Bare Metal Server

Getting Started

Issue 12

Date 2022-09-30

HUAWEI TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.
All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process.* For details about this process, visit the following web page:
https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 Purchasing and Logging In to a Linux BMS (New)

Scenario

Bare Metal Server (BMS) combines the scalability of Elastic Cloud Server (ECS) with the high performance of physical servers. It provides dedicated servers on the cloud. You only need to specify a flavor, an image, and network settings, and a BMS will be provisioned to you within 30 minutes.

This section describes how to quickly purchase and use a BMS.

- Quantity: 1
- Billing: yearly/monthly (pay-per-use is not available for BMS)
- Flavor: physical.s4.xlarge
- OS: Linux
- Login mode: password

Preparations

1. Sign up with Huawei Cloud and complete real-name authentication.

   Before purchasing a BMS, **sign up for a HUAWEI ID and enable Huawei Cloud services** and **complete real-name authentication** first.

   If you already have enabled Huawei Cloud services and completed real-name authentication, skip this step.
2. Make sure you have a valid payment method configured.

   If you have a top-up account, you can **top up your account**.
3. Plan network resources, such as VPCs and subnets.

   When you are purchasing a BMS, the system creates a default VPC (vpc-default) and subnet (subnet-default).

   If you do not want to use the default VPC and subnet, you can create a VPC and subnet in the region where your BMS will be created. For details, see **VPC and Subnet Planning**.
4. Create a security group and add rules.

   When you start to purchase a BMS, the system automatically creates a security group. The default security group allows all outgoing data packets

and denies all incoming data packets. This can ensure security of basic BMS communications.

If the default security group cannot meet your service requirements, you can modify its rules as needed. For details, see **Adding a Security Group Rule**.

Purchasing a BMS

The following is an example for your reference. For more details, see **Creating a Common BMS**.

1. Log in to the management console and go to **Buy BMS**.
2. Configure basic settings.

Figure 1-1 Basic settings

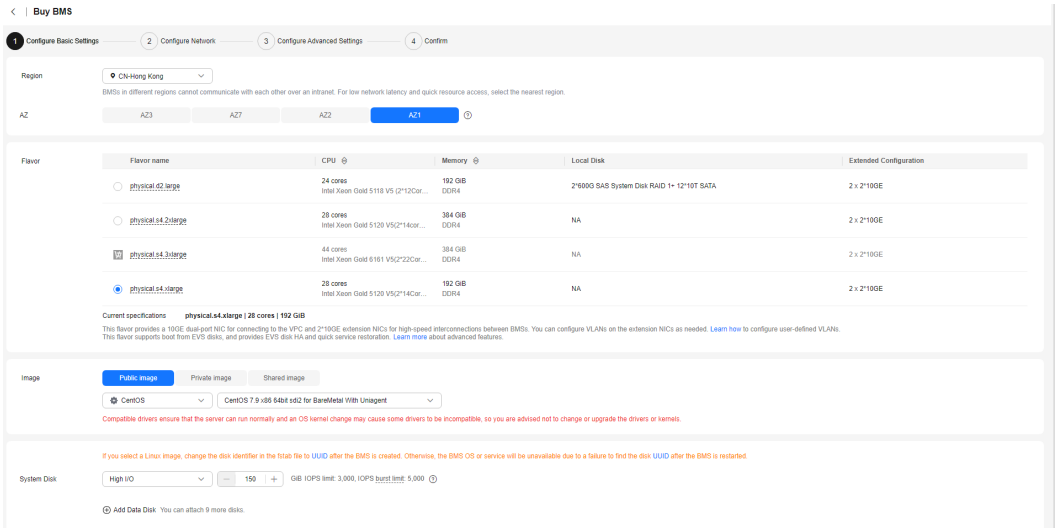


Table 1-1 Basic settings

Parameter	Example Value	Description
Region	CN-Hong Kong	For lower network latency and faster resource access, select the region nearest to your target users. After a BMS is purchased, the region cannot be changed. For details, see **Region and AZ**.
AZ	AZ1	An AZ is a physical location that uses an independent power supply and network. AZs in the same region can communicate with each other over an intranet. The AZ of a purchased BMS cannot be changed.

