Enterprise Self-Service Management 25.3.0

Best Practices

Issue	06
Date	2025-03-30

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Contents

1 Viewing Dashboards

1.1 Solution Overview

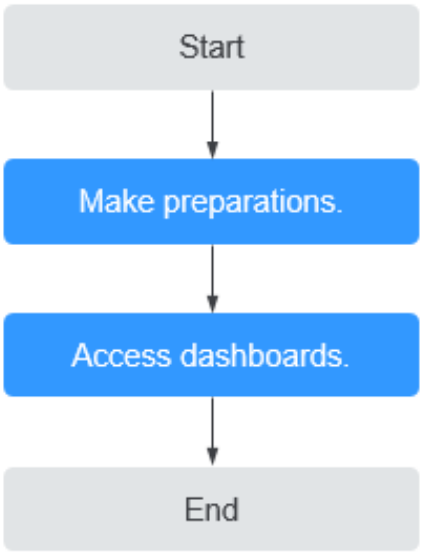
Scenarios

This solution walks you through how to view dashboard data including resources, tenants, services, applications, and alarms as well as how to manage dashboards. Intelligent analysis can be conducted using dashboard data to help executives make data-driven decisions.

Architecture

Figure 1-1 shows the operation process of viewing dashboards.

Figure 1-1 Operation process of viewing dashboards



Step 1 Log in to the ESM console.

Step 2 **Access dashboards**.

The **Visualization** page displays diverse operations dashboards. The statistics included in the dashboards provide a robust data foundation for analysis and decision-making.

----End

Constraints

You have to create a Huawei Cloud account and complete real-name authentication before accessing ESM.

1.2 Process

1.2.1 Preparations

Creating a User with the Permissions Defined in the ESM ReadOnlyAccess Policy of IAM

Step 1 Log in to **the IAM console**.

Step 2 Create a user group and attach the **ESM ReadOnlyAccess** policy to the group.

Step 3 Create a user and add the user to the group created in **2**.

Step 4 Send the ID of the created user to Huawei Cloud technical support engineers for dashboard configuration.

Step 5 **Log in as the IAM user** and verify permissions.

Access the ESM console as the created user and choose **Visualization** from the main menu. If you can normally view dashboards, the **ESM ReadOnlyAccess** policy has already taken effect.

