

Oracle® Payment Interface
Installation and Reference Guide
Release 6.2
E92594-08

April 2021

Copyright © 2017, 2021, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this software or related documentation is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

Contents

| | |
|--|-----------|
| Preface..... | 6 |
| Audience | 6 |
| Customer Support..... | 6 |
| Documentation | 6 |
| Revision History..... | 6 |
| 1 Pre-Installation Steps | 8 |
| Databases | 8 |
| Supported Database Types | 8 |
| Java..... | 9 |
| MySQL Grant Permission | 9 |
| Before Installing OPI..... | 9 |
| 2 OPI Complete Installation | 11 |
| 3 OPI Custom Installation | 17 |
| OPI Custom Install to Three PCs | 17 |
| Part 1: Schema | 17 |
| Part 2: OPI Services..... | 18 |
| Part 3: Configuration Tool | 20 |
| 4 Upgrading the OPI | 22 |
| OPI Upgrade Steps | 22 |
| 5 Migration of DB Type | 25 |
| Migrating the Data from 6.1 Database Schemas to 6.2..... | 25 |
| OPI Folder Structure..... | 25 |
| OPI Service..... | 25 |
| OPI Configuration Tools..... | 26 |
| OPI Logs..... | 26 |
| 6 OPI User Administration | 27 |
| User Roles | 27 |
| Creating a New User | 27 |
| New Users First Login..... | 28 |
| Editing Your User Profile..... | 28 |
| First Name and Last Name..... | 28 |
| Changing Your Password..... | 28 |
| Editing Another User's Account..... | 28 |
| First name & Last name | 28 |

| | |
|--|-----------|
| Role | 29 |
| Deactivating a User Account..... | 29 |
| Unlocking a User Account..... | 29 |
| Forgotten Passwords | 29 |
| Users | 29 |
| Approving a User's Password Reset Request | 29 |
| Super user | 29 |
| 7 Mutual Authentication..... | 31 |
| Handling the Client Side Certificate..... | 31 |
| Handling the Root Certificate File | 31 |
| Updating a JKS with a New PSP Certificate | 31 |
| Using Keytool..... | 31 |
| OPI Mutual Authentication – Summary | 33 |
| 8 Audit..... | 34 |
| Audit Trail Search..... | 34 |
| Audit Trail Purge | 34 |
| 9 Silent Installation | 35 |
| Specify Alternative Response File | 35 |
| Specify Alternative Log File | 35 |
| 10 OPI Services | 36 |
| OPI Config Service | 36 |
| OPI Service..... | 36 |
| OPI Utility Service | 36 |
| Changing the OPI Config Service Port..... | 36 |
| 11 Settings Administration Tool..... | 37 |
| Using the Settings Administration Tool | 37 |
| Updating the OPI Schema Password | 37 |
| Updating the OPI Configuration Passphrase..... | 38 |
| 12 Configuration Tools - Rotate Passphrase..... | 40 |
| Using the Rotate Passphrase Utility | 40 |
| 13 OPI Client Certificate Creator Utility | 42 |
| Using the Client Certificate Creator | 42 |
| 14 Pay@Table Certificate..... | 44 |
| Upgrade Pay@Table PW | 44 |
| Simulator Pay@Table PW..... | 44 |
| Update Pay@Table PW | 44 |

| | |
|---|-----------|
| 15 Uninstall & Modification of Install | 45 |
| 16 Configuration Settings | 46 |
| Configuration Tool Settings..... | 58 |
| 17 Maintain OPI Environment..... | 64 |
| Terminals..... | 64 |
| Adding Payment terminals | 64 |
| Editing Payment Terminals..... | 65 |
| Deleting Payment Terminals..... | 65 |
| Pay at Table Devices | 65 |
| Adding Pay at Table Devices | 65 |
| Editing Pay at Table Devices | 66 |
| Deleting Pay at Table Devices | 66 |
| OPI Users | 67 |
| Payment Types | 67 |
| Edit Tender Media ID – POS API Settings | 67 |
| Edit Payment Code – IFC8 Settings..... | 67 |
| 18 Troubleshooting and FAQs..... | 68 |
| Troubleshooting | 68 |
| FAQs | 70 |
| 19 Appendix A: Migrating MySQL Database | 71 |
| Purpose..... | 71 |
| Prerequisites | 71 |
| Upgrade..... | 71 |
| Stop both the OPI and OPI Configuration Services | 71 |
| Retrieve OPI Database User and Password from current System | 72 |
| Copy the Schema and Data | 73 |
| Update Registry and Restart OPI Service | 78 |
| Validate Transactions using MySQL8.0..... | 78 |

Preface

This document describes new features and functionality in OPI and OGDH 6.2 that are common to all supported POS types and Opera. 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 serve as a reference guide that covers in more detail the utilities and functionality that can be used as part of installation, configuration, and trouble shooting.

Audience

This document is intended for installers of the OPI and OGDH.

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:
<https://support.oracle.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 and any associated log files
- Screenshots 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/>

Revision History

| Date | Description of Change |
|---------------|---|
| December 2017 | <ul style="list-style-type: none">• Initial publication |
| April 2018 | <ul style="list-style-type: none">• Updated installation instructions |
| May 2018 | <ul style="list-style-type: none">• Updated supported databases |
| December 2018 | <ul style="list-style-type: none">• Added schema expiration date information |
| May 2019 | <ul style="list-style-type: none">• Added new chapter on how to manage and maintain OPI environment |
| March 2020 | <ul style="list-style-type: none">• Updated content in Chapter 1. |

| | |
|------------|--|
| June 2020 | <ul style="list-style-type: none">• Updated content in Super user section. |
| March 2021 | <ul style="list-style-type: none">• Added new chapter Appendix A Migrating MySQL Database |
| April 2021 | <ul style="list-style-type: none">• Updated content and screens in chapter Appendix A Migrating MySQL Database |

1 Pre-Installation Steps

IF UPGRADING OPI, YOU MUST READ THE [UPGRADING THE OPI SECTION](#) FIRST.

Databases

- OPI 6.2 no longer includes MySQL within the OPI Installer as it did in previous versions, as OPI now supports multiple database types.
- A database is still required to hold the OPI configuration and audit event data, but must be installed separately prior to installing OPI.
- Root access to the database is required during the OPI installation, only to create a dedicated OPI database user, which can have a lower level of privilege than the Root user, and is used for OPI tasks once installation is complete.

Supported Database Types

The Oracle Payment Interface Installer release 6.2 supports the following database connections:

- MySQL Database 5.6 / 5.7
- Microsoft SQL Express Database 2008 / 2012
- Oracle Database 11g / 12c
- Microsoft SQL Database 2008 / 2012
- Java Platform, Standard Edition Runtime Environment (JRE) version 1.8 or higher



NOTE:

During installation, OPI creates a database schema. OPI does not override the period of time this schema remains valid because the schema expiration date may already be defined by existing policies of the environment in which it is being installed.

By default, Microsoft SQL & MySQL do not define an expiration date for a schema. Oracle Database does define an expiration date of six months after creation.

Be aware that if the schema's password expires, and OPI is subsequently unable to read from or write to the database, then service interruptions should be expected.

Java

- OPI 6.2 no longer includes JAVA as part of the OPI Installer.
- Java 8 should be installed prior to installation of OPI



NOTE:

When you use OPI solution, you need to download JRE software from Oracle Software Delivery Cloud <https://edelivery.oracle.com>.

MySQL Grant Permission

A typical MySQL installation will not allow a connection by IP address or Name, therefore the default **Name/IP:** value should be left as *localhost* during the OPI installation. If it cannot be left as localhost, because the database is installed on another PC, the “root” user will need to be given privileges, so the database server will accept the connection when the IP address is passed.

- 1) Connect to the MYSQL Database as the “root” user.
- 2) Execute the following statements to grant privileges to “root” user.

```
use information_schema;  
grant all privileges on *.* to 'root'@'%' identified by 'password' with grant option;
```

Example where real root user PW is entered in the command instead of the generic 'password':

```
mysql> use information_schema;  
Database changed  
mysql> grant all privileges on *.* to 'root'@'%' identified by 'Mic11ros!' with grant option;
```

Result = Query OK, 0 rows affected (0.00 sec)

Before Installing OPI

Complete the following tasks before installing:

- The OPI application requires Microsoft .NET Framework version 4.0 or higher.
- You cannot upgrade from previous versions of MPG to OPI 6.2. Upgrading from OPI 6.1 and higher to OPI 6.2 is supported. Upgrading from MGDH 6.1 and higher to OGDH 6.2 is supported.
- If an MGDH installation prior to version 6.1 exists, go to Programs and Features to uninstall the previous MGDH installation, then you can install the latest OGDH release.

Ops.exe cannot be running during the MGDH uninstall.

-
- You cannot upgrade from MGDH 6.1.1.X to Native Driver 6.2 (must upgrade then switch to Native configuration).
 - You cannot run upgrade from 6.1.1.X to 6.2 as unattended/silent (due to 6.1.1.X installation program differences between 6.2).
 - Verify with the merchant to setup table service (TSR) or quick service (QSR), or both. QSR does not support tips.
 - Verify with the merchant if activating the Refund functionality, the merchant must control the privilege for this function.
 - Verify with the merchant if they offer a guest the option to get cash back with their purchase, then activate the **Sale & Cash** option. This is only available for QSR.
 - Confirm Microsoft Visual C++ 2010 is installed on the computer where OGDH and OPI are installed.
 - Oracle Payment Interface requires at least 6 GB of free disk space.
 - You must install both OGDH and OPI as a System Administrator.
 - You must enter the MICROS database user name and password to install OGDH.

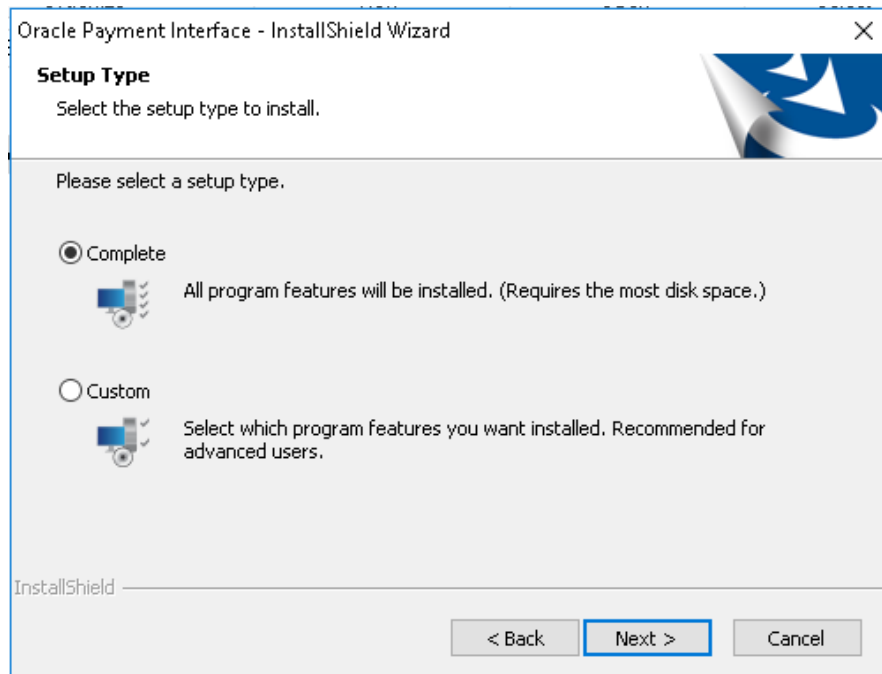
During the installation you must confirm the following:

- Merchant IDs
- Receipt “Header” and “Trailer” details
- Tender Media numbers for each card type
- IP address of the OPI Server
- If there is an existing MySQL database installed, then the SQL root password is required.
- Workstation IDs and IPs that integrate with the PIN pad.

2 OPI Complete Installation

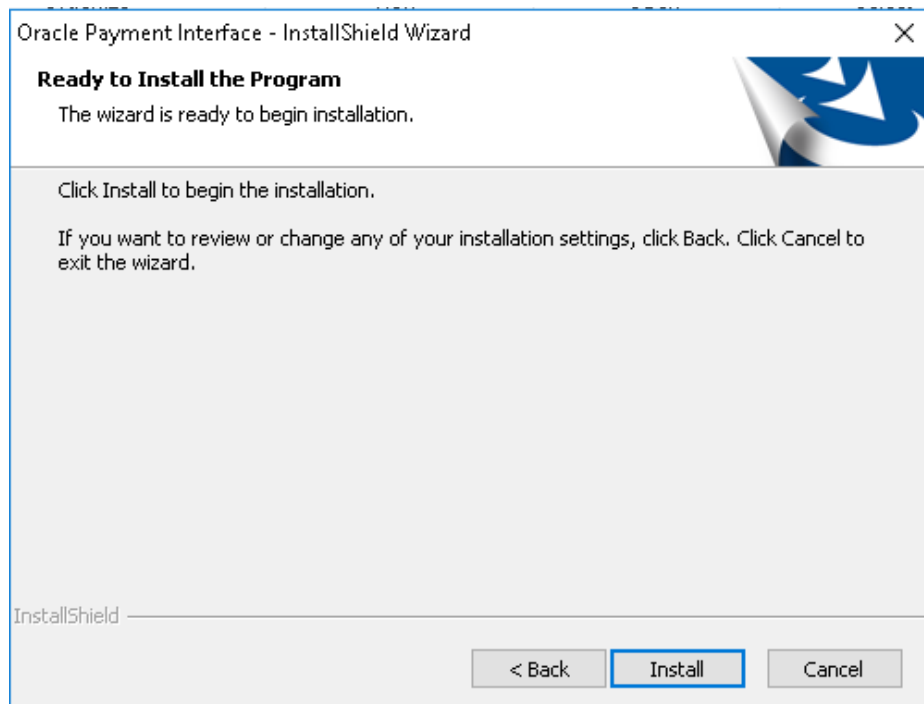
1. Right-click and Run as Administrator the `OraclePaymentInterfaceInstaller_6.2.0.0.exe` file to perform an installation.
2. Select a language from the drop-down, if required.
3. Click **Next** on the *Welcome* screen to proceed with the installation.
4. Prerequisites for the installation will be checked, including the required free drive space, details of the host environment, and the Java version that is present.
5. Select either **Complete** or **Custom** installation option:
 - **Complete:** Installs the *OPI Service Application*, *OPI Configuration Tools & 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 could also be included on one of these installations, or the installer could also be run a third time on another host to deploy only the database schema.

