

Developer Guide

SDK Reference

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Currently, Alibaba Cloud ECS provides the following programming languages of SDK.

- Java
- Python
- PHP
- C++
- .NET

Download and install Java SDKs

Earlier versions of the Java SDKs were available as standalone download packages. While the new versions of all Alibaba Cloud Java SDKs are distributed in the Maven repository for easy management.

Download Java SDKs

Taking Eclipse Luna on 64-bit Windows 7 for example, follow these steps to download the Java SDKs:

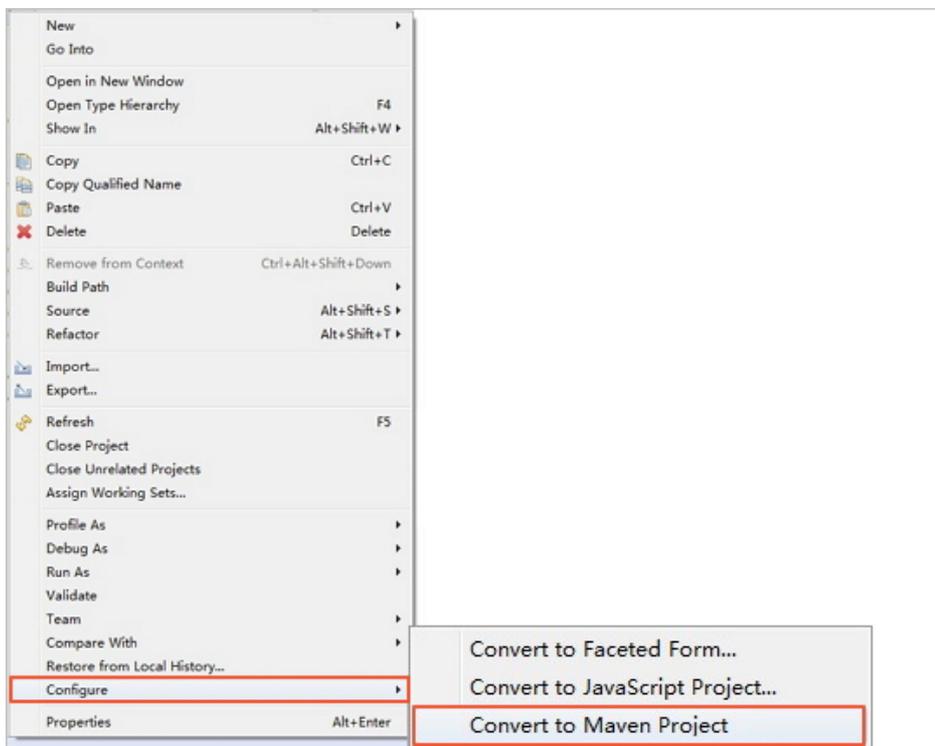
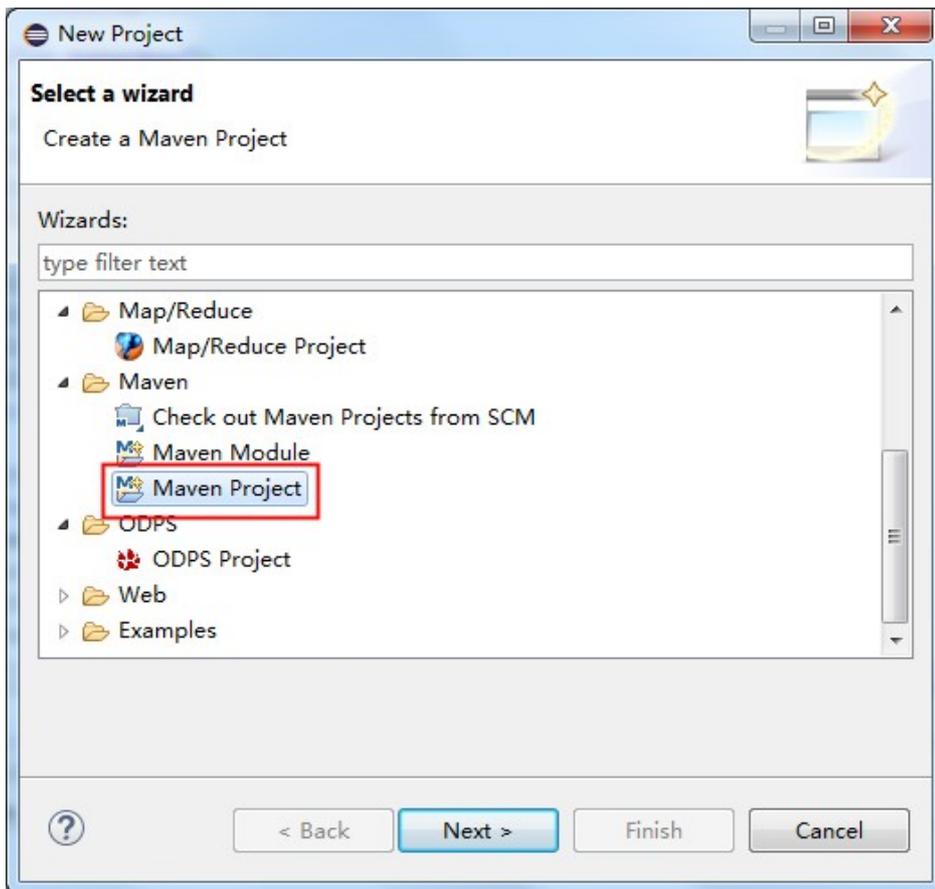
Visit [official Maven download page](#), and download the Maven software that corresponds to your operating system. You can verify the downloaded files by checking the Checksum files.

