Oracle Hospitality Payment Interface Installation and Reference Guide



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Oracle Hospitality Payment Interface Installation and Reference Guide Release 20.4

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### Preface

#### Purpose

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

#### Audience

This document is intended for installers of the OPI.

#### **Customer Support**

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

#### https://iccp.custhelp.com

When contacting Customer Support, please provide the following:

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

#### Documentation

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

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

#### Table 1 Revision History

Date	Description
June 2024	Initial Publication
July 2024	<ul> <li>Removed Microsoft Windows Server 2012 R2 across all chapters as it has reached EOL</li> </ul>

# 1 Pre-Installation Steps

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

### Databases

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

# Supported Database Types and Operating Systems

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

• MySQL Database 5.7 and 8.0

See Appendix A: Migrating MySQL Database for more information

• Oracle Database 11g / 12c / 19c

### NOTE:

During installation, OPI creates a database schema. OPI does not override the period of time. This database schema remains valid because the schema expiration date is already defined by existing policies of the environment where the database is installed.

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

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

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

### Granting Permission in MySQL

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

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

#### MySQL5.7

GRANT ALL PRIVILEGES ON \*.\* TO 'root'@"<hostname\_or\_lan\_ip\_address>' IDENTIFIED BY '<root\_password>' WITH GRANT OPTION;

Where <hostname\_or\_lan\_ip\_address> is the hostname or ip address you want to be able to connect to the database via, and <root\_password> is the root user password.

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

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

#### MySQL8.0

CREAT USER 'root'@'<hostname\_or\_lan\_ip\_address>' IDENTIFIED BY "<root\_password>";

GRANT ALL PRIVILEGES ON \*.\* TO 'root'@'<hostname\_or\_lan\_ip\_address>' WITH GRANT OPTION;

Where <hostname\_or\_lan\_ip\_address> is the hostname or ip address you want to be able to connect to the database via, and <root\_password> is the root user password.

### NOTE:

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

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

### **Installation Requirements**

Complete the following tasks before installing:

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

During the installation, confirm the following:

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

# 2 OPI Complete Installation

- 1. Right-click **OraclePaymentInterfaceInstaller\_20.4.0.0.exe** file and select **Run as Administrator** to perform an installation.
- 2. Select your language from the drop-down list, and click **OK**.
- 3. Click Next twice.
- 4. Ensure all the prerequisites for the OPI installation are met.

Oracle Payment Interface - InstallShield Wizard	ł		×
OPI Prerequisites			Z
Following is some information related to your	system:		
Current Date & Time 15-06-2020 08:07:22 Free space on drive C: 24818 MB Eree space on drive D: 78379 MB Extended memory: 12484208 K Selected language: English/1033. Computer default language: English/1033. This is a 64 bit Operating System. OS version Windows 10 Enterprise (No Servi OS version 6.3	ce Pack)		~
<			>
Instalibhield			
	< Back	Next >	Cancel

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



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

Oracle Payment li	nterface - InstallShield Wizard 🛛 🗙 🗙	
Setup Type Select the setu	up type to install.	
Please select a	a setup type.	
⊙ Complete	All program features will be installed. (Requires the most disk space.)	
⊖ Custom	Select which program features you want installed. Recommended for advanced users.	
InstallShield		
	< Back Next > Cancel	

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

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

Oracle Payment Interface - InstallShield Wizard		×
Ready to Install the Program The wizard is ready to begin installation.		K K
Click Install to begin the installation.		
If you want to review or change any of your inst exit the wizard.	allation settings, click Back. Click C	ancel to
Install'shield	< Back Install	Cancel

- 8. Select your Database type:
- MySQL



Oracle DB

Oracle Payment Interface - InstallShield Wizard		×
Setup Type Select the setup type that best suits your needs.		Z
Select Database being used.		
○ MySQL Oracle DB	Options: SID Service Name	
InstallShield	< Back Next >	Cancel

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

### NOTE:

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

#### MySQL

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

#### Oracle DB

SID

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

#### Service Name

- Name/IP: The Hostname or IP Address used for communication to the database.
- Port #: The Port number used for communication to the database.
- Service: The TNS alias used to connect to the Oracle database.
- **10.** Confirm the database admin user used to connect to the database. The database admin user is used to create an OPI database user, which is used once the installation completes.
- 11. Enter the username and password to create a new database user account. If the username already exists in the database, you are prompted to select a different username.
  - a. When creating the username for the database, the installer allows only alphanumeric characters and should start only with an alphabetic character, NOT a number.
  - b. Enter a password according to the requirements specified.

The installer attempts to connect to the database using the admin credentials provided and creates the OPI database user.

- **12.** Enter the username and password to create a Super User System Admin level account that is used for configuring and maintaining the system.
- 13. Enter the Host and Port.

Oracle Paym	ent Interface - InstallShield Wizard	×
Configura	tion Tool Connection Settings	Z
Please er (ex. Hos	nter the Configuration Server Connection Information: t: 192.0.2.1 Port: 8090 / Host: example.com Port: 8090 )	
Host:		Port:
InstallShield –	< Back Next >	Cancel



14. Set and confirm the passphrase value.

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

🕤 Oracle Payment Interface - Configuration Wizard	_		×
Oracle Payment Interface – Configuration Wizard			
Please select the OPI instance mode:			
OPERA/Suite8			
Cruise			
		<b>C</b>	
HOSPITALITY	Next	Close	2

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

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

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

📹 Oracle Payment Interface - Confi	iguration Wizard		- 🗆 X
Oracle Pa	yment Interface – Config	uration Wizard	
OPI Interfaces			
OPERA Token Exchange	ON		
OPI to PSP Communication	Configuration:		
OPI Mode:	Terminal 💌	Enable Mutual Auther	ntication
Terminal Port Number:	443	Enforce HTTPS	
OPI Token Server Certificat	e	<i>с. на</i>	
OPI To	ken Server Certificate		
			-
ORACLE			Next Close
HOSPITALITY			
📹 Oracle Payment Interface - Conf	iguration Wizard		>
Source Payment Interface - Conf	iguration Wizard yment Interface – Config	juration Wizard	>
Oracle Payment Interface - Conf Oracle Pa OPI Interfaces	iguration Wizard yment Interface – Config	guration Wizard	>
Oracle Payment Interface - Conf Oracle Pa OPI Interfaces OPERA Token Exchange	iguration Wizard yment Interface – Config on	juration Wizard	- □ >
Oracle Payment Interface - Conf Oracle Pa OPI Interfaces OPERA Token Exchange	iguration Wizard Ayment Interface – Config ON	juration Wizard	>
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Madex</li> </ul>	iguration Wizard Nyment Interface – Config N N N Configuration:	guration Wizard	– D >
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> </ul>	iguration Wizard Ayment Interface – Config ON A Configuration:	Juration Wizard	- D >
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> </ul>	iguration Wizard yment Interface – Config ON a Configuration: Middleware https://pspshost:443	Juration Wizard	>
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> <li>Failover Host:</li> </ul>	iguration Wizard yment Interface – Config on a Configuration: Middleware https://pspshost:443 https://pspsfailoverhost:4	Juration Wizard	Intication Enter HTTP Proxy Host Enter HTTP Proxy Port
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> <li>Failover Host:</li> <li>OPI Token Server Certification</li> </ul>	iguration Wizard yment Interface – Config ON Configuration: Middleware https://pspshost:443 https://pspsfailoverhost:4	guration Wizard	Intication Enter HTTP Proxy Host Enter HTTP Proxy Port
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> <li>Failover Host:</li> <li>OPI Token Server Certification</li> </ul>	iguration Wizard yment Interface – Config on a Configuration: Middleware • https://pspshost:443 https://pspsfailoverhost:4 te Certificate	Juration Wizard  Enable Mutual Authe Proxy Host: Proxy Port: Certificate Exists?	Intication Enter HTTP Proxy Host Enter HTTP Proxy Port
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> <li>Failover Host:</li> <li>OPI Token Server Certificat</li> <li>OPI To</li> </ul>	iguration Wizard yment Interface – Config ON Configuration: Middleware https://pspshost:443 https://pspsfailoverhost:4 te Certificate ken Server Certificate	Juration Wizard  Enable Mutual Authe Proxy Host: Proxy Port: Certificate Exists?	ntication Enter HTTP Proxy Host Enter HTTP Proxy Port
<ul> <li>Oracle Payment Interface - Conf</li> <li>Oracle Pa</li> <li>OPI Interfaces</li> <li>OPERA Token Exchange</li> <li>OPI to PSP Communication</li> <li>OPI Mode:</li> <li>Primary Host:</li> <li>Failover Host:</li> <li>OPI Token Server Certification</li> <li>OPI To</li> </ul>	iguration Wizard yment Interface – Config ON a Configuration: Middleware • https://pspshost443 https://pspsfailoverhost4 te Certificate ken Server Certificate	Juration Wizard  Enable Mutual Authe Proxy Host: Proxy Port:  Certificate Exists?	Intication Inter HTTP Proxy Host Enter HTTP Proxy Port

- 17. **OPERA Token Exchange**: This option is enabled by default for all OPERA token exchange services.
- 18. Select the **OPI Mode** either as Middleware or Terminal.
- **Middleware**: Fill in the primary host connection information and the failover Host information (if provided).
- **Terminal**: Select correct Port. If using Mutual Authentication, see the Mutual Authentication section for more details.

### NOTE:

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

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

📧 Create OPI Certifica	te	×
City:	Houstan	
State/Province:	Texas	
Country/Region:	US	
Create based on:	IP IP	
	FQDN	
OPI Server IP:		
Password:		
Confirm Password	:	
	Cancel Generate	

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

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

🖈 Quick access		Name	Date modified	Туре	Size
Desktop	#	CHA.cer	10/07/2020 08:53	Security Certificate	1 KB
Downloads	#	😼 CHA.pfx	10/07/2020 08:53	Personal Informati	3 KB
Documents		MICROS_OperaToken.pfx	10/07/2020 08:53	Personal Informati	3 KB
Distante	1	MICROSOperaToken.cer	10/07/2020 08:53	Security Certificate	1 KB
Pictures	15	OPI_PSP_1.pfx	2B/01/2019 11:38	Personal Informati	3 KB
Cert		OPI_PSP_1Root	10/07/2020 09:25	File	2 KB
IFC8					
og log					
Public					
OneDrive					
This PC					

23. Click Next. The Merchant configuration screen appears.

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

# 3 OPI Custom Installation

### **Custom Installation**

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

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

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

### Part 1: Database Schema

Installs the OPI Utility Service and database schema.

- 1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an installation.
- 2. Select your language from the drop-down list, and click OK.
- 3. Click Next twice.
- 4. On the Setup Type screen, click Custom, and then click Next.
- 5. Choose a destination, and click Next.