The steps below cover a Complete Installation. If you are installing the OPI components to different PCs, 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 installation.

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



8. Select your Database type:
 - MySQL

-
- SQL Server
 - SQL Express
 - Oracle DB
9. Enter the relevant connection details for your database type. Details can be provided by whomever installed/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 using MySQL this must be left at the default of *localhost*. If you cannot use *localhost* for the Name/IP field, (because you are installing the database schema on another computer), then some commands must be run manually on that MySQL database before proceeding. See the [MySQL Grant Permission](#) section for instructions.

- **Port #** – The Port number used for communication to the database

SQL Server & SQL Express

Static

- **Name/IP:** The Hostname or IP Address used for communication to the database
- **Port #:** The Port number used for communication to the database
- **Instance:** The SQL named instance

Dynamic

- **Name/IP:** The Hostname or IP Address used for communication to the database
- **Instance:** The SQL named instance

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.

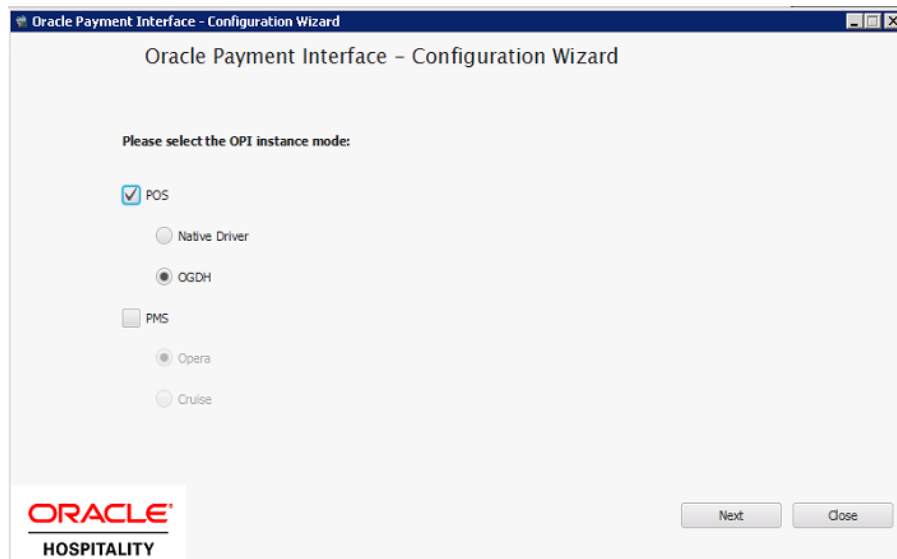
- **Service:** The TNS alias used to connect to the Oracle database.
10. Confirm your database admin user that should be used to connect to the database. The database admin user is only used to create an OPI database user, which is used following completion of installation.
 11. Enter a username and password for the OPI database user creation. If the username already exists in the database, you will be prompted to select a different username.

The installer will attempt to connect to the database using the admin credentials supplied, and create the OPI database user.
 12. Create a Super User System Admin level user account that can be used for configuring and maintaining the system. Enter the username and password that should be created.
 13. Enter the **Host** and **Port** that should be used to connect to the OPI Config Service for the Merchant Configuration.

Note: In this step you are not configuring the port the service will listen on. Instead, it is prompting for the details of 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.
 - By default the port will be 8090.
14. Set and confirm the passphrase value.

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



15. Select whether the installation will be used for POS and/or PMS merchants. If POS is required, you will also need to specify the POS driver type that will be used, **Native Driver** or **OGDH**.
16. Depending on the previous POS Type choice you should provide either;
 - **Native Driver** - the passphrase that is used for authentication between POS and OPI.
 - **OGDH** - the password that will be assigned to the certificate on the POS Service listening port.

The screenshot shows the 'Oracle Payment Interface - Configuration Wizard' window. The title bar reads 'Oracle Payment Interface - Configuration Wizard'. The main content area is titled 'POS OGDH Configuration'. Below the title, it states: 'This password will be used by OPI to secure the Certificate for OGDH connections.' and 'Password must be at least 8 characters in length and include at least one uppercase letter, one lowercase letter, one number and one special character from the following list: !@#%^&*'. There are two input fields: 'Password:' and 'Confirm Password:'. Both fields contain masked characters (dots). At the bottom left is the 'ORACLE HOSPITALITY' logo. At the bottom right are 'Back' and 'Next' buttons.

17. The OPI Interface screen appears. At this point the configuration screens displayed are same as what is seen if the configuration wizard is launched manually (: \OraclePaymentInterface\v6.2\Config\LaunchWizard.bat)
18. Configure settings as required. For more details on how to use configuration wizard and configuration tool refer [Configuration Settings](#) section.

Oracle Payment Interface v6.2 - Configuration Wizard

Oracle Payment Interface 6.2 – Configuration Wizard

OPI Interfaces

PMS ☐ OFF

POS ☒ ON

POS Service Port:

OPI to PSP Communication Configuration:

OPI Mode:

☐ Enable Mutual Authentication

Private Key Cert. Password:

Confirm Password:

Root Certificate Password:

Confirm Password:

Primary Host:

Proxy Host:

Failover Host:

Proxy Port:

ORACLE
HOSPITALITY

19. **Enable Mutual Authentication:** Enable this option only if the PSP has provided the certificates and passwords for it.
20. **Private Key Cert. Password:** Enter the password and confirm it.
21. **Root Certificate Password:** Enter the password and confirm it.
22. 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.
23. Click **Next**. The **Merchant** configuration screen appears.
24. Merchant configuration is covered by the product-specific guides available at https://docs.oracle.com/cd/E89850_01/
25. Once merchant configuration is complete, the installer will prompt for a reboot of the host machine. If it is not practical to reboot the host machine, you will need to start the OPI Service manually.

3 OPI Custom Installation

OPI Custom Install to Three PCs

OPI has three components that can be installed all at once on one PC, or separately. The following is an example of the steps to install each of the three parts separately.

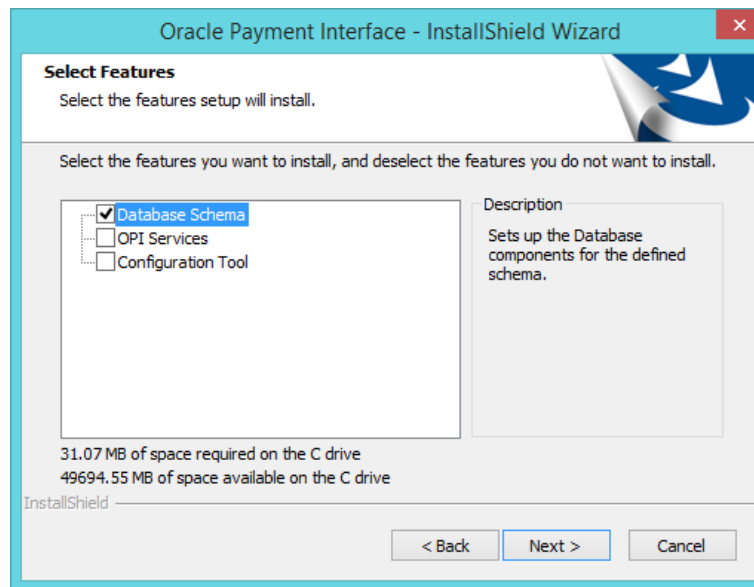
The correct order (required) for a custom install is:

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

Part 1: Schema

Installs the OPI Utility Service.

1. Double-click **OraclePaymentInterface_6.2.0.0.exe**.
2. Select a language, and then click **OK**.
3. Click **Next** twice.
4. On Setup Type screen, click **Custom**, and then click **Next**.
5. Choose a destination, and then click **Next**.



6. On the Select Features screen, select **Database Schema**, and then click **Next**.
Note: The database must already be installed on this PC.
7. Click **Install**.
8. Select your database type, and then click **Next**.

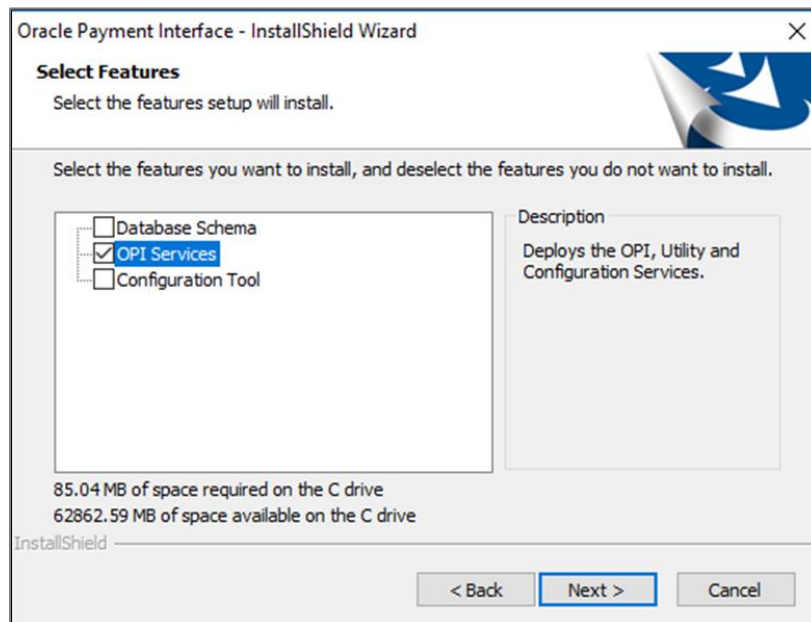
The following steps use MySQL as an example.

9. **Name/IP:** Leave as localhost, if the OPI database is installed on this PC. Otherwise, use the IP address of the database PC.
Port: Accept the default Port # of 3306 (for MySQL), and then click **Next**.
10. **DBA User**
Login ID: root (for MySQL)
Password: Enter the root user password, and then click **Next**.
11. **Database User Credentials**
User Name: Create a new user name.
Password: Enter a password, confirm it, and then click **Next**.
12. 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. Double-click **OraclePaymentInterface_6.2.0.0.exe**.
2. Select a language, and then click **OK**.
3. Click **Next** twice.
4. On the Setup Type screen, select **Custom**, and then click **Next**.
5. Choose a destination, and then click **Next**.



6. On the Select Features screen, select only **OPI Services**, and then click **Next**.
7. Click **Install**.
8. Select a database type, and then click **Next**.

9. **Name/IP:** Enter the IP address of the PC where the OPI database/schema is installed.

Note: If the database type is MySQL, and you cannot use localhost for the Name/IP field, then some commands must be run manually on that MySQL database before proceeding. See the MySQL Grant Permission section in the OPI Installation and Reference Guide for instructions. Setup will not complete if this is not done.

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

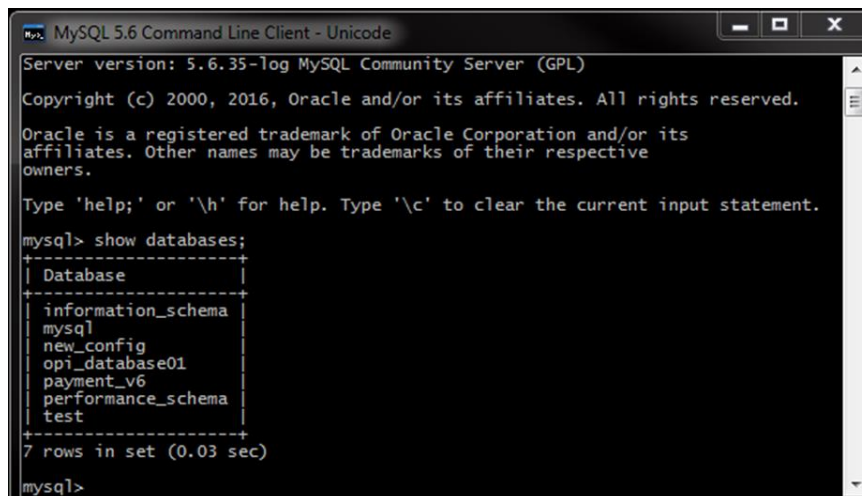
10. On the Database Server Login screen, enter the name and password for the DBA user of the OPI database.

Login ID: root (for MySQL)

Password: Enter the root user's password.

11. On the Database Name screen, enter the database name, and then click **Next**. The database name will typically be **opi_database01**.

To verify the database name, connect to MySQL and run the **show databases;** command, as shown below.



```
MySQL 5.6 Command Line Client - Unicode
Server version: 5.6.35-log MySQL Community Server (GPL)
Copyright (c) 2000, 2016, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| new_config |
| opi_database01 |
| payment_v6 |
| performance_schema |
| test |
+-----+
7 rows in set (0.03 sec)

mysql>
```

12. On the Configuration Tool Superuser Credentials screen:

User Name: Enter a user name that will be used to access OPI applications as a super user.

Password: Enter a password for the super user, confirm the password, and then click **Next**.

13. **Port:** Leave port set to 8090, and then click **Next**.

14. On the Configuration Tool Passphrase screen, enter and confirm a passphrase for the configuration tool, and then click **Next**.

15. Click **Finish** to allow reboot.

Part 3: Configuration Tool

This will install the OPI Utility service.

1. Double click `OraclePaymentInterface_6.2.0.0.exe`.
2. Select a language, and then click **OK**.
3. Click **Next** twice.
4. On Setup Type screen, select **Custom**, and then click **Next**.
5. Choose a destination, and then 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 then click **Next**.
9. On the Configuration Tool Connection Settings screen, enter the **Host** and **Port** information, and then click **Next**.
Host: Enter the IP address of the PC where the **OPI Config Service** is installed. This will be the PC where you selected "*OPI Services*" to be installed.
Port: 8090
10. Enter and confirm the Configuration Tool Passphrase, and then click **Next**.
11. In the Oracle Payment Interface 6.2 – Configuration Wizard, select **POS** or **PMS**. If POS, also select either **Native Driver** or **OGDH**. This example will install POS Native Driver.
Click **Next**.
12. POS Native Driver Configuration
Passphrase: Enter and confirm the POS Native Driver passphrase.
Click **Next**.
13. OPI Interfaces
OPI Mode: Select either **Terminal** or **Middleware**. For Terminal mode, enter the correct port. For Middleware mode, enter the URL including port in the format shown in the dialog. This example selects Middleware.
Click **Next**.
14. POS Merchants
Click the **blue plus button** in the upper right corner to create a merchant record. Fill in all merchant values. This example selects RES and enables Pay at Table.
Click **Next**.
15. Merchant Pay at Table Configuration
DB Host: Enter the IP address of the RES server.
DB Name: Enter the POS database name. ex: micros
Enter and confirm the DB user and password to connect to the RES/POS

database.

