OBTR JMS Configuration Using Websphere Default Messaging Provider Oracle Banking Treasury Management Release 14.5.1.0.0 [June] [2021]





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1. Purpose

The purpose of this document is to explain the steps required for JMS Configuration 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

WebSphere, software						Welcome
Views All tasks	Cell=otsa	222565Cell01. Profile=Omgr01				
	Nodes				2	
Welcome	Node					
6 Guided Activities	Use this page to manage nodes in the application server environment. A node corresponds to a physical computer system with a distinct IP host address. The following table lists the managed and unmanaged nodes in this cell. The first node is the deployment manager. Add new					
E Servers						
E Applications	10.000	to the cell and to this list by o	dicking Add Node.			
E Joba		eferences				
E Services	Ad	d Node Remove Node For	ce Delete Synchronize Full	Resynchronize Stop	1	
E Resources	00 # 2					
E Runtime Operations	Selec	t Name 🔿	Host Name 🔘	Version ()	Discovery Protocol 🗘	Status ሷ
e Security	You	can administer the following re	sourcesi			
Operational policies	6	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	TCP	•
Environment		ofss222565CellManager01	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	•
Virtual hosts		ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	•
 Update global Web server plug-in configuration WebSohere variables 	Tota	13				
Shared Ibraries	100					
SIP application routers Replication domains						
URI Groups						
E Naming						
OSGi bundle repositories						
System administration						
 Cell 						

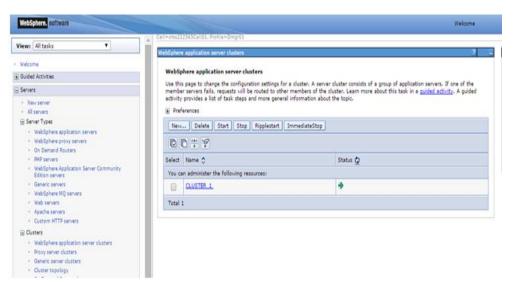
3.2 Node Agents

Both the Node Agents are started.

WebSphere, software						Welcome		
Views All tasks	_	22365Cell01, Profile	*Dimgri01					
	Node age	nts -				7		
Welcome	Node agents							
Guided Activities		Use this page to manage node agents and application servers on the node that a node agent manages. The node agent process serves as an						
e Servers	intermediary between the application servers on the node and the deployment manager. The node agent process intermediary between the application servers on the node and the deployment manager. The node agent process runs on ever specialized to perform node-specific administration functions, such as server process monitoring, configuration synchronization					very node and is		
E Applications		quest routing.	e-specific administration functions.	such as server process monitoring, o	configuration synchronizat	bon, file transfer,		
j Jobs	Preferences							
Services	Stop Restart Restart all Servers on Node							
Resources	D	0 # 19						
Runtime Operations		And the second sec	110.0		Line Ba	15 9		
Security	1000	Name 🗘	Node 🗘	Host Name 🗘	Version 0	Status Q		
Operational policies	and the second	an administer the f	Contraction of the second s					
Environment		nodeagent	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	*		
Virtual hosts	8	nodeacent	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	•		
 Update global Web server plug-in configuration WebSphere variables 	Total 2							
 Websphere variables Shared libraries 								
 SIP application routers 								
Replication domains								
URI Groups E Naming								
(a) Naming (b) 050) hundle reconstruites								



3.3 Cluster



3.4 Managed Servers

Tiew: All tasks 🔻	Applicatio	0.5407815					2	
Welcome Guided Activities Servers	Applic Use th	ation servers		rvers in your environment ar ver.	d the status of ea	ch of these servers. You	can also use this pay	
 Nev server 	🛞 Pre	ferences						
 All servers 	Net	Delete	Templates Start S	itop Restart Immediate	Stop Terminate	1		
Server Types WebSphere application servers WebSphere proxy servers	0 0 7 7							
On Demand Routers	Select	Name 🗘	Node 🔇	Host Name 🗘	Version 🗘	Cluster Name 🔿	Status 🗘	
PHP servers WebSohere Application Server Community	You can administer the following resources:							
Edition servers	0	MS 1	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	CLUSTER_1	*	
Generic servers					10000-0000100	10000020	173	
WebSphere MQ servers Web servers	0	MS 2	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	CLUSTER_1	4	
Apache servers	8	server1	ofss220239Node02	ofss220239.in.oracle.com	Base 0.5.5.0			
 Custom HTTP servers 	1.00	and the second	ofss222565Node03	ofss222565.in.oracle.com			*	
E Clusters		server3	01352223631400603	orsseecon.in.oracie.com	ND 0.3.3.0			
E DataPower	Total	4						
E Core Groups	and the second se							



3.5 DataSource

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

WebSphere. software							Welcome		
+ Applications	A .	ell=otss22	2565Cell01, Profile=Dmg	r01				_	
⊕ Jobs		Data sourc	es				?	Į	
Services		Data s	ources						
Resources			Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your						
Schedulers		application with connections for accessing the database. Learn more about this task in a <u>guided activity</u> . A guided activity provides a task steps and more general information about the topic.							
 Object pool managers JMS 		E Sco	G Scope: Cell=ofss222565Cell01, Cluster=CLUSTER_1						
JMS providers Connection factories		4	Show scope selection	drop-down list with the all	scopes option				
Queue connection factories		Scope specifies the level at which the resource definition is visible. For detailed information on							
 Topic connection factories 			what scope is and how it works, see the scope settings help,						
- Queues			Cluster=CLUSTER	1 7					
 Topics 			cluster=ccoster_						
 Activation specifications 		🕀 Pref	erences						
JDBC								_	
 JDBC providers 		New	Delete Test con	nection Manage state					
 Data sources 									
 Data sources (WebSphere Application Server V4) 			0 👯 😤						
Resource Adapters		Select	Name 🔷	JNDI name 🗘	Scope 🗘	Provider 🗘	Description 🗘 Category	$\hat{\mathbf{x}}$	
		You ca	an administer the followi	ng resources:					
Cache instances			FLEXTEST.WORLD	FLEXTEST, WORLD	Cluster=CLUSTER 1	Oracle JDBC Driver	New JDBC		
🗄 Mail			FLEX TEST. WORLD	FLEXTEST.WORLD	Cluster=CLUSTER_1	(XA)	Datasource		
URL						(70.7)			
■ 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.

