Intelligent EdgeFabric

Getting Started

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HUAWEI

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1 Overview

Intelligent EdgeFabric (IEF) provides you a complete edge computing solution, in which cloud applications are extended to the edge. By leveraging edge-cloud synergy, you can manage edge nodes and applications remotely and process data nearby. In addition, you can perform O&M in the cloud, including device monitoring, application monitoring, and log collection.

This document describes how to quickly register an edge node with IEF and deliver applications from IEF to the edge node. In this document, an Elastic Cloud Server (ECS) created on HUAWEI CLOUD is used as an example to demonstrate how to register an edge node, manage the edge node, and deliver a containerized application to the edge node.

Preparations

Purchase an ECS with a public IP address. For details, see **Quickly Purchasing an ECS**.

For demonstration, you do not need to select high specifications for ECS and public IP address. For example, select **1vCPUs | 2GB** for ECS specifications, **1 Mbit/s** for the IP bandwidth, and **CentOS 7.5** for the operating system.

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2 Registering a Node

Registering an Edge Node

Step 1 Log in to the IEF console.

Step 2 In the navigation pane, choose **Edge Resources** > **Edge Nodes**. Then, click **Register Edge Node** in the upper right corner.

Step 3 Configure basic edge node information.

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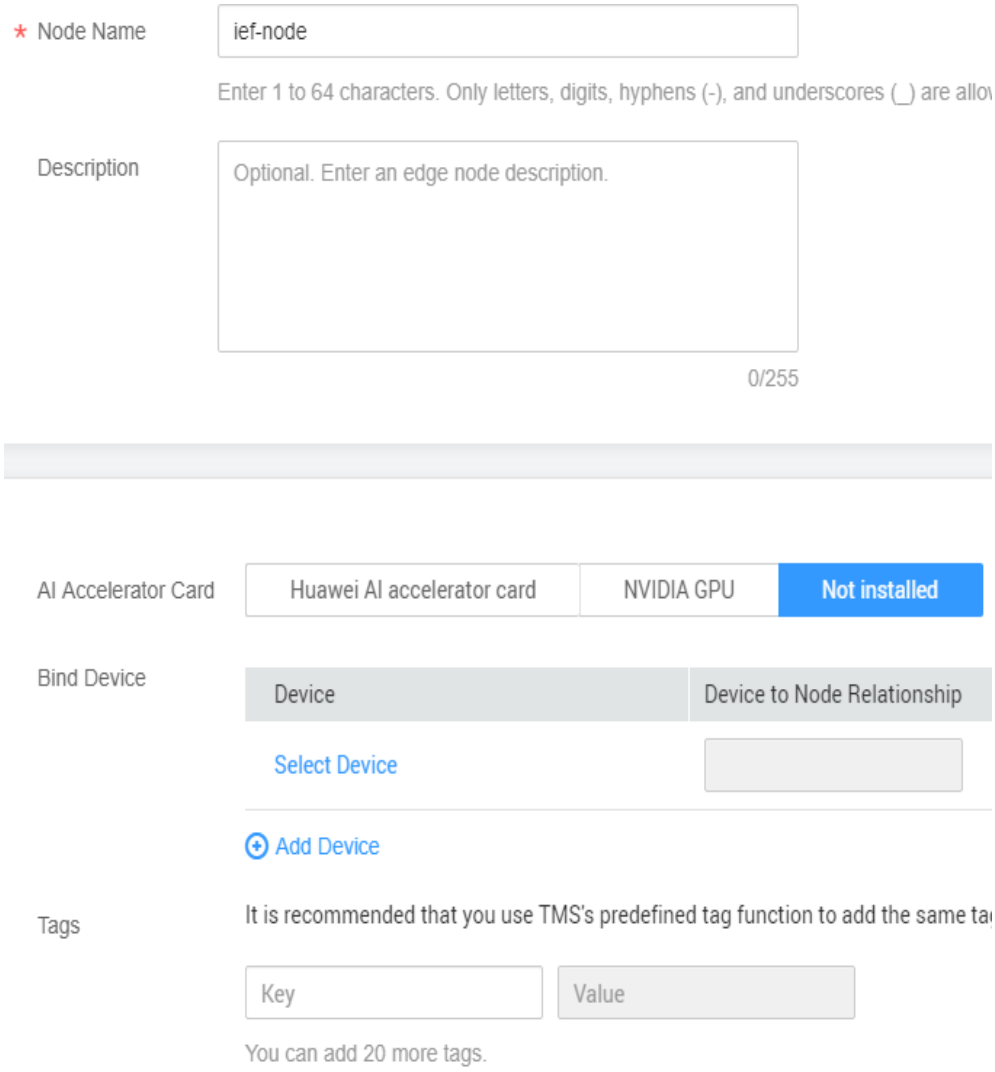
Figure 2-1 Basic edge node information



- **Node Name**: name of an edge node, for example, **ief-node**.
- **AI Accelerator Card**: Select **Not installed**.

