

Getting Started with Image Recognition

Issue 01
Date 2021-07-09



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1 Introduction to Image Recognition

For details about the concept, advantages, functions, and application scenarios of Image Recognition, see the [Image Recognition Service Overview](#).

Image Recognition provides Image Tagging.

Image Recognition provides services through open APIs. To call APIs and process the results returned in JSON format, you need basic programming skills.

The following methods are available to call Image Recognition APIs:

- **A software tool such as curl or Postman**

These are good options if you are more comfortable writing code, HTTP requests, and API calls. For details, see [Using Postman to Call Image Recognition](#).

- **Software development kit (SDK)**

SDKs for Java, Python, PHP, and Node.js are available for quick integration. For details, see [Using the SDK to Call Image Recognition](#).

 **NOTE**

This service does not support offline deployment.

2 Using Postman to Call Image Recognition

This section provides an example of how to use Postman to call Image Recognition, helping you quickly get familiar with the service without coding. The procedure is as follows:

Step 1: Subscribing to a Service. Subscribe to your desired service on the **Service List** or **Service Management** page.

(Optional) Step 2: Enabling OBS Authorization. To use the data stored on OBS for Image Recognition, enable OBS authorization.

Step 3: Configuring the Environment. Obtain the SDK and sample project and import them to the development environment.

Step 4: Using a Token for Authentication. During API authentication using a token, the token is added to request headers to obtain permissions for calling an API.

Step 5: Calling a Service API. Call the service API. You can view the status code and error code at any time during the usage.

Step 1: Subscribing to a Service

To subscribe to Image Recognition, perform the following steps:

- Step 1** Log in to **HUAWEI CLOUD**, apply for a HUAWEI CLOUD account, and complete real-name authentication.
- Step 2** On the top of the **HUAWEI CLOUD** page, choose **Products > AI > Image Recognition**.
- Step 3** On the product page, click **Try Now** and enter the username and password to access the **Image Recognition** management console.
- Step 4** Subscribe to your desired service on the **Service List** or **Service Management** page.

For example, to subscribe to Image Tagging on the **Service Management** page, select **Image Tagging** in the **Commercial services** area and click **Subscribe**.

 NOTE

- You only need to subscribe to the service once.

Step 5 After being subscribed to, the service is displayed in **My Services** on the **Service Management** page. In this case, you can call related APIs to use the service.

----End

(Optional) Step 2: Enabling OBS Authorization

If you want to use the data stored on OBS, enable OBS authorization. The procedure is as follows:

 NOTE

1. The region and permissions of OBS must be consistent with those of Image Recognition.
2. OBS authorization must be performed by an account, not by an IAM user.

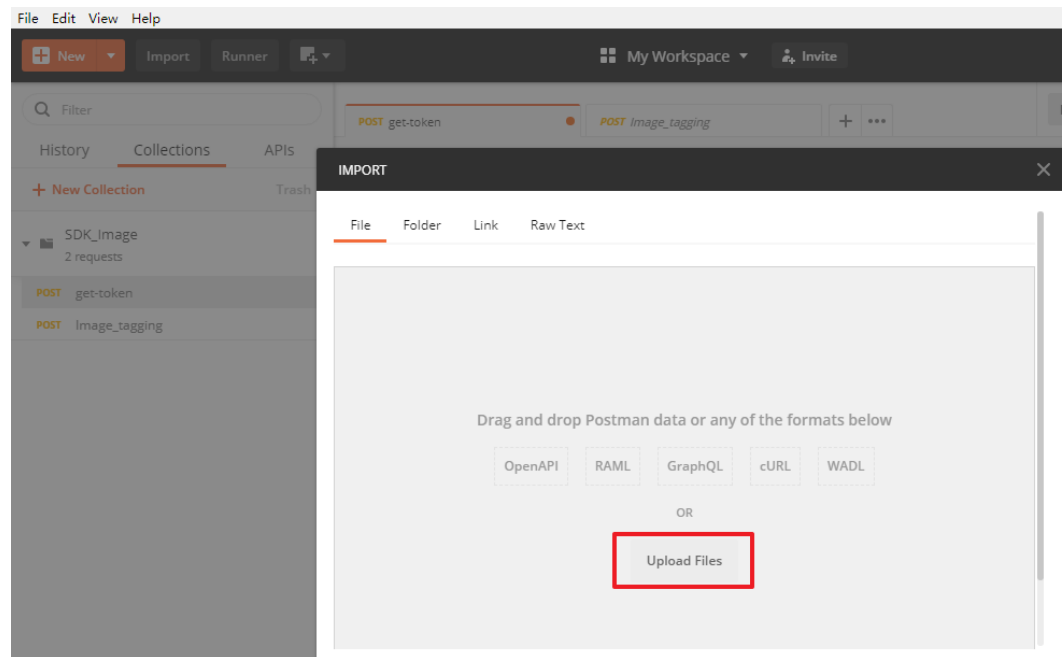
Step 1 Log in to the management console and choose **Service List > Image Recognition**. In the navigation pane, choose **Service Management** .