Tender Media ID: Enter the tender media record numbers for each selection used.

The **Service Charge** value should be the Service Charge record number linked to tenders for tipping.

Click **Next**.

16. Pay at Table Devices

Click the **blue plus button** in the upper right corner to add a Pay at Table device record.

Mobile Device ID: Enter the value/number used to identify this mobile device.

Query By: Select either table or check for the method this device will use to retrieve checks from the POS database.

Click **Next**.

17. Pay At Table Configuration

Service Port: Enter the port used to communicate to the Pay at Table terminals.

Certificate Password: Enter the certificate password provided by the PSP for Pay at Table.

Confirm Password: Confirm the certificate password.

Click **Next**.

18. POS Merchants

Click **Close** to complete the installation.

19. Click **Finish** to allow a reboot.

4 Upgrading the OPI

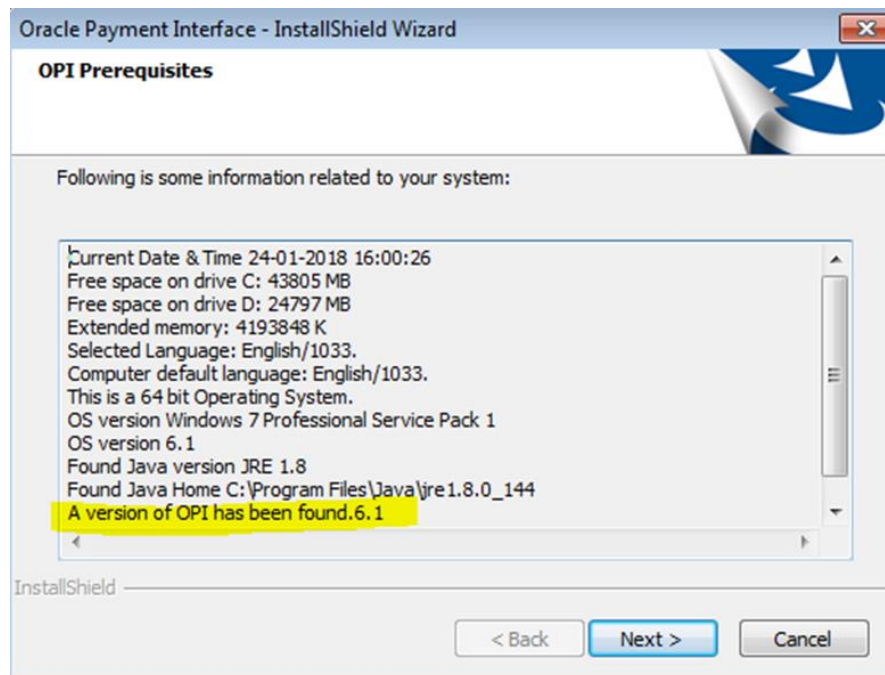
VERY IMPORTANT: Read and follow the upgrade directions.

Note: OPI 6.1 and higher can be upgraded to OPI 6.2.

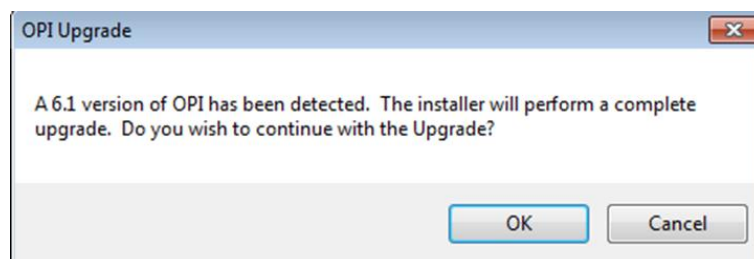
OPI Upgrade Steps

1. Right-click and Run as Administrator the OraclePaymentInterfaceInstaller_6.2.0.0.exe file to perform an upgrade.
2. Select a language from the drop-down list, and then click **OK**.
3. Click **Next** on the *Welcome* screen to proceed with the installation.

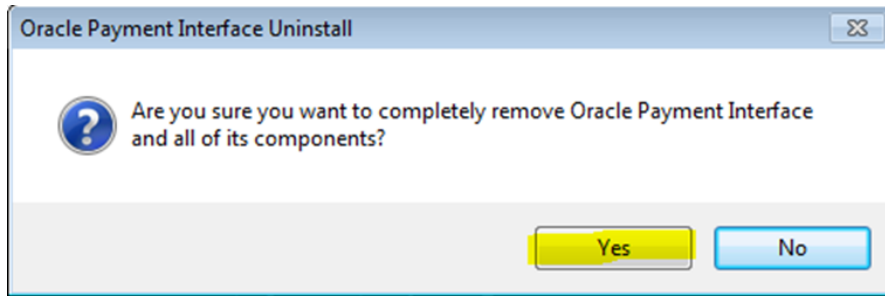
Prerequisites for the installation will be checked, including the required free drive space, details of the host environment, and the Java version that is present.



4. Click **Next** on the *OPI Prerequisites* screen.



5. Click **OK** on the *OPI Upgrade* screen.



6. **WARNING!** You must click **Yes**.

IF YOU CLICK **NO**, YOU WILL HAVE BOTH OPI 6.1 AND OPI 6.2 INSTALLED AND NEITHER WILL WORK.

Explanation: OPI will migrate the existing MySQL configuration information, but all previous OPI applications will be removed before the new files are installed.

7. Choose a Destination Location. Accept the default installation location or click **Change...** to choose a different location.
8. Click **Next**.

The *Ready to Install the Program* screen displays.

9. Click **Install**.

The *Setup Status* screen displays for a few minutes.

Setup Type

For database type, select **MySQL**. No other database type is supported for upgrades.

Database Server

Name/IP – The Hostname or IP Address used for communication to the MySQL database. This must be left at the default of localhost.

Port # – The Port number used for communication to the database

Database Server Login

DBA user

Login ID: root

Password: root user password for MySQL database.

Database User Credentials

User Name: This must be a new user name. It cannot be the same user from the 6.1 install.

Password: Password for the new database user.

Configuration Tool Superuser Credentials

User Name: This can be any user name. It does not have to be a Windows account user.

Password: Create a password, and then confirm it.

Configuration Tool Connection Settings

Host: May be left at 127.0.0.1 if the OPI configuration server is installed on this PC. Otherwise, specify the name or IP address of the PC where the OPI configuration server will be installed.

Port: Leave at 8090.

Configuration Tool Passphrase

Enter and confirm a passphrase.

Click **Next**.

The *Configuration Wizard* launches.

Continue to follow on-screen directions, verifying settings as you go.

POS Merchants

On the *Merchants* screen, click the wrench icon to the right of the existing merchant.

Verify the merchant settings are correct.

Merchant Pay At Table Configuration

If using Pay@Table, review the tender settings carefully as there are new fields that will not be pre-populated from the previous OPI install.

Continue to follow the on-screen directions.

InstallShield Wizard Complete

Click **Finish** to allow a reboot.

If you cannot immediately reboot, you must stop and then start the OPI Service for the current settings to take effect.

5 Migration of DB Type

The migration application will run as part of the 6.2 installation process when an upgrade from 6.1.x to 6.2 version is detected. The migration tool only supports migrating from MySQL to MySQL. Migrating from MySQL to any other database type is not supported.



NOTE:

The configuration data will be migrated. The transaction data will not be migrated. This means that all transactions must be closed and finalized/settled prior to upgrading to OPI 6.2.

Migrating the Data from 6.1 Database Schemas to 6.2

Note: If you cancel an update in progress, all database configuration information will be lost.

1. Click `OraclePaymentInterfaceInstaller_6.2.0.0`.

The installer detects the old OPI version and asks you to continue the upgrade or cancel.

2. Click **OK** and the installer asks you to make sure you want completely remove old OPI.
3. Click **YES** to uninstall the old OPI from your machine.
4. The OPI 6.2 install begins after removing the previous version of OPI.
5. Select the OPI install folder, and then select the DB type.

When finished the OPI 6.1 database schemas (`payment_v6` and `new_config`) have been migrated to the OPI 6.2 MySQL database.

OPI Folder Structure

It is possible to install OPI 6.2 as separate components, with the introduction of OPI's configuration API.

This also means the OPI Configuration Tools can now be installed if required, on separate host machines to the main OPI Application.

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\v6.2\Services\OPI`

OPI Configuration Tools

The new configuration tool default installation path is:

`:\OraclePaymentInterface\v6.2\Config`

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

As the configuration service has now been separated from the OPI service, there is also an additional authentication requirement to contend with between the two, which post-installation is now handled by the new [Settings Admin Tool](#) and [Rotate Passphrase Tool](#), refer to the relevant sections below for further information.

OPI Logs

The location of the OPI logs that are most commonly referenced is:

`:\OraclePaymentInterface\v6.2\Services\OPI\log\`

- Debug.log
- Gateway.log
- System.log
- Transaction.log

`:\OraclePaymentInterface\v6.2\LOGS\OPI_Installation.log`

6 OPI User Administration

OPI 6.2 includes the functionality to manage its own user accounts, rather than integrating to the Windows environment as it did in previous versions. 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 two User **Roles** in OPI:

- **System Administrator** – has full access to OPI configuration, users & audit functions.
- **Merchant Administrator** – only has access to the OPI configuration.

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** plus icon at the top right of the **Users** window.
2. Enter the required values to 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 **Merchant Administrator** or **System Administrator**
 - **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

First Name and Last Name can be edited once the user has logged in, via the **Profile** tab, on the *User Information* page – update the values as required, and click **Save** when finished.

Changing Your Password

If a user wishes to change their current password, on the Profile tab, they should select the *Change Password* page. Enter their *Current password*, and enter and confirm their *New Password*.

Click **Change** when finished. Providing the new password meets the minimum requirements, the user will see confirmation that their password was changed successfully.

Note: After changing the password, the user 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.

The System Administrator user should log in to the OPI Configuration tool, and go to the **Users** tab.

A list of all current users can be seen on the **Users** tab, locate the relevant user and click the *Edit User Account* icon.

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

First name & Last name

First name & Last name can be edited as required, and click **Save** when finished.

Role

Select the users *Role* from the drop down list, and click *Save* when finished.

Deactivating a User Account

It is not possible to delete a user, but a System Administrator can deactivate a user's account, should it no longer be required.

Click the *Deactivate this user account* box to toggle whether the users account is active or not.

- If the *Deactivate this user account* box is ticked – the account is deactivated
- If the *Deactivate this user account* box is not ticked – the account is active

Unlocking a User Account

If a user has failed to log in correctly too many times their account will become locked. An *Account is locked out* option will display 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 users account again. Click *Save* when finished.

Forgotten Passwords

Users

If a user forgets their password, from the OPI Configuration tool, they can select the *Forgot Password* link. This will take them to a Reset Password page, where they should enter their username, and enter and confirm the new password they wish to use, once the password has been approved by the Administrator user.

If the user attempts to log in before their password change request has been approved, they will see an error.

Approving a User's Password Reset Request

Only System Administrator users can approve user password reset requests.

The System Administrator user should log in to the OPI Configuration tool, and go to the *Users* tab.

A list of all current users will be seen, locate the user that has requested a password reset.

- To *Approve* the password reset request click the *Tick* icon
- To *Reject* the password reset request click the *Cross* icon

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.

OPI for PMS ONLY:

If you lose the System Administrator credentials, instead of reinstalling OPI you can upgrade OPI 19.1 PMS sites to OPI 20.1. The Oracle Payment Interface V20.1

Configuration tool includes the following enhancement:

-
- If the user forgets their credentials and therefore cannot log into the configurator, this ability supports the reset password feature that allows users to reset the password for the super user account.

7 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 then require a 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 Client Side Certificate

The communication from OPI to the PSP will use HTTPS with a client certificate for client authentication. OPI will present 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.
- Upload the **Server0Q.pfx** to the OPI key subfolder.

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.
- Upload the **Server0QRoot** generated to the OPI key subfolder. (Follow steps below to generate the Java Key Store file)

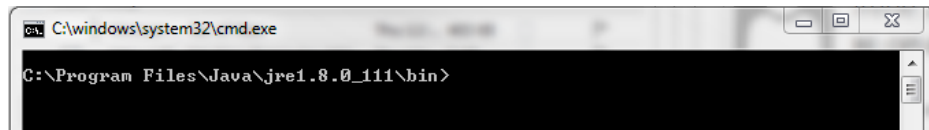
Updating a JKS with a New PSP Certificate

To import a new PSP certificate prior to the expiration of an existing key on an existing OPI installation, the current **Server0Q.pfx** & **Server0QRoot** should be deleted from the OPI key folder prior to importing a new certificate file.

Using Keytool

1. Open a command prompt, and change to the Java bin folder, otherwise you may find the *keytool* command is not be recognized.

The exact path of your Java bin folder will vary, but may be similar to the example path shown below:



2. In order to import the root certificate supplied by the PSP into a Java keystore, perform the steps below in sequence:
 - a. Create a new Java keystore,
 - b. Delete the default key from the Java Key Store
 - c. Import the supplied root certificate in its place

In the following example commands, the root .cer/.crt file is named ca-cert.cer, when importing the production .cer/.crt into the JKS adjust filenames and paths to be relevant to your filenames and environment.

```
keytool -genkey -alias tempalias -keystore  
D:\OraclePaymentInterface\v6.2\Services\OPI\key\Server0QRoot
```

3. You must supply some basic information during the creation of the Java keystore, including a password.

The values will be removed in the next step so can be left blank, i.e. press enter at each prompt, watch out to confirm correct prompt.

To use the same key password for the keystore password when prompted, i.e. (RETURN if same as keystore password), press Enter

```
keytool -delete -alias tempalias -keystore  
D:\OraclePaymentInterface\v6.2\Services\OPI\key\Server0QRoot
```

```
keytool -import -alias myrootca -file  
D:\OraclePaymentInterface\v6.2\Services\OPI\key\ca-cert.cer -keystore  
D:\OraclePaymentInterface\v6.2\Services\OPI\key\Server0QRoot -trustcacerts
```

4. View the new Java keystore details if required by running the following command:

```
keytool -list -keystore  
D:\OraclePaymentInterface\v6.2\Services\OPI\key\Server0QRoot
```

All certificate passwords must be configured within OPI once the certificates are uploaded to the OPI key subfolder;

- PSP Configuration | Private Key Cert. Password – Is the Server0Q.pfx password
- PSP Configuration | Root Certificate Password – Is the Server0QRoot password

Note: The Certificate expiration dates will vary depending on what was set when the certificates were created. You can check the expiration date in the properties of the certificate files.

