API Gateway

Getting Started

Issue 01

Date 2023-04-06

HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

Trademarks and Permissions


and other Huawei trademarks are the property 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 Cloud 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.

Contents

1 Introduction

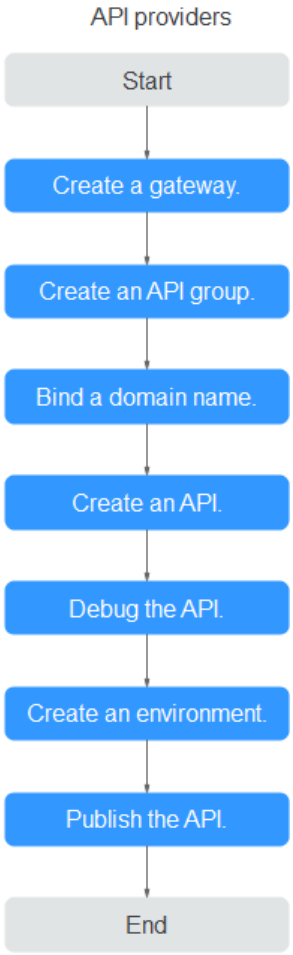
API Gateway (APIG) is a fully managed service that enables you to securely build, manage, and deploy APIs at any scale with high performance and availability. With APIG, you can easily integrate your internal service systems and selectively expose your service capabilities.

To learn about the process of exposing and calling an API, see **Opening APIs** and **Calling APIs**. **Simple authentication** with an app is used for illustration.

2 Opening APIs

2.1 Process Flow

The following figure shows the process of exposing an API.



1. Creating a Gateway

   Create a dedicated gateway.

2. **Creating an API Group**

   An API group facilitates management of APIs used for the same service. Create an API group and then create APIs.

3. **Binding a Domain Name**

   Before making the API available for users to access, bind an independent domain name (custom domain name) to the group to which the API belongs. Then API callers can use these domain names to call the API.

4. **Creating an API**

   When creating an API, configure the frontend and backend request paths, parameters, and protocols.

5. **Debugging an API**

   Debug the API to check whether it works normally.

6. **(Optional) Creating an Environment**

   An API can be called in different scenarios, such as the production environment (RELEASE) or other custom environments. RELEASE is the default environment defined in APIG.

7. **Publishing an API**

   Publish the API so that it can be called.

2.2 Creating an API Group

Step 1 Log in to the APIG console.

Step 2 Access the **dedicated gateway you created**.

Step 3 In the navigation pane, choose **API Publishing** > **API Groups**.

Step 4 Click **Create API Group** and configure group information.

Figure 2-1 Configuring API group information

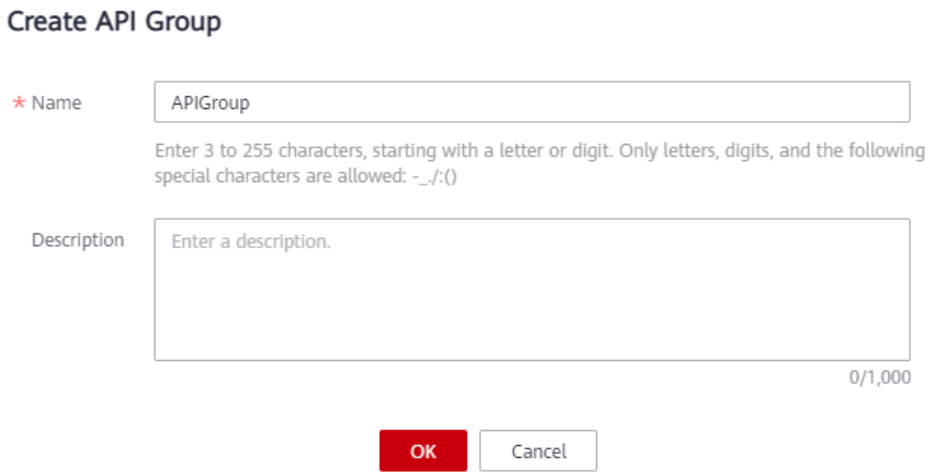


Table 2-1 API group information

Parameter	Description
Name	API group name. It is recommended that you enter a name based on naming rules to facilitate search.
Description	Description of the API group.

Step 5 Click **OK**. The system automatically allocates a subdomain name to the API group. APIs in the group can be debugged using the domain name.