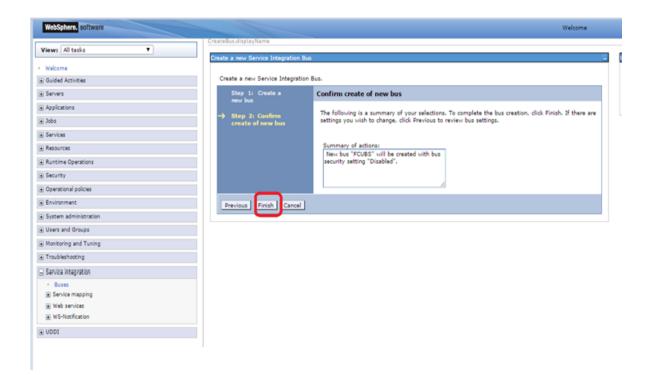
WebSphere. software		•	Welcome
Views All tasks	Cell=ohs222565Cell01. Profile=Dmgr01 Buses		,
Welcome Guided Activities Servers Applications Jobs Services	Buses A service integration bus supports a	oplications using message-based and service added as members of the bus. Applications	-oriented architectures. A bus is a group of interconnected connect to a bus at one of the messaging engines associated
Resources			
Runtime Operations Security	Select Name 🔿	Description 🗘	Security 🗘
Operational policies Environment	Total 0		
System administration			
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 OBTR property file build and click on Next.

WebSphere. software		Welcome
View: All tasks	CreateBus.displayName	
Welcome	Create a new Service Integration B	-
Ouided Activities	Create a new Service Integratio	n Bus.
Servers	→ Step_1: Create a	Create a new bus
Applications	new bus	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)	Fcues
Resources	Step 2: Confirm	
Runtime Operations	create of new bus	
Security		Bus security
Operational policies	Next Cancel	
Environment		
System administration		
Users and Groups		
Monitoring and Tuning		
Troubleshooting		
Service integration		
• Buses		
Service mapping Web services		
WS-Notification		
100U		

3) Click on Finish.





4) New Bus FCUBS is created.

WebSphere. software				Welcome	
View: All tasks		22565Cell01, Profile=Dmgr01			
Welcome	Buses			7	
Guided Activities	Buses				
Servers	A servi	A service integration bus supports applications using message-based and service-oriented architectures. A bus is a group of into servers and clusters that have been added as members of the bus. Applications connect to a bus at one of the messaging engi			
Applications	with it	s bus members.			
Jobs	. ● Pre	ferences			
Services	New	Delete			
Resources		6 # 9			
Runtime Operations	Select	Name 🔿	Description 🔿	Security 🗘	
Security	You c	an administer the following resources:			
Operational policies		FCUBS		Disabled	
Environment					
System administration	Total	1			
Users and Groups					
Monitoring and Tuning					
) Troubleshooting					
Service integration					
• Buses					
Service mapping					
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
View: All tasks	Cell+ofts222565Cell01. Profile=Dmgr01	
	luses	2
Welcome	Buses > FCUBS	
	A service integration bus supports applications using message-based and service-orie	nted architectures. A bus is a group of interconnected
Servers	servers and clusters that have been added as members of the bus. Applications conn with its bus members.	ect to a bus at one of the messaging engines associat
Applications	Configuration Local Topology	
Jobs	Construction Construction	
) Services		
Resources	General Properties	
Runtime Operations	Name	Topology
Security	FCUBS	 Bus members
Operational policies		International According
Environment	UUID D4AFF53950380C28	 Foreign bus connections Bootstrap members
System administration		
Users and Groups	Description	Destination resources
Monitoring and Tuning		 Destinations
Troubleshooting		- Mediations
		Services
Service integration	Inter-engine transport chain	 Inbound services
Buses Service mapping		- Outbound services
Web services	Discard messages	 WS-Notification services
WS-Notification	Configuration reload enabled	 Reliable messaging state
IDDI	Default messaging engine high message threshold	Additional Properties
	50000 messages	- Custom properties
	Limit the range of available bootstrap members to:	- Security
	Limit the range of available bootstrap members to:	 Web service gateway instances

2) Click On Add

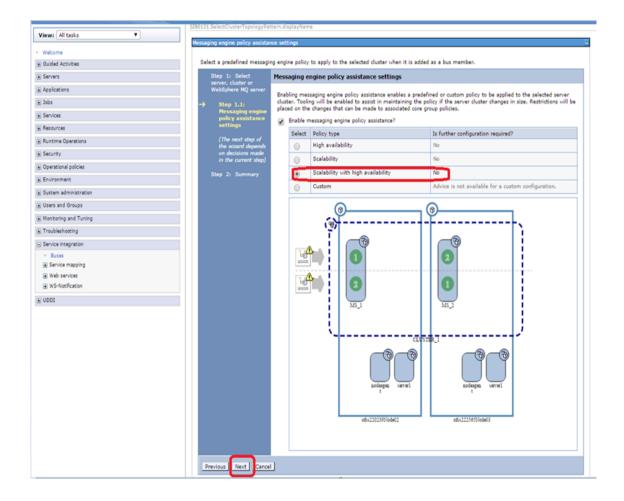
WebSphere, software			Welcome
View: All tasks	Cell=ofss222565Cell01, Profile=Dmgr01 Buses		7
Welcome Guided Activities	<u>Buses</u> > <u>FCUBS</u> > Bus members	iphere MQ servers and clusters that have b	een added to the bus.
⊕ Servers ⊕ Applications ⊕ Jobs	Add Remove		
a Joos ⊞ Services ⊕ Resources	Select Name O	Type 🗘	Messaging engine policy assistance 🖒
Runtime Operations	None	LADe A	ressaying engine poncy assistance 🗸
Gecurity Gperational policies	Total 0		
Environment System administration			
Users and Groups			



