Oracle Hospitality Payment Interface

Installation and Reference Guide

Release 20.4
F95667-01
June 2024

Oracle Hospitality Payment Interface Installation and Reference Guide Release 20.4

F95667-01

Contents

Preface

Purpose

This document describes new features and functionality in the Oracle Payment Interface (OPI) that are common to OPERA/Suite8 and the Cruise Shipboard Property Management System (SPMS). It is a supplement to the OPI installation guides that already exist for each of those products. It will not repeat the installation steps covered in those documents, but rather serves as a reference guide that covers, in more detail, the utilities and functionality that can be used as part of installation, configuration, and troubleshooting.

Audience

This document is intended for installers of the OPI.

Customer Support

To contact Oracle Customer Support, access the Customer Support Portal at the following URL:

https://iccp.custhelp.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at

http://docs.oracle.com/en/industries/hospitality/

Table 1 Revision History

Date	Description
June 2024	• Initial Publication

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Pre-Installation Steps

IF UPGRADING OPI, YOU MUST READ THE UPGRADING THE OPI SECTION FIRST.

Databases

- Oracle Payment Interface no longer includes MySQL as part of the installer from OPI 6.2 and higher, as it currently supports multiple database types.
- You need the database to hold the OPI configuration and audit event data. However, the database must be installed separately prior to installing the OPI as the database credentials created during the DB is required during the OPI installation shield.
- Root access to the database is required during the OPI installation to create a dedicated OPI database user. The OPI database user has less privileges than the Root user, and is used for OPI tasks once the installation is complete.

Supported Database Types and Operating Systems

The Oracle Payment Interface Installer release 20.4 supports the following database connections:

- MySQL Database 5.7 and 8.0

  See Appendix A: Migrating MySQL Database for more information

- Oracle Database 11g / 12c / 19c

> **NOTE:**
>
> During installation, OPI creates a database schema. OPI does not override the period of time. This database schema remains valid because the schema expiration date is already defined by existing policies of the environment where the database is installed.
>
> By default, MySQL does not define an expiration date for a schema. Oracle Database defines an expiration date of six months after creation.
>
> Be aware that if the schema password expires and OPI is subsequently unable to read from or write to the database, service interruptions should be expected.

- The Oracle Payment Interface release 20.4 is compatible with the following operating systems:
  - Microsoft Windows 10 Professional
  - Microsoft Windows 10 Enterprise
  - Microsoft Windows 11 Professional
  - Microsoft Windows 11 Enterprise
  - Microsoft Windows Server 2012 R2
  - Microsoft Windows Server 2016
  - Microsoft Windows Server 2019
  - Microsoft Windows Server 2022

Granting Permission in MySQL

A typical MySQL installation will not allow a connection by IP address or hostname. Therefore, the default Name/IP value should be set as localhost during the OPI installation. If it cannot be localhost (for example, when the database is installed on another computer), the “root” user needs to be given privileges so the database server accepts the connection when the IP address is entered.

1. Connect to the MYSQL Database as the “root” user.
2. Execute the following statements to create an additional “root” user to connect from a host other than localhost.

   MySQL5.7

   GRANT ALL PRIVILEGES ON *.* TO 'root'@''<hostname_or_lan_ip_address>' IDENTIFIED BY '<root_password>' WITH GRANT OPTION;

   Where <hostname_or_lan_ip_address> is the hostname or ip address you want to be able to connect to the database via, and <root_password> is the root user password.

   For more information, refer to the MySQL documentation for your version;

   https://dev.mysql.com/doc/mysql-installation-excerpt/5.7/en/mysql-installer-workflow-server.html

   MySQL8.0

   CREAT USER 'root'@'<hostname_or_lan_ip_address>' IDENTIFIED BY "<root_password>";

   GRANT ALL PRIVILEGES ON *.* TO 'root'@'<hostname_or_lan_ip_address>’ WITH GRANT OPTION;

   Where <hostname_or_lan_ip_address> is the hostname or ip address you want to be able to connect to the database via, and <root_password> is the root user password.

> **NOTE:**
>
> You can also add additional users during the MySQL installation process for MySQL5.7 and 8.0.

For more information, refer to the MySQL documentation for your version;
https://dev.mysql.com/doc/mysql-installation-excerpt/8.0/en/mysql-installer-workflow-server.html

Installation Requirements

Complete the following tasks before installing:

- OPI requires 64bit Operating System only.
- OPI upgrade functionality supports:
  - Upgrading OPI 19.1 (include patch releases) to OPI 20.4
  - Upgrading OPI 20.1 (include patch releases) to OPI 20.4
  - Upgrading OPI 20.2 (include patch releases) to OPI 20.4
  - Upgrading OPI 20.3 (include patch releases) to OPI 20.4
- Oracle Payment Interface requires at least 6 GB of free disk space.
- You must install OPI as a System Administrator.
- Ensure that the memory size contains at least 1024 MB of free space exclusively for OPI to use.

During the installation, confirm the following:

- Merchant ID’s
- Payment code for OPERA/Suite8 PMS
- Payment Department code for SPMS
- IP address of the OPI Server
- The machine running the OPI Service must have a static IP Address
- The machine name running the OPI Service and IFC8 must not contain any special characters
- If there is an existing database installed, the root password is required
- Workstation IDs and IPs that integrate with the PIN pad

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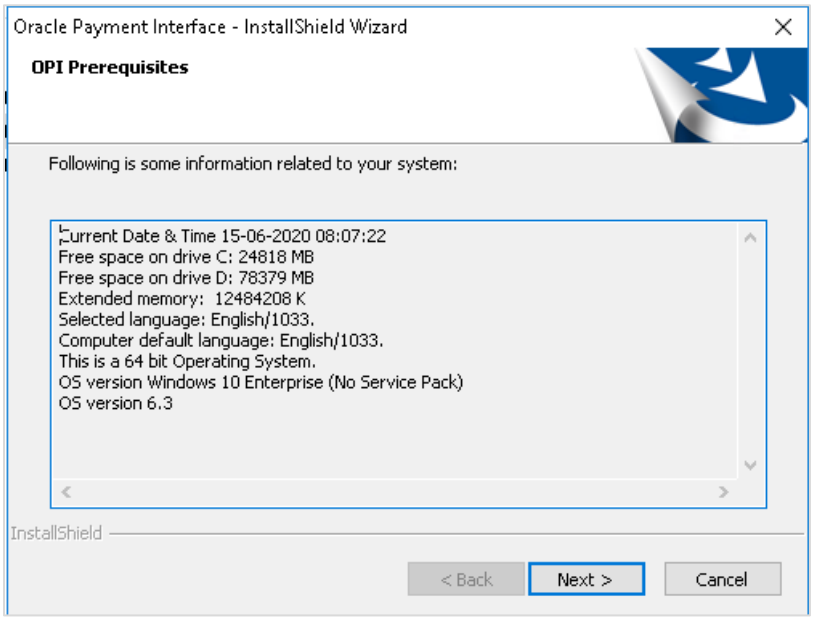
OPI Complete Installation

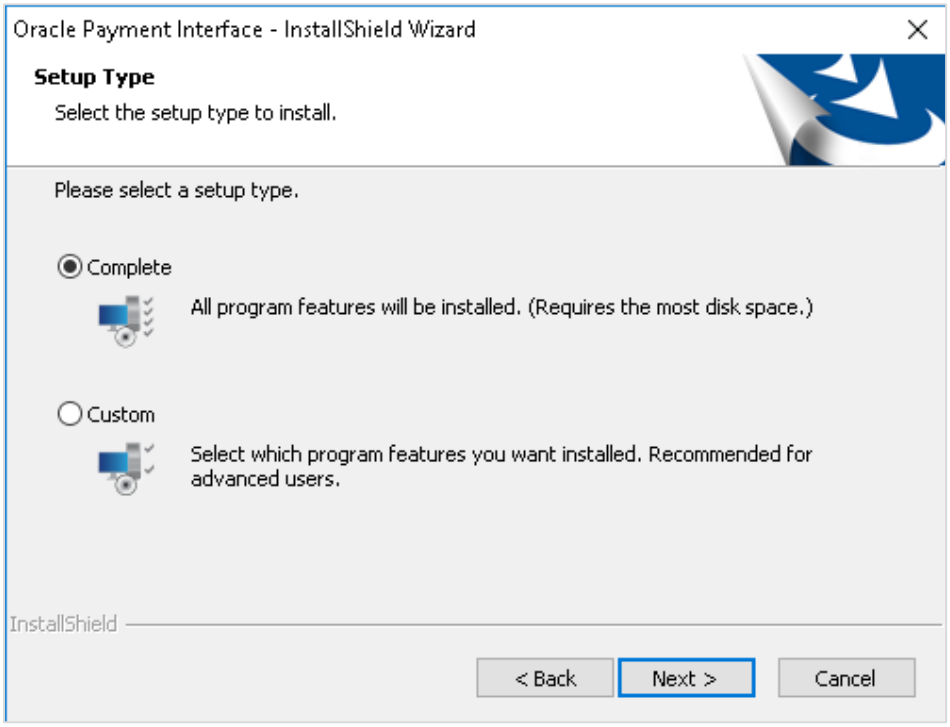
1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an installation.
2. Select your language from the drop-down list, and click **OK**.
3. Click **Next** twice.
4. Ensure all the prerequisites for the OPI installation are met.



5. Select either the **Complete** or **Custom** installation option:

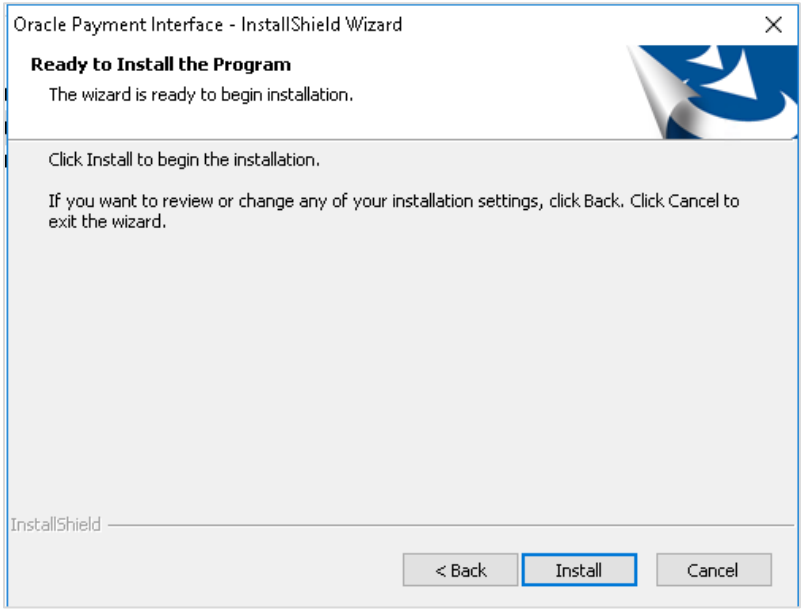
- **Complete**: Installs the OPI Service Application, OPI Configuration Tools and Deploy the OPI database schema during the installation process.
- **Custom**: Allows installation of only the modules selected. For example, if you want to install the OPI Service Application on one host and the Configuration Tools on a different host, you can run the installer on both machines, with only the relevant components selected for each machine.
  - Database Schema
  - OPI Services
  - Configuration Tool
- Because the OPI database schema is deployed via network connection, deployment can also be included on one of these installations, or the installer can run third time on another host to deploy only the database schema.

The steps below cover Complete Installation. If you are installing the OPI components to different computers, see the OPI Custom Installation section.



6. Click **Change** to amend the installation drive or path, if required and click **Next**.
7. Click **Install** to begin the installation.

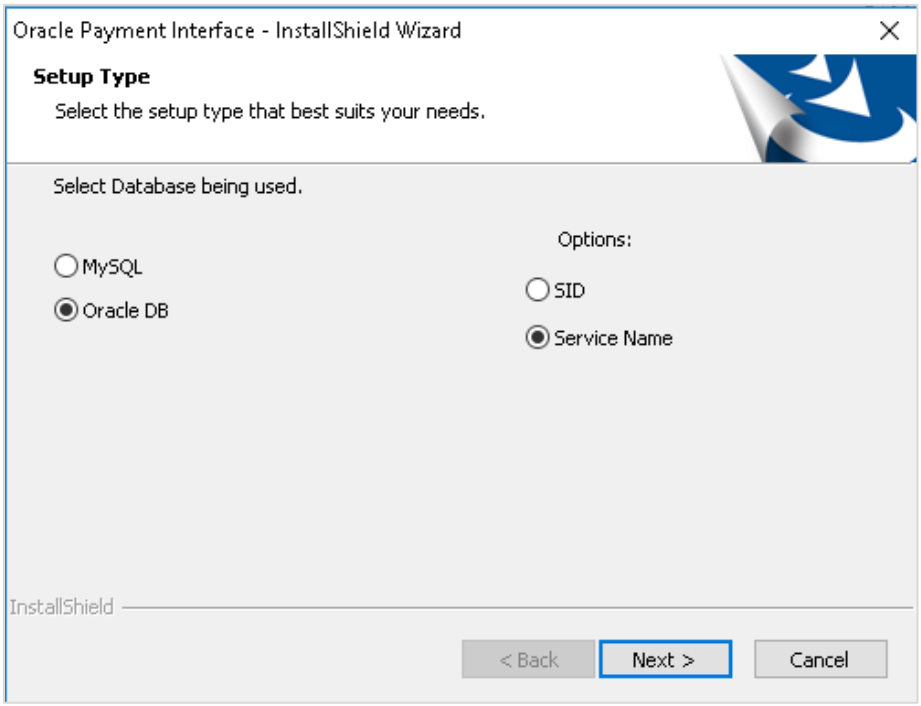
   When the file transfer is finished, Setup prompts for the next set of configuration settings.



8. Select your Database type:

- MySQL

- Oracle DB



9. Enter the relevant connection details for your database type. Details are provided by the individual who installed or configured the database software.

> **NOTE:**
>
> OPI uses the string OPIDB as a tablespace name, so OPIDB should not be used in the installation path or service names/IDs of any of the databases. Otherwise, conflicts may occur and the installation is likely to fail.

MySQL

- **Name/IP**: The Hostname or IP Address used for communication to the database. If you are using MySQL, then this can be left as localhost as the default value. If you cannot use localhost for the Name/IP field (because you have installed the database schema on another computer), then you should run some commands manually on the MySQL database before proceeding. See the Granting Permission in MySQL section for instructions.
- **Port #**: The Port number used for communication to the database

Oracle DB

SID

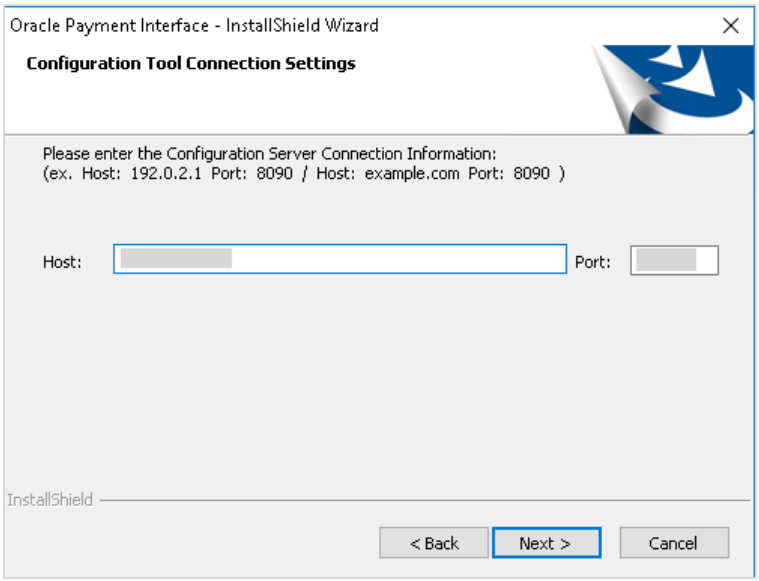
  - **Name/IP**: The Hostname or IP Address used for communication to the database.
  - **Port #**: The Port number used for communication to the database.
  - **SID**: The unique name that uniquely identifies the Oracle database.

Service Name

- **Name/IP**: The Hostname or IP Address used for communication to the database.
- **Port #**: The Port number used for communication to the database.
- **Service**: The TNS alias used to connect to the Oracle database.

10. Confirm the database admin user used to connect to the database. The database admin user is used to create an OPI database user, which is used once the installation completes.
11. Enter the username and password to create a new database user account. If the username already exists in the database, you are prompted to select a different username.
    a. When creating the username for the database, the installer allows only alphanumeric characters and should start only with an alphabetic character, NOT a number.
    b. Enter a password according to the requirements specified.

    The installer attempts to connect to the database using the admin credentials provided and creates the OPI database user.
12. Enter the username and password to create a Super User System Admin level account that is used for configuring and maintaining the system.
13. Enter the **Host** and **Port**.



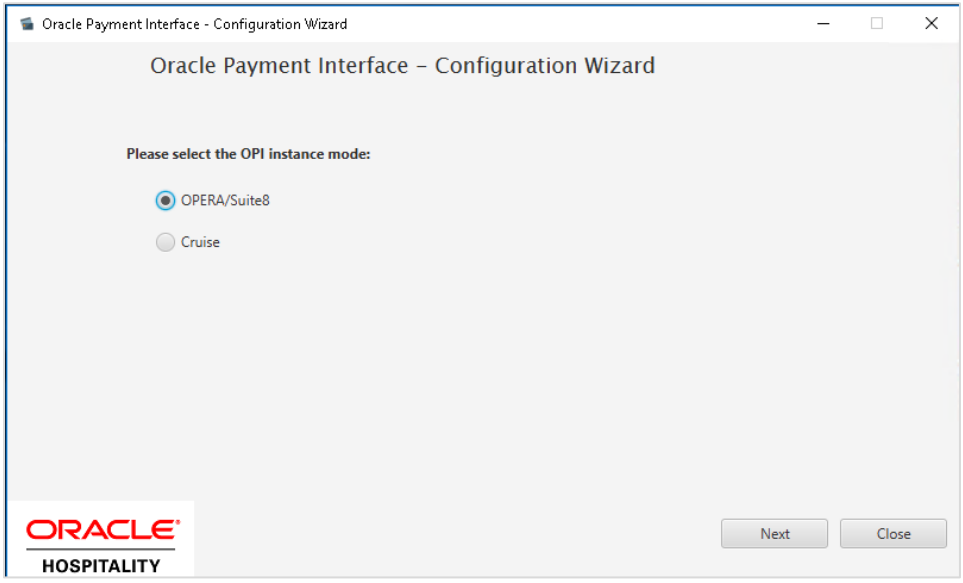
NOTE:

In the previous step you are not configuring the port the service will listen on. Instead, it is prompting for the details on how to connect.

- The IP will depend on where the OPI Config Service is installed. If you are performing a complete installation, this can be left as the localhost address.
- The default port is 8090.

14. Set and confirm the passphrase value.

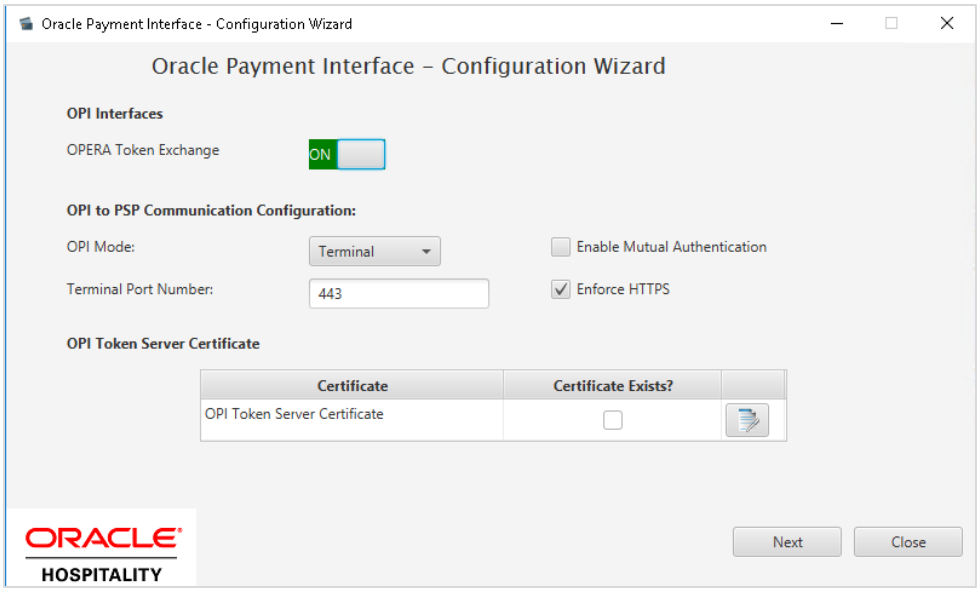
    If the details entered for the connection to the **OPI Config Service** are correct, then the OPI installer launches the configuration wizard.

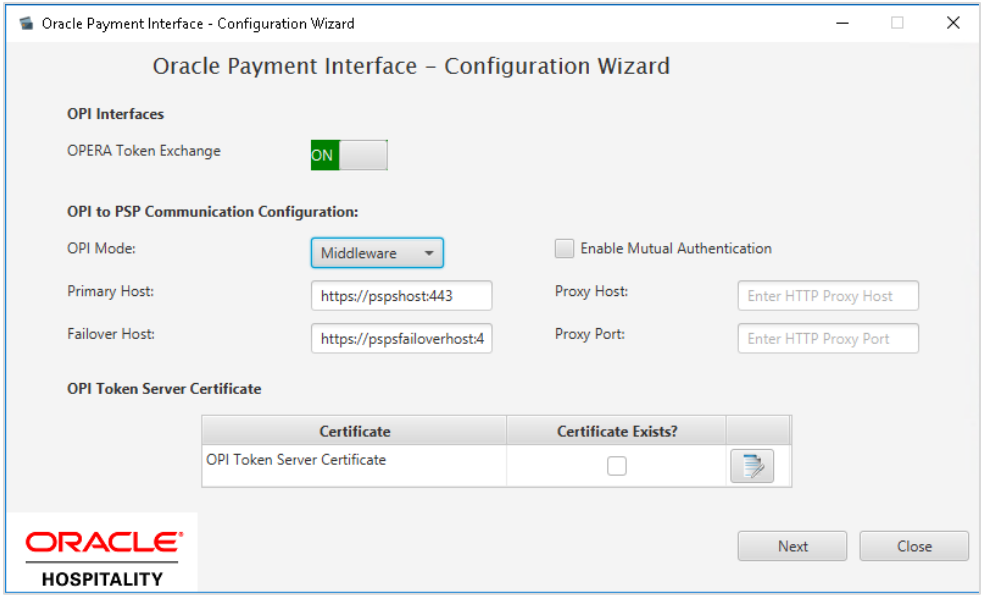


15. Select the OPI instance mode for Property Management System (PMS) merchants as **OPERA/Suite8** or **Cruise**.

    On the **OPI Interface** screen, the configuration screens displayed are same as when the configuration wizard is launched manually.
    (:\OraclePaymentInterface\v20.4\Config\LaunchWizard.bat)

16. Configure settings as required. For more details on how to use configuration wizard and configuration tool refer to the Configuration Settings section.





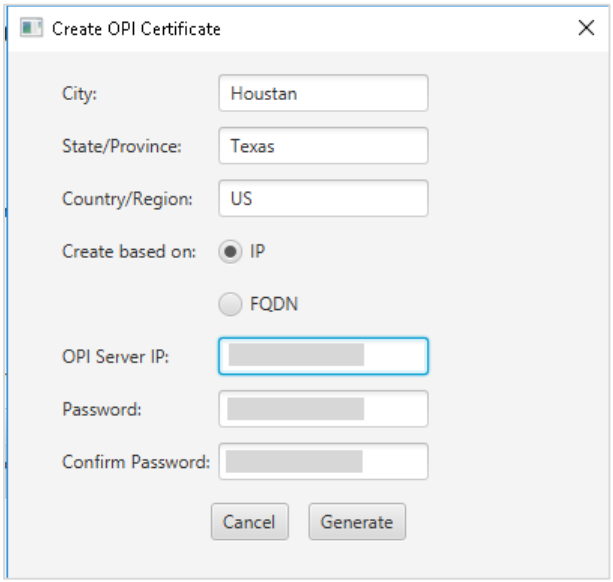
17. **OPERA Token Exchange**: This option is enabled by default for all OPERA token exchange services.

18. Select the **OPI Mode** either as Middleware or Terminal.

- **Middleware**: Fill in the primary host connection information and the failover Host information (if provided).
- **Terminal**: Select correct Port. If using Mutual Authentication, see the Mutual Authentication section for more details.

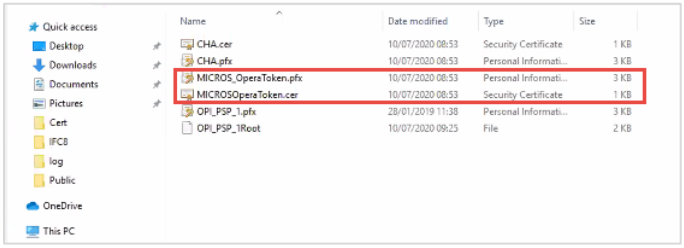
> **NOTE:**
>
> For Terminal Mode setup, special characters including "_" ,"|", and "=" cannot be used in the CHAINCODE or PROPERTYCODE. This will cause the EOD to fail in OPI.

19. **Enable Mutual Authentication**: Enable this option only if the PSP requests two way authentication for financial transactions and has provided the certificates and passwords for it.
20. **Terminal Port Number**: This is the port number for PSP devices.
21. **Enforce HTTPS**: This is enabled by default for all installations.
22. **OPI Token Server Certificate**: This is used to create OPI token server certificate details by providing the necessary details.



- Enter City, State/Province, Country/Region, Create based on IP or FQDN, OPI Server IP, Password and Confirm Password.
- Click **Generate** to continue.

  This process will generate the MICROS_OPERAToken.pfx and MICROSOPERAToken.cer files in the following folder: **\OraclePaymentInterface\v20.4\Services\OPI\key**



23. Click **Next**. The Merchant configuration screen appears.

24. Once the merchant configuration is complete, the installer prompts you to reboot the host machine. If it is not practical to reboot the host machine, you must start the **OPI Service** manually.

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OPI Custom Installation

Custom Installation

OPI has three components. These components can be installed on one computer, or separately on different computers.

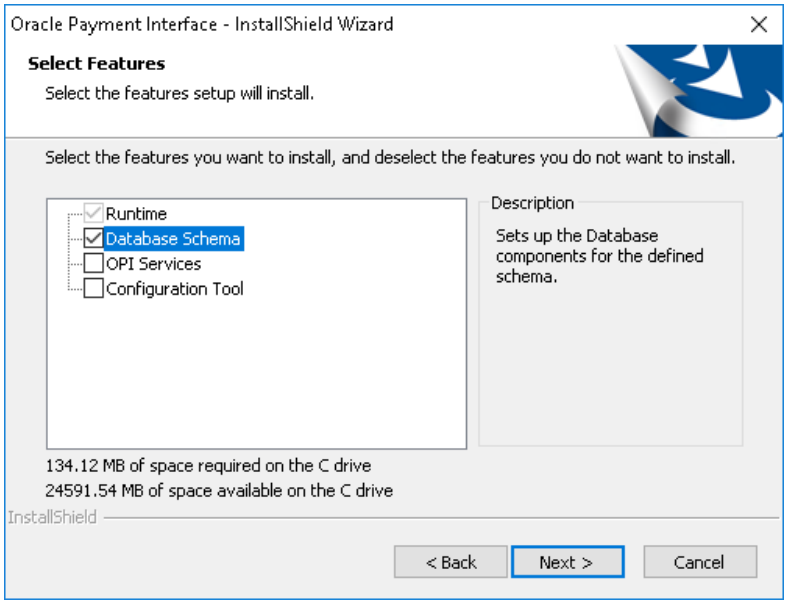
The correct order (required) for a custom install is:

1. **Database Schema**
2. **OPI Services**: must be able to communicate to the Schema computer during install.
3. **Configuration Tool**: must be able to communicate to Schema and OPI services computers during install.

Part 1: Database Schema

Installs the OPI Utility Service and database schema.

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an installation.
2. Select your language from the drop-down list, and click **OK**.
3. Click **Next** twice.
4. On the **Setup Type** screen, click **Custom**, and then click **Next**.
5. Choose a destination, and click **Next**.



6. On the **Select Features** screen, select **Database Schema**, and then click **Next**.

> **NOTE:**
>
> The database must already be installed on this computer.

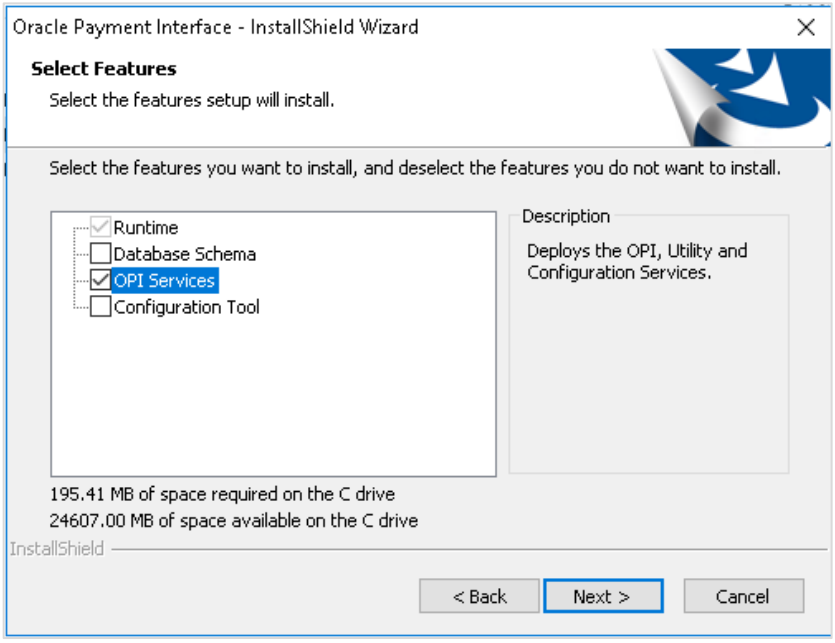
7. Click **Install**.
8. Select your database type, and click **Next**.

   The following steps use MYSQL as an example.
9. **Name/IP**: Leave as localhost, if the OPI database is installed on this computer. Otherwise, use the IP address of the computer where the database is installed.
10. **Port**: Accept the default Port # of 3306 (for MySQL), and click **Next**.
11. **DBA User**
    a. **Login ID**: root (for MySQL)
    b. **Password**: Enter the root user password, and click **Next**.
12. **Database User Credentials**
    a. **User Name**: When creating the username for the database, the installer allows only alphanumeric characters and should start only with an alphabetic character, NOT a number.
    b. **Password**: Enter a password according to the requirements specified, confirm it, and click **Next**.
13. Click **Finish** and reboot the system.

Part 2: OPI Services

This will install the OPI service, the OPI Config service, and the OPI Utility service.

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an installation.
2. Select your language from the drop-down list, and click **OK**.
3. Click **Next** twice.
4. On the **Setup Type** screen, select **Custom**, and then click **Next**.
5. Choose a destination, and click **Next**.

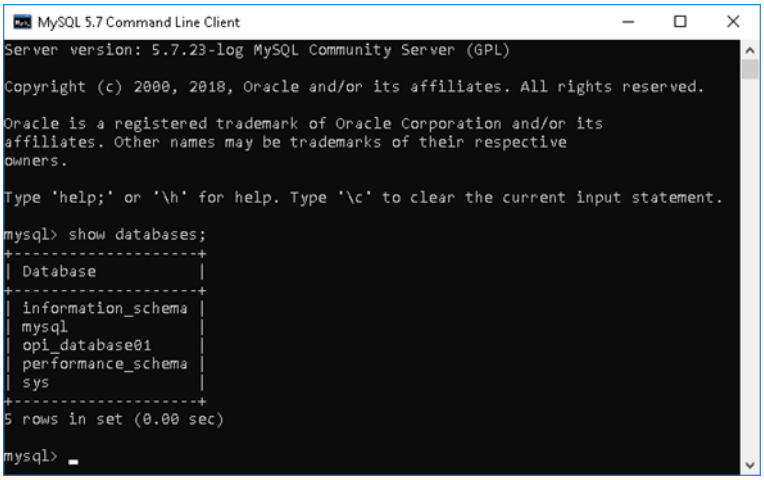


6. On the **Select Features** screen, select only **OPI Services**, and then click **Next**.
7. Click **Install**.
8. Select the database type, and click **Next**.
9. **Name/IP**: Enter the IP address of the computer where the OPI database/schema is installed.

