FCUBS JMS Configuration Using Websphere Default Messaging Provider Oracle FLEXCUBE Universal Banking Release 14.3.0.0.0 [May] [2019]





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# 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<sup>™</sup> 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	
View: All tasks		222565Cell01. Profile=Omgr01					
No. Charles and the second	Nodes				7		
Welcome	Node						
ij Guided Activities		Second and the second s	e application server environment	A node corresponds to	a obvaical computer system with	a distinct 1P	
E Servers	host a	address. The following table list	ts the managed and unmanaged				
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			
e Resources	C	0 7 7					
E Runtime Operations	Selec	t Name 🔿	Host Name 🔘	Version ()	Discovery Protocol 🗘	Status 🖨	
j Security	You	can administer the following re	sourcesi				
e Operational policies		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     Update global Web server plug-in configuration		ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	TCP	•	
<ul> <li>WebSphere variables</li> </ul>	Total 3						
<ul> <li>Shared Ibraries</li> </ul>		25					
SIP application routers     Replication domains							
URI Groups							
E Naming							
OSGi bundle repositories							
System administration							
+ Cel							

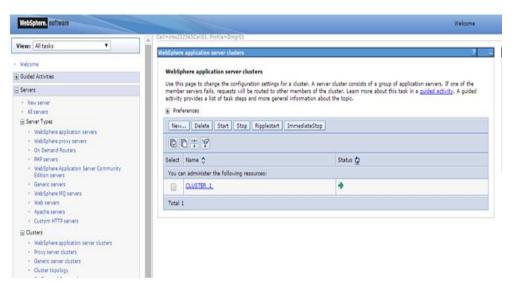
### 3.2 Node Agents

Both the Node Agents are started.

WebSphere, software					Welcome			
Views All tasks	Cell+ofus222555Cell0	1, Prohle=Dmg/01						
VIEWI NI GISKS	Node agents				7			
Welcome 6 Guided Activities 8 Servers 6 Applications	Node agents 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 intermediary between the application servers on the node and the deployment manager. The node agent process runs on every node and is specialized to perform node-specific administration functions, such as server process monitoring, configuration synchronization, file transfer, and request routing.							
Jobs	Preferences	Preferences						
E Services	Stop Restar	Stop Restart Restart all Servers on Node						
E Resources	00:	B B + 9						
Runtime Operations	and the second sec	aw I		10.000 104	15.1			
) Security	Select Name 🗘	Node 🗘	Host Name 🗘	Version 🗘	Status C			
E Operational policies		iter the following resources:						
Environment		ofss220239Node02	ofss220239.in.orade.com	Base 8.5.5.0	*			
Virtual hosts	Dedeases	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	*			
<ul> <li>Update global Web server plug-in configuration</li> <li>WebSphere variables</li> <li>Shared Ibraries</li> <li>SIP application routers</li> <li>Replication domains</li> <li>URI Groups</li> <li>Noning</li> <li>Mining</li> </ul>	Total 2							



## 3.3 Cluster



## 3.4 Managed Servers

ews All tasks 🔹	Application	HOVERS					7
velcome Suided Activities Serverz • New server	Use thi to chan		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 pag
All servers	New	Delete	Templates Start S	itop Restart Immediate	Ston Terminate	1	
<ul> <li>Server Types</li> <li>WebSphere application servers</li> <li>WebSphere proxy servers</li> </ul>	1771-11270	0#9				4	anc
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 • Generic servers		<u>MS 1</u>	ofss220239Node02	ofss220239.in.oracle.com	Base 8.5.5.0	CLUSTER_1	*
<ul> <li>WebSphere MQ servers</li> </ul>	0	M5-2	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0	CLUSTER_1	*
Web servers     Apache servers		server1	ofss220239Node02	ofss220239.in.oracle.com	Base 0.5.5.0		
Custom HTTP servers Clusters	8	servera	ofss222565Node03	ofss222565.in.oracle.com	ND 8.5.5.0		•
DataPower	Total	4					



## 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=	Dmgr01					
⊕ Jobs	Data sources				?		
Services	Data sources						
E Resources		ettings of a datasource that is a					
Schedulers	application with connections for accessing the database. Learn more about this task in a guided activity. A guided activity provides a list task steps and more general information about the topic.						
<ul> <li>Object pool managers</li> <li>JMS</li> </ul>	Scope: Cell=ofss2225	55Cell01, Cluster=CLUSTER_3	L				
<ul> <li>JMS providers</li> <li>Connection factories</li> </ul>	${oldsymbol {\mathscr C}}$ Show scope selection drop-down list with the all scopes option						
Connection factories     Queue connection factories		Scope specifies the level at which the resource definition is visible. For detailed information on					
<ul> <li>Topic connection factories</li> </ul>	what scope is an	what scope is and how it works, <u>see the scope settings help.</u>					
<ul> <li>Queues</li> <li>Topics</li> </ul>	Cluster=CLUS	TER_1	]				
Activation specifications			-				
= JDBC	Preferences						
<ul> <li>JDBC providers</li> </ul>	New Delete Test	connection Manage state	]				
Data sources			-				
<ul> <li>Data sources (WebSphere Application Server V4)</li> </ul>							
Resource Adapters	Select Name 🛟	JNDI name 🗘	Scope 🗘	Provider 🗇	Description 🗘	Category 🗘	
Asynchronous beans     Asynchronous	You can administer the fo	llowing resources:					
🗄 Cache instances		FLEXTEST, WORLD	Cluster=CLUSTER 1	Oracle JDBC Driver	New JDBC		
🕢 Mail	FLEXTEST.WORLD	FLEXIESTIWORLD	Cluster=CEOSTER_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=ofss222565Cell01, Profile=Dmpr Buses	01	
Welcome	Buses		
Servers	A service integration bus support servers and clusters that have builth its bus members.	ts applications using message-based and service sen 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 associate
) Applications ) Jobs			
E Services	Nev Delete		
Runtime Operations	Select Name 🗘	Description 🗘	Security 🗘
Security Operational policies	None Total 0		
) Environment	Total O		
System administration			
Monitoring and Tuning			
E Troubleshooting			
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 V	CreateBusidisplayName	Rue	
- Welcome			
Guided Activities	Create a new Service Integration	on 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	Bus security	
Security		Bus security	
Operational policies	Next Cancel		
Environment			
€ System administration			
Users and Groups			
Monitoring and Tuning			
Troubleshooting			
Service integration			
• Buses			
Service mapping ★ Web services			
Web services     WS-Notification			
E UDDI			