Step 2 Enable **OBS Authorization**.

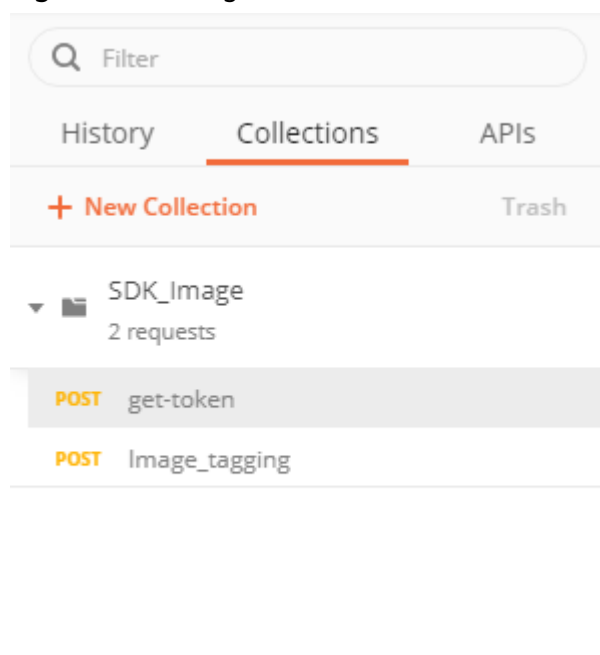
----End

Step 3: Configuring the Environment

1. Download and install Postman.
Postman 7.24.0 is recommended.
2. Download the [Postman configuration file](#) for Image Recognition.
3. Import the configuration file.
 - a. Open and log in to Postman.
 - b. Choose **File > Import** in the upper left corner. In the displayed dialog, click **Upload Files** to import the configuration file.

Figure 2-1 Importing the configuration file

4. After the configuration file is imported, it is displayed in the **Collections** directory in the left navigation pane.

Figure 2-2 Configuration Files

Step 4: Using a Token for Authentication

A token is a user's access credential, which includes user identities and permissions. When you call an API to access a cloud service, a token is required for identity authentication.