> **NOTE:**
>
> If you cannot use localhost for the Name/IP field (because you have installed the database schema on another computer), then you should run some commands manually on the MySQL database before proceeding. See the Granting Permission in MySQL section for instructions

10. **Port #**: Accept 3306 (for MySQL), and then click **Next**.

11. On the **Database Server Login** screen, enter the name and password for the DBA user of the OPI database.
    a. **Login ID**: root (for MySQL)
    b. **Password**: Enter the root user's password.
12. On the **Database Name** screen, enter the Database name, and click **Next**. The database name will typically be **opi_database01**.
13. To verify the database name, connect to MySQL and run the show databases; command, as shown below.



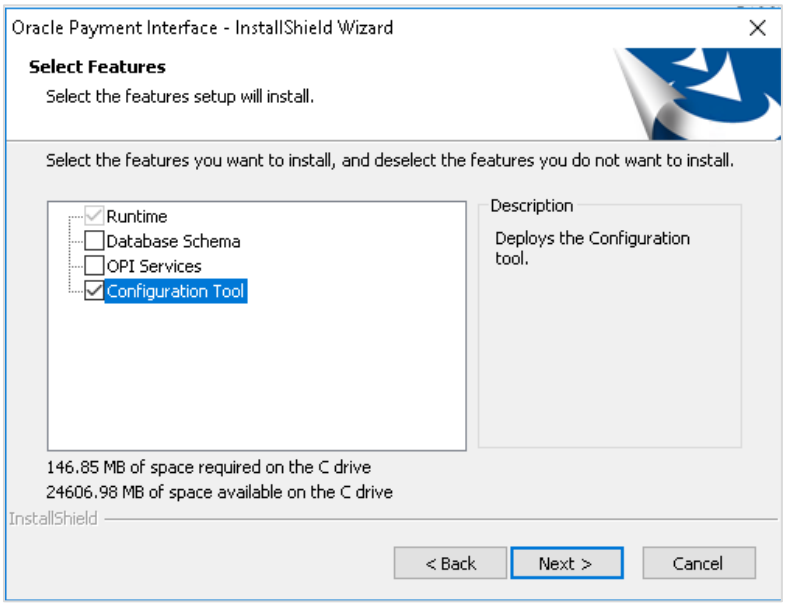
14. On the **Configuration Tool Superuser Credentials** screen:
    a. **User Name**: Enter the user name that will be used to access OPI applications as a super user.
    b. **Password**: Enter the password for the super user, confirm the password, and then click **Next**.
15. **Port**: Leave port set to 8090, and click **Next**.
16. On the **Configuration Tool Passphrase** screen, enter and confirm a passphrase for the configuration tool, and click **Next**.
17. Click **Finish** to allow reboot.

Part 3: Configuration Tool

This installs the OPI Utility service and OPI configurator.

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and **select Run as Administrator** to perform an installation.
2. Select your language from the drop-down list, and click **OK**.
3. Click **Next** twice.
4. On **Setup Type** screen, select **Custom**, and then click **Next**.

5. Choose a destination, and click **Next**.



6. On the **Select Features** screen, select only **Configuration Tool**, and then click **Next**.

7. Click **Install**.

8. On the **Logon** screen, enter the configuration tool super user name and password, and click **Next**.

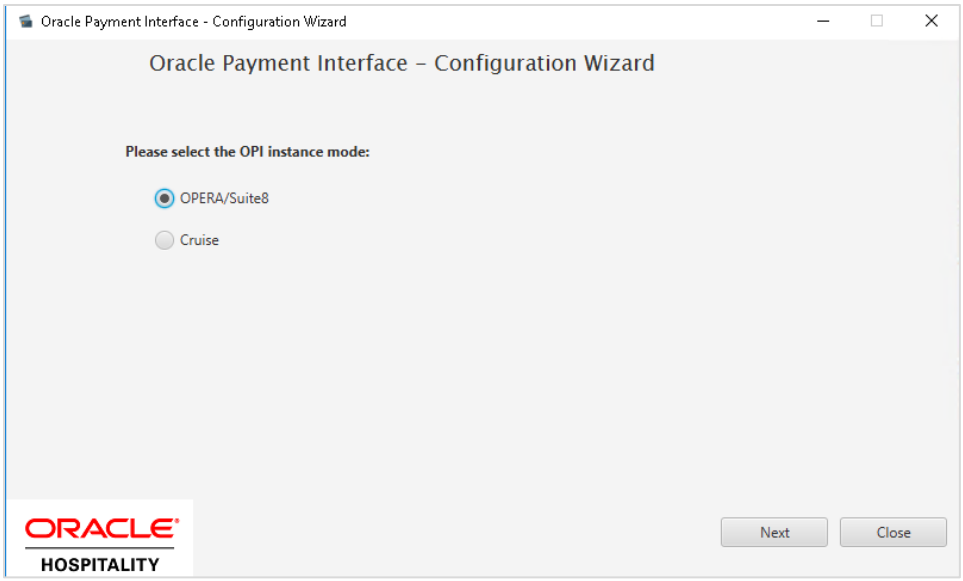
9. On the **Configuration Tool Connection Settings** screen, enter the Host and Port information, and click **Next**.

    a. **Host**: Enter the IP address of the computer where the OPI Config Service is installed. This will be the computer where you have selected “OPI Services” to be installed.

    b. **Port**: 8090

10. Enter and confirm the Configuration Tool Passphrase, and then click **Next**.

    If the details entered for the connection to the **OPI Config Service** are correct, then the OPI installer will launch the configuration wizard.



11. Select the OPI instance mode for PMS merchants as **OPERA/Suite8** or **Cruise**.

    On the **OPI Interface** screen, the configuration screens displayed are same when the configuration wizard is launched manually.
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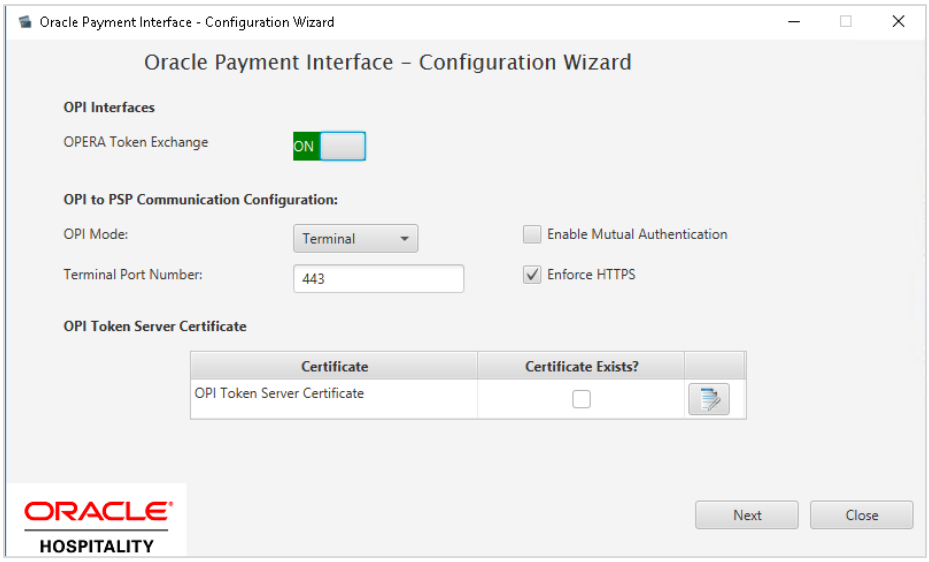
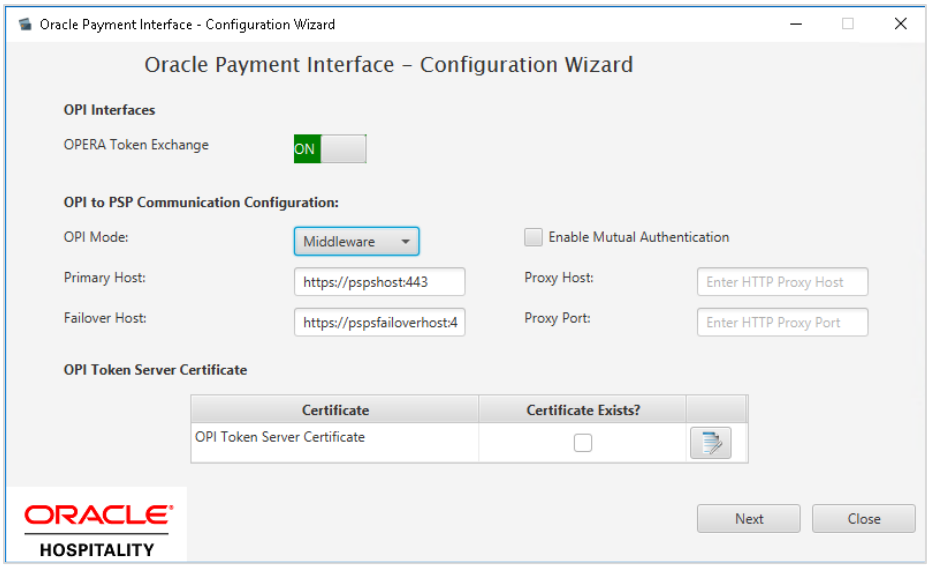
12. Configure settings as required. For more details on how to use configuration wizard and configuration tool, refer to the Configuration Settings section.





13. **OPERA Token Exchange**: This option is enabled by default for all OPERA token exchange services.

14. Select the **OPI Mode** either as Middleware or Terminal.

- **Middleware**: Fill in the primary host connection information and the failover Host information (if provided).
- **Terminal**: Select the correct Port. If using Mutual Authentication, see the Mutual Authentication section for more details.

> **NOTE:**
>
> For Terminal Mode setup, special characters including "_" ,"|", and "=" cannot be used in the CHAINCODE or PROPERTYCODE. This will cause the EOD to fail in OPI.

15. **Enable Mutual Authentication**: Enable this option only if the PSP requests two way authentication for financial transactions and has provided the certificates and passwords for it.
16. **Terminal Port Number**: This is the port number for PSP devices.
17. **Enforce HTTPS**: This is enabled by default for all installations.
18. **Terminal Port Number**: This is the port number for PSP devices.
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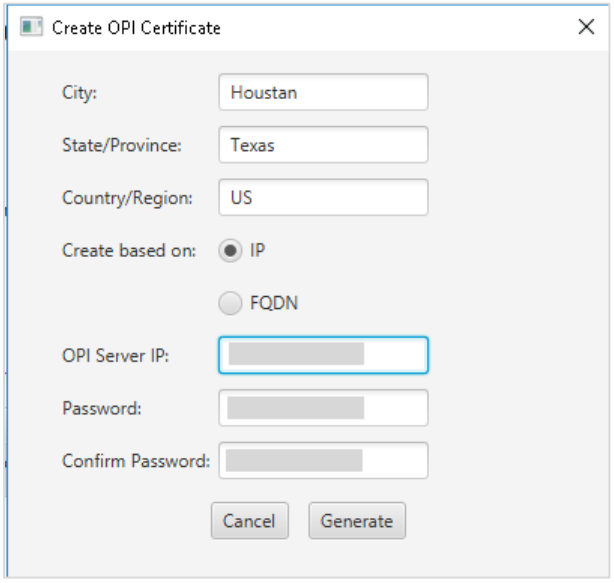
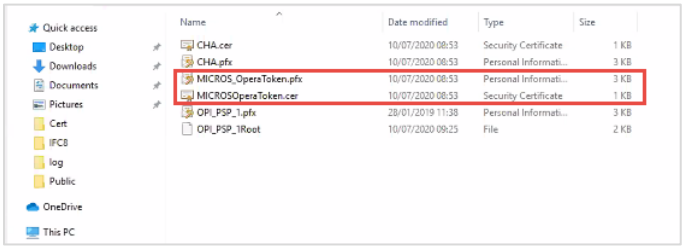


- Enter City, State/Province, Country/Region, Create based on IP or FQDN, OPI Server IP, Password and Confirm Password.
- Click **Generate** to continue.

  This process will generate the MICROS_OPERAToken.pfx and MICROSOPERAToken.cer files in the following folder: **\OraclePaymentInterface\v20.4\Services\OPI\key**



20. Click **Next**. The Merchant configuration screen appears.
21. Once the merchant configuration is complete, the installer prompts you to reboot the host machine. If it is not practical to reboot the host machine, you must start the **OPI Service** manually.

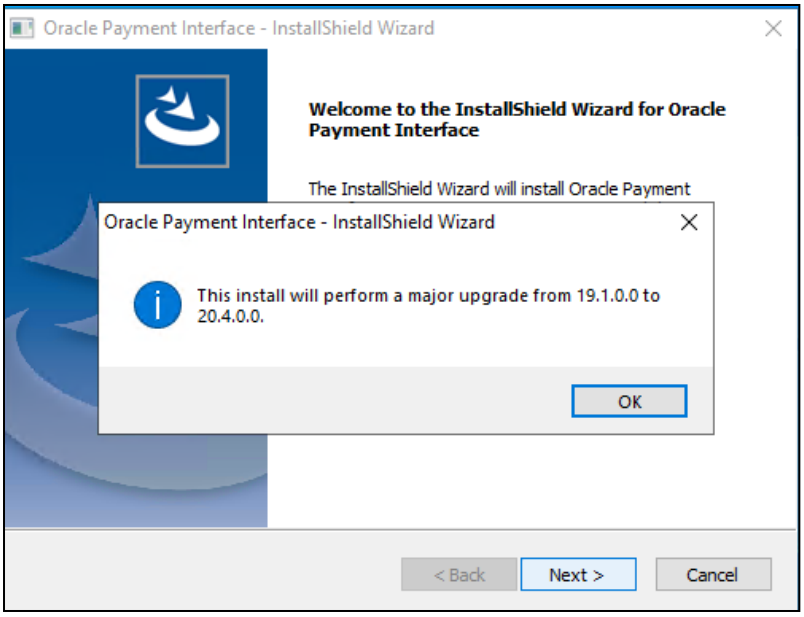
4 Upgrading the OPI

VERY IMPORTANT: Read and follow the upgrade directions.

> **NOTE:**
>
> - OPI upgrade functionality supports:
>   - Upgrading OPI 19.1 (include patch releases) to OPI 20.4
>   - Upgrading OPI 20.1 (include patch releases) to OPI 20.4
>   - Upgrading OPI 20.2 (include patch releases) to OPI 20.4
>   - Upgrading OPI 20.3 (include patch releases) to OPI 20.4

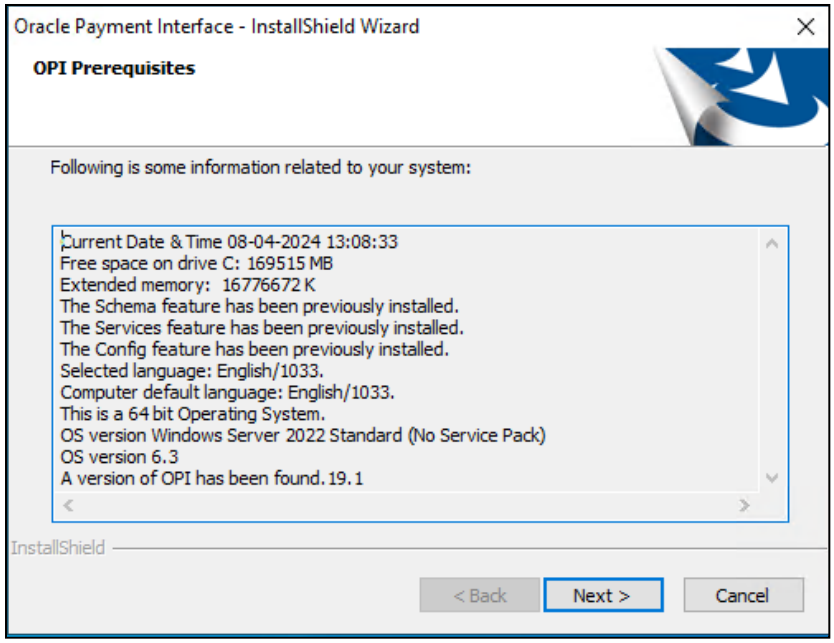
Upgrading OPI 19.1.0.0 to 20.4.0.0

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an upgrade.
2. Select your language from the drop-down list, and click **OK**.
3. Click **Next**.
4. Click **OK**.



5. Click **Next**.

   Ensure all the prerequisites for the OPI installation are met.



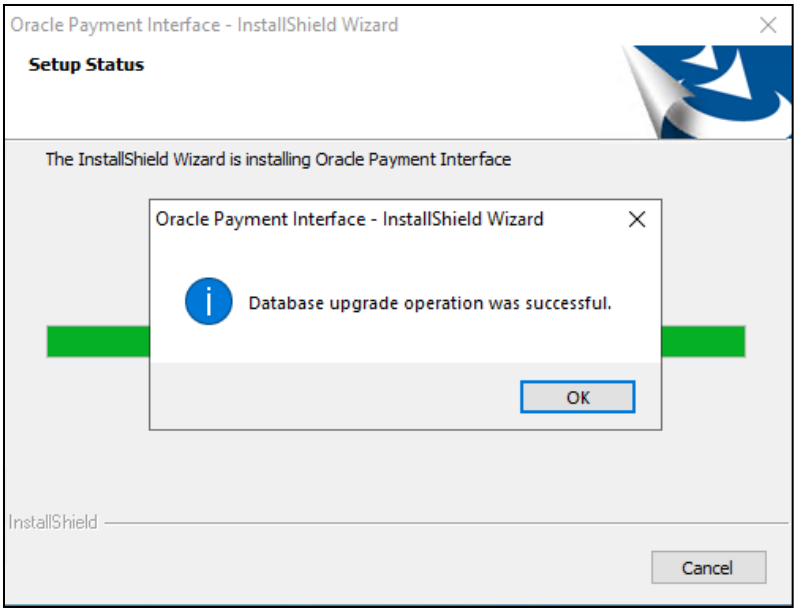
6. Choose a Destination Location. Accept the default installation location or click **Change**… to choose a different location.

7. Click **Next**.

   The **Ready to Install the Program** screen appears.

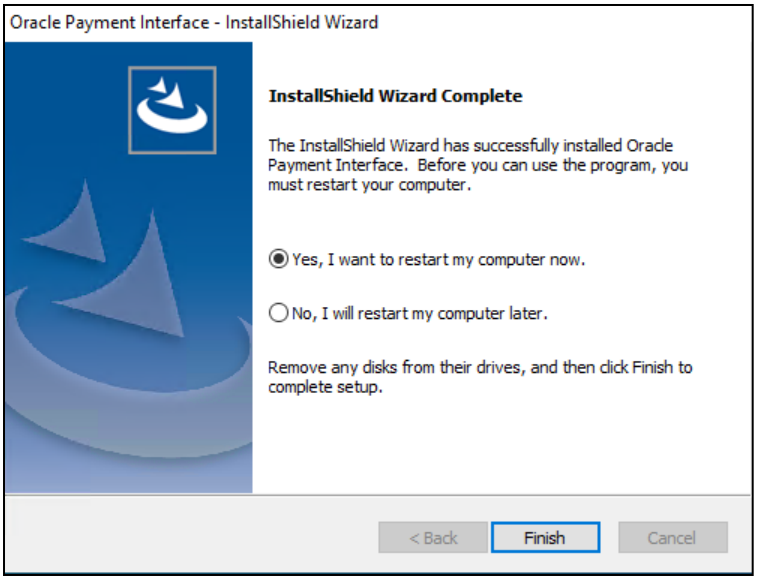
8. Click **Install** to begin the installation.

9. Click **OK**.



10. Enter the **Host** and **Port** that should be used to connect to the OPI Config Service for the Merchant Configuration.

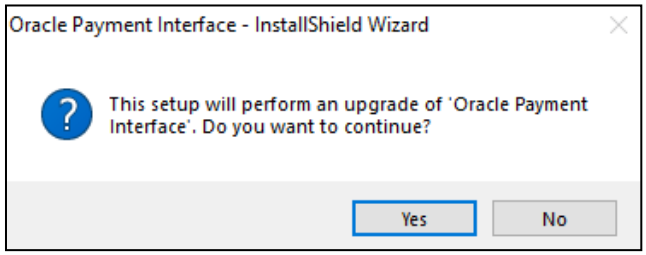
11. Once the installation is complete, the installer will prompt for a reboot of the host machine.



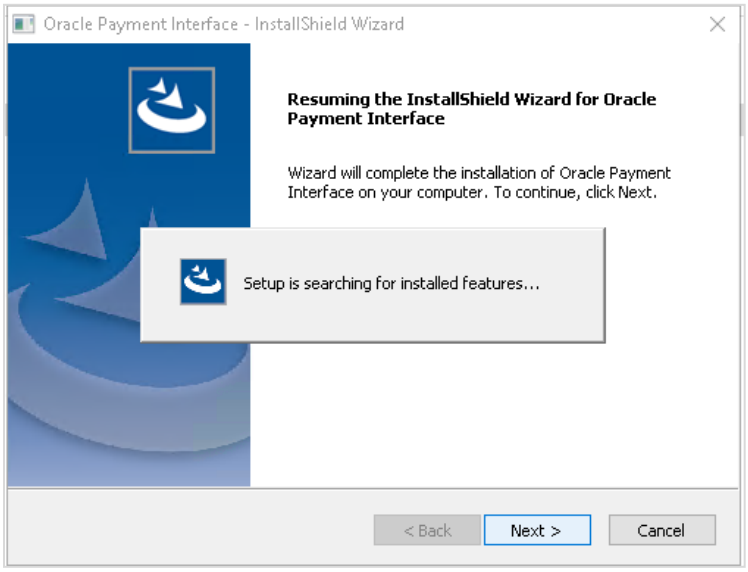
12. Click **Finish**.

Upgrading OPI 20.1.0.0 to 20.4.0.0

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an upgrade.

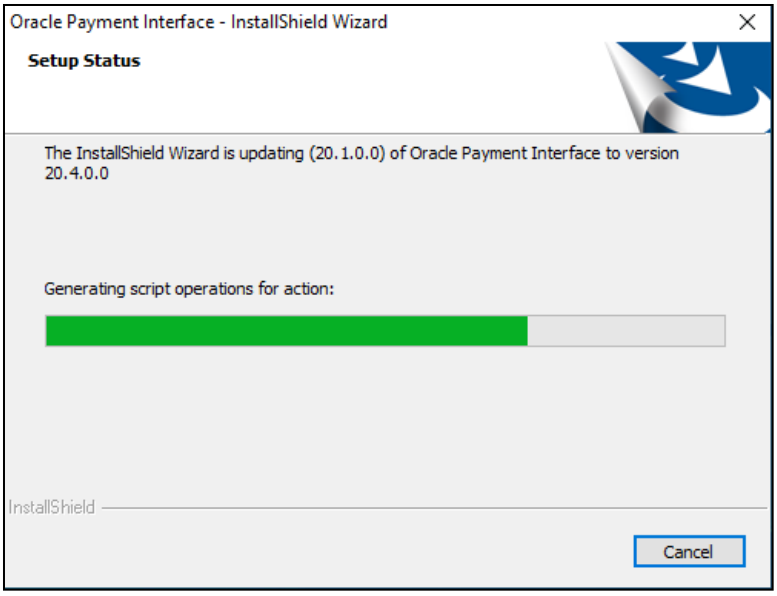


2. Click **Yes**.



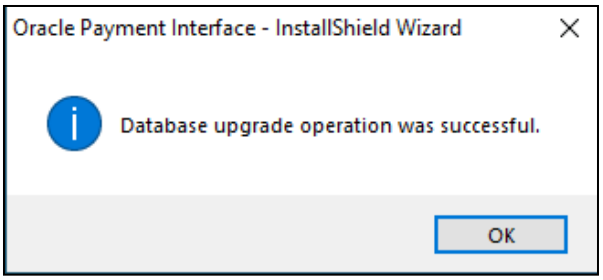
3. Click **Next**.

   Setup is searching for installed features.

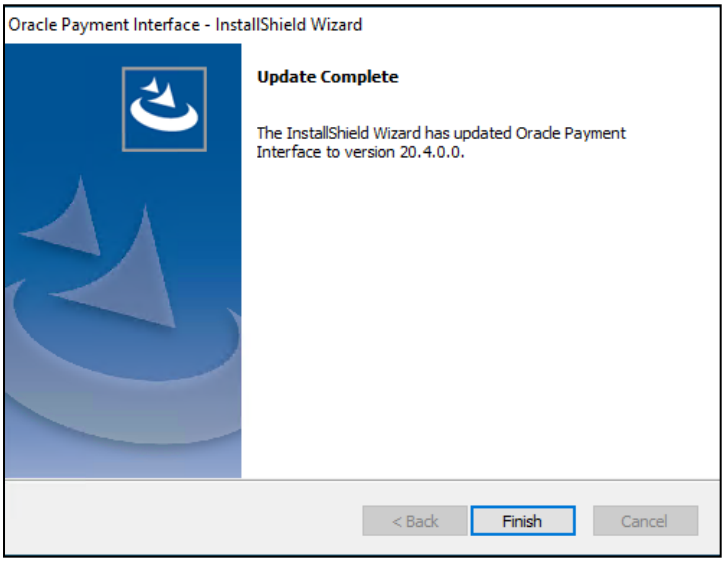


4. Click **Next**.

   The Install wizard is updating from **OPI 20.1** to version **20.4**.



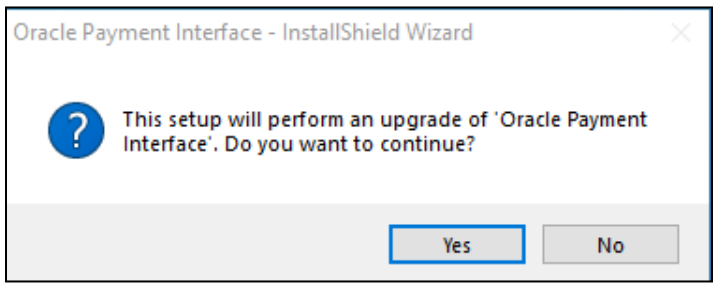
5. Click **OK**.



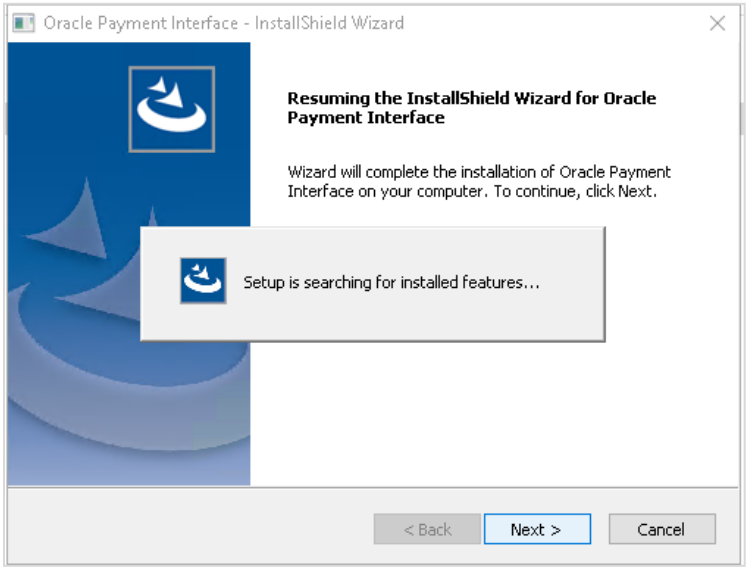
6. Click **Finish**.

Upgrading OPI 20.2.0.0 to 20.4.0.0

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an upgrade.

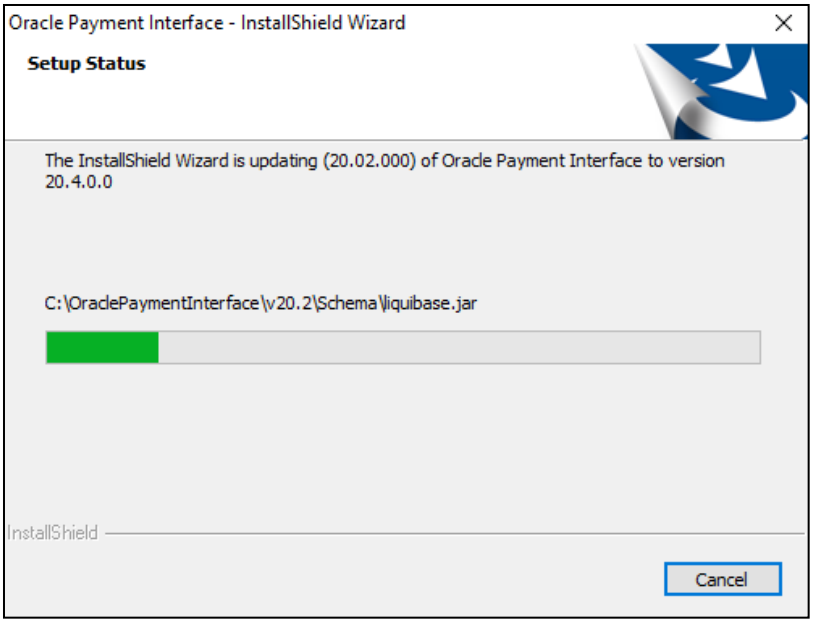


2. Click **Yes**.



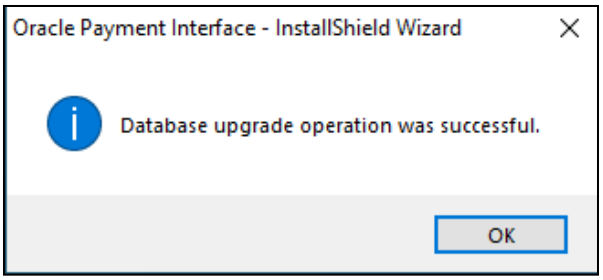
3. Click **Next**.

   Setup is searching for installed features.

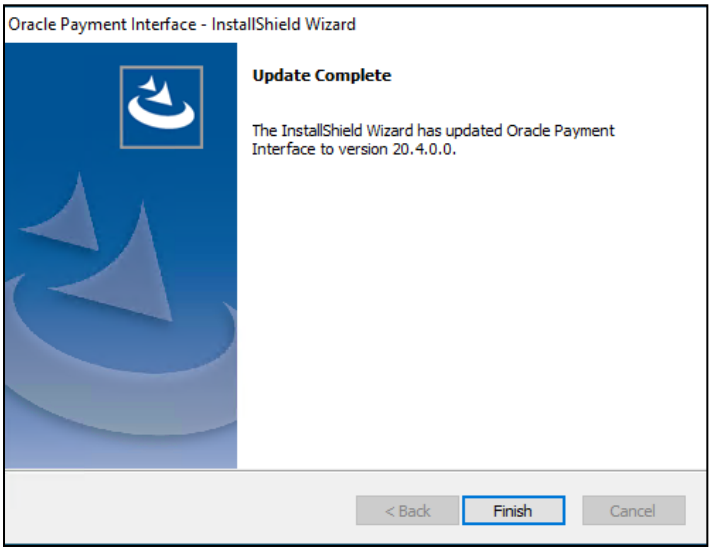


4. Click **Next**.

   The Install wizard is updating from **OPI 20.2** to version **20.4**.



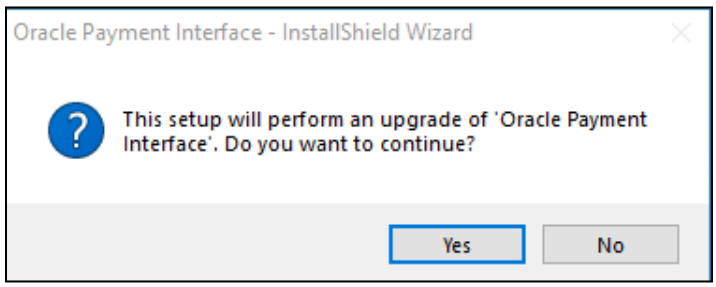
5. Click **OK**.



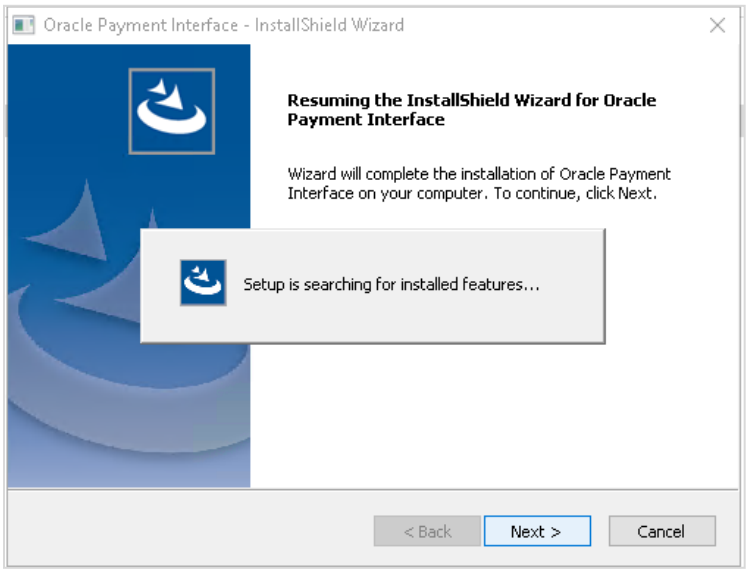
6. Click **Finish**.

