Sentinel Cloud Run-time C Samples ReadMe

Introduction

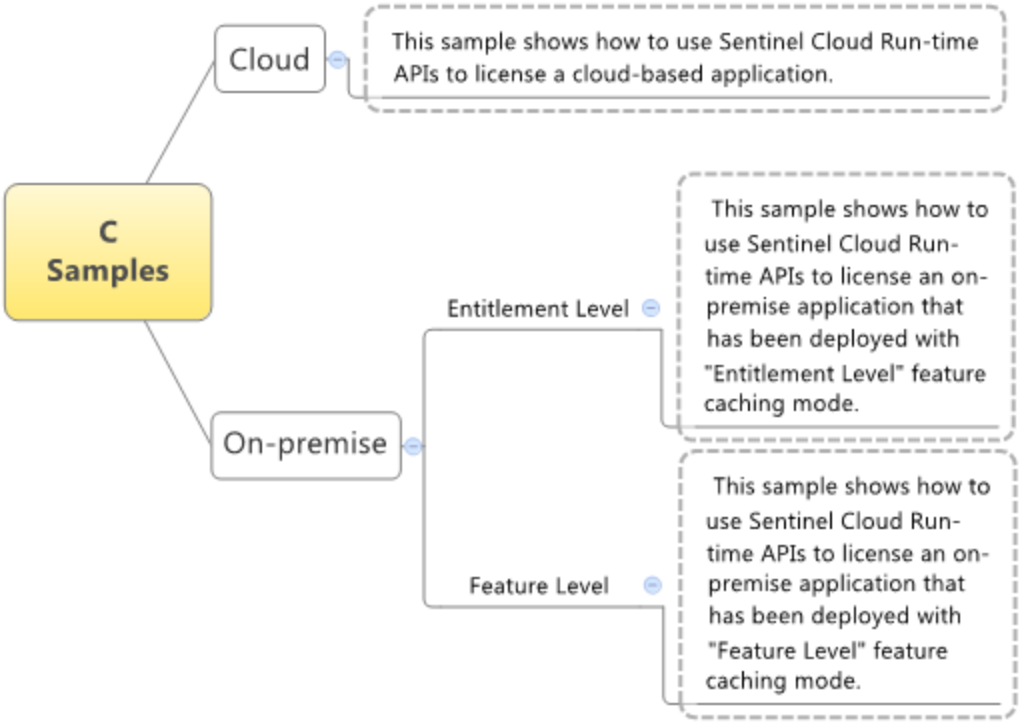
This document provides details of Run-time C samples offered by Sentinel® Cloud.

The samples cover the following stages of licensing:

Stage	Description
License Availability	Checks if a license can be granted to a user or not.
Requesting a License	Authorizes a user by requesting a license from the Cloud Connect.
Releasing a License	Releases the license acquired by the user.

Available Run-time C Samples

A set of console-based samples written in C programming language are available that demonstrate how to implement Sentinel Cloud Run-time API calls in an application. You can use the sample that best suits your deployment environment.



Prerequisites

This section contains information on what is required for using Run-time C samples.

Run-time SDK

Before you run the samples, you must have installed Run-time SDK.Here is a brief of the installed items you will be using for running C samples. For more information, see *Installation Guide*.

Directory	Contents
Configurations	Stores the client configuration file, *SentinelCloudRuntime.properties*, which contains configuration settings for executing Run-time APIs.
RunTimes/C SDK	Contains header files and library files for 32-bit and 64-bit platforms.
Samples/Runtime/C	Contains source code and workspace of C samples. Separate sample folders are available for **Cloud** and **On-Premise** deployments. **Windows** Each sample folder contains the following: ■ */APIDemo/APIDemo/src/apidemo.c* - Main file containing code for using Run-time APIs. ■ */APIDemo/APIDemo/APIDemo.vcproj* - A command line based demo application that demonstrates the Run-time API usage. ■ */APIDemo/APIDemo/include/apidemo.h* - Header file. ■ */APIDemo/APIDemo.sln* - Project solution file. **Linux** Each sample folder contains the following: ■ */APIDemo/APIDemo/src/apidemo.c* - Main file containing code for using Run-time APIs. ■ */APIDemo/APIDemo/APIDemo_x32.mak*- Project make file for 32-bit machine. ■ */APIDemo/APIDemo/APIDemo_x64.mak*- Project make file for 64-bit machine. ■ */APIDemo/APIDemo/include/apidemo.h* - Header file.
Redistributables	Contains components required for on-premise deployments: ■ **Windows**: *haspdinst.exe* ■ **Linux**: *aksusbd-*.rpm*, *aksusbd-*.deb*, *aksusbd-*.tar.gz*
Samples/Utilities/DotNet	Contains .NET utilities for fingerprint extraction and management. You will need these for on-premise deployments.  The **Utilities** folder is not available on Linux.

