JMS Configuration Using Websphere Default Messaging Provider Oracle Banking Corporate Lending Release 14.5.0.0.0 [May] [2021]



Table of Contents

1.	PU	URPOSE	
2.	IN	TRODUCTION	
3.	PR	RE-REQUISITES	
3	.1	Nodes	
3	.2	NODE AGENTS	
3	.3	Cluster	
-	.4	MANAGED SERVERS	
	.5	DATASOURCE	
3	.6	Shared Folder	
4.	JN	AS CONFIGURATION	
4	.1	SERVICE INTEGRATION BUS CREATION	
4	.2	BUS MEMBER (FILE STORE CREATION)	
4	.3	DESTINATION QUEUE CREATION	
5.	RF	ESOURCE CREATION	
5	.1	QUEUE CREATION	
5	.2	CONNECTION FACTORY CREATION	
	5.2	2.1 Managed Servers SIB Ports	
5	.3	JMS ACTIVATION SPECIFICATIONS FOR CLUSTER	
6.	AF	PPLICATION DEPLOYMENT	
6	.1	Restart Servers	
7.	FF	REQUENTLY ASKED QUESTIONS	
7	.1	How to Test the Deployment	
7	.2	WARNING DURING BUS MEMBER CREATION	
7	.3	Message Engines Not Gettting Started	
7	.4	CANNOT ESTABLISH CONNECTION ERROR	
7	.5	How to setup for Scheduler/Notifications	
7	.6	WHAT OTHER MODULES USES JMS QUEUE'S	
8.	Rŀ	EFERENCES	



1. Purpose

The purpose of this document is to explain the steps required for JMS Configuration in cluster mode using WEBSPHERE DEFAULT MESSAGING PROVIDER for Websphere 8.5.5



2. Introduction

The default messaging provider is installed and runs as part of WebSphere Application Server, and needs no further administration. WebSphere administrative console is used to configure JMS resources for applications and can manage messages and subscriptions associated with JMS destinations.

The default messaging provider is the Java[™] Message Service (JMS) API implementation for messaging (connection factories, JMS destinations, and so on). The concrete destinations (queues and topic spaces) behind the default messaging provider interface are implemented in a service integration bus.

The default messaging provider is based on service integration technologies., this document deals with

Service Bus Creation

A service integration bus consists of one or more bus members. A bus member can be an application server or a cluster. Each bus member will have one (or possibly more in the case of clusters) messaging engine that manages connections to the bus and messages.

- JMS connection factories and service integration A JMS connection factory is used to create connections to JMS resources on a service integration bus.
- JMS queue resources and service integration Creation of JMS queue resources provided by the default messaging provider for JMS point-to-point messaging and supported by a service integration bus.
- Application access to JMS resources
 Describes the application access to Java Message Service (JMS) resources provided by the default
 messaging provider.



3. Pre-Requisites

The document assumes that the below are created before proceeding JMS creation.

3.1 Nodes

2 nodes are created

and the second sec	Cell=otss	222363Cell01,7	ronse=umg/01							
View: All tasks 🔹	Nodes								7	
Welcome		-								
6 Guided Activities	Nodes Use this page to manage nodes in the application server environment. A node corresponds to a physical computer system with a distinct IP									
E Servers	host a	address. The fo	Nowing table list	ts the man	iged and unmai	naged n	odes in this cel	I. The first	node is the deployment man	ager. Add new
e Applications	10000	to the cell and eferences	d to this list by o	dicking Add	Node.					
6 Joba	line and the second									
) Services	Ad	d Node Rem	ove Node For	ce Delete	Synchronize	Full R	Resynchronize	Stop		
E Resources	C	0 7 9								
Runtime Operations	Selec	t Name 🔿		Host N	ame C		Version C		Discovery Protocol 🗘	Status ሷ
j Security	You	can administer	the following re	resourcesi						
Operational policies		ofss220239N	ode02	ofss220	239.in.oracle.c	om	Base 8.5.5.	D	TCP	•
Environment		of11222565C	eliManager01	ofss22	565.in.oracle.c	am	ND 8.5.5.0		TCP	•
 Virtual hosts 		ofss222565N	ode03	ofss22	565.in.oracle.c	om	ND 8.5.5.0		TCP	•
 Update global Web server plug-in configuration WebSphere variables 	Total 3									
Shared Ibraries		10								
SIP application routers Replication domains										
URI Groups										
E Naming										
■ 050i bundle repositories										
System administration										
+ Cel										

3.2 Node Agents

Both the Node Agents are started.

With Contract of C	Cellinotas/	23555Cell01, Proniet	Descript.			
Views All tasks 🔻	Node spe					7
Welcome 6 Guided Activities 8 Servers 6 Applications 6 Jobs	Node Use th	ages. The node agent pro agent process runs on e configuration synchronizat	very node and is			
Services	Stop Restart Restart all Servers on Node					
Resources	B	0::?				
Runtime Operations		Notest Distant, Society 1	122.2		1463 64	18.14
Security	and the second sec	Name 🗘	Node 🗘	Host Name 🗘	Version 🗘	Status G
Operational policies	and the second	can administer the fo	and the second second			
Environment		nodeagent	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	*
Virtual hosts	8	nodeagent	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	•
Uddate global Web server plug-in configuration WabSphere variables Sthared Branies SIP application routers Replication domains URI Groups Wamng Naming Naming	Total	2				



3.3 <u>Cluster</u>

	Cell=ohis222565Cell01. Prohie=Dmgr01	
View: All tasks 🔻	Web5phere application server clusters	
Welcome		
E Guided Activities	WebSphere application server clusters	
- Servers	Use this page to change the configuration set	ings for a cluster. A server cluster consists of a group of application servers. If one of the
The second se	member servers fails, requests will be routed activity provides a list of task steps and more	to other members of the cluster. Learn more about this task in a guided activity. A guided general information about the topic.
 New server 		Barara manufactura delar
All servers	Preferences	
E Server Types	Nev Delete Start Stop Ripple	start ImmediateStop
 WebSphere application servers 	The second	enned watereteretereter
 WebSphere proxy servers 	0077	
On Demand Routers		Terrere and the second s
PHP servers	Select Name 🗘	Status 👲
 WebSphere Application Server Community Edition servers 	You can administer the following resources:	
Generic servers	CLUSTER 1	*
 WebSphere MQ servers 		
 Web servers 	Total 1	
 Apache servers 		
Custom HTTP servers		
Clusters		
 WebSphere application server clusters 		
 Proxy server clusters 		
Generic server clusters		
 Cluster topology 		

3.4 Managed Servers

Views All tasks 🔻	Applicatio	0.540/8/8					2		
Welcome Guided Activities Servers	Applic Use th to cha	ation servers is page to view nge the status o	a list of the application se f a specific application ser	rvers in your environment an ver.	d the status of ea	ch of these servers. You	can also use this pay		
 New server All servers 	E Pre	Preferences							
B Server Types	New Delete Templates Start Stop Restart ImmediateStop Terminate								
WebSphere application servers WebSphere proxy servers									
On Demand Routers	Select	Name 🗘	Node 🗘	Host Name 🗘	Version 🗘	Cluster Name 🗘	Status 👲		
PHP servers WebSphere Application Server Community	You can administer the following resources:								
Edition servers	8	MS_1	ofss220239Node02	ofss220239.in.oracle.com	Base 0.5.5.0	CLUSTER_1	*		
Generic servers WebSphere MD servers			7	ofss222565.in.oracle.com					
 Web servers 	0	<u>M5 12</u>	ofss222565Node03	ofss222365.in.oracle.com	ND 8.5.5.0	CLUSTER_1	*		
Apache servers		server1	ofss220239Node02	ofss220239.in.oracle.com	Base 0.5.5.0		*		
 Custom HTTP servers. 		servera	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0				
Elusters		10000			and the second		1		
E DataPover	Total	4							
₽ Core Groups									