Upgrading OPI 20.3.0.0 to 20.4.0.0

1. Right-click **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file and select **Run as Administrator** to perform an upgrade.



2. Click **Yes**.

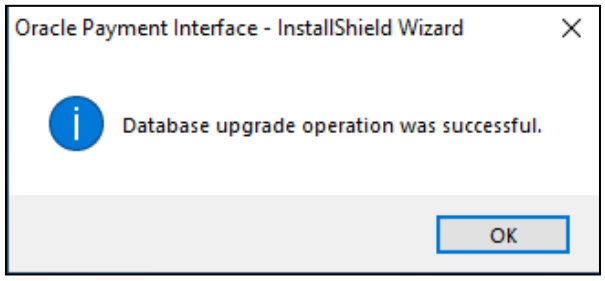


3. Click **Next**.

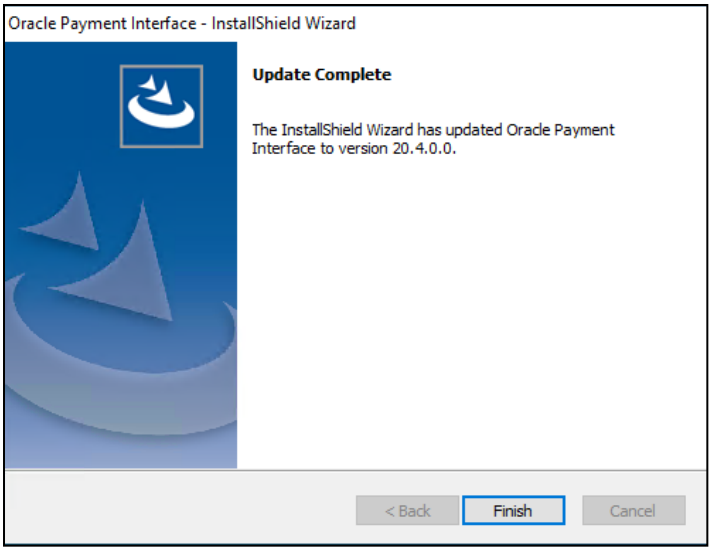
   Setup is searching for installed features.

4. Click **Next**.

   The Install wizard is updating from **OPI 20.3** to version **20.4**.



5. Click **OK**.



6. Click **Finish**.

5

OPI Folder Structure

It is possible to install OPI 20.4 as separate components, with the introduction of OPI's configuration API. This also means the OPI Configuration Tools can now be installed on separate host machines to the main OPI Application, if required.

OPI Service

The Main OPI Service application remains with a similar folder structure to previous versions of OPI, however the default installation path is now:

:\OraclePaymentInterface\v20.4\Services\OPI

OPI Configuration Tools

The configuration tool default installation path is:

:\OraclePaymentInterface\v20.4 \Config

In order to use the configuration API, the Configuration Tool installation includes a configuration wizard and full configuration tool.

LaunchWizard.bat – contains the most used settings that should be sufficient to allow configuration of a basic working merchant configuration.

LaunchConfiguration.bat – also contains some additional advanced settings that may be required in certain installations. See the Configuration Tool Settings section.

The configuration service is no longer part of the OPI service. As a result, there is now an additional authentication requirement handled post-installation by the new Settings Admin Tool and Rotate Passphrase Tool. Refer to the relevant sections below for more information.

OPI Logs

OPI Service Logs

:\OraclePaymentInterface\v20.4\Services\OPI\log\

- debug.log
- gateway.log
- system.log
- transaction.log

OPI Installation Log

:\OraclePaymentInterface\v20.4\LOGS\OPI_Installation.log

OPI Configuration Tool

:\OraclePaymentInterface\v20.4\Services\ConfigService\log\OPIConfigService.log

:\OraclePaymentInterface\v20.4\Config\log\OPIConfig.log

6
OPI User Administration

OPI 20.4 includes the functionality to manage its own user accounts. The OPI installer will prompt you to create a “Super” System Administrator user that can be used to create additional users, if required.

User Roles

There are three User Roles in OPI:

- **System Administrator** – has full access to OPI configuration, users, and audit functions.
- **Merchant Administrator** – only has access to the OPI configuration.
- **PSP Certificate Management** – only has access to Certificate Management in OPI Configuration tool in ‘Standard’ mode.

Creating a New User

Only System Administrator users can create new users.

To create a new user:

1. Log in to the OPI Configuration tool as the System Administrator, select the Users tab, and then click the **Create New User Account** () icon at the top right of the Users window.
2. Enter the required values in the relevant fields:

- **Username** – the name the user will enter when logging into the OPI configuration tools.
- **First Name** – First name of the new user.
- **Last Name** – Last name of the new user.
- **Role** – Select System Administrator, Merchant Administrator or PSP Certificate Management.
- **One-time password** – The password the new user will need to enter for their first login. The new user will be prompted to change their password during their first login.
- **Confirm password** – Confirm the password the new user will need to enter for their first login.

3. **Save** the record when all fields have been completed.

New Users First Login

1. The first time you log in to any of the OPI configuration tools as a new user, you must enter a **Username** and a **One-time Password**.
2. On the Expired Password dialog, enter the **One-time Password** again, and then enter and confirm the **New Password**.
3. Click **OK**.

   You can now log in.

Editing Your User Profile

Each user can change their own **First name**, **Last name**, and **Password**, if required. The Username cannot be edited once it has been created.

First Name and Last Name

You can edit your First Name and Last Name after logging in.

1. Select the **Profile** tab.
2. On the **User Information** page, update the values as required, and then click **Save**.

Changing Your Password

1. On the **Profile** tab, select **Change Password**, enter the **Current password**, and then enter and confirm the **New Password**.
2. Click **Change** when finished.

> **NOTE:**
>
> After changing the password, you should immediately sign out of the configurator and then logon again using the new password. Failure to sign out after changing the password could cause the account to be locked out.

Editing Another User's Account

Only System Administrator users can edit another user's account.

1. Log in to the OPI configuration tool as the System Administrator user, and then select the **Users** tab.
2. From the list of current users, locate the relevant user and click the **Edit User Account** () icon.

A System Administrator can change a user's **First name**, **Last name**, **Role**, **Activate/Deactivate and Unlock** an account. Username cannot be edited once it has been created.

First name and Last name

- Edit the **First name** and **Last name** as required, and then click **Save** when finished.

Role

- Select a **Role** for the user from the Role drop-down list, and then click **Save** when finished.

Deactivating a User Account

The System Administrator can deactivate a user account if it is no longer required.

- Click the **Deactivate this user account** box to toggle whether the user account is active or not.
  - To deactivate, select the **Deactivate this user account** box.
  - To keep the account active, select the **Deactivate this user account** box.

Unlocking a User Account

If a user fails to log in multiple times, the account gets locked. An Account is locked out option will appear in the Edit User Account window. The Account is locked out setting is not visible unless the user is currently locked out.

- Click the **Account is locked out** box to unlock the user account, and then click **Save**.

Reset Super User Password

Only **System Administrator** role has the privilege to reset the Super user password.

Super User can reset the password:

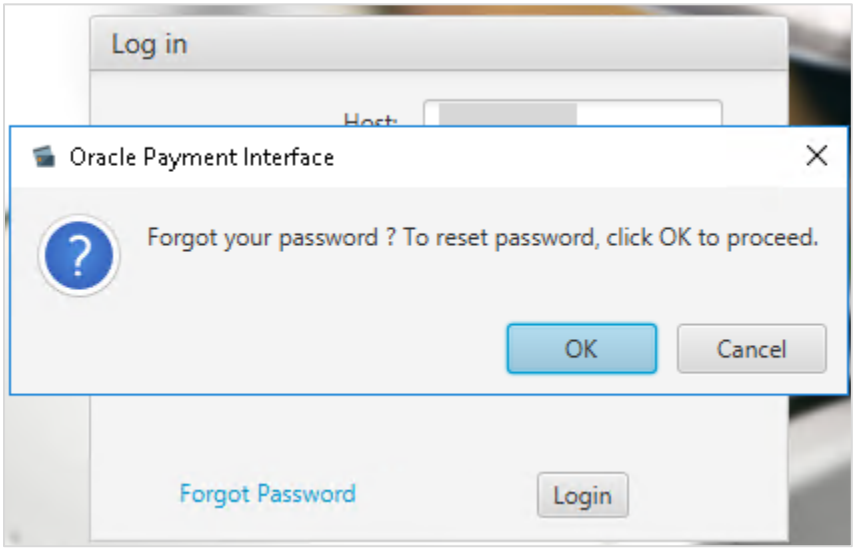
- By logging into the OPI Configuration tool, please refer to the below steps.
- By using Forgot Password link.

Reset password using Configuration tool

If Super user forgets password and cannot log into the configurator, they can use reset password feature. Reset password feature allows you to reset the password. You need to provide the windows username, password and domain details to validate Windows User authentication. Once the details are validated, a pop-up window appears where the Super user password can be reset.

1. Log in to the OPI Configuration tool by providing the Super user account **Username** and incorrect **Password**. A pop-up window appears with a message saying “The username or password is incorrect or locked out, please try again later or contact your system administrator”.

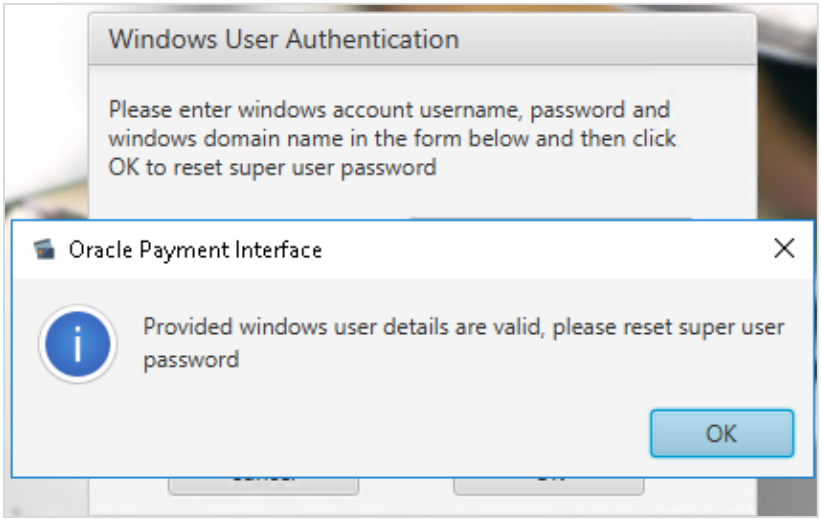
   The system allows three attempts and after the third attempt is tried and failed, it provides an option for Windows User authentication.



2. Click **OK**.

3. Enter the **Username** and **Password** in the respective fields to validate Windows User Authentication.
4. Select the **Windows Domain Name** from the drop-down list.
5. Click **OK**.

   If the details provided are valid, then the system allows the Super user to reset the password. If the details provided are not valid, the system appears with an error message and redirects it to the Windows User authentication form to provide correct data.

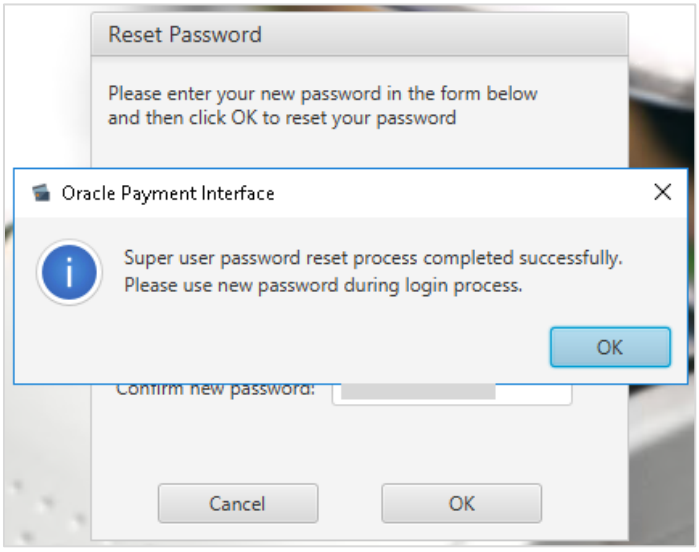


6. Click **OK**.

7. Enter the **New Password** and confirm it.

   The passwords must be at least 8 characters in length and contain:
   - One upper case letter
   - One lower case letter
   - One number
   - One special character from the list: ! # $ % ( ) * + , - . / ; < = > ? @ [ ] ^ _ `|~

8. Click **OK** to reset the password.

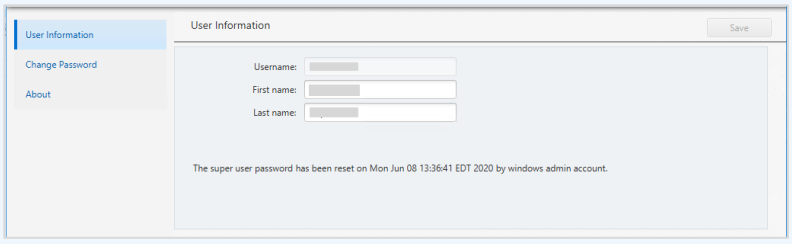


9. Click **OK**.

   Super user password reset process is completed successfully and now the user can login with the new password.

NOTE:

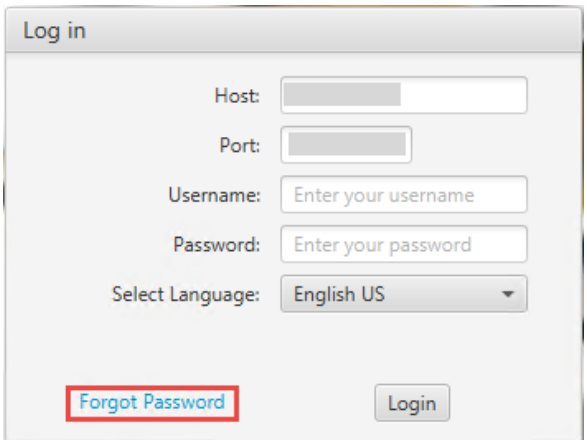
If the Super user password reset process is successful, the system appears with a text message in the Profile section with date and time stamp. This message appears only when the Super user reset operation is performed.

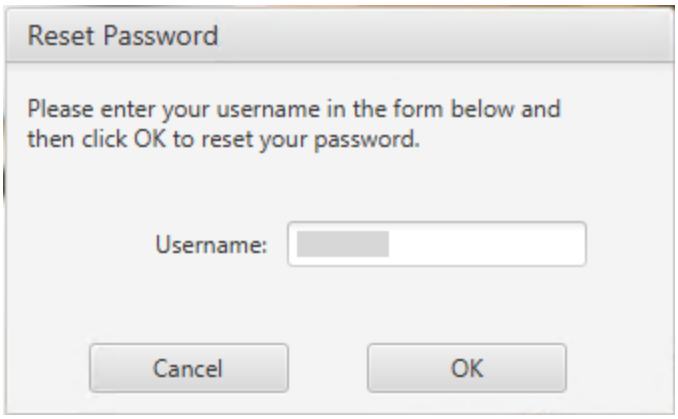


Reset password using Forgot Password

If a Super user forgets password and cannot log into the configurator, they can select the **Forgot Password** link in the OPI Configuration tool to reset the password. You need to provide the windows username, password and domain details to validate Windows User authentication. Once the details are validated, a pop-up window appears where the Super user password can be reset.

1. On the Log in page, click Forgot Password link.





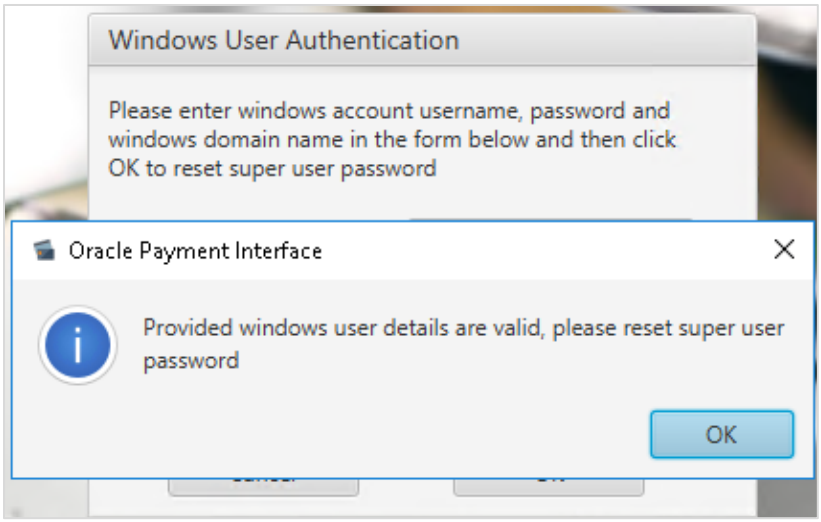
NOTE:

If the provided Username is invalid, then an error message appears saying "The system was unable to process your request, please contact Oracle support."

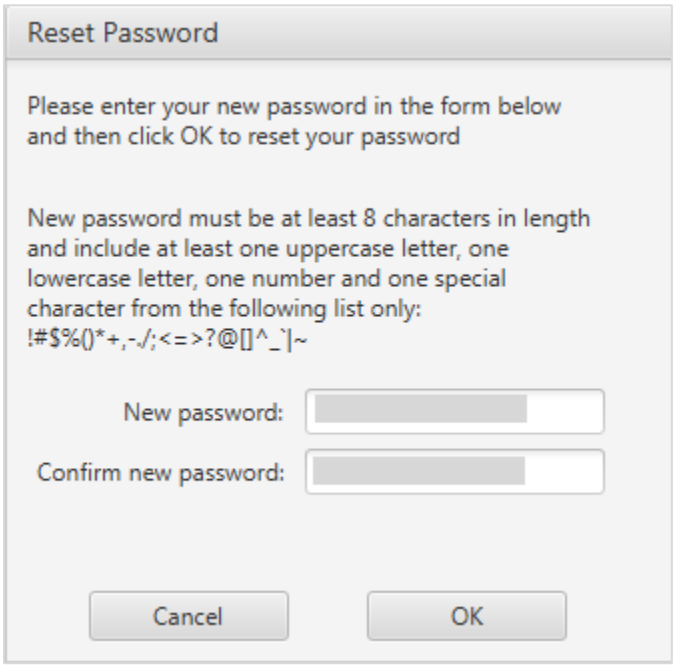
2. Enter the super **Username** and click **OK**.

3. Enter the **Username** and **Password** in the respective fields to validate Windows User Authentication.
4. Select the **Windows Domain Name** from the drop-down list.
5. Click **OK**.

   If the details provided are valid, then the system allows the Super user to reset the password. If the details provided are not valid, the system appears with an error message and redirects to Windows User authentication form to provide correct data.



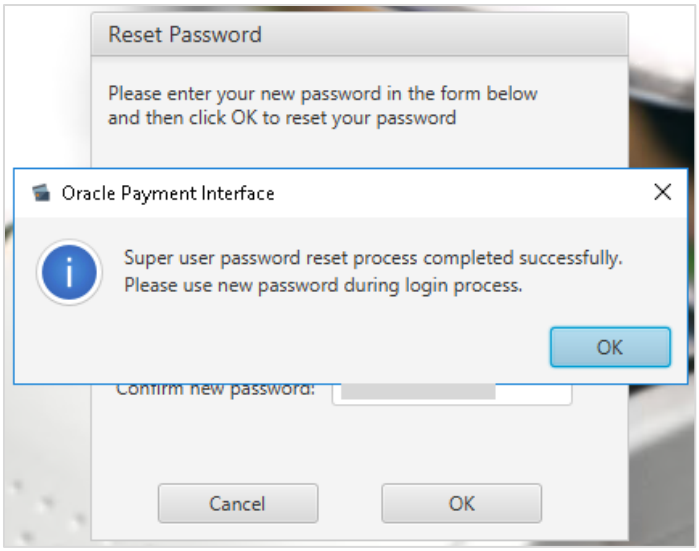
6. Click **OK**.



7. Enter the **New Password** and confirm it.

   The passwords must be at least 8 characters in length and contain:
   - One upper case letter
   - One lower case letter
   - One number
   - One special character from the list: ! # $ % ( ) * + , - . / ; < = > ? @ [ ] ^ _ `|~

8. Click **OK** to reset the password.

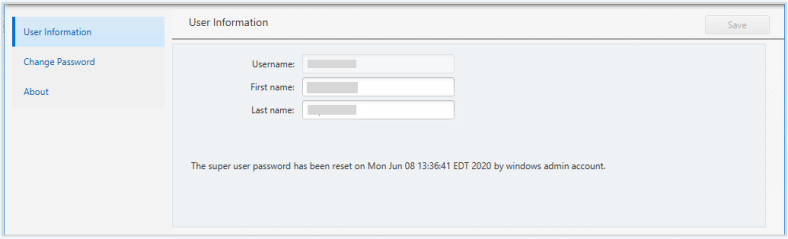


9. Click **OK**.

   Super user password reset process is completed successfully and now the user can login with the new password.

NOTE:

If the Super user password reset process is successful, then the system appears with a text message in the Profile section with date and time stamp. This message appears only when the Super user reset operation is performed.



PSP Certificate Management User

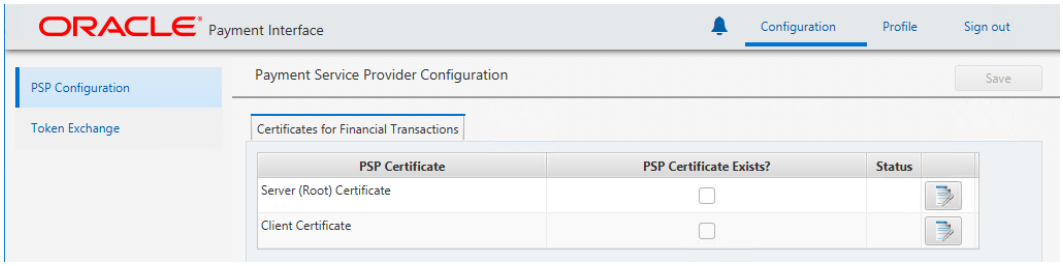
PSP Certificate Management user allows Payment Service Providers (PSPs) to update the certificates on behalf of the customer. They have access only to Certificate Management in the OPI Configuration tool and can update only PSP certificates that are provided by PSP.

This user can perform the following operations in the OPI Configuration tool in ‘Standard’ mode:

- Import PSP Certificates for Financial Transactions and Token Exchange.
- Update passwords for certificates and keystores.
- View Notification icon and resolve certificate expiry issues by updating the certificates.

NOTE:

PSP Certificate Management user cannot access Wizard mode.



Import Certificates for Financial Transactions and Token Exchange

PSP Certificates Management user can import certificates for financial transactions and token exchange on behalf of the customer that are provided by PSPs.

See the Import Server (Root) Certificates for Financial Transactions and Token exchange section for details.

See the Import Client Certificates for Financial Transactions and Token exchange section for details.

Update Passwords for Certificates and Keystores

See the Update Password for Certificates and Keystores section for details.

View Notification icon and resolve Certificate expiry issues

See the View Notification icon and resolve Certificate expiry issues section for details.

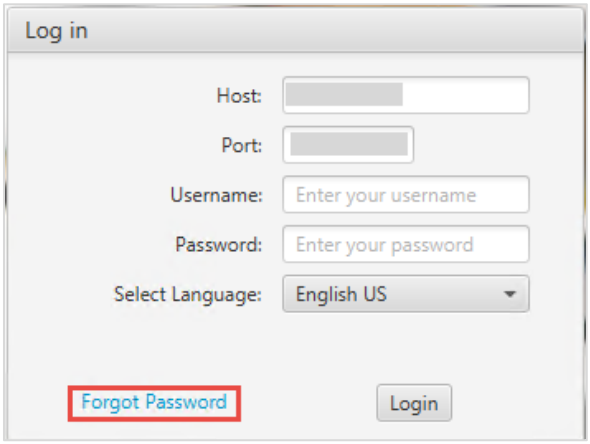
Forgotten Passwords

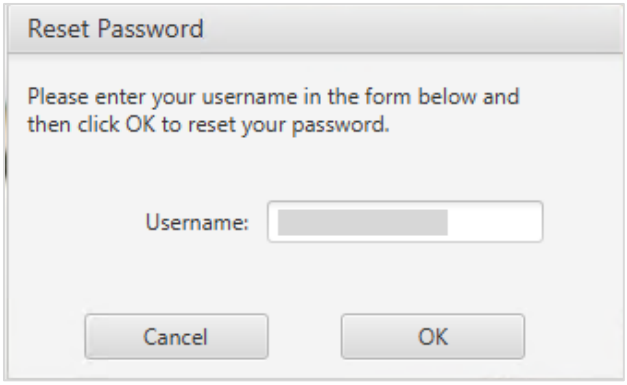
Users Password Reset Request

If you (PSP Certificate Management/Merchant Administrator) forget the password, select the **Forgot Password** link in the OPI Configuration tool. On the **Reset Password** page, enter username, and confirm the new password.

The password reset request must be approved by a System Administrator before you log in using the new password. If you attempt to log in before the password change request has been approved, an error message appears.

1. On the Log in page, click Forgot Password link.

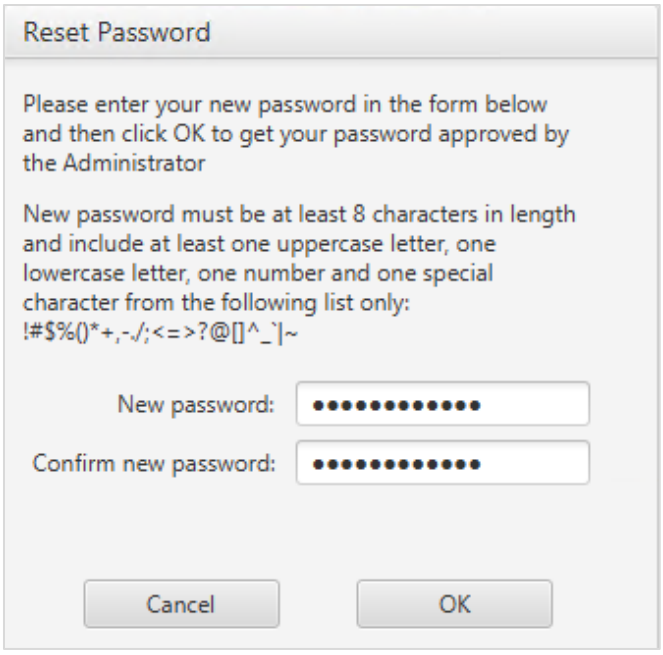




NOTE:

If the provided Username is invalid, an error message appears saying “The system was unable to process your request, please contact Oracle support.”

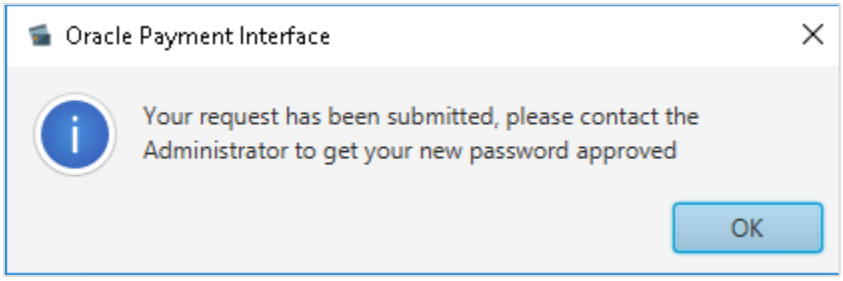
2. Enter the **Username** and click **OK**.



3. Enter the **New Password** and confirm it.

   The passwords must be at least 8 characters in length and contain:
   - One upper case letter
   - One lower case letter
   - One number
   - One special character from the list: ! # $ % ( ) * + , - . / ; < = > ? @ [ ] ^ _ `|~

4. Click **OK** to reset the password.



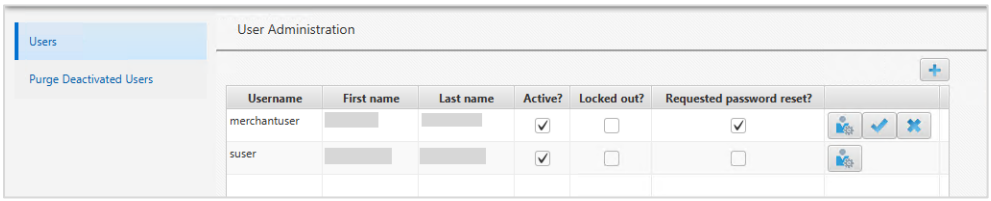
5. Click **OK**.

   For password reset request approval process, follow the below steps.

Approving a User's Password Reset Request

Only System Administrator users can approve user password reset requests.

1. Log in as the System Administrator user, and then log in to the OPI Configuration tool and select the **Users** tab.
2. From the list of current users, locate the user that requested a password reset:
   - To **Approve** the password reset request, click the **Tick** icon
   - To **Reject** the password reset request, click the **Cross** icon



3. A pop-up window appears with a message saying "Do you really want to approve the password reset request for user: merchant user?"
4. Click **OK** to approve the request. Once the request is approved, users can log into the Configurator tool using new password.

Super User

Keep the password for System Administrator secure. You should also create a backup System Administrator account in case the password to the original System Administrator is lost. If you lose the System Administrator credentials, then you can reset the Super user password using the Reset password feature or Forgot password. Refer to the Reset Super User Password or Forgot Password section for details.

Purge Deactivated Users

Allows System Administrator users to purge any deactivated users and their associated audit trails that have been deactivated for longer than 90 days.

- Select **Purge Deactivated Users**, and click **Purge** to proceed.

7

OPI Certificate Management

System Administrator or Merchant Administrator can perform the following operations for certificates:

- Import self-signed Certificates for Financial Transactions and Token Exchange.
- Update passwords for certificates and keystores.
- View Notification icon  and resolve certificate expiry issues by updating the certificates.

> **NOTE:**
>
> - Select **Enable Mutual Authentication** in the PSP Configuration settings to enable two way authentication between OPI and PSP. If this field is not enabled, then PSP Certificates for Financial Transaction tab is disabled and you cannot perform any action.
> - Create self-signed certificates using OPI Client Certificate Creator Utility.

Mutual Authentication

If Mutual Authentication is supported by the PSP and has been enabled within the OPI configuration, communication from OPI to the PSPs will require pair of private and public keys in a PKCS#12 – a .pfx file and a root certificate (both provided by the PSP).

- Server0Q.pfx: Used for client authentication of OPI to the PSP.
- Server0QRoot: Validates the public certificate(s) received from the PSPs.

Handling the Root Certificate File

- The PSP connection also requires a root key, which must be imported to a root certificate in the form of a JKS (Java Key Store).
- OPI needs this root certificate file in a Java Key store, so that OPI can verify the chain of trust on the certificate chain supplied upon connection to the remote PSP server.
- The root certificate file provided by the PSP should be in the format of a .cer or .crt file.

