Gateway Property File Creation
Oracle Banking Payments
Release 14.5.0.0.0
[May] [2021]





Table of Contents

1. Creating Property File for Gateway Applications		
	Introduction	
	Creating Property Files	
1.2.1		
1.2.2		
1.2.3		
124	Gateway Web Service Application	34



1. Creating Property File for Gateway Applications

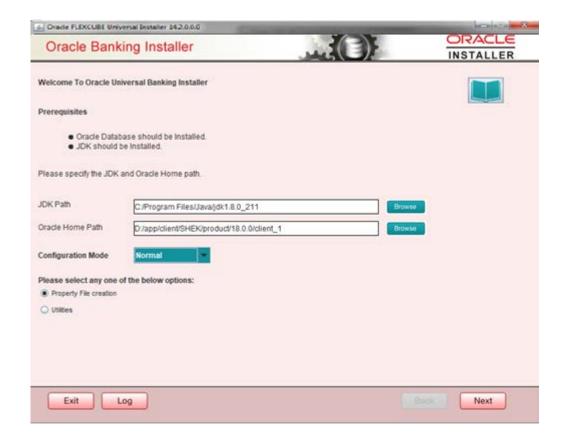
1.1 Introduction

This chapter explains the steps to create the property file for the gateway components viz. Enterprise Java Bean (EJB), Message Driven Beans (MDB) and Web Services and Servlet.

1.2 Creating Property Files

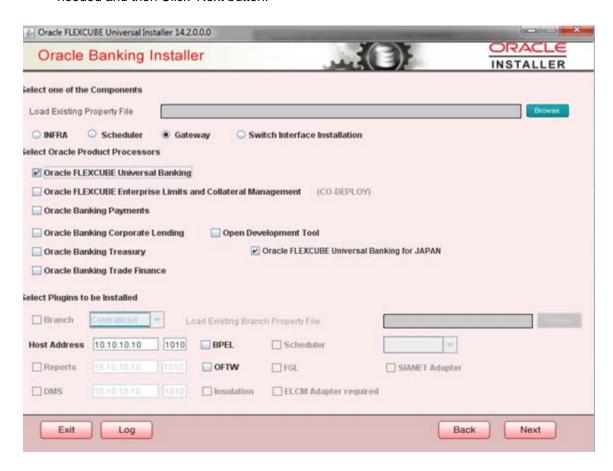
Follow the steps given below:

1. Start Oracle FLEXCUBE Universal Banking Solutions Installer - FCUBSInstaller.bat from INSTALLER\SOFT\GUI. Prerequisites screen is displayed





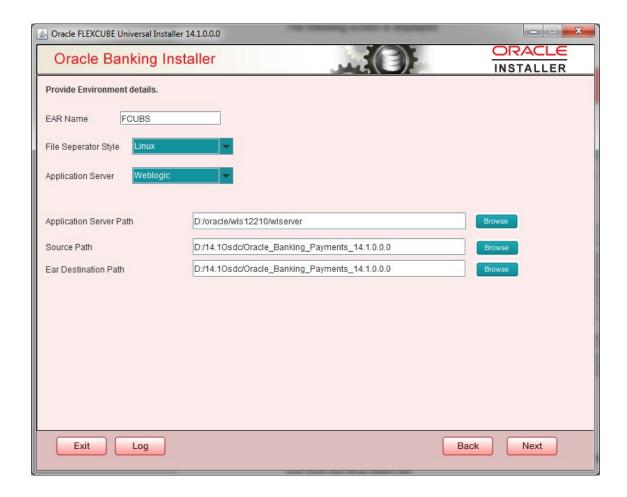
 Select component as 'Gateway'.
 OFTW plugin (Oracle FLEXCUBE Testing WorkBench) can be checked if needed and then Click 'Next button.



3. Enter the Required details in the Screen.

Specify the EAR name, valid Application Server Path, Source and EAR destination path and click 'Next' button.





1.2.1 Gateway EJB Application

1. Select 'Gateway EJB' as the application type as shown in the below Screen.

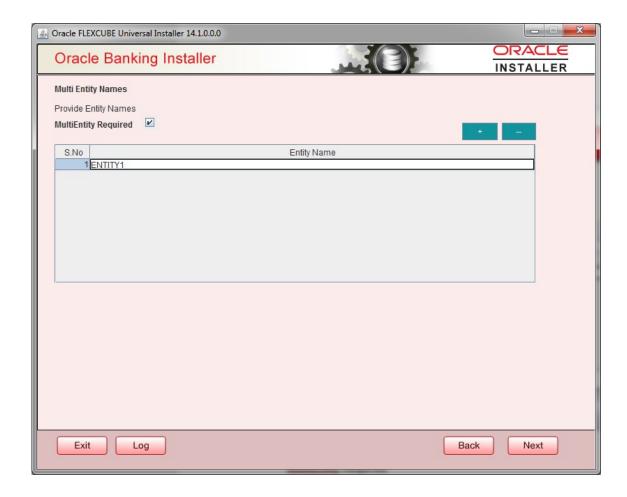






1. Click 'Next'. The following screen is displayed: The installer displays the 'Multi Entity' screen.





MultiEntity Required

Select the multi entity check box for enabling the multi entity deployment.

After selected the multi entity option '+', '-'buttons will be enabling for capturing the entity Name

+ Button:

New row will be added for capturing new entity name.

- Button:

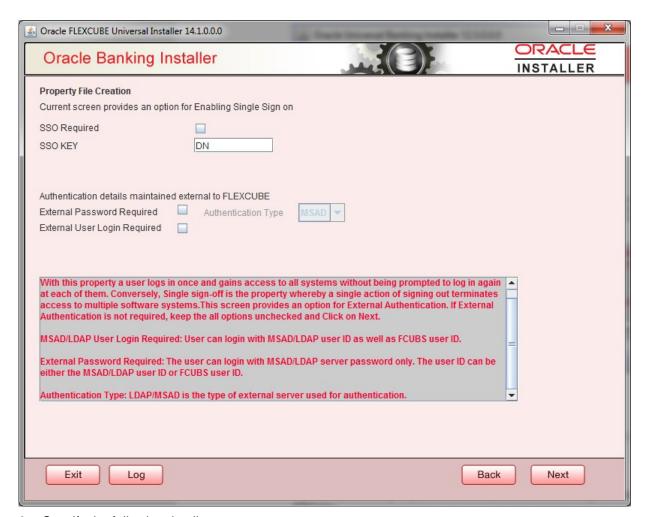
Select the entity name and click - button, will be deletion of existing entity name

Entity Name:

Enter the entity name as single word For example: ENTITY1



2. Click 'Next'. The following screen is displayed:



3. Specify the following details.

SSO Required

Check this box to enable single sign-on (SSO). If you check this box, you need to specify the SSO Key.

SSO Key

Specify the SSO key. If you have checked the box 'SSO Required', it is mandatory to specify the SSO key.

If you have checked the box 'SSO Required', then the Installer will skip the following two screens and will directly navigate to the SSL screen shown below in this manual.

If you have not checked the box 'SSO Required', then click 'Next'. The following screen is displayed.

