Oracle HTTP Server 11g R1 Configuration for FLEXCUBE Oracle Banking Enterprise Limits and Collateral Management Release 14.6.0.0.0 Part No. F56932-01 [May] [2022]

FINANCIAL SERVICES

Table of Contents

1.	PU	URPOSE	
2.	IN	TRODUCTION TO ORACLE HTTP SERVER (OHS)	
	2.1 2.2	HTTP Listener Modules (mods)	
3.	IN	ISTALLATION OF OHS 11G	
4.	C	ONFIGURE ORACLE HTTP SERVER INFRONT OF WEBLOGIC SERVER	
4	4.1	FOR WEBLOGIC IN SINGLE INSTANCE	4-12
4	4.2	FOR WEBLOGIC INSTANCES IN CLUSTER	4-13
5.	Eľ	NABLE "WEBLOGIC PLUG-IN ENABLED" FLAG IN WEBLOGIC	5-15
6.	C	OMPRESSION RULE SETTING	
(6.1	LOADING MOD_DEFLATE	6-16
(5.2	CONFIGURING FILE TYPES	6-16
(5.3	HTTPD.CONF FILE CHANGES	6-17
7.	C	ONFIGURING SSL FOR ORACLE HTTP SERVER	
-	7.1	SSL CONFIGURATION FOR INBOUND REQUEST TO ORACLE HTTP SERVER	
		1.1 Create a new Wallet and import Certificate	
		1.2 Configuring Wallet in ssl.conf file	
-	7.2	CONFIGURING SSL BETWEEN ORACLE HTTP SERVER AND ORACLE WEBLOGIC SERVER	
		2.1 Turn off KeepAliveEnabled	
		 2.2 To enable one-way SSL 2.3 To enable two-way SSL 	
8.	SA	AMPLE CONFIGURATION FILES	
9.	ST	TARTING, STOPPING, AND RESTARTING ORACLE HTTP SERVER	
Ģ	9.1	Start	
Ģ	9.2	STOP	
(9.3	Restart	
10.		TEST THE APPLICATION	
11.		SERVER LOGS LOCATION	
12.		REFERENCES	12-31



1. Purpose

The objective of this document is to explain the installation and configuration of Oracle HTTP Server 11g R1 (11.1.1.6.0). This includes setting up of server details, configuration of compression rules and enabling SSL.



2. Introduction to Oracle HTTP Server (OHS)

Oracle HTTP Server is the Web server component for Oracle Fusion Middleware. It is based on Apache web server, and includes all base Apache modules and modules developed specifically by Oracle. It provides a HTTP listener for Oracle WebLogic Server and the framework for hosting static pages, dynamic pages, and applications over the Web. Key aspects of Oracle HTTP Server are its technology, its serving of both static and dynamic content and its integration with both Oracle and non-Oracle products.

Oracle HTTP Server consists of several components that run within the same process. These components provide the extensive list of features that Oracle HTTP Server offers when handling client requests.

Following are the major components:

2.1 HTTP Listener

Oracle HTTP Server is based on an Apache HTTP listener to serve client requests. An HTTP server listener handles incoming requests and routes them to the appropriate processing utility.

2.2 Modules (mods)

Modules extend the basic functionality of Oracle HTTP Server, and support integration between Oracle HTTP Server and other Oracle Fusion Middleware components. There are modules developed specifically by Oracle for Oracle HTTP Server. Ex: mod_wl_ohs, mod_plsql

Oracle HTTP Server also includes the base Apache and third-party modules out-of-the-box. These modules are not developed by Oracle. Ex: mod_proxy, mod_perl



3. Installation of OHS 11g

Invoke the setup exe to start the installation

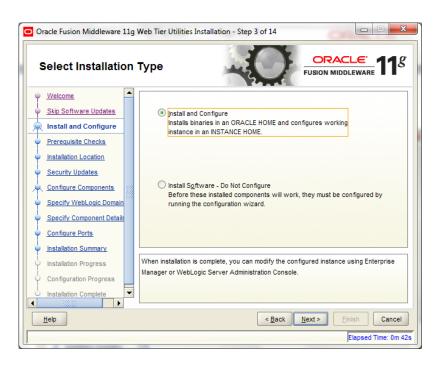


Select Skip Software Updates

Oracle Fusion Middleware 11g	Web Tier Utilities Installation - Step 2 of 14	
Install Software Up	odates	CLE 118
Welcome	Skip Software Updates	
Skip Software Updates	Search My Oracle Support for Updates	
A Install and Configure	Us <u>e</u> r Name:	
Prerequisite Checks	Password:	
Installation Location	P <u>r</u> oxy Settings <u>T</u> est Conn	lection
Security Updates	Search Local Directory for Updates	
Configure Components	Local Directory:	Browse
Specify WebLogic Domain	Search For <u>U</u> pdates	
Specify Component Details		
Configure Ports		
Installation Summary		
Installation Progress		
Configuration Progress		
Installation Complete		
	< <u>B</u> ack <u>N</u> ext >	Einish Cancel
		Elapsed Time: 0m 32s