	Link	Checksum	Signature
Binary tar.gz archive	apache-maven-3.3.3-bin.tar.gz	apache-maven-3.3.3-bin.tar.gz.md5	apache-maven-3.3.3-bin.tar.gz.asc
Binary zip archive	apache-maven-3.3.3-bin.zip	apache-maven-3.3.3-bin.zip.md5	apache-maven-3.3.3-bin.zip.asc
Source tar.gz archive	apache-maven-3.3.3-src.tar.gz	apache-maven-3.3.3-src.tar.gz.md5	apache-maven-3.3.3-src.tar.gz.asc
Source zip archive	apache-maven-3.3.3-src.zip	apache-maven-3.3.3-src.zip.md5	apache-maven-3.3.3-src.zip.asc

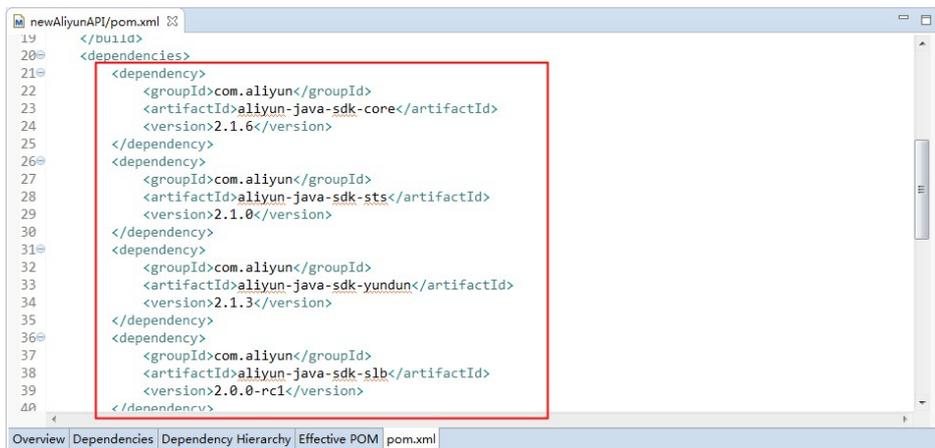
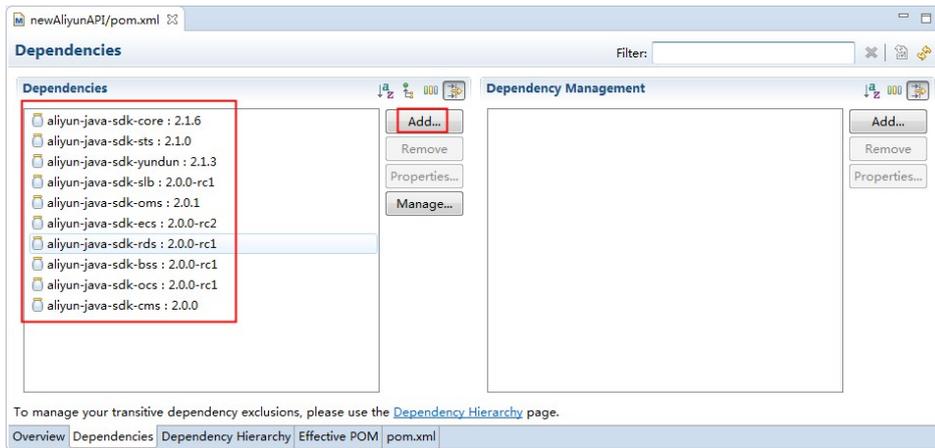
Visit Java SDK download page, add the Maven repository storing Alibaba Cloud SDKs to the Maven software, decompress the downloaded Maven package, and add information about Alibaba Cloud Maven repository to the settings.xml file in the conf directory.

```
238 | </configuration>
239 | </plugin>
240 | ...
241 |
242 | NOTE: If you just wanted to inject this configuration whenever someone set 'target-env' to
243 | anything, you could just leave off the <value/> inside the activation-property.
244 |
245 | -->
246 <profile>
247   <id>nexus</id>
248
249   <repositories>
250     <repository>
251       <id>sonatype-nexus-staging</id>
252       <name>Sonatype Nexus Staging</name>
253       <url>https://oss.sonatype.org/service/local/staging/deploy/maven2/</url>
254       <releases>
255         <enabled>true</enabled>
256       </releases>
257       <snapshots>
258         <enabled>true</enabled>
259       </snapshots>
260     </repository>
261   </repositories>
262
```