Oracle Payment Interface - InstallShield Wizard	×
Select Features Select the features setup will install.	
Select the features you want to install, and dese	elect the features you do not want to install. Description Sets up the Database components for the defined schema.
134.12 MB of space required on the C drive 24591.54 MB of space available on the C drive InstallShield —	< Back Next > Cancel

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

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

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

The following steps use MYSQL as an example.

- 9. Name/IP: Leave as localhost, if the OPI database is installed on this computer. Otherwise, use the IP address of the computer where the database is installed.
- 10. Port: Accept the default Port # of 3306 (for MySQL), and click Next.
- 11. DBA User
  - a. Login ID: root (for MySQL)
  - b. Password: Enter the root user password, and click Next.

#### 12. Database User Credentials

- a. User Name: When creating the username for the database, the installer allows only alphanumeric characters and should start only with an alphabetic character, NOT a number.
- **b. Password**: Enter a password according to the requirements specified, confirm it, and click **Next**.
- 13. Click **Finish** and reboot the system.

### Part 2: OPI Services

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

- 1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an installation.
- 2. Select your language from the drop-down list, and click **OK**.
- 3. Click Next twice.
- 4. On the Setup Type screen, select Custom, and then click Next.
- 5. Choose a destination, and click Next.

Oracle Payment Interface - InstallShield Wizard	×
Select Features Select the features setup will install.	
Select the features you want to install, and des	elect the features you do not want to install.
Runtime	Description
Configuration Tool	Deploys the OPI, Utility and Configuration Services.
195.41 MB of space required on the C drive 24607.00 MB of space available on the C drive InstallShield	
	< Back Next > Cancel

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

### NOTE:

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

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

- 11. On the **Database Server Login** screen, enter the name and password for the DBA user of the OPI database.
  - a. Login ID: root (for MySQL)
  - b. Password: Enter the root user's password.
- On the Database Name screen, enter the Database name, and click Next. The database name will typically be opi\_database01.
- **13.** To verify the database name, connect to MySQL and run the show databases; command, as shown below.



#### 14. On the Configuration Tool Superuser Credentials screen:

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

### Part 3: Configuration Tool

This installs the OPI Utility service and OPI configurator.

- 1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an installation.
- 2. Select your language from the drop-down list, and click OK.
- 3. Click Next twice.
- 4. On Setup Type screen, select Custom, and then click Next.

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

Oracle Payment Interface - InstallShield Wizard	Х
<b>Select Features</b> Select the features setup will install.	
Select the features you want to install, and deselect	the features you do not want to install.
Runtime Database Schema OPI Services	Description Deploys the Configuration tool.
146.85 MB of space required on the C drive 24606.98 MB of space available on the C drive InstallShield —	
<	Back Next > Cancel

- 6. On the **Select Features** screen, select only **Configuration Tool**, and then click **Next**.
- 7. Click Install.
- 8. On the Logon screen, enter the configuration tool super user name and password, and click Next.
- 9. On the **Configuration Tool Connection Settings** screen, enter the Host and Port information, and click **Next**.
  - a. Host: Enter the IP address of the computer where the OPI Config Service is installed. This will be the computer where you have selected "OPI Services" to be installed.
  - **b. Port**: 8090
- **10.** Enter and confirm the Configuration Tool Passphrase, and then click **Next**.

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

📹 Oracle Payment Interface - Configuration Wizard	-		×
Oracle Payment Interface – Configuration Wizard			
Please select the OPI instance mode:			
OPERA/Suite8			
Cruise			
	Neut	Clas	
HOSPITALITY	ivext	Clos	e

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

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

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

📹 Oracle Payment Interfac	e - Configuration	Wizard		_		×
Orac	cle Paymen	t Interface – Config	juration Wizard			
OPI Interfaces						
OPERA Token Excha	inge					
OPI to PSP Commu	inication Configu	ration:				
OPI Mode:		Terminal 👻	Enable Mutual Auther	ntication		
Terminal Port Numb	oer:	443	✓ Enforce HTTPS			
OPI Token Server (	Certificate					
of Fonces Server C		Cartificata	Cortificato Evista?			
	OPI Token Serve	r Certificate		-		
ORACLE				Next	Close	
HOSPITALITY						
🕤 Oracle Payment Interfac	e - Configuration	Wizard				×
, Ora	cle Paymen	t Interface – Confic	uration Wizard			
	cie i uyinen	e internace coning				
OPERA Takan Evaluation						
OPENA TOKEN EXCH	inge	ON				
OPI to PSP Commu	unication Configu	iration:				
OPI Mode:		Middleware 👻	Enable Mutual Auther	ntication		
Primary Host:		https://pspshost:443	Proxy Host:	Enter HTTP Prox	y Host	
Failover Host:		https://pspsfailoverhost:4	Proxy Port:	Enter HTTP Prox	y Port	
Failover Host: OPI Token Server (	Certificate	https://pspsfailoverhost:4	Proxy Port:	Enter HTTP Prox	ay Port	
Failover Host: OPI Token Server (	Certificate	https://pspsfailoverhost:4	Proxy Port: Certificate Exists?	Enter HTTP Prov	sy Port	
Failover Host: OPI Token Server (	Certificate OPI Token Serve	https://pspsfailoverhost.4 Certificate r Certificate	Proxy Port: Certificate Exists?	Enter HTTP Prov	sy Port	
Failover Host: OPI Token Server (	Certificate OPI Token Serve	https://pspsfailoverhost:4 Certificate r Certificate	Proxy Port: Certificate Exists?	Enter HTTP Prox	ry Port	
	Certificate OPI Token Serve	https://pspsfailoverhost.4 Certificate r Certificate	Proxy Port: Certificate Exists?	Enter HTTP Prov	ry Port	

- **13. OPERA Token Exchange**: This option is enabled by default for all OPERA token exchange services.
- 14. Select the OPI Mode either as Middleware or Terminal.
- **Middleware**: Fill in the primary host connection information and the failover Host information (if provided).
- **Terminal**: Select the correct Port. If using Mutual Authentication, see the Mutual Authentication section for more details.

### NOTE:

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

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

Create OPI Certificat	te	×
City:	Houstan	
State/Province:	Texas	
Country/Region:	US	
Create based on:	IP	
	FQDN	
OPI Server IP:		
Password:		
Confirm Password:		
	Cancel Generate	

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

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

Quick access		Name	Date modified	Туре	Size
Desktop	#	CHA.cer	10/07/2020 08:53	Security Certificate	1 KB
🕹 Downloads	#	😼 CHA.pfx	10/07/2020 08:53	Personal Informati	3 KB
Documents	*	MICROS_OperaToken.pfx	10/07/2020 08:53	Personal Informati	3 KB
Distant	<u>_</u>	MICROSOperaToken.cer	10/07/2020 08:53	Security Certificate	1 KB
in Pictures		OPI_PSP_1.pfx	28/01/2019 11:38	Personal Informati	3 KB
Cert		OPI_PSP_1Root	10/07/2020 09:25	File	2 KB
IFC8					
log					
Public					
OneDrive					
This PC					

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

# 4 Upgrading the OPI

VERY IMPORTANT: Read and follow the upgrade directions.

### NOTE:

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

# Upgrading OPI 19.1.0.0 to 20.4.0.0

- 1. Right-click **OraclePaymentInterfaceInstaller\_20.4.0.0.exe** file and select **Run as Administrator** to perform an upgrade.
- 2. Select your language from the drop-down list, and click OK.
- 3. Click Next.
- 4. Click OK.

Oracle Payment Interface	- InstallShield Wizard	×
く	Welcome to the InstallShield Wizard for Oracl Payment Interface	e
	The InstallShield Wizard will install Oracle Payment	
Oracle Payment Int	terface - InstallShield Wizard X	
i This ins 20.4.0.0	tall will perform a major upgrade from 19.1.0.0 to	
	ОК	
	< Back Next > Can	cel

5. Click Next.

Ensure all the prerequisites for the OPI installation are met.

Oracle Payment Interface - InstallShield Wizard	×
OPI Prerequisites	
Following is some information related to your system	n:
Current Date & Time 08-04-2024 13:08:33 Free space on drive C: 169515 MB Extended memory: 16776672 K The Schema feature has been previously installed The Services feature has been previously installed. Selected language: English/1033. Computer default language: English/1033. This is a 64 bit Operating System. OS version Windows Server 2022 Standard (No Se OS version 6.3 A version of OPI has been found. 19.1	rvice Pack)
<	>
InstallShield	
	< Back Next > Cancel

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

The Ready to Install the Program screen appears.

- 8. Click **Install** to begin the installation.
- 9. Click OK.

Oracle Payment	Interface - InstallShield Wizard	×
Setup Status		
The InstallShi	eld Wizard is installing Oracle Payment Interface	
	Oracle Payment Interface - InstallShield Wizard × Database upgrade operation was successful.	
	ОК	
InstallShield ———	[	Cancel

- **10.** Enter the **Host** and **Port** that should be used to connect to the OPI Config Service for the Merchant Configuration.
- **11.** Once the installation is complete, the installer will prompt for a reboot of the host machine.



12. Click Finish.

### Upgrading OPI 20.1.0.0 to 20.4.0.0

1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an upgrade.



#### 2. Click Yes.

💽 Oracle Payment Interface -	InstallShield Wizard	×
2	Resuming the InstallShield Wizard for Oracle Payment Interface Wizard will complete the installation of Oracle Payment Interface on your computer. To continue, click Next.	
S 2 5	etup is searching for installed features	
	< Back Next > Cancel	

3. Click Next.

Setup is searching for installed features.

Oracle Payment Interface - InstallShield Wizard X
Setup Status
The InstallShield Wizard is updating (20.1.0.0) of Oracle Payment Interface to version 20.4.0.0
Generating script operations for action:
InstallShield

4. Click Next.

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



5. Click OK.

Oracle Payment Interface - InstallShield Wizard				
S.	Update Complete The InstallShield Wizard has updated Oracle Payment Interface to version 20.4.0.0.			
	< Back Finish Cancel			

6. Click Finish.

### Upgrading OPI 20.2.0.0 to 20.4.0.0

1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an upgrade.



2. Click Yes.

📧 Oracle Payment Interface - I	InstallShield Wizard	×
ی	Resuming the InstallShield Wizard for Oracle Payment Interface	
	Wizard will complete the installation of Oracle Payment Interface on your computer. To continue, click Next.	
Se 20	etup is searching for installed features	
	< Back Next > Cancel	

3. Click Next.

Setup is searching for installed features.