Select Install and Configure



Oracle Fusion Middleware 11g	Neb Tier l	Utilities Installation - Step 4 of 14	OR		
Prerequisite Check	(S	-0		<u>eware</u> 11	
Welcome	Selection	Check	Progress	Status	
Skip Software Updates	1	Checking operating system certification	100%	~	
Install and Configure	1	Checking physical memory	100%	×	
Prerequisite Checks					
Installation Location					
Security Updates					
Configure Components					
Specify WebLogic Domain					
Specify Component Details					
Configure Ports		A	oort <u>R</u> etry <u>C</u> ontinue		
Installation Summary					
Installation Progress		hecking operating system certification			
Configuration Progress	⊞ ✔ C	hecking physical memory			
Installation Complete					
Help		< <u>B</u> ack	<u>N</u> ext > <u>Fini</u>	sh Cancel	
	_		E	lapsed Time: 0m 52s	



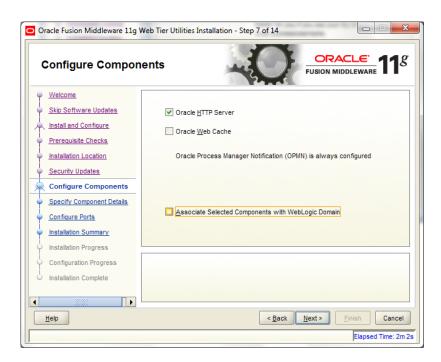
Oracle Fusion Middleware 11g	Web Tier Utilities Installation - Step 5 of 14	
Specify Installation	Location	FUSION MIDDLEWARE 118
	Oracle <u>M</u> iddleware Home: CAOracleM <u>O</u> racle Home Directory: Oracle_WT	
Installation Progress Configuration Progress Installation Complete Installation Complete	An Application Server must already be	
		Elapsed Time: 1m 2s







Select only Oracle HTTP Server

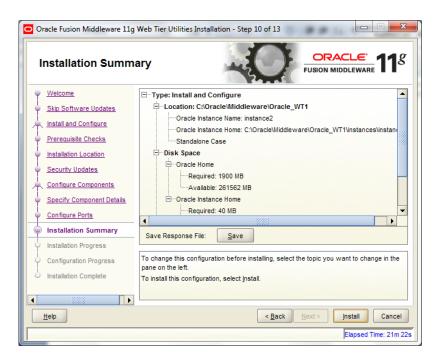


Enter the required OHS instance and component names

Oracle Fusion Middleware 11g	Web Tier Utilities Installation - S	Step 8 of 13
Specify Componer	nt Details	FUSION MIDDLEWARE 118
Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates	Instance Home Location: In <u>s</u> tance Name:	C:\Oracle\Middleware\Oracle_ Browse
Configure Components Specify Component Detail: Configure Ports Installation Summary Installation Progress	OHS Component Name:	ohs1
Configuration Progress		alphabetic character, may only contain alphanumeric or hyphen (-) characters and are 4 to 30 characters
Help		< <u>Back</u> <u>Next></u> Einish Cancel Elapsed Time: 24m 12s



Oracle Fusion Middleware 11g	Web Tier Utilities Installation - Step 9 of 13
Configure Ports	FUSION MIDDLEWARE 118
	Auto Port Configuration Specify Ports using Configuration file File name: C:\Users\nmb\staticports.ini Browse
Configure Component Details Specify Component Details Configure Ports Installation Summary Installation Progress Configuration Progress Installation Complete	View/Edit File
Leip	< <u>Back</u> <u>Finish</u> Cancel Elapsed Time: 20m 57s





