



AQ JMS QUEUE CONFIGURATION REHASH WEBSERVICE

Client Name : HongLeon Bank
Project ID : HongLeon Offshore Customizations

Document Control**Change Record**

Date	Name	Version	Change Reference
10-May-2019	Initial Version of the Document	1.0	

Contents

1 INTRODUCTION	4
1.1 Background.....	4
1.2 Organization of Document.....	4
1.3 Acronyms and Abbreviations.....	4
2 AQ JMS Configurations STEPS.....	5
<u>2.1.1 AQ JMS Queue CONFIGURATION</u>	<u>5</u>
<u>2.1.2 STEPS TO Monitor the MDB Application</u>	<u>14</u>
<u>2.1.3 AssumptionS</u>	<u>14</u>

1 INTRODUCTION

1.1 Background

This document details the steps involved in configuring the Queue Mapping that will be used to enhance the system based on the Requirement Specifications document.

This document will be base-lined after completing the review by peers, experts and SQA. The review comments will be incorporated before the document is base-lined.

The audience for this document will be the development groups of FLEXCUBE OFSLL offshore consulting, onsite implementation teams.

1.2 Organization of Document

The first chapter of this document gives an introduction with brief background and organization of the document.

The subsequent chapters give the functional approach for the requirement identified for this release.

1.3 Acronyms and Abbreviations

Acronym	Abbreviation
JMS	Java Messaging Service
AQ	Oracle Advanced Queuing

2 AQ JMS CONFIGURATIONS STEPS

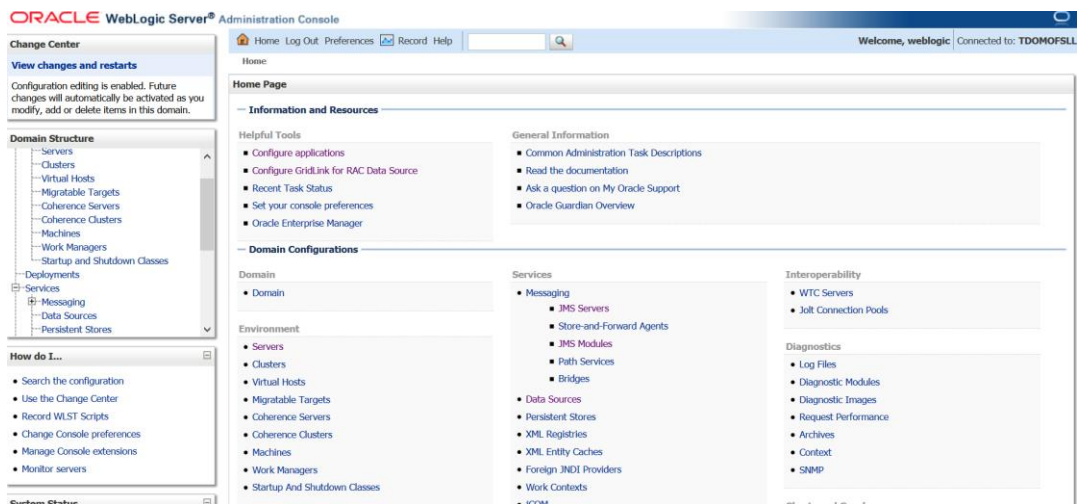
As part of the Rehash Webservice, a new adapter is created to fetch the details from Database to the WebLogic JMS Server. The following section describes the steps required to configure the Database AQ with JMS queue.

2.1.1 AQ JMS QUEUE CONFIGURATION

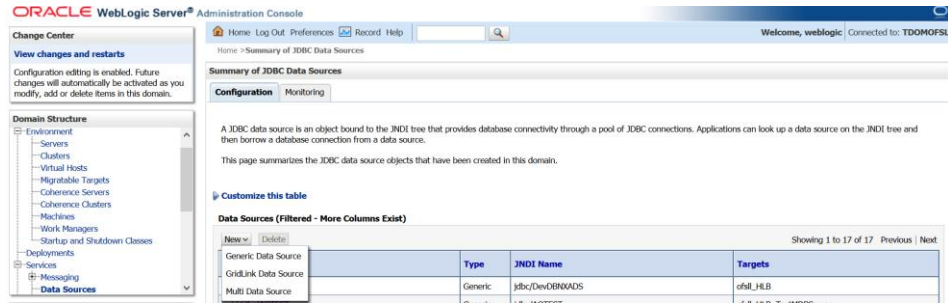
1. Login to WebLogic Admin Console.