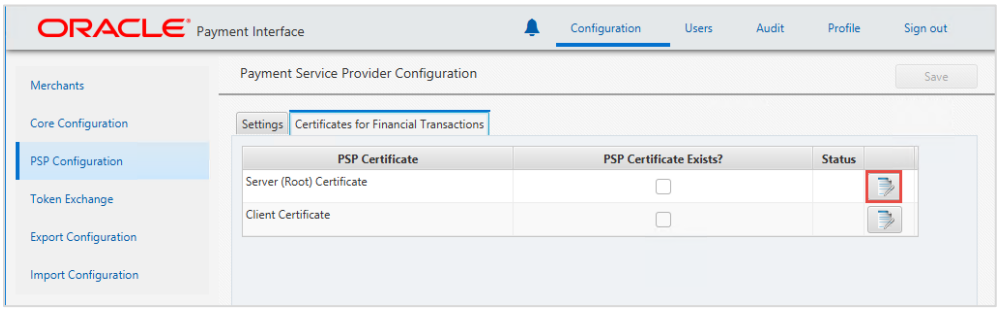
Import Server (Root) Certificates for Financial Transactions and Token Exchange

PSP Certificates for Financial Transaction

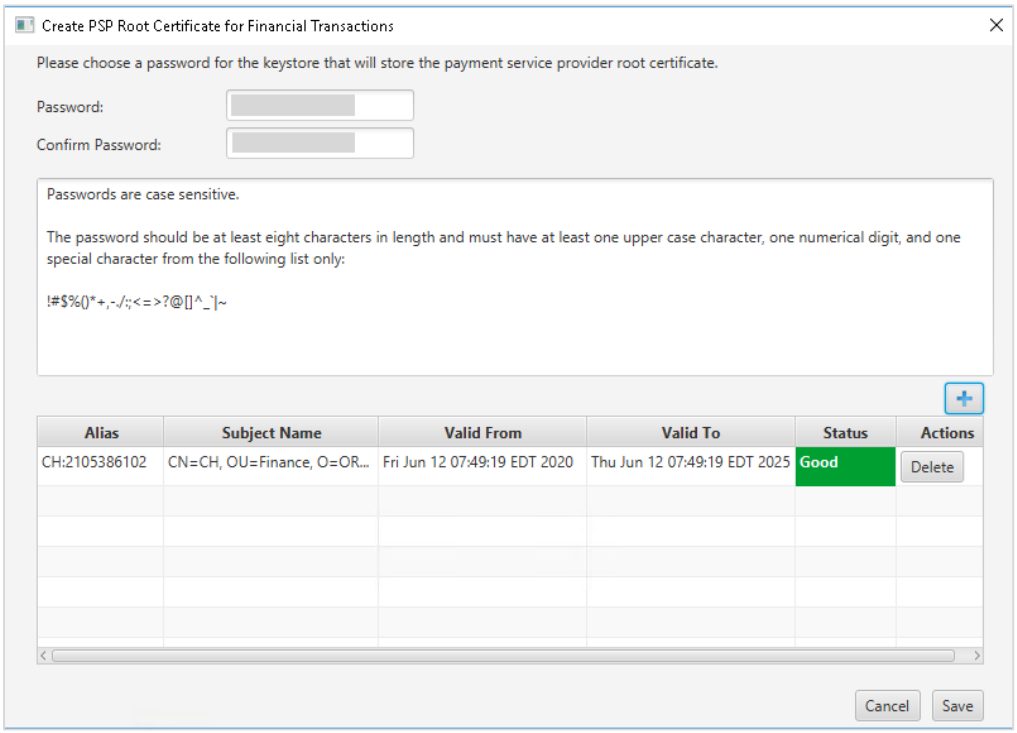
You can import server (root) certificates for financial transactions.

To import PSP Server (Root) certificates for financial transactions:

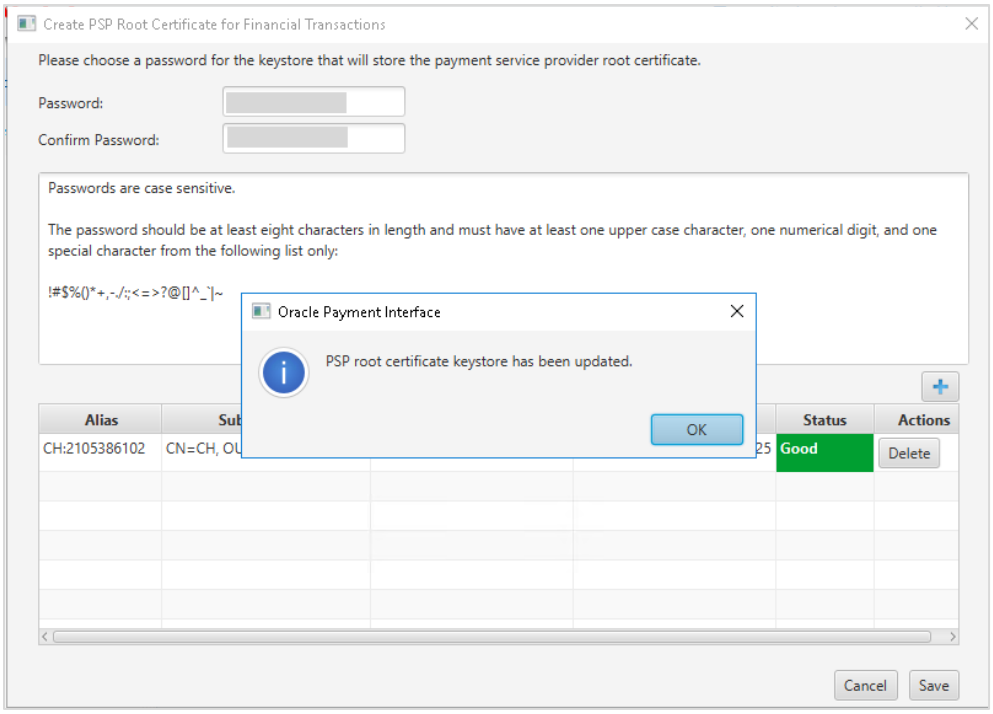
1. Log in to the OPI Configuration tool.
2. Select **PSP Configuration** tab, click **Certificates for Financial Transactions** subtab and then edit the **Server (Root) Certificate**.



3. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .cer or.crt.



4. Click **Save**.



5. Click **OK**.

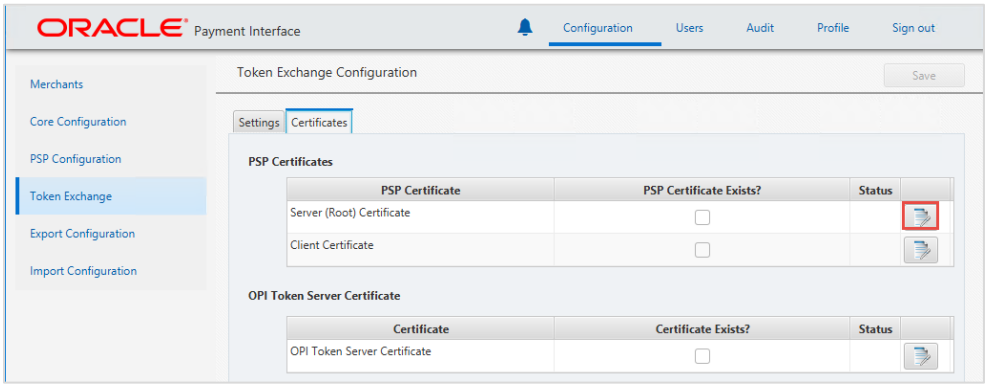
Server0QRoot is created under **\OraclePaymentInterface\v20.4\Services\OPI\key**

Certificates for Token Exchange

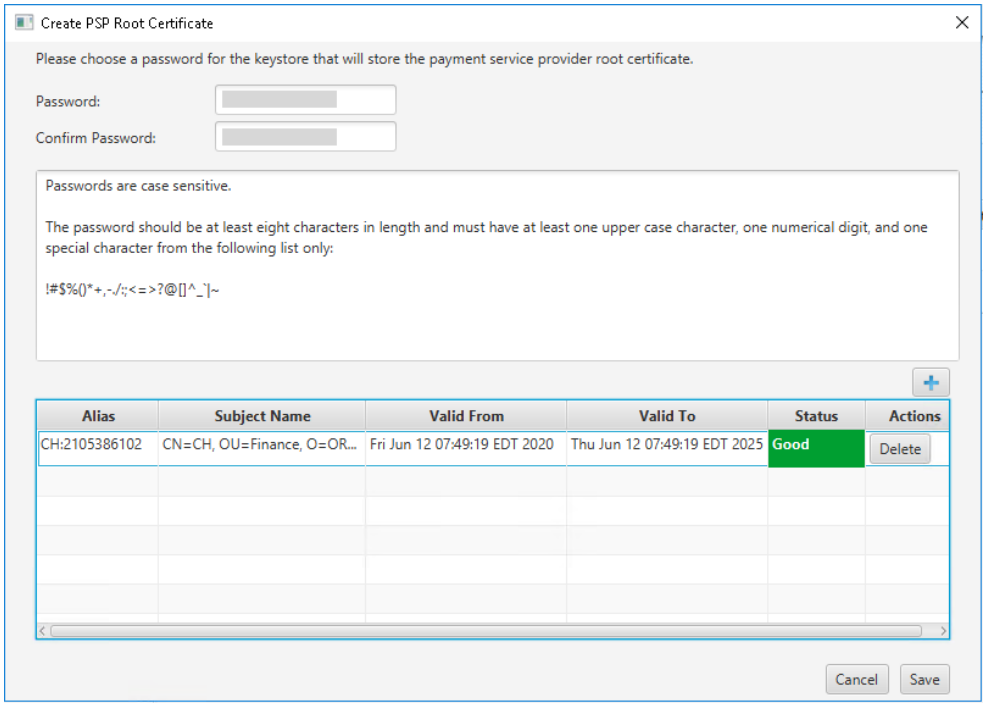
You can import certificates for Token exchange.

To import PSP Server (Root) certificates for token exchange:

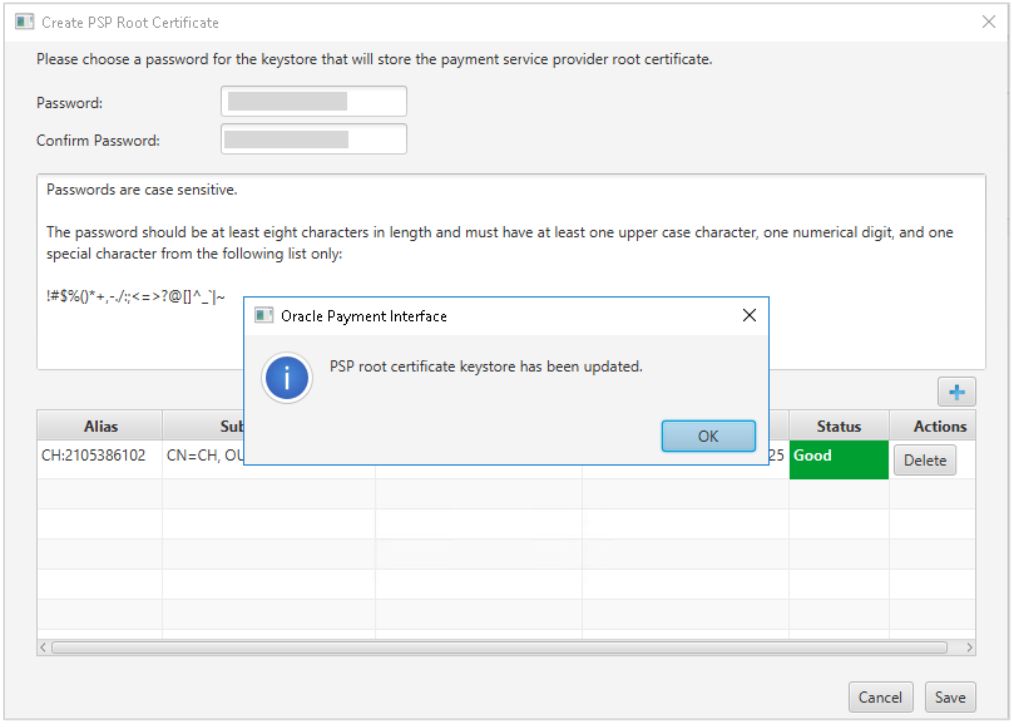
1. Log in to the OPI Configuration tool.
2. Select **Token Exchange** tab, click **Certificates** subtab and then edit the **Server (Root) Certificate**.



3. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .cer or.crt.



4. Click **Save**.



5. Click **OK**.

OPI_PSP_1Root is created under **\OraclePaymentInterface\v20.4\Services\OPI\key**

Handling the Client Side Certificate

The communication from OPI to the PSP uses HTTPS with a client certificate for client authentication. OPI presents the client certificate upon request from the server during HTTPS negotiation with the PSP.

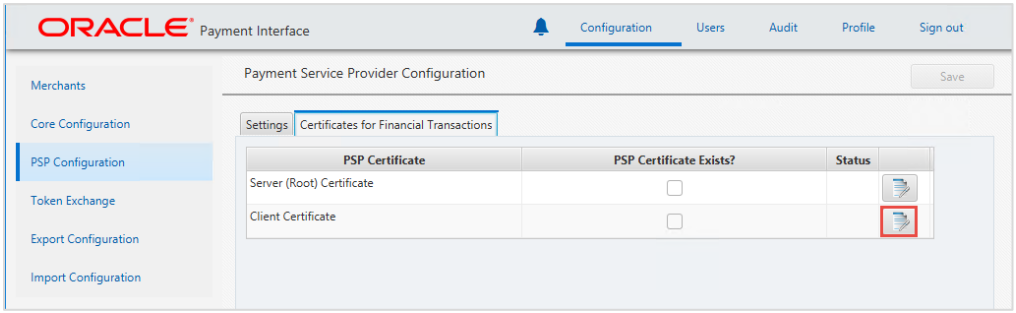
- The client side certificate must be called Server0Q.pfx in order for OPI to recognize the file. (Rename the file if it was not supplied with the expected filename.)
- This is a PKCS#12 Certificate file that contains a public key and a private key and will be protected by a password.

Import Client Certificates for Financial Transactions and Token Exchange

You can import client certificates for financial transactions.

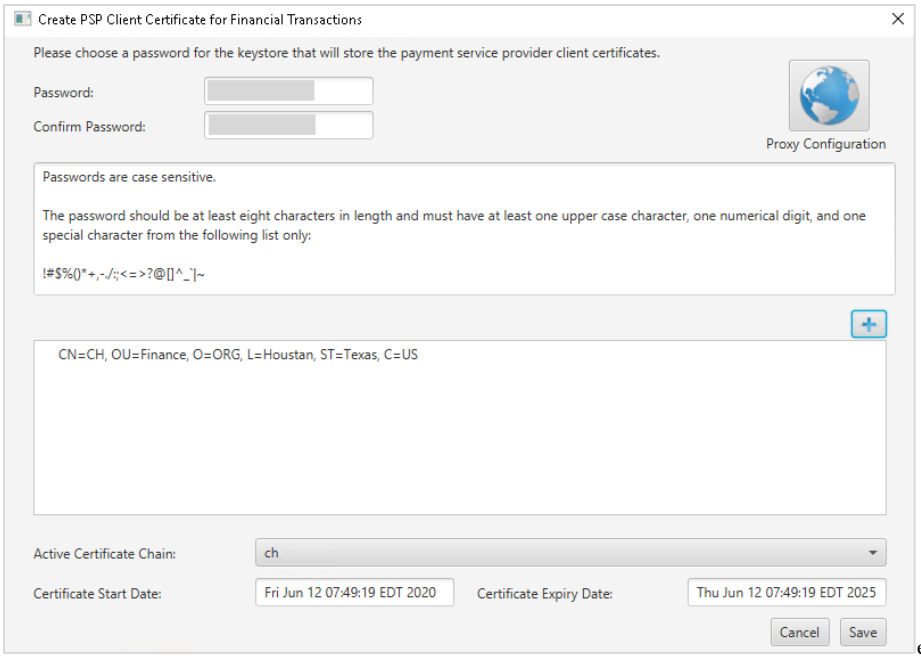
To import PSP Client certificates for financial transactions:

1. Log in to the OPI Configuration tool.
2. Select **PSP Configuration** tab, click **Certificates for Financial Transactions** subtab and then edit the **Client Certificate**.



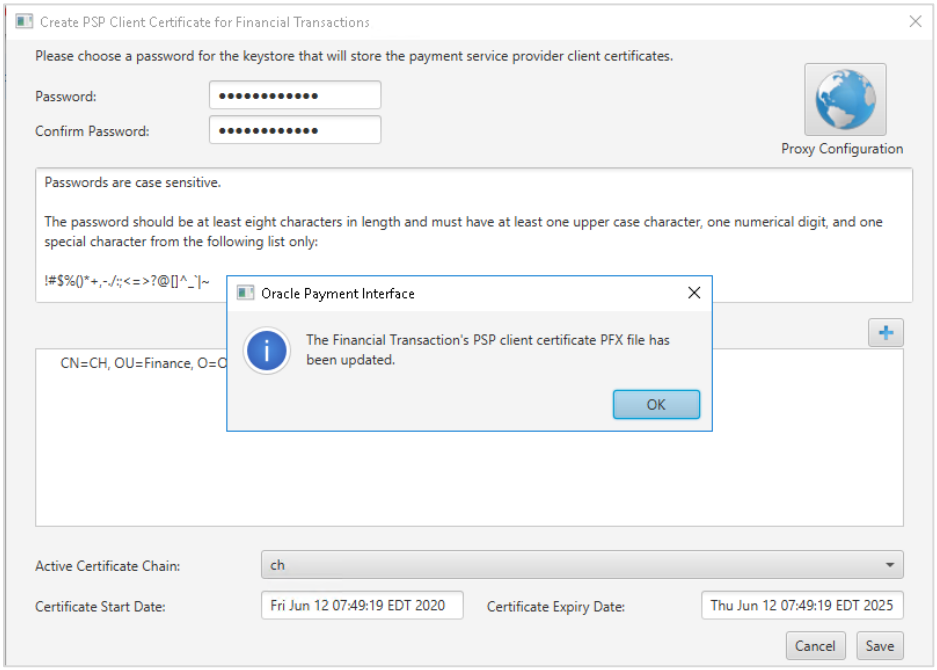
3. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .pfx. You will need the password for this .pfx file to decrypt it. The passwords must meet the minimum complexity requirements discussed below or it will not be possible to enter the details to the OPI configuration.

> **NOTE:**
>
> The PSP Client Side Certificates expiration date depends on what the PSP is set during creation of the certificate. Check the expiration date in the properties of the certificate files. Be aware the PSP certificates must be updated prior to the expiration date to avoid downtime to the interface.



ew

4. Click **Save.**



5. Click **OK**.

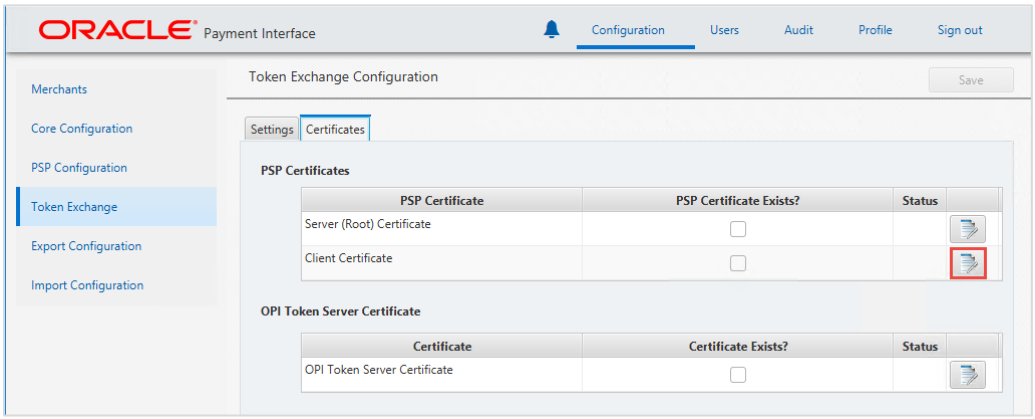
Server0Q.pfx is created under **\OraclePaymentInterface\v20.4\Services\OPI\key** folder.

Certificates for Token Exchange

To import PSP Client certificates for token exchange:

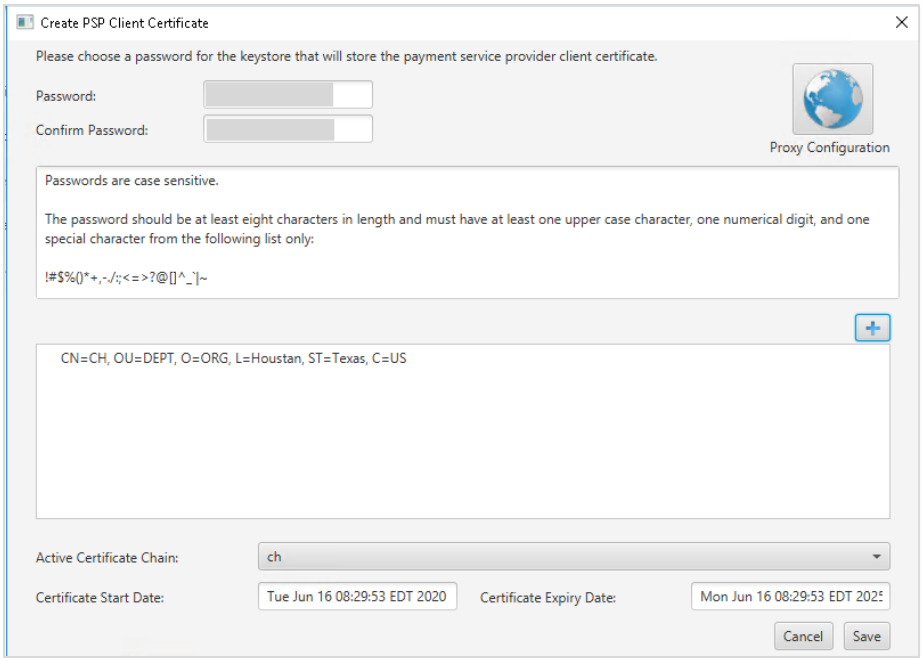
You can import client certificates for Token exchange.

1. Log in to the OPI Configuration tool.
2. Select **Token Exchange** tab, click **Certificates** subtab and then edit the **Client Certificate**.

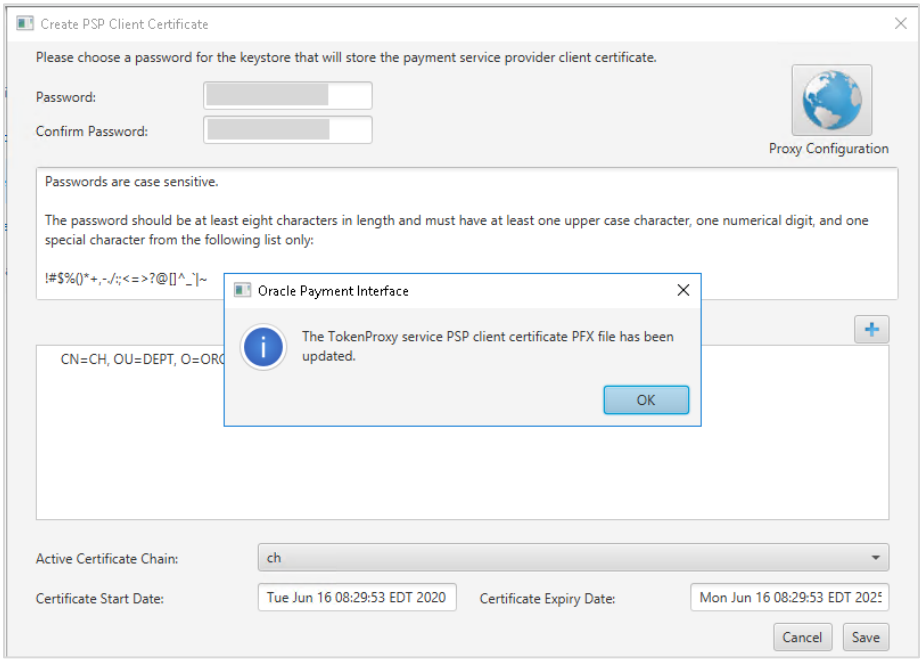


3. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .pfx. You will need the password for this .pfx file to decrypt it. The passwords must meet the minimum complexity requirements discussed below or it will not be possible to enter the details to the OPI configuration.

> **NOTE:**
>
> The PSP Client Side Certificates expiration date depends on what the PSP is set during creation of the certificate. Check the expiration date in the properties of the certificate files. Be aware the PSP certificates must be updated prior to the expiration date to avoid downtime to the interface.



4. Click **Save.**



5. Click **OK**.

OPI_PSP_1.pfx is created under **\OraclePaymentInterface\v20.4\Services\OPI\key** folder.

OPI Mutual Authentication Summary

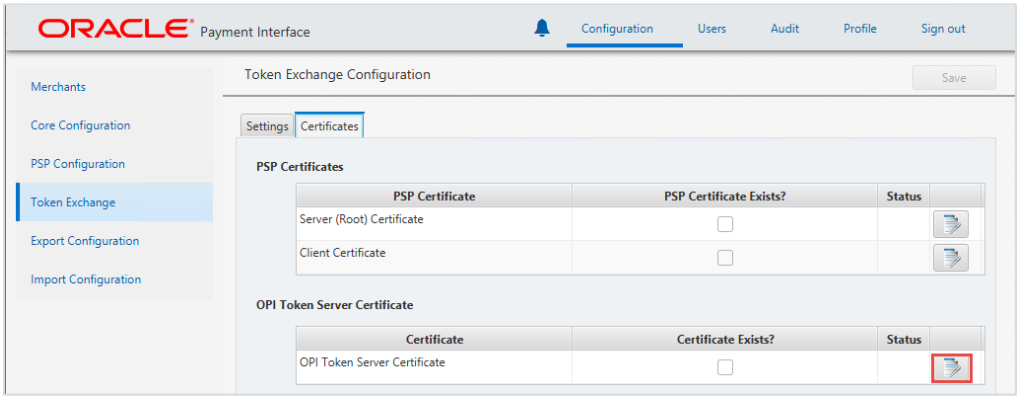
The diagram below shows the certificates used at each process during communication negotiation.

OPI			PSP
Client			Server
	------>	Client Hello	
	<------	Server Hello	
	<------	Server Presents its host Certificate	PSP Private Key
Server0Q.cer PSP rootCa certificate loaded to JKS , equivalent of root certificate folder		Client Validates Server Authenticity	
	<------	Server Requests Clients Host Certificate	
Server0Q.pfx (OPI Private and Public Key)	------>	Client Presents its host Certificate	
		Server Validates Server Authenticity	OPI's Root Certificate
		Server/Client negotiate encryption	
		Secure communication negotiated	

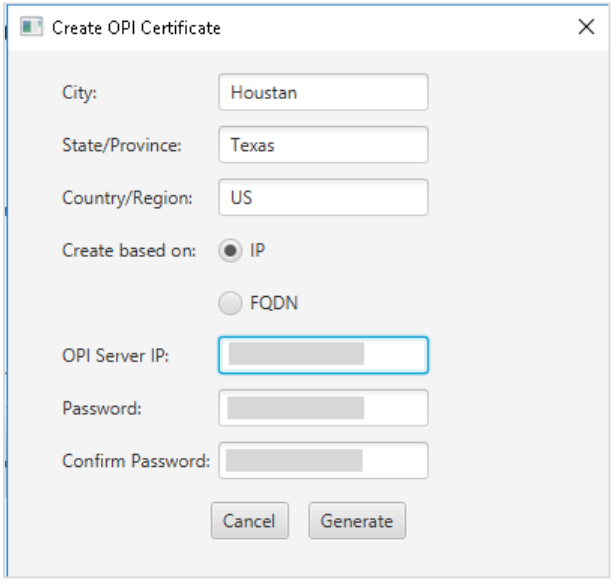
Create OPI Token Server Certificate

It is highly recommended to use CA-signed certificates.

1. Select **Token Exchange** tab, click **Certificates** subtab and then click **Create OPI Token Server Certificate**.

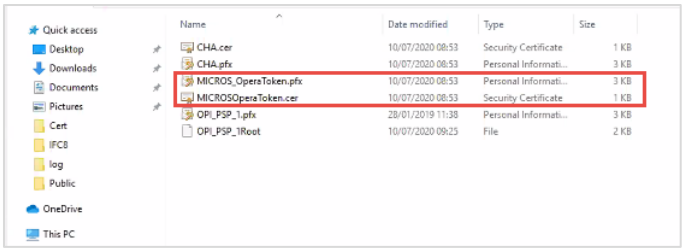


2. Enter **City**, **State/Province**, **Country/Region**, **Create based on IP or FQDN, OPI Server IP**, **Password** and **Confirm Password**.



3. Click **Generate** to continue.

   This process will generate the MICROS_OPERAToken.pfx and MICROSOPERAToken.cer files in the following folder: **\OraclePaymentInterface\v20.4\Services\OPI\key**



Update Passwords for Certificates and Keystores

To update passwords for certificates and keystores:

1. Log in to the OPI Configuration tool.
2. Select **PSP Configuration** tab, click **Certificates for Financial Transactions** subtab and then edit the **Server (Root) Certificate/Client Certificate**.

Or

3. Select **Token Exchange** tab, click **Certificates** subtab and then edit the **Server (Root) Certificate/Client Certificate**.
4. Update the password for the keystore of your choice meeting the requirements, and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .cer or.crt.
5. Click **Save** to update the password.

View Notification icon and resolve Certificate expiry issues

You can view Certificate Expiry related notifications that are available in the OPI Configuration tool by using the notification icon . Click this icon to view all the certificate expiry related notifications and this icon will turn to red color if there are any expired certificates or about to expire certificates indicating the user attention is required to update these certificates.

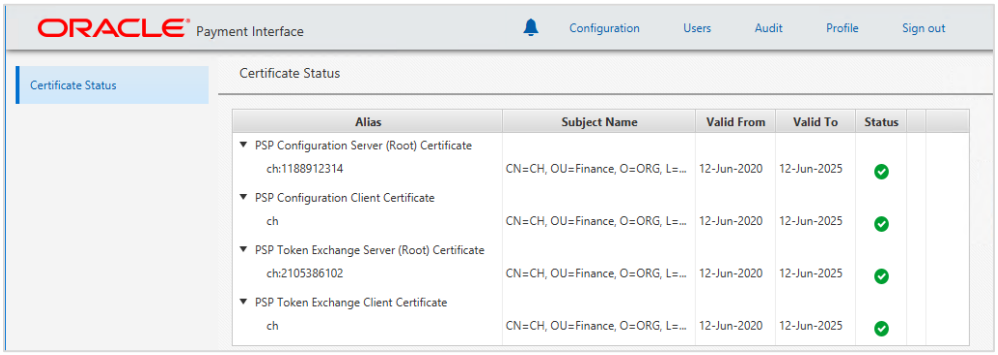
Following is the expiration status of all the certificates:

- - Certificates that are in ‘Good’ status.
- - Certificates that are in ‘About to expire’ status and needs to updated before they expire.

-  - Certificates that are in ‘Expired’ status and needs to updated with new certificates.

