Cloud Data Center (CloudDC)

Getting Started

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1 Purchasing and Using iMetal Servers

Scenarios

Cloud Data Center (CloudDC) enables rapid transformation of traditional data centers into cloud environments. It allows you to deploy servers in Huawei Cloud equipment rooms, taking advantages of advanced Huawei Cloud capabilities like infrastructure management, cloud-based networks, bare metal server management, and deterministic O&M.

This section uses the cloud adoption of a DC as an example to describe how to purchase an intelligent rack and deploy an iMetal server into it.

Procedure

Step	Description
Preparations	Sign up for a HUAWEI ID and make sure you have a valid payment method configured.
Apply for OBT	When CloudDC is in OBT, if it is the first time for you to log in to the CloudDC console, you need to submit an application for the OBT. You can use the CloudDC service only after your application is approved.
Authorize the Use of Other Cloud Services	CloudDC works closely with other cloud services, such as compute and network services. When you log in to the CloudDC console for the first time, CloudDC automatically requests permission to access those cloud services in the region where you are.
Purchase iRack, iMetal, and CloudDCN Resources	For the cloud adoption of a DC, you need to purchase iRack, iMetal, and CloudDCN resources.
Send, Install, and Accept a Server	After receiving a server sent from you, Huawei Cloud O&M personnel install the server into an intelligent rack, connect cables, and import the server information to CloudDC. Then, you can log in to the CloudDC console to test and accept this iMetal server.

Step	Description
Start the iMetal Server	Remotely start the iMetal server from the CloudDC console.
Create a Private Image	Only a private image can be used to install an iMetal server OS. You need to create a private image.
Create a CloudDCN Subnet	Create a CloudDCN subnet in a Virtual Private Cloud (VPC) to quickly set up an isolated, private, and high-performance virtual network environment for the iMetal server.
Install an OS on the iMetal Server	Use a private image to install an OS on the iMetal server.
Log In to the iMetal Server	Remotely access and manage the iMetal server from the CloudDC console.

Preparations

- Sign up for a HUAWEI ID and complete real-name authentication. For details, see **Signing Up for a HUAWEI ID and Enabling Huawei Cloud Services** and **Individual Real-Name Authentication**.

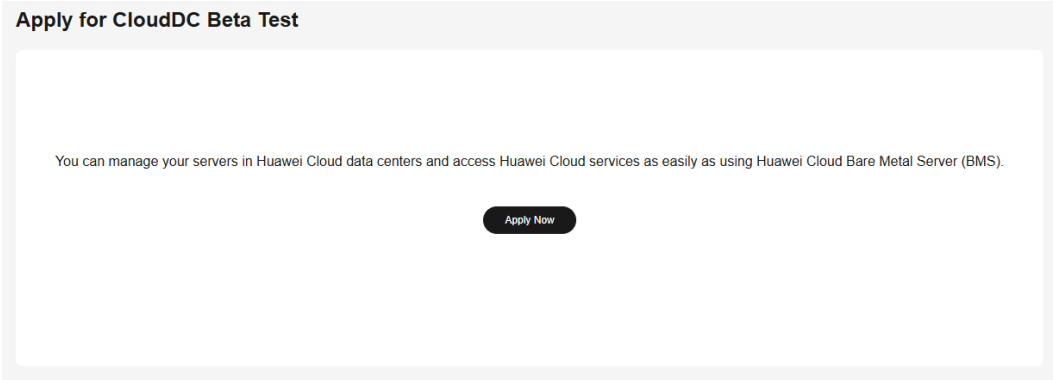
Apply for OBT

When CloudDC is in OBT, if it is the first time for you to log in to the CloudDC console, you need to submit an application for the OBT. You can use the CloudDC service only after your application is approved.

Step 1 Log in to the CloudDC console using your HUAWEI ID.

Step 2 In the upper left corner, click  to select a region.