----End

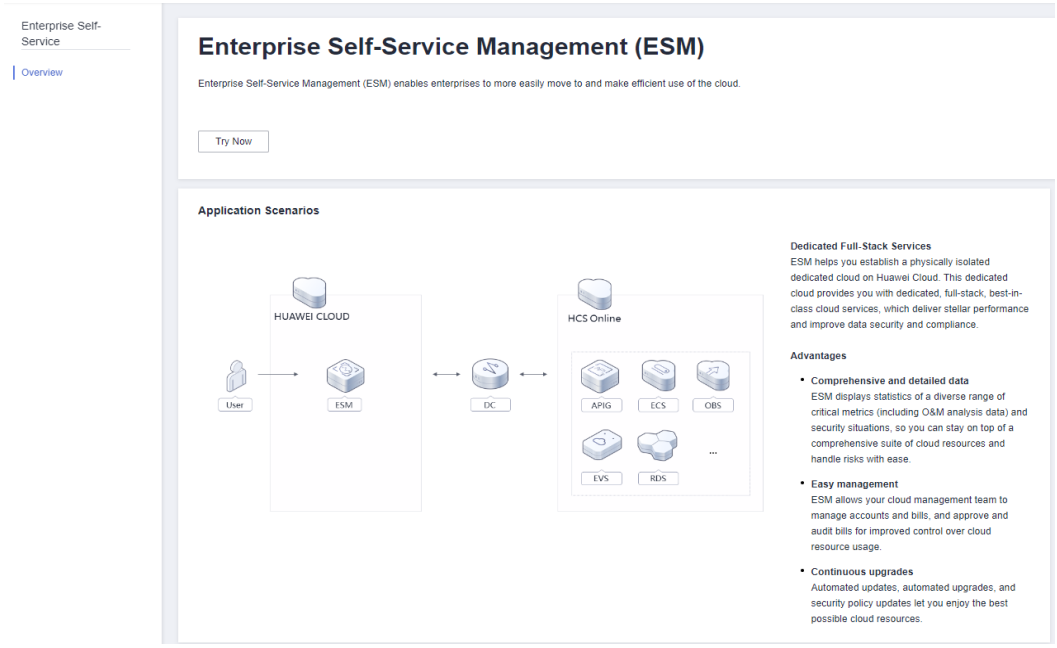
1.2.2 Getting Started

Accessing ESM Through the Huawei Cloud Console

Step 1 **Log in to Huawei Cloud**.

Step 2 Click ☰ in the upper left corner and choose **All Services** > **Business Applications** > **Enterprise Self-Service Management (ESM)**.

Step 3 In the navigation pane, choose **Overview**.

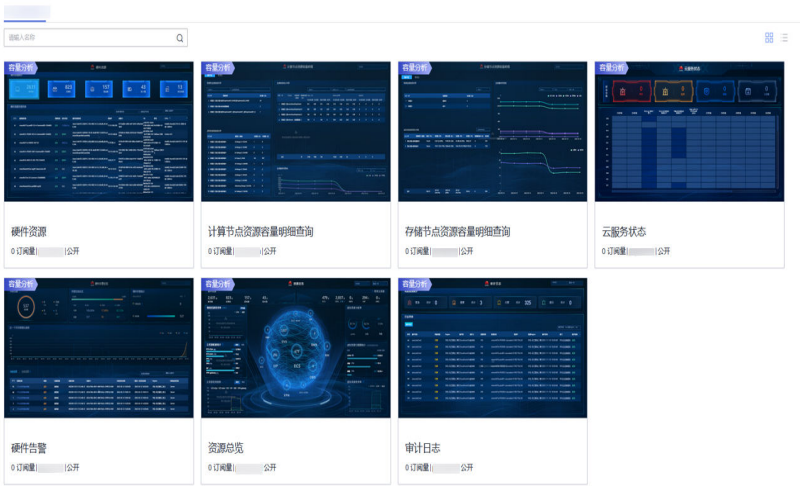


Step 4 Click **Try Now** to access ESM.

----End

Viewing Dashboards

Step 1 Choose **Visualization** from the main menu.



Step 2 On the **Operations Dashboards** page, select a dashboard to access it. The statistics included in dashboards can be used for decision-making.

View the dashboards described in **Operations Dashboards**.

----End

2 Managing Tenants

2.1 Solution Overview

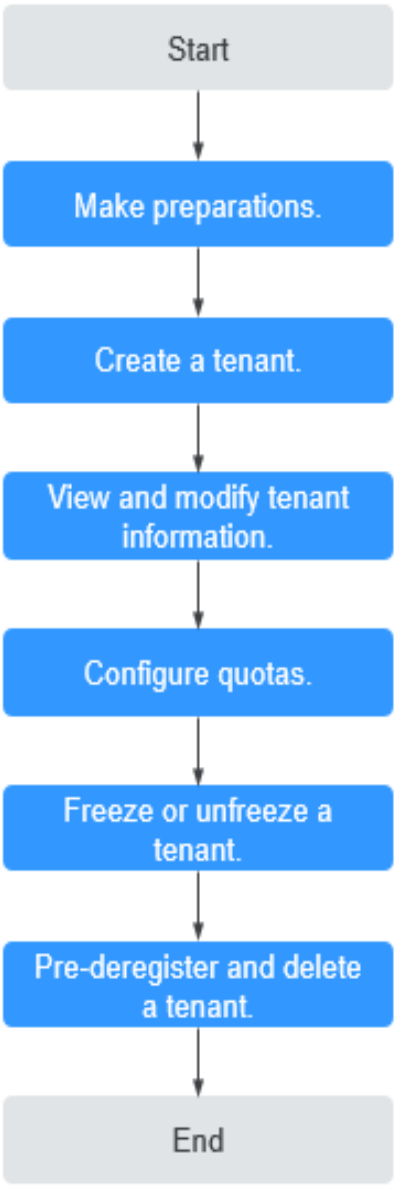
Scenarios

This solution walks you through how to create, use, and manage tenants.