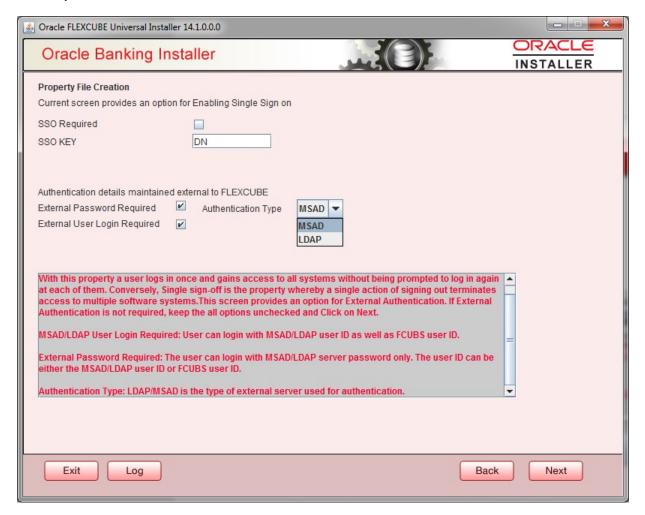


1. External User Login Required

Check this box to enable user login using MSAD/LDAP user Id.



If you check this box, the user can login with MSAD/LDAP server user Id as well as Payments user Id. If you do not check this box, the user can login using Payments user Id only.



External Password Required

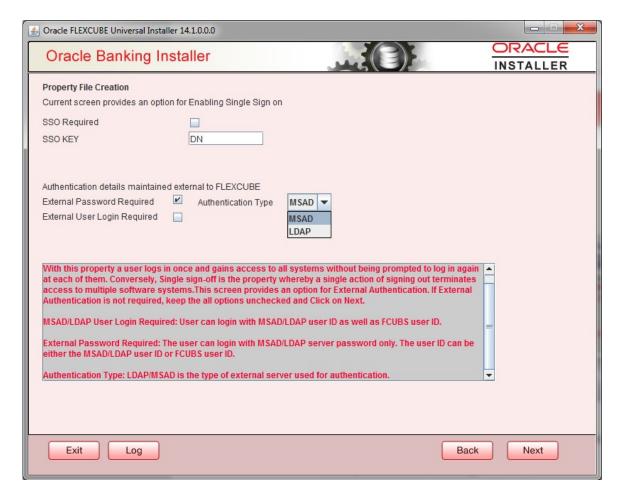
Check this box to allow user login using MSAD/LDAP password irrespective of the user Id.

If you check this box, the user can login using MSAD/LDAP server password only. The user Id can be one of the following:

- MSAD/LDAP user Id
- Payments user Id

If you do not check this box, then the installer skips the following screen and directly navigates to the Modifying Gateway Properties screen.





Authentication Type

Select the authentication type. This is the type of external server that is used. You can select one of the following options:

- MSAD (Microsoft Active Directory)
- LDAP (Lightweight Directory Access Protocol)

The default option is MSAD; however, you can change it

9. If you check the box, then the installer navigates to the following screen on clicking 'Next' button.





10. Specify the following LDAP server details.

LDAP Server URL

Specify the URL to access the LDAP server where the external user ID and password are maintained.

LDAP SSL Enabled

Check this box if the LDAP server is SSL enabled. If you check this box, then you need to specify the SSL port also in the field LDAP SERVER URL.

By default, this check box is unchecked. However, you can change this.

Security Authentication Type

Depending on the authentication mechanism supported by the LDAP server, select one of the following:

- Simple
- Strong





Note the following:

- Different servers support different authentication mechanisms.
- By default, the security authentication type is 'Simple'; however, you can change this.

Domain Name

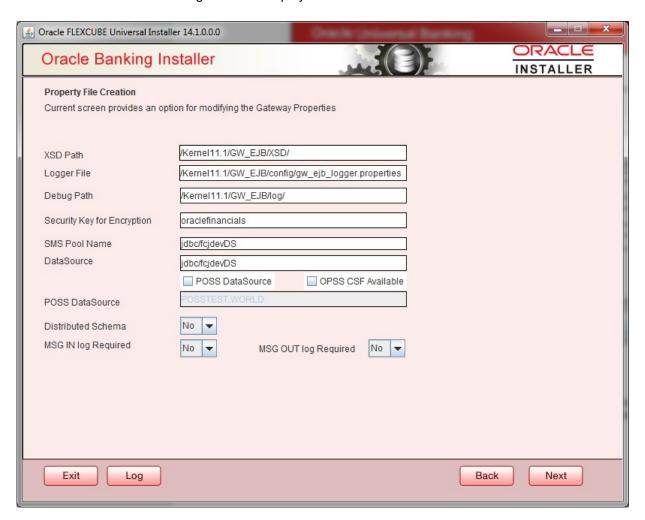
Specify the domain name.

LDAP Server Timeout

Specify the LDAP server timeout in milliseconds. This must be a positive integer value. For example you can specify 1000, 10000 or 5000. If it is zero or less, it indicates that no read timeout is specified. Then the wait for the response infinite until it is received.

By default, the LDAP server timeout is zero; however, you can change this.

11. Click 'Next'. The following screen is displayed:





12. Specify the following details.

XSD Path

Specify the path to the XSD file. File name is not required. File separator must be '/'. There must be a '/' at the end. All the relevant XSD files must be manually copied to this location.

E.g.:

For Windows: D:\Kernel11.1\GW_EJB\XSD\ For Linux: /Kernel11.1/GW_EJB/XSD/

Logger File

Specify the path to the 'gw_ejb_logger.properties' file with the file name. The file must be manually copied to the specified location.

E.g.:

For windows: D:\Kernel11.1\GW_EJB\config\gw_ejb_logger.properties For Linux:

/Kernel11.1/GW_EJB/config/gw_ejb_logger.properties

Debug Path

Specify the path to the folder where the application creates the logs. There must be a '/' at the end. You need to manually create the specified folder structure.

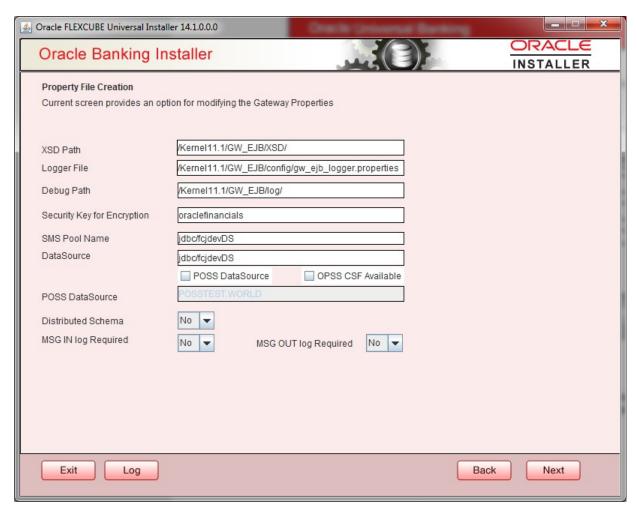
E.g.:

For windows: D:\Kernel11.1\GW_EJB\log\ For Linux: /Kernel11.1/GW_EJB/log/

13. Click 'Next'.

The Installer creates two files viz. 'gw_ejb_logger.properties' and 'GW_EJB_Prop.propeties' in the path provided to save the files.