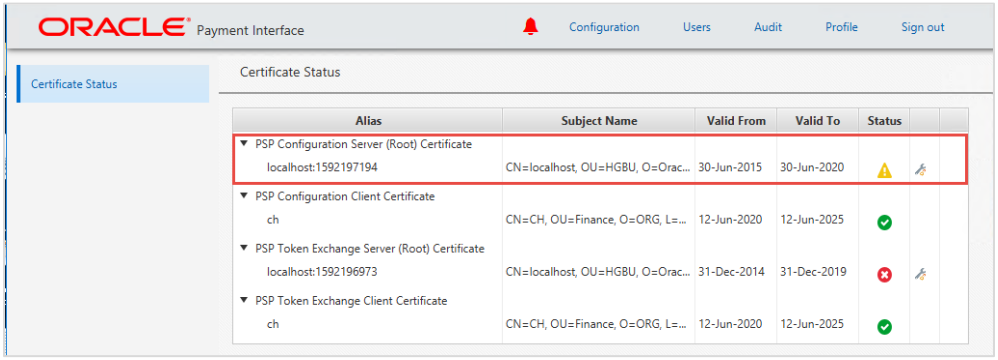
  To view certificates in ‘Good’ status:

- Log in to the OPI Configuration tool.
- On the home page, click notification icon  to view the ‘Good’  certificate status:

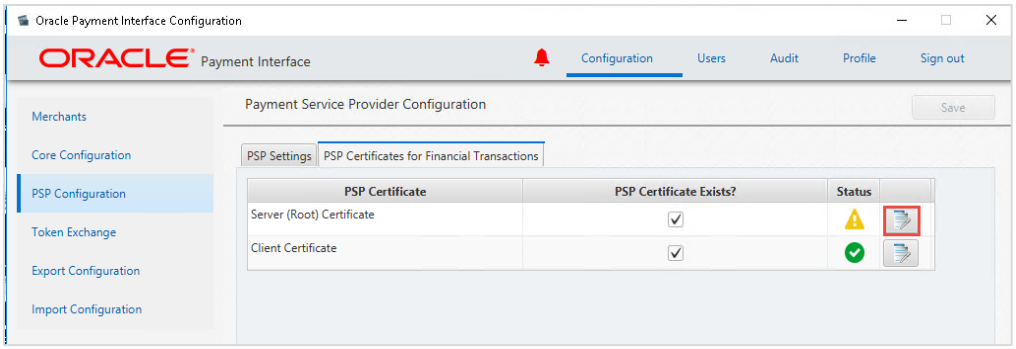


To view and update certificates in ‘About to expire’ status:

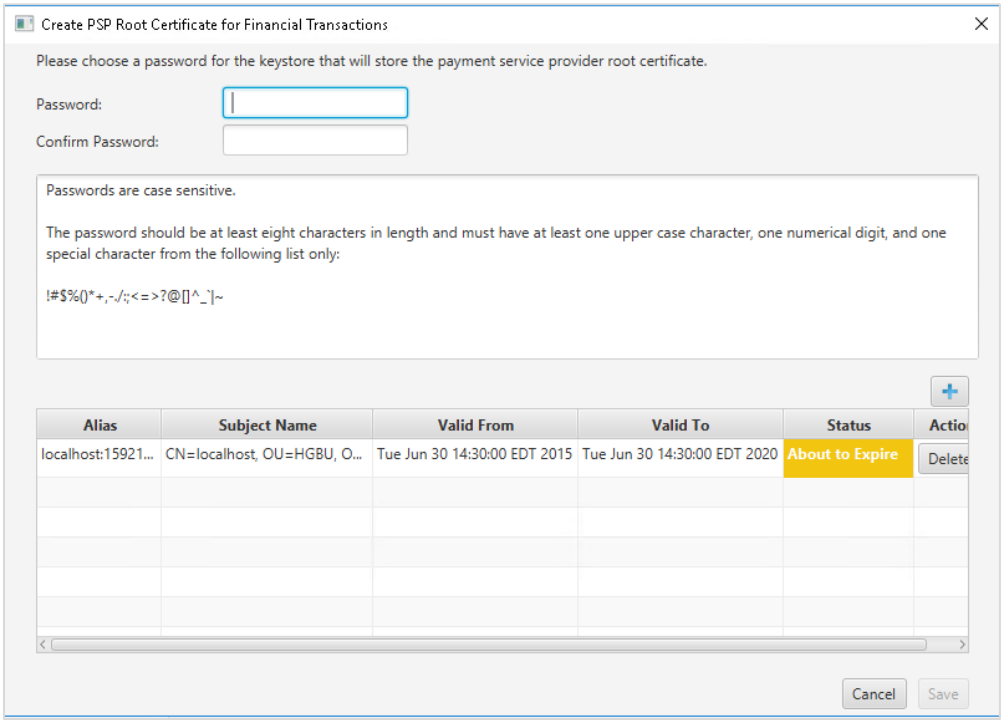
1. Log in to the OPI Configuration tool.
2. On the home page, click notification icon  to view the ‘About to expire’  certificate status:



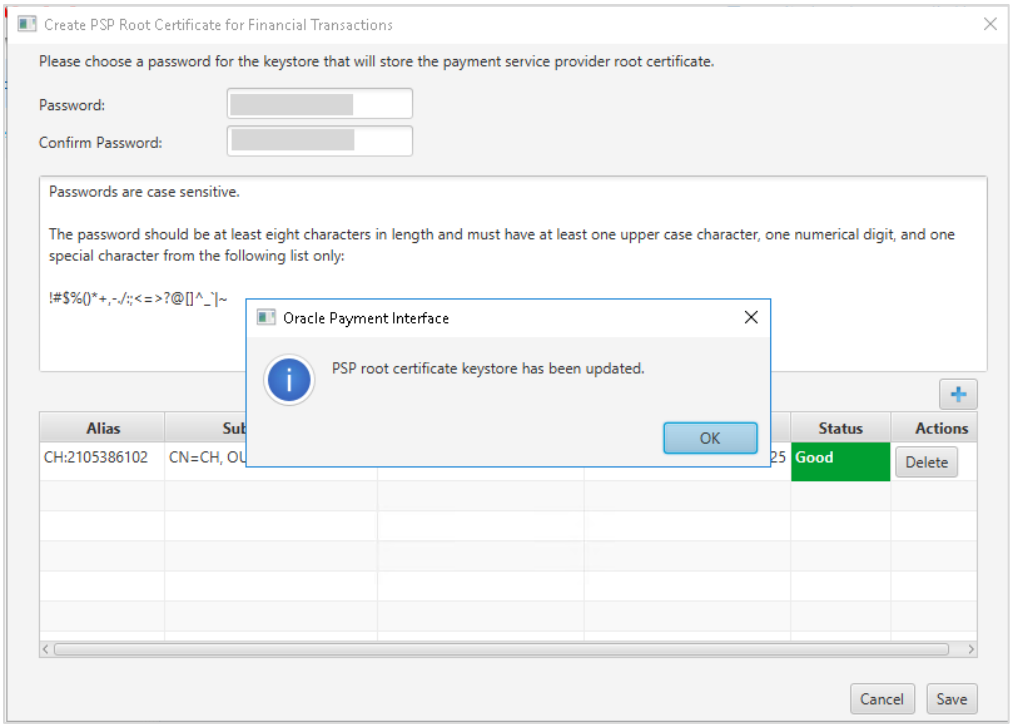
3. Click  to delete and update the certificate details.



4. Edit the Certificate details.



5. Click **Delete** to delete the 'About to Expire' certificate.
6. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .cer or.crt.
7. Click **Save**.

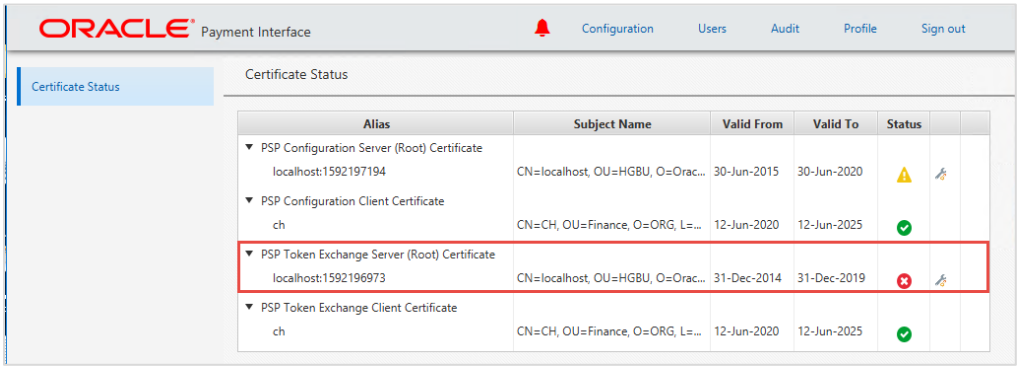


8. Click **OK**.

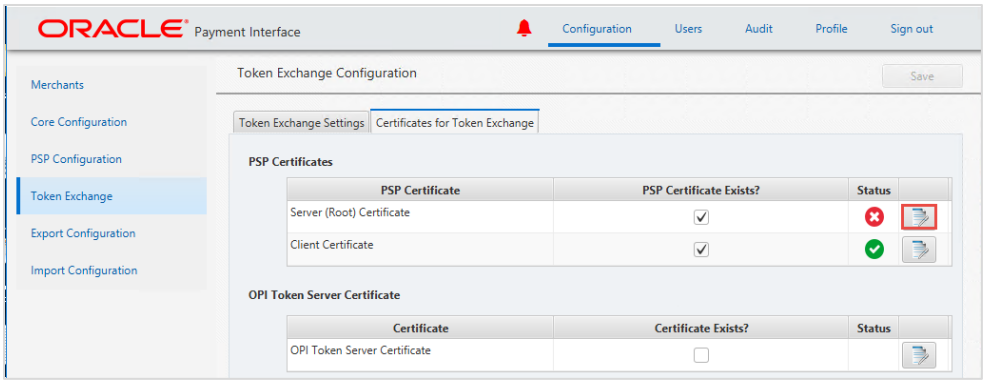
To view and update certificates in 'Expired' status:

1. Log in to the OPI Configuration tool.

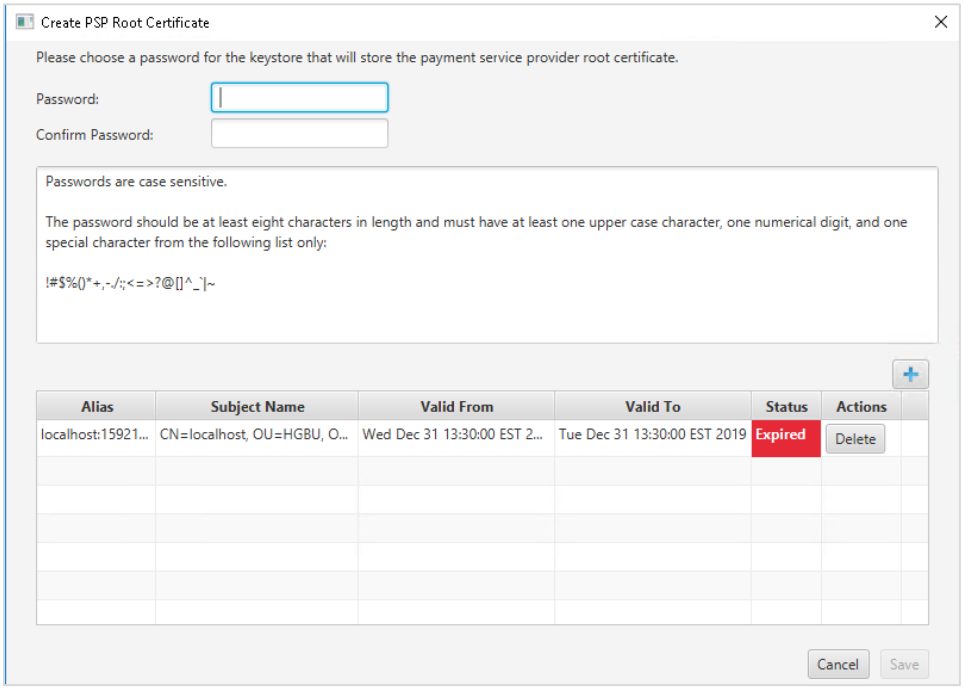
2. On the home page, click notification icon to view the 'Expired' certificate status.



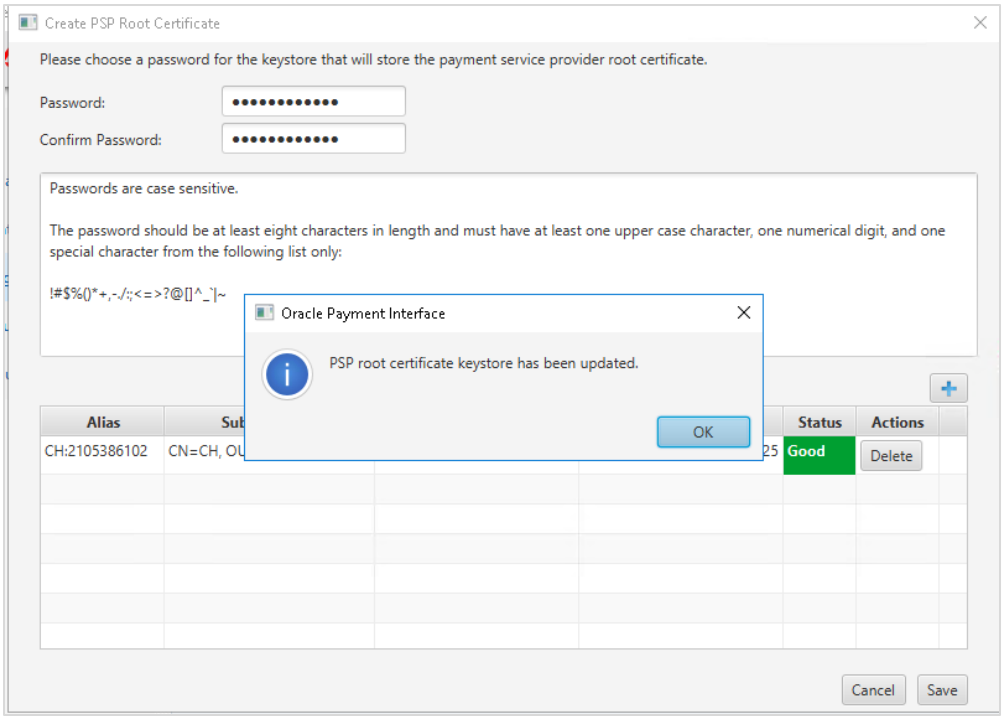
3. Click to delete and update the certificate details.



4. Edit the Certificate details.



5. Click **Delete** to delete the 'Expired' certificate.
6. Enter the password for the keystore and browse to the location of the certificate you want to import from **add** ( ) icon or you can also drag and drop the .cer or.crt.
7. Click **Save**.


Create PSP Root Certificate
Please choose a password for the keystore that will store the payment service provider root certificate.
Password:
Confirm Password:
Passwords are case sensitive.
The password should be at least eight characters in length and must have at least one upper case character, one numerical digit, and one special character from the following list only:
!#$%()*+,-./:;<=>?@[]^_`|~
Oracle Payment Interface
PSP root certificate keystore has been updated.
OK
Alias
Status
Actions
CH:2105386102
Good
Delete
Cancel
Save

8. Click **OK**.

8 Audit

OPI includes an Audit function to keep track of any configuration updates. Only System Administrator level users can view the Audit information. The System Administrator user should log in to the OPI Configuration tool, and go to the **Audit** tab.

Audit Trail Search

By default, no Audit Trail records are visible. Use the available filters to narrow the search criteria as required.

- Event type;
  - All
  - Application – Configuration related events
  - Security – User account related events
  - Setup – Events performed by installation process
- **Description** – Events containing the Description value entered
- **Username** – Events containing the Username value entered
- **IP Address** – Events containing the IP Address value entered
- **From date** – Enter the date to search from in the format yyyy-mm-dd, or click the calendar icon and select the required date.
- **To date** – Enter the date to search up to in the format yyyy-mm-dd, or click the calendar icon and select the required date.

Click **Search** to display the relevant Audit Trail Events.

If there are multiple pages of results, use the page numbers at the bottom of the window to navigate to a particular page, or the left and right arrows to move forward or backwards one page at a time.

By default, the search results are appeared in descending **Event Time** order. The search results can be sorted as required by clicking the relevant column header.

To view details of a particular event, click the **Show Event Details** magnifying glass icon on the relevant row.

Depending on the event type, you may see additional information in the **Pre-snapshot** and **Post-snapshot** fields, showing the before and after values, if the event was a configuration update.

Audit Trail Purge

Allows a System Administrator level user to purge any Audit Trail events that are older than 90 days by using **Purge** option.

9 Silent Installation

OPI 20.4 has the ability to perform a Silent Installation of the OPI software. The silent installation does not currently include any merchant configuration, only the installation of the OPI software.

To perform a Silent install, you must first perform a normal manual installation in record mode, which will produce a response file that can be used later by a silent mode software installation to complete without user intervention.

To execute the installer in the record or silent mode, execute it from a command prompt in the directory where the OPI installer is located, applying the relevant switch.

/r - Record mode stores information about the data entered and options selected by the user in a response file, which by default is called setup.iss, and is created in the system's Windows folder.

For Example;

OraclePaymentInterfaceInstaller_20.4.0.0.exe /r

/s - Silent mode reads information about the data to be entered and options to select, from a response file, which it expects by default to be called setup.iss, and to be located in the same folder you are executing the OPI installer from.

For Example;

OraclePaymentInterfaceInstaller_20.4.0.0.exe /s

Specify Alternative Response File

Using the /f1 option enables you to specify where the response file is (or where it should be created) and what its name is, as in **OraclePaymentInterfaceInstaller_20.4.0.0.exe /s /f1"C:\Temp\Setup.iss**". Specify an absolute path; using a relative path gives unpredictable results. The /f1 option is available both when creating a response file (with the /r option) and when using a response file (with the /s option).

Specify Alternative Log File

When running an InstallScript installation in silent mode (using the /s option), the log file Setup.log is by default created in the same directory and with the same name (except for the extension) as the response file. The /f2 option enables you to specify an alternative log file location and file name, as in **OraclePaymentInterfaceInstaller_20.4.0.0.exe /s /f2"C:\Setup.log**". Specify an absolute path; using a relative path gives unpredictable results.

If required the installation values, passwords, user names, and so on, in the setup.iss file, can be modified using a text editor.

10

OPI Services

The OPI 20.4 installation includes three windows services: OPI Config Service, OPI Service, and OPI Utility Service.

OPI Config Service

Deals with connections from applications used to configure OPI, such as OPI configuration Tool and Wizard.

OPI Service

- The OPI Service is the main OPI application service, listening for connections to OPI from the PMS and making connections to PSP.
- Always restart the OPI service after creating or changing any configuration.

OPI Utility Service

The OPI Utility Service handles any configuration values that are encrypted, such as passwords and passphrases.

Changing the OPI Config Service Port

During installation, the OPI Config Service Port is set to 8090. To change this port number, perform the following:

- Execute :\OraclePaymentInterface\v20.4\Services\ConfigService\OPIConfigServicew.exe
- Select the Java Tab
- Change the **–DserverPort=8090** value as required
- Restart the OPI Config Service

By default, the Configuration tools starts with the default value 8090. You must remember and re-enter the correct host details each time you start any of the configuration tools.

11

Settings Administration Tool

The Settings Administration Tool is the replacement for rwregistry. This new application is located in the following location:

\OraclePaymentInterface\v20.4\Services\ConfigService\LaunchSettingsAdminTool.bat

Using the Settings Administration Tool

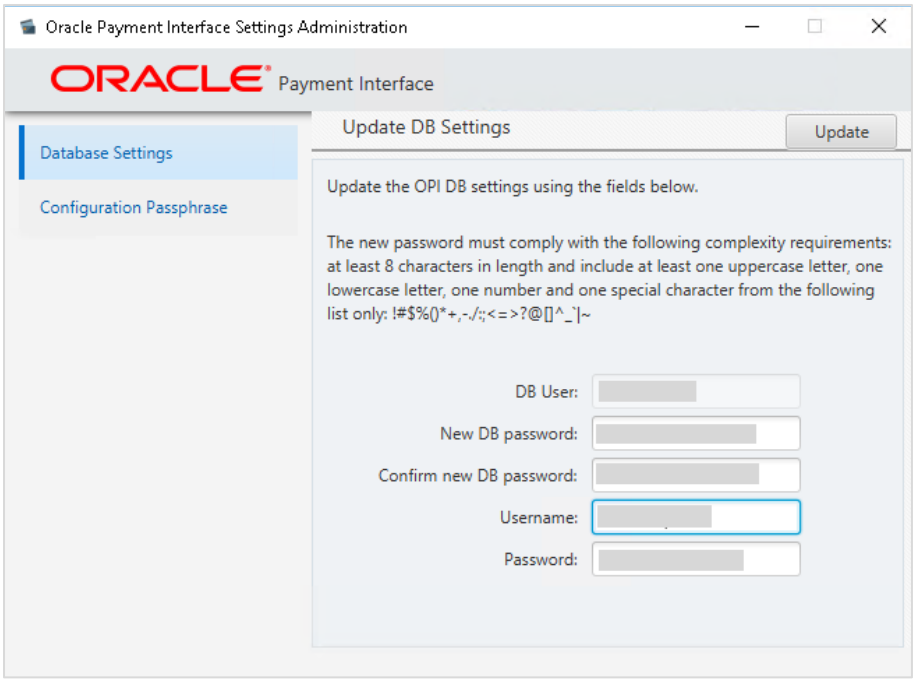
1. To launch the application, execute **LauchSettingsAdminTool.bat** as Administrator.
2. Select your desired language in the welcome screen, and click **Continue**.

> **NOTE:**
>
> The Settings Administration Tool does not allow users to change the Native Driver passphrase. The Native Driver passphrase can now be updated using the standard Configuration Tool.

Updating the OPI Schema Password

1. To change the DB credentials, use the **Database Settings** menu option.
2. Enter the OPI Schema **DB User**, the **New DB password** to be used, and the super user accounts **Username** and **Password**.
3. Only the super user account has the permissions to update DB settings.
4. Click **Update** when ready to change the password.

> **NOTE:**
>
> This changes the database credentials in the OPI configuration, it does not update the credentials in the database itself, this should be performed by the sites database administrator.



- The application should report the Database settings have been updated successfully.

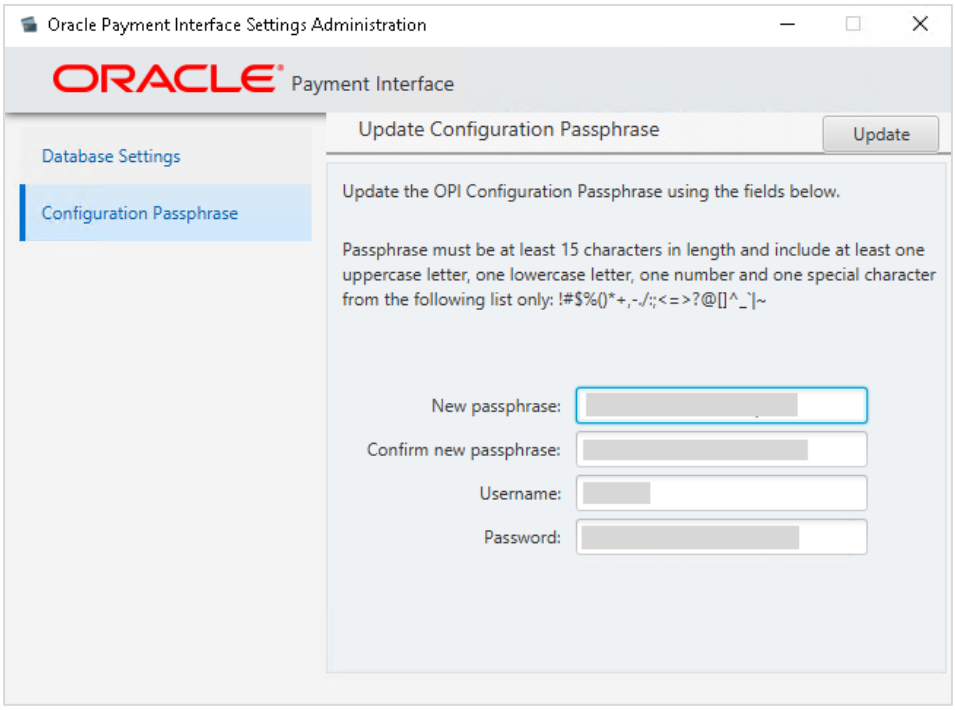
5. If the message “The application was unable to save the changes, please make sure you are running the application as Administrator” appears, close the application, re-run as Administrator, and repeat the previous steps.

Updating the OPI Configuration Passphrase

To change the Configuration Passphrase, which is the passphrase used by the Configuration Service to communicate with the Configuration Tool/Wizard:

1. Use the **Configuration Passphrase** menu option. Enter and Confirm the New passphrase, and the super user accounts **Username** and **Password**.
2. Click **Update** to change the passphrase.

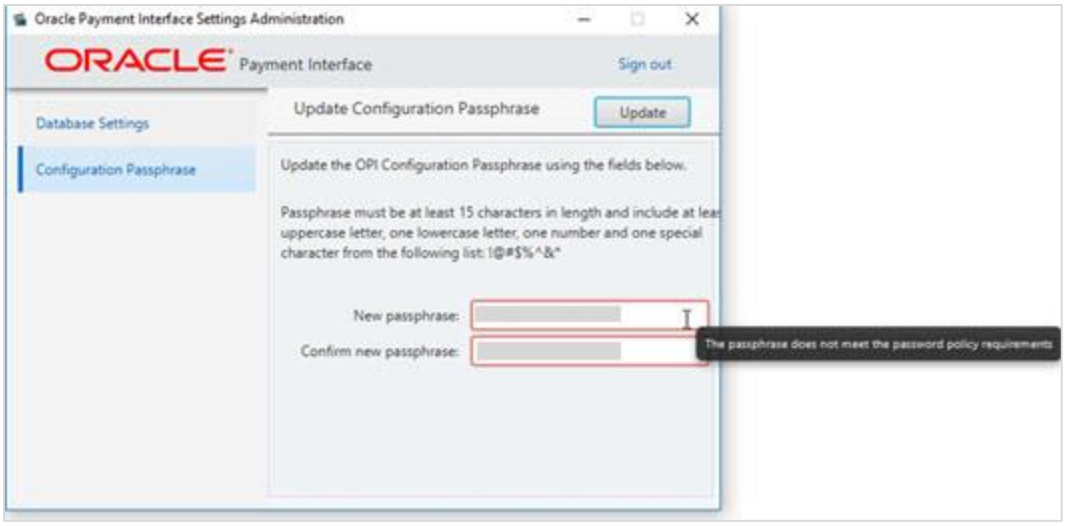
> **NOTE:**
>
> This changes the passphrase in the OPI configuration, it does not update the passphrase in the Configuration Tools/Wizard. This must also be updated to match the new passphrase using the Configuration Wizard Rotate Password utility.



The application should report the Passphrase has been updated successfully.

3. If the application reports "**The application was unable to save the changes, please make sure you are running the application as Administrator**", close the application, re-run as Administrator, and repeat the previous steps.

> **NOTE:**
>
> The application includes validations for password and passphrase complexity. If your password or passphrase does not meet the minimum requirements, the fields will be outlined in red. Hovering the cursor over the fields provides more information.



- The application will only prompt for Super User account credentials. After that, you will be able to perform an action without entering the credentials again. Additionally, the Sign out option will be shown on the upper right corner of the application.

4. When finished, click **Sign out**.

12

Configuration Tools – Rotate Passphrase

If you change the OPI Configuration Service passphrase, you must also change the Configuration tool passphrase to match the new value that was set on the OPI Config Service side so they can continue communicating.

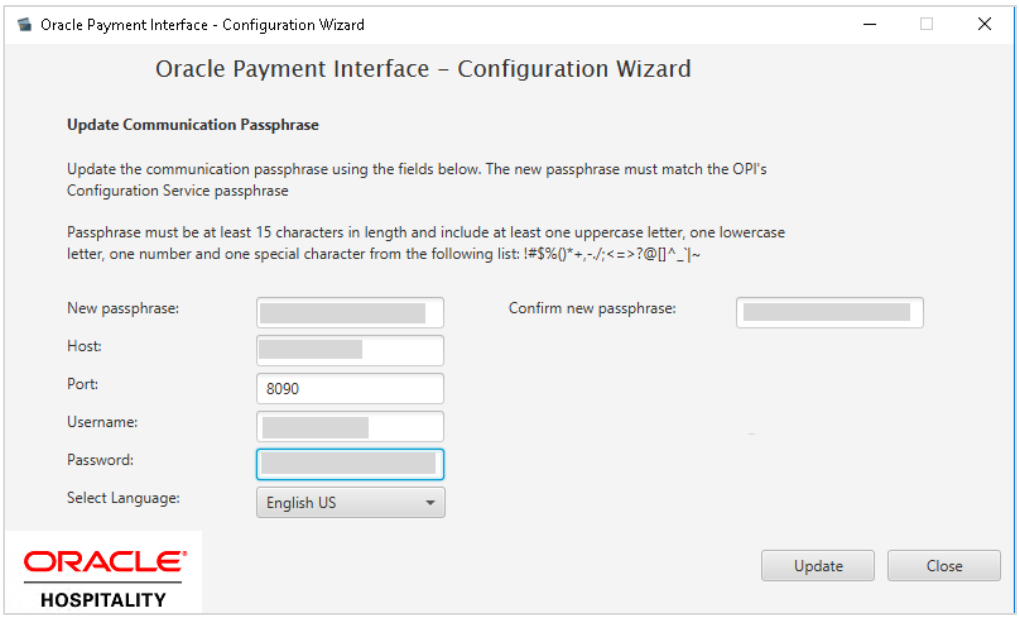
Using the Rotate Passphrase Utility

The Rotate Password utility uses the OPI Configuration tool, launched in a different mode. Use the link in the config folder to start the Configuration tool in Rotate Passphrase mode:

:\OraclePaymentInterface\v20.4\Config\RotatePassphrase.bat

To launch the application, execute RotatePassphrase.bat as Administrator

1. Enter and confirm the **New** passphrase (this new passphrase must match the passphrase that was setup in the OPI Configuration Service previously).
2. The **Host** and **Port** should match the details of the **OPI Config Service** that you are attempting to connect.
3. Enter your **Username** and **Password** credentials, and click **Update**.
4. Click **Update** to finalize the passphrase change.



- If the user credentials are correct and the new passphrase matches the OPI Config Service passphrase, the application appears with a message saying ‘Passphrase has been updated successfully’.
- The OPI Configuration Tool/Wizard should now be able to communicate with OPI Config Service.
- If the new passphrase does not match the OPI Config Service passphrase, the application appears with a message saying ‘Unable to communicate with configuration service, please make sure that the new passphrase matches the passphrase on the Configuration Service side’.
- If the user credentials are incorrect, the application appears with a message saying ‘The username or password is incorrect’.
- If the application is not running as an administrator, the application appears with a message saying ‘The application was unable to update the passphrase, please make sure you are running the application as Administrator’.

13

OPI Client Certificate Creator Utility

The OPI Client Certificate Creator utility can be used to create self-signed certificates if required, and also used to assist with installations of OPI.

The Client Certificate Creator is primarily used for creating certificates that are used by the OPERA client. If a site uses Token Proxy (Self Hosted or Cloud Token Proxy), certificates required for the OPERA client in an OnPremise Token Exchange situation are managed by the configuration tools.

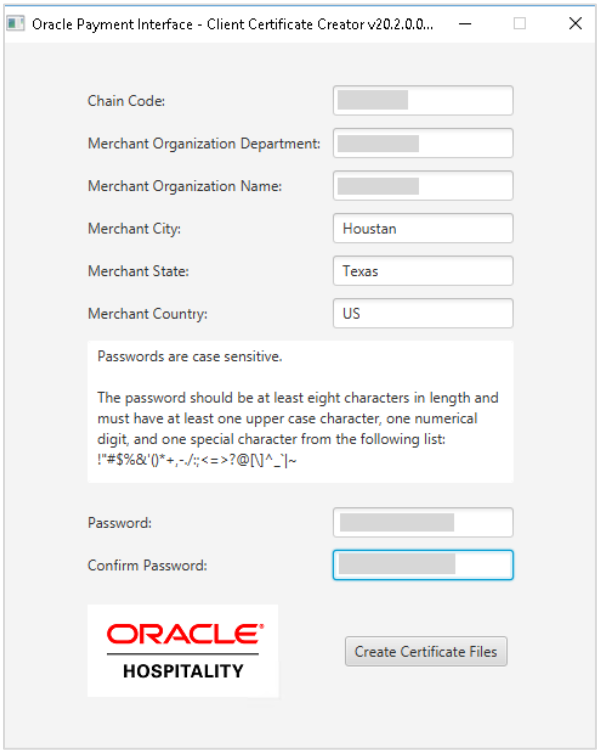
The Client Certificate Creator is also used to assist with setup for test environments, but it is not recommended for use in any public-facing situations because the certificates produced are only self-signed.

Using the Client Certificate Creator

1. To launch the Certificate Creator, execute CertCreator.bat as Administrator

   :\OraclePaymentInterface\v20.4\Config\LaunchCertCreator.bat

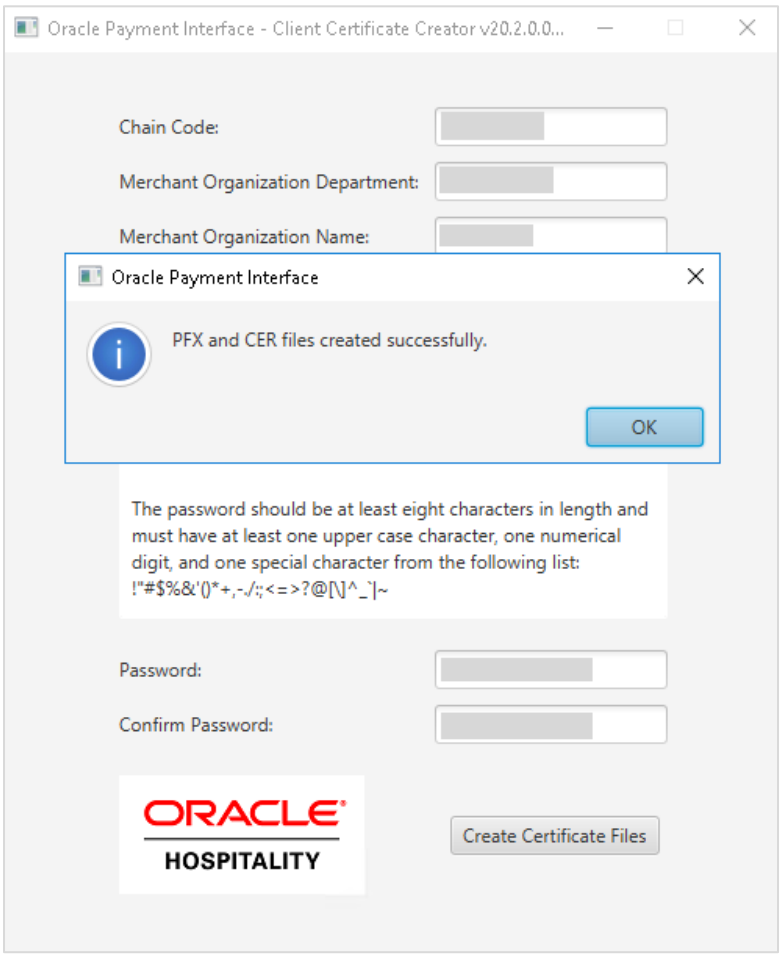
2. Complete the details as required, and click **Create Certificate Files**.



