WebSphere Configuration Oracle FLEXCUBE Investor Servicing Release 14.5.2.0.0 [November] [2021]



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1. Configuring SSL on Websphere

1.1 Introduction

This chapter guides you through the process of configuring SSL on IBM Websphere application server.

1.2 Certificates

1.2.1 Creating SSL Connection between Application Server and Client

To establish SSL connection between Websphere and client work stations, follow the steps given below:

- Create SSL certificate (this certificate is required during real time production)
- Self signed certificate (SSL) will be used for testing purpose

1.2.2 Creating Self Signed Certificate

To create a self signed certificate, you may use various tools including IBM (Keyman). For illustration purpose, this guide explains the method of generating SSL using a tool available in JAVA. The keytool is available in the folder 'JAVA_HOME\jdk\bin'.

Go to the folder 'bin' of JRE from command prompt and type the following command.

```
keytool -genkeypair -alias alias -keyalg keyalg -keysize keysize -
sigalg sigalg -validity valDays -keystore keystore
```

The texts highlighted in blue are placeholders. You need to replace them with the suitable values while running the command.

In the above command,

- *alias* is used to identify the public and private key pair created. This *alias* is required for configuring the SSL attributes for the managed servers in Oracle WebLogic application server.
- *keyalg* is the key algorithm to generate the public and private key pair. The RSA key algorithm is recommended.
- **keysize** is the size of the public and private key pair generated. A key size of 2048 or more is recommended. Consult your CA on the key size support for different types of certificates.
- *sigalg* is the algorithm used to generate the signature. This algorithm must be compatible with the key algorithm. This has to be one of the values specified in the Java Cryptography API Specification and Reference.
- **valdays** is the number of days for which the certificate is considered to be valid. Consult your CA on this period.
- *keystore* is to specify the location of the JKS file. If JKS file is not present in the path provided, this will create it.



The command will prompt for the following attributes of the certificate and keystore:

- **Keystore password**: Specify a password that will be used to access the keystore. This password needs to be specified later, when configuring the identity store in Oracle WebLogic Server.
- Key password: Specify a password that will be used to access the private key stored in the keystore. This password needs to be specified later, when configuring the SSL attributes of the managed server(s) in Oracle WebLogic Server.
- First and last name (CN): Specify the domain name of the machine used to access Oracle FLEXCUBE INVESTOR SERVICING. For instance, www.example.com.
- Name of your organizational unit: Specify the name of the department or unit making the request. For example, BPD. Use this field to identify the SSL Certificate you are creating. For example, by department or by physical server.
- **Name of your organization:** Specify the name of the organization making the certificate request. For example, Oracle Financial Services Software. It is recommended to use the formal name of the company or organization. This name must match the name in the official records.
- Name of your City or Locality: Specify the name of the city in which your organization is physically located. For example Mumbai.
- Name of your State or Province: Specify the state/province in which your organization is physically located. For example Maharashtra.
- **Two-letter country code for this unit**: Specify the country in which your organization is physically located. For example, US, UK, IN etc.

Example

Listed below is the result of a sample execution of the command:

```
keytool -genkeypair -alias cvrhp0729 -keyalg RSA -keysize 2048
-sigalg SHA256withRSA -validity 365 -keystore
D:\keystores\FCISKeyStore.jks
Enter keystore password: < Enter a password to protect the
keystore>
Re-enter new password: < Confirm the password keyed above>
What is your first and last name?
  [Unknown]: cvrhp0729
What is the name of your organizational unit?
  [Unknown]: BPD
What is the name of your organization?
  [Unknown]: Oracle Financial Services
What is the name of your City or Locality?
  [Unknown]: Mumbai
What is the name of your State or Province?
  [Unknown]: Maharashtra
```



The self signed certificate needs to be added to the web server.

1.2.3 Path Details

You need to copy or move the keystore file *<name of the file>.jks* to the application server location given below:

/oracle1/WAS61/Appserver_ND/profiles/AppSrv01/config/cells/ips014dorCell01/nodes/ips014dor Node02

ips014dorCell01 --> <ips014dor> name of the machine and < Cell01>

ips014dorNode02 --> < ips014dorNode > name of the machine and <Node02>



1.3 Adding Key Store to Application Server

To add keystore to the Websphere application server, follow the instructions given below.

1. Log in to the WAP console as the user 'admin'.

WebSphere. software			
	8	WebSphere Integrated Solutions Console	
IBM.	Rights Reserved. I registered tradem many jurisdictions trademarks of IBM	: - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All IBM, the IBM logo, Ibm.com and WebSphere are trademarks or arks of International Business Machines Corp., registered in worldwide. Other product and service names might be for other companies. A current list of IBM trademarks is web at <u>Copyright and trademarks information</u> .	

2. Specify the user ID of the administrator and the password set while installing the software. Click 'Log In'. The following screen is displayed:

WebSphere. software		Welcome websphere	Help Logout IBM .
View: All tasks	Cell=ofss220137Node01Cell, Profile=App5rv01 SSL certificate and key management	3	Close page
Welcome Guided Activities Gif Servers GApplications	SSL certificate and key management SSL configurations	Related Items	Field help For field help information, select a field label or list marker when the help cursor is displayed.
Services Security System administration Users and Groups Monitoring and Tuning Troubleshooting Service integration UDD1	The Secure Sockets Layer (SSL) protocol provides secure communications between remote server processes or endpoints. SSL security can be used for establishing communications inbound to and outbound from an endpoint. To establish secure communications, a certificate and an SSL configuration must be specified for the endpoint. In previous versions of this product, it was necessary to manually configure each endpoint for Secure Sockets Layer (SSL). In this version, you can define a single configuration for the entire application-serving environment. This capability enables you to centrally manage secure communications. In addition, trust zones can be established in multiple node environments by overriding the default, cell-level SSL configurations. If you have migrated a secured environment to this version using the migrated as secured environment to this reconsult, service the centralized management capability. Configuration settings Manage endpoint security configurations Manage certificate expiration	SSL configurations Dynamic outbound endpoint SSL configurations Key stores and certificates Key sats Key sats Key sats Key managers Trust managers Certificate Authority (CA) client configurations	Page help More information about this page
< III	Manage FIPS		

On the left pane, expand 'Security' and click 'SSL certificate and key management'. The screen displays the details of SSL.



3. Under 'Related items' on the right side, click 'Key stores and certificates'. The following screen is displayed:

	Cell=ofss2	20137Node01Cell, Profile	=AppSrv01			Close pag	
View: All tasks 🗸	SSL certifi	cate and key managem	ent		2	Help	
Welcome					<u> </u>	Field help	
Guided Activities		rtificate and key manac				For field help information,	
+ Servers	Define	s keystore types, includ	ng cryptography, RA	CF(R), CMS, Java(TM), and all t	truststore types.	select a field label or list	
± Applications	Keystor	e usages				marker when the help cursor is displayed.	
± Services		. keystores	•			Page help	
+ Resources						More information about	
- Security	± Pre	erences				this page	
Global security	New	New Delete Change password Exchange signers					
Security domains Administrative Authorization Groups		1 🕸 🗐				View administrative scripting command for las	
SSL certificate and key management	Select	Name 🗘	Description 🗘	Management Scope 🗘	Path 🗘	action	
 Security auditing Bus security 	You c	You can administer the following resources:					
Environment		NodeDefaultKeyStore	Default key store for	(cell):ofss220137Node01Cell: (node):ofss220137Node01	\${CONFIG_ROOT}/cells /ofss220137Node01Cell		
System administration			ofss220137Node01	(1006)/013522013/100601	/nodes		
					/ofss220137Node01 /key.p12		
Monitoring and Tuning					//////		
+ Troubleshooting		NodeDefaultTrustStore		(cell):ofss220137Node01Cell:			
Service integration			for ofss220137Node01	(node):ofss220137Node01	/ofss220137Node01Cell /nodes		
+ UDDI					/ofss220137Node01		
					/trust.p12		
Total 2							
	- otar	-					

This screen is used for attaching the key store to the application server.

4. Click 'New' button to add a new key to store.

WebSphere. software	Welcome websphere Help	Logout IBM.
View: All tasks	General Properties	The additional pro
Welcome	* Name	will not be availat the general prope
∃ Guided Activities		this item are appl saved.
Servers	Description	Additional Prope
Applications		
Services	Management scope	Signer cert
	(cell):ofss220137Node01Cell:(node):ofss220137Node01 ▼	Personal certificates
Security	* Path	Personal
Global security		certificate
Security domains	* Password	requests Custom
 Administrative Authorization Groups SSL certificate and key management 		properties
 Security auditing 	* Confirm password	
Bus security		
Environment	Туре	E
	PKCS12	
Users and Groups	JCEKS	
Monitoring and Tuning	PKCS12	
Troubleshooting	IKS Cryptographic Token Device (PKCS11)	
Service integration	Enable cryptographic loken Device (PRCS11)	
T 0001	Apply OK Reset Cancel	
		-
< +	۲ III	+

5. Specify the following details:

Name

Specify the key store name.



Path

Specify the location of the key store generated.

This has to be a relative path.

<u>Example</u>

\${CONFIG_ROOT}/cells/ips014dorCell01/nodes/ips014dorNode02/jf3sslstore.jks

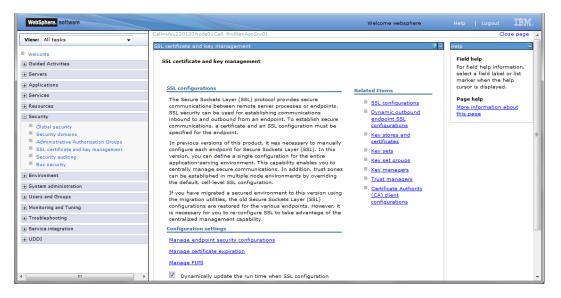
Password

Specify the password given in the 'store pass' parameter during key store generation.

6. Click 'Apply' and save the changes.

1.4 Creating SSL Configuration

To create SSL configuration, on the left pane, click 'SSL certificate and key management'.





1. Under the section 'Related items', click 'SSL configurations'. The following screen is displayed:

WebSphere, software		Welcome websphere Help Logout IBM,
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=App5rv01 SSL certificate and key management	Close page
Welcome Guided Activities Servers Applications	SSI. certificate and key management > SSI. configurations Defines a list of Secure Sockets Layer (SSI.) configurations. Preferences	Field help For field help information, select a field label or list marker when the help cursor is displayed.
Services Resources	New Delete	Page help
Security	Image: Image	More information about this page
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security	You can administer the following resources: Intergentient Ocp NodeDefaultSSLSettings (cell):ofss220137 (node):ofss22013 Total 1	Command Assistance View administrative Vode01Cell:
Environment		
System administration Jusers and Groups Groups Monitoring and Truing Trubleshooting Service integration DUDD1		

2. Click 'New' button. The following screen is displayed.

WebSphere. software	Welcome websphere Help	Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
Welcome Guided Activities Servers Applications	SSL certificate and key management > SSL configurations > New Defines a list of Secure Sockets Layer (SSL) configurations.	
Services Resources	General Properties + Name	The additional properties will not be available unti the general properties fo
Security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security	Trust store name NodeDefaultKeyStore ((cell))ofss220137Node01Cell:(node)rofss220137Node01) Keystore name NodeDefaultKeyStore ((cell):ofss220137Node01Cell:(node):ofss220137Node01) Get certificate aliases	this item are applied or saved. Additional Properties Quality of protection (QoP) settings Trust and key
Environment System administration Users and Groups Monitoring and Tuning	Default server certificate allas (none) = Default client certificate allas (none) =	Gustom properties
Troubleshooting Service integration UDDI	Management scope (cell):ofss220137Node01Cell:(node):ofss220137Node01 Apply OK Peset Cancel	Key stores and certificates
< III +	4	•

3. Specify the following details:

Name

Specify the name of the SSL configuration.

Trusted Store Name

Select the added key store.

Key Store Name

Select the added key store.



4. Click the button 'Get Certificate aliases'. Further, click 'Apply' and save the changes.

1.5 Managing Endpoint Security Configurations

This section explains the process of managing endpoint security configurations.

WebSphere. software		Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01 SSL certificate and key management	2	Close page
Guided Activities Servers Applications	SSL certificate and key management		Field help For field help information, select a field label or list marker when the help cursor is displayed.
Services Security Global security Security Security domains Administrative Authorization Groups	SSL configurations The Secure Sockets Layer (SSL) protocol provides secure communications between remote server processes or endpoints. SSL security can be used for establishing communications inbound to and outbound from an endpoint. To establish secure communications, a certificate and an SSL configuration must be specified for the endpoint. In previous versions of this product, it was necessary to manually	Related Items SSL configurations Dynamic outbound endpoint SSL configurations Key stores and cettificates	Page help More information about this page
SSL certificate and key management Security auditing Bus security Environment System administration	configure each endpoint for Secure Sockets Layer (SSL). In this version, you can define a single configuration for the entire application-serving environment. This capability enables you to centrally manage secure communications. In addition, trust zones can be established in multiple node environments by overriding the default, cell-level SL configuration.	Key sets Key set groups Key managers Trust managers Certificate Authority	
Users and Groups Monitoring and Tuning Troubleshooting	If you have migrated a secured environment to this version using the migration utilities, the old Secure Sockets Layer (SSL) configurations are restored for the various endpoints. However, it is necessary for you to re-configure SSL to take advantage of the centralized management capability.	(CA) client configurations	
Service integration UDDI	Configuration settings Manage endpoint security configurations Manage certificate expiration Manage FIPS		
< H	Dynamically update the run time when SSL configuration		

1. On the left pane, expand 'Security' and click 'SSL certificate and key management'. Under 'Configuration settings', click 'Manage endpoint security configurations'.

The following screen is displayed:

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=App5rv01	Close page
Welcome Guided Activities Gervers Applications Services Resources Services Control Cont	SSL certificate and key management ? SSL certificate and key management > Manage endpoint security configurations Displays Secure Sockets Layer (SSL) configurations for selected scopes, such as a cell, node, server, or cluster. Local Topology Inbound gfss220137Node01Cell	Field help Field help for field help information, select a field label or list marker when the help cursor is displayed. Page help More information about this page
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security Environment	□ <u>nodes</u> U <u>@ ofss220137Node01(NodeDefsultSSLSettings)</u> □ <u>Sutcome</u> □ <u>ofss220137Node01Cell</u> □ <u>m nodes</u> □ <u>@ ndes</u> □ <u>@ ofss220137Node01(NodeDefsultSSLSettings)</u>	
System administration		
Users and Groups Monitoring and Tuning Troubleshooting Service integration UDDI		
< H	۲. III III III III III III III III III I	•



2. Click the first link under 'Inbound tree'. The following screen is displayed:

WebSphere. software	Welcome vel	bsphere Help		a IBM.
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=AppSrv01 SSL certificate and key management		? -	Close page Help
Welcome Guided Activities Servers Applications	SSL certificate and key management > Manage endpoint security configurations > ofss22 Displays Secure Sockets Layer (SSL) configurations for selected scopes, such as a cell, nod			Field help For field help select a field I marker when cursor is displ
Services	General Properties	Related Items		Page help
Resources Security Global security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Security auditing Security auditing Security Dervinonment Visers and Groups Monitoring and Tuning Service integration UDDI	Name ofss220137Node01 Direction Inbound Specific SSL configuration for this endpoint SSL configuration NodeDefaultSSLettings Certificate alias int Certificate alias int key store (none) Apply OK Reset Cancel	Kenter Terms SSL sonfigurations Dynamic outbound andpoint SSL configurations Key stores and sertificates Key sets Key sets Key sets Key managers Trust manager Cartificate Authority (CA) client sonfigurations		More informat
< Þ	•			Þ

Under SSL configurations, select the configured SSL from the drop-down list.

- 3. Click the button 'Update certificate alias list'. Click 'Apply' and save the changes.
- 4. SSL Settings at Application Server Level

Go to the servers available on the left and click the application servers link which will refresh the window on the right side to display the details pertaining to application servers

WebSphere. software				w	elcome websphere			IBM.	
View: All tasks	▲ <u>C</u>	ell=ofss220137Node01Cell,	Profile=AppSrv01					Close page	
View: All tasks	A	pplication servers			?	- H	elp		
Welcome							Field help		
Guided Activities Guided Activities Subscript Activities Subscrite Subscript Activities Subscript Activities Subs		Application servers					Field help For field help informa		
Servers				s in your environment and t			select a field la	abel or list	
Server Types			e this page to change the s	tatus of a specific applicatio	n server.		marker when the help cursor is displayed.		
WebSphere application servers		Preferences						iyeu.	
WebSphere MQ servers		*** **					Page help		
Web servers		Name 🗘	Node 🗘	Host Name 🗘	Version 🗘		More informati this page	on about	
Applications		You can administer the	*		VCISION V		Command Ass		
Services			ofss220137Node01	ofss220137.in.oracle.com	Base 8.5.5.0		View administr		
		server1	ofss220137Node01	ofss220137.in.oracie.com	Base 8.3.3.0		scripting comm		
Security	=	Total 1					action		
Global security	11								
Security domains									
Administrative Authorization Groups									
SSL certificate and key management									
Security auditing									
Bus security									
Environment									
∃ System administration									
Users and Groups									
Monitoring and Tuning									
Troubleshooting									
E Service integration	-								
< III >>									



5. Click the server to which SSL configuration has to be applied. The following screen is displayed.

WebSphere, software		Welcome websphere	Help Logout IBM.
View: All tasks 🗸	Application servers > server1		*
= Welcome	Use this page to configure an application server. An application server i required to run enterprise applications.	s a server that provides services	Help
Guided Activities	Runtime Configuration		Field help For field help informatio
Servers			select a field label or list
Server Types			marker when the help cursor is displayed.
WebSphere application servers	General Properties	. Container Settings	E Page help
WebSphere MQ servers	Name		More information about
		Session	this page
Applications	server1	management	
± Services	Node name	 SIP Container Settings 	
Resources	ofss220137Node01		
Security	Run in development mode	 Web Container Settings 	
Global security	Kun in development mode	Web container	
Security domains	Parallel start	Web container	
Administrative Authorization Groups	Start components as needed	transport chains	
 SSL certificate and key management Security auditing 		Portlet Container	
Bus security	Access to internal server classes	Settings	
* Environment	Allow 🔻	ElB Container	
-	Server-specific Application Settings	Settings	
System administration	Classloader policy	Container Services	
Users and Groups		Business Process	
Monitoring and Tuning		Business Process Services	
Troubleshooting	Class loading mode		
Service integration	Classes loaded with parent class loader first	Applications	
* UDDI		Installed applications	
	Apply OK Reset Cancel	Server messaging	
		Messaging engines	
		Messaging engine	-
۰ III ۲	۲. Element of the second se		•
trans 🔨 🗸 🗸	t <u>A</u> ll Mat <u>c</u> h Case 2 of 2 matches		×

6. Go to Configuration tab and click 'Web container transport chains' under 'Container settings'.

The following screen is displayed.

WebSphere. software		_				Welcome we	bsphere	Help Logout IBM.
View: All tasks	<u> </u>	ll=ofss21	20137Node01Cell, Profile=AppSrv01					Close page
Welcome	A	pplicatio	n servers				? -	– Help –
Guided Activities		Applica	ation servers > <u>server1</u> > Web co	ntainer transpor	t chains			Field help For field help information,
Servers			s page to view and manage a tran e operating within a client or serve		nsport chains rep	resent network p	protocol stacks	select a field label or list marker when the help
Server Types WebSohere application servers			erences					cursor is displayed.
WebSphere MQ servers		New	Delete					Page help
Web servers		C	D # 9					More information about this page
Applications Services		Select	Name 🗘	Enabled	Host 🗘	Port 🗘	SSL Enabled	Command Assistance
+ Resources	Ξ	You c	an administer the following resourc	es:				View administrative scripting command for last
Security			HttpQueueInboundDefault	Enabled	*	9080	Disabled	action
Global security Security domains			HttpQueueInboundDefaultSecure	Enabled	•	9443	Enabled	
 Administrative Authorization Groups SSL certificate and key management Security auditing 			WCInboundAdmin	Enabled	*	9060	Disabled	
Bus security			WCInboundAdminSecure	Enabled	*	9043	Enabled	
Environment System administration			WCInboundDefault	Enabled	*	9080	Disabled	
Users and Groups			WCInboundDefaultSecure	Enabled	*	9443	Enabled	
Monitoring and Tuning	1	Total	<i>c</i>					
Troubleshooting	-	iotai	0					
<								
trans ^ Y High	light <u>A</u> l	I Mat <u>o</u>	h Case 2 of 2 matches					×



7. Against their respective names, the secured connection is available under the column 'SSL Enabled'. Click 'WCInboundDefaultSecure'. The following screen is displayed:

WebSphere, software	Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page 🔺
View: All tasks	Application servers ?	- Help
Welcome		
Guided Activities	<u>Application servers</u> > <u>server1</u> > <u>Web container transport chains</u> > HttpQueueInboundDefaultSecure	Field help For field help informatio
- Servers	Use this page to view and manage a transport chain. Transport chains represent network protocol stacks that	select a field label or list
Server Types	are operating within a client or server.	marker when the help cursor is displayed.
WebSphere application servers	Configuration	cursor is displayed.
WebSphere MQ servers		Page help
Web servers		More information about this page
Applications	General Properties	this page
+ Services	* Name	
Resources	HttpQueueInboundDefaultSecure	
-		
Security	🗹 Enabled	
Global security Security domains	Transport Channels	
Administrative Authorization Groups		
SSL certificate and key management	TCP inbound channel (TCP 4)	=
Security auditing	Host *	
Bus security	Port 9443	
Environment	Thread pool WebContainer Maximum open connections 20000	
+ System administration	Inactivity timeout 60 seconds	
Users and Groups		
	SSL inbound channel (SSL 2)	
Monitoring and Tuning	SSL configuration (Centrally managed)	
Troubleshooting	aan caniferanan (canifer)	
Service integration	HTTP inbound channel (HTTP 4)	
± UDDI	Use persistent keep alive connections Enabled	
	Maximum persistent requests per connection 100	
	Read timeout 60 seconds	
	Write timeout 60 seconds	
	Persistent timeout 30 seconds	
	HTTP queue inbound channel (HTTPO 2)	
	Web container inbound channel (WCC_6)	
	Apply OK Reset Cancel	_
< III >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		

8. Click 'SSL Inbound channel (SSL 2).

WebSphere. software	Welcome websphere	ielp Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
Welcome	Application servers 7 -	Help Field help
Server Types	☐ Messages ☐ Transport Channel SSL_2 is shared between two or more transport chains. Changes to SSL 2 will affect multiple network protocol stacks.	For field help informatio select a field label or list marker when the help
Berver rypes WebSphere application servers WebSphere MQ servers Web servers Web servers Applications Services	Application servers > server1 > Web container transport chains > Http://www.lnbound.chainel. Mapping the servers > server1 > Web container transport chains > Http://www.lnbound.chainel. Use this page to view and configure a channel for handling the encryption and decryption of data over inbound concections.	cursor is displayed. Page help More information about this page Command Assistance View administrative
	Configuration	scripting command for la action
Security Global security Gescurity domains Administrative Authorization Groups SSL cartificate and key management Security auditing Bus security	General Properties Additional Properties + Transport channel name E Custom properties [SSL_2] Discrimination weight	
Environment	1 Related Items	
(d. System administration (d. Users and Groups (d. Monitoring and Tuning (d. Troubleshooting (d. Service integration (d. UDDI	SSL Configuration \$\$\$L configuration - call level © Centrally managed \$\$\$L tree @ Specific to this endpoint \$\$elect \$\$L configuration Biolect \$\$L configuration \$\$ NideDefaultSSLSettings •	
< ►	Apply OK Reset Cancel	

9. Select the configured SSL from the list of SSL configurations. Click 'Apply' and save the changes.



1.6 Running Application with SSL

To run the application with SSL, use the following syntax:

https://<<ip address or host name>>:<<port number>>/<<context>>>

1.7 Certificate Exchange for Two Ways SSL

1.7.1 Extracting Certificate for Server1

The process of extracting certificate for Server 1 is described below.