#### 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
/iew: All tasks	Cell=ofss2	22565Cell01, Profile=Dmgr01		2
Welcome	Buses			
Guided Activities			p message-based and service-oriented archit	ectures. A bus is a group of interconnected
Servers	servers	and clusters that have been added as mem bus members.	bers of the bus. Applications connect to a bu	s at one of the messaging engines associate
Applications		erences		
Jobs				
Services		Delete		
Resources		D # 9		
Runtime Operations	Select	Name 💠	Description 🗘	Security 🗘
Security	You c	an administer the following resources:		
Operational policies		FCUBS		Disabled
Environment	Total			
System administration	Total	•		
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	Cell+ofts222565Cell01. Profile=Dmpr21	
/iews All tasks 🔻		
	Buses	2
Welcome	Buses > FCUBS	
Ouided Activities	A service integration bus supports applications using message-based and service-orie	inted architectures. A bus is a proup of interconnected
Servers	servers and clusters that have been added as members of the bus. Applications con- with its bus members.	ect to a bus at one of the messaging engines associate
Applications		
lobs	Configuration Local Topology	
Services		
esources		
untime Operations	General Properties	Topology
ecurity	Name	Bus members
perational policies	FCUBS	International Constant
	uto	<ul> <li>Enreign bus connections</li> </ul>
wironment	D4AFF53950380C28	<ul> <li>Bootstrap members</li> </ul>
stem administration	Description	Destination resources
isers and Groups		Destinations
fonitoring and Tuning		- Mediations
roubleshooting		
ervice integration	Inter-engine transport chain	Services
Buses	ander engrine standpurs unarri	<ul> <li>Inbound services</li> </ul>
Service mapping		<ul> <li>Outbound services</li> <li>WS-Notification services</li> </ul>
) Web services	Discard messages	Reliable messaging state
WS-Notification	Configuration reload enabled	· DEDICITIES AND A REAL
DDI	Default messaging engine high message threshold	Additional Properties
	50000 messages	- Custom properties
	Limit the range of available bootstrap members to:	- Security
	come the range of available overstrap methods to:	<ul> <li>Web service gateway Instances</li> </ul>

#### 2) Click On Add

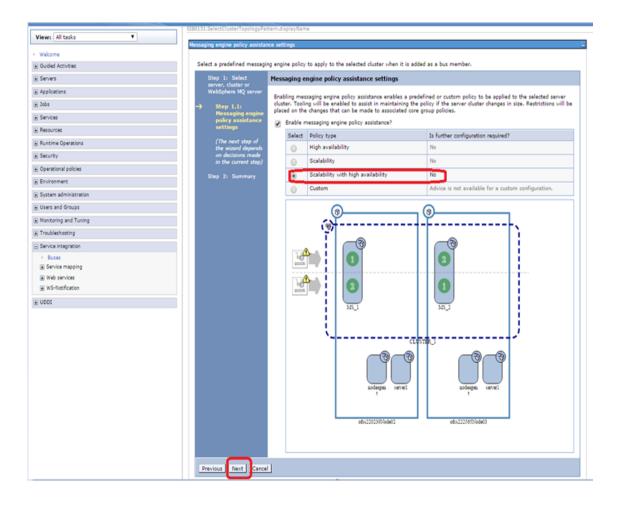
WebSphere. software			Welcome
View: All tasks	Cell=otss222565Cell01, Profile=Dmgr03	ī	
Welcome @ Guided Activities	Buses Buses > FCUBS > Bus member Bus members are the servers. We	s bSphere MQ servers and clusters that have	been added to the bus.
E Servers E Applications	Add Remove		
i) Jobs ∋ Services	00		
€ Resources € Runtime Operations	Select Name 🗢	Туре 🗘	Messaging engine policy assistance $\diamondsuit$
e Security e Operational policies	Total 0		
€ Environment			



#### 3) Select Cluster and Click on Next

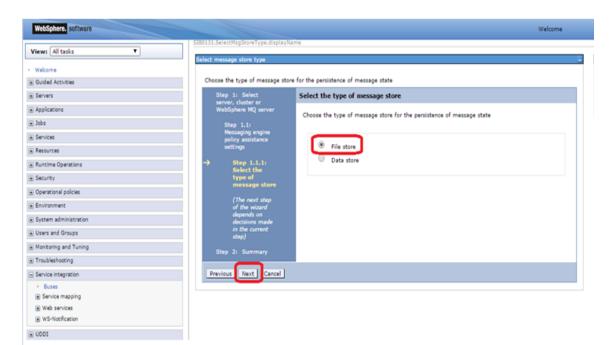
/iews All tasks	5280131 AddbusMember.displayNam	e			
News All tasks	Add a new bus member				
Wekome     Guided Activities		200 - 9250			
	Add a server, cluster or a Web	Add a server, cluster or a WebSphere MQ server as a new member of the bus.			
Servers	-> Step 1: Select server, chater or	Select server, cluster or WebSpher	re MQ server		
Applications	WebSphere HQ	Choose the server, cluster or WebSphere MQ server to add to the bus			
Jobs	server				
Services	(The next step of the wizard depends on	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	and an all	- Pla			
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