3.5 DataSource

Ensure that DataSource required for the MDB ear is created with Target as Cluster_1

WebSphere. software					Welcome		
Applications	Cell=otss222565Cell01, Profile=Dm	gr01					
🕑 Jobs	Data sources				? .		
Services	Data sources						
 Resources 	Use this page to edit the settin						
Schedulers		application with connections for accessing the database. Learn more about this task in a <u>quided activity</u> . A guided activity provides a task steps and more general information about the topic.					
 Object pool managers JMS 	Scope: Cell=ofss222565C	ell01, Cluster=CLUSTER_1					
 JMS providers 	Show scope selection	drop-down list with the all	scopes option				
 Connection factories 							
 Queue connection factories 		evel at which the resource o ow it works, see the scope s	lefinition is visible. For detai ettings help.	led information on			
 Topic connection factories 							
Queues Topics	Cluster=CLUSTER	1 *					
 Topics Activation specifications 							
	Preferences						
∃ JDBC	New Delete Test cor	nection Manage state					
JDBC providers Data sources	New Delete Test col	mercion manage state					
 Data sources Data sources (WebSphere Application Server V4) 	66 49 49						
	Select Name 🗢	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘 Category 🗘		
Asynchronous beans Asynchronous	You can administer the follow	ing resources:					
	FLEXTEST.WORLD	FLEXTEST, WORLD	Cluster=CLUSTER 1	Oracle JDBC Driver	New JDBC		
😧 Mail	FLEXTEST.WORLD	FLEATESTIWORLD	cluster=ccostex_1	(XA)	Datasource		
URL							
Resource Environment	Total 1						
Runtime Operations							
- Security							

3.6 Shared Folder

Shared folders for File Store Creation are required and this folder should be accessible across both the servers (eg, NFS mount). For fail over of messaging engines to another, all servers in cluster require a separate folder. If there are 4 Managed Servers in the clusters then 4 separate folders are required.

Eg,

/scratch/MessageStore/JMS_1/

/scratch/MessageStore/JMS_2/

/scratch/ MessageStore /JMS_3/



4. JMS Configuration

4.1 Service Integration Bus Creation

1) Navigate to Service Integration > Buses > Click on New

WebSphere. software		•	Welcome
Views All tasks	Cell=otss222565Cell01. Profile=Dmgr01 Buses		1
Velcome Guided Activities Servers Applications Sobs Services Personnes	Buses A service integration bus supports	applications using message-based and service n added as members of the bus. Applications	-oriented architectures. A bus is a group of interconnected connect to a bus at one of the messaging engines associated
Runtime Operations	Select Name O	Description 🗘	Security 🗘
E Security	None		
Operational policies	Total 0		
Environment			
System administration			
Users and Groups			
Monitoring and Tuning			
Troubleshooting			
Service integration			
Buses Service mapping			

2) Enter Name for the new Bus, Uncheck "Bus Security" if security is not enabled during FCUBS property file build and click on Next

WebSphere, software			Welcome			
View: All tasks 🔻	CreateBus.displayName Create a new Service Integration	- Due	-			
- Welcome	create a new pervice integration	ous				
Guided Activities	Create a new Service Integrati	Create a new Service Integration Bus.				
Servers	→ Step 1: Create a new bus	Create a new bus				
Applications		Configure the attributes of your new bus.				
🕞 Jobs	(The next step of the wizard depends on	+ Enter the name for your new bus.				
Services	decisions made in the current step)	FCUBS				
Resources	Step 2: Confirm					
Runtime Operations	create of new bus	8				
Security		Bus security				
Operational policies	Next Cancel					
Environment						
System administration						
Users and Groups						
Monitoring and Tuning						
Troubleshooting						
Service integration						
• Buses						
 ★ Web services ★ WS-Notification 						
T NDDI						



3) Click on Finish

iew: All tasks 🔻		
Welcome	Create a new Service Integration B	us
Guided Activities	Create a new Service Integratio	n Bus.
Servers	Step 1: Create a	Confirm create of new bus
Applications	new bus	
Jobs	Step 2: Confirm create of new bus	The following is a summary of your selections. To complete the bus creation, click Finish. If there are settings you wish to change, click Previous to review bus settings.
Services		
Resources		Summary of actions: New bus "FCUBS" will be created with bus
Runtime Operations		security setting "Disabled".
Security		
Operational policies		h.
Environment	Previous Finish Cancel	
System administration		
Users and Groups		
Monitoring and Tuning		
Troubleshooting		
Service Integration		
• Buses B Service mapping B Web services B WS-Notification		
IDDI	i l	

4) New Bus FCUBS is created

WebSphere. software				Welcome
liew: All tasks		22565Cell01, Profile=Dmgr01		
Welcome	Buses			1
Guided Activities	Buses			
Servers	A servi servers	ce integration bus supports applications using and clusters that have been added as memi	p message-based and service-oriented archite bers of the bus. Applications connect to a bus	ectures. A bus is a group of interconnected s at one of the messaging engines associated
Applications		s bus members.		
Jobs	Prei	ferences		
Services	New	Delete		
Resources		D # 9		
Runtime Operations	Select	Name 👌	Description ()	Security 🗘
ecurity	You c	an administer the following resources:		
Operational policies		FCUBS		Disabled
Environment	Total			
System administration	Total	1		
Users and Groups				
Monitoring and Tuning				
Troubleshooting				
Service integration				
- Buses ■ Service mapping				
Web services ■ Web services ■				



4.2 Bus Member (File Store Creation)

 Navigate to Service Integration > Buses > Click on FCUBS(new bus Created) > Click on Bus Member under Topology

WebSphere. software		Welcome
Views All tasks 🔻	Cell+ofts222365Cell01. Protile=Dmgr01	
	Busies (2
Welcome	Buses > FCUBS	
Guided Activities	A service integration bus supports applications using message-based and service-orie	nted architectures. A bus is a group of interconnected
Serviers	servers and clusters that have been added as members of the bus. Applications conv with its bus members.	ect to a bus at one of the messaging engines association
Applications		
Jobs	Configuration Local Topology	
Services		
Resources		
Runtime Operations	General Properties	Topology
Security	Name FCUBS	Bus members
Operational policies		International Products
Invironment	UUID D44FF53950380C28	 Foreign bus connections Bootstrap members
System administration	Deap153550380028	- Exception interests
Users and Groups	Description	Destination resources
Monitoring and Tuning		- Destinations
		 Mediations
Troubleshooting		Services
Service integration	Inter-engine transport chain	- Inbound services
Buses Service mapping		- Outbound services
E Web services	Discard messages	 WS-Notification services
WS-Notification	Configuration reload enabled	 Reliable messaging state
IDDI		Additional Properties
	Default messaging engine high message threshold 50000 messages	Custom properties
		 Security
	Limit the range of available bootstrap members to:	- Web service gateway

2) Click On Add

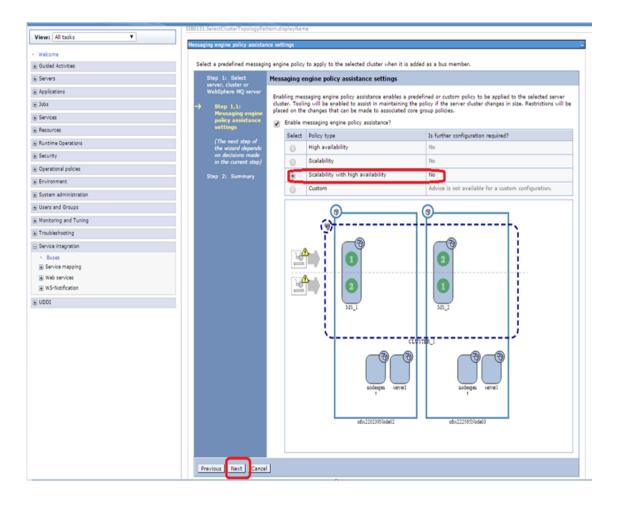
WebSphere, software			Welcome
View: All tasks	Cell=otss222565Cell01, Profile=Dmgr Buses	01	2
Welcome) Guided Activities	Buses > FCUBS > Bus memb	ers VebSphere MQ servers and clusters that hav	
B Servers	Bus members are the servers, v	veoophere MQ servers and clusters that hav	e been added to the bus.
Applications	Add Remove		
i Jobs			
E Services	00 7 7		
e Resources	Select Name 🔿	Туре 🗘	Messaging engine policy assistance 🗘
Runtime Operations	None		
E Security	Total 0		
Operational policies			
Environment			
System administration			
Users and Groups			