WebSphere. software						Welcome we	bsphere			IBM.
View: All tasks	Cell=ofss2:	Cell=ofss220137Node01Cell, Profile=AppSrv01 Close page								
Welcome		icate and key m rtificate and ke		Key stores and certifica	ates > <u>Nod</u>	eDefaultKeySto	<u>re</u> > Personal c	ertificates		? -
Servers	Manag	es personal cer	tificates.							
Server Types	+ Pre	ferences								
WebSphere application servers WebSphere MQ servers	Cre	ate Delete	Receive from a	certificate authority	Replace	Extract	Import	Export	Revoke	Renew
Web servers	Select		Alias	Issued To		Issued By		Serial Nu	mber	Expiration
	You c	an administer tl	he following resour	ces:						
± Services		9 =	default	CN=ofss220137.in.ora		CN=ofss220137		3446736	556526576	
± Resources				OU=ofss220137Node(OU=ofss220137Node(OU=Root Certif OU=ofss220137				Jun 22, 2015 to Jun
Security				O=IBM, C=US		OU=ofss220137Node01,				21, 2016.
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security		Î		CN=ofss220137.in.ora OU=Root Certificate, OU=ofss220137Node(OU=ofss220137Node(O=IBM, C=US)1Cell,	O=IBM, C=US CN=ofss220137 OU=Root Certif OU=ofss220133 OU=ofss220133 O=IBM, C=US	icate, 7Node01Cell,	3446736	182480725	Valid from Jun 22, 2015 to Jun 18, 2030.
Environment										
∃ System administration	Total	2								
Users and Groups										
Monitoring and Tuning										
Troubleshooting										
E Service integration										
Iddu 🗄										
· · · · · · · · · · · · · · · · · · ·	•			III						Þ

 On the left pane of the screen, expand 'Security'. Go to 'SSL certificate and key management > Key stores and certificates > {YOUR KEYSTORE NAME} > Personal certificates.



2. Select the installed certificate and click 'Extract' button.

here, software	Welcome websphere Help	
All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	
iew: All tasks 🗸	SSL certificate and key management ? -	Help
Welcome		Field
Guided Activities	SSL certificate and key management > Key stores and certificates > NodeDefaultKeyStore > Personal certificates > Extract certificate	For
Servers		sele
Server Types	Extracts a certificate from the key store to be added to another key store.	mar
WebSphere application servers	General Properties	curs
WebSphere MQ servers	Certificate alias to extract	Pag
Web servers	default	More this
Applications	* Certificate file name	<u>uns</u>
Services	D:\Keystores\myKeysore.cer	
+ Resources	Data type	
	Base64-encoded ASCII data	
- Security		
Global security Security domains	Apply OK Reset Cancel	
 Security domains Administrative Authorization Groups 	Appy on House Cancer	
SSL certificate and key management		
Security auditing		
Bus security		
Environment		
System administration		
± Users and Groups		
Monitoring and Tuning		
Troubleshooting		
E Service integration		
UDDI	*	
4 111	< III	

3. Specify the location to save the certificate. This will be used to add in the other server. Ensure that the file has been created in the location.

Eg: \<localfolder>\<server1.cer>

4. Similarly extract the certificate for the second server.

Eg: \<localfolder>\<server2.cer>

1.7.2 Extracting Certificate for Server2

You can follow the steps for server 1 described under 'Extracting Certificate for Server1' to extract the certificate for Server2.



1.7.3 Importing Certificate into Keystore for Server1

Note: The trust certificates also needs to be added in the **cacerts** of the Java Runtime Environment

Go to the other server. Expand 'Security > SSL certificate and key management > Key stores and certificates > Server7Keystore (which is created now).

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks	l=ofss220137Node01Cell, Profile=AppSrv01	Close page
View: All Lasks	L certificate and key management	
Welcome		
Guided Activities Guided Activities Subscript Activities Subscrites Subscript Activities Subscript Activities Sub	SSL certificate and key management > Key stores and certificates > NodeDefaultKeyStore	
Servers	Defines keystore types, including cryptography, RACF(R), CMS, Java(TM), and all truststore types.	
Server Types		
WebSphere application servers	General Properties	
WebSphere MQ servers		Additional Properties
Web servers	Name	Signer certificates
⊕ Applications ■	NodeDefaultKeyStore	Personal
Services	Description	certificates
	Default key store for ofss220137Node01	ertificate
Security	Management scope	requests
Global security	(cell):ofss220137Node01Cell:(node):ofss220137Node01	Custom
Security domains	Path	properties
Administrative Authorization Groups	\${CONFIG_ROOT}/cells/ofss220137Node01Cell/nodes/ofss220137Node01/key.p12	
 SSL certificate and key management Security auditing 	* Password	
Bus security	* Password	
# Environment		
System administration	Type PKCS12	
	PRCS12	
Users and Groups	Read only	
Monitoring and ⊤uning		
	Initialize at startup	
Service integration	Enable cryptographic operations on hardware device	
T UDDI		-
۰ III >		4

1. Click 'Signer Certificates'. The following screen is displayed:

WebSphere. software				Welcome websphere	Help Logout IBM.
		Cell=ofss220137Node01Cell, Profile=	AppSrv01		Close page
View: All tasks					
Welcome Guided Activities		SSL certificate and key managements SSL certificate and key managements certificates		<u>certificates</u> > <u>NodeDefaultKeyStore</u> > Signer	Field help For field help information,
Servers					select a field label or list
Server Types		Manages signer certificates in k	ey stores.		marker when the help
WebSphere application servers		Preferences			cursor is displayed.
WebSphere MO servers		Add Delete Extract	Retrieve from port		Page help
Web servers			inconcre inom port		More information about
					this page
Applications					Command Assistance
± Services		Select Alias 🗘	Issued to 🗘	Fingerprint (SHA Digest) 🗘 Expiration 🗘	View administrative
+ Resources		None			scripting command for last
-		Total 0			action
Security	Ξ	Total o			
Global security					
Security domains					
Administrative Authorization Groups					
SSL certificate and key management					
Security auditing					
Bus security					
Environment					
System administration					
Users and Groups					
Monitoring and Tuning					
Service integration					
+ UDDI	Ŧ				
4 III >					

2. Click 'Add' button to add the certificate of the other server.



The following screen is displayed:

WebSphere. software	Welcome websphere	elp Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
Welcome	SSL certificate and key management ?	Help
Guided Activities	<u>SSL certificate and key management</u> > <u>Key stores and certificates</u> > <u>NodeDefaultKeyStore</u> > <u>Signer certificates</u> > Add signer certificate	Field help For field help information,
Servers	Adds a signer certificate to a key store.	select a field label or list
 Server Types WebSphere application servers 	General Properties	marker when the help cursor is displayed.
 WebSphere MQ servers Web servers 	+ Alias ELCM_Keystore	Page help More information about
Applications	* File name	this page
Services	D:\Keysores\myKeysore.cer	
+ Resources	Data type Base64-encoded ASCII data	
🗆 Security 📃	Base64-encoded ASCII data	
Global security Security domains	Appy OK Reset Cancel	
 Administrative Authorization Groups SSL certificate and key management 		
Security auditing		
Bus security		
Environment		
System administration		
Users and Groups		
Monitoring and Tuning		
Troubleshooting		
Service integration		
UDDI -		
	٠	

3. The extracted certificate of the second server has to be imported to the key-store and truststore of first server. This has to be done using the same local path where the extract certificate was generated for the first server.

Eg: \<localfolder>\<server1.cer>

1.7.4 Importing Certificate into Keystore for Server2

You can follow the steps for server 1 described under 'Importing Certificate into Keystore for Server1' to import the certificate into keystore for Server2.



1.7.5 Importing Certificate into Truststore for Server1

Expand 'SSL certificate and key management > Key stores and certificates and click 'NodeDefaultTrustStore'.

View: All tasks • Welcome • Help • Guided Activities • SSL certificate and key management > Key stores and certificates • Guided Activities • Defines keystore types, including cryptography, RACF(R), CMS, Java(TM), and all truststore types. • WebSphere application servers • WebSphere application servers • WebSphere applications • Preferences • Applications • Preferences • Services • Delete Change password Exchange signers	WebSphere. software				We	come websphere	Help Logout IBM.
St. certificate and key management Image: St. certificate and		Cell=ofs	s220137Node01Cell, Profile=	AppSrv01			Close page
 Welcome Guided Activities SSL certificate and key management > Key stores and certificates Defines keystore types, including cryptography, RACF(R), CMS, Java(TM), and all truststore types. WebSphere Application servers WebSphere Application servers WebSphere Application servers Preferences Preferences Security Security Security Security Security denains Security denains	View: All tasks	SSL cer	tificate and key manageme	nt		2	- Help
 Services Services Administrative administration Security Global security Security domains Administrative administration forups Socurity domains Administrative administration Socurity ModeDefaultTrustStore Default trust store for ofss220137Node01 (node):ofss220137Node01Celli //ofss220137Node01 ModeDefaultTrustStore Default trust store for ofss220137Node01 ModeDefaultTrustStore Default trust store for ofss220137Node01 (node):ofss220137Node01Celli //ofss220137Node01 (node):ofss220137Node01 (fss220137Node01 		SSL	certificate and key manage	ement > Key stores and			
 Servier Types Webshere sphication servers Webshere sphication servers Webshere sphication servers Webshere sphication servers Preferences Preferences Security Security Security Course administrative authorization Groups Security Gomans Administrative Authorization Groups Security NodeDefaultXevStore Default key store for ofss220137Node01 ModeDefaultTrustStore Default trust store for ofss220137Node01 Security Users and Groups ModeDefaultTrustStore Default trust store for ofss220137Node01 Coursi (cell):ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli /ofss220137Node01Celli Storice integration 	- Servers	Defi	nes keystore types, includir	ig cryptography, RACF(R), CMS, Java(TM), and all trusts	store types.	select a field label or list
• Services New Delete Change password Exchange signers Command Assistance • Services • Resources	 WebSphere application servers WebSphere MQ servers Web servers 	s	SL keystores	•			cursor is displayed. Page help More information about
Bervices Bervices Bervices Security Golds security Security demains Security auditing Bus security Security auditing Bus security Security auditing Seconting auditing Seconting auditing	Applications	N	ew Delete Change	password Exchang	je signers		Command Assistance
Security Select Name () Description () Management Scope () Path () Security domains Select Name () Description () Management Scope () Path () Security domains Security domains Default key store for ofss20137Node01 () (cell):ofss20137Node01 () //ofss20137Node01 () //ofss20137N	± Services				,		
Security Security Description () Management Scope () Path () I Global security Security domains Management Scope () Path () Security domains Administrative Authorization Groups Management Scope () Path () Security domains Maniput Management Scope () Security domains Security domains Security domains Management Scope () Security domains Security domains Security auditing Bis security MadeDefaultXevStore Default Krust store for of siz20137Node01 (cell):ofss220137Node01-() //cfss220137Node01 Environment Vares and Groups MadeDefaultTrustStore Default trust store for of siz20137Node01 (cell):ofss220137Node01-() /ofss220137Node01-() /ofss220137Node01-() Wantering and Tuning Monitoring and Tuning Total 2 Total 2 Security <	Resources						scripting command for last
Security domains NodeDefaultXevStore Default key store for ofss220137Node01Cell; (node):ofss220137Node01Cell; /ofss220137Node01Cell; /ofss220137Node01Cell; /ofss220137Node01 SSL certificate and key management Ssturity auditing Default Key store for ofss220137Node01 (cell):ofss220137Node01Cell; /ofss220137Node01Cell; /ofss220137Node01 Environment NodeDefaultTrustStore Default trust store for ofss220137Node01 (cell):ofss220137Node01 /cfss220137Node01 Vusers and Groups NodeDefaultTrustStore Default trust store for ofss220137Node01 (cell):ofss220137Node01 /cfss220137Node01 Monitoring and Tuning Total 2 Total 2	Security	Sele	ct Name 🗘	Description 🗘	Management Scope 🗘	Path 🗘	action
Administrative Authorization Groups Security authonization ModeDefaultTrustStore Default trust store for ofss220137Node01 (node):ofss220137Node01		You	a can administer the following	ng resources:			
System administration System administration Users and Groups ModeDefaultTrustStore Oefault trust store for ofss220137Node01 (cell):ofss220137Node01Cell: S(CONFIG_ROOT)/cells /ofss20137Node01Cell: /ofss20137Node01Cell /ofss20137Node01 /rotes //rotes /ofss20137Node01 //rotes //rotes /ofss20137Node01 //rotes /////////////////////////////////	 Administrative Authorization Groups SSL certificate and key management Security auditing Bus security 		NodeDefaultKeyStore			/ofss220137Node01Cell /nodes /ofss220137Node01	
U Users and Groups //nodes Monitoring and Tuning //roubleshooting Troubleshooting Total 2	Environment		NodeDefaultTrustStore	Default trust store for	(cell):ofss220137Node01Cell:	\${CONFIG_ROOT}/cells	
Weers and Groups //ofss220137Node01 Monitoring and Tuning //ofss220137Node01 Troubleshooting Total 2	 System administration 			ofss220137Node01		/ofss220137Node01Cell	
Monitoring and Tuning Troubleshooting Total 2 Total 2	± Users and Groups					/1100003	
Total 2 Total 2	Monitoring and Tuning					,	
Genvice integration	+ Troubleshooting						
		Tot	al 2				
H UDDI							
		1					

The following screen is displayed.

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks	Defines keystore types, including cryptography, RACF(R), CMS, Java(TM), and all truststore types.	*
Welcome		
Guided Activities	General Properties	Additional Properties
Servers	Name	Signer certificates
 Server Types 	NodeDefaultKeyStore	Personal
WebSphere application servers	Description	certificates
WebSphere MQ servers	Default key store for ofss220137Node01	Personal
	Management scope	<u>certificate</u> requests
Applications	(cell):ofss220137Node01Cell:(node):ofss220137Node01	Custom
± Services		properties
+ Resources	Path	
Security E	\${CONFIG_ROOT}/cells/ofss220137Node01Cell/nodes/ofss220137Node01/key.p12	
Global security	* Password	
Security domains		E
 Administrative Authorization Groups SSL certificate and key management 	Туре	
 Security auditing 	PKCS12	
Bus security	Read only	
Environment		
System administration	Initialize at startup	
Users and Groups	Enable cryptographic operations on hardware device	
Monitoring and Tuning		
Troubleshooting	Apply OK Reset Cancel	
Service integration		
+ UDDI -		-
4	()	•

1. Click 'Signer Certificates'.



The following screen is displayed.

WebSphere. software			Welcome websphere	Help Logout
View: All tasks	Cell=ofss220137Node01Cell, Profile=/			Close page
Welcome € Guided Activities			<u>certificates</u> > <u>NodeDefaultKeyStore</u> > Signer	Field help For field help information,
Servers Server Types	Manages signer certificates in k	ey stores.		select a field label or list marker when the help cursor is displayed.
WebSphere application servers WebSphere MQ servers Web servers	Preferences Add Delete Extract	Retrieve from port		Page help More information about
Web servers Applications				this page Command Assistance
Services Resources	Select Alias 🗘	Issued to 🗘	Fingerprint (SHA Digest) \diamondsuit Expiration \diamondsuit	View administrative scripting command for last
Security	Total 0			action
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security				
Environment System administration				
± Users and Groups				
Monitoring and Tuning				
+ Troubleshooting				
+ Service integration				
T UDDI				

2. Click 'Add' button to add the extracted certificate of the second server. The following screen is displayed.

WebSphere. software	Welcome websphere	ielp Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=App5rv01 SSL certificate and key management ?	Close page
Welcome		Field help
Guided Activities	<u>SSL certificate and key management</u> > <u>Key stores and certificates</u> > <u>NodeDefaultKeyStore</u> > <u>Signer certificates</u> > Add signer certificate	For field help information,
Servers		select a field label or list
Server Types	Adds a signer certificate to a key store.	marker when the help
WebSphere application servers	General Properties	cursor is displayed.
WebSphere MQ servers	* Alias	Page help
Web servers	ELCM	More information about
		this page
Applications	* File name D:\Keysores\myKeysore.cer	
Services	D: (keysores (mykeysore.cer	
+ Resources	Data type	
-	Base64-encoded ASCII data 🔻	
Security E		
Global security	Apply OK Reset Cancel	
Security domains	1999 Ore Longe Carlos	
Administrative Authorization Groups		
SSL certificate and key management		
Security auditing		
Bus security		
± Environment		
∃ System administration		
Users and Groups		
Monitoring and Tuning		
Troubleshooting ■		
Service integration		
javascript:clearFilter('com.ibm.ws.console.sec	urity.SignerCertsCollectionForm') III	Þ

3. Specify the 'alias' name to identify the other server.

Eg: For server1, you can give the alias name 'server2Alias'.

4. Further, specify the location of the extracted certificate.



1.7.6 Importing Certificate into Truststore for Server2

You can follow the steps for server 1 described under 'Importing Certificate into Truststore for Server2' to import the certificate into Truststore for Server2.

1.8 Managing Endpoint Security Configurations

To manage the endpoint security configurations, follow the instructions given below.

WebSphere. software		Welcome websphere	Help Logout
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01		Close page
Welcome ⊕ Guided Activities ⊕ Servers	SSL certificate and key management SSL certificate and key management	2.	 Help – Field help For field help information, select a field label or list marker when the help
Applications Services Resources	SSL configurations The Secure Sockets Layer (SSL) protocol provides secure communications between remote server processes or endpoints. SSL	Related Items	cursor is displayed. Page help More information about
Security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security Environment Environment	security can be used for establishing communications inbound to and outbound from an endpoint. To establish secure communications, a certificate and an SSL configuration must be specified for the endpoint. In previous versions of this product, it was necessary to manually configure each endpoint for Secure Sockets Layer (SSL). In this version, you can define a single configuration for the entire application-serving environment. This capability enables you to centrally manage secure communications. In addition, trust zones can be established in multiple node environments by overriding the default, cell-level SSL configuration.	Dynamic outbound endpoint SS, configurations Key stores and certificates Key sets Key sets Key managers Trust managers	this pace
 ↔ System administration ↔ Users and Groups ↔ Monitoring and Tuning ↔ Troubleshooting ↔ Service Integration 	If you have migrated a secured environment to this version using the migration utilities, the old Secure Sockets Layer (SSL) configurations are restored for the various endpoints. However, it is necessary for you to re-configure SSL to take advantage of the centralized management capability. <u>Configuration settings</u> Manage endpoint security configurations	Cost managers Cost Cost Cost Cost Cost Cost Cost C	
	Manage certificate expiration Manage FIPS Image Dynamically update the run time when SSL configuration changes occur		

1. Expand 'Security > SSL certificate and key management' and click 'Manage endpoint security configurations'.

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
Welcome Guided Activities Servers	SSL certificate and key management ? - SSL certificate and key management > Manage endpoint security configurations ? Displays Secure Sockets Layer (SSL) configurations for selected scopes, such as a cell, node, server, or cluster. ?	Help – Field help For field help information, select a field label or list
Applications Services	Local Topology	marker when the help cursor is displayed.
(a) Resources (c) Resources (c) Security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security (c) Revironment	□ inbound □ pfss20137Node01Cell □ ① fss20137Node01(tode0efsultSSLSettings) □ ① fss220137Node01Cell	Page help More information about this page
System administration Users and Groups Monitoring and Tuning Troubleshooting		
* •		



2. Change the inbound node settings. Expand 'Inbound' and click link highlighted in blue color. The following screen is displayed.

WebSphere. software	Welco	me websphere Help	Logout IBM.
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=App5rv01 SSL certificate and key management	2.	Close page
Welcome Guided Activities Servers Applications Genetices	SSL certificate and key management > Manage endpoint security configurations > ofss2 Displays Secure Sockets Layer (SSL) configurations for selected scopes, such as a cell, nor <u>General Properties </u>		Field help For field help inform select a field label o marker when the he cursor is displayed. Page help
Resources Security	Name	SSL configurations	More information at this page
Global security Security demains Administrative Authorization Groups SSL certificate and key management Security auditing Box security System administration Users and Groups Monitoring and Tuning Troublashooting Service integration UDDI	Direction Inbound Specific SSL configuration for this endpoint SSL configuration NodeDafaultSSLsettings Certificate alias in key store default Apply OK Reset Cancel	Dynamic outbound andpoint SSL configurations Key stores and certificates Key sets Key sets Key sets Key sets Certificates Outbound Certificate Authority (CA) client configurations	
4 III + IIII + III + IIII + IIIII + IIIII + IIII + IIII + IIIII + IIII + IIII + IIII + IIIII + IIIIII	۲. III		4

- 3. Select the 'SSL Configuration' created which you just created. Click 'Update certificate alias list ' button.
- 4. Ensure that the proper certificate and SSL configuration are selected. Further, click 'Apply' and save the settings.