The certificates must be updated prior to the expiration date to avoid downtime to OPI

OPI Mutual Authentication – Summary

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

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

8 Audit

OPI 6.2 includes 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 the *Search* button to display the relevant Audit Trail Events.

If there are more than one page of search results, use the page numbers at the bottom of the window to navigate to a particular page, or the left & right arrows to move forward or backwards one page at a time.

By default the search results are displayed 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.

Click the *Purge* button to proceed.

9 Silent Installation

OPI 6.2 includes 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_6.2.0.0.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_6.2.0.0.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 Setup.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 Setup.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, etc. in the setup.iss file can be modified using a text editor.

10 OPI Services

An OPI 6.2 installation will include three windows services;

OPI Config Service

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

OPI Service

- Is the main OPI Application service, listening for connections to OPI from POS/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 & passphrases.

Changing the OPI Config Service Port

The OPI Config Service Port is set by default as 8090 during installation.

If for some reason this port needs to be adjusted, the port setting can be amended in the following way:

- Execute
:\OraclePaymentInterface\ v6.2\Services\ConfigService\OPIConfigService.exe
- Select the Java Tab
- Change the *-DserverPort=8090* value as required
- Restart the OPI Config Service

By default the Configuration tools will still start with the value 8090, the user must remember and re-enter the correct host details each time they 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\v6.2\Services\ConfigService\LaunchSettingsAdminTool.bat
```

Using the Settings Administration Tool

1. To launch the application, execute `LaunchSettingsAdminTool.bat` as Administrator
2. Select the 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 screenshot shows the 'Oracle Payment Interface Settings Administration' window. The left sidebar has 'Database Settings' selected. The main area is titled 'Update DB Settings' and contains a form. The form includes a text area with password complexity requirements, and input fields for 'DB User' (populated with 'opiuser'), 'New DB password' (masked with dots), 'Confirm new DB password' (masked with dots), 'Username' (populated with 'admin'), and 'Password' (masked with dots). An 'Update' button is located in the top right corner of the form area.

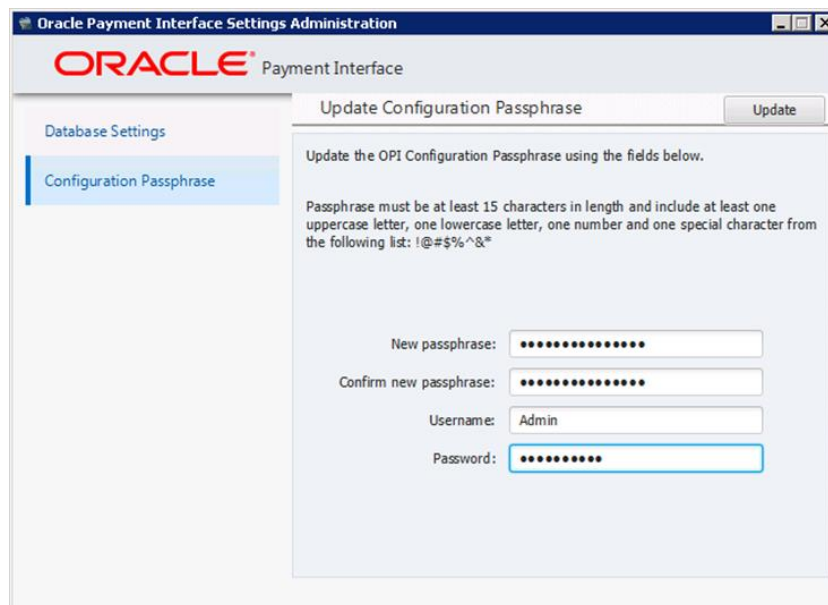
- The application should report Database settings have been updated successfully
5. If the message “The application was unable to save the changes, please make sure you are running the application as Administrator” appears, close the application, re-run as Administrator, and repeat the previous steps.

Updating the OPI Configuration Passphrase

To change the Configuration Passphrase, which is the passphrase used by 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** when ready 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.

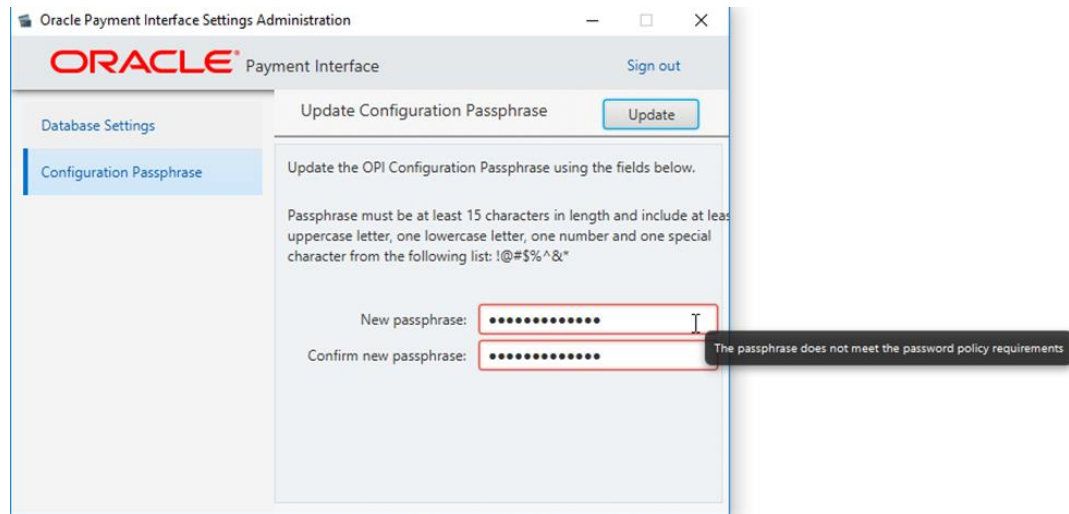


The screenshot shows the 'Oracle Payment Interface Settings Administration' window. On the left, there is a sidebar with 'Database Settings' and 'Configuration Passphrase' (the latter is selected). The main area is titled 'Update Configuration Passphrase' and contains an 'Update' button. Below the title, it says 'Update the OPI Configuration Passphrase using the fields below.' and provides a password complexity requirement: 'Passphrase must be at least 15 characters in length and include at least one uppercase letter, one lowercase letter, one number and one special character from the following list: !@#\$%^&*'. There are four input fields: 'New passphrase:' (with 15 dots), 'Confirm new passphrase:' (with 15 dots), 'Username:' (with 'Admin' entered), and 'Password:' (with 8 dots).

The application should report 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 will also provide feedback to the user.



- The application will only prompt for super user account credentials once, after that, the user will be able to perform an action without entering the credentials again, in addition, the “Sign out” option will be shown on the upper right corner of the application.
4. When finished, click the **Sign out** option.

12 Configuration Tools - Rotate Passphrase

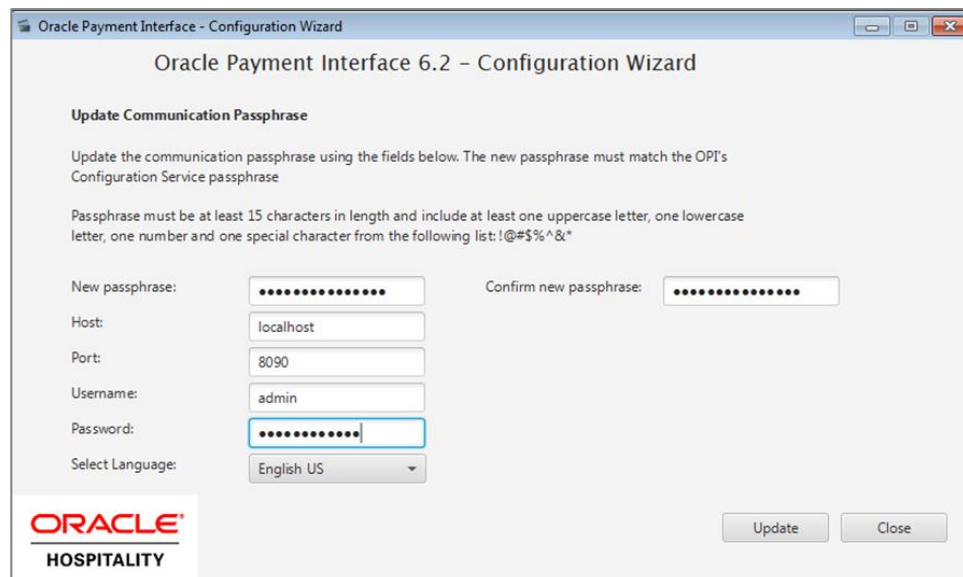
If the OPI Configuration Service passphrase is changed, the configuration tool passphrase will also need to be changed to match the new value that was set on *OPI Config* Service side so that they can continue communicating with each other.

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 config tool in Rotate Passphrase mode; `: \OraclePaymentInterface\v6.2\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 set on OPI Configuration Service side previously).
2. The **Host & Port** should match the details of the OPI Config Service that you are attempting to connect to.
3. Enter your **Username & Password** credentials and then click **Update**.
4. Click **Update** when ready to change the passphrase.



- If the user credentials are correct and the new passphrase matches the OPI Config Service passphrase, the application will display the following message: *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 will display the following message: *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 will display the following message: *The username or password is incorrect.*
- If the application was not run as administrator, the application will display the following message: *The application was unable to update the passphrase, please make sure you are running the application as Administrator.*

13 OPI Client Certificate Creator Utility

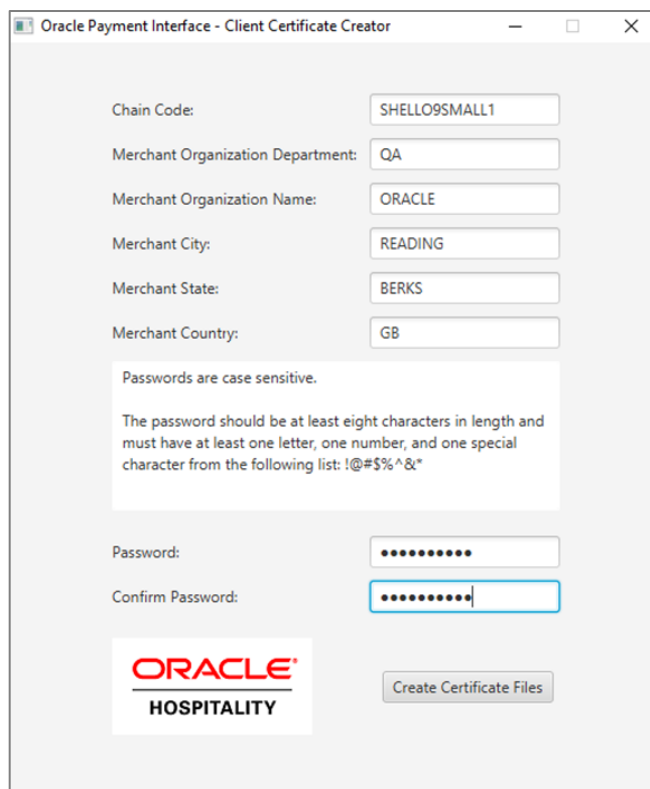
The OPI Client Certificate Creator utility can be used to create self-signed certificates if required, and maybe used to assist with installations of OPI

The main area the Client Certificate Creator will be used, is creating certificates to be used by Opera client, if the site is using Token Proxy, either (Self Hosted or Cloud Token Proxy), certificates required for Opera client in an OnPremise Token Exchange situation are dealt with by the configuration tools, the Cert Creator is also available as there is no point to go through the OnPremise Token Exchange setup just to generate certificates, when the OnPremise Token Exchange configuration would not be used in a Token Proxy situation.

The Client Certificate Creator could also be used to assist with setup of test environments, but it is not recommended to be used in any public-facing situations, as the certificates produced will only be self-signed.

Using the Client Certificate Creator

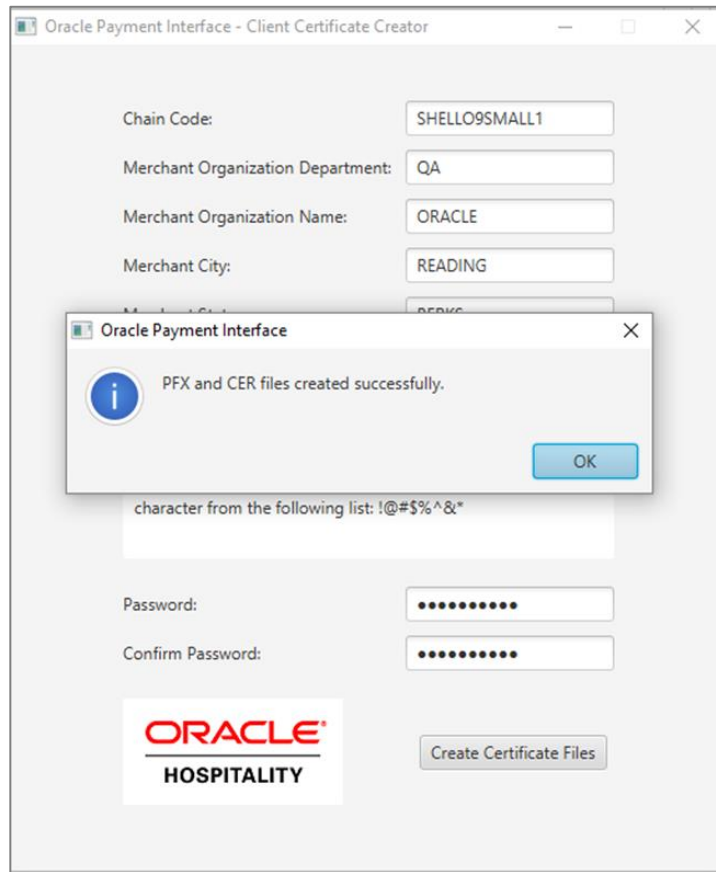
1. Navigate to the : `\OraclePaymentInterface\6.2\Config\` directory and run **CertCreator.jar**.
2. Populate the details as required, and then click **Create Certificate Files**.



The screenshot shows a window titled "Oracle Payment Interface - Client Certificate Creator". It contains several input fields for merchant information: Chain Code (SHELLO9SMALL1), Merchant Organization Department (QA), Merchant Organization Name (ORACLE), Merchant City (READING), Merchant State (BERKS), and Merchant Country (GB). Below these fields is a text box with password requirements: "Passwords are case sensitive. The password should be at least eight characters in length and must have at least one letter, one number, and one special character from the following list: !@#%&^*". There are two password input fields, one for Password and one for Confirm Password, both showing masked characters. At the bottom left is the Oracle Hospitality logo, and at the bottom right is a button labeled "Create Certificate Files".

3. You will be prompted with a standard windows save file box, where you can select the location where the certificates should be created and provide a filename.
4. If you do not see the save file popup, check the red text that displays at the bottom of the window, which will feedback any issues with any of the values that may have been entered incorrectly.

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 Pay@Table Certificate

Pay@Table in OPI 6.2 requires a certificate and matching password.

Upgrade Pay@Table PW

If upgrading to OPI 6.2, the existing **MICROS_PTable.pfx** will be copied to C:\OraclePaymentInterface\v6.2\Services\OPI\key. The password will also be migrated with the database and if not changed during installation, Pay@Table should work once the upgrade is complete.

Simulator Pay@Table PW

If doing a clean install of OPI, a default **MICROS_PTable.pfx** will be copied to C:\OraclePaymentInterface\v6.2\Services\OPI\key. The password that matches that .pfx can be entered during the OPI install, or afterwards in the OPI Configurator. This .pfx and password are just for testing and should not be used in a live site.

Update Pay@Table PW

If doing a new OPI installation on a live site, the PSP should provide a new Pay@Table certificate and the password that matches it. The certificate goes in C:\OraclePaymentInterface\v6.2\Services\OPI\key.

The password can be entered during the OPI install, or afterwards with these steps:

1. Double click \OraclePaymentInterface\v6.2\Config\LaunchConfiguration.bat and login with the SuperUser name and password.
2. Go to Pay At Table | Service Settings, and enter the Certificate password and then confirm it.
3. Save changes and restart the OPI service.

15 Uninstall & Modification of Install

IF UPGRADING OPI, YOU MUST READ THE [UPGRADING THE OPI SECTION](#) FIRST.

To uninstall OPI you can either:

- Run OraclePaymentInterfaceInstaller_6.2.0.0.exe again, it will detect the existing installation, select remove to uninstall
- Use the Add/Remove Programs option via Programs & Features in Windows Control Panel.

During uninstallation you will be prompted for whether or not you wish to remove the OPI database schema. If this is required you will need to be able to provide the Root user credentials again, because the credentials are not stored during installation.

To complete the uninstallation of OPI, a reboot of the host machine is required.

To Modify your OPI installation you can either;

- Run OraclePaymentInterfaceInstaller_6.2.0.0.exe again, it will detect the existing installation, select Modify to add/remove components
- Use the Add/Remove Programs option via Programs & Features in Windows Control Panel. Right click the OPI entry and select Change

During Modification you will be prompted for which features you want to add, or leave installed.

For example, on the *Select Features* page if you only have *OPI Services* component selected, and you wish to add the *Configuration Tool* component, you should select both *OPI Services* (To leave this installed) & *Configuration Tool* (To install this component). If you were to only select *Configuration Tool*, the modification process will attempt to add the *Configuration Tool* component, but also to remove *OPI Service*

16 Configuration Settings

You can configure POS/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 Merchant ID of any POS Merchants that are configured, and 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 POS/PMS Merchant Type of any Merchants that have been configured |
| | | | | |
| Merchants Merchant Information | | | | |
| | POS Type | Only displayed for POS Merchants | Set during Merchant Configuration | Type of POS used by the Merchant |
| | Merchant Type | Only displayed for POS Merchants | Restaurant | Type of industry the Merchant belongs to Restaurant Retail |
| | Merchant ID | Only displayed for POS Merchants | Set during Merchant Configuration | Merchant Unique Identifier |
| | OPERA Chain | 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 | | Set during Merchant Configuration | Country location of the Merchant |
| | | | | |
| Merchants Settings | | | | |
| | RES DB Host | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 127.0.0.1 | RES Database hostname or IP Address |
| | RES DB Port | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 2638 | RES Database port number |
| | RES DB Name | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | micros | RES DB Name |
| | RES DB User | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | Blank | RES Database Username |
| | Confirm RES DB User | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | Blank | RES Database Username |
| | RES DB Password | Only visible if the Merchant POS Type = | Blank | RES Database Password |

| | | | |
|-------------------------|--|---|--|
| | RES if Pay at Table Service = ON | | |
| Confirm RES DB Password | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | Blank | RES Database Password |
| Initial DB Pool size | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 20 | Number of connections created when database pool is initialized |
| Max Active Connections | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 40 | Max Number of connections allowed in database pool |