3. A standard Windows save file dialog box appears. Enter the name for the new certificate files and specify a save location.

4. If you do not see the save file popup, check the red text at the bottom of the window. The red text appears with incorrect values you entered.

   Although the **Save as type** field shows (.pfx), both a .pfx and .cer will be created in the location specified when you save the files.



The certificate expiration dates will be 5 years from the date of creation.

The OPI Client Certificate Creator fields translate as follows to the standard certificate attributes:

Chain Code	> CN (CommonName)
Merchant Organization Department	> OU (OrganizationalUnit)
Merchant Organization Name	> O (Organization)
Merchant City	> L (Locality)
Merchant State	> S (StateOrProvinceName)
Merchant Country	> C (CountryName)

14

Import/Export OPI Configuration

The OPI import/export configuration functionality enables user to back up the OPI configuration data and/or duplicate it to another OPI instance.

Export Configuration

1. Log in to the OPI configuration tool as the System Administrator, select **Export Configuration**.
2. Click **Export**.
3. Choose an export location and filename, and click **Save** to export the configuration to an XML file.

Do not change the XML file, except for the following scenarios:

- The merchant configuration in XML file no need import to another OPI instance.
  - Open the XML file, go to <merchant> section, changes import_enabled flag to false.
- Changing site-specific information such as IP and so on.

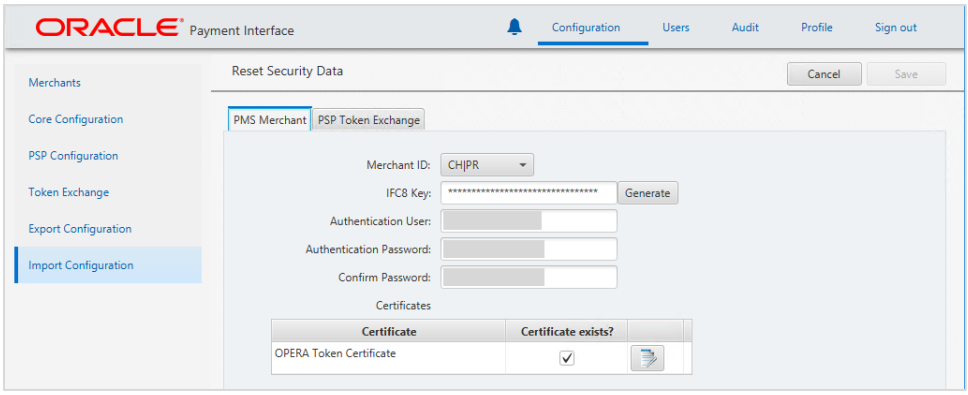
Import Configuration

1. Log in to the OPI configuration tool as the System Administrator, select **Import Configuration**.
2. Click **Import**.
3. Click **OK** on the prompt for backing up the database.
4. Select a saved XML configuration file, and then click **OK** to import the configuration.
5. Click **OK**, and manually restart OPI service or reboot machine to make the new imported configurations effective.

Reset Security Data

Resetting security data is not mandatary for all imports. It is only needed when imported configuration changes modify the way OPI communicates with PMS/PSP, or when a new merchant has been imported.

1. Log in to the OPI configuration tool as the System Administrator, select **Import Configuration**, and then click **Reset**.
2. A screen appears with multiple options as shown below.



Merchant Options

When imported OPI configuration contains PMS merchant information, and disabled “OPERA Token Service” on Core Configuration page, you need to reset IFC8 key.

- Select the specific Merchant ID to reset.
  - IFC8 Key: generates the IFC8 key to secure the communication between PMS IFC8 and OPI.

When imported OPI configuration contains PMS merchant information, and enabled “OPERA Token Service” on Core Configuration page, you need to reset IFC8 key and Token Exchange authentication.

- Select the specific Merchant ID to reset.
  - IFC8 Key: generates the IFC8 key to secure the communication between PMS IFC8 and OPI.
  - **Authentication User**: authentication user for Token Exchange.
  - **Authentication Password**: password for the authentication user.
  - **Certificates**: generate the certificate for the Token Exchange, if needed.

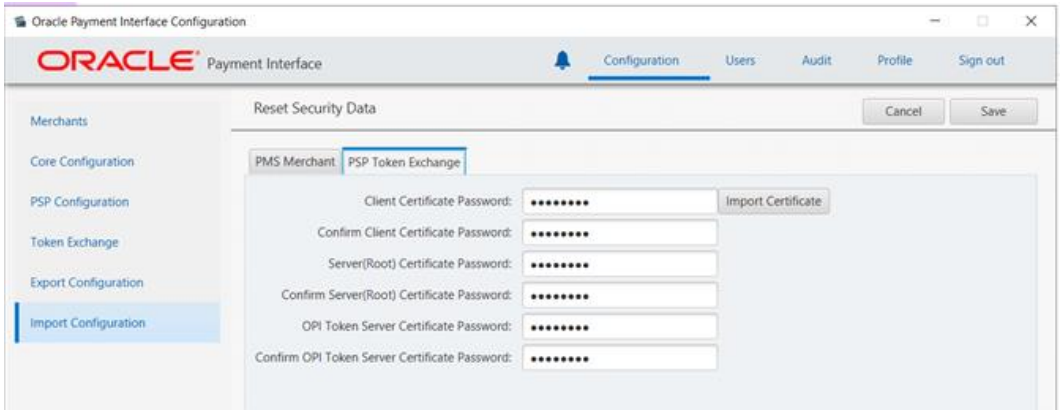
When imported OPI configuration contains PMS merchant information, and enabled “Cruise PMS” on Core Configuration page, you need to reset IFC8 key.

- Select the specific Merchant ID to reset.

– IFC8 Key: generates the IFC8 key to secure the communication between PMS IFC8 and OPI.

PSP Token Exchange Options

When the imported OPI configuration enabled “OPERA Token Service” on Core Configuration page, you need to reset certificate password and reimport certificate.



- **Client Certificate Password**: client certificate password
- **Import Certificate**: imports certificates to the OPI key directory.
- **Confirm Client Certificate Password**: confirm client certificate password.
- **Server (Root) Certificate Password**: server root certificate password.
- **Confirm Server (Root) Certificate Password**: confirm server root certificate password.
- **OPI Token Server Certificate Password**: OPI Token Server Certificate password
- **Confirm OPI Token Server Certificate Password**: Confirm the OPI Token Server Certificate Password

15

Uninstallation and Modification of Install

IF UPGRADING OPI, YOU MUST READ THE UPGRADING THE OPI SECTION FIRST.

Uninstalling OPI

To uninstall OPI you can either:

- Run **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file. The installer detects the existing installation and gives you the option to **Remove** (uninstall) OPI.
- Use the **Add/Remove Programs** option via Programs and Features in Windows Control Panel.

During uninstallation you will be asked if you want to remove the OPI database schema. If this is required, you must provide the Root user credentials again, because the credentials are not stored during installation.

To complete the uninstallation of OPI, you must reboot of the host machine.

Modifying OPI

To modify your OPI installation, you can either:

- Run **OraclePaymentInterfaceInstaller_20.4.0.0.exe** file. The installer detects the existing installation and gives you the option to Modify (add/remove components) the install.
- Use the **Add/Remove Programs** option via Programs and Features in Windows Control Panel. Right-click the OPI entry, and then select **Change**.

During modification system prompts you which features you want to add or leave installed.

For example, On the **Select Features** page if you only have the **OPI Services** component selected, and you want to add the **Configuration Tool** component, you should select both OPI Services (To leave this installed) and the Configuration Tool (To install this component).

If you select only **Configuration Tool**, the modification process will attempt to add the Configuration Tool component, but removes **OPI Service**.

16

Configuration Settings

You can configure PMS merchants in the Configuration wizard and the configured settings are available in the Configuration tool (LaunchConfiguration.bat.).

Section	Setting Name	Constraint	Default Value	Description
Merchant | Configuration				
	ID		Blank	Will display the OPERA Chain | Property Code for any PMS Merchants that have been configured
	Name		Blank	Will display the Name of any Merchants that have been configured
	Type		Blank	Will display the PMS Merchant that have been configured
Merchants | Merchant Information				
	OPERA Chain Code	Only displayed for PMS Merchants	Set during Merchant Configuration	OPERA Chain code for the Merchant
	Property Code	Only displayed for PMS Merchants	Set during Merchant Configuration	OPERA Property code for the Merchant
	Name		Set during Merchant Configuration	Name of the Merchant
	City		Set during Merchant Configuration	City location of the Merchant
	State/Province		Set during Merchant Configuration	State or Province location of the Merchant
	Country/Region		Set during Merchant Configuration	Country location of the Merchant
	Currency		Set during Merchant Configuration	Currency selection by the Merchant in which the transactions are to be processed
Merchants | IFC8 Settings		Only visible if the Merchant Type = IFC8		
	IFC8 Host		Set during Merchant Configuration	IFC8 machines Host name or IP Address
	IFC8 Port		Set during Merchant Configuration	IFC8 port number

Section	Setting Name	Constraint	Default Value	Description
	IFC8 Key		Generate during Merchant Configuration	Use to generate an IFC8 Communication key
	Communication Test Interval		120	Test connection interval in seconds
	Bulk Tokenization Batch Size		50	Number of items in a single tokenization request
	Only Do Refund		Disabled	When enabled, OPI will always send a refund request to PSP whenever it receives a transaction request with a negative amount from OPERA. When disabled, OPI supports both void and refund.
	Return receipt's full print data		Disabled	Select to return receipts full print data to IFC8 in the Cross Reference fields To allow Print on Folio
	Enable UTF-8 for receipt's		Enabled	Select to enable UTF-8 encoding for PMS response messages When not enabled OPI will use the OS default character set.
	Send RRN Back to PMS		Disabled	When disabled OPI will not pass RRN back to PMS. When enabled OPI will pass RRN back to PMS.
Merchants | Payment Types				
	Tenders: AliPay		AB	PMS Tender mapping
	Tenders: Alliance		AL	PMS Tender mapping
	Tenders: American Express		AX	PMS Tender mapping
	Tenders: Bank Card		LC	PMS Tender mapping
	Tenders: China UnionPay		CU	PMS Tender mapping
	Tenders: China UnionPay Debit		CD	PMS Tender mapping
	Tenders: Debit		DD	PMS Tender mapping
	Tenders: Debit Card		DE	PMS Tender mapping
	Tenders: Debit SMS		DL	PMS Tender mapping
	Tenders: Diners Club		DC	PMS Tender mapping
	Tenders: Discover		DS	PMS Tender mapping
	Tenders: EC Chip		EC	PMS Tender mapping
	Tenders: Gift Card		GC	PMS Tender mapping

Section	Setting Name	Constraint	Default Value	Description
	Tenders: Reward Card		RC	PMS Tender mapping
	Tenders: Giro Card		BC	PMS Tender mapping
	Tenders: JCB		JC	PMS Tender mapping
	Tenders: Maestro		ME	PMS Tender mapping
	Tenders: MasterCard		MC	PMS Tender mapping
	Tenders: MasterCard Debit		MD	PMS Tender mapping
	Tenders: MIR		MI	PMS Tender mapping
	Tenders: PayPal		PC	PMS Tender mapping
	Tenders: Reserve-01		ZZ	PMS Tender mapping
	Tenders: Reserve-02		ZZ	PMS Tender mapping
	Tenders: Reserve-03		ZZ	PMS Tender mapping
	Tenders: Reserve-04		ZZ	PMS Tender mapping
	Tenders: Reserve-05		ZZ	PMS Tender mapping
	Tenders: Reserve-06		ZZ	PMS Tender mapping
	Tenders: Reserve-07		ZZ	PMS Tender mapping
	Tenders: Reserve-08		ZZ	PMS Tender mapping
	Tenders: Reserve-09		ZZ	PMS Tender mapping
	Tenders: Reserve-10		ZZ	PMS Tender mapping
	Tenders: Reserve-11		ZZ	PMS Tender mapping
	Tenders: Reserve-12		ZZ	PMS Tender mapping
	Tenders: Reserve-13		ZZ	PMS Tender mapping
	Tenders: Reserve-14		ZZ	PMS Tender mapping
	Tenders: Reserve-15		ZZ	PMS Tender mapping
	Tenders: UKDM/Switch		SD	PMS Tender mapping
	Tenders: Visa		VA	PMS Tender mapping
	Tenders: Visa Debit		VD	PMS Tender mapping
	Tenders: Visa Electron		VE	PMS Tender mapping
	Tenders: V Pay		VP	PMS Tender mapping
	Tenders: WeChat Pay		WE	PMS Tender mapping

Section	Setting Name	Constraint	Default Value	Description
Merchants | Token Exchange Settings		Only displayed for OPERA Merchants		
	Authentication User		Set during Merchant Configuration	Username for OPERA Authentication
	Authentication Password		Set during Merchant Configuration	Password for OPERA Authentication
	Confirm Password		Set during Merchant Configuration	Password for OPERA Authentication
Merchants | Terminals		Only displayed if PSP Configuration | Communication Mode = Terminal		
	Workstation ID		Set during Merchant Configuration	ID of the workstation using the PED
	Terminal IP/Host Name		Set during Merchant Configuration	IP Address/Host Name of the PED, the Workstation should use
	Proxy Enabled		Disabled	Enable to customize the proxy for a specific terminal if needed
	Host		Blank	Proxy Host name or IP, if no proxy is needed leave this field empty
	Port		Blank	Proxy Port, if no proxy is needed leave this field empty
Core Configuration				
	PMS IFC8 Service		Set during install	Enables/Disables the OPERA IFC8 Service
	OPERA Token Service		Set during install	Enables/Disables the OPERA Token Exchange Service
	Enable Cruise PMS		Disabled	Enables/Disabled the Cruise PMS Service
	Enforce TLS 1.2 protocol and above only		Enabled	Enforce TLS 1.2+ only on OPERA Token Service
	Log retain days		30	Number of days the OPI wrapper log files will be retained. - OPISvcWrapper.YYYY-MM-DD.log - UtilitySvcWrapper.YYYY-MM-DD.log
	Transaction retention days		30	Number of days the transactions remain in the h_transline table. The default value is 30. After this time period, the data will be moved to the h_transhistory table.

Section	Setting Name	Constraint	Default Value	Description
	Transaction history retention days		365	Number of days the transactions remain in the h_transhistory table. The default value is 365. After this time period, the data will be purged from the database.
	SSL Certificate expiry warning days		90	Number of warning days before the SSL certificate expires.
	Server time zone		Set during install	Time Zone used by the OPI Service Set during installation to match the time zone of the host machine
	Refresh OPI configuration at		00:29	Scheduled Hour and Minute for configuration refresh Note this does not restart the OPI Service, it will just re-read the configuration from the database
	HTTP Proxy Host		Blank	HTTP Proxy Host name or IP, if no proxy is needed leave this field empty
	HTTP Proxy Port		Blank	HTTP Proxy Port, if no proxy is needed leave this field empty
	Select language		English US	Language used for OPI's status/error messages sent back to PMS
	Request Encoding		UTF-8	Encoding type of request messages
	Enable UTF-8 encoding of response messages		Enabled	Select to enable UTF-8 encoding for PMS response messages
	Mask Last 4 digits of PAN		Disabled	Currently OPI is masking the first 12 digits of PAN, by enabling this option we will mask the last 4 digits as well.
	Mask gift card number		Enabled	Deselect this option if masking is not needed for Gift card transaction types. If this option is deselected, the **Mask Last 4 digits of PAN** option will be ignored for Gift card transaction types.
PSP Configuration				
	Communication Timeout		60	Seconds OPI will wait for a timeout from the PSP
	Connect Timeout		10	Seconds OPI will wait before initiating a connection to the PSP
	Enable Mutual Authentication		Disabled	Select to allow mutual (two-way) authentication between OPI and PSP
	Disable End-Of-Day Transaction		Disabled	Select this to stop sending End Of Day Transaction request to PSP.

Section	Setting Name	Constraint	Default Value	Description
	Communication Mode		Set during installation	Terminal Mode - OPI maintains WS > PED mapping and communicates directly to PED Middleware Mode - PSP maintains WS > PED mapping and handles communication to PED
	Terminal Port	Only visible if Communication Mode = Terminal	443	Port Number for PSP devices
	Terminal Context	Only visible if Communication Mode = Terminal	Blank	If the PSP's device require a context in their connection url enter the context here. Leave blank if not required
	Enforce HTTPS	Only visible if Communication Mode = Terminal	Enabled	This is enabled by default for all installations
	Primary Host	Only visible if Communication Mode = Middleware	https://pspshost:443	The PSP Host URL for Financial Transactions
	Failover Host	Only visible if Communication Mode = Middleware	https://pspsfailoverhost:443	The PSP Failover Host URL for Financial Transactions If a failover URL is not available, leave this blank
	Enable Inquiry Mode for Transactions Reversal	Only visible if Communication Mode = Middleware	Enabled	Select to allow OPI to perform an inquiry to verify the status of a transactions before sending a reversal request to the PSP. Inquiry mode is not supported in Terminal Mode, a reversal will always be sent.
Token Exchange				
	Token Listener Port		5012	
	Primary Host URL		Blank	The PSP Host URL for Token Exchange
	Failover Host URL		Blank	The PSP Failover Host URL for Token Exchange If a failover URL is not available, leave this blank
	HTTP Proxy Host		Blank	HTTP Proxy Host name or IP, if no proxy is needed leave this field empty
	HTTP Proxy Port		Blank	HTTP Proxy Port, if no proxy is needed leave this field empty
	Communication Timeout		60	Seconds OPI will wait for a timeout from the PSP
	Connect Timeout		10	Seconds OPI will wait before initiating a connection to the PSP

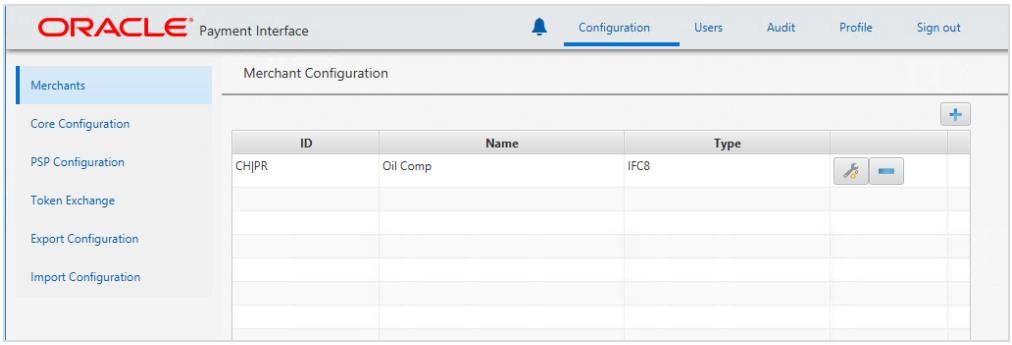
Configuration Tool Settings

The configurator provides expanded control in an easy to use format.

- Double click **OraclePaymentInterface\v20.4\Config\LaunchConfigurator.bat**.
- Sign in with Super User name and password created during installation.
- Hovering the mouse cursor over an option will give a brief description of it.

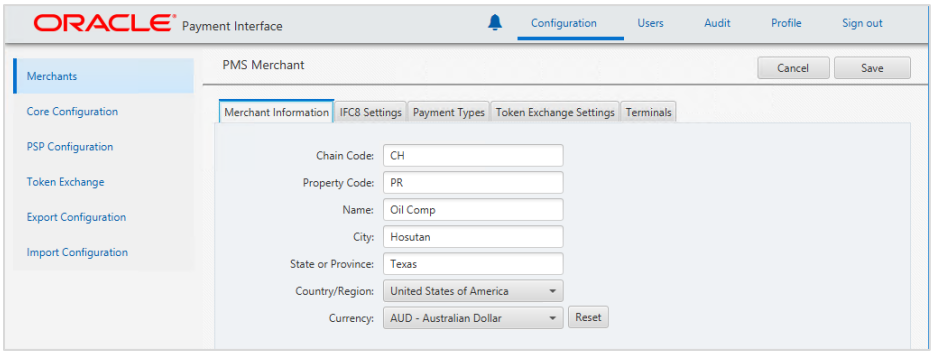
Merchants

On the **Merchants** tab, you can add, edit, and delete merchant records.



Merchant Information

> **NOTE:**
>
> To configure multiple OPERA PMS Merchants using one instance of OPI, refer to the Configure Multiple OPERA Properties section for details.



Chain Code: The OPERA chain code for the merchant.

Property Code: The OPERA property code for the merchant.

Name: The name of the merchant.

City: The city location of the merchant.

State or Province: The state or province location of the merchant.

Country/Region: The country location of the merchant.

Currency: The currency selection by the merchant in which the transactions are to be processed. Merchants can override selected transaction currency irrespective of country/region selection. **For example**: If a merchant's selects country as 'United States of America', then they can select the currency from the list of all available currencies (AUD, AED, AFN, EUR and so on) and this currency is used for transaction currency.

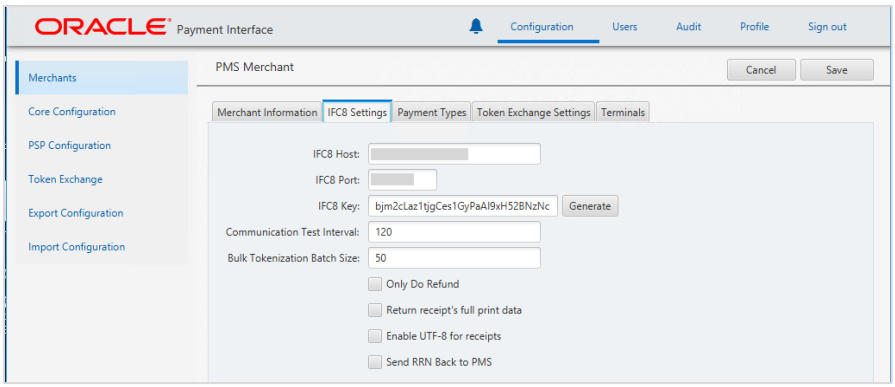
NOTE:

If currency needs to be changed for any reason, the merchant needs to follow the below steps:

- Settle all existing transactions to avoid possible issues with those transactions
- Settle all existing authorisations for in house guests
- Change currency in OPI Configuration Tool in Wizard or Standard mode
- Restart the OPI Service manually

Reset: To reset the currency back to use country/region currency.

Merchant Information | IFC8 Settings



IFC8 Host: The IFC8 machine Host name or IP Address.

IFC8 Port: The IFC8 port number.

IFC8 Key: Use to generate an IFC8 Communication key. The generated key will have the prefix **FidCrypt0S|** that is automatically added. Use this generated key when configuring the key in IFC8 software.

Communication Test Interval: Test connection interval, in seconds.

Bulk Tokenization Batch Size: Size in number of cards.

Only Do Refund: Select this to send a refund request to PSP whenever it receives a transaction request with a negative amount from OPERA. When disabled, OPI supports both void and refund.

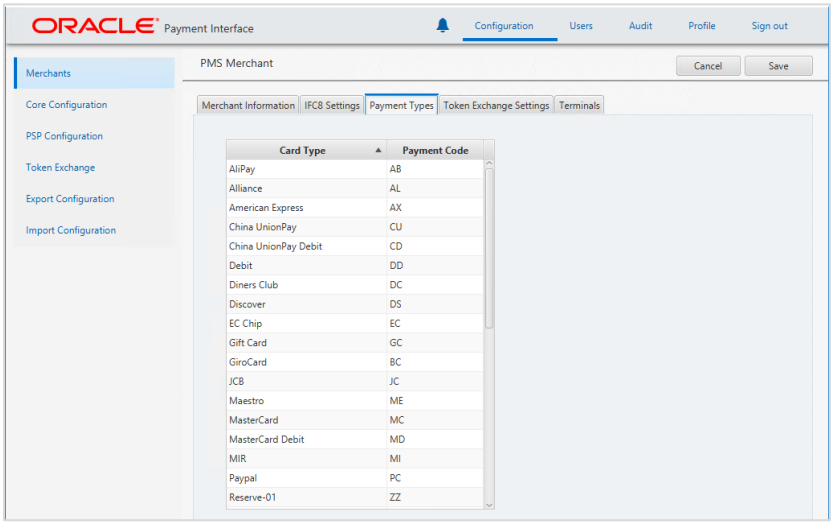
Return receipt's full print data: Select this to return the receipt's full print data to IFC8 in the cross reference fields.

Enable UTF-8 for receipts: Select this to return print data in UTF-8 encoding.

Send RRN back to PMS: Select this to pass RRN back to PMS. RRN is supported in OPERA PMS Versions 5.6.5.0 and higher or 19.2.0 and higher.

> **NOTE:**
>
> If **Send RRN back to PMS** field is disabled, then OPI will not pass RRN back to PMS.

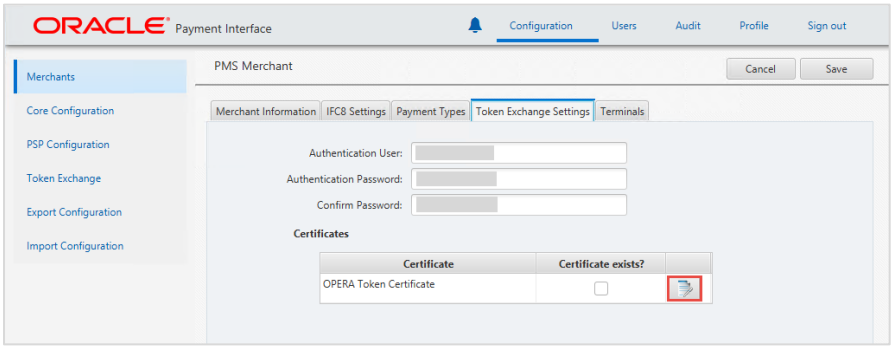
Merchant Information | Payment Types



Card Type: The Card types that are supported in OPERA based on the countries/regions.

Payment Code: Each Card type is mapped with a Payment Code in the OPERA configuration.

Merchant Information | Token Exchange Settings



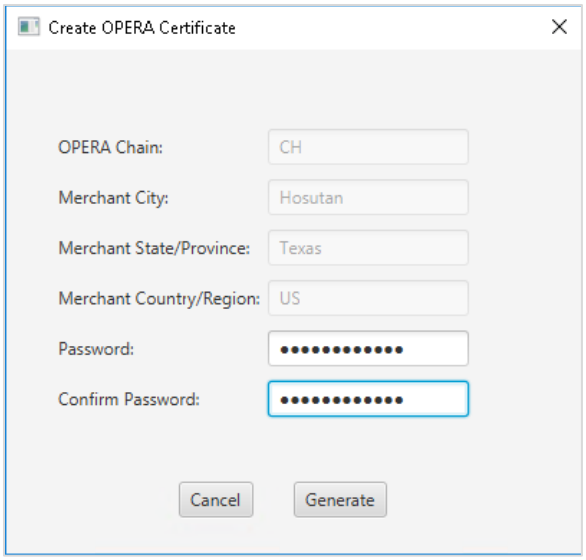
Authentication User: The username for OPERA Authentication.

Authentication Password: The password for OPERA Authentication.

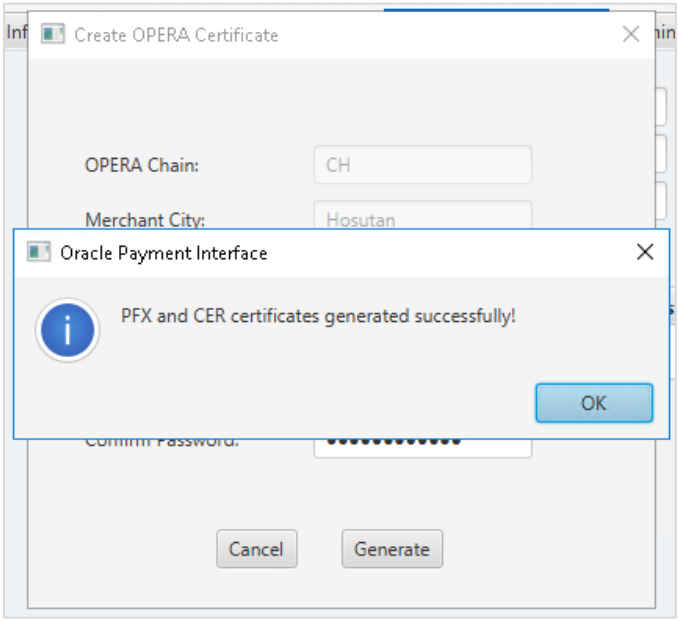
Confirm Password: The password for OPERA Authentication.

Certificates: To create OPERA Token Certificate -

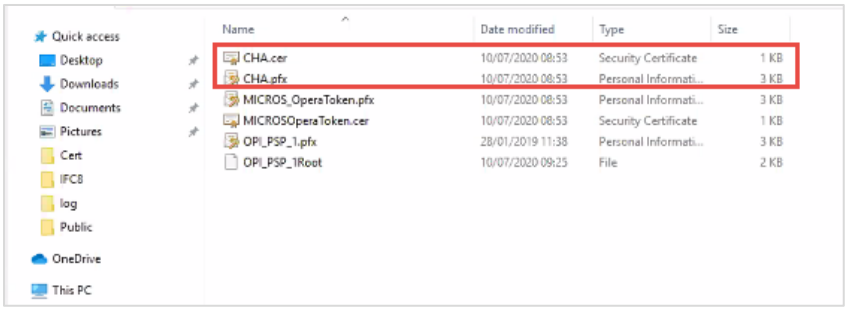
- Select Token Exchange Settings, and then click Create OPERA Token Certificate.



- **OPERA Chain**, **Merchant City**, **Merchant State/Province** and **Merchant Country/Region** fields are automatically populated based on the Merchant Information.
- Enter the **Password** and confirm it.
- Click **Generate** to continue.



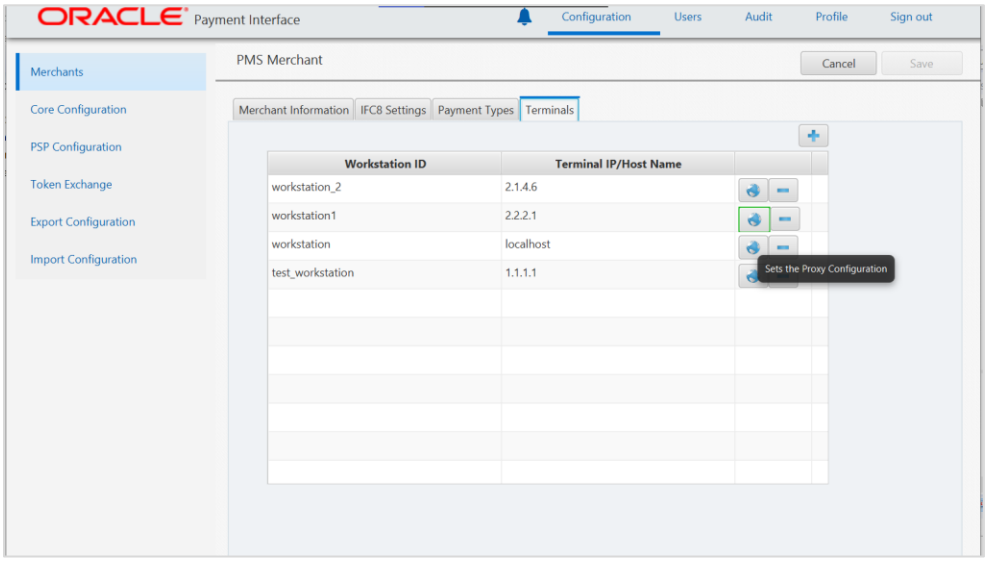
- This process will generate the **CH.pfx** and **CH.cer** files in the following folder: **\OraclePaymentInterface\v20.4\Services\OPI\key**

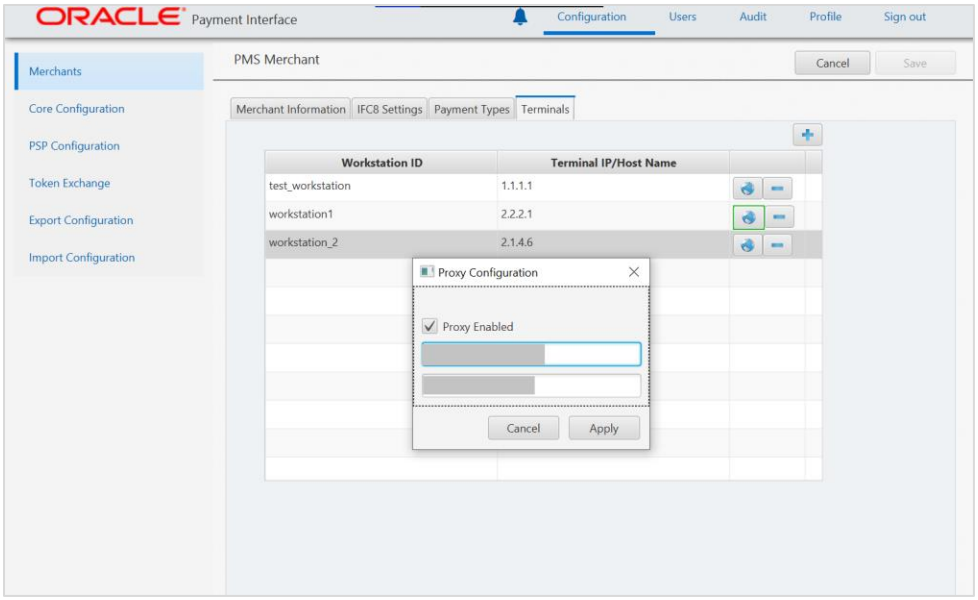


- In the above example, the certificates are named CH, which is picked up from the Chain Code entered in previous steps. The certificates you create may be named differently relative to the environment in which they are being installed.

