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Alibaba Cloud

物联网边缘计算
Developer Guide (Cloud)

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Document conventions

Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons , menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1.SDK reference

1.1. Download IoT Platform SDKs

IoT Platform SDKs allow you to call API operations. You can use these API operations to manage IoT Platform resources. These resources include products, devices, topics, data forwarding rules, and messages.

Download SDKs

IoT Platform SDKs support the following programming languages: Java, Python, PHP, .NET, and Go.

Click one of the following links to download the source code of the IoT Platform SDK for a specific programming language:

- [IoT Java SDK](#)
- [IoT Python SDK](#)
- [IoT PHP SDK](#)
- [IoT .NET SDK](#)
- [IoT Go SDK](#)

Use SDKs

For more information about how to use IoT Platform SDKs, see the following documents.

- [Java SDK](#)
- [Use IoT Platform SDK for Python](#)
- [Use IoT Platform SDK for PHP](#)
- [Use IoT Platform SDK for .NET](#)

1.2. Java SDK

The IoT Java SDK allows you to create Java applications to manage IoT Platform resources with ease. You can add the SDK as a Maven dependency to your project, or download the installation package to a local directory and install the SDK.

Install the IoT Java SDK

1. Install a Java development environment.

You can download a Java IDE from [Java official website](#), and install the IDE by following the instructions.

2. Install the IoT Java SDK.

i. Visit [Apache Maven official website](#) to download a Maven installation package.

ii. Add a Maven dependency.

Maven coordinates of the IoT Java SDK dependency

```
<!-- https://mvnrepository.com/artifact/com.aliyun/aliyun-java-sdk-iot -->
<dependency>
    <groupId>com.aliyun</groupId>
    <artifactId>aliyun-java-sdk-iot</artifactId>
    <version>7.7.0</version>
</dependency>
```

Public libraries

```
<dependency>
    <groupId>com.aliyun</groupId>
    <artifactId>aliyun-java-sdk-core</artifactId>
    <version>3.5.1</version>
</dependency>
```

Appendix

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for API operations, call API operations, and dynamically generate SDK sample code. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs. On the right side of the page, you can view the sample code of an SDK on the **Example Code** tab. On the **Debugging Result** tab, you can view the real request URL and response in the JSON format.

1.3. Use IoT Platform SDK for Python

IoT Platform provides developers with an SDK for Python. This article describes how to install and configure IoT Platform SDK for Python. This article also describes how to use the SDK to call the API operations of IoT Platform.

Install the SDK

1. Install Python.

Download a Python installation package from the [official Python website](#) and install Python. Python 2.7.x and 3.x are supported.

2. Install pip that is used to manage Python packages. If you have installed pip, skip this step.

Download a pip installation package from the [official pip website](#) and install pip.

3. Install IoT Platform SDK for Python.

Run the following commands as an administrator to install IoT Platform SDK for Python. For more information, see [IoT Platform SDK for Python](#).

```
sudo pip install aliyun-python-sdk-core
sudo pip install aliyun-python-sdk-iot
```

4. Import the files that are related to IoT Platform SDK for Python to a Python file.

```
from aliyunsdkcore import client
from aliyunsdkiot.request.v20180120 import RegisterDeviceRequest
from aliyunsdkiot.request.v20180120 import PubRequest
...
```

Initialize the SDK

```
accessKeyId = '<your accessKey>'
accessKeySecret = '<your accessSecret>'
clt = client.AcsClient(accessKeyId, accessKeySecret, 'cn-shanghai')
```

Parameter	Description
accessKeyId	The AccessKey ID of your Alibaba Cloud account. You can go to the User Management console to create or view your AccessKey ID.
accessKeySecret	The AccessKey secret of your Alibaba Cloud account.
clt	The initialized SDK client. <code>cn-shanghai</code> indicates the region ID of your IoT Platform service. You can view the region in the upper-left corner of the IoT Platform console . For more information about region IDs, see Regions and zones .

Initiate a request

```
request = PubRequest.PubRequest()
request.set_accept_format('json') # The format in which the response is returned. By default, the XML format is used. In this example, the JSON format is used.
request.set_ProductKey('productKey')
request.set_TopicFullName('/productKey/deviceName/get') # The full name of the topic to which the message is sent.
request.set_MessageContent('aGVsbG8gd29ybGQ=') #hello world Base64 String
request.set_Qos(0)
result = clt.do_action_with_exception(request)
print 'result : ' + result
```

1.4. Use IoT Platform SDK for PHP

IoT Platform provides developers with an SDK for PHP. This article describes how to install and configure IoT Platform SDK for PHP. This article also describes how to use the SDK to call the API operations of IoT Platform.

Install the SDK

IoT Platform SDK for PHP is part of [Alibaba Cloud SDK for PHP](#). If you have installed Alibaba Cloud SDK for PHP, you do not need to install IoT Platform SDK for PHP.

1. Install PHP.

PHP 5.5.0 and later are supported. Download a PHP installation package from the [official PHP website](#) and install PHP.

2. Install Composer.

Composer is used to manage IoT Platform SDK for PHP. Therefore, you must install Composer in your system.

- If you use Windows, you can download the [Composer-Setup.exe](#) program from the [getcomposer.org](#) website and install Composer.
- You can also run the following curl command to install Composer:

```
curl -sS https://getcomposer.org/installer | php
```

 **Note** If the installation fails due to network issues, you can use the [full image of Alibaba Cloud Composer](#).

3. Add the following dependency to install IoT Platform SDK for PHP:

```
composer require alibabacloud/iot
```

For more information, see [IoT Platform SDK for PHP](#) and [Alibaba Cloud SDK for PHP](#).

Initialize the SDK

```
<?php
include_once 'aliyun-php-sdk-core/Config.php';
use \Iot\Request\V20180120 as Iot;
// Set your AccessKey ID, AccessKey secret, and ProductKey.
$accessKeyId = "";
$accessSecret = "";
$iClientProfile = DefaultProfile::getProfile("cn-shanghai", $accessKeyId, $accessSecret);
$client = new DefaultAcsClient($iClientProfile);
```

Parameter	Description
\$accessKeyId	The AccessKey ID of your Alibaba Cloud account. You can go to the User Management console to create or view your AccessKey ID.
\$accessSecret	The AccessKey secret of your Alibaba Cloud account.
\$iClientProfile	The object that is used to store the SDK initialization information. <code>cn-shanghai</code> indicates the region ID of your IoT Platform service. You can view the region in the upper-left corner of the IoT Platform console . For more information about region IDs, see Regions and zones .

Initiate a request

```
$request = new IoT\PubRequest();
$request->setProductKey("productKey");
$request->setMessageContent("aGVsbG93b3JsZA=". //hello world Base64 String.
$request->setTopicFullName("//productKey/deviceName/get"); // The full name of the topic to
which the message is sent.
$response = $client->getAcsResponse($request);
print_r($response);
```

1.5. Use IoT Platform SDK for .NET

IoT Platform provides developers with an SDK for .NET. This article describes how to install and configure IoT Platform SDK for .NET. This article also describes how to use the SDK to call the API operations of IoT Platform.

Install the SDK

1. Install a .NET development environment.

IoT Platform SDK for .NET supports the following development environments:

- .NET Framework 4.0 and later
- .NET Standard 2.0 and later
- C# 4.0 and later
- Visual Studio 2010 and later

2. Install IoT Platform SDK for .NET by using the NuGet package manager.

In this example, Visual Studio is used.

- i. In the **Solution Explorer** pane of Visual Studio, right-click your project and select **Manage NuGet Packages**.
- ii. In the **NuGet Package Manager** pane, click the **Browse** tab.
- iii. On the **Browse** tab, enter *aliyun-net-sdk* in the search box and select the [aliyun-net-sdk-iot](#) package that is provided by Alibaba Cloud.
- iv. Click **Install**.

Initialize the SDK



Notice In this example, the China (Shanghai) region and the corresponding endpoint are used. You can replace `cn-shanghai` in the `clientProfile` object with the region ID of your IoT Platform service.

```
using Aliyun.Acs.Core;
using Aliyun.Acs.Core.Exceptions;
using Aliyun.Acs.Core.Profile;
IClientProfile clientProfile = DefaultProfile.GetProfile("cn-shanghai", "<your-access-key-id>", "<your-access-key-secret>");
DefaultAcsClient client = new DefaultAcsClient(clientProfile);
```

You can go to the [User Management console](#) to create or view your AccessKey pairs. Then, you can replace <your-access-key-id> and <your-access-key-secret> in the clientProfile object with your AccessKey ID and AccessKey secret.

Initiate a request

```
PubRequest request = new PubRequest();
request.ProductKey = "<productKey>";
request.TopicFullName = "/<productKey>/<deviceName>/get";
byte[] payload = Encoding.Default.GetBytes("Hello World.");
String payloadStr = Convert.ToBase64String(payload);
request.MessageContent = payloadStr;
request.Qos = 0;
try
{
    PubResponse response = client.GetAcsResponse(request);
    Console.WriteLine("publish message result: " + response.Success);
    Console.WriteLine(response.ErrorMessage);
}
catch (ServerException e)
{
    Console.WriteLine(e.ErrorCode);
    Console.WriteLine(e.ErrorMessage);
}
catch (ClientException e)
{
    Console.WriteLine(e.ErrorCode);
    Console.WriteLine(e.ErrorMessage);
}
```

2.API reference

2.1. List of operations by function

This topic provides a list of the API operations for Link IoT Edge.

Instance management

Operation	Description
CreateEdgeInstance	Creates an edge instance.
DeleteEdgeInstance	Deletes an edge instance.
UpdateEdgeInstance	Updates an edge instance.
GetEdgeInstance	Retrieves edge instance details.
QueryEdgeInstance	Queries the edge instances of the current account.

Driver management

Operation	Description
CreateEdgeDriver	Creates a driver.
DeleteEdgeDriverVersion	Deletes a driver.
BatchGetEdgeDriver	Queries information about multiple drivers at a time.
QueryEdgeDriver	Queries information about drivers by page.
CreateEdgeDriverVersion	Creates a driver version.
DeleteEdgeDriverVersion	Deletes a driver version.
UpdateEdgeDriverVersion	Updates a driver version.
GetEdgeDriverVersion	Queries information about a specified driver version.
QueryEdgeDriverVersion	Queries versions of a specified driver by page.
CreateEdgeOssPreSignedAddress	Creates a pre-signed URL for an object stored in Object Storage Service (OSS).

Instance gateway management

Operation	Description
BindGatewayToEdgeInstance	Associates a gateway with an edge instance.

Operation	Description
<code>QueryEdgeInstanceGateway</code>	Queries the gateway that is associated with an edge instance.

Instance driver management

Operation	Description
<code>BindDriverToEdgeInstance</code>	Assigns a driver to an edge instance.
<code>UnbindDriverFromEdgeInstance</code>	Removes a driver from an edge instance.
<code>QueryEdgeInstanceDriver</code>	Queries the drivers of an edge instance.
<code>SetEdgeInstanceDriverConfigs</code>	Configures a driver for an edge instance.
<code>ClearEdgeInstanceDriverConfigs</code>	Clears the driver settings for an edge instance.
<code>BatchGetEdgeInstanceDriverConfigs</code>	Retrieves the settings of one or more drivers that are assigned to an edge instance.

Instance device management

Operation	Description
<code>BatchBindDeviceToEdgeInstanceWithDriver</code>	Assigns one or more devices to an edge instance and specifies a driver for the devices.
<code>BatchUnbindDeviceFromEdgeInstance</code>	Removes one or more devices from an edge instance.
<code>QueryEdgeInstanceDevice</code>	Queries the devices of an edge instance.
<code>BatchSetEdgeInstanceDeviceConfig</code>	Configures the settings of one or more devices that are assigned to an edge instance.
<code>BatchClearEdgeInstanceDeviceConfig</code>	Clears the settings of one or more devices that are assigned to an edge instance.
<code>BatchGetEdgeInstanceDeviceConfig</code>	Retrieves the settings of one or more devices that are assigned to an edge instance.

Instance deployment

Operation	Description
<code>CreateEdgeInstanceDeployment</code>	Creates a deployment task for an edge instance.
<code>CloseEdgeInstanceDeployment</code>	Stops a deployment task for an edge instance.

Operation	Description
GetEdgeInstanceDeployment	Retrieves the deployment task details of an edge instance.
QueryEdgeInstanceHistoricDeployment	Queries the deployment task records of an edge instance.

2.2. Overview

IoT Platform provides API operations that are used to manage products, devices, groups, topics, rules, and device shadows. It also provides API operations that are used to send messages. To send an IoT Platform API request, you must use IoT Platform SDKs to send a GET or POST request over HTTPS or HTTP to the IoT Platform endpoint. You must add the request parameters that correspond to the API operation being called. IoT Platform handles the request and returns a result.

For more information about how to call an API operation, see the following topics:

- [Initiate API requests](#)
- [Common parameters](#)
- [Error codes](#)

To ensure the security of your Alibaba Cloud account, we recommend that you call API operations as a RAM user.

For information about how to grant a RAM user permissions to call the required API operations, see [API permissions](#).

2.3. Make API requests

This article describes the structure of IoT Platform API requests and provides a sample request.

Request structure

To send an IoT Platform API request, you must send an HTTP or HTTPS request to the IoT Platform endpoint.

A request uses the following syntax:

```
http://Endpoint/?Action=xx&Parameters
```

Parameter	Description

Parameter	Description
Endpoint	<p>The endpoint of the IoT Platform API. Set the value to <code>iot. \${RegionId}.aliyuncs.com</code> . Replace <code>\$(RegionId)</code> with the ID of the region where you purchased the IoT Platform service. For more information about the IDs of Alibaba Cloud regions, see Regions and zones.</p> <p>Examples:</p> <ul style="list-style-type: none">• China (Shanghai): <code>iot.cn-shanghai.aliyuncs.com</code>• Singapore: <code>iot.ap-southeast-1.aliyuncs.com</code>• US (Silicon Valley): <code>iot.us-west-1.aliyuncs.com</code>• Japan (Tokyo): <code>iot.ap-northeast-1.aliyuncs.com</code>• Germany (Frankfurt): <code>iot.eu-central-1.aliyuncs.com</code>
Action	The name of the operation being performed. For example, to publish a message to a specified topic, you must set the Action parameter to <code>Pub</code> .
Parameters	The request parameters for the operation. Separate multiple parameters with ampersands (&). Request parameters include both common parameters and operation-specific parameters. Common parameters include information such as the API version number and authentication information.

The following code provides an example on how to call the Pub operation to publish a message to a topic:

 **Note** In this example, IoT Platform is activated in the China (Shanghai) region. The code has been formatted to ease reading.

```
https://iot.cn-shanghai.aliyuncs.com/?Action=Pub  
&Format=XML  
&Version=2018-01-20  
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D  
&SignatureMethod=HMAC-SHA1  
&SignatureNonce=15215528852396  
&SignatureVersion=1.0  
&AccessKeyId=...  
&Timestamp=2017-07-19T12:00:00Z  
&RegionId=cn-shanghai  
...
```

```
https://POP gateway domain name/data/api.json/?Action=Pub  
&Format=XML  
&Version=2017-04-20  
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D  
&SignatureMethod=HMAC-SHA1  
&SignatureNonce=15215528852396  
&SignatureVersion=1.0  
&Timestamp=2017-07-19T12:00:00Z  
...
```

Debugging

Alibaba Cloud provides [OpenAPI Explorer](#) to simplify API usage. You can use OpenAPI Explorer to search for API operations, call API operations, and dynamically generate the sample code of API operations for different SDKs. On the right side of the page, you can view the sample code of an SDK on the **Example Code** tab. On the **Debugging Result** tab, you can view the actual request URL and response in the JSON format.

The screenshot shows the OpenAPI Explorer interface for the IoT Platform. The left sidebar lists various services, with 'IoT Platform' selected. The main area displays the 'CreateProduct' API operation. It includes fields for RegionId (set to China (Shanghai)), NodeType (empty), IoTInstanceId (empty), ProductName (empty), DataFormat (empty), and Description (empty). Below these fields is a 'Submit Request' button. To the right, there are tabs for 'Example Code' (selected) and 'Debugging Result'. Under 'Example Code', there are buttons for Java, Node.js, Go, PHP, and Python. The Java code snippet is shown:

```
1 import com.aliyuncs.DefaultAcsClient;  
2 import com.aliyuncs.IAcsClient;  
3 import com.aliyuncs.exceptions.ClientException;  
4 import com.aliyuncs.exceptions.ServerException;  
5 import com.aliyuncs.profile.DefaultProfile;  
6 import com.google.gson.Gson;  
7 import java.util.*;  
8 import com.aliyuncs.iot.model.v20180120.*;  
9  
10 public class IotDemo {  
11     12     public static void main(String[] args) {  
13         DefaultProfile profile = DefaultProfile.getProfile("IAcsClient client = new DefaultAcsClient(profile);  
14         CreateProductRequest request = new CreateProductRe  
15         try {  
16             CreateProductResponse response = client.getAcsRe  
17         } catch (ClientException e) {  
18             e.printStackTrace();  
19         }  
20     }  
21 }
```

Authorization

To ensure the security of your Alibaba Cloud account, we recommend that you call API operations as a RAM user. Before you call an API operation as a RAM user, you must create and attach specific authorization policies to the RAM user to allow access to the API operation.

For more information, see [API permissions](#).

2.4. Common parameters

This article describes the common request parameters and common response parameters that are used in IoT Platform API operations.

Common request parameters

Common request parameters must be included in all IoT Platform API requests.

Parameter	Type	Required	Description
Format	String	No	The format in which to return the response. Valid values: <i>JSON</i> and <i>XML</i> . Default value: <i>XML</i> .
Version	String	Yes	The version number of the API. The value must be in the <code>YYYY-MM-DD</code> format. The latest version is <code>2018-01-20</code> . Each API has multiple versions.
AccessKeyId	String	Yes	The AccessKey ID provided to you by Alibaba Cloud. To obtain the AccessKey ID, log on to the Alibaba Cloud Management Console, move the pointer over the user profile, and then click AccessKey Management . In the User Management console, you can view or create AccessKey pairs.
Signature	String	Yes	The signature string of the current request.
SignatureMethod	String	Yes	The encryption method of the signature string. Set the value to <i>HMAC-SHA1</i> .
Timestamp	String	Yes	The timestamp of the request. Specify the time in the ISO 8601 standard in the <code>YYYY-MM-ddTHH:mm:ssZ</code> format. The time must be in UTC. For example, you can set the parameter to <code>2016-01-04T12:00:00Z</code> , which indicates January 4, 2016 20:00:00 UTC+8.
SignatureVersion	String	Yes	The version of the signature encryption algorithm. Set the value to 1.0.
SignatureNonce	String	Yes	A unique, random number used to prevent replay attacks. You must use different numbers for different requests.

Parameter	Type	Required	Description
RegionId	String	Yes	The region where your devices reside. The region you specify must match the region that is specified in the console. Example: cn-shanghai.

Examples

```
https://iot.cn-shanghai.aliyuncs.com/
?Format=XML
&Version=2018-01-20
&Signature=Pc5WB8gokVn0xfeu%2FZV%2BiNM1dgI%3D
&SignatureMethod=HMAC-SHA1
&SignatureNonce=15215528852396
&SignatureVersion=1.0
&AccessKeyId=...
&Timestamp=2018-05-20T12:00:00Z
&RegionId=cn-shanghai
```

Common response parameters

API responses use the HTTP response format where a 2XX status code indicates a successful call and a 4XX or 5XX status code indicates a failed call. Responses can be returned in either the JSON or XML format. You can specify the response format in the request. The default response format is XML.

