

Standalone Scheduler Property File Creation
Oracle Banking Trade Finance
Release 14.7.1.0.0
Part No. F82592-01

[May] [2023]



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 General Properties</i>	<i>1-5</i>
1.2.2	<i>Single Sign on</i>	<i>1-7</i>
1.2.3	<i>SMTPS Details.....</i>	<i>1-8</i>
1.2.4	<i>Configuring Scheduler Queues</i>	<i>1-9</i>
1.2.5	<i>Setting EMS FTP/FTPS Properties</i>	<i>1-14</i>
1.2.6	<i>Setting BIP/GI Upload Queue</i>	<i>1-15</i>
1.2.7	<i>Setting Report Properties.....</i>	<i>1-17</i>
1.2.8	<i>Saving Property File.....</i>	<i>1-20</i>

1. Creating Property File for Standalone scheduler

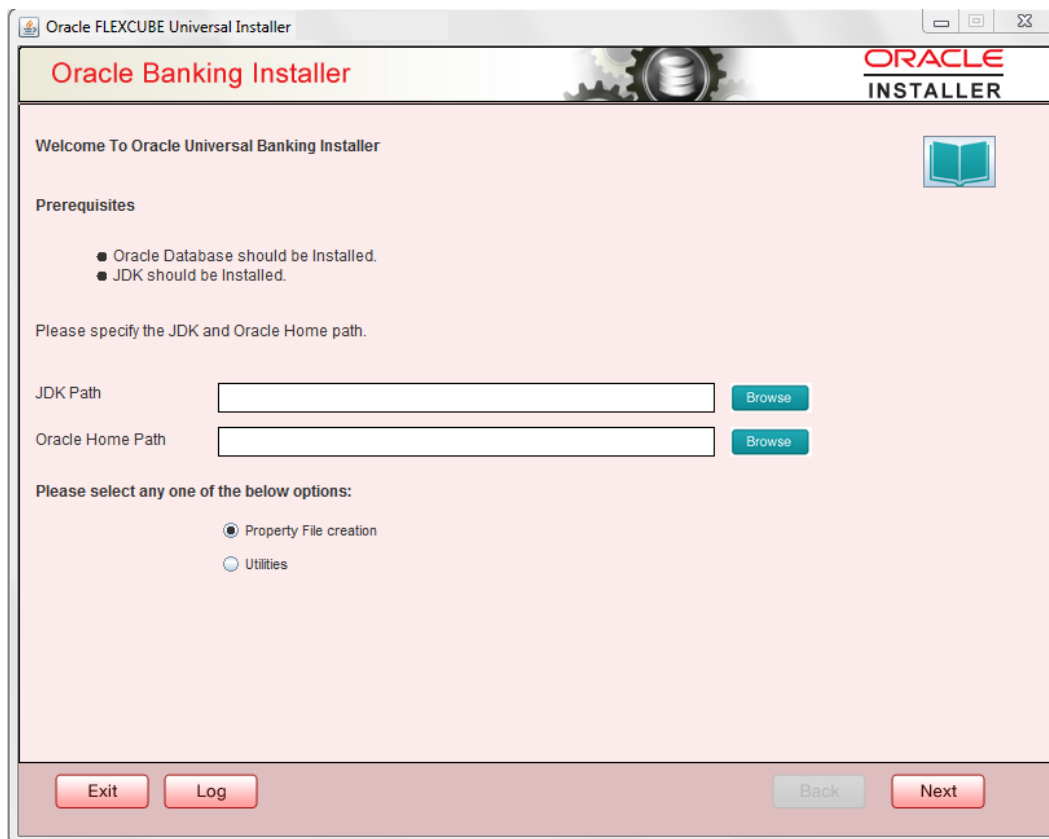
1.1 Introduction

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

1.2 Creating Property File

To create the property file for Oracle Banking Trade Finance Standalone Scheduler, follow the steps given below:

1. Launch Oracle Banking Trade Finance Universal Banking Solution Installer. Select 'Property File Creation' option and Click 'Next' button.