3) Select Cluster and Click on Next

Views All tasks	5280131 AddBusMember displayNam	4					
And An I Table 2	Add a new bus member						
• Welcome		e-h					
Guided Activities		Add a server, cluster or a WebSphere MQ server as a new member of the bus.					
E Servers	-> Step 1: Select server, cluster or	Select server, cluster or WebSp	ohere MQ server				
Applications	WebSphere HQ	WebSphere MQ server Choose the server, cluster or WebSphere MQ server to add to the bus	phere MQ server to add to the bus				
a) Jobs							
 Services 	(The next step of the wigard depends on	O Server	ofus220239%ode02:M5_1 *				
* Resources	decisions made in the current step)						
Runtime Operations	Step 2: Summary	Cluster	CLUSTER_1 ·				
E Security	and at memory						
Operational policies		WebSphere MQ serve	er (none) 🔹				
a) Environment							
System administration	and and						
Users and Groups	Next Cancel						
C Hardward Barba							

4) Select Scalability and High Availability Policy Type and Click on Next.





5) Select File Store and Click on Next

	SIB0131.SelectMsgStoreType.display	Name	
Views All tasks 🔻	Select message store type		
Welcome	action measage avoire state		
Guided Activities	Choose the type of message st	ore for the persistence of message state	
E Servers	Step 1: Select server, cluster or	Select the type of message store	
Applications	WebSphere MQ server	Choose the type of message store for the persistence of message state	
± Jobs	Step 1.1:	shouse one type of measure and for the persistence of measure and	
* Services	Messaging engine policy assistance		
+ Resources	settings	File store	
Runtime Operations	→ Step 1.1.1: Select the	Data store	
Security	type of message store		
Operational policies			
Environment	(The next step of the wizard		
System administration	depends on decisions made		
± Users and Groups	in the current step)		
Monitoring and Tuning	Step 2: Summary		
± Troubleshooting			
Service integration	Previous Next Cancel		
 Buses Envice mapping 			
 Web services 			

6) Select the Node 1 Message Engine

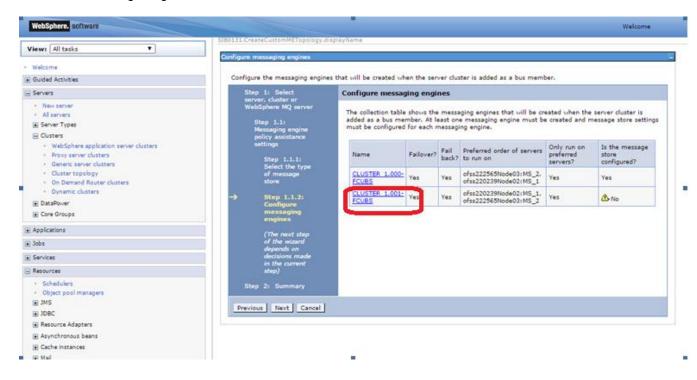
100U

	SIB0131.CreateCustomMETopology.	lisplayName					
Views All tasks T	Configure messaging engines						
Welcome			and the second second			0.04	
Guided Activities	Configure the messaging engin	es that will be create	d when the sen	ver clus	iter is added as a bus meml	ber.	
e Servers	Step 1: Select server, cluster or	Configure me	ssaging engin	nes			
Applications	WebSphere MQ server	The collection	table shows the	messa	ging engines that will be on	eated when the	server cluster is
£ Jobs	Step 1.1:		member. At la	east on	e messaging engine must be		
E Services	Messaging engine policy assistance						
E 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			back?	to run on	servers?	configured?
e Security	of message store	CLUSTER 1.	200- Yes	Yes	ofss220239Node02:MS_1. ofss222565Node03:MS_2	Yes	∆ No
E Operational policies		CLUSTER 1	001- Yes	Yes	ofss222565Node031MS_2.	Yes	
Environment	Configure	FCUBS	165	143	ofss220239Node021MS_1	(45	∆ tio
System administration	messaging engines						
Users and Groups	(The next stop						
E Monitoring and Tuning	of the wizerd depends on						
E Troubleshooting	decisions made in the current step)						
Service integration							
Buses Service mapping	Step 2: Summary						
Web services WS-Notification	Previous Next Cancel						

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

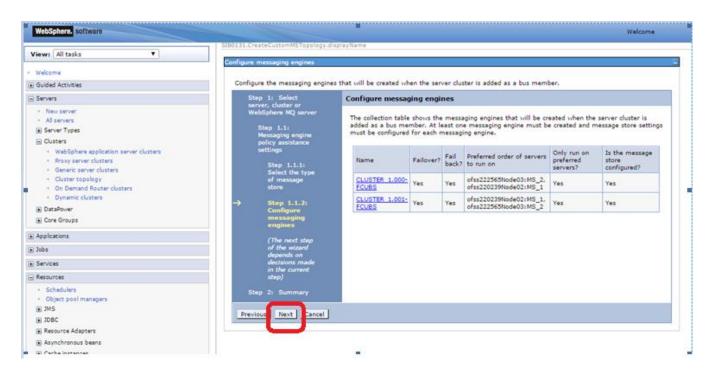
WebSphere. software		Welcome
Servers	SIB0131.ConfigureFileStore.displayName	
New server All servers	Specify file store properties	
 Genver Types WebSphere application servers WebSphere proxy servers On Demand Routers PHP servers WebSphere Application Server Community Edition servers Generic servers WebSphere MQ servers WebSphere Servers Custor HTTP servers Clusters DataPower Core Groups 	Provide the properties for the file store Step 1: Select server, cluster or WebSphere MQ server Configure file store Step 1.1: Messaging engine policy assistance settings Select the type of message store Configure file store Step 1.1.1: Select the type of message store Step 1.1.2: Configure messaging engines MB Step 1.1.2: Configure messaging engines Store Store Store Stare settings for permanent and temporary stores	
 Applications New Application Install New Middleware Application Application Types Edition Control Center Global deployment settings 	Step 1.1.2.1: Configure file store Step 2: Summary Unlimited permanent store size * Maximum permanent store size * Maximum permanent store size	
🛛 Jobs	500 MB	
Services	R remainent store unectory path	
Resources Schedulers Object pool managers MS	/scratch/work_area/DEV/JMS/MS_1/	
🗄 JDBC	Previous Next Cancel	

8) Click on other message engine and set the File Store



ORACLE

9) Click on Next after Setting File Store for all messaging engines.