You can view the settings under 'Inbound'.

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
	SSL certificate and key management ? -	Help –
Welcome		Field help
Guided Activities	<u>SSL certificate and key management</u> > Manage endpoint security configurations	For field help information,
Servers	Displays Secure Sockets Layer (SSL) configurations for selected scopes, such as a cell, node, server, or cluster.	select a field label or list marker when the help
Applications	Local Topology	cursor is displayed.
Services		Page help
Resources	E Inbound	More information about
Security	☐ ofss220137Node01Cell	this page
Global security		
Security domains		
Administrative Authorization Groups		
SSL certificate and key management	ofss220137Node01Cell	
Security auditing	Im nodes B () ofss220137Node01(NodeDefaultSSLSettings)	
Bus security		
Environment		
Monitoring and ⊤uning		
Troubleshooting		
Service integration		
UDDI		
۰ III +		

- 5. Repeat the above steps for 'Outbound' as well.
- 6. You need to repeat the above steps for server2 also.



1.9 Protection Quality

1. Expand 'SSL certificate and key management > SSL configurations > {YOUR SERVER CONFIG}.

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=App5rv01 SSL certificate and key management	Close page
Welcome	SSL certificate and key management > <u>SSL configurations</u> > NodeDefaultSSLSettings	4:
	Defines a list of Secure Sockets Layer (SSL) configurations.	
Services	General Properties	Additional Properties
Resources Global security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security audtine	Name NodeDefaultSSLSettings Trust store name NodeDefaultTsutStore ((cell):ofss220137Node01Cell:(node):ofss220137Node01) Keystore name	Quality of protection (QoP) settings Trust and key managers Custom
Bus security Environment System administration	NodeDefaultKeyStore ((cell):ofss220137Node01Cell:(node):ofss220137Node01) Get certificate aliases Default server certificate alias (none) Default client certificate alias	properties Related Items <u>Key stores and</u> <u>certificates</u>
 ↔ Users and Groups ↔ Monitoring and Tuning ↔ Troubleshooting 	Default client certhicste allas	
 会 Service Integration ⊕ UDDI 	(cell):ofss220137Node01Cell:(node):ofss220137Node01 Apply OK Reset Cancel	
4	<	Þ

2. On the right side, click 'Quality of protection (QoP) settings'. The following screen is displayed.

WebSphere. software	Welcome websphere	Help Logout 1314.
View: All tasks View: All tasks View: All tasks View: All tasks Output Gene Gene Gene Gene Gene Gene Gene Gen	Welcome websphere SSL certificate and key management Seclifies the security level, ciphers, and mutual authentication settings. Ceneral Properties Client authentication None Protocol SSL_TLS Provider Predefined JSSE provider Select provider Select provider 	Help Logout IBM.
Security adding Sus security Characteristics System administration System administration System administration Monitoring and Tuning Troubleshooting Service integration UDDI	Select provider IBMJSSE2 Custom JSSE provider Custom provider Cipher suite settings Cipher suite settings Strong Update selected ciphers	E
4 <u> </u>	Cipher suites Selected ciphers Add >> SSL_RSA_WITH_AES_128_CBC_SHA256 <<< Remove	-

3. Under 'Client authentication' choose 'Supported' from the drop-down list.



- 4. Click 'Apply' and save the changes.
- 5. You need to repeat these steps for the second server. Once you have made the changes to both the servers, restart the servers. It is recommended to restart the servers after making the changes.

1.10 Importing or Adding Server Certificates using Batch

Alternatively, you can import or add the server certificates using *ikeyman.bat*. This batch is available at the following location:

<InstalledLocatio>\IBM\Websphere\AppServer\bin

For security reasons, change the password for 'defaultTruststore' (trust.p12). The default password is 'WebAS'.

SSL port information is available in the following screens.

View: All tasks Image: Components as needed Image: Component as needed Image	WebSphere. software		Welcome websphere	Help Logout IBM.
ServerTypes ServerTypes WatSphere splication servers WatSphere splication servers WatSphere splication servers WatSphere splication servers Applications ServerSide ServerSide <th>Welcome Guided Activities</th> <th>Start components as needed Access to internal server classes</th> <th>Settings Container Services Susiness Process</th> <th>Field help For field help information,</th>	Welcome Guided Activities	Start components as needed Access to internal server classes	Settings Container Services Susiness Process	Field help For field help information,
	Server Types WebSphere application servers WebSphere application servers Web servers Web servers Applications Services Resources Security Environment	Classloader policy Multiple Class loading mode Classes loaded with parent class loader first	Applications Installed applications Server messaging Messaging engines Messaging engines Messaging engines WebSohere MO link inbound transports	marker when the help cursor is displayed. Page help More information about
Port Communications Ensked Applications	Users and Groups Monitoring and Tuning Troubleshooting Service Integration		 Java and Process Management Administration Java SDKs 	
Performance			Port: Messaging Communications Enabled Applications (CEA) Performance Parformance	



Click 'Ports'. The details are displayed as follows.

WebSphere, software	Welcome websphere Help Logo		IBM
View: All tasks 🗸	Communications		
Welcome	E Ports		
Guided Activities	Port Name	Port	Detai
9 Servers	BOOTSTRAP_ADDRESS	2809	
 Server Types 	SOAP_CONNECTOR_ADDRESS	8880	
WebSphere application servers WebSphere MO servers	ORB_LISTENER_ADDRESS	9100	
Web servers	SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	9401	
Applications	CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	9403	
t Services	CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	9402	
Resources	WC_adminhost	9060	
+ Security	WC_defaulthost	9080	
■ Environment	DCS_UNICAST_ADDRESS	9353	
E System administration	WC_adminhost_secure	9043	
Users and Groups	WC_defaulthost_secure	9443	
Monitoring and Tuning	SIP_DEFAULTHOST	5060	
Troubleshooting	SIP_DEFAULTHOST_SECURE	5061	
	SIB_ENDPOINT_ADDRESS	7276	
E Service integration	SIB_ENDPOINT_SECURE_ADDRESS	7286	
IDDU	SIB_MQ_ENDPOINT_ADDRESS	5558	
	SIB_MQ_ENDPOINT_SECURE_ADDRESS	5578	
	IPC_CONNECTOR_ADDRESS	9633	
	OVERLAY_UDP_LISTENER_ADDRESS	11003	
	OVERLAY_TCP_LISTENER_ADDRESS	11004	
	Messaging Communications Enabled Applications (CEA)		
	Performance		
	Botformance Monitoring Infractructure (BMI)		



2. Creating Resources on Websphere

2.1 Introduction

This document explains the steps to create resources on Websphere application server and Queues in Websphere MQ server.

2.2 Creating Queues on Websphere MQ Server

The process of creation of queues on Websphere is explained under the following headings.

2.2.1 Creating Queue Manager through Console

To create queue manager through console, follow the steps given below:

1. Start MQ server console.

🔀 IBM WebSphere MQ Explorer		- 7 🛛
Ele Window Help		
🕾 MQ Explorer - Navigator 🛛 👔 🗇 🗢 📫 🍄 🍸 🗖	MQ Explorer - Content 🛛	# \$ 7 8
Generation Generation Generation Generation Generation Generation Generation Generation	WebSphere. MQ	IBM.
JMS Administered Objects Service Definition Repositories	Welcome to MQ Explorer In MQ Explorer you can administer local and remote gueue managers and their	
	an my cappurer you can administer fuca and remote debue managers and uter resources, such as queues, channels, and isteners. Help on MO Explorer	
	Help on MQ Explorer icons	
	MO Explorer Preferences	
	Queue manager icons	
	The following icons are used in the Navigator view to indicate queue manager status:	
	Local queue manager; running and connected to MQ Explorer Local queue manager; running but disconnected from MQ Explorer	
	Local queue manager; stopped and disconnected from MQ Explorer	
	Remote queue manager; connected to MQ Explorer	
	Remote queue manager; disconnected from MQ Explorer	
	 Local queue manager; running as standby and disconnected from MQ Explorer 	
]



2. On the left pane, go to 'IBM Websphere MQ > Queue Manager > New > Queue Manager' as shown below:

Image: Second	IBM WebSphere MQ E	xplorer									
Conservation of the second secon	File Window Help										
Outer Mearger Show/Mide Queue Managers. We wanter Ad Hendee Queue Managers. Tests Sandard for Queue Managers Tests Comma Meargers.	🔠 MQ Explorer - Navigator	8 👘 🗢 👘 🤊		🗐 MQ Explorer - Content	22						41 🔤
Queue Manager Showlike Queue Managers > Showlike Queue Managers Queue Managers > Sorvice Definition Year Tests > Service Definition Year Service Definition Year Year Queue Managers Year Year	B () IBM WebSphere MQ		Î	Queue Manager	s						
Ab Advinced Mo Advinced More Advinc	- 🗁 Queue Manage			Eiter: Standard for Ou	Nue Macagerr						
	- 🗁 JMS Administer										
	Service Definiti	New +	Queue M	lanagar ue manag	Command level	Queue manager status	Platform	Queue-sharing group name	Dead-letter queue	Description	Default bind type
	4	Sets .	1								
Scheme: Standard for Queue Managers				Scheme: Standard for	Queue Managers						
Last updated: 16:47:03				Last updated: 16:47:0							
Select a gueue manager to show its connection details here:				Calant a manual management		an dahaila kasas					
percula qualization since as confliction decale here:				pereut a queue manager o	I SHOW ILS CONNECCI	un decais nere:					



The following screen is displayed:

🕀 Create Queue Manage	er 📃 🗖 🗙
Queue Manager	
Enter basic values	
Queue manager name:	
Make this the default que	ue manager
Default transmission queue:	
Dead-letter queue:	
Max handle limit:	256
Trigger interval:	999999999
Max uncommitted messages:	10000
?	Kack Next > Finish Cancel

3. Specify the 'Queue manager name'. Check the box 'Make this the default queue manager'.



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

🕀 Create Queue Ma	inager	
Queue Manager		
Enter data and log valu	es	
<u></u>		
Queue manager name:	QM_DDHP0520	
	• Use circular logging	
	OUse linear logging	
Log file size: (x4KB)	4096	×
Log primary files:	3	~
Log secondary files:	2	*
Data and the settle		
Data and Log paths — Use default paths		
Data path: D:\Progra	am Files\IBM\WebSphere MQ\qmgrs	Browse
Log path: D:\Progra	am Files\IBM\WebSphere MQ\log	Browse
L		
0	< <u>B</u> ack <u>N</u> ext > <u>Finish</u>	Cancel

5. Click 'Next'.



The following screen is displayed:

🕀 Create Queue Manager
Queue Manager
Enter configuration options
Queue manager name: QM_DDHP0520
Start queue manager after it has been created
Multi-instance Queue Manager:
Permit a standby instance
Select type of queue manager startup
 Service (manual) Interactive (manual)
Configures the queue manager to start automatically when the machine starts up.
Create server-connection channel to allow remote administration of the queue manager over TCP/IP
⑦ < <u>Back</u> <u>Next</u> > <u>Finish</u> Cancel

6. Click 'Next'.



The following screen is displayed:

🕀 Create Queue Manager 📃 🗖 🔀
Queue Manager
Enter listener options
Queue manager name: QM_DDHP0520
The queue manager needs a listener to monitor for incoming network connections, for some network protocols.
Create listener configured for TCP/IP
The listener needs to listen on a port number not used by any other queue manager, service or application on this computer
Listen on port number: 1414
Image: Second



7. Specify the 'Listen on port number' as '1414' (default). Click 'Next'. The following screen is displayed:

🕀 Create Queue Manager	
Queue Manager	
Enter explorer options	
Queue manager name: QM_DDHP0520 ✓ Autoreconnect ✓ Automatic Refresh ✓ Automatically refresh information shown for this queue manager Interval (seconds): 15 ✓ Apply Default	
? < <u>Back</u> Next > Einish	Cancel



8. Click 'Finish'. The following screen is displayed:



9. Close the message. The following screen is displayed:

MQ Explorer - Navigator 🕄 🍐 🏠 🗘 👘 🖓 🖓 🖓	🗆 😢 MQ Explorer - Content 🛛							배 👩 🗸 🗖		
	- MQ Explorer - Content 🔊							Hi 🌮		
IBM WebSphere MQ Cueue Managers	Queue Managers									
	Filter: Standard for Queue Managers									
MS Administered Objects Service Definition Repositories	 Queue manager name 				Queue-sharing group name	Dead-letter queue	Description			
	OL QM_DOHPOSSO	701	Stopped	Windows				Shared		
	Scheme: Standard for Queue M	anagers						⊽		
	Last updated: 16:50:26									
	Select a queue manager to show its connection details here:									



10. Right click 'Queue Manager' and select 'Start'. The following screen is displayed:

🕀 IBM WebSphere MQ Exp	olorer			
File Window Help				
🕾 MQ Explorer - Navigator 🔀		MQ Explorer - Content 🛛		
BM WebSphere MQ Dueue Managers Queue Managers QM_DDHP052P	Start	Queue Manager QM_DDHP0520 Connecton Quickliew:		
- C Queue Manager C	Hide	Connection status	Disconnected	
		Connection type	Local	
- 🗁 Service Definition (Delete	Connection name		
	Tests	Channel name		
	Connection Details	Channel definition table		
	Connection Details V	Refresh interval	15	
	Properties	Autoreconnect	Yes	
L .				
		Last updated: 16:50:53		
		Last updated. 10.30.35		
		Status QuickView:		
		Queue manager status	Stopped	
		Command server status	Stopped	

11. Right click 'Queue Manager QM_DDHP0520' and select 'Start'. The following screen is displayed:

■ Start Queue Manager - "QM_DDHP0520"	
Choose Start Method: Start as created Start as service Start interactive	
Multi-instance Queue Manager:	
0	OK Cancel



12. Click 'OK'. The following screen is displayed:

🕀 IBM WebSphere MQ Explorer					
File Window Help					
📧 MQ Explorer - Navigator 🛛 👘 🗇 🗢 👘	MQ Explorer - Content 🛛	배 🛷 🏱 🗆 🗖			
	Queue Manager QM_DDHP0520 Connection Quiditiew:				
- Custers - Custers - DMS Administered Objects	Connection status	Connected			
	Connection type	Local			
🗁 Service Definition Repositories	Connection name				
	Channel name				
	Channel definition table				
	Refresh interval	15			
	Autoreconnect	Yes			
	Last updated: 17:16:07				
	Last updated: 17:16:07				
	Status QuickView:				
1	Queue manager status	Running			
	Command server status	Running			
	Channel initiator status	Stopped			
	Connection count	4			
	Standby	Not permitted			
	Last updated: 17:16:07				
	Properties QuickView:				
1	Queue manager name	QM_DDHP0520			
1	Description	du Deur occo			
	Platform	Windows			
	Command level	701			
	Default transmission queue				
	Startup	Automatic			
	Last updated: 17:16:07				



2.2.2 Creating Queues

To create queues, follow the steps given below:

1. Start MQ server console.

File Window Help	🕀 IBM WebSphere MQ Explorer			
Concision QuickNew Concention QuickNew Conce				
Concision Regional Concision Concision Regional Concision Concision Regional Concision Sance Definition Repositories Concision Regional	🐮 MQ Explorer - Navigator 🕺 🛛 🏠 🗇 💠 🌼 🍸	🗖 🗖 🙋 MQ Explorer - Content 🕺		배 🛷 🏱 🗖
Mic Administratio Opiects Service Definition Repositories Connection status Connection age Local Lo	Queue Managers		0520	
Status Quidk/lew:: Quiase manager status Rumming Command enterner status Suruming Command initiator status Suruming Last updated: 17:16:07 Last updated: 17:16:07 Roperties Quidk/lews: Queue manager name Queue manager name QM_DDP/05200 Command infeel 701 Perfait transmission queue 701	- 🗁 JMS Administered Objects	Connection type Connection name Channel name Channel definition table Refresh interval	Local 15	
Queue manager status Running Command server status Bunning Charmand Initiator status Supped Carmand Initiator status Supped Sanday Not permitted Sanday Not permitted Last updated: 17:16:07 Properties Quicklew: Queue manager name Queue manager name QM_D0P05200 Properties Quicklew: Sanday		Last updated: 17:16:07		
Command server status Running Charmand server status Supped Connaction count 4 Supped Connaction		Status QuidkView:		
Properties Quid/New: Queue nanager name QM_004P0520 Peter Parties Quid/News Command Invel 701 Default transmission queue		Command server status Channel initiator status Connection count	Running Stopped 4	
Queue manager name QM_DDP0520 Description Plafform Plafform Windows Command Rivel 701 Default transmission queue Plafform		Last updated: 17:16:07		
Queue manager name QM_DDP0520 Description Plafform Plafform Windows Command Rivel 701 Default transmission queue Plafform		Properties QuickView:		
		Queue manager name Description Platform Command level Default transmission queue	Windows 701	
Last updated: 17:16:07		Last updated: 17:16:07		

2. On the left pane, go to 'IBM Websphere MQ > Queue Managers > QM_DDHP0520 > Queues > New > Local Queue' as shown below.

🕀 IBM WebSphere MQ Explorer								
File Window Help								
😪 MQ Explorer - Navigator 🛛 🔹 🏠 🗇	🔿 🛛 🧇 🍸 🗖 🚺 👰 Ext	olorer - Content 🕱						
IBM WebSphere MQ Deuee Managers Queue Managers Queues	Queue Filter:	2 S Standard for Queues						
Copics New Subscrip Status	Local Queue)ueue name	Queue type	Open input count	Open output count	Current queue depth	Max queue depth	Pu
Image: Service Definition Status Image: Service Definition Tests Image: Object Authorities Object Authorities	Alas Queue Model Queue Remote Queue Definition							



The following screen is displayed:

Queue Name should be ALL CAPS, else issue will occur at listener level in WAS.

🕀 New Local Queue	
Create a Local Queue	
Enter the details of the object you wish to create	
Name:	
NoTIFY_QUEUE	
Select an existing object from which to copy the attributes for the new object.	
SYSTEM.DEFAULT.LOCAL.QUEUE	Select
When this wizard completes, another wizard can be started automatically to create a matching object.	
Start wizard to create a matching JMS Queue	
Image: Constraint of the sector of the se	Cancel

3. Specify the queue name. Click 'Next'. The following screen is displayed:

New Local Queue			
Change properties Change the properties of the new L	.ocal Queue		
General Extended Cluster Triggering Events Storage Statistics	General Queue name: Queue type: Description: Put messages: Get messages: Default priority: Default prisistence: Scope: Usage:	NOTIFY_QUEUE Local NOTIFY_QUEUE Allowed Allowed Queue manager Normal	
0			Cancel
\odot		< Back Next > Finish	Cancel



4. Specify the description. Select 'Persistent' as the 'Default persistence'.

Select 'Queues' on the left pane.

MQ Explorer - Navigator 🛛 👔 🗇 🗢 🕼 🌾 🌣 🗖 🛙	MQ Explorer - Content 🛛				#1 1 17	• 🚸 🍸	
BIM WebSphere MQ Course Managers BM QM_DDHP0520_NEW Managers M QM_DDHP0520_NEW	Queues Filter: Standard for Queues	Queues					
 Bervice Definition Repositories 	Queue name NYTYY-QUEUE				Current queue depth	Mar guoue 5000	
	Scheme: Standard for Queues - Distributed					~	

5. You can find the new queue name in the list.

2.3 <u>Creating Queue Manager and Queue using UNIX</u> <u>Commands</u>

You need to create, configure, post and view messages in IBM MQ queues. The method is described under the following headings.

For this, first you need to open 'Putty' and connect it to the MQ server installed box.

2.3.1 Creating Queue Manager

Change the directory to '<Websphere_MQ_HOME>'. Here, 'Websphere_MQ_HOME' is the MQ server software installation directory.

The command to create Queue Manager is given below:

crtmqm <queue_manager_name>

Example

crtmqm FC_QMGR

This command creates the queue manager 'FC_QMGR' in the MQ server.



2.3.2 Starting Queue Manager

Once the queue manager is created, you need to start the queue manager using the following command:

strmqm <queue_manager_name>

<u>Example</u>

strmqm FC_QMGR

This command starts the 'FC_QMGR' queue manager.

2.3.3 Starting MQ Service to Create Queues under FC_QMGR

After stating the queue manager, run the MQSC service (for creating queues and other objects) of queue manager. You can use the following command:

runmqsc <queue_manager_name>

Example

runmqsc FC_QMGR

This command starts the MQ service for 'FC_QMGR'.

2.3.4 Creating Queues

After starting the MQSC issue, you need to create the required queues using the following command:

DEFINE QLOCAL (<QUEUE_NAME>)

Example

DEFINE QLOCAL (EMSOUT_QUEUE)

This command creates all the necessary queues.

2.3.5 Creating Channel

After creating the queues, you need to create a channel for queue manager using the following command:

DEFINE CHANNEL (<CHNL_NAME>) CHLTYPE(<CHANNEL_TYPE>)

Here, 'CHNL_NAME' is the name of the channel and 'CHANNEL_TYPE' is the type of channel such as server connection, sender, receiver, etc. You can create the server connection channel using the following command:

DEFINE CHANNEL (FC_CNL) CHLTYPE (SVRCONN)

Here, SVRCONN stands for the 'Server Connection' channel type.

2.3.6 Ending MQSC

You can use the command 'END' to end the MQSC service.



2.3.7 Creating Bindings

After creating the queues and the channel, you need to bind them using the JMSAdmin. To do this, start Putty and connect it to the MQ server installed box.

Move to the directory '<Websphere_MQ_HOME>/java/bin'. Here, 'Websphere_MQ_HOME' is the MQ server software installation path.

In this folder, you will find the file 'JMSAdmin.config'. You need to give the PROVIDER_URL to which the *.bindings* files need to be created.

