

Application Orchestration Service

Getting Started

Issue 01
Date 2023-05-05



Copyright © Huawei Technologies Co., Ltd. 2023. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI 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.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: <https://www.huawei.com>

Email: support@huawei.com

Contents

1 Application Orchestration Service.....	1
1.1 Writing a Template to Create an ECS.....	1

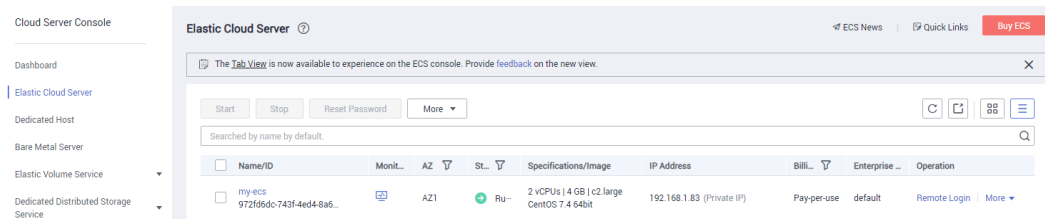
1 Application Orchestration Service

1.1 Writing a Template to Create an ECS

This section describes how to create an Elastic Cloud Server (ECS), including a Virtual Private Cloud (VPC) and subnet by writing a template. An ECS is a computing server equipped with CPUs, memory, images, and Elastic Volume Service (EVS) disks. ECSs can be created on demand and supports auto scaling. A VPC provides logically isolated, configurable, and manageable virtual networks for your ECSs. One or more subnets are automatically created when you create a VPC.

At the end of this walkthrough, you will see the newly created ECS on the [Cloud Server Console](#), as shown in [Figure 1-1](#).

Figure 1-1 Created ECS



NOTE

In addition to writing templates from scratch, you can also select public templates to create templates. For more information about templates, see [Templates \(Cloud-Based Automation Scripts\)](#).

In this section, you will complete the following steps:

1. **Step 1: Write a Template:** Use the YAML language to write a template for creating an ECS, VPC, and subnet.
2. **Step 2: Create an ECS:** Use the template to create an ECS, VPC, and subnet.
3. **Step 3: Delete Unnecessary Resources:** Delete unnecessary stack to avoid unwanted charges.

Step 1: Write a Template

Step 1 Write a simple template to create a VPC.

```
tosca_definitions_version: huaweicloud_tosca_version_1_0 #Template version information
node_templates:
  myvpc:
    type: HuaweiCloud.VPC.VPC
    properties:
      name: my-vpc #Name of the VPC
      cidr: '192.168.0.0/16' #VPC CIDR
```

This template includes:

1. **tosca_definitions_version**: specifies the version of a template. Currently, only **huaweicloud_tosca_version_1_0** is supported by AOS.
2. **node_templates**: defines the set of objects to be orchestrated in a template. In AOS, objects are used interchangeably with elements. An object can be an application or cloud service resource. In the preceding template, **node_templates** defines the **myvpc** VPC.
3. **type**: specifies the type of an orchestration object. The value comes from the element type list and can be set to **Cloud.***** (***) indicates the element name in the [Resource Indexes](#)). In the preceding template, the **myvpc** VPC type is **HuaweiCloud.VPC.VPC**.
4. **properties**: defines element properties, which vary with element types. In the preceding template, the **myvpc** VPC has the **names** and **cidr** properties, which indicate the name and network segment of the VPC, respectively. For more information, see [VPC.VPC](#).