Views All tasks	SIB0131.CreateCustomMETopology.d	isplayName					
Views All tasks 🔻	Configure messaging engines						
Welcome							
e Guided Activities	Configure the messaging engin	is that will be created	d when the sen	ver clus	iter is added as a bus memi	ber.	
é Servers	Step 1: Select server, cluster or	Configure me	ssaging engin	nes			
E Applications	WebSphere MQ server	The collection t	able shows the	messa	ging engines that will be on	eated when the	server cluster is
E Jobs	Step 1.1:		member. At le	east on	e messaging engine must be		
e Services	Messaging engine policy assistance	the contra			and an an an		
E Resources	settings	Name	Failover?		Preferred order of servers	Only run on preferred	Is the message store
E Runtime Operations	Step 1.1.1: Select the type	The state of the s	r anorari.	back?	to run on	servers?	configured?
e Security	of message store	CLUSTER 1.0 FCUBS	X00- Yes	Yes	ofss220239Node02:MS_1. ofss222565Node03:MS_2	Yes	(A) No
E Operational policies	-> Step 1.1.7:	CLUSTER 1.0	101-	Yes	ofss222565Node031MS_2.	Yes	
Environment	Configure	ECUBS	Tes	145	ofss220239Node02:MS_1	Tes	<b>∆</b> -No
System administration	messaging engines						
E Users and Groups	(The next step of the wizard						
E Monitoring and Tuning	of the wisard depends on						
E Troubleshooting	decisions made in the current						
Service integration	step)						
Buses     Bervice mapping     Bervices     WS-NotRication	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

VebSphere. software		Welcome
Servers	SIB0131.ConfigureFileStore.displayNa	me
<ul> <li>New server</li> <li>All servers</li> <li>Server Types</li> </ul>	Specify file store properties Provide the properties for the fil	le store
WebSphere application servers     WebSphere proxy servers     On Demand Routers     PHP servers     WebSphere Application Server Community     Edition servers     Generic servers     WebSphere MQ servers     WebSphere MQ servers     Custom HTTP servers     Custom HTTP servers     DataPower     Core Groups Applications	Step 1: Select 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	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 Store Store Store
All 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	Permanent and temporary stores     * Minimum permanent store size     Z00     MB     Unlimited permanent store size     * Maximum permanent store size
Jobs		500 MB
Services		Fernanent store unectory path
Resources • Schedulers • Object pool managers		/scratch/work_area/DEV/JMS/MS_1/
JMS     JDBC     Percurse Adapter	Previous Next Cancel	

8) Click on other message engine and set the FileStore

WebSphere. software							Welcome
View: All tasks	SIB0131.CreateCustomHETopology.d	splayName					
Welcome	Configure messaging engines						
E Guided Activities	Configure the messaging engine	is that will be created wh	nen the serv	ver clus	ster is added as a bus memi	ber,	
- Servers	Step 1: Select server, cluster or	Configure messag	ging engin	nes			
<ul> <li>New server</li> <li>All servers</li> <li>B Servers Types</li> <li>Custers</li> </ul>	server, cluster or WebSphere MQ server Step 1.1: Messaging engine policy assistance		mber. At le	last on	aging engines that will be on e messaging engine must b ing engine.		
WebSphere application server clusters     Proxy server clusters     Generic server clusters	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?
<ul> <li>Cluster topology</li> <li>On Demand Router clusters</li> </ul>	of message store	CLUSTER 1.000- ECUES	Yes	Yes	ofss222565Node03:MS_2, ofss220239Node02:MS_1	Yes	Yes
Dynamic clusters     DataPower	→ Step 1.1.2: Configure messaging	CLUSTER 1.001- FCUBS	Yes	Yes	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	<b>₫</b> -tio
Core Groups	engines						
) Applications	(The next step						
j Jobs	of the wizard depends on						
E Services	decisions made						
Resources	in the current step)						
Schedulers     Object pool managers	Step 2: Summary						
⊞ 3MS	Previous   Next   Cancel						
B 108C							
Resource Adapters	5-1-						
Asynchronous beans  Cache instances							
E Cache Instances							



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

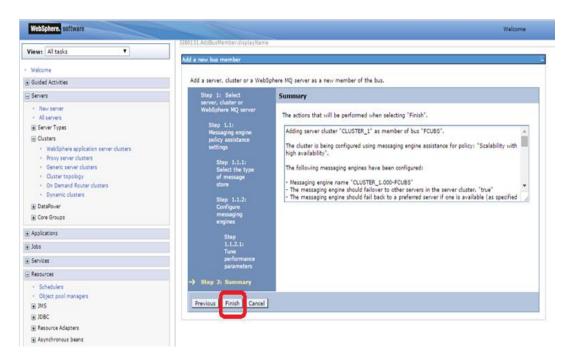
View: All tasks	SEB0131.CreateCustomMETopology.d	isplayName						
Alema ( No cases - )	Configure messaging engines							
• Welcome				10-101				
Guided Activities	Configure the messaging engine	is that will be created wh	en the ser	ver clu	ster is added as a bus memi	ber.		
Servers	Step 1: Select server, cluster or	Configure messag	ing engi	nes				
New server     Alserver     Server Types     Gusters	WebSphere MQ server Step 1.1: Messaging engine policy assistance	The collection table shows the messaging engines that will be created when the server cluster is added as a bus member. At least one messaging engine must be created and message store setting must be configured for each messaging engine.						
<ul> <li>WebSphere application server clusters</li> <li>Proxy server clusters</li> <li>Generic server clusters</li> </ul>	settings Step 1.1.1: Sielect the type	Name	Failover?	Fail back?	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 1.000- FCUBS	Yes	Yes	ofss222565Node03:MS_2, ofss220239Node02:MS_1	Yes	Yes	
<ul> <li>Dynamic clusters</li> <li>DataPower</li> </ul>	→ Step 1.1.2: Configure	CLUSTER 1.001- FCUBS	Yes	Yes	ofss220239Node02:MS_1, ofss222565Node03:MS_2	Yes	Yes	
Core Groups	messaging engines							
Applications	(The next step							
£ Jobs	of the wizard depends on							
Services	decisions made in the current							
E Resources	step)							
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> <li>JDBC</li> </ul>	Step 2: Summary Previous Next Cancel							
Resource Adapters								
Asynchronous beans								
Parka Instances		-						