Step 3 Click **Apply Now**. The OBT information will be collected and submitted for approval.



The OBT application will be reviewed within five working days.

----End

Authorize the Use of Other Cloud Services

CloudDC works closely with other cloud services, such as compute and network services. When you log in to the CloudDC console for the first time, CloudDC automatically requests permission to access those cloud services in the region where you are. If you have been authorized in that region, skip this step.

Step 1 Log in to the CloudDC console using your HUAWEI ID.

Step 2 In the upper left corner, click  to select a region.

Step 3 If it is the first time for you to log in to the CloudDC console, the **Authorization** dialog box will be displayed. Read the information and click **Authorize**.

After you agree to the authorization, CloudDC creates an agency named **imetal_trust** in IAM to authorize access to resources of other cloud services. You can go to the IAM console and choose **Agencies** in the navigation pane. Click the **imetal_trust** agency to check the authorization records of each region. For details, see **Cloud Service Agency**.

----End

Purchase iRack, iMetal, and CloudDCN Resources

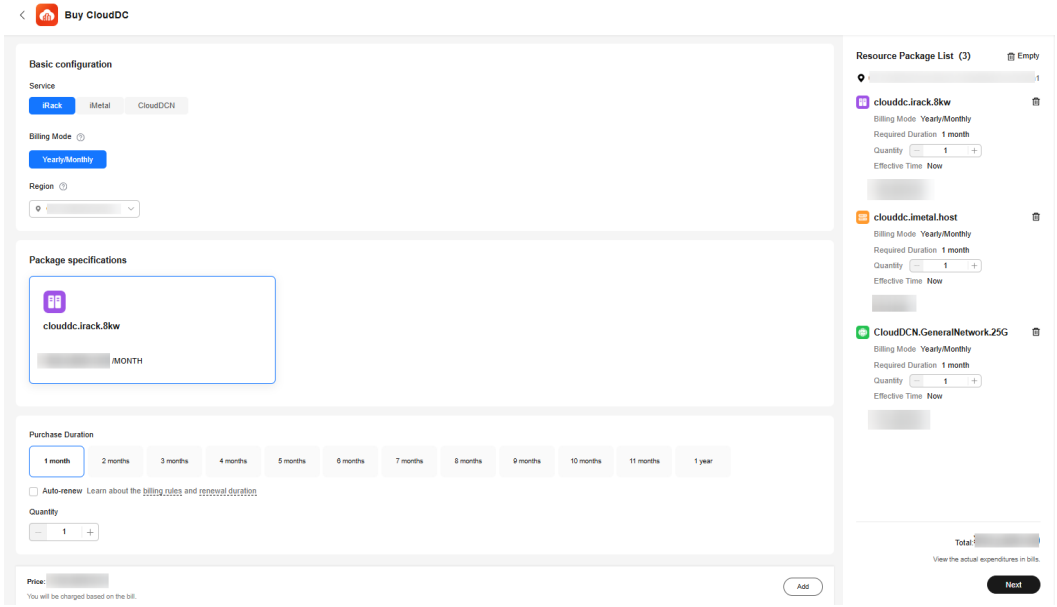
For the cloud adoption of a DC, you need to purchase iRack, iMetal, and CloudDCN resources.

Step 1 Log in to the CloudDC console using your HUAWEI ID. In the upper left corner, click  to select a region.