Architecture

Figure 2-1 shows the operation process of tenant management.

Figure 2-1 Operation process of tenant management



Constraints

You have to create a Huawei Cloud account and complete real-name authentication before accessing ESM.

2.2 Process

2.2.1 Preparations

Creating a User with the Permissions Defined in the ESM ReadOnlyAccess Policy of IAM

Step 1 Log in to **the IAM console**.

Step 2 Create a user group and attach the **ESM ReadOnlyAccess** policy to the group.

Step 3 Create a user and add the user to the group created in **2**.

Step 4 Send the ID of the created user to Huawei Cloud technical support engineers for dashboard configuration.

Step 5 **Log in as the IAM user** and verify permissions.

Access the ESM console as the created user and choose **Visualization** from the main menu. If you can normally view dashboards, the **ESM ReadOnlyAccess** policy has already taken effect.

----End

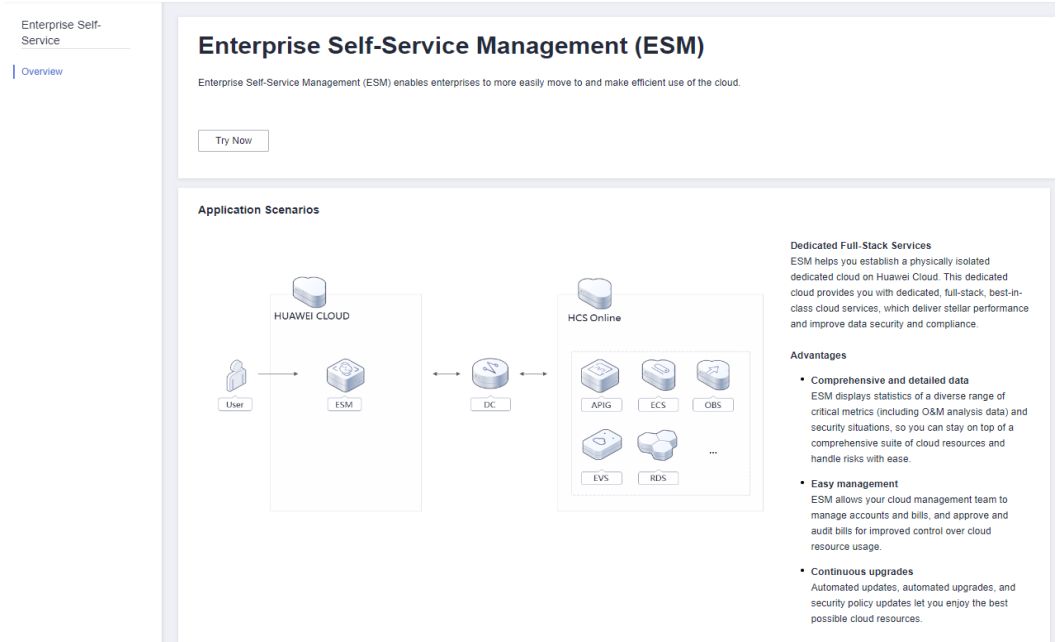
2.2.2 Getting Started

Accessing ESM Through the Huawei Cloud Console

Step 1 **Log in to Huawei Cloud**.

Step 2 Click ☰ in the upper left corner and choose **All Services** > **Business Applications** > **Enterprise Self-Service Management (ESM)**.

Step 3 In the navigation pane, choose **Overview**.