PROVIDER_URL=file: <Websphere_MQ_HOME>/JNDI

Example

PROVIDER_URL=file: /var/mqm/JNDI

Below environment variables need to be set before creating queue/connection factory configurations.

PATH=\$PATH:\$HOME/bin export MQ_JAVA_INSTALL_PATH=/opt/mqm/java export MQ_JAVA_DATA_PATH=/var/mqm export MQ_JAVA_LIB_PATH=/opt/mqm/java/lib L=\$MQ_JAVA_INSTALL_PATH/lib CLASSPATH=\$CLASSPATH:\$L/com.ibm.mq.jar:\$L/com.ibm.mqjms.jar export CLASSPATH=\$CLASSPATH:/opt/mqm/samp/jms/samples:/opt/mqm/samp/wmqjava/samp export PATH

Launch JMSAdmin

You should have read-write access on this folder.

2.3.8 Creating QCF

After creating the queues and channel, you need to create a queue connection factory in the MQ server. Complete the above steps and make above changes to the 'JMSAdmin.config' file. Move to the directory '<Websphere_MQ_HOME>/java/bin' in Putty. Type 'JMSAdmin' as shown in the figure.



This will take you to the 'InitCtx>' section. Use the following command to create queue connection factory:



define qcf (<qcf_name>) qmgr(<queue_mgr_name>) host (<ip-address>) port(1010)
tran(CLIENT)

Example

define qcf (fc_qcf) qmgr(FC_QMGR) host (10.10.10.10) port(1010) tran(CLIENT)

This creates the queue connection factory for the queue manager 'FC_QMGR' in 10.10.10.10 server.

Now, you need to create the bindings for each queue. Use the following command in 'InitCtx>'.

DEFINE Q(EMSOUT_QUEUE) QUEUE(EMSOUT_QUEUE) QMGR(FC_QMGR)

Use the same command for other queues also.

You can use the following command to view the binding details:

InitCtx> display ctx

The binding details are displayed as shown in the figure below.

a ² 10	.180.196.51 - PuTTY		
InitC	tx> dis ctx		^
Con	tents of InitCtx		
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	.bindings SFMS_DEST_QUEUE NOTIFY_QUEUE_DLQ SWIFT_DEST_QUEUE EMSOUT_QUEUE EMSOUT_QUEUE NOTIFY_DEST_QUEUE RTGS_DEST_QUEUE SFMS_IN_QUEUE fc_qcf NOTIFY_QUEUE EMSOUT_QUEUE EMSOUT_QUEUE EMSOUT_QUEUE STMS_UN_QUEUE EMSOUT_QUEUE EMSOUT_QUEUE STMS_UN_QUEUE STMS_UN_QUEUE STMS_UN_QUEUE STMS_UN_QUEUE STMS_UN_QUEUE STMS_UN_QUEUE	<pre>java.io.File com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue com.ibm.mq.jms.MQQueue</pre>	
	EMSIN_QUEUE Object(s) Context(s)	com.ibm.mq.jms.MQQueue	
	4 Binding(s), 13 Administ	tered	1
InitC	tx>		~

Once this is created, you need to check whether the *.bindings* file is available in the path given in 'JMSAdmin.config' (PROVIDER_URL).

Now, you need to create JMS queues for DIRECT queues to post messages. DIRECT queues require connection to Oracle FLEXCUBE application. Please refer the document "Resource To be Created" for queue names list.



You need to create JMS queues for the queues mentioned in the document "Resource To be Created".

 Queue name 	Queue type	Open input count	Open output count	Current queue depth
DEFFERED_DEST_QUEUE	Local	0	0	0
EL_NOTIFY_DLQ	Local	0	0	0
EL_NOTIFY_REQ_Q	Local	0	0	0
EL_NOTIFY_RES_Q	Local	0	0	0
🔁 ELMDB_DLQ	Local	0	0	0
ELMDB_REQ_Q	Local	0	0	0
ELMDB_RES_Q	Local	0	0	0
EMS_EXTQUEUE	Local	0	0	0
EMS_INQUEUE	Local	2	0	0
EMS_OUTQUEUE	Local	1	0	0
	Local	0	0	0
MDB_QUEUE_DLQ	Local	0	0	0
MDB_QUEUE_RESPONSE	Local	0	0	0
NOTIFY_DEST_QUEUE	Local	0	0	0
NOTIFY_QUEUE	Local	1	0	0
DINOTIFY_QUEUE_DLQ	Local	0	0	0
RTGS_INQUEUE	Local	1	0	0
SFMS_INQUEUE	Local	1	0	0

2.3.9 MQ Channel Authentication

MQ Channel Authentication can be managed using following set of MQSC Commands

• Enable Channel Authentication

>ALTER QMGR CHLAUTH(ENABLE)

• Allow MQ Privileged Users to access Channel

>SET CHLAUTH(*) TYPE(BLOCKUSER) USERLIST(*MQADMIN) ACTION(REMOVE)

• Allow all client addresses to access Channel

>SET CHLAUTH(SYSTEM.*) TYPE(ADDRESSMAP) ADDRESS(*) ACTION(REMOVE

2.4 Viewing IBM MQ Queues

Through MQ explorer, you can view the queues created in IBM MQ. If the IBM MQ server sits on a Unix box, an MQ client needs to be setup in a client machine in Windows operating system.

Follows the below steps to view the queues created in server, from an MQ client:

- 1. Install IBM MQ client in a client terminal.
- 2. Open the client MQ explorer.
- 3. Right click 'Queue Managers' on the left pane and select 'Show/Hide Queue Managers'.
- 4. Click 'Add' in the Show/Hide Queue Managers window.
- 5. Specify the name of Queue Manager which is created in the MQ server. Click 'Next'.
- 6. Specify the IP address of the IBM MQ server in the Host name or IP address field.



- 7. Specify the Port number in which the Queue manager is created in MQ server.
- 8. Specify the server connection channel created in the MQ server. Click 'Finish'.

Under the Queue Manager menu, the queue manger created in the server is displayed with its IP address and port number in braces.

WebSphere MQ Explorer - Navigator 🛛 🤣	💌 🗖 🗐 WebSphere MQ Explorer -	Content X					#1 第	- 🧇 🔻 '
IBM WebSphere MQ	Queues							
FC_QMGR on '10.180.196.51(1415)'	Filter: Standard for Queue	15						•
😑 🗁 Advanced	 Queue name 	Queue type	Definition type	Open input count	Open output count	Current queue depth	Max queue depth	Put message
🔁 Channels	MSIN_QUEUE	Local	Predefined	1	0	0	5000	Allowed
Client Connections	MISOUT_QUEUE	Local	Predefined	1	0	12	5000	Allowed
🗁 Listeners	EMSOUT_QUEUE_DLQ	Local	Predefined	0	0	0	5000	Allowed
	FCQMGR	Local	Predefined	0	0	0	5000	Allowed
Process Definitions Process Definitions	MDB_QUEUE	Local	Predefined	1	0	0	999999999	Allowed
Authentication Information	MDB_QUEUE_DLQ	Local	Predefined	0	0	6	999999999	Allowed
LC_OMGR	MDB_QUEUE_RESPONS	E Local	Predefined	0	0	12	999999999	Allowed
	NOTIFY_DEST_QUEUE	Local	Predefined	0	0	1	5000	Allowed
	NOTIFY_QUEUE	Local	Predefined	3	0	0	5000	Allowed
WINOM	NOTIFY_QUEUE_DLQ	Local	Predefined	0	0	19	5000	Allowed
Cueue Manager Clusters	RTGS_DEST_QUEUE	Local	Predefined	0	0	0	5000	Allowed
	RTGS_IN_QUEUE	Local	Predefined	1	0	0	5000	Allowed
	SFMS_DEST_QUEUE	Local	Predefined	0	0	32	5000	Allowed
	SFMS_IN_QUEUE	Local	Predefined	1	0	3	5000	Allowed
	SFMSOUT_QUEUE	Local	Predefined	1	0	3	5000	Allowed



3. Creating JDBC Resources on Web Sphere

3.1 Introduction

This chapter guides you through the process of JDBC resource creation on IBM Websphere application server.

3.2 **Prerequisite:**

If OCI needs to be used in data sources, please refer the vendor specific support manual and make the configuration changes before creating datasources.

3.3 Creating JDBC Sources

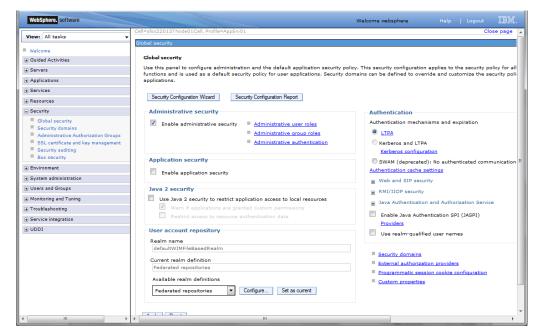
3.3.1 Creating Global Security

- 1. Specify the Websphere administrator username and password.
- 2. Click 'Log In'.
- 3. Navigate to Websphere home page.

WebSphere. software	Welcome websphere Help Logout
View: All tasks 🗸	Welcome
Welcome	Welcome ? - D About this Integrated Solutions Console
Welcome Guided Activities	
Servers	Integrated Solutions Console provides a common administrative console for multiple Build Number: gm1319.01
_	products. The table lists the product suites that can be administered through this Build Number: gm1319.01 Build Date: 5/14/13 Build Date: 5/14/13
Applications	LICENSED MATERIALS PROPERTY OF
	IBM Suite Name Version \$734.162
	Suite Name Version 5724-108, 5724-163, WebSphere Application Server 8.5,5,0 5724-188, 5724-189, 5655-W65 (C) v
Security	Copyright International Business
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security Dervironment Gervironment Users and Groups Monitoring and Tuning Gervice integration Geviron UDDI	
• III •	



4. Expand 'Security' and select 'Global Security'. The following screen is displayed.



5. Expand 'Java Authentication', go to 'Authorization Service' and click 'J2C authentication data'.

The following screen is displayed.

WebSphere. software		Welcome websphere Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
View. All tasks	Global security	? – Help
Welcome Welcome Welcome Servers Services Services Security Global security Security Security Security	Global security > JAAS - J2C authentication data Specifies a list of user identities and passwords for Java(TM) 2 conr Prefix new alias names with the node name of the cell (for com Apply © Preferences New Delate Image: Delate	· select a field laber of fist
 Administrative Authorization Groups SSL certificate and key management 		action
Security auditing	Select Alias 🗘 User ID 🗘	Description 🗘
Bus security	You can administer the following resources:	
Environment	ofss220137Node01/FC121ASK FC121ASK	FC121ASK
System administration Users and Groups	ofss220137Node01/FCUBS121_DEV FCUBS121_DEV	FCUBS121_DEV
Monitoring and Tuning	Total 2	
Service integration		

6. Click 'New'.



The following screen is displayed.

WebSphere. software		Welcome websphere	Help Logout IIM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01		Close page
View: All tasks	Global security	? -	Help -
Welcome	Global security > JAAS - J2C authentication data > New		Field help
Guided Activities Guided Activi			For field help information,
	Specifies a list of user identities and passwords for Java(TM) 2 connector security	to use.	select a field label or list
	General Properties		marker when the help cursor is displayed.
	* Alias FCITR2		Page help
Resources			More information about
 Security 	* User ID FCITR2		this page
Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing	Password Description FCTR2		Command Assistance <u>View administrative</u> scripting command for last action
Bus security	runz		
	Apply OK Reset Cancel		
∃ System administration			
. UDDI			
- m ,			

- 7. You need to define the connection properties. Specify the following details.
- Alias
- User ID of the Database
- Password of the Database
- Description
- 8. Once you have specified the above details, click 'Apply' and then click 'Save' link.

The following screen is displayed.

WebSphere. software		Welcome websphere	Help Logout IBM.		
View: All tasks 🗸	Cell=ofss220137Node01Cell, Profile=AppSrv01 Global security	2	Close page		
Welcome Guided Activities Servers Applications Services Services Resources	<u>Global security</u> > JAAS - J2C authentication data Specifies a list of user identities and passwords for Java(TM) 2 connector secu Prefix new alias names with the node name of the cell (for compatibility w Apply		Field help For field help information, select a field label or list marker when the help cursor is displayed. Page help More information about		
Security Global security Global security Security domains Administrative Authorization Groups SSL certificate and key management Security auditing Bus security	Preferences New Delete Select Allas You can administer the following resources:	Description 🗘	this page Command Assistance View administrative acripting command for last action		
Environment System administration Users and Groups	ofss220137Node01/FC121ASK FC121ASK ofss220137Node01/FCUBS121_DEV FCUBS121_DEV	FC121ASK FCUBS121_DEV			
Overs and Groups Monitoring and Tuning Troubleshooting	Total 2				
Service integration UDDI					



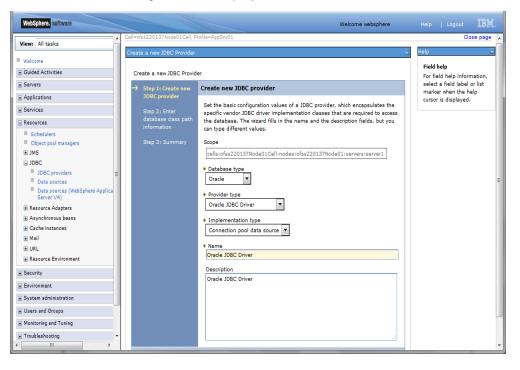
3.3.2 JDBC Provider for Non XA Data Source

Follow the steps given below:

- 1. Login to the application server administration console.
- 2. Expand 'Resources > JDBC' and select 'JDBC Providers'.

WebSphere. software			Welcome websphere	Help Logout IBM.		
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01			Close page		
	JDBC providers		2	Help 🗆		
Welcome Guided Activities Servers Applications Services Services Schedulers Chyler, solid managers Home MMS DDBC	JDBC providers Use this page to edit properties of a JDB driver implementation class for access to this task in a guided activity. A guided act the topic. Scope: Cell=ofs220137Node01Cell Scope specifies the level at whi detailed information on what so satings help.	Field help For field help information, select a field label or list marker when the help cursor is displayed. Page help More information about this page Command Assistance View administrative scripting sommand for last				
JDBC JDBC providers Data sources	Cell=ofss220137Node01Cell	•		scripting command for last action		
Data sources (WebSphere Applica Server V4) Resource Adapters	New Delete	Preferences New Delete				
Asynchronous beans		Image: Image				
	Select Name \$					
Mail	None					
URL Resource Environment	Total 0					
Security						
Environment						
System administration						
Users and Groups						
Monitoring and Tuning						
Troubleshooting						

- 3. Select 'Node' from the dropdown list.
- 4. Click New, The following screen is displayed:

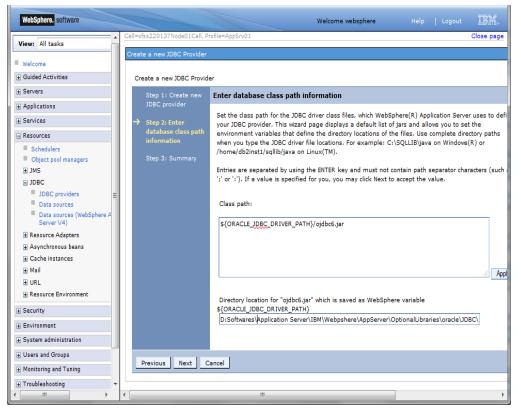




5. Specify the following details:

Database Type	Oracle
Provider Type	Oracle JDBC Driver
Implementation Type	Connection pool data source
Name	FCIS
Description	FCIS JDBC Driver

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



7. Provide the location of ojbc6.jar. Click 'Next'.



The following screen is displayed.

WebSphere, software			Welcome websphere Help Logout
	Cell=ofss220137Node01Cell, Pr	ofile=AppSrv01	Close pa
View: All tasks	Create a new JDBC Provider		
Welcome	Create a new JDBC Provider		
Guided Activities	Create a new JDBC Provide	er	
Servers	Step 1: Create new	Summary	
Applications	JDBC provider		
Services	Step 2: Enter	Summary of actions:	
Resources	database class path	Options	Values
Schedulers	information	Scope	cells:ofss220137Node01Cell:nodes:ofss220137Node01:servers:server1
Object pool managers	→ Step 3: Summary	JDBC provider name	Oracle JDBC Driver
∃ JMS		Description	Oracle JDBC Driver
JDBC		Class path	\${ORACLE JDBC DRIVER PATH}/oidbc6.iar
JDBC providers			C:\Oracle\app\sarrathi\product\12.1.0\dbhome_1\jdbc\lib\ojdbc6.jar
 Data sources Data sources (WebSphere Applic 		Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource
Server V4)		Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource
Resource Adapters	Previous Finish (Cancel	
Mail			
URL Resource Environment			
-			
Security			
Environment			
System administration			
Users and Groups			
Monitoring and Tuning			
Troubleshooting ▼			
	(III	

8. Click 'Finish'. The following screen is displayed.

WebSphere. software	Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page 🔺
View: All Lasks	JDBC providers	- Help
Welcome		Field help
Guided Activities	Messages	For field help information,
+ Servers	Changes have been made to your local configuration. You can:	select a field label or list marker when the help
Applications	Save directly to the master configuration.	cursor is displayed.
	Review changes before saving or discarding.	Page help
- Resources		More information about
Schedulers	⚠ The server may need to be restarted for these changes to take effect.	this page
Object pool managers		Command Assistance
± JMS	JDBC providers	View administrative
JDBC		scripting command for last
■ JDBC providers	Use this page to edit properties of a JDBC provider. The JDBC provider object encapsulates the specific JDBC driver implementation class for access to the specific vendor database of your environment. Learn	action
Data sources	more about this task in a guided activity. A guided activity provides a list of task steps and more general	
 Data sources (WebSphere Applic Server V4) 	information about the topic.	
	Scope: Cell=ofss220137Node01Cell, Node=ofss220137Node01, Server=server1	
Asynchronous beans	Scope specifies the level at which the resource definition is visible. For	
	detailed information on what scope is and how it works, see the scope	
Mail	settings help.	
URL	Node=ofss220137Node01, Server=server1	
Resource Environment	Node=ofss22013/Node01, Server=server1	
Security	Preferences	
+ Environment	New Delete	
	Select Name 🗘 Scope 🗘 Description 🗘	
Monitoring and Tuning		
Troubleshooting ▼	You can administer the following resources:	-
4 III +	۲ – ۲ – ۲ – ۲ – ۲ – ۲ – ۲ – ۲ – ۲ – ۲ –	· · · · · · · · · · · · · · · · · · ·

9. Click 'Save'.

3.3.3 Creating Non XA Data Source

Follow the steps given below:

- 10. Login to the application server administration console.
- 11. Expand 'Resources > JDBC' and click 'Data sources'.

The following screen is displayed.

WebSphere. software	Welcome websphere Help Logout IBM,
View: All tasks	Call=ofss220137Node01Call, Profile=AppSrv01 Close page Data sources ? Help -
Welcome	Data sources Field help
 Guided Activities 	Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about any application with the hole of the set of the se
Applications Services	datasource object supplies your application with connections for accessing the database. Learn more about this task in a <u>guided activity</u> . A guided activity provides a list of task steps and more general information about the topic.
Resources	G Scope: Cell=ofss220137Node01Cell Page help
Schedulers Object pool managers	Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, <u>see the scope</u> Command Assistance
JDBC JDBC providers	Cell=ofss220137Node01Cell
 Data sources Data sources (WebSphere Applic Server V4) 	Preferences New Delete Test connection Manage state
Resource Adapters Asynchronous beans	
	Select Name \$ JNDI name \$ Scope \$ Provider \$ Description \$ Category \$
URL Resource Environment	None Total 0
Security	
Environment System administration	
Users and Groups	
Monitoring and Tuning Troubleshooting ▼	
III III III	

12. Select 'Node' from the drop-down list.

.....

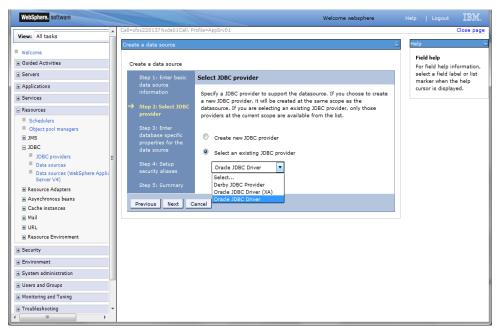
Click New, The following screen is displayed.

WebSphere. software		Welcome websphere	Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, P	rofile=AppSrv01	Close page
	Create a data source		E Help
Welcome			Field help
∃ Guided Activities	Create a data source		For field help information,
Servers	→ Step 1: Enter basic	Enter basic data source information	select a field label or list marker when the help
Applications	data source information	Set the basic configuration values of a datasource for association with your	cursor is displayed.
Services		JDBC provider. A datasource supplies the physical connections between the	
- Resources	Step 2: Select JDBC provider	application server and the database.	
Schedulers	Step 3: Enter	Requirement: Use the Datasources (WebSphere(R) Application Server V4)	
 Object pool managers JMS 	database specific	console pages if your applications are based on the Enterprise JavaBeans(TM) (EJB) 1.0 specification or the Java(TM) Servlet 2.2 specification.	
□ JDBC	properties for the data source	Scope	
JDBC providers		cells:ofss220137Node01Cell	
Data sources Data sources (WebSphere Applic	Step 4: Setup security aliases		
Server V4)		* Data source name FCUBS DS	
	Step 5: Summary	* JNDI name	
Asynchronous beans		* JIDI name idbc/fcidevDS	
Cache instances Mail			
€ URL	Next Cancel		
Resource Environment			
Security			
Environment			
System administration			
Users and Groups			
★ Monitoring and Tuning			
Troubleshooting			
• •	•		

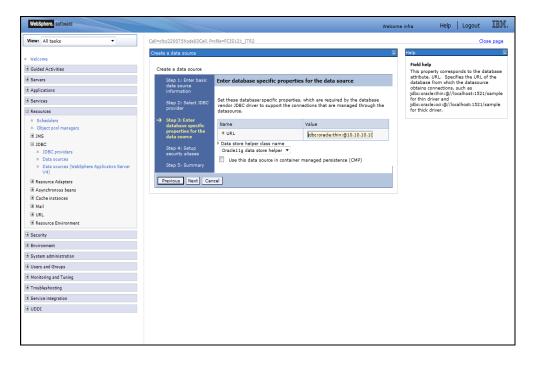


- 13. Specify the data source name as 'FCIS DS'.
- 14. Specify the JNDI name as 'jdbc/fcjdevDS'.
- 15. Click 'Next'.