10) Select Change Heap Sizes and Click on Next

WebSphere. software				Welcome
View: All tasks	WKSettings.displayName			=
Welcome     Guided Activities	Tune application server for messaging	performance.		
Servers  New server All servers All servers Server Types Custers VebSphere application server clusters VebSphere application server clusters Onaric server clusters Generic server clusters Cluster topology On Demand Router clusters Dynamic (custers Dynamic (custers) Core Groups Core Groups	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	In performance parameters o improve performance of messagin lachine settings are advised. By defi inchanged, select the 'Change heap is in machines with how amounts of ph istances, it maybe necessary to redu Change heap sizes Initial JVM heap size	sult the initial and maximum JVM sizes' checkbox to modify the sett ysical memory size or large numb	settings will remain tings to the proposed values. ters of application server
Applications     Jobs     Services	→ Step 1.1.2.1: Tune performance parameters	Maximum JVM heap size	0 MB	760 MB
Resources  Schedulers  Object pool managers  M 3MS  Resource Adapters  Resource Adapters	Step 2: Summary Previous Next Cancel			



#### 11) Click on Finish



#### 12) Click on Save

WebSphere, software			Welcome
iew: All tasks 🔻	Cell=otss222565Cell01, Protile=Dmgr01		
Welcome Guided Activities Guided Activities Servers  New server All servers Custers Custers Guident Gu	Save dir tily to • <u>Retrief</u> changes An option to synchro <u>Preferences</u> .	need to be restarted for these cha	tiple nodes after saving can be enabled in nges to take effect.
Appications Jobs	Select Name 🔿	Type 🗘	Messaging engine policy assistance 🗘
eos iervices	You can administer the following resource		Learning and us hours any state of
esources	CLUSTER 1	Cluster	Enabled (Scalability with high availability)
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> <li>JDBC</li> <li>Resource Adapters</li> <li>Asynchronous beans</li> </ul>	Total I		



## 4.3 **Destination Queue Creation**

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

VebSphere, software		Welcon
	Cell=ofss222565Cell01, Protile=Dmgr01	
New server		
<ul> <li>All servers</li> </ul>	Buses	?
Clusters	Buses > FCUBS	
<ul> <li>WebSphere application server clusters</li> </ul>	A service integration bus supports applications using message-based and service-oriented archit	
<ul> <li>Proxy server clusters</li> </ul>	servers and clusters that have been added as members of the bus. Applications connect to a bu with its bus members.	s at one of the messaging engines asso
Generic server clusters		
<ul> <li>Cluster topology</li> <li>On Demand Router clusters</li> </ul>	Configuration Local Topology	
On Demand Router clusters     Dynamic clusters		
Dynamic clusters		
Core Groups	General Properties	Тороюду
Applications	Name	- Bus members
lobs	FCUBS	<ul> <li>Messaging engines</li> </ul>
	UUID	<ul> <li>Foreign bus connections</li> </ul>
Services	D4AFF53950380C28	<ul> <li>Bootstrap members</li> </ul>
Resources	D4AFF53550380C28	- <u>boostrap members</u>
- Schedulers	Description	Destination resources
<ul> <li>Object pool managers</li> </ul>		<ul> <li>Destinations</li> </ul>
JMS		Mediations
<ul> <li>JMS providers</li> </ul>		- <u>mediacions</u>
<ul> <li>Connection factories</li> </ul>		Services
<ul> <li>Queue connection factories</li> </ul>	Inter-engine transport chain	
<ul> <li>Topic connection factories</li> </ul>		<ul> <li>Inbound services</li> </ul>
Queues		<ul> <li>Outbound services</li> </ul>
Topics	Discard messages	<ul> <li>WS-Notification services</li> </ul>
<ul> <li>Activation specifications</li> </ul>	Configuration reload enabled	<ul> <li>Reliable messaging state</li> </ul>
I IDRC	Configuration reload enabled	

### 2) Click on New

WebSphere. software						Welcome
<ul> <li>New server</li> <li>All servers</li> <li>Server Types</li> <li>Clusters</li> <li>WebSphere application server clusters</li> <li>Proxy server clusters</li> <li>Genetic server clusters</li> <li>Cluster topology</li> <li>On Demand Router clusters</li> <li>Dynamic clusters</li> </ul>	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		
<ul> <li>Object poor managers</li> <li>JMS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> </ul>	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

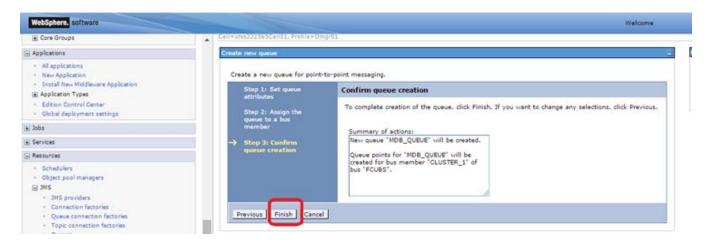
WebSphere. software			Welcome
	Cell=otss222565Cell01, Protile=Dmgi	-01	
Applications	Create new queue		E
<ul> <li>All applications</li> <li>New Application</li> </ul>	Create a new queue for point-to	-point messaging.	
<ul> <li>Install New Middleware Application</li> <li>Application Types</li> </ul>	→ 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	
	Step 3: Confirm queue	Description	
Resources	creation		
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> </ul>			
JMS providers     Connection factories	Next Cancel		
<ul> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> <li>Topics</li> </ul>			

5) Select Bus Member as Cluster and Click on Next



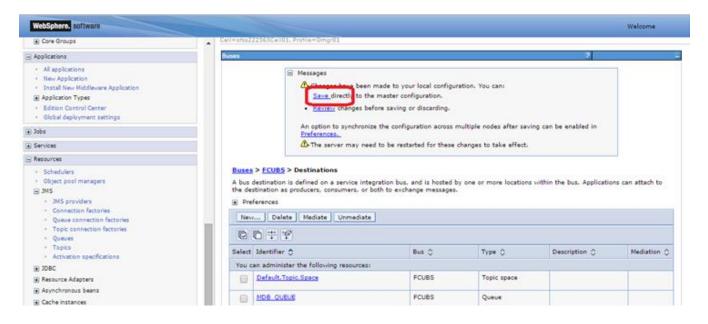
WebSphere. software		Welcome
<ul> <li>New server</li> <li>All servers</li> <li>Berver Types</li> </ul>	Cell=otss222555Cell01, Profile=Dmgr01 Create new queue	Ξ
<ul> <li>Clusters</li> <li>WebSphere application server clusters</li> </ul>	Create a new queue for point-to-point messaging.	
Proxy server clusters     Generic server clusters     Cluster topology     On Demand Router clusters     Dynamic clusters     DataPower     Core Groups	Step 1: Set queue attributes     Assign the queue to a bus member       Step 2: Assign the queue to a bus member     Assign the queue to a bus member that will store and process the messages for the queue Bus member       Step 3: Confirm queue creation     Cluster=CLUSTER_1	eue.
	Previous Next Cancel	
Services		
Resources     Schedulers		