2. Select 'Scheduler' component and Oracle Banking Trade Finance for Trade Finance Property file creation.
In case of co-deployment one or more Product Processors can be included with Trade Finance.
 - a. Oracle Financial Universal Banking product processor contains Rest of Flexcube other than Payments, ELCM and OBCL etc.

- b. Oracle FLEXCUBE Enterprise Limits and Collateral Management (ELCM) has three types .They are Embedded, CO-Deploy and Standalone (Elcm Adapter). Please choose proper option. Oracle FLEXCUBE Enterprise Limits and Collateral Managements can be selected as individual application or along with Oracle Financial Universal Banking. Also ELCM Adapter required checkbox is available.
- c. Oracle Banking payments can be selected.
- d. Oracle Banking Corporate Lending can be selected.
- e. Open Development Tool(ODT) can be selected to install ODT, that allows end user to design ODT screens.
- f. Oracle Banking Treasury can be selected.

Oracle FLEXCUBE Universal Installer 12.5.0.0.0

Oracle Banking Installer

Select one of the Components

Load Existing Property File

☐ INFRA
 ☒ Scheduler
 ☐ Gateway
 ☐ Switch Interface Installation

Select Oracle Product Processors

☐ Oracle FLEXCUBE Universal Banking
☐ Oracle FLEXCUBE Enterprise Limits and Collateral Management (CO-DEPLOY)
☐ Oracle Banking Payments
☐ Oracle Banking Corporate Lending ☐ Open Development Tool
☐ Oracle Banking Treasury
☒ Oracle Banking Trade Finance

Select Plugins to be Installed

☐ Branch Centralized Load Existing Branch Property File

Host Address 10.10.10.10 1010
☐ BPEL ☐ Scheduler Standalone

☐ Reports 10.10.10.10 1010
☒ OFTW ☐ FGL ☐ SIANET Adapter

☐ DMS 10.10.10.10 1010
☐ Insulation ☐ ELCM Adapter required

3. The below Screen accepts EAR name, Context Name, Application Server Path, Source Path and EAR Destination path. Enter the valid data and select File Separator Style and application server from drop down.

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer

ORACLE
INSTALLER

Provide Environment details.

EAR Name:

Context Name:

File Separator Style:

Application Server:

Application Server Path:

Source Path:

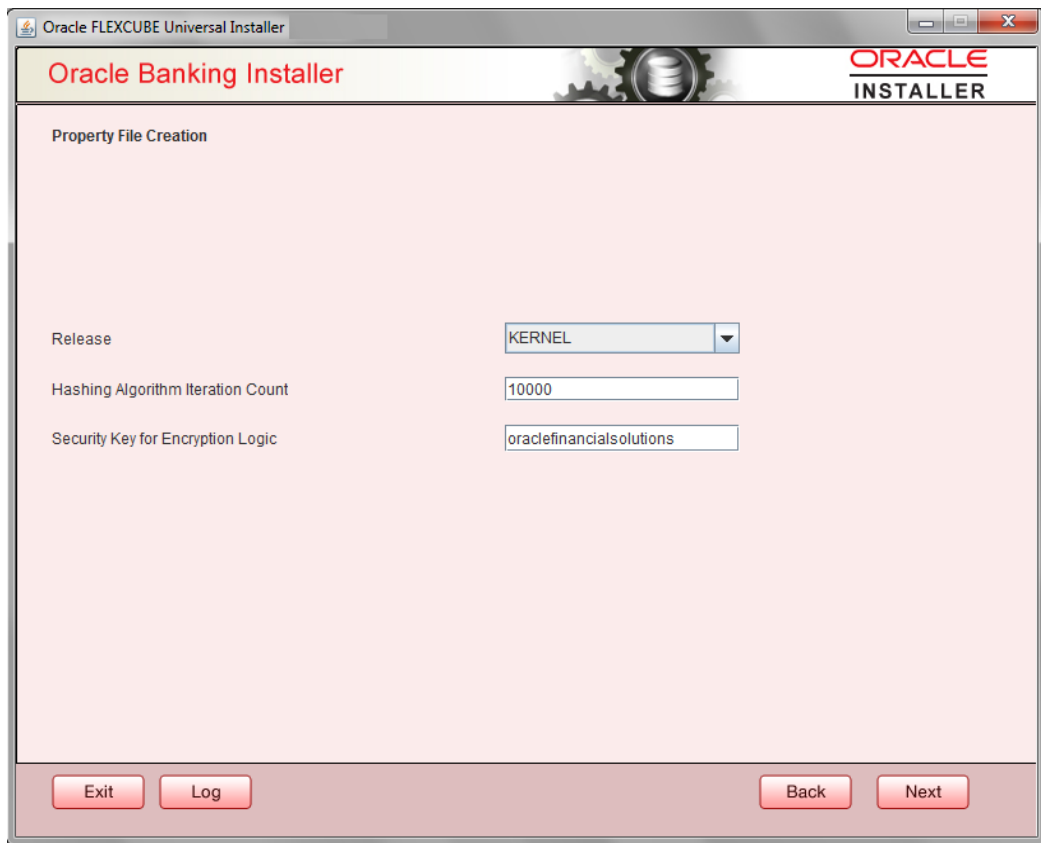
Ear Destination Path:

4. Click on 'Next' button to navigate to below Screen.
5. Below shown Screen contains:

Release

Select the release from the adjoining drop down list.

Hashing Algorithm Iteration Count and **Security key for encryption logic** should be entered which will be used for encryption.



6. Click on 'Next' button to proceed to DataSource Screen.
7. Enter JNDI value for the Datasources enabled and click on Next button.

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer **ORACLE INSTALLER**

Property File Creation - DataSource

Please enter DataSource Names

SMS Data Source: jdbc/fcjsmsDS

Branch Data Source: jdbc/fcjDevXADS

Scheduler Data Source: jdbc/fcjSchedulerDS

ELCM Data Source: jdbc/FcjDevDSElcm

OFCL Data Source: jdbc/fcjsyDS

PM Online JNDI: jdbc/fcjpmDS

PM Batch JNDI: jdbc/fcjpmDS

ELCM Webservices Provider URL: t3://localhost:7001/

Host Server URL: https://10.10.10.1010/FCJNeoWeb

Standalone Scheduler URL: https://10.10.10.10:7001/FCJNeoWeb

Exit Log Back Next

1.2.1 Setting General Properties

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

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

Oracle Banking Installer

Property File Creation - General Property

Debug Logs Required: **No** ☐ LOV Fetch Required

Work Area: **/BrnDbgs/**

Signature Path: **/BrnDbgs/**

Excel Path: **/BrnDbgs/**

Request Time Out: **1800000** In milli seconds

Connection Time Out: **3600** In Seconds

Session Time Out: **1800** In Seconds

Max Image Size: **1048576** In Bytes

User Batch Time: **0** In Hours

Css Style: **Default**

Name: **Flexblue**

Language: **ENGLISH**

ISO Code: **en**

Application Title: **FLEXCUBE UBS**

Version: **12.5.0.0.0**

Copyrights: **Copyright © 2017, Oracle and/or its affiliates. All rights reserved.**

Exit Log Back Next

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.

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 Banking Trade Finance 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.

CSS style

Select Default or Custom from dropdown. By Default CSS Style name will be 'flexblue'.

Language

Select language from the dropdown.

Version and Copyright are other general properties.

Click on Next button, once all the property details are entered.

1.2.2 Single Sign on

Only 'OPSS Available' option will be enabled for Scheduler. Select the option if needed.

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer **ORACLE INSTALLER**

Property File Creation - Single Sign on

SSO Required ☐ SSO Type **DEFAULT**

SSO KEY **DN**

Authentication details maintained external to FLEXCUBE

External Password Required ☐ Authentication Type **MSAD**

External User Login Required ☐

☒ OPSS Available

Option to provide LDAP server details

No.	Name	Value
1	LDAP SERVER URL	LDAP://10.10.10.10:111
2	LDAP SSL ENABLED	<input type="checkbox"/>
3	SECURITY AUTHENTICATION TYPE	Simple
4	DOMAIN NAME	I-FLEX.COM
5	LDAP SERVER TIMEOUT	0

Option to provide SAML details

No.	Name	Value
1	SAML CERTIFICATE PATH	D:\Security\SAML_Implementation\TestFiles\certcertstore\b...
2	SAML CERTIFICATE PASSWORD	*****
3	SAML CERTIFICATE ALIAS	barc
4	SAML VALID AUDIENCE	bPAID_BWSIT

Exit Log Back Next

1.2.3 SMTPTS Details

SMPTS mail configuration is enabled for Scheduler.