14. Specify the following details:

DataSource

The JDBC data source is an object bound to JNDI tree and provides database connectivity through a pool of JDBC connections.

POSS Datasource

Check this box if POSS is required. If you check this box, you need to specify the POSS Datasource Name in the field below this.

OPSS Available

Indicate whether OPSS-CSF is installed or not.

Ease choose this only if Oracle Platform Security Services - Credential Store Framework (CSF) is installed as per the guidelines in the pre-requisite document. It is recommended that you install CSF for safeguarding application specific security credentials.



Distributed Schema

If the schema is distributed, select 'Yes'.

If the schema is not distributed, select 'No'.

Security Key for Encryption

Specify the security key for the Encription, here in this case it is 'Oraclefinancial solutions'.

RTT plugin Required

Chose the check box if rtt plugin is required

MSG IN LOG Required

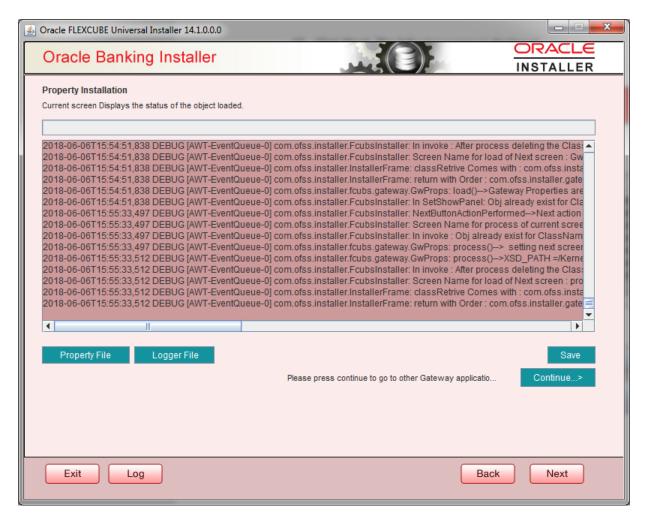
Choose Yes/No from drop down box

MSG OUT LOG Required

Choose Yes/No from drop down box

15. Click 'Next'. The following screen is displayed.





The property file will be created in a temporary folder.

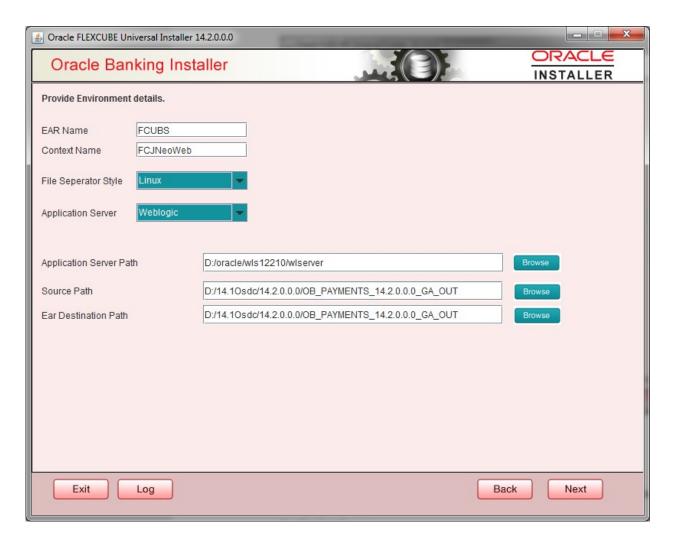
- 16. Click 'Property File' to view the created property file.
- 17. Click 'Save' to the save the created property file in desire location.
- 18. Click 'Continue' to continue the installation process with gateway application type.
- 19. Click 'Next' to navigate to the installer home screen.

1.2.2 Gateway MDB Application

Follow the steps given below:

 Start Oracle Universal Banking Solution Installer. Select 'Gateway' and click 'Next'. Following screen is displayed.





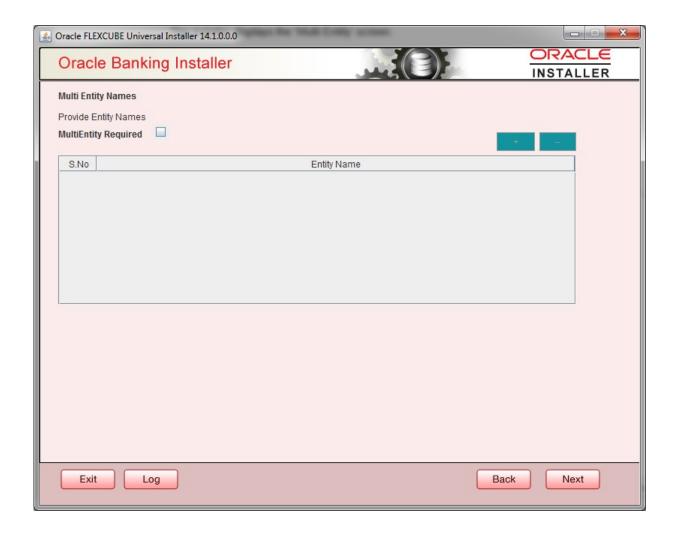
2. Enter the Required details in the Screen. Specify the EAR name, valid Application Server Path, Source and EAR destination path and click 'Next' button





- 3. Select 'Gateway MDB' to create configuration files for the application.
- 4. Click 'Next'. The following screen is displayed: The installer displays the 'Multi Entity' screen.





MultiEntity Required

Select the multi entity check box for enabling the multi entity deployment.

After selected the multi entity option '+', '-'buttons will be enabling for capturing the entity Name

+ Button:

New row will be added for capturing new entity name.

- Button:

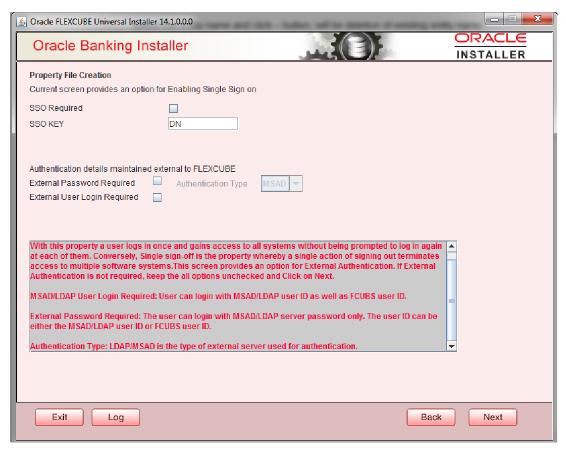
Select the entity name and click - button, will be deletion of existing entity name

Entity Name:

Enter the entity name as single word For example: ENTITY1

5. Click 'Next'. The following screen is displayed:





6. Specify the following details.

SSO Required

Check this box to enable single sign-on (SSO). If you check this box, you need to specifythe SSO Key.

SSO Key

Specify the SSO key. If you have checked the box 'SSO Required', it is mandatory to specify the SSO key.