Step 4 Click **Try Now** to access ESM.

----End

Creating a Tenant

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, click **Create Tenant**.

Step 3 Set the parameters as described in **Table 2-1**.

Table 2-1 Descriptions of key parameters

Parameter	Description
Site	Select a site where the tenant is to be created.
Tenant Name	Enter a tenant name.
Password	Enter a tenant password.
Confirm Password	Enter the password again.
Description	Enter a description of the tenant to be created.

Step 4 Click **Confirm**.

----End

Viewing and Modifying Tenant Information

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, perform the tasks described in **Table 2-2** as needed.

Table 2-2 Related tasks

Task	Description	Procedure
Viewing tenant information	You can view names, statuses, and descriptions of tenants in the tenant list.	View basic information about tenants.
Exporting tenant information	You can export basic information about tenants to your local system for backup and statistics collection.	Click **Export** and select **Export Tenants**. By default, information about all tenants is exported.
Exporting project information	You can export information about all projects in a tenant.	Click **Export** and select **Export Projects**. By default, information about all projects is exported.

Step 3 Locate the row that contains a tenant and click **Modify** in the **Operation** column.

Step 4 Change the tenant description.

NOTE

When configuring a whitelist, you can change a tenant name.

Step 5 Click **Confirm**.

----End

Configuring Quotas

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, locate the row that contains a tenant and click **Configure Quota** in the **Operation** column. On the displayed page, set filter criteria on the right.

Step 3 Click **Change Allocated Quota** and enter a total quota for each metric item of each service.

Step 4 Click **Save**. In the displayed dialog box, confirm your quota changes.

Step 5 Click **OK**.

----End

Freezing or Unfreezing a Tenant

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, locate the row that contains the tenant to be frozen or unfrozen and choose **More** > **Freeze** or **More** > **Unfreeze**.

NOTE

Only normal tenants can be frozen.

Only frozen tenants can be unfrozen.

Step 3 Click **OK**.

----End

Managing Pre-deregistrations

NOTE

Pre-deregistration management is enabled by default to prevent tenant accounts from being deleted by mistake or quickly restore accounts.

Pre-deregistering a tenant

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, locate the row that contains the tenant to be deregistered and choose **More** > **Pre-deregister**.

Step 3 In the displayed dialog box, click **OK**.

Step 4 On the **Pre-deregistrations** tab page displayed by default, verify that the status of the tenant changes to **Pre-deregistered**.

----End

Managing pre-deregistrations

Step 1 Choose **Organization** from the main menu.

Step 2 On the **Tenants** page, click the **Pre-deregistrations** tab.

Step 3 Perform the tasks described in **Table 2-3** as needed.

Table 2-3 Pre-deregistration management tasks

Task	Description	Procedure
Enabling or disabling frozen period configuration	You can choose whether to enable frozen period configuration.	Toggle on **Set Frozen Period**. Toggle off **Set Frozen Period**.
Configuring a frozen period	You can configure a frozen period that applies to all tenants except the pre-deregistered ones whose frozen periods have started.	1. Toggle on **Set Frozen Period**. 2. Configure a frozen period before deregistration. 3. Click **OK**.
Restoring a tenant	You can restore a pre-deregistered tenant. **NOTE** Only tenants in the **Frozen** state can be restored.	Locate the row that contains a pre-deregistered tenant and click **Restore** in the **Operation** column. You can also select multiple tenants and click **Restore** on the left above the list to restore them.

Task	Description	Procedure
Deleting a tenant	You can permanently delete a tenant that is no longer in use. **NOTE** • Only the tenants whose frozen periods have ended can be deleted. • After a tenant is permanently deleted, all resource data and configurations of the tenant cannot be restored.	1. Locate the row that contains the tenant and click **Permanently Delete**. 2. In the displayed dialog box, enter *Tenant name* **+DELETE** and click **OK**.