| Connection wait time | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 20 | Milliseconds database pool will wait for connection to be returned |
| Min Idle Connections | Only visible if the Merchant POS Type = RES if Pay at Table Service = ON | 10 | Min Number of idle connections in the database pool |
| Simphony Service URL | Only visible if the Merchant POS Type = Simphony | http://127.0.0.1:8080/EGateway/SimphonyPosApiWeb.aspx | URL of the Simphony Transaction Services POSAPI |
| Tenders Employee Number | Only visible if the Merchant POS Type = Simphony | 1 | Employee Number used to retrieve the Tender definition from Simphony |
| Users Employee Number | Only visible if the Merchant POS Type = Simphony | 1 | Employee Number used to retrieve the Employee definition from Simphony |

| | | | | |
|------------------------------|----------------------------------|---|---|---|
| | Tables Employee Number | Only visible if the Merchant POS Type = Symphony | 1 | Employee Number used to retrieve the Table definition from Symphony |
| | | | | |
| 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 |
| | IFC8 Key | | Generate during Merchant Configuration | Use to generate an IFC8 Communication key Apply FidCryptOS prefix to the generated key when configuring the key in the IFC8 software |
| | Tenders: AliPay | | AB | PMS Tender mapping |
| | Tenders: Alliance | | AL | PMS Tender mapping |
| | Tenders: American Express | | AX | 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: 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 |
| | 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: PayPal | | PC | 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 |
| | | | | |
| Merchants Token Exchange Settings | | Only displayed for PMS 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 | | Set during Merchant Configuration | IP Address of the PED, the Workstation should use |
| | | | | |
| Merchants Pay at Table Devices | | Only displayed if | | |

| | | | | |
|--------------------|---|---------------------------|-----------------------------------|---|
| | | Pay at Table Service = ON | | |
| | Device ID | | Set during Merchant Configuration | PED device unique identifier |
| | Query By | | Set during Merchant Configuration | Whether the device will attempt to pick up a check using the Table Number of the Check Number |
| | Revenue Center ID | | Set during Merchant Configuration | ID of the Revenue Center associated with the device |
| | | | | |
| Core Configuration | | | | |
| | POS Service | | Set during install | Enables/Disables the POS Service |
| | OPERA IFC8 Service | | Set during install | Enables/Disables the Opera IFC8 Service |
| | OPERA Token Service | | Set during install | Enables/Disables the Opera Token Exchange Service |
| | Pay at Table Service | | Set during install | Enables/Disables the Pay at Table Service |
| | Enforce TLS 1.2 protocol and above only | | Enabled | Enforce TLS 1.2+ only on POS & OPERA Token Service NOTE: If using OGDH and CE workstations, this TLS 1.2 option has to be disabled since the CE workstations will not be able to communicate to OPI using TLS 1.2. Native driver sites can still uses CE workstations with TLS 1.2 enabled. |
| | 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 |
| | 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 & 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 POS/PMS |
| | Request Encoding | | UTF-8 | Encoding type of request messages |
| | Enable UTF-8 encoding of response messages | | Disabled | Select to enable UTF-8 encoding of response messages |
| | | | | |
| POS Service | | | | |
| | Mode | | Set during install | POS Service communication mode Native Driver or OGDH |
| | Port | | 5098 | POS Service port number |
| | Use Check Open Time for CC Repost | | Enabled | This should always be enabled otherwise repost will not work. |
| | Passphrase | Only visible if Mode = Native Driver | Set during install | Passphrase for communication between POS & OPI |
| | Confirm Passphrase | Only visible if Mode = Native Driver | Set during install | Passphrase for communication between POS & OPI |
| | Certificate password | Only visible if Mode = OGDH | Set during install | Password of POS service certificate |
| | Confirm certificate password | Only visible if Mode = OGDH | Set during install | Password of POS service certificate |
| | | | | |
| Opera Token Service | | | | |

| | | | | |
|--------------------|-------------------------------------|---|------------|--|
| | Mode | | HTTPS Mina | Communication Mode - HTTPS Mina mode was introduced to resolve performance issues - HTTPS legacy mode |
| | Port | | 5012 | |
| | | | | |
| Opera IFC8 Service | | | | |
| | Communication test interval | | 73 | Test connection interval in seconds |
| | Enable test communication Heartbeat | | Enabled | Select to periodically test the connection to IFC8 |
| | Decoder timeout | | 1000 | Milliseconds OPI will wait for full IFC8 message to be received |
| | Bulk Tokenization Batch Size | | 50 | Number of items in a single tokenization request |
| | Enable Bulk Tokenization | | Enabled | Select to enable Bulk Tokenization through the IFC8 channel. To allow Tokenization support for Cruise integration Does not affect Tokenization's coming from Opera |
| | Return receipt's full print data | | Disabled | Select to return receipts full print data to IFC8 in Cross Reference fields To allow Print on Folio |
| 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 | |
| | Private Key Cert. Password | Only relevant if Enable Mutual Authentication = Enabled | Blank | Private Key certificate password for 2way authentication with PSP |
| | Confirm Private Key Cert. Password | Only relevant if Enable Mutual | Blank | Private Key certificate password for 2way authentication with PSP |

| | | | |
|---|---|---|--|
| | Authenticatio n = Enabled | | |
| Root Certificate Password | Only relevant if Enable Mutual Authenticatio n = Enabled | Blank | Root certificate password for 2way authentication with PSP |
| Confirm Root Certificate Password | Only relevant if Enable Mutual Authenticatio n = Enabled | Blank | Root certificate password for 2way authentication with PSP |
| Enable Top up authorization | | Disabled | Select to enable Top up authorization transactions if the PSP supports this functionality. Relates only to POS Native Driver. |
| Communicatio n 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 Communicati on Mode = Terminal | 443 | Port Number for PSP devices |
| Terminal Context | Only visible if Communicati on Mode = Terminal | Blank | If the PSP's device require a context in their connection url enter the context here. Leave blank if not required |
| Primary Host | Only visible if Communicati on Mode = Middleware | https://psps host:443 | The PSP Host URL for Financial Transactions |
| Failover Host | Only visible if Communicati on Mode = Middleware | https://psps failover host: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 Communicati on 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 | | | | |
|---------------------------------|---------------------------------|---|---------|---|
| | 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 |
| | Keystore password | | Blank | Password of the Key Store containing the PSP Root Certificate |
| | Confirm Keystore password | | Blank | Password of the Key Store containing the PSP Root Certificate |
| | Certificate password | | Blank | Password of the Client Side Password provided by the PSP |
| | Confirm Certificate password | | Blank | Password of the Client Side Password provided by the PSP |
| | | | | |
| Pay at Table Service Settings | | | | |
| | Mode | | HTTPS | Select Communication Mode; HTTPS, HTTP, TCP Typically in a production environment this would be set to HTTPS. But it could be set to HTTP temporarily to trouble shoot communication problems. |
| | Enable Secure Connection | Only available if Pay at Table Mode = HTTP or TCP | Enabled | Select to enable secure connection through SSL |
| | TLS 1.2 protocol and above only | | Enabled | Enforce TLS 1.2+ protocol for connections from Pay at Table devices |
| | Port | | 8992 | Pay at Table Service port number |
| | Certificate password | | Blank | Password of the Pay at Table certificate |
| | Confirm Certificate password | | Blank | Password of the Pay at Table certificate |
| | Device Session Lifespan | | 30 | Minutes Pay at Table device can remain idle before expiring |

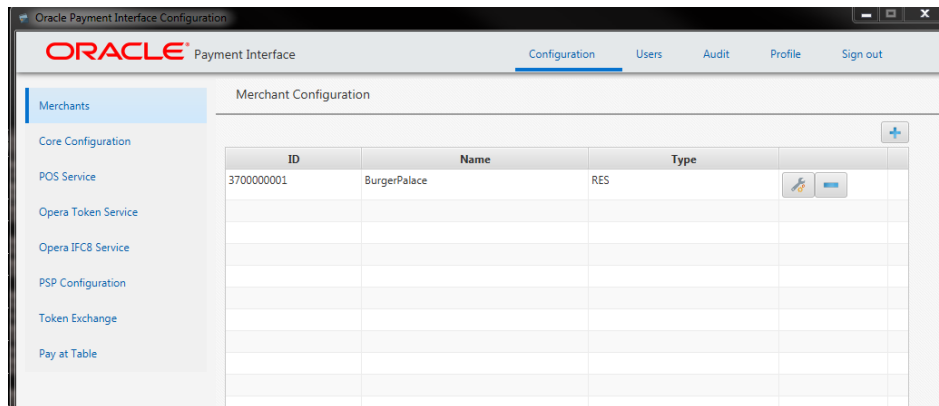
| | | | | |
|---------------------------------|-------------------------------|---|------------------------------------|--|
| | Session Polling Interval | | 5 | Device Session verification interval in minutes |
| | | | | |
| Pay at Table POS API Settings | | | | |
| | Mode | | Expect 100-continue, not supported | <p>Relates to the Transaction POSAPI that OPI will use. Default value should fit most situations, the 'supported' option was required for RES until version 4.7</p> <p>Expect 100-continue, not supported - will send whole message content in one message</p> <p>Expect 100-continue, supported - will send the message headers first, then send the message content separately</p> |
| | Communication Timeout | | 30 | Number of seconds OPI will wait for a response from the POSAPI before timing out |
| | Return Printed Check | | Disabled | Select to return printed check |
| | RES API URL | Only visible is Merchant POS Type = RES | http://127.0.0.1/ResPosApiWeb/ | URL of the RES POSAPI |
| | Tenders: AliPay | | 0 | POS Tender object number mapping |
| | Tenders: Alliance | | 0 | POS Tender object number mapping |
| | Tenders: American Express | | 0 | POS Tender object number mapping |
| | Tenders: China UnionPay | | 0 | POS Tender object number mapping |
| | Tenders: China UnionPay Debit | | 0 | POS Tender object number mapping |
| | Tenders: Debit | | 0 | POS Tender object number mapping |
| | Tenders: Diners Club | | 0 | POS Tender object number mapping |
| | Tenders: Discover | | 0 | POS Tender object number mapping |

| | | | |
|---------------------------|--|---|----------------------------------|
| Tenders: EC Chip | | 0 | POS Tender object number mapping |
| Tenders: Gift Card | | 0 | POS Tender object number mapping |
| Tenders: GiroCard | | 0 | POS Tender object number mapping |
| Tenders: JCB | | 0 | POS Tender object number mapping |
| Tenders: Maestro | | 0 | POS Tender object number mapping |
| Tenders: MasterCard | | 0 | POS Tender object number mapping |
| Tenders: MasterCard Debit | | 0 | POS Tender object number mapping |
| Tenders: Paypal | | 0 | POS Tender object number mapping |
| Tenders: Print Check | | 0 | POS Tender object number mapping |
| Tenders: Service Charge | | 0 | POS Tender object number mapping |
| Tenders: Visa | | 0 | POS Tender object number mapping |
| Tenders: Visa Debit | | 0 | POS Tender object number mapping |
| Tenders: Visa Electron | | 0 | POS Tender object number mapping |
| Tenders: V Pay | | 0 | POS Tender object number mapping |
| Tenders: WeChat Pay | | 0 | POS Tender object number mapping |
| | | | |

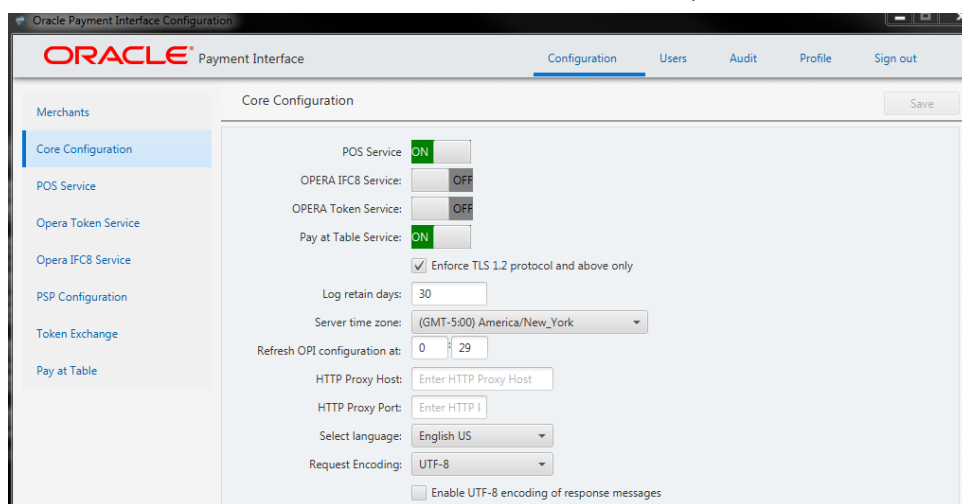
Configuration Tool Settings

The new configurator allows more control in an easier to use format.

- Double click
OraclePaymentInterface\v6.2\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.



On the **Merchants** tab merchant records can be edited, added and deleted.



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

NOTE: If using OGDH and CE workstations, this TLS 1.2 option has to be disabled since the CE workstations won't be able to communicate to OPI using TLS 1.2.

Native driver sites can still uses CE workstations with TLS 1.2 enabled.

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

Ex: v6.2\Services\OPI\log\OPISvcWrapper.2017-10-23.log

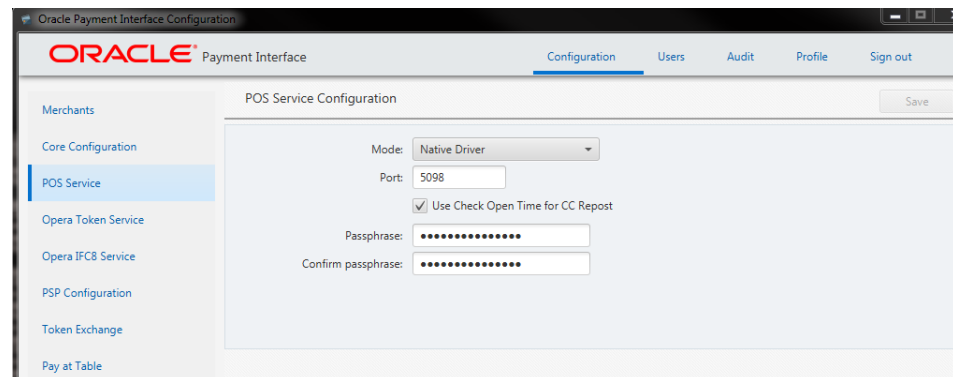
Refresh OPI configuration at: Refreshes data, so all changes are picked up.
The default time of 0:29 = 12:29 AM.

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.

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.

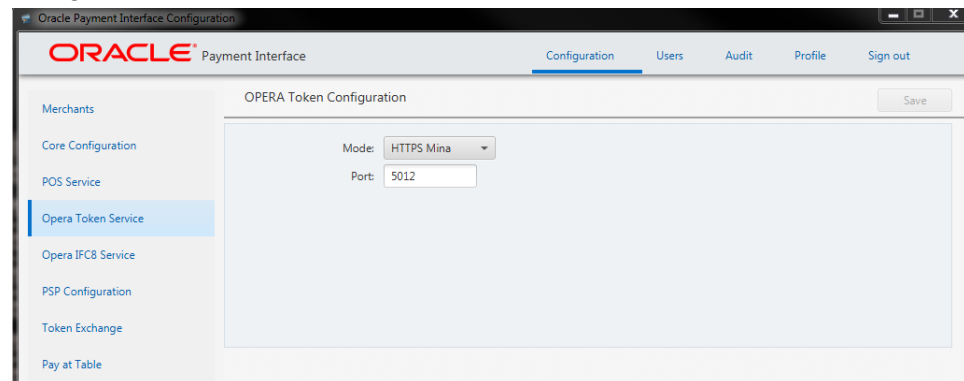
The screenshot shows the 'Oracle Payment Interface Configuration' window. The 'Configuration' tab is selected. On the left sidebar, 'POS Service' is highlighted under the 'Core Configuration' section. The main area is titled 'POS Service Configuration'. It contains a 'Mode' dropdown set to 'Native Driver', a 'Port' input field with '5098', a checked checkbox for 'Use Check Open Time for CC Repost', and two masked password fields for 'Passphrase' and 'Confirm passphrase'. A 'Save' button is in the top right corner.

Mode: Native Driver or OGDH

Port: Port used for communication to OPI.

Use Check Open Time for CC Repost: Should always be on or repost will not work.

Passphrase: If Mode is Native driver, the **POS Native passphrase** can be changed here. If Mode is OGDH, the **OGHD certificate password** can be changed here.

The screenshot shows the 'Oracle Payment Interface Configuration' window. The 'Configuration' tab is selected. On the left sidebar, 'Opera Token Service' is highlighted under the 'Core Configuration' section. The main area is titled 'OPERA Token Configuration'. It contains a 'Mode' dropdown set to 'HTTPS Mina' and a 'Port' input field with '5012'. A 'Save' button is in the top right corner.

Mode: HTTPS Mina is the default setting.

Communication test interval: Test connection interval, in seconds.

Decoder timeout: The number of milliseconds OPI will wait for an IFC8 message to be received.