----End

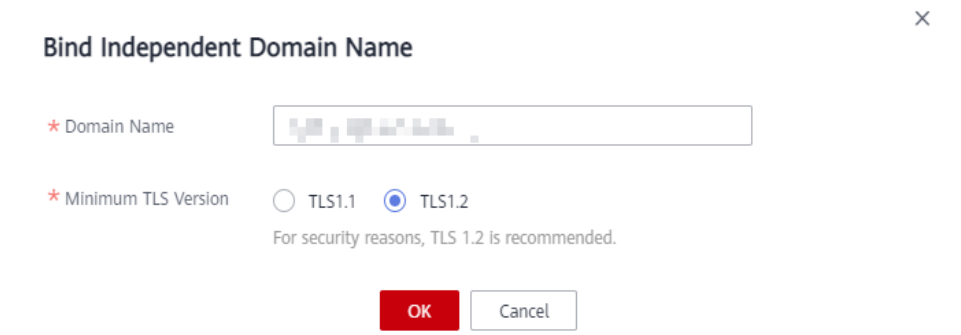
2.3 Binding a Domain Name

Step 1 On the **API Groups** page, click the group created in **Creating an API Group** to go to the group details page.

Step 2 Click the **Domain Names** tab.

Step 3 Click **Bind Independent Domain Name**.

Figure 2-2 Binding an independent domain name



NOTE

The independent domain name must be registered and resolved. For details, see "Prerequisites" in section "Binding a Domain Name" of the *API Gateway User Guide*.

----End

2.4 Creating an API

Create an API with the following steps:

1. **Setting Basic Information**
2. **Defining API Request**
3. **Defining Backend Service**

4. **Defining Responses**

Setting Basic Information

Step 1 In the navigation pane, choose **API Publishing** > **APIs**.

Step 2 Click **Create API** and set the basic information.

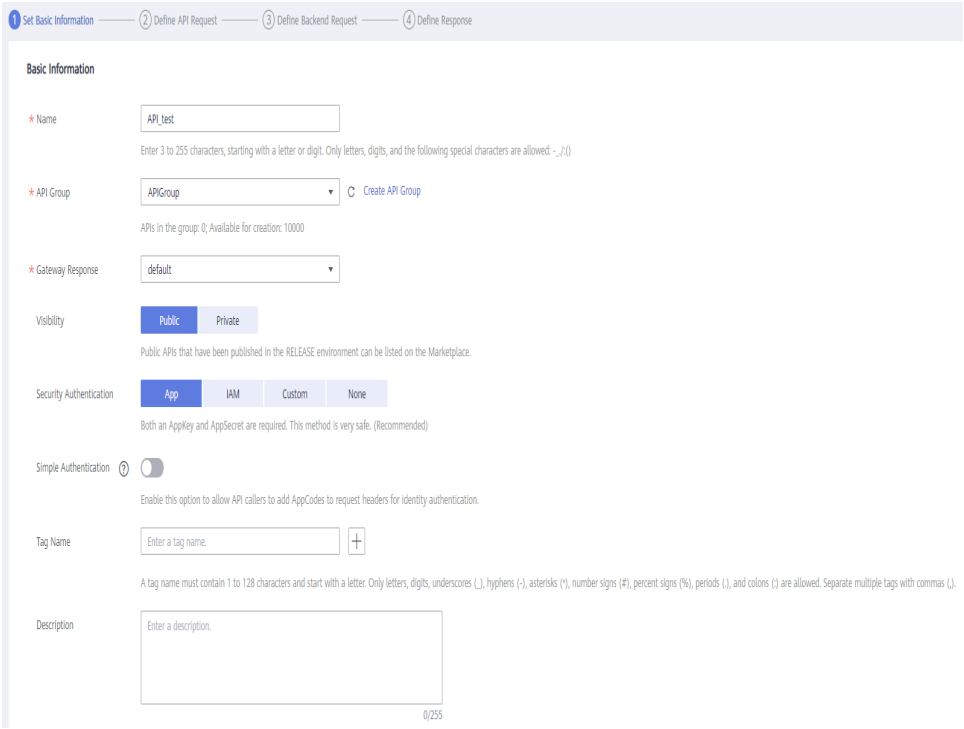


Table 2-2 Setting basic information

Parameter	Description
Name	API name. It is recommended that you enter a name based on naming rules to facilitate search.
API Group	By default, the group created in **Creating an API Group** is selected.
Gateway Response	Select a response to be displayed if APIG fails to process an API request. The default gateway response is **default**.
Visibility	By default, **Public** is selected.
Security Authentication	API authentication mode. Set this parameter to **App**.
Simple Authentication	If you enable this option, APIG verifies only the AppCode and the request signature does not need to be verified. For this example, enable simple authentication.

