

# Alibaba Cloud Resource Access Management SDK Reference

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# Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
<b>Bold</b>	It is used for buttons, menus, page names, and other UI elements.	Click <b>OK</b> .
<code>Courier font</code>	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[ ] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand   slave}</code>



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# 1 SDK Reference - STS

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## 1.1 Overview

This topic lists some commonly used STS SDKs. Before you use an STS SDK, we recommend that you read STS API documentation first.

Languages or environments supported by STS SDKs

- [#unique\\_5](#)
- [#unique\\_6](#)
- [#unique\\_7](#)
- [#unique\\_8](#)
- [#unique\\_9](#)

## 1.2 Java SDK

This topic describes how to install Java SDK and provides an operation example.

Introduction

STS SDKs consist of Alibaba Cloud Java SDKs and STS SDKs.

- To install an Alibaba Cloud Java SDK, you must firstly install `aliyun - java - sdk - core`. For information about how to generate code examples and perform debug operations, see [OpenAPI Explorer](#).
- To install an STS SDK, you must firstly install `aliyun - java - sdk - sts`. For information about STS API actions, see [#unique\\_11](#).

Installation

You can use Maven to manage project dependencies or download the STS SDK JAR package and add the package to the target project.

- Recommended. Use Maven to manage project dependencies.

1. Use Maven to create a project.

```
mvn archetype :generate - DgroupId = com . aliyun . sts .
sample \
- DartifactId = sts - sdk - sample \
- Dpackage = com . aliyun . sts . sample \
```

```
- Dversion = 1 . 0 - SNAPSHOT
```

## 2. Add dependencies to the `pom . xml` file of the project.

Add `aliyun - java - sdk` dependencies. The following is an example of STS SDK 3.0.0:

```
< dependency >
  < groupId > com . aliyun </ groupId >
  < artifactId > aliyun - java - sdk - sts </ artifactId >
  < version > 3 . 0 . 0 </ version >
</ dependency >
< dependency >
  < groupId > com . aliyun </ groupId >
  < artifactId > aliyun - java - sdk - core </ artifactId >
  < version >[ 4 . 4 . 2 , 5 . 0 . 0 ]</ version >
</ dependency >
```



### Note:

The `aliyun - java - sdk` artifact is added to the [Maven repository](#). Therefore, you do not need to configure the `settings . xml` file.

- Download the target JAR package and add the package to the project.
- [Java SDK](#)
- [GitHub](#)

## Example

Create the source code `StsService Sample . java` in the `com / aliyun / sts / sample / directory`.



### Note:

The following is an example of core 4.4.2.

```
package com . aliyun . sts . sample ;
import com . aliyuncs . DefaultAcs Client ;
import com . aliyuncs . exceptions . ClientExce ption ;
import com . aliyuncs . http . MethodType ;
import com . aliyuncs . profile . DefaultPro file ;
import com . aliyuncs . profile . IClientPro file ;
import com . aliyuncs . sts . model . v20150401 . AssumeRole
Request ;
import com . aliyuncs . sts . model . v20150401 . AssumeRole
Response ;
public class StsService Sample {
  public static void main ( String [] args ) {
    String endpoint = " sts . aliyuncs . com " ;
    String accessKeyI d = "< access - key - id >" ;
    String accessKeyS ecret = "< access - key - secret >" ;
    String roleArn = "< role - arn >" ;
    String roleSessio nName = " session - name " ;
    String policy = "{\ n " +
```

```

        "    \" Version \": \" 1 \", \n \" +
        \" Statement \": [\n \" +
        \"     {\n \" +
        \"         \" Action \": [\n \" +
        \"             \" oss :*\n \" +
        \"         ], \n \" +
        \"         \" Resource \": [\n \" +
        \"             \" acs : oss :*:*:*\n \" +
        \"         ], \n \" +
        \"         \" Effect \": \" Allow \n \" +
        \"     }\n \" +
        \" ]\n \" +
        \"}\"";
    try {
        // Construct the default profile . ( You do not
        need to add the region ID .)
        IClientProfile profile = DefaultProfile .
getProfile ( "", accessKeyId , accessKeySecret );
        // Use the profile to construct a client .
        DefaultAcsClient client = new DefaultAcsClient
( profile );
        final AssumeRoleRequest request = new
AssumeRoleRequest ();
        request . setEndpoint ( endpoint );
        request . setMethod ( MethodType . POST );
        request . setRoleArn ( roleArn );
        request . setRoleSessionName ( roleSessionName );
        request . setPolicy ( policy ); // Optional
        final AssumeRoleResponse response = client .
getAcsResponse ( request );
        System . out . println ( " Expiration : " + response .
getCredentials () . getExpiration () );
        System . out . println ( " Access Key Id : " +
response . getCredentials () . getAccessKeyId () );
        System . out . println ( " Access Key Secret : " +
response . getCredentials () . getAccessKeySecret () );
        System . out . println ( " Security Token : " +
response . getCredentials () . getSecurityToken () );
        System . out . println ( " RequestId : " + response .
getRequestId () );
    } catch ( ClientException e ) {
        System . out . println ( " Failed : " );
        System . out . println ( " Error code : " + e .
getErrorCode () );
        System . out . println ( " Error message : " + e .
getErrMsg () );
        System . out . println ( " RequestId : " + e .
getRequestId () );
    }
}
}
}