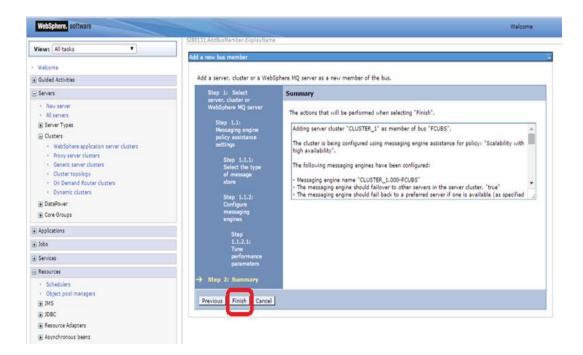


10) Select Change Heap Sizes and Click on Next

Witking ▼ Wetcome Golded Activities Servers • New Strive • Outsters • Outsters • Outsters • Outsters • Outsters • On Demand Four clusters • Outstrive • Outstrive • Outstrive • Outstrive • Outstrive • Step 1.1.2: Corregrowe	WebSphere. software				Welcome
Webcome © duded Activities © duded Activities © servers • New sarver • Al servers © dvaters © dvaters © dvaters © dvaters • Owner Types © dvaters • Owner Konsers • Owner Konsers • Owner Konsers • Owner Konsers • Owner Koatsers • Schedulers •	View: All tasks	JVMSettings.displayName			
Guided Activities Servers • New server • New server • New server • Stevers • Stevers • Stevers • Stevers • Stevers • Outster server clusters • Onamic clusters • Ophic forops • Schedulers • Schedulers <	Welcome	Improve messaging performance			
 New server Al servers Al servers Al servers Server Types Covers Covers Server Covers Covers Server Covers Server Covers<		Tune application server for mess	aging performance.		
© Core Groups Applications Jobs Services Services Services Services Besources Step 1.1.2.1: Tune performance parameters Step 2: Summary Previous Next Cancel DDBC	New server All servers All servers Server Types Clusters WebSphere application server clusters VebSphere application server clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters	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	To improve performance of mes Machine settings are advised. By unchanged, select the 'Change h On machines with low amounts instances, it maybe necessary to Change heap sizes	saging within the application serve default the initial and maximum eap sizes' checkbox to modify the of physical memory size or large r reduce the proposed values accor Current heap sizes	JVM settings will remain settings to the proposed values. umbers of application server dingly. Proposed heap sizes
 Schedulers Object pool managers JMS JDBC 	Core Groups Applications Jobs	engines -> Step 1.1.2.1: Tune performance			
	 Schedulers Object pool managers JMS JDBC 				



11) Click on Finish



12) Click on Save

WebSphere. software			Welcome
View: All tasks	Cell=otss222565Cell01, Profile=Dmgr01 Buses		2
Welcome Guided Activities Servers Servers All servers All servers Server Types Clusters WebSphere application server clusters WebSphere application server clusters Cluster topology On Demand Router clusters Dynamic clusters Dynamic clusters Dynamic clusters DataPower Core Groups	Messages Save dir Save dir An option to s: <u>Preferences.</u> The server Bus members are the servers, WebS Preferences Add Remove	we been made to your local configuration tily to the master configuration. anges before saving or discarding. ynchronize the configuration across multi may need to be restarted for these chan iphere MQ servers and clusters that have	ple nodes after saving can be enabled in ges to take effect.
Applications			
🖈 Jobs	Select Name 🗘	Type 🗘	Messaging engine policy assistance 🗘
Services	You can administer the following re		
Resources	CLUSTER 1	Cluster	Enabled (Scalability with high availability)
- Schedulers - Object pool managers - 305 - 305C - 305C - Resource Adapters	Total 1	' 	
	1	-	



4.3 **Destination Queue Creation**

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

WebSphere. software		Welcome
	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 arc	
 Proxy server clusters 	servers and clusters that have been added as members of the bus. Applications connect to a with its bus members.	bus at one of the messaging engines associat
 Generic server clusters 	with its bus members.	
 Cluster topology 	Configuration Local Topology	
 On Demand Router clusters 		
 Dynamic clusters 		
DataPower		
	General Properties	Topology
Applications	Name	 Bus members
	FCUBS	
Jobs		 Messaging engines
Services	UUID	 Foreign bus connections
Resources	D4AFF53950380C28	 <u>Bootstrap members</u>
Schedulers	Description	Destination resources
 Object pool managers 		
E JMS		 <u>Destinations</u>
 JMS providers 		 Mediations
 Connection factories 		Services
 Queue connection factories 	Inter-engine transport chain	
 Topic connection factories 	ander engine transport cham	 Inbound services
Queues		 Outbound services
 Topics 	Discard messages	 WS-Notification services
 Activation specifications 		 Reliable messaging state
IDBC	Configuration reload enabled	

2) Click on New

WebSphere. software						Welcome
 New server All servers Server Types Clusters WebSphere application server clusters Proxy server clusters Genetic server clusters Cluster topology On Demand Router clusters Dynamic clusters 	Buses Buses A bus of the des			ne or more locations wi	2 thin the bus. Applicatio	ns can attach to
DataPower Eore Groups Core Gr		Identifier ≎	Bus 🗘	Туре 🗘	Description 🗘	Mediation 🗘
+ Applications	You c	an administer the following resources:				
± Jobs		Default.Topic.Space	FCUBS	Topic space		
		SYSTEM.Exception.Destination.CLUSTER 1.000- FCUBS	FCUBS	Queue		
Schedulers Object pool managers		SYSTEM.Exception.Destination.CLUSTER 1.001- FCUBS	FCUBS	Queue		
 Object poor managers JMS JMS providers Connection factories Queue connection factories Topic connection factories 	Total	3				