The following screen is displayed.



16. Select the option 'Select an existing JDBC provider'. From the drop-down list, choose 'Oracle JDBC Driver' and click next. The following screen will be displayed:





17. Specify the URL of the Database

Uncheck "Use this data source in container managed persistence (CMP)"

Example

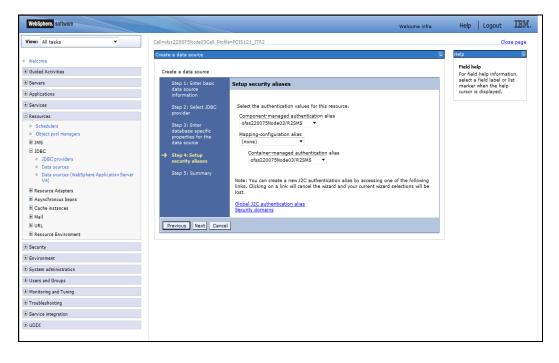
jdbc:oracle:thin:@10.10.10.10:1010:KERDEV2

Here, 10.10.10.10 is the hostname where the database is installed, 1010 the port number and KERDEV2 the instance name.

- 18. Select the data store helper class as 'Oracle11g data store helper'.
- 19. Click 'Next'.

The following screen is displayed.

Select user alias from Component-managed authentication alias and Container-managed authentication alias dropdown.





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

View: All tasks Welcome Guided Activities	Cell=ofss220075Node03Cell, Profil	e=FCIS121_ITR2		Close pag
	Create a data source		-	Help Field help For field help information,
Servers	Step 1: Enter basic	Summary		select a field label or list marker when the help
Applications	data source information	Summary of actions:		cursor is displayed.
Services	Step 2: Select JDBC	Options	Values	
Resources	provider	Scope	cells:ofss220075Node03Cell:nodes:ofss220075Node03	
= Schedulers	Step 3: Enter database specific	Data source name	FCIS DS	
 Object pool managers 	properties for the	JNDI name	jdbc/fcjdevDS	
JMS JDBC	data source	Select an existing JDBC provider	Oracle JDBC Driver	
 JDBC providers 	Step 4: Setup security aliases	Implementation class name	oracle.jdbc.pool.OracleConnectionPoolDataSource	
 Data sources 	-> Step 5: Summary	URL	jdbc:oracle:thin:@10.10.10.10.10:KERDEV2	
 Data sources (WebSphere Application Server V4) 	-> Step 5: Summary	Data store helper class	com.ibm.websphere.rsadapter.Oracle11gDataStoreHelper	
Resource Adapters		name		
Asynchronous beans Cache instances		Use this data source in container managed	false	
Mail		persistence (CMP)		
URL URL		Component-managed authentication alias	ofss220075Node03/R2SMS	
Resource Environment		Mapping-configuration alias	(none)	
Security		Container-managed authentication alias	ofss220075Node03/R2SMS	
Environment				
System administration	Previous Finish Can	el		
Users and Groups				
Monitoring and Tuning				
Troubleshooting				
Service integration				
UDDI				

21. Click 'Finish'. The following screen is displayed.

WebSphere. software	Welcome websphere Help Logout	IM.							
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01 Close pa	ige 🔺							
Welcome	Data sources 7 - Help	ld he							
Guided Activities		field							
Servers		ect a irker							
Applications		sor is							
Services	Review changes before saving or discarding.	ge he							
Resources		<u>re inf</u> ≘							
Schedulers	The server may need to be restarted for these changes to take effect.	s pag							
 Object pool managers JMS 	Cor	mma							
B JDBC JDBC providers E Data sources Data sources (WebSphere Applica Sarver V4) Resource Adapters Asynchronous beans	Data sources Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a <u>guided activity</u> . A guided activity provides a list of task steps and more general information about the topic. Scope: Cell=Ofss220137Node01Cell, Node=Ofss220137Node01, Server=server1 Scope specifies the level at which the resource definition is visible. For detailed information								
Cache instances	on what scope is and how it works, <u>see the scope settings help.</u>								
🕀 Mail	Node=ofss220137Node01, Server=server1 💌								
⊞ URL									
Resource Environment	Preferences								
Security	New Delete Test connection Manage state								
Environment									
System administration	Select Name 🗘 JNDI name 🗘 Scope 🗘 Provider 🗘 Description 🗘 Category 🗘								
■ Users and Groups	You can administer the following resources:								
Monitoring and Tuning Troubleshooting ▼	ECUBS DS jdbc/fcjdevDS1 Node=ofss220137Node01,Server=server1 Oracle New JDBC JDBC Datasource								
	JDBC Datasource	•							

- 22. Click 'Save'.
- 23. Following steps need to be followed only for Non-XA datasources



24. Click on the newly created Non-XA datasource, in our example "FCIS DS". The following screen is displayed

WebSphere. software	Welcome saravanan	Help Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page
	Data sources	
Welcome		
⊞ Guided Activities ■	Data sources > Default Datasource	
E Servers	Use this page to edit the settings of a datasource that is associated with your selected JDBC provider application with connections for accessing the database.	. The datasource object supplies your
Applications		
∃ Services	Configuration	=
Resources		
SchedulersObject pool managers	Test connection	
∃ JMS	General Properties	Additional Properties
JDBC	* Scope	
JDBC providers Data sources	cells:ofss220239Node01Cell:nodes:ofss220239Node01:servers:server1	Connection pool properties
 Data sources (WebSphere Application Server V4) 	Provider	WebSphere Application Server
Resource Adapters	JDBC Provider	data source
	* Name	properties
	FCUBS DS	Custom
Mail		properties
1 URL	JNDI name idbc/fcjdevDS	
Resource Environment	land ideans	Related Items
	Use this data source in container managed persistence (CMP)	JAAS - J2C
Environment	Description	= <u>JAAS - J2C</u> authentication
∃ System administration	Datasource for the WebSphere Default Application	data
Monitoring and Tuning		
Troubleshooting		
	Category	-
4	<pre>/ """"""""""""""""""""""""""""""""""""</pre>	•

25. Make sure that the checkbox "Use this data source in container managed persistence (CMP)" is unchecked. Then click on the link "Webpshere Application Server data source properties" on the right side.

WebSphere. software	Welcome saravanan Help	Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page 🔺
View: All tasks	Data sources ? -	Help
Welcome		Field help
Guided Activities Guided Activities Guided Activities Subscript Activities Guided Activities Subscript Activities Subscrite Subscript	Data sources > Default Datasource > WebSphere Application Server data source properties	For field help infor
. Servers	Use this page to set WebSphere(R) Application Server connection management-specific properties that affect a connection pool.	select a field label
		marker when the h cursor is displayed
	Configuration	Page help
Resources		More information a
Schedulers	General Properties	this page
Object pool managers	Statement cache size	=
∎ JMS	10 statements	
□ JDBC	Enable multithreaded access detection	
JDBC providers Data sources		
Data sources (WebSphere Application	Enable database reauthentication	
Server V4)	Enable JMS one-phase optimization support	
Resource Adapters	V Log missing transaction context	
Asynchronous beans	Log missing transaction context	
Cache instances	Non-transactional data source	
H Mail H URL		
OKL Resource Environment	Error detection model	
	Use WebSphere Application Server exception checking model	
	Use WebSphere Application Server exception mapping model	
Environment		
	Connection validation properties	
	Validate new connections	
Monitoring and Tuning	Number of retries	
Troubleshooting	100 Retry interval	
E Service integration	3 seconds	-
- -	Image: Second	F.



- 26. Select the checkbox "Non-transactional data source".
- 27. Click Apply button and Click Save link.

Note the following

- You need to create another data source for Oracle FCIS with the JNDI name '<Non-XA FCIS HOST JNDI name>_ASYNC'. For example, if the Oracle FCIS HOST Non XA data source JNDI name is 'jdbc/fcjdevDS', then you need to create another data source for FCIS with the JNDI name 'jdbc/fcjdevDS ASYNC'.
- While creating a branch using the 'Branch Parameters Maintenance' (STDBRANC) screen, if • you have created a data source for the branch, then you need to create a corresponding ASYNC data source with the JNDI name '<Non-XA FCIS BRANCH JNDI name> ASYNC'.

3.3.4 <u>Scheduler Data Source configuration</u>

For all the LOB and SMS schema created for FCIS, Equivalent XA data sources are required for Scheduler with Jndi name as "indi name of LOB/SMS schema"+ " XA" (Standard naming convention)

Example

If there are three LOB schema's for FCIS with below jndi names

- ✓ jdbc/BR1204R1✓ jdbc/EN1204R1
- ✓ jdbc/AMC1204R1

Equivalent Data source setup for scheduler will be

Data source name	Jndi Name
BR1204R1_XA	jdbc/BR1204R1_XA
EN1204R1_XA	jdbc/EN1204R1_XA
AMC1204R1_XA	jdbc/AMC1204R1_XA



3.3.5 Testing Data Source

Follow the steps given below:

1. Select the data source as shown in the figure.

WebSphere. software		-	_				Welcome	saravanan			
View: All tasks	•	Ce	ll=ofss2	20239Node01Cell	l, Profile=FPCFL						C
View. All tasks	- 11	Da	ata sou	ces					?	- Hel	p
Welcome											ield
Guided Activities			Data s	ources							or fie
+ Servers						ource that is associated with					elect
						ith connections for accessing					nark
Applications			task ir topic,	i a <u>quided activit</u>	y. A guided activity pro	ovides a list of task steps a	nd more gen	eral information	about the	C	urso
Services			1.1							р	age
Resources			⊟ Sco	pe: Cell=ofss22(0239Node01Cell, Node	=otss220239Node01					lore
Schedulers				Scope specifie	es the level at which th	e resource definition is visil	ble. For			t	his p
Object pool managers				detailed infor	mation on what scope	is and how it works, see the	scope				omn
± JMS				settings help.							liew a
□ JDBC				Neda	20239Node01	T					cripti
JDBC providers				Node=orss2	20239N0de01	•				a	iction
Data sources			± Pre	ferences							
Data sources (WebSphere Application Server V4)	Ξ										
,			Nev	Delete	Test connection M	lanage state					
Resource Adapters			R	0 # \$							
Asynchronous beans			42					,			
Cache instances			Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description \diamondsuit	Category 🗘		
+ Mail			You d	an administer th	e following resources:						
H URL				BranchDS	idbc/fcidevDSBranch	Node=ofss220239Node01	Oracla	New JDBC			
Resource Environment			V	<u>oronenoo</u>	Jacongoevoooranen		JDBC	Datasource			
Security							Driver (XA)				
Environment											
System administration				DSXA	jdbc/fcjdevDS_XA	Node=ofss220239Node01		New JDBC			
Users and Groups							JDBC Driver (XA)	Datasource			
Monitoring and Tuning											
+ Troubleshooting											
Service integration	-			FPPATCHSTAGE	jdbc/FPPATCHSTAGE	Node=ofss220239Node01	NONXA DS	New JDBC Datasource			
		4							· · · · ·	-	

2. Click 'Test connection' button.



On successful creation, the following message is displayed.

WebSphere. software							Welcome	saravanan		Logout IBM.	
View: All tasks	*	C	ell=ofss2	20239Node01Cel	l, Profile=FPCFL					Close page	^
Vetw: All Casks ▼ ■ Welcome (a) Guided Activities (b) Servers (c) Applications (c) Services (c) Schedulers (c) Object pool managers (c) DDC		C	Use ti datas task i topic.	sources	he test connection open to ofss220239Node01 w he settings of a dataso plies your application w w. A guided activity pro	ource that is associated with ith connections for accessin ivides a list of task steps a	your selecte g the databa	d JDBC provider se. Learn more	about this	Help Field help For field help info select a field lab marker when the cursor is displaye Page help More information this page Command Assist View administrati scriptine commar	
 ■ JDBC providers ■ Data sources ■ Data sources (WebSphere Application Server V4) ■ Resource Adapters ■ Asynchronous beans ⊕ Cache instances ⊕ Mail 	ш		_	Scope specifi detailed infor settings help	mation on what scope	=ofss220239Node01 e resource definition is visi is and how it works, <u>see the</u>				action	
URL Resource Environment			Ne	w Delete	Test connection M	lanage state					
Security Environment			Select	Name 🗘	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘	Category 🗘		
System administration			You	an administer th	e following resources:						
Users and Groups Monitoring and Tuning Troubleshooting				BranchDS	jdbc/fcjdevDSBranch	Node=ofss220239Node01	Oracle JDBC Driver (XA)	New JDBC Datasource			
Service integration	Ŧ	4		DSXA	jdbc/fcjdevDS_XA	Node=ofss220239Node01	Oracle	New JDBC			Ŧ

3.3.6 JDBC Provider for XA Data Source

Follow the steps given below:

- 1. Login to the application server administration console.
- 2. Expand 'Resources > JDBC' and click 'JDBC Providers'. The following screen is displayed.

WebSphere. software				Welcome websphere			IBM.
View: All tasks	•	Cell=ofss220137Node01Cell, Profile=AppSrv01					Close page
Welcome		JDBC providers		? -	Hel	Р	=
Welcome Guided Activities		JDBC providers				ield help	
+ Servers		Use this page to edit properties of a JDBC	provider. The JDBC provider obje	ct encapsulates the specific JDBC		or field help in elect a field la	
Applications		driver implementation class for access to this task in a guided activity. A guided act				narker when th	e help
Services		the topic.	ivity provides a list of task steps a	and more general mormation about	c	ursor is display	/ed.
Resources		Scope: Cell=ofss220137Node01Cell				age help	
Schedulers		Scope specifies the lowel at which	h the resource definition is visible.	For		<u>lore informatic</u> his page	on about
Object pool managers		detailed information on what sco	ope is and how it works, <u>see the sc</u>			command Assi	stance
∃ JMS		settings help.				/iew administra	
E JDBC		Cell=ofss220137Node01Cell	•			cripting commi	and for last
JDBC providers							
Data sources (WebSphere Applica)		Preferences					
Server V4) Resource Adapters		New Delete					
Asynchronous beans		0049					
		Select Name 3	Scope C	Description 0			
🕢 Mail		None	Seebe V	besenption (
I URL		Total 0					
Resource Environment		Total 0					
Security							
Environment							
System administration							
Monitoring and Tuning							
Troubleshooting	-						
• III •	1						



3. Select 'Node' from the drop-down list and click 'New' button. The following message is displayed.

WebSphere. software			Welcome websphere				IBM	
View: All tasks	^	Cell=ofss220137Node01Cell, P	rofile=AppSrv01			Clos	e page	
View: All tasks		Create a new JDBC Provider	5	Hel	p			
Welcome	l				ield help			
Guided Activities Guided Activities Second Secon	l	Create a new JDBC Provid	er		or field he	lp informa	ation,	
	l	→ Step 1: Create new	Create new JDBC provider		elect a fiel narker whe			
	l	JDBC provider			ursor is dis		P	
Services	l	Step 2: Enter	Set the basic configuration values of a JDBC provider, which encapsulates the specific vendor JDBC driver implementation classes that are required to access					-
- Resources	l	database class path information	the database. The wizard fills in the name and the description fields, but you can type different values.					
Schedulers								
Object pool managers		Step 3: Summary	Scope					
± JMS			cells:ofss220137Node01Cell:nodes:ofss220137Node01:servers:server1					
∃ JDBC			* Database type					
JDBC providers E			Oracle V					=
 Data sources Data sources (WebSphere Applica) 								-
 Data sources (webSphere Applica Server V4) 			* Provider type					
Resource Adapters	l		Oracle JDBC Driver					
			* Implementation type					
			XA data source 💌					
🕀 Mail								
URL			* Name					
Resource Environment	l		Oracle JDBC Driver (XA)					
Security	l		Description					
Environment			Oracle JDBC Driver (XA)					
System administration								
Users and Groups								
Monitoring and Tuning								
Troubleshooting	Ŧ		A					
< >								Ŧ

4. Specify the following details:

Database Type	Oracle
Provider Type	Oracle JDBC Driver
Implementation Type	XA data source
Name	FCIS Oracle JDBC Driver (XA)
Description	FCIS Oracle JDBC Driver (XA)



Click next, the following message is displayed.

WebSphere. software	Welcome websphere Help Logout	
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01 Close pa	age
Welcome Guided Activities Guided Activities Garded Activities Garded Activities Garded Activities Garded Activities Garded Activities Services Services Services Schedulers Golget pool managers Disc poole pool managers Disc pool m	Create a new JDBC Provider For I Step 1: Create and the database class path information Set the class path for the JDBC driver class files, which WebSphere(R) Application Server uses to define database class path for the JDBC driver class files, which WebSphere(R) Application Server uses to define environment variables that define the directory locations of the files. Use complete directory paths when you type the JDBC driver file locations. For example: Ci\SQLLIB\yava on Windows(R) or /home/db2inst1/sqlib/java on Linux(TM). Entries are separated by using the ENTER key and must not contain path separator characters (such as 'i' or 'i'). If a value is specified for you, you may click Next to accept the value. Class path: \$(ORACLE_JDBC_DRIVER_PATH)/ojdbc6.jar	d helj field ict a f ker w ior is
Monitoring and Tuning	Previous Next Cancel	
Troubleshooting ▼	۲	Þ

5. Specify the location of ojbc6.jar and click next. The following screen is displayed.

WebSphere. software				Welcome websphere		I	BM.
View: All tasks	Cell=ofss2201	37Node01Cell, P	rofile=AppSrv01			Clos	ie page
View: All tasks	Create a nev	JDBC Provider					Help
Welcome	Create a ner						Field he
Guided Activities Guided Activities Subscript Activities Subscrite Subscript Activities Subscript Activities Subs	Create a r	new JDBC Provid	er				Field he For field
Servers		: Create new	Summary				select a marker
Applications	JDBC		Summary of actions:				cursor i
Services		: Enter ase class path	Options	Values			
Resources	inform		Scope	cells:ofss220137Node01Cell:nodes:ofss220137Node	e01:servers:server1		
Schedulers Object pool managers	→ Step 3	: Summary	JDBC provider name	Oracle JDBC Driver (XA)			
⊞ JMS			Description	Oracle JDBC Driver (XA)			
JDBC			Class path	\${ORACLE_JDBC_DRIVER_PATH}/ojdbc6.jar			
JDBC providers			\${ORACLE_JDBC_DRIVER_PATH}	C:\Oracle\app\sarrathi\product\12.1.0\dbhome_1\jd	dbc\lib\ojdbc6.jar		
Data sources (WebSphere Applica Server V4)			Implementation class name	oracle.jdbc.xa.client.OracleXADataSource			
Resource Adapters	Previou	Finish	Cancel				
🗄 Asynchronous beans	Previous		Canter				
Gache instances Cache instance Cache							
🛨 Mail							
1 URL							
+ Security							
Environment							
System administration							
Monitoring and Tuning							
Troubleshooting ▼							
< <u> </u>	•		П	I			•



6. Click 'Finish'. The following screen is displayed.

WebSphere. software			Welcome websphere	Help Logout IBM.
A	Cell=ofss220137Node01Cell, Profile=App	Srv01		Close page 🔺
View: All tasks	JDBC providers		2	Help –
Welcome				Field help
Guided Activities	- Messages			For field help information,
		been made to your local configuration. You ci	an:	select a field label or list marker when the help
Applications	Save_directly f	to the master configuration.		cursor is displayed.
	Review chang	es before saving or discarding.		Page help
E Resources				More information about
Schedulers	The server ma	y need to be restarted for these changes to ta	ake effect.	this page
Object pool managers				Command Assistance
. JMS	JDBC providers			View administrative
JDBC JDBC providers	Use this page to edit properties of	a JDBC provider. The JDBC provider object en	capsulates the specific JDBC	scripting command for last action
Data sources		ess to the specific vendor database of your er		<u>801011</u>
Data sources Data sources (WebSphere Applica)		ded activity provides a list of task steps and n	nore general information	
Server V4)	about the topic.			
Resource Adapters	Scope: Cell=ofss220137Node01	Cell, Node=ofss220137Node01, Server=serve	r1	
	Scope specifies the level	at which the resource definition is visible. For		
		hat scope is and how it works, see the scope		
Mail	settings help.			
1 URL	Node=ofss220137Node			
Resource Environment	Node=otss220137Node	J1, Server=server1		
E Security	Preferences			
Environment	New Delete			
E System administration	00 # 9			
Users and Groups				
Monitoring and Tuning	Select Name 🗘	Scope 🗘	Description 🗘	
+ Troubleshooting	You can administer the following r	esources:		
۲ m ト	Derby JDBC Provider	Node=ofss220137Node01,Server=server1	Derby embedded non-XA	-

7. Click 'Save'.

3.3.7 Creating XA Data Source

Follow the steps given below:

- 1. Login to the application server administration console.
- 2. Expand 'Resources > JDBC' and click 'Data sources'.

The following screen is displayed.

WebSphere. software	Welcome websphere Help Logout IBM.
View: All tasks	Cell=ofss220137Node01Cell, Profile=AppSrv01 Close page
Welcome	Data sources 7 Help - Data sources Field help
Guided Activities Servers Applications	Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The select a field help information, datasource object supplies your application with connections for accessing the database. Learn more about this task in a quived activity provides a list of task taskp and more general information about the cursor of database.
Services	topic. Cell=ofss220137Node01Cell Page help
Resources Schodulers Object pool managers JOBC JOBC JOBC providers Data sources Data sources Cathe sources Adapters Anychronous bans Cathe instances	Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, <u>see the scope</u> settings help. Celleofss220137Node01Cell B Preferences New. Delets Test connection Manage state New. Delets Test connection Manage state New Delets Test connection Content of Description Content of Cont
⊞ Mail ⊞ URL ⊞ Resource Environment	None Total 0
Security Environment	
System administration	
Users and Groups Monitoring and Tuning	
Troubleshooting ▼	



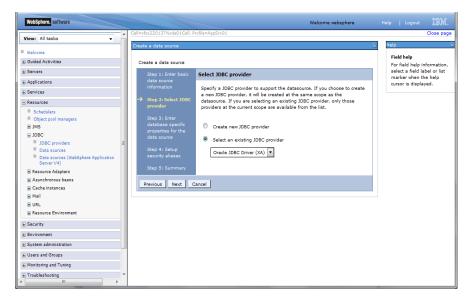
3. Select 'Node' from the dropdown list and click 'New' button. The following screen is displayed.