Parameter	Description
Tag Name	Classification attribute used to quickly identify the API from other APIs.
Description	Description of the API.

Step 3 Click **Next**.

----End

Defining API Request

Step 1 On the **Define API Request** page, set the request information.

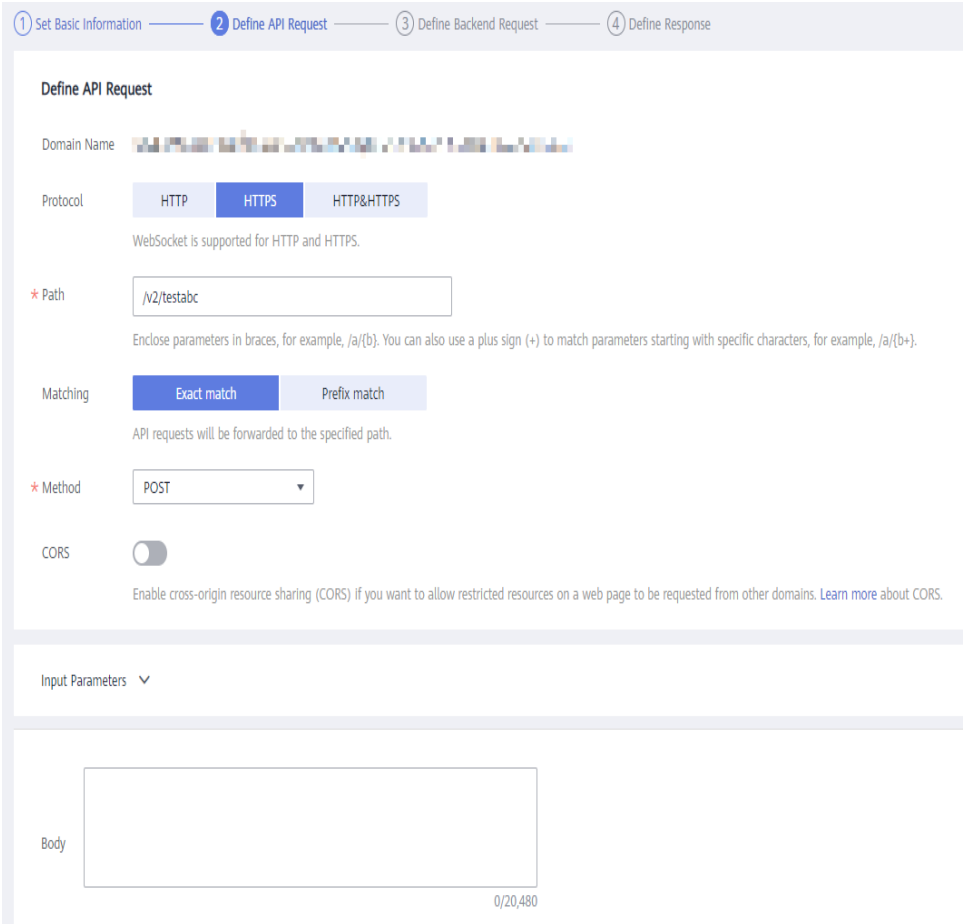


Table 2-3 Parameters for defining API requests

Parameter	Description
Domain Name	The subdomain automatically allocated to the API group created in **Creating an API Group**.
Protocol	Request protocol of the API. Set this parameter to **HTTPS**.

Parameter	Description
Path	The path for requesting the API.
Matching	By default, **Exact match** is selected.
Method	Request method of the API. Set this parameter to **POST**.
CORS	For this example, disable this option.

Step 2 Click **Next**.

----End

Defining Backend Service

Step 1 On the **Define Backend Request** page, set the backend service information.

Step 2 Select a backend service type. For this example, select **HTTP/HTTPS**.

Table 2-4 Parameters for defining an HTTP/HTTPS backend service

Parameter	Description
Protocol	Set this parameter to **HTTP**.
Method	Request method of the API. Set this parameter to **POST**.
VPC Channel	Determine whether the backend service will be accessed using a VPC channel. For this example, select **Skip**.
Backend Address	Address of the backend service.
Path	Path of the backend service.
Timeout	Backend service request timeout. Default value: 5000 ms.