Step 2 Define a subnet in the VPC. A VPC is a large network segment and is usually divided into several subnets. Define a subnet in the created VPC based on the preceding template.

```
tosca_definitions_version: huaweicloud_tosca_version_1_0 #Template version information
node_templates:
  myvpc:
    type: HuaweiCloud.VPC.VPC
    properties:
      name: my-vpc #Name of the VPC
      cidr: '192.168.0.0/16' #VPC CIDR
  mysubnet:
    type: HuaweiCloud.VPC.Subnet
    properties:
      name: my-subnet #Name of the subnet
      cidr: '192.168.1.0/24' #Subnet CIDR
      gateway: 192.168.1.1 #Gateway of the subnet
      vpcId: #ID of the VPC to which the subnet belongs
      get_reference: myvpc
      dhcpEnable: true #Determines whether to enable the DHCP function for the subnet in the VPC.
    requirements:
      - vpcId:
        node: myvpc
```

The **requirements** parameter specifies the element that has a dependency relationship with the current element. For example, define **myvpc** as a dependent node in the **requirements** of the subnet because a subnet depends on a VPC.

Step 3 Define an ECS in the template.

```
tosca_definitions_version: huaweicloud_tosca_version_1_0 #Template version information
node_templates:
  myvpc:
    type: HuaweiCloud.VPC.VPC
    properties:
```

```
name: my-vpc          #Name of the VPC
cidr: '192.168.0.0/16' #VPC CIDR
mysubnet:             #Subnet
type: HuaweiCloud.VPC.Subnet
properties:
  name: my-subnet     #Name of the subnet
  cidr: '192.168.1.0/24' #Subnet CIDR
  gateway: 192.168.1.1 #Gateway of the subnet
  vpcId:              #ID of the VPC to which the subnet belongs
  get_reference: myvpc
  dhcpEnable: true   #Determines whether to enable the DHCP function for the subnet in the VPC.
requirements:        #Dependency between the subnet and VPC.
- vpcId:
  node: myvpc
myecs:               #ECS
type: HuaweiCloud.ECS.CloudServer
properties:
  name: my-ecs        #Name of the ECS
  instances: 1        #Number of created ECSs
  imageId: 7be2e72e-0679-4a1b-8faf-0c1865708b20 #Image ID used by the ECS. In this template, the
image ID is the ID of the system disk based on 64-bit CentOS 7.4.
  flavor: c2.large    #Specifications of the ECS
  vpcId:              #ID of the VPC to which the ECS belongs. Either a new or an existing VPC ID can be
used.
  get_reference: myvpc #Obtains the dynamic attribute value of the associated element.
  availabilityZone: cn-south-1a #AZ to which the ECS belongs. This template uses an AZ in the CN
South-Guangzhou region.
nics:                #NIC of the ECS
- subnetId:
  get_reference: mysubnet
rootVolume:          #System disk configuration of the ECS
  volumeType: SATA   #Common I/O disk type
  size: 40            #System disk size (unit: GB)
requirements:        #Dependency among the ECS, VPC, and subnet.
- vpcId:
  node: myvpc
- nics.subnetId:
  node: mysubnet
```

Step 4 Save the template as a local file **myecs.yaml**.

Step 5 Log in to the AOS console.

 **NOTE**

In this template, the image ID is the ID of the **CentOS 6.3 64bit** image, and the AZ is **cn-south-1a** in the **CN South-Guangzhou** region. Therefore, select the **CN South-Guangzhou** region after logging in to the console to avoid stack creation failure.

Step 6 In the navigation pane, choose **My Templates**, and then click **Create Template**.

Step 7 On the **Upload Local Template** tab page, specify the following parameters, upload a local YAML file, and then click **Create**. The template details page is then displayed, showing the template information.

- **Template:** Enter a template name. Each template name must be globally unique. For example, set this parameter to **myecs**.
- **Version:** Set this parameter to 1.0.
- **Select File:** Upload the **myecs.yaml** file.

Figure 1-2 Uploading a template from the local host

The screenshot shows a web interface for uploading a template. At the top, there are two tabs: 'Upload File' (active) and 'Manual Input'. Below the tabs, there are four main sections:

- * Template:** A text input field containing 'myecs'.
- * Version:** A text input field containing '1.0'.
- * Select File:** A section showing 'myecs.yaml' with a trash icon to its right.
- Description:** A large text area with the placeholder text 'Enter a template description.' and a small cursor icon at the bottom right.