Oracle Payment Interface - InstallShield Wizard	$\times$
Setup Status	
The InstallShield Wizard is updating (20.02.000) of Oracle Payment Interface to version 20.4.0.0	
C:\OraclePaymentInterface\v20.2\Schema\iquibase.jar	
InstallShield	
Cancel	]

4. Click Next.

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



5. Click OK.

Oracle Payment Interface - InstallShield Wizard			
S.	Update Complete The InstallShield Wizard has updated Oracle Payment Interface to version 20.4.0.0.		
	< Back Finish Cancel		

6. Click Finish.



### Upgrading OPI 20.3.0.0 to 20.4.0.0

1. Right-click OraclePaymentInterfaceInstaller\_20.4.0.0.exe file and select Run as Administrator to perform an upgrade.



2. Click Yes.

📧 Oracle Payment Interface - Ins	stallShield Wizard	×
	Resuming the InstallShield Wizard for Oracle Payment Interface Wizard will complete the installation of Oracle Payment Interface on your computer. To continue, click Next.	
Setu	ip is searching for installed features	
	< Back Next > Cancel	

3. Click Next.

Setup is searching for installed features.

4. Click Next.

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



5. Click OK.



6. Click Finish.

# 5 OPI Folder Structure

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

### **OPI** Service

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

:\OraclePaymentInterface\v20.4\Services\OPI

### **OPI** Configuration Tools

The configuration tool default installation path is:

#### :\OraclePaymentInterface\v20.4 \Config

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

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

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

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

### **OPI** Logs

#### **OPI Service Logs**

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

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



### **OPI Installation Log**

:\OraclePaymentInterface\v20.4\LOGS\OPI\_Installation.log

### **OPI Configuration Tool**

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

:\OraclePaymentInterface\v20.4\Config\log\OPIConfig.log
## 6 OPI User Administration

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

## **User Roles**

There are three User Roles in OPI:

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

## Creating a New User

Only System Administrator users can create new users.

#### To create a new user:

1. Log in to the OPI Configuration tool as the System Administrator, select the Users

tab, and then click the **Create New User Account** ( ) icon at the top right of the Users window.

- 2. Enter the required values in the relevant fields:
- **Username** the name the user will enter when logging into the OPI configuration tools.
- First Name First name of the new user.
- Last Name Last name of the new user.
- Role Select System Administrator, Merchant Administrator or PSP Certificate Management.
- **One-time password** The password the new user will need to enter for their first login. The new user will be prompted to change their password during their first login.
- Confirm password Confirm the password the new user will need to enter for their first login.
- 3. Save the record when all fields have been completed.

## New Users First Login

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

You can now log in.

## **Editing Your User Profile**

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

### First Name and Last Name

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

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

### **Changing Your Password**

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

### NOTE:

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

## Editing Another User's Account

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

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

Account ( ) icon.

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

## First name and Last name

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

### Role

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

## **Deactivating a User Account**

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

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

## Unlocking a User Account

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

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

## Reset Super User Password

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

Super User can reset the password:

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

## Reset password using Configuration tool

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

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

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

	Log in		
	Host		
📹 O	racle Payment Interface		×
?	Forgot your password ? To res	et password, click Ol	K to proceed.
		ОК	Cancel
	Forgot Password	Login	

2. Click OK.

Windows User Authentication				
Please enter windows accoun windows domain name in the OK to reset super user passw	t username, password and form below and then click ord			
Username:				
Password:				
Windows Domain Name:	localdomain 🝷			
Cancel	ОК			

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

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



6. Click OK.

Reset Password					
Please enter your new password in the form below and then click OK to reset your password					
New 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 only: !#\$%()*+,/;<=>?@[]^_`]~					
New password:					
Confirm new password:					
Cancel OK					

7. Enter the New Password and confirm it.

The passwords must be at least 8 characters in length and contain:

- One upper case letter
- One lower case letter
- One number
- One special character from the list: ! # \$ % () \* + , . / ; < = > ? @ []^\_`|~
- 8. Click **OK** to reset the password.



9. Click OK.

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





## Reset password using Forgot Password

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

I. On the Log in page, click i orgot i assword in in	1.	On the	Log in	page,	click	Forgot	Password	link
--	----	--------	--------	-------	-------	--------	----------	------

Log in	
Host:	
Port:	
Username:	Enter your username
Password:	Enter your password
Select Language:	English US 👻
Forgot Password	Login

Reset Password
Please enter your username in the form below and then click OK to reset your password.
Username:
Cancel OK

#### NOTE:

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

2. Enter the super Username and click OK.

Windows User Authentication					
Please enter windows accoun windows domain name in the OK to reset super user passwo	t username, password and form below and then click ord				
Username:					
Password:					
Windows Domain Name:	localdomain 👻				
Cancel	ОК				

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

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

	Windows User Authentication				
-	Please enter windows account username, password and windows domain name in the form below and then click OK to reset super user password				
📹 Oi	racle Payment Interface	×			
ĺ	Provided windows user details are valid, please reset super upassword	ser			
	ОК				

6. Click OK.

Reset Password					
Please enter your new password in the form below and then click OK to reset your password					
New 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 only: !#\$%()*+,/;<=>?@[]^_`]~					
New password:					
Confirm new password:					
Cancel OK					

7. Enter the New Password and confirm it.

The passwords must be at least 8 characters in length and contain:

- One upper case letter
- One lower case letter
- One number
- One special character from the list: ! # \$ % ( ) \* + , . / ; < = > ? @ [ ] ^ \_ `|~
- 8. Click **OK** to reset the password.

		Reset Password	
		Please enter your new password in the form below and then click OK to reset your password	
5	Ora	cle Payment Interface	×
	i	Super user password reset process completed successfully. Please use new password during login process.	
1		Cancel OK	

9. Click OK.

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

#### **NOTE:**

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

Change Password About	Username:	
	The super user password has been reset on Mon Jun 08 13:36:41 EDT 2020 by windows admin account.	

## **PSP Certificate Management User**

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

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

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

ORACLE<sup>.</sup>

NOTE: PSP Cer	tificate Management user ca	annot access Wizard mo	ode.
	ayment Interface	Lead Configuration	on Profile Sign out
PSP Configuration	Payment Service Provider Configuration		Save
Token Exchange	Certificates for Financial Transactions		
	PSP Certificate	PSP Certificate Exists?	Status
	Server (Root) Certificate		7
	Client Certificate		3

# Import Certificates for Financial Transactions and Token Exchange

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

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

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

## Update Passwords for Certificates and Keystores

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

# View Notification icon and resolve Certificate expiry issues

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

## **Forgotten Passwords**

### **Users Password Reset Request**

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

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

Host:	
Port:	
Username:	Enter your username
Password:	Enter your password
Select Language:	English US 🔹

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

Reset Password	
Please enter your username in the form below and then click OK to reset your password.	
Username:	
Cancel OK	
<b>NOTE:</b> If the provided Username is invalid, an er	rror message appears saying "The

2. Enter the Username and click OK.

Reset Password
Please enter your new password in the form below and then click OK to get your password approved by the Administrator
New 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 only: !#\$%()*+,/;<=>?@[]^_` ~
New password:
Confirm new password:
Cancel OK

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

The passwords must be at least 8 characters in length and contain:

- One upper case letter
- One lower case letter
- One number
- One special character from the list: ! # \$ % () \* + , . /; < = > ? @ []^\_`|~
- 4. Click OK to reset the password.



5. Click OK.

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

## Approving a User's Password Reset Request

Only System Administrator users can approve user password reset requests.

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

Users	User Administ	ration					
Purge Deactivated Users							+
	Username	First name	Last name	Active?	Locked out?	Requested password reset?	
	merchantuser			$\checkmark$		$\checkmark$	🍰 🖌 🗶
	suser			$\checkmark$			

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

## Super User

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

## **Purge Deactivated Users**

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

• Select Purge Deactivated Users, and click Purge to proceed.

# 7 OPI Certificate Management

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

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

#### NOTE:

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

## **Mutual Authentication**

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

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

## Handling the Root Certificate File

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

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

#### **PSP Certificates for Financial Transaction**

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

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

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

ORACLE <sup>®</sup> Payment Interface			Configuration	Users	Audit	Profile	Sign out
Merchants	Payment Service Provider Configuration						Save
Core Configuration	Settings Certificates for Financial Transactions						
PSP Configuration	PSP Certificate		PSP Certific	ate Exists?		Status	
Tokan Evchange	Server (Root) Certificate						
roken exchange	Client Certificate						3
Export Configuration							
Import Configuration							

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

Create PSP Root (	Certificate for Financial Transactic	ons			;
Please choose a p	assword for the keystore that will	I store the payment service prov	vider root certificate.		
Password:					
Confirm Password	:				
Passwords are ca	ise sensitive.				
special character	from the following list only:			numerical dig	
Alias	Subject Name	Valid From	Valid To	Status	+
CH:2105386102	CN=CH, OU=Finance, O=OR	Fri Jun 12 07:49:19 EDT 2020	Thu Jun 12 07:49:19 EDT 2025	Good	Delete
					Delete
<					

4. Click Save.

Please choose a p	assword for t	he keystore	that will sto	ore the payment	t service provi	der root ce	rtificate.			
Password:										
Confirm Password	d:									
Passwords are c	ase sensitive.									
The password sh special characte	hould be at lea r from the foll	ast eight chi Iowing list o	aracters in le nly:	ength and must	: have at least	one upper	case characte	r, one nu	merical dig	it, and one
!#\$%()*+,/:;<=	>?@[]^_` ~	📧 Oracle	e Payment li	nterface			>	<		
		i	PSP root o	certificate keyste	ore has been	updated.				+
Alias	Sul						ОК		Status	Actions
CH:2105386102	CN=CH, OU							25 Go	bod	Delete

5. Click OK.

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

#### **Certificates for Token Exchange**

You can import certificates for Token exchange.