2. Select Services -> Datasources



3. Create a new Generic Data source.



4. Create the data source with following details and Click next.

Name : AQJMS_Datasource

JNDI Name : jdbc/aqjms.

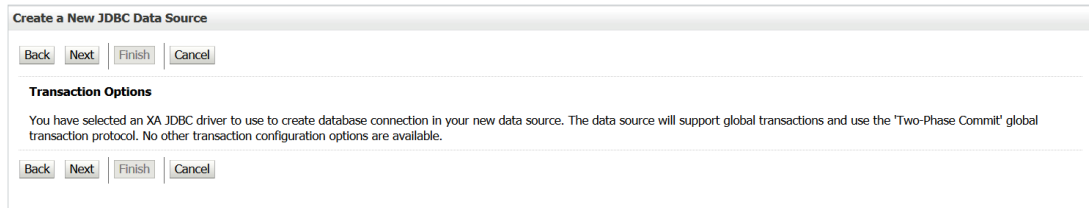
This data source will be used to connect the Foreign Server Queue with the database AQ.

The screenshot shows the 'Create a New JDBC Data Source' wizard. The first step is 'JDBC Data Source Properties'. It asks for the name and JNDI name of the new data source. The 'Name' field is filled with 'AQJMS_Datasource' and the 'JNDI Name' field is filled with 'jdbc/aqjms'. The 'Database Type' is set to 'Oracle'. There are 'Back', 'Next', 'Finish', and 'Cancel' buttons at the bottom.

5. Select oracle's driver (Thin XA) for Instance connections version 9.01. later. Click next.

The screenshot shows the second step of the 'Create a New JDBC Data Source' wizard, 'Database Driver'. It shows the 'Database Type' as 'Oracle' and the 'Database Driver' as '*Oracle's Driver (Thin XA) for Instance connections; Versions:9.0.1 and later'. There are 'Back', 'Next', 'Finish', and 'Cancel' buttons at the bottom.

- Click next.