Configuration Pro	gress	O		
Welcome	Configuration Tools			
Skip Software Updates	Name			Progress
Install and Configure	E Veb Tier Configuration			100%
Prerequisite Checks	Create and Start AS Ins			Success
Installation Location	Create and Start OHS C	omponent (ons1)		 Success Success
Security Updates	in create shortcuts			V Success
Configure Components				
Specify Component Details				
Configure Ports		Abort	Retry	Continue
Installation Summary	Configuration Log Location: C:\Prog			
Installation Progress	Files\Oracle\Inventory\logs\install2(24PM.log	
	Continuenting			
Configuration Progress				
Installation Complete				
Help		< <u>B</u> ack	<u>N</u> ext >	Einish Cancel
				Elapsed Time: 29m 2
				Elapsed Time: 29m
Oracle Fusion Middleware 11g	Web Tier Utilities Installation - S	tep 13 of 13		
Installation Compl	lete	tep 13 of 13		CLE: DLEWARE 11
Installation Compl	ete	O		
Installation Compl Welcome Skip Software Updates	ete			CLE: DLEWARE 11
Installation Compl	ete			
Installation Compl Welcome Skip Software Updates	ete			
Installation Compl Welcome Skip Software Updates Install and Configure	ete			
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks	ete	dleware\Oracle_ instance2 c:\Oracle\Middle		
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location	ete	dleware\Oracle_ instance2 C:\Oracle\Middler		
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates	ete	dleware\Oracle_ instance2 C:\Oracle\Middler		
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details	ete	dleware\Oracle_ instance2 c:\Oracle\Middler 767.082 MB		CLE 114
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports	ete	dleware\Oracle_ instance2 C:\Oracle\Middler .767.082 MB MB		
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports Installation Summary	ete	dleware\Oracle_ instance2 c:\Oracle\Middler 767.082 MB		CLE 114
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports Installation Summary Installation Progress	ete	dleware\Oracle_ instance2 C:\Oracle\Middler .767.082 MB MB		CLE 114
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports Installation Summary Installation Progress <u>Configuration Progress</u>	ete	dleware\Oracle_ instance2 C:\Oracle\Middlet 767.082 MB MB e: 17.269 MB Save	FUSION MID	1\instances\instan
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports Installation Summary Installation Progress	Type: Install and Configure Oracle Instance Home Oracle Instance Home Standalone Case Oracle Home Instance Home Instance Home Save Installation Summary:	dleware\Oracle_ instance2 C:\Oracle\Middlet 767.082 MB MB e: 17.269 MB Save	FUSION MID	1\instances\instan
Installation Compl Welcome Skip Software Updates Install and Configure Prerequisite Checks Installation Location Security Updates Configure Components Specify Component Details Configure Ports Installation Summary Installation Progress <u>Configuration Progress</u>	Type: Install and Configure Oracle Instance Home Oracle Instance Home Standalone Case Oracle Home Instance Home Instance Home Save Installation Summary:	dleware\Oracle_ instance2 C:\Oracle\Middlet 767.082 MB MB e: 17.269 MB Save	FUSION MID	1\instances\instan

This completes the installation of Oracle HTTP Server with <Instance> and <component>. Example: Instance is instance1 and component is ohs1.

If you would like to change the port after the installation(OHS Listen Port) edit \$ORACLE_INSTANCE/config/OHS/<component_name>/httpd.conf and change the listen port.

NOTE: This port is for http protocol and not for https.



📄 http	d.conf
181	
182	÷
183	# Listen: Allows you to bind Apache to specific IP addresses and/or
184	\ddagger ports, instead of the default. See also the <virtualhost></virtualhost>
185	# directive.
186	÷
187	\sharp Change this to Listen on specific IP addresses as shown below to
188	<pre># prevent Apache from glomming onto all bound IP addresses (0.0.0.0)</pre>
189	÷
190	# Listen 12.34.56.78:80
191	
192	# OHS Listen Port
193	Listen 7777
194	
195	*
196	# Dynamic Shared Object (DSO) Support
197	
198	# To be able to use the functionality of a module which was built as a DSO you
199	<pre># have to place corresponding `LoadModule' lines at this location so the</pre>
200	# directives contained in it are actually available _before_ they are used.

- 200 # directives contained in it are actually available _before_ they are u
 201 # Statically compiled modules (those listed by `httpd -l') do not need
 202 # to be loaded here.
 203 #
 204 # Example:
 205 # LoadModule foo_module "\${ORACLE_HOME}/ohs/modules/mod_foo.so"
 206



4. Configure Oracle HTTP Server infront of Weblogic Server

In Oracle HTTP Server requests from Oracle HTTP Server to Weblogic server are proxied using mod_wl_ohs module. This configuration file needs to be modified to include the Weblogic server and port details.

mod_wl_ohs.conf file is located at

{ORACLE_INSTANCE}/config/OHS/{COMPONENT_NAME}/mod_wl_ohs.conf

Add the below directives to mod_wl_ohs.conf file.