3) Select Queue and Click on Next

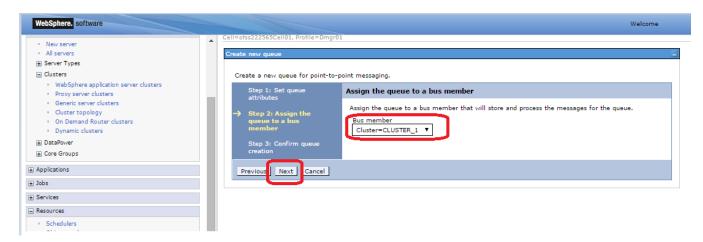
WebSphere. software	Welcome
New server All servers All servers All servers Clusters Clusters VebSphere application server clusters Proxy server clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters Dynamic clusters Donemad Router clusters Dynamic clusters DataPower @ Core Groups Applications Jobos Services	Buses Create new destination Create a new destination on this bus. Select destination type Queue Queue Topic space Alias Foreign Next Cancel
∃ Resources	
 Schedulers Object pool managers JMS JMS 	

4) Enter Identifier as MDB_QUEUE and Click on Next

WebSphere. software		Welcome
	Cell=otss222565Cell01, Profile=Dmgr01	
Applications	Create new queue	Ξ
All applications New Application Install New Middleware Application Application Types Edition Control Center Global deployment settings	Create a new queue for point-to-point messaging. → Step 1: Set queue attributes attributes Step 2: Assign the Configure the attributes of your new queue	
🛨 Jobs	queue to a bus <u>MDB_QUEUE</u>	
	Step 3: Confirm queue Description	
Resources Schedulers Object pool managers JMS	creation	
JMS providers Connection factories Queue connection factories Topic connection factories Queues Topics	Next Cancel	



5) Select Bus Member as Cluster and Click on Next

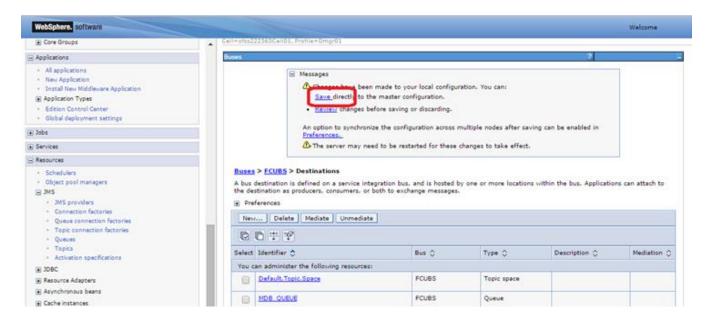


6) Click on Finish





7) Click on Save



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

WebSphere. software						Welcome
	Cell=ofss22	22565Cell01, Profile=Dmgr01				
Applications	Buses				7	
All applications New Application Install New Middleware Application Application Types Edition Control Center Global deployment settings	A bus o the des	> <u>FCUBS</u> > Destinations destination is defined on a service integration itination as producers, consumers, or both to ferences		one or more locations w	thin the bus. Applications	s can attach to
	New	Delete Mediate Unmediate				
Jobs		6 # 9				
Services		Identifier 🔿	Bus 🔿	Type O	Description 🔿	Mediation ①
Resources			eus Ç	Type 🗘	Description Q	Mediation 🖓
Schedulers Object pool managers JMS		an administer the following resources: Default.Topic.Space	FCUBS	Topic space		
JMS providers Connection factories		MDB_QUEUE	FCUBS	Queue		
 Queue connection factories Topic connection factories 		MDB QUEUE DLQ	FCUBS	Queue		
Queues Topics		MDB_OUEUE_RESPONSE	FCUBS	Queue		
Activation specifications JDBC		SYSTEM.Exception.Destination.CLUSTER 1.	COO- 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
View: All tasks	Cell+ofts222363Cell01. Profile+	Dmgrð1			
Viewi Ali tasks	Queues			2	
< Walcome					
Guided Activities	Queues	lestination for point-to-point mes			
Servers		SSCell01. Cluster=CLUSTER_1	sagingi		
New server All servers Servers Every Types Clusters WebSphere application server clusters New Service clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters Dynamic clusters Dynamic clusters Core Groups	Show scope select Scope specifies t what scope is an Cluster=CLUST Preferences New Delete Cut the Scope select New Delete	tion drop-down list with the all so the level at which the resource de d how it works, <u>see the scope set</u> TER_1 •	finition is visible. For detailed		
(*) Applications	Select Name O	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
(±) Jobs	None Total 0				
E Services	Total O				
⊟ Resources					
 Schedulers Object pool managers JMS providers Connection factories Queue connection factories Queues 					



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

WebSphere, software	Welcome
Views (All tasks 🔹	Cell=shs222555Cell01, Prahle=Emgr01 Qonues 2
Welcome	
Guided Activities	Queues > Select JMS resource provider
😑 Servers	Scope cells:ofss222565Cell01:clusters:CLUSTER_1
New server Al servers Berver Types	Select the provider with which to create the Queue. The following providers support the selected resource type and are available at the selected scope.
Custers WebSphere application server clusters Proxy server clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters	Default messaging provider WebSphere MQ messaging provider (CK) Cancel
DataPower Core Groups	
Appleations	
· Jobs	
Services	
😑 Resources	
Schedulers Object pool managers MS MS MS	



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

Transpillere, sortware	weicome
	Cell=otss222565Cell01, Profile=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 Mail WRL 	Scope Cluster=CLUSTER_1 Provider Default messaging provider * Name MOB_QUEUE * JND1 name MDB_QUEUE Description
Resource Environment	Connection
Runtime Operations Security	Bus name FCUBS
	+ Queue name
Operational policies	MDB_QUEUE
Environment	Delivery mode
(2) Surtam administration	Contrary interest