Step 3 Click **Next**.

----End

Defining Responses

Step 1 On the **Define Response** page, set the responses.

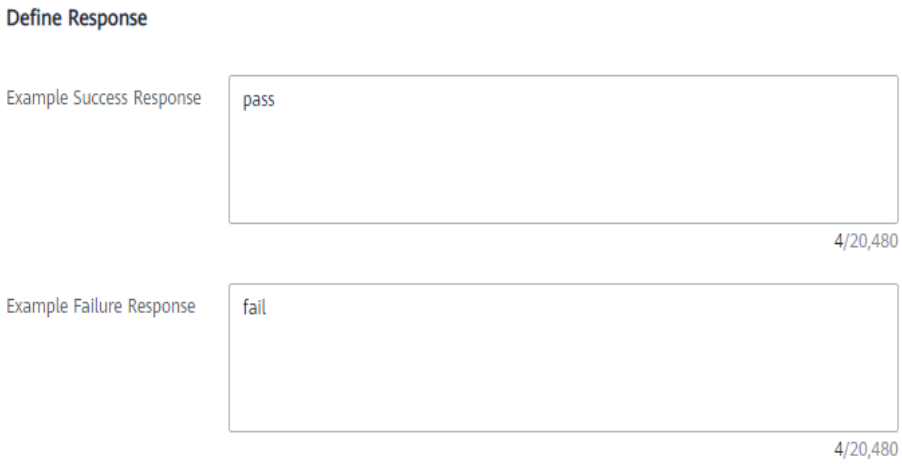


Table 2-5 Defining responses

Parameter	Description
Example Success Response	An example of a response returned when the API is called successfully.
Example Failure Response	An example of a response returned when the API fails to be called.

Step 2 Click **Finish**.

----End

2.5 Debugging an API

Step 1 On the **APIs** page, locate the API created in **Creating an API**, and choose **More** > **Debug**.

Step 2 On the left side, set the API request parameters listed in **Table 2-6**. On the right side, view the API request and response information after you click **Send Request**.

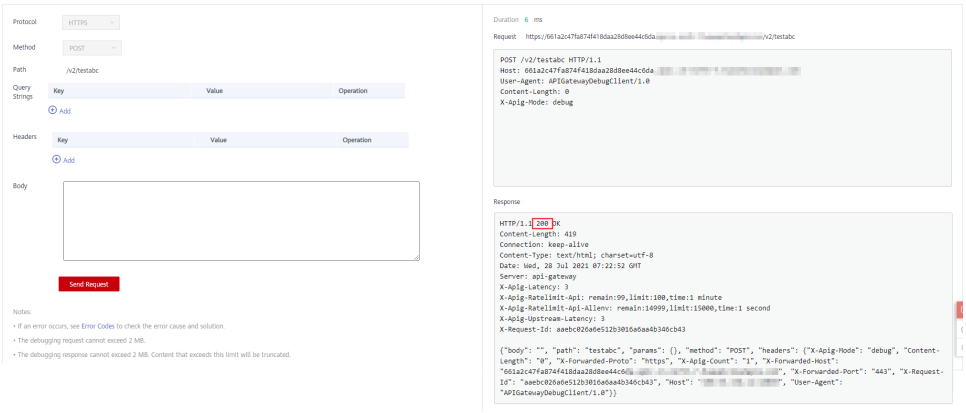
Table 2-6 Parameters for debugging an API

Parameter	Description
Protocol	This parameter can be modified only if you set **Protocol** to **HTTP&HTTPS** for the API.
Method	This parameter can be modified only if you set **Method** to **ANY** for the API.
Path	Request path of the API.
Query Strings	Query string parameters and values.
Headers	HTTP headers and values.

Parameter	Description
Body	This parameter can be modified only if you set **Method** to **PATCH**, **POST**, or **PUT** for the API.

Step 3 Click **Send Request**.

If the API is called successfully, the status code **200** is displayed.



----End

2.6 (Optional) Creating an Environment

Step 1 In the navigation pane, choose **API Publishing** > **Environments**.

Step 2 Click **Create Environment** and set the environment information.