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

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

ORACLE	Payment Interface	Configuration Users	Audit Profile	Sign out
Merchants	Token Exchange Configuration			Save
Core Configuration	Settings Certificates			
PSP Configuration	PSP Certificates			
Token Exchange	PSP Certificate	PSP Certificat	e Exists?	Status
Ĩ	Server (Root) Certificate			3
Export Configuration	Client Certificate			
Import Configuration				-//
	OPI Token Server Certificate			
	Certificate	Certificate	Exists?	Status
	OPI Token Server Certificate			

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

Create PSP Root (	Certificate				
'lease choose a p	assword for the keystore that will	store the payment service prov	ider root certificate.		
assword:					
Confirm Password	:				
Passwords are ca	ise sensitive.				
special character	from the following list only:				
!#\$%()*+,/;;<=>	·?@[]^_']~				+
!#\$%()*+,-/;;<=> Alias	Subject Name	Valid From	Valid To	Status	+ Actions
!#\$%()*+,-/;;<=: Alias CH:2105386102	<pre>?@[]^_']~ Subject Name CN=CH, OU=Finance, O=OR</pre>	Valid From Fri Jun 12 07:49:19 EDT 2020	<b>Valid To</b> Thu Jun 12 07:49:19 EDT 2025	Status Good	+ Actions Delete
!#\$%()*+,-/;;<=: Alias CH:2105386102	•?@[]^_']~ Subject Name CN=CH, OU=Finance, O=OR	Valid From Fri Jun 12 07:49:19 EDT 2020	<b>Valid To</b> Thu Jun 12 07:49:19 EDT 2025	Status Good	+ Actions Delete
!#\$%()*+,-/;;<=: Alias CH:2105386102	•?@[]^_']~ Subject Name CN=CH, OU=Finance, O=OR	Valid From Fri Jun 12 07:49:19 EDT 2020	<b>Valid To</b> Thu Jun 12 07:49:19 EDT 2025	Status Good	+ Actions Delete

#### 4. Click Save.

lease choose a p	assword for the key	/store that will store the payment service prov	vider root certificate.		
assword:					
Confirm Password	:				
Passwords are ca	ise sensitive.				
The password sh special character	ould be at least eig from the following	ght characters in length and must have at leas g list only:	t one upper case character,	one numerical dig	it, and one
!#\$%()*+,/:;<=	×?@[]^_` ~	Oracle Payment Interface	×	]	
		PSP root certificate keystore has been	updated.		+
Alias	Sut		OK	Status	Actions
CH:2105386102	CN=CH, OL			25 Good	Delete

5. Click OK.

OPI\_PSP\_1Root is created under \OraclePaymentInterface\v20.4\Services\OPI\key

## Handling the Client Side Certificate

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

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

# Import Client Certificates for Financial Transactions and Token Exchange

You can import client certificates for financial transactions.

To import PSP Client certificates for financial transactions:

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

ORACLE	Payment Interface	Configuration	Users	Audit	Profile	Sign out
Merchants	Payment Service Provider Configuration					Save
Core Configuration	Settings Certificates for Financial Transactions					
PSP Configuration	PSP Certificate	PSP Certifica	ate Exists?		Status	
Token Exchange	Server (Root) Certificate					2
roken exenange	Client Certificate					
Export Configuration						
Import Configuration						

3. Enter the password for the keystore and browse to the location of the certificate you

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

#### NOTE:

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

Please choose a password for t	he keystore that will store the payment	service provider client certificates	5.
Password:			
Confirm Password:			Proxy Configuration
Passwords are case sensitive.			
The password should be at lea special character from the foll	ast eight characters in length and must lowing list only:	have at least one upper case char	racter, one numerical digit, and one
$!\# \()^{*}+,-,/;;<=>?@[]^_` ~$			
			+
CN=CH, OU=Finance, O=C	RG, L=Houstan, ST=Texas, C=US		
			•
Active Certificate Chain:	ch		
Active Certificate Chain:	ch		

#### 4. Click Save.

Please choose a password for th	e keystore that will store the payme	ent service provider client certificates.	
Password: •• Confirm Password: ••			Proxy Configuration
Passwords are case sensitive.			
The password should be at leas special character from the follout $!\#$ %()*+,-/;<=>?@[]^_]~	st eight characters in length and mo wing list only: Oracle Payment Interface	ust have at least one upper case chara	acter, one numerical digit, and one
CN=CH, OU=Finance, O=C	The Financial Transaction been updated.	on's PSP client certificate PFX file has	
Active Castificate Chains	ch		
Active Certificate Chain:			
Certificate Start Date:	Fri Jun 12 07:49:19 EDT 2020	Certificate Expiry Date:	Thu Jun 12 07:49:19 EDT 2025

#### 5. Click OK.

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

#### **Certificates for Token Exchange**

#### To import PSP Client certificates for token exchange:

You can import client certificates for Token exchange.

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

ORACLE	Payment Interface	Configuration Users	Audit P	rofile S	ign out
Merchants	Token Exchange Configuration				Save
Core Configuration	Settings Certificates				
PSP Configuration	PSP Certificates				
Token Exchange	PSP Certificate	PSP Certificate	Exists?	Status	
	Server (Root) Certificate				
Export Configuration	Client Certificate				7
Import Configuration					
	OPI Token Server Certificate				
	Certificate	Certificate Ex	ists?	Status	
	OPI Token Server Certificate				

3. Enter the password for the keystore and browse to the location of the certificate you

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

#### **NOTE**:

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

Password:			
Confirm Password:			Proxy Configurat
Passwords are case sensitive			
The password should be at I special character from the fo	east eight characters in length and must h Illowing list only:	nave at least one upper case cha	racter, one numerical digit, and one
!#\$%()*+,/:;<=>?@[]^_` ~			
CN=CH, OU=DEPT, O=OF	RG, L=Houstan, ST=Texas, C=US		
Active Certificate Chain:	ch		

#### 4. Click Save.

Create PSP Client Certificate			
Please choose a password for the Password: Confirm Password:	keystore that will store the payment s	ervice provider client certificate.	Proxy Configuration
Passwords are case sensitive.			
The password should be at least special character from the follow	eight characters in length and must h ing list only:	ave at least one upper case character	, one numerical digit, and one
!#\$%()*+,/;;<=>?@[]^_` ~	🖪 Oracle Payment Interface	×	
CN=CH, OU=DEPT, O=ORG	The TokenProxy service PSP updated.	P client certificate PFX file has been	+
Active Certificate Chain:	ch		•
Certificate Start Date:	Tue Jun 16 08:29:53 EDT 2020	Certificate Expiry Date:	Mon Jun 16 08:29:53 EDT 2025
			Cancel Save

#### 5. Click OK.

**OPI\_PSP\_1.pfx** is created under **\OraclePaymentInterface\v20.4\Services\OPI\key** folder.

## **OPI** Mutual Authentication Summary

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

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

## Create OPI Token Server Certificate

It is highly recommended to use CA-signed certificates.

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

ORACLE	Payment Interface	Configuration Users Audit	Profile Sign out
Merchants	Token Exchange Configuration		Save
Core Configuration	Settings Certificates		
PSP Configuration	PSP Certificates		
Token Exchange	PSP Certificate	PSP Certificate Exists?	Status
	Server (Root) Certificate		7
Export Configuration	Client Certificate		3
Import Configuration			
	OPI Token Server Certificate		
	Certificate	Certificate Exists?	Status
	OPI Token Server Certificate		

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

🔳 Create OPI Certifica	te	×
City:	Houstan	
State/Province:	Texas	
Country/Region:	US	
Create based on:	• IP	
	FQDN	
OPI Server IP:		
Password:		
Confirm Password		
	Cancel Generate	

#### 3. Click Generate to continue.

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

Quick access		Name	Date modified	Туре	Size
Desktop	#	CHA.cer	10/07/2020 08:53	Security Certificate	1 KB
Downloads	*	😼 CHA.pfx	10/07/2020 08:53	Personal Informati	3 KB
Documents		MICROS_OperaToken.pfx	10/07/2020 08:53	Personal Informati	3 KB
D' the second	<i>.</i>	MICROSOperaToken.cer	10/07/2020 08:53	Security Certificate	1 KB
Pictures	N.	OPI_PSP_1.pfx	28/01/2019 11:38	Personal Informati	3 KB
Cert		OPI_PSP_1Root	10/07/2020 09:25	File	2 KB
IFC8					
log					
Public					
OneDrive					
This PC					

# Update Passwords for Certificates and Keystores

#### To update passwords for certificates and keystores:

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

#### Or

- 3. Select Token Exchange tab, click Certificates subtab and then edit the Server (Root) Certificate/Client Certificate.
- 4. Update the password for the keystore of your choice meeting the requirements, and

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

5. Click Save to update the password.

## View Notification icon and resolve Certificate expiry issues

You can view Certificate Expiry related notifications that are available in the OPI

Configuration tool by using the notification icon -. Click this icon to view all the

certificate expiry related notifications and this icon will turn to red color  $\clubsuit$  if there are any expired certificates or about to expire certificates indicating the user attention is required to update these certificates.

Following is the expiration status of all the certificates:

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



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

To view certificates in 'Good' status:

- Log in to the OPI Configuration tool.
- On the home page, click notification icon 4 to view the 'Good' certificate status:

ORACLE	Payment Interface	L Configuration U	sers Aud	dit Profil	e Sign out
Certificate Status	Certificate Status				
	Alias	Subject Name	Valid From	Valid To	Status
	<ul> <li>PSP Configuration Server (Root) Certificate ch:1188912314</li> <li>PSP Configuration Client Certificate</li> </ul>	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	0
	ch ▼ PSP Token Exchange Server (Root) Certificate	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	•
	ch:2105386102 ▼ PSP Token Exchange Client Certificate	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	•
	ch	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	0

To view and update certificates in 'About to expire' status:

- 1. Log in to the OPI Configuration tool.
- 2. On the home page, click notification icon 4 to view the 'About to expire' 4 certificate status:

ORACLE	Payment Interface	L Configuration U	sers Aud	dit Profile	e s	ign out
Certificate Status	Certificate Status					
	Alias	Subject Name	Valid From	Valid To	Status	
	<ul> <li>PSP Configuration Server (Root) Certificate localhost:1592197194</li> </ul>	CN=localhost, OU=HGBU, O=Orac	30-Jun-2015	30-Jun-2020	A	h
	<ul> <li>PSP Configuration Client Certificate ch</li> </ul>	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	ø	
	PSP Token Exchange Server (Root) Certificate     localhost:1592196973	CN=localhost, OU=HGBU, O=Orac	31-Dec-2014	31-Dec-2019	0	ħ
	<ul> <li>PSP Token Exchange Client Certificate ch</li> </ul>	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	0	

3. Click <sup>*k*</sup> to delete and update the certificate details.

🕤 Oracle Payment Interface Con	figuration					- 🗆	×
ORACLE	Payment Interface	Configuration	Users	Audit	Profile	Sign out	
Merchants	Payment Service Provider Configuration					Save	
Core Configuration	PSP Settings PSP Certificates for Financial Transaction	ns					
PSP Configuration	PSP Certificate	PSP Certific	ate Exists?		Status		
Token Evchange	Server (Root) Certificate	V			A	>	
Token Exchange	Client Certificate				0		
Export Configuration							
Import Configuration							

#### 4. Edit the Certificate details.

Please choose a pa	ssword for the keystore that will	I store the payment service prov	vider root certificate.		
Decement					
rassword:					
Confirm Password:					
Passwords are cas	se sensitive.				
special character	from the following list only: ?@[]^`]~				
					+
Alias	Subject Name	Valid From	Valid To	Status	+ Acti
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	<b>Valid From</b> Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	<b>Valid From</b> Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele
Alias	Subject Name CN=localhost, OU=HGBU, O	<b>Valid From</b> Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Tue Jun 30 14:30:00 EDT 2015	<b>Valid To</b> Tue Jun 30 14:30:00 EDT 2020	Status About to Expire	+ Acti Dele

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

Password: Confirm Password	:	,						
Passwords are ca The password sh special character	ase sensitive. nould be at lea r from the foll	ast eight char owing list on	acters in length	n and must have a	t least one upp	er case character,	one numerical di	igit, and one
!#\$%()*+,/;;<=	>?@[]^_` ~	Oracle	Payment Interfa	ace cate keystore has	been updated.	×		
Alias	Sut						Status	Actions
CH:2105386102	CN=CH, OL					UK	25 Good	Delete

#### 8. Click OK.

#### To view and update certificates in 'Expired' status:

- 1. Log in to the OPI Configuration tool.
- 2. On the home page, click notification icon to view the 'Expired' certificate status.