	Cell=ofss220137Node01Cell, Profile=AppSrv01	Close page
View: All tasks View: All tasks View: All tasks View: Cone Golded Activities Golded	Cell=sts:220137kcde01Cell. Profile=App5v01 Create a data source Create a data source Step 1: Enter basic information Step 2: Select JDBC provider Step 3: Selet JDBC provider Step 3: Enter datasses specific properties for the data source Beguirement: Use the Datasources (WebSphere(R) Application Server V4) console pages if your applications are based on the Enterprise JavaBeans(TM) (EB) 1.0 specification or the Java(TM) Servite 2.2 specification.	Close pag Field help For field help information select a field habel or list marker when the help cursor is displayed.
JOBC providers Dras sources Dras sources Dras sources Dras sources deseurce Adapters Asynchronous beans Cache instances Mail Wal Wulk Essure Environment	Step 4: Setup security aliases Step 5: Summary bit in the security aliases step 5: Summary step 5: Summary ste	
Users and Groups Monitoring and Tuning Troubleshooting m		

4. Specify the following details:

Data source name	FCIS Scheduler Data source
JNDI Name	jdbc/fcjSchedulerDS

Click next, the following screen is displayed.





5. Select the option 'Select an existing JDBC provider' and choose 'FCIS Oracle JDBC Deriver (XA)' from the drop-down list and click next. The following screen is displayed.

WebSphere. software			W	alcome infr	a Help	Logout	I
View: All tasks 🔹	Cell=ofss220075Node03Cell, Pr	ofile=FCIS121_ITR2				Cl	ose p
Welcome	Create a data source			He	lp		
+ Guided Activities	Create a data source				Field help This property corres		
Servers	Step 1: Enter basic	Enter database specific prope	erties for the data source		attribute, URL. Spe database from whice	cifies the URL	of the
* Applications	data source information	enter untubuse specific prope			obtains connections	, such as	
E Services	Step 2: Select JDBC		rties, which are required by the database		dbc:oracle:thin:@/ or thin driver and		
Resources	provider	vendor JDBC driver to support the datasource.	connections that are managed through the	1	dbc:oracle:oci:@//l or thick driver.	ocalhost:1521/	sampl
= Schedulers	→ Step 3: Enter		[. L			
 Object pool managers 	database specific properties for the	Name * URL	Value				
± JMS	data source	* UKL * Data store helper class name	jdbc:oracle: thin:@10.10.10.1				
= JDBC = JDBC providers	Step 4: Setup	Oracle11g data store helper V					
 Data sources 	security aliases	Use this data source in conta	iner managed persistence (CMP)				
 Data sources (WebSphere Application Server V4) 	Step 5: Summary						
Resource Adapters	Previous Next Can	cel					
Asynchronous beans							
Cache instances							
Mail URL							
URL Resource Environment							
Security							
 Global security Security domains 							
 Administrative Authorization Groups 							
SSL certificate and key management							
Security auditing							
= Bus security							
E Environment							
± System administration							
E Users and Groups							
Monitoring and Tuning							
E Troubleshooting							
-							
Service integration							

6. Specify the URL of the Database

Uncheck "Use this data source in container managed persistence (CMP)"

<u>Example</u>

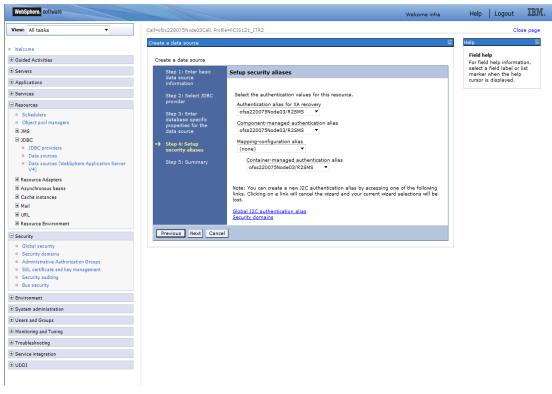
jdbc:oracle:thin:@10.10.10.10:1010:KERDEV2

Here, 10.10.10.10 is the *hostname* where the database is installed, 1010 is the *port number*, *KERDEV*2 is the *instance name*.

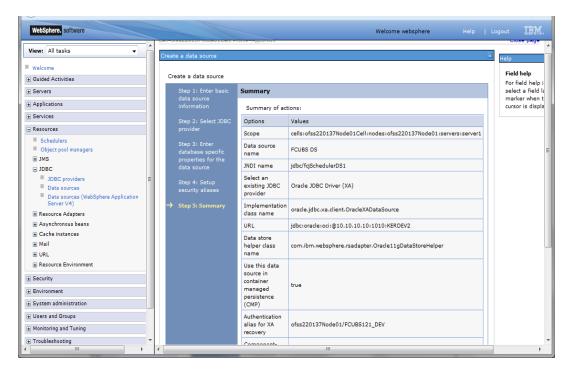
- 7. Select the 'Data store helper class' as 'Oracle11g data store helper'.
- 8. Click 'Next'. The following screen is displayed.



Select user alias from Authentication alias for XA Recovery, Component-managed authentication alias and Container-managed authentication alias dropdown.



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





Click finish, the following screen is displayed.

View: All tasks Colerofs 220137 ModeO1 Cell, Profile=AppSro1 Colerofs 200137 ModeO1 Celle, Profile=AppSro1 Col	WebSphere. software		Logout IBM.
I Guided Activities I Servers I Applications I Applications I Services I Schedulers Object pool managers J DBC I DBC sources Data sources Use stain space for dert saving of a datasource that is associated with your selected DBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a guided activity. A guided activity our application with connections for accessing the database. Learn more about this task in a guided activity. A guided activity. A guided activity is copic cell-ofss220137Mode01. Server=server1 I Resource Adapters I Asynchronous beans I Cache instance: I Mail I Will I Mail I Security I Environment I System administration I System administration I System administration I Subt formas I Super f			Close page 🔺
Schedulers Object pool managers Object pool managers Dota sources Dota sources Data sources Data sources Data sources Outa sources Out	Guided Activities Servers Applications	▲ Changes have been made to your local configuration. You can: <u>Save</u> directly to the master configuration. 	E
JDBC IDBC JDBC Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a guided activity. A guided activity a provides a list of task steps and more general information about the topic. B Resource Adapters Scope: Cell=ofss220137Node01.Cell, Node=ofss220137Node01, Server=server1 B Resource Environment Scope: Scope: Scope Sco	Schedulers	Δ -The server may need to be restarted for these changes to take effect.	
Becking Image: Second Secon	JDBC JDBC providers Data sources Data sources Data sources Data sources description Sever V4 Sever V4 Asynchronous beans Cache instances Mail URL	Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource your application with connections for accessing the database. Learn more about this task in a <u>guided activity</u> . A guided provides a list of task steps and more general information about the topic. Scope : Cell=ofss220137Node11Cell. Node=ofss220137Node01. Server=server1 Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, <u>see the scope settings help</u> . Node=ofss220137Node01. Server=server1 Node=ofss220137Node01. Server=server1 Node=ofss220137Node01. Server=server1 Scope settings help.	
Select Name 🗘 JNDI name 🗘 Scope 🗘 Provider 🗘 Description 🗘 Category 🗘			
	Users and Groups	You can administer the following resources:	♦ Category ♦

10. Click 'Save'.

3.3.8 Testing Data Source

Follow the steps given below:

1. Select data source as given below.

WebSphere, software					Welcome we	bsphere	Help	Logout	IBM.
View: All tasks	^		Node=ofss220:	137Node01, Server=s	erveri 💌				Hel
Welcome		+ Pret	erences						F
⊕ Guided Activities ■			Delete Te	st connection Mar					F
		New	Delete Te	st connection Mar	nage state				s
			1 🕂 🐔						п C
		Select	Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘	Category 🗘	р
Resources		You c	an administer the fo	llowing resources:					₩
Schedulers Object pool managers JMS	=		FLEXTEST.WORLD	FLEXTEST, WORLD	Node=ofss220137Node01,Server=server1	Oracle JDBC Driver	New JDBC Datasource		ti c ⊻
JDBC JDBC providers Data sources Data sources (WebSphere Application Server V4)			POSSTEST.WORLD	POSSTEST.WORLD	Node=ofss220137Node01,Server=server1	Oracle JDBC Driver (XA)	New JDBC Datasource		<u>a</u>
 B Resource Adapters Asynchronous beans B Cache instances M ail FURL 		V	<u>fciSchedulerDS</u>	jdbc/fcjSchedulerDS	Node=ofss220137Node01,Server=server1	Oracle JDBC Driver (XA)	New JDBC Datasource		
GRL Resource Environment Security			<u>fcidevDS</u>	jdbc/fcjdevDS	Node=ofss220137Node01,Server=server1	Oracle JDBC Driver (XA)	New JDBC Datasource		-
Environment						Driver (XA)			
System administration									
Users and Groups	÷	Total	4						
< •	•	_							•



2. Click 'Test connection' button. The following screen is displayed on successful creation.

WebSphere. software	Welcome websphere Help L	ogout <u>IBM.</u>
View: All tasks	Cell=ofrs220137Node01Cell, Profile=AppSrv01 Data sources	Close page
Welcome Guided Activities Guided Activities Generations Generatio	Messages Messages Messages More test connection operation for data source fcjSchedulerDS on server server1 at node ofss220137Node01 was successful.	E
Resources Schedulers Object pool managers Disc pool managers JDBC JDBC providers Data sources Data sources Data sources (WebSphere Application Server V4)	Data sources > fcjSchedulerDS Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource obj application with connections for accessing the database. Configuration Test connection	ect supplies your
Sever 0 v Resource Adapters Asynchronous beans Cache instances Mail ULL Resource Environment	cells:ofss220137Node01Cell:nodes:ofss220137Node01:servers:server1 prope + Provider WebS Oracle JDBC Driver (XA) data s	ection pool rties phere ation Server source
	+ Name FrjSchedulerDS JNDI name iddb/fdiSchedulerDS	m
Users and Groups III	jdbc/rtjscheduierUs Related Iter	ns 🔻

3.4 Creating JMS Resources

3.4.1 Creating Queue Connection Factory

Follow the steps given below:

1. Start the administrative console of Websphere application server. Open an internet browser and enter the Websphere admin console URL.

http://{Host}:{Port}/console

Eg: https://10.10.10.10:1010/console

In this example, 10.10.10.10 is the machine IP address on which Websphere is running.



The following screen is displayed:

WebSphere, s	software	
	WebSphere Integrated Solutions Console User ID: Password Log in	
IBM	Licensed Materials - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All Rights Reserved. IBM, the IBM logo, lom.com and WebSphere are trademarks or regatived trademarks of International Business deschines Corp., registered in trademarks of IBM or other companies. A current list of IBM defaulties of IBM or other companies, A current list of IBM and a current list of IBM and the companies. A current list of IBM or other current list of IBM or other companies. A current list of IBM or other current list of	

- 2. Specify the Websphere administrator username and password.
- 3. Click 'Log In'.
- 4. Navigate to Websphere home page.

View: All tasks	▼ Welcome		
Welcome	Welcome	? - 🗆	About this Integrated Solutions Console
Guided Activities			
Servers		s a common administrative console for product suites that can be administered	Integrated Solutions Console, 8.5.5.0 Build Number: gm1319.01
Applications	through this installation. Select a proc		Build Number: gm1319.01 Build Date: 5/14/13
Services			LICENSED MATERIALS PROPERTY OF
Resources	Suite Name	Version	IBM 5724-J08, 5724-I63,
Security	WebSphere Application Server	8.5.5.0	5724-H88,5724-H89, 5655-W65 (C)
Environment			Copyright International Business
System administration			
Users and Groups			
Users and Groups Monitoring and Tuning			
E Troubleshooting			
Service integration			
UDDI			



5. Expand 'Resources' and select 'JMS'. Click 'Queue Connection Factories. 'The following screen is displayed.

WebSphere, software	Welcome saravanan	Help Logout
View: All tasks 🗸	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page
Welcome	Queue connection factories ?	– Help –
Guided Activities	Queue connection factories	Field help For field help information,
∃ Servers	A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destinations, for point-to-point messaging.	select a field label or list
Applications	Scope: Cell=ofss220239Node01Cell	marker when the help cursor is displayed.
Services		Page help
- Resources	Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, <u>see the scope</u>	More information about
 Schedulers Object pool managers 	settings help.	this page
 Object pool managers JMS 	Cell=ofss220239Node01Cell	
JMS providers Connection factories Oueue connection factories	Preferences	
 Queue connection factories Topic connection factories 	New Delete	
Queues		
 Topics Activation specifications 	Select Name JNDI name Provider Description Scope	
	None	
Resource Adapters	Total 0	
 Asynchronous beans 	Iotal U	
		_
🕀 Mail		
URL Resource Environment		
Security		
Environment		
∃ System administration		
⊕ Users and Groups ■		
Monitoring and Tuning III	۳	l l l l l l l l l l l l l l l l l l l

6. Select 'Node' from the drop down list and click 'New' button. The following screen is displayed.

<u> </u>		
WebSphere, software	Welcome saravanan	Help Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL Queue connection factories ? -	Close page
Welcome Guided Activities Servers	Queue connection factories > Select JMS resource provider Scope cells:ofss22023910de01Cell	Field help For field help information, select a field label or list marker when the help
Applications Services Resources	Select the provider with which to create the Queue connection factory. The following providers support the selected resource type and are available at the selected scope.	cursor is displayed. Page help More information about
Schedulers Object pool managers MS providers MS providers Connection factories Counce connection factories Topic connection factories Topic connection factories Topic and the specifications Activation specifications GUDBEC	Default messaging provider WebSphere MQ messaging provider OK Cance	this page
Resource Adapters Asynchronous beans Gache instances Mail URL Resource Environment Security		
Environment System administration	1	
⊕ System administration ⊕ Users and Groups		
Monitoring and Tuning III		



7. Select 'Websphere MQ messaging provider' and click 'OK'. The following screen is displayed.

WebSphere. software	Welcome saravanan	Help Logout IBM.
View: All tasks	CreateWMQJMSResource.displayName	Close page
Welcome	Create WebSphere MQ JMS resource	- Help -
Guided Activities	This wizard creates a WebSphere MQ JMS resource	Field help
Servers	→ Step 1: Configure basic attributes	For field help information,
Applications	basic attributes	select a field label or list marker when the help
	Step 2: Select connection method	cursor is displayed.
	connection method Step 3: Test connection + Name NotifyOestQCF Description NotifyOestQCF NotifyOestQCF 	

8. Specify the following details:

Name	NotifyDestQCF
JNDI Name	NotifyDestQCF
Description	NotifyDestQCF

Click 'Next'. The following screen is displayed.

WebSphere. software	Welcome saravanan	Help Logout IBM.
View: All tasks 🗸	CreateWMQJMSResource.displayName	Close page
Welcome	Create WebSphere MQ JMS resource	- Help -
Guided Activities ■	This wizard creates a WebSphere MQ JMS resource	Field help
Servers	Step 1: Configure Select connection method	For field help information,
Applications	basic attributes	select a field label or list marker when the help
Services	→ Step 2: Select Decide what information to enter to determine how to connect to WebSphere MQ	cursor is displayed.
- Resources	connection method	
Schedulers Object pool managers DMS providers Connection factories Queue connection factories Queue connection factories Queues Topics Activation specifications DBC Resource Adapters Asynchronous beans Cache instances	Step 3: Test connection Step 4: Summary Previous Next Cancel	
Mail URL Resource Environment		
Environment		
Monitoring and Tuning		



9. Set the options as shown in the figure. Click 'Next'. The following screen is displayed.

WebSphere. software			Welcome saravanan		IBM.
View: All tasks	*	UseCustomWMQConnectionSet	tings.displayName		Close page
		Custom WebSphere MQ con	nection		
Welcome				Help	Ξ.
Guided Activities		Custom WebSphere MQ c	connection	Field help	
Servers		Step 1: Configure	Supply queue manager details	For field help info	rmation,
Applications		basic attributes		select a field labe marker when the	
Services		Step 2: Select	Enter details about the queue manager or queue sharing group that you wish to connect to.	cursor is displaye	
Resources		connection method			
Schedulers Schedulers JMS JMS JMS JMS JMS Genvelors Queue connection factories Queue connection factories Queues Topic connection factories Topic annection factories Queues Topics Queues Cacheuses Cacheuses Asynchroan specifications Cache instances Cach	E	Step 2.1: Supply details Step 2.2: Enter connection details Step 3: Test connection Step 4: Summary Previous Next C	Queue manager or queue sharing group name (QM_DDHP0520		
Environment System administration					
Users and Groups					
Monitoring and Tuning III	-				

10. Specify the queue manager name 'QM_DDHP0520'. Click 'Next'.

WebSphere. software	Welcome saravanan	Help Logout IBM.
View: All tasks 🗸	UseCustomWMQConnectionSettings.displayName	Close page
	Custom WebSphere MQ connection	d and a second se
Welcome		Help 📃
Guided Activities	Custom WebSphere MQ connection	Field help
Servers	Step 1: Configure Enter connection details	For field help information,
Applications	basic attributes	select a field label or list
★ Services	Step 2: Select Enter the details required to establish a connection to the queue manager or queue sharing group	marker when the help cursor is displayed.
Resources	connection method Transport	
Schedulers Cohect pool managers JMS providers JMS providers Connection factories Queue connection factories Queues Topics Activation specifications DBC Resource Adapters Asynchronous beans C Cabe instances M mail	Step 2.1: Iminipat. then client ▼ Step 2.1: Endings, then client ▼ Step 2.1: Enter host and port information in the form of separate hostname and port values Step 3: Test Port Io10.0.0 Step 4: Summary Onection Enter host and port information in the form of a connection name list Connection Enter host and port information in the form of a connection name list Step 4: Summary	
 ➡ URL ➡ Resource Environment ➡ Security 	Previous Next Cancel	
Environment		
System administration		
Monitoring and Tuning III	*	

11. Specify the following details:

Host Name	10.10.10.10 (Host where Websphere MQ is installed)
Port	1010 (Web sphere MQ port)
Server Connection Channel	SYSTEM.DEF.SVRCONN

12.



13. Click 'OK'. The following screen is displayed.

WebSphere. software	Welcome saravanan	Help Logout IBM.
View: All tasks	CreateWMQJMSResource.displayName	Close page
	Create WebSphere MQ JMS resource	
Welcome		Help –
Guided Activities	This wizard creates a WebSphere MQ JMS resource	Field help
Servers	Step 1: Configure Test connection	For field help information,
 Applications 	basic attributes	select a field label or list
Services	Step 2: Select To test establishing a connection using the information provided select the "Test Connection" button. It may take several seconds to perform	marker when the help cursor is displayed.
- Resources	connection method this test. If you wish to skip this test, select the "Next" button.	
Schedulers Object pool managers MS MS providers Connection factories Queue conneconnection Queue conneconneconneconnection	Step 2.2: Test connection Step 2.2: Enter connection details Step 3.7 Test connection (The next step of the inized depends on decrisors made in the current step) Step 4: Summary	
Cache instances Mail URL Resource Environment	Previous Next Cancel	
Security		
Environment		
System administration		
Monitoring and Tuning		

14. Click 'Test Connection' button. The following screen is displayed:

Step 2: Select Result of testing the connection Step 2.1: A connection was successfully made to WebSphere MQ. Supply queue connection details Image: Connection testing the connection	Step 2.1: A connection was successfully made Step 2.1: Supply queue connection details Step 2.2: Step 2.2:	connection was successfully made	Step 2: Select connection method A connection was successfully made A connection was successfully made
A connection method Step 2.1: Supply queue connection details Step 2.2: Enter connection details	Step 2.1: Supply queue connection details Step 2.2:	connection was successfully made	A connection method A connection was successfully made
A connection was successfully made to WebSphere MQ.	A connection was successfully made to WebSphere MQ. Supply queue connection details Step 2.2:		A connection was successfully made
Step 2.1: Supply queue connection details Step 2.2: Enter connection details	Supply queue connection details Step 2.2:	Websphere MQ.	to WebSphere MQ.
connection details Step 2.2: Enter connection details	connection details Step 2.2:		
Step 2.2: Enter connection details	Step 2.2:		connection
Enter connection details			details
details			
Step 3: Test	details		
	Step 3: Test		Enter connection
onnection	connection		Enter connection details
			Enter connection details Step 3: Test
Step 3.1: Test	Step 3.1: Test		Enter connection details Step 3: Test connection Step 3.1: Test
Step 3.1: Test connection	Step 3.1: Test		Enter connection details Step 3: Test connection Step 3.1: Test
			Enter connection
			Enter connection details ep 3: Test
			Enter connection details Step 3: Test
Step 3.1: Test			Enter connection details Step 3: Test connection
			Enter connection details
			Enter connection details Step 3: Test connection
onnection	onnection		Enter connection details tep 3: Test



15. Click 'Next'. The following screen is displayed with a message in the summary field.

WebSphere. software				me saravanan								
View: All tasks 🗸	<u> </u>	CreateWMQJMSResource.display					Close page					
Welcome	Create WebSphere MQ JMS resource											
± Guided Activities		This wizard creates a Web	Sphere MQ JMS resource									
E Servers		Step 1: Configure	Summary									
Applications		basic attributes	,									
Services		Step 2: Select	Summary									
Resources		connection method	Creating a resource of type Queue connection factor	y- Name "NotifyDestQCF"								
Schedulers Object pool managers JMS JMS JMS Schedulers Connection factories Connection factories Councetion factories Councetion factories Councetion factories Development Councetion factories Development Deve	E	Step 2.1: Supply queue manager details Step 2.2: Enter connection details Step 3: Test connection Step 3.1: Test connection result Step 4: Summary Previous Finish (- NIDI name "NotifyDestQCF" - Queue manager or queue sharing group name "QI - Server type "QMGR" - Hostname "10.10.10.10" - Port "1010" - Channel name "SYSTEM.DEF.SVRCONN" Chancel	M_DDHP0520"			-H					
W GRE B Resource Environment C Security C Environment S System administration B Users and Groups												
Monitoring and Tuning												