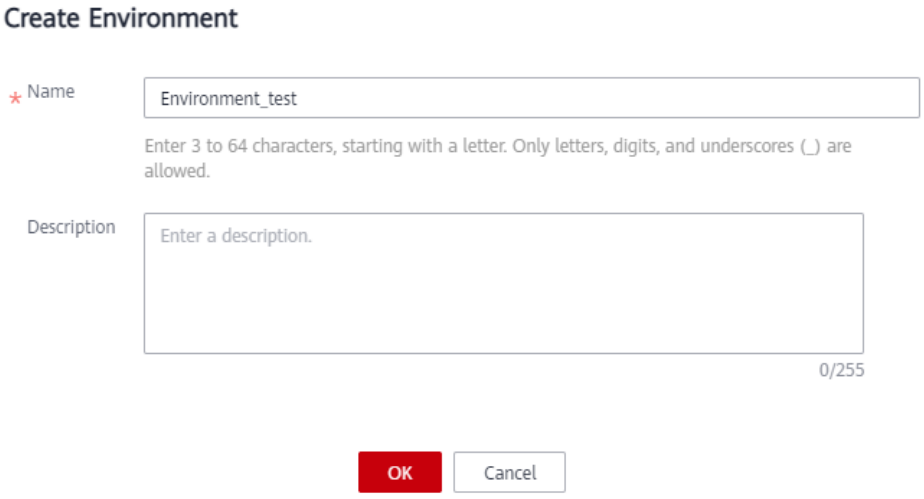


Table 2-7 Environment information

Parameter	Description
Name	Environment name. It is recommended that you enter a name based on naming rules to facilitate search.
Description	Description of the environment.

Step 3 Click **OK**.

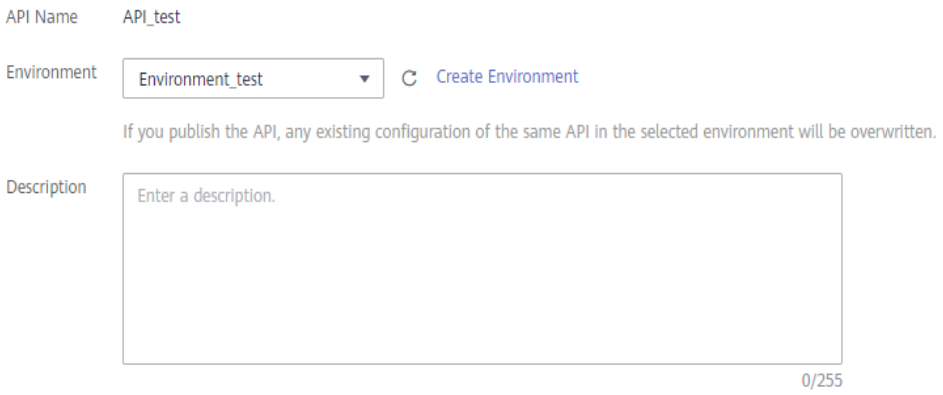
----End

2.7 Publishing an API

Step 1 In the navigation pane, choose **API Publishing** > **APIs**.

Step 2 Locate the API created in **Creating an API**, and click **Publish**.

Step 3 Select the environment where the API will be published.



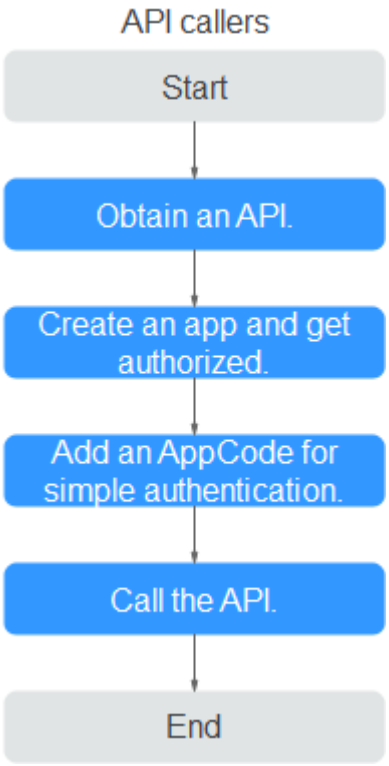
Step 4 Click **Publish**.

----End

3 Calling APIs

3.1 Process Flow

The following figure shows the process of calling an API.



1. Obtaining an API

   Obtain an API and its documentation from an API provider.

2. **Creating an App and Getting Authorized**

   APIs that use app authentication can only be called using apps bound to them.

3. **Adding an AppCode for Simple Authentication**

APIG only verifies the AppCode during simple authentication.

4. **Calling the API**

   Use an API test tool to call the API with app authentication credentials.