Create a New JDBC Data Source

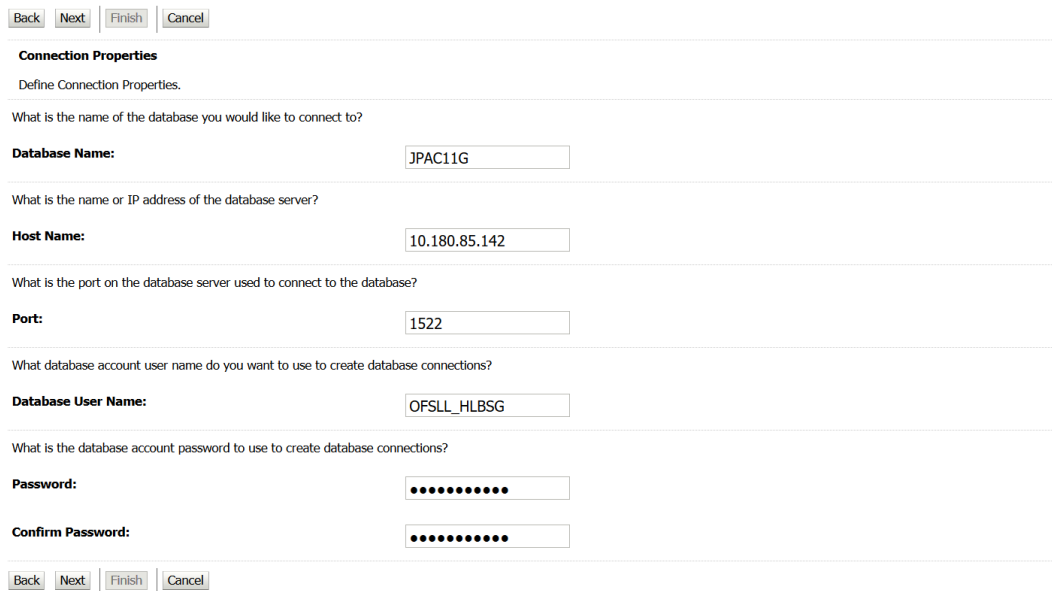
Back Next Finish Cancel

Transaction Options

You have selected an XA JDBC driver to use to create database connection in your new data source. The data source will support global transactions and use the "Two-Phase Commit" global transaction protocol. No other transaction configuration options are available.

Back Next Finish Cancel

- Fill in the appropriate values, create and Test the connection.



Back Next Finish Cancel

Connection Properties

Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name: JPAC11G

What is the name or IP address of the database server?

Host Name: 10.180.85.142

What is the port on the database server used to connect to the database?

Port: 1522

What database account user name do you want to use to create database connections?

Database User Name: OFSSL_HLBSG

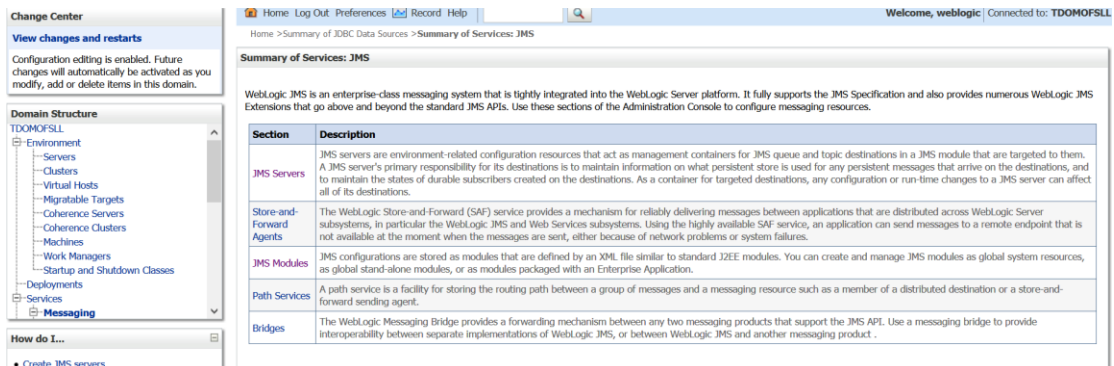
What is the database account password to use to create database connections?

Password:

Confirm Password:

Back Next Finish Cancel

- It should be targeted to the application server where the MDB application is deployed.
- After creation of datasource, new JMS module has to be created. Select Services->Messaging >JMS Modules.



The screenshot shows the WebLogic Administration Console. On the left is the 'Change Center' sidebar with a tree view of the domain structure. The 'Domain Structure' tree shows 'Environment' expanded, with 'Servers' selected. Below the tree is a 'How do I...' section with a link to 'Create JMS servers'. The main content area displays the 'Summary of Services: JMS' page. It includes a table with sections and descriptions for JMS Servers, Store-and-Forward Agents, JMS Modules, Path Services, and Bridges.

Section	Description
JMS Servers	JMS servers are environment-related configuration resources that act as management containers for JMS queue and topic destinations in a JMS module that are targeted to them. A JMS server's primary responsibility for its destinations is to maintain information on what persistent store is used for any persistent messages that arrive on the destinations, and to maintain the states of durable subscribers created on the destinations. As a container for targeted destinations, any configuration or run-time changes to a JMS server can affect all of its destinations.
Store-and-Forward Agents	The WebLogic Store-and-Forward (SAF) service provides a mechanism for reliably delivering messages between applications that are distributed across WebLogic Server subsystems, in particular the WebLogic JMS and Web Services subsystems. Using the highly available SAF service, an application can send messages to a remote endpoint that is not available at the moment when the messages are sent, either because of network problems or system failures.
JMS Modules	JMS configurations are stored as modules that are defined by an XML file similar to standard J2EE modules. You can create and manage JMS modules as global system resources, as global stand-alone modules, or as modules packaged with an Enterprise Application.
Path Services	A path service is a facility for storing the routing path between a group of messages and a messaging resource such as a member of a distributed destination or a store-and-forward sending agent.
Bridges	The WebLogic Messaging Bridge provides a forwarding mechanism between any two messaging products that support the JMS API. Use a messaging bridge to provide interoperability between separate implementations of WebLogic JMS, or between WebLogic JMS and another messaging product.