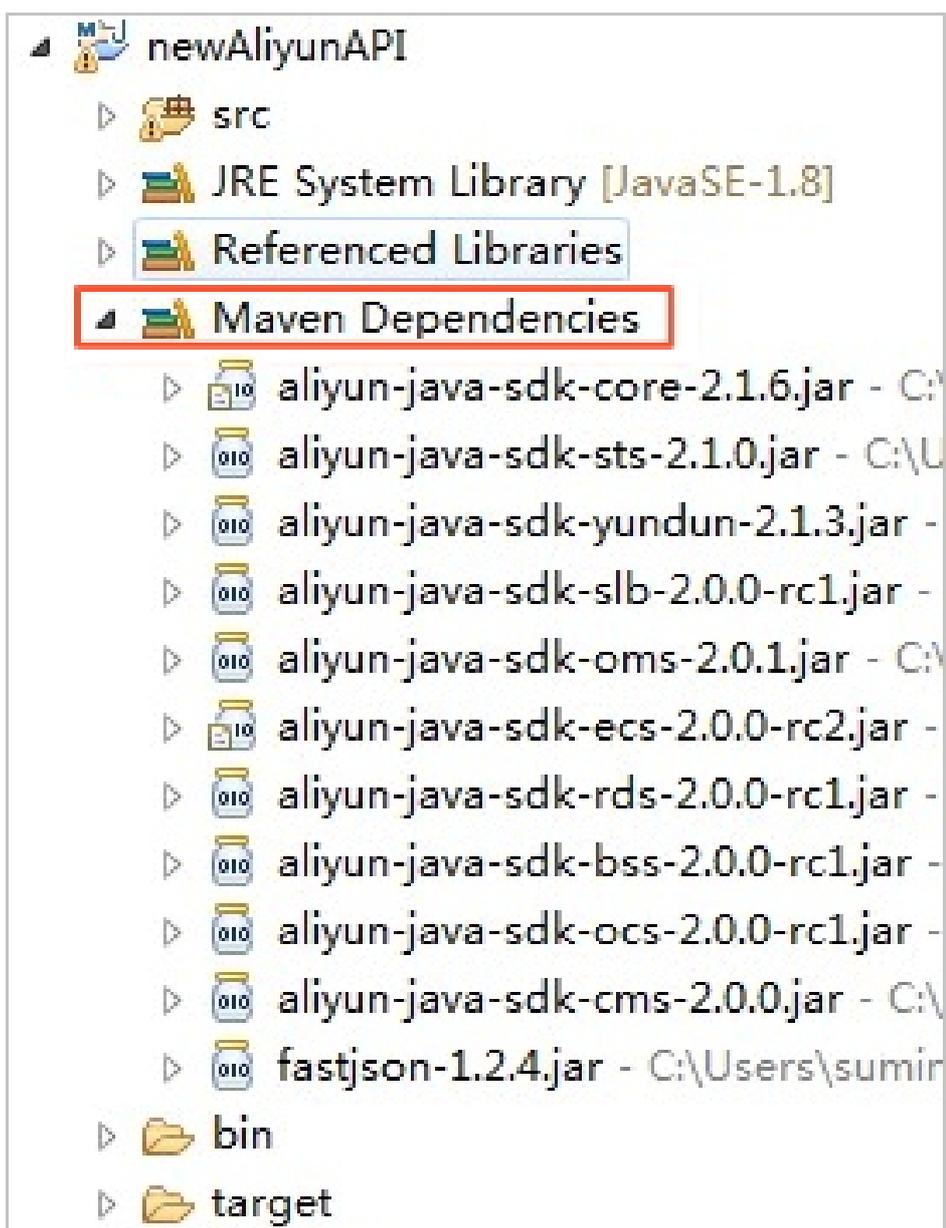
Create a Maven project in Eclipse, or convert an existing project to a Maven project.



