

Speech Interaction Service

Getting Started

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1 Introduction to Speech Interaction Service (SIS)

SIS includes Short Sentence Recognition, Audio File Transcription, Real-Time Automatic Speech Recognition (RASR), and Text To Speech (TTS). It allows you to obtain speech interaction results in real time by calling APIs.

Calling APIs requires programming and development capabilities. The recognition result is returned in JSON format, so you need to convert it using a piece of code.

2 Calling an API to Use Short Sentence Recognition

This section describes how to use Postman to call the Short Sentence Recognition API. The procedure is similar for other SIS APIs. The procedure is as follows:

Step 1: Configuring the Environment

Step 2: Performing Token Authentication

Step 3: Calling Short Sentence Recognition

Prerequisites

You have registered a Huawei ID and enabled Huawei Cloud services. Your account cannot be in arrears or frozen.

Subscribing to the Service

The **Short Sentence Recognition** service is now commercially available. You do not need to apply for OBT.

Maximum QPS: 3

Step 1: Configuring the Environment

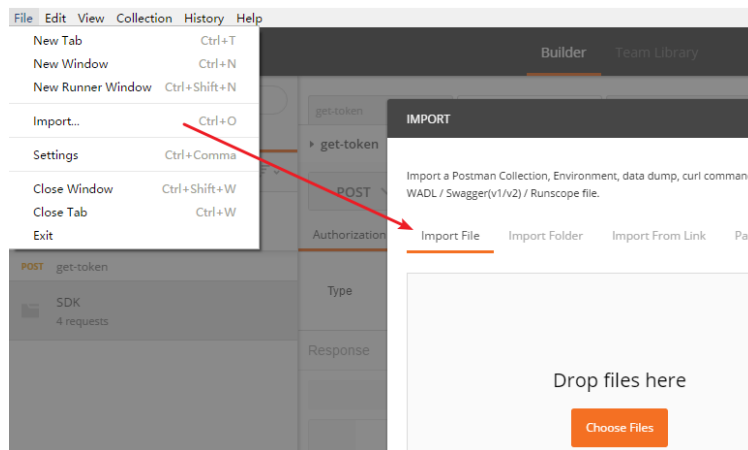
1. Download and install Postman 7.24.0.
2. Download the Postman configuration file of SIS from the following path:

[sis-english.json](#)

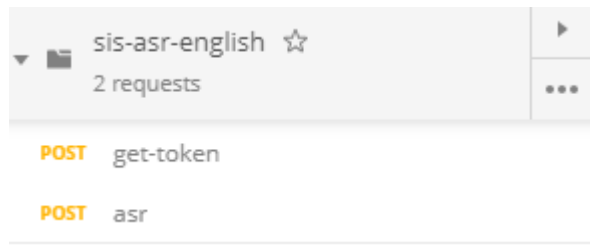
If the browser displays the file content, right-click the file and save it in JSON format.

3. Import the configuration file.
 - a. Open and log in to Postman.
 - b. Choose **File > Import > Import File > Choose Files** to import the configuration file.

Figure 2-1 Importing the configuration file



After the configuration file is imported, it is displayed in the left navigation pane.



Step 2: Performing Token Authentication

When a token is used for API authentication, the token is carried in API requests.

1. On the **Postman** page, click **get-token** in the navigation tree on the left.
2. Select the **Body** configuration item and add the Huawei Cloud username, password, and account name. You can obtain the information on the [My Credentials](#) page.
 - **username**: IAM username
 - **password**: password of the IAM user
 - **domainname**: account name
 - **project name**: the name of the region where the service is deployed. In this example, the region is ap-southeast-3. For details about regions, see [Endpoints](#).