Note: Do not change the time values above unless you work for support and know why the change is being made.

Bulk Tokenization Batch Size: Size in number of cards.

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

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: Mutual Authentication can be enabled here, and passwords entered. See the [Mutual Authentication](#) section of this document for more information.

Enable Top up authorization: Enable this if the PSP supports **Top Up / incremental** authorizations for POS. **Top up** is only supported by Native drivers, not OGDH.

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".

The screenshot shows the Oracle Payment Interface Configuration window. The left sidebar contains a menu with options: Merchants, Core Configuration, POS Service, Opera Token Service, Opera IFC8 Service, PSP Configuration (highlighted), Token Exchange, and Pay at Table. The main area is titled 'Payment Service Provider Configuration' and includes a 'Save' button. The configuration fields are as follows:

- Communication Timeout: 60
- Connect Timeout: 10
- ☐ Enable Mutual Authentication
- Private Key Cert. Password: Enter Private Key Cert. Password
- Confirm Private Key Cert. Password: Confirm Private Key Cert. Password
- Root Certificate Password: Enter Root Certificate Password
- Confirm Root Certificate Password: Confirm Root Certificate Password
- ☐ Enable Top up authorization
- Communication Mode: Middleware (dropdown)
- Primary Host: https://10.39.175.41:8991
- Failover Host: https://pspsfailoverhost:443
- ☒ Enable Inquiry Mode for Transaction Reversal

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 a 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.

The screenshot shows the Oracle Payment Interface Configuration window with the 'Token Exchange Configuration' tab selected. The left sidebar is the same as the previous screenshot. The main area is titled 'Token Exchange Configuration' and includes a 'Save' button. The configuration fields are as follows:

- Primary Host URL: Enter Primary Host URL
- Failover Host URL: Enter Failover Host URL
- Keystore password: Insert Keystore password
- Confirm Keystore password: Confirm password
- Certificate password: Enter Certificate password
- Confirm certificate password: Confirm password

Token Exchange for Opera.

Primary Host URL - The PSP Host URL for Token Exchange

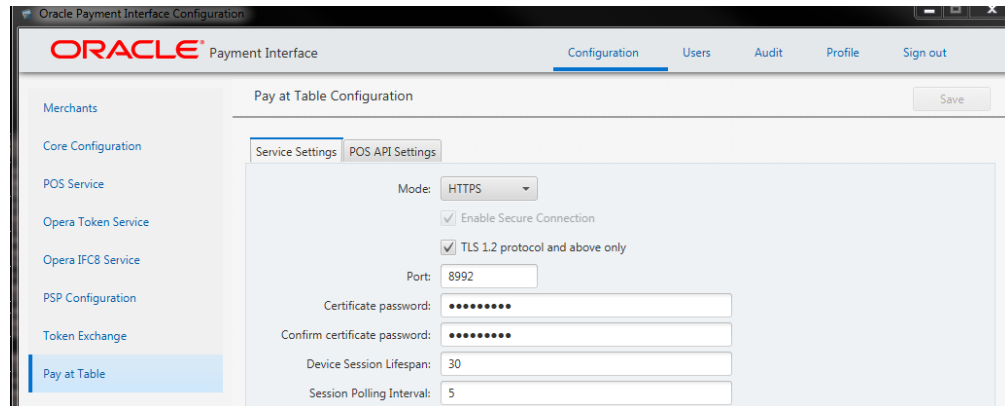
Failover Host URL - The PSP Failover Host URL for Token Exchange. If a failover URL is not available, leave this blank

Keystore password - Password of the Key Store containing the PSP Root Certificate

Confirm Keystore password - Password of the Key Store containing the PSP Root Certificate

Certificate password - Password of the Client Side Password provided by the PSP

Confirm Certificate password - Password of the Client Side Password provided by the PSP

The screenshot shows the 'Oracle Payment Interface Configuration' window. The 'Pay at Table Configuration' section is active, with a 'Save' button in the top right. The left sidebar lists various configuration areas: Merchants, Core Configuration, POS Service, Opera Token Service, Opera IFC8 Service, PSP Configuration, Token Exchange, and Pay at Table (which is highlighted). The 'Pay at Table Configuration' panel has two tabs: 'Service Settings' and 'POS API Settings'. Under 'Service Settings', the 'Mode' is set to 'HTTPS'. There are two checked checkboxes: 'Enable Secure Connection' and 'TLS 1.2 protocol and above only'. The 'Port' is set to '8992'. There are two password fields: 'Certificate password' and 'Confirm certificate password', both masked with dots. The 'Device Session Lifespan' is set to '30' and the 'Session Polling Interval' is set to '5'.

Pay at Table.

Mode: Typically would be set to **HTTPS**. But it could be set to **HTTP** temporarily to trouble shoot communication problems. HTTP could be used to verify the problem is not related to certificate issues.

Using **TCP** is still secure if "**Enable Secure Connection**" is enabled.

If the terminal does not support SSL, you might have to use TCP.

TLS 1.2 protocol and above only: You would keep this on unless your P@T PED did not support TLS 1.2.

Port: The port used to communicate to the P@T PEDs.

Certificate Password: Used to secure communications between the P@T terminal and PSP.

Oracle Payment Interface Configuration

ORACLE Payment Interface

Configuration Users Audit Profile Sign out

Merchants

Core Configuration

POS Service

Opera Token Service

Opera IFC8 Service

PSP Configuration

Token Exchange

Pay at Table

Pay at Table Configuration

Service Settings POS API Settings

Mode: Expect: 100-continue, not s...

Communication timeout: 30

☐ Return Printed Check

RES API URL: http://127.0.0.1/ResPosApiWeb/

Tenders:

| Card type | Tender Media ID |
|----------------------|-----------------|
| AliPay | 0 |
| Alliance | 0 |
| American Express | 106 |
| China UnionPay | 0 |
| China UnionPay Debit | 0 |
| Debit | 0 |
| Diners Club | 106 |
| Discover | 106 |
| EC Chip | 0 |
| Gift Card | 0 |
| GiroCard | 0 |
| JCB | 106 |
| Maestro | 0 |
| MasterCard | 106 |
| MasterCard Debit | 0 |
| Paypal | 0 |
| Print Check | 902 |
| Service Charge | 901 |
| Visa | 106 |
| Visa Debit | 0 |

Mode:

Expect: 100continue, not supported: This means all information is sent in 1 message.

Expect: 100continue, supported: This means send the header first, then the data in a 2nd message.

RES 4.7 and higher have to have this set to **Not supported**.

This would only be changed to supported if there were issues.

Communication Timeout: The number of seconds OPI will wait for a response from the POSAPI before timing out.

Return Printed Check: If this is ON, a copy of the check can print at the P@T device to present to the customer when the check is picked up from the POS.

RES API URL: The URL of the RES API used for Pay at Table.

Tenders: The POS tenders that P@T posts payment to.

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
- Add or edit Pay at Table Devices
- Add or edit number of OPI Users
- Edit Payment Types

Terminals

Terminals tab is displayed only if **PSP Configuration | Communication Mode = Terminal**. In the **Terminal** mode, OPI maintains WS > PED mapping and communicates directly to PED.

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.

POS Merchant Information window appears.

2. Select **Terminals** tab and then click the **blue plus button** in the upper right corner to add the payment terminal details.

| Workstation ID | Terminal IP |
|----------------------|-------------|
| <input type="text"/> | |
| | |
| | |
| | |

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. Once the details are provided, press **Enter** key to submit your changes.
4. **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.
POS Merchant Information window appears.
2. Select **Terminals** tab and then select the payment terminal record to be edited.
3. Make necessary changes and press **Enter** key to submit your changes.
5. **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.
POS Merchant Information window appears.
2. Select **Terminals** tab and then select the payment terminal record to be deleted.
3. Click the **blue minus** button 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.
6. **Save** changes and restart the OPI service.

Pay at Table Devices

Pay at Table Devices tab is displayed only if the **POS Type** is selected as **RES** or **Simphony** and **Enable Pay at Table** checkbox is selected in the configuration wizard.

Adding Pay at Table Devices

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.
POS Merchant Information window appears.
2. Select **Pay at Table Devices** tab and then click the **blue plus button** in the upper right corner to add a Pay at Table device record.

The screenshot shows a software window titled "Edit POS Merchant". At the top right are "Cancel" and "Save" buttons. Below the title bar are three tabs: "Merchant Information", "Settings", and "Pay at Table Devices". The "Pay at Table Devices" tab is active. Inside this tab, there is a table with two columns: "Device ID" and "Query By". The first row of the table has "Table" entered in the "Query By" column. To the right of the "Table" text in the first row, there is a blue button with a minus sign. Below the first row, there are several empty rows in the table. A plus sign button is located at the top right of the table area.

3. **Device ID:** Enter the value/number used to identify this mobile device.
4. **Query By:** Select either Table or Check for the method this device will use to retrieve checks from the POS database.
5. Once the details are provided, press **Enter** key to submit your changes.
6. **Save** changes and restart the OPI service.

Editing Pay at Table Devices

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.
POS Merchant Information window appears.
2. Select **Pay at Table Devices** tab and then select the Pay at Table device 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 Pay at Table Devices

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.
POS Merchant Information window appears.
2. Select **Pay at Table Devices** tab and then select the Pay at Table device record to be deleted.
3. Click the **blue minus** button available on the Merchant Information window to delete the pay at table device details.
4. Confirmation window pops up saying "Do you really want to delete the device". Click **Ok** to proceed with the deletion process.
5. **Save** changes and restart the OPI service.

OPI Users

OPI user management is explained in [OPI User Administration](#) section, refer for more details.

Payment Types

Edit Tender Media ID – POS API Settings

You can edit the Tender Media ID in **POS API Settings** tab under **Pay at Table Configuration**. Each Card type is mapped with a Tender Media ID in the Opera configuration.

1. Log in to the OPI Configuration tool as the System Administrator, select the **Pay at Table** tab, and then click **POS API Settings** tab.
2. Select the Card type and double-click the **Tender Media ID** and edit the ID.
3. Press **Enter** key to submit your changes.
4. **Save** changes and restart the OPI service.

Edit Payment Code – IFC8 Settings

IFC8 settings is available only for PMS merchants. You can edit the Payment Code in **IFC8 Settings** tab under Pay at Table Configuration. 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 **IFC8 Settings** tab.
2. If required, edit **IFC8 host** and **IFC8 Port**.
3. Select the Card type and double-click the **Payment Code** and edit the code.
4. Press **Enter** key to submit your changes.
5. **Save** changes and restart the OPI service.

18 Troubleshooting and FAQs

Troubleshooting

Tip: To increase logging at an OGDH workstation (just to trouble shoot and issue) add this line to that workstation's OPI.inc file:

EnableIFClog = True

Log location?

Win32: Micros\res\pos\etc\MGDH_WS#.log

CE: Root of My Device\MGDH_WS#.log

Remove that line from OPI.inc when the issue is resolved.

Situation 1: "Communicate Error"

Test:

1. Verify you can telnet to the OPI PC on port 5098 from another PC.
Ex: From CMD prompt: telnet 172.23.25.16 5098
(Where 172.23.25.16 is the IP address of the OPI server.)
If you cannot telnet to the OPI port, try the following:
2. Restart the OPI Service.
3. Temporarily bypass the firewall.
4. Verify OPI is listening on port 5098.
Open CMD prompt: C:\>netstat -anob > c:\temp\ports.txt
Search ports.txt for "5098".

Cause 1: Pos\Etc\OGDH.inc. was pointing to wrong IP address for OPI server.

Cause 2: The windows Firewall on OPI server was enabled and incoming traffic on port 5098 was blocked.

Cause 3: LaunchConfiguration.bat | POS Service | Mode: = set to wrong value. OGDH vs Native Driver.

Cause 4: OPI service not listening on port 5098.

Solution: Verify Port is set correctly in LaunchConfiguration.bat | POS Service.

Restart OPI service, or reboot.

Situation 2: "Issuer or switch inoperative"

Cause 1: Simulator is not running.

Cause 2: OPI service not restarted after making config change.

Cause 3: Incorrect Proxy settings.

Cause 4: Incorrect settings in LaunchConfiguration.bat | PSP Configuration for Host and or Port.

Solution For Middleware mode:

- 1) Need to use https instead of http.
- 2) Need to append port to end of host value

Ex: Host = https://10.39.176.175:8991

Cause 5: Wrong IP address or port.

Solution for IP: LaunchConfiguration.bat | Merchants | Terminals. Verify IP is correct for terminals.

Solution for port: LaunchConfiguration.bat | PSP Configuration.
Correct Terminal port value.

Situation 3: "Bad Terminal ID"

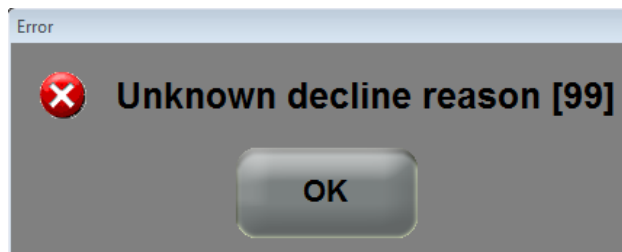
Cause 1: Wrong workstation number.

Cause 2: Wrong merchant ID.

Solution: LaunchConfiguration.bat | Merchants, verify Merchant ID and WS numbers.

Cause 3: Forgot to restart OPI service after making changes in

Situation 4:



This generic error message can be caused by several things.

Solution 1:

Restart the OPI Service and try again.

Solution 2:

If the debug.log shows: "ht is null" the cause may be that the wrong POS passphrase is in either OPI or the POS.

The solution is to change the POS passphrase at both the POS and OPI to be the same value.

Solution 3:

If the system.log shows the message below, and is not caused by the wrong POS passphrase mentioned above, then it might be due to a Java update.
(This should not be an issue in OPI 6.2, but leaving info, in case.)