3) Select Cluster and Click on Next

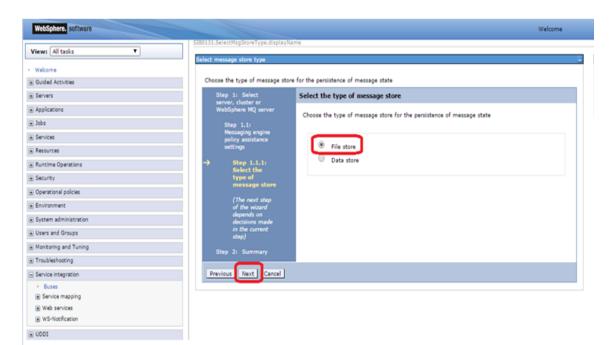
	5280131.AddBusMember.displayNam	e				
iews All tasks 🔻	Add a new bus member					
Welcome		no esta u stati				
Guided Activities	Add a server, cluster or a Web	Sphere MQ server as a new member of the bu	h.			
Servers	-> Step 1: Select server, chatter or	Select server, cluster or WebSpher	e MQ server			
Applications	WebSphere HQ	Choose the server, cluster or WebSphere MQ server to add to the bus				
Jobs	LEVER					
Services	(The next step of the wiserd depends on	O Server	ofes220239Node02:M5_1			
Resources	decisions made in the current step)					
Runtime Operations	Step 2: Summary	Cluster	CLUSTER_1 *			
Security						
Operational policies		WebSphere MQ server	(none) *			
Environment						
System administration	Trail result	10				
Users and Groups	Next Cancel					

4) Select Scalablity and High Availablity Policy Type and Click on Next.





5) Select File Store and Click on Next



6) Select the Node 1 Message Engine

en en l'autoritation de la companya	SIB0131.CreateCustomMETopology.d	lisplayName					
Views All tasks	Configure messaging engines			_			
Welcome							
Guided Activities	Configure the messaging engin	es that will be create	d when the sen	ver clus	iter is added as a bus memb	per.	
) Servers	Step 1: Select	Configure me	ssaging engi	nes			
Applications	server, cluster or WebSphere MQ server	The collection	table about the		iging engines that will be cri	and then the	and the state of the state of the
3 Jobs	Step 1.1:	added as a bur	member. At le	east on	e messaging engine must be		
) Services	Messaging engine policy assistance	must be connig	ured for each n	nessagi	ng engine.		
Resources	settings	Name	Failover?	Fail	Preferred order of servers	Only run on preferred	Is the message store
Runtime Operations	Step 1.1.1: Select the type	marrie	Palloveri	back?	to run on	servers?	configured?
Security	of message store	CLUSTER 1.	200- Yes	Yes	ofss220239Node02:MS_1. ofss222565Node03:MS_2	Yes	(A No
Operational policies	and the second se	CLUSTER 1	101- Yes	200	ofss222565Node031MS_2.	2	
j Environment	-> Step 1.1.2: Configure	FCUBS	Yes	Yes	ofss220239Node021MS_1	Yes	∆ No
System administration	messaging engines						
Users and Groups	(The next step						
Monitoring and Tuning	of the wizard depends on						
Troubleshooting	decisions made in the current						
Service integration	step)						
Buses Service mapping Web services	Step 2: Summary Previous Next Cancel						



7) Enter the Log Directory Path and Permanent store directory path(shared path across the nodes) and Click on Next

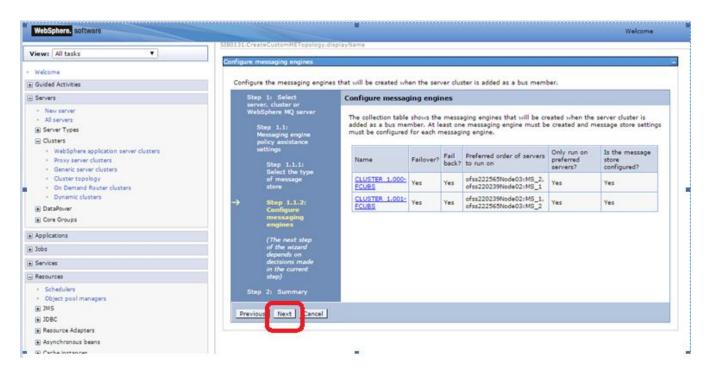
Provide the properties for the file store All servers Server Types • WebSphere application servers • WebSphere Application Server Community • Kith Sphere Application Server Community • WebSphere RD Server S • WebSphere RD Server S • WebSphere RD Server S • Outsom ITT Servers • Outso	/ebSphere. software		Welcome
 Al servers Server: Types All servers WebSphere application servers WebSphere application servers On Demand Routers Orbitation servers WebSphere Application Server Community Genetic rearvers WebSphere Application Server Community Genetic rearvers WebSphere Application Servers Outster Million All applications Step 1:12: Configure Gong Groups Billions All applications Step 1:12: Configure Step 1:12: Configure	Servers	SIB0131.ConfigureFileStore.displayNa	ame
 WebSphere provy servers On Damand Routers On Damand Routers On Damand Routers WebSphere M2 servers Step 1.1.1: Messaging engine policy assistance settings Context ITP servers Quarters Quar	 New server All servers ⊇ Server Types 		ile store
Global deployment settings dobs desources Schedulers Object pool managers JMS	WebSphere proxy servers On Demand Routers PH2 servers WebSphere Application Server Community Edition servers Generic servers WebSphere MQ servers Web servers Apache servers Apache servers Custom HTTP servers Custom HTTP servers Custom HTTP servers Core Groups Applications New Application Install New Middleware Application Application Types	server, cluster or WebSphere MQ server Step 1.1: Messaging engine policy assistance settings Step 1.1.1: Select the type of message store Step 1.1.2: Configure messaging engines → Step 1.1.2.1: Configure file store	Specify the properties for the file store Log * Log size 100 MB * Log directory path [/scratch/work_area/DEV/JMS/MS_1/lo] Store Same settings for permanent and temporary stores Permanent and temporary stores * Minimum permanent store size 200 MB
Resources //scratch/work_area/DEV/JMS/MS_1/ • Schedulers //scratch/work_area/DEV/JMS/MS_1/ • Object pool managers JMS	 Global deployment settings Jobs 	Step 2. Summary	* Maximum permanent store size 500 MB
 Schedulers Object pool managers JMS 			
	Resources Schedulers Object pool managers MS JMS JDBC	Previous Next Cancel	