Parameter	Example Value	Description
Flavor	physical.s4.xlarge	Select a flavor based on service requirements. For more information, see **Instance Family**.
Image	CentOS 7.9 64bit	The example is a free public Linux image provided by Huawei Cloud.
Disk	General Purpose SSD, 150 GiB	A BMS comes with a system disk when you buy it, and the system disk is automatically initialized. You can manually add data disks. For details, see **EVS Disk**.

3. Configure the network.

Figure 1-2 Network parameters

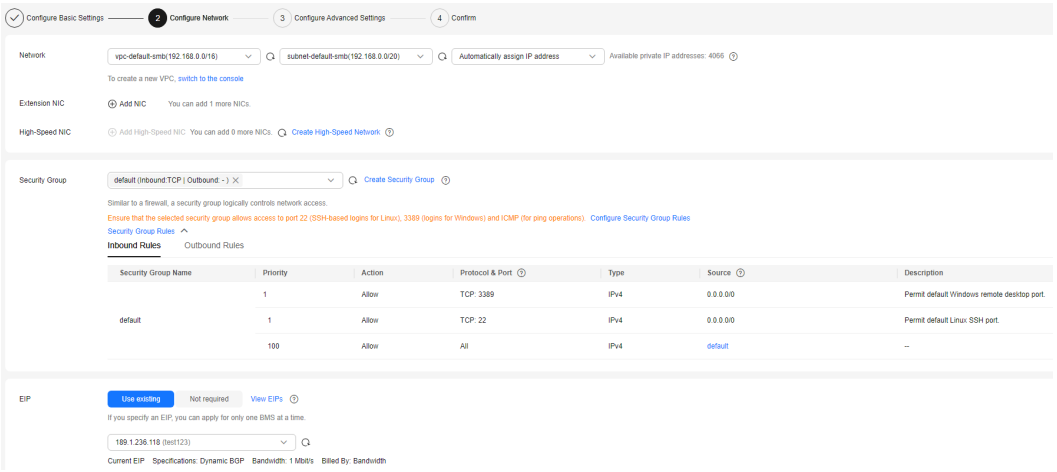


Table 1-2 Network parameters

Parameter	Example Value	Description
Network	vpc-default-smb	Use the default VPC and subnet. For details, see **VPC and Subnet Planning**.
Security Group	default	Use the default security group. For more information, see **Adding a Security Group Rule**.

Parameter	Example Value	Description
EIP	Use existing	Select an EIP from the drop-down list. If there is no EIP available in the drop-down list, click **View EIPs** to go to the EIP console. Click **Buy EIP** and configure parameters by referring to **Assigning an EIP**. For more information, see **EIP**.