```
[GATEWAY RESPONSE] GenericJSONProcessor : Can not decrypt  
java.security.InvalidKeyException: Illegal key size
```

Not all Java updates will cause this error, but security updates have in previous versions.

1. Stop the OPI service.
2. Go to the link below and download jce_policy-8.zip.

<http://www.oracle.com/technetwork/java/javase/downloads/jce8-download-2133166.html>

3. Unzip the file and copy the two files to your Java security folder.

- Local_policy.jar
- US_export_policy.jar

Ex: C:\Program files\Java\jre(your current version)\lib\security\

Some systems may have Java installed in Program Files (x86). If so, update the files there also.

4. Start the OPI service.

Solution 4:

If nothing is writing to the debug.log at all when you get the “Unknown decline reason [99]” error, then you may have the wrong POS Mode setting.

1. Open **OraclePaymentInterface\v6.2\Config\LaunchConfiguration.bat**.
2. On POS Service tab, verify Mode: = Native Driver.
3. Save changes, and then restart OPI service.

FAQs

Q1: How is the signature verification prompt controlled?

A1: The PSP controls whether there will be a prompt for signature verification.

A2: If using the simulator, to disable the signature prompt:

1. Open open SimulatorRunnableDist\properties\SimulatorConfig.properties.
2. Add this line to the end: ENTRY_MODE=05
3. Restart the simulator.

19 Appendix A: Migrating MySQL Database

Purpose

- Migrate OPI MySQL database from 5.6/5.7 instance (source) to 8.0 instance (target).

Prerequisites

- Ensure you are using OPI with MySQL 5.6/5.7 database and not any other databases (Oracle, MySQL 8.0, MSSQL)
- Install MySQL 8.0 in parallel to MySQL 5.6/5.7 - a different port should to be used.



NOTE:

You can verify the port that is currently used for MySQL 5.6/5.7 in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database.

- Install MySQL 8.0 Workbench and make sure you can connect to both the databases with root credentials.
 - MySQL 8.0 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 MySQL 8.0 in the steps included in this document. Mainly, there are two database instances one is MySQL 5.6/5.7 and the other is MySQL 8.0. This allows you to copy information from one to another.

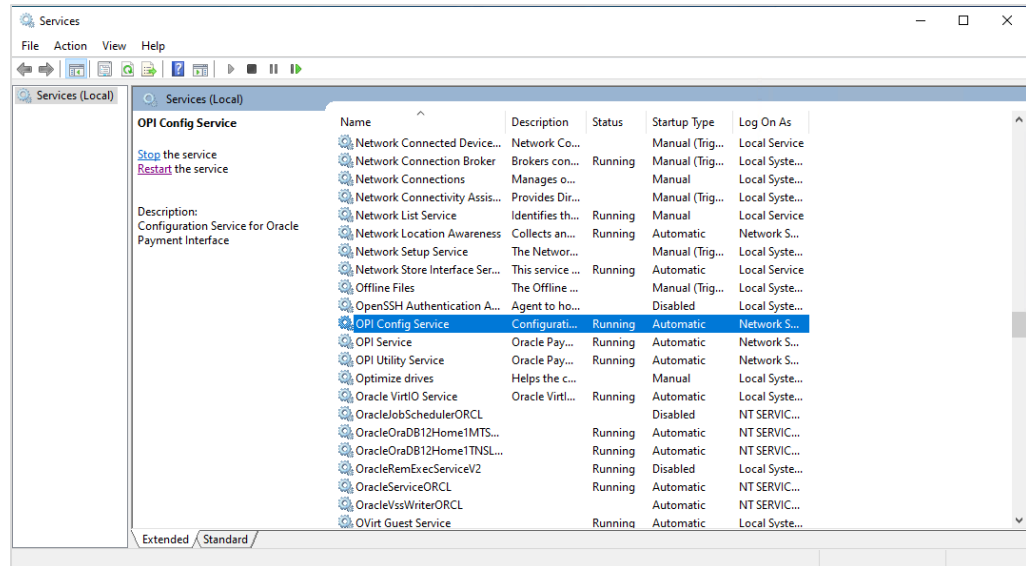
Upgrade