If you have checked the box 'SSO Required', then the Installer will skip the following two screens and will directly navigate to the Modifying the Gateway properties Screen.

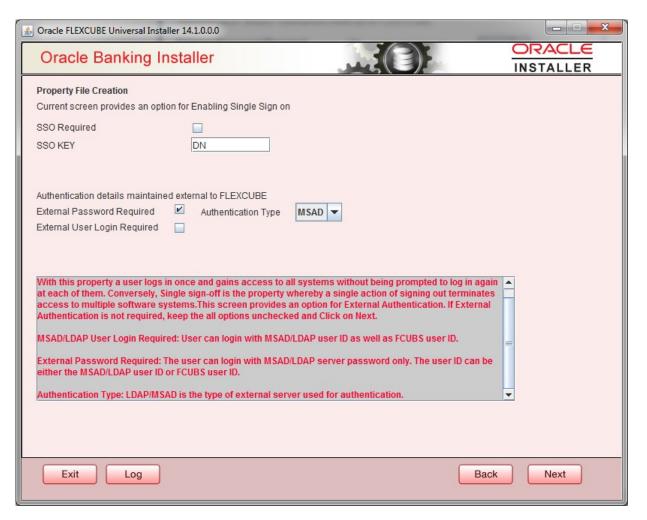
External Password Required

Check this box to allow the user-login using MSAD/LDAP password irrespective of the user ID. If you check this box, the user ID can be either the MSAD/LDAP user ID or the Payments user ID. And the password can be MSAD/LDAP server password only.

By default, this check box is unchecked. However, you can change this.

If you do not check this box, the installer skips the following screen and directly navigates you to the Modifying the Gateway Properties Screen.



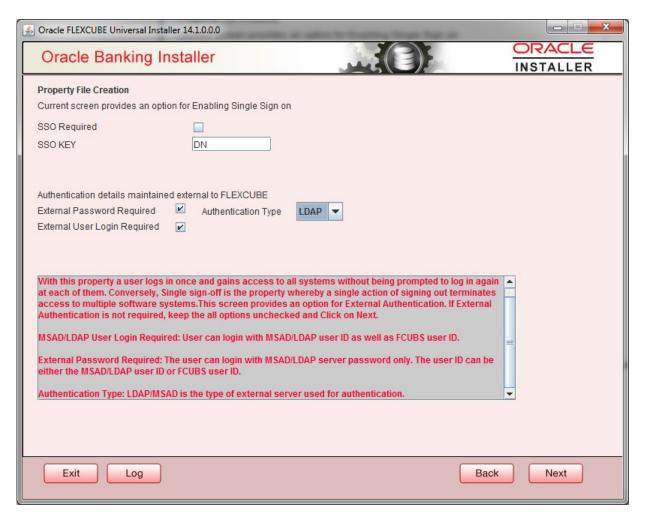


External User Login Required

Check this box to enable user login using MSAD/LDAP user ID. If you check this box, the user can login using MSAD/LDAP server user ID as well as using Payments user ID. If you do not check this, the user can login using Payments user ID only.

By default, this check box is unchecked. However, you can change this.







The field 'Authentication Type' is enabled if one of the above check boxes is checked:

Authentication Type

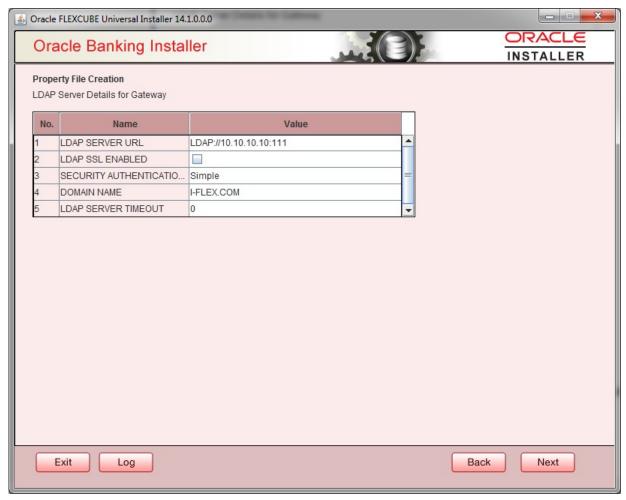
Select the authentication type from the adjoining drop-down list. This is the type of external server that is used. You can select one of the following options:

- MSAD (Microsoft Active Directory)
- LDAP (Lightweight Directory Access Protocol)

By default, 'MSAD' is selected; however, you can change it.

7. Click 'Next'. The following screen is displayed.





8. Specify the following LDAP server details.

LDAP Server URL

Specify the URL to access the LDAP server where the external user ID and password are maintained.

LDAP SSL Enabled

Check this box if the LDAP server is SSL enabled. If you check this box, then you need to specify the SSL port also in the field LDAP SERVER URL.

By default, this check box is unchecked. However, you can change this.

Security Authentication Type

Depending on the authentication mechanism supported by the LDAP server, select one of the following:

- Simple
- Strong





Note the following::

- Different servers support different authentication mechanisms.
- By default, the security authentication type is 'Simple'; however, you can change this.

Domain Name

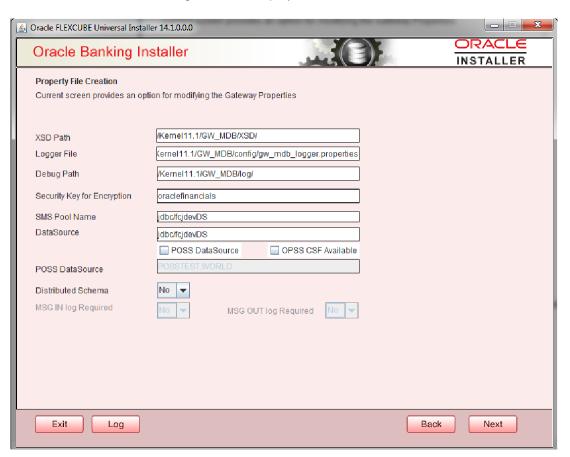
Specify the domain name.

LDAP Server Timeout

Specify the LDAP server timeout in milliseconds. This must be a positive integer value. For example you can specify 1000, 10000 or 5000. If it is zero or less, it indicates that no read timeout is specified. Then the wait for the response infinite until it is received.

By default, the LDAP server timeout is zero; however, you can change this.

9. Click 'Next'. The following screen is displayed:



12. Specify the following details.

XSD Path

Specify the path to the XSD file. File name is not required. File separator must be '/'. There must be a '/' at the end. All the relevant XSD files must be manually copied to this location.



E.g.:

For Windows: D:\Kernel11.1\GW_MDB\XSD\

For Linux: /Kernel11.1/GW_MDB/XSD/

Logger File

Specify the path to the 'gw_ejb_logger.properties' file with the file name. The file must be manually copied to the specified location.