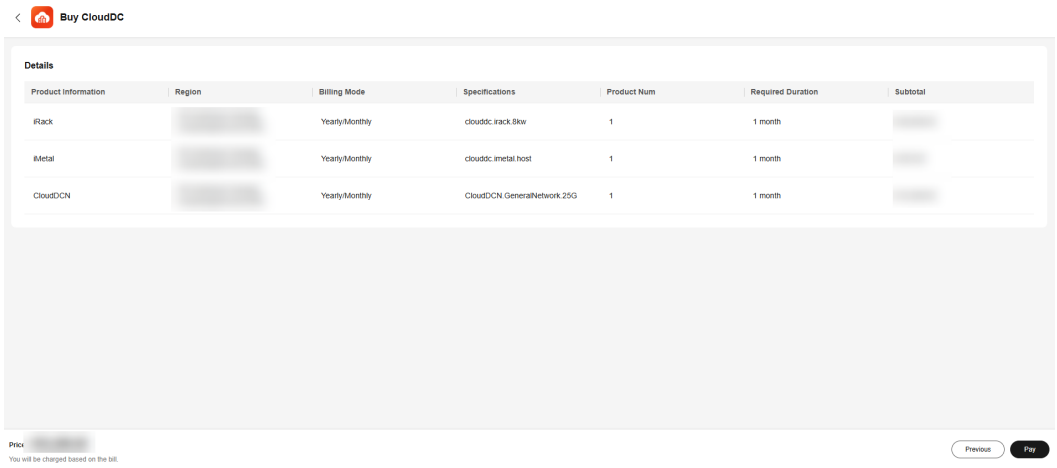
Step 2 On the **Overview** page, click **Buy Resources** in the upper right corner. The **Buy CloudDC** page is displayed.

Step 3 Set parameters for iRack, iMetal, and CloudDCN. Click **Add** to add this set of settings to the resource package list.

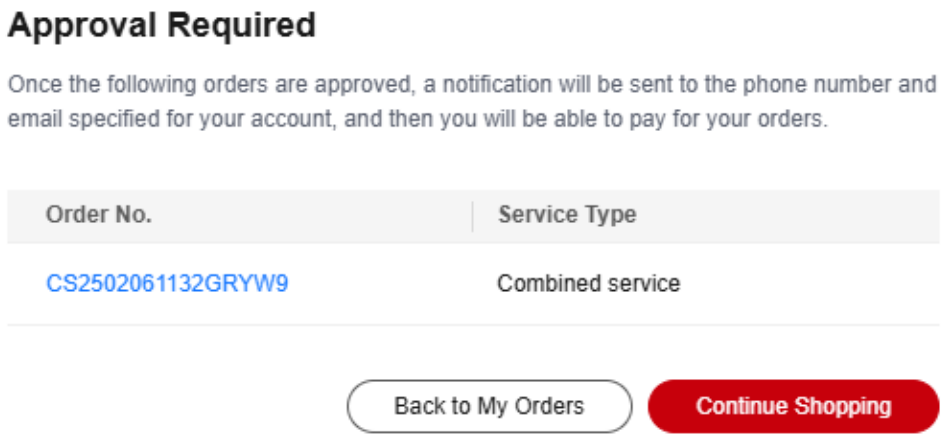
Specifications	iRack	iMetal	CloudDCN
Billing Mode	Yearly/Monthly	Yearly/Monthly	Yearly/Monthly
Region	CN South-Guangzhou	CN South-Guangzhou	CN South-Guangzhou
Package specifications	clouddc.irack.8kw	clouddc.imetal.host	CloudDCN.GeneralNetwork.25G
Purchase Duration	1 month	1 month	1 month
Auto-renew	Enable	Enable	Enable
Quantity	1	1	1 **NOTE** The number of CloudDCN subnets must be the same as that of intelligent racks.



