

Sentinel CLOUD SERVICES™

Cloud Run-time Java Demo Application ReadMe



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Java Demo Application

Introduction

The Sentinel® Cloud Demo Application is a Web application written in Java. It provides a quick walk-through of licensing, provisioning, and usage stages of delivering feature-based applications as services on the cloud.

- **As Application Developers:**
You can learn about implementing the Sentinel Cloud API calls into the application source code.
- **As Customers:**
You can learn about using the software providers' offerings as per the product models.
- **As Product Managers and Contract Operators:**
You can learn about executing the provisioning workflow in Sentinel EMS.

The following table lists the products offered by the Demo Application:

Products	Features	Corresponding Feature IDs
Calculator	<ul style="list-style-type: none">■ Addition■ Subtraction■ Multiplication■ Division	<ul style="list-style-type: none">■ 1■ 2■ 3■ 4
Stopwatch	Stopwatch	5
Media Player	Media Player	6



The Demo Application can be deployed on cloud as well as on customer's premises.

Installing and Configuring Java Demo Application

System Requirements

The software requirements to install Demo Application are:

- Java Run-time Environment (JRE 6)
- JDK 1.6
- A Web Server, such as Apache Tomcat 7.0, that can run a Java Web application.



The on-premise Linux application running on Tomcat should be able to read the LC_CTYPE environment variable, which stores system locale.

Installation and Configuration



The steps given below are for Tomcat 7.0.

1. Copy the file *SaaS DemoApplication.war* from the installation media to the `<tomcat_home>/tomcat7/webapps` directory on your machine.
Here, `<tomcat_home>` is the Tomcat installation directory.
2. Start your Web Server.
3. Go to `<tomcat_home>/tomcat7/webapps/SaaS DemoApplication/WEB-INF/classes`, and open the *SentinelCloudRuntime.properties* configuration file. You need to use this configuration file for deploying the Cloud or on-premise applications.



For on-premise applications, the location where the configuration file is placed must be set in the SFNT_SCR_CONFIG_FILEPATH environment variable. The on-premise application will not work if the configuration file is placed in a jar at the class path.

4. In the client configuration file, update the following elements:

DeploymentType

- This parameter specifies the deployment mode to be used for compiling the application. This value can be either **OnPremise** or **Cloud**.
- Example:

```
<add key="DeploymentType" value ="Cloud" />
```

SecretKey

- This was sent to you in a previous e-mail from SafeNet.
- This is the secret key used for authenticating client requests.

- Example:

```
<add key="SecretKey" value="SecretKey" />
```

SecretKeyId

- This was sent to you in a previous e-mail from SafeNet.
- This is the ID of the secret key.
- Example:

```
<add key="SecretKeyId" value="SecretKeyId" />
```

VendorID

- This was sent to you in a previous e-mail from SafeNet.
- This parameter is the unique ID assigned to a vendor by SafeNet.
- Example:

```
<add key="VendorId" value="a8e06c3" />
```

ClientAlias

- This was sent to you in a previous e-mail from SafeNet.
- This is usually the vendor name used in the vendor registration request.
- Example:

```
<add key="ClientAlias" value="isv" />
```

YPSAddress

- This was sent to you in a previous e-mail from SafeNet.
- This parameter is the address of the Sentinel Directory Services server. Set `YPSAddress` correctly to ensure that the Demo Application works.
- Example:

```
<add key="YPSAddress" value="https://yps-trial.sentinelcloud.com/YPServer" />
```



If you are using proxy server, then you will need to configure the Cloud Run-time proxy settings as well. For details of proxy settings, please refer to the [Sentinel Cloud Run-time Guide](#).

5. For on-premise applications, copy `SentinelCloudRuntime_P.dll` (32-bit) or `SentinelCloudRuntime_P_x64.dll` (64-bit), at:
 - `C:\WINDOWS\system32`
 - a custom location and set the location in the **Path** environment variable.

6. Restart the Web Server.

Accessing the Java Demo Application

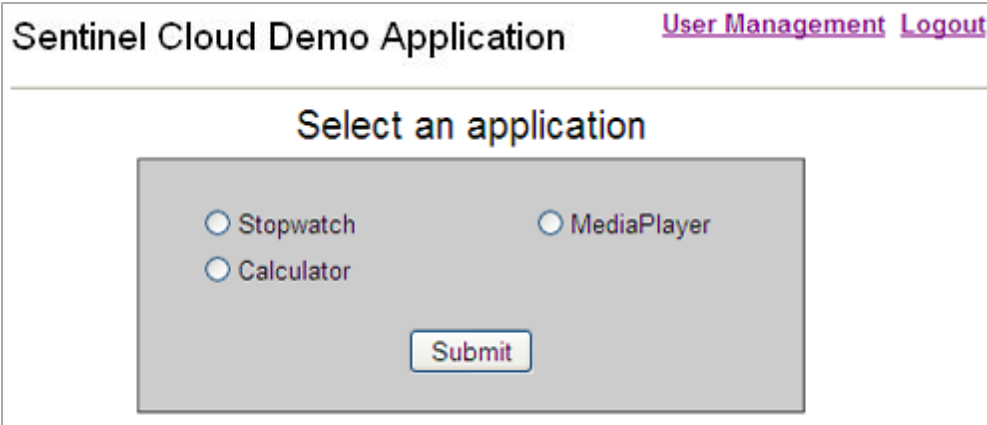
After installation and configuration, you can access the Cloud Demo Application by using the following URL:

`http://localhost:8080/SaaS Demo Application`

Here, *localhost* is the IP address or domain name of the host. Following are the login credentials for Demo Application:

- **User Name:** admin
- **Password:** admin

Java Demo Application User Interface



Sentinel Cloud Demo Application [User Management](#) [Logout](#)

Select an application

Stopwatch MediaPlayer

Calculator

In the above interface, the **User Management** link is enabled for only the “admin” user.

See also: [Creating Users for the Cloud Demo Application](#).

Before You Use the Java Demo Application...

Before a user consumes the Demo Application products, the following steps need to be performed:

- [Creating Entitlements in the Sentinel EMS](#)
- [Creating Users for the Cloud Demo Application](#)

Creating Entitlements in the Sentinel EMS

Before using the Java Demo Application, you need to have an understanding of how to create feature, product, and entitlement in EMS.

The typical workflow of creating an entitlement is as follows. For exact steps, refer to the *Sentinel Cloud EMS User's Guide*:



- An entitlement can be for either cloud or on-premise.
- Entitlements created for the Java Demo Application must use same feature information, especially feature ID, as mentioned in the section [Introduction](#).
- While the entitlements generated can be used right away by users, data aggregation begins only after an hour of the deployment. Beyond this, data aggregation will take place as per the frequency set in EMS.

Creating Users for the Cloud Demo Application

Initially, a user with name "admin" and password "admin" can login into the hosted Demo Application. Only this user has rights to add further users. The steps of adding users are described below:

1. Click the **User Management** link on the top-right corner of the page. The User Details screen is displayed.
2. From the **Customer** drop-down list, select the customer if it already exists. Otherwise perform the following steps to create a new customer:
 - a. Click the **Create Customer** link. The Customer Details page is displayed.

Sentinel Cloud Demo Application [Back](#) [Logout](#)

Customer Details

Customer Name:

Customer Ref Id:

- b. Enter the customer name and customer reference ID. These should be same as specified in EMS.
 - c. Click the **Add** button. The customer is added and the User Details screen is displayed again.
3. To add a new user for the selected customer, provide the user name and password, and click the **Add** button.



The Customer and User created in Demo Application should be exactly same as specified in EMS entitlement. For example, if a customer name is "Frank Duff" in EMS but you have used "Frank" in Demo Application, an error will be thrown.

Using the Java Demo Application Products

Once the users are added into the system, they can access the licensed products using their login name and password. An error will be thrown if any feature is not allowed.

See also, [Error Messages](#).

Viewing Usage Related Information

Users can login into Sentinel EMS (Customer Login) using their entitlement IDs (received in the e-mail), and can view the following information:

- Usage details of an entitlement (available only if the entitlement has been aggregated by Data Engine).
- Billing detail
- License state of the features
- Concurrent sessions for features having concurrent license model
- Usage count of features having pre-paid license model

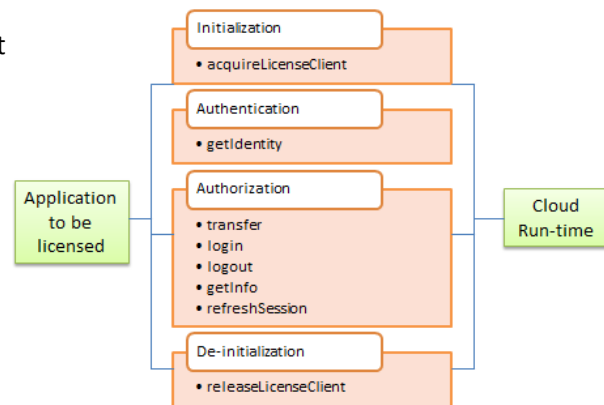


For more information, please refer to *Sentinel Cloud EMS User's Guide*.

Using the Sentinel Cloud Run-time Java APIs

Sentinel Cloud Run-time provides a set of APIs that you can use to license your applications. For API details, refer to *Sentinel Cloud Run-time Guide*.

A brief description of the APIs is given below:



Licensing Function	API	Description
Initialization	acquireLicenseClient	Obtains an instance of the Cloud Run-time.
Authentic- ation	getIdentity	Authenticates a user by requesting authentication cookie, identity, and customer reference ID from Cloud Connect. Note: This API is applicable only for on-premise feature level licensing, implemented with authentication. To use this API, an authentication system should be integrated with Sentinel Cloud. Please contact SafeNet for integration-related details.
Authorization	transfer	Detaches licenses, returns licenses, and syncs usage with Cloud Connect. Note: This API is used only for on-premise licensing.
	login	Authorizes a user by requesting a license from the Cloud Connect.
	logout	Releases the license acquired by the user.
	getInfo	Retrieves information about entitlements and features for a given user.
	refreshSession	Refreshes a concurrent session. Note: This API is used only for cloud

Licensing Function	API	Description
		applications.
De-initialization	releaseLicenseClient	Releases the instance of the Cloud Run-time.