Step 4 Click **Next**.

In this example, you do not need to configure advanced settings.

Step 5 Click **Register** in the lower right corner.

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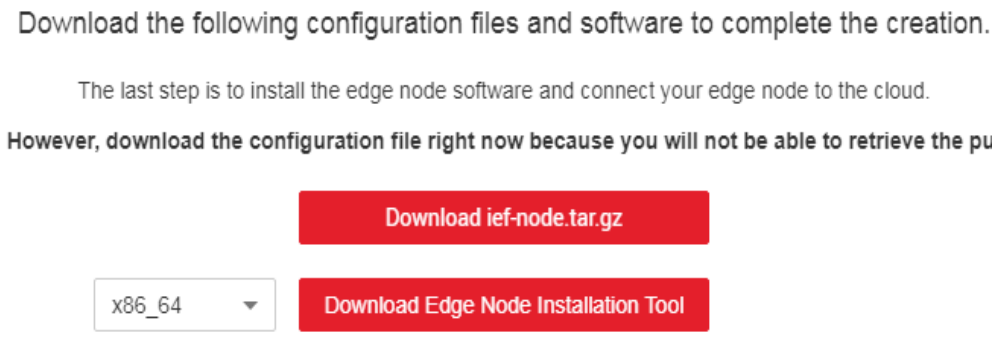
Figure 2-2 Downloading the edge node installation tool and configuration file

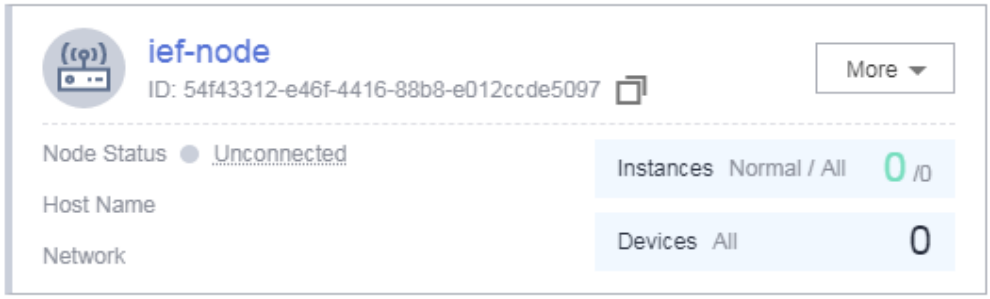


1. Click **Download *Edge node name*.tar.gz**.
2. Select the version of the edge node installation tool based on the CPU architecture of your edge device, and click **Download Edge Node Installation Tool**.

Step 6 Click **Finish**.

The edge node is in the **Unconnected** state because the installation tool downloaded in **Step 5** has not been installed. For details, see **Managing an Edge Node**.

Figure 2-3 Unconnected edge node



----End

Managing an Edge Node

Managing an edge node is to install the downloaded installation tool on the edge node and configure the certificate. In this way, the edge node can be connected to and managed by IEF.

Step 1 Log in to the edge node as a user with the **sudo** permission.

The edge node is the ECS created in **Overview > Preparations**.

Step 2 Run the following command to decompress the software package to the **/opt** directory:

sudo tar -zxvf *edge-installer_1.0.0_x86_64.tar.gz* **-C /opt**

Replace *edge-installer_1.0.0_x86_64.tar.gz* with the name of the installation tool downloaded in **Registering an Edge Node**.

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Step 3 Run the following command to decompress the configuration file to the **opt/IEF/Cert** directory:

sudo mkdir -p /opt/IEF/Cert; sudo tar -zxvf *Edge node name.tar.gz* **-C /opt/IEF/Cert**

Replace *Edge node name.tar.gz* with the name of the configuration file downloaded in **Registering an Edge Node**.

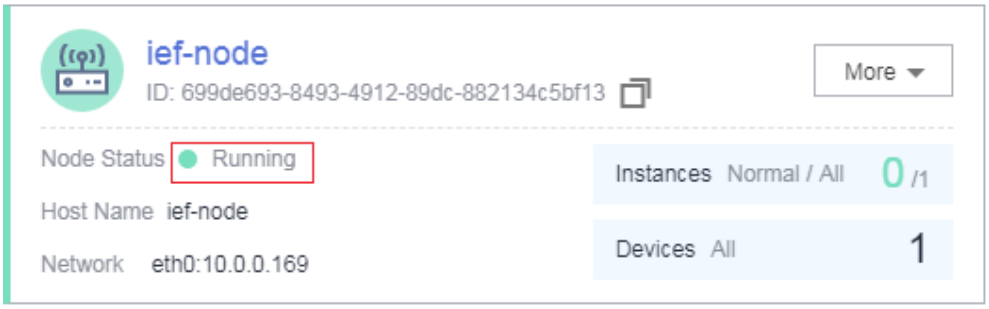
Step 4 Run the following command to install the core software and configuration file:

cd /opt/edge-installer; sudo ./installer -op=install

Step 5 Verify whether the edge node is managed successfully.