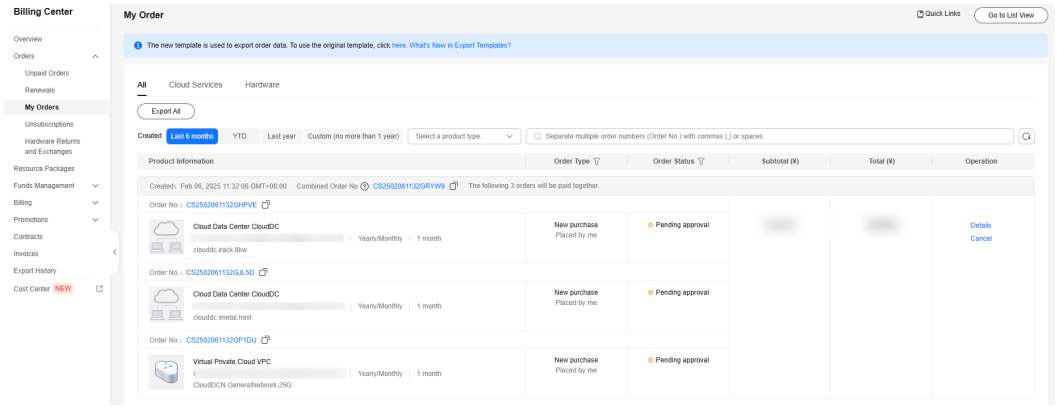
Step 4 Click **Next**. Check the settings in the **Details** area and click **Pay**.



The **Approval Required** dialog box is displayed. You can pay for the order only after it is approved.



Step 5 Click **Back to My Orders**. In the order list, the **Order Status** of your order is **Pending approval**.



Step 6 Wait until your order is approved. The **Order Status** changes to **Pending payment**.

Step 7 Click **Pay** on the right of the order to pay for it.

----End

Send, Install, and Accept a Server

Step 1 Send the server to the address specified by Huawei Cloud based on the contract.

Step 2 Huawei Cloud O&M personnel install the server into the intelligent rack and connect cables in the Huawei Cloud equipment room.

Step 3 Huawei Cloud O&M personnel help you import the iMetal server information.

1. Log in to the CloudDC console.
2. In the navigation pane, choose **Servers** > **iMetal Servers**.

   The **iMetal Servers** page is displayed.
3. In the upper part of the iMetal server list, choose **More** > **Import**. The **Import** dialog box is displayed.

4. Click **Download Template** to download the template.

   If you have filled in the server details based on the template requirements, go to step **Step 3.6**.

5. Enter server information in the downloaded template based on the template requirements.

NOTICE

Once the iMetal server information is imported, it cannot be modified. If the information is incorrect, import it again.

Table 1-1 Server template information

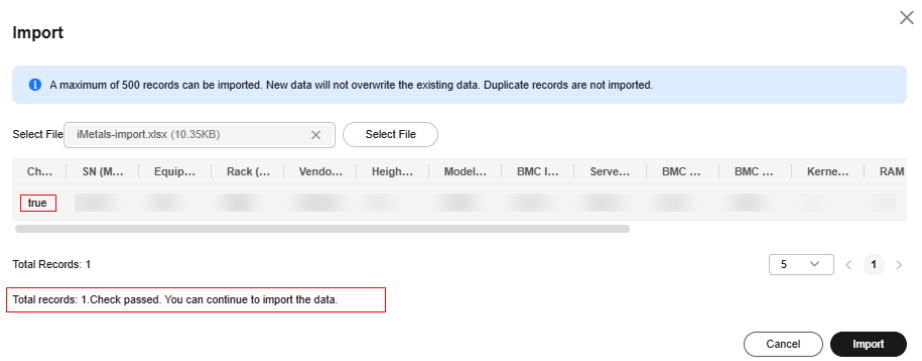
Parameter	Mandatory	Description
SN	Yes	Unique ID of an iMetal server.
Equipment Room	Yes	Equipment room where the iMetal server is located.
Rack	Yes	Rack where the iMetal server resides.
Height (U)	Yes	Physical storage space required by the iMetal server in the rack.
Vendor	Yes	Vendor of the iMetal server.
Model	Yes	Model of the iMetal server.
BMC IP Address	Yes	BMC IP address of the iMetal server.
Server Name	Yes	Name of the iMetal server.
BMC Username	Yes	BMC login username, which contains a maximum of 255 characters.
BMC Password	Yes	BMC login password, which contains a maximum of 255 characters.
Kernel Image ID	Yes	ID of the kernel image used by the iMetal server.
RAM Disk Image ID	Yes	ID of the ramdisk image used by the iMetal server.