Merchant Information | Terminals

This tab appears only if you select PSP Configuration | Communication Mode = Terminal. The Terminals generally use the proxy that is set at Core configuration settings. If you need to customize the proxy for a specific terminal, you can select the **Proxy Enabled** checkbox to configure the settings.





Workstation ID: The ID of the workstation using the PED

Terminal IP/Host Name: The IP Address/Host Name of the PED, the Workstation should use.

Proxy Enabled: Select **Proxy Enabled** checkbox if you need to customize the proxy for a specific terminal.

Host: The proxy host name or IP. If no proxy is needed, leave this field empty.

Port: The proxy port. If no proxy is needed, leave this field empty.

Configure Multiple OPERA Properties

You can configure multiple hotel properties using one OPI instance. See the Oracle Payment Interface Multi-Properties Support Sizing Guide for sizing information and instructions.

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and click the **blue plus** ( ) icon in the **Merchant Configuration** window to configure the hotel property details.

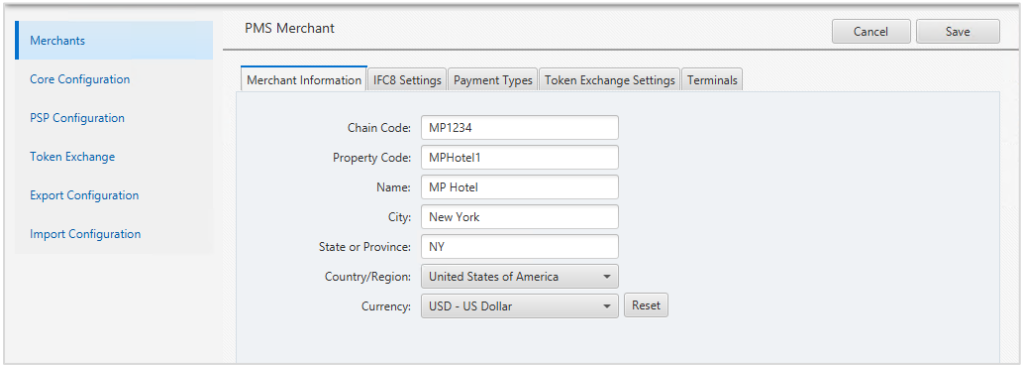
In the PMS **Merchant Information** window, enter the following details.

2. **Chain Code**: Enter the OPERA chain code for the merchant.

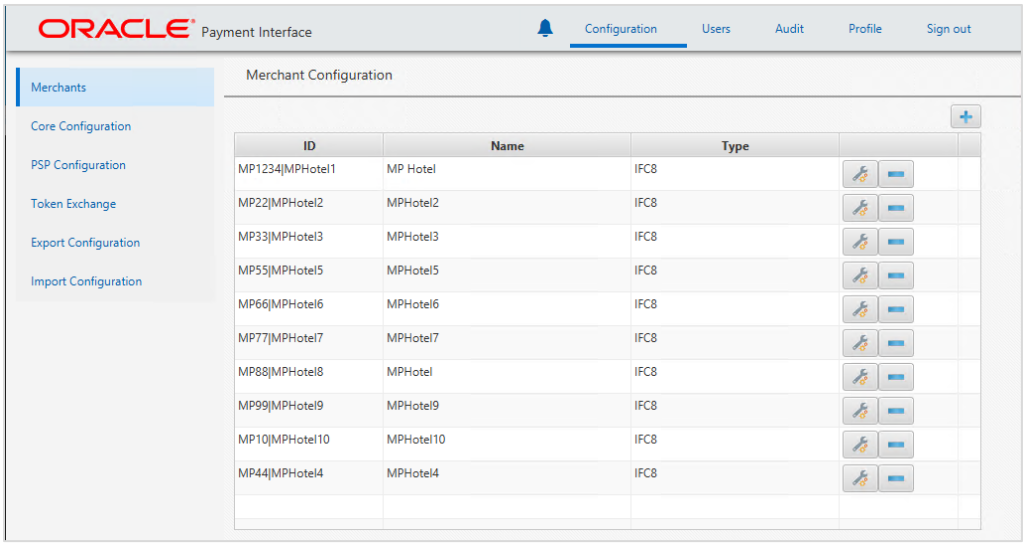
3. **Property Code**: Enter the OPERA property code for the merchant.
4. **Name**: Enter the name of the merchant.
5. **City**: Enter the city location of the merchant.
6. **State or Province**: Enter the state or province location of the merchant.
7. **Country/Region**: Select the country location of the merchant.
8. **Currency**: Select the currency in which the transactions are to be processed. Merchants can override selected transaction currency irrespective of country/region selection. For example: If a merchant's selects country as 'United States of America', then they can select the currency from the list of all available currencies (AUD, AED, AFN, EUR and so on) and this currency is used for transaction currency.

> **NOTE:**
>
> If currency needs to be changed for any reason, the merchant needs to follow the below steps:
>
> - Settle all existing transactions to avoid possible issues with those transactions
> - Settle all existing authorisations for in house guests
> - Change currency in OPI Configuration Tool in Wizard or Standard mode
> - Restart the OPI Service manually

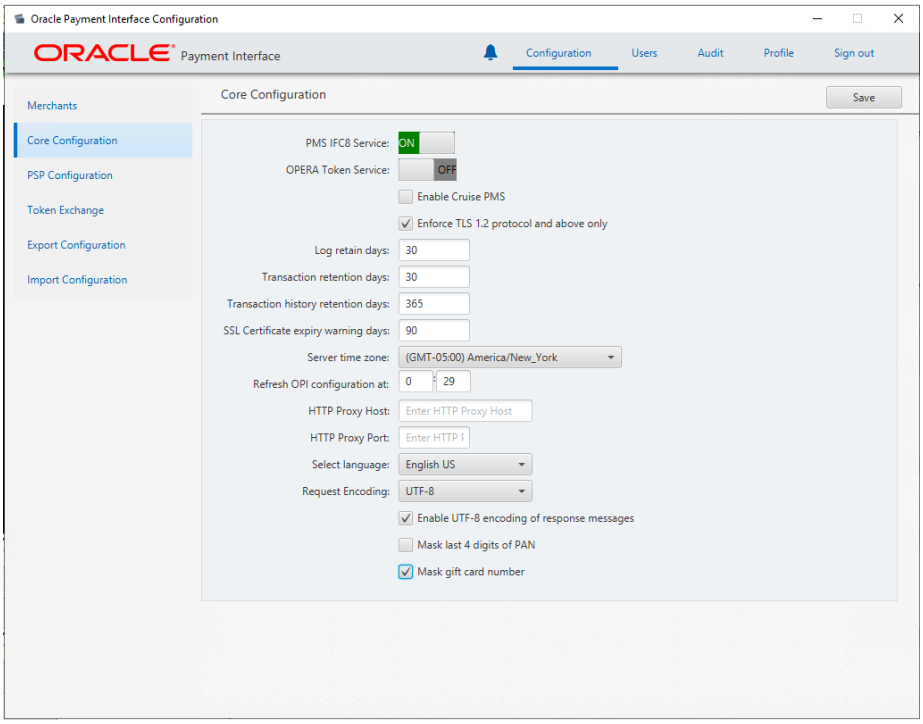
9. **Reset**: Click to reset the currency back to use country/region currency.
10. Once the details are entered, click **Save** to save the hotel property details.



11. To configure multiple hotel properties, you can Repeat Steps 1 through 10.


ORACLE Payment Interface
Configuration
Users
Audit
Profile
Sign out
Merchants
Core Configuration
PSP Configuration
Token Exchange
Export Configuration
Import Configuration
Merchant Configuration
ID
Name
Type
MP1234|MPHotel1
MP Hotel
IFC8
MP22|MPHotel2
MPHotel2
IFC8
MP33|MPHotel3
MPHotel3
IFC8
MP55|MPHotel5
MPHotel5
IFC8
MP66|MPHotel6
MPHotel6
IFC8
MP77|MPHotel7
MPHotel7
IFC8
MP88|MPHotel8
MPHotel
IFC8
MP99|MPHotel9
MPHotel9
IFC8
MP10|MPHotel10
MPHotel10
IFC8
MP44|MPHotel4
MPHotel4
IFC8

Core Configuration



PMS IFC8 Service: Select this to enable/disable the OPERA IFC8 Service. This is set during installation.

OPERA Token Service: Select this to enable/disable the OPERA Token Service. This is set during installation.

Enable Cruise PMS: Select this to switch to Cruise mode for PMS merchants. This is disabled by default.

Enforce TLS 1.2 protocol and above only: is enabled by default for all installations.

Log retain days: The number of days that OPI "Wrapper" log files will be retained before being deleted.

Ex: v20.4\Services\OPI\log\OPISvcWrapper.2017-10-23.log

Transaction retention days: The number of days that transaction data stored in database h_transline table. After this time period, the data will be moved to the h_transhistory table.

Transaction history retention days: The number of days that transaction data stored in database h_transhistory table. After this time period, the data will be purged from the database.

SSL Certificate expiry warning days: The number of days to warn before SSL Certificate expires.

Server time zone: Select this time zone to be used by OPI service. Set during installation to match the time zone of the host machine.

Refresh OPI configuration at: Refreshes data, so all changes are picked up.

The default time of 0:29 = 12:29 AM.

HTTP Proxy Host: The proxy host name or IP. If no proxy is needed, leave this field empty.

HTTP Proxy Port: The proxy port. If no proxy is needed, leave this field empty.

Select Language: Language used for OPI's status/error messages sent back to PMS.

Request Encoding: UTF-8 is the default format that works with English and some other languages. But some foreign languages require UTF-16.

Enable UTF-8 encoding of response messages: For all Non-English languages, that use UTF-8, this option should be enabled. For English this setting has no effect. This is enabled by default.

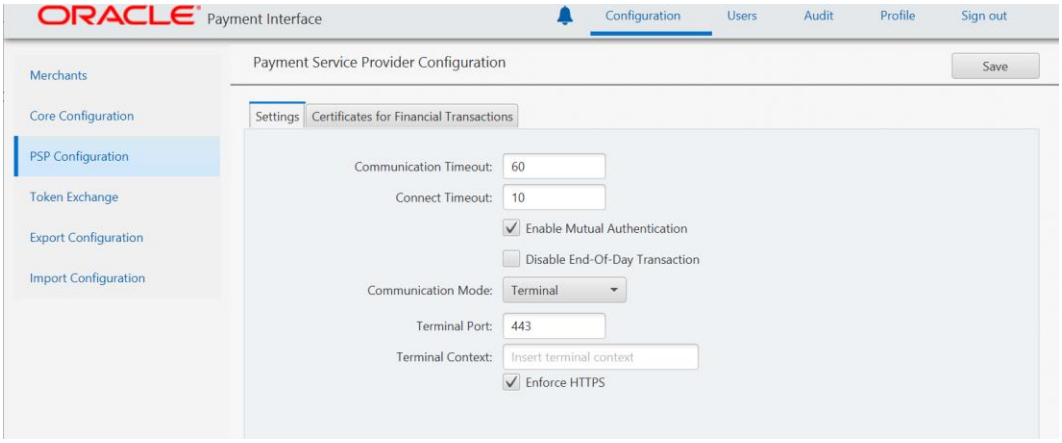
Mask Last 4 digits of PAN: Currently OPI is masking the first 12 digits of PAN, by enabling this option we will mask the last 4 digits as well.

Mask gift card number: Deselect this option if masking is not needed for Gift card transaction types.

> **NOTE:**
>
> If this option is deselected, the **Mask Last 4 digits of PAN** option will be ignored for Gift card transaction types.

PSP Configuration

PSP Configuration | Settings



Terminal Mode

Communication Timeout: The number of seconds OPI will wait for a response from the PSP Host or Terminal before timing out.

Connect Timeout: The number of seconds OPI will wait when initiating a connection to the PSP Host or Terminal before timing out.

Enable Mutual Authentication: Select this to allow mutual (two-way) authentication between OPI and PSP.

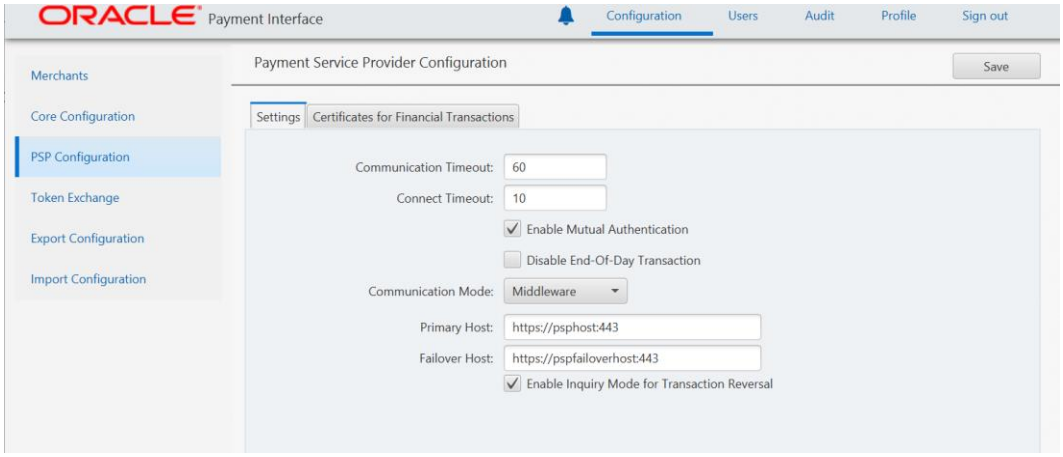
Disable End-Of-Day Transaction: Select this to stop sending End Of Day Transaction request to PSP.

Communication Mode: This can be changed from Terminal to Middleware as well as the port settings.

Terminal Port: Port used to communicate to PinPad terminal.

Terminal context: Some Terminal devices need to have a value appended to their URL. This is usually not needed. Ex: "/payment".

Enforce HTTPS: This is enabled by default for all installations.



Middleware Mode

Primary Host: The URL used to communicate to the PSP.

Failover Host: The backup URL used to communicate to the PSP.

Enable Inquiry Mode for Transaction Reversal:

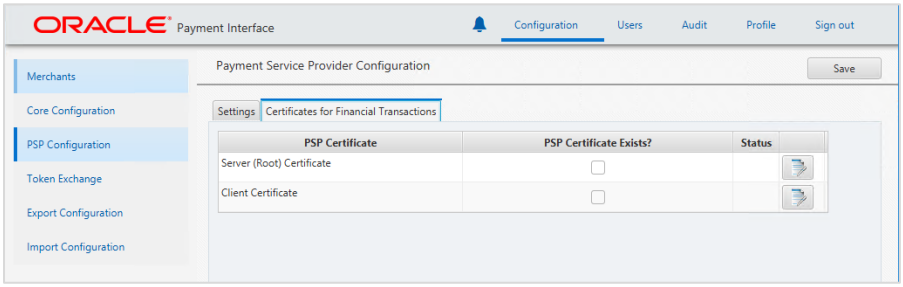
Middleware mode:

ON = Before sending a reversal, OPI sends an inquiry to the PSP to see if the transaction posted. If not posted, no reversal is sent.

OFF = It automatically sends the reversal.

Terminal mode: Inquiry is not supported, so it automatically sends a reversal.

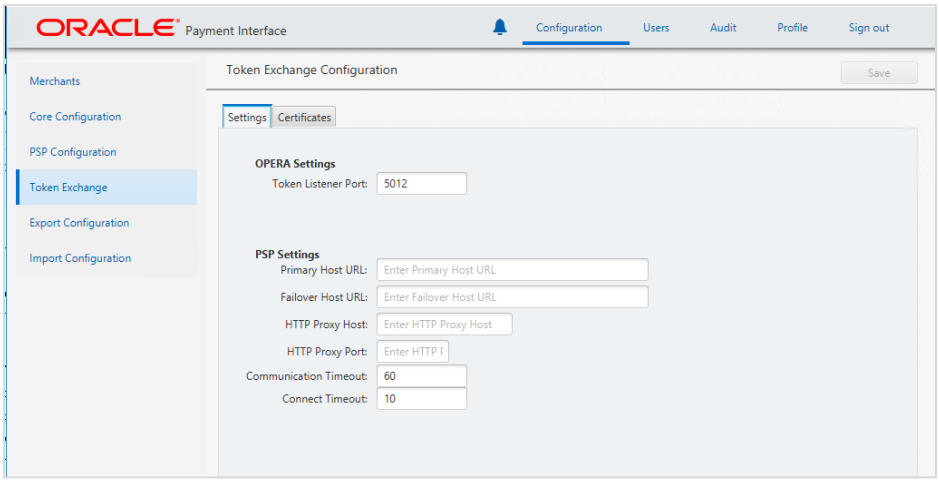
PSP Configuration | Certificates for Financial Transactions



Certificates for financial transactions are explained in Import Server (Root) Certificates for Financial Transactions and Import Client Certificates for Financial Transactions, refer to these sections for more details.

Token Exchange

Token Exchange | Settings



Token Listener Port: The listener port number for OPERA.

Primary Host URL: The PSP Host URL for Token Exchange.

Failover Host URL: The PSP Failover Host URL for Token Exchange. If a failover URL is not available, leave this blank.

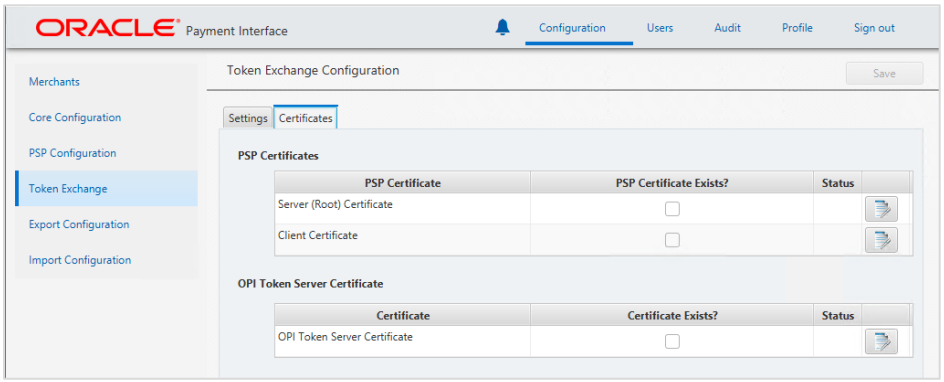
HTTP Proxy Host: The proxy host name or IP. If no proxy is needed, leave this field empty.

HTTP Proxy Port: The proxy port. If no proxy is needed, leave this field empty.

Communication Timeout: The number of seconds OPI will wait for a response from the PSP Host or Terminal before timing out.

Connect Timeout: The number of seconds OPI will wait when initiating a connection to the PSP Host or Terminal before timing out.

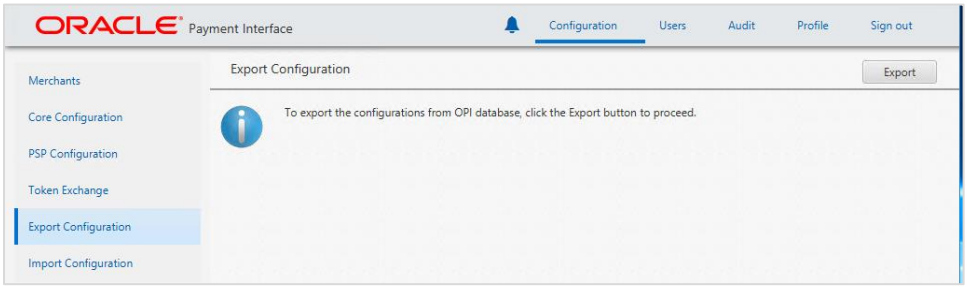
Token Exchange | Certificates



Certificates for Token Exchange are explained in the below sections, refer to the following sections for more details:

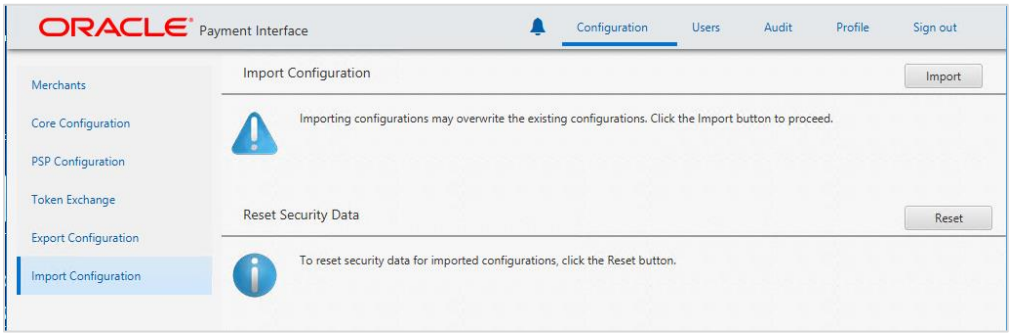
- Import Server (Root) Certificates for Financial Transactions
- Import Client Certificates for Financial Transactions
- Create OPI Token Server Certificate

Export Configuration



Export Configuration: Export current OPI configuration data to an XML file.

Import Configuration



Import Configuration: Import OPI configuration data from an XML file. Will override existing configuration, except merchant information.

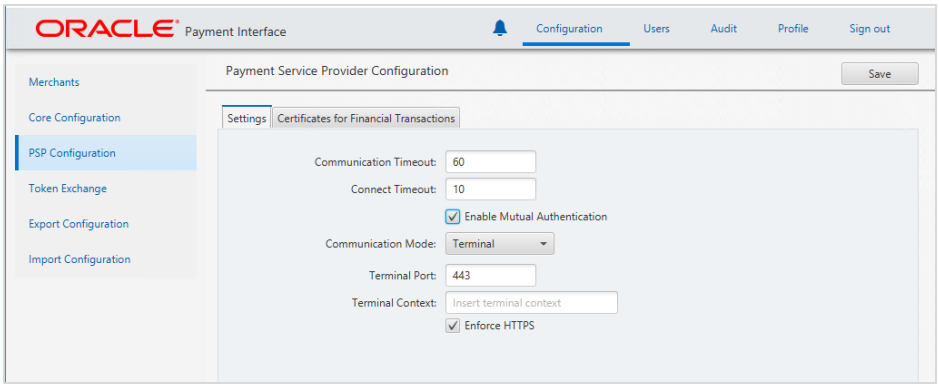
Reset Security Data: Reset security data after import configuration.

HTTP Support

Configuring OPI to Send HTTP Requests to PSP

1. Log in to the OPI Configuration tool, click the **Configuration** tab, and then click **PSP Configuration**.
2. If the **Communication Mode** is set to Terminal, deselect **Enforce HTTPS**.

3. If the **Communication Mode** is set to Middleware mode, the Host should be http://PSP info.



17

Maintain OPI Environment

This section explains on how to maintain and manage your OPI environment without any additional support from team.

- Add or edit Payment Terminals
- Edit Token Exchange Settings
- Add or edit number of OPI Users
- Edit IFC8 Settings
- Edit Payment Code
- Update OPI Java Environment

Terminals

Terminals tab appears only if **PSP Configuration | Communication Mode = Terminal**. In the Terminal mode, OPI maintains WS > PED mapping and communicates directly to PED. The Terminals generally use the proxy that is set at Core configuration settings. If you need to customize the proxy for a specific terminal, you can select the **Proxy Enabled** checkbox to configure the settings.

Virtual Terminal Gateway (VTG)

Virtual Terminal Gateway (VTG) is a webservice that is setup by the Payment Service Provider (PSP) to handle card not present transactions for all OPERA workstations that do not have a physical Payment Terminal device (PinPad) attached. To use this service the communication mode in OPI will need to be setup using “**Terminal**” mode vs "**Middleware**” mode.

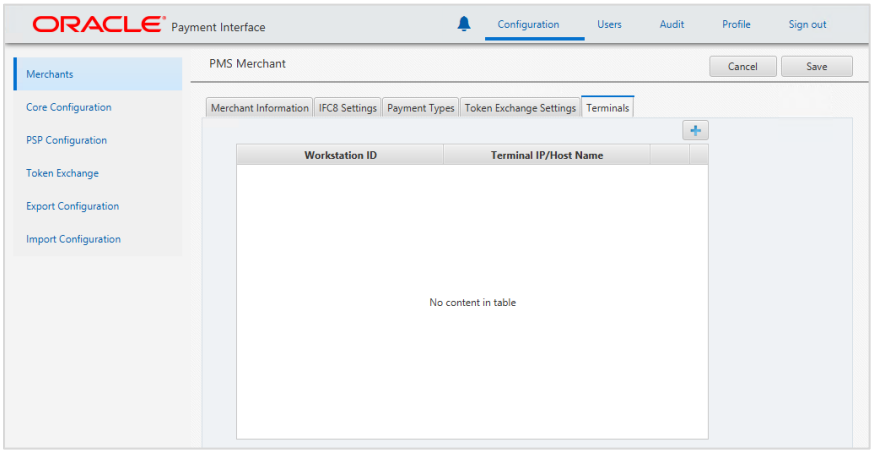
For VTG to be fully implemented with OPI, the OPI Installer will need to be provided with the mapping information (IP address where the VTG is installed plus the OPERA Registry Terminal ID's). This information will be used to complete the **Terminal** mapping table.

Adding Payment Terminals

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click the **Edit Merchant** () icon in the **Merchant Configuration** window.

PMS Merchant Information window appears.

2. Select **Terminals** tab, and click the **blue plus** ( ) icon in the upper right corner to add the payment terminal details.



3. **Workstation ID**: Enter the workstation ID using the PED.
4. **Terminal IP**: Enter the IP Address of the PED, the Workstation should use.
5. Select **Proxy Enable** ( ) icon if you need to customize the proxy for a specific terminal.
   a. **Host**: Enter the proxy host name or IP. If no proxy is needed, leave this field empty.
   b. **Port**: Enter the proxy port. If no proxy is needed, leave this field empty.

   Once the details are provided, press **Enter** key to submit your changes.
6. **Save** changes and restart the OPI service.

Editing Payment Terminals

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click the **Edit Merchant** ( ) icon in the **Merchant Configuration** window.

   PMS Merchant Information window appears.
2. Select **Terminals** tab, and click the payment terminal record to be edited.
3. Make necessary changes and press **Enter** key to submit your changes.
4. **Save** changes and restart the OPI service.

Deleting Payment Terminals

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click the **Edit Merchant** () icon in the Merchant Configuration window.

   PMS Merchant Information window appears.
2. Select **Terminals** tab and click the payment terminal record to be deleted.
3. Click the **blue minus** () icon available on the Merchant Information window to delete the payment terminal details.
4. Confirmation window pops up saying “Do you really want to delete the terminal for Workstation”. Click **OK** to proceed with the deletion process.
5. **Save** changes and restart the OPI service.

Token Exchange Settings

You can edit the Token Exchange Settings in **Token Exchange Settings** tab under Merchant.

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click **Token Exchange Settings** subtab.
2. If required, edit **Authentication User, Authentication Password**.
3. Click **Save** changes and restart the OPI service.

OPI Users

OPI user management is explained in OPI User Administration, refer to the section for more details.

IFC8 Settings

You can edit the IFC8 host and ICF8 port in **IFC8 Settings** tab under Merchants.

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click **IFC8 Settings** subtab.
2. If required, edit **IFC8 host** and **IFC8 Port**.
3. Press **Enter** key to submit your changes.

4. **Save** changes and restart the OPI service.

Payment Types

You can edit the Payment Code in **Payment Types** tab under Merchants. Each Card type is mapped with a Payment Code in the OPERA configuration.

1. Log in to the OPI Configuration tool as the System Administrator, select the **Merchants** tab, and then click **Payment Types** subtab.
2. Select the Card type and double-click the **Payment Code** and edit the code.
3. Press **Enter** key to submit your changes.
4. **Save** changes and restart the OPI service.

OPI Java Environment

From OPI 20.2, OPI no longer uses Java installed on the host system instead OPI includes its own Java runtime environment. The OPI runtime folder includes Java Development Kit 11.0.8.

C:\OraclePaymentInterface\v20.4\Runtime

Please note that JDK11 is used since JDK11 is Java's LTS (Long Term Support) version. Only later versions of JDK11 should be used for updating the OPI Java runtime.

In the event that a newer version of the JDK11 is released, users can update OPI's Java environment, as follows;

- Download the JDK 11 - 'Windows x64 Compressed Archive' from Oracle Software Delivery Cloud.
- Unzip the downloaded archive to a temporary location.
- Open Command Prompt as Administrator.
- Ensure OPI configurator is closed and not up and running.
- Run C:\OraclePaymentInterface\v20.4\Runtime\configure-new-runtime.bat "<path_to_the_unzipped_java_archive_folder>\jdk-11.x.x"

  (this path refers to the actual path where the JDK 11 is unzipped, with a typical folder name called jdk-11.x.x where x.x needs to be replaced with the actual version numbers)
- The configure-new-runtime.bat will automatically try to stop the OPI services, update the OPI_RUNTIME environment variable to reflect the new java version, and restart the OPI services again.

NOTE:

Stay current by upgrading your Java version as Oracle CPUs/Alerts are announced.

18

OPERA Folio Print Receipt Setup for OPI

Setup in OPERA PMS

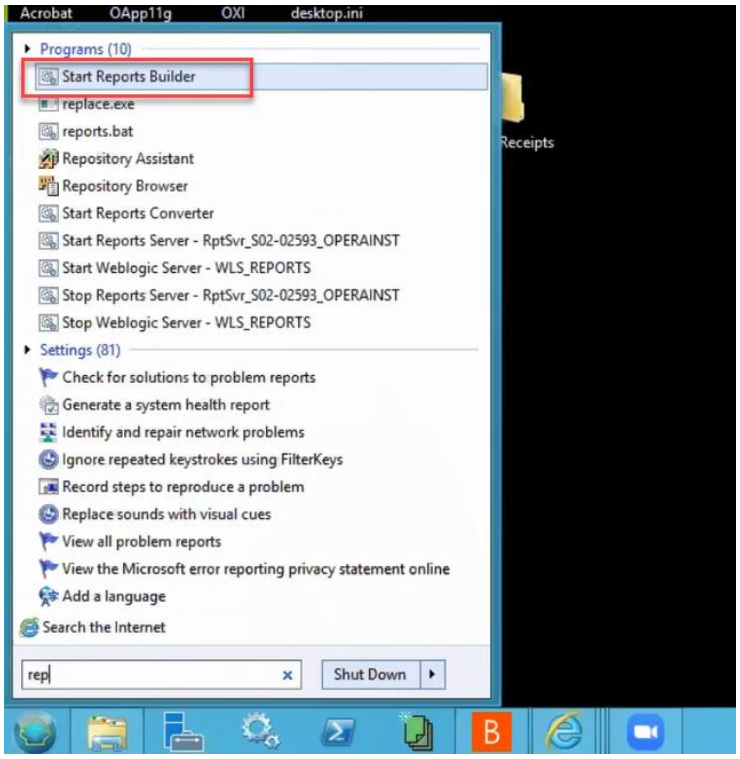
As part of the standard OPERA OPI configuration, the installers can follow the below process for updating the customers folio and receipt templates to show the OPI transaction details.