E.g.: For windows: D:\Kernel11.1\GW_MDB\config\gw_mdb_logger.properties For Linux: /Kernel11.1/GW_MDB/config/gw_mdb_logger.properties

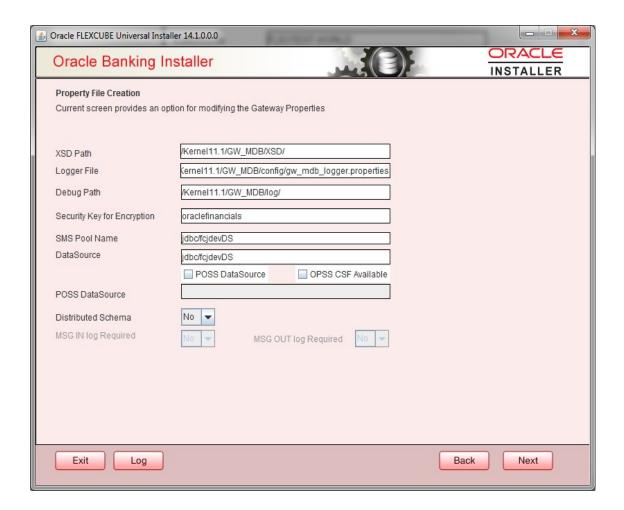
Debug Path

Specify the path to the folder where the application creates the logs. There must be a '/' at the end. You need to manually create the folder structure.

E.g.: For windows: D:\Kernel11.1\GW_MDB\log\
For Linux: /Kernel11.1/GW_MDB/log/
Click 'Next'.

The Installer creates two files viz. 'gw_ejb_logger.properties' and 'GW_EJB_Prop.properties' in the path provided to save the files.





13. Specify the following details:

DataSource

The JDBC data source is an object bound to JNDI tree and provides database connectivity through a pool of JDBC connections.

POSS Datasource

Check this box if POSS is required. If you check this box, you need to specify the POSS Datasource Name in the field below this.

OPSS Available

Indicate whether OPSS-CSF is installed or not.

Please choose this only if Oracle Platform Security Services - Credential Store Framework (CSF) is installed as per the guidelines in the pre-requisite document. It is recommended that you install CSF for safeguarding application specific security credentials.

Distributed Schema



If the schema is distributed, select 'Yes'.

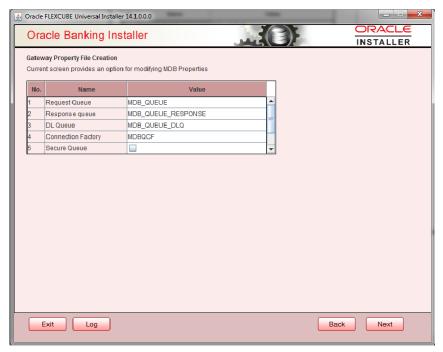
If the schema is not distributed, select 'No'.

The Installer creates two files viz. 'gw_ejb_logger.properties' and 'GW_EJB_Prop.properties' in the path provided to save the files.

Security Key for Encryption

Specify the security key for the Encription, here in this case it is 'Oraclefinancial solutions'.

Click 'Next'. The following screen is displayed.



15. Specify the following details:

Connection Factory

Specify the connection configuration parameters to create connections for JMS clients.

E.g.: MDBQCF.

Request Queue

Specify the request queue. This is the point-to-point destination type used for asynchronous peer communication.

E.g.: MDB_QUEUE

Response Queue

Specify the response queue name. E.g.: MDB_QUEUE_RESPONSE



DL Queue

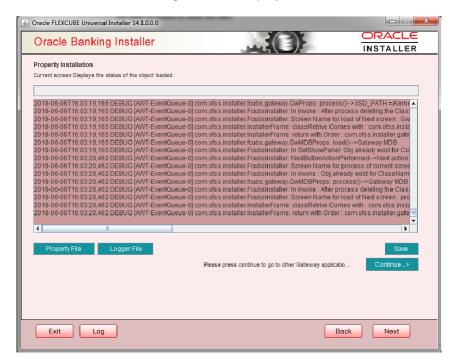
Specify the dead letter queue name. E.g.: MDB QUEUE DLQ

Secure Queue

Check this box if the Caller ID and Caller Password values have to be entered.

The Installer creates two files viz. 'gw_mdb_logger.properties' and 'GW_MDB_Prop.properties' in the path provided to save the files.

Click 'Next'. The following screen is displayed.



The property file will be created in a temporary folder.

- 16. Click 'Property File' to view the created property file.
- 17. Click 'Save' to the save the created property file in desire location.
- 18. Click 'Continue' to continue the installation process with gateway application type.
- 19. Click 'Next' to navigate to the installer home screen.

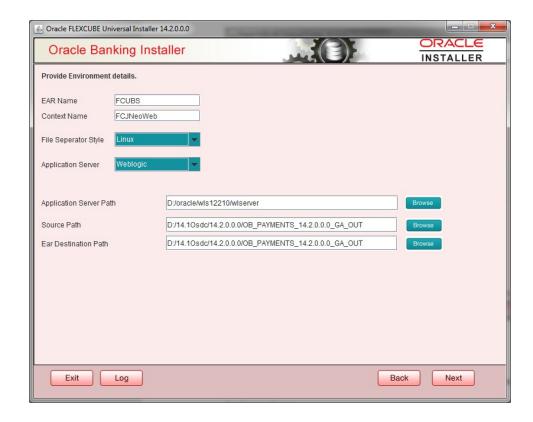
1.2.3 Gateway HTTP Servlet Application

Follow the steps given below:

 Start Oracle Universal Banking Solution Installer. Select 'Gateway' and click 'Next'.

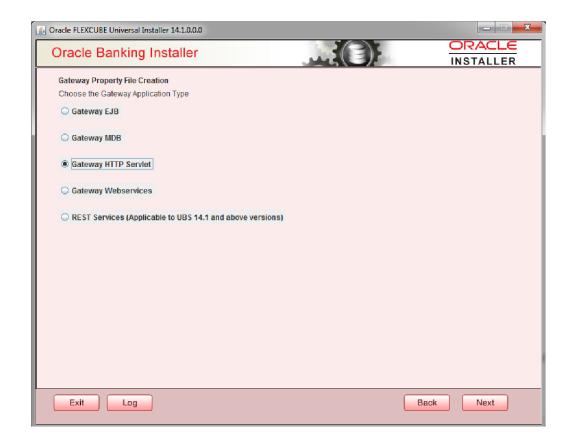
Following screen is displayed.





- 2. Specify the EAR name, valid Application Server Path, Source and EAR destination path and click 'Next' button..
- 3. Select 'Gateway Http Servlet' to create configuration files for the application, and click 'Next'.





4. Click 'Next'. The following screen is displayed: The installer displays the 'Multi Entity' screen.





MultiEntity Required

Select the multi entity check box for enabling the multi entity deployment.

After selected the multi entity option '+', '-'buttons will be enabling for capturing the entity Name

+ Button:

New row will be added for capturing new entity name.

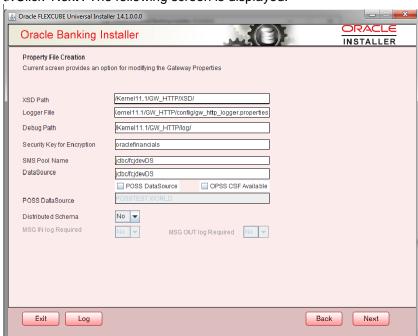
- Button:

Select the entity name and click - button, will be deletion of existing entity name

Entity Name:

Enter the entity name as single word For example: ENTITY1

5. Click 'Next'. The following screen is displayed:



6. Specify the following details.



XSD Path

Specify the path to the XSD file. File name is not required. File separator must be '/'. There must be a '/' at the end. All the relevant XSD files must be manually copied to this location.

