

# Image Recognition

## User Guide

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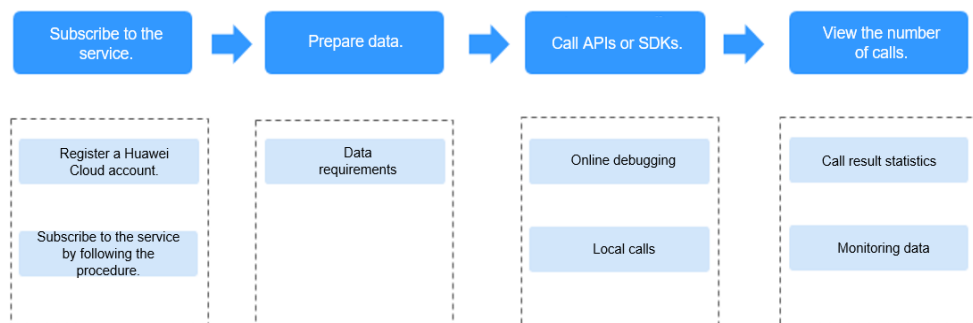
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# 1 Process of Using Image Recognition

Image Recognition is a technology that uses computers to analyze and understand images to identify objects in different modes. You can obtain the inference results by accessing and calling APIs in real time. Image Recognition collects key data automatically and helps you build an intelligent business system that improves efficiency.

The following figure shows the procedure for using Image Recognition.

**Figure 1-1** Procedure for using Image Recognition



**Table 1-1** Procedure for using Image Recognition

Procedure	Sub Task	Description	Instruction
Subscribing to the service	Registering an account with Huawei Cloud	Before using Image Recognition, you need to register a Huawei Cloud account.	<a href="#">Registering a Huawei Cloud Account</a>
	Subscribing to the service by following the procedure	You need to subscribe to the service according to the procedure.	<a href="#">Subscribing to the Image Recognition Service</a>

Procedure	Sub Task	Description	Instruction
Preparing data	Data requirements	There are restrictions on the data format and the number of concurrent calls. Before using the service, you need to prepare the images to be recognized by referring to the restrictions.	<a href="#">Preparing Data</a>
Calling APIs or SDKs	Local calls	Use the image SDK for local development. You can directly call functions to use SDKs.	<a href="#">Calling APIs or SDKs Locally</a>
Viewing the number of calls	Viewing call result statistics	You can view the service use details and the number of API calls on the management console.	<a href="#">Viewing the Number of Calls</a>

# 2 Subscribing to the Service

This section introduces the procedure for subscribing to the service.

## NOTE

- If you are new to Image Recognition, subscribe to the service first. You only need to subscribe to the service once.

## Signing Up for a HUAWEI ID

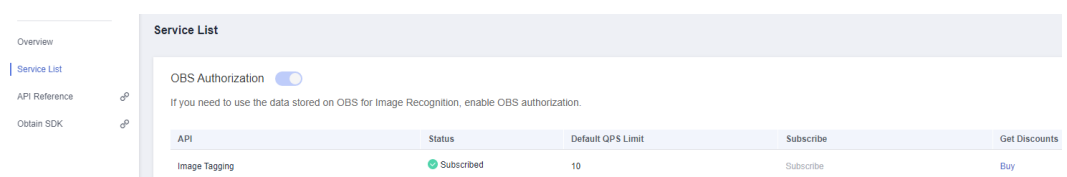
Skip this step if you already have a HUAWEI ID.

1. Log in to the [Huawei Cloud](#) official website.
2. Click **Sign Up** in the upper right corner.
3. Complete the registration as instructed. For details, see [Signing Up for a HUAWEI ID](#).

## Subscribing to the Image Recognition Service

1. Go to the [Image Recognition portal](#) and click **Try Now** to go to the Image Recognition console.
2. In the navigation pane on the left, choose **Service List**. Locate the service you want to use and click **Subscribe**.
3. If the subscription is successful, the status of the service becomes **Subscribed** (the pay-per-use billing mode is used by default).
4. If you want to change the billing mode to yearly/monthly, click **Buy** in the **Get Discounts** column. After buying a package, you can use the service.
5. If you want to use the data stored in OBS, enable **OBS Authorization**.

Figure 2-1 Service List



 **NOTE**

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



# 3 Preparing Data

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The functions of Image Recognition vary depending on the region. There are restrictions on the data format and the number of concurrent calls. Before using the service, you need to prepare the data to be reviewed by referring to the restrictions.