Compilers

The following table provides a list of supported compilers:

Operating System	Compiler
Windows (32-bit and 64-bit)	Microsoft Visual Studio  These samples have been created in Microsoft Visual Studio 2005.
Linux (32-bit and 64-bit)	GCC 4.1.2

Other Linux Specific Requirements

- make 3.8
- For Ubuntu, the *libuuid* library that can be downloaded by using the following command:

```
sudo apt-get install uuid-dev
```

- For CentOS, e2fsprogs-devel that can be installed by using the following command

```
yum install e2fsprogs-devel
```

Entitlement Availability

Before you run a sample, an entitlement for its deployment type should be created in EMS.

- Before running the **Cloud** sample, ensure that a Cloud entitlement has been created in EMS.
- Before running the **Entitlement Level** sample, ensure that an On-premise entitlement with feature caching mode as Entitlement level has been created in EMS.
- Before running the **Feature Level** sample, ensure that an On-premise entitlement with feature caching mode as Feature level has been created in EMS.

See *Quick Start Guide* for a quick overview on how to create entitlements in EMS.

Machine Registration for Running Entitlement Level and Feature Level Samples

For running the Entitlement Level sample, you must have registered machine fingerprint with the entitlement. For Feature Level sample, this step is optional.

You can use the utility available in the SDK installation folder for machine registration. See *Sentinel Cloud Fingerprint Management Utilities ReadMe* for more information.

Configuration Related Items

You will need the following items while configuring samples. These items are provided to you in e-mails from SafeNet:

- **YPSAddress**: Address of the Cloud Directory Services.
- **ClientAlias**: This is usually the vendor name provided in the vendor registration request file.

In addition to the above, you will also need **CA certificate bundle** that refers to the certificate store that Run-time uses for server certificate verification. You can download it from http://curl.haxx.se/ca/cacert.pem.

Configuring C Samples

Open the client configuration file and update the following properties:

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

DeploymentType	If you are running cloud sample, set its value to **Cloud**.
	`<add key="DeploymentType" value ="Cloud" />`
	If you are running Entitlement Level or Feature Level sample, set its value to **OnPremise**.
	`<add key="DeploymentType" value ="OnPremise" />`

ClientAlias	`<add key="ClientAlias" value="isv" />`
CAbundle	`<add key="CAbundle" value=".\cacert.pem" />`

Running C Samples

Windows

The steps for running C samples on Windows are:

1. Open *APIDemo.sln* in Microsoft Visual Studio.
2. In the *apidemo.c* file, update customer, user, feature details according to the values specified in EMS. Also provide your remarks in the vendorInfo string, for example, *Vendor Application Data*.
3. Build *APIDemo.sln*.

Linux

The make files are used to build C samples in 32-bit and 64-bit Linux environment, as explained below:

1. In the *apidemo.c* file, update customer, user, feature details according to the values specified in EMS. Also provide your remarks in the vendorInfo string, for example, *Vendor Application Data*.
2. Build demo executable by using following commands:
   - **For 32-bit**: `make -f APIDemo_x32.mak`.
   - **For 64-bit**: `make -f APIDemo_x64.mak`

If you are using GCC 4.6 or above as the default compiler, you need to add the "**-Wl,--no-as-needed**" flag to avoid compilation errors.

API Implementation in C Source Code

You can analyze the source code of samples to understand calling sequence and implementation of Run-time APIs. This section lists the order in which Run-time APIs have been implemented in samples.

Cloud	On Premise Entitlement Level Caching	On Premise Feature Level Caching
■ acquireLicenseClient ■ getInfo - with format set as Feature_Details ■ login - with details of feature, customer, and user ■ logout ■ releaseLicenseClient	■ acquireLicenseClient ■ transfer - with Detach action ■ getInfo - with format set as Feature_Details ■ login - with details of feature, customer, and user ■ logout ■ releaseLicenseClient	■ acquireLicenseClient ■ getInfo - with format set as Feature_Details ■ transfer - with Detach action ■ login with details of feature, customer, and user ■ logout ■ releaseLicenseClient

For details about the Run-time APIs, refer to the *Sentinel Cloud Run-time Guide*.

Obtaining Support

If you encounter a problem while installing, registering or operating this product, please make sure that you have read the documentation. If you cannot resolve the issue, contact your supplier or SafeNet Customer Support. SafeNet Customer Support operates 24 hours a day, 7 days a week. Your level of access to this service is governed by the support plan arrangements made between SafeNet and your organization. Please consult this support plan for further information about your entitlements, including the hours when telephone support is available to you.

Contact Method	Contact Information	
Address	SafeNet, Inc. 4690 Millennium Drive Belcamp, Maryland 21017, USA	
Phone	US	1-800-545-6608
	International	1-410-931-7520
Technical Support Customer Portal	https://serviceportal.safenet-inc.com Existing customers with a Technical Support Customer Portal account can log in to manage incidents, get the latest software upgrades, and access the SafeNet Knowledge Base	

http://www.safenet-inc.com/

Part Number 007-012139-001, Revision H

Software versions 3.5 and later

July 2014