4.1 For WebLogic in single instance

<Location /<<context/url>>>

SetHandler weblogic-handler

WebLogicHost <<server name>>

WeblogicPort <<port>>

</Location>

Example:

<Location /FCJNeoWeb>

SetHandler weblogic-handler

WebLogicHost wlserver1

WeblogicPort 7707

</Location>

This will forward /FCJNeoWeb from HTTP server to /FCJNeoWeb on WebLogic Server wlserver1: 7707



mo	d_wl_ohs.conf
1	# NOTE : This is a template to configure mod_weblogic.
2	
3	LoadModule weblogic_module "\${ORACLE_HOME}/ohs/modules/mod_wl_ohs.so"
4	LoadModule deflate_module "\${ORACLE_HOME}/ohs/modules/mod_deflate.so"
5	
6	
7	
8	· · · · · · · · · · · · · · · · · · ·
9	# WebLogicPort <weblogic_port></weblogic_port>
	# Debug ON
11	# WLLogFile /tmp/weblogic.log
12	# MatchExpression *.jsp
14	
15	· · · · · · · · · · · · · · · · · · ·
16	# SetHandler weblogic-handler
17	
18	
19	#
20	
21	<location fcjneoweb=""></location>
22	SetHandler weblogic-handler
23	WebLogicHost wlserver1
24	WebLogicPort 7707
25	

4.2 For Weblogic instances in cluster

<Location /<<context/url>>>

SetHandler weblogic-handler

WebLogicCluster <server1>:<port1>,<server2>:<port2>

</Location>

Example

<Location / FCJNeoWeb >

SetHandler weblogic-handler

WebLogicCluster wlserver1:7010, wlserver2:7010

</Location>

This will forward /FCJNeoWeb from HTTP server to /FCJNeoWeb on WebLogic Cluster wlserver1:7010 and wlserver2:7010



1 2 3	<pre># NOTE : This is a template to configure mod_weblogic.</pre>
3	
	LoadModule weblogic module "\${ORACLE HOME}/ohs/modules/mod wl ohs.so"
4	LoadModule deflate_module "\${ORACLE_HOME}/ohs/modules/mod_deflate.so"
5	
6	# This empty block is needed to save mod_wl related configuration from EM to this fi
7	<ifmodule weblogic_module=""></ifmodule>
8	<pre># WebLogicHost <weblogic_host></weblogic_host></pre>
9	<pre># WebLogicPort <weblogic_port></weblogic_port></pre>
10	# Debug ON
11	# WLLogFile /tmp/weblogic.log
12	# MatchExpression *.jsp
13	
14	
15	# <location weblogic=""></location>
16	# SetHandler weblogic-handler
17	# PathTrim /weblogic
18	
19	<pre># </pre>
20	
2:	<location fcjneoweb=""></location>
2:	<location fcjneoweb=""></location>
2:	SetHandler weblogic-handler
20 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2:	WebLogicCluster wlserver1:7010,wlserver2:7010
21	



5. Enable "WebLogic Plug-In Enabled" flag in weblogic

This flag needs to be enabled in weblogic if it is accessed through proxy plugins. When the WebLogic plugin is enabled, a call to getRemoteAddr will return the address of the browser client from the proprietary WL-Proxy-Client-IP header instead of the web server.

- a. Plugin flag at managed server level
 - i. Click on 'Environment'- > 'Servers' -> '<ManagedServer>' -> 'General' -> 'Advanced'
 - ii. Check the 'WebLogic Plug-In Enabled' box.
 - iii. Click 'Save'
 - iv. Restart the Server.
- b. Plugin flag at domain level
 - v. Click on <Domain> -> 'Web Applications'
 - vi. Check the 'WebLogic Plug-In Enabled' box.
 - vii. Click 'Save'
 - viii. Restart the server.



6. Compression rule setting

Content compression in Oracle HTTP Server is done using mod_deflate. This can compress HTML, text or XML files to approx. 20 - 30% of their original sizes, thus saving on server traffic. However, compressing files causes a slightly higher load on the server, but clients' connection times to server is reduced.

6.1 Loading mod_deflate

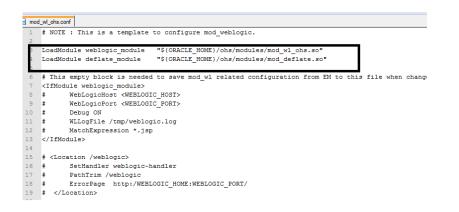
mod_deflate is used for compression in OHS and this is installed in Oracle HTTP Server under location

"\${ORACLE_HOME}/OHS/modules/mod_deflate.so"

But it might not be loaded.

To load the file add the below directive in mod_wl_ohs.conf file

LoadModule deflate_module "\${ORACLE_HOME}/OHS/modules/mod_deflate.so"



6.2 Configuring file types

mod_deflate also requires to specify which type files are going to be compressed.

In the LOCATION section of mod_wl_ohs.conf file add the below entries.

AddOutputFilterByType DEFLATE text/plain

AddOutputFilterByType DEFLATE text/xml

AddOutputFilterByType DEFLATE application/xhtml+xml

AddOutputFilterByType DEFLATE text/css



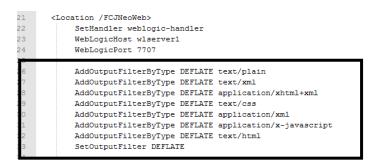
AddOutputFilterByType DEFLATE application/xml

AddOutputFilterByType DEFLATE application/x-javascript

AddOutputFilterByType DEFLATE text/html

SetOutputFilter DEFLATE

Images are supposed to be in a compressed format, and therefore are bypassed by mod_deflate.