For details about restrictions on service functions, see [Constraints](#).

For example, Image Tagging has the following restrictions on the input data:

- The service is available in the **CN-Hong Kong** region.
- Only images in PNG, JPEG, BMP, or WEBP format can be recognized.
- Each edge of the image must contain 15 to 4,096 pixels.
- The size of the Base64 encoded image cannot exceed 10 MB (the size of the original image cannot exceed 7.5 MB).
- By default, a maximum of 10 APIs can be called simultaneously. To increase this number, submit a [service ticket](#).

# 4 Calling APIs or SDKs

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## 4.1 Calling APIs or SDKs Locally

Image Recognition Software Development Kit (Image SDK) encapsulates the RESTful APIs provided by Image Recognition to simplify application development. You can add dependencies or download SDKs to call APIs to use Image Recognition.

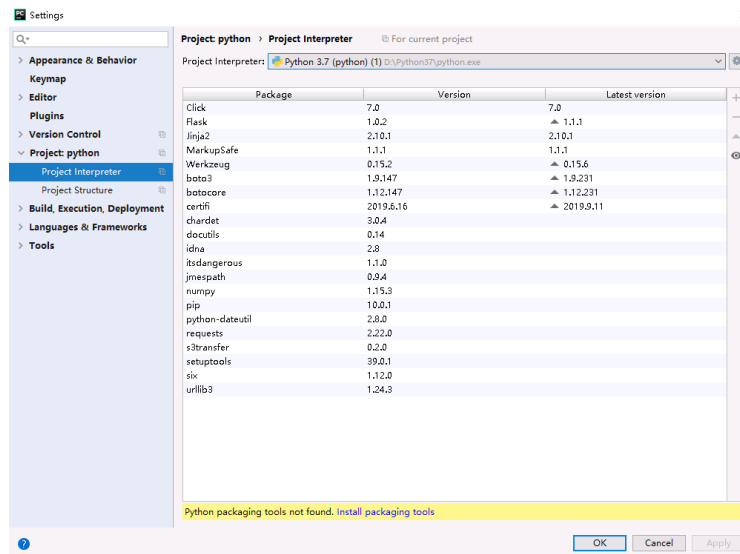
This section uses **Image Tagging** as an example to describe how to use the Image Python SDK for local development. You can use the SDK by calling API functions.

### Prerequisites

- You have registered an account with Huawei Cloud and completed real-name authentication. Your account cannot be in arrears, frozen, or deregistered.
- You have learned the [constraints on Image Tagging](#).
- You have [subscribed to the Image Tagging service](#).

### Procedure

1. Install the Python environment and obtain the SDK.
  - a. Download Python of a proper version from [Python's official website](#) and install it. Python 3.3 or later is recommended. This section uses Python 3.7 as an example.
  - b. Download the latest version of PyCharm from [PyCharm's official website](#).
  - c. Start the PyCharm development tool and choose **File > Settings > Project Interpreter** to configure the Python environment.
  - d. Select the Python installation path. See [Figure 4-1](#). After selecting the target Python, click **Apply** at the bottom of the page to complete the configuration.

**Figure 4-1** Configuring the python environment using PyCharm

2. Create a project in PyCharm and click **Terminal** in the lower left corner. Run the following commands to install the SDK (the SDK supports Python 3 or later):

Install the SDK using pip commands:

```
# Install the core library.  
pip install huaweicloudsdkcore
```

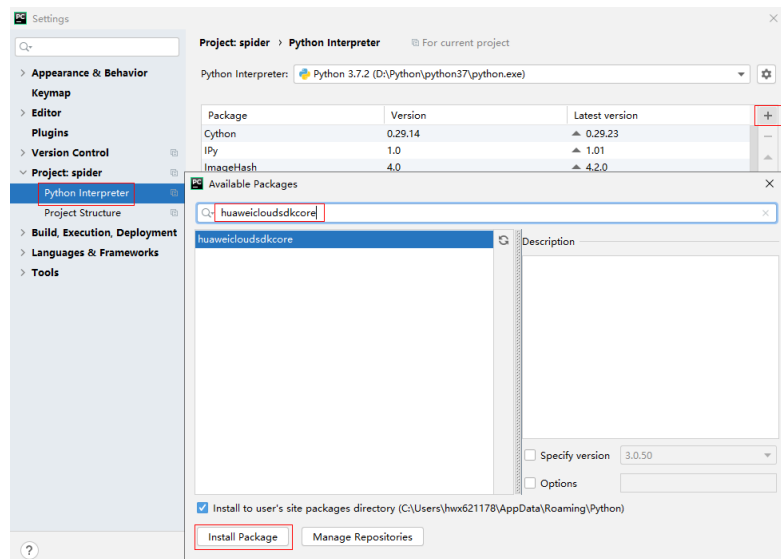
```
# Install the image service library.  
pip install huaweicloudsdkimage
```