1. Log in to the IEF console.
2. In the navigation pane, choose **Edge Resources** > **Edge Nodes**.
3. Check the status of the edge node. If the status is **Running**, the edge node has been managed by IEF.

Figure 2-4 Checking the edge node status



----End

Related Operations

This section describes only the basic operations for registering a node and does not introduce advanced settings. For more details about edge node operations, see **User Guide > Edge Nodes**.

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3 Creating a Containerized Application

After an edge node is registered with and managed by IEF, you can use IEF to deliver applications to the edge node. This section describes how to use IEF to deliver a containerized application to an edge node.

Creating an Edge Application

Step 1 Log in to the IEF console.

Step 2 In the navigation pane, choose **Edge Applications** > **Containerized Applications**. Then, click **Create Containerized Application** in the upper right corner.

Step 3 Specify basic information.

- **Name**: name of a containerized application.
- **Instances**: number of application instances.
- **Configuration Method**: Select **Custom**.

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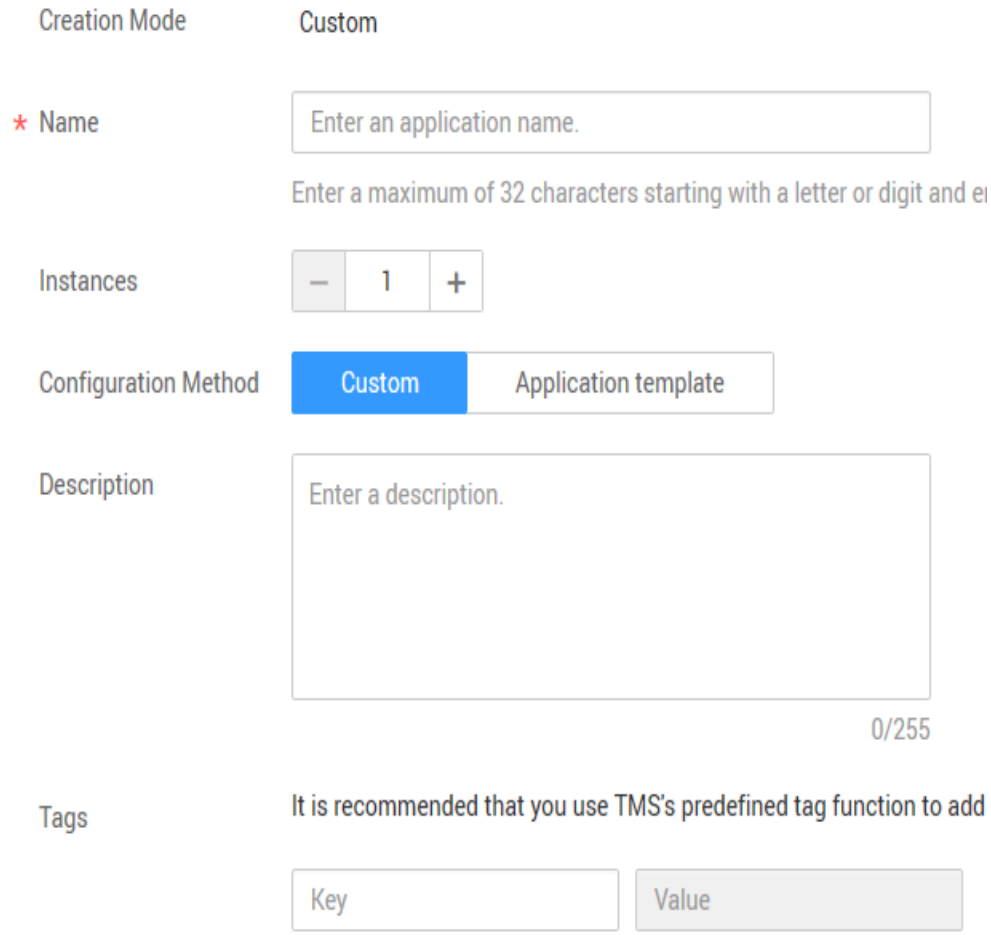
Figure 3-1 Basic application information



Step 4 Configure containers.

Click **Use Image** under the target image.

- **My Images**: shows all the images you created in **SWR**. For details about how to upload an image, see **Uploading an Image Through a Docker Client**.
- **Shared Images**: shows the images shared by other users.

After selecting an image, specify container specifications.

- **Image Version**: Select the version of the image to be used to deploy an application.
- **Container Specifications**: Specify CPU, memory, and AI accelerator card quotas.