4) Similarly create other Queue's required

WebSphere. software						Welcome
 New server All servers ¥ Server Types 	Queues	Cell01, Protile=Dmgr01				?
Clusters WebSphere application server clusters Proxy server clusters Cluster server clusters Cluster topology On Demand Router clusters Dynamic clusters DataPower Core Groups Core Groups	Scope: C	cell=ofss222565Cell0 now scope selection dro cope specifies the level	on for point-to-point messaging 1, Cluster=CLUSTER_1 p-down list with the all scopes of at which the resource definition works, <u>see the scope settings l</u>	option 1 is visible. For detailed ir	formation on	
Applications	Preferen	es				
E Jobs	New D	elete				
E Services		** *				
SchedulersObject pool managers	Select Nam You can ad	e 🛟 minister the following r	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
 JMS JMS providers Connection factories 	MDE	QUEUE	MDB_QUEUE	Default messaging provider		Cluster=CLUSTER_1
 Queue connection factories Topic connection factories Queues 	MDE	QUEUE DLQ	MDB_QUEUE_DLQ	Default messaging provider		Cluster=CLUSTER_1
Topics Activation specifications JDBC		QUEUE RESPONSE	MDB_QUEUE_RESPONSE	Default messaging provider		Cluster=CLUSTER_1
Asynchronous beans	Total 3					



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 All servers All servers Evener Types Clusters WebSphere application server clusters Proxy server clusters Generic server clusters	- ^ <u>-</u>	messaging.		the associated JMS provider of	the JMS queue destinations, for	2 point-to-point
Cluster topology Con Demand Router clusters Dynamic clusters DataPower Cone Groups Applications		Scope specifies t	ction drop-down list with the all so the level at which the resource de d how it works. <u>see the scope set</u> TER_1	finition is visible. For detailed	information on	
i Jobs		Preferences				
E Services		New Delete				
E Resources		00 # 9				
Schedulers Object pool managers		Select Name 🗘	JNDI name 🗘	Provider 🔿	Description 🗘	Scope 🗘
JMS JMS providers Connection factories Queue connection factories		None Total 0				

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

WebSphere. software		Welcome
 New server All servers Server Types Clusters WebSphere application server clusters 	Cell=ofss222565Cell01, Profile=Dmgr01 Queue connection factories Queue connection factories > Select JMS resource provider	? -
Proxyserver clusters Proxyserver clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic clusters	Scope cells:ofss222565Cell01:clusters:CLUSTER_1 Select the provider with which to create the Queue connection factory. The following providers support the sele available at the selected scope.	ected resource type and are
★ DataPower ★ Core Groups	Default messaging provider 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	2
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 Use queue connection factory administrative objects to manage JMS queue connection factories for t	queues, for point-to-point messaging the default messaging provider.
Applications	Configuration	
Jobs		
Services		
Resources	General Properties	 Additional Properties
 Schedulers Object pool managers JMS JMS providers Connection factories Queue connection factories Queues Activation specifications JDBC Resource Adapters Ashinknoes Mail URL Resource Environment Interime Operations 	Administration Scope Cluster=CLUSTER_1 Provider Default messaging provider Name MDBQCF + 7K01 name MDBQCF Usescription Category	<u>Connection pool</u> properties <u>Related Items</u> <u>JAAS - J2C</u> authentication data <u>Budes</u>
) Operational policies	+ Bus name	
System administration	FCUBS V	
Users and Groups	larget	
Monitoring and Tuning		
Troubleshooting	Target type Bus member name	
Service integration	Bus member name	

3) Click on Save

Balance and a second se	. Cell+ofis222365C					
View: All tasks 🔹	Durue connection		and to 1			2
 Welcome Guided Activities Servers 		Messag	anges have been made to y			
Applications Jobs		• 54	eview changes before saving	or discarding.		
8 Joos € Services Resources		Prefer	RCCR1.	puration across multiple nodes is		in
Scheluns Object perlamangen Object perlamangen MS MS previders Connection factories Opune connection factories Topic connection factories Topic connection factories Topic Account on perdications Model Manorize Adaptery Manorize basis	A queue conn messaging. Scoper Ce Sho Sco	Il=ofss22256 w scope select ope specifies th at scope is and Iluster=CLUSTI	is used to create connection SCe801. Cluster=CLUSTER tion drop-down list with the te level at which the resource how it works, <u>see the scop</u>	all scopes option e definition is visible. For detail		iona, for point-to-point
Gache instances	New Del	ete				
Mal URL Resource Environment	00:		Participant and a second	Terretoria		Law-se
	Select Name		JNDI name O	Provider 🗘	Description ()	Scope ()
Runtime Operations	and the second se		MDBOCF	Default messaging		Cluster=CLUSTER 1
Security		.	HUBQCP	provider		CIUSTER-LUSTER_1



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=otss22	22565Cell01, Profile=Dmgr01			
View: All tasks	Application				2
Welcome	Application				
	Applic	ation servers > MS 1 > Ports			
Guided Activities	Specific	es the TCP/IP ports this server uses for connectio	ns.		
Servers		ferences			
New server	± Pret	rerences			
 All servers 	New	Delete			
Server Types					
 WebSphere application servers 		ē 🗰 🐔			
 WebSphere proxy servers 	Select	Port Name ᅌ	Host 🔿	Port ()	Transport Details 🔿
On Demand Routers		*	Ý		· · · · · · · · · · · · · · · · · · ·
 PHP servers WebSphere Application Server Community 	You ca	an administer the following resources:			
 WebSphere Application Server Community 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 		CSIV2 SSL SERVERAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9430	No associated transports
Apache servers		CSIV2 SSL SERVERAUTH LISTENER ADDRESS	ofss220239.In.oracle.com	9430	No associated transports
Custom HTTP servers		DCS UNICAST ADDRESS	*	9362	View associated transport
- Clusters		Des onickst Abbress		5502	view associated transport
 WebSphere application server clusters 					
Proxy server clusters Generic server clusters		IPC CONNECTOR ADDRESS	localhost	9640	No associated transports
Cluster topology					
On Demand Router clusters		ORB LISTENER ADDRESS	ofss220239.in.oracle.com	9108	No associated transports
Dynamic clusters					
DataPower		OVERLAY TCP LISTENER ADDRESS	*	11024	No associated transports
Core Groups			*		
		OVERLAY UDP LISTENER ADDRESS	*	11023	No associated transports
Applications			-f220220 in	0420	No consisted tool it
Jobs		SAS SSL SERVERAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9429	No associated transports
Services		SIB ENDPOINT ADDRESS	*	7284	View associated transports
Resources					
 Schedulers 		SIB ENDPOINT SECURE ADDRESS	*	7293	View associated transports
 Object pool managers 					
∃ JMS		SIB MO ENDPOINT ADDRESS	*	5565	View associated transport
 JMS providers 		SID MU ENDPOINT ADDRESS		3363	view associated transport
Connection factories Queue connection factories					
Queue connection factories Topic connection factories		SIB MQ ENDPOINT SECURE ADDRESS	*	5585	View associated transport
Queues					
Topics					
Activation specifications		SIP DEFAULTHOST	*	5074	View associated transports
I JDBC					

- 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.

