Credit Reference Platform Gateway  
Installation Guide

V1.3

August 2022  
By Vincent Hung

# Change Log

|  |  |  |
| --- | --- | --- |
| Version | Author | Description |
| 1.0 | Vincent Hung | Initial Release |
| 1.1 | Jim Tse | Add Update email-templates |
| 1.1 | Jim Tse | Add License |
| 1.3 | Jim Tse | Add OpenJDK21 install, renew image |

# Purpose

This guide covers the installation for the Credit Reference Platform Gateway (CRP Gateway) version 1.0.x standalone web service. This standalone web service is the easiest installation for facilitate the functionalities on Credit Reference Platform (CRP) and suitable for developers/maintainers for development or production deployment.

# Preparation

Before installing please make sure you have a system running CentOS/RHEL 8 installed. Check:

* FirewallD allows port 443, ssh
* OpenJDK 21 is installed
* SELinux is diabled or permissive

Moreover, the following requirements are necessary to utilize all functions of CRP Gateway after installation:

* Accessible to Database server with SQL scripts executed
* Accessible to OAuth2 authentication server
* Accessible to CRP via ICLNet2

# Default System Properties (Variables)

|  |  |
| --- | --- |
| Name | Value |
| baseDir | <directory of the JAR application> |

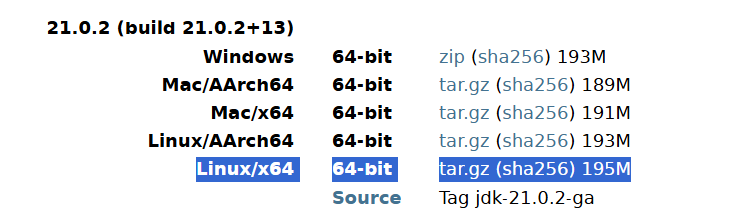
# OpenJDK21 install

Download java21 in

OpenJDK

**21.0.2 (build 21.0.2+13)**

**Linux/x64**



<https://jdk.java.net/archive/>

**or**

Oracle

x64 Compressed Archive

<https://www.oracle.com/hk/java/technologies/downloads/#java21>

### Installation Steps

**1. Create the Java 21 Installation Directory**

mkdir -p /opt/java21

**2. Extract the Java 21 Package**

**For OpenJDK:**

tar -xzf /openjdk-21.0.2\_linux-x64\_bin.tar.gz -C /opt/java21

**For Oracle JDK:**

tar -xzf /jdk-21\_linux-x64\_bin.tar.gz -C /opt/java21

**3. Identify the Exact Java Home Directory**

After extraction, check the exact directory structure:

ls -la /opt/java21

**4. Configure Environment Variables**

Edit the appropriate environment configuration file for your system:

**vi ~/.bash\_profile**

Add the following environment variables:

export JAVA\_HOME=/opt/java21/jdk-21.0.6

export PATH=$JAVA\_HOME/bin:$PATH

> **Note:** If you previously had Java 8 configured, locate and replace the existing JAVA\_HOME setting.

**5. Apply the New Configuration**

source the file:

source **~/.bash\_profile**

**6. Verify the Installation**

Confirm Java 21 is properly installed and configured:

**java -version**

You should see output indicating Java 21, similar to:

openjdk version "21.0.2" 2024-01-16

OpenJDK Runtime Environment (build 21.0.2+13-29)

OpenJDK 64-Bit Server VM (build 21.0.2+13-29, mixed mode, sharing)

# Installation

### Unzip the CRP Gateway Artifacts Archive

Retrieve the package crp-gateway-<version>-archive.tar.gz and place to /opt/.   
Unzip the contents to create the full path /opt/cdtech/crp-gateway

# cd /opt/   
# ls  
crp-gateway-<version>-archive.tar.gz  
# tar -xzvf crp-gateway-<version>-archive.tar.gz  
# ls  
cdtech crp-gateway-<version>-archive.tar.gz   
# chmod +x /opt/cdtech/crp-gateway/\*.sh

Inside the package includes the application standalone executable JAR and some necessary folders and scripts. For more information of the package remember to check the RELEASE-NOTES and CHANGELOG of your release.

### [For First Instance] Creating the Encryption Key in Local KeyStore for Secrets Encryption

# cd /opt/cdtech/crp-gateway  
# keytool -genseckey -alias master -keyalg AES -keysize 256 -storetype pkcs12 -keystore master.p12  
  
Enter keystore password:  
Re-enter new password:

\* **Remember** it is a **MUST** to store the *keystore* and *its password*, it will be required to be inputted when CRP Gateway starts, if the key/password is **lost**, the CRP Gateway will be required to be **re-installed and configured**.

# ls  
app-run.sh crp-gateway-<version>.jar master.p12

### [For Consequence Instances] Copying the Local KeyStore from First Instance for Secrets Encryption

Copy the master.p12 from the first installed instance.

### [For First Instance] Update email-templates

Go to

<http://newrelease.download/>

一張含有 文字, 螢幕擷取畫面, 字型, 網頁 的圖片

自動產生的描述

Download email-templates.zip

There are 4 files

dcr.receive.noti.etpl

pmds-pcl.receive.noti.etpl

pmds-wpcl.receive.noti.etpl

submission.error.noti.etpl (old)

Download new\_email-templates.zip

There are 1 file

submission.error.noti.etpl (new)

use new submission.error.noti.etpl to replace old one

and place the email-templates folder on the ${baseDir}(same place with crp-gateway-1.9.5.jar)

for example

一張含有 文字, 軟體, 字型, 多媒體軟體 的圖片

自動產生的描述

### [For First Instance] Set License

Get the License in email.