1. In the **Collections** directory in the navigation pane of Postman, click the **get-token** configuration file.

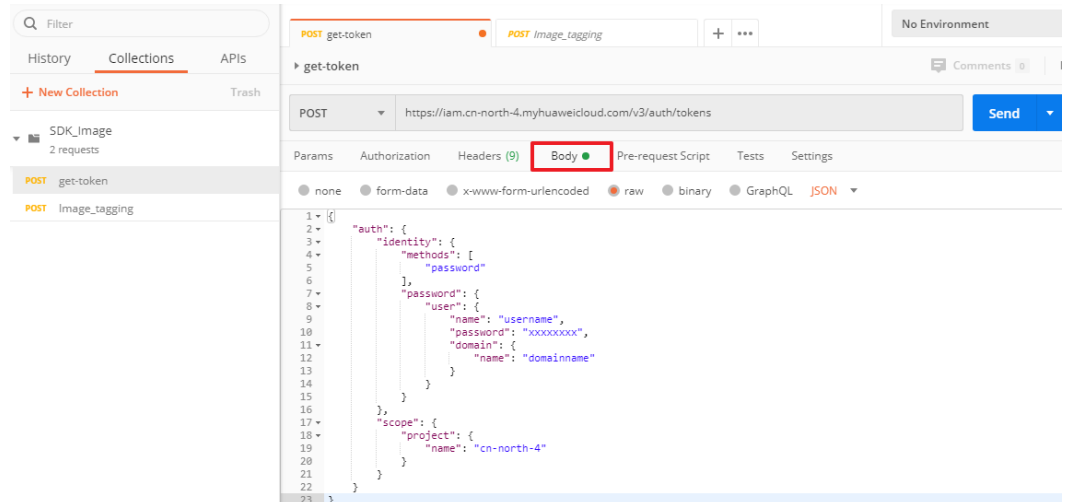
- Click **Body**. Enter the username, password, and domain name.

NOTE

To obtain the username, password, and domain name, perform the following steps:

- Log in to the management console.
- Hover the cursor on the username and choose **My Credentials** from the drop-down list. Copy the IAM username and account name to **username** and **domainname**, and enter the IAM user password.

Figure 2-3 Token-based authentication



- Click **Send** to send a request, and obtain and copy the token. In **Headers**, obtain the value of **X-Subject-Token**, which is the token. The token is valid for 24 hours.

Figure 2-4 Obtaining a token

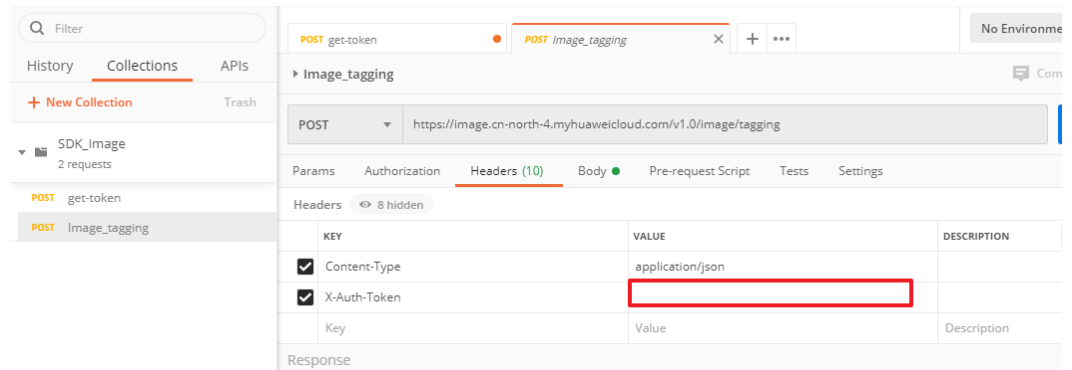
Body	Cookies	Headers (17)	Test Results	Status: 201 Created	Time: 553 ms	Size: 25.38 KB
Date		Tue, 11 May 2021 03:38:49 GMT				
Pragma		no-cache				
Server		api-gateway				
Expires		Thu, 01 Jan 1970 00:00:00 GMT				
Connection		Keep-Alive				
Content-Type		application/json; charset=UTF-8				
X-Request-Id		b87d6ea35867ad8a503b22aae35cb971				
Cache-Control		no-cache, no-store, must-revalidate				
Content-Length		17953				
X-IAM-Trace-Id		token_cn-north-4_null_5d482f1a382a66f88306ade2ec5522d3				
X-Frame-Options		SAMEORIGIN				
X-Subject-Token		MIIVsQYJKoZIhvcNAQcCollVojCCFZ4CAQExDTALBgIghkgBZQV				
X-XSS-Protection		1; mode=block;				
X-Download-Options		noopen				

Step 5: Calling a Service API

- In the **Collections** directory in the navigation pane of Postman, click the **Image_tagging** configuration file.