To learn about how to use Cloud Run-time Java APIs in your source code, refer to the files *License.java* and *ContextLoaderListener.java*, available at: `\src\com\sfnt\saas\demo\`.

- *License.java*: Contains implementation of the login and logout APIs.
- *ContextLoaderListener.java* : Contains implementation of the `acquireLicenseClient` and `releaseLicenseClient` APIs.

Error Messages



The error messages described in this section are specific to the Cloud Run-time Java Demo Application. For information on other Run-time errors, please refer to [Sentinel Cloud Run-time Guide](#).

Error Message	Description
User does not exist	User name is invalid.
Either user name or password is incorrect	User name or/and password are invalid.
License does not exist or license is not in active state	Reason can be: <ul style="list-style-type: none"> ▪ No entitlement/product catalog exists for requested feature and user. ▪ The feature start date has not reached yet.
License is expired	The feature end date has reached already.
License is disabled	The software publisher has disabled the contract/product catalog.
Failed to create database connection	The database server is down. Contact the SafeNet Technical Support for assistance.
Access denied to the requested feature	The user is not authorized for the requested feature.
Connection to Yellow Pages Server failed	The connection to Directory Services server is not established. Try the following to resolve this error: <ul style="list-style-type: none"> ▪ Ensure that <i>YPSAddress</i> is specified correctly in the client configuration file. ▪ Check logs at the path given in <i>log4j.properties</i> file in the <i>\WEB-INF</i> directory for more details.

Building the Cloud Java Demo Application

Given below is the directory structure of the Demo Application source code available at:
<InstallDir>\Samples\Java SDK:

Here, <InstallDir> refers to the installation directory of Sentinel Cloud Services, which by default is
C:\Program Files\Safenet Sentinel\Sentinel Cloud Services.

Directory	Contents
<i>build</i>	Contains the ant file used for building the Demo Application.
<i>settings</i>	Contains Eclipse project settings.
<i>lib</i>	Contains all dependent libraries.
<i>resources</i>	Contains all resource files, including the Cloud Run-time resource files.
<i>src</i>	Contains source code.
<i>WebContent</i>	Contains the following Web contents: <ul style="list-style-type: none"> ▪ <i>css</i>: Contains style sheet files. ▪ <i>Images</i>: Contains required images. ▪ <i>META-INF</i>: Contains manifest file. ▪ <i>WEB-INF</i>: Contains <i>web.xml</i> and <i>log4j</i> files. ▪ <i>Various JSP</i> and miscellaneous files.
<i>ReadMe</i>	Contains the reference document for Java Demo Application (this document).

You can build the Demo Application by using any of the following methods:

- [Using Eclipse](#)
- [Using the Ant Build Script](#)

Using Eclipse

Prerequisites

- Run the ant script.

Follow the steps given below to build the Demo Application in Eclipse:

1. Click **File > Import**.
2. Select **Existing Projects into Workspace** under **General**. Click **Next**.
3. Browse to the SaaS Demo Application directory in source and click **OK**.
4. Click **Finish**.

Add *jar* files from the *\lib* folders, by using the following steps:

- a. Click **Project >Properties**.
- b. In the Properties dialog box, click **Java Build Path** in the left pane, and then click the **Libraries** tab.
- c. Click the **Add External Jars** button, browse and select the jar files, and click **OK**.

Using the Ant Build Script

Follow the steps given below to build the Demo Application using the Ant script:

1. Go to the command prompt.
2. Go to the `<InstallDir>\Samples\Java SDK\build` directory.
3. Type `ant` and press **Enter**. It will create a `SaaS DemoApplication.war` file in the `<InstallDir>\Samples\Java SDK\target\War` directory.

Notes:



- Make sure Apache Ant is installed on the system and ANT_HOME environment variable is set.
- Make sure JDK 1.6 or higher version is installed and JAVA_HOME environment variable is set.
- This build procedure is tested with Apache Ant 1.8.1 version.

Frequently Asked Questions - Java Demo Application

Question: How to uninstall the Cloud Demo Application?

Delete the installed directory `\SaaS DemoApplication` and its WAR file from `/var/lib/tomcat7/webapps`.

Question: How to change the admin default password?

To change the admin's default password, edit the `SaaS Demo.xml` file present in `var/lib/tomcat7/webapps/SaaS DemoApplication/WEB-INF/classes` with new password as shown below:

```
<Customer Name=""admin"">
<User>
<User ID>admin</User ID>
<UserPassword>admin</UserPassword>
</User>
</Customer>
```

Obtaining Support

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