Every response returns a unique

RequestId

regardless of whether the call is successful.

- Sample success responses

- XML format

```
<? xml version="1.0" encoding="UTF-8"? >
<!--Root node of the response-->
<Operation name+Response>
    <!--Return request tag-->
    <RequestId>4C467B38-3910-447D-87BC-AC049166F216</RequestId>
    <!--Response result data-->
</Operation name+Response>
```

- JSON format

```
{
    "RequestId": "4C467B38-3910-447D-87BC-AC049166F216"
    /* Response result data */
}
```

- Sample error responses

If an error occurs when you call an API operation, no result is returned. You can use the error code to identify the cause.

If an error occurs when you call an API operation, a 4XX or 5XX HTTP status code is returned. The response body contains the specific error code and error message. It also contains a globally unique request ID (

RequestId

). If you cannot confirm what error occurs, contact Alibaba Cloud customer service or submit a ticket. You must provide your request ID for assistance.

- o XML format

```
<? xml version="1.0" encoding="UTF-8"? >
<Error>
    <RequestId>8906582E-6722-409A-A6C4-0E7863B733A5</RequestId>
    <Code>UnsupportedOperation</Code>
    <Message>The specified action is not supported. </Message>
</Error>
```

- o JSON format

```
{
    "RequestId": "8906582E-6722-409A-A6C4-0E7863B733A5",
    "Code": "UnsupportedOperation",
    "Message": "The specified action is not supported."
}
```

2.5. Request signatures

You must sign all API requests to ensure data security. Alibaba Cloud uses the request signature to verify the identity of the request sender. Therefore, each API request must contain signature information, regardless of whether it is sent through HTTP or HTTPS.

Signature method

IoT Platform implements symmetric encryption with an AccessKey pair to verify the identity of the request sender. An AccessKey pair consists of an AccessKey ID and an AccessKey secret, which you can view in the [User Management console](#). The AccessKey ID is used to verify the identity of the user, while the AccessKey secret is used to encrypt and verify the signature string. You must keep your AccessKey secret strictly confidential.

 **Note** IoT Platform provides SDKs in multiple programming languages, such as Java, Python, and PHP. If you use these SDKs to call API operations, you can skip the signature process. For more information, see [Download IoT Platform SDKs](#) and related SDK documentation.

To sign a request, follow these steps:

1. Create a canonicalized query string.

i. Arrange the request parameters.

Arrange the request parameters (including all common and operation-specific parameters except Signature) in alphabetical order.

Note If you use the GET method to send a request, the request parameters are included as a part of the request URL. The first parameter follows the question mark (?) in the URL, and the other parameters follow an ampersand (&).

ii. Encode the canonicalized query string.

Use UTF-8 to encode the names and values of the request parameters based on [RFC 3986](#). Take note of the following encoding rules:

- Uppercase letters, lowercase letters, digits, and some special characters such as hyphens (-), underscores (_), periods (.), and tildes (~) do not need to be encoded.
- Other characters must be percent encoded in the %XY format. XY represents the ASCII code of the characters in hexadecimal notation. For example, double quotation marks (") are encoded as %22 .
- Extended UTF-8 characters are encoded in the %XY%ZA... format.
- Spaces must be encoded as %20 . Do not encode spaces as plus signs (+).

The preceding encoding method is similar to but slightly different from the application/x-www-form-urlencoded MIME encoding algorithm.

If you use `java.net.URLEncoder` from the Java standard library, use `percentEncode` to encode request parameters and their values. In the encoded query string, replace the plus signs (+) with %20 , asterisks (*) with %2A , and %7E with tildes (~). This way, you can obtain an encoded string that matches the preceding encoding rules.

```
private static final String ENCODING = "UTF-8";
private static String percentEncode(String value) throws UnsupportedEncodingException {
    return value != null ? URLEncoder.encode(value, ENCODING).replace("+", "%20").replace("*", "%2A").replace("%7E", "~") : null;
}
```

iii. Use an equal sign (=) to connect the name and value of each encoded request parameter.

iv. Use an ampersand (&) to connect the encoded request parameters. These parameters must be arranged in the same order as those in Step a.

Then, the canonicalized query string is created.

2. Create a string-to-sign.

Create a string-to-sign from the encoded canonicalized query string by using `percentEncode` . The following code provides an example on how to create a string-to-sign:

```
StringToSign=
    HttpMethod + "&" + // HttpMethod: the HTTP method used to send the request, such as GET.
    percentEncode("/") + "&" + // percentEncode("/") : Encode backslashes (/) as %2F.
    percentEncode(CanonicalizedQueryString) // Encode the canonicalized query string created in Step 1.
```

3. Calculate the HMAC value of the string-to-sign by using the AccessKey secret as the key.

Calculate the HMAC value of the string-to-sign based on [RFC 2104](#). The Java Base64 encoding method is used in this example.

```
Signature = Base64( HMAC-SHA1( AccessSecret, UTF-8-Encoding-Of(StringToSign) ) )
```

 **Note** The AccessKey secret appended by an ampersand (&) (ASCII code 38) is used as the key for HMAC calculation. The SHA1 algorithm is used to calculate the HMAC value of the string-to-sign.

4. Calculate the signature.

Encode the HMAC value in Base64 to obtain the signature string.

5. Add the signature.

Add the signature string to the request as the Signature parameter and perform URL encoding based on [RFC 3986](#).

Examples

The following example demonstrates how to sign a request of calling the Pub operation. Assume that your AccessKey ID is testid and AccessKey secret is testsecret .

1. Create and encode a canonicalized query string.

```
http://iot.cn-shanghai.aliyuncs.com/?MessageContent=aGVsbG93b3JsZA%3D&Action=Pub&Timestamp=2017-10-02T09%3A39%3A41Z&SignatureVersion=1.0&ServiceCode=iot&Format=XML&Qos=0&SignatureNonce=0715a395-aedf-4a41-bab7-746b43d38d88&Version=2017-04-20&AccessKeyId=testid&SignatureMethod=HMAC-SHA1&RegionId=cn-shanghai&ProductKey=12345abcdeZ&TopicFullName=%2FproductKey%2Ftestdevice%2Fget
```

2. Create a string-to-sign from the encoded canonicalized query string.

```
GET%2F&AccessKeyId%3Dtestid%26Action%3DPub%26Format%3DXML%26MessageContent%3DaGVsbG93b3JsZA%253D%26ProductKey%3D12345abcdeZ%26Qos%3D0%26RegionId%3Dcn-shanghai%26ServiceCode%3Diot%26SignatureMethod%3DHMAC-SHA1%26SignatureNonce%3D0715a395-aedf-4a41-bab7-746b43d38d88%26SignatureVersion%3D1.0%26Timestamp%3D2017-10-02T09%253A39%253A41Z%26TopicFullName%3D%252FproductKey%252Ftestdevice%252Fget%26Version%3D2017-04-20
```

3. Calculate the signature.

In this example, the AccessKey secret is testsecret . Therefore, the key used for HMAC calculation is testsecret&. The following code shows the calculated signature string:

```
Y9eWn4nF8QPh3c4zAFkM/k/u7eA=
```

4. Add the signature string to the request as the Signature parameter. The following code shows the

URL of the signed request:

```
http://iot.cn-shanghai.aliyuncs.com/?MessageContent=aGVsbG93b3JsZA%3D&Action=Pub&Timestamp=2017-10-02T09%3A39%3A41Z&SignatureVersion=1.0&ServiceCode=iot&Format=XML&Qos=0&SignatureNonce=0715a395-aedf-4a41-bab7-746b43d38d88&Version=2017-04-20&AccessKeyId=testid&Signature=Y9eWn4nF8QPh3c4zAFkM%2Fk%2Fu7eA%3D&SignatureMethod=HMAC-SHA1&RegionId=cn-shanghai&ProductKey=12345abcdeZ&TopicFullName=%2FproductKey%2Ftestdevice%2Fget
```

Java code example

The following example demonstrates how to obtain a signature by using Java:

1. Edit the *Config.java* file.

```
/*
 * Copyright © 2018 Alibaba. All rights reserved.
 */
package com.aliyun.iot.demo.sign;
/**
 * Signature configuration for the server API
 *
 * @author: ali
 * @version: 0.1 2018-08-08 08:23:54
 */
public class Config {
    // Your AccessKey pair.
    public static String accessKey = "1234567890123456";
    public static String accessKeySecret = "123456789012345678901234567890";
    public final static String CHARSET_UTF8 = "utf8";
}
```

2. Edit the *UrlUtil.java* file.

```
/*
 * Copyright © 2018 Alibaba. All rights reserved.
 */
package com.aliyun.iot.demo.sign;
import java.net.URLEncoder;
import java.util.Map;
import org.apache.commons.lang3.StringUtils;
/**
 * URL processing class
 *
 * @author: ali
 * @version: 0.1 2018-06-21 20:40:52
 */
public class UrlUtil {
    private final static String CHARSET_UTF8 = "utf8";
    public static String urlEncode(String url) {
        if (!StringUtils.isEmpty(url)) {
            try {
                url = URLEncoder.encode(url, "UTF-8");
            } catch (Exception e) {
                System.out.println("Url encode error:" + e.getMessage());
            }
        }
    }
}
```

```
        }
        return url;
    }

    public static String generateQueryString(Map<String, String> params, boolean isEncodeKV) {
        StringBuilder canonicalizedQueryString = new StringBuilder();
        for (Map.Entry<String, String> entry : params.entrySet()) {
            if (isEncodeKV)
                canonicalizedQueryString.append(percentEncode(entry.getKey())).append("=");
            else
                canonicalizedQueryString.append(entry.getKey()).append("=").append(entry.getValue()).append("&");
        }
        if (canonicalizedQueryString.length() > 1) {
            canonicalizedQueryString.setLength(canonicalizedQueryString.length() - 1);
        }
        return canonicalizedQueryString.toString();
    }

    public static String percentEncode(String value) {
        try {
            // After you use URLEncoder.encode for encoding, replace plus signs (+), asterisks (*), and %7E with values that conform to the encoding standard specified by the API.
            return value == null ? null
                : URLEncoder.encode(value, CHARSET_UTF8).replace("+", "%20").replace("*", "%2A").replace("%7E",
                    "~");
        } catch (Exception e) {
        }
        return "";
    }
}
```

3. Edit the *SignatureUtils.java* file.

```
/*
 * Copyright © 2018 Alibaba. All rights reserved.
 */
package com.aliyun.iot.demo.sign;
import java.io.IOException;
import java.io.UnsupportedEncodingException;
import java.net.URI;
import java.net.URISyntaxException;
import java.net.URLDecoder;
import java.net.URLEncoder;
import java.util.Map;
import java.util.TreeMap;
import javax.crypto.Mac;
import javax.crypto.spec.SecretKeySpec;
import org.apache.commons.codec.binary.Base64;
import org.apache.commons.lang3.StringUtils;
/**
 * Signature configuration for the server API

```

```
* @author: ali
* @version: 0.1 2018-06-21 20:47:05
*/
public class SignatureUtils {
    private final static String CHARSET_UTF8 = "utf8";
    private final static String ALGORITHM = "HmacSHA1";
    private final static String SEPARATOR = "&";
    public static Map<String, String> splitQueryString(String url)
        throws URISyntaxException, UnsupportedEncodingException {
        URI uri = new URI(url);
        String query = uri.getQuery();
        final String[] pairs = query.split("&");
        TreeMap<String, String> queryMap = new TreeMap<String, String>();
        for (String pair : pairs) {
            final int idx = pair.indexOf("=");
            final String key = idx > 0 ? pair.substring(0, idx) : pair;
            if (!queryMap.containsKey(key)) {
                queryMap.put(key, URLDecoder.decode(pair.substring(idx + 1), CHARSET_UTF8));
            }
        }
        return queryMap;
    }
    public static String generate(String method, Map<String, String> parameter, String accessKeySecret)
        throws Exception {
        String signString = generateSignString(method, parameter);
        System.out.println("signString---" + signString);
        byte[] signBytes = hmacSHA1Signature(accessKeySecret + "&", signString);
        String signature = newStringByBase64(signBytes);
        System.out.println("signature----" + signature);
        if ("POST".equals(method))
            return signature;
        return URLEncoder.encode(signature, "UTF-8");
    }
    public static String generateSignString(String httpMethod, Map<String, String> parameter) throws IOException {
        TreeMap<String, String> sortParameter = new TreeMap<String, String>();
        sortParameter.putAll(parameter);
        String canonicalizedQueryString = UrlUtil.generateQueryString(sortParameter, true);
        if (null == httpMethod)
            throw new RuntimeException("httpMethod can not be empty");
        String stringToSign = new StringBuilder();
        stringToSign.append(httpMethod).append(SEPARATOR);
        stringToSign.append(percentEncode("/")).append(SEPARATOR);
        stringToSign.append(percentEncode(canonicalizedQueryString));
        return stringToSign.toString();
    }
    public static String percentEncode(String value) {
        try {
            return value == null ? null
        } catch (Exception e) {
            return null;
        }
    }
}
```

```
        : URLEncoder.encode(value, CHARSET_UTF8).replace("+", "%20").replace("*", "%2A").replace("%7E", "~");
    } catch (Exception e) {
    }
    return "";
}
public static byte[] hmacSHA1Signature(String secret, String baseString) throws Exception {
    if (StringUtils.isEmpty(secret)) {
        throw new IOException("secret can not be empty");
    }
    if (StringUtils.isEmpty(baseString)) {
        return null;
    }
    Mac mac = Mac.getInstance("HmacSHA1");
    SecretKeySpec keySpec = new SecretKeySpec(secret.getBytes(CHARSET_UTF8), ALGORITHM);
    mac.init(keySpec);
    return mac.doFinal(baseString.getBytes(CHARSET_UTF8));
}
public static String newStringByBase64(byte[] bytes) throws UnsupportedEncodingException {
    if (bytes == null || bytes.length == 0) {
        return null;
    }
    return new String(Base64.encodeBase64(bytes, false), CHARSET_UTF8);
}
}
```

4. Edit the *Main.java* file.

```
/*
 * Copyright © 2018 Alibaba. All rights reserved.
 */
package com.aliyun.iot.demo.sign;
import java.io.UnsupportedEncodingException;
import java.net.URLEncoder;
import java.util.HashMap;
import java.util.Map;
/**
 * Main entry to signature tools
 *
 * @author: ali
 * @version: 0.1 2018-09-18 15:06:48
 */
public class Main {
    // 1. Modify the AccessKey information in the Config.java file.
    // 2. You must specify all parameters. We recommend that you use Method 2 in the following description.
    // 3." The signature that follows Final signature is the signature that you want to obtain.
    public static void main(String[] args) throws UnsupportedEncodingException {
        // Method 1
        System.out.println("Method 1:");
    }
}
```

```
String str = "GET&AccessKeyId%3D" + Config.accessKey
        + "%26Action%3DRegisterDevice%26DeviceName%3D1533023037%26Format%3DJSON
%26ProductKey%3DxxxxUtgaRLB%26RegionId%3Dcn-shanghai%26SignatureMethod%3DHMAC-SHA1%26Si
gnatureNonce%3D1533023037%26SignatureVersion%3D1.0%26Timestamp%3D2018-07-31T07%253A43%2
53A57Z%26Version%3D2018-01-20";
byte[] signBytes;
try {
    signBytes = SignatureUtils.hmacSHA1Signature(Config.accessKeySecret + "&",
str.toString());
    String signature = SignatureUtils.newStringByBase64(signBytes);
    System.out.println("signString---" + str);
    System.out.println("signature----" + signature);
    System.out.println("Final signature:" + URLEncoder.encode(signature, Config
.CHARSET_UTF8));
} catch (Exception e) {
    e.printStackTrace();
}
System.out.println();
// Method 2
System.out.println("Method 2:");
Map<String, String> map = new HashMap<String, String>();
// The common parameters.
map.put("Format", "JSON");
map.put("Version", "2018-01-20");
map.put("AccessKeyId", Config.accessKey);
map.put("SignatureMethod", "HMAC-SHA1");
map.put("Timestamp", "2018-07-31T07:43:57Z");
map.put("SignatureVersion", "1.0");
map.put("SignatureNonce", "1533023037");
map.put("RegionId", "cn-shanghai");
// The request parameters.
map.put("Action", "RegisterDevice");
map.put("DeviceName", "1533023037");
map.put("ProductKey", "xxxxUtgaRLB");
try {
    String signature = SignatureUtils.generate("GET", map, Config.accessKeySecr
et);
    System.out.println("Final signature:" + signature);
} catch (Exception e) {
    e.printStackTrace();
}
System.out.println();
}
}
```

2.6. Error codes

This topic describes error codes that the Link IoT Edge API can return. For more information about error handling, see the API Reference. Errors occur due to invalid request parameters, incomplete request parameters, limits exceeded, or other causes.

System error codes

An error code that starts with `iot.system` indicates a system error.

Error code	Description
<code>iot.system.SystemException</code>	A system error occurred. Try again later.

Common error codes

An error code that starts with `iot.common` indicates a common error.

Error	Description
<code>iot.common.InvalidTenant</code>	The specified Alibaba Cloud account is invalid. You must specify a valid Alibaba Cloud account and make sure that the account has the required permissions.
<code>iot.common.InvalidParam</code>	The specified request parameter is invalid. You must specify a valid request parameter. Try again later.
<code>iot.common.AuthActionPermissionDeny</code>	Authentication failed. This error may occur when the specified account information is invalid. You must specify a valid AccessKey pair and resource information.
<code>iot.common.RamActionPermissionDeny</code>	The specified RAM user does not have the required permissions. For more information, see Grant permissions to a RAM user .
<code>iot.common.HighFrequentDeny</code>	You have made the request too many times. Try again later.
<code>iot.common.ParameterSizeLimit</code>	The value that you specified for the request parameter exceeds the limit. You must specify a valid request parameter. Try again later.

Error codes for edge instances

An error code that starts with `iot.edge.Instance` indicates an error related to an edge instance.

Error code	Description
------------	-------------

Error code	Description
iot.edge.InstanceNotExist	<p>The specified edge instance does not exist.</p> <p>You must specify a valid edge instance ID or name.</p>
iot.edge.InstanceNameExist	<p>The specified edge instance name already exists.</p> <p>The name of each edge instance must be unique.</p> <p>You must specify a valid name for the edge instance.</p>
iot.edge.InstanceNumLimitation	<p>The number of edge instances exceeds the limit.</p> <p>You can use an Alibaba Cloud account to create a maximum of 100,000 edge instances.</p>
iot.edge.InstanceAlreadyBindGateway	The edge instance is attached to a gateway.
iot.edge.InstanceIsRunning	The edge instance is running.
iot.edge.InstanceHasDevice	<p>Failed to delete the edge instance because a sub-device is attached.</p> <p>Before you delete an edge instance, you must remove all connected sub-devices from the edge instance. Otherwise, you cannot delete the edge instance.</p>
iot.edge.InstanceHasNoGateway	<p>The specified edge instance does not connect to any gateways.</p> <p>You can call the BindGatewayToEdgeInstance operation to connect the edge instance to a gateway.</p>
iot.edge.InstanceDeviceLimitation	<p>The number of sub-devices that you want to connect to the edge instance exceeds the limit.</p> <p>You can assign a maximum of 1,000 sub-devices to each edge instance.</p>
iot.edge.InstanceGatewayLimitation	<p>The number of gateways with which an edge instance can associate exceeds the limit.</p> <ul style="list-style-type: none">• You can connect each edge instance of Link IoT Edge Pro Edition or Link IoT Edge Lite Edition to only one gateway.• You can associate each edge instance of Link IoT Edge Standard Edition with a maximum of two gateways.