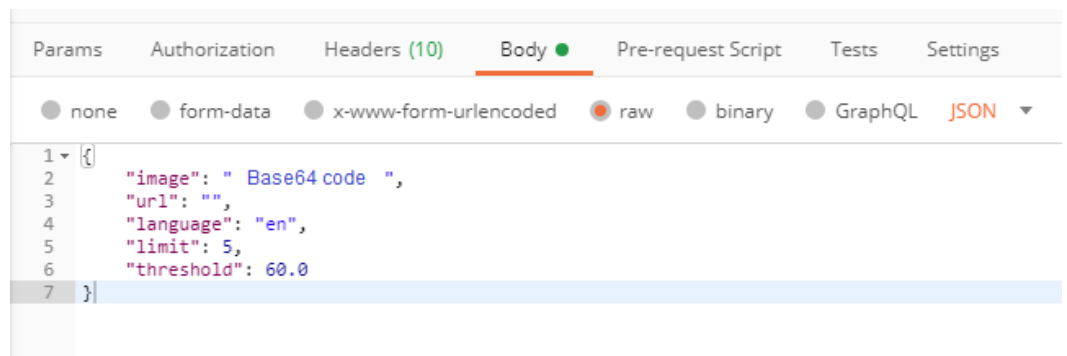
2. Click **Headers** and copy the token value to **X-Auth-Token**.

Figure 2-5 Entering the token



3. Click **Body** and enter the Base64 code of the image to **image**.
 - For details about other body parameters, see [Image Tagging](#).

Figure 2-6 Modifying the parameters



4. Click **Send** to send the request and obtain the API call results.

```

{
  "result": {
    "tags": [
      {
        "confidence": "94.53",
        "i18n_tag": {
          "en": "Animation",
          "zh": "Enter the Chinese characters of Animation here".
        },
        "tag": "Animation",
        "type": "object"
      },
      {
        "confidence": "73.55",
        "i18n_tag": {
          "en": "Design",
          "zh": "Enter the Chinese characters of Design here".
        },
        "tag": "Design",
        "type": "object"
      },
      {
        "confidence": "71.97",
        "i18n_tag": {
          "en": "Cartoon",
          "zh": "Enter the Chinese characters of Cartoon here".
        },
        "tag": "Cartoon",

```

```
    "type": "object"
  },
  {
    "confidence": "63.4",
    "i18n_tag": {
      "en": "Art",
      "zh": "Enter the Chinese characters of Art here".
    },
    "tag": "Art",
    "type": "object"
  }
]
}
```

3 Using the SDK to Call Image Recognition

This section provides an example of how to use a Java SDK to call Image Recognition. You can directly call APIs to use SDK functions. The procedure is as follows:

Step 1: Subscribing to a Service. Subscribe to your desired service on the **Service List** or **Service Management** page.

(Optional) Step 2: Enabling OBS Authorization. To use the data stored on OBS for Image Recognition, enable OBS authorization.

Step 3: Configuring the Environment. Obtain the SDK and sample project and import them to the development environment.

Step 4: Modifying the Configuration. Use AK/SK-based authentication.

Step 5: Calling a Service API. Call the service API. You can view the status code and error code at any time during the usage.

Step 1: Subscribing to a Service

To subscribe to Image Recognition, perform the following steps:

- Step 1** Log in to **HUAWEI CLOUD**, apply for a HUAWEI CLOUD account, and complete real-name authentication.
- Step 2** On the top of the **HUAWEI CLOUD** page, choose **Products > AI > Image Recognition**.
- Step 3** On the product page, click **Try Now** and enter the username and password to access the **Image Recognition** management console.
- Step 4** Subscribe to your desired service on the **Service List** or **Service Management** page.

For example, to subscribe to Image Tagging on the **Service Management** page, select **Image Tagging** in the **Commercial services** area and click **Subscribe**.

 NOTE

- You only need to subscribe to the service once.