4. Configure advanced settings.

Figure 1-3 Advanced settings

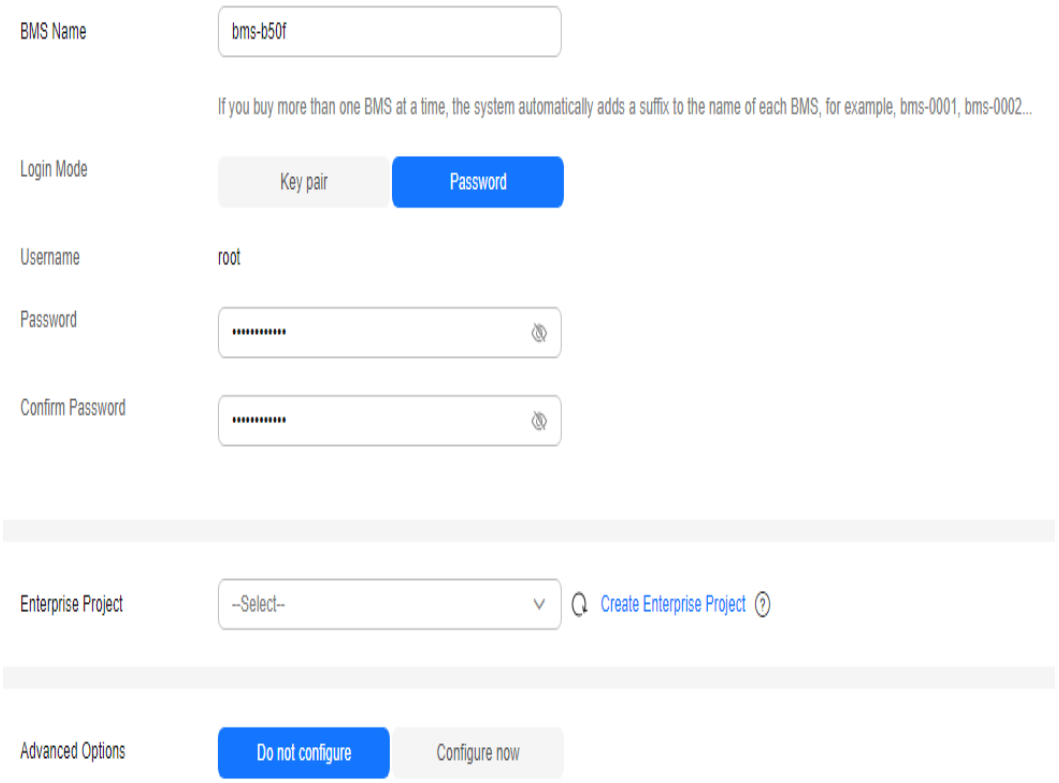


Table 1-3 Advanced settings

Parameter	Example Value	Description
BMS Name	bms-9493	Specify a BMS name.
Login Mode	Password	Set a strong password for login.

Parameter	Example Value	Description
Enterprise Project	default	This parameter is available only when you use an enterprise account to purchase a BMS. You can manage cloud resources by project.

5. Configure the quantity.

Figure 1-4 Parameter settings

Table 1-4 Parameters

Parameter	Example Value	Description
Required Duration	1	The duration ranges from one month to one year.
Quantity	1	If you selected **Use existing** for **EIP**, you can create only one BMS at a time.

6. Read and select the agreement, and click **Submit**.

Logging In to a BMS

If you are using a Windows PC locally, you can log in to a Linux BMS using PuTTY.

For more login methods, see **Logging In to a Linux BMS**.

NOTE

You can download PuTTY from **https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html**.

1. Run PuTTY.
2. In the navigation pane on the left, choose **Session**. Enter the EIP of the BMS in the text box under **Host Name (or IP address)**. Select **SSH** for **Connection type**.
3. In the navigation pane, choose **Windows** > **Translation**. Select **UTF-8** from the **Received data assumed to be in which character set:** drop-down list.

4. Click **Open**.
5. Enter username **root** and the password you set to log in to the BMS.

2 Deploying an Application on a BMS

This section describes how to deploy an application on a BMS.

Install and Start Nginx

1. Run the **yum install nginx** command to install Nginx and enter **y** as prompted.

   If the information shown in the following figure is displayed, Nginx is installed successfully.

   
   ```
   Installed:
     nginx.x86_64 1:1.12.2-3.el7

   Dependency Installed:
     dejavu-fonts-common.noarch 0:2.33-6.el7                dejavu-sans-fonts.noarch 0:2.33-6.el7
     fontconfig.x86_64 0:2.13.0-4.3.el7                     fontpackages-filesystem.noarch 0:1.44-8.el7
     gd.x86_64 0:2.0.35-26.el7                              gperftools-libs.x86_64 0:2.6.1-1.el7
     libX11.x86_64 0:1.6.5-2.el7                            libX11-common.noarch 0:1.6.5-2.el7
     libXau.x86_64 0:1.0.8-2.1.el7                          libXpm.x86_64 0:3.5.12-1.el7
     libjpeg-turbo.x86_64 0:1.2.90-6.el7                    libxcb.x86_64 0:1.13-1.el7
     libxslt.x86_64 0:1.1.28-5.el7                          nginx-all-modules.noarch 1:1.12.2-3.el7
     nginx-filesystem.noarch 1:1.12.2-3.el7                 nginx-mod-http-geoip.x86_64 1:1.12.2-3.el7
     nginx-mod-http-image-filter.x86_64 1:1.12.2-3.el7      nginx-mod-http-perl.x86_64 1:1.12.2-3.el7
     nginx-mod-http-xslt-filter.x86_64 1:1.12.2-3.el7       nginx-mod-mail.x86_64 1:1.12.2-3.el7
     nginx-mod-stream.x86_64 1:1.12.2-3.el7

   Complete!
   ```