Follow the steps below to migrate OPI database schema from MySQL database 5.6/5.7 to 8.0.

Stop both the OPI and OPI Configuration Services

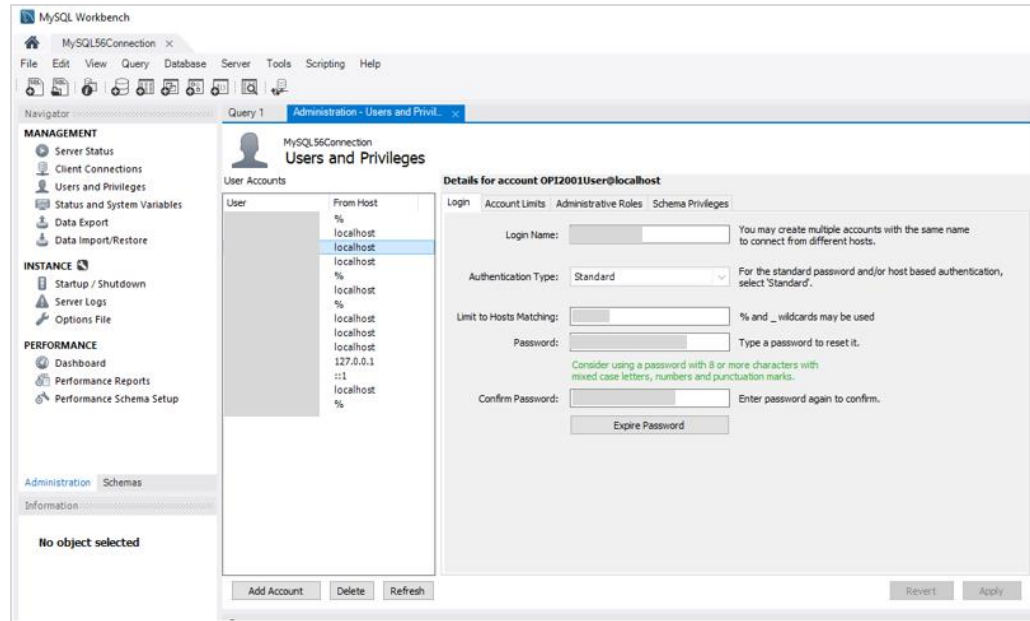
It is important to stop both the **OPI Service** and **OPI Configuration Service** prior to the migration in order to protect the integrity of the database.

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

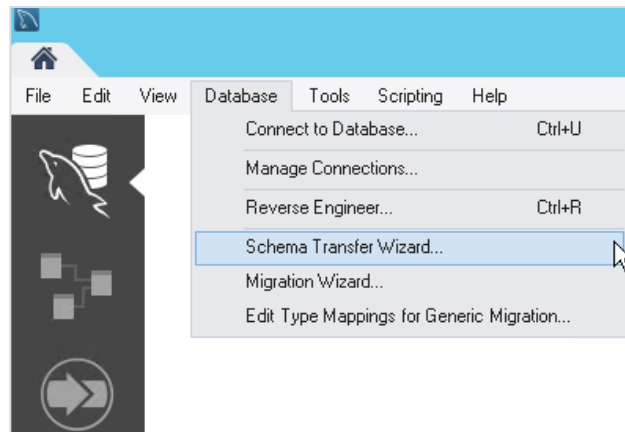
1. The OPI database UserName can be found in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database\1
2. If you already have the database user password, skip this step. If you have forgotten the password, follow the below steps to reset the password.
 - a. Login to MySQL Workbench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



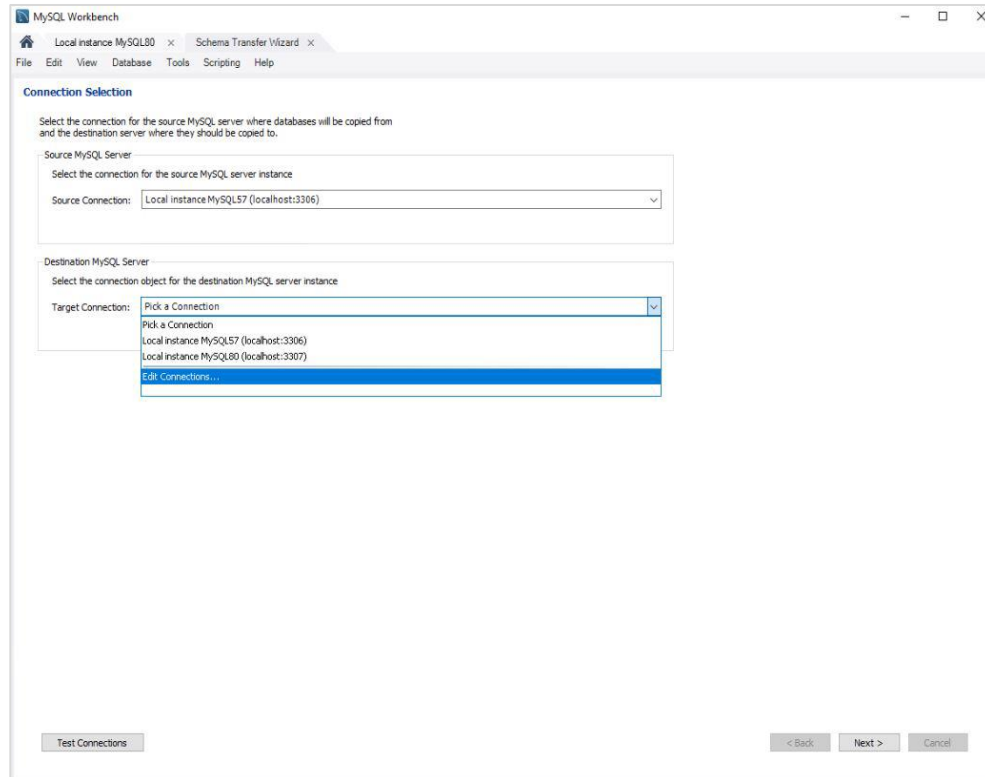
- c. Run `\OraclePaymentInterface\v6.2\Services\ConfigService\LaunchSettingsAdminTool.bat` as administrator and update the password in OPI. For more information, refer to [Chapter 11 Settings Administration Tool](#).

Copy the Schema and Data

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

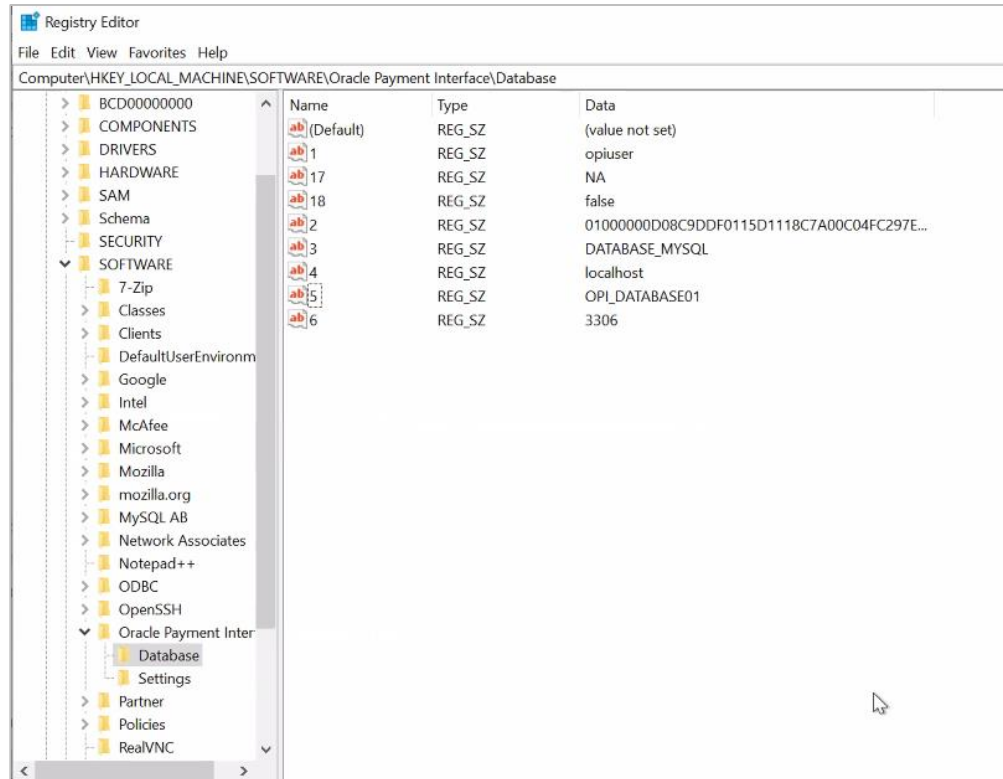


2. Click **Start the Wizard**.
3. Select the Source and Target database connections.

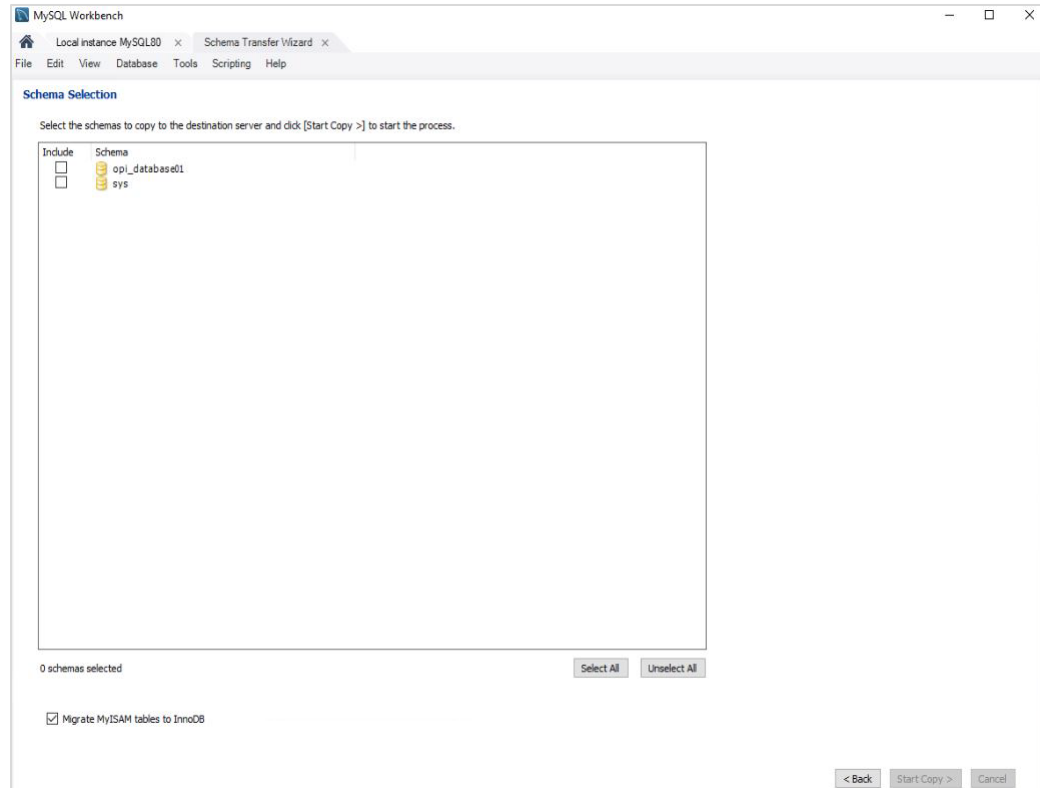


4. Click **Next**.
5. Select the schemas to copy.

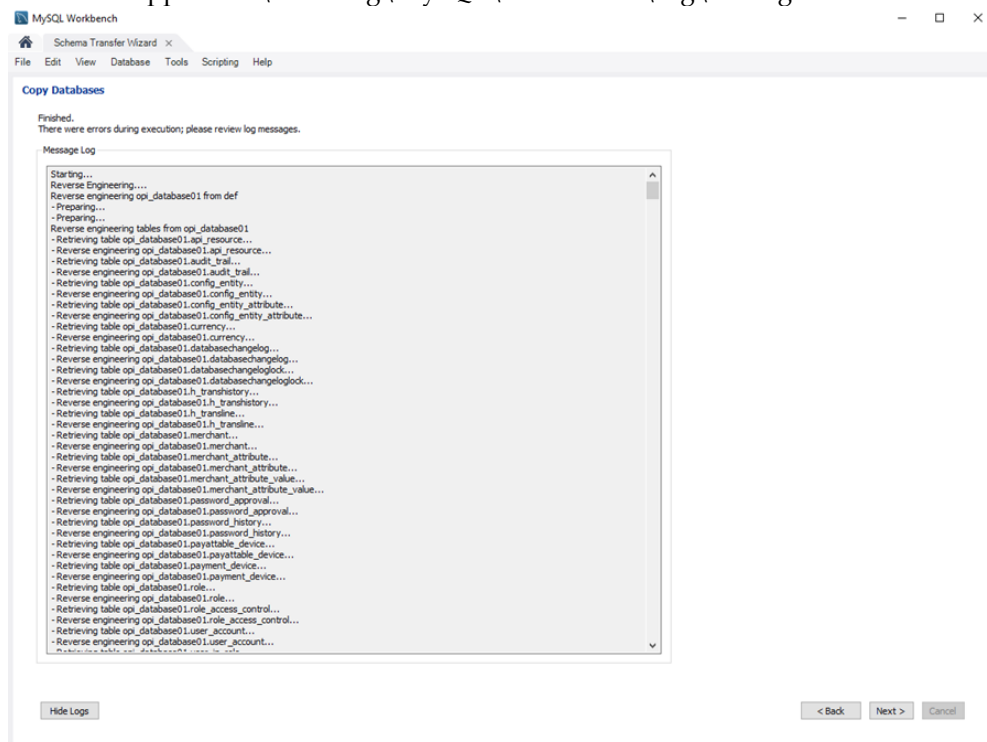
If you are not sure which database schema to copy, find the information in the registry at HKEY_LOCAL_MACHINE\SOFTWARE\Oracle Payment Interface\Database\5



6. Click **Start Copy**.

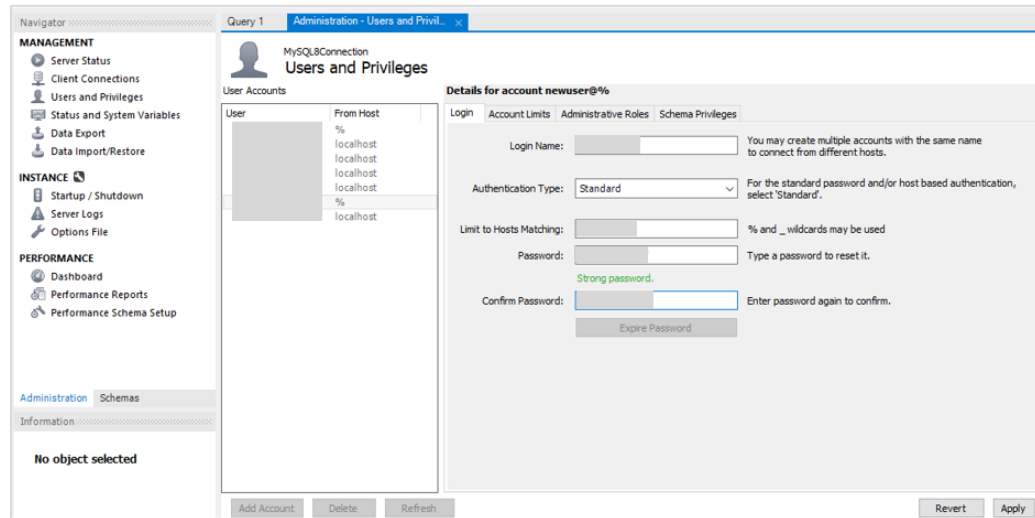


- You can view the logs once the schemas start copying to the destination server. The SQL logs can also be found at `%AppData%\Roaming\MySQL\Workbench\log\wb.log`.

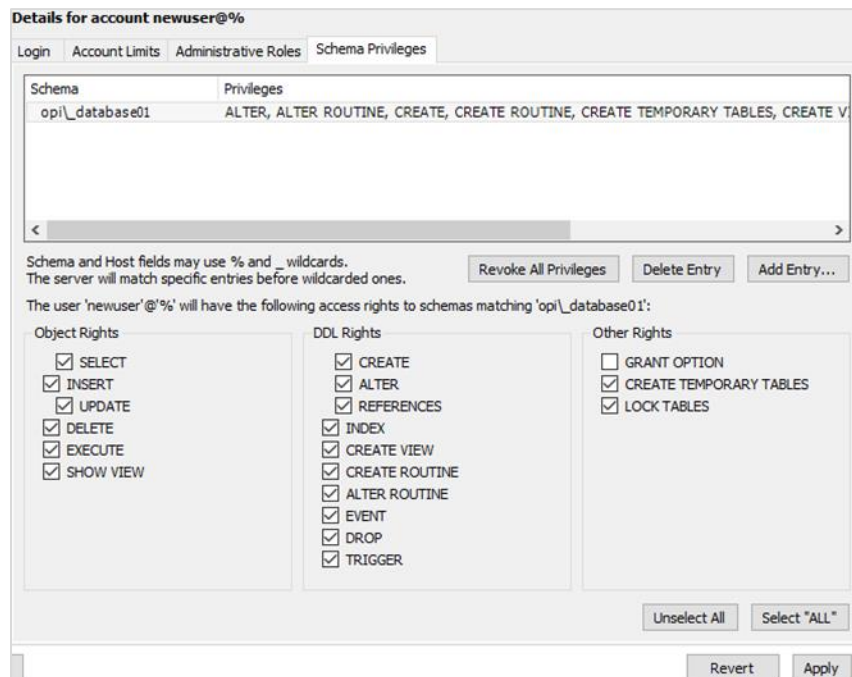


7. Once the copy is complete, click **Next** and then click **Finish**.

8. Create the matching user/password in the target MySQL 8.0 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 5.6/5.7 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 MySQL 8.0 database.
2. Start the OPI Configuration Service and OPI Service.

**NOTE:**

Uninstall MySQL 5.6/5.7 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 MySQL 8.0).

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.