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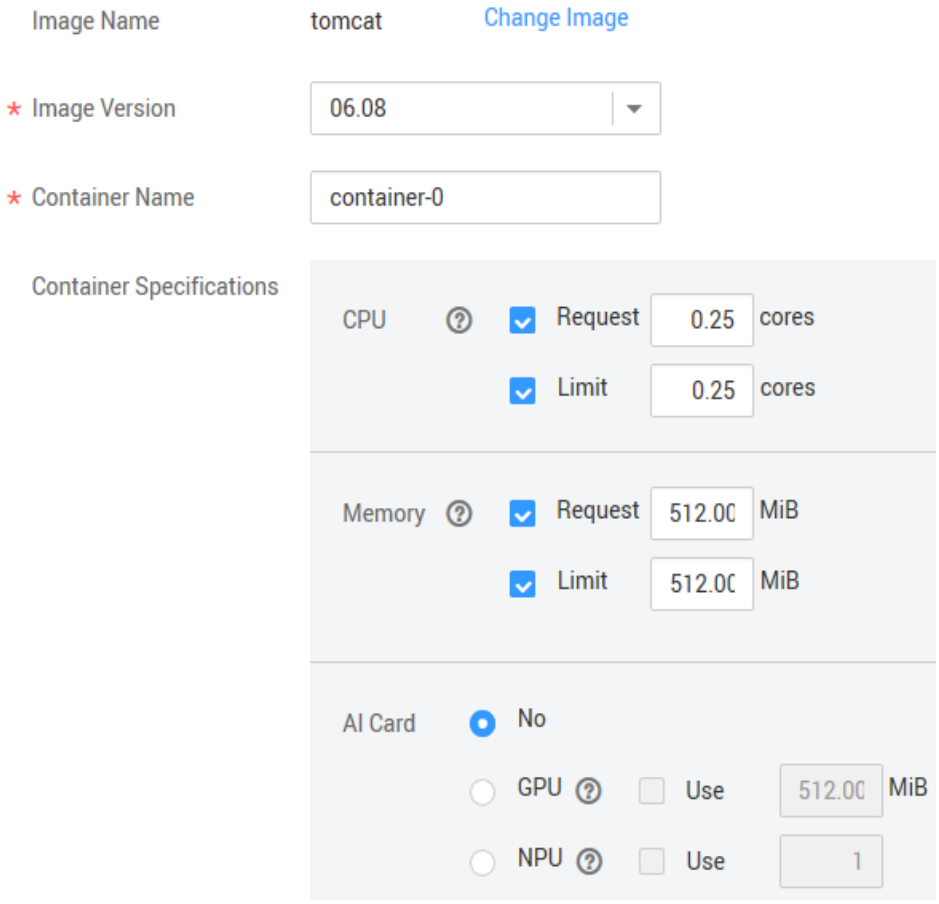
Figure 3-2 Container configuration



Step 5 Click **Next**.

Select the edge node where the application is to be deployed. Leave the other parameters unspecified.

Step 6 Click **Next**.

Leave the parameters unspecified.

Step 7 Click **Next**. Confirm the specifications of the containerized application and click **Create**.

----End

Querying Application Information

After an application is deployed, you can view the CPU and memory information of the application on the IEF console. You can also go to the **Container Monitoring** page on AOM to view more monitoring metrics and add and view alarms.

Step 1 Log in to the IEF console.

Step 2 In the navigation pane, choose **Edge Applications** > **Containerized Applications**. Then, click an application name.

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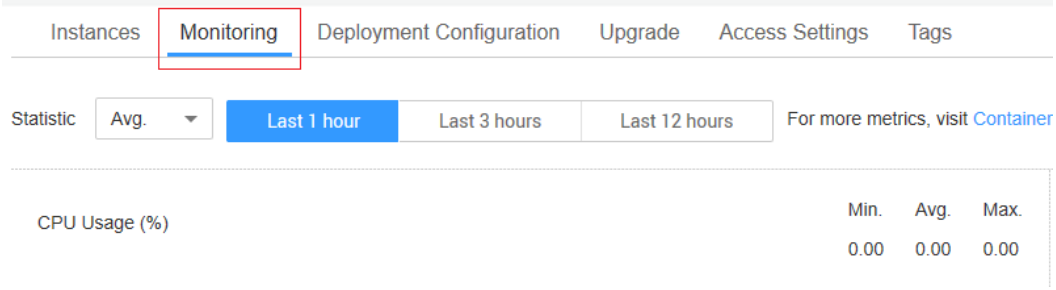
Step 3 Click the **Monitoring** tab to view the monitoring information of the application.

Figure 3-3 Application monitoring information



----End

Related Operations

This section describes only the basic operations for creating a containerized application and does not introduce advanced settings. For more details about application operations, see **User Guide > Containerized Applications**.

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