Figure 2-2 Token-based authentication



3. 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 2-3 Obtaining a token

Body	Cookies	Headers (16)	Test Results	Status: 201 Created	Time: 404ms	Size: 25.27 KB	Save Response
		Content-Length		16647			
		Connection		keep-alive			
		X-IAM-Trace-Id		token_cn-north-4_null_02720ac73da1e27272edf6fab756e911			
		Cache-Control		no-cache, no-store, must-revalidate			
		Pragma		no-cache			
		Expires		Thu, 01 Jan 1970 00:00:00 GMT			
		X-Subject-Token		MIIZNgYJKoZlhvcNAQcColIzj:CCGSMCAQExDTALBgIghkgBZQMEAgEwghdlBgkqhkiG9			
		X-Request-Id		7d1dcfbac0e463dda61e7ba926279c7e			
		Server		api-gateway			
		Strict-Transport-Security		max-age=31536000; includeSubdomains;			
		X-Frame-Options		SAMEORIGIN			

Step 3: Calling Short Sentence Recognition

1. On the **Postman** page, click **Short Sentence Recognition** in the navigation tree on the left.
2. Click **Headers** and replace the value of **X-Auth-Token** with the obtained token value.
3. Replace **{{ap3-project_id}}** with the project ID. You can obtain the project ID on the **My Credentials** page.
4. Click **body** and copy the Base64 code of the audio to the data parameter (the sample audio has been added to the configuration file).
5. Click **send** to send the request, and then view the returned result.

The screenshot displays a REST client interface for an API call. The request is a POST to the URL `https://sis-ext.ap-southeast-3.myhuaweicloud.com/v1/{{ap3-project-id}}/asr/short-audio`. The headers section shows two checked headers: `X-Auth-Token` with value `{{ap3-token}}` and `Content-Type` with value `application/json`. The response body is shown in JSON format:

```
1 {
2   "trace_id": "06fff252-8975-4102-a771-7691ef1fca7d",
3   "result": {
4     "text": "Nice to meet you.",
5     "score": 0.9611474871635437
6   }
7 }
```


3 Calling the Java SDK to Use Short Sentence Recognition

SIS SDKs encapsulate RESTful APIs provided by SIS to simplify development. You can directly call APIs provided by SIS SDKs to use the service capabilities.

This section uses Short Sentence Recognition as an example to show you how to use a Java SDK to access Huawei Cloud SIS. The procedure is as follows:

Step 1: Configuring the Environment

Step 2: Modifying Configuration Information

Step 3: Calling Short Sentence Recognition

Prerequisites

You have registered a Huawei ID and enabled Huawei Cloud services. Your account cannot be in arrears or frozen.

Subscribing to the Service

The **Short Sentence Recognition** service is now commercially available. You do not need to apply for OBT.

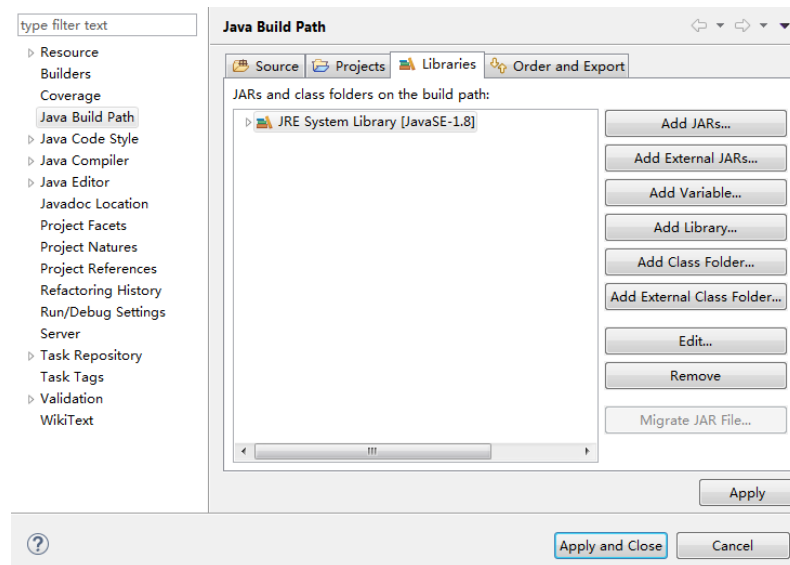
Maximum QPS: 3

Step 1: Configuring the Environment

1. Download the SIS Java SDK.
Download address: <https://sis-open-data.obs.ap-southeast-3.myhuaweicloud.com/java/huaweicloud-java-sdk-sis-1.2.0.zip>
2. Prepare the Java development environment.
 - Download a JDK from the [Oracle official website](#) and install it. The 1.8 version is strongly recommended.
 - Download the latest version of Eclipse IDE for Java Developers (for example, [eclipse-jee-mars-R-win32-x86_64.zip](#)) from the [Eclipse official website](#) and install it.