ORACLE	Payment Interface	Lead Configuration U	sers Auc	dit Profile		ign out
Certificate Status	Certificate Status					
	Alias	Subject Name	Valid From	Valid To	Status	
	<ul> <li>PSP Configuration Server (Root) Certificate localhost:1592197194</li> <li>PSP Configuration Client Certificate</li> </ul>	CN=localhost, OU=HGBU, O=Orac	30-Jun-2015	30-Jun-2020	A	18
	ch	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	0	
	<ul> <li>PSP Token Exchange Server (Root) Certificate localhost:1592196973</li> </ul>	CN=localhost, OU=HGBU, O=Orac	31-Dec-2014	31-Dec-2019	8	te
	<ul> <li>PSP Token Exchange Client Certificate ch</li> </ul>	CN=CH, OU=Finance, O=ORG, L=	12-Jun-2020	12-Jun-2025	ø	

3. Click  $\stackrel{\star}{\sim}$  to delete and update the certificate details.

ORACLE	Payment Interface		Configuration	Users	Audit	Profile	Sign out
Merchants	Token Exchange Configu	ration					Save
Core Configuration	Token Exchange Settings C	ertificates for Token Exchange					
PSP Configuration	PSP Certificates						
Token Exchange	-	PSP Certificate	PS	P Certificate	Exists?	State	IS
-	Server (Root) Certi	ficate		$\checkmark$		8	
Export Configuration	Client Certificate			$\checkmark$		<b>O</b>	
Import Configuration							
	OPI Token Server Certific	ate					
		Certificate		Certificate Ex	ists?	State	IS
	OPI Token Server (	Certificate					

#### 4. Edit the Certificate details.

	Certificate					
Please choose a pa	assword for the keystore that will	I store the payment service pro	vider root certificate.			
Password:						
Confirm Password:						
Passwords are ca	se sensitive.					
						+
Alias	Subject Name	Valid From	Valid To	Status	Actions	+
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Wed Dec 31 13:30:00 EST 2	Valid To Tue Dec 31 13:30:00 EST 2019	Status Expired	Actions Delete	+
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Wed Dec 31 13:30:00 EST 2	Valid To Tue Dec 31 13:30:00 EST 2019	Status Expired	Actions Delete	+
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Wed Dec 31 13:30:00 EST 2	Valid To Tue Dec 31 13:30:00 EST 2019	Status Expired	Actions Delete	+
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Wed Dec 31 13:30:00 EST 2	Valid To Tue Dec 31 13:30:00 EST 2019	Status Expired	Actions Delete	+
Alias localhost:15921	Subject Name CN=localhost, OU=HGBU, O	Valid From Wed Dec 31 13:30:00 EST 2	Valid To Tue Dec 31 13:30:00 EST 2019	Status Expired	Actions Delete	

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

Please choose a p	assword for th	ne keystore tha	t will store the payme	ent service provider roc	t certificate.			
Password:	•	•••••						
Confirm Password	:	•••••						
Passwords are ca	ase sensitive.							
The password sh special character !#\$%()*+,/:;<=:	nould be at lea r from the foll >?@[]^_` ~	ist eight charac owing list only: Oracle Pa	ters in length and mu yment Interface iP root certificate key	ust have at least one up	pper case charact	×	erical digit, an	d one
Alias	Sut				OK	Sta	atus Actio	ns
CH:2105386102	CN=CH, OL				OK	25 Goo	d Delet	e

8. Click OK.

## 8 Audit

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

## Audit Trail Search

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

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

Click Search to display the relevant Audit Trail Events.

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

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

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

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



## Audit Trail Purge

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

## 9 Silent Installation

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

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

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

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

For Example;

#### OraclePaymentInterfaceInstaller\_20.4.0.0.exe /r

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

For Example;

OraclePaymentInterfaceInstaller\_20.4.0.0.exe /s

## Specify Alternative Response File

Using the /f1 option enables you to specify where the response file is (or where it should be created) and what its name is, as in **OraclePaymentInterfaceInstaller\_20.4.0.0.exe** */s /f1"C:\Temp\Setup.iss"*. Specify an absolute path; using a relative path gives unpredictable results. The /f1 option is available both when creating a response file (with the /r option) and when using a response file (with the /s option).

## Specify Alternative Log File

When running an InstallScript installation in silent mode (using the /s option), the log file Setup.log is by default created in the same directory and with the same name (except for the extension) as the response file. The /f2 option enables you to specify an alternative log file location and file name, as in **OraclePaymentInterfaceInstaller\_20.4.0.0.exe /s** /f2"C:\Setup.log". Specify an absolute path; using a relative path gives unpredictable results.

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

## 10 OPI Services

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

## **OPI Config Service**

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

## **OPI Service**

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

## **OPI Utility Service**

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

## Changing the OPI Config Service Port

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

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

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

## 11 Settings Administration Tool

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

 $\label{eq:logistical} \label{eq:logistical} \label{eq:logistical$ 

## Using the Settings Administration Tool

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

#### NOTE:

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

## Updating the OPI Schema Password

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

#### NOTE:

This changes the database credentials in the OPI configuration, it does not update the credentials in the database itself, this should be performed by the sites database administrator.
Oracle Payment Interface Settings Administration						
ORACLE <sup>®</sup> Payment Interface						
Database Settings	Update DB Settings Update					
Configuration Passphrase	Update the OPI DB settings using the fields below.					
	The new password must comply with the following complexity at least 8 characters in length and include at least one upper lowercase letter, one number and one special character from list only: !#\$%()*+,/;;<=>?@[]^_`]~	/ requirements: ase letter, one the following				
	DB User:					
	New DB password:					
	Confirm new DB password:					
	Username:					
	Password:					

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

# Updating the OPI Configuration Passphrase

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

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

#### NOTE:

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

Oracle Payment Interface Settings Administration				
	ment Interface			
Database Settings	Update Configuration Passphrase		Upd	ate
Configuration Passphrase	Update the OPI Configuration Passphrase using the fie	lds belo	w.	
	Passphrase must be at least 15 characters in length an uppercase letter, one lowercase letter, one number an from the following list only: !#\$%()*+,-,/;;<=>?@[]^_`}-	d include d one sp ~	e at least ecial cha	t one aracter
	New passphrase:			
	Confirm new passphrase:			
	Username:			
	Password:			

The application should report the Passphrase has been updated successfully.

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

#### NOTE:

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

Source Payment Interface Setting	gs Administration	-		×	
ORACLE	Payment Interface		Sign ou	n.	
Database Settings	Update Configuration Passphrase		Update		
Configuration Passphrase	Update the OPI Configuration Passphrase us	ing the	fields bel	ow.	
	Passphrase must be at least 15 characters in uppercase letter, one lowercase letter, one ni character from the following list: 1@#\$%^&*	length umber	and inclu and one s	de at lea pecial	
	New passphrase:			I	a passphrase does not meet the password policy requirements
				_	

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

## 12 Configuration Tools – Rotate Passphrase

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

## Using the Rotate Passphrase Utility

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

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

To launch the application, execute RotatePassphrase.bat as Administrator

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

📹 Oracle Payment Interface - Co	🕤 Oracle Payment Interface - Configuration Wizard - 🗆 🗙						
Oracle I	Payment Interface -	Configuration Wizard					
Update Communication	Passphrase						
Update the communication Configuration Service pas	on passphrase using the fields be sphrase	low. The new passphrase must match t	the OPI's				
Passphrase must be at lea letter, one number and or	ist 15 characters in length and in ne special character from the foll	clude at least one uppercase letter, on owing list: !#\$%()*+,/;<=>?@[]^_`]~	e lowercase				
New passphrase:		Confirm new passphrase:					
Host:							
Port:	8090						
Username:							
Password:							
Select Language:	English US 👻						
			Update		Close	2	

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

## 13 OPI Client Certificate Creator Utility

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

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

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

## Using the Client Certificate Creator

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

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

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

💽 Oracle P	ayment Interface - Client Certificate Ci	reator v20.2.0.0 —	×
	Chain Code:		
	Merchant Organization Department:		
	Merchant Organization Name:		
	Merchant City:	Houstan	
	Merchant State:	Texas	
	Merchant Country:	US	
	Passwords are case sensitive.		
	The password should be at least eig must have at least one upper case cl digit, and one special character from !"#\$%&'()*+,-/;;<=>?@[\]^_]~	ht characters in length and haracter, one numerical the following list:	
	Password:		
	Confirm Password:		
		Create Certificate Files	

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



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

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

💽 Oracl	e Payment Interface - Client Certificate C	reator v20.2.0.0 — 🗌	$\times$
	Chain Code:		
	Merchant Organization Department:		
	Merchant Organization Name:		
	Oracle Payment Interface	×	
(	PFX and CER files created succe	essfully.	
		ОК	
	The password should be at least eig must have at least one upper case o digit, and one special character from !"#\$%&'()*+,/;;<=>?@[\]^_' ~	ht characters in length and haracter, one numerical n the following list:	
	Password:		
	Confirm Password:		
	ORACLE HOSPITALITY	Create Certificate Files	

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

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

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

## 14 Import/Export OPI Configuration

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

## Export Configuration

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

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

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

## **Import Configuration**

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

## **Reset Security Data**

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

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

	ayment Interface	L Configuration	Users	Audit	Profile	Sign out
Merchants	Reset Security Data				Cancel	Save
Core Configuration	PMS Merchant PSP Token Exchange					
PSP Configuration	Merchant ID: C	HIPR -				
Token Exchange	IFC8 Key: **	******	Generate			
Export Configuration	Authentication User:					
La contra de	Authentication Password:					
Import Configuration	Confirm Password:					
	Certificates					
	Certificate	Certificate exists?				
	OPERA Token Certificate	$\checkmark$	7			

### **Merchant Options**

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

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

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

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

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

• Select the specific Merchant ID to reset.