16. Click 'Finish'. The following screen is displayed.

WebSphere, software					Ň	Welcome saravanan	Help	p Logout IBM.		
View: All tasks		ell=ofss220239Node01Cell				*		Close page	^	
Velcome		Queue connection factories				4		Field help	I	
∃ Guided Activities		E Messag		For field help information						
Servers				select a field label or list						
Applications		Sa Sa		marker when the help cursor is displayed.						
± Services		■ <u>Re</u>		Page help						
Resources								More information about		
Schedulers		∆ -The		this page						
Object pool managers JMS JMS providers Connection factories Queue connection factories Queues Queues		Queue connection factor A queue connection factor destinations, for point-t Scope: Cell=ofss220		Command Assistance View administrative scripting command for las action	ш					
 Topics Activation specifications JDBC 	L	Scope specifie detailed inforr <u>settings help.</u>								
Resource Adapters Asynchronous beans		Cell=ofss22			1					
Asynchronous beans Cache instances		t Preferences								
⊞ Mail					1					
1 URL		New Delete								
Resource Environment					I					
Security		Select Name 🗘	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘				
Environment		You can administer the following resources:							4	
System administration		NotifyDestQCF	NotifyDestQCF	WebSphere	NotifyDestQCF	Cell=ofss220239Node01Cell				
				MQ messaging						
Monitoring and Tuning	-			provider					Ŧ	
۰ III ا	•				m		_	•		

- 17. Click 'Save'.
- 18. Similarly, you need to create the all queue connection factories mentioned in the document "Resource To be Created"



3.4.2 Creating Queues

Follow the steps given below:

1. Expand 'Resources > JMS' and click Queues.

WebSphere, software		Help Logout IBM,
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL Dueues 2 -	Close page
Welcome	Queues	Field help
Guided Activities	A JMS queue is used as a destination for point-to-point messaging.	For field help information,
∃ Servers		select a field label or list marker when the help
	Scope: Cell=ofss220239Node01Cell	cursor is displayed.
	Scope specifies the level at which the resource definition is visible. For	Page help
E Resources	detailed information on what scope is and how it works, <u>see the scope</u> settings help.	More information about
Schedulers	attained meter	this page
Object pool managers	Cell=ofss220239Node01Cell 🔹	
∃ JMS		
JMS providers Connection factories	Preferences	
Connection factories Oueue connection factories	New Delete	
Topic connection factories		
Queues		
 Topics Activation specifications 	Select Name 🗘 JNDI name 🗘 Provider 🗘 Description 🗘 Scope 🗘	
Activation specifications JDBC	None	
Resource Adapters	Total 0	
Asynchronous beans		
Gache instances Gache instance Gache		
Mail		
URL		
Resource Environment		
Environment		
Monitoring and Tuning		
* III +	€	•

2. Select 'Node' from the drop down list. Click 'New'. The following screen is displayed:

WebSphere, software	Welcome saravanan	Help Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page
	Queues ?	– Help –
Welcome	Queues > Select JMS resource provider	Field help
Guided Activities		For field help information,
Servers	Scope cells:ofss220239Node01Cell	select a field label or list marker when the help
		cursor is displayed.
	Select the provider with which to create the Queue. The following providers support the selected resource type and are available at the selected scope.	Page help
- Resources		More information about
Schedulers	Default messaging provider	this page
Object pool managers		
JMS JMS providers	WebSphere MQ messaging provider	
Connection factories	OK Cancel	
Queue connection factories		
Topic connection factories		
Queues Topics		
Activation specifications		
I JDBC		
Resource Adapters		
Asynchronous beans		
🕀 Mail		
URL .		
Resource Environment		
Security		
Environment		
E System administration		
H Users and Groups		
Monitoring and Tuning		
javascript:showHideFilter()		



3. Select 'Websphere MQ messaging provider'. Click 'OK'. The following screen is displayed.

WebSphere, software	Welcome sarav	anan Help Logout 📱	IBM.
View: All tasks	General Properties		The add
Welcome	Administration	tł	he gen
Guided Activities	Scope		his iter saved.
+ Servers	Cell=ofss220239Node01Cell	1	Additio
Applications	Provider		A
Services	WebSphere MQ messaging provider		F
- Resources	* Name		■ V C
Schedulers	NOTIFY_QUEUE		c
Object pool managers	* JNDI name		F
∃ JMS	NOTIFY_QUEUE		= c
JMS providers Connection factories			P I
Queue connection factories	Description		
Topic connection factories	NOTIFY_QUEUE		
Queues			
Topics			
Activation specifications			
∃ JDBC			
Resource Adapters			
	WebSphere MQ Queue		=
🕀 Mail	* Queue name		
URL	NOTIFY_QUEUE		
Resource Environment	Queue manager or Queue sharing group name		
Security	QM_DDHP0520		
Environment			
System administration	Apply OK Reset Cancel		
Monitoring and Tuning			-
· · · · ·	II		•

Specify the following details:

Name	NOTIFY_QUEUE
JNDI Name	NOTIFY_QUEUE
Description	NOTIFY_QUEUE
Queue Name	NOTIFY_QUEUE on Websphere MQ to which the queue needs to be mapped
Queue Manager or Queue sharing group name	QM_DDHP0520



4. Click 'Apply'. The following screen is displayed.

6 Integrated Solutions Console	🟠 = 🔂 - 🖬 🖷 Bage + Safety + Tgols + 😢 + 🎽
Integrated Solutions Console Welcome admin	Help Logout
View (Al tests * Walcime Guided Activities Guided Activities Servirs Application Baserices Schwelker Object polymers Object polymers Checking factories Checking factories Checking factories Checking factories Checking factories Topic Connection factories	Image: Second Secon
Done	Second intranet 🖓 - 👻 100%

5. Click 'Websphere MQ Queue Connection Properties'. The following screen is displayed.

Contegrated Solutions Console		<u>ه</u> • ۵	👘 🖷 🖷 🔹 Bage + Safety + Tgols + 🚷 +
Integrated Solutions Console Welcome admin		Help Los	pout IBM
Views Alf tasks	Cell+DDHP0520Node01Cell, Profile+AppSrv01		Close page
= Welcome	Queues		7 - Help -
E Guided Activities	E Messages		Field help
E Servera	Changes have been made to your lo		The name of the channel to use to connect to the
E Applications	 <u>fave</u> directly to the master configu <u>Review</u> changes before saving or d 		queue manager.
E Services	The server may need to be restart		Page help
E Resources			More information about this page
Bichardura Clarct cala messana John Solar Sol	Deseas > Wahlahers No mesaning provider > NOILY: Use his grad to acediy, how is conset to the cueve man- properties to retrieve, alopian and update the queue confor- enting a senial. Configuration General Properties Queue manager port [0:0:0:0 [ager that hosts the queue. The system uses these conne	dian
E Security	Password		
III Environment			
E System administration			
E Users and Groups	Apply OK Reset Cancel		
E Monitoring and Tuning			
I Troubleshooting			
Service integration			
DUDDI III III III III III III III III II			
			Local intranet 🖧 + 🐮 100% -

6. Specify the following details:

Queue manager host	10.10.10.10 (IP address of the MQ server)
Queue manger port	1010
Server Connection Channel	SYSTEM.DEF.SVRCONN



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

E Integrated Solutions Console						🖶 🔻 Bage 🖌 Safety 🕶 Tools 🕶 🔞 🕶
ntegrated Solutions Console Welcome admin					Help Logout	IBM
View: All tasks	Cell=DDHP0520Node01Cell, P	rofile=AppSrv01				Close page
Welcome	Queues				? -	- Help –
Guided Activities	Queues					Field help
Servers	A JMS queue is used as a d	estination for point-to-	point messaging.			For field help information, select a field label or list
Applications	Scope: Cell=DDHP0520					marker when the help cursor is displayed.
Services						
Resources	information on w	e level at which the re- lat scope is and how it	source definition is visible works, <u>see the scope se</u>	e. For detailed ttings help.		Page help More information about
Schedulers	Node=DDHP05	20Node01	~			this page
 Object pool managers 		20100401				
JMS JMS providers	Preferences					
 JMS providers Connection factories 	New Delete					
 Queue connection factories 						
 Topic connection factories 						
= Queues = Topics	Select Name 🗢	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘	
 Activation specifications 	You can administer the fol	lowing resources:				
E JDBC	NOTIFY QUEUE	NOTIFY_QUEUE	WebSphere MQ	NOTIFY_QUEUE	Node=DDHP0520Node01	
Resource Adapters			messaging provider			
H Asynchronous beans	Total 1					
Cache instances						
🖽 Mail						
H URL						
Resource Environment						
Security						
Environment						
System administration						
E Users and Groups						
Monitoring and Tuning						
Troubleshooting						
Service integration						
E UDDI						
ine					Second Second Second Second Second	anet 🦓 🔹 🔍 100%

8. Similarly, you need to create all the queues mentioned in the document "Resource To be Created".



3.5 Creating Message Listener

Follow the steps given below:

1. Start the administrative console of Websphere application server. Open an internet browser and enter the Websphere admin console URL.

http://{Host}:{Port}/console

Eg: https://10.10.10.10:1010/console

In this example, 10.10.10.10 is the machine IP address on which Websphere is running.

The following screen is displayed:

WebSphere. soft	WebSphere Integrated Solutions Console	
	UserID: Password: Log in	
IBM.	Licensed Materials - Property of IBM (c) Copyright IBM Corp. 1997, 2011 All Rights Reserved. IBM, the IBM logo, ibm.com and WebSphere are trademarks or registered trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the Web at <u>Copyright and trademark information</u> .	

- 2. Specify the Websphere administrator username and password.
- 3. Click 'Log In'.



4. Navigate to Websphere home page.

WebSphere, software		Welcome sar	avanan Help Logout IBM,
View: All tasks 🔹	Welcome		
Welcome	Welcome	? = 0	About this Integrated Solutions Console 📃 🗖
Guided Activities	Integrated Solutions Console provides a con	nmon administrative console for	Integrated Solutions Console, 8.5.5.0 🔺
Servers	multiple products. The table lists the product	t suites that can be administered	Build Number: gm1319.01 Build Date: 5/14/13
Applications	through this installation. Select a product sui	ite to view more information.	LICENSED MATERIALS PROPERTY OF
Services			IBM
Resources	Suite Name	Version	5724-J08, 5724-I63, 5724-H88,5724-H89, 5655-W65 (C) T
Security	WebSphere Application Server	8.5.5.0	Copyright International Business
Environment			
System administration	L		
Users and Groups			
Monitoring and Tuning			
Troubleshooting			
Service integration			
• UDDI			
<)			

5. Expand 'Servers > Server Types' and click 'Websphere application servers'. The following screen is displayed.

WebSphere, software	Welcome saravanan Help Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL Close page
View: All tasks	Application servers ? - Help
Welcome Guided Activities Servers Server Types WebSphere application servers WebSphere MO servers	Application servers Field help Use this page to view a list of the application servers in your environment and the status of each of these servers. You can also use this page to change the status of a specific application server. Field help Preferences Preferences Preferences Page help
Web servers	More information about
Applications	
	You can administer the following resources: server1 ofss220239Node01 ofss220239.in.oracle.com Base 8.5.5.0 <u>View administrative</u>
	scipting command for last
Security	Total 1 action
Environment	
E System administration	
■ Users and Groups	
Monitoring and Tuning	
Troubleshooting	
Service integration	
UDDI	
 () ,	e



6. Click 'server1'. The following screen is displayed.

WebSphere. software		Welcome saravanan	Help Logout IB
View: All tasks	Application servers > server1 Use this page to configure an application server. An application server in required to run enterprise applications. Runtime Configuration	s a server that provides services	Help Field help For field help info
 Genvers Genvers WebSphere application servers WebSphere NQ servers Web servers 	General Properties	Container Settings	select a field labe marker when the cursor is displayer Page help <u>More information</u> this page
⊕ Applications ⊕ Services ⊕ Resources ⊕ Security	server1 Node name ofss220239Node01 Run in development mode	management SIP Container Settings Web Container Settings	
Environment System administration Users and Groups Monitoring and Tuning	Kun in development mode Parallel start Start components as needed Arress to internal server classes	 B Portlet Container Settings B EJB Container Settings 	
Homotomy and roundy Troubleshooting Service integration UDDI	Access to internal server classes Allow	 Container Services Business Process Services 	
	Hultiple V Class loading mode Classes loaded with parent class loader first V	Applications Installed applications Server messaging Messaging engines	
	Apply OK Reset Cancel	Messaging engine inbound transports WebSphere MQ link	

7. Expand 'Messaging' and select 'Message listener service'. The following screen is displayed.

WebSphere, software	Welcome saravanan Hel	lp Logout <u>IBM.</u>
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page
Tiew. All tasks	Application servers ? -	– Help
Welcome		Field help
Guided Activities Guided Activities Guided Activities Subscript Activities Guided Activities Subscript Activities Subscrite Subscript	Application servers > server1 > Message listener service	For field help information
Servers	Use this page to configure the message listener service. This service provides the message-driven bean (MDB) listening process, in which message-driven beans are deployed against listener ports that define the	select a field label or lis marker when the help
Server Types	JMS destination to listen upon. These listener ports are defined within this service along with settings for its	cursor is displayed.
WebSphere application servers	thread pool.	Page help
WebSphere MQ servers	Configuration	More information about
		this page
Applications		
Services	Additional Properties	
Resources		
Security	Listener Ports Thread Pool	
Environment	Custom properties	
± System administration	- <u>Custom properties</u>	
Users and Groups		
Monitoring and Tuning		
Troubleshooting Troubleshooting		
Service integration		
± UDDI		
•) (•



8. Click 'Listener Ports'. The following screen is displayed.

Solutions Console	🚵 = 🔊 - 🖃 👼 - Bage - Safety - Tgols - (@ • "
Integrated Solutions Console Welcome admin	Help Logout	M.
View: All tasks	Cell=DDHP0520Node01Cell, Profile=AppSrv01 Close pa	age
= Welcome	Application servers 🛛 🥐 🗕 Help	-
Guided Activities	Application servers > server1 > Message listener service > Listener Ports Field help	
Servers	Use this page to configure listener ports upon which message-driven beans listen for messages. Each port specifies the select a field label or list	
Server Types	JMS connection factory and JMS destination that a message-driven bean, deployed against that port, listens upon.	
 WebSphere application servers 	Preferences	
 WebSphere MQ servers Web servers 	Convert to activation specification New Delete Start Stop Page help More information about this page	
H Applications	Command Assistance	
Services	Select Name 🗘 Description 🗘 Connection factory JNDI name 🗘 Destination JNDI name 🗘 Status 👲 View administrative scripting command for last	
H Resources	None action contains to nex	
E Security	Total 0	
Environment		
System administration		
H Users and Groups		
H Monitoring and Tuning		
I Troubleshooting		
E Service integration		
IDDI 🗄		
204	Cocel Intranet 🖧 - 💐 100%	
Done	Stocal intranet 🛷 👻 🔍	• • .;

9. Click 'New'. The following screen is displayed.

WebSphere. software	Welcome saravanan Help Logout
ew: All tasks 🗸	Cell=ofss220239Node01Cell, Profile=FPCFL Close p
Welcome	Application servers ? -
Guided Activities	Application servers > server1 > Message listener service > Listener Ports > New
Servers	Use this page to configure listener ports upon which message-driven beans listen for messages. Each port specifies the JMS connection factory and JMS destination that a message-driven bean, deployed against that port, listens upon.
Server Types WebSphere application servers WebSphere MQ servers Web servers	Configuration
Applications	General Properties
Services	* Name
Resources	NotifyMDB_Listener
Security	+ Initial State
Environment	Started V
System administration	Description
Users and Groups	NotifyMDB_Listener
Monitoring and Tuning	* Connection factory JNDI name
Troubleshooting	NotifyMDB_Listener
Service integration	* Destination JNDI name NOTIFY_MDB_QCF
UDDI	Maximum sessions I Maximum retries 0 Maximum messages 1 Apply OK



10. Specify the following details:

Name	NotifyMDB_Listener
Description	NotifyMDB_Listener
Connection factory JNDI name	NOTIFY_MDB_QCF
Destination JNDI name	NOTIFY_QUEUE
Maximum retries	1

11. Click 'Apply'. The following screen is displayed.

WebSphere. software	Welcome saravanan Help Logout IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL Close page
Welcome	Application servers ? - Help
Guided Activities	A
-	E Messages Fo
- Servers	The server may need to be restarted for these changes to take effect.
Server Types	Changes have been made to your local configuration. You can: cu
 WebSphere application servers WebSphere MQ servers 	Save directly to the master configuration.
Web servers	Review changes before saving or discarding.
	The server may need to be restarted for these changes to take effect.
Services	
Resources	Application servers > server1 > Message listener service > Listener Ports > NotifyMDB_Listener az
Security	Use this page to configure listener ports upon which message-driven beans listen for messages. Each port specifies the JMS
Environment	connection factory and JMS destination that a message-driven bean, deployed against that port, listens upon.
System administration	Configuration
∃ Users and Groups	
Monitoring and Tuning	
Troubleshooting	General Properties
Service integration	* Name
I UDDI	NotifyMDB_Listener
	+ Initial State Started
	Description NotifyMDB_Listener
	Connection factory JNDI name
	NotifyMDB_Listener
	+ Destination JNDI name
۰ III +	



12. Click 'Save'. The following screen is displayed.

Hintegrated Solutions Console				👌 • 🖻	- 🖃 🚔 :	• Bage • Safety • Tools • 🕢 • »
Integrated Solutions Console Welcome admin				Help I	.ogout	
View: All tasks	Cell=DDHP0520Node01Cell, Pr	ofile=AppSrv01				Close page
= Welcome	Application servers				? -	Help –
Guided Activities	Application servers > serve	at N Massaca listenas	anning > Listener Dente			Field help
E Servers				nessages. Each port specifie	is the JMS	Select Row 1
E Server Types		estination that a mess	i message-driven beans listen for n age-driven bean, deployed against	that port, listens upon.		Page help
WebSphere application servers	Preferences					More information about this page
 WebSphere MQ servers Web servers 	Convert to activation	specification Ne	W Delete Start Stop			Command Assistance
H Applications						View administrative scripting command for last action
Services	Select Name 🗢	Description 🗘	Connection factory JNDI name 🗘	Destination JNDI name 🗘	Status ሷ	action .
Resources	You can administer the foll	owing resources:				
E Security	NotifyMDB Listener	NotifyMDB_Listener	NOTIFY_MDB_QCF	NOTIFY_QUEUE	8	
Environment	Total 1					
System administration						
🖽 Users and Groups						
H Monitoring and Tuning						
⊞ ⊤roubleshooting						
Service integration						
II UDDI						
/bm/console/collection8utton.do					😪 Local intrane	t 🧌 - 🔍 100% -
henden solekensenn leaten an					S Local Intrane	4 100% + j

13. Select 'NotifyMDB_Listener'. Click 'Start'. The following screen is displayed.

WebSphere. software						Welcome infra	Help	Logout	IBM
View: All tasks 🔹	Cel	l=ofss220	0075Node03Cell, Profile=FC	IS121_ITR2				Clo	se page
	Ap	plication	servers				2 -	Help	
Welcome								Field hel	-
± Guided Activities				Message listener service > L				For field	r help int
Servers		Use this	page to configure listene	r ports upon which message	-driven beans listen for messages. bloved against that port, listens upo	Each port specifies the JMS of	onnection	select a marker y	
Server Types		Prefe		r message unven bean, beş	soyed against that port, listens upo			cursor is	
 WebSphere application servers 		• Piele						Page he	-
WebSphere MQ servers		New	Delete Start Stop	Convert to activati	on specification			More info	
= Web servers		G C) # %					this page	2
± Applications		Select I	Name ^	Description A	Connection factory JNDI name	Destination INDL name A	Status (h)	Comman View adm	
1 Services			n administer the following			bestmation short name v	otatos 🙅	scripting	comma
Resources								action	
= Schedulers			CIFCreationMDBListener	CIFCreationMDBListener	CIFCREATION_DEST_QCF	CIFCREATION_DEST_QUEUE	*		
 Object pool managers 									
± JMS			EmsIn Listener	EmsIn_Listener	EmsQcf	EMS_INQUEUE	۲		
I JDBC		_							
 JDBC providers 			EmsOut Listener	EmsOut_Listener	EmsQcf	EMS_OUTQUEUE	٠		
= Data sources		_	MDB Listener	MDB_Listener	MDBQCF	MDB_QUEUE			
 Data sources (WebSphere Application Server V4) 				MDB_Listener	MDBQCP	MDB_QUEUE	~		
Resource Adapters	=	Total 4							
Asynchronous beans									
Cache instances									
Mail									
1 URL									
Resource Environment									
Security									
= Global security									
 Security domains 									
Administrative Authorization Groups									
 SSL certificate and key management 									
 Security auditing 									
 Bus security 									
Environment									
8 System administration									
± Users and Groups									
E Monitoring and Tuning									
E Troubleshooting									
Service integration									
UDDI	- 4								



14. Similarly, you need to create the following listeners:

MDB_Listener
CIFCreationMDBListener
EmsIn_Listener
EmsOut_Listener

The complete list of listener queue and QCF to be created for Websphere is given below.

Application Name	Listener Name	Listener QCF	Listener QUEUE
GWMDB	MDB_Listener	MDBQCF	MDB_QUEUE
EMSInMDB	EmsIn_Listener	EmsQcf	EMS_INQUEUE
EMSOutMDB	EmsOut_Listener	EmsQcf	EMS_OUTQUEUE
CIFCreationMDBLi stenerBean	CIFCreationMDBListen er	CIFCREATION_DEST_QCF	CIFCREATION_DE ST_QUEUE

Here,

- MDB_Listener is mandatory for Gateway MDB applications
- All others are required for FCJ Applications embedded with Scheduler.