Step 5 After being subscribed to, the service is displayed in **My Services** on the **Service Management** page. In this case, you can call related APIs to use the service.

----End

(Optional) Step 2: Enabling OBS Authorization

If you want to use the data stored on OBS, enable OBS authorization. The procedure is as follows:

 NOTE

1. The region and permissions of OBS must be consistent with those of Image Recognition.
2. OBS authorization must be performed by an account, not by an IAM user.

Step 1 Log in to the management console and choose **Service List > Image Recognition**. In the navigation pane, choose **Service Management**.

Step 2 Enable **OBS Authorization**.

----End

Step 3: Configuring the Environment

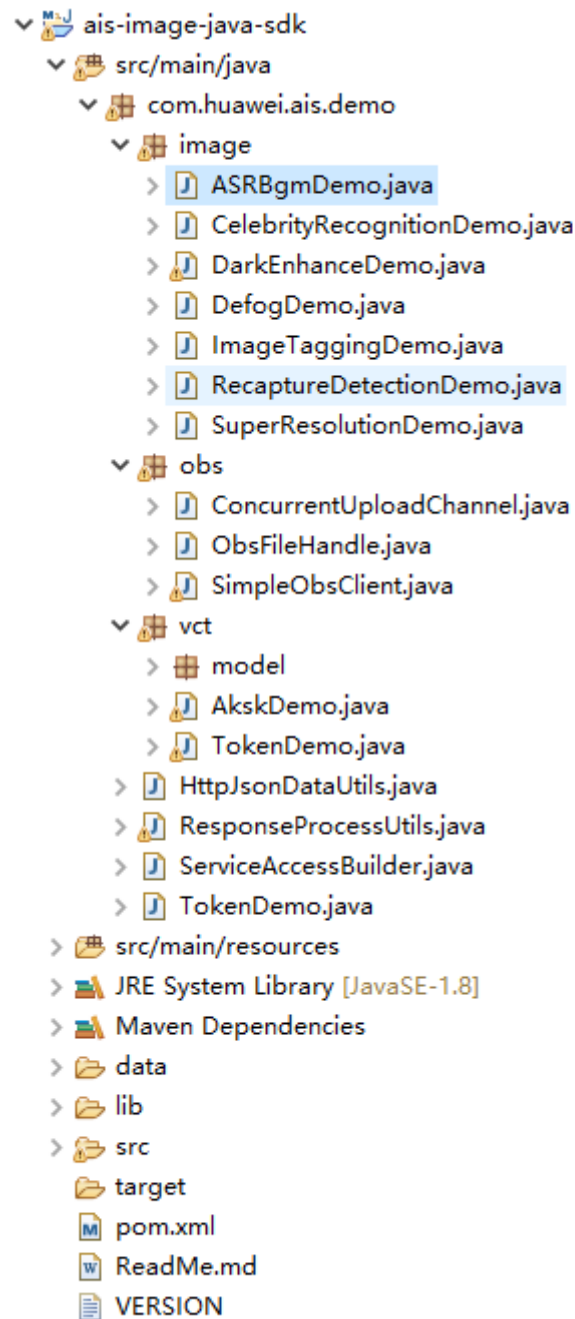
You can compile code to call Image Recognition APIs using the Image Recognition SDK. You need to configure the environment when using the SDK and calling APIs. The procedure is as follows:

Step 1 **Obtain** the Image Recognition SDK software packages and documents.

Step 2 For details about how to configure the environment, see [Preparing a Java Development Environment](#).

Step 3 Import an SDK project on Eclipse.

1. Open Eclipse and configure the correct JRE path in **Windows > Preferences > Java > Installed JREs**.
2. Right-click **Package Explorer** on the left, and click **Import**. Choose **Maven > Existing Maven Projects**, and click **Next**. Then click **Browse**, and select the path where **ais-image-java-sdk** resides.
3. Click **Finish** to import the SDK. After the SDK is imported, open the project. [Figure 3-1](#) shows the project directory.