Websphere. Software					weicome
View: All tasks	Cell=otss222565Cell01, Protile=Dm	gr01			3
• Welcome					£
Guided Activities	Queue connection factories				
Servers	A queue connection factory is messaging.	used to create connections t	o the associated JMS provider of	the JMS queue destinati	ons, for point-to-point
⊕ Applications	Scope: Cell=ofss2225650	ell01, Cluster=CLUSTER_1			
🛨 Jobs	Show scope selectio	n drop-down list with the all	scopes option		
E Services Service	Scope specifies the	level at which the resource (definition is visible. For detailed	information on	
Resources	what scope is and h	ow it works, <u>see the scope s</u>	ettings help.		
Schedulers Object pool managers	Cluster=CLUSTER	_1	¥		
⊟ JMS					
 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 follow	/ing resources:			
1 JDBC	MDBQCF	MDBQCF	Default messaging		Cluster=CLUSTER_1
Resource Adapters			provider		
Asynchronous beans	Total 1				

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

bSphere. software	
w: All tasks	
elcome	
uided Activities	Category
ervers	Category
New server	
All servers	
Server Types	Connection
 WebSphere application servers 	* Bus name
 WebSphere proxy servers 	FCUBS T
 On Demand Routers 	
PHP servers	Target
 WebSphere Application Server Community Edition servers 	
Generic servers	Target type Bus member name
 WebSphere MQ servers 	Bus member name
Web servers	Target significance
Apache servers	Preferred T
Custom HTTP servers	
Clusters	Target inbound transport chain
 WebSphere application server clusters 	
 Proxy server clusters 	Provider endpoints
Generic server clusters	ofss222565:7281:BootstrapBasicMessaging,ofss220239:7284:BootstrapBas
Cluster topology On Demand Router clusters	icMessaging
Dynamic clusters	
DataPower	Connection proximity
Core Groups	Bus V
lications	
15	On the Country
rvices	Quality of Service
ources	Nonpersistent message reliability Express nonpersistent
Schedulers	
Object pool managers	Persistent message reliability
MS	Reliable persistent
JMS providers	
Connection factories	
	A descent Measurement of the second s



5.3 JMS Activation Specifications for Cluster

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

WebSphere. software			Welcom
View: All tasks	Cell=otss222565Cell01, Protile=Dmgr01		
VIEW: AII TASKS	JMS providers		?
Welcome	JMS providers		
Guided Activities			provides J2EE connection factories to create connectio
Servers	for JMS destinations.	on the Java Message Service (JMS). It	provides J2EE connection factories to create connectio
Applications	Scope: =All scopes		
] Jobs	Show scope selection drop-dow	n list with the all scopes option	
] Services	Scope specifies the level at w	ich the resource definition is visible. For	detailed information on
Resources	what scope is and how it work		
Schedulers	All scopes	•	
 Object pool managers JMS 			
 JMS JMS providers 	Preferences		
Connection factories	New Delete		
 Queue connection factories 			
 Topic connection factories 			
Queues	Select Name 🔿	Description 🔿	Scope 🔿
 Topics Activation specifications 	You can administer the following resour		
			Node=ofss222565Node03.Server=server1
■ JDBC	Default messaging provider	Default messaging provider	Node=ofss222565Node03,Server=server1
 Resource Adapters Asynchronous beans 	Default messaging provider	Default messaging provider	Node=ofss222565CellManager01
Asynchronous beans Cache instances			
Mail	Default messaging provider	Default messaging provider	Node=ofss220239Node02,Server=server1
Resource Environment	Default messaging provider	Default messaging provider	Node=ofss222565Node03
Runtime Operations	Default messaging provider	Default messaging provider	Node=ofss220239Node02
Security		D. G. H	
Operational policies	Default messaging provider	Default messaging provider	Node=ofss222565Node03,Server=MS_2
Environment	Default messaging provider	Default messaging provider	Cell=ofss222565Cell01
System administration	Default messaging provider	Default messaging provider	Node=ofss220239Node02,Server=MS_1
Users and Groups		o cradic messaging provider	1000 -01352202030000002,561761-M5_1
	Default messaging provider	Default messaging provider	Node=ofss222565CellManager01,Server=dmgr
Monitoring and Tuning	Default messaging provider	Default messaging provider	Cluster=CLUSTER 1
 Performance Monitoring Infrastructure (PMI) Request metrics 	Deraut messaging provider	berault messaging provider	cluster=cLuster_1

2) Under Additional Properties, click Activation specifications.

WebSphere. software		Welcome
View: All tasks	Cell=otss222565Cell01, Profile=Dmgr01 IMS providers	-
Welcome Guided Activities Servers Applications	<u>JMS providers</u> > 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	connections for
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 IDBC Resource Adapters 	Scope - Connection factories Cluster=CLUSTER_1 - Queue connection factories Name - Topic connection factories Default messaging provider - Queues Description - Topics Default messaging provider - Astivation specifications	

3) Click on New.

iew: All tasks	Cell=otss222565Cell01, Protile=	Dmgr01			
	JMS providers				?
Welcome	1MS providers > Default	messaging provider > Activatio	n specifications		
Guided Activities		ion is associated with one or more			
Servers	messages.	ion is associated with one of more	message-univen beans and pr	ovides configuration necessary i	for them to receive
) Applications	Preferences				
] Jobs	New Delete				
3 Services					
Resources					
 Schedulers 	Select Name 🛟	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
 Object pool managers 	None				
∃ JMS	Total O				
 JMS providers 					
 Connection factories Queue connection factories 					
Topic connection factories					
Queues					
Topics					
 Activation specifications 					
± JDBC					
🛨 Resource Adapters					
Asynchronous beans					