Error code	Description
iot.edge.InstanceDriverLimitation	The number of drivers that you want to assign to the edge instance exceeds the limit. You can assign a maximum of 30 drivers to each edge instance.
iot.edge.InstanceHasDriver	Failed to delete the edge instance because a driver is attached. Before you delete an edge instance, you must remove all drivers from the edge instance. Otherwise, you cannot delete the edge instance.
iot.edge.InstanceHasSameNameDriver	The name that you specified is the same as that of an existing driver in the edge instance. The name of each driver that you want to assign in an edge instance must be unique.
iot.edge.InstanceAuthorized	You cannot delete or modify the edge instance because the edge instance is authorized to another Alibaba Cloud account.

Error codes for gateways

An error code that starts with `iot.edge.Gateway` indicates an error related to a gateway.

Error code	Description
iot.edge.GatewayNotExist	The specified gateway does not exist. Make sure that the gateway is not deleted.
iot.edge.GatewayDisable	The specified gateway is disabled. You must check the status of the gateway.
iot.edge.GatewayInactive	The specified gateway is inactive. You must first activate the gateway. Try again later.
iot.edge.GatewayOffline	The specified gateway is offline. You must check the status of the gateway.
iot.edge.GatewayNotBindToInstance	The specified gateway is not associated with any edge instances. You must specify a valid gateway or specify the gateway for an edge instance.

Error code	Description
iot.edge.GatewayAlreadyBindToInstance	The specified gateway is linked to an edge instance.
iot.device.DeviceNotGateway	The specified device is not a gateway. You must specify a gateway.

Error codes for sub-devices

An error code that starts with `iot.edge.Device` indicates an error related to a sub-device.

Error code	Description
iot.edge.DeviceAlreadyBindToInstance	The specified sub-device is assigned to an edge instance.
iot.edge.DeviceNotBindToInstance	The specified sub-device does not exist in the edge instance. You must specify a valid sub-device name or assign the sub-device to an edge instance.
iot.edge.DeviceNumLimitation	The number of sub-devices that you want to add to the edge instance exceeds the limit. You can assign a maximum of 1,000 sub-devices to each edge instance.
iot.edge.DeviceInactive	The device is inactive.
iot.edge.DeviceDebugDisable	You cannot debug the sub-device because the sub-device is offline. The status of the sub-device must be online. Try again later.
iot.edge.DeviceNotMatchDriverProtocol	The specified sub-device does not match the driver protocol. You must ensure the network connection method of the sub-device matches the communication protocol of the driver protocol.
iot.edge.DeviceAlreadyAttachOtherDriver	The specified sub-device is associated with a driver. Only one driver can be associated with each sub-device in the same gateway.
iot.edge.DeviceNotAttachDriver	You must associate the sub-device with a driver. Before you add a sub-device to an edge-instance, you must associate the sub-device with a driver.

Error code	Description
iot.edge.DeviceNotAttachSameDriver	Failed to perform the batch operation because the specified sub-devices are not associated with the same driver. You can perform batch operations on multiple sub-devices that have the same driver assigned.
iot.edge.DeviceConfigIllegal	The parameter that you specified for the sub-device is invalid. You must specify a valid parameter. Try again later.
iot.device.NotExistedDevice	The specified sub-device does not exist. You must specify a valid sub-device name or a sub-device that exists in the IoT Platform console. Try again later.
iot.device.DeviceAlreadyBindToOtherInstance	The sub-device is assigned to another edge instance. You must specify a valid sub-device. The sub-device is not assigned to any edge instances.
iot.device.DeviceNotSubDevice	The specified device is not a sub-device. You must specify a sub-device or follow these steps to create a sub-device. In the IoT Platform console, choose Devices -> Products, click Create Product, and select Gateway Sub-device in the <i>Node Type</i> field. After you create the sub-device, you can add the sub-device. For more information, see CreateProduct .
iot.device.Disabled	The specified sub-device is disabled.

Error codes for drivers

An error code that starts with `iot.driver`, `iot.edge.driver`, or `iot.edge.Driver` indicates an error related to a driver.

Error code	Description
iot.edge.DriverNotExist	The specified driver does not exist. You must specify a valid driver. Try again later.

Error code	Description
iot.edge.DriverNumLimitation	<p>The number of custom drivers exceeds the limit.</p> <p>You can use an Alibaba Cloud account to create a maximum of 50 custom drivers. To create a custom driver, follow these steps. Log on to the IoT Platform console, choose Link IoT Edge > Drivers, select the Custom Driver tab, and click Create Driver to create a custom driver.</p>
iot.edge.DriverNameProtocolRuntimeCpuArchMustBeUnique	<p>The driver name, communication protocol, programming language, and CPU architecture that you specified are the same as those of the custom driver.</p> <p>You can differentiate between custom drivers based on the driver name, communication protocol, programming language, or CPU architecture. For example, if the driver name, programming language, and communication protocol for two custom drivers are the same, the CPU architecture must be different.</p>
iot.edge.DriverVersionNotExist	<p>The driver version that you specified for the custom driver does not exist.</p> <p>You must specify a valid driver version. Try again later.</p>
iot.edge.DriverVersionAlreadyExist	<p>The version that you specified for the custom driver already exists.</p> <p>You must specify a valid version. Try again later.</p>
iot.edge.DriverOssContentNotExist	<p>The driver does not exist in the specified OSS bucket.</p> <p>You must specify a valid OSS bucket or ensure the driver is uploaded to the OSS bucket.</p>
iot.edge.DriverVersionLimitation	<p>The number of versions that you want to create for the driver exceeds the limit.</p> <p>You can create a maximum of 10 versions for each driver.</p>
iot.edge.DriverHasReleasedVersion	<p>The driver has a released version.</p> <p>If a driver has a released version, you cannot delete the driver.</p>

Error code	Description
iot.edge.DriverVersionAlreadyBindToInstance	A version for the driver is assigned to the edge instance. If a driver version is assigned to an edge instance, you cannot delete the related driver.
iot.edge.DriverVersionHasBeenReleased	The driver version is already released. You cannot release it again.
iot.edge.DriverAlreadyBindToInstance	The driver is assigned to the edge instance.
iot.edge.DriverNotBindToInstance	The specified driver does not exist in the edge instance. You must attach the driver to the edge instance. Try again later.
iot.edge.DriverHasDevice	The sub-device is associated with the driver. If a driver is associated with a sub-device, you cannot remove the driver from the edge instance. Try again after you remove all sub-devices of the driver.
iot.edge.DriverConfigIllegal	The format of the parameter that you specified for the driver configuration is invalid. You must specify a valid format.
iot.edge.ReleasedVersionCannotBeDeletedOrModified	Failed to delete or modify the version for the driver because the version is released.
iot.edge.PurchasedDriverCannotAccessUnreleasedVersion	Failed to view the version for the purchased driver because the version has not been released. You must first release the version. Try again later.

Error codes for deployment tasks

An error code that starts with `iot.edge.deploy` indicates an error related to a deployment task.

Error code	Description
iot.edge.deploySheetAlreadyExist	The deployment of the edge instance is in progress. You cannot perform the operation because the deployment of the edge instance is in progress. Try again later.
iot.edge.deploySheetAlreadyFinish	All deployment tasks are completed.

Error code	Description
iot.edge.deploySheetNotExist	The deployment task that you specified does not exist. You must specify a valid deployment task. Try again later.

2.7. Instance management

2.7.1. CreateEdgeInstance

Creates an edge instance.

Limits

A single Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users share the quota of the Alibaba Cloud account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CreateEdgeInstance	The operation that you want to perform. Set the value to CreateEdgeInstance.
Name	String	Yes	LinkIoTEdge_Node	The name of the edge instance. An instance name cannot exceed 20 characters in length and can contain uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-).
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for public instances. However, this parameter is required for the instances that you have purchased.

Parameter	Type	Required	Example	Description
Tags	String	No	k1:v1,k2:v2	<p>The tags of the edge instance. Syntax of a tag: <code>key:value</code>. Multiple tags are separated with commas (,), for example, <code>k1:v1,k2:v2</code>.</p> <ul style="list-style-type: none"> • Note the following limits on tag keys: <ul style="list-style-type: none"> ◦ Tag values cannot be left empty. ◦ Tag keys must be unique in the edge instance. ◦ Tag keys only support letters. ◦ Each tag key cannot exceed 20 characters in length. • Note the following limits on tag values: <ul style="list-style-type: none"> ◦ Tag values cannot be left empty. ◦ A tag value can contain uppercase letters, lowercase letters, digits, underscores (_), and hyphens (-). ◦ Each tag value cannot exceed 20 characters in length.
Spec	Integer	No	20	<p>The specification of the edge instance.</p> <ul style="list-style-type: none"> • 10: Lite Edition. • 20: Standard Edition. • 30: Pro Edition. <p>Default value: 20.</p>

In addition to the preceding exclusive request parameters, you must specify common request parameters when calling this API operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
RequestId	String	28D159F4-980F-423D-95F0-F705E9DFC016	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. true: indicates that the call was successful. false: indicates that the call failed.

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message returned if the call failed.
Code	String	Success	The error code. Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
InstanceId	String	F3APY0tPLhmgGtx0* ***	The ID of the edge instance.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CreateEdgeInstance  
&Spec=30  
&Tags=k1:v1,k2:v2  
&Name=test instance  
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateEdgeInstanceResponse>  
    <RequestId>28D159F4-980F-423D-95F0-F705E9DFC016</RequestId>  
    <InstanceId>F3APY0tPLhmgGtx0****</InstanceId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</CreateEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "28D159F4-980F-423D-95F0-F705E9DFC016",  
    "InstanceId": "F3APY0tPLhmgGtx0****",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.7.2. DeleteEdgeInstance

Deletes an edge instance.

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DeleteEdgeInstance	The operation that you want to perform. Set the value to DeleteEdgeInstance.
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to delete and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	F29C33E5-BF22-48FE-9fef-8A24146E3388	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=DeleteEdgeInstance  
&InstanceId=3P0TbYAz5tKNAUSF****  
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteEdgeInstanceResponse>  
    <RequestId>F29C33E5-BF22-48FE-9fef-8A24146E3388</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</DeleteEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "F29C33E5-BF22-48FE-9fef-8A24146E3388",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.7.3. UpdateEdgeInstance

Updates an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	UpdateEdgeInstance	The operation that you want to perform. Set the value to UpdateEdgeInstance.
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to update and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
Name	String	Yes	LinkIoTEdge_Node	<p>The name of the edge instance.</p> <p>The name can be up to 20 characters in length and can contain letters, digits, underscores (_), and hyphens (-).</p>
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

Parameter	Type	Required	Example	Description
Tags	String	No	k1:v1,k2:v2	<p>The tags of the edge instance. Each tag is a key-value pair. Multiple tags are separated with commas (,). Example: k1:v1,k2:v2 .</p> <ul style="list-style-type: none">• Take note of the following limits on tag keys:<ul style="list-style-type: none">◦ Tag keys cannot be left empty.◦ Tag keys must be unique in the edge instance.◦ Tag keys support only letters.◦ Each tag key can be up to 20 characters in length.• Take note of the following limits on tag values:<ul style="list-style-type: none">◦ Tag values cannot be left empty.◦ A tag value can contain letters, digits, underscores (_), and hyphens (-).◦ Each tag value can be up to 20 characters in length. <p>If you do not set this parameter, this parameter is not updated.</p>
Spec	Integer	No	10	<p>The specifications of the edge instance. Valid values:</p> <ul style="list-style-type: none">• 10: Lite Edition• 20: Standard Edition• 30: Pro Edition <p>If you do not set this parameter, this parameter is not updated.</p>
BizEnable	Boolean	No	true	<p>Specifies whether to enable the edge instance. Valid values:</p> <ul style="list-style-type: none">• true: enables the edge instance.• false: disables the edge instance. <p>If you do not set this parameter, this parameter is not updated.</p>

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	10CA6DAD-EBAF-4D3E-9309-9DB5B0FF48F2	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=UpdateEdgeInstance
&InstanceId=F3APY0tPLhmgGtx0****
&Spec=30
&Tags=room:1,floor:1
&BizEnable=true
&Name=Test instance new
&<Common request parameters>
```

Sample success responses

XML format

```
<UpdateEdgeInstanceResponse>
    <RequestId>10CA6DAD-EBAF-4D3E-9309-9DB5B0FF48F2</RequestId>
    <Code>Success</Code>
    <Success>true</Success>
</UpdateEdgeInstanceResponse>
```

JSON format

```
{
    "RequestId": "10CA6DAD-EBAF-4D3E-9309-9DB5B0FF48F2",
    "Code": "Success",
    "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.7.4. GetEdgeInstance

Queries detailed information about an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	GetEdgeInstance	The operation that you want to perform. Set the value to GetEdgeInstance.
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance whose detailed information you want to query and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
BizEnable	Boolean	true	Indicates whether the edge instance was enabled. Valid values: <ul style="list-style-type: none">• true: enabled• false: disabled
GmtCreate	String	2019-06-26 12:33:25	The time when the edge instance was created.
GmtCreateTime stamp	Long	1581912859713	The UNIX timestamp when the edge instance was created.
GmtModified	String	2019-06-26 12:33:25	The last time when the edge instance was updated.
GmtModifiedTi mestamp	Long	1581912859713	The last UNIX timestamp when the edge instance was updated.
Instanceld	String	F3APY0tPLhmgGtx0* ***	The ID of the edge instance.
LatestDeploym entStatus	Integer	2	The status of the latest deployment task. Valid values: <ul style="list-style-type: none">• 0: The task was not started.• 1: The task was being processed.• 2: The task was successful.• 3: The task failed.

Parameter	Type	Example	Description
LatestDeploymentType	String	deploy	The type of the latest deployment task. Valid values: <ul style="list-style-type: none">• deploy: deploys the edge instance.• reset: resets the edge instance.
Name	String	Test instance new	The name of the edge instance.
RoleArn	String	acs:ram::1473922805*****:role/aliyuniotaccessingfrole	The Alibaba Cloud Resource Name (ARN) of the RAM role.
RoleAttachTime	String	2020-02-19 11:25:48	The time when the RAM role was attached to IoT Platform.
RoleAttachTimestamp	Long	1581912859713	The UNIX timestamp when the RAM role was attached to IoT Platform.
RoleName	String	AliyunIoT AccessingFRole	The name of the RAM role.
Spec	Integer	30	The specifications of the edge instance. Valid values: <ul style="list-style-type: none">• 10: Lite Edition• 20: Standard Edition• 30: Pro Edition
Tags	String	k1:v1,k2:v2	The tags of the edge instance. Each tag is a key-value pair. Multiple tags are separated with commas(,). Example: k1:v1, k2:v2 .
Type	String	0	Indicates whether you own the edge instance or you are authorized to use the edge instance. Valid values: <ul style="list-style-type: none">• 0: You own the edge instance.• 1: You are authorized to use the edge instance.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.

Parameter	Type	Example	Description
RequestId	String	16645053-546B-4D7C-832E-E519B0E23CF1	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=GetEdgeInstance  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<GetEdgeInstanceResponse>  
  <RequestId>16645053-546B-4D7C-832E-E519B0E23CF1</RequestId>  
  <Data>  
    <GmtCreate>2019-06-26 12:33:25</GmtCreate>  
    <BizEnable>true</BizEnable>  
    <InstanceId>F3APY0tPLhmgGtx0****</InstanceId>  
    <LatestDeploymentType>deploy</LatestDeploymentType>  
    <GmtModified>2019-06-26 16:16:22</GmtModified>  
    <Spec>30</Spec>  
    <Tags>k1:v1,k2:v2</Tags>  
    <Name>Test instance new</Name>  
    <LatestDeploymentStatus>2</LatestDeploymentStatus>  
  </Data>  
  <Code>Success</Code>  
  <Success>true</Success>  
</GetEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "16645053-546B-4D7C-832E-E519B0E23CF1",  
    "Data": {  
        "GmtCreate": "2019-06-26 12:33:25",  
        "BizEnable": true,  
        "InstanceId": "F3APY0tPLhmgGtx0****",  
        "LatestDeploymentType": "deploy",  
        "GmtModified": "2019-06-26 16:16:22",  
        "Spec": 30,  
        "Tags": "k1:v1,k2:v2",  
        "Name": "Test instance new",  
        "LatestDeploymentStatus": 2  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.7.5. QueryEdgeInstance

Queries all edge instances that belong to a specified Alibaba Cloud account.

Limits

A single Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users share the quota of the Alibaba Cloud account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeInstance	The operation that you want to perform. Set the value to QueryEdgeInstance.

Parameter	Type	Required	Example	Description
CurrentPage	Integer	Yes	1	The number of the page from which the results are displayed. The minimum value is 1. If you specify a value smaller than 1, the system uses 1.
PageSize	Integer	Yes	15	The number of entries to return on each page. Maximum value: 30. Default value: 10. If you specify a value smaller than 1, the system uses 10.
IoTInstanceID	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for public instances. However, this parameter is required for the instances that you have purchased.
Name	String	No	test_instance_test	The name of the edge instance.

In addition to the preceding exclusive request parameters, you must specify common request parameters when calling this API operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
RequestId	String	199BBC5D-FC99-46CB-88E2-FB98E92446FA	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. true: indicates that the call was successful. false: indicates that the call failed.
Code	String	Success	The error code. Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message returned if the call failed.
Data	Struct		The data returned if the call was successful.

Parameter	Type	Example	Description
Total	Integer	201	The number of edge instances.
PageSize	Integer	2	The number of entries returned per page.
CurrentPage	Integer	1	The page number of the returned page.
InstanceList	Array		A list of edge instances.
InstanceId	String	9iqyQAKDb2aYGVKa* ***	The ID of the edge instance.
Name	String	test_le1	The name of the edge instance.
Tags	String	k1:v1,k2:v2	The tags of the edge instance.
Type	Integer	0	<p>Indicates whether you own the edge instance or you are authorized to use the edge instance.</p> <ul style="list-style-type: none"> • 0: You own the edge instance. • 1: You are authorized to use the edge instance.
GmtCreate	String	2019-07-17 14:34:28	The time when the edge instance was created.
GmtModified	String	2019-07-17 14:51:38	The time when the edge instance was last updated.
RoleArn	String	acs:ram::14739228 05*****:role/aliyuniotaccessingfrole	The Alibaba Cloud Resource Name (ARN) of the RAM role.
RoleName	String	AliyunIOTAccessingFRole	The name of the RAM role.
RoleAttachTime	String	2020-02-19 11:25:48	The time when the RAM role was attached to IoT Platform.