#### 6) Click on Finish





#### 7) Click on Save



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

WebSphere, software							Welcome
Core Groups     Core Groups	Cell=ofss22	22565Cell01, Profile=Dmgr01					
Applications	Buses					?	
All applications     New Application     Install New Middleware Application     Application Types     Edition Control Center     Global decouvement settings	A bus d the des	FCUBS > Destinations destination is defined on a service integra tination as producers, consumers, or both ferences			or more locations with	in the bus. Applications	can attach to
Global deployment settings     Jobs	New	Delete Mediate Unmediate					
		0 # 9					
E Services	Select	Identifier 🔿		Bus C	Type C	Description 🔿	Mediation ()
Resources  Schedulers		an administer the following resources:			111-1		
Object pool managers     JMS		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	R 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
Views All tasks	Cell=otts222363Cell01. Profile=1	Dmgr01		and the	
View: All tasks	Queues			7	
- Welcome					
Guided Activities	Queues		1000		
E Servers		estination for point-to-point mess SCell01. Cluster=CLUSTER_1	saging.		
New server     All servers     Server Types     Server Types     WebSphere application server clusters     Novy server clusters     Generic server clusters     Cluster topology     On Demand Rauter clusters     Dynenic clusters     Dynenic clusters     Dynenic clusters     Core Groups     Core Groups	Show scope select Scope specifies the what scope is and Cluster=CLUST Preferences New Delete Cluster=CLUST	tion drop-down list with the all so he level at which the resource de how it works, <u>see the scope set</u> ER_1 •	finition is visible. For detailed		
Applications	Select Name O	JNDI name 🔿	Provider 🗘	Description 0	Scope 🗘
* Jobs	None				
E Services	Total 0				
Resources					
Schedulers     Object pool managers     JMS     JMS providers     Connection factories     Queue connection factories     Queues					



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

WebSphere, software	Welcome
Views (All tasks 🔹	Cell=sts:22255Cell01, Prafile=Emgr01 Queues 2
Welcome	
Guided Activities	Queues > Select JMS resource provider
E Servers	Scope cells:ofss222565Cell01:clusters:CLUSTER_1
New server     Al servers     Server Types     Server Types     Clusters     WebSphere application server clusters     Proxy server clusters     Cluster topology     On Demand Router clusters     Dynamic clusters     Dynamic clusters     DataPower     Core 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     José normalisen	



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

anterspinates software	weicome
	Cell=otss222565Cell01, Prohle=Dmgr01
Applications	Queues ?
All applications     New Application     Install New Middleware Application     Application Types     Edition Control Center     Global deployment settings	<u>Queues</u> > 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	
	General Properties
Resources	Administration
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> <li>Topics</li> <li>Activation specifications</li> <li>JDBC</li> <li>Resource Adapters</li> <li>Asynchronous beans</li> <li>Cache instances</li> <li>Mal</li> </ul>	Scope Cluster=CLUSTER_1 Provider Default messaging provider  * Name MOB_QUEVE * JND1 name MOB_QUEVE Description
URL	
Resource Environment	Connection
Runtime Operations	Bus name
<ul> <li>Security</li> </ul>	FCUBS
Operational policies	+ Queue name
Environment	MDB_QUEVE T
Curtam administration	Delivery mode

4) Similarly create other Queue's required

WebSphere. software						Welcome
<ul> <li>New server</li> <li>All servers</li> <li>Server Types</li> </ul>	Cell=otss222	2565Cell01, Profile=Dmgr01				?
	Scop Ø	ueue is used as a destinati e: Cell=ofss222565Cello Show scope selection dro Scope specifies the leve what scope is and how it Cluster=CLUSTER_1	on for point-to-point messaging 1, Cluster=CLUSTER_1 up-down list with the all scopes 1 at which the resource definitio t works, <u>see the scope settings</u> <b>v</b>	option n is visible. For detailed i	nformation on	
ervices lesources	New C	Delete				
Schedulers Object pool managers		Name 🛟 n administer the following	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
<ul> <li>JMS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> </ul>		MDB QUEUE	MDB_QUEUE MDB_QUEUE_DLQ	Default messaging provider Default messaging provider		Cluster=CLUSTER_1
<ul> <li>Queues</li> <li>Topics</li> <li>Activation specifications</li> </ul>		MDB QUEUE RESPONSE	MDB_QUEUE_RESPONSE	Default messaging provider		Cluster=CLUSTER_:
JDBC Resource Adapters Asynchronous beans Cache instances	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     Al servers     Al servers     Server Types     Clusters     WebSphere application server clusters     Proxy server clusters     Claster topology     On Demand Router clusters     Dynamic clusters     Dynamic clusters     DataPower     Core Groups	·	messaging. E Scoper Cell=ofss2225 Show scope sele Scope specifies	ries v is used to create connections to 1 65Cell01. Cluster=CLUSTER_1 ction drop-down list with the all so the level at which the resource de nd how it works. see the scope set	copes option finition is visible. For detailed		point-to-point
+) Applications						
±) Jobs		Preferences				
E Services		New Delete				
Resources		00 # 9				
Schedulers     Object pool managers		Select Name 🗢	JNDI name 🗘	Provider 🔿	Description 🗘	Scope 🗘
B JMS		None				
JMS providers     Connection factories     Queue connection factories		Total 0				