6.3 httpd.conf file changes

This is a server configuration file which typically contains directives that affect how the server runs, such as user and group IDs it should use, and location of other files. Cross check the existence of mod_wl_ohs.conf include in httpd.conf file.

httpd.conf file is present under location

"\${ORACLE_INSTANCE}/config/OHS/{COMPONENT_NAME}/httpd.conf"

In this file cross check for the below entry

include "\${ORACLE_INSTANCE}/config/OHS/\${COMPONENT_NAME}/mod_wl_ohs.conf"

If above include entry is not present, then add the above include section.



#Directives to setup logging via ODL OraLogDir "\$(ORACLE_INSTANCE)/diagnostics/logs/\$(COMPONENT_TYPE)/\$(COMPONENT_NAME)" OraLogSeverity WANNING:32 OraLogSeverity WANNING:32 OraLogSetup of the set of the s



7. Configuring SSL for Oracle HTTP Server

Secure Sockets Layer (SSL) is required to run any Web site securely. Secure Sockets Layer (SSL) is an encrypted communication protocol that is designed to securely send messages across the Internet.

Reading of "**SSL_Configuration on Weblogic**" document provided as part of OBELCM installation is recommended before proceeding with further setup.

In Oracle HTTP server, SSL configuration can be done between

- 1. Browser to Oracle HTTP Server(Mandatory)
- 2. Oracle HTTP Server to Oracle Weblogic Server(If required)

7.1 SSL configuration for Inbound Request to Oracle HTTP

<u>Server</u>

Perform these tasks to enable and configure SSL between browser and Oracle HTTP Server.

1. Obtain a certificate from CA or create a self signed certificate.

2. Create an Oracle Wallet which contains the above SSL Certificate. The default wallet that is automatically installed with Oracle HTTP Server is for testing purposes only. The default wallet is located in "\${ORACLE_INSTANCE}/config/OHS/\${COMPONENT_NAME}/keystores/default"

3. Configuring Wallet in ssl.conf file

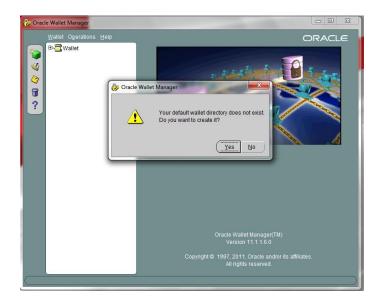
7.1.1 Create a new Wallet and import Certificate

1. Go to the \Oracle_WT1\bin\launch.exe, this will launch your wallet manager





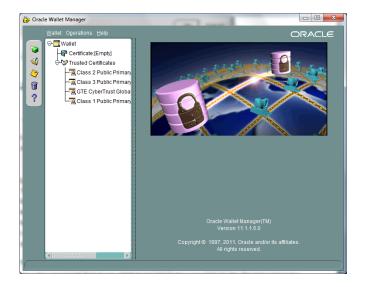
2. Click on Create new and then click no option.



3. Enter the wallet password and click on OK, this will create a new wallet.

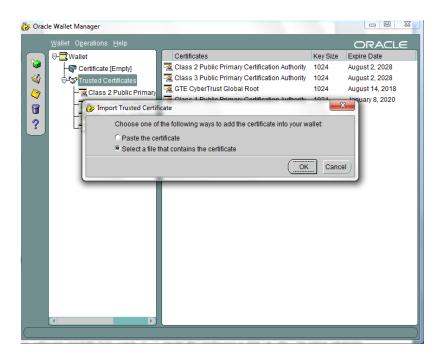


4. Not it will ask for certificate request creation, Click on NO to proceed

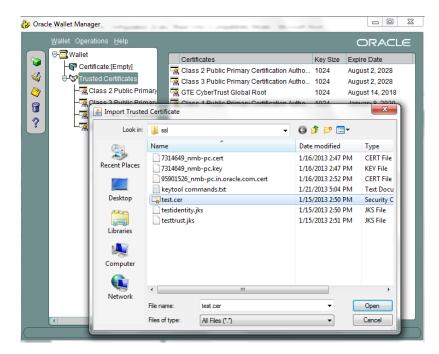




5. Right click on trusted certificates and then import trusted certificate.

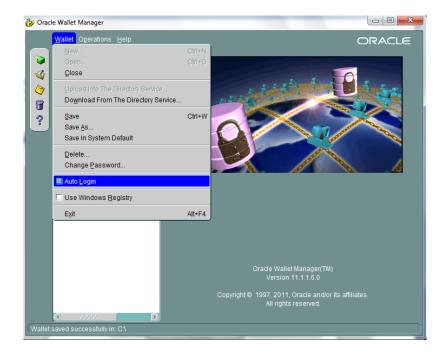


6. Browse to the folder where certificate is stored and click on Open





 Click on Save Wallet button on the left side navigation and save the wallet either to default location("\${ORACLE_INSTANCE}/config/OHS/\${COMPONENT_NAME}/keystores/default") or folder of your choice.