Parameter	Type	Example	Description
Spec	Integer	30	The specification of the edge instance. <ul style="list-style-type: none">• 10: Lite Edition.• 20: Standard Edition.• 30: Pro Edition.
BizEnable	Boolean	true	Indicates whether the edge instance was enabled. <ul style="list-style-type: none">• true: enabled• false: disabled
LatestDeploymentStatus	Integer	1	The status of the latest deployment task. <ul style="list-style-type: none">• 0: The task has not started.• 1: The task is being processed.• 2: The task was successful.• 3: The task failed.
LatestDeploymentType	String	deploy	The type of the latest deployment task. <ul style="list-style-type: none">• deploy: deploys the edge instance.• Reset: resets the edge instance.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/?Action=QueryEdgeInstance  
&PageSize=15  
&CurrentPage=1  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeInstanceResponse>
  <RequestId>199BBC5D-FC99-46CB-88E2-FB98E92446FA</RequestId>
  <Data>
    <PageSize>2</PageSize>
    <CurrentPage>1</CurrentPage>
    <Total>201</Total>
    <InstanceList>
      <Instance>
        <GmtCreate>2019-07-17 14:34:28</GmtCreate>
        <BizEnable>true</BizEnable>
        <InstanceId>9iqyQAKDb2aYGVKa****</InstanceId>
        <GmtModified>2019-07-17 14:51:38</GmtModified>
        <Spec>20</Spec>
        <Name>test_le1</Name>
      </Instance>
      <Instance>
        <GmtCreate>2018-10-22 20:09:29</GmtCreate>
        <BizEnable>true</BizEnable>
        <InstanceId>ZpbCzkQpbb2kpmm0****</InstanceId>
        <LatestDeploymentType>reset</LatestDeploymentType>
        <GmtModified>2019-07-16 16:50:50</GmtModified>
        <Spec>30</Spec>
        <Name>test_le1</Name>
        <LatestDeploymentStatus>1</LatestDeploymentStatus>
      </Instance>
    </InstanceList>
  </Data>
  <Code>Success</Code>
  <Success>true</Success> </QueryEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "199BBC5D-FC99-46CB-88E2-FB98E92446FA",  
    "Data": {  
        "PageSize": 2,  
        "CurrentPage": 1,  
        "Total": 201,  
        "InstanceList": [  
            {  
                "GmtCreate": "2019-07-17 14:34:28",  
                "BizEnable": true,  
                "InstanceId": "9iqyQAKDb2aYGVKa****",  
                "GmtModified": "2019-07-17 14:51:38",  
                "Spec": 20,  
                "Name": "test_le1"  
            },  
            {  
                "GmtCreate": "2018-10-22 20:09:29",  
                "BizEnable": true,  
                "InstanceId": "ZpbCxkQpbb2kpmm0****",  
                "LatestDeploymentType": "reset",  
                "GmtModified": "2019-07-16 16:50:50",  
                "Spec": 30,  
                "Name": "test_le1",  
                "LatestDeploymentStatus": 1  
            }  
        ]  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8. Driver management

2.8.1. CreateEdgeDriver

Creates a driver.

Limits

A single Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users share the quota of the Alibaba Cloud account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CreateEdgeDriver	The operation that you want to perform. Set the value to CreateEdgeDriver.
DriverName	String	Yes	MyLedDriver	The name of the driver to create. The name cannot exceed 20 characters in length and can contain only uppercase letters, lowercase letters, digits, and underscores (_). It must start with a letter.
DriverProtocol	String	Yes	customize	The communications protocol that the driver uses. Valid values: <ul style="list-style-type: none">• modbus: Modbus protocol• opc-ua: OPC UA protocol• customize: custom protocol
Runtime	String	Yes	c	The language in which the driver is programmed. Valid values: <ul style="list-style-type: none">• nodejs8: Node.js v8• python3: Python v3.5• c: C
IoTInstanceID	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for public instances. However, this parameter is required for the instances that you have purchased.
CpuArch	String	No	x86-64	The CPU architecture that the driver supports. Valid values: <ul style="list-style-type: none">• ARMv7• ARMv7-HF• AArch64• x86-64• x86

Parameter	Type	Required	Example	Description
IsBuiltIn	Boolean	No	false	<p>Specifies whether the driver is a built-in driver.</p> <ul style="list-style-type: none">• true: indicates that the driver is a built-in driver, that is, the driver code is pre-configured on the gateway device.• false: indicates that the driver is not a built-in driver and you must upload the driver code. Default value: false. <p> Note If the driver is not a built-in driver, you must upload the driver code.</p>

In addition to the preceding exclusive request parameters, you must specify common request parameters when calling this API operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The error code. Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
DriverId	String	fec565038d7544978 d9aed5c1a*****	The ID of the driver created.
ErrorMessage	String	request parameter error	The error message returned if the call failed.
RequestId	String	BB179FE4-94AB- 41B0-AE8A- 66DDB7B8B13A	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. true indicates that the call was successful. false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CreateEdgeDriver  
&DriverProtocol=customize  
&Runtime=c  
&DriverName=MyLedDriver  
&CpuArch=x86-64  
&IsBuiltIn=false  
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateEdgeDriverResponse>  
    <DriverId>fec565038d7544978d9aed5c1a*****</DriverId>  
    <RequestId>BB179FE4-94AB-41B0-AE8A-66DDB7B8B13A</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</CreateEdgeDriverResponse>
```

JSON format

```
{  
    "DriverId": "fec565038d7544978d9aed5c1a*****",  
    "RequestId": "BB179FE4-94AB-41B0-AE8A-66DDB7B8B13A",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.2. DeleteEdgeDriver

Deletes a driver.

Limits

- You are not allowed to delete a driver that has a published version.
- Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DeleteEdgeDriver	The operation that you want to perform. Set the value to DeleteEdgeDriver.
DriverId	String	Yes	fec565038d7544978d9aed5c1a**** **	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver that you want to delete and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	F82E857F-B6B9-4CCC-96B8-E4BE97095F1A	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=DeleteEdgeDriver  
&DriverId=fec565038d7544978d9aed5c1a*****  
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteEdgeDriverResponse>  
    <RequestId>F82E857F-B6B9-4CCC-96B8-E4BE97095F1A</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</DeleteEdgeDriverResponse>
```

JSON format

```
{  
    "RequestId": "F82E857F-B6B9-4CCC-96B8-E4BE97095F1A",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.3. BatchGetEdgeDriver

Queries information about multiple drivers at a time.

Limits

A single Alibaba Cloud account can run a maximum of 5 queries per second (QPS).

 **Note** RAM users share the quota of the Alibaba Cloud account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchGetEdgeDriver	The operation that you want to perform. Set the value to BatchGetEdgeDriver.
DriverIds.N	RepeatList	Yes	fec565038d75449 78d9aed5c1a**** **	The IDs of drivers whose information is to be queried. You can specify a maximum of 30 driver IDs in this parameter.
IoInstanceld	String	No	ot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for public instances. However, this parameter is required for the instances that you have purchased.

In addition to the preceding exclusive request parameters, you must specify common request parameters when calling this API operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The error code. Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
DriverList	Array		The information about each driver.
CpuArch	String	x86-64	The CPU architecture that the driver supports. Valid values: <ul style="list-style-type: none"> • ARMv7 • ARMv7-HF • AArch64 • x86-64 • x86
DriverId	String	fec565038d7544978 d9aed5c1a*****	The ID of the driver.
DriverName	String	MyLedDriver	The name of the driver.

Parameter	Type	Example	Description
DriverProtocol	String	customize	<p>The communications protocol that the driver uses. Valid values:</p> <ul style="list-style-type: none"> modbus: Modbus protocol opc-ua: OPC UA protocol customize: custom protocol
GmtCreateTime stamp	Long	1581912859713	The time when the driver was created. The time is displayed in UTC.
GmtModifiedTi mestamp	Long	1581912859713	The time when the driver was last modified. The time is displayed in UTC.
IsBuiltIn	Boolean	false	<p>Indicates whether the driver is a built-in driver.</p> <ul style="list-style-type: none"> true: indicates that the driver is a built-in driver, that is, the driver code is pre-configured on the gateway device. false: indicates that the driver is not a built-in driver.
Runtime	String	c	<p>The language in which the driver is programmed. Valid values:</p> <ul style="list-style-type: none"> nodejs8: Node.js v8 python3: Python v3.5 c: C
Type	Integer	1	<p>The type of the driver. Valid values:</p> <ul style="list-style-type: none"> 0: official driver 1: custom driver
ErrorMessage	String	request parameter error	The error message returned if the call failed.
RequestId	String	A42CAB88-6E26-4DC7-9A35-584D17E82DE0	The ID of the request.
Success	Boolean	true	<p>Indicates whether the call was successful. true indicates that the call was successful. false indicates that the call failed.</p>

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchGetEdgeDriver  
&DriverIds.1=fec565038d7544978d9aed5c1a*****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchGetEdgeDriverResponse>  
  <RequestId>A42CAB88-6E26-4DC7-9A35-584D17E82DE0</RequestId>  
  <DriverList>  
    <Driver>  
      <DriverProtocol>customize</DriverProtocol>  
      <Type>1</Type>  
      <Runtime>c</Runtime>  
      <GmtCreate>2019-12-01 22:28:00</GmtCreate>  
      <DriverId>fec565038d7544978d9aed5c1a*****</DriverId>  
      <DriverName>MyLedDriver</DriverName>  
      <GmtModified>2019-12-01 22:28:00</GmtModified>  
      <IsBuiltIn>false</IsBuiltIn>  
      <CpuArch>x86-64</CpuArch>  
    </Driver>  
  </DriverList>  
  <Code>Success</Code>  
  <Success>true</Success>  
</BatchGetEdgeDriverResponse>
```

JSON format

```
{  
  "RequestId": "A42CAB88-6E26-4DC7-9A35-584D17E82DE0",  
  "DriverList": [  
    {  
      "DriverProtocol": "customize",  
      "Type": 1,  
      "Runtime": "c",  
      "GmtCreate": "2019-12-01 22:28:00",  
      "DriverId": "fec565038d7544978d9aed5c1a*****",  
      "DriverName": "MyLedDriver",  
      "GmtModified": "2019-12-01 22:28:00",  
      "IsBuiltIn": false,  
      "CpuArch": "x86-64"  
    }  
,  
  "Code": "Success",  
  "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.4. QueryEdgeDriver

Queries information about drivers by page.

Limits

A single Alibaba Cloud account can run a maximum of 5 queries per second (QPS).

 Note RAM users share the quota of the Alibaba Cloud account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeDriver	The operation that you want to perform. Set the value to QueryEdgeDriver.
CurrentPage	Integer	Yes	1	The number of the page to return. Default value: 1. If you specify a value smaller than 1, pages start from page 1.
PageSize	Integer	Yes	15	The number of entries to return on each page. Maximum value: 30. Default value: 10. If you specify a value smaller than 1, a maximum of 10 entries are displayed on each page.
Type	Integer	Yes	1	The type of the driver whose information is to be queried. Valid values: <ul style="list-style-type: none">• 0: official driver• 1: custom driver
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for public instances. However, this parameter is required for the instances that you have purchased.

Parameter	Type	Required	Example	Description
DriverName	String	No	MyledDriver	The name of the driver whose information is to be queried. If you want to query information about drivers with a specific name, set this parameter.

In addition to the preceding exclusive request parameters, you must specify common request parameters when calling this API operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The error code. Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data returned if the call was successful.
CurrentPage	Integer	1	The page number of the returned page.
DriverList	Array		The information about each driver.
CpuArch	String	x86-64	The CPU architecture that the driver supports. Valid values: <ul style="list-style-type: none">• ARMv7• ARMv7-HF• AArch64• x86-64• x86
DriverId	String	fec565038d7544978 d9aed5c1a*****	The ID of the driver.
DriverName	String	MyLedDriver	The name of the driver.

Parameter	Type	Example	Description
DriverProtocol	String	customize	<p>The communications protocol that the driver uses. Valid values:</p> <ul style="list-style-type: none"> • modbus: Modbus protocol • opc-ua: OPC UA protocol • customize: custom protocol
GmtCreateTime stamp	Long	1581912859713	The time when the driver was created. The time is displayed in UTC.
GmtModifiedTi mestamp	Long	1581912859713	The time when the driver was last modified. The time is displayed in UTC.
IsBuiltIn	Boolean	false	<p>Indicates whether the driver is a built-in driver.</p> <ul style="list-style-type: none"> • true: indicates that the driver is a built-in driver, that is, the driver code is pre-configured on the gateway device. • false: indicates that the driver is not a built-in driver.
Runtime	String	c	<p>The language in which the driver is programmed. Valid values:</p> <ul style="list-style-type: none"> • nodejs8: Node.js v8 • python3: Python v3.5 • c: C
Type	Integer	1	<p>The type of the driver. Valid values:</p> <ul style="list-style-type: none"> • 0: official driver • 1: custom driver
PageSize	Integer	15	The number of entries returned per page.
Total	Integer	1	<p>The total number of official or custom drivers found.</p> <ul style="list-style-type: none"> • If the value of Type is 0, the value of this parameter is the total number of official drivers found. • If the value of Type is 1, the value of this parameter is the total number of custom drivers found.

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message returned if the call failed.
RequestId	String	E0BD540E-DCFE-4602-B6D1-D208E8594BF7	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. true indicates that the call was successful. false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeDriver  
&Type=1  
&PageSize=15  
&CurrentPage=1  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeDriverResponse>  
    <RequestId>E0BD540E-DCFE-4602-B6D1-D208E8594BF7</RequestId>  
    <Data>  
        <PageSize>15</PageSize>  
        <CurrentPage>1</CurrentPage>  
        <Total>1</Total>  
        <DriverList>  
            <Driver>  
                <DriverProtocol>customize</DriverProtocol>  
                <Type>1</Type>  
                <Runtime>c</Runtime>  
                <GmtCreate>2019-12-01 22:28:00</GmtCreate>  
                <DriverId>fec565038d7544978d9aed5c1a*****</DriverId>  
                <DriverName>MyLedDriver</DriverName>  
                <GmtModified>2019-12-01 22:28:00</GmtModified>  
                <IsBuiltIn>false</IsBuiltIn>  
                <CpuArch>x86-64</CpuArch>  
            </Driver>  
        </DriverList>  
    </Data>  
    <Code>Success</Code>  
    <Success>true</Success>  
</QueryEdgeDriverResponse>
```

JSON format

```
{  
    "RequestId": "E0BD540E-DCFE-4602-B6D1-D208E8594BF7",  
    "Data": {  
        "PageSize": 15,  
        "CurrentPage": 1,  
        "Total": 1,  
        "DriverList": [  
            {  
                "DriverProtocol": "customize",  
                "Type": 1,  
                "Runtime": "c",  
                "GmtCreate": "2019-12-01 22:28:00",  
                "DriverId": "fec565038d7544978d9aed5c1a*****",  
                "DriverName": "MyLedDriver",  
                "GmtModified": "2019-12-01 22:28:00",  
                "IsBuiltIn": false,  
                "CpuArch": "x86-64"  
            }  
        ]  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.5. CreateEdgeDriverVersion

Creates a driver version.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CreateEdgeDriverVersion	The operation that you want to perform. Set the value to CreateEdgeDriverVersion.

Parameter	Type	Required	Example	Description
DriverId	String	Yes	fec565038d75449 78d9aed5c1a**** **	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver for which you want to create a driver version and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
DriverVersion	String	Yes	1.2.0	The version number of the driver. The version number must be unique for the driver. The version number can be up to 64 characters in length and can contain letters, digits, underscores (_), hyphens (-), and periods (.).
EdgeVersion	String	Yes	2.0.0	The earliest version of Link IoT Edge that is supported by the driver. The driver can run on gateways of only this version and later. For example, if you set this parameter to 2.4.0, the driver can run on gateways of only version 2.4.0 and later.
Argument	String	No	-XX:+PrintGCDetails	The Java Virtual Machine (JVM) startup parameter.
Description	String	No	LED driver	The description of the driver. The description can be a maximum of 256 bytes in length.

Parameter	Type	Required	Example	Description
SourceConfig	String	No	<pre>{"ossAddress":"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ecea8f0cfb30c*****/ck3n3koe200003h6zf*****.zip"}</pre>	<p>The source of the driver code. Set this parameter to a JSON string in the following format:</p> <pre>{"ossAddress":"http://***/driver_code.zip"}</pre> <p>In the JSON string, ossAddress specifies the URL of the driver code stored in Object Storage Service (OSS). If you want to upload the driver code and obtain the URL of the driver code stored in OSS by using API operations, call the CreateOssPreSignedAddress operation first.</p>
DriverConfig	String	No	<pre>[{"format":"JSON","content": "{\"defaultConfig\":\"this is default driver config demo\"}"}]</pre>	<p>The configuration of the driver. Set this parameter to a JSON string in the following format:</p> <pre>{"format":"JSON", "content": "{}"}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none">• format: the format of the driver configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).• content: the content of the driver configuration. If you set the format parameter to KV or JSON, set this parameter to the configuration content of the driver. If you set the format parameter to FILE, set this parameter to the URL of the driver configuration file stored in OSS. <p>Note To obtain the URL of the driver configuration file stored in OSS, call the CreateOssPreSignedAddress operation.</p>

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
ConfigCheckRule	String	No	{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}	<p>The rule for verifying configurations. Set this parameter to a JSON string in the following format:</p> <pre>{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none"> • driverConfig: the rule for verifying the configuration of the driver when the driver is to be deployed in an edge instance. • deviceConfig: the rule for verifying the configurations of devices that use the driver when the driver is to be deployed in an edge instance. <p><code>required</code> : A value of true indicates that the corresponding parameter is required. A value of false indicates that the corresponding parameter is optional.</p>
ContainerConfig	String	No	{"privileged":1,"devMappings":[],"volumeMappings":[],"hostNetworkMode":0,"portMapPings":[]}	The configuration of the container where the driver runs. Set this parameter to a JSON string. For more information about parameters in the JSON string, see the following parameter description of ContainerConfig .

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Parameter description of ContainerConfig

Parameter	Type	Required	Description
privileged	Integer	No	Specifies whether to enable the privilege mode for the container. Valid values: 0: disables the mode. 1: enables the mode.
hostNetworkMode	Integer	No	Specifies whether to enable the host mode for the container. Valid values: 0: disables the mode. 1: enables the mode.
portMappings	List	No	The mapping of network ports. This parameter is not required if the hostNetworkMode parameter is set to 1. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of portMappings.

Parameter	Type	Required	Description
devMappings	List	No	The mapping of devices. This parameter is not required if the privileged parameter is set to 1. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of devMappings.
volumeMappings	List	No	The mapping of volumes. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of volumeMappings.

Parameter description of portMappings

Parameter	Type	Required	Description
hostPort	Integer	Yes	The port number of the host where the container resides. Valid values: 1 to 65535.
containerPort	Integer	Yes	The port number of the container. Valid values: 1 to 65535.

Parameter	Type	Required	Description
protocol	Integer	Yes	The type of the protocol that is used for communication between the mapping ports. Valid values: tcp and udp.

Parameter description of devMappings

Parameter	Type	Required	Description
hostPath	String	Yes	The name of the device that the driver needs to access. The name must be 1 to 128 characters in length and start with /dev/.
permission	String	Yes	The permissions that the driver has for the device. Valid values: ro: The driver has only the read permissions for the device. rw: The driver has both the read and write permissions for the device.
comment	String	No	The remarks for the mapping. The remarks must be 1 to 128 characters in length.

Parameter description of volumeMappings

Parameter	Type	Required	Description
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Parameter	Type	Required	Description
hostPath	String	Yes	The host path of the volume that the driver needs to access. The path must be 1 to 128 characters in length and cannot contain spaces.
containerPath	String	Yes	The path for accessing the volume in the container. The path must be an absolute path that starts with a forward slash (/). The path must be 2 to 128 characters in length and cannot contain spaces. Do not set this parameter to the root directory.
permission	String	Yes	The permissions that the driver has for the volume. Valid values: ro: The driver has only the read permissions for the volume. rw: The driver has both the read and write permissions for the volume.

