible failures of the dedicated host, we recommend you migrate the dedicated host to another dedicated host.

Prerequisites

All the ECS instances on the dedicated host are stopped.

Procedure

1.
2.
3.
4. On the Dedicated Hosts page, find the dedicated host. In the **Status** column, move the pointer over **Physical Machine Risk**. In the **Note** message, click **Change Host**.



5. Perform operations based on the dedicated host type.
   - If the dedicated host is not a local SSD host, click **OK**.
   - If the dedicated host is a local SSD host, click **Submit Ticket**.

     Notice ECS instances that run on local SSD hosts cannot be automatically migrated. You must submit a ticket to manually migrate the data of the dedicated host. However, the data on the local disk is lost after the manual migration.

     After all the ECS instances on the 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.

4.3. Upgrade or downgrade a subscription ECS instance

This topic describes how to upgrade or downgrade a subscription ECS instance. If an Elastic Compute Service (ECS) instance that is created on a dedicated host is no longer suited to your business requirements, you can upgrade or downgrade the instance specifications. For example, you can upgrade or downgrade the number of vCPUs and the memory size of instance types. You can also upgrade or downgrade the public bandwidth of the ECS instance.

Only Virtual private cloud (VPC) is supported. Therefore, all ECS instances described in this topic are VPC-connected ECS instances.

Upgrade or downgrade the instance type

If you want to upgrade or downgrade a predefined instance type, you can select only the predefined specifications. However, if you want to upgrade or downgrade a custom instance type, you can modify the number of vCPUs or the memory size. The following table describes the methods that you can use to upgrade or downgrade the instance type.

Operation	Method	Notes	Reference
Upgrade	Use the specification upgrade feature. Before you upgrade the instance type, make sure that the ECS instance is in the **Stopped** state.	The new instance type immediately takes effect after the ECS instance is restarted.	Upgrade the instance types of subscription instances
Downgrade	Use the configuration downgrade feature. Before you downgrade the instance type, make sure that the ECS instance is in the **Stopped** state.	The new instance type immediately takes effect after the ECS instance is restarted.	Downgrade the instance types of subscription instances
	Use the renewal and configuration downgrade feature. This feature allows you to downgrade the predefined instance type when you renew your ECS instances. **Note** You cannot use this feature to downgrade a custom instance type.	The new instance type takes effect in the next billing cycle. If you use this method, you must use the DDH console or API operations to restart the instance within the first seven days of the new billing cycle.	• Downgrade the configurations of an instance during renewal • Restart an instance • RebootInstance

Upgrade or downgrade the public bandwidth

The following table describes the methods that you can use to upgrade or downgrade the public bandwidth.

Note You can upgrade or downgrade only the public bandwidth of the subscription ECS instances that are not associated with an elastic IP address (EIP). For more information, see Modify the bandwidth of an EIP.

Operation	Method	Notes	Reference

Operation	Method	Notes	Reference
Upgrade	Use the configuration upgrade feature.	The upgraded public bandwidth immediately takes effect. **Note** If you upgrade the public bandwidth of an ECS instance from 0 Mbit/s to a higher value, a public IP address is automatically allocated to the ECS instance.	Modify the bandwidth configurations of subscription instances
Downgrade	Use the configuration downgrade feature.	The downgraded public bandwidth immediately takes effect. **Note** If you downgrade the public bandwidth of an ECS instance to 0, the public IP address is automatically detached.	Modify the bandwidth configurations of subscription instances
	Use the renewal and configuration downgrade feature. This feature allows you to downgrade the public bandwidth when you renew your ECS instances. **Note** You cannot use the feature to downgrade a custom instance type.	The new public bandwidth takes effect in the next billing cycle. **Note** If you downgrade the public bandwidth of an ECS instance to 0, the public IP address is automatically detached.	Downgrade the configurations of an instance during renewal