Specify the below details:

Host: Specify the SMTP host name.

User ID: Specify the user ID.

User Password: Specify the user password.

JNDI Name: Specify the JNDI name.

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer

Property File Creation - SMTPS/Branch/DMS

Option for Mail configuring using SMTPS Protocol.

No.	Name	Value
1	Host	samplename.mail.com
2	User Id	infra
3	User Password	*****
4	JNDI Name	mail/FCUBSMail

Option for modifying the Branch properties.

No.	Name	Value
1	Date Separator	-
2	WorkFlow Frequency	6000
3	Compress Request	<input checked="" type="checkbox"/>

Option for modifying the DMS/IPM property values.

No.	Name	Value
1	Login Service Address	http://10.10.10.10:1010/imaging/ws/LoginService
2	Document Service Address	http://10.10.10.10:1010/imaging/ws/DocumentService
3	Document Content Service Address	http://10.10.10.10:1010/imaging/ws/DocumentContentService
4	IPM User Name	testuser
5	IPM Password	*****

Exit Log Back Next

1.2.4 Configuring Scheduler Queues

This section describes the method to configure scheduler Queues.

1. System displays the following screen:

Oracle Banking Installer

Property File Creation - Scheduler Queues

Option for configuring Scheduler Destination Queue

Notify Destination: **QUEUE**

Queue Name: **NOTIFY_DEST_QUEUE**

Queue Connection Factory: **NotifyDestQCF**

☐ Secure Caller ID:

Caller Password:

Notify Queue Location: **Internal**

Option for configuring Scheduler Deferred Queue

Notify Deferred Queue Name: **DEFERRED_DEST_QUEUE**

Deferred Queue Connection Factory: **DeferredDestQCF**

☐ Secure Caller ID:

Caller Password:

Option for configuring Scheduler Notify Internal Queue

Notify Queue Name: **NOTIFY_QUEUE**

Dead Letter Queue Name: **NOTIFY_QUEUE_DLQ**

Notify Queue Connection Factory: **NOTIFY_MDB_QCF**

☐ Secure Caller ID:

Caller Password:

Option for configuring Log Rotation Interval

Scheduler Log Rotation Interval: **WEEKLY**

Option for External Server configuration for Destination Queue.

No.	Name	Value
1	Provider URL	iiop://localhost:1010
2	Security Principal	*****
3	Security Credential	*****

Exit Log Back Next

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, the caller ID and caller password will be enabled.

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 'External' following details for the external queue will be enabled

Provider URL

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

1010 is the default IIOP port.

Application Server	EMS Out Initial Context Factory
Oracle WebLogic	t3://<ip_adress>:port For example: 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 For example: iiop://10.10.10.10:1010 Here, 1010 represents 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.

Click 'Next' to proceed with scheduler configuration.

Notify Deferred Queue Name

Set 'DEFERRED_DEST_QUEUE' as the notify differed 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, caller ID and caller password will be enabled.

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

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 notify internal Queue. If you check this box, caller ID and caller password will be enabled. Specify the caller ID and caller password for the secured notify queue connection factory.

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

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"/>
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
19	EMS Bulker Queue	BULKER_QUEUE

Specify the following details:

Incoming Dead Letter Queue Name

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

Incoming Backup Queue Name

Set 'EMS_QUEUE_BACK' as the incoming backup queue name.

Incoming Queue Connection Factory

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

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

Specify the URL of the outgoing queue.

Queue Principal

Specify the queue principal.

Queue Credential

Specify the queue credential.

Incoming Queue Name

Specify the incoming queue name.

Outgoing Queue Name

Specify the outgoing queue name.

SFMS Incoming Queue

Specify the SFMS Incoming Queue.

RTGS Incoming Queue

Specify the RTGS incoming Queue.

EMS Bulker Queue

Specify the EMS Bulker Queue.