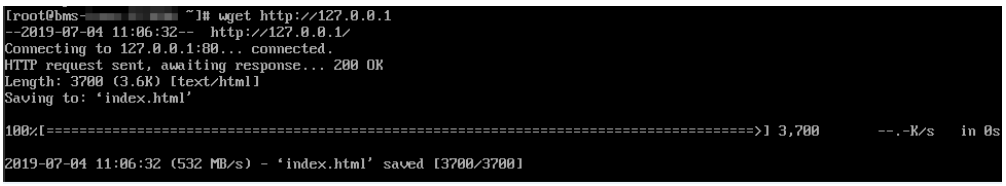
   Huawei Cloud provides free yum repositories, and the NTP and DNS services.

2. Enter **systemctl start nginx.service** to start Nginx.

   NOTE

   This command applies to CentOS 7.4 64-bit, which is used as an example.

3. Enter **wget http://127.0.0.1** to test Nginx.

   
   ```
   [root@bms-[redacted] ~]# wget http://127.0.0.1
   --2019-07-04 11:06:32--  http://127.0.0.1/
   Connecting to 127.0.0.1:80... connected.
   HTTP request sent, awaiting response... 200 OK
   Length: 3700 (3.6K) [text/html]
   Saving to: 'index.html'

   100%[======================================================================================>] 3,700       --.-K/s   in 0s

   2019-07-04 11:06:32 (532 MB/s) - 'index.html' saved [3700/3700]
   ```

Access the Default Web Page

Open a browser and enter http://*BMS EIP* in the address box. If the Nginx welcome page is displayed, Nginx is installed successfully.

3 Purchasing and Logging In to a Linux BMS (Old)

3.1 Quick Start

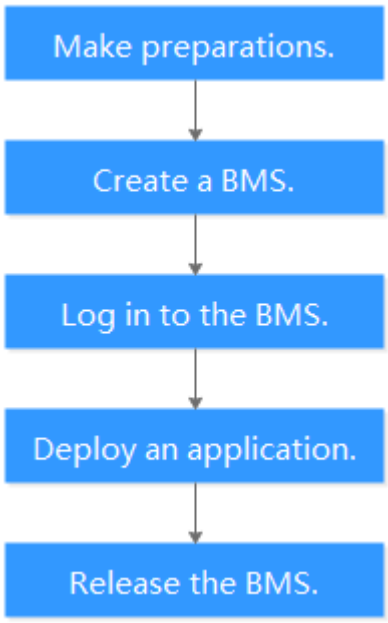
This section uses a web application server as an example to describe how you can create and use BMSs. This helps you choose an appropriate BMS, log in to it, and deploy Nginx on it.

NOTE

This section is applicable only to the management console. If you use APIs, see **API Reference**.

The following figure shows how to use BMSs.

Figure 3-1 Process of using BMSs



3.2 Making Preparations

Before using the BMS service, you need to:

- **Signing Up with Huawei Cloud**
- **Top Up an Account**
- **Create an IAM User**
- **(Optional) Create a Key Pair**

Signing Up with Huawei Cloud

If you already have a Huawei Cloud account, skip this section. If you do not have an account, perform the following steps to create one:

Visit **https://www.huaweicloud.com/intl/en-us/** and click **Sign Up**.

On the displayed page, sign up for an account.

After you have successfully signed up, the system automatically redirects you to your personal information page.

Top Up an Account

Ensure that your account has sufficient balance.

- For details about the BMS price, see **Product Pricing Details**.
- To top up an account, see **Topping Up an Account**.

Create an IAM User

If you want to allow multiple users to manage your resources without sharing your password or private key, you can create users using **IAM** and grant permissions to the users. These users can use specified login links and their own accounts to access the public cloud and help you efficiently manage resources. You can also set account security policies to ensure the security of these accounts and reduce enterprise information security risks.

