

Standalone Scheduler Property File Creation
Oracle FLEXCUBE Investor Servicing
Release 14.5.1.0.0
[September] [2021]



Table of Contents

1.	CREATING PROPERTY FILE FOR STANDALONE SCHEDULER	1-1
1.1	INTRODUCTION	1-1
1.2	CREATING PROPERTY FILE	1-1
1.2.1	<i>Setting Common Properties</i>	<i>1-4</i>
1.2.2	<i>Configuring Scheduler</i>	<i>1-5</i>
1.2.3	<i>Setting EMS Properties</i>	<i>1-12</i>
1.2.4	<i>Setting BIP and BIP Advice Report</i>	<i>1-17</i>
1.2.5	<i>Setting GI Upload Properties</i>	<i>1-18</i>
1.2.6	<i>Setting Report Properties</i>	<i>1-20</i>
1.2.7	<i>Saving Property File</i>	<i>1-21</i>

1. Creating Property File for Standalone Scheduler

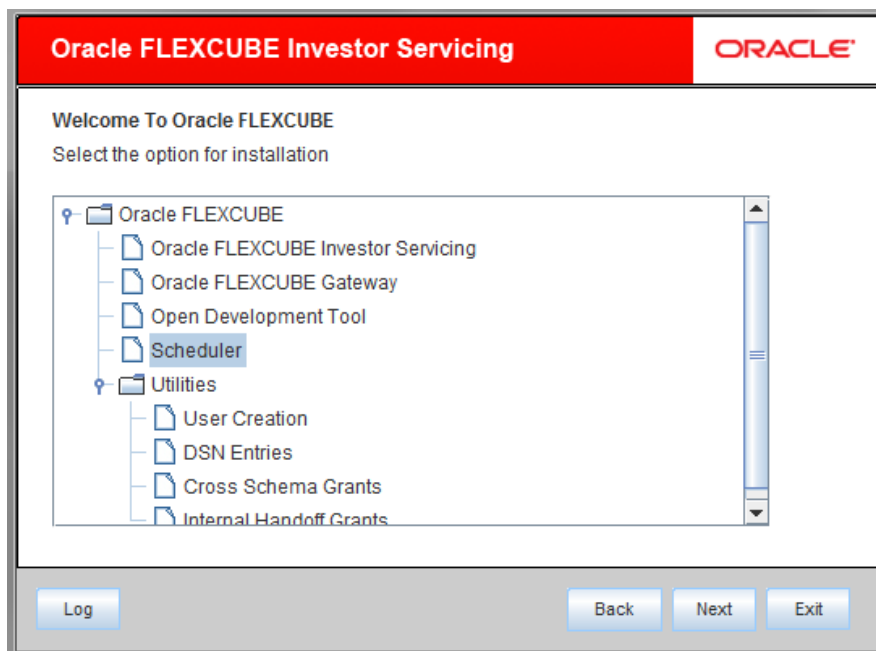
1.1 Introduction

This chapter explains the steps to create property file for Standalone Scheduler.

1.2 Creating Property File

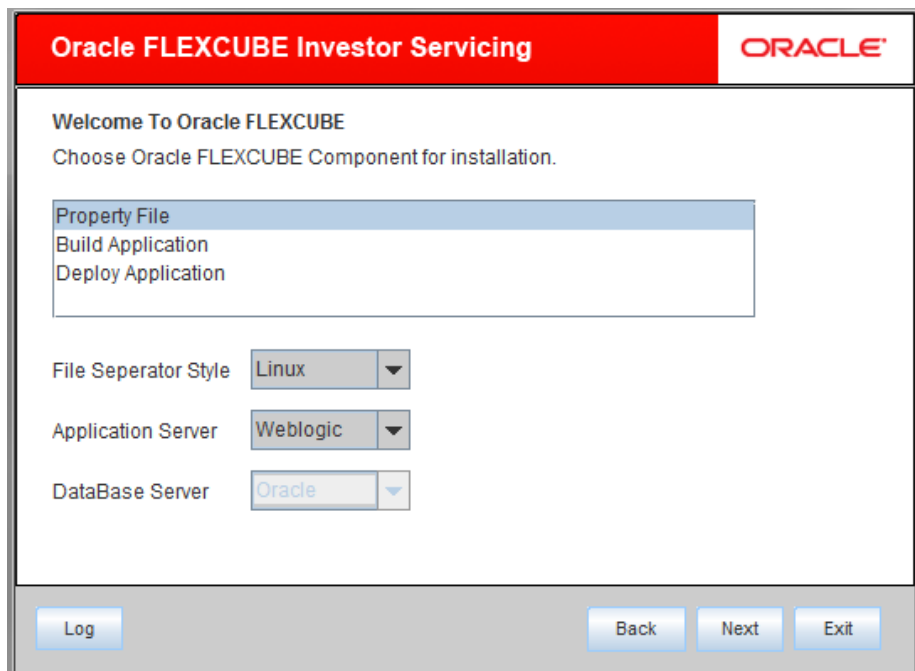
To create the property file for Oracle FLEXCUBE, follow the steps given below:

1. Launch Oracle FLEXCUBE Universal Installer.
2. Click 'Next' and the following screen is displayed.



3. Select 'Scheduler'.

4. Click 'Next' and the following screen is displayed.



The screenshot shows the 'Oracle FLEXCUBE Investor Servicing' installation window. The title bar is red with 'Oracle FLEXCUBE Investor Servicing' in white text, and the Oracle logo is in the top right corner. The main content area has a white background with the text 'Welcome To Oracle FLEXCUBE' and 'Choose Oracle FLEXCUBE Component for installation.' Below this is a list box containing three options: 'Property File' (which is highlighted with a blue background), 'Build Application', and 'Deploy Application'. Under the list box are three dropdown menus: 'File Seperator Style' with 'Linux' selected, 'Application Server' with 'Weblogic' selected, and 'DataBase Server' with 'Oracle' selected. At the bottom of the window is a grey bar containing four buttons: 'Log', 'Back', 'Next', and 'Exit'.

Select 'Property File'.

5. Specify the following details:

Operating System

Specify the operating system in which you are creating the property file. Select the appropriate one from the adjoining drop-down list.

Application Server

Specify the application server in which you are creating the property file. Select the appropriate one from the adjoining drop-down list.

6. Once you have specified the details, click 'Next' to continue and following screen is displayed:

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo in the top right. The main heading is "Property File Creation" with the instruction "Specify the Property File path." Below this is a label "Centralized Property File" followed by a text input field and a folder icon. A large text box contains the instruction: "For Modifying the Existing Property file specify the path else leave the path unchanged for loading the default property file." At the bottom, there are four buttons: "Log", "Back", "Next", and "Exit".

7. Specify the following details:

The property file needs to be built before the EAR file. If you are creating a new property file, leave the field blank. If you wish to modify an existing property file, you can manually specify the location of the property file.

When you click 'Next', the following screen is displayed.

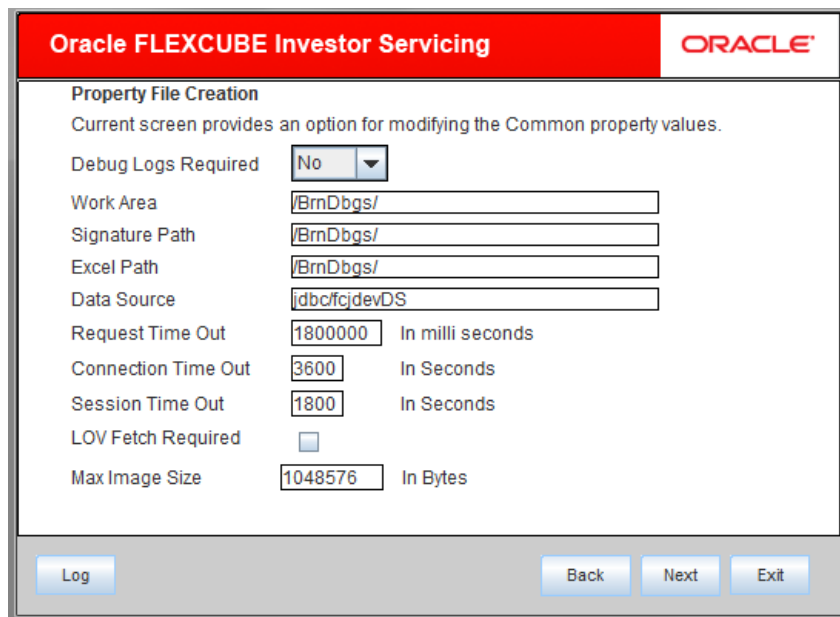
The screenshot shows a window titled "Oracle FLEXCUBE Universal Installer 14.4.0.0.0" with the Oracle logo in the top right. The main heading is "Property File Creation" with the instruction "Current screen provides an option for modifying Security Key for encryption." Below this is a label "Security Key for Encryption Logic" followed by a text input field containing "oraclefinancialsolutions". There is a checkbox labeled "OPSS CSF Available" which is checked. Below this is a label "OPSS-CSF Collection Name" followed by a text input field containing "ofss.fcis.map.quartz". A large text box contains the instruction: "Security Key is used for Encryption Logic. OPSS □ CSF: A credential store is used for secure storage of credentials. CSF is used to access and perform operations on the credential store. The Credential Store Framework enables to manage credentials securely". At the bottom, there are four buttons: "Log", "Back", "Next", and "Exit".