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	001ADA35-8846-4B6F-93E7-E5C076F8BB56	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CreateEdgeDriverVersion
&ContainerConfig={"privileged":1,"devMappings":[],"volumeMappings":[],"hostNetworkMode":0,"portMappings":[]}
&DriverId=fec565038d7544978d9aed5c1a*****
&Description=LED driver
&DriverVersion=1.2.0
&Argument=-XX:+PrintGCDetails
&SourceConfig={"ossAddress":"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ecea8f0cfb30c*****/ck3n3koe200003h6zfgrrxxlua.zip"}
&DriverConfig=[{"format":"JSON","content":"{\\"defaultConfig\\":\\"this is default driver config demo\\"}"}]
&EdgeVersion=2.0.0
&ConfigCheckRule={"deviceConfig":{"required":false},"driverConfig":{"required":false}}
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateEdgeDriverVersionResponse>
    <RequestId>001ADA35-8846-4B6F-93E7-E5C076F8BB56</RequestId>
    <Code>Success</Code>
    <Success>true</Success>
</CreateEdgeDriverVersionResponse>
```

JSON format

```
{
    "RequestId": "001ADA35-8846-4B6F-93E7-E5C076F8BB56",
    "Code": "Success",
    "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.6. DeleteEdgeDriverVersion

Deletes a driver version.

Limits

- You are not allowed to delete a published driver version.
- Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	DeleteEdgeDriverVersion	The operation that you want to perform. Set the value to DeleteEdgeDriverVersion.
DriverId	String	Yes	fec565038d7544978d9aed5c1a**** **	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver for which you want to delete a driver version and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
DriverVersion	String	Yes	1.2.0	The version number of the driver.

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	J82E857F-T6B9-4FDE-96B8-E4BE97095D1A	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=DeleteEdgeDriverVersion
&DriverId=fec565038d7544978d9aed5c1a*****
&DriverVersion=1.2.0
&<Common request parameters>
```

Sample success responses

XML format

```
<DeleteEdgeDriverVersionResponse>
  <RequestId>J82E857F-T6B9-4FDE-96B8-E4BE97095D1A</RequestId>
  <Code>Success</Code>
  <Success>true</Success>
</DeleteEdgeDriverVersionResponse>
```

JSON format

```
{
  "RequestId": "J82E857F-T6B9-4FDE-96B8-E4BE97095D1A",
  "Code": "Success",
  "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.7. UpdateEdgeDriverVersion

Updates a driver version.

Limits

- If a request parameter is not specified, the original value of the parameter will be cleared for the driver version.
- You are not allowed to update a published driver version.
- Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	UpdateEdgeDriverVersion	The operation that you want to perform. Set the value to UpdateEdgeDriverVersion.

Parameter	Type	Required	Example	Description
DriverId	String	Yes	fec565038d75449 78d9aed5c1a**** **	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver for which you want to update a driver version and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
DriverVersion	String	Yes	1.2.0	The version number of the driver.
EdgeVersion	String	Yes	2.0.0	The earliest version of Link IoT Edge that is supported by the driver. The driver can run on gateways of only this version and later. For example, if you set this parameter to 2.4.0, the driver can run on gateways of only version 2.4.0 and later.
IoTInstanceId	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
Description	String	No	LED driver (new)	The description of the driver. The description can be a maximum of 256 bytes in length.
SourceConfig	String	No	{"ossAddress":"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ecea8f0cfb30c*****/ck3n3koe200003h6zf*****.zip"}	The source of the driver code. Set this parameter to a JSON string in the following format: <pre>{"ossAddress":"http://***/driver_code.zip"}</pre> In the JSON string, ossAddress specifies the URL of the driver code stored in Object Storage Service (OSS). If you want to upload the driver code and obtain the URL of the driver code stored in OSS by using API operations, call the CreateOssPreSignedAddress operation first.

Parameter	Type	Required	Example	Description
DriverConfig	String	No	<pre>[{"format": "JSON", "content": "{\"defaultConfig\": \"this is default driver config demo\"}"}]</pre>	<p>The configuration of the driver. Set this parameter to a JSON string in the following format:</p> <pre>{"format": "JSON", "content": "{}"}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none">• format: the format of the driver configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).• content: the content of the driver configuration. If you set the format parameter to KV or JSON, set this parameter to the configuration content of the driver. If you set the format parameter to FILE, set this parameter to the URL of the driver configuration file stored in OSS. <p>Note To obtain the URL of the driver configuration file stored in OSS, call the CreateOssPreSignedAddress operation.</p>
ContainerConfig	String	No	<pre>{"privileged": 1, "devMappings": [], "volumeMappings": [], "hostNetworkMode": 0, "portMappings": []}</pre>	The configuration of the container where the driver runs. Set this parameter to a JSON string. For more information about parameters in the JSON string, see the following parameter description of ContainerConfig.

Parameter	Type	Required	Example	Description
ConfigCheckRule	String	No	{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}	<p>The rule for verifying configurations. Set this parameter to a JSON string in the following format:</p> <pre>{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none"> • driverConfig: the rule for verifying the configuration of the driver when the driver is to be deployed in an edge instance. • deviceConfig: the rule for verifying the configurations of devices that use the driver when the driver is to be deployed in an edge instance. <p><code>required</code> : A value of true indicates that the corresponding parameter is required. A value of false indicates that the corresponding parameter is optional.</p>
Argument	String	No	-XX:+PrintGCDetails	The Java Virtual Machine (JVM) startup parameter.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Parameter description of ContainerConfig

Parameter	Type	Required	Description
privileged	Integer	No	<p>Specifies whether to enable the privilege mode for the container. Valid values:</p> <ul style="list-style-type: none"> 0: disables the mode. 1: enables the mode.

Parameter	Type	Required	Description
hostNetworkMode	Integer	No	Specifies whether to enable the host mode for the container. Valid values: 0: disables the mode. 1: enables the mode.
portMappings	List	No	The mapping of network ports. This parameter is not required if the hostNetworkMode parameter is set to 1. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of portMappings.
devMappings	List	No	The mapping of devices. This parameter is not required if the privileged parameter is set to 1. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of devMappings.
volumeMappings	List	No	The mapping of volumes. You can specify a maximum of 10 mapping records in this parameter. For more information about specific parameters, see the following parameter description of volumeMappings.

Parameter description of portMappings

Parameter	Type	Required	Description
hostPort	Integer	Yes	The port number of the host where the container resides. Valid values: 1 to 65535.
containerPort	Integer	Yes	The port number of the container. Valid values: 1 to 65535.
protocol	Integer	Yes	The type of the protocol that is used for communication between the mapping ports. Valid values: tcp and udp.

Parameter description of devMappings

Parameter	Type	Required	Description
hostPath	String	Yes	The name of the device that the driver needs to access. The name must be 1 to 128 characters in length and start with /dev/.
permission	String	Yes	The permissions that the driver has for the device. Valid values: ro: The driver has only the read permissions for the device. rw: The driver has both the read and write permissions for the device.
comment	String	No	The remarks for the mapping. The remarks must be 1 to 128 characters in length.

Parameter description of volumeMappings

Parameter	Type	Required	Description
hostPath	String	Yes	The host path of the volume that the driver needs to access. The path must be 1 to 128 characters in length and cannot contain spaces.
containerPath	String	Yes	The path for accessing the volume in the container. The path must be an absolute path that starts with a forward slash (/). The path must be 2 to 128 characters in length and cannot contain spaces. Do not set this parameter to the root directory.
permission	String	Yes	The permissions that the driver has for the volume. Valid values: ro: The driver has only the read permissions for the volume. rw: The driver has both the read and write permissions for the volume.

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	7757A782-6C24-4325-A663-C62857F32E87	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=UpdateEdgeDriverVersion  
&DriverId=fec565038d7544978d9aed5c1a*****  
&Description=LED driver (new)  
&DriverVersion=1.2.0  
&<Common request parameters>
```

Sample success responses

XML format

```
<UpdateEdgeDriverVersionResponse>  
    <RequestId>7757A782-6C24-4325-A663-C62857F32E87</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</UpdateEdgeDriverVersionResponse>
```

JSON format

```
{  
    "RequestId": "7757A782-6C24-4325-A663-C62857F32E87",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.8. GetEdgeDriverVersion

Queries information about a driver version.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	GetEdgeDriverVersion	The operation that you want to perform. Set the value to GetEdgeDriverVersion.
DriverId	String	Yes	fec565038d7544978d9aed5c1a**** **	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver whose version information you want to query and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
DriverVersion	String	Yes	1.2.0	The version number of the driver.
IoTInstanceID	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
-----------	------	---------	-------------

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
Argument	String	-XX:+PrintGCDetails	The Java Virtual Machine (JVM) startup parameter.
ConfigCheckRule	String	{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}	<p>The rule for verifying configurations. The value is a JSON string in the following format:</p> <pre>{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none">• driverConfig: the rule for verifying the configuration of the driver when the driver is to be deployed in an edge instance.• deviceConfig: the rule for verifying the configurations of devices that use the driver when the driver is to be deployed in an edge instance.
ContainerConfig	String	{"devMappings": [], "hostNetworkMode":0, "portMappings": [], "privileged":1, "volumeMappings": []}	The configuration of the container where the driver runs. The value is a JSON string. For more information about parameters in the JSON string, see the following parameter description of ContainerConfig.
Description	String	LED driver	The description of the driver.

Parameter	Type	Example	Description
DriverConfig	String	<pre>[{"content":{\\\\"defaultConfig\\\":\\\\"this is default driver config demo\\\\"}},{\"format\":\\\\"JSON\\\"}]</pre>	<p>The configuration of the driver. The value is a JSON string in the following format:</p> <pre>{"format":"JSON","content":{}}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none">• format: the format of the driver configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).• content: the content of the driver configuration. If the format parameter is set to KV or JSON, the value of this parameter is the configuration content. If the format parameter is set to FILE, the value of this parameter is the URL of the configuration file stored in Object Storage Service (OSS).
DriverId	String	fec565038d7544978 d9aed5c1a*****	The ID of the driver.
DriverVersion	String	1.2.0	The version number of the driver.
EdgeVersion	String	2.0.0	The earliest version of Link IoT Edge that is supported by the driver.
GmtCreateTime stamp	Long	1581912859713	The UNIX timestamp when the driver was created.
GmtModifiedTi mestamp	Long	1581912859713	The last UNIX timestamp when the driver was updated.

Parameter	Type	Example	Description
SourceConfig	String	<pre>{"ossAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/Driver/a8d6e4acc6941ecea8f0cfb30****/ck3n3koe200003h6zfg*****.zip\","temporaryOssAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/Driver/a8d6e4acc6941ecea8f0cfb30****/ck3n3koe200003h6zfg*****.zip?Expires\u003d1575****\u0026Signature\u003dm6cpmcaB8rm3YfbkhTYgb0*****\"}</pre>	<p>The source of the driver code. The value is a JSON string in the following format:</p> <pre>{"ossAddress":"http://***/driver_code.zip","temporaryOssAddress":"http://***/driver_code.zip?Expires***"}</pre> <p>In the JSON string, <code>ossAddress</code> indicates the URL of the driver code stored in OSS and <code>temporaryOssAddress</code> indicates the temporary link for downloading the driver code. The validity period of the temporary link is 5 minutes.</p>
VersionState	String	0	<p>The status of the driver version. Valid values:</p> <ul style="list-style-type: none"> • 0: The driver version was not published. • 1: The driver version was published.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	6ECE664B-E670-47BA-A6AD-62B9F35E3A7B	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Parameter description of ContainerConfig

Parameter	Type	Description
-----------	------	-------------

Parameter	Type	Description
privileged	Integer	Indicates whether the privilege mode was enabled for the container. Valid values: 0: disabled 1: enabled
hostNetworkMode	Integer	Indicates whether the host mode was enabled for the container. Valid values: 0: disabled 1: enabled
portMappings	List	The mapping of network ports. For more information about specific parameters, see the following parameter description of portMappings.
devMappings	List	The mapping of devices. For more information about specific parameters, see the following parameter description of devMappings.
volumeMappings	List	The mapping of volumes. For more information about specific parameters, see the following parameter description of volumeMappings.

Parameter description of portMappings

Parameter	Type	Description
hostPort	Integer	The port number of the host where the container resides.
containerPort	Integer	The port number of the container.

Parameter	Type	Description
protocol	Integer	The type of the protocol that is used for communication between the mapping ports. Valid values: tcp and udp.

Parameter description of devMappings

Parameter	Type	Description
hostPath	String	The name of the device that the driver needs to access.
permission	String	The permissions that the driver has for the device. Valid values: ro: The driver has only the read permissions for the device. rw: The driver has both the read and write permissions for the device.
comment	String	The remarks for the mapping.

Parameter description of volumeMappings

Parameter	Type	Description
hostPath	String	The host path of the volume that the driver needs to access.
containerPath	String	The path for accessing the volume in the container.
permission	String	The permissions that the driver has for the volume. Valid values: ro: The driver has only the read permissions for the volume. rw: The driver has both the read and write permissions for the volume.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=GetEdgeDriverVersion  
&DriverId=fec565038d7544978d9aed5c1a*****  
&DriverVersion=1.2.0  
&<Common request parameters>
```

Sample success responses

XML format

```
<GetEdgeDriverVersionResponse>  
  <RequestId>6ECE664B-E670-47BA-A6AD-62B9F35E3A7B</RequestId>  
  <Data>  
    <ContainerConfig>{"devMappings": [], "hostNetworkMode": 0, "portMappings": [], "privileged": 1, "volumeMappings": []}</ContainerConfig>  
    <GmtCreate>2019-12-01 22:28:01</GmtCreate>  
    <DriverId>fec565038d7544978d9aed5c1a*****</DriverId>  
    <Description>LED driver</Description>  
    <DriverVersion>1.2.0</DriverVersion>  
    <SourceConfig>{"ossAddress": "http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ecea8f0cfb30*****/ck3n3koe200003h6zf*****.zip", "temporaryOssAddress": "http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ecea8f0cfb30***/ck3n3koe200003h6zf*****.zip?Expires=1575*****&OSSAccessKeyId=aS4MT0IYrPSPj6****&Signature=m6cpcaB8rm3YfbkhTYgb0W*****"}</SourceConfig>  
    <GmtModified>2019-12-01 22:28:01</GmtModified>  
    <DriverConfig>[{"content": "{\"defaultConfig\": \"this is default driver config demo\"}", "format": "JSON"}]</DriverConfig>  
    <EdgeVersion>2.0.0</EdgeVersion>  
    <ConfigCheckRule>{"deviceConfig": {"required": false}, "driverConfig": {"required": false}}</ConfigCheckRule>  
    <VersionState>0</VersionState>  
  </Data>  
  <Code>Success</Code>  
  <Success>true</Success>  
</GetEdgeDriverVersionResponse>
```

JSON format

```
{  
    "RequestId": "6ECE664B-E670-47BA-A6AD-62B9F35E3A7B",  
    "Data": {  
        "ContainerConfig": "{\"devMappings\":[],\"hostNetworkMode\":0,\"portMappings\":[],\"privileged\":1,\"volumeMappings\":[]}",  
        "GmtCreate": "2019-12-01 22:28:01",  
        "DriverId": "fec565038d7544978d9aed5c1a*****",  
        "Description": "LED driver",  
        "DriverVersion": "1.2.0",  
        "SourceConfig": "{\"ossAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941eceea8f0cfb30*****/ck3n3koe200003h6zf*****.zip\",\"temporaryOssAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941eceea8f0cfb30*****/ck3n3koe200003h6zf*****.zip?Expires\u003d1575*****\u0026OSSAccessKeyId\u003daS4MT0IYrP*****\u0026Signature\u003dm6cpmaB8rm3YfbkhTYgb0*****\"}",  
        "GmtModified": "2019-12-01 22:28:01",  
        "DriverConfig": "[{\\"content\\":\"{\\\\\"defaultConfig\\\\\":\\\\\\\"this is default driver config demo\\\\\"\\\",\"format\\\":\"JSON\\\"}}]",  
        "EdgeVersion": "2.0.0",  
        "ConfigCheckRule": "{\"deviceConfig\":{\"required\":false},\"driverConfig\":{\"required\":false}}",  
        "VersionState": 0  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.9. QueryEdgeDriverVersion

Queries the versions of a driver by page.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
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Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeDriverVersion	The operation that you want to perform. Set the value to QueryEdgeDriverVersion.
CurrentPage	Integer	Yes	1	The number of the page to return. Pages start from Page 1.
DriverId	String	Yes	fec565038d7544978d9aed5c1a**** **	<p>The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console. On the Drivers page, move the pointer over the name of the driver whose versions you want to query and obtain the driver ID.</p> <p>You can also call the QueryEdgeDriver operation to query the driver ID.</p>
PageSize	Integer	Yes	15	The number of entries to return on each page. Valid values: 1 to 30. Default value: 10.
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
DriverVersion	String	No	LED driver	The version number of the driver. To query information about a specific driver version, set this parameter to the specific version number.
VersionState	Integer	No	0	<p>The status of the driver version. Valid values:</p> <ul style="list-style-type: none"> • 0: The driver version to be queried is not published. • 1: The driver version to be queried is published.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
CurrentPage	Integer	1	The page number of the returned page.
DriverVersionList	Array of DriverVersion		The information about each version of the driver.
Argument	String	-XX:+PrintGCDetails	The Java Virtual Machine (JVM) startup parameter.
ConfigCheckRule	String	{"deviceConfig": {"required":false}, "driverConfig": {"required":false}}	<p>The rule for verifying configurations. The value is a JSON string in the following format:</p> <pre> {"deviceConfig": {"required":false}, "driverConfig": {"required":false}}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none"> • driverConfig: the rule for verifying the configuration of the driver when the driver is to be deployed in an edge instance. • deviceConfig: the rule for verifying the configurations of devices that use the driver when the driver is to be deployed in an edge instance.
ContainerConfig	String	{"devMappings": [], "hostNetworkMode":0, "portMappings": [], "privileged":1, "volumeMappings": []}	The configuration of the container where the driver runs. The value is a JSON string. For more information about parameters in the JSON string, see the following parameter description of ContainerConfig.

Parameter	Type	Example	Description
Description	String	LED driver	The description of the driver.
DriverConfig	String	[{"content": "defaultConfig\\\" :\\\"this is default driver config demo\\\"\\\", \"format\": \"JSON\"}]	<p>The configuration of the driver. The value is a JSON string in the following format:</p> <pre>{"format":"JSON","content":{},"}</pre> <p>The JSON string contains the following parameters:</p> <ul style="list-style-type: none">• format: the format of the driver configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).• content: the content of the driver configuration. If the format parameter is set to KV or JSON, the value of this parameter is the configuration content. If the format parameter is set to FILE, the value of this parameter is the URL of the configuration file stored in Object Storage Service (OSS).
DriverId	String	fec565038d7544978d9aed5c1a*****	The ID of the driver.
DriverVersion	String	1.2.0	The version number of the driver.
EdgeVersion	String	2.0.0	The earliest version of Link IoT Edge that is supported by the driver.
GmtCreateTime stamp	Long	1581912859713	The UNIX timestamp when the driver was created.
GmtModifiedTi mestamp	Long	1581912859713	The last UNIX timestamp when the driver was updated.