JMS Modules


JMS system resources are configured and stored as modules similar to standard J2EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

This page summarizes the JMS system modules that have been created for this domain.

[Customize this table](#)

JMS Modules

[New](#) [Delete](#) Showing 1 to 1 of 1 Previous | Next

<input type="checkbox"/> Name 	Type
<input type="checkbox"/> AQJMSModule	System

[New](#) [Delete](#) Showing 1 to 1 of 1 Previous | Next

- Create a new JMS module and target it to the application server, where the JDBC connection is targeted. This is the same application server where the application will be deployed.

Create JMS System Module

[Back](#) [Next](#) [Finish](#) [Cancel](#)

The following properties will be used to identify your new module.

JMS system resources are configured and stored as modules similar to standard J2EE modules. Such resources include queues, topics, connection factories, templates, destination keys, quota, distributed queues, distributed topics, foreign servers, and JMS store-and-forward (SAF) parameters. You can administratively configure and manage JMS system modules as global system resources.

* Indicates required fields

What would you like to name your System Module?

* **Name:**

What would you like to name the descriptor file name? If you do not provide a name, a default will be assigned.

Descriptor File Name:

Where would like to place the descriptor for this System Module, relative to the jms configuration sub-directory of your domain?

Location In Domain:

[Back](#) [Next](#) [Finish](#) [Cancel](#)

Create JMS System Module

Back

Next

Finish

Cancel

The following properties will be used to target your new JMS system module.

Use this page to select the server or cluster on which you would like to deploy this JMS system module. You can reconfigure targets later if you wish.

Targets :

Servers
<input type="checkbox"/> AdminServer
<input type="checkbox"/> OFSLI_Dev
<input type="checkbox"/> ofslI_HLB
<input type="checkbox"/> Server-0
<input type="checkbox"/> TestMDBServer

Back

Next

Finish

Cancel

11. Check the following box to create the resources under newly created JMS module.

Create JMS System Module

Back

Next

Finish

Cancel

Add resources to this JMS system module

Use this page to indicate whether you want to immediately add resources to this JMS system module after it is created. JMS resources include queues, topics, connection factories, etc.

☒ Would you like to add resources to this JMS system module?

Back

Next

Finish

Cancel

12. Click on New Button.

Settings for HLBAQJMSModule

Configuration

Subdeployments

Targets

Security

Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name:	HLBAQJMSModule	The name of this JMS system module. More Info...
Descriptor File Name:	jms/hlbaqjmsmodule-jms.xml	The name of the JMS module descriptor file. More Info...

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

[Customize this table](#)

Summary of Resources


New

Delete

Showing 0 to 0 of 0

Previous

Next

<input type="checkbox"/>	Name 	Type	JNDI Name	Subdeployment	Targets
There are no items to display					

New

Delete

Showing 0 to 0 of 0

Previous

Next

13. Select Foreign Server.

Create a New JMS System Module Resource

Back Next Finish Cancel

Choose the type of resource you want to create.

Use these pages to create resources in a JMS system module, such as queues, topics, templates, and connection factories.

Depending on the type of resource you select, you are prompted to enter basic information for creating the resource. For targetable resources, like stand-alone queues and topics, connection factories, distributed queues and topics, foreign servers, and JMS SAF destinations, you can also proceed to targeting pages for selecting appropriate server targets. You can also associate targetable resources with subdeployments, which is an advanced mechanism for grouping JMS module resources and the members to server resources.