For details, see [Configuring the Java Environment](#).

3. Create an SIS Java SDK project.
 - a. Decompress Eclipse and open it. Configure the JRE path correctly in **Window > Preferences > Java > installed JREs**.
 - b. Create a project and choose **New > Folder** to create a folder named **lib** under the project. Copy the downloaded JAR file to the **lib** folder.
 - c. Right-click the new project and choose **Build Path > Configure Build Path** from the shortcut menu. In the **Java Build Path** dialog box, click the **Libraries** tab and choose **Add JARs**. In the window that is displayed, select the JAR file that you just put in the **lib** folder. Click **OK**.



Step 2: Modifying Configuration Information

AK/SK- or token-based authentication can be used for the OCR Java SDK demo. In this example, AK/SK-based authentication is used.

1. Obtain an AK/SK.

The AK/SK is the access key. To obtain the AK/SK, log in to the [My Credentials](#) page and choose **Access Keys > Add Access Key**.
2. For AK/SK-based authentication, configure the AK/SK in the OCR SDK for Java. Change the values of **AK** and **SK** of the function in the **AsrCustomizationDemo.java** file of the demo project to the obtained AK and SK, respectively.
3. Set the parameters in the sample file **AsrCustomizationDemo.java** in the demo folder of the SDK. For details about the parameters, see [Table 3-1](#), [Table 3-2](#), and [Table 3-3](#).

```
import com.huawei.sis.bean.SisConfig;
import com.huawei.sis.bean.SisConstant;
import com.huawei.sis.bean.request.AsrCustomLongRequest;
import com.huawei.sis.bean.response.AsrCustomLongResponse;
import com.huawei.sis.bean.request.AsrCustomShortRequest;
import com.huawei.sis.bean.response.AsrCustomShortResponse;
import com.huawei.sis.bean.AuthInfo;
import com.huawei.sis.bean.base.AsrLongAnalysisInfo;
import com.huawei.sis.bean.base.AsrLongSentence;
import com.huawei.sis.client.AsrCustomizationClient;
import com.huawei.sis.exception.SisException;
import com.huawei.sis.util.IOUtils;
```

```
import java.util.List;

/**
 * Short Sentence Recognition
 *
 * Copyright 2019 Huawei Technologies Co.,Ltd.
 */
public class AsrCustomizationDemo {
    private static final int SLEEP_TIME = 500;
    private static final int MAX_POLLING_NUMS = 1000;

    // Hard-coded or plaintext AK and SK are risky. For security purposes, encrypt your AK and SK and
    // store them in the configuration file or environment variables.
    // In this example, the AK and SK are stored in environment variables for identity authentication.
    // Before running this example, configure environment variables HUAWEICLOUD_SDK_AK and
    // HUAWEICLOUD_SDK_SK.
    private String ak = System.getenv("HUAWEICLOUD_SDK_AK");
    private String sk = System.getenv("HUAWEICLOUD_SDK_SK");
    private String region = ""; // Region
    private String projectId = ""; // Project ID. Log in to the management console, move the cursor over
    // your username in the upper right corner, and choose My Credentials from the drop-down list. On the
    // My Credentials page, view the username and account name, and click the Projects tab to view the
    // project ID. If there are multiple projects, expand Region and obtain the sub-project ID from the
    // Project ID column.
    // Short Sentence Recognition parameters
    private String path = ""; // File path. Currently, only the Base64 code of an audio file can be
    // uploaded.
    private String pathAudioFormat = ""; // File format, for example, WAV
    private String pathProperty = ""; // Property character string in "language_sampleRate_domain"
    // format.

    private void setShortParameter(AsrCustomShortRequest request) {

        // Set whether to add punctuation marks. The default value is no.
        request.setAddPunc("yes");
    }

    private SisConfig getConfig() {
        SisConfig config = new SisConfig();
        // Set the connection timeout interval. The default value is 10000 ms.
        config.setConnectionTimeout(SisConstant.DEFAULT_CONNECTION_TIMEOUT);
        // Set the request timeout interval. The default value is 10000 ms.
        config.setRequestTimeout(SisConstant.DEFAULT_CONNECTION_REQUEST_TIMEOUT);
        // Set the socket timeout interval. The default value is 10000 ms.
        config.setSocketTimeout(SisConstant.DEFAULT_SOCKET_TIMEOUT);
        // Set the proxy. Make sure that the proxy is available before setting it. The unencrypted proxy new
        // ProxyHostInfo(host, port) can also be used during proxy initialization.
        // ProxyHostInfo proxy = new ProxyHostInfo(host, port, username, password);
        // config.setProxy(proxy);
        return config;
    }

    private void printAsrShortResponse(AsrCustomShortResponse response) {
        System.out.println("tracelId=" + response.getTracelId());
        System.out.println("text=" + response.getText());
        System.out.println("score=" + response.getScore());
        System.out.println("\n");
    }

    /**
     * Short Sentence Recognition demo
     */
    private void shortDemo() {
        try {
            // 1. Initialize the AsrCustomizationClient.
            // Define authInfo based on the ak, sk, region, and projectId parameters.
            AuthInfo authInfo = new AuthInfo(ak, sk, region, projectId);
            // Set config, which is related to timeout settings.

