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.	 Danger: 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.	 Warning: 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.	 Notice: 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.	 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus , page names, and other UI elements.	Click OK.
`Courier font`	It is used for commands.	Run the `cd /d C:/windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *[-all|-t]*

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

Contents

1 SDK Reference - STS

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

- *Java SDK*
- *.NET SDK*
- *#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 *Introduction*.

Installation

Yo 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  \
- DartifactI  d = 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 .)
            IClientPro  file   profile  =  DefaultPro  file .
 getProfile ("",  accessKeyI  d ,  accessKeyS  ecret );
           //  Use   the   profile   to   construct   a   client .
            DefaultAcs  Client   client  =  new   DefaultAcs  Client
 ( profile );
            final   AssumeRole  Request   request  =  new
 AssumeRole  Request ();
            request . setSysEndp  oint ( endpoint );
            request . setSysMeth  od ( MethodType . POST );
            request . setRoleArn ( roleArn );
            request . setRoleSes  sionName ( roleSessio  nName );
            request . setPolicy ( policy ); //  Optional
            final   AssumeRole  Response   response  =  client .
 getAcsResp  onse ( request );
            System . out . println (" Expiration : " +  response .
 getCredent  ials (). getExpirat  ion ());
            System . out . println (" Access   Key   Id : " +
 response . getCredent  ials (). getAccessK  eyId ());
            System . out . println (" Access   Key   Secret : " +
 response . getCredent  ials (). getAccessK  eySecret ());
            System . out . println (" Security   Token : " +
 response . getCredent  ials (). getSecurit  yToken ());
            System . out . println (" RequestId : " +  response .
 getRequest  Id ());
        }  catch  ( ClientExce  ption   e ) {
            System . out . println (" Failed : ");
            System . out . println (" Error   code : " +  e .
 getErrCode ());
            System . out . println (" Error   message : " +  e .
 getErrMsg ());
            System . out . println (" RequestId : " +  e .
 getRequest  Id ());
        }
    }
}
```

Note:

- Make sure that the access key ID and access key secret are valid.
- For information about STS endpoints, see *Service address*.
- For information about the `AssumeRole` API action, see *AssumeRole*.

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*

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 .
GetAcsResp 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 *Service address*.
- For information about the `AssumeRole` action, see *AssumeRole*.

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   aliyunsdkc  ore   import   client
 from   aliyunsdkc  ore . profile   import   region_pro  vider
 from   aliyunsdks  ts . 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_pro  vider . 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** *Service address*.
- **For information about the** `AssumeRole` **action, see** *AssumeRole*.

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 , "<
 acccess - 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 ();
//  RoleSessio  nName :  The   session   name   of   the   temporary
 identity   for   assuming   the   role .
$ request -> setRoleSes  sionName (" client_nam  e ");
$ request -> setRoleArn ($ roleArn );
$ request -> setPolicy ($ policy );
$ request -> setDuratio  nSeconds ( 3600 );
 try  {
    $ response  = $ client -> getAcsResp  onse ($ request );
     print_r ($ response );
}  catch ( ServerExce  ption  $ e ) {
     print  " Error : " . $ e -> getErrorCo  de () . "  Message : " .
 $ e -> getMessage () . "\ n ";
}  catch ( ClientExce  ption  $ e ) {
     print  " Error : " . $ e -> getErrorCo  de () . "  Message : " .
 $ e -> getMessage () . "\ n ";
}
?>
```

Note:

- For information about STS endpoints, see *Service address*.
- For information about the `AssumeRole` action, see *AssumeRole*.

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 ({
   accessKeyI  d : '< accessKeyI  d >',
   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 *Service address*.
- For information about the `AssumeRole` action, see *AssumeRole*.