Upzip and License folder and place on ${baseDir}(same place with crp-gateway-1.9.5.jar)

For example,

一張含有 文字, 螢幕擷取畫面, 軟體, 多媒體軟體 的圖片

自動產生的描述

If there are any error when open crp, you can give the folder 744 right.

### Configuring the CRP Gateway for Application Startup

Execute the app-configure.sh and follow the instruction:

# cd /opt/cdtech/crp-gateway  
# sh app-run.sh configure  
>>> JAR\_NAME = ./crp-gateway-<version>.jar <<<  
>>> API\_NAME = crp-gateway-<version> <<<  
Please input the master keystore location [${baseDir}/master.p12] (Enter): ***<input>***  
Please input the master keystore type [pkcs12] (Enter): ***<input>***  
Please input the alias of the master key [master] (Enter): ***<input>***

Master KeyStore [<keystore-full-path>] Password: ***<input>\*2***  
16:59:35.479 [main] INFO com.gitlab.credit\_reference\_platform.crp.gateway.startup.CRPStartupConfiguration - Master secret key configured  
Please input the JDBC URL for database connection: ***<input>\*1***   
Please input the database username for CRP Gateway: ***<input>***  
Please input the database password for CRP Gateway: ***<input>***  
===================== Configurations Saved =====================

1. JDBC URL example: jdbc:sqlserver:// ec2-18-167-84-101.ap-east-1.compute.amazonaws.com:1433;databaseName=crpgateway;trustServerCertificate=true
2. jdbc:sqlserver://<host>:<port>;databaseName=<dbName>;trustServerCertificate=true
3. jdbc:mysql://host.docker.internal:3306/crpgateway?trustServerCertificate=true
4. jdbc:mysql://18.167.84.101:3306/crpgateway?trustServerCertificate=true

2) Master KeyStore password will not be stored and required to be input when starting the CRP Gateway

The above configurations will be stored in *${baseDir}/conf/crp-gateway.properties* for system startup.  
  
Sample of *crp-gateway.properties*:  
  
#CRP Gateway Startup Configuration, configured at 2022-08-05 10:52:56  
#Fri Aug 05 10:52:56 HKT 2022  
**spring.datasource.username**=<ENCRYPTED>wuGnDT42Y6+mxfBktDGiZQ\=\=</ENCRYPTED>  
**spring.datasource.driver-class-name**=com.microsoft.sqlserver.jdbc.SQLServerDriver  
**crp.system.keystore.master.type**=pkcs12  
**crp.system.keystore.master.key.alias**=master  
**spring.datasource.password**=<ENCRYPTED>WOTgH5/EV2XJEdh88swVmA\=\=</ENCRYPTED>  
**spring.jpa.properties.hibernate.dialect**=org.hibernate.dialect.SQLServer2008Dialect  
**crp.system.keystore.master.filename**=${baseDir}/../../demo-master.p12  
**spring.datasource.url**=jdbc\:sqlserver\://<host> \:<port>;databaseName\=<dbName>;trustServerCertificate\=true

1. Go /opt/cdtech/crp-gateway/conf/crp-gateway.properties

2. Add the following property:

crp.system.entity.name=<bank name>

# Starting and Stopping

Go to */opt/cdtech/crp-gateway* folder

## Start

# cd /opt/cdtech/crp-gateway  
# sh app-run.sh **start** *[JAVA\_OPTS]*>>> JAR\_NAME = ./crp-gateway-<version>.jar <<<  
>>> API\_NAME = crp-gateway-<version> <<<  
Master Keystore Password:  
>>> start ./crp-gateway-<version>.jar successed PID=<PID> <<<

## Stop

# cd /opt/cdtech/crp-gateway  
# ./app-run.sh **stop**

Remarks:  
The JAVA\_OPTS is optional for the application and the following command is an example

# sh app-run.sh start -Dspring.profiles.active=scheduler -Dlogging.level.com.gitlab.credit\_reference\_platform=TRACE -Dfeign.client.config.default.loggerLevel=FULL

| Properties Key | Description |
| --- | --- |
| spring.profiles.active | The activated profile(s) to be configured during application start, multiple profiles are allowed with separated by comma(,)  Available options:   * scheduler * distributed |
| logging.level.<packageName> | The logging level for the Classes with package starting with <packageName>  Available values (from lowest):   * TRACE * DEBUG * INFO * WARN * ERROR |
| feign.client.config.default.loggerLevel | The logging details of the FeignClient when sending requests to CRP.  Available values:   * FULL |

# Health Check

Execute the following curl commands to know the CRP Gateway is running and accepting requests:

# curl –insecure https://<host>/actuator/health  
{“status”:”UP”,”components”:{…}}

The application status is specified is the beginning of the response, with statuses:

* UP: all the components are running
* DOWN: some components is not ready, i.e. database connection

# System Logs

The system logs is located under *${baseDir}/log*. The logs will be rotated by date, and the log filename of today would be *crp-gateway.log*

Name

crp.system.entity.name