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

## **PSP** Token Exchange Options

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

ORACLE	Payment Interface	Configuratio	n Users Audit	Profile	Sign out
Merchants	Reset Security Data			Cancel	Save
Core Configuration	PMS Merchant PSP Token Exchange				
PSP Configuration	Client Certificate Password:	•••••	Import Certificate		
loken Exchange	Confirm Client Certificate Password:	•••••			
want Configuration	Server(Root) Certificate Password:	•••••			
Aport consignation	Confirm Server(Root) Certificate Password:	•••••			
mport Configuration	OPI Token Server Certificate Password:	•••••			
	C. C. CHITAL C. C. C. C. C.				

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

## 15 Uninstallation and Modification of Install

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

## **Uninstalling OPI**

To uninstall OPI you can either:

- Run **OraclePaymentInterfaceInstaller\_20.4.0.0.exe** file. The installer detects the existing installation and gives you the option to **Remove** (uninstall) OPI.
- Use the **Add/Remove Programs** option via Programs and Features in Windows Control Panel.

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

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

## Modifying OPI

To modify your OPI installation, you can either:

- Run OraclePaymentInterfaceInstaller\_20.4.0.0.exe file. The installer detects the existing installation and gives you the option to Modify (add/remove components) the install.
- Use the **Add/Remove Programs** option via Programs and Features in Windows Control Panel. Right-click the OPI entry, and then select **Change**.

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

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

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

## 16 Configuration Settings

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

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

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

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

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

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

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

## **Configuration Tool Settings**

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

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

### Merchants

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

ORACLE	Payment Interface		Configuration	Users Audit	Profile Sign out	
Merchants	Merchant Config	uration				
Core Configuration	ID	Name		Туре	+	•
PSP Configuration	CHIPR	Oil Comp	IFC8	~	/8	
Token Exchange						
Export Configuration						
Import Configuration						

#### **Merchant Information**

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

Configuration Users Audit Profile Sign out
Cancel Save
ettings Payment Types Token Exchange Settings Terminals
CH CH
PR
: Oil Comp
Hosutan
: Texas
: United States of America 🔻
: AUD - Australian Dollar 👻 Reset

Chain Code: The OPERA chain code for the merchant.

Property Code: The OPERA property code for the merchant.

Name: The name of the merchant.

City: The city location of the merchant.

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

Country/Region: The country location of the merchant.

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

#### NOTE:

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

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

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

#### Merchant Information | IFC8 Settings

ORACLE	Payment Interface Lonfiguration Users Audit Profile Sign out
Merchants	PMS Merchant Cancel Save
Core Configuration	Merchant Information IFC8 Settings Payment Types Token Exchange Settings Terminals
PSP Configuration	IFC8 Host:
Token Exchange	IFC8 Port:
Export Configuration	IFC8 Key: bjm2cLaz1tjgCes1GyPaAI9xH52BNzNc Generate
Import Configuration	Communication Test Interval: 120
	Bulk Tokenization Batch Size: 50
	Only Do Ketund
	Enable UTF-8 for receipts
	Send RRN Back to PMS

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

IFC8 Port: The IFC8 port number.

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

Communication Test Interval: Test connection interval, in seconds.

Bulk Tokenization Batch Size: Size in number of cards.

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

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

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

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

#### NOTE:

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

#### **Merchant Information | Payment Types**

ORACLE <sup>®</sup> Pag	yment Interface	<b>.</b>	Configuration	Users	Audit	Profile	Sign out
Merchants	PMS Merchant					Cancel	Save
Core Configuration	Merchant Information IFC8 Setting	gs Payment Types Token	Exchange Settings	Terminals			
PSP Configuration	Card Type	Payment Code					
Token Exchange	AliPay	AB	â				
Export Configuration	Alliance	AL					
Import Configuration	China UnionPay	CU					
	China UnionPay Debit	CD					
	Debit	DD					
	Diners Club	DC					
	Discover	DS					
	EC Chip	EC	U				
	Gift Card	GC					
	GiroCard	BC					
	JCB	JC					
	Maestro	ME					
	MasterCard	MC					
	MasterCard Debit	MD					
	MIR	MI					
	Paypal	PC					
	Reserve-01	ZZ	~				

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

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

#### Merchant Information | Token Exchange Settings

Payment Interface		Configuration	Users	Audit	Profile	Sign out
PMS Merchant					Cancel	Save
Merchant Information	FC8 Settings Payment Types	Token Exchange Settings	Terminals			
Auth	entication User:					
Authentic	ation Password:					
Co	nfirm Password:					
Certific	ates					
	Certificate	Certific	ate exists?			
O	PERA Token Certificate			<b>&gt;</b>		
	Payment Interface PMS Merchant Merchant Information Aut Authentic Co Certific	Payment Interface  PMS Merchant  Merchant Information IFC8 Settings Payment Types  Authentication User:  Authentication Password:  Confirm Password:  Certificate  OPERA Token Certificate	Payment Interface Configuration PMS Merchant PMS Merchant Merchant Information IFCB Settings Payment Types Token Exchange Settings Authentication User: Authentication User: Confirm Password: Certificate	Payment Interface Users  PMS Merchant  Merchant Information IFC8 Settings Payment Types Token Exchange Settings Terminals  Authentication User:  Authentication Password:  Confirm Password:  Certificate  Certificate  Certificate  Certificate	Payment Interface Lonfiguration Users Audit PMS Merchant Merchant Information IFC8 Settings Payment Types Token Exchange Settings Terminals Authentication User: Authentication Password: Confirm Password: Confirm Password: Certificate OPERA Token Certificate	Payment Interface Lonfiguration Users Audit Profile  PMS Merchant  Merchant Information IFC8 Settings Payment Types Token Exchange Settings Terminals  Authentication User:  Authentication Password:  Confirm Password:  Certificate  Certificate Certificate  Certificate Certifi

Authentication User: The username for OPERA Authentication.

Authentication Password: The password for OPERA Authentication.

Confirm Password: The password for OPERA Authentication.

Certificates: To create OPERA Token Certificate -

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

🚺 Create OPERA Certificate		×
OPERA Chain:	СН	
Merchant City:	Hosutan	
Merchant State/Province:	Texas	
Merchant Country/Region:	US	
Password:	•••••	
Confirm Password:	•••••	
Cancel	Generate	

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

Inf	Create OPERA Certificate		× nin
	OPERA Chain:	СН	
_	Merchant City:	Hosutan	
	📧 Oracle Payment Interface		×
	PFX and CER certificate	s generated successfully!	5
			ОК
	Commin Password.		
	Cancel	Generate	

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

🖈 Quick access		Name	Date modified	Туре	Size
Desktop	#	CHA.cer	10/07/2020 08:53	Security Certificate	1 KE
Downloads	*	🗟 CHA.pfx	10/07/2020 08:53	Personal Informati	3 KE
Documents		🛞 MICROS_OperaToken.pfx	10/07/2020 08:53	Personal Informati	3 KE
Distanta	~	MICROSOperaToken.cer	10/07/2020 08:53	Security Certificate	1 KE
Pictures	A.	OPI_PSP_1.pfx	28/01/2019 11:38	Personal Informati	3 KE
Cert		OPI_PSP_1Root	10/07/2020 09:25	File	2 KE
IFC8					
log					
Public					
📥 OneDrive					
This PC					

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

#### **Merchant Information | Terminals**

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

ORACLE'	Payment Interface	Configuration Users	Audit Profile Sign out
Merchants	PMS Merchant		Cancel Save
Core Configuration	Merchant Information IFC8 Settings Paym	ent Types Terminals	
PSP Configuration	Wednesday ID	Torminal 10/Mont Name	+
Token Exchange	workstation_2	2.1.4.6	
Export Configuration	workstation1	2.2.2.1	
Import Configuration	workstation	localhost	-
import comgutation	test_workstation	1.1.1.1	Sets the Proxy Configuration

Merchants	PMS Merchant					Cancel Save
Core Configuration	Merchant Information IFC8 S	ettings Payment	Types Terminals			
PSP Configuration						+
Token Exchange	Workstat test_workstation	tion ID	1.1.1.1	minal IP/Host Name	- 6	
Export Configuration	workstation1		2.2.2.1		3 -	
Import Configuration	workstation_2		2.1.4.6		3 -	
import comgatation		🔳 Proxy C	onfiguration	×		
		Proxy I	nabled			
		-	Cancel	Apply		
		L				

Workstation ID: The ID of the workstation using the PED

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

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

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

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

**Configure Multiple OPERA Properties** 

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

1. Log in to the OPI Configuration tool as the System Administrator, select the

**Merchants** tab, and click the **blue plus** ( ) icon in the **Merchant Configuration** window to configure the hotel property details.

	ORACLE <sup>®</sup> Paym	ent Interface		Configuration	Users	Audit	Profile	Sign out
I	Merchants	Merchant Configuration						
ľ	Core Configuration							+
	-	ID	Name		Тур	e		
	IFC8 Configuration							
	PSP Configuration							
	Token Exchange							
	Export Configuration							
	Import Configuration							
				Management in Arbits				

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

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

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

#### **NOTE**:

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

- Settle all existing transactions to avoid possible issues with those transactions
- Settle all existing authorisations for in house guests
- Change currency in OPI Configuration Tool in Wizard or Standard mode
- Restart the OPI Service manually
- 9. **Reset**: Click to reset the currency back to use country/region currency.
- 10. Once the details are entered, click **Save** to save the hotel property details.