OPERA Folio Print Receipt Setup for OPI

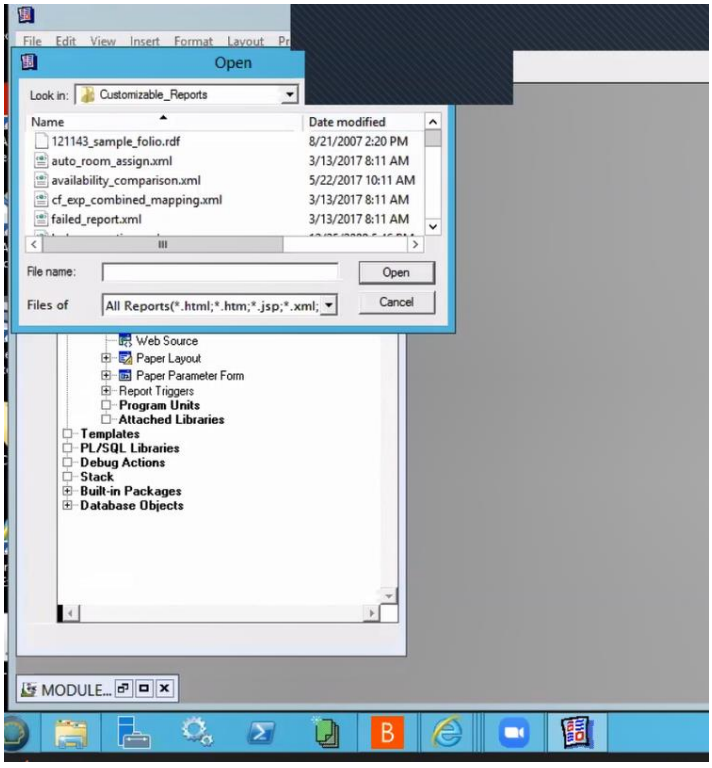
Included in this pack are copies of the sample folio and deposit/payment receipts. On the Data Model within these templates, there is a query called ‘merchant info’ with two files promotional_text1 and promotional_text2.

To access the screen, open the Oracle Reports Builder.

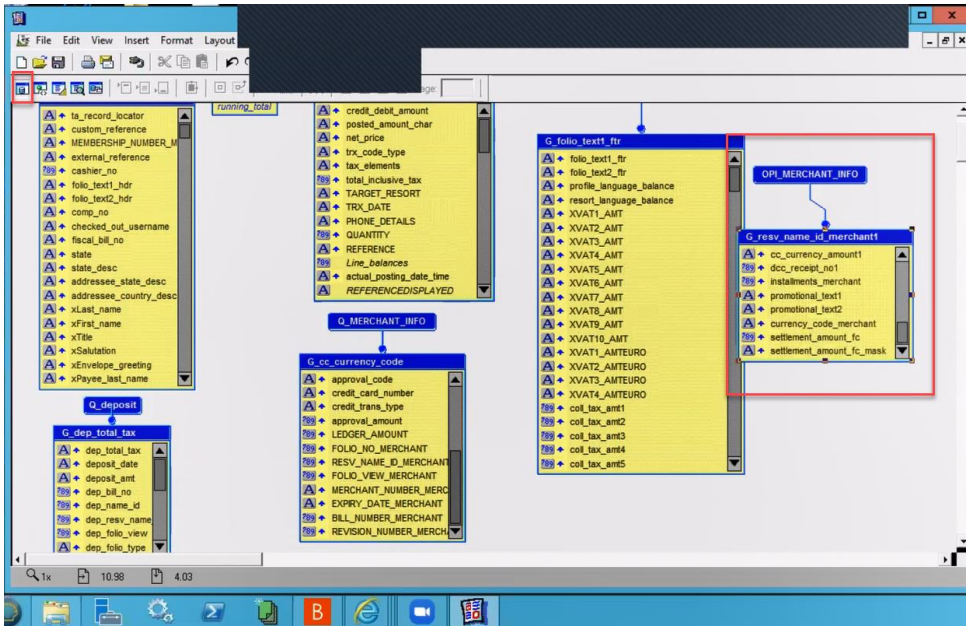
- Go to **Start > Programs > Start Report Builder**



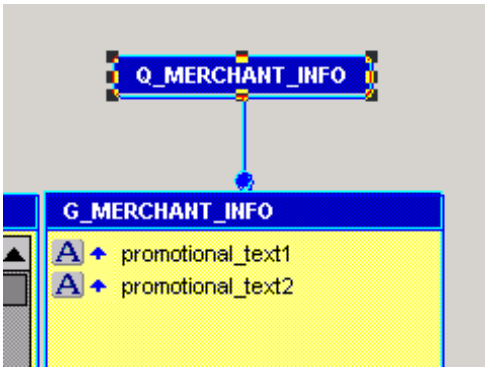
- Log into report builder.
- Open the file to be edited.



- Open the Module page.

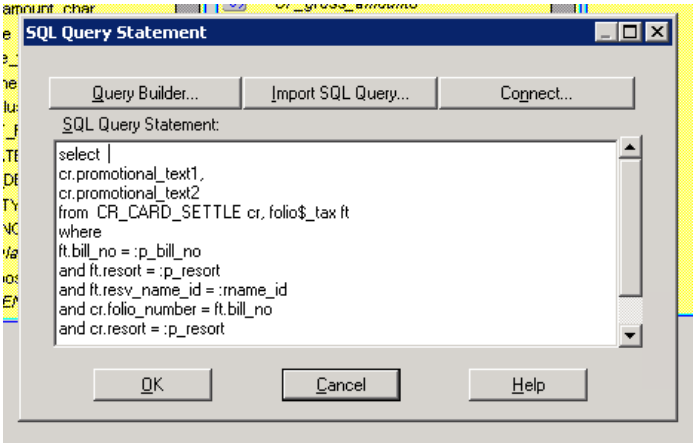


- Select the “promotional text” section.



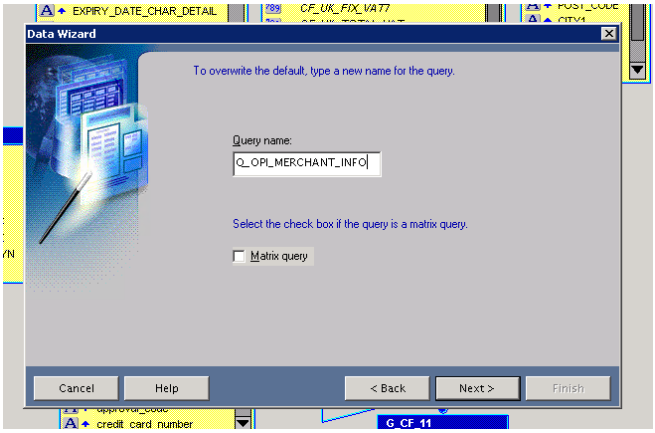
You need this query to copy over to the existing folio/receipt. For OPI, we need these fields as the database adds a ‘picture’ of the transactions into these fields.

- To copy the query:
  - Double-click the Q_MERCHANT_INFO to open the query statement field.
  - Select all the query and copy (ctrl+c).

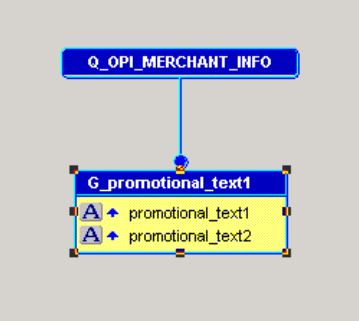


In the existing customer folio, on the Data Model:

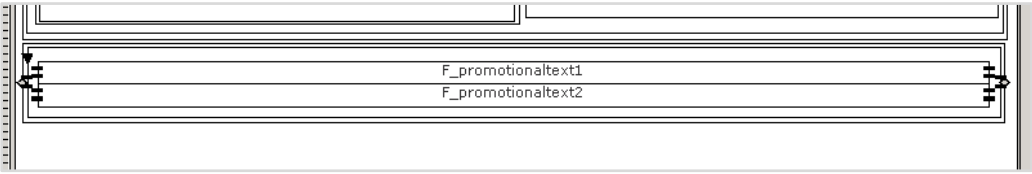
- Go to **Insert > Query** and follow the data wizard to add in the query. Name the query OPI_MERCHANT_INFO.



- Click **Next > select SQL Query > Next > paste the query > Next > Next > Finish**. Then you can move the query to a blank space on the Data Model:



- On the Page Layout you can replace the old credit card fields with the Promotional Text fields.
- Delete the existing fields and frames, add a new frame and link it to the OPI_MERCHANT_INFO query, then add two fields linked to the promo_text fields, as shown below:



NOTE:

Ensure to set the frame and fields to expand on the Vertical axis.

- In the OPERA Standard Stationery folder on the DC there are two folio's already set up:
  - UK_FOLIO_OPI_ORACLE – standard VAT layout
  - UK_FOLIO_OPI_VAT_ORACLE – modified VAT layout (compatible with long term VAT functionality)
- There is also a deposit receipt and a payment receipt in the same folder.

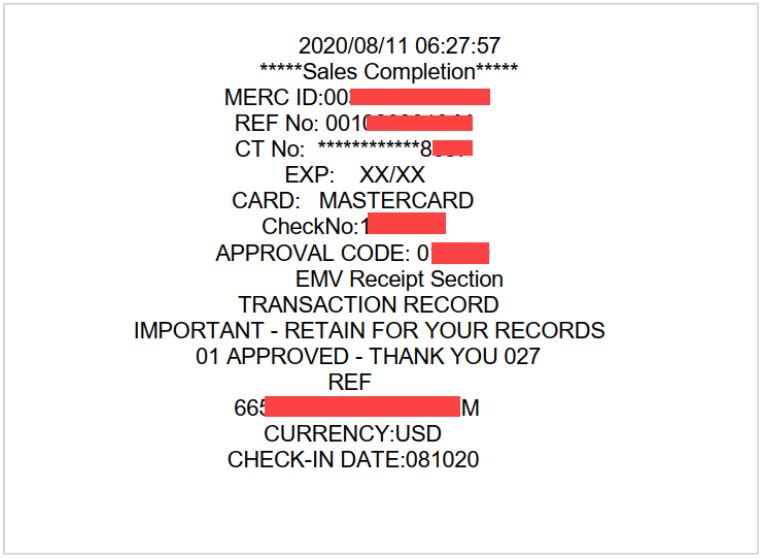
Verifying Folio information in OPERA PMS

The PrintData information should be sent from the Payment Provider (Vendor) for ALL entry (Manual or via Chip & Pin).

In order to get the Print receipt data look organized, it is recommended to request the vendor to configure each fields separated by a pipe (|). Below example shows the before and after display of data in folio.

Display of Data in Folio

- Data sent without pipe separation:



- Data sent with a pipe separation:

Sample Data
MERC ID:003020XXXX469|REF No: 001031XXXXM |CT No: **********3393
|EXP: XX/XX|CARD: MASTERCARD|CheckNo:136XXX7 **End result**

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Appendix A: Migrating MySQL Database

Purpose

- Migrate OPI MySQL database from 5.7 instance (source) to 8.0 instance (target).

Prerequisites

- Ensure you are using OPI with MySQL5.7 database and not any other databases (Oracle, MySQL8.0, MSSQL)
- Install MySQL8.0 in parallel to MySQL5.7 - a different port should be used.

> **NOTE:**
>
> You can verify the port that is currently used for MySQL5.7 in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database.

- Install MySQL8.0 Workbench and make sure you can connect to both the databases with root credentials.
  - MySQL8.0 Workbench can be downloaded from https://dev.mysql.com/downloads/workbench, you can follow the default installation steps.
- There is no need to create the database user and schema for OPI as a separate set of these will be created for MySQL8.0 in the steps included in this document. Mainly, there are two database instances one is MySQL5.7 and the other is MySQL8.0. This allows you to copy information from one to another.

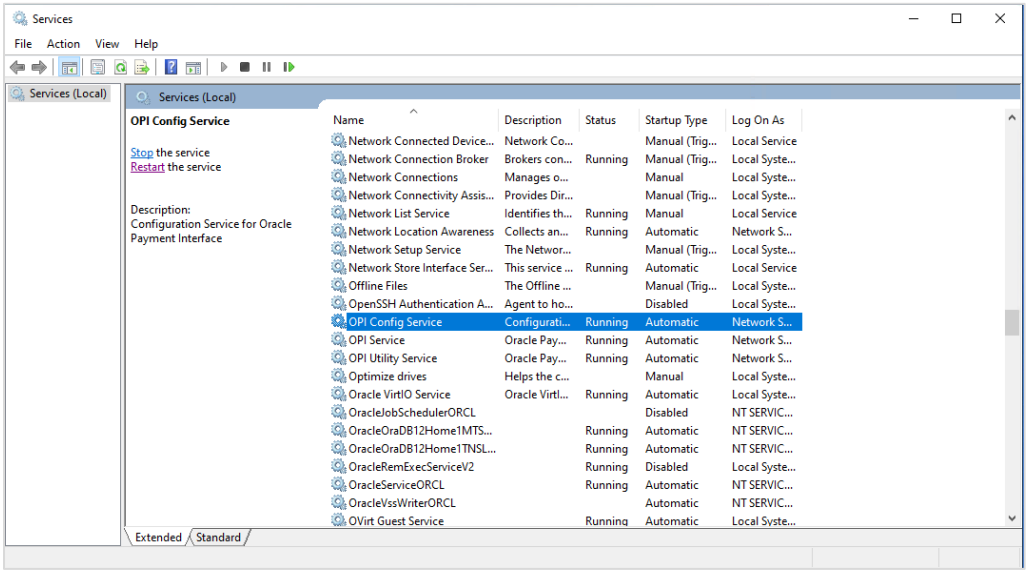
Upgrade

Follow the steps below to migrate OPI database schema from MySQL database 5.7 to 8.0.

Stop both the OPI and OPI Configuration Services

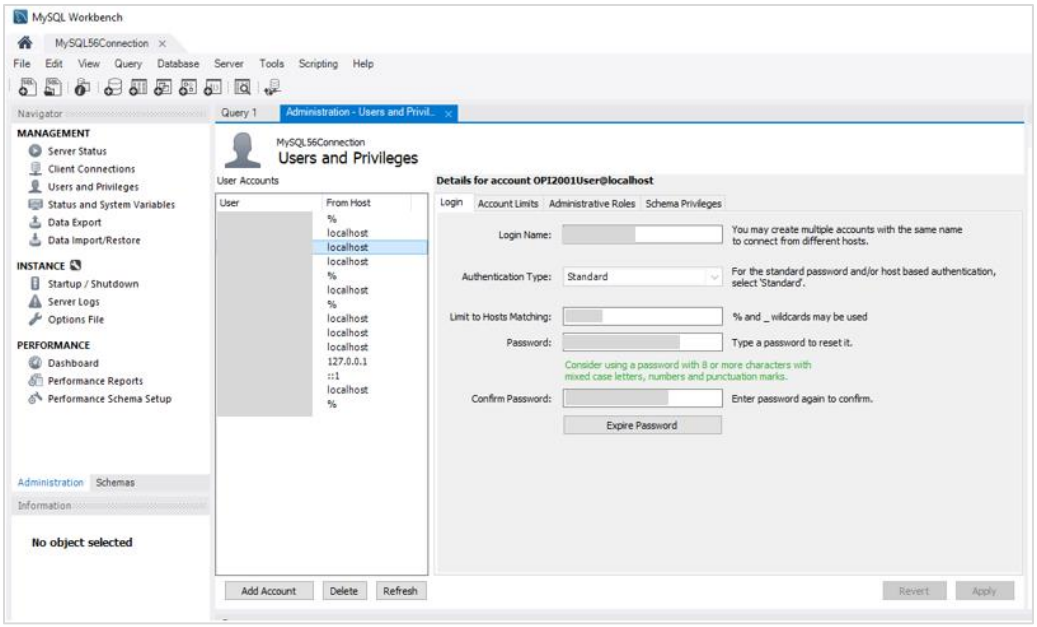
It is important to stop both the **OPI Service** and **OPI Configuration Service** prior to the migration in order to protect the integrity of the database.

1. Start Windows Services application.
2. Locate the OPI Configuration Service/OPI Service/OPI Utility Service.
3. Stop the OPI Service and OPI Configuration Service (do not stop OPI Utility Service, it should be running).



Retrieve OPI Database User and Password from current System

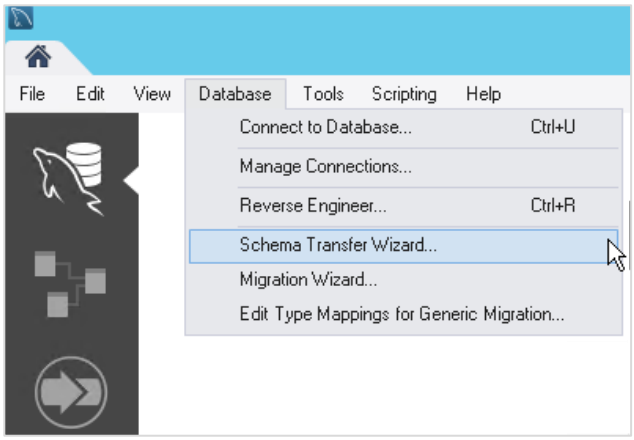
1. The OPI database UserName can be found in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database\1
2. If you already have the database user password, skip this step. If you have forgotten the password, follow the below steps to reset the password.
   a. Login to MySQL Workbench with source database root user.
   b. Select the OPI user, update the **Password** and then click **Apply**.



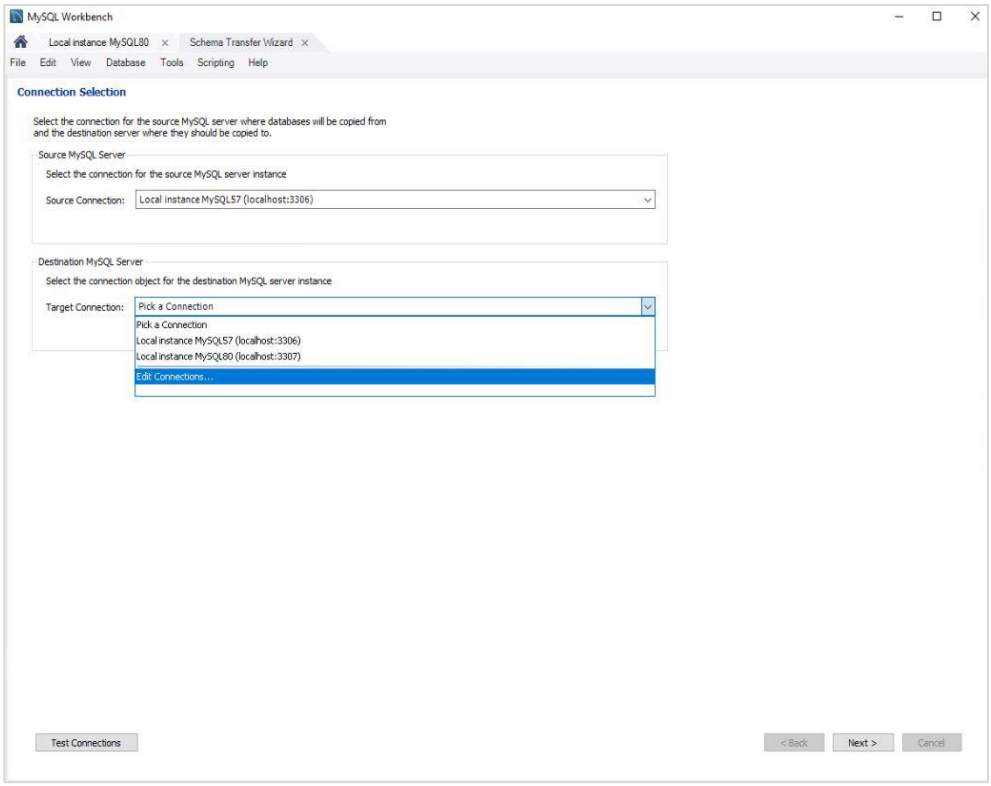
c. Run **\OraclePaymentInterface\v20.4\Services\ConfigService\LaunchSettingsAdminTool.bat** as administrator and update the password in OPI. For more information, refer to Chapter 11 Settings Administration Tool.

Copy the Schema and Data

1. Start MySQL Workbench. Select **Database** and then select **Schema Transfer Wizard**.



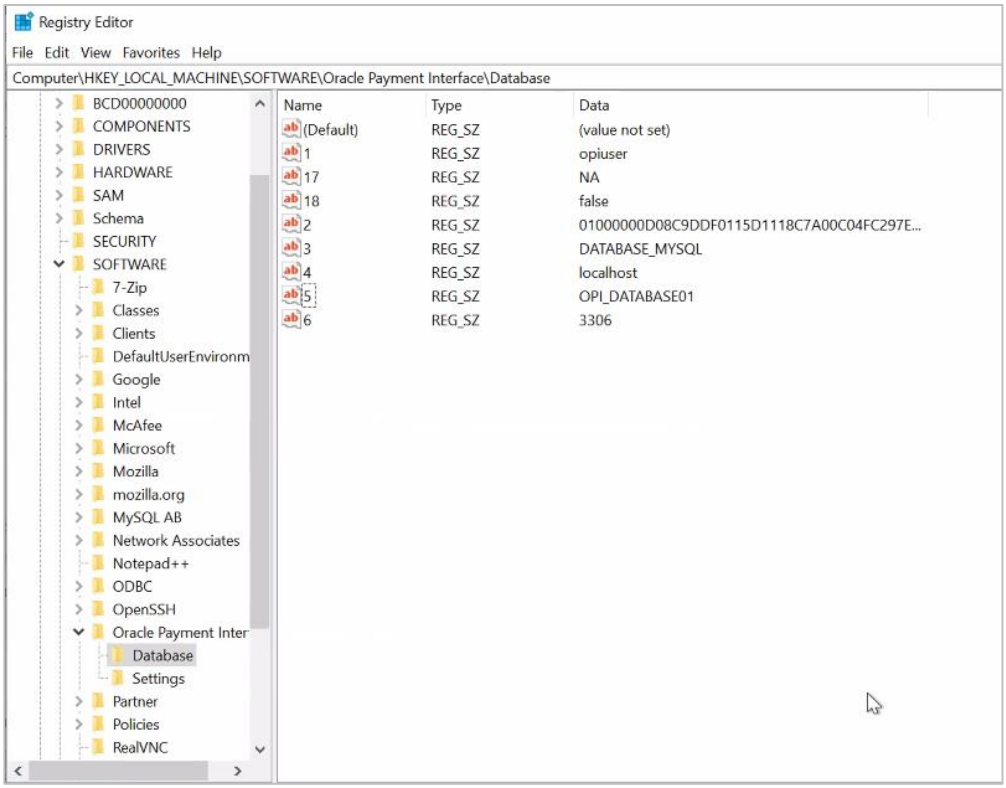
2. Click **Start the Wizard**.
3. Select the Source and Target database connections.



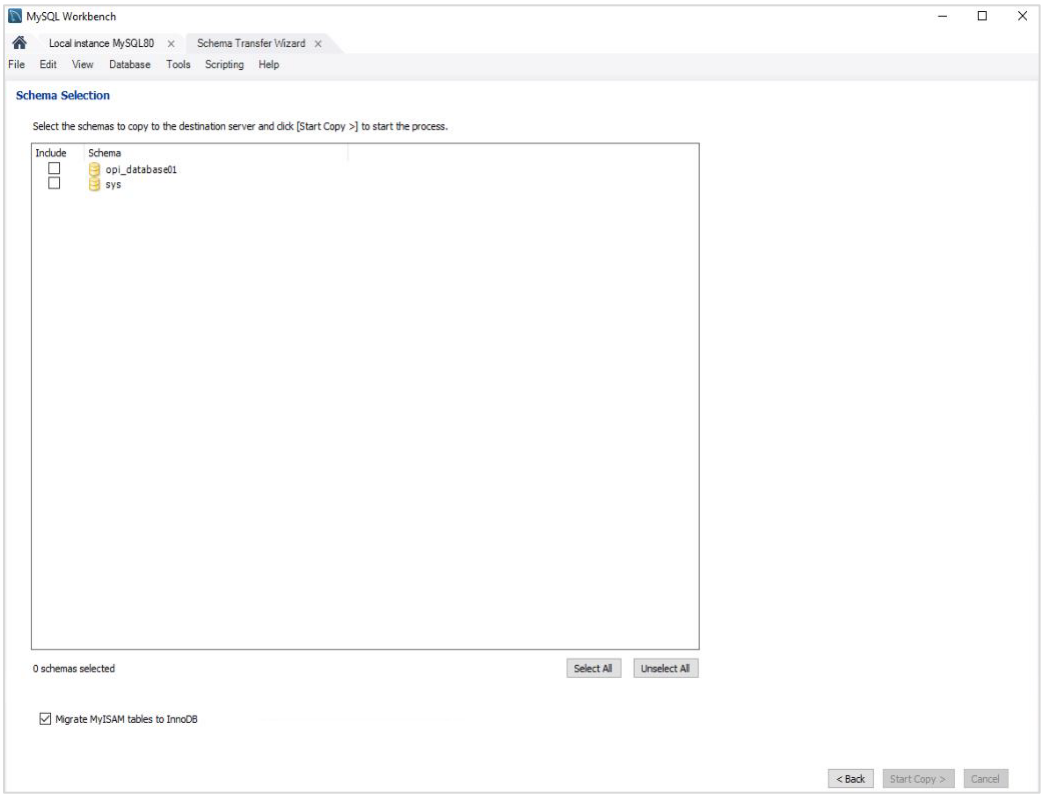
4. Click **Next**.

5. Select the schemas to copy.

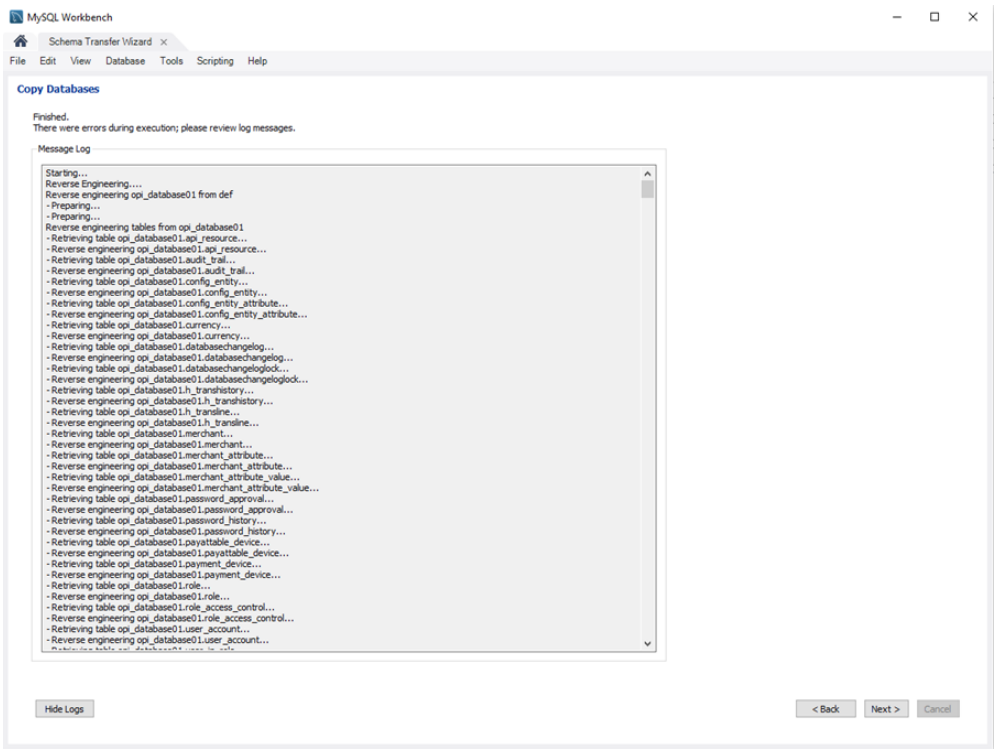
   If you are not sure which database schema to copy, find the information in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database\5.



6. Click **Start Copy**.



- You can view the logs once the schemas start copying to the destination server. The SQL logs can also be found at %AppData%\Roaming\MySQL\Workbench\log\wb.log.

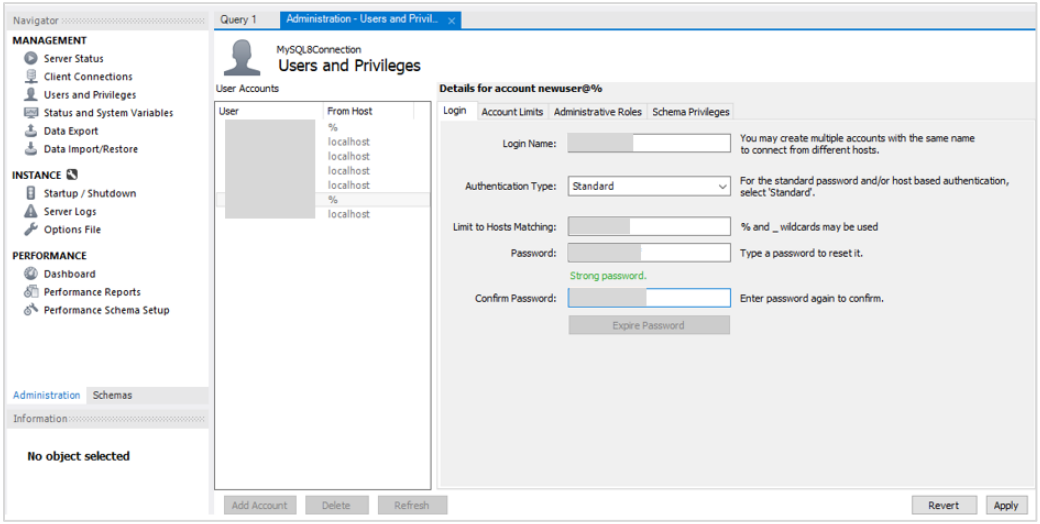


7. Once the copy is complete, click **Next** and then click **Finish**.

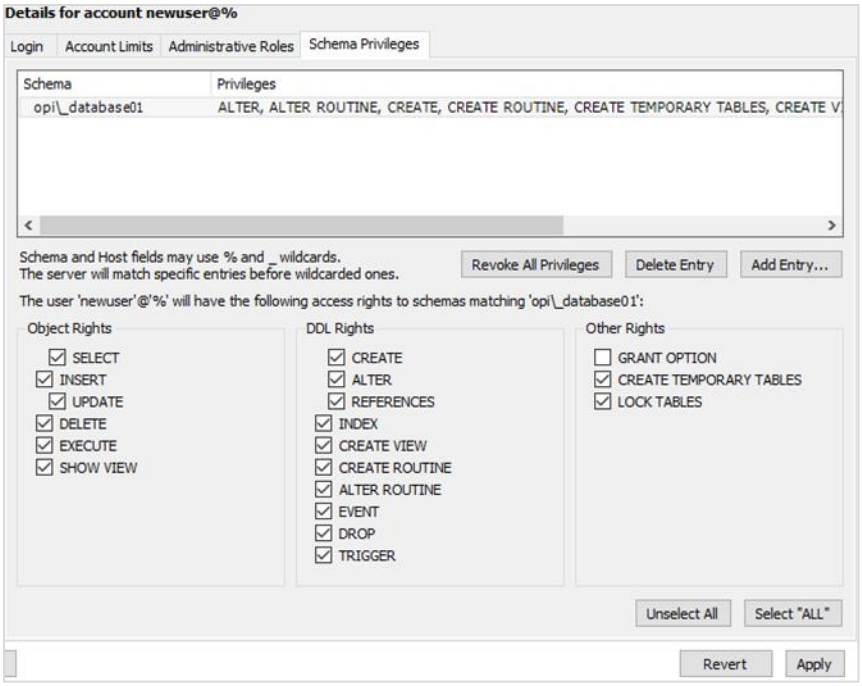
8. Create the matching user/password in the target MySQL8.0 database.

   a. Login to MySQL Workbench with target MySQL8.0.

   b. Select **Users and Privileges** and **Add Account**, setup the **Username**, **Host** and **Password**. Use the same Username and Password from 5.7 instance (source).



   c. Grant the new user access to the new schema/restored data: select **Schema Privileges → Add Entry →** select the new schema. Click **Select "All"** and then click **Apply**.



NOTE:

The **MySQL username** is case sensitive. You will need to match this in the registry.

Update Registry and Restart OPI Service

1. Go to registry, update the port number at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database\6 that is used by the target MySQL8.0 database.
2. Start the OPI Configuration Service and OPI Service.

NOTE:

Uninstall MySQL5.7 database once the new database works fine (Not mandatory but highly recommended once everything has been verified as working properly for the new OPI database running on MySQL8.0).

Validate Transactions using MySQL8.0

- Run few transactions after restarting the OPI Service.
- Execute the SQL query (select clienttype, clientSeqNum, TransDate, TransTime, Amount from databasename.h_transline;) from MySQL8.0 and check if the transactions in are recorded in the database.