8) Click on other message engine and set the FileStore

WebSphere, software							Welcome			
Views All tasks	SIB0131.CreateCustomMETopology.d	splayName								
Welcome	Configure messaging engines									
Guided Activities	Configure the messaging engine	s that will be created	when the sen	ver clu	ster is added as a bus memi	ber,				
- Servers	Step 1: Select									
New server WebSphere All servers Server Types Server Types Custers WebSphere application server clusters Proxy server clusters Ster Ster	server, cluster or WebSphere MQ server Step J.1: Messaging engine policy assistance		nember. At le	east on	aging engines that will be on e messaging engine must b ing engine.					
	settings Step 1.1.1: Select the type	Name	Failover?		Preferred order of servers to run on	Only run on preferred servers?	Is the message store configured?			
 Cluster topology On Demand Router clusters 	of message store	CLUSTER 1.00	2- Yes	Yes	ofss222565Node03:MS_2, ofss220239Node02:MS_1	Yes	Yes			
Dynamic clusters DataPower	→ Step 1.1.2: Configure	CLUSTER 1.00	Yes	Yes	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	A No			
Core Groups	messaging engines									
e Applications	(The next step									
e Jobs	of the wizard depends on									
e Services	decisions made									
Resources	in the current step)									
Schedulers Object pool managers	Step 2: Summary									
E 10ec	Previous Next Cancel									
Resource Adapters	3									
Asynchronous beans Cache instances										
Gene instances General Mail										

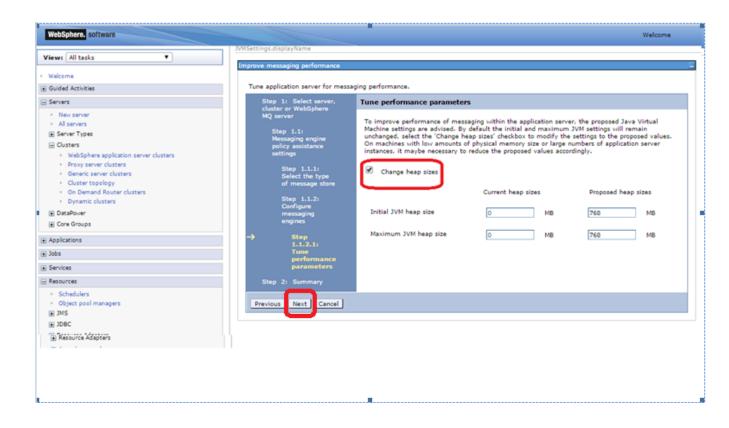


9) Click on Next after Setting FileStore for all messaging engines



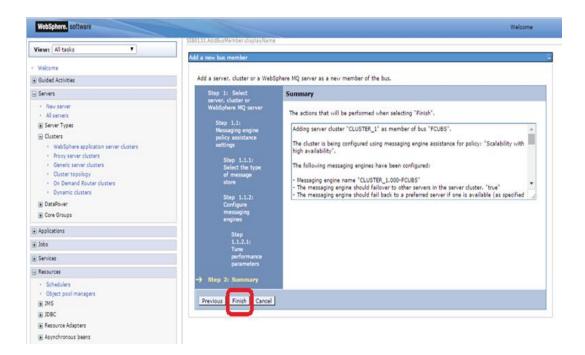
10) Select Change Heap Sizes and Click on Next





11) Click on Finish





12) Click on Save

VebSphere. software					Welcome
ew: All tasks 🔻	Cell=ofss222565Cell Buses	01, Profile=Dmgr01		2	
Velcome		Messages			1
Suided Activities		A the sea mad	e to your local configuration. You	(30)	
Servers		Save dir ctly to the ma		Carrier and Car	
New server		Review changes before			
All servers		- manyes berore	saring of discarding.		
E Server Types			configuration across multiple no	des after saving can be enabled in	
Clusters		Preferences.			
 WebSphere application server clusters 		The server may need to	be restarted for these changes to	take effect.	
Proxy server clusters Generic server clusters					
Generic server clusters Cluster topology	Buses > FCUBS	> Bus members			
On Demand Router clusters	Bus members ar	e the servers, WebSphere MQ ser	vers and clusters that have been	added to the bus.	
Dynamic clusters	Preferences				
DataPower	Add Remo				
Core Groups					
Applications	007	1			
lobs	Select Name 🗘		Туре 🗘	Messaging engine policy assi	stance 🗘 👘
ervices	You can admini	ster the following resources:			
esources		<u>L1</u>	Cluster	Enabled (Scalability with hig	h availability)
Schedulers	Total 1				
Object pool managers	Iotal 1				
3MS					
JDBC					
Resource Adapters					
Asynchronous beans					



4.3 **Destination Queue Creation**

 Navigate to Service Integration > Buses > Click on FCUBS(new bus Created) > Click on Destination under Destination Resources

WebSphere, software		Welco
	Cell=otss222565Cell01, Protile=Dmgr01	
New server		
All servers	Buses	?
Clusters	Buses > FCUBS	
 WebSphere application server clusters 	A service integration bus supports applications using message-based and service-oriented arch servers and clusters that have been added as members of the bus. Applications connect to a	
Proxy server clusters Generic server clusters	with its bus members.	ous at one of the messaging engines asso
 Generic server clusters Cluster topology 		
On Demand Router clusters	Configuration Local Topology	
 Dynamic clusters 		
+ DataPower		
Core Groups	General Properties	
	· · ·	Тороюду
Applications	Name	 <u>Bus members</u>
Jobs	FCUBS	 Messaging engines
Services	UUID	 Foreign bus connections
	D4AFF53950380C28	 Bootstrap members
Resources		
 Schedulers 	Description	Destination resources
 Object pool managers 		- Destinations
3MS		 Mediations
 JMS providers 		
Connection factories		Services
 Queue connection factories Topic connection factories 	Inter-engine transport chain	 Inbound services
Opic connection factories Queues		 Outbound services
Topics	Discard messages	 WS-Notification services
 Activation specifications 	Uiscaro messages	 Reliable messaging state
- IDBC	Configuration reload enabled	 Kenable messaging state

2) Click on New

WebSphere. software							Welcome
New server All servers All servers Server Types Clusters WebSphere application server clusters Proxy server clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters		Buses Buses A bus the de	222555Cell01, Profile=Dmgr01 a > FCUBS > Destinations destination is defined on a service integration bus, estination as producers, consumers, or both to exch ces		one or more locations a	? within the bus. Application	ons can attach to
DataPower Core Groups			Identifier 👌	Bus 🔿	Type 🗘	Description 🖒	Mediation 🗘
Applications	- 11	-	can administer the following resources:	bus 🗸	Type 🗸	Description	
± Jobs			Default.Topic.Space	FCUBS	Topic space		
			SYSTEM.Exception.Destination.CLUSTER 1.000- FCUBS	FCUBS	Queue		
Resources Schedulers			SYSTEM.Exception.Destination.CLUSTER 1.001- FCUBS	FCUBS	Queue		
 Object pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories 		Total	3				



3) Select Queue and Click on Next

WebSphere. software	Welcome
New server Al servers Al servers Server Types Clusters WebSphere application server clusters WebSphere application server clusters Generic server clusters Generic terpology On Demand Router clusters Dynamic clusters Dynamic clusters Dynamic clusters Databoxer Databoxer Applications Jobs Services	Buses Create new destination Create a new destination on this bus. Select destination type @ Queue @ Topic space @ Alias @ Foreign Next Cancel
Resources Schedulers Object pool managers JMS MS	

4) Enter Identifier as MDB_QUEUE and Click on Next

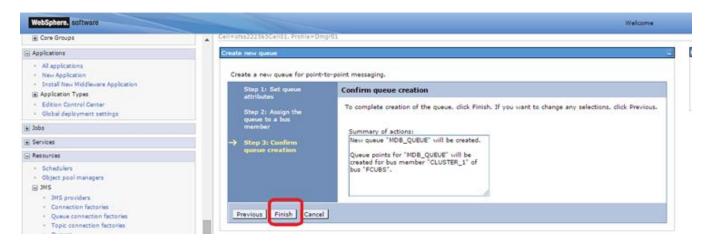
WebSphere. software				Welcome
		Cell=otss222565Cell01, Protile=Dmg	-01	
Applications		Create new queue		E
 All applications New Application 		Create a new queue for point-to	-point messaging.	
 Install New Middleware Application Application Types 		→ Step 1: Set queue attributes	Set queue attributes	
Edition Control Center Global deployment settings		Step 2: Assign the queue to a bus	Configure the attributes of your new queue	
🛨 Jobs		member	MDB_QUEUE	
Services		Step 3: Confirm queue	Description	
- Resources		creation		
 Schedulers Object pool managers JMS 			//	
JMS providersConnection factories		Next Cancel		
Queue connection factories Topic connection factories Queues Tonics	I.			