Merchants	PMS Merchant	Cancel Save
Core Configuration	Merchant Information IFC8 Settings Payment Types Token Exchange Settings Term	ninals
PSP Configuration	Chain Code: MP1234	
Token Exchange	Property Code: MPHotel1	
Export Configuration	Name: MP Hotel	
	City: New York	
Import Configuration	State or Province: NY	
	Country/Region: United States of America 👻	
	Currency: USD - US Dollar 👻 Reset	

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

ORACLE	Payment Interface	4	Configuration	Users Audit	Profile	Sign out
Merchants	Merchant Configu	ration				
Core Configuration						+
	ID	Name		Туре		
PSP Configuration	MP1234 MPHotel1	MP Hotel	IFC8		18 -	
Token Exchange	MP22 MPHotel2	MPHotel2	IFC8		18 -	
Export Configuration	MP33 MPHotel3	MPHotel3	IFC8		10	
Import Configuration	MP55 MPHotel5	MPHotel5	IFC8		18 -	
	MP66 MPHotel6	MPHotel6	IFC8		18 -	
	MP77 MPHotel7	MPHotel7	IFC8		18 -	
	MP88 MPHotel8	MPHotel	IFC8		18 -	
	MP99 MPHotel9	MPHotel9	IFC8		18 -	
	MP10 MPHotel10	MPHotel10	IFC8		18 -	
	MP44 MPHotel4	MPHotel4	IFC8		18 -	

## **Core Configuration**

ORACLE	Payment Interface	Configuration Users Audit Profile Sign out
Merchants	Core Configuration	Save
Core Configuration	PMS IFC8 Service:	ON CONTRACTOR OF CONTRACTOR
PSP Configuration	OPERA Token Service:	OFF
Token Exchange		Enable Cruise PMS
Export Configuration	Log retain days:	
mport Configuration	Transaction retention days:	30
	Transaction history retention days:	365
	SSL Certificate expiry warning days:	90
	Server time zone:	(GMT-05:00) America/New_York
	Refresh OPI configuration at:	0 29
	HTTP Proxy Host:	Enter HTTP Proxy Host
	HTTP Proxy Port:	Enter HTTP (
	Select language:	English US 👻
	Request Encoding:	UTF-8 👻
		Enable UTF-8 encoding of response messages
		Mask last 4 digits of PAN
		Mask gift card number

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

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

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

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

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

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

**Transaction retention days**: The number of days that transaction data stored in database h\_transline table. After this time period, the data will be moved to the h\_transhistory table.

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

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

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

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

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

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

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

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

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

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

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

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

#### NOTE:

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

## **PSP** Configuration

#### **PSP Configuration | Settings**

ORACLE P	ayment Interface		Configuration	Users	Audit	Profile	Sign out
Merchants	Payment Service Provider Configuration	n					Save
Core Configuration	Settings Certificates for Financial Transaction	ns					
PSP Configuration	Communication Timeout:	60					
Token Exchange	Connect Timeout:	10					
Export Configuration		Enable Mutua	al Authentication				
Import Configuration	Communication Mode:	Disable End-	Of-Day Transaction				
	Terminal Port:	443					
	Terminal Context:	Insert terminal o	context				
		Enforce HTTP	S				

#### **Terminal Mode**

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

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

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

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

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

Terminal Port: Port used to communicate to PinPad terminal.

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

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

ORACLE	Payment Interface	Profile Sign out
Merchants	Payment Service Provider Configuration	Save
Core Configuration	Settings Certificates for Financial Transactions	
PSP Configuration	Communication Timeout: 60	
Token Exchange	Connect Timeout: 10	
Export Configuration	Enable Mutual Authentication	
Import Configuration	Disable End-Of-Day Transaction Communication Mode: Middleware	
	Primary Host: https://psphost:443	
	Failover Host: https://pspfailoverhost:443	
	Caracteria Control Con	

#### Middleware Mode

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

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

#### Enable Inquiry Mode for Transaction Reversal:

#### Middleware mode:

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

OFF = It automatically sends the reversal.

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

#### **PSP** Configuration | Certificates for Financial Transactions

ORACLE	Payment Interface	Configuration Users	Audit Profile	Sign out			
Merchants	Payment Service Provider Configuration			Save			
Core Configuration Settings Certificates for Financial Transactions							
PSP Configuration	PSP Certificate	PSP Certificate Exists?	Status				
Tokon Evolution	Server (Root) Certificate						
Token Exchange	Client Certificate			3			
Export Configuration							
Import Configuration							

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

### Token Exchange

#### Token Exchange | Settings

ORACLE	Payment Interface		Configuration	Users	Audit	Profile	Sign out
Merchants	Token Exchange Configuration						Save
Core Configuration	Settings Certificates						
PSP Configuration	OPERA Settings						
Token Exchange	Token Listener Port: 501	2					
Export Configuration							
Import Configuration	PSP Settings Primary Host URL: Ent	er Primary Host URL					
,	Failover Host URL: Ent	er Failover Host URL					
	HTTP Proxy Host: Ent	er HTTP Proxy Host					
	HTTP Proxy Port: Ent	er HTTP F					
	Communication Timeout: 60						
1	Connect Timeout: 10						
:							

Token Listener Port: The listener port number for OPERA.

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

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

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

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

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

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

Token Exchange | Certificates

ORACLE	Payment Interface	Configuration	Users Audit	Profile S	ign out
Merchants	Token Exchange Configuration				Save
Core Configuration	Settings Certificates				
PSP Configuration	PSP Certificates				
Token Exchange	PSP Certificate	PSF	Certificate Exists?	Status	
<u>-</u> -	Server (Root) Certificate				2
Export Configuration	Client Certificate				
Import Configuration					
	OPI Token Server Certificate				
	Certificate	(	Certificate Exists?	Status	
	OPI Token Server Certificate				

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



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

## **Export Configuration**



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

## Import Configuration

ORACLE	Payment Interface	Sign out
Merchants	Import Configuration	Import
Core Configuration	Importing configurations may overwrite the existing configurations. Click the Import button to proceed.	
PSP Configuration	<b>41</b>	
Token Exchange	Reset Security Data	Reset
Export Configuration	To contract the line of the fact for instant of configurations, which the Denst built on	
Import Configuration	To reset security data for imported conligurations, click the Reset button.	

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

Reset Security Data: Reset security data after import configuration.

## HTTP Support

## Configuring OPI to Send HTTP Requests to PSP

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

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

ORACLE <sup>®</sup> Paym	ent Interface		Configuration	Users	Audit	Profile	Sign out
Merchants	Payment Service Provider Configuration						Save
Core Configuration	Settings Certificates for Financial Transacti	ons					
PSP Configuration	Communication Timeout:	60					
Token Exchange	Connect Timeout:	10					
Export Configuration		🖌 Enable Mutu	al Authentication				
Import Configuration	Communication Mode:	Terminal	•				
	Terminal Port:	443					
	Terminal Context:	Insert terminal	context				
		Enforce HTT	S				



## 17 Maintain OPI Environment

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

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

## Terminals

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

### Virtual Terminal Gateway (VTG)

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

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

### **Adding Payment Terminals**

1. Log in to the OPI Configuration tool as the System Administrator, select the

Merchants tab, and then click the Edit Merchant ( ) icon in the Merchant Configuration window.

PMS Merchant Information window appears.

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

	yment Interface	Configuration	Users	Audit	Profile	Sign out
Merchants	PMS Merchant				Cancel	Save
Core Configuration	Merchant Information IFC8 Settings Payment Type	Token Exchange Settings	Terminals			
PSP Configuration	Workstation ID	Terminal IP/Host N	lame	+		
Token Exchange						
Export Configuration						
Import Configuration						
	No content in table					

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

Once the details are provided, press **Enter** key to submit your changes.

6. Save changes and restart the OPI service.

### **Editing Payment Terminals**

1. Log in to the OPI Configuration tool as the System Administrator, select the

Merchants tab, and then click the Edit Merchant ( ) icon in the Merchant Configuration window.

PMS Merchant Information window appears.

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

## **Deleting Payment Terminals**

1. Log in to the OPI Configuration tool as the System Administrator, select the

**Merchants** tab, and then click the **Edit Merchant** ( ) icon in the Merchant Configuration window.

PMS Merchant Information window appears.

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

## Token Exchange Settings

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

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

## **OPI Users**

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

## **IFC8 Settings**

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

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

## **Payment Types**

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

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

#### **OPI Java Environment**

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

#### C:\OraclePaymentInterface\v20.4\Runtime

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

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

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

(this path refers to the actual path where the JDK 11 is unzipped, with a typical folder name called jdk-11.x.x where x.x needs to be replaced with the actual version numbers)

• The configure-new-runtime.bat will automatically try to stop the OPI services, update the OPI\_RUNTIME environment variable to reflect the new java version, and restart the OPI services again.

#### **NOTE:**

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

# 18 OPERA Folio Print Receipt Setup for OPI

## Setup in OPERA PMS

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

## **OPERA Folio Print Receipt Setup for OPI**

Included in this pack are copies of the sample folio and deposit/payment receipts. On the Data Model within these templates, there is a query called 'merchant info' with two files promotional\_text1 and promotional\_text2.

To access the screen, open the Oracle Reports Builder.

- Acrobat OApp11g OXI desktop.ini Programs (10) Start Reports Builder replace.exe i reports.bat eceints Repository Assistant Repository Browser Start Reports Converter Start Reports Server - RptSvr\_S02-02593\_OPERAINST Start Weblogic Server - WLS\_REPORTS Stop Reports Server - RptSvr\_S02-02593\_OPERAINST Stop Weblogic Server - WLS\_REPORTS Settings (81) P Check for solutions to problem reports Generate a system health report Identify and repair network problems Ignore repeated keystrokes using FilterKeys Record steps to reproduce a problem 🕒 Replace sounds with visual cues Yiew all problem reports Tiew the Microsoft error reporting privacy statement online 😒 Add a language Search the Internet Shut Down 🕨 × rep О, Σ h Log into report builder.
- Go to Start > Programs > Start Report Builder

• Open the file to be edited.

File Edit View Insert Format Lavout	Pr		
Look in: 👔 Customizable_Reports	<u> </u>		
Name A 121143_sample_folio.rdf	Date modified ^ 8/21/2007 2:20 PM		
auto_room_assign.xmi availability_comparison.xml cf_exp_combined_mapping.xml	5/22/2017 8:11 AM 5/22/2017 10:11 AM 3/13/2017 8:11 AM		
failed_report.xml	3/13/2017 8:11 AM		
File name:	Open		
Files of All Reports(*.html;*.htm;*.js	p;*.xml;  Cancel		
Web Source     Bource     Bource     Bource     Paper Layout     Bource     Paper Parameter Form     Breport Triggers     Program Units     Attached Libraries			
☐ - Templates ☐ - PL/SQL Libraries ☐ - Debug Actions ☐ - Stack ⊕ Built-in Packages ⊕ - Database Objects			
	-		
MODULE 🗗 🗖 🗙			
) 📑 占 🔍 Z	D 🕗 🖪 🖉	6 🖸 🗄	

• Open the Module page.

File Edit View Insert Format Layout	_ <i>6</i> ×
A+ ta_record_bcator       Froming_bdal         A+ ta_record_bcator       Froming_bdal         A+ custom_reference       Froming_bdal         A+ stateScher_houtberg_in       Froming_bdal         A+ folo_bcd_hot       Frodal	C. folio_text1_fit         A folio_text1_fit         A folio_text1_fit         B folio_text2_fit         P profite_inquisage_balance         A rend_inquisage_balance         A vart_Autr         A VART_Autr
Q 1x 🗗 10.98 🗳 4.03	
) 📇 占 🔍 🗷 🔃 🖪 🥝 💷 🗐	

• Select the "promotional text" section.