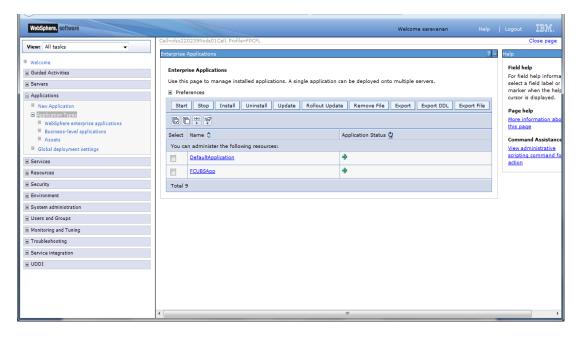


4. Default Settings for Web Sphere

4.1 Standalone Scheduler Configuration

If standalone scheduler is enabled then below configuration should be done

1. Login to websphere admin console. Expand 'Application > Application Types> WebSphere enterprise applications'. The following screen is displayed:





Click on the application 'FCISApp' below screen is displayed.

WebSphere, software		Welcome websphere	Help Logout IBM
View: All tasks 🗸	Cell*ofx1220137NodeD1Cell_Profile*AppSrv01		Close pa
 Welcome Builded Activities Barvers Applications 	Enterprise Applications > FCINeoWeb Use this page to configure an enterprise application. Cli Its mobiles. Configuration	id:	Field help For field help information, select a field label or list marker when the help cursor is displayed. Page help
New Application Application Types WebSphere enterprise applications Business-level applications Assets Global deployment settings	General Properties • Name FCNeoWeb	Modules Manage Modules Matadata for modules	More nep More information about this page
E Services	Application reference validation	Display module build Ids	
Resources	Issue warnings	Web Module Properties	
3 Security	Detail Properties	Session management	
() Environment	Target specific application status	Context Root For Web Modules	
E System administration	Startup behavior	 25P and 25F options Virtual hosts 	
	Application binaries Class loading and update detection	 Virtual hosts 	
Monitoring and Tuning	 Request dispatcher properties 	Enterprise Java Bean Properties	
Troubleshooting	= JASPI provider	Default messaging provider references	
E Service Integration	Custom properties	Application profiles	
(±) UDD1	View Deployment Descriptor East participant support extension References	 Environment entries for EJE modules Bind EJE Rusiness EJE JKOL names 	
	EDB references Shared library references Shared library relationships	Client Module Properties © <u>Client module deployment mode</u> Web Services Properties	
	Apply OK Reset Cancel	 Service clients Service client policy sets and bindings Database Profiles 	
		SQL1 profiles and pureQuery bind files	

Click on 'Manage Modules'

WebSphere, software						Welcome websphere	
View: All tasks	Calimona 2201	377ypee01Cell, Profile	*Appirv91				
	Enterprise Ap	glications					2.
Walcome	Enterprise	Applications > FC1	NeoWeb > Manage Module	2			
E Guided Activities	Manage N		, name of the second				
n) Servera							
Applications	applicati	on. Modules can be i	installed on the same appl	ication se	erver or dispersed amon	ant to install the modules that are co g several application servers. Also, sp	ecify the Web servers
New Application	as target based of	ts that serve as routs the applications the	ers for requests to this app at are routed through.	lication,	The plug-in configuration	n file (plugin-cfg.xml) for each Web s	erver is generated,
Application Types WebSphere enterprise applications		and serversi					
Business-level applications	WebSc	here:ceR+ofss22013	17Node01Cell.node=ofss22	0137Nod	e01.server=server1	Apply	
# Assets	Remo	ve Update R	emove File Export File				
 Global deployment settings 	0.0	N					
E Services	64 6	J.					
e Resources	-		1000	Module			
E Security	Select	Module	URI	Туре	Server		
e Environment	12	ECIDeneralEUB-jar	FCIGeneralEJB.jar.META- INF/ejb-jar.xml	EJB Module		20137Node01Cell.node=ofss220137N	ode01.server=server1
System administration			FCJSMS.jar.META-	EJB		20137Node01Cell.node=ofss220137N	ode01.server=server1
Users and Groups		FC35MS.Jar	INF/ejb-jar.xml	Module			
e Monitoring and Tuning	13	EC2Eatch.iar	FC3Batch-Jar, META- INF/ejb-jar.scnl	EJ6 Module		20137Node01Cell.node=ofss220137N	ode01,server=server1
6 Troubleshooting	1	ECServiceE28.tar	FCServiceEJ8.jar.META-	EJB		s220137Node01Cell.node=ofss220137Node01.server=serv	
Service integration		Description and	INF/ejb-jar.xml	Module	Contraction of the second s		
e upor		FC2Scheduler.tar	FCJScheduler.jar.META- INF/ejb-jar.xml	EJ8 Module		20137Node01Cell,node=ofss220137N	ode01,server=server1
	2	ECURTILiar	FCJRTT.jar,META- INF/ejb-jar.xml	E38 Module		20137Node01Cell.node=ofss220137N	ode01.server=server1
		FlexCubeCorporate	CINeoWeb.war,WEB-	Web Module		20137Node01Cell,node=ofss220137N	ode01,server=server1
	OK C	ncel					



Click on 'FlexCubeCorporate'

View: All tasks	Callepter220137AcceptCall, WahrewAgpSAc01		Close pa
Views All tasks	Enterprise Applications	1.1	Help
 Welcome Guided Activities E Servers 	Enterprise Applications > FCINeoWeb > Manage Modules > FCINeoWe Use this page to configure an instance of a deployed web module in th information for a web module and session management settings.		Field help For field help information, select a field label or list marker when the help cursor is displayed.
- Applications	Configuration		Page help
New Application Application WebSphare entryrise applications Business-level applications Applications	General Properties • URI [FC:/HeeWeb.swar	Additional Properties Vien Module Class Loader Sustom properties	Mote information about this page
Global deployment settings	Alternate deployment descriptor	Target specific application status	
1 Services		View Deployment Descriptor	
🗄 Resources	+ Starting weight	Session Management	
t Security	10000		
Environment	Class loader order Classes loaded with local class loader first (parent last)		
🗄 System administration	Classes loaded with local class loader first		
(E Users and Groups	Chasses looded with local class loader first (serent lest) Apply OK Reset Cance		
Monitoring and Tuning			
() Troubleshooting			
E Service Integration			
E UDDI			

Select "Classes loaded with local class loader first (parent last)" from the dropdown 'Class loader order'. Click 'Apply' button

WebSphere. software	Welcome sarav	ranan H		IBM.
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL		Clo	se page 🖌
View: All tasks	Enterprise Applications	? - He	lp.	-
Welcome Guided Activities		1	Field help	
	Hessages		For field help inform select a field label (
Applications	 Changes have been made to your local configuration. You can: Save directly to the master configuration. 		marker when the he	
New Application			cursor is displayed.	
Application Application	Review changes before saving or discarding.		Page help	
WebSphere enterprise applications Business-level applications Access	Δ The server may need to be restarted for these changes to take effect.		More information al this page	bout
 Assets Global deployment settings 	Enterprise Applications > FCUBSApp2 > Manage Modules > FCJNeoWeb.war			
★ Services	Use this page to configure an instance of a deployed web module in the application. This page contains dep specific information for a web module and session management settings.	ployment-		=
	Configuration			
Security	Configuration			
Environment				
∃ System administration	General Properties Additional Properties			
	* URI View Module Class Loader			
Honitoring and Tuning	FCJNeoWeb.war			
Troubleshooting	Alternate deployment descriptor	atus		
Service integration	View Deployment Descriptor			
	* Starting weight			
-	10000			
	* Class loader order			
	Classes loaded with parent class loader first			
	Apply OK Reset Cancel			

Click 'Save' link and restart the server.



5. Configuring Mail Session on Websphere

5.1 Introduction

This section describes the method to configure Websphere application server for Oracle FLEXCUBE IS to generate and send passwords to the users via e-mail.

5.2 Creating Java Mail Session

To create Java mail session, follow the steps given below:

1. On the left pane, expand 'Resources' and select 'Mail'.

WebSphere. software		Welcome sarav	vanan Help Logout 🔢	M.
View: All tasks 👻	Welcome			
Welcome	Welcome	?==	About this Integrated Solutions Console	- 0
⊕ Guided Activities ⊡ Servers	Integrated Solutions Console provides a co multiple products. The table lists the produc	ct suites that can be administered	Integrated Solutions Console, 8.5.5.0 A Build Number: gm1319.01 Build Date: 5/14/13	
Server Types WebSphere application servers WebSphere MO servers	through this installation. Select a product su		LICENSED MATERIALS PROPERTY OF	
Web servers	Suite Name	Version	5724-J08, 5724-I63, 5724-H88,5724-H89, 5655-W65 (C)	
	WebSphere Application Server	8.5.5.0	Copyright International Business	
Resources				
€ Security	1			
± Environment				
Troubleshooting				
Service integration				
. UDDI				
« m) ,				

2. Click 'Mail Sessions' to invoke the 'Mail sessions' screen.



The following screen is displayed:

WebSphere. software	Welcome saravanan Help Logout
View: All tasks 🗸	Cell=ofss220239Node01Cell, Profile=FPCFL Close page
Welcome Welcome Guided Activities Servers Applications Services Resources Schedulers Chloct pool managers JOSC Bosource Adapters Asynchronous beans	Mail Sessions Itelp Use this page to create mail sessions, which are collections of properties that define how your application sends mail and accesses the mail store. To create a useful mail session, an outgoing or incoming server and protocol must be provided. Configure mail sessions only after you configure the necessary protocol providers. Field help information, used to help or incoming server definition is visible. For detailed information on what scope is and how it works, see the scope sections the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the scope sections help. Page help More information about this page All scopes Telf scope sections the level at which the resource definition is visible. For detailed information on what scope is and how it works, see the scope sections help. Telf scope is a scope section on the scope is and how it works, see the scope sections about this page Beforences Telf scope is a scope section on the scope is and how it works, see the scope section on the scope is and how it works, see the scope section of t
Cache instances Cache instances Mail Mail providers Mail sessions URL Resource Environment	New Delete Image: The second
	Total 0
Environment	
System administration Users and Groups	
Monitoring and Tuning	
Troubleshooting Service integration UDDI	
۰	۲. m

3. Click 'New' button to create a new mail session. The following screen is displayed:

WebSphere. software		Welcome saravanan	Help Logout IBM.
View: All tasks 🗸	* Name		^
Welcome	FCUBSMail		Help
Guided Activities	* JNDI name mail/FCUBSMail		Field help
Servers			For field h select a fi
-	Description		marker w
Applications			cursor is c
+ Services			Page help
Resources			More infor this page
 Schedulers Object pool managers 		.41	
JMS	Category		
∃ JDBC			
Resource Adapters			
Asynchronous beans ■ Asynchronous beans ■ ■ Asynchronous beans ■ ■	Enable debug mode		
E Cache instances ■ Cache instances ■	Enable strict Internet address parsing		
Mail	Outgoing Mail Properties		
Mail providers Mail sessions			
Wall sessions	Server		
Resource Environment	10.10.10.10		
_	* Protocol		
± Security	smtp 💌		=
Environment	User		
System administration			
	Password		
Monitoring and Tuning			
Troubleshooting	Verify Password		
Service integration	verny Password		
UDDI			
	Return e-mail address		
	Incoming Mail Properties		
	Server		
	* Protocol		
	imap 🔻		
×			



4. Provide the required information. Sample details are given below for your reference.

General Properties			
Name	FCUBSMail		
JNDI Name	mail/FCUBSMail		
N.B	This has to be maintained in the file 'fcubs.properties' in encrypted format		
Outgoing Mail	Outgoing Mail Properties		
Server	< HOST_MAIL_SERVER >		
Protocol	smtps		

5. Click 'Custom Properties' link to configure the custom properties.

Weren lait tasks Witcome Configure mail serions only after you configure the necessary protocol provider. Configure mail serions only after you configure the necessary protocol provider. Configure mail serions only after you configure the necessary protocol provider. Configure mail serions only after you configure the necessary protocol provider. Configure mail serions only after you configure the necessary protocol provider. Configure mail serions only after you configure the necessary protocol provider. Servers Applications Servers Resources ellis CVR220138Hode01Cellinodes: CVR220138Hode01 servers server. Provider Provider Provider NMS Dobc Mail Mail accidents Server Configure mail server Mail accidents Mail Mail accidents Server Server	Integrated Solutions Console		-
Weter: All tasks mails ad accesses the mail trace. To create a useful mail earsion, an utgoing or incoming server and protocol providers. Wetcome Servers: Configuration Ganeral Properties: Additional Properties: Servers: Sope Servers: Cultorn Mit servers: Cultorn Servers: Cultorn Servers: Cultorn Mail Cultorn Servers: Cultorn Server:	Integrated Solutions Console Welcome admin		iem.
Cone	Welcome Welcome Welcome Welcome Welcome Services Services Services Services Services Services Services Services Services Service Adapters Object pool managers JDBC Service Adapters Asynchronize baans Coche instances Mail sersions Anal Mail sersions Resource Environment Service Environment System administration Service integration	mail and accesses the mail store. To create a useful mail session, an outgoing or incoming servier and protocol must be provided. Configure the necessary protocol provider. Configuration General Properties Additional Properties Scope collect/UR2E0138Hode01Cellmodes:CVR2E0138Hode01:server:server1 Custom probability Built-in Mail Provider FCUBSMail Description category Category Category Category Enable debug mode Server floated. Internet address parsing Outgoing Mail Properties 	Field help For field help information, select a field label or list marker when the help cursor is displayed. Page help More information about this page Command Assistance View administrative gorpting command for last
	Done	1	



The following screen is displayed.

Integrated Solutions Console		
Integrated Solutions Console Welcome admin	- Help Logout	
View: All tasks	Cell=CVRZE0138Node01Cell, Profile=AppSrv01	Close page
Welcome	Mail Sessions	? _ Help
■ Guided Activities		Field help
E Servers	Messages	For field help information, select a field label or list
Applications	 Changes have been made to your local configuration. You can: Save directly to the master configuration. 	marker when the help cursor is displayed.
E Services	Review changes before saving or discarding.	Page help
Resources		More information about
Schedulers	⚠ The server may need to be restarted for these changes to take effect.	this page
Object pool managers		
⊞ JMS FF JDBC	Mail Sessions > FCUBSMail > Custom properties	
Resource Adapters	Use this page to specify custom properties that your enterprise information system (EIS) requires for the resource providers and resource factories that you configure. For example, most database vendors require	
Asynchronous beans	additional custom properties for data sources that access the database.	
🖬 Cache instances	Preferences	
🖂 Mail	New Delete	
Mail providers Mail sessions	D D # #	
1 URL	Select Name Value Value Bescription Required	
Resource Environment	None	
Security	Total 0	
Environment		
System administration		
■ Users and Groups		
Monitoring and ⊤uning		
Troubleshooting		
Service integration		
⊞ UDDI		
Done		

6. Click 'New' button to create new custom properties.

The following screen is displayed.

📄 Integrated Solutions Console 🛛 🔅	· · · · · · · · · · · · · · · · · · ·
Integrated Solutions Console Welcome admin	Help Logout
Views: Image: Constraint of the second of	Messages
Done	



7. Specify the information required for creating custom properties. Sample details are given below:

Name	mail.smtps.host
Value	<host_smtps_mail_server></host_smtps_mail_server>
Туре	java.lang.String

The custom properties are given below:

Name	Value	Туре
mail.smtp.host	<host_smtps_mail_server></host_smtps_mail_server>	java.lang.String
mail.smtp.port	<smtps_server_port></smtps_server_port>	java.lang.String
mail.host	<host_mail_server></host_mail_server>	java.lang.String
mail.smtps.auth	TRUE	java.lang.String

Integrated Solutions Console		-
Integrated Solutions Console Welcome admin	Help Li	
View: All tasks	Cell=CVRZE0138Node01Cell, Profile=AppSrv01	Close page
Welcome	Mail Sessions	? _ Help _
Guided Activities		Field help
Servers	Messages	For field help information, select a field label or list
Applications	Changes have been made to your local configuration. You can: Save directly to the master configuration.	marker when the help cursor is displayed.
E Services	Review changes before saving or discarding.	Page help
Resources		More information about this page
 ■ Schedulers ■ Object pool managers ■ JMB ■ JDBC ■ Resource Adapters ■ Aspectokenous beans ■ Cache instances 	The server may need to be restarted for these changes to take effect. Mail Sessions > ECUBSMail > Custom properties Use this page to specify custom properties that your enterprise information system (EIS) requires f resource providers and resource factories that you configure. For example, most database vendors additional sustom properties for data sources that access the database. Preferences	Command Assistance View administrative scripting command for last action
🗆 Mail	New Delete	
 Mail providers Mail sessions 		
I URL	Select Name 🗘 Value 🗘 Description 🗘 Required (<u> </u>
Resource Environment	You can administer the following resources:	/
E Security	mail.smtps.host 10.10.10 false	
Environment		
System administration	Total 1	
Users and Groups		
Monitoring and Tuning		
Troubleshooting		
Corruico integration		

Click 'Save' to complete the configuration.

The file 'fcubs.properties' needs to be updated with the encrypted values of the following components

- SMTP_HOST
- SMTP_USER
- SMTP_PASSWORD
- SMTP_JNDI

You can update this using Oracle FLEXCUBE Investor Servicing Installer.



6. Annexure

Ensure the following settings before deploying the application:

6.1 IBM Websphere Server - Increasing Heap Size

- Go to 'Server > Application Servers' and select the 'server_name'
- Under the Configuration tab, navigate to 'Server Infrastructure > Java(TM) and Process Management > Process Definition > Additional Properties: Java Virtual Machine'
- · Modify the initial heap size and maximum heap size appropriately based on the load size

6.2 IBM Websphere Server - Transaction Service Properties

- Go to' Server > Application Servers' and select the 'server_name'
- Choose 'Container Services > Transaction Service'
- Change the total transaction lifetime timeout appropriately
- Party content, products, or services.

6.3 IBM Websphere Server – ORB Service Configuration

• Go to' Server > Application Servers' and select the 'server_name'

WebSphere. software		Welcome saravanan	Help Logout 🔢
View: All tasks 👻	Application servers > server1		
Welcome	Use this page to configure an application server. An application serve required to run enterprise applications.	r is a server that provides services	Help
± Guided Activities			Field help For field help info
Servers	Runtime Configuration		select a field lab
Server Types			marker when the cursor is displaye
 WebSphere application servers WebSphere MQ servers 	General Properties		Page help
Web servers		Container Settings	More information
Applications	Name	Session management	this page
Services		SIP Container Settings	
+ Resources	Node name	Web Container	
+ Security	ofss220239Node01	Settings	
Environment	Run in development mode	 Portlet Container Settings 	
E System administration	Parallel start	E EB Container Settings	
Users and Groups		Container Services	
Monitoring and Tuning	Start components as needed	Application profiling	
Homeoning and running Troubleshooting	Access to internal server classes	service	
Service integration	Allow	Transaction service	
	Server-specific Application Settings	Dynamic cache service	
0001	Classloader policy	Compensation	
	Multiple 💌	service	
	Class loading mode	Internationalization	
	Classes loaded with parent class loader first	service Default Java	
		Persistence API	
	Apply OK Reset Cancel	settings Object pool service	
	repry or root career	 Object pool service ORB service 	
contain 🔨 🗸 🖌 Highlig	ght <u>A</u> ll Mat <u>c</u> h Case 6 of 6 matches		



• Expand 'Container Services' and click 'ORB Service'

WebSphere. software		Welcome saravanan	ielp Logout IBH.
View: All tasks 🔻	Application servers		? - Help
Welcome Guided Activities Servers	Application servers > server1 > ORB service Use this page to configure the object request broker (ORB).		Field help For field help informa select a field label or
Server Types WebSphere application servers WebSphere MQ servers Web servers Web servers	Configuration	Additional Properties	marker when the help cursor is displayed. Page help More information abo this page
Applications	* Request timeout 180 seconds	Custom	
Services Resources		properties	
Kesources Security	* Request retries count 1 retries		
System administration	* Request retries delay 0 milliseconds		=
Users and Groups Monitoring and Tuning	* Connection cache maximum 240 connections		
Troubleshooting	* Connection cache minimum 100 connections		
Service integration UDDI	ORB tracing		
	* Locate request timeout 180 seconds		
	NEVER		
	Pass by reference		
	Thread Pool Settings © Use the <u>QRB.thread.pool</u> settings associated with the Thread Pool Manager (recommended).	ł	
	Use the <u>Thread Pool Settings</u> directly associated with the ORI service.	в	
•			
contain 🔨 🗸 🗸 High	ight <u>A</u> ll Mat <u>c</u> h Case 6 of 6 matches		×

Check 'Pass by reference' and click Apply

WebSphere. software	Welcome saravanan Help	Logout IBM.		
View: All tasks	Cell=ofss220239Node01Cell, Profile=FPCFL	Close page 🔺		
View: All tasks	Application servers ? - H	Help		
Welcome		Field help		
Guided Activities	Messages	For field help informati		
 Servers 	Changes have been made to your local configuration. You can:	select a field label or li		
Server Types	Save directly to the master configuration.	marker when the help cursor is displayed.		
WebSphere application servers	Review changes before saving or discarding.	• •		
WebSphere MQ servers		Page help More information abour		
Web servers	⚠ The server may need to be restarted for these changes to take effect.	this page		
Applications		Command Assistance		
Services	Application servers > server1 > ORB service	View administrative		
Resources		scripting command for		
Security	Use this page to configure the object request broker (ORB).	action		
Environment	Configuration			
System administration				
Users and Groups				
Monitoring and Tuning	General Properties Additional Properties	_		
Troubleshooting	* Request timeout			
-	180 seconds properties			
Service integration	* Request retries count			
+ UDDI	1 retries			
	* Request retries delay			
	0 milliseconds			
	* Connection cache maximum			
	240 connections			
	* Connection cache minimum			
	100 connections			
	ORB tracing			
https://10.184.133.191.9043/ibm/console/syncworkspace.do?csrfid=678691243&saveaction=save&directsave=true III				
contain A V Highlid		x		
	in An Marcin Case of of Infactics	^		

Click 'Save'.





Websphere Configuration [November] [2021] Version 14.5.2.0.0

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