5) Select Bus Member as Cluster and Click on Next



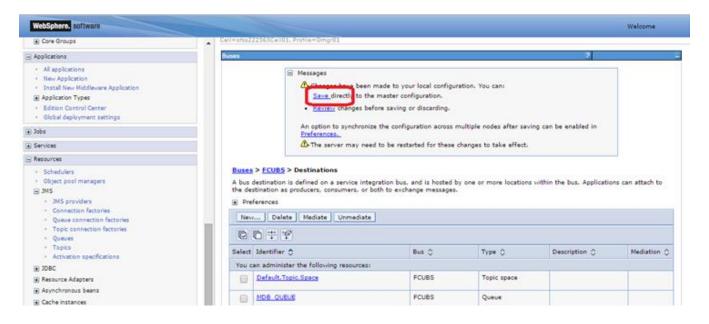
WebSphere. software				Welcome
New server All servers Server Types Clusters		Cell=otss222565Cell01, Protile=Dmgr0 Create new queue		Ξ
Custers WebSphere application server clusters Proxy server clusters Clusters Cluster topology On Demand Router clusters Dynamic clusters Dynamic clusters DataPower Clusters Clusters DataPower Clusters Clusters Clusters Clusters DataPower Clusters DataPower DataPowe	l	Create a new queue for point-to- Step 1: Set queue attributes → Step 2: Assign the queue to a bus member Step 3: Confirm queue creation	Assign the queue to a bus member Assign the queue to a bus member Assign the queue to a bus member that will store and process the messages for the queu Bus member Cluster=CLUSTER_1	e.
Applications Jobs Services Resources Schedulers		Previous Next Cancel		

6) Click on Finish





7) Click on Save



8) Similarly create Destinations for all the other Queue's required

Core Groups	Cell=ofss2	22565Cell01, Profile=Dmgr01						
Applications	Buses					7		
 All applications New Application Install New Middleware Application Application Types Edition Control Center Global deployment settings 	A bus of the des	> FCUBS > Destinations destination is defined on a service integrati stination as producers, consumers, or both t ferences			or more locations with	in the bus. Applications o	an attach to	
Jobs	New	Delete Mediate Unmediate						
i Services	00 7 7							
Resources	Select	Identifier 🗢		Bus 🗘	Type 🗘	Description 🗘	Mediation 🗘	
Schedulers	You c	an administer the following resources:						
 Object pool managers JMS 		Default.Topic.Space		FCUBS	Topic space			
 JMS providers Connection factories 		MDB_OUEUE		FCUBS	Queue			
Queue connection factories Topic connection factories		MDB QUEUE DLQ		FCUBS	Queue			
Queues Topics		MDB QUEUE RESPONSE		FCUBS	Queue			
 Activation specifications 		SYSTEM.Exception.Destination.CLUSTER FCUBS	1.000-	FCUBS	Queue			



5. Resource Creation

5.1 **Queue Creation**

1) Navigate to Resources > JMS > Queues > Select Scope as Cluster and Click on New

WebSphere. software					Welcome
	Cell+ofts222565Cell01, Profile+	Dmgr01			
View: All tasks •	Queues			7	
Welcome	1.000				
Guided Activities	Queues				
E Servers		estination for point-to-point mes	saging.		
 Nex server All server All server Types Clusters WebSphere application server clusters Proxy server clusters Generic server clusters Generic topology On Demand Router clusters Dynamic clusters Dynamic clusters DetaPower Core Groups 	Show scope select	SCell01. Cluster=CLUSTER_1 tion drop-down list with the all s he level at which the resource de d how it works, <u>see the scope set</u> ER_1 • JNDI name ①	finition is visible. For detailed	Information on	Scope
e) Applications	None				
ii Joba	Total 0				
e Services					
Resources Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Queue connection factories Queues					



2) Select "Default messaging provider" and Click on OK

WebSphere, software	Welcome
Views All tasks 💌	Cell = stss222365Cell01, Profile = Dingr01 Queues 2
Welcome	
Guided Activities	Queues > Select JMS resource provider
E Servers	Soppe cells:ofss222565Cell01:clusters:CLUSTER_1
New server Al servers Server Types Server Types Custers WebSphere application server clusters Prays server clusters Generic server clusters Custer topology On Demand Router clusters Dynamic clusters DataPower Con Groups	Select the provider with which to create the Queue. The following providers support the selected resource type and are available at the selected scope.
Applications	
n Jobs	
e Services	
🔄 Resources	
Schedulers Object pool managers JMC nonsidem	



3) Enter The Name, JNDI Name. Select Bus and Queue Name accordingly and Click on OK

anterspinates software	weicome
Core Groups	Cell=otss222565Cell01, Prohle=Dmgr01
Applications	Queues ?
All applications New Application Install New Middleware Application Application Types Edition Control Center Global deployment settings	Queues > MDB_QUEUE A JMS queue is used as a destination for point-to-point messaging. Use JMS queue destination administrative objects to manage JMS queues for th Configuration
Jobs	
Services	General Properties
Resources	Administration
 Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories Queues Topics Activation specifications JDBC Resource Adapters Asynchronous beans Cache instances Mal URL 	Scope Cluster=CLUSTER_1 Provider Default messaging provider * Name MDB_QUEUE * JND1 name MDB_QUEUE Description
Resource Environment	Connection
Runtime Operations	Bus name FCUBS
Security	
Operational policies	+ Queue name MDB_QUEUE
Environment	
C Curtan administration	Delivery mode

4) Similarly create other Queue's required

WebSphere. software						Welcome
New server	Cell=otss2	22565Cell01, Profile=Dmgr01				
 All servers 	Queues					?
Server Types						Louise
Clusters	Queu	es				
 WebSphere application server clusters 	A JMS	queue is used as a destinati	on for point-to-point messaging			
 Proxy server clusters 	Sc	ope: Cell=ofss222565Cell0	1. Cluster=CLUSTER 1			
 Generic server clusters 						
 Cluster topology 		Show scope selection dro	p-down list with the all scopes	option		
On Demand Router clusters		Coope energifies the laws	l at which the resource definitio	n in visible. Een detailed i	efermation on	
 Dynamic clusters 			t works, see the scope settings		mormation on	
DataPower		-				
± Core Groups		Cluster=CLUSTER_1	•			
Applications	⊕ Pr	eferences				
lobs	Net	v Delete				
Services						
Resources		6 # \$				
Schedulers	Select	Name 🛟	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
 Object pool managers 	You	can administer the following	resources:			
∃ JMS		MDB QUEUE	MDB_QUEUE	Default messaging		Cluster=CLUSTER_
JMS providers Connection factories				provider		
Oueue connection factories						
Topic connection factories		MDB QUEUE DLQ	MDB_QUEUE_DLQ	Default messaging provider		Cluster=CLUSTER_:
Queues				provider		
Topics		MDB QUEUE RESPONSE	MDB_QUEUE_RESPONSE	Default messaging		Cluster=CLUSTER
 Activation specifications 		HOD QUEUE REDPONDE	hbb_Qococ_rcoronoc	provider		claster-ceborer(_
± JDBC						
Resource Adapters	Tota	3				
Asynchronous beans						