Parameter	Type	Example	Description
SourceConfig	String	<pre>{"ossAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/_driver/a8d6e4acc6941eceea8f0cfb3****/ck3n3koe200003h6zf*****.zip\",\"temporaryOssAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/_driver/a8d6e4acc6941eceea8f0cfb3****/ck3n3koe200003h6zf*****.zip?Expires\u003d1575*****\u0026OSSAccessKeyId\u003daS4MT0IYr*****\u0026Signature\u003dm6cpmcaB8rm3YfbkhTYgb0w*****\"}</pre>	<p>The source of the driver code. The value is a JSON string in the following format:</p> <pre>{"ossAddress":"http://***/driver_code.zip","temporaryOssAddress":"http://***/driver_code.zip?Expires***"}</pre> <p>In the JSON string, <code>ossAddress</code> indicates the URL of the driver code stored in OSS and <code>temporaryOssAddress</code> indicates the temporary link for downloading the driver code. The validity period of the temporary link is 5 minutes.</p>
VersionState	String	0	<p>The status of the driver version. Valid values:</p> <ul style="list-style-type: none"> • 0: The driver version was not published. • 1: The driver version was published.
PageSize	Integer	15	The number of entries returned per page.
Total	Integer	1	The number of driver versions.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	ABA0CD1F-4270-42FE-84AD-D612240196F7	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Parameter description of ContainerConfig

Parameter	Type	Description
privileged	Integer	Indicates whether the privilege mode was enabled for the container. Valid values: 0: disabled 1: enabled
hostNetworkMode	Integer	Indicates whether the host mode was enabled for the container. Valid values: 0: disabled 1: enabled
portMappings	List	The mapping of network ports. For more information about specific parameters, see the following parameter description of portMappings.
devMappings	List	The mapping of devices. For more information about specific parameters, see the following parameter description of devMappings.
volumeMappings	List	The mapping of volumes. For more information about specific parameters, see the following parameter description of volumeMappings.

Parameter description of portMappings

Parameter	Type	Description
hostPort	Integer	The port number of the host where the container resides.
containerPort	Integer	The port number of the container.

Parameter	Type	Description
protocol	Integer	The type of the protocol that is used for communication between the mapping ports. Valid values: tcp and udp.

Parameter description of devMappings

Parameter	Type	Description
hostPath	String	The name of the device that the driver needs to access.
permission	String	The permissions that the driver has for the device. Valid values: ro: The driver has only the read permissions for the device. rw: The driver has both the read and write permissions for the device.
comment	String	The remarks for the mapping.

Parameter description of volumeMappings

Parameter	Type	Description
hostPath	String	The host path of the volume that the driver needs to access.
containerPath	String	The path for accessing the volume in the container.
permission	String	The permissions that the driver has for the volume. Valid values: ro: The driver has only the read permissions for the volume. rw: The driver has both the read and write permissions for the volume.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeDriverVersion  
&DriverId=fec565038d7544978d9aed5c1a*****  
&PageSize=15  
&CurrentPage=1  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeDriverVersionResponse>  
    <RequestId>ABA0CD1F-4270-42FE-84AD-D612240196F7</RequestId>  
    <Data>  
        <PageSize>15</PageSize>  
        <CurrentPage>1</CurrentPage>  
        <Total>1</Total>  
        <DriverVersionList>  
            <DriverVersion>  
                <ContainerConfig>{"devMappings": [], "hostNetworkMode": 0, "portMappings": [], "privileged": 1, "volumeMappings": []}</ContainerConfig>  
                <GmtCreate>2019-12-01 22:28:01</GmtCreate>  
                <DriverId>fec565038d7544978d9aed5c1a*****</DriverId>  
                <Description>LED driver</Description>  
                <DriverVersion>1.2.0</DriverVersion>  
                <SourceConfig>{"ossAddress": "http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ece8f0cfb30*****/ck3n3koe200003h6zf*****.zip", "temparyOssAddress": "http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941ece8f0cfb30*****/ck3n3koe200003h6zf*****.zip?Expires=1575*****&OSSAccessKeyId=aS4MT0IYrPS*****&Signature=m6cpcaB8rm3YfbkhTYgb0WO*****"}</SourceConfig>  
                <GmtModified>2019-12-01 22:28:01</GmtModified>  
                <DriverConfig>[{"content": "{\"defaultConfig\": \"this is default driver config demo\"}", "format": "JSON"}]</DriverConfig>  
                <EdgeVersion>2.0.0</EdgeVersion>  
                <ConfigCheckRule>{"deviceConfig": {"required": false}, "driverConfig": {"required": false}}</ConfigCheckRule>  
                <VersionState>0</VersionState>  
            </DriverVersion>  
        </DriverVersionList>  
    </Data>  
    <Code>Success</Code>  
    <Success>true</Success>  
</QueryEdgeDriverVersionResponse>
```

JSON format

```
{  
    "RequestId": "ABA0CD1F-4270-42FE-84AD-D612240196F7",  
    "Data": {  
        "PageSize": 15,  
        "CurrentPage": 1,  
        "Total": 1,  
        "DriverVersionList": [  
            {  
                "ContainerConfig": "{\"devMappings\":[],\"hostNetworkMode\":0,\"portMappings\":[],\"privileged\":1,\"volumeMappings\":[]}",  
                "GmtCreate": "2019-12-01 22:28:01",  
                "DriverId": "fec565038d7544978d9aed5c1a*****",  
                "Description": "LED driver",  
                "DriverVersion": "1.2.0",  
                "SourceConfig": "{\"ossAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941eceea8f0cfb3*****/ck3n3koe200003h6zf*****.zip\",\"temporaryOssAddress\":\"http://nova-scene-daily.oss-cn-shanghai.aliyuncs.com/driver/a8d6e4acc6941eceea8f0cfb3*****/ck3n3koe200003h6zf*****.zip?Expires\u003d1575*****\u0026OSSAccessKeyId\u003daS4MT0IYr*****\u0026Signature\u003dm6cpmcaB8rm3YfbkhTYgb0W*****\"}",  
                "GmtModified": "2019-12-01 22:28:01",  
                "DriverConfig": "[{\"content\":\"\\\\\\\"defaultConfig\\\\\\\"\\\\\\\"this is default driver config demo\\\\\\\"\\\\\\\", \"format\":\"JSON\"}]",  
                "EdgeVersion": "2.0.0",  
                "ConfigCheckRule": "{\"deviceConfig\":{\"required\":false}, \"driverConfig\":{\"required\":false}}",  
                "VersionState": 0  
            }  
        ]  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.8.10. CreateEdgeOssPreSignedAddress

Creates a pre-signed URL for an object that is stored in Object Storage Service (OSS).

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CreateEdgeOssPreSignedAddress	The operation that you want to perform. Set the value to CreateEdgeOssPreSignedAddress.
FileName	String	Yes	testfile.zip	The name of the object whose URL is to be obtained. The format is <File name>.<File name extension> .
ResourceId	String	Yes	df9b9f441***** *4c90d0c21d14	<p>The ID of the resource for which the object URL is to be obtained. Only driver resources are supported. Set this parameter to the ID of the corresponding driver.</p> <p>To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console. On the Drivers page, move the pointer over the name of the driver for which the object URL you want to obtain and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.</p>
ResourceVersion	String	Yes	2.0.0	The version number of the resource. Only driver resources are supported. Set this parameter to the version number of the corresponding driver.
Type	String	Yes	DRIVER_VERSION_CONTENT	<p>The content type of the object. Valid values:</p> <ul style="list-style-type: none"> • DRIVER_VERSION_CONTENT: the code of a specific driver version. • DRIVER_VERSION_DEFAULT_CONFIG: the default configuration of a specific driver version. • INSTANCE_DRIVER_VERSION_CONFIG: the configuration of a specific driver version that is used in an edge instance.
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

Parameter	Type	Required	Example	Description
Instanceld	String	No	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that uses the driver and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p> <p>Note When the Type parameter is set to INSTANCE_DRIVER_VERSION_CONFIG, this parameter is required.</p>

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
OssAddress	String	http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRIVER_VERSION_CONFIG/df9b9f441*****4c90d0c21d14/2.0.0/1581586102750/driver_code.zip	The URL of the OSS object.

Parameter	Type	Example	Description
OssPreSignedAddress	String	<code>http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRI VER_VERSION_CONTENT/df9b9f441***** ***4c90d0c21d14/2.0.0/1581586102750 /driver_code.zip? Expires\u003d1581586402\u0026OSSAccessKeyId\u003daS4 MT0IYrp*****\u0026Signature\u003dIUUjZ881H3rUoCOwjMXP mGbW*****</code>	The pre-signed URL of the OSS object. For more information, see OSS documentation .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	91E2BFA2-ECD7-4E11-B36B-66BCC4773922	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CreateEdgeOssPreSignedAddress  
&Type=DRIVER_VERSION_CONTENT  
&ResourceId=df9b9f441*****4c90d0c21d14  
&FileName=driver_code.zip  
&ResourceVersion=2.0.0  
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateEdgeOssPreSignedAddressResponse>
<RequestId>91E2BFA2-ECD7-4E11-B36B-66BCC4773922</RequestId>
<Data>
    <OssPreSignedAddress>http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRIVER_VERSION_CONTENT/df9b9f441*****4c90d0c21d14/2.0.0/1581586102750/driver_code.zip?Expires=1581586402&OSSAccessKeyId=aS4MT0IYrP*****&Signature=IUUjZ881H3rUoC0wjMXPmGb*****</OssPreSignedAddress>
    <OssAddress>http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRIVER_VERSION_CONTENT/df9b9f441*****4c90d0c21d14/2.0.0/1581586102750/driver_code.zip</OssAddress>
</Data>
<Code>Success</Code>
<Success>true</Success>
</CreateEdgeOssPreSignedAddressResponse>
```

JSON format

```
{
    "RequestId": "91E2BFA2-ECD7-4E11-B36B-66BCC4773922",
    "Data": {
        "OssPreSignedAddress": "http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRIVER_VERSION_CONTENT/df9b9f441*****4c90d0c21d14/2.0.0/1581586102750/driver_code.zip?Expires\u003d1581586402\u0026OSSAccessKeyId\u003daS4MT0IYrP*****\u0026Signature\u003dIUUjZ881H3rUoC0wjMXPmGb*****",
        "OssAddress": "http://xxxx.oss-cn-shanghai.aliyuncs.com/driver/a534d3b81*****8fe7da0/DRIVER_VERSION_CONTENT/df9b9f441*****4c90d0c21d14/2.0.0/1581586102750/driver_code.zip"
    },
    "Code": "Success",
    "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.9. Instance gateway management

2.9.1. BindGatewayToEdgeInstance

Binds a gateway to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BindGatewayToEdgeInstance	The operation that you want to perform. Set the value to BindGatewayToEdgeInstance.
InstanceId	String	Yes	F3APY0tPLhmgGtx0***	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance to which you want to bind a gateway and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
iotInstanceld	String	No	iot_instc_pu***_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
ProductKey	String	No	a1mAdeG***	<p>The key that uniquely identifies the product to which the gateway belongs.</p> <p>Note If you specify this parameter, you must also specify the DeviceName parameter.</p>
DeviceName	String	No	device1	<p>The name of the gateway.</p> <p>Note If you specify this parameter, you must also specify the ProductKey parameter.</p>

Parameter	Type	Required	Example	Description
lotId	String	No	4z819VQHk6VSL mmBJfrf0010***** *	The ID of the gateway in IoT Platform. This parameter corresponds to the combination of the ProductKey and DeviceName parameters. Note If you specify this parameter, you do not need to specify the ProductKey or DeviceName parameter. If you use the lotId parameter and the combination of the ProductKey and DeviceName parameters, only the lotId parameter takes effect.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	28D159F4-980F-423D-95F0-F705E9DFC016	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BindGatewayToEdgeInstance  
&InstanceId=F3APY0tPLhmgGtx0****  
&ProductKey=a1mAdeG****  
&DeviceName=e46eal1a4347c42a0a83b8c956ab1ab  
&<Common request parameters>
```

Sample success responses

XML format

```
<BindGatewayToEdgeInstanceResponse>  
    <RequestId>E3817065-2A17-4814-82FA-66FAB2CC01DF</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</BindGatewayToEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "E3817065-2A17-4814-82FA-66FAB2CC01DF",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.9.2. QueryEdgeInstanceGateway

Queries the gateways that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
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Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeInstanceGateway	The operation that you want to perform. Set the value to QueryEdgeInstanceGateway.
InstanceId	String	Yes	F3APY0tPLhmgGtx0***	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to query and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
IoTInstanceId	String	No	iot_instc_pu***_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
GatewayList	Array of Gateway		The data that is returned if the call was successful.
DeviceName	String	gateway_01	The name of the gateway.
EdgeVersion	String	v1.0.0	The version number of Link IoT Edge.

Parameter	Type	Example	Description
IotId	String	LuD9x5hiRUdVemWU****000101	The ID of the gateway in IoT Platform.
ProductKey	String	a1mAdeG****	The key that uniquely identifies the product to which the gateway belongs.
RequestId	String	28D159F4-980F-423D-95F0-F705E9DFC016	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeInstanceGateway  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeInstanceGatewayResponse>  
  <GatewayList>  
    <Gateway>  
      <IotId>LuD9x5hiRUdVemWU****000101</IotId>  
      <ProductKey>a1mAdeG****</ProductKey>  
      <DeviceName>gateway_01</DeviceName>  
      <EdgeVersion>v1.0.0</EdgeVersion>  
    </Gateway>  
  </GatewayList>  
  <RequestId>547A62E5-0D6D-4DB5-9CCC-58C706891976</RequestId>  
  <Code>Success</Code>  
  <Success>true</Success>  
</QueryEdgeInstanceGatewayResponse>
```

JSON format

```
{  
    "GatewayList": [  
        {  
            "IotId": "LuD9x5hiRUdVemWU****000101",  
            "ProductKey": "a1mAdeG****",  
            "DeviceName": "gateway_01",  
            "EdgeVersion": "v1.0.0"  
        }  
    ],  
    "RequestId": "547A62E5-0D6D-4DB5-9CCC-58C706891976",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10. Instance driver management

2.10.1. BindDriverToEdgeInstance

Binds a driver to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BindDriverToEdgeInstance	The operation that you want to perform. Set the value to BindDriverToEdgeInstance.

Parameter	Type	Required	Example	Description
DriverId	String	Yes	9c1ae7bd59f146 9abbdccc959228* ***	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver that you want to bind and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
InstanceId	String	Yes	F3APY0tPLhmgGt x0****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance to which you want to bind a driver and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
IoTInstanceId	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
DriverVersion	String	No	2.0.0	The version number of the driver. By default, if you do not specify this parameter, the latest version of the driver is used.
OrderId	String	No	11123458765****	The ID of the order. <div style="background-color: #e0f2ff; padding: 10px;">Note This parameter is required if you use a third-party driver that is purchased from the IoT marketplace. If an official or self-developed driver is used, you do not need to specify this parameter.</div>

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	28D159F4-980F-423D-95F0-F705E9DFC016	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BindDriverToEdgeInstance  
&DriverId=9c1ae7bd59f1469abbdccc959228****  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BindDriverToEdgeInstanceResponse>  
    <RequestId>FEA6A369-2E16-4DB3-A0A6-6D14FD244170</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</BindDriverToEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "FEA6A369-2E16-4DB3-A0A6-6D14FD244170",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10.2. UnbindDriverFromEdgeInstance

Unbinds a driver from an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	UnbindDriverFromEdgeInstance	The operation that you want to perform. Set the value to UnbindDriverFromEdgeInstance.
DriverId	String	Yes	9c1ae7bd59f146 9abbdccc959228* ***	The ID of the driver that you want to unbind. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver that you want to unbind and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
InstanceId	String	Yes	F3APY0tPLhmgGt x0****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance from which you want to unbind a driver and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	28D159F4-980F-423D-95F0-F705E9DFC016	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=UnbindDriverFromEdgeInstance
&DriverId=9c1ae7bd59f1469abbdccc959228****
&InstanceId=F3APY0tPLhmgGtx0****
&<Common request parameters>
```

Sample success responses

XML format

```
<UnbindDriverFromEdgeInstanceResponse>
  <RequestId>B15AF459-6A65-44DB-8047-1BDF3E68BE3D</RequestId>
  <Code>Success</Code>
  <Success>true</Success>
</UnbindDriverFromEdgeInstanceResponse>
```

JSON format

```
{
  "RequestId": "B15AF459-6A65-44DB-8047-1BDF3E68BE3D",
  "Code": "Success",
  "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10.3. QueryEdgeInstanceDriver

Queries the drivers that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeInstanceDriver	The operation that you want to perform. Set the value to QueryEdgeInstanceDriver.
CurrentPage	Integer	Yes	1	The number of the page to return. Pages start from Page 1.

Parameter	Type	Required	Example	Description
Instanceld	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to query and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
PageSize	Integer	Yes	10	The number of entries to return on each page. Valid values: 1 to 30. Default value: 10.
IoTInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
CurrentPage	Integer	1	The page number of the returned page.
DriverList	Array of Driver		The list of drivers.
DriverId	String	9c1ae7bd59f1469abbdccc959228****	The ID of the driver.

Parameter	Type	Example	Description
DriverVersion	String	1.0.0	The version number of the driver.
GmtCreate	String	2019-06-26 17:22:25	The time when the driver was created.
GmtModified	String	2019-06-26 17:22:25	The last time when the driver was updated.
OrderId	String	11123458765423	The ID of the order.
PageSize	Integer	30	The number of entries returned per page.
Total	Integer	1	The number of drivers.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	77F540BC-A0EF-46A4-ABDE-18644C69AAF5	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeInstanceDriver  
&PageSize=30  
&InstanceId=F3APY0tPIhmgGtx0****  
&CurrentPage=1  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeInstanceDriverResponse>
  <RequestId>77F540BC-A0EF-46A4-ABDE-18644C69AAF5</RequestId>
  <Data>
    <PageSize>30</PageSize>
    <CurrentPage>1</CurrentPage>
    <Total>1</Total>
    <DriverList>
      <Driver>
        <GmtCreate>2019-06-26 17:22:25</GmtCreate>
        <DriverId>9c1ae7bd59f1469abbdccc959228****</DriverId>
        <GmtModified>2019-06-26 17:22:25</GmtModified>
      </Driver>
    </DriverList>
  </Data>
  <Code>Success</Code>
  <Success>true</Success>
</QueryEdgeInstanceDriverResponse>
```

JSON format

```
{
  "RequestId": "77F540BC-A0EF-46A4-ABDE-18644C69AAF5",
  "Data": {
    "PageSize": 30,
    "CurrentPage": 1,
    "Total": 1,
    "DriverList": [
      {
        "GmtCreate": "2019-06-26 17:22:25",
        "DriverId": "9c1ae7bd59f1469abbdccc959228****",
        "GmtModified": "2019-06-26 17:22:25"
      }
    ],
    "Code": "Success",
    "Success": true
  }
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10.4. SetEdgeInstanceDriverConfigs

Configures a driver that is bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	SetEdgeInstanceDriverConfigs	The operation that you want to perform. Set the value to SetEdgeInstanceDriverConfigs.
Configs.N.Content	String	Yes	{"test":123}	The content of the configuration. You can specify one of the following items: <ul style="list-style-type: none">• The configuration content. For more information about the format, see Driver and device configurations.• The Object Storage Service (OSS) path of the configuration file.
Configs.N.Format	String	Yes	JSON	The format of the configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).
DriverId	String	Yes	021d154d2a2f4dd7a489773d9e04****	The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console . On the Drivers page, move the pointer over the name of the driver that is bound to the edge instance and obtain the driver ID. You can also call the QueryEdgeDriver operation to query the driver ID.
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance that uses the driver and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.