E.g.:

For Windows: D:\Kernel11.1\GW_HTTP\XSD\ For Linux:

/Kernel11.1/GW_HTTP/XSD/

Logger File

Specify the path to the 'gw_ejb_logger.properties' file with the file name. The file must be manually copied to the specified location.

E.g.:

For windows: D:\Kernel11.1\GW_HTTP\config\gw_http_logger.properties For Linux: /Kernel11.1/GW_HTTP/config/gw_http_logger.properties

Debug Path

Specify the path to the folder where the application creates the logs. There must be a '/' at the end. You need to manually create the folder structure.

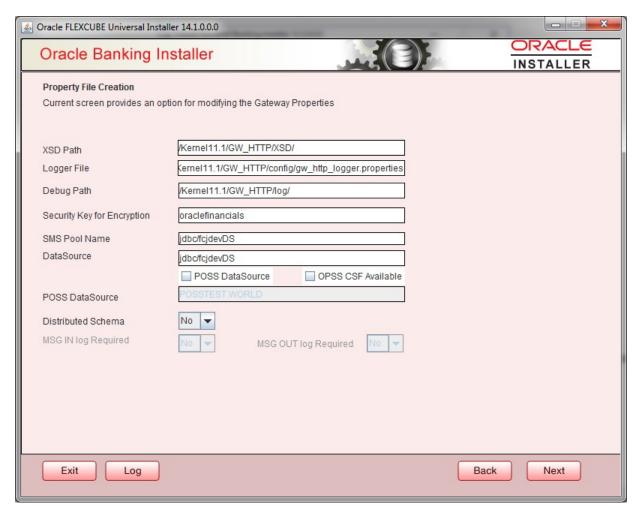
E.g.:

For windows: D:\Kernel11.1\GW_HTTP\log\
For Linux: /Kernel11.1/GW_HTTP/log/

7. Click 'Next'.

The Installer creates two files viz. 'gw_http_logger.properties' and 'GW_HTTP_Prop.properties' in the path provided to save the files.





8. Specify the following details:

DataSource

The JDBC data source is an object bound to JNDI tree and provides database connectivity through a pool of JDBC connections.

POSS Datasource

Check this box if POSS is required. If you check this box, you need to specify the POSS Datasource Name in the field below this.

OPSS Available

Indicate whether OPSS-CSF is installed or not.

Please choose this only if Oracle Platform Security Services - Credential Store Framework (CSF) is installed as per the guidelines in the pre-requisite document. It is recommended that you install CSF for safeguarding application specific security credentials.

Distributed Schema



If the schema is distributed, select 'Yes'.

If the schema is not distributed, select 'No'.

The Installer creates two files viz. 'gw_ejb_logger.properties' and 'GW_EJB_Prop.properties' in the path provided to save the files.

Security Key for Encryption

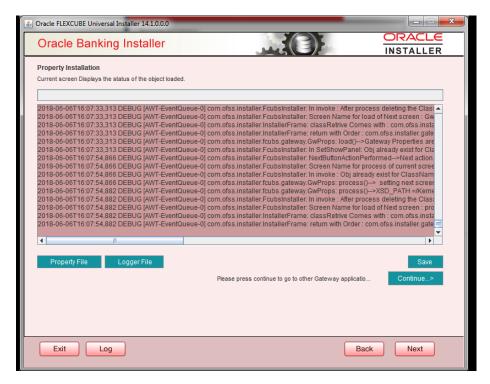
Specify the security key for the Encription, here in this case it is 'Oraclefinancial solutions'.

RTT plugin Required

Chose the check box if rtt plugin is required

The Installer creates two files viz. 'gw_http_logger.properties' and 'GW_HTTP_Prop.properties' in the path provided to save the files.

Click 'Next'. The following screen is displayed.



The property file will be created in a temporary folder.

- 9. Click 'Property File' to view the created property file.
- 10. Click 'Save' to the save the created property file in desire location.
- 11. Click 'Continue' to continue the installation process with gateway application type.
- 12. Click 'Next' to navigate to the installer home screen.

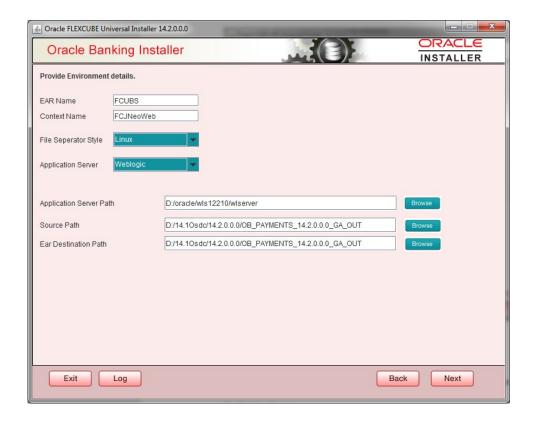


The property file will be created in the specified folder.

1.2.4 Gateway Web Service Application

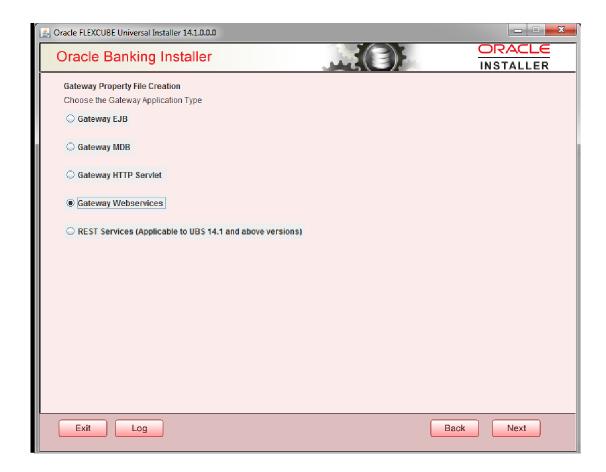
Follow the steps given below:

 Start Oracle Universal Banking Solution Installer. Select 'Gateway' and click 'Next'.



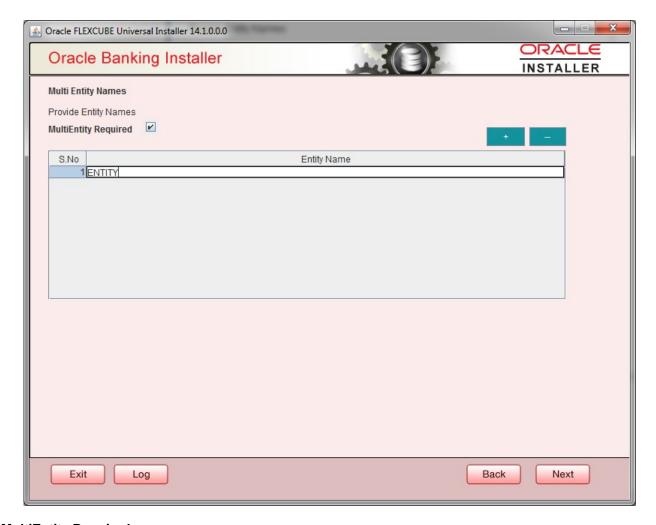
- 2. Specify the EAR name, valid Application Server Path, Source and EAR destination path and click 'Next' button.
- 3. Select 'Gateway WebServices' to create configuration files for the application. Click 'Next'. The following screen is displayed.