```



#### Note:

- Make sure that the access key ID and access key secret are valid.
- For information about STS endpoints, see [#unique\\_12](#).
- For information about the AssumeRole API action, see [#unique\\_13](#).

## 1.3 .NET SDK

This topic describes how to install .NET SDK and provides an operation example.

### Installation

To download .NET SDK, click either of the following links:

- [.NET SDK](#)
- [GitHub](#)



#### Note:

STS is available on the NuGet platform. For more information, see [STS NuGet](#).

### Example

```
using System ;
using Aliyun . Acs . Core ;
using Aliyun . Acs . Core . Profile ;
using Aliyun . Acs . Core . Http ;
using Aliyun . Acs . Sts . Model . V20150401 ;
namespace StsNetSdkD emo
{
    class Program
    {
        static void Main ( string [] args )
        {
            const string REGIONID = " cn - shanghai " ;
            const string ENDPOINT = " sts . cn - shanghai .
aliyuncs . com " ;
            // Construct an Alibaba Cloud client to
            initiate a request .
            // Set the access key ID and access key
            secret .
            DefaultPro file . AddEndpoin t ( REGIONID , REGIONID ,
" Sts " , ENDPOINT ) ;
            IClientPro file profile = DefaultPro file .
GetProfile ( REGIONID , "< access - key - id >" , "< access - key -
secret >" ) ;
            DefaultAcs Client client = new DefaultAcs Client
( profile ) ;
            // Construct the " AssumeRole " request .
            AssumeRole Request request = new AssumeRole
Request ( ) ;
            request . AcceptForm at = FormatType . JSON ;
            // Specify the Alibaba Cloud Resource Name (
            ARN ) of the role .
            request . RoleArn = "< role - arn >" ;
            request . RoleSessio nName = "< role - session - name
>" ;
            // Optional . Set the validity period of the
            token . The default value is 3600 , in seconds .
            // request . DurationSe conds = 3600 ;
            // Specify the token permission by attaching
            a policy to the token .
            // request . Policy = "< policy - content >"
            try
```

```
        {
            AssumeRole Response response = client .
GetAcResp onse ( request );
            Console . WriteLine ( " AccessKeyI d : " + response
. Credential s . AccessKeyI d );
            Console . WriteLine ( " AccessKeyS ecret : " +
response . Credential s . AccessKeyS ecret );
            Console . WriteLine ( " SecurityTo ken : " +
response . Credential s . SecurityTo ken );
            // The date and time when the token
expires . The servers returns the UTC time by default
. Here , change the time to UTC + 8 .
            Console . WriteLine ( " Expiration : " + DateTime .
Parse ( response . Credential s . Expiration ) . ToLocalTim e ());
        }
        catch ( Exception ex )
        {
            Console . Write ( ex . ToString ());
        }
        Console . ReadLine ();
    }
}
}
```

**Note:**

- For information about STS endpoints, see [#unique\\_12](#).
- For information about the AssumeRole action, see [#unique\\_13](#).

## 1.4 Python SDK

This topic describes how to install Python SDK and provides an operation example.