----End

3 Calling APIs

3.1 Solution Overview

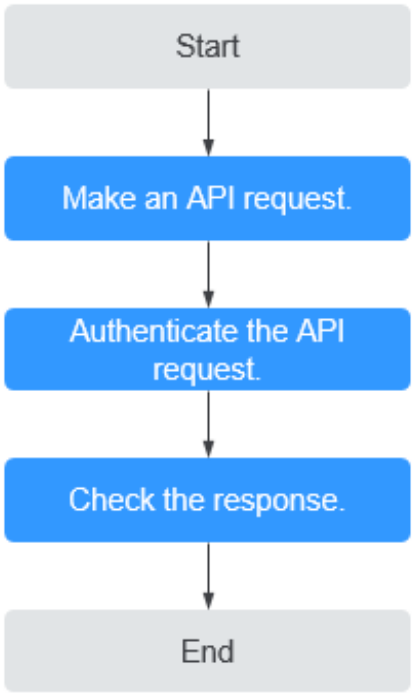
Scenarios

This solution walks you through how to call APIs.

Architecture

Figure 3-1 shows the operation process of calling an API.

Figure 3-1 Operation process of calling an API



3.2 Process

3.2.1 Making an API Request

This section describes the structure of a REST API, and uses the ESM API for creating a query task as an example to describe how to call an API.

Request URI

A request URI is in the following format:

{URI-scheme}://{Endpoint}/{resource-path}?{query-string}

Although a request URI is included in the request header, most programming languages or frameworks require passing the request URI separately.

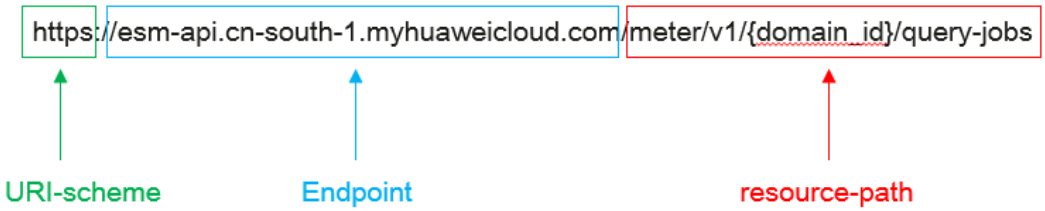
Table 3-1 URI parameter descriptions

Parameter	Description
URI-scheme	Protocol used to transmit requests. All APIs use HTTPS.
Endpoint	Domain name or IP address of the server where the REST service is deployed. The value varies depending on services and regions. Obtain the value of this parameter from **Regions and Endpoints**. For example, the endpoint of ESM in the **CN South-Guangzhou** region is **esm-api.cn-south-1.myhuaweicloud.com**.
resource-path	Access path of an API. Obtain the path from the URI of an API. For example, **resource-path** of the API for creating a query task is **/meter/v1/{domain_id}/query-jobs**.
query-string	(Optional) Query parameter. Not all APIs have a query parameter. Ensure that a question mark (?) is included before each query parameter that is in the format of "*Parameter name*=*Parameter value*". For example, **?limit=10** indicates that a maximum of 10 data records will be displayed.

For example, to obtain an ESM token in the **CN South-Guangzhou** region, obtain the ESM endpoint (**esm-api.cn-south-1.myhuaweicloud.com**) for this region and the **resource-path** (**/meter/v1/{domain_id}/query-jobs**) in the URI of the API used to create a query task. Then, construct the URI as follows:

```
https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
```


Figure 3-2 Example URI



NOTE

To simplify the URI display, this document provides only the **resource-path** and request method in the URI of each API. The **URI-scheme** of all APIs is HTTPS, and the endpoints of all APIs in the same region are identical.

Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server.

Table 3-2 HTTP-based methods

Method	Description
GET	Requests a server to return specified resources.
PUT	Requests the server to update specified resources.
POST	Requests the server to add resources or perform special operations.
DELETE	Request the server to delete specified resources, for example, an object.