4. Click 'Next'. The following screen is displayed: The installer displays the 'Multi Entity' screen.





MultiEntity Required

Select the multi entity check box for enabling the multi entity deployment.

After selected the multi entity option '+', '-'buttons will be enabling for capturing the entity Name

+ Button:

New row will be added for capturing new entity name.

- Button:

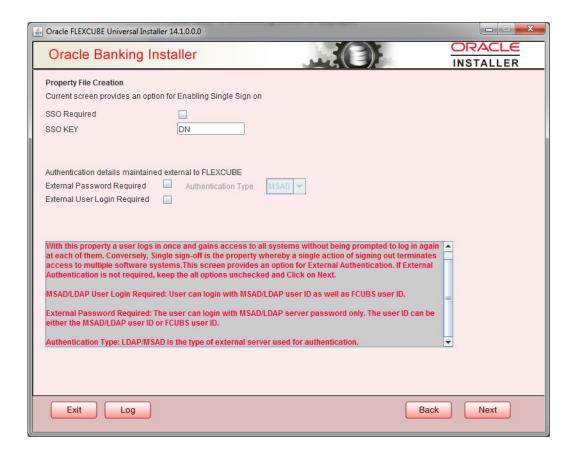
Select the entity name and click - button, will be deletion of existing entity name

Entity Name:

Enter the entity name as single word For example: ENTITY1

5. Click 'Next'. The following screen is displayed:





6. Specify the following details.

SSO Required

Check this box to enable single sign-on (SSO). If you check this box, you need to specifythe SSO Key.

SSO Key

Specify the SSO key. If you have checked the box 'SSO Required', it is mandatory to specifythe SSO key.

If you have checked the box 'SSO Required', then the Installer will skip the following two screens and will directly navigate to the SSL screen shown below in this manual.

If you have not checked the box 'SSO Required', then click 'Next'. The following screen is displayed.

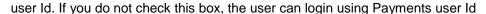
1. External User Login Required

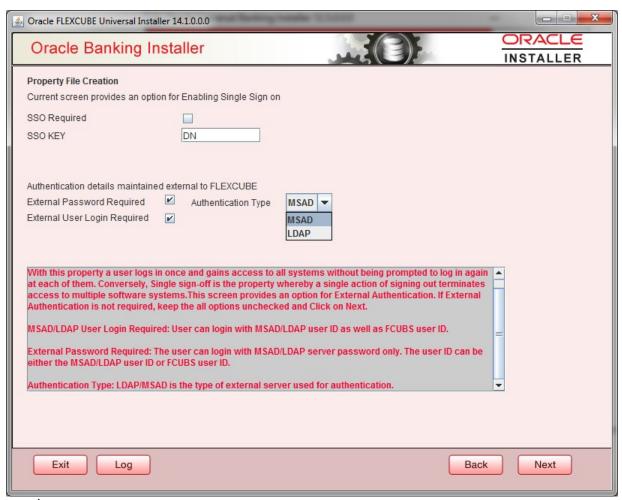
Check this box to enable user login using MSAD/LDAP user Id.



If you check this box, the user can login with MSAD/LDAP server user Id as well as Payments







only.

External Password Required

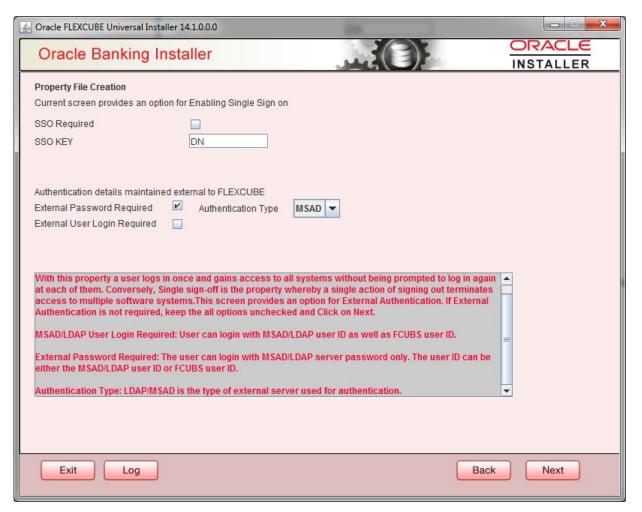
Check this box to allow user login using MSAD/LDAP password irrespective of the user Id.

If you check this box, the user can login using MSAD/LDAP server password only. The user Id can be one of the following:

- MSAD/LDAP user Id
- Payments user Id

If you do not check this box, then the installer skips the following screen and directly navigates to the Modifying Gateway Properties screen.





Authentication Type

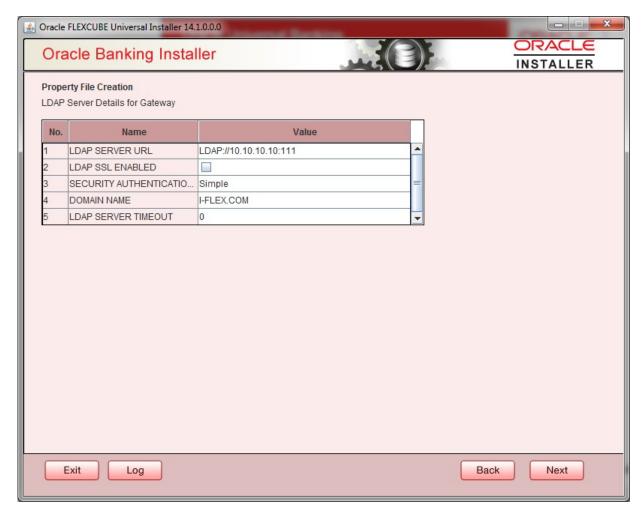
Select the authentication type. This is the type of external server that is used. You can select one of the following options:

- MSAD (Microsoft Active Directory)
- LDAP (Lightweight Directory Access Protocol)

The default option is MSAD; however, you can change it

3. If you check the box, then the installer navigates to the following screen on clicking 'Next' button.





4. Specify the following LDAP server details.

LDAP Server URL

Specify the URL to access the LDAP server where the external user ID and password are maintained.

LDAP SSL Enabled

Check this box if the LDAP server is SSL enabled. If you check this box, then you need to specify the SSL port also in the field LDAP SERVER URL.

By default, this check box is unchecked. However, you can change this.

Security Authentication Type

Depending on the authentication mechanism supported by the LDAP server, select one of the following:

- Simple
- Strong



Note the following:



- Different servers support different authentication mechanisms.
- By default, the security authentication type is 'Simple'; however, you can change this.