Q_MERCHANT_INFO
G_MERCHANT_INFO A + promotional_text1 A + promotional_text2

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

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



In the existing customer folio, on the Data Model:

 Go to Insert > Query and follow the data wizard to add in the query. Name the query OPI\_MERCHANT\_INFO.

	A * EXPIRY_DATE_CH		CF_UK_FIX_VAT7			
		To overwrite the defai	ult, type a new name for the q	juery.		▼
	NE	Query name:	RCHANT_INFO			
ZN		Select the ch	neck box if the query is a matri ery	x query.		
	Cancel H	elp	< Back	Next >	Finish	
	A + credit card r	umber 🔽	G_CF_11	Č.		

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





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

	F_promotionaltext1 F_promotionaltext2	
[		]

#### **NOTE**:

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

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

## Verifying Folio information in OPERA PMS

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

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

#### Display of Data in Folio

Data sent without pipe separation:



• Data sent with a pipe separation:



## 19 Appendix A: Migrating MySQL Database

#### Purpose

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

### Prerequisites

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

#### NOTE:

You can verify the port that is currently used for MySQL5.7 in the registry at HKEY\_LOCAL\_MACHINE\SOFTWARE\Oracle Payment Interface\Database.

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

## Upgrade

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

#### Stop both the OPI and OPI Configuration Services

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

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

🔍 Services							-	×
File Action View	v Help							
⊨ 🔿   📰   🖾	Q 📑 🛛 📷 🕨 🖬 🕪							
Services (Local)	Services (Local)					-		
	OPI Config Service	Name	Description	Status	Startup Type	Log On As		
	Stop the service Restart the service Description: Configuration Service for Oracle Payment Interface	Network Connected Device     Network Connection Broker     Network Connections     Network Connectivity Assis     Network Connectivity Assis     Network Location Awareness     Network Store Interface Ser     Offine Files     Open SSH Authentication A     OPI Config Service     OPI Service     Opi Service     Oracle VirtIO Service     Oracle VirtIO Service     OracleOraDB12Home1TNSL     OracleOraDB12Home1TNSL     OracleServiceV2     OracleServiceRCL	Network Co Brokers com Manages o Provides Dir Identifies th Collects an The Networ The Networ The Vetwor Oracle Pay Oracle Pay Oracle Pyt Oracle Virtl	Running Running Running Running Running Running Running Running Running Running	Manual (Trig Manual Gring Manual Automatic Manual (Trig Automatic Manual (Trig Disabled Automatic Automatic Manual Automatic Disabled Automatic Automatic Disabled Automatic Automatic Automatic Automatic Automatic Automatic Automatic Automatic Automatic	Local Service Local Syste Local Syste Local Syste Local Service Network S Network S Network S Network S Network S Local Syste Local Syste Local Syste NT SERVIC NT SERVIC NT SERVIC NT SERVIC		
		CracleVssWriterORCL		Running	Automatic Automatic	N F SERVIC Local Syste		
	Extended Standard							

# 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**.



MySQL56Connection × ile Edit View Query Database	Server Tools	Scripting Help			
Navigator MANAGEMENT Server Status Client Connections Users and Privileges	Query 1 My User Accounts	dministration - Users and SQL56Connection sers and Privileg	Physic × es Details for account OPE	2001User@localhost	
	User	% % localhost localhost localhost localhost localhost localhost localhost localhost localhost % %	Login Account Limits / Login Name: Authentication Type: Limit to Hosts Matching: Password: Confirm Password:	Randard Randard Consider using a password mixed case letters, numbers Expire Password Expire Password	Privieges You may create multiple accounts with the same name to connect from different hosts. For the standard password and/or host based authentication, select 'Standard'. '% andwildcards may be used 'Type a password to reset it. with 8 or more characters with and purctuation marks. Enter password again to confirm.
Information No object selected					

c. Run

**\OraclePaymentInterface\v20.4\Services\ConfigService\LaunchSettingsAdm inTool.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**.

File	Edit	View	Database	Tools	Scripting	Help		
			Conne	ect to Data	abase		Ctrl+U	
5	¥		Manaj	ge Conne	ctions			
N	5		Rever	se Engine	er		Ctrl+R	
_			Scher	na Transfe	er Wizard			
			Migrat	ion Wizaro	d			.0
- 1	F		Edit T	уре Марр	ings for Gen	eric Migr	ation	

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

		-		
Local instance MyS/	2L80 × Schema Transfer Wizard ×			
Edit View Datab	ase Tools Scripting Help			
1				
onnection Selection				
Select the connection for	ir the source MySQL server where databases will be copied from			
and the destination serv	er where they should be capied to.			
Source MySQL Server				
Select the connection	n for the source MySQL server instance			
Source Connection:	Local instance MySQL57 (localhost:3306)			
	·			
Destination MySQL Ser	ver			
Select the connection	n object for the destination MySQL server instance			
Target Connection:	Pick a Connection			
	Pick a Connection			
	Local instance MySQLS/ (localiset:3306)			
	Edit Connections			
	Edi Corrections			
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	Edit Connections			
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	Edi Connections			
	Edi Comectors			
Test Connections	Edi Connections	Next >	Cancel	

- 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.

		Internate (Datab	Prose 1	
> BCD0000000 ^	Name	Туре	Data	
COMPONENTS	(Default)	REG_SZ	(value not set)	
> DRIVERS	ab 1	REG_SZ	opiuser	
> A HARDWARE	ab 17	REG_SZ	NA	
> SAM	<b>a</b> 18	REG_SZ	false	
> Schema	ab 2	REG_SZ	01000000D08C9DDF0115D1118C7A00C04FC297E	
SECURITY	ab 3	REG_SZ	DATABASE_MYSQL	
SOFTWARE	<u>ab</u> 4	REG_SZ	localhost	
7-Zip	ab 5	REG_SZ	OPI_DATABASE01	
> Classes	ab 6	REG_SZ	3306	
> Clients				
DefaultUserEnvironm				
Google				
> Intel				
> McAtee				
> Microsoft				
> Mozilla				
> mozilla.org				
> MySQL AB				
> Network Associates				
Notepad++				
> ODBC				
> OpenSSH				
Oracle Payment Inter				
Database				
- Settings			N	
> Partner			2	

#### 6. Click Start Copy.

My	SQL Workbench	1		
	Local instance MySQL80 × Schema Transfer Wizard ×			
	Edit View Database Tools Scripting Help			
he	and Selection			
110	ing Section			
S	elect the schemas to copy to the destination server and clck [Start Copy >] to start the process.			
I	ndude Schema			
	Depidatabase01			
	L 😝 sys			
-	and the second second second			
0	schemas select All Unselect All			
	Migrate MyISAM tables to InnoD8			
	< Back Start C	opy >	Cancel	1

• 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.



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Message Log		
Starting	A	
Reverse Engineering		
Reverse engineering opi_database01 from der		
Proprint.		
Reverse engineering tables from opi_database01		
<ul> <li>Retrieving table opi_database01.api_resource</li> </ul>		
- Reverse engineering opi_database01.api_resource		
Retreving table op_database01.audt_rai		
- Retrieving table og database01.config entity		
<ul> <li>Reverse engineering opi_database01.config_entity</li> </ul>		
<ul> <li>Retrieving table opi_database01.config_entity_attribute</li> </ul>		
<ul> <li>Reverse engineering opi_database01.config_entity_attribute</li> </ul>		
- Retrieving table op_database01.currency		
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<ul> <li>Retrieving table opi_database01.merchant_attribute</li> </ul>		
<ul> <li>Reverse engineering opi_database01.merchant_attribute</li> </ul>		
Reverse engineering on databased interchant_attroute_value.		
Retrieving table opi database01.password approval.		
<ul> <li>Reverse engineering opi_database01.password_approval</li> </ul>		
<ul> <li>Retrieving table opi_database01.password_history</li> </ul>		
<ul> <li>Reverse engineering opi_database01.password_history</li> </ul>		
- Reverse engineering oni database01.payattable_device		
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- 7. Once the copy is complete, click **Next** and then click **Finish**.
- 8. Create the matching user/password in the target MySQL8.0 database.
  - a. Login to MySQL Workbench with target MySQL8.0.
  - b. Select Users and Privileges and Add Account, setup the Username, Host and Password. Use the same Username and Password from 5.7 instance (source).

Navigator	Query 1	Administration - Users an	d PriviL. 🗙	
MANAGEMENT Server Status Client Connections	1	MySQL8Connection Users and Privile	les	
Users and Privileges	User Accoun	ts	Details for account newuser@%	
Status and System Variables	User	From Host	Login Account Limits Administrative Roles Schema Privileges	
👶 Data Export		%	You may create multiple accounts with the same na	ame
📥 Data Import/Restore		localhost	to connect from different hosts.	
INSTANCE		localhost	For the standard password and/or host based aut	hentication.
Startup / Shutdown	-	%	Authentication Type: Standard select 'Standard'.	
A Server Logs		localhost	North Marken	
P Options File			Limit to Hosts Matching: % and _ wildcards may be used	
PERFORMANCE			Password: Type a password to reset it.	
Dashboard			Strong password.	
8 Performance Reports			Confirm Password: Enter password again to confirm.	
⊙ ♥ Performance Schema Setup			Expire Password	
Administration Schemas				
Information				
No object selected				
	Add Acco	unt Delete F	Revert	Apply

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.

tails for account n	ewuser@%					
gin Account Limits	Administrative Roles	Schema Privileges				
Schema	Privileges					
opi\_database01	ALTER, ALTE	R ROUTINE, CREATE,	CREATE ROUTINE,	CREAT	E TEMPORARY TA	BLES, CREATE V
<						>
Schema and Host field	ds may use % and _ wild specific entries before a	lcards. wildcarded ones	Revoke All Privi	eges	Delete Entry	Add Entry
'he user 'newuser'@'	%' will have the followin	g access rights to schem	as matching 'opi\_d	atabase	e01':	
Object Rights		DDL Rights		Othe	r Rights	
SELECT INSERT UPDATE DELETE EXECUTE SHOW VIEW		CREATE ALTER REFERENCES INDEX CREATE VIEW CREATE ROUTINE ALTER ROUTINE EVENT DROP TRIGGER	E	☐ GRANT OPTION Ø CREATE TEMPORARY TABLES Ø LOCK TABLES		
					Unselect All	Select "ALL"
					Rev	ert Apply
<b>NOTE</b>	: MySQL us	<b>ername</b> is ca	ise sensitiv	ve. Y	íou will ne	ed to mat
reg	istry.					

#### Update Registry and Restart OPI Service

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

#### **NOTE**:

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

#### Validate Transactions using MySQL8.0

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