5.2 Connection Factory Creation

 Navigate to Resources > JMS > Queue Connection Factory > Select Scope as Cluster and Click on New

WebSphere, software			-			Welcome
New server Af servers Af servers Server Types Clusters WebSphere application server clusters Provs server clusters Cluster topology On Demand Router clusters Dynamic clusters DataPower Core Groups	·	messaging. Scoper Cell=ofss2225 Show scope sele Scope specifies	vies y is used to create connections to l i65Cell01. Cluster=CLUSTER_1 iction drop-down list with the all so the level at which the resource de nd how it works. <u>see the scope set</u>	opes option finition is visible. For detailed) point-to-point
Applications		Conter-Coos	inch_t			
🛞 Jobs		Preferences				
E Services		New Delete				
🔄 Resources		00#9				
Schedulers Object pool managers		Select Name 🗘	JNDI name 🗘	Provider 🔿	Description 🗘	Scope 🗘
 JMS JMS providers 		None				
Generation factories		Total 0				
Queue connection factories						

2) Select "Default messaging provider" and Click on OK

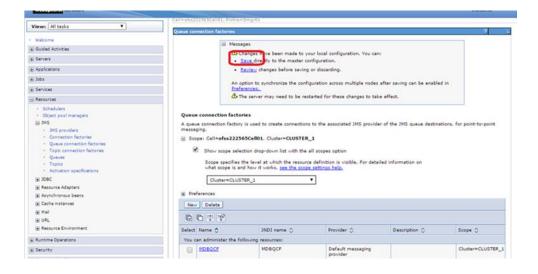
WebSphere. software		Welcome
- New server	Cell=otss222565Cell01, Protile=Dmgr01	
- All servers	Queue connection factories	?
Server Types		
Clusters	Queue connection factories > Select JMS resource provider	
WebSphere application server clustersProxy server clusters	Scope cells:ofss222565Cell01:clusters:CLUSTER_1	
 Generic server clusters Cluster topology On Demand Router clusters 	Select the provider with which to create the Queue connection factory. The f available at the selected scope.	ollowing providers support the selected resource type and are
 Dynamic clusters 		
DataPower	Default messaging provider	
Core Groups	WebSphere MQ messaging provider	
+ Applications		
± Jobs	OK Cancel	
± Services		
Resources		
 Schedulers 		
 Object pool managers 		
⊒ JMS		
 JMS providers 		
 Connection factories 		

Enter Name, JNDI Name, Select Bus Name and Click on OK



WebSphere. software		Welcome
	Cell=ofss222565Cell01, Profile=Dmgr01	
View: All tasks	Queue connection factories	? .
- Welcome		
Guided Activities	Queue connection factories > MDBQCF	
Servers	A JMS queue connection factory is used to create connections to the associated JMS provider of JMS qu Use queue connection factory administrative objects to manage JMS queue connection factories for the	
Applications	Configuration	
★ Jobs		
Services		
Resources	General Properties	Additional Properties
 Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories Queues Topics Activation specifications JDBC Resource Adapters Asynchronous beans Cache instances Mail URL Resource Environment 	Administration Scope Cluster=CLUSTER_1 Provider Default messaging provider + Name MDBQCF + JNDI name MDBQCF Uescription	Connection pool properties <u>Related Items</u> <u>JAAS - J2C</u> authentication data <u>Buses</u>
Runtime Operations		
E Security		
Operational policies	connection	
Environment	* Bus name FCUBS	
System administration		
Users and Groups	larget	
Monitoring and Tuning	Target type	
Troubleshooting	Bus member name	
- Service integration		

3) Click on Save





5.2.1 Managed Servers SIB Ports

 Navigate to Servers > Websphere Application Servers > SERVER_NAME > Click on Ports under Communications > Note down the port of SIB_ENDPOINT_ADDRESS

WebSphere. software					Welcome			
	Cell=otss2	222565Cell01, Profile=Dmgr01						
View: All tasks	Applicatio	on servers			?			
Welcome					tanih i			
Guided Activities	Appli	cation servers > <u>MS_1</u> > Ports						
- Servers	Specif	fies the TCP/IP ports this server uses for connectio	ns.					
	Preferences							
New server								
All servers	Net	w Delete						
 Server Types 	B							
 WebSphere application servers 	42							
 WebSphere proxy servers 	Select	Port Name 👌	Host 🗘	Port 🔿	Transport Details 🖒			
On Demand Routers PHP servers	Yeu	can administer the following resources:						
 PHP servers WebSphere Application Server Community 	Tour	-						
Edition servers		BOOTSTRAP ADDRESS	ofss220239.in.oracle.com	9814	No associated transports			
Generic servers								
 WebSphere MQ servers 		CSIV2 SSL MUTUALAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9431	No associated transports			
 Web servers 								
 Apache servers 		CSIV2 SSL SERVERAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9430	No associated transports			
 Custom HTTP servers 								
Clusters		DCS UNICAST ADDRESS	*	9362	View associated transports			
 WebSphere application server clusters 								
 Proxy server clusters 		IPC CONNECTOR ADDRESS	localhost	9640	No associated transports			
 Generic server clusters 		IPC CONNECTOR ADDRESS	locamosc	5040	No associated transports			
 Cluster topology 		ORB LISTENER ADDRESS	ofss220239.in.oracle.com	9108	No associated transports			
 On Demand Router clusters 		ORD LISTENER ADDRESS	orsszzozasimioracie.com	5105	No associated transports			
 Dynamic clusters 		OVERLAY TCP LISTENER ADDRESS	*	11024	No associated transports			
DataPower		SVENERT TOP LISTENER ADDRESS		11024	no associated transports			
Core Groups		OVERLAY UDP LISTENER ADDRESS	*	11023	No associated transports			
Applications								
		SAS SSL SERVERAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9429	No associated transports			
Jobs								
Services		SIB ENDPOINT ADDRESS	*	7284	View associated transports			
Resources								
 Schedulers 		SIB ENDPOINT SECURE ADDRESS	*	7293	View associated transports			
 Object pool managers 								
∃ JMS			*		Maria and a land have a land			
 JMS providers 		SIB MQ ENDPOINT ADDRESS	*	5565	View associated transports			
 Connection factories 								
Queue connection factories		SIB MQ ENDPOINT SECURE ADDRESS	*	5585	View associated transports			
Topic connection factories		STO INC CHEPOINT SECONE ADDRESS		5555	sterr associated transports			
Queues Topics								
 Topics Activation specifications 		SIP DEFAULTHOST	*	5074	View associated transports			
JDBC JDB								

- Similarly navigate to all other managed servers in the cluster and note down the port of SIB_ENDPOINT_ADDRESS
- 3) Prepare the "Provider Endpoint" String as below

<hostname1/IP Address1>:<PORT ofSIB_ENDPOINT_ADDRESS>:BootstrapBasicMessaging

In this case the Provider Endpoint String would be ofss222565:7281:BootstrapBasicMessaging,ofss220239:7284:BootstrapBasicMessaging



Navigate to Resources > JMS > Queue Connection Factory > Click on newly created connection factory

Iterophieter suitward						welcome		
	Cell=otss222565Cell0	1, Profile=Dmgr01						
View: All tasks	Queue connection fac	tories				?		
- Welcome	-							
Guided Activities	Queue connecti							
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.						
+ Applications		Scope: Cell=ofss222565Cell01, Cluster=CLUSTER_1						
i Jobs	Show s	Show scope selection drop-down list with the all scopes option						
					information on			
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 settings help.</u>						
Schedulers	Clust	er=CLUSTER_1		•				
 Object pool managers 								
 JMS JMS providers 	Preferences							
 JMS providers Connection factories 	New Delete]						
 Queue connection factories 		2						
 Topic connection factories 								
 Queues Topics 	Select Name 🛟		JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘		
 Activation specifications 	You can adminis	ter the following i	resources:					
± JDBC	MDBQCF		MDBQCF	Default messaging		Cluster=CLUSTER_1		
Resource Adapters				provider				
Asynchronous beans ■	Total 1			I				
Cache instances	lotal 1							