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

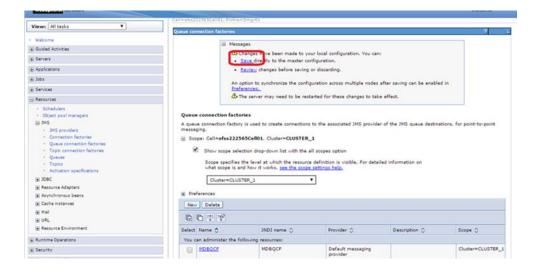
WebSphere. software		Welcome
<ul> <li>New server</li> <li>All servers</li> <li>Server Types</li> <li>Clusters         <ul> <li>WebSphere application server clusters</li> <li>Proxy server clusters</li> <li>Generic server clusters</li> </ul> </li> </ul>	Cell=otss222565Cell01, Profile=Dmgr01         Queue connection factories         Queue connection factories > Select JMS resource provider         Scope       cells:ofss222565Cell01:clusters:CLUSTER_1	2 -
Cluster topology     On Demand Router clusters     Dynamic clusters     DataPower     Core Groups     Core Groups     Applications	Select the provider with which to create the Queue connection factory. The following providers support t available at the selected scope. Default messaging provider WebSphere MQ messaging provider	he selected resource type and are
<ul> <li>Jobs</li> <li>Services</li> </ul>	OK Cancel	
Resources  Schedulers  Object pool managers  JMS  JMS  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	7 .
• 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 of Use queue connection factory administrative objects to manage JMS queue connection factories for th	
Applications	Configuration	
(€ Jobs		
Services		
Resources	General Properties	Additional Properties
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> <li>Topics</li> <li>Activation specifications</li> <li>DBC</li> <li>Resource Adapters</li> <li>Asynchronous beans</li> <li>Cache instances</li> <li>Mail</li> <li>URL</li> <li>Resource Environment</li> </ul>	Administration Scope Cluster=CLUSTER_1 Provider Default messaging provider + Name MDBQCF + JNDI name MDBQCF Description Category	Connection pool properties  Related Items     2AAS - J2C authentication data     Buses
Runtime Operations		
(≟) Security		
⊕ Operational policies	connection	
Environment	* Bus name	
(★) System administration	FCUBS T	
( € Users and Groups	larget	
Monitoring and Tuning	Taratha	
Troubleshooting	Target type 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=ots	s222565Cell01, Profile=Dmgr01			
View: All tasks	Applicat	ion servers			2
Welcome					
E Guided Activities	Арр	lication servers > <u>MS_1</u> > Ports			
-	Spec	ifies the TCP/IP ports this server uses for connec	tions.		
Servers		references			
<ul> <li>New server</li> </ul>					
<ul> <li>All servers</li> </ul>	Ne	ew Delete			
Server Types					
<ul> <li>WebSphere application servers</li> </ul>	U.				
<ul> <li>WebSphere proxy servers</li> </ul>	Sele	ct Port Name 👌	Host 🔿	Port ()	Transport Details 🔿
On Demand Routers		*	· · · · · ·	· · · · · · ·	
PHP servers	You	can administer the following resources:			
<ul> <li>WebSphere Application Server Community Edition servers</li> <li>Generic servers</li> </ul>		BOOTSTRAP ADDRESS	ofss220239.in.oracle.com	9814	No associated transports
WebSphere MO servers		CSIV2 SSL MUTUALAUTH LISTENER ADDRE	ofss220239.in.oracle.com	9431	No associated transports
Web servers		,			
Apache servers		CSIV2 SSL SERVERAUTH LISTENER ADDRE	ofss220239.in.oracle.com	9430	No associated transports
Custom HTTP servers		·			
Clusters		DCS UNICAST ADDRESS	*	9362	View associated transport
<ul> <li>WebSphere application server clusters</li> </ul>		·			
Proxy server clusters					
Generic server clusters		IPC CONNECTOR ADDRESS	localhost	9640	No associated transports
Cluster topology					
<ul> <li>On Demand Router clusters</li> </ul>		ORB LISTENER ADDRESS	ofss220239.in.oracle.com	9108	No associated transports
<ul> <li>Dynamic clusters</li> </ul>					
DataPower		OVERLAY TCP LISTENER ADDRESS	*	11024	No associated transports
		OVERLAY UDP LISTENER ADDRESS	*	11023	No associated transports
Applications					
Jobs		SAS SSL SERVERAUTH LISTENER ADDRESS	ofss220239.in.oracle.com	9429	No associated transports
) Services		SIB ENDPOINT ADDRESS	*	7284	View associated transport
Resources					
Schedulers		SIB ENDPOINT SECURE ADDRESS	*	7293	View associated transport
<ul> <li>Object pool managers</li> </ul>					
■ JMS					
<ul> <li>JMS providers</li> </ul>		SIB MQ ENDPOINT ADDRESS	*	5565	View associated transport
<ul> <li>Connection factories</li> </ul>					
<ul> <li>Queue connection factories</li> </ul>			*		
<ul> <li>Topic connection factories</li> </ul>		SIB MQ ENDPOINT SECURE ADDRESS	*	5585	View associated transport
Queues					
<ul> <li>Topics</li> </ul>		SIP DEFAULTHOST	*	5074	View associated transport
<ul> <li>Activation specifications</li> </ul>		SIP DEFROETHOST		3074	view associated transport
± 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

ofss 222565: 7281: Bootstrap Basic Messaging, of ss 220239: 7284: Bootstrap Basic Messaging and the statement of the statem