<input type="radio"/> Connection Factory	Defines a set of connection configuration parameters that are used to create connections for JMS clients. More Info...
<input type="radio"/> Queue	Defines a point-to-point destination type, which are used for asynchronous peer communications. A message delivered to a queue is distributed to only one consumer. More Info...
<input type="radio"/> Topic	Defines a publish/subscribe destination type, which are used for asynchronous peer communications. A message delivered to a topic is distributed to all topic consumers. More Info...
<input type="radio"/> Distributed Queue	Defines a set of queues that are distributed on multiple JMS servers, but which are accessible as a single, logical queue to JMS clients. More Info...
<input type="radio"/> Distributed Topic	Defines a set of topics that are distributed on multiple JMS servers, but which are accessible as a single, logical topic to JMS clients. More Info...
<input type="radio"/> Foreign Server	Defines foreign messaging providers or remote WebLogic Server instances that are not part of the current domain. More Info...
<input type="radio"/> Quota	Controls the allotment of system resources available to destinations. More Info...

14. Input the Name and click Next.

Create a New JMS System Module Resource

Back Next Finish Cancel

Foreign Server Properties

The following properties will be used to identify your new foreign server. The current module is HLBAQJMSModule.

* Indicates required fields

* **Name:**

Back Next Finish Cancel

15. It should be default targeted to the same Application Server where JDBC, JMS Servers are targeted and click Finish.

Create a New JMS System Module Resource

Back Next Finish Advanced Targeting Cancel

The following properties will be used to target your new JMS system module resource

Use this page to view and accept the default targets where this JMS resource will be targeted. The default targets are based on the parent JMS system module targets. If you do not want to accept the default targets, then click **Advanced Targeting** to use the subdeployment mechanism for targeting this resource.

The following JMS module targets will be used as the default targets for your new JMS system module resource. If the module's targets are changed, this resource will also be retargeted appropriately.

Targets :

Servers
<input checked="" type="checkbox"/> TestMDBServer

Back Next Finish Advanced Targeting Cancel

Settings for HLBAQJMSModule

Configuration Subdeployments Targets Security Notes

This page displays general information about a JMS system module and its resources. It also allows you to configure new resources and access existing resources.

Name: HLBAQJMSModule The name of this JMS system module. [More Info...](#)

Descriptor File Name: jms/hlbaqjmsmodule-jms.xml The name of the JMS module descriptor file. [More Info...](#)

This page summarizes the JMS resources that have been created for this JMS system module, including queue and topic destinations, connection factories, JMS templates, destination sort keys, destination quota, distributed destinations, foreign servers, and store-and-forward parameters.

[Customize this table](#)

Summary of Resources

[New](#) [Delete](#) Showing 1 to 1 of 1 Previous | Next

<input type="checkbox"/>	Name	Type	JNDI Name	Subdeployment	Targets
<input type="checkbox"/>	HLBAQJMSForeignServer	Foreign Server	N/A	Default Targetting	TestMDBServer

[New](#) [Delete](#) Showing 1 to 1 of 1 Previous | Next

16. Select General and input the following values in the new JMS module.

Name : <New Connection factory name>

JNDI initial context Factory : oracle.jms.AQjmsInitialContextFactory

JNDI Properties : datasource=jdbc/adjms

Settings for HLBAQJMSForeignServer

Configuration Subdeployment Notes

General Destinations Connection Factories

[Save](#)

A foreign server represents a JNDI provider that resides outside a WebLogic Server. It contains information that allows WebLogic Server to reach the remote JNDI provider. This way, a number of connection factory and destination objects (queues or topics) can be defined on one JNDI directory. Use this page to configure a foreign server.