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

1.2.5 Setting EMS FTP/FTPS Properties

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer

Property file Creation - EMS FTP/FTPS
Option for Scheduler EMS FTP/FTPS configuring.

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

Option for EMS -Structured Financial Messaging System configuration

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

Exit Log Back Next

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

Select check box if needed.

SWIFT Message Terminator

Select check box if needed.

Media

Specify the Media

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.

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

1.2.6 Setting BIP/GI Upload Queue

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:

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer **ORACLE INSTALLER**

Property File Creation - Scheduler BIP/GI Upload Queue

Option for configuring Scheduler BIP and BIP Advice report.

Bip Queue Name: INTERNAL_BIPREPORT_QUEUE

Bip DeadLetter Queue Name: INTERNAL_BIP_QUEUE_DLQ

BipAdvice Queue Name: ERNAL_BIPADVREPORT_QUEUE

BipAdvice DeadLetter Queue Name: RNAL_BIP_ADVICE_QUEUE_DLQ

Queue connection factory: BIPQCF

☐ Secure Caller ID:

Caller password:

Option for configuring details for Scheduler GI Upload Queue

Queue Name: INTERNAL_GI_UPLOAD_QUEUE

Dead Letter Queue Name: INTERNAL_GI_UPLOAD_DLQ

Queue connection factory: GI_UPLOAD_QCF

☐ Secure Caller ID:

Caller Password:

Exit Log Back Next

Specify the following details

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. The caller ID and caller password will be enabled.

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

Enter these values for GI Upload Queue.

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. The caller ID and caller password as shown in the following screen:

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

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

1.2.7 Setting Report Properties

This section describes the methods to set report properties.

1. System displays the following screen:

Oracle FLEXCUBE Universal Installer

Oracle Banking Installer

ORACLE
INSTALLER

Property File Creation - Reports

Option for modifying the Oracle BI Publisher properties.

No.	Name	Value
1	Server End Point	http://10.10.10.10:0101/xmlpserver/services/v2/ReportService?wsdl
2	Name Space	http://xmlns.oracle.com/oxp/service/PublicReportService
3	User Name	Administrator
4	Password	*****
5	Reports Advice Spool Path	/ReportsSpool
6	Advice Type	NATIVE
7	BIP Server Version	12c
8	BIP Time Zone	IST

Option for modifying the OBIEE and other property values

OBIEE ENABLED:

OBIEE URL:

OBIEE FOLDER:

OBIEE SIGNOUT URL:

Exit Log Back Next

Specify the following details:

Server End Point

Specify the BIP end point.

. http://whf00blq:9502/xmlpserver/services/v2/ReportService?wsdl

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. By default, the Installer displays /ReportsSpool

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. Example : 12c

BIP Time Zone

Specify the time zone of the BIP server.

Specify the following details:

Factory Initial

Specify the factory initial.

Provider URL

Specify the URL of the server. Enter the IP address, target server port (AdminServer/ManagedServer) and the context root.

Security Principal

Specify the user name to access the application server where BPEL is installed.

Security Credential

Specify the password for the above user name.

Soa Partition Name

Specify the Soa Server Name. By default it will be the Installer sets it to 'default'.

Domain Password

Specify the domain password for which SOA server is extended

Dedicated Connection

Check this box to indicate that this connection is not used for other purposes.

BPEL Realm Name

Specify the BPEL realm name.

BAM URI

Specify the BAM URI.

BPM Installed

Check this box if the BPM is installed.

BI User

Specify the BI user.

BI Password

Specify the password for BI user.

External Alerts Required

Check this box to enable External Alerts Required.

Enabling Load Balance

Check this box to enable BPEL load balance.

Frequency

Specify the balance load frequency.

Task Counts

Specify the balance load task count.