8. Click on Wallet tab and enable Auto Login



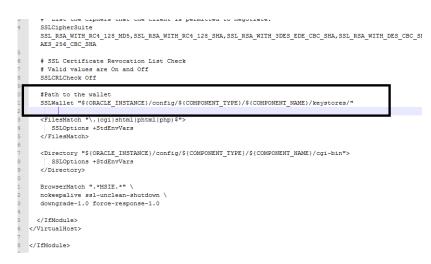
7.1.2 Configuring Wallet in ssl.conf file

In ssl.conf file the newly created wallet need to updated. This file is located under folder

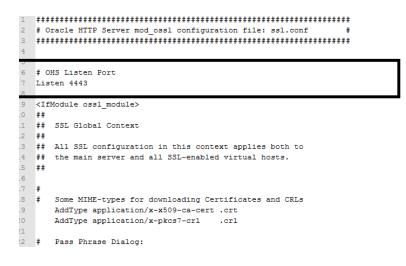
"\${ORACLE_INSTANCE}/config/OHS/\${COMPONENT_NAME}/

1. Change the SSLWallet directive to point to the location of new wallet created.

SSLWallet "\${ORACLE_INSTANCE}/config/\${COMPONENT_TYPE}/\${COMPONENT_NAME}/keystores/"



2. Change the Listen port number in ssl.conf file to the SSL enabled port, by default the value is 4443





7.2 <u>Configuring SSL between Oracle HTTP Server and Oracle</u> <u>Weblogic Server</u>

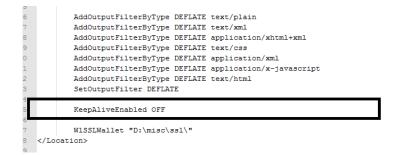
SSL for outbound requests from Oracle HTTP Server are configured in mod_wl_ohs.

Refer to "**SSL_Configuration on Weblogic**" document for weblogic server setting mentioned in below section.

7.2.1 <u>Turn off KeepAliveEnabled</u>

The below parameter in mod_wl_ohs should be turned off, by default it is on. Add the below directive under LOCATION section of mod_wl_ohs file

KeepAliveEnabled OFF



7.2.2 To enable one-way SSL

- 1. Generate a custom keystore identity.jks for Weblogic Server containing a certificate.
- 2. At Identity section in Keystores tab in weblogic Admin Console for server set
 - a. The custom trust store with the identity.jks file location
 - b. The keystore type as JKS
 - c. The passphrase used to created the keystore



		ve been act	-				voorte your :	SSL Configuration	in medserev	NUM YOUR SI	conga on the	- 55C (00)	
		ve been act ed successf		restarts	are n	ecessary.							
-			un y i										
ettings fo													
Configura	ation	Protocols	Logging	Debu	g M	onitoring	Control	Deployments	Services	Security	Notes		
General	Cluster	Services	s Keyst	ores	SSL	Federatio	on Services	Deployment	Migration	Tuning	Overload	Health Monitoring	Server Start
Save													
		the secure					e keys and t	trusted certificati	e authorities	(CAs). This	page lets yo	u view and define va	rious keystore
you to m	ianage u	le security o	n message	u ansmi	5510115.								
Keystore	es:						Custom Id	dentity and Custo	m Trust Ch	nge	Which c	onfiguration rules she	ould be used fo
								,				stores? More Info	
- Identil	ty —										1.001110	stores? More Info	
		/ Keystore	:					c\testidentity.j			The pat	stores? More Info	
Custom 1	Identity						D:\misc					and file name of th	e identity keys
Custom 1	Identity	/ Keystore / Keystore											e identity keys
Custom I	Identity Identity		Туре:	ISC:			D:\misc				The typ	and file name of the of the keystore. Ge	e identity keys enerally, this is ty keystore's p
Custom I	Identity Identity	/ Keystore	Туре:	156:			D:\misc				The typ	and file name of the	e identity keys enerally, this is ty keystore's p
Custom 1 Custom 1 Custom 1	Identity Identity Identity	/ Keystore	Type: Passphra		rase:		D:\misc				The typ	and file name of the of the keystore. Ge	e identity keys enerally, this is ty keystore's p
Custom : Custom : Custom : Confirm	Identity Identity Identity	v Keystore v Keystore	Type: Passphra		rase:		D:\misc				The typ	and file name of the of the keystore. Ge	e identity keys enerally, this is ty keystore's p
Custom : Custom : Custom : Confirm : Trust -	Identity Identity Identity Custom	v Keystore v Keystore Identity k	Type: Passphra		irase:		D:\misc JKS	c\testidentity.j	ks		The typ The end keystor	and file name of the of the keystore. Ge opted custom identi avail be opened with	e identity keys enerally, this is ty keystore's p put a passphra
Custom : Custom : Custom : Confirm :	Identity Identity Identity Custom	v Keystore v Keystore Identity k	Type: Passphra		ırase:		D:\misc JKS		ks		The typ The end keystor	and file name of the of the keystore. Ge	e identity keys enerally, this is ty keystore's p out a passphra
Custom 1 Custom 1 Custom 1 Confirm 1 - Trust - Custom 1	Identity Identity Identity Custom Trust Ke	v Keystore v Keystore Identity k	Type: Passphra Keystore I		ırase:		D:\misc	c\testidentity.j	ks		The typ The enc keystor The pat	and file name of the of the keystore. Ge opted custom identi avail be opened with	e identity keys enerally, this is ty keystore's p out a passphra e custom trust
Custom 1 Custom 1 Custom 1 Confirm 1 - Trust - Custom 1	Identity Identity Identity Custom Trust Ke	Keystore Keystore Identity H	Type: Passphra Keystore I		irase:		D:\misc JKS	c\testidentity.j	ks		The typ The enc keystor The pat	and file name of the of the keystore. Ge woted custom identi will be opened with h and file name of the	e identity keys enerally, this is ty keystore's p out a passphra e custom trust