For example, in the URI of the API used to **create a query task**, the request method is **POST**. The request is as follows:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
```

Request Headers

You can add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, add **Content-Type**, which specifies the request body type, to a request for the authentication information.

Table 3-3 lists common request header fields.

Table 3-3 Common request header fields

Name	Description	Mandatory	Example Value
Content-Type	Type (or format) of requests being sent from a client to a server. The default value **application/json** is recommended. Other values will be described in specific APIs.	Yes	application/json
Accept	Type (or format) of the response content a client is expecting. Currently, the value can only be **application/json**.	No	application/json
X-Auth-Token	User token. The user token is a response to the API used to **obtain a user token**. This API is the only one that does not require authentication. After the request is processed, the value of **X-Subject-Token** in the response header is the token value.	Yes This field is mandatory for authentication using tokens.	The following is part of an example token: MIIPAgYJKoZIhvc-NAQcCo...ggg1BBIINPXsidG9rZ

(Optional) Request Body

This part is optional. A request body is generally sent in a structured format (for example, JSON or XML), which is specified by **Content-Type** in the request header. It is used to transfer content other than the request header. If the request body contains full-width characters, these characters must be coded in UTF-8.

Request bodies vary depending on APIs. Some APIs do not require a request body, such as the APIs requested using the GET and DELETE methods.

> **NOTE**
>
> In the case of the API used to create a query task, you can obtain the required request parameters and parameter descriptions from the API request. The following is a request carrying the message body, where the values of the fields are examples:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
Content-Type: application/json

{
  "hcso_id": "********",
  "region_id": "********",
  "min_sdr_time": "2022-01-01 00:00:00",
  "max_sdr_time": "2022-02-01 00:00:00"
}
```

If all data required for the API request is available, you can send the request to call an API through curl, Postman, or coding. In the response to the API used to obtain a user token, **x-subject-token** is the target user token. This token can then be used to authenticate other API calls.

3.2.2 Authenticating the API Request

Token authentication is required to call an ESM API.

Token Authentication

> **NOTE**
>
> The validity period of a token is 24 hours. When using a token for authentication, cache it to avoid frequently calls to the API.

A token specifies temporary permissions in a computer system.

During API authentication using a token, the token is added to a request to get permissions for calling the API. Obtain it by calling the API for **obtaining a user token**.

A cloud service can be deployed as either a project-level service or global service, where,

- For a project-level service, obtain a project-level token. When you call the API, set **auth.scope** in the request body to **project**.
- For a global service, obtain a global token. When you call the API, set **auth.scope** in the request body to **domain**.

Message & SMS is a project-level service. When you call the API for **obtaining a user token**, set **auth.scope** in the request body to **project**.

```
{
    "auth": {
        "identity": {
            "methods": [
                "password"
            ],
            "password": {
                "user": {
                    "name": "username",
                    "password": "********",
                    "domain": {
                        "name": "domainname"
                    }
                }
```



```
            }
        },
        "scope": {
            "project": {
                "name": "xxxxxxxx"
            }
        }
    }
}
```

After a token is obtained, the **X-Auth-Token** header must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, add **X-Auth-Token: ABCDEFJ....** to a request as follows:

```
POST https://esm-api.cn-south-1.myhuaweicloud.com/meter/v1/{domain_id}/query-jobs
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

3.2.3 Checking the Response

Status Codes

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For details, see Status Codes.

If **201** is returned for calling the API used to create a query task, the request is successful.

Response Headers

Similar to a request, a response also has a header, for example, **Content-Type**.

(Optional) Response Body

This part is optional. The body of a response is often returned in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to create a query task:

```
{
  "job_id": "********"
}
```

If an error occurs during API calling, error code and error message will be displayed. The following shows an error response body.

```
{
    "error_msg": "The format of message is error",
    "error_code": "AS.0001"
}
```

In the error response, **error_code** indicates an error code, and **error_msg** describes the error.