Parameter	Mandatory	Description
Hardware Specifications	Yes	iMetal hardware specifications. The value can contain up to 255 characters, including letters, digits, plus signs (+), multiplication signs (x), parentheses (()), brackets ([]), hyphens (-), underscores (_), spaces, and periods (.).
Provision Subnet Gateway IP	Yes	Subnet gateway IP address of the Provision plane of the iMetal server.
Boot Mode	Yes	Boot mode of the iMetal server, which can be BIOS or UEFI. BIOS is used by default.
Skip Formatting	No	Used to control a formatting policy for a bare metal server during capacity expansion and commissioning. Value: True (skip formatting) or False (format). Default: False)
Formatting Policy Duration	No	Duration of the formatting policy, which must be a positive integer. If formatting is skipped, this parameter is mandatory. The maximum value is **120** and the unit is hours.

6. Click **Select File** and select the file where the server information has been configured.

   The system automatically checks whether the imported data is valid.

   Figure 1-1 Checking data



7. After checking the data, click **Import** to import the server information.

After the import is complete, you can view the imported server information in the iMetal list. If **Management Status** of the iMetal server is **Onboard**, **Verifying**, or **Ready**, the import is successful. If it is **Verification failed**, check the server information in the uploaded file, modify the information, and upload the file again.

It takes 10 to 15 minutes to verify the iMetal server.

Step 4 Test the iMetal server and send an acceptance letter to Huawei Cloud. The billing starts.

----End

Start the iMetal Server

Step 1 Log in to the CloudDC console.

Step 2 In the navigation pane, choose **Servers** > **iMetal Servers**.

Step 3 In the iMetal server list, locate your iMetal server and choose **More** > **Start** in the **Operation** column.

Step 4 In the **Start** dialog box, confirm the information and click **OK**.

The **Power Status** of this iMetal server will change to **Started**.

----End

Create a Private Image

Only a private image can be used to install an iMetal server OS. For details, see **Creating a Private Image for iMetal Servers**.

Create a CloudDCN Subnet

1. Log in to the management console.
2. Click  in the upper left corner and select the desired region and project.
3. In the upper left corner, click  . In the service list, choose **Networking** > **Virtual Private Cloud**.
4. In the navigation pane, choose **Virtual Private Cloud** > **CloudDCN Subnets**.
5. Click **Create CloudDCN Subnet**.
6. Set the parameters based on the table below.

Table 1-2 Parameters

Parameter	Description	Example Value
VPC	VPC where you want to create a CloudDCN subnet. If there is no VPC available, create one. For details see **Creating a VPC and Subnet**.	vpc-test

Parameter	Description	Example Value
Subnet Name	CloudDCN subnet name. • The name can contain 1 to 64 characters. • Only letters, digits, underscores (_), hyphens (-), and periods (.) are allowed.	subnet-clouddcn-01
AZ	An availability zone (AZ) is a geographic location with independent power supply and network facilities in a region. AZs are physically isolated, and AZs in the same VPC are interconnected through an internal network. Each region contains multiple AZs. If one AZ is faulty, other AZs in the same region continue to provide services. • By default, all instances in different subnets of the same VPC can communicate with each other and the subnets can be in different AZs. For example, if you have a VPC with two subnets, subnet A01 in AZ 1 and CloudDCN subnet A02 in AZ 2. A01 and A02 can communicate with each other by default. • A cloud resource can be in a different AZ from its subnet. For example, a physical server in AZ 1 can use a subnet in AZ 3. If AZ 3 is faulty, the server in AZ 1 can still use the subnet in AZ3, and the services are not interrupted. For details, see **Region and AZ**.	AZ 1
IPv4 CIDR Block	IPv4 CIDR block of the CloudDCN subnet. A CloudDCN subnet is a unique CIDR block with a range of IP addresses in a VPC. A subnet mask can be between the netmask of its VPC CIDR block and /28 netmask. If a VPC CIDR block is 10.0.0.0/16, its subnet mask can between 16 to 28. If the VPC has a secondary CIDR block, you can select the primary or the secondary CIDR block that the subnet will belong to based on service requirements.	10.0.0.0/24