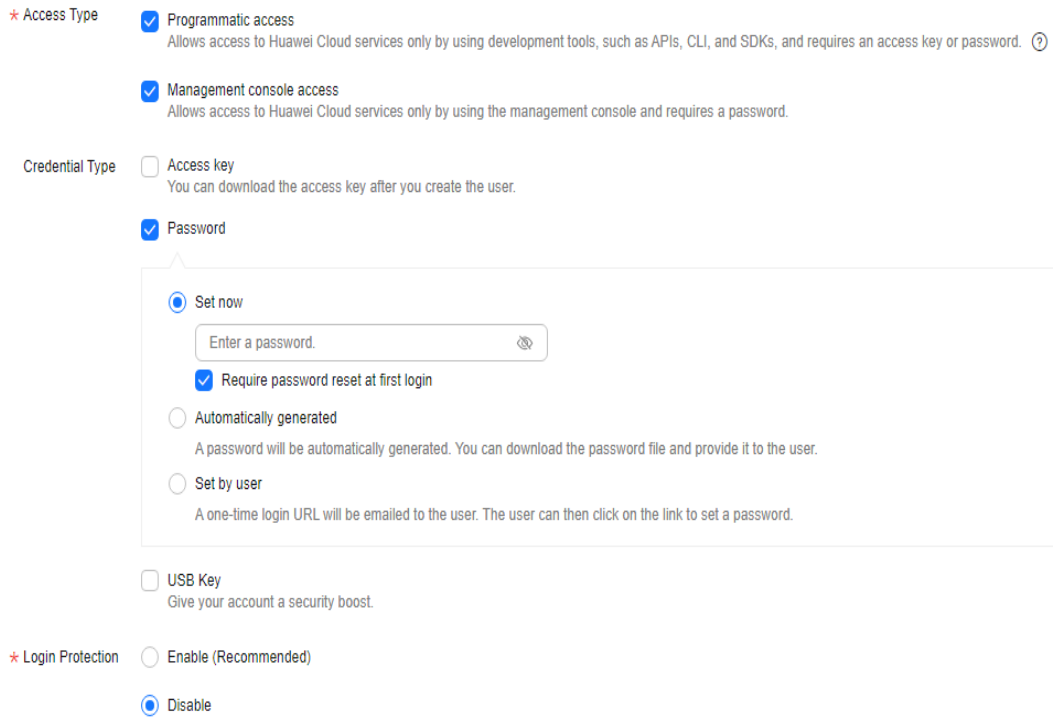
If you have signed up with the public cloud platform, you can create an IAM user on the IAM console. For example, to create a BMS administrator, perform the following steps:

1. Enter your username and password to log in to the management console.
2. In the upper right corner of the page, click the username and select **Identity and Access Management**.
3. In the navigation pane, choose **Users**. In the right pane, click **Create User**.
4. Enter user information on the **Create User** page.
   - **Username**: Enter a username, for example, **bms_administrator**.
   - **Email Address**: Email address bound to the IAM user. This parameter is mandatory if the access type is specified as **Set by user**.
   - (Optional) **Mobile Number**: Mobile number bound to the IAM user.

- (Optional) **Description**: Enter description of the user, for example, **BMS administrator**.

5. Select **Management console access** for **Access Type** and **Set now** for **Password**. Enter a password, and click **Next**.

Figure 3-2 Selecting the access/credential type



NOTE

A BMS administrator can log in to the management console and manage users. It is good practice to select **Set now** for **Password** when you create a BMS administrator for yourself. If you create a BMS administrator for another user, select **Set by user** for **Password** so that the user can set their own password.

6. (Optional) Add the user to the **admin** user group and click **Create**.

   After the user is created, you can use the IAM user login link displayed above the user list and the created user's login credentials to log in to the console.

(Optional) Create a Key Pair

The cloud platform uses public key cryptography to protect the login information of your BMS. You need to specify the key pair name and provide the private key when logging in to the BMS using SSH if you choose the key pair login mode. If you choose the password login mode, skip this section.

If you do not have a key pair, create one on the management console.

NOTE

If you want to create BMSs in multiple regions, you need to create a key pair in each region. For more information about regions, see **Region and AZ**.