Figure 3-1 Project directory

----End

Step 4: Modifying the Configuration

Image Recognition supports token-based and AK/SK-based authentication. This section uses AK/SK-based authentication as an example.

Step 1 Obtain an AK/SK.

The AK/SK is the access key. To obtain the AK/SK, log in to the [My Credentials](#) page, choose **Access Keys** in the left navigation pane, and click **Create Access Key** in the right pane.

Step 2 For AK/SK-based authentication, configure the AK/SK in the Java SDK.

Change the values of **AK** and **SK** of the function in the **ImageTaggingDemo.java** file of the project to the obtained AK/SK. The sample code is as follows:

```
// 1. Configure the basic information for accessing Image Tagging and generate a client connection object.
AisAccess service = ServiceAccessBuilder.builder()
    .ak("#####") // your ak
    .sk("#####") // your sk
    .region("ap-southeast-1") // Configuration of Image Recognition in the CN-Hong Kong region
    .connectionTimeout(5000) // Timeout limit for connecting to the target URL
    .connectionRequestTimeout(1000) // Timeout limit for obtaining available connections from the
connection pool
    .socketTimeout(20000) // Timeout limit for obtaining server response data
    .build();
```

Step 3 Select a local image or use the default image of the sample project, and modify the image path (*data/image-tagging-demo-1.jpg*) in the **ImageTaggingDemo.java** file.

```
//
// 2. Construct the parameters required for accessing Image Tagging.
//
String uri = "/v1.0/image/tagging";
byte[] fileData = FileUtils.readFileToByteArray(new File("data/image-tagging-demo-1.jpg"));
String fileBase64Str = Base64.encodeBase64String(fileData);
```

----End

Step 5: Calling a Service API

Step 1 Execute the **ImageTaggingDemo.java** file. If **200** is displayed on the console, the program is successfully executed. The **recognition result** is shown in [Figure 3-2](#).

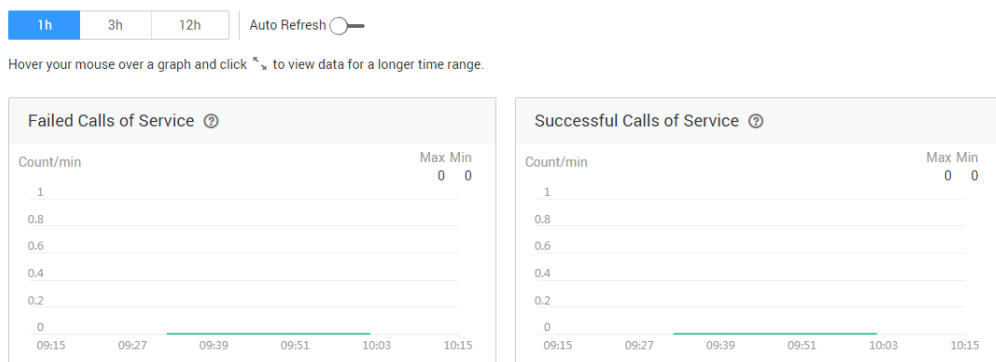
Figure 3-2 Execution result

```

"D:\Program Files\Java\jdk1.8.0_191\bin\java.exe" ...
200
{
  "result":{
    "tags":[
      {
        "confidence":"100.0",
        "tag":"Koala",
        "type":"object",
        "i18n_tag":{
          "en":"Koala",
          "zh":"Enter the Chinese characters of Koala here."
        }
      },
      {
        "confidence":"100.0",
        "tag":"Marsupials",
        "type":"object",
        "i18n_tag":{
          "en":"Marsupials",
          "zh":"Enter the Chinese characters of Marsupials here."
        }
      }
    ]
  }
}

```

Step 2 View the number of API calls. To view the total number of API calls, go to the **Image Tagging** page under **Service List**, or click **View Metric** to go to the Cloud Eye management console, as shown in **Figure 3-3**.

Figure 3-3 Viewing metrics

----End