Name: HLBAQJMSForeignServer The name of this foreign server. [More Info...](#)

JNDI Initial Context Factory: oracle.jms.AQjmsInitialContextFactory The name of the class that must be instantiated to access the JNDI provider. This class name depends on the JNDI provider and the vendor that are being used. [More Info...](#)

JNDI Connection URL: The URL that WebLogic Server will use to contact the JNDI provider. The syntax of this URL depends on which JNDI provider is being used. For WebLogic JMS, leave this field blank if you are referencing WebLogic JMS objects within the same cluster. [More Info...](#)

JNDI Properties Credential: Any Credentials that must be set for the JNDI provider. These Credentials will be part of the properties that will be passed directly to the constructor for the JNDI provider's InitialContext class. Note: For secure credential management, use the Credential field. Using the Properties field results in the credential being stored and displayed as originally entered. [More Info...](#)

Confirm JNDI Properties Credential:

JNDI Properties: datasource=jdbc/adjms Any additional properties that must be set for the JNDI provider. These properties will be passed directly to the constructor for the JNDI provider's InitialContext class. [More Info...](#)

☒ **Default Targeting Enabled** Specifies whether this JMS resource defaults to the parent module's targeting or uses the subdeployment targeting mechanism. [More Info...](#)

17. Click save.

Settings for HLBAQJMSForeignServer

Configuration Subdeployment Notes

General Destinations **Connection Factories**

A foreign connection factory represents a connection factory that resides on another server, and which is accessible via JNDI. A remote connection factory can be used to refer to another instance of WebLogic Server running in a different cluster or server, or a foreign provider, as long as that provider supports JNDI. This page summarizes the foreign connection factories that have been created for this domain.

[Customize this table](#)

Foreign Connection Factories (Filtered - More Columns Exist)

[New](#) [Delete](#) Showing 0 to 0 of 0 Previous | Next

<input type="checkbox"/>	Name	Local JNDI Name	Remote JNDI Name
There are no items to display			

[New](#) [Delete](#) Showing 0 to 0 of 0 Previous | Next

18. Select Connection Factory tab under the Foreign Server and click save.

Local JNDI Name : MDB application will use a local connection factory to establish a Connection with the Database AQ. The same local JNDI should be updated in the <connection-factory-jndi-name> of MDB application's weblogic-ejb-jar.xml and as annotation in the MDB application like example below.

@ActivationConfigProperty(propertyName="connectionFactoryJndiName", propertyValue="/jms/aq/HLBLoanStatusAQQCF").

Remote JNDI Name : XAQueueConnectionFactory

Create a New Foreign JMS Connection Factory

OK

Cancel

Foreign Connection Factory Properties

The following properties will be used to identify your new foreign connection factory.

* Indicates required fields

* Name:

HLBAQJmsForeignQCF

Local JNDI Name:

/jms/aq/HLBLoanStatusAQQCF

Remote JNDI Name:

XAQueueConnectionFactory

OK

Cancel

Settings for HLBQAQJMSForeignServer

Configuration

Subdeployment

Notes

General

Destinations

Connection Factories

A foreign connection factory represents a connection factory that resides on another server, and which is accessible via JNDI. A remote connection factory can be used to refer to another instance of WebLogic Server running in a different cluster or server, or a foreign provider, as long as that provider supports JNDI.

This page summarizes the foreign connection factories that have been created for this domain.

Customize this table

Foreign Connection Factories (Filtered - More Columns Exist)

New

Delete

Name	Local JNDI Name	Remote JNDI Name
<input type="checkbox"/> HLBQAQJmsForeignQCF	/jms/aq/HLBLoanStatusAQQCF	XAQueueConnectionFactory

New

Delete

Showing 1 to 1 of 1 Previous | Next

19. Select Destinations tab under the Foreign Server to configure and bind the local queue with Database AQ and save the Destination.

Settings for HLBQAQJMSForeignServer

Configuration

Subdeployment

Notes

General

Destinations

Connection Factories

A foreign destination (topic or queue) can be found on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

This page summarizes the foreign destinations that have been created for this domain.

Customize this table

Foreign Destinations

New

Delete

Name	Local JNDI Name	Remote JNDI Name
There are no items to display		

New

Delete

Showing 0 to 0 of 0 Previous | Next

Local JNDI Name : This is the queue name which will be used by the MDB application to listen for the messages from Database AQ.