Click 'Next' and the following screen is displayed:

1.2.1 Setting Common Properties

This section describes the process of setting common properties of Standalone Installer.

1. The installer displays the 'Common Properties' screen.



2. Specify the following details:

Debug Logs Required

If you require debug option, select 'Yes' from the drop-down list. If you do not require debug option, select 'No'.

Work Area

Specify the work area.

For example: D:\BrnDbgs\

Signature Path

Specify the location at which the signature images are placed.

Excel Path

Specify the location at which the excel files are generated.

Data Source

Specify the JNDI location. The standard format is 'jdbc/fcjdevDS'.

Request Time Out

Specify the database request timeout value in milli seconds. This is the maximum number of seconds the database waits for a query to return the result.

Connection Time Out

Specify the database connection timeout value in seconds. This is the maximum number of seconds the application waits for a connection to the database to open.

Session Time Out

Enter the session time out value in seconds. This is the maximum number of seconds during which the application gets active without any user intervention. If there is no user intervention continuously for the duration specified here, the user session gets expire.

LOV Fetch Required

If you check this box, the option lists in Oracle FLEXCUBE displays the matching values based on the first characters that you enter in a field. If you specify the first three characters of a value to be entered in an option list and tab out, the system displays the complete list of values that are matching the first three characters.

If you do not check this, option lists does not show the matching values based on the first few characters. You need to specify the complete value against the field.

Max Image size

Specify the maximum image size in bytes.

Click 'Next' and the following screen is displayed:

1.2.2 Configuring Scheduler

This section describes the method to configure scheduler data source.

1. System displays the following screen:

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo. The main content area is titled "Property File Creation" and includes the text "Current screen provides an option for Scheduler configuration." Below this, there are two input fields: "Scheduler Datasource" with the value "jdbcfcjSchedulerDS" and "Scheduler Log Rotation Interval" with a dropdown menu set to "WEEKLY". A large text box contains instructions: "Provide the Scheduler Datasource Name in the field Scheduler Datasource." and "Provide the Scheduler Log Rotation Value To move old Scheduler Log to another file at specific time intervals .". At the bottom, there are four buttons: "Log", "Back", "Next", and "Exit".

2. Specify the following details:

Scheduler Datasource

Specify the scheduler datasource which Oracle FLEXCUBE will access.

Scheduler Log Rotation Interval

Specify the scheduler log rotation interval.

Scheduler Log Rotation Interval

Select the interval between each rotation of scheduler log.

3. Click 'Next' and the following screen is displayed:

The screenshot shows a software window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo in the top right corner. The main content area is titled "Property File Creation" and contains the text: "Current screen provides an option for configuring Scheduler Destination Queue." Below this text are four configuration fields: "Notify Destination" with a dropdown menu showing "QUEUE", "Queue Name" with a text box containing "NOTIFY_DEST_QUEUE", "Queue Connection Factory" with a text box containing "NotifyDestQCF" and an unchecked "Secure" checkbox, and "Notify Queue Location" with a dropdown menu showing "Internal". At the bottom of the window is a grey bar containing four buttons: "Log", "Back", "Next", and "Exit".

4. Specify the following details:

Notify Destination

Specify the notify destination. Select one of the following options:

- QUEUE
- TOPIC

Queue Name

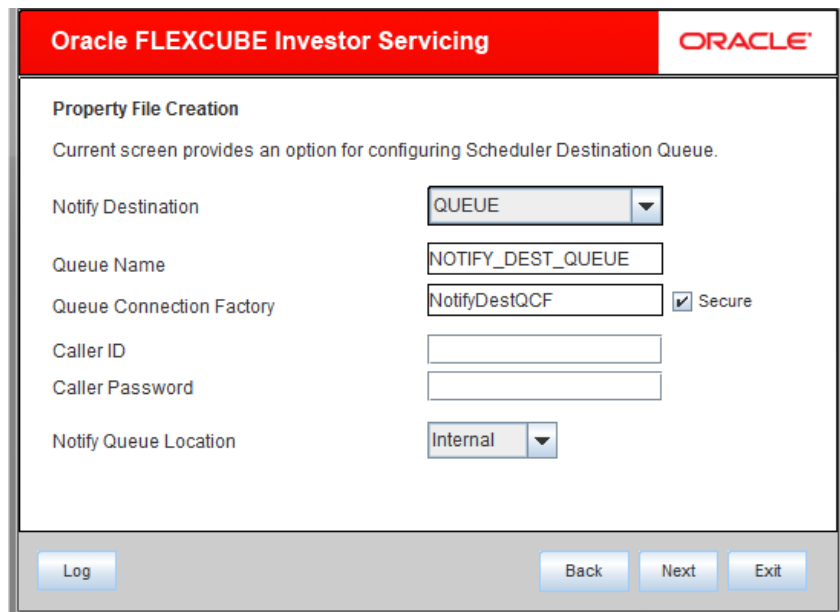
Set 'NOTIFY_DEST_QUEUE' as the destination queue name.