Parameter	Description	Example Value
Associated Route Table	A route table contains a set of routes that are used to control traffic routing for your subnets in a VPC. Each VPC comes with a default route table that will be automatically associated with CloudDCN subnets. This allows CloudDCN subnets in a VPC to communicate with each other.	-
Gateway	Click ⌄ next to **Advanced Settings (Optional)** to set this parameter. Retain the default value unless there are special requirements.	10.0.0.1
DNS Server Address	Click ⌄ next to **Advanced Settings (Optional)** to set this parameter. A DNS server is used for domain name resolution. Servers can use private domain names to access each other in a VPC, and access cloud services with no need to connect to the Internet. A DNS server address is preset by default. You can change the default DNS server address if needed. This may interrupt your access to cloud services. You can click **Reset** on the right to restore the DNS server address to the default value. A maximum of two DNS server IP addresses are allowed. Separate them by commas (,).	100.125.x.x
Tag	Click ⌄ next to **Advanced Settings (Optional)** to set this parameter. Add tags to help you quickly identify, classify, and search for your CloudDCN subnets.	• Key: test • Value: 01
Description	Click ⌄ next to **Advanced Settings (Optional)** to set this parameter. Describe the CloudDCN subnet as needed. You can enter a maximum of 255 characters. Angle brackets (< or >) are not allowed.	-

7. Click **Create Now**.
   Go back to the CloudDCN subnet list and check the new subnet.

Install an OS on the iMetal Server

Step 1 Log in to the CloudDC console.

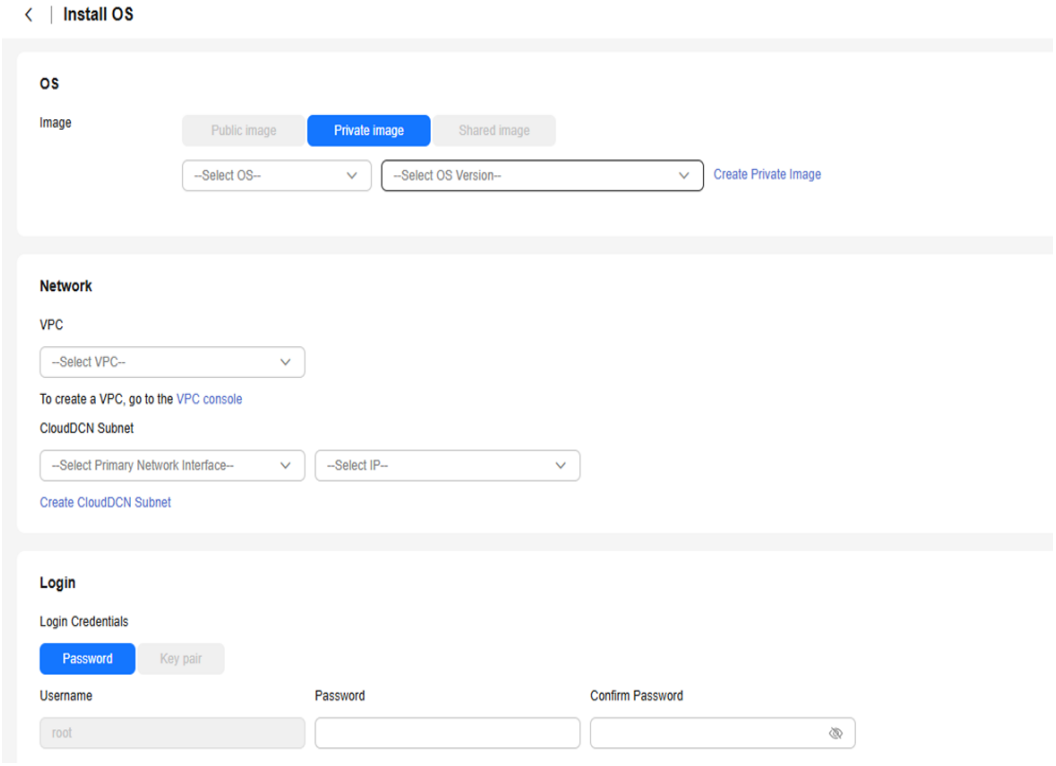
Step 2 In the navigation pane, choose **Servers** > **iMetal Servers**.