Remote JNDI Name : This is the AQ which is created in the Database. It should follow the naming convention as follows.

Queues/<Database_AQ_Name>

Create a New Foreign JMS Destination

OK

Cancel

Foreign Destination Properties

The following properties will be used to identify your new foreign destination.

* Indicates required fields

* Name:

HLBAQJMSDestination

Local JNDI Name:

/jms/aq/HLB_LOAN_STATUS_QUEUE

Remote JNDI Name:

Queues/HLB_LOAN_STATUS_QUEUE

OK

Cancel

Messages

✔ All changes have been activated. However, 1 item must be restarted for the changes to take effect.

Settings for HLBAQJMSForeignServer

Configuration

Subdeployment

Notes

General

Destinations

Connection Factories

A foreign destination (topic or queue) can be found on a remote server. When this destination is looked up on the local server, a look-up will be performed automatically on the remote JNDI directory, and the object will be returned from that directory.

This page summarizes the foreign destinations that have been created for this domain.

Customize this table

Foreign Destinations

New

Delete

Name	Local JNDI Name	Remote JNDI Name
<input type="checkbox"/> HLBAQJMSDestination	/jms/aq/HLB_LOAN_STATUS_QUEUE	Queues/HLB_LOAN_STATUS_QUEUE

New

Delete

Showing 1 to 1 of 1

Previous

Next

This completes the JMS and AQ binding. After configuring this binding, MDB application should be deployed in the same application server where this binding is targeted.

Post successful deployment ensure that the MDB bean is in connected state.

2.1.2 STEPS TO MONITOR THE MDB APPLICATION

20. Select Deployment and select the MDB application.

<input type="checkbox"/>	TestSSL_Test	Active	✔ OK	Enterprise Application	100
<input type="checkbox"/>	TestAQJMS	Active	✔ OK	EJB	100
<input type="checkbox"/>	UAT20170419	Active	✔ OK	Enterprise Application	100
<input type="checkbox"/>	vsl-vls	Active	✔ OK	Enterprise Application	5

21. Select MDB Bean.

<input type="checkbox"/>	TestAQJMS	Active	✔ OK	EJB	100
<input type="checkbox"/>	EJBs				
<input type="checkbox"/>	AQJMSMDBBean			EJB	
<input type="checkbox"/>	Web Services				
<input type="checkbox"/>	None to display				
<input type="checkbox"/>	UAT20170419	Active	✔ OK	Enterprise Application	100
<input type="checkbox"/>	vsl-vls	Active	✔ OK	Enterprise Application	5

22. Click on Monitoring tab.

Settings for AQJMSMDBBean

Overview Configuration Security Control Testing Monitoring

Use this page to view basic information about the selected Enterprise Java Bean (EJB).

Application Name:

TestAQJMS

The name of this application deployment. [More Info...](#)

EJB Module Name:

TestAQJMS.jar

The name of this module. [More Info...](#)

Bean Name:

AQJMSMDBBean

The name of this bean. [More Info...](#)

23. Under Running tab, value of Connection status should be connected, and status should be running.

Settings for AQJMSMDBBean

Overview Configuration Security Control Testing Monitoring

Running Workload Coherence

This page displays a variety of statistics about the performance of the message-driven EJB. Use the runtime information for tuning and debugging the EJB.

[Customize this table](#)

Message-driven EJBs (Filtered - More Columns Exist)

Name ↕	EJB Name	Server	Beans In Use Count	Waiter Current Count	Timeout Total Count	Access Total Count	Destroyed Total Count	Connection Status	Destination	JMS Client ID	Status	Last Exception
AQJMSMDBBean_jms/aq/TEST_QUEUE	AQJMSMDBBean	TestMDBServer	0	0	0	1	0	Connected	/jms/aq/TEST_QUEUE		running	

Showing 1 to 1 of 1 Previous | Next

2.1.3 ASSUMPTIONS

1. AQ is created at the Database.
2. Database schema has all the grants required to enqueueing and dequeuing the Message.
3. MDB Application is created and the related deployment descriptors are configured properly.