Queue Connection Factory

Set 'NotifyDestQCF' as the queue connection factory.

Secure

Check this box to indicate that it is a secured queue connection factory. If you check this box, you will be prompted to specify the caller ID and caller password as shown in the following screen.




Caller ID

Specify the caller ID for the secured queue connection factory.

Caller Password


Specify the password for the caller ID to access the secured queue connection factory.

 If the queue connection factory is not secured, i.e., if you have not checked the box 'Secure', the installer will not display the fields 'Caller ID' and 'Caller Password'. You need not provide these details in that case.

Notify Queue Location

Specify the notify queue location. Select one of the following options:

- Internal
- External

 For Oracle WebLogic application server, the notify queue location should be selected as 'Internal'. If you choose 'Internal' as the 'Notify Queue Location', the screen provided in the following step does not get displayed. You will be navigated to next step where you can specify the notified deferred queue name and connection factory.

5. If you choose 'External', system displays the following screen:

No.	Name	Value
1	Provide Uri	iiop://localhost:1010
2	Security Principal
3	Security Credential

6. Specify the following details of the external queue.

Provider URL

Specify the provide URL (iiop://localhost:1010).

1010 is the default IIOP port.


Security Principal

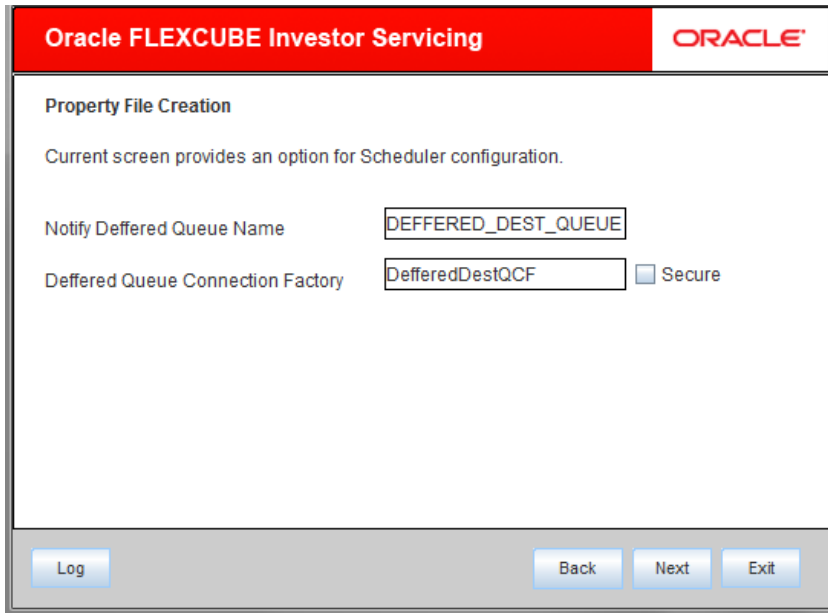
Specify the login ID to access the application server.

Security Credentials

Specify the password to access the application server.

7. Click 'Next' to proceed with scheduler configuration.

 If you choose 'Internal' as the 'Notify Queue Location', you will be directly navigated to the following screen. In that case, the installer will not show the screen explained in the previous step.



The screenshot shows a software installation window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo in the top right corner. The main heading is "Property File Creation". Below it, a message states: "Current screen provides an option for Scheduler configuration." There are two input fields: "Notify Deferred Queue Name" with the text "DEFERRED_DEST_QUEUE" and "Deferred Queue Connection Factory" with the text "DeferredDestQCF". To the right of the second field is a checkbox labeled "Secure" which is currently unchecked. At the bottom of the window, there are four buttons: "Log", "Back", "Next", and "Exit".

8. Specify the following details:

Notify Deferred Queue Name

Set 'DEFERRED_DEST_QUEUE' as the notified deferred queue name.

Deferred Queue Connection Factory

Set 'DeferredDestQCF' as the deferred queue connection factory.

Secure

Check this box to indicate that it is a secured deferred queue connection factory. If you check this box, you will be prompted to enter the caller ID and caller password as shown in the following screen.