1. Log in to the management console.
2. Under **Computing**, click **Bare Metal Server**.

   The BMS console is displayed.
3. In the navigation tree, choose **Key Pair**.
4. On the right side of the page, click **Create Key Pair**.
5. Enter the key name and click **OK**.

   An automatically populated key name consists of **KeyPair-** and a 4-digit random number. Change it to an easy-to-remember one, for example, **KeyPair-***xxxx*_**bms**.
6. Download the private key file. The file name is the specified key pair name with a suffix of .pem. Store the private key file securely. In the displayed dialog box, click **OK**.

CAUTION

You can save the private key file only once. When you create a BMS, provide the key pair name. Each time you log in to the BMS using SSH, you need to provide the private key.

3.3 Step 1: Create a BMS

Scenarios

This section helps you quickly create a BMS that will be used as a web server. For details about all the parameters used for creating a BMS, see **Creating a BMS**. To create a BMS by calling an API, see **Creating a BMS**.

Procedure

1. Log in to the Cloud Server Console **https://console-intl.huaweicloud.com/ecm/?locale=en-us**.
2. In the navigation pane, choose **Bare Metal Server**.
3. In the upper right corner, click **Buy BMS**.
4. Configure parameters.
   - Specify **Region** and **AZ**. For example, select **CN-Hong Kong** for **Region** and retain the default value of AZ.

     NOTE

     After the BMS is created, you cannot change its region or AZ.
   - Set **Flavor**.

     Available **flavors** vary depending on the region and AZ you select. Web servers are mainly used for web page access and do not require strong computing capabilities. In addition, only a small amount of storage is required for recording logs. Therefore, select **physical.d1.large**.
   - Set **Image**.

Select **Public image** and then **CentOS 7.4 64bit for BareMetal**.

NOTE

After the BMS is created, you cannot change its OS.

- Specify **Disk**.

  An EVS disk can be attached to a BMS. However, whether an EVS disk can be attached is determined by the flavor and image you select. In this exercise, EVS disks cannot be attached to the BMS.

- Set **VPC** and **NIC**.

  Retain the default values. When you use cloud services for the first time, the system automatically creates a VPC **default-vpc** and a subnet **default-subnet** for you. You can also create VPCs and subnets.

  NOTE

  The system creates a security group for you by default. The default security group rule allows all outgoing data packets and blocks incoming data packets. In this way, the default security group rule ensures the security of basic BMS communications.

- Set **EIP**.

  BMSs without an EIP cannot be connected to the Internet and are only used for deploying services in a private network or used in a cluster. Select **Automatically assign** and set **Bandwidth**.

- Set **Login Mode**.

  Select **Password** and set a password for user **root**.

- Configure **Advanced Settings**.

  Select **Do not configure**.

- Set **BMS Name**.

  The BMS name is in the format **bms-***four random digits*. To easily identify it, you can add the function to its name, for example, **bms-7676-nginx**.

- Set **Required Duration**.

  The value ranges from 1 month to 1 year. Set the value to **1 month**.

- Set **Quantity**.

  Set the value to **1**.

5. Click **Buy Now**. Confirm the specifications, read **Image Disclaimer**, select **I have read and agree to the Image Disclaimer**, and click **Pay Now**.
6. Select a payment method and click **Pay**.

Result

The BMS creation process requires about 5 to 30 minutes to complete. Refresh the BMS list. After the BMS status changes from **Creating** to **Running**, the BMS is created successfully.

Follow-up Operations

A BMS that functions as a web server must allow ICMP traffic on ports 80 and 443. These rules are not configured for the default security group. You need to add the rules after you create the BMS. For details, see **Adding Security Group Rules**.

Protocol	Direction	Port Range	Source
TCP	Inbound	80	0.0.0.0/0
TCP	Inbound	443	0.0.0.0/0
ICMP	Inbound	All	0.0.0.0/0

3.4 Step 2: Log In to the BMS

Scenarios

After you create a BMS, you can log in to it using multiple methods. This section describes the procedure to log in to a BMS from the management console. For more login modes, see **LinuxLinux BMS Login Methods**.