- 3. Copy the certificate to Oracle HTTP Server and import the new certificate into OHS wallet as a trusted certificate.
- 4. Add following new directive in mod_wl_ohs.conf to point to the wallet location

WISSLWallet "\${ORACLE_INSTANCE}/config/OHS/{COMPONENT_NAME}/keystores/default"

5. Change the port in mod_wl_ohs file to point to SSL port of Weblogic server.

21	<location fcjneoweb=""></location>
20-	Scillandles meblegis handles
28	WebLogicHost wlserver1
24	WebLogicPort 443
25	
26	AddOutputFilterByType DEFLATE text/plain
27	AddOutputFilterByType DEFLATE text/xml
28	AddOutputFilterByType DEFLATE application/xhtml+xml
29	AddOutputFilterByType DEFLATE text/css
30	AddOutputFilterByType DEFLATE application/xml
31	AddOutputFilterByType DEFLATE application/x-javascript
32	AddOutputFilterByType DEFLATE text/html
33	SetOutputFilter DEFLATE
34	
35	KeepAliveEnabled OFF
e e	
87	W1SS1Wallet "\${ORACLE INSTANCE}/config/OHS/{COMPONENT NAME}/keystores/"
8	
10	

6. Restart both Weblogic Server and Oracle HTTP Server

7.2.3 To enable two-way SSL

- 1. Perform one-way SSL configuration steps
- 2. Generate a new trust store, trust.jks for Weblogic server

- 3. Keystore created for one-way SSL could be used, but it is recommended to create a separate truststore
- 4. Export the user certificate from Oracle HTTP Server wallet, and import it into truststore created above
- 5. At Trust section in Keystores tab in Weblogic Admin Console for the server set
 - a. The custom trust store with the trust.jks file location
 - b. The keystore type as JKS
 - c. The passphrase used to created the keystore

Configurat General Save Keystores	Cluster			Debug ores	SSL	Federatio	Control Services	Deployments	Services Migration	Security Tuning	Notes Overload	Health Monitoring	Server Star
Save	ensure			ores	SSL	Federatio	n Services	Deployment	Migration	Tuning	Overload	Health Monitoring	Server Star
Keystores		the secure											
		the secure											
Keystores: – Identity							Custom Ic	dentity and Cust	om Trust Ch	ange	Which o trust ke	onfiguration rules sho ystores? More Info.	uld be used t
Custom Id	entity	Keystore					D:\mise	c\testidentity.	ks		The pat	h and file name of the	e identity key
Custom Id	lentity	Keystore	Type:				JKS				The typ	e of the keystore. Ge	merally, this is
Custom Id	entity	Keystore	Passphra	se:							The end keystor	rypted custom identit e will be opened with	y keystore's j out a passphr
Confirm Cu	istom	Identity H	eystore I	Passphr	ase:		•••••						
Confirm Cu - Trust Custom Tr			eystore I	Passphr	ase:			c\\testtrust.jk	5		The pat	h and file name of the	e custom tri s
- Trust	ust Ke	ystore:		Passphr	ase:			c\\testtrust.jk	3 3			h and file name of the	

6. Under the SSL tab

Ensure trusted CA is set as from Custom Trust Keystore.