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

Hepophieter Suitward					welcome			
	Cell=otss222565Cell01, Protile	e=Dmgr01						
View: All tasks	Queue connection factories				2			
- Welcome								
Guided Activities	Queue connection fact							
(±) Servers	A queue connection facto messaging.	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=ofss222	Gorpe: Cell=ofss222565Cell01, Cluster=CLUSTER_1						
🛨 Jobs	Show scope sel	Show scope selection drop-down list with the all scopes option						
Services	Scope specifies	s the level at which the resource	definition is visible. For detailed	information on				
Resources		what scope is and how it works, see the scope settings help.						
<ul><li>Schedulers</li><li>Object pool managers</li></ul>	Cluster=CLU	Cluster=CLUSTER_1						
∃ JMS								
<ul> <li>JMS providers</li> <li>Connection factories</li> </ul>	New Delete	New Delete						
<ul> <li>Queue connection factories</li> <li>Topic connection factories</li> </ul>	00 44 42							
<ul> <li>Queues</li> <li>Topics</li> </ul>	Select Name 💠	JNDI name 🗇	Provider 🗇	Description 🗘	Scope 🗘			
<ul> <li>Activation specifications</li> </ul>	You can administer the	following resources:						
∃ JDBC	MDBQCF	MDBQCF	Default messaging		Cluster=CLUSTER_1			
			provider					
	Total 1							
Cache instances	Iotal 1							

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

WebSphere, software		Welcome
View: All tasks    Welcome Guided Activities Servers	Category	
<ul> <li>New server</li> <li>All servers</li> <li>Server Types</li> <li>WebSphere application servers</li> <li>WebSphere proxy servers</li> <li>On Demand Routers</li> <li>PHP servers</li> <li>WebSphere Application Server Community Edition servers</li> <li>Generic servers</li> <li>WebSphere MQ servers</li> <li>Web servers</li> <li>Apache servers</li> </ul>	Connection   * Bus name FCUBS ▼  Target Target Bus member name ▼ Target significance Preferred ▼	
<ul> <li>Custom HTTP servers</li> <li>Clusters</li> <li>WebSphere application server clusters</li> <li>Proxy server clusters</li> <li>Generic server clusters</li> <li>Cluster topology</li> <li>On Demand Router clusters</li> <li>Dynamic clusters</li> <li>Dynamic clusters</li> <li>DataPower</li> <li>Core Groups</li> </ul>	Provider endpoints ofss222565;7281:BootstrapBasicMessaging,ofss220239;7284:BootstrapBas icMessaging	
Applications   Jobs  Services  Schedulers  Object pool managers  JMS  JMS  JMS  JMS  JMS  Connection factories	Quality of Service          Nonpersistent message reliability         Express nonpersistent         Persistent message reliability         Reliable persistent	



## 5.3 JMS Activation Specifications for Cluster

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

View:     All tasks       • Welcome     JMS providers       ⊕ Guided Activities     A JMS providers       ⊕ Servers     Grided Activities       ⊕ Applications     Grided Scope:       ⊕ Jobs     Image: Scope:       ⊕ Services     Scope:	ider enables messaging based on th stinations. <b>=All scopes</b> ihow scope selection drop-down list	with the all scopes option he resource definition is visible. For det	? ides J2EE connection factories to create connection ailed information on
Welcome     Mission	ider enables messaging based on th stinations. <b>=All scopes</b> :how scope selection drop-down list Scope specifies the level at which th	with the all scopes option he resource definition is visible. For det	
Welcome     JMS provi     Guided Activities     A JMS provi     A JMS provi     A JMS prov     for JMS det     Gopter     Jobs     Scope:     Services     Sobe	ider enables messaging based on th stinations. <b>=All scopes</b> :how scope selection drop-down list Scope specifies the level at which th	with the all scopes option he resource definition is visible. For det	
A JMS prov B Servers A JMS prov For JMS des A phplications S coope: B Jobs Ø Ø s B Services S S coope:	ider enables messaging based on th stinations. <b>=All scopes</b> :how scope selection drop-down list Scope specifies the level at which th	with the all scopes option he resource definition is visible. For det	
A JMS prov g Servers for JMS det g Applications g Jobs g Services g g	stinations. <b>= All scopes</b> show scope selection drop-down list Scope specifies the level at which th	with the all scopes option he resource definition is visible. For det	
B Applications B Jobs B Services B Applications B Services B Services	<b>=All scopes</b> how scope selection drop-down list Scope specifies the level at which th	ne resource definition is visible. For det	siled information on
e) Jobs es	how scope selection drop-down list Scope specifies the level at which th	ne resource definition is visible. For det	ailed information on
B) Services	Scope specifies the level at which th	ne resource definition is visible. For det	ailed information on
			ailed information on
Resources	what scope is and how it works, see		
		the scope settings help.	
<ul> <li>Schedulers</li> </ul>	All scopes	T	
Object pool managers			
JMS     JMS providers	nces		
Connection factories	Delete		
Queue connection factories	***		
Topic connection factories     Queues	<u>+</u> +	1	
Topics     Select Nar	ne 🗘	Description 🗘	Scope 🗘
Activation specifications     You can a	dminister the following resources:		
JDBC     De	fault messaging provider	Default messaging provider	Node=ofss222565Node03,Server=server1
Resource Adapters	fault messaging provider	Default messaging provider	Node=ofss222565CellManager01
E Asynchronous beans	rault messaging provider	Derault messaging provider	Node=ofss222565CellManager01
Cache instances De	fault messaging provider	Default messaging provider	Node=ofss220239Node02,Server=server1
Mail  URL  Date			
Resource Environment	fault messaging provider	Default messaging provider	Node=ofss222565Node03
De	fault messaging provider	Default messaging provider	Node=ofss220239Node02
Runtime Operations			
Security	fault messaging provider	Default messaging provider	Node=ofss222565Node03,Server=MS_2
Operational policies	C. D	Defents and the	
Environment	fault messaging provider	Default messaging provider	Cell=ofss222565Cell01
System administration	fault messaging provider	Default messaging provider	Node=ofss220239Node02,Server=MS_1
Users and Groups De	fault messaging provider	Default messaging provider	Node=ofss222565CellManager01,Server=dmgr
Monitoring and Tuning			
Performance Monitoring Infrastructure (PMI)     Request metrics	fault messaging provider	Default messaging provider	Cluster=CLUSTER_1