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo in the top right. The main content area is titled "Property File Creation" and contains the text: "Current screen provides an option for Scheduler configuration." Below this, there are four input fields: "Notify Deferred Queue Name" with the value "DEFERRED_DEST_QUEUE", "Deferred Queue Connection Factory" with the value "DeferredDestQCF", "Caller ID" (empty), and "Caller Password" (empty). To the right of the "Deferred Queue Connection Factory" field is a checked checkbox labeled "Secure". At the bottom of the window, there are four buttons: "Log", "Back", "Next", and "Exit".

9. Specify the caller ID and caller password for the secured deferred queue connection factory.

10. Click 'Next' and the following screen is displayed:

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo in the top right. The main content area is titled "Property File Creation" and contains the text: "Current screen provides an option for Scheduler Notify Internal Queue configuration." Below this, there are three input fields: "Notify Queue Name" with the value "NOTIFY_QUEUE", "Dead Letter Queue Name" with the value "NOTIFY_QUEUE_DLQ", and "Notify Queue Connection Factory" with the value "NOTIFY_MDB_QCF". To the right of the "Notify Queue Connection Factory" field is an unchecked checkbox labeled "Secure". At the bottom of the window, there are four buttons: "Log", "Back", "Next", and "Exit".

11. Specify the following details:

Notify Queue Name

Set 'NOTIFY_QUEUE' as the notify queue name.

Dead Letter Queue Name

Set 'NOTIFY_QUEUE_DLQ' as the dead letter queue name.

Notify Queue Connection Factory

Set 'NOTIFY_MDB_QCF' as the notify queue connection factory.

Secure

Check this box to indicate that it is a secured queue connection factory. If you check this box, you will be prompted to enter the caller ID and caller password as shown in the following screen.

Oracle FLEXCUBE Investor Servicing

ORACLE

Property File Creation

Current screen provides an option for Scheduler Notify Internal Queue configuration.

Notify Queue Name: NOTIFY_QUEUE

Dead Letter Queue Name: NOTIFY_QUEUE_DLQ

Notify Queue Connection Factory: NOTIFY_MDB_QCF ☒ Secure

Caller ID:

Caller Password:

Log Back Next Exit

12. Specify the caller ID and caller password for the secured notify queue connection factory.

13. Click 'Next' and the following screen is displayed:

1.2.3 Setting EMS Properties

Oracle FLEXCUBE Investor Servicing ORACLE

Property File Creation
Current screen provides an option for Scheduler EMS Queue configuring.

No.	Name	Value
1	Incoming Dead Letter Queue Name	EMS_QUEUE_DLQ
2	Incoming backup Queue Name	EMS_QUEUE_BACK
3	Incoming Queue Connection Factory	EmsQcf
4	Secure Incoming Queue Connection	<input type="checkbox"/>
5	Incoming Queue Caller Id	
6	Incoming Queue Caller Password	
7	Outgoing Dead Letter Queue Name	EMS_QUEUE_DLQ
8	Outgoing Queue Connection Factory	EmsQcf
9	Secure Outgoing Queue Connection	<input type="checkbox"/>

Log Back Next Exit

Oracle FLEXCUBE Investor Servicing ORACLE

Property File Creation
Current screen provides an option for Scheduler EMS Queue configuring.

No.	Name	Value
10	Outgoing Queue Caller Id	
11	Outgoing Queue Caller Password	
12	Outgoing Queue Provider Url	t3://10.10.10.10:1010
13	Queue Principal	*****
14	Queue Credential	*****
15	Incoming Queue Name	EMS_INQUEUE
16	Outgoing Queue Name	EMS_OUTQUEUE
17	SFMS Incoming Queue	SFMS_INQUEUE
18	RTGS Incoming Queue	RTGS_INQUEUE

Log Back Next Exit

Specify the following details:

Incoming Dead Letter Queue Name

Set 'EMS_QUEUE_DLQ' as the incoming dead letter queue name.

Incoming Backup Queue Name

Specify the name of the incoming backup queue for which EMS is configured.

Set 'EMS_QUEUE_BACK' as the incoming backup queue name.

Incoming Queue Connection Factory

Specify the name of the incoming connection factory to which EMS listens. You need to create this connection factory at the application server.

For details on connection factory creation, follow the steps described for creation of notify connection factories.

Set 'EmsQcf' as the incoming queue connection factory.

Secure Incoming Queue Connection

Check this box to indicate that it is a secured queue connection.

Incoming Queue Caller ID

Specify the caller ID for the secured queue connection.

Incoming Queue Caller Password

Specify the caller password for the secured queue connection.

Outgoing Dead Letter Queue Name

Set 'EMS_QUEUE_DLQ' as outgoing dead letter queue name.