Domain Name

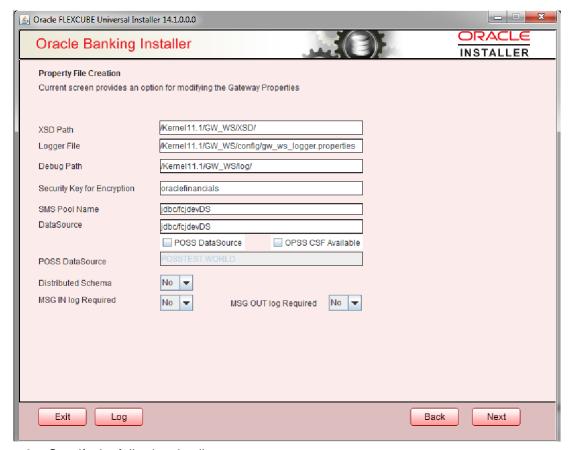
Specify the domain name.

LDAP Server Timeout

Specify the LDAP server timeout in milliseconds. This must be a positive integer value. For example you can specify 1000, 10000 or 5000. If it is zero or less, it indicates that no read timeout is specified. Then the wait for the response infinite until it is received.

By default, the LDAP server timeout is zero; however, you can change this.

5. Click 'Next'. The following screen is displayed:



6. Specify the following details.

XSD Path

Specify the path to the XSD file. File name is not required. File separator must be '/'. There must be a '/' at the end. All the relevant XSD files must be manually copied to this location.



E.g.:

For Windows: D:\Kernel11.1\GW_WS\XSD\ For Linux: /Kernel11.1/GW_WS/XSD/

Logger File

Specify the path to the 'gw_ejb_logger.properties' file with the file name. The file must be manually copied to the specified location.

E.g.:

For windows: D:\Kernel11.1\GW_WS\config\gw_ws_logger.properties For Linux:

/Kernel11.1/GW WS/config/gw ws logger.properties

Debug Path

Specify the path to the folder where the application creates the logs. There must be a '/' at the end. You need to manually create the folder structure.

E.g.:

For windows: D:\Kernel11.1\GW_WS\log\ For Linux: /Kernel11.1/GW_WS/log/

7. Click 'Next'.

The Installer creates two files viz. 'gw_ws_logger.properties' and 'GW_WS_Prop.properties' in the path provided to save the files.

DataSource

The JDBC data source is an object bound to JNDI tree and provides database connectivity through a pool of JDBC connections.

POSS Datasource

Check this box if POSS is required. If you check this box, you need to specify the POSS Datasource Name in the field below this.

OPSS Available

Indicate whether OPSS-CSF is installed or not.

Please choose this only if Oracle Platform Security Services - Credential Store Framework (CSF) is installed as per the guidelines in the pre-requisite document. It is recommended that you install CSF for safeguarding application specific security credentials.

Distributed Schema

If the schema is distributed, select 'Yes'.

If the schema is not distributed, select 'No'.



Security Key for Encryption

Specify the security key for the Encription, here in this case it is 'Oraclefinancial solutions'.

RTT plugin Required

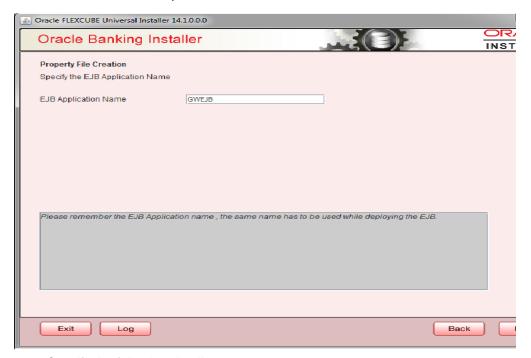
Chose the check box if rtt plugin is required

MSG IN LOG Required

Choose Yes/No from drop down box

MSG OUT LOG Required

Choose Yes/No from drop down box



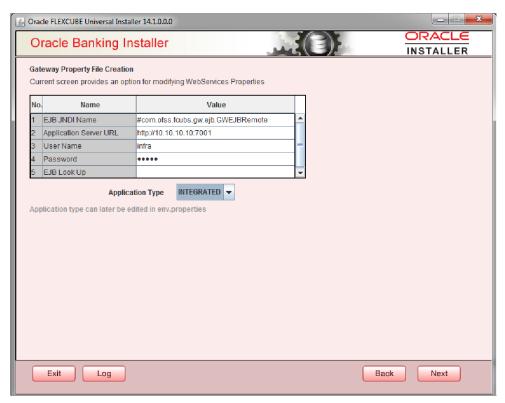
14. Specify the following details:

EJB Application Name

Specify the name of the EJB application deployed. E.g.: GWEJB

14. Click 'Next'. The following screen is displayed





16. Specify the following details:

EJB JNDI Name

If you build the EJB application with GWEJB name, this should be the name with which the EJB EAR file is built.

If you select EJB Call Type as REMOTE, this should be '<EJB_APPLICATION_NAME>#com.ofss.fcubs.gw.ejb.GWEJBRemote.

E.g.: Weblogic/Websphere: GWEJB #com.ofss.fcubs.gw.ejb.GWEJBRemote

If you build the EJB application with GWEJB name, this should be the name the EJB EAR file which is built.

Application Server URL

Specify the URL of the application server where the webservice application is hosted. E.g.:

<u>Weblogic:</u> <u>t3://10.10.10.10:7001</u> Or <u>Websphere:</u>

iiop://10.10.10.10:2815

User Name

Specify the user name to access the application server where the EJB application

is deployed. E.g.: infra

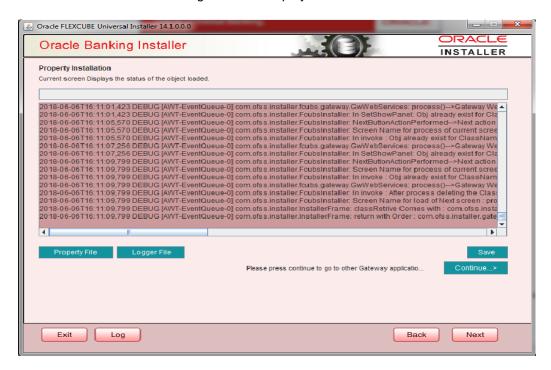
Password

17. Specify the password for the above user name.



The Installer creates two files viz. 'gw_WS_logger.properties' and 'GW_WS_Prop.properties' in the path provided to save the files.

Click 'Next'. The following screen is displayed.



The property file will be created in a temporary folder.

- 19. Click 'Property File' to view the created property file.
- 20. Click 'Save' to the save the created property file in desire location.
- 21. Click 'Continue' to continue the installation process with gateway application type.
- 22. Click 'Next' to navigate to the installer home screen. The property file will be created in a temporary folder.
- 23. If Application Server is "Websphere" and EJB Look Up is "REMOTE", change below entry in GW WS Prop.properties:
 - EJB_CTX_FACTORY=weblogic.jndi.WLInitialContextFactory to EJB_CTX_FACTORY=com.ibm.websphere.naming.WsnInitialContextFactory





Oracle Banking Payment Gateway Property File Creation [May] [2021]

Version 14.5.0.0.0

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 © [2017], [2021] 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.