```

```

SisConfig config = getConfig();
// Construct AsrCustomizationClient based on authInfo and config.
AsrCustomizationClient asr = new AsrCustomizationClient(authInfo, config);

// 2. Configure the request.
String data = IOUtils.getEncodeDataByPath(path);
AsrCustomShortRequest request = new AsrCustomShortRequest(data, pathAudioFormat,
pathProperty);
// Set request parameters. All parameters are optional.
setShortParameter(request);

// 3. Send the request and obtain a response.
AsrCustomShortResponse response = asr.getAsrShortResponse(request);
// Print the result.
printAsrShortResponse(response);

} catch (SisException e) {
    e.printStackTrace();
    System.out.println("error_code:" + e.getErrorCode() + "\nerror_msg" + e.getErrorMsg());
}
}

public static void main(String[] args) {
    AsrCustomizationDemo demo = new AsrCustomizationDemo();
    // Choice 1: Sentence Transcription
    demo.shortDemo();
}
}

```

Table 3-1 User information

Parameter	Mandatory	Description
AK	Yes	User's AK. For details about how to obtain AK and SK, see AK/SK-Based Authentication .
SK	Yes	User's SK. For details about how to obtain AK and SK, see AK/SK-Based Authentication .
Region	Yes	Region where SIS resides
ProjectId	Yes	Project ID, corresponding to the region. For details about how to obtain a project ID, see Obtaining a Project ID .
Endpoint	No	Endpoint. This parameter is optional. You can directly use the default value.

Table 3-2 config parameters

Parameter	Mandatory	Description
SocketTimeout	No	Socket timeout interval (ms). The default value is 10,000 ms.
ConnectionTimeout	No	Connection timeout interval (ms). The default value is 10,000 ms.

Parameter	Mandatory	Description
RequestTimeout	No	Request timeout interval (ms). The default value is 10,000 ms.
Proxy	No	Before using a proxy, ensure that the proxy is available. You are not advised to use a proxy.

Table 3-3 Request parameters

Parameter	Mandatory	Description
Data	Yes	Base64-encoded character string of the local audio file
AudioFormat	Yes	Audio format
Property	Yes	Property character string in "language_sampling rate_model" format, for example, chinese_8k_common . For details, see Short Sentence Recognition in the <i>SIS API Reference</i> .
Add_punc	No	Whether to add punctuation marks to the recognition result. Possible values are yes and no . The default value is no .

Step 3: Calling Short Sentence Recognition

Run the **AsrCustomizationDemo.java** file. Then you can view the returned result.

```
{
  "trace_id": "7f0ba401-d82d-4bfb-8ae7-600bf54ce4f6",
  "result": {
    "text": "Welcome to xx.",
    "score": 0.06588845654993515
  }
}
```