Outgoing Queue Connection Factory

Specify the name of the outgoing connection factory to which EMS listens. You need to create this connection factory at the application server.

For details on connection factory creation, follow the steps described for creation of notify connection factories.

Set 'EmsQcf' as the outgoing queue connection factory. Secure Outgoing Queue Connection

Check this box to indicate that it is a secured outgoing queue connection.

Outgoing Queue Caller ID

Specify the caller ID for the secured queue connection.

Outgoing Queue Caller Password

Specify the caller Password for the secured queue connection.

Outgoing Queue Provider URL

In case EMS OUT MDB is to be configured to queue, you need to specify the URL for outgoing provider based on the application server. By default, the Installer displays the outgoing queue provider URL for Oracle WebLogic.

This value is application server dependent.

The details of Outgoing Queue Provider URL to be used for different application servers are given below:

Application Server	EMS Out Initial Context Factory
Oracle WebLogic	t3://<ip_adress>:port E.g.: t3://10.10.10.10:1010 Here, 10.10.10.10 represents the local host and 1010 to the target server default port (AdminServer/ManagedServer).
IBM WebSphere	iiop://<ip_adress>:port E.g.: iiop://10.10.10.10:1010 Here, 1010 represents the default iiop port

Queue Principal

If EMS OUT MDB has to be configured to queue, you need to specify the EMS out queue principal. This is the user name for the application server in which the queue is configured.

Queue Credential

If EMS OUT MDB has to be configured to queue, you need to specify the EMS out queue credential. This is the password for the above user name created for application server in which the queue configured.

Incoming Queue Name

Specify the name of the incoming queue for which EMS is configured. By default, this is set as 'EMS_QUEUE_DLQ'. Outgoing Queue Name

Specify the name of the outgoing queue for which EMS is configured. By default, this is set as 'EMS_QUEUE_DLQ'. SFMS Incoming Queue

Specify the name of the SFMS Incoming Queue. By default, this is set as 'SFMS_INQUEUE'.

RTGS Incoming Queue

Specify the name of the RTGS incoming Queue. By default, this is set as 'RTGS_INQUEUE'.

Once you have specified the above details, click 'Next' and system displays the next screen.

No.	Name	Value
1	File TranferMode FTPS	FTPS
2	Server	10.10.10.10
3	User id	OFSS
4	Password
5	File Type	.txt
6	Swift Format	1
7	Swift Message Delimiter	<input checked="" type="checkbox"/>
8	Swift Message Terminator	<input checked="" type="checkbox"/>
9	MEDIA	SWIFT

14. Specify the following details:

File Transfer Mode FTPS

Specify the mode of transferring files to EMS. Select one of the following:

- FTPS
- SFTP
- HTTP

Server

Specify the server IP address for the selected file transfer mode.

User ID

Specify the user ID to access the server of the file transfer mode.

Password

Specify the password to for the above user ID.

File Type

Specify the type of file that is transferred. By default, the Installer sets it as '.txt'.

SWIFT Message Delimiter

Specify the character which is used as the message delimiter.

SWIFT Message Terminator

Specify the character which is used as the message terminator.

15. Once you have specified the above details, click 'Next'. and the following screen is displayed:

No.	Name	Value
1	Signature Block	<input checked="" type="checkbox"/>
2	Keystore File Name	/keystore
3	Keystore Alias name
4	keystore Password

Log Back Next Exit

16. Specify the following details:

Signature Block

Check this box to enable signature block.

Keystore File Name

Specify the keystore file name.

Keystore Alias Name

Specify the keystore alias name.

Keystore Password

Specify the keystore password.

17. Once you have specified the above details, click 'Next' and system displays the next screen.

1.2.4 Setting BIP and BIP Advice Report

This screen describes how to create the property file. Here, you need to set the BIP and BIP Advice report details.

1. System displays the following screen:

The screenshot shows a web-based form titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo. The main heading is "Property File Creation". Below it, a note states: "Current screen provides an option for Scheduler BIP and BIP Advice report." The form contains five input fields, each with a label and a text box:

- Bip Queue Name: INTERNAL_BIPREPORT_QUEUE
- Bip DeadLetter Queue Name: INTERNAL_BIP_QUEUE_DLQ
- BipAdvice Queue Name: INTERNAL_BIPADVREPORT_QUEUE
- BipAdvice DeadLetter Queue Name: INTERNAL_BIP_ADVICE_QUEUE_DLQ
- Queue connection factory: BIPQCF

To the right of the "Queue connection factory" field is a checkbox labeled "Secure". At the bottom of the form are four buttons: "Log", "Back", "Next", and "Exit".

2. Specify the following details to set the EMS properties:

BIP Queue Name

Specify the BIP queue name as 'INTERNAL_BIPREPORT_QUEUE'.