### Installation

To download Python SDK, click either of the following links:

- [Python SDK](#)
- [GitHub](#)

### Example

```
#!/usr/bin/env python
# coding = utf - 8
from aliyunsdkcore import client
from aliyunsdkcore.profile import region_provider
from aliyunsdksts.request.v20150401 import AssumeRole
Request
# Construct an Alibaba Cloud client to initiate a
request .
# Set the access key ID and access key secret .
REGIONID = ' cn - shanghai '
ENDPOINT = ' sts . cn - shanghai . aliyuncs . com '
# Configure the STS endpoint to be accessed .
region_provider . add_endpoi nt ( ' Sts ' , REGIONID , ENDPOINT )
# Initialize the client .
```

```

    clt = client . AcsClient ('< access - key - id >', '< access - key -
    secret >', REGIONID )
    # Construct the " AssumeRole " request .
    request = AssumeRole Request . AssumeRole Request ( )
    # Specify the Alibaba Cloud Resource Name ( ARN ) of
    the role .
    request . set_RoleAr_n ('< role - arn >')
    # Set the session name . The session name is used to
    identify the user who is calling this API action .
    request . set_RoleSe ssionName ('< role - session - name >')
    # Initiate a request and obtain a response .
    response = clt . do_action_ with_excep tion ( request )
    print response

```



#### Note:

- For information about STS endpoints, see [#unique\\_12](#).
- For information about the AssumeRole action, see [#unique\\_13](#).

## 1.5 PHP SDK

This topic describes how to install PHP SDK and provides an operation example.

### Installation

To download PHP SDK, click either of the following links:

- [PHP SDK](#)
- [GitHub](#)

### Example

```

<? php
include_on ce ' aliyun - php - sdk - core / Config . php ';
use Sts \ Request \ V20150401 as Sts ;
define (" REGION_ID ", " cn - shanghai ");
define (" ENDPOINT ", " sts . cn - shanghai . aliyuncs . com ");
// Only RAM users can assume the role .
DefaultPro file :: addEndpoin t ( REGION_ID , REGION_ID , " Sts
", ENDPOINT );
$ iClientPro file = DefaultPro file :: getProfile ( REGION_ID , "<
access - key - id >", "< access - key - secret >");
$ client = new DefaultAcs Client ($ iClientPro file );
// Specify the Alibaba Cloud Resource Name ( ARN ) of
the role .
$ roleArn = "< role - arn >";
// Specify the permission of the role by attaching a
policy to the role .
// The following policy indicates that the role has
all the read - only permission for OSS .
$ policy =<<< POLICY
{
    " Statement ": [
        {
            " Action ": [
                " oss : Get *",

```

```

    " oss : List *"
  ],
  " Effect ": " Allow ",
  " Resource ": "*"
}
],
" Version ": " 1 "
}
POLICY ;
$ request = new Sts \ AssumeRole Request ();
// RoleSessionName : The session name of the temporary
identity for assuming the role .
$ request -> setRoleSessionName (" client_name ");
$ request -> setRoleArn ($ roleArn );
$ request -> setPolicy ($ policy );
$ request -> setDurationSeconds ( 3600 );
try {
  $ response = $ client -> getAcsResponse ($ request );
  print_r ($ response );
} catch ( ServerException $ e ) {
  print " Error : " . $ e -> getErrorCode () . " Message : " .
  $ e -> getMessage () . "\ n ";
} catch ( ClientException $ e ) {
  print " Error : " . $ e -> getErrorCode () . " Message : " .
  $ e -> getMessage () . "\ n ";
}
?>

```



#### Note:

- For information about STS endpoints, see [#unique\\_12](#).
- For information about the AssumeRole action, see [#unique\\_13](#).

## 1.6 Node.js SDK

This topic describes how to install Node.js SDK and provides an operation example.

### Installation

You can use npm to install Node.js SDK.

```
npm install -S @alicloud/pop-core
```

### Example

```

/*
  Usage : npm install -S @alicloud/pop-core
  powered by alinode ( http://alinode.aliyun.com /)
*/

const Core = require ('@alicloud/pop-core ');
// Construct an Alibaba Cloud client to initiate a
request .
// Set the access key ID and access key secret .
var client = new Core ({
  accessKeyId : '<accessKeyId>',

```

```
AccessKeys ecret : '< accessSecr et >',
endpoint : ' https :// sts . aliyuncs . com ',
apiVersion : ' 2015 - 04 - 01 '
});

// Specify the Alibaba Cloud Resource Name ( ARN ) of
the role .
var params = {
  ' RoleArn ': '< role - arn >',
  ' RoleSessio nName ': ' session - name '
};

// Construct the " AssumeRole " request .
client . request ( ' AssumeRole ', params ) . then ( ( result ) => {
  console . log ( result );
}, ( ex ) => {
  console . log ( ex );
})
```

**Note:**

- For information about STS endpoints, see [#unique\\_12](#).
- For information about the AssumeRole action, see [#unique\\_13](#).