4) Update the Provider endpoints as prepared above and Click on OK

WebSphere. software		Welcome
View: All tasks		
- Welcome		
⊕ Guided Activities	Category	
Servers	Category	
New server All servers		
Server Types	Connection	
WebSphere application servers WebSphere proxy servers On Demand Routers PHP servers WebSphere Application Server Community Edition servers Generic servers WebSphere MQ servers Apache servers Custom HTTP servers WebSphere application server clusters Proxy server clusters Center topplogy	 Bus name FCUBS Target Target type Bus member name Target significance Preferred ▼ Target inbound transport chain Provider endpoints	
Claster Opholy On Demand Router clusters Dynamic clusters DataPower Core Groups Applications	icMessaging Connection proximity Bus	
⊕ Jobs		
Services	Quality of Service	
-	Nonpersistent message reliability	
Resources Schedulers Object pool managers JMS MS providers	Express nonpersistent Persistent message reliability Reliable persistent	
Connection factories	Advanced Management of	



5.3 JMS Activation Specifications for Cluster

 Navigate to Resources > JMS > JMS Providers > Click Default messaging provider for the cluster created

WebSphere. software			Welcome
	Cell=otss222565Cell01, Protile=Dmgr01		
View: All tasks	JMS providers		2
Welcome			-
E Guided Activities	JMS providers		
) Servers		a Message Service (JMS). It provides J2EE connection factorie	s to create connection
-	for JMS destinations.		
Applications	Scope: =All scopes		
Jobs	Show scope selection drop-down list with t	he all scopes option	
Services	Scope specifies the level at which the reso	ource definition is visible. For detailed information on	
Resources	what scope is and how it works, see the s		
Schedulers	All scopes	•	
 Object pool managers 	An scopes		
∃ JMS			
 JMS providers Connection factories 	New Delete		
Queue connection factories			
 Topic connection factories 			
Queues Topics	Select Name 🗘 Desc	ription 🗘 Scope 🗘	
 Topics Activation specifications 	You can administer the following resources:		
∃ JDBC	Default messaging provider Defa	ault messaging provider Node=ofss222565Node03,	Server=server1
■ Resource Adapters			
	Default messaging provider Defa	ault messaging provider Node=ofss222565CellMana	iger01
	Defects mention multiple	ault messaging provider Node=ofss220239Node02,3	
🗈 Mail	Default messaging provider Defa	uit messaging provider Node=orss220239Node02,3	berver=server1
■ URL	Default messaging provider Defa	ault messaging provider Node=ofss222565Node03	
Resource Environment			
Runtime Operations	Default messaging provider Defa	ault messaging provider Node=ofss220239Node02	
Security	Default messaging provider Defa	ault messaging provider Node=ofss222565Node03,	Server=MS 2
Operational policies		not messaging provider node-orss222060100803;	verter=mo_z
	Default messaging provider Defa	ault messaging provider Cell=ofss222565Cell01	
Environment			
System administration	Default messaging provider Defa	ault messaging provider Node=ofss220239Node02,	Server=MS_1
Users and Groups	Default messaging provider Defa	ault messaging provider Node=ofss222565CellMana	ager01.Server=dmor
Monitoring and Tuning		note of sectors of the	
 Performance Monitoring Infrastructure (PMI) 	Default messaging provider Defa	ault messaging provider Cluster=CLUSTER_1	
 Request metrics 			,

2) Under Additional Properties, click Activation specifications



WebSphere, software		Welcome
View: All tasks	Cell=ohs222565Cell01, Prohle=Dmgr01 JMS providers ?	-
Welcome Guided Activities Servers Applications Jobs	JMS providers > Default messaging provider A JMS provider enables messaging based on the Java Message Service (JMS). It provides J2EE connection factories to create or JMS destinations. Configuration	onnections for
Services Resources	General Properties Additional Properties	
Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories Queues Topics Activation specifications DBC Resource Adapters	Scope - Connection factories Cluster=CLUSTER_1 - Queue connection factories Name - Topic connection factories Default messaging provider - Queues Default messaging provider - Topics Default messaging provider - Activation specifications	

3) Click on New

WebSphere. software					,	Velcome
View: All tasks	Cell=otss22	22565Cell01, Profile=Dmgr01			?	=
 Welcome Guided Activities Servers Applications 	A JMS messag	activation specification is asso	ng provider > Activation spec ciated with one or more messag		onfiguration necessary for th	em to receive
 Jobs ⊕ Services 	New					
Resources Schedulers Object pool managers		▶ ₩ ₽ Name ≎	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
JMS JMS providers Connection factories Queue connection factories Topic connection factories Topics Topics Activation specifications JDBC Resource Adapters Activationus beans	Total	0				

4) Enter Name, JNDI Name, Select Destination Type as Queue and Enter Queue Name, Select Bus and Click on OK



WebSphere. software	Welco
Cell=ofss222565Cell01, Protile=Dmgr01	
View: All tasks Views JMS providers	3
Welcome	
Guided Activities JMS providers > Default messaging provider > Activation sp	pecifications > New
A JMS activation specification is associated with one or more mes	sage-driven beans and provides the configuration necessary for the
Servers receive messages.	
Applications Configuration	
Jobs	
Services	
Resources General Properties	
	n Li Jr
Schedulers Object pool managers	Related Items
■ JMS Scope	 JAAS - J2C
JMS providers Cluster=CLUSTER_1	authentication data
	 Buses
Queue connection factories Provider	
Topic connection factories Default messaging provider	
Queues * Name	
Topics MDB_Listener	
Activation specifications	
3 JDBC + JNDI name	
Besource Adapters	
Asynchronous beans Description	
Cache instances	
a Mail	
) URL	1
Resource Environment	
untime Operations	
ecurry + Destination type Queue	
nvironment * Destination JNDI name MDB QUEUE	
system auministration	
Jsers and Groups Message selector	
Monitoring and Tuning	
Performance Monitoring Infrastructure (PMI) K Bus name FCUBS	
Request metrics	
Performance Viewer Acknowledge mode	
roubleshooting Auto-acknowledge	
arvice integration Target	

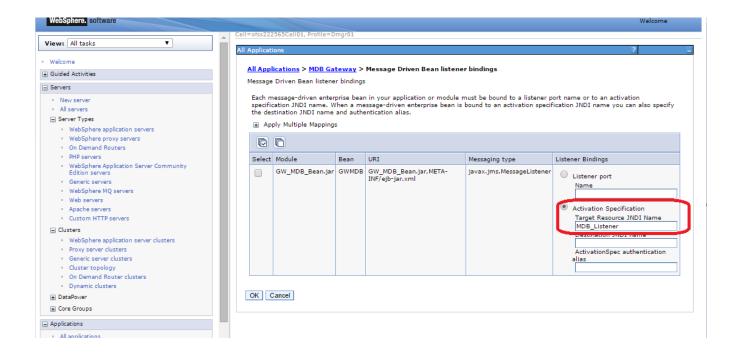
5) Click on Save

WebSphere. software						Welcome	
View: All tasks	Cell=otss222565Cell0 JMS providers	1, Profile=Dmgr01				?	
Welcome a) Guided Activities a) Servers a) Applications a) Jobs		 <u>Save</u> direct <u>Review</u> chain An option to synthesis 	e been made to your local y to the master configurati nges before saving or disca nchronize the configuration	ion.	saving can be enabled in		
		Preferences. ① The server may need to be restarted for these changes to take effect.					
 Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories Activation specifications JDBC Resource Adapters Arynchronous beans Cache instances Mail URL Resource relivionment 	A JMS activation messages. Preferences New Delete Select Name \$	Preferences New Delete Delete					
	Total 1	-	MDB_Listener	Default messaging provider		Cluster=CLUSTER_1	
-							



6. Application Deployment

- 1) Deploy the EAR with Target as Cluster_1. Except below step rest is usual way of deploying the EAR.
- 2) During deployment give the Activation Specification Created above in the Activation Specification.