Parameter	Type	Required	Example	Description
IoTInstanceID	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
Configs.N.Key	String	No	key1	The key of the configuration. If multiple configurations are specified, you can use this parameter to differentiate the configurations.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	252C7754-F6A2-454B-9DE2-382A97FC0C3F	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=SetEdgeInstanceDriverConfigs  
&Configs.1.Content={"test":123}  
&DriverId=021d154d2a2f4dd7a489773d9e04****  
&InstanceId=F3APY0tPLhmgGtx0****  
&Configs.1.Format=JSON  
&<Common request parameters>
```

Sample success responses

XML format

```
<SetEdgeInstanceDriverConfigsResponse>  
    <RequestId>252C7754-F6A2-454B-9DE2-382A97FC0C3F</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</SetEdgeInstanceDriverConfigsResponse>
```

JSON format

```
{  
    "RequestId": "252C7754-F6A2-454B-9DE2-382A97FC0C3F",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10.5. ClearEdgeInstanceDriverConfigs

Deletes the configurations of a driver that is bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
Action	String	Yes	ClearEdgeInstanceDriverConfigs	The operation that you want to perform. Set the value to ClearEdgeInstanceDriverConfigs.
DriverId	String	Yes	021d154d2a2f4dd7a489773d9e04****	<p>The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console. On the Drivers page, move the pointer over the name of the driver whose configurations you want to delete and obtain the driver ID.</p> <p>You can also call the QueryEdgeDriver operation to query the driver ID.</p>
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that uses the driver and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
IoTInstanceId	String	No	iot_instc_pu****_c*-v64*****	This parameter is not required for the public instance but required for your purchased instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	DF6B728B-ADD7-4C41-88C3-D21B4CA82CF1	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=ClearEdgeInstanceDriverConfigs  
&DriverId=021d154d2a2f4dd7a489773d9e04****  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<ClearEdgeInstanceDriverConfigsResponse>  
    <RequestId>DF6B728B-ADD7-4C41-88C3-D21B4CA82CF1</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</ClearEdgeInstanceDriverConfigsResponse>
```

JSON format

```
{  
    "RequestId": "DF6B728B-ADD7-4C41-88C3-D21B4CA82CF1",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.10.6. BatchGetEdgeInstanceDriverConfigs

Queries the configuration information of one or more drivers that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchGetEdgeInstanceDriverConfigs	The operation that you want to perform. Set the value to BatchGetEdgeInstanceDriverConfigs.
DriverIds.N	RepeatList	Yes	021d154d2a2f4dd7a489773d9e04****	<p>The IDs of the drivers that you want to query. To obtain the driver IDs, perform the following steps: Log on to the Link IoT Edge console. On the Drivers page, move the pointer over the name of each driver whose configurations you want to query and obtain the driver ID.</p> <p>You can also call the QueryEdgeDriver operation to query the driver IDs.</p> <p> Note You can specify a maximum of 20 driver IDs. This means that you can obtain the configuration information of a maximum of 20 drivers at a time.</p>

Parameter	Type	Required	Example	Description
Instanceld	String	Yes	F3APY0tPLhmgGtx0****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance that uses the drivers and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
DriverConfigList	Array of DriverConfig		The data that is returned if the call was successful.
ConfigList	Array of Config		The configuration information of the driver.
ConfigId	String	dac71722ceac4a299 dbf3e8dc3c8***	The ID of the configuration.
Content	String	{"test":123}	The configuration content or the Object Storage Service (OSS) path of the configuration file.

Parameter	Type	Example	Description
Format	String	JSON	The format of the configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).
Key	String	key1	The key of the configuration. If multiple configurations are available, keywords can be used to identify the configurations.
DriverId	String	021d154d2a2f4dd7a489773d9e04****	The ID of the driver.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	D6113390-F507-458B-8544-7B01F945630B	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchGetEdgeInstanceDriverConfigs  
&DriverIds.1=021d154d2a2f4dd7a489773d9e04****  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchGetEdgeInstanceDriverConfigsResponse>
  <DriverConfigList>
    <DriverConfig>
      <DriverId>021d154d2a2f4dd7a489773d9e0****c</DriverId>
      <ConfigList>
        <Config>
          <Format>JSON</Format>
          <Content>{"test":123}</Content>
          <ConfigId>dac71722ceac4a299dbf3e8dc3c8****</ConfigId>
        </Config>
      </ConfigList>
    </DriverConfig>
  </DriverConfigList>
  <RequestId>D6113390-F507-458B-8544-7B01F945630B</RequestId>
  <Code>Success</Code>
  <Success>true</Success>
</BatchGetEdgeInstanceDriverConfigsResponse>
```

JSON format

```
{
  "DriverConfigList": [
    {
      "DriverId": "021d154d2a2f4dd7a489773d9e04****",
      "ConfigList": [
        {
          "Format": "JSON",
          "Content": "{\"test\":123}",
          "ConfigId": "dac71722ceac4a299dbf3e8dc3c8****"
        }
      ]
    }
  ],
  "RequestId": "D6113390-F507-458B-8544-7B01F945630B",
  "Code": "Success",
  "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11. Instance device management

2.11.1.

BatchBindDeviceToEdgeInstanceWithDriver

Binds multiple devices to an edge instance and configures a driver for the devices.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchBindDeviceToEdgeInstanceWithDriver	The operation that you want to perform. Set the value to BatchBindDeviceToEdgeInstanceWithDriver.
DriverId	String	Yes	021d154d2a2f4dd7a489773d9e04****	<p>The ID of the driver. To obtain the driver ID, perform the following steps: Log on to the Link IoT Edge console. On the Drivers page, move the pointer over the name of the driver that you want to configure and obtain the driver ID.</p> <p>You can also call the QueryEdgeDriver operation to query the driver ID.</p>
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance to which you want to bind multiple devices and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>

Parameter	Type	Required	Example	Description
iotIds.N	RepeatList	Yes	BXPV9Ks3bxwM9f D****0000101	<p>The IDs of the devices.</p> <p>You can call the QueryDevice operation to query detailed information about all devices that belong to the current Alibaba Cloud account and obtain the required device IDs.</p> <div style="background-color: #e0f2ff; padding: 10px;"> ? Note You can specify a maximum of 20 device IDs when you call the BatchBindDeviceToEdgeInstanceWithDriver operation. </div>
iotInstanceId	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	BFFA9519-6AF1-4D15-AFAF-FD412714C1BE	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchBindDeviceToEdgeInstanceWithDriver  
&IotIds.3=BXPV9Ks3bxwM9fD****0000101  
&IotIds.2=sjI0Sd124XFYyjB****0000101  
&IotIds.1=8n5sFqlfnch1Bjct****0000101  
&DriverId=021d154d2a2f4dd7a489773d9e04****  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchBindDeviceToEdgeInstanceWithDriverResponse>  
    <RequestId>BFFA9519-6AF1-4D15-AFAF-FD412714C1BE</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</BatchBindDeviceToEdgeInstanceWithDriverResponse>
```

JSON format

```
{  
    "RequestId": "BFFA9519-6AF1-4D15-AFAF-FD412714C1BE",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11.2. BatchUnbindDeviceFromEdgeInstance

Unbinds multiple devices from an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchUnbindDeviceFromEdgeInstance	The operation that you want to perform. Set the value to BatchUnbindDeviceFromEdgeInstance.
Instanceld	String	Yes	F3APY0tPLhmgGtx0***	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance from which you want to unbind multiple devices and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
IoTIds.N	RepeatList	Yes	BXPV9Ks3bxwM9FD****0000101	<p>The IDs of the devices. You can call the QueryDevice operation to query detailed information about all devices that belong to the current Alibaba Cloud account and obtain the required device IDs.</p> <div style="background-color: #e0f2ff; padding: 10px;"> <p>Note You can specify a maximum of 20 device IDs when you call the BatchUnbindDeviceFromEdgeInstance operation.</p> </div>
IoTInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	34755DC3-2809-4AE2-BAD8-7B81ED69D570	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchUnbindDeviceFromEdgeInstance  
&IotIds.2=BXPV9Ks3bxwM9fD****0000101  
&IotIds.1=sjI0Sd124XFYyjBY****0000101  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchUnbindDeviceFromEdgeInstanceResponse>  
    <RequestId>34755DC3-2809-4AE2-BAD8-7B81ED69D570</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</BatchUnbindDeviceFromEdgeInstanceResponse>
```

JSON format

```
{  
    "RequestId": "34755DC3-2809-4AE2-BAD8-7B81ED69D570",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11.3. QueryEdgeInstanceDevice

Queries the devices that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeInstanceDevice	The operation that you want to perform. Set the value to QueryEdgeInstanceDevice.
CurrentPage	Integer	Yes	1	The number of the page to return. Pages start from Page 1.
InstanceId	String	Yes	tG7sKuOQ7ylb7qS4***	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance that you want to query and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
PageSize	Integer	Yes	15	The number of entries to return on each page. Valid values: 1 to 30. Default value: 10.

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
CurrentPage	Integer	1	The page number of the returned page.
DeviceList	Array of Device		The list of device information.
DeviceName	String	test_tmp_zdy	The name of the device.
DriverId	String	44c090ba7b104641a4b9bcf10241****	The ID of the driver.
deviceId	String	XSpPdtxzE6ebtCkx**000101	The ID of the device.
ProductKey	String	a1p5QfE****	The key that uniquely identifies the product to which the device belongs.
PageSize	Integer	15	The number of entries returned per page.
Total	Integer	4	The number of devices.

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	AC76932E-E0C9-41EE-843D-B1CA3279B053	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeInstanceDevice  
&PageSize=15  
&InstanceId=tG7sKuOQ7ylb7qS4****  
&CurrentPage=1  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeInstanceDeviceResponse>
  <RequestId>AC76932E-E0C9-41EE-843D-B1CA3279B053</RequestId>
  <Data>
    <PageSize>15</PageSize>
    <CurrentPage>1</CurrentPage>
    <Total>4</Total>
    <DeviceList>
      <Device>
        <IotId>XSpPdtxzE6ebtCkx****000101</IotId>
        <DriverId>44c090ba7b104641a4b9bcf10241****</DriverId>
        <ProductKey>a1p5QfE****</ProductKey>
        <DeviceName>test_tmp_zdy</DeviceName>
      </Device>
      <Device>
        <IotId>ixX7TRWtewDxZnus****000101</IotId>
        <DriverId>021d154d2a2f4dd7a489773d9e04****</DriverId>
        <ProductKey>a1p5QfE****</ProductKey>
        <DeviceName>test_name19</DeviceName>
      </Device>
      <Device>
        <IotId>MkzMNGVF3wOk62J6****000101</IotId>
        <DriverId>021d154d2a2f4dd7a489773d9e04****</DriverId>
        <ProductKey>a11jTlJ****</ProductKey>
        <DeviceName>testsss</DeviceName>
      </Device>
      <Device>
        <IotId>6nFJ9ewglx7aBWPb****000101</IotId>
        <DriverId>021d154d2a2f4dd7a489773d9e04****</DriverId>
        <ProductKey>a1PcD3R****</ProductKey>
        <DeviceName>device01</DeviceName>
      </Device>
    </DeviceList>
  </Data>
  <Code>Success</Code>
  <Success>true</Success>
</QueryEdgeInstanceDeviceResponse>
```

JSON format

```
{  
    "RequestId": "AC76932E-E0C9-41EE-843D-B1CA3279B053",  
    "Data": {  
        "PageSize": 15,  
        "CurrentPage": 1,  
        "Total": 4,  
        "DeviceList": [  
            {  
                "IoId": "XSpPdtxzE6ebtCkx****000101",  
                "DriverId": "44c090ba7b104641a4b9bcf10241****",  
                "ProductKey": "a1p5QfE****",  
                "DeviceName": "test_tmp_zdy"  
            },  
            {  
                "IoId": "ixX7TRWtewDxZnus****000101",  
                "DriverId": "021d154d2a2f4dd7a489773d9e04****",  
                "ProductKey": "a1p5QfE****",  
                "DeviceName": "test_name19"  
            },  
            {  
                "IoId": "MkzMNGVF3wOk62J6****000101",  
                "DriverId": "021d154d2a2f4dd7a489773d9e04****",  
                "ProductKey": "a11jTlJ****",  
                "DeviceName": "testsss"  
            },  
            {  
                "IoId": "6nFJ9ewglx7aBWPb****000101",  
                "DriverId": "021d154d2a2f4dd7a489773d9e04****",  
                "ProductKey": "a1PcD3R****",  
                "DeviceName": "device01"  
            }  
        ]  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11.4. BatchSetEdgeInstanceDeviceConfig

Configures multiple devices that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchSetEdgeInstanceDeviceConfig	The operation that you want to perform. Set the value to BatchSetEdgeInstanceDeviceConfig.
DeviceConfigs.N.Content	String	Yes	{"test": "device_config_demo"}	<p>The content of the configuration. You can specify one of the following items:</p> <ul style="list-style-type: none">• The configuration content. For more information about the format, see Device configurations.• The Object Storage Service (OSS) path of the configuration file. <p>Note You can specify a maximum of 20 device configurations when you call this operation.</p>
DeviceConfigs.N.Id	String	Yes	sjl0Sd124XFYyjBY****000101	<p>The IDs of the devices.</p> <p>You can call the QueryEdgeInstanceDevice operation to query the IDs of the devices that are bound to an edge instance.</p> <p>Note You can specify a maximum of 20 device IDs when you call this operation.</p>

Parameter	Type	Required	Example	Description
Instanceld	String	Yes	F3APY0tPLhmgGtx0***	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance for which you want to configure multiple devices and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
IoTInstanceld	String	No	iot_instc_pu***_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	748659E2-EDC9-4E3E-BF9D-06F16995CF66	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchSetEdgeInstanceDeviceConfig
&InstanceId=F3APY0tPLhmgGtx0****
&DeviceConfigs.1.IotId=sjI0Sd124XFYyjBY****000101
&DeviceConfigs.2.IotId=BXPV9Ks3bxwM9fD****0000101
&DeviceConfigs.1.Content={"test": "device_config_demo"}
&DeviceConfigs.2.Content={"test": "device_config_demo"}
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchSetEdgeInstanceDeviceConfigResponse>
    <RequestId>748659E2-EDC9-4E3E-BF9D-06F16995CF66</RequestId>
    <Code>Success</Code>
    <Success>true</Success>
</BatchSetEdgeInstanceDeviceConfigResponse>
```

JSON format

```
{
    "RequestId": "748659E2-EDC9-4E3E-BF9D-06F16995CF66",
    "Code": "Success",
    "Success": true
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11.5. BatchClearEdgeInstanceDeviceConfig

Deletes the configurations of one or more devices that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
-----------	------	----------	---------	-------------

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchClearEdgeInstanceDeviceConfig	The operation that you want to perform. Set the value to BatchClearEdgeInstanceDeviceConfig.
InstanceId	String	Yes	F3APY0tPLhmgGtx0***	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to manage and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
IoTIds.N	RepeatList	Yes	BXPV9Ks3bxwM9fD****0000101	<p>The IDs of the devices. You can call the QueryEdgeInstanceDevice operation to query the IDs of the devices that are bound to an edge instance.</p> <div style="background-color: #e0f2f1; padding: 5px;"> ? Note You can specify a maximum of 20 device IDs when you call the BatchClearEdgeInstanceDeviceConfig operation. </div>
IoTInstanceID	String	No	iot_instc_pu***_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	0BC2AA1C-E4D0-4E78-A70F-08C9A90686B0	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchClearEdgeInstanceDeviceConfig  
&IotIds.2=BXPV9Ks3bxwM9fD****0000101  
&IotIds.1=sjI0Sd124XFYyjBY****0000101  
&InstanceId=F3APY0tPLhmgGtx0****  
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchClearEdgeInstanceDeviceConfigResponse>  
    <RequestId>0BC2AA1C-E4D0-4E78-A70F-08C9A90686B0</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</BatchClearEdgeInstanceDeviceConfigResponse>
```

JSON format

```
{  
    "RequestId": "0BC2AA1C-E4D0-4E78-A70F-08C9A90686B0",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.11.6. BatchGetEdgeInstanceDeviceConfig

Queries the configuration information of one or more devices that are bound to an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	BatchGetEdgeInstanceDeviceConfig	The operation that you want to perform. Set the value to BatchGetEdgeInstanceDeviceConfig.
InstanceId	String	Yes	F3APY0tPLhmgGtx0****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance that you want to query and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
iotIds.N	RepeatList	Yes	BXPV9Ks3bxwM9fDl****000101	<p>The IDs of the devices. You can call the QueryEdgeInstanceDevice operation to query the IDs of the devices that are bound to an edge instance.</p> <p> Note You can specify a maximum of 20 device IDs when you call the BatchGetEdgeInstanceDeviceConfig operation.</p>

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
DeviceConfigList	Array of DeviceConfig		The device configuration information that is returned if the call was successful.
Config	Struct		The configuration information of the device.
Content	String	{"test": "device_config_demo"}	The configuration content or the Object Storage Service (OSS) path of the configuration file.
Format	String	JSON	The format of the configuration. Valid values: KV (key-value pair), JSON (JSON string), and FILE (configuration file).
deviceId	String	sjl0sd124XFYyjBY***000101	The ID of the device.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	D4A102C2-36A5-4964-9694-0F8EFF95CCA8	The ID of the request.

Parameter	Type	Example	Description
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=BatchGetEdgeInstanceDeviceConfig
&IotIds.2=BXPV9Ks3bxwM9fDl****000101
&IotIds.1=sjI0Sd124XFYyjBY****000101
&InstanceId=F3APY0tPLhmgGtx0****
&<Common request parameters>
```

Sample success responses

XML format

```
<BatchGetEdgeInstanceDeviceConfigResponse>
  <DeviceConfigList>
    <DeviceConfig>
      <IotId>sjI0Sd124XFYyjBY****000101</IotId>
      <Config>
        <Format>JSON</Format>
        <Content>{"test": "device_config_demo"}</Content>
      </Config>
    </DeviceConfig>
    <DeviceConfig>
      <IotId>BXPV9Ks3bxwM9fD****0000101</IotId>
      <Config>
        <Format>JSON</Format>
        <Content>{"test": "device_config_demo"}</Content>
      </Config>
    </DeviceConfig>
  </DeviceConfigList>
  <RequestId>D4A102C2-36A5-4964-9694-0F8EFF95CCA8</RequestId>
  <Code>Success</Code>
  <Success>true</Success>
</BatchGetEdgeInstanceDeviceConfigResponse>
```

JSON format

```
{  
    "DeviceConfigList": [  
        {  
            "IotId": "sjI0Sd124XFYyjBY****000101",  
            "Config": {  
                "Format": "JSON",  
                "Content": "{\"test\": \"device_config_demo\"}"  
            }  
        },  
        {  
            "IotId": "BXPV9Ks3bxwM9fd****0000101",  
            "Config": {  
                "Format": "JSON",  
                "Content": "{\"test\": \"device_config_demo\"}"  
            }  
        }  
    ],  
    "RequestId": "D4A102C2-36A5-4964-9694-0F8EFF95CCA8",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.12. Instance deployment

2.12.1. CreateEdgeInstanceDeployment

Creates a deployment task for an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
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Parameter	Type	Required	Example	Description
Action	String	Yes	CreateEdgeInstanceDeployment	The operation that you want to perform. Set the value to CreateEdgeInstanceDeployment.
InstanceId	String	Yes	PgEfYupSn6Pvhfk****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance for which you want to create a deployment task and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
Type	String	Yes	deploy	<p>The type of the deployment task.</p> <ul style="list-style-type: none"> • deploy: deploys the edge instance. • reset: resets the edge instance.
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .

Parameter	Type	Example	Description
DeploymentId	String	38d544b1222d45b4b425240167bf****	The deployment task ID that is returned if the call was successful.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	C8293A57-6BBC-42FB-B093-BF304D5BF09C	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CreateEdgeInstanceDeployment  
&InstanceId=PgEfYupSn6Pvhfkx****  
&Type=deploy  
&<Common request parameters>
```

Sample success responses

XML format

```
<CreateEdgeInstanceDeploymentResponse>  
  <RequestId>C8293A57-6BBC-42FB-B093-BF304D5BF09C</RequestId>  
  <DeploymentId>38d544b1222d45b4b425240167bf****</DeploymentId>  
  <Code>Success</Code>  
  <Success>true</Success>  
</CreateEdgeInstanceDeploymentResponse>
```

JSON format

```
{  
  "RequestId": "C8293A57-6BBC-42FB-B093-BF304D5BF09C",  
  "DeploymentId": "38d544b1222d45b4b425240167bf****",  
  "Code": "Success",  
  "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.12.2. CloseEdgeInstanceDeployment

Stops the deployment tasks of an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	CloseEdgeInstanceDeployment	The operation that you want to perform. Set the value to CloseEdgeInstanceDeployment.
InstanceId	String	Yes	PgEfYupSn6Pvhfkx****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance for which you want to stop deployment tasks and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
iotInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	3C969586-3DD1-41A7-9B8E-E8B134CA6600	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=CloseEdgeInstanceDeployment  
&InstanceId=PgEfYupSn6Pvhfkx****  
&<Common request parameters>
```

Sample success responses

XML format

```
<CloseEdgeInstanceDeploymentResponse>  
    <RequestId>3C969586-3DD1-41A7-9B8E-E8B134CA6600</RequestId>  
    <Code>Success</Code>  
    <Success>true</Success>  
</CloseEdgeInstanceDeploymentResponse>
```

JSON format

```
{  
    "RequestId": "3C969586-3DD1-41A7-9B8E-E8B134CA6600",  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.12.3. GetEdgeInstanceDeployment

Queries detailed information about a deployment task of an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of five queries per second (QPS).

 **Note** RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	GetEdgeInstanceDeployment	The operation that you want to perform. Set the value to GetEdgeInstanceDeployment.
DeploymentId	String	Yes	9261e308a9504f de9b4cf8462b0b ****	The ID of the deployment task. You can call the QueryEdgeInstanceHistoricDeployment operation to query the ID of a deployment task.

Parameter	Type	Required	Example	Description
Instanceld	String	Yes	PgEfYupSn6Pvhfkx****	<p>The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console. On the Edge Instances page, move the pointer over the name of the edge instance for which you want to query detailed information about a deployment task and obtain the instance ID.</p> <p>You can also call the QueryEdgeInstance operation to query the instance ID.</p>
IoTInstanceld	String	No	iot_instc_pu****_c*-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
DeploymentId	String	9261e308a9504fde9b4cf8462b0b****	The ID of the deployment task.
Description	String	deploy_1561543948874	The description of the deployment task.
GmtCompleted	String	2019-06-26 18:12:35	The time when the deployment task was complete.

Parameter	Type	Example	Description
GmtCompletedTimestamp	Long	1581912859713	The UNIX timestamp when the deployment task was complete.
GmtCreate	String	2019-06-26 18:12:29	The time when the deployment task was created.
GmtCreateTime stamp	Long	1581912859713	The UNIX timestamp when the deployment task was created.
GmtModified	String	2019-06-26 18:12:35	The last time when the deployment task was modified.
GmtModifiedTi mestamp	Long	1581912859713	The last UNIX timestamp when the deployment task was modified.
Status	Integer	2	The status of the deployment task. <ul style="list-style-type: none">• 0: The task was not started.• 1: The task was being processed.• 2: The task was successful.• 3: The task failed.
TaskList	Array of Task		The list of deployment subtasks.
GatewayId	String	jQWf3MVgQjMzcwsY****000101	The ID of the gateway.
GmtCompleted	String	2019-06-26 18:12:35	The time when the deployment subtask was complete.
GmtCompletedTimestamp	Long	1581912859713	The UNIX timestamp when the deployment subtask was complete.
GmtCreate	String	2019-06-26 18:12:29	The time when the deployment subtask was created.
GmtCreateTime stamp	Long	1581912859713	The UNIX timestamp when the deployment subtask was created.
GmtModified	String	2019-06-26 18:12:35	The last time when the deployment subtask was modified.

Parameter	Type	Example	Description
-----------	------	---------	-------------

GmtModifiedTimestamp	Long	1581912859713	The last UNIX timestamp when the deployment subtask was modified.
ResourceSnapshotList	Array of ResourceSnapshot		The list of deployment task snapshots.
GmtCompleted	String	2019-06-26 18:12:34	The time when the deployment task snapshot was complete.
GmtCompletedTimestamp	Long	1581912859713	The UNIX timestamp when the deployment task snapshot was complete.
GmtCreate	String	2019-06-26 18:12:29	The time when the deployment task snapshot was created.
GmtCreateTimeStamp	Long	1581912859713	The UNIX timestamp when the deployment task snapshot was created.
GmtModified	String	2019-06-26 18:12:34	The last time when the deployment task snapshot was modified.
GmtModifiedTimestamp	Long	1581912859713	The last UNIX timestamp when the deployment task snapshot was modified.

Parameter	Type	Example	Description
Log	String	<pre>[{"resourceId": "device_config", "code": "0", "stage": 0, "level": "INFO", "message": "init success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543949858}, {"resourceId": "device_config", "code": "0", "stage": 8, "level": "INFO", "message": "assembly success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543951419}, {"resourceId": "device_config", "code": "0", "stage": 16, "level": "INFO", "message": "package success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543952591}, {"resourceId": "device_config", "code": "0", "stage": 32, "level": "INFO", "message": "download success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543954149}]</pre>	The logs of resource deployment.
OperateType	Integer	0	<p>The type of the operation.</p> <ul style="list-style-type: none"> • 0: deploys resources. • 1: deletes resources.
ResourceId	String	device_config	The ID of the resource.

Parameter	Type	Example	Description
ResourceName	String	device_config	The name of the resource.
ResourceType	String	device_config	The type of the resource.
SnapshotId	String	ab576e84a43043d7 840cbcebf4a5****	The ID of the deployment task snapshot.
Stage	Integer	32	<p>The stage of the snapshot task.</p> <ul style="list-style-type: none">• 0: The snapshot task was in the initial state.• 8: The snapshot task was being assembled.• 16: The snapshot task was being packaged.• 24: The snapshot task was being dispatched.• 32: The snapshot task was complete.
Status	Integer	2	<p>The status of the snapshot task.</p> <ul style="list-style-type: none">• 0: The snapshot task was not started.• 1: The snapshot task was being processed.• 2: The snapshot task was successful.• 3: The snapshot task failed.
Stage	Integer	32	<p>The stage of the deployment subtask.</p> <ul style="list-style-type: none">• 0: The subtask was not started.• 8: The subtask was being assembled.• 16: The subtask was being packaged.• 24: The subtask was being dispatched.• 32: The subtask was complete.
Status	Integer	2	<p>The status of the deployment subtask.</p> <ul style="list-style-type: none">• 0: The subtask was in the initial state.• 1: The subtask was being processed.• 2: The subtask was successful.• 3: The subtask failed.
TaskId	String	49ea651529014bf8b 5645d5f9062****	The ID of the deployment subtask.

Parameter	Type	Example	Description
Type	String	deploy	The type of the deployment task. <ul style="list-style-type: none">• deploy: deploys the edge instance.• reset: resets the edge instance.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.
RequestId	String	6B72291A-9492-445E-81D9-335D2D3E44C0	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=GetEdgeInstanceDeployment  
&InstanceId=PgEfYupSn6Pvhfkx****  
&DeployId=9261e308a9504fde9b4cf8462b0b****  
&<Common request parameters>
```

Sample success responses

XML format

```
<GetEdgeInstanceDeploymentResponse>
  <RequestId>6B72291A-9492-445E-81D9-335D2D3E44C0</RequestId>
  <Data>
    <Status>2</Status>
    <DeploymentId>9261e308a9504fde9b4cf8462b0b****</DeploymentId>
    <GmtCompleted>2019-06-26 18:12:35</GmtCompleted>
    <Type>deploy</Type>
    <GmtCreate>2019-06-26 18:12:29</GmtCreate>
    <Description>deploy_1561543948874</Description>
    <TaskList>
      <Task>
        <Status>2</Status>
        <GmtCompleted>2019-06-26 18:12:35</GmtCompleted>
        <GmtCreate>2019-06-26 18:12:29</GmtCreate>
        <TaskId>49ea651529014bf8b5645d5f9062****</TaskId>
        <ResourceSnapshotList>
          <ResourceSnapshot>
            <Status>2</Status>
            <SnapshotId>ab576e84a43043d7840cbcebf4a5****</SnapshotId>
            <GmtCompleted>2019-06-26 18:12:34</GmtCompleted>
            <GmtCreate>2019-06-26 18:12:29</GmtCreate>
            <Log>[{"resourceId": "device_config", "code": "0", "stage": 0, "level": "INFO", "message": "init success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543949858}, {"resourceId": "device_config", "code": "0", "stage": 8, "level": "INFO", "message": "assembly success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543951419}, {"resourceId": "device_config", "code": "0", "stage": 16, "level": "INFO", "message": "package success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543952591}, {"resourceId": "device_config", "code": "0", "stage": 32, "level": "INFO", "message": "download success", "resourceType": "DEVICE_CONFIG", "timestamp": 1561543954149}]</Log>
            <ResourceId>device_config</ResourceId>
            <ResourceName>device_config</ResourceName>
            <GmtModified>2019-06-26 18:12:34</GmtModified>
            <Stage>32</Stage>
            <ResourceType>device_config</ResourceType>
            <OperateType>0</OperateType>
          </ResourceSnapshot>
        </ResourceSnapshotList>
        <GmtModified>2019-06-26 18:12:35</GmtModified>
        <Stage>32</Stage>
        <GatewayId>jQWf3MVgQjMzcwsY****000101</GatewayId>
      </Task>
    </TaskList>
    <GmtModified>2019-06-26 18:12:35</GmtModified>
  </Data>
  <Code>Success</Code>
  <Success>true</Success>
</GetEdgeInstanceDeploymentResponse>
```

JSON format

```
{  
    "RequestId": "6B72291A-9492-445E-81D9-335D2D3E44C0",  
    "Data": {  
        "Status": 2,  
        "DeploymentId": "9261e308a9504fde9b4cf8462b0b****",  
        "GmtCompleted": "2019-06-26 18:12:35",  
        "Type": "deploy",  
        "GmtCreate": "2019-06-26 18:12:29",  
        "Description": "deploy_1561543948874",  
        "TaskList": [  
            {  
                "Status": 2,  
                "GmtCompleted": "2019-06-26 18:12:35",  
                "GmtCreate": "2019-06-26 18:12:29",  
                "TaskId": "49ea651529014bf8b5645d5f9062****",  
                "ResourceSnapshotList": [  
                    {  
                        "Status": 2,  
                        "SnapshotId": "ab576e84a43043d7840cbcebf4a5****",  
                        "GmtCompleted": "2019-06-26 18:12:34",  
                        "GmtCreate": "2019-06-26 18:12:29",  
                        "Log": "[{\\"resourceId\\":\\"device_config\\",\\"code\\":\\"0\\",\\"stage\\":0,\\"level\\":\\"INFO\\",\\"message\\":\\"init success\\",\\"resourceType\\":\\"DEVICE_CONFIG\\",\\"timestamp\\":1561543949858},{\\"resourceId\\":\\"device_config\\",\\"code\\":\\"0\\",\\"stage\\":8,\\"level\\":\\"INFO\\",\\"message\\":\\"assembly success\\",\\"resourceType\\":\\"DEVICE_CONFIG\\",\\"timestamp\\":1561543951419},{\\"resourceId\\":\\"device_config\\",\\"code\\":\\"0\\",\\"stage\\":16,\\"level\\":\\"INFO\\",\\"message\\":\\"package success\\",\\"resourceType\\":\\"DEVICE_CONFIG\\",\\"timestamp\\":1561543952591},{\\"resourceId\\":\\"device_config\\",\\"code\\":\\"0\\",\\"stage\\":32,\\"level\\":\\"INFO\\",\\"message\\":\\"download success\\",\\"resourceType\\":\\"DEVICE_CONFIG\\",\\"timestamp\\":1561543954149}]]",  
                        "ResourceId": "device_config",  
                        "ResourceName": "device_config",  
                        "GmtModified": "2019-06-26 18:12:34",  
                        "Stage": 32,  
                        "ResourceType": "device_config",  
                        "OperateType": 0  
                    }  
                ],  
                "GmtModified": "2019-06-26 18:12:35",  
                "Stage": 32,  
                "GatewayId": "jQWF3MVgQjMzcwsY****000101"  
            },  
            {  
                "GmtModified": "2019-06-26 18:12:35"  
            },  
            "Code": "Success",  
            "Success": true  
        ]  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).

2.12.4. QueryEdgeInstanceHistoricDeployment

Queries the deployment task records of an edge instance.

Limits

Each Alibaba Cloud account can run a maximum of 10 queries per second (QPS).

 Note RAM users of an Alibaba Cloud account share the quota of the account.

Debugging

OpenAPI Explorer automatically calculates the signature value. For your convenience, we recommend that you call this operation in OpenAPI Explorer. OpenAPI Explorer dynamically generates the sample code of the operation for different SDKs.

Request parameters

Parameter	Type	Required	Example	Description
Action	String	Yes	QueryEdgeInstanceHistoricDeployment	The operation that you want to perform. Set the value to QueryEdgeInstanceHistoricDeployment.
CurrentPage	Integer	Yes	1	The number of the page to return. Pages start from Page 1.
InstanceId	String	Yes	PgEfYupSn6Pvhfx****	The ID of the edge instance. To obtain the instance ID, perform the following steps: Log on to the Link IoT Edge console . On the Edge Instances page, move the pointer over the name of the edge instance that you want to manage and obtain the instance ID. You can also call the QueryEdgeInstance operation to query the instance ID.
PageSize	Integer	Yes	15	The number of entries to return on each page. Valid values: 1 to 30. Default value: 10.

Parameter	Type	Required	Example	Description
iotInstanceld	String	No	iot_instc_pu****_c *-v64*****	The ID of the Internet of Things (IoT) service instance. This parameter is not required for the public instance but required for Enterprise Edition instances.
StartTime	Long	No	1558951998639	The beginning of the time range to query. If you do not specify the start time and end time, all the deployment task records of the edge instance are queried.
EndTime	Long	No	1561543998639	The end of the time range to query. If you do not specify the start time and end time, all the deployment task records of the edge instance are queried.

In addition to the preceding operation-specific request parameters, you must specify common request parameters when you call this operation. For more information about common request parameters, see [Common parameters](#).

Response parameters

Parameter	Type	Example	Description
Code	String	Success	The return code of the operation. A value of Success indicates that the call was successful. Other values indicate that specific errors occurred. For more information, see Error codes .
Data	Struct		The data that is returned if the call was successful.
CurrentPage	Integer	1	The page number of the returned page.
DeploymentList	Array of Deployment		The list of deployment tasks.
DeploymentId	String	e4803e566b424fa68 e7f4b1c747c***	The ID of the deployment task.

Parameter	Type	Example	Description
Description	String	deploy_1561694817061	The description of the deployment task.
GmtCompleted	String	2019-06-28 12:07:16	The time when the deployment task was complete.
GmtCompletedTimestamp	Long	1581912859713	The UNIX timestamp when the deployment task was complete.
GmtCreate	String	2019-06-26 18:12:29	The time when the deployment task was created.
GmtCreateTimeStamp	Long	1581912859713	The UNIX timestamp when the deployment task was created.
GmtModified	String	2019-06-28 12:07:16	The last time when the deployment task was modified.
GmtModifiedTimestamp	Long	1581912859713	The last UNIX timestamp when the deployment task was modified.
Status	Integer	2	<p>The status of the deployment task.</p> <ul style="list-style-type: none">• 0: The task was not started.• 1: The task was being processed.• 2: The task was successful.• 3: The task failed.
Type	String	deploy	<p>The type of the deployment task.</p> <ul style="list-style-type: none">• deploy: deploys the edge instance.• reset: resets the edge instance.
PageSize	Integer	2	The number of entries returned per page.
Total	Integer	6	The total number of deployment tasks.
ErrorMessage	String	request parameter error	The error message that is returned if the call failed.

Parameter	Type	Example	Description
RequestId	String	C9D9C91B-1B3B-4D84-BE58-68E7B2A989E4	The ID of the request.
Success	Boolean	true	Indicates whether the call was successful. A value of true indicates that the call was successful. A value of false indicates that the call failed.

Examples

Sample requests

```
http(s)://iot.cn-shanghai.aliyuncs.com/? Action=QueryEdgeInstanceHistoricDeployment  
&PageSize=15  
&EndTime=1561543998639  
&InstanceId=PgEfYupSn6Pvhfkx****  
&CurrentPage=1  
&StartTime=1558951998639  
&<Common request parameters>
```

Sample success responses

XML format

```
<QueryEdgeInstanceHistoricDeploymentResponse>
  <RequestId>C9D9C91B-1B3B-4D84-BE58-68E7B2A989E4</RequestId>
  <Data>
    <DeploymentList>
      <Deployment>
        <Status>2</Status>
        <DeploymentId>e4803e566b424fa68e7f4b1c747c****</DeploymentId>
        <GmtCompleted>2019-06-28 12:07:16</GmtCompleted>
        <Type>deploy</Type>
        <GmtCreate>2019-06-28 12:06:57</GmtCreate>
        <Description>deploy_1561694817061</Description>
        <GmtModified>2019-06-28 12:07:16</GmtModified>
      </Deployment>
      <Deployment>
        <Status>2</Status>
        <DeploymentId>9261e308a9504fde9b4cf8462b0b****</DeploymentId>
        <GmtCompleted>2019-06-26 18:12:35</GmtCompleted>
        <Type>deploy</Type>
        <GmtCreate>2019-06-26 18:12:29</GmtCreate>
        <Description>deploy_1561543948874</Description>
        <GmtModified>2019-06-26 18:12:35</GmtModified>
      </Deployment>
    </DeploymentList>
    <PageSize>2</PageSize>
    <CurrentPage>1</CurrentPage>
    <Total>6</Total>
  </Data>
  <Code>Success</Code>
  <Success>true</Success>
</QueryEdgeInstanceHistoricDeploymentResponse>
```

JSON format

```
{  
    "RequestId": "C9D9C91B-1B3B-4D84-BE58-68E7B2A989E4",  
    "Data": {  
        "DeploymentList": [  
            {  
                "Status": 2,  
                "DeploymentId": "e4803e566b424fa68e7f4b1c747c****",  
                "GmtCompleted": "2019-06-28 12:07:16",  
                "Type": "deploy",  
                "GmtCreate": "2019-06-28 12:06:57",  
                "Description": "deploy_1561694817061",  
                "GmtModified": "2019-06-28 12:07:16"  
            },  
            {  
                "Status": 2,  
                "DeploymentId": "9261e308a9504fde9b4cf8462b0b****",  
                "GmtCompleted": "2019-06-26 18:12:35",  
                "Type": "deploy",  
                "GmtCreate": "2019-06-26 18:12:29",  
                "Description": "deploy_1561543948874",  
                "GmtModified": "2019-06-26 18:12:35"  
            }  
        ],  
        "PageSize": 2,  
        "CurrentPage": 1,  
        "Total": 6  
    },  
    "Code": "Success",  
    "Success": true  
}
```

Error codes

For a list of error codes, visit the [API Error Center](#).