Step 3 In the iMetal server list, select your iMetal server.

Step 4 Click **Install OS** above the server list.

A page is displayed for you to set parameters for installing an OS.

Figure 1-2 Installing an OS



Step 5 Set the parameters as follows:

Table 1-3 OS parameters

Parameter		Description
OS	Image	Only private images are available. A private image is created by a user and is only available to the user who created it. A private image contains an OS, preinstalled public applications, and a user's personal applications.
Network	VPC	In a VPC, you can create a CloudDCN subnet to quickly set up an isolated, private, and high-performance virtual network environment for your iMetal servers. Select an available VPC from the drop-down list or create one.

Parameter		Description
	CloudDCN Subnet	After you select a VPC, the system does not automatically associate a primary NIC for you. You need to select a CloudDCN subnet and specify how private IP addresses are allocated.
Login	Login Credentials	Select what kind of credentials you want to use to log in to the iMetal server. • **Password**: You can use a username and a password you set to log in to the iMetal server. • **Key pair**: You can use a key pair to log in to the iMetal server. Currently, only **Password** is available.
	Username and Password	Set a password and confirm it. You need to enter the same password twice, exactly the same both times. The password must comply with the rules listed in **Table 1-4**.

Table 1-4 Password complexity requirements

Parameter	Rule
Password	• Consists of 8 characters to 26 characters. • Must contain at least three of the following character types: – Uppercase letters – Lowercase letters – Digits – Special characters Linux: !@%^-_=+[]{}:,./? • Cannot be the username or the username spelled backwards. • Cannot contain the username or the username spelled backwards.

Step 6 Click **Install OS**.

When the **Management Status** of the iMetal server changes to **Running**, the OS is installed successfully.

----End

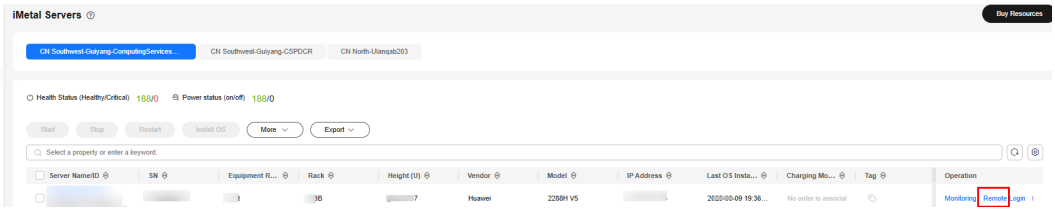
Log In to the iMetal Server

Step 1 Log in to the CloudDC console.

Step 2 In the navigation pane, choose **Servers** > **iMetal Servers**.

The **iMetal Servers** page is displayed.

Figure 1-3 iMetal server list



Step 3 In the iMetal server list, locate your iMetal server and click **Remote Login** in the **Operation** column.

After about one minute, the login page is displayed. Press **Enter** and enter username **root** and password to log in.

NOTE

- If you do not log in within 10 minutes, the login page becomes invalid. You need to click **Remote Login** again.
- If you do not perform any operation for 10 minutes after you log in, the page will expire, and you need to log in again.

----End