6.1 **Restart Servers**

Restart the Admin and Managed Servers.



7. Frequently Asked Questions

7.1 How to Test the Deployment

1) Send a sample message from the any third party application by connecting to

iiop://<hostname or ip>:<BOOTSTRAP_ADDRESS>

eg: iiop://ofss222565:9811

2) Verify at backend or in the MDB log if the message is processed successfully.

Or

- 1) Use the below java program to send a sample message.
- 2) Set Java Home
- 3) Set \$WAS_HOME/runtimes/com.ibm.ws.ejb.thinclient_8.5.0.jar, \$WAS_HOME/runtimes/com.ibm.ws.sib.client.thin.jms_8.5.0.jar and javaee.jar in the CLASSPATH.
- 4) Change the URL, USER, PASSWORD, messageText in the Java Program and Compile.
- 5) Run the program and verify at backend or in MDB log.

import java.util.Hashtable;

import javax.jms.JMSException;

import javax.jms.Queue;

import javax.jms.QueueConnection;

import javax.jms.QueueConnectionFactory;

import javax.jms.QueueSender;

import javax.jms.QueueSession;

import javax.jms.Session;

import javax.naming.Context;

import javax.naming.InitialContext;

import javax.naming.NamingException;



import javax.jms.TextMessage;

public class JMSQueueTest { public JMSQueueTest() { super(); } private Context ctx; private InitialContext initialContext; private QueueConnectionFactory queueCF; private QueueConnection queueConn; private QueueSession queueSession; private Queue queue; private QueueSender queueSender; private final static String JNDI_FACTORY = "com.ibm.websphere.naming.WsnInitialContextFactory"; private final static String JMS_FACTORY = "MDBQCF"; private final static String QUEUE = "MDB_QUEUE"; private final static String URL = "iiop://ofss222565:9811"; private TextMessage txtMessage; private static String USER = "wasadmin"; private static String PASSWORD = "wasadmin123"; private static String messageText = "Hello!"; private InitialContext getInitialContext(String url) throws Exception { Hashtable envHash = new Hashtable(); envHash.put(Context.INITIAL_CONTEXT_FACTORY, JNDI_FACTORY); envHash.put(Context.PROVIDER_URL, url); envHash.put(Context.SECURITY_PRINCIPAL, USER); envHash.put(Context.SECURITY_CREDENTIALS, PASSWORD);

ORACLE

try {

return new InitialContext(envHash);

} catch (NamingException e) {

e.printStackTrace();

return new InitialContext(envHash); }

private void init(Context ctx, String queueName) {

try {

ctx = getInitialContext(URL);

queueCF = (QueueConnectionFactory)ctx.lookup(JMS_FACTORY);

queueConn = queueCF.createQueueConnection();

}

queueSession = queueConn.createQueueSession(false,Session.SESSION_TRANSACTED);

queue = (Queue)ctx.lookup(queueName);

queueSender = queueSession.createSender(queue);

txtMessage = queueSession.createTextMessage();

queueConn.start();

} catch (Exception e) {

e.printStackTrace(); } }

private void close() throws JMSException {

queueSender.close();

queueSession.close();

queueConn.close(); }

private void sendMessage(String message) throws JMSException {

txtMessage.setText(messageText);

queueSender.send(txtMessage); }

public static void main(String[] args) throws Exception {

JMSQueueTest jmsq = new JMSQueueTest();

InitialContext ico = jmsq.getInitialContext(URL);

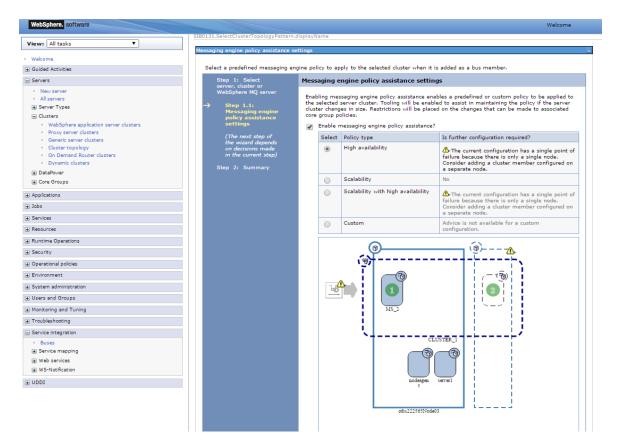
ORACLE

```
try {
    jmsq.init(ico, QUEUE);
    jmsq.sendMessage(messageText);
} catch (JMSException jmse) {
    jmse.printStackTrace();
} finally {
    jmsq.close(); }
}
```

}

7.2 Warning during Bus Member Creation

During Bus member creation Warning is shown in "Is Further configuration Required?"



Examine the resulting diagram and the messages for the selected messaging engine policy type. Act on the messages as follows:



- 1) To add a server or a node, go back and change the cluster topology before you continue with the current procedure.
- 2) To add or remove messaging engines, under Additional Properties, click Messaging engines and use the options on the resulting pane.
- 3) To correct messaging engine policies, under Additional Properties, click Messaging engine policy maintenance and use the options on the resulting pane.

When the "Is further configuration required" column for the selected messaging engine policy type displays No, the configuration is complete.

7.3 Message Engines Not Gettting Started

Message engine fail to start and gives SIB Service Bus Unavailable error.

- 1) Ensure that shared folders are empty
- 2) Restart the Managed Servers
- 3) Check the Status of message engines

7.4 Cannot Establish Connection Error

When a message is received on the Queue it throws below error

Caused by: com.ibm.websphere.sib.exception.SIResourceException: CWSIC1001E: A client attempted to connect with a remote messaging engine but the connection cannot be completed. Ensure the messaging engine is started: exception com.ibm.ws.sib.jfapchannel.JFapConnectFailedException: CWSIJ0063E: A network connection to host name localhost/127.0.0.1, port 7,276 cannot be established.

- 1) Ensure that Provider EndPoint contains the SIB_ENDPOINT_ADDRESS of all the servers comma separated
- 2) Eg: <hostname1>:<port1>:BootstrapBasicMessaging, <hostname2>:<port 2>:BootstrapBasicMessaging,
- 3) Restart the servers after making changes



7.5 How to setup for Scheduler/Notifications

The above document can be used for setting up JMS for scheduler/notifications but additional queues and connection factory needs to be created. Also the FCUBS application needs to be deployed.

7.6 What other modules uses JMS Queue's

JMS is used by following modules, relevant queues and factories needs to be created additionally

- EMS for swift messages
- GI for upload
- ELCM
- BIP



8. References

- 1) GATEWAY_Applications_WAS.doc
- 2) Resource_Creation_WAS.doc
- 3) FCUBS_Application_WAS.doc
- 4) <u>http://129.33.205.81/support/knowledgecenter/SSAW57_8.5.5/com.ibm.websphere.nd.iseries.doc/ae/wel</u> <u>c6topmanaging.html</u>
- 5) <u>http://publib.boulder.ibm.com/infocenter/wsdoc400/v6r0/index.jsp?topic=/com.ibm.websphere.pmc.iseries</u> .doc/tasks/tjn9999_.html





FCUBS_JMS_Websphere_Configuration [May] [2021] Version 14.5.0.0.0

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

Worldwide Inquiries: Phone: +91 22 6718 3000 Fax: +91 22 6718 3001 https://www.oracle.com/industries/financial-services/index.html

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

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

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

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

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

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

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