Cut-off Time

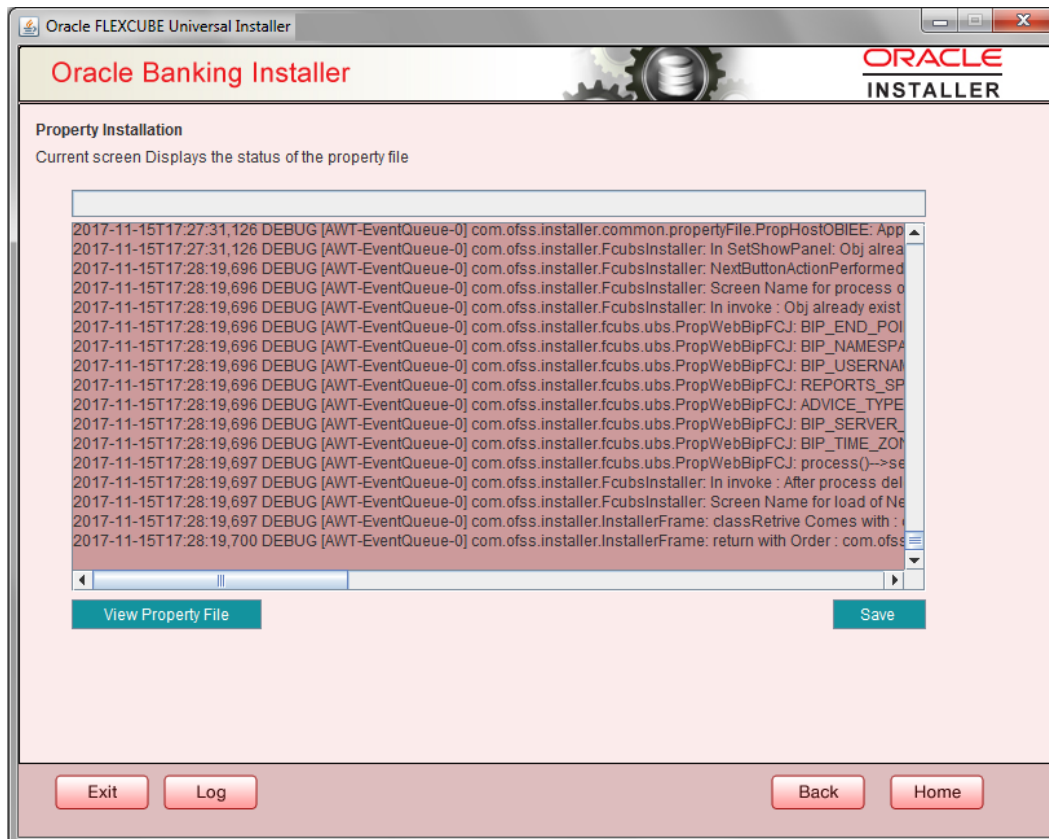
Specify the balance load cut-off time.

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

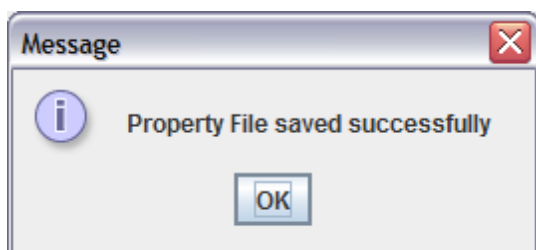
1.2.8 Saving Property File

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

1. Save the property file.

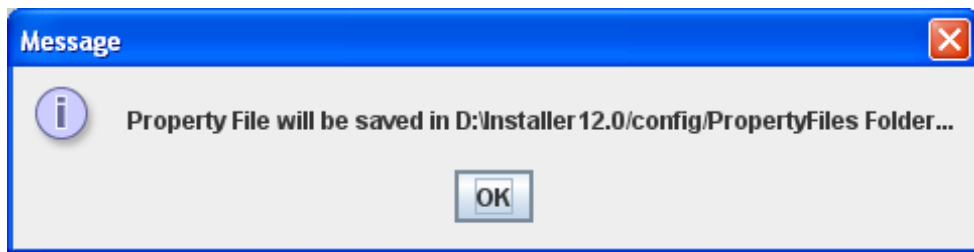


2. You can view the status of property file creation in the above screen. Once the file is saved, the installer displays the following message:



Two property files: fcubs.properties and scheduler.properties are saved.

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



This completes the properties file creation.



Standalone Scheduler Property File Creation

[May] [2023]

Version 14.7.1.0.0

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], [2023], Oracle and/or its affiliates. All rights reserved.

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

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate 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.