3.2 Creating an App and Getting Authorized

Creating an App

Step 1 In the navigation pane, choose **API Calling** > **Apps**.

Step 2 Click **Create App** and set basic app information.

Table 3-1 App information

Parameter	Description
Name	App name. It is recommended that you enter a name based on naming rules to facilitate search.
Description	Description of the app.

Step 3 Click **OK**.

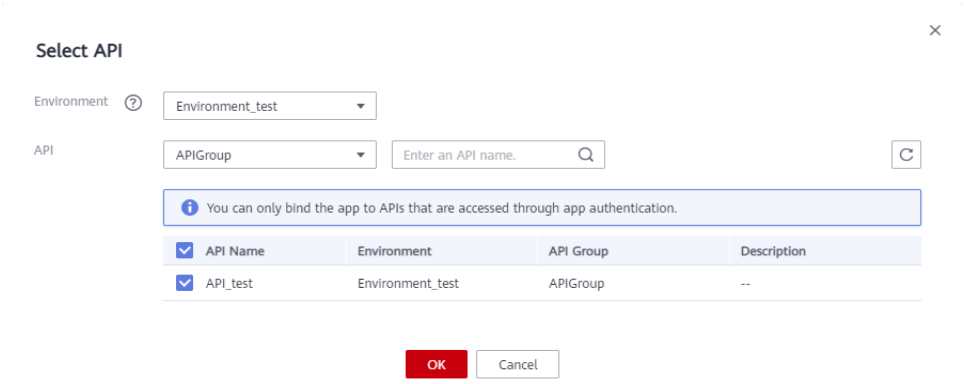
----End

Binding an App to an API

Step 1 In the **Operation** column of the created app, click **Bind to API**, and then click **Select API**.

Step 2 At the top of the API list, click **Select API**.

Step 3 Select the environment, API group, and API created in **Opening APIs**, and click **OK**.



----End

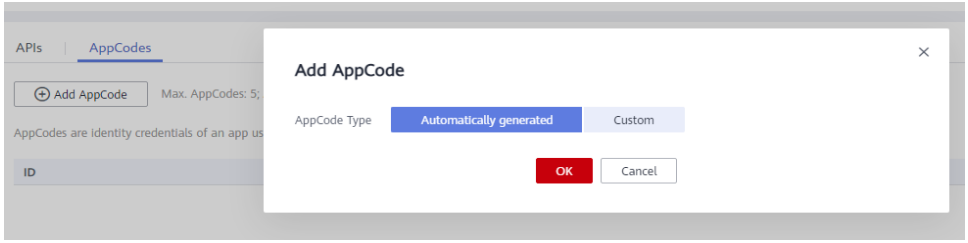
3.3 Adding an AppCode for Simple Authentication

Step 1 In the app list, click the app created in **Creating an App and Getting Authorized** to go to the app details page.

Step 2 Click the **AppCodes** tab.

Step 3 Click **Add AppCode**.

Step 4 Select **Automatically generated**.



Step 5 Click **OK**.

----End

3.4 Calling an API

Use an API test tool to configure the API calling information.

Step 1 Obtain the API request information.

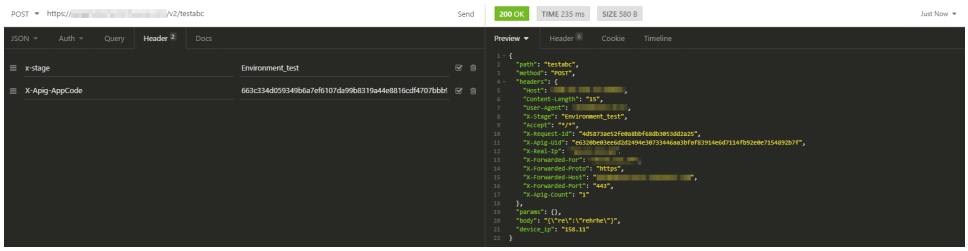
For illustration purposes, an API and its documentation are obtained through offline channels. You can also obtain the authentication mode, request method, request path, and other information about the API.

Step 2 Add the header parameter **X-Apig-AppCode** and set the parameter value to the **generated AppCode**.

Step 3 Add the header parameter **x-stage** and set the parameter value to the **running environment**. Skip this step if the API has been published in the RELEASE environment.

Step 4 Click **Send** to send a request.

If the API is called successfully, the message **200 OK** is displayed.



----End