BIP DeadLetter Queue Name

Specify the BIP deadletter queue name as 'INTERNAL_BIP_QUEUE_DLQ'.

BIPAdvice Queue Name

Specify the BIP advice queue name as 'INTERNAL_BIPADVREPORT_QUEUE'.

BIPAdvice DeadLetter Queue Name

Specify the BIP advice dead letter queue name as 'INTERNAL_BIP_ADVICE_QUEUE_DLQ'.

Queue Connection Factory

Specify the queue connection factory as 'BIPQCF'.

Secure

Check this box to indicate that it is a secured deferred queue connection factory. If you check this box, you will be prompted to enter the caller ID and caller password as shown in the following screen:

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo. The main heading is "Property File Creation" with a subtitle "Current screen provides an option for Scheduler BIP and BIP Advice report." The form contains the following fields and controls:

- Bip Queue Name:
- Bip DeadLetter Queue Name:
- BipAdvice Queue Name:
- BipAdvice DeadLetter Queue Name:
- Queue connection factory: ☒ Secure
- Caller ID:
- Caller password:

At the bottom, there are four buttons: "Log", "Back", "Next", and "Exit".

3. Specify the caller ID and caller password for the secured queue connection factory.
4. Once you have specified the above details, click 'Next' and system displays the next screen.

1.2.5 Setting GI Upload Properties

This screen describes how to specify the GI upload property details. Here you need to set the GI Upload properties.

1. System displays the following screen:

The screenshot shows a window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo. The main heading is "Property File Creation" with a subtitle "Current screen provides an queue configuration details for Scheduler GI Upload." The form contains the following fields and controls:

- Queue Name:
- Dead Letter Queue Name:
- Queue connection factory: ☐ Secure

At the bottom, there are four buttons: "Log", "Back", "Next", and "Exit".

2. Specify the following details:

Queue Name

Specify the queue name as 'INTERNAL_GI_UPLOAD_QUEUE'.

Dead Letter Queue Name

Specify the dead letter queue name as 'INTERNAL_GI_UPLOAD_DLQ'.

Queue Connection Factory

Specify the queue connection factory as 'GI_UPLOAD_QCF'.

Secure

Check this box to indicate that it is a secured deferred queue connection factory. If you check this box, you will be prompted to enter the caller ID and caller password as shown in the following screen:

The screenshot shows a web application window titled "Oracle FLEXCUBE Investor Servicing" with the Oracle logo. The main heading is "Property File Creation" with a subtitle "Current screen provides an queue configuration details for Scheduler GI Upload." The form contains the following fields and controls:

- Queue Name: Text box containing "INTERNAL_GI_UPLOAD_QUEUE"
- Dead Letter Queue Name: Text box containing "INTERNAL_GI_UPLOAD_DLQ"
- Queue connection factory: Text box containing "GI_UPLOAD_QCF"
- Secure: A checked checkbox with the label "Secure"
- Caller ID: Empty text box
- Caller Password: Empty text box

At the bottom of the form are four buttons: "Log", "Back", "Next", and "Exit".

3. Specify the caller ID and caller password for the secured queue connection factory.
4. Once you have specified the above details, click 'Next' and system displays the next screen.

1.2.6 Setting Report Properties

This section describes the methods to set report properties.

System displays the following screen:

No.	Name	Value
1	Server End Point	http://10.10.10.10:1010/xmlpserver/services/v2/R...
2	Name Space	http://xmlns.oracle.com/oxp/service/PublicReport...
3	User Name	Administrator
4	Password	*****
5	Reports Advice Spool Path	/ReportsSpool
6	Advice Type	NATIVE
7	BIP Server Version	11g
8	BIP Time Zone	IST

Log Back Next Exit

5. Specify the following details:

Server End Point

Specify the BIP end point.

'http://10.10.10.10:1010/xmlpserver/services/PublicReportService_v11'. However, you need to change the IP and port where BIP Application is installed. WSDL URL gets modified based on "BIP Server Version" on selecting the required version from the dropdown.

Name Space

Specify the BIP name space.

By default, the installer displays 'http://xmlns.oracle.com/oxp/service/PublicReportService'.

User Name

Specify the BIP user name. By default, the Installer displays 'Administrator'.

Password

Specify the password for the above user name. By default, the Installer sets it as 'Administrator'.

Reports Spool Path

Specify the reports spool path

Advice Type

Specify the advice type. You can choose one of the following:

- NATIVE – This advice type is used for generating advices in text format
- BIP – This advice type is used for generating advices in PDF format.

BIP Server Version

Specify the qualified BIP server version. You can select the appropriate one from the adjoining drop-down list.