2) Under Additional Properties, click Activation specifications



WebSphere. software		Welcome
View: All tasks	Cell=ofss222565Cell01, Prohle=Dmgr01 3MS providers	7 -
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 JMS destinations.           Configuration	e connections for
Services   Resources	General Properties Additional Properties	
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>JMS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> <li>Topics</li> <li>Activation specifications</li> <li>DBC</li> <li>Resource Adapters</li> </ul>	Scope     - Connection factories       Cluster=CLUSTER_1     - Queue connection factories       Name     - Topic connection factories       Default messaging provider     - Queues       Default messaging provider     - Topic       Default messaging provider     - Activation specifications	

### 3) Click on New

WebSphere. software					Welcome
View: All tasks	Cell=otss222565Cell01, Protile=D	ngr01			?
Welcome     Guided Activities     Servers     Applications     Jobs		essaging provider > Activation is associated with one or more m		ovides configuration necessary t	or them to receive
	Q C # \$				
Resources     Schedulers     Object pool managers     JMS     JMS providers     Connection factories     Queue connection factories     Topic connection factories     Topics     Topics     Activation specifications     JDBC     Resource Adapters     JAspechronous beans	Select Name 🛟 None	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘
	Total 0				

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



WebSphere. software		Welcom
Cell=otss22	2565Cell01, Profile=Dmgr01	
/iew: All tasks		
JMS provide	215	
	oviders > Default messaging provider > Activation specifications > New	
A JMS a	activation specification is associated with one or more message-driven beans and prov	ides the configuration necessary for then
	messages.	
Applications Configu	uration	
Jobs		
Services		
Resources Ger	neral Properties	
Schedulers	a destruitate atom	Related Items
<ul> <li>Object pool managers</li> </ul>	Administration	
∃ JMS	Scope	<ul> <li>JAAS - J2C authentication data</li> </ul>
<ul> <li>JMS providers</li> </ul>	Cluster=CLUSTER_1	Buses
<ul> <li>Connection factories</li> </ul>	Provider	<ul> <li>Buses</li> </ul>
<ul> <li>Queue connection factories</li> </ul>		
<ul> <li>Topic connection factories</li> </ul>	Default messaging provider	
Queues	* Name	
Topics	MDB_Listener	
<ul> <li>Activation specifications</li> </ul>		
E JDBC	* JNDI name MDB Listener	
Resource Adapters	HDB_ciscener	
Asynchronous beans	Description	
E Cache instances		
∃ URL		
	6	
Resource Environment		
untime Operations	Destination	
ecurity	* Destination type	
perational policies	Queue 🔻	
nvironment	* Destination JNDI name	
ystem administration	MDB_QUEUE	
Jsers and Groups	Message selector	
lonitoring and Tuning		
	*_Bus name	
Performance Monitoring Infrastructure (PMI)     Request metrics	FCUBS V	
Performance Viewer		
) renormance viewel	Acknowledge mode	
roubleshooting	Auto-acknowledge 🔻	
ervice integration	Target	
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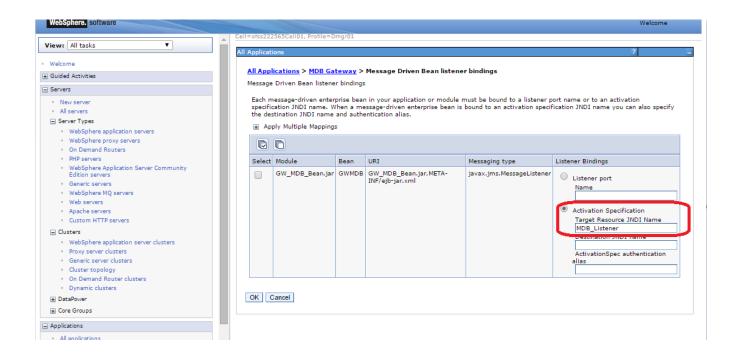
### 5) Click on Save

WebSphere, software						
					Welcome	
View: All tasks	Cell=otss222565Cell01, Profile=Dmgr01 JMS providers				?	
Welcome     Guided Activities     Servers     Applications     Jobs     Services	Messages  Messages  Schanges  Save_dir  Review	name been made to your loca ec y to the master configural changes before saving or discu synchronize the configuration	cion. arding.	r saving can be enabled in		
t Services ∃ Resources		- er may need to be restarted f	or these changes to take eff	ect.		
<ul> <li>Schedulers</li> <li>Object pool managers</li> <li>MS</li> <li>JMS providers</li> <li>Connection factories</li> <li>Queue connection factories</li> <li>Topic connection factories</li> <li>Queues</li> <li>Topics</li> <li>Activation specifications</li> <li>BOBC</li> <li>Resource Adapters</li> <li>Asynchronous beans</li> <li>Cache instances</li> <li>Mail</li> </ul>	JMS 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.         Image: Preferences         Image: Preferences         Image: Preferences         Image: Preferences					
	Select Name 🛟	JNDI name 🗘	Provider 🗘	Description 🗘	Scope 🗘	
	MDB Listener	MDB_Listener	Default messaging provider		Cluster=CLUSTER_1	
	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.



## 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
- 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);

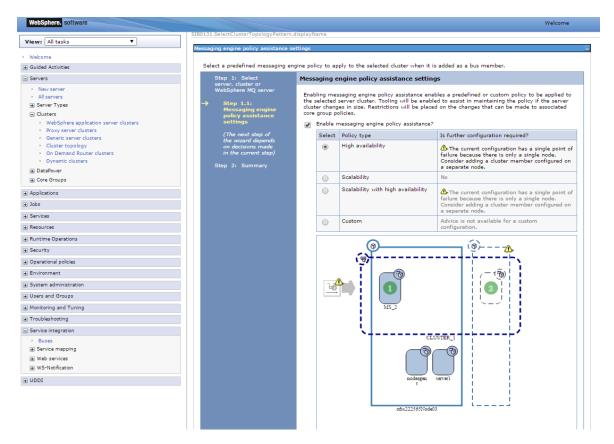


```
try {
    jmsq.init(ico, QUEUE);
    jmsq.sendMessage(messageText);
} catch (JMSException jmse) {
    jmse.printStackTrace();
} finally {
    jmsq.close(); }
}
```

}

## 7.2 Warning during Bus Member Creation

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



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





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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

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