Open the pom.xml file under the project, and add Maven dependencies in the graphical interface or edit dependencies in the pom.xml file.



Save the configuration. The Alibaba Cloud SDK JAR packages are loaded to Maven Dependencies.



How to determine the SDK version

The differences between the earlier SDK and new SDK are highlighted in the following table.

Items Compared	Earlier SDK	New SDK
Operation request method	execute()	getAcResponse()
Class to hold AccessKey and AccessKeySecret	AliyunClient	IClientProfile
Method to generate storage credentials objects	new DefaultAliyunClient(APIUrl, Access Key, Access Key Secret)	DefaultProfile.getProfile(Regi onId, Access Key, Access Key Secret)
Prefix of packages	com.aliyun.api	com.aliyuncs

If you are currently using the earlier version of the SDK, we recommend that you switch to the latest version to explore and use the advanced features.

Samples of using ECS SDK

The file name of the new version SDK usually starts with **aliyun-XXXX-sdk**, followed by the product name, for example the package name **aliyun-java-sdk-ecs**. The **aliyun-java-sdk-core** core package encapsulates certain classes used in all product SDKs, such as the `IClientProfile`, `IAcsClient`, and exception classes. The classes are packed in different JAR packages by product.

Prerequisites

You must have your Accesskey ready.

Sample of using the Java SDK

The API method `DescribeImages` is used to query available image resources in this sample. We will use it as an example to demonstrate the process of using Java SDKs. The **aliyun-java-sdk-core** package contains the `IClientProfile` and `IAcsClient` classes, and the **aliyun-java-sdk-ecs** package contains other classes.

Create a profile object: create an instance of the `IClientProfile` class named **profile**, which contains `AccessKeyId`, `AccessKeySecret`, and the default region information, such as `cn-hangzhou`. For more information about the Alibaba Cloud regions, see [Regions and zones](#).

```
IClientProfile profile = DefaultProfile.getProfile("cn-hangzhou", ak, aks); #ak is your  
AccessKey, and aks is your AccessKeySecret.
```

Create a client object: create an `IAcsClient` object named **client** from the previously created `IClientProfile` **profile**, and subsequent responses are obtained from `IClientProfile`. This object contains the response data that you will retrieve later.

```
IAcsClient client = new DefaultAcsClient(profile);
```

Create the **request** class: create a request class that corresponds to the method, and name the class by adding `Request` to the end of an API method name. For example, if the name of the API method that queries the image lists is `DescribeImages`, the corresponding Request class name is `DescribeImagesRequest`. It uses a constructor to generate a default **describe**

class.

```
DescribeImagesRequest describe = new DescribeImagesRequest();
```

Specify request parameters: specify required API parameters by using the setter `setXxx`. For example, the `DescribeImages` API method requires the `RegionId` parameter, which is optional, because `IClientProfile` already contains region information. Use other setters to set other parameters. For example, to query your custom images, set `ImageOwnerAlias` to `self`.

```
describe.setImageOwnerAlias("self");
```

Obtain the **response** to the request using the `IAcsClient` object.

```
DescribeImagesResponse response = client.getAcsResponse(describe);
```

Obtain the response parameters from the response: call the getter `getXxx` in the response to obtain the response values, such as the `ImageName`. For different API methods, a return value may contain structured information. For example, in the method `DescribeImages`, the response values include a collection of images in the Java SDK. Call the `getImages()` method to query the image object list, iterate through the list to query an image, and then call the `getXxx` to obtain more information.

```
for(Image image:response.getImages())
{
    System.out.println(image.getImageId());
    System.out.println(image.getImageName());
}
```

The call process is now concluded.

Notes for the PHP SDK

To use PHP SDKs is the same way as to use Java SDKs. Follow these steps:

1. Create a profile object.
2. Create a client object.
3. Create a request object.
4. Set parameters for the request.
5. Call the corresponding API method on the client object by passing in the request object and obtain the response.
6. Obtain response values in the response.

Notes for the Python SDK

When you use Python SDKs, you do not have to create a **profile**. Instead, create a **client** directly, and then continue with the remaining steps.

References

- For more information about the available API methods of ECS, see [API overview](#).
- For more information about how to create an AccessKey, see [Create an AccessKey](#).