At the bottom of the form, there are two buttons: a white 'Cancel' button and a red 'Create' button.

----End

Step 2: Create an ECS

Step 1 Log in to the AOS console.

Step 2 In the navigation pane, choose **My Templates**. The **myecs** template is displayed in the template list.

Step 3 Click **Create Stack** in the **Operation** column of the **myecs** template.

Step 4 Set the stack information.

- **Stack Name:** Enter a unique stack name, for example, **aos-ecs**.
- **Description:** The description can be left blank.

Step 5 Click **Next** and check the stack information. If the stack information is correct, click **Create Stack**.

The stack details page is displayed, showing that the stack is being created. The stack includes a VPC, a subnet, and an ECS. It will take about 6 minutes to create the stack.

Step 6 Wait until the stack status becomes **Normal**. The VPC, subnet, and ECS are created and displayed in the stack element list.

Figure 1-3 Created stack

The screenshot shows a stack overview with 0 Applications and 3 Cloud Services. Below is a table of the cloud services:

Element Name	Type	Resource Name	Health Status	Specifications	Operation Status
myecs	ECS.CloudServer	my-ecs	-	Name: my-ecs AZ: cn-south-1a Flavor: c2.large Image ID: 7be2e72e-0679-4a1b-8faf-0c1f System Disk Common I/O, 40GB	Create Successful
mysubnet	VPC.Subnet	my-subnet	-	Name: my-subnet Network S...: 192.168.1.0/24 Gateway: 192.168.1.1 DHCP Serv...: true	Create Successful
myvpc	VPC.VPC	my-vpc	-	Name: my-vpc Network S...: 192.168.0.0/16	Create Successful

Step 7 View the created cloud services.

1. Log in to the HUAWEI CLOUD management console.
2. Choose **Service List > Computing > Elastic Cloud Server**. You will see the newly created ECS on the ECS list.

Figure 1-4 Created ECS

The screenshot shows the Elastic Cloud Server console with a table of servers:

Name/ID	Monit...	AZ	St...	Specifications/Image	IP Address	Billi...	Enterprise...	Operation
my-ecs 972f0560-743f-4ed4-8a6...		AZ1		2 vCPUs 4 GB c2.large CentOS 7.4 64bit	192.168.1.83 (Private IP)	Pay-per-use	default	Remote Login More

3. Choose **Service List > Network > Virtual Private Cloud**. You will see the newly created VPC on the VPC list.

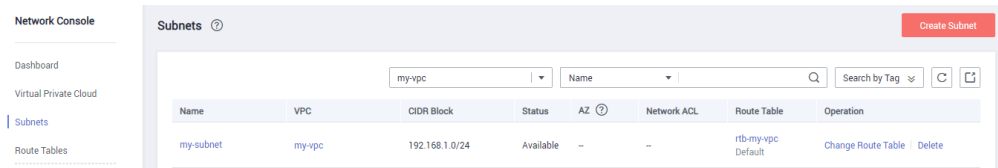
Figure 1-5 Created VPC

The screenshot shows the Virtual Private Cloud console with a table of VPCs:

Name	IPv4 CIDR Block	Status	Subnets	Route Ta...	Servers	Enterprise Project	Operation
my-vpc	192.168.0.0/16	Available	1	1	1	default	Modify CIDR Block Delete

4. Click the VPC name to show more details about the VPC. On the VPC details page, you will see that the subnet has been created in the VPC.

Figure 1-6 Created subnet



----End

Step 3: Delete Unnecessary Resources

Delete unnecessary stack resources to avoid unwanted charges.

Step 1 Log in to the AOS console.

Step 2 In the navigation pane, click **My Stacks**.

Step 3 Select the stack that will no longer be used, and click **Delete** to delete the stack.

----End