Procedure

1. Log in to the Cloud Server Console **https://console-intl.huaweicloud.com/ecm/?locale=en-us**.
2. In the navigation pane, choose **Bare Metal Server**.
3. In the upper left corner, click and select a region. Select **CN-Hong Kong**.
4. In the BMS list, locate the instance **bms-7676-nginx** and click **Remote Login** in the **Operation** column.
5. Wait for about one minute till the login page is displayed. Press **Enter** and enter username **root** and the password set in **Step 1: Create a BMS**. Press **Enter**.

   The login is successful if the following information is displayed:

   ```
   [root@bms-7676-nginx ~]#
   ```

   NOTE

   If you have forgotten the login password, you can **reset the password**.

3.5 Step 3: Deploy an Application

This section describes how to deploy an application on a BMS.

Install and Start Nginx

1. Run the **yum install nginx** command to install Nginx and enter **y** as prompted.

   If the information shown in the following figure is displayed, Nginx is installed successfully.


```
Installed:
  nginx.x86_64 1:1.12.2-3.el7

Dependency Installed:
  dejavu-fonts-common.noarch 0:2.33-6.el7                dejavu-sans-fonts.noarch 0:2.33-6.el7
  fontconfig.x86_64 0:2.13.0-4.3.el7                     fontpackages-filesystem.noarch 0:1.44-8.el7
  gd.x86_64 0:2.0.35-26.el7                              gperftools-libs.x86_64 0:2.6.1-1.el7
  libX11.x86_64 0:1.6.5-2.el7                            libX11-common.noarch 0:1.6.5-2.el7
  libXau.x86_64 0:1.0.8-2.1.el7                          libXpm.x86_64 0:3.5.12-1.el7
  libjpeg-turbo.x86_64 0:1.2.90-6.el7                    libxcb.x86_64 0:1.13-1.el7
  libxslt.x86_64 0:1.1.28-5.el7                          nginx-all-modules.noarch 1:1.12.2-3.el7
  nginx-filesystem.noarch 1:1.12.2-3.el7                 nginx-mod-http-geoip.x86_64 1:1.12.2-3.el7
  nginx-mod-http-image-filter.x86_64 1:1.12.2-3.el7      nginx-mod-http-perl.x86_64 1:1.12.2-3.el7
  nginx-mod-http-xslt-filter.x86_64 1:1.12.2-3.el7       nginx-mod-mail.x86_64 1:1.12.2-3.el7
  nginx-mod-stream.x86_64 1:1.12.2-3.el7

Complete!
```

Huawei Cloud provides free yum repositories, and the NTP and DNS services.

2. Enter **systemctl start nginx.service** to start Nginx.

   NOTE

   This command applies to CentOS 7.4 64-bit, which is used as an example.

3. Enter **wget http://127.0.0.1** to test Nginx.

```
[root@bms-      ~]# wget http://127.0.0.1
--2019-07-04 11:06:32--  http://127.0.0.1/
Connecting to 127.0.0.1:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3700 (3.6K) [text/html]
Saving to: 'index.html'

100%[======================================================================================>] 3,700       --.-K/s   in 0s

2019-07-04 11:06:32 (532 MB/s) - 'index.html' saved [3700/3700]
```

Access the Default Web Page

Open a browser and enter http://*BMS EIP* in the address box. If the Nginx welcome page is displayed, Nginx is installed successfully.

3.6 Step 4: Release the BMS

Scenarios

If you no longer require the BMS, you can release it to avoid being billed for it.

NOTE

You can release a yearly/monthly BMS only by unsubscribing it.

For details about unsubscription rules, see **What Is the Impact on Billing if I Unsubscribe from a BMS?**

Procedure

1. Log in to the Cloud Server Console **https://console-intl.huaweicloud.com/ecm/?locale=en-us**.
2. In the navigation pane, choose **Bare Metal Server**.
3. In the upper left corner, click and select a region. Select **CN-Hong Kong**.
4. In the BMS list, locate **bms-7676-nginx**. Click **More** in the **Operation** column and select **Unsubscribe** from the drop-down list.
5. On the **Unsubscribe** page, select a reason and click **Confirm**.

6. In the displayed dialog box, click **Yes**.

Result

The unsubscribed BMS will no longer be displayed in the BMS list.