Home >base dom	ain >Summary (of Environm	nent >Sum	mary of Serve	rs >AdminS	Server				
ttings for Adn										
onfiguration		Logging	Debug	Monitoring	Control	Deployments	Constant	Constitut	Notes	
onnguration	Protocois	Logging	Debug	Monitoring	Control	Deployments	Services	Security	Notes	
Seneral Clust	er <u>Services</u>	Keystor	es SSI	. Federatio	n Services	Deployment	Migration	Tuning	Overload	Health Monitoring
Save	Con	nfiguration	n - Servic	es- Tab						
	<u> </u>									
This page lets v	ou view and de	efine variou	is Secure	Sockets Laver	(SSL) setti	nas for this serv	er instance.	These setti	nas hela vou	i to manage the secu
inia page ieta y			is occure	ooolicio coyei	(000) 0010	inga for and servi		incoc octa	nga neip you	r to manage are seed
🗧 Identity an	nd Trust Loca	tions:			Keystore	es Change			Indica	tes where SSL should
						onungo			key) a	is well as the server's
Identity										
·····					6 m 0				The la	
·····	cation				from Cur	stom Idontity Ko	retoro		The ke	votoro attributo tha
wiusto Koy Lo					from Cur	stem Identity Ko				
					from Cur selfce		yatara		The ke	eystore attribute th
wirsto Koy Lo									The ke	eystore attribute th
-		=======================================				rt			The ke the se The ke	eystore attribute th rver's private key. eystore attribute th
rivate Key Lo	ias:	8			selfce	rt			The ke the se The ke	eystore attribute th rver's private key.
rivate Key Lo rivate Key Ali E Private Key	ias:				selfce	rt •			The ke the se The ke	eystore attribute th rver's private key. eystore attribute th
rivate Key Lo rivate Key Ali E Private Key	ias: y Passphrase				selfce	rt •			The ke the se The ke	eystore attribute th rver's private key. eystore attribute th
rivate Key Lo rivate Key Ali E Private Key	ias: y Passphrase ivate Key Pas				selfce	rt •			The ke the se The ke server	eystore attribute th ever's private key. eystore attribute th r's private key. Mo eystore attribute th
rivate Key Lo rivate Key Ali Private Key Confirm Pri	ias: y Passphrase ivate Key Pas				selfce	rt •			The ke the se The ke server	eystore attribute th rver's private key. eystore attribute th r's private key. Mo
rivate Key Lo rivate Key Ali Private Key Confirm Pri	ias: y Passphrase ivate Key Pas				selfce	rt •			The ke the se The ke server	eystore attribute th ever's private key. eystore attribute th r's private key. Mo eystore attribute th

7. Restart Weblogic Server



8. Sample Configuration Files





7

httpd.conf



9. Starting, Stopping, and Restarting Oracle HTTP Server

Navigate to the below location in command prompt \${ORACLE_INSTANCE}/bin/ and run below commands

9.1 <u>Start</u>

opmnctl startproc ias-component={COMPONENT_NAME}

Example: opmnctl startproc ias-component=ohs1

9.2 <u>Stop</u>

opmnctl stopproc ias-component={COMPONENT_NAME}

Example: opmnctl stopproc ias-component=ohs1

9.3 <u>Restart</u>

opmnctl restartproc ias-component={COMPONENT_NAME}

Example: opmnctl restartproc ias-component=ohs1



10. Test the application

Test the application deployed on Weblogic using Oracle HTTP Server after restarting both the oracle http server and weblogic server

https://ohs_servername:ohs_https_port/<<context/url>>

http://ohs_servername:ohs_http_port/<<context/url>>

ohs_servername: server on which OHS is deployed

ohs_https_port: port number mentioned against LISTEN directive in SSL.conf file

ohs_http_port: port number mentioned against LISTEN directive in httpd.conf file

Example:

https://localhost:4443/FCJNeoWeb/welcome.jsp

Or

http://localhost:7777/FCJNeoWeb/welcome.jsp



11. Server Logs Location

Oracle HTTP Server Logs are generated under folder

\${ORACLE_INSTANCE}/diagnostics/logs/OHS/{COMPONENT_NAME}/



12. References

SSL_Configuration.doc for Weblogic provided as part of OBELCM installation. http://docs.oracle.com/cd/E16764_01/web.1111/e10144/under_mods.htm http://docs.oracle.com/cd/E25054_01/core.1111/e10105/sslconfig.htm



ORACLE[®]

Oracle HTTP Server 11g R1 Configuration for FLEXCUBE [May] [2022] Version 14.6.0.0.0

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 https://www.oracle.com/industries/financial-services/index.html

Copyright © [2007], [2022], 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.