BIP Time Zone

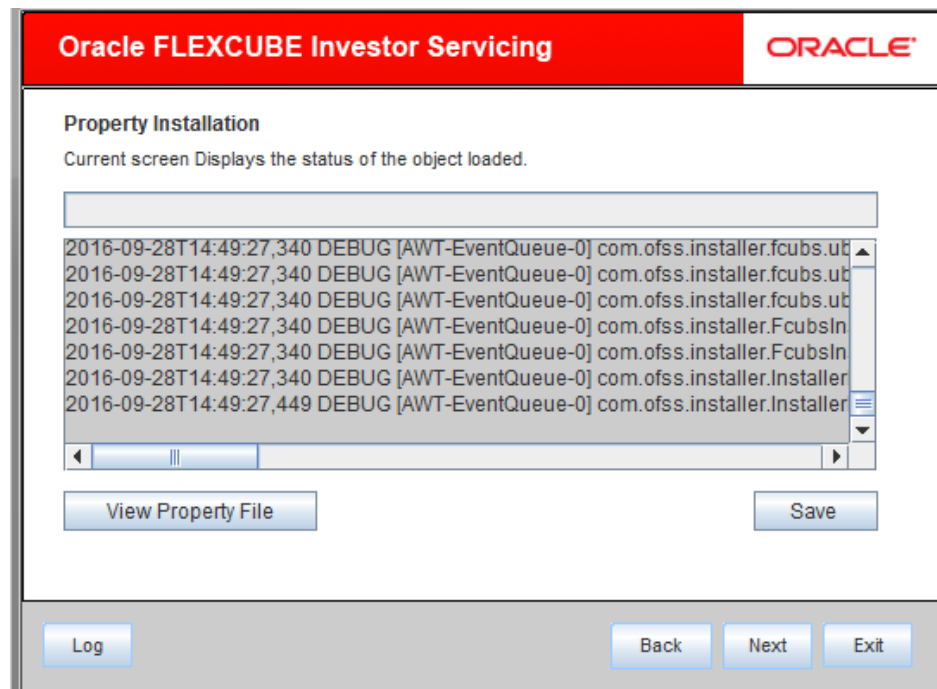
Specify the time zone of the BIP server.

6. Once you have specified the above details, click 'Next' and the system displays the next screen.
7. Once you have specified the above details, click 'Next' and the next screen is displayed:

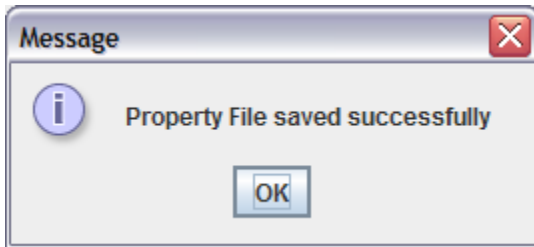
1.2.7 Saving Property File

After completing all the required settings explained above, you need to save the property file.

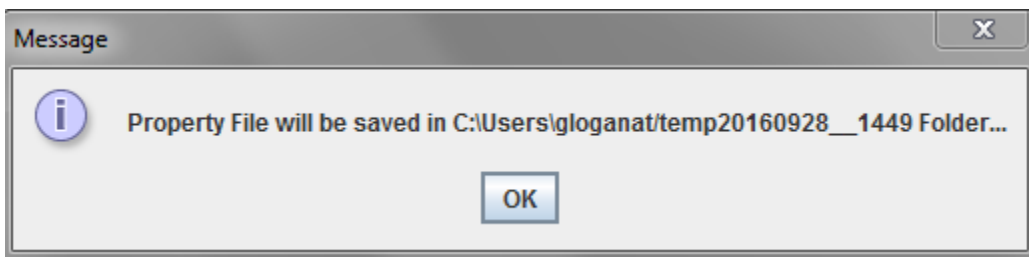
1. Save the property file.



2. You can view the status of property file creation in the above screen. Once the file is saved, the installer displays the following message:



3. If you do not use the 'Save' or 'Save As' buttons, the installer will save the properties file in 'C:\Users\<username>' folder. In that case, you will see the message below.



This completes the properties file creation.



Scheduler Property File Creation
[September] [2021]
Version 14.5.1.0.0

Oracle Financial Services Software Limited
Oracle Park
Off Western Express Highway
Goregaon (East)
Mumbai, Maharashtra 400 063
India

Worldwide Inquiries:
Phone: +91 22 6718 3000
Fax: +91 22 6718 3001
www.oracle.com/financialservices/

Copyright © [2007], [2021], Oracle and/or its affiliates.

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

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software" or "commercial computer software documentation" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

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

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

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

This software or hardware and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.