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

WebSphere. software		Welcome
	Cell=otss222565Cell01, Profile=Dmgr01	
View: All tasks T	JMS providers	2
Welcome		
■ Guided Activities	<u>JMS providers</u> > <u>Default messaging provider</u> > <u>Activation specifications</u> > New	
E Servers	A JMS activation specification is associated with one or more message-driven beans a receive messages.	ind provides the configuration necessary for them to
Applications	Configuration	
Jobs		
Services		
Resources	General Properties	
- Schedulers	Administration	Related Items
 Object pool managers 		
■ JMS	Scope	 JAAS - J2C authentication data
 JMS providers 	Cluster=CLUSTER_1	Buses
Connection factories	Provider	
Queue connection factories	Default messaging provider	
 Topic connection factories Queues 		
- Topics	* Name	
 Activation specifications 	MDB_Listener	
T JDBC	* JNDI name	
-	MDB_Listener	
Resource Adapters	Description	
Asynchronous beans	Description	
1 Mail		
URL		
Resource Environment		
Runtime Operations	Destination	
Security	* Destination type	
Operational policies	Queue V	
Environment	* Destination JNDI name	
System administration	MDB_QUEUE	
Users and Groups	Message selector	
Monitoring and Tuning		
Performance Monitoring Infrastructure (PMI)	* Bus name	
 Request metrics 	FCUBS V	
Performance Viewer	Acknowledge mode	
Troubleshooting	Auto-acknowledge	
Service integration	Target	
- Rices		



5) Click on Save.

WebSphere. software		Welcome						
View: All tasks	Cell=otss22256SCell01, Protile=Dmgr01 JMS providers	?						
Welcome € Guided Activities € Applications € Jobs € Services ■ Resources								
Schedulers Cobject pool managers JMS JMS providers Connection factories Queue connection factories Topic connection factories Queues Topics Activation specifications JDBC Resource Adapters Asynchronous beans Cache instances	2MS providers > Default messaging provider > Activation specifications A JMS activation specification is associated with one or more message-driven beans and provides configuration necessary for them to receive messages. @ Preferences Newr Delete @ message - message							
	Select Name \$ JNDI name \$ Provider \$ Description \$ You can administer the following resources:	Scope ☆ Cluster=CLUSTER_1						
Mail URL Resource Environment	Total 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.

	. Cell=otss22	2565Cell01, Profile=D	mgr01			
ew: All tasks	<u> </u>		-			
,	All Applica	tions				?
Velcome						
Guided Activities	All App	lications > MDB Ga	<u>teway</u> >	Message Driven Bean listene	er bindings	
	Messag	e Driven Bean listene	r bindings			
Servers						
 New server 				n in your application or module i		ort name or to an activation fication JNDI name you can also specify
 All servers 		stination JNDI name. W			bound to an activation specif	reation JND1 name you can also specify
Server Types						
 WebSphere application servers 	± Ap	oply Multiple Mapping	s			
 WebSphere proxy servers 	D					
 On Demand Routers 	u					
 PHP servers 	Select	Module	Bean	URI	Messaging type	Listener Bindings
 WebSphere Application Server Community Edition servers 				GW_MDB_Bean.jar,META-	javax.jms.MessageListener	Listener port
Generic servers				INF/ejb-jar.xml		Name
 WebSphere MQ servers 						Name
 Web servers 						
 Apache servers 						Activation Specification
 Custom HTTP servers 						Target Resource JNDI Name
Clusters						MDB_Listener
 WebSphere application server clusters 						Deschation 2001 hame
Proxy server clusters						ActivationSpec authentication
Generic server clusters						alias
 Cluster topology 						
 On Demand Router clusters 						
Dynamic clusters						
DataPower	ОК	Cancel				
+ Core Groups						
+ core croups						
Applications						
All applications						

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);

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);

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?"

iew: All tasks 🔻						
Welcome	Messaging engine policy assistance s	ettings				
Guided Activities	Select a predefined messaging e	ngine policy to ap	ply to the selected cluster when it i	s added as a bus member.		
Servers	Step 1: Select	Messaging	ngine policy assistance settin	as and a second s		
New server	server, cluster or	rissaging engine policy assistance settings				
All servers	WebSphere MQ server			bles a predefined or custom policy to be applied to		
+ Server Types	→ Step 1.1:			ed to assist in maintaining the policy if the server d on the changes that can be made to associated		
Clusters	Messaging engine policy assistance	core group p		d on the changes that can be made to associated		
 WebSphere application server clusters 	settings	🖉 Enable r	messaging engine policy assistance?			
 Proxy server clusters 	(The next step of					
 Generic server clusters 	the wizard depends	Select	Policy type	Is further configuration required?		
 Cluster topology 	on decisions made in the current step)	۲	High availability	⚠ The current configuration has a single point of		
 On Demand Router clusters Dynamic clusters 	in the current step)			failure because there is only a single node. Consider adding a cluster member configured on		
	Step 2: Summary			a separate node.		
DataPower Core Groups		0	Scalability	No		
Applications		0	Scalability with high availability	The current configuration has a single point of		
				failure because there is only a single node.		
Jobs				Consider adding a cluster member configured on a separate node.		
Services		0	Custom	Advice is not available for a custom		
Resources				configuration.		
Runtime Operations			0	(A)		
Security				\@`, <u>_</u>		
Operational policies			(@)			
Environment				$(-1\widehat{g})$		
System administration		16				
Users and Groups						
Monitoring and Tuning			MS_2	< <u></u>		
Troubleshooting						
Service integration			- M			
Buses			e	USTER_1		
Service mapping			R			
Web services ■				Ť l		
WS-Notification						
1001			nodeagen	server]		
UDDI			t			

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) OBTR_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=/</u> <u>com.ibm.websphere.pmc.iseries_.doc/tasks/tjn9999_.html</u>





FCUBS_JMS_Websphere_Configuration

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