To install the Python SDK using PyCharm, perform the following steps:

1. Start PyCharm and choose **File > Settings...**
2. Click **Python Interpreter** and then **+**.
3. Click **+**, search for **huaweicloudsdkcore** and **huaweicloudsdkimage**, and click **Install Package** in the lower left corner to install the packages.

On PyCharm, choose **File > Settings > Project > Python Interpreter**. Click **+** in the upper right corner, search for **huaweicloudsdkcore** and **huaweicloudsdkimage** respectively, and click **Install Package** in the lower left corner to install them.

**Figure 4-2** Installing the Python SDK for Image Recognition using PyCharm



3. Copy the SDK sample code of Image Tagging to PyCharm.

```
# coding: utf-8
from huaweicloudsdkcore.auth.credentials import BasicCredentials
from huaweicloudsdkimage.v2.region.image_region import ImageRegion
from huaweicloudsdkcore.exceptions import exceptions
from huaweicloudsdkimage.v2 import *
if __name__ == "__main__":
    //Enter your AK/SK.
    ak = "<YOUR AK>"
    sk = "<YOUR SK>"
    credentials = BasicCredentials(ak, sk) \
    client = ImageClient.new_builder() \
        .with_credentials(credentials) \
        .with_region(ImageRegion.value_of("ap-southeast-1")) \
        .build()
try:
    request = RunImageTaggingRequest()
    request.body = ImageTaggingReq(
        url="https://support.huaweicloud.com/intl/zh-cn/productdesc-image/zh-cn_image_0241182299.png"
    )
    response = client.run_image_tagging(request)
    print(response)
except exceptions.ClientRequestException as e:
    print(e.status_code)
    print(e.request_id)
    print(e.error_code)
    print(e.error_msg)
```

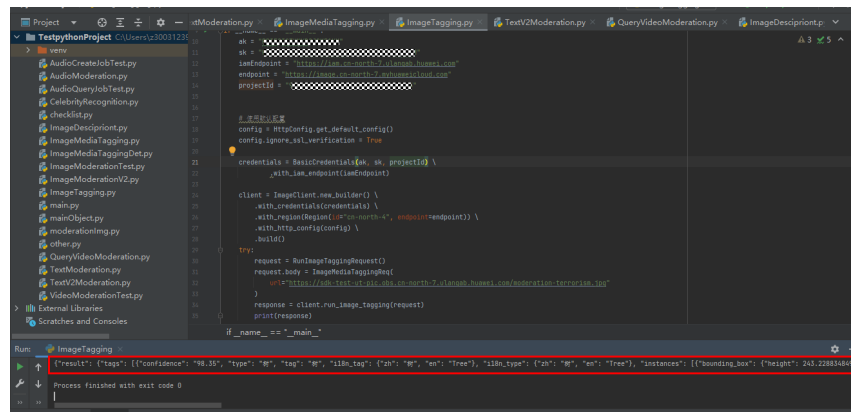
4. Obtain the AK and SK and replace <YOUR AK> and <YOUR SK> in the sample code with the AK and SK, respectively.

Log in to the [Access Keys](#) page. Create an access key or use an existing access key. The AK and SK are contained in the **credentials.csv** file.

A	B	C	D	E
User Name	Access Key	Secret Access Key		
testuser	LSKM	rIZaQ		
	AK	SK		

5. Run the sample code to obtain the recognition result. You can interpret the review result based on the response parameter description. For details, see the [image tag recognition result](#).

Figure 4-3 Example



# 5 Viewing the Number of Calls

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## Function

You can view the number of calls on the Image Recognition console to learn the number of successful and failed calls.

## Procedure

1. Log in to the Image Recognition console. In the left navigation pane, choose **Overview**.
2. You can select a service and set a time period to view the changes in the number of successful and failed calls in this period.