Configuring Weblogic Server 12c Oracle Banking Trade Finance Release 14.7.0.0.0 Part No. F74393-01

[November] [2022]



Table of Contents

1. IN	NTRODUCTION	
1.1	PURPOSE OF THIS DOCUMENT	
1.2	WEBLOGIC SERVER OVERVIEW	
1.3	PRE-REQUISITES	
2. D	OMAIN CONFIGURATION	
2.1	DOMAIN CREATION	
2.2	PACK AND UNPACK DOMAIN	
2.3	START ADMIN SERVER	
2.4	START NODE MANAGER	
3. C	LUSTER CONFIGURATION	
3.1	MACHINES CONFIGURATION	
3.2	DYNAMIC CLUSTER CREATION	
3.3	MANAGED SERVER TEMPLATE CONFIGURATION	
	3.1 Logging	
	3.2 HTTP Logging	
	3.3 Stuck Tread Max Time	
4. TU	UNING	
4.1	General Parameters	
4.2	JVM TUNING	
5. ST	FART MANAGED SERVERS	
6. D.	ATA SOURCE CREATION AND JDBC CONFIGURATION	
6.1	DATA SOURCE CREATION: NON XA	
6.2	XA DATASOURCE	
6.3	JDBC PARAMETERS TUNING	
7. JN	MS RESOURCE CREATION	
8. O	RACLE WEBLOGIC LOAD BALANCING	
9. FI	REQUENTLY ASKED QUESTIONS	
9.1	MACHINE STATUS IS UNREACHABLE	
9.2	HOW TO RESTART NODE MANAGER?	
9.3	SCALING UP DYNAMIC CLUSTER	
9.4	Session Timeout	



1. Introduction

1.1 Purpose of this Document

The purpose of this document is to explain the steps required for Configuration and applying best practices in cluster mode for

- FCUBS 14.4
- Weblogic Version 12.2.1.4.0
- JDK 1.8.0_241

1.2 WebLogic Server Overview

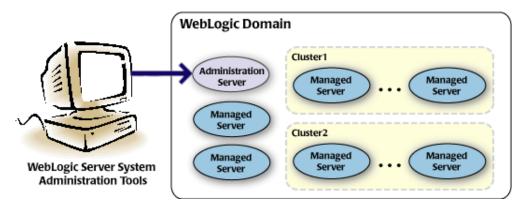
This section of the document provides brief explanation on the main components involved in WebLogic server.

Domain

A domain is the basic administration unit for WebLogic Server instances. A domain consists of one or more WebLogic Server instances (and their associated resources) that is managed with a single Administration Server. Multiple domains can be defined based on different system administrators' responsibilities, application boundaries, or geographical locations of servers. Conversely, a single domain can be used to centralize all WebLogic Server administration activities.

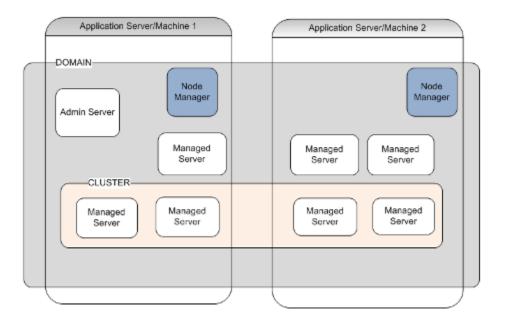
Each WebLogic Server domain must have one server instance that acts as the Administration Server. Administration Server can be used via the Administration Console or using the command line for configuring all other server instances and resources in the domain.

WebLogic Domain Structure





Weblogic 12c Domain Overview



Administration Server

A domain includes one WebLogic Server instance that is configured as an Administration Server. All changes to configuration and deployment of applications are done through the Administration Server. The Administration Server provides a central point for managing the domain and providing access to the WebLogic Server administration tools.

These tools include the following:

- WebLogic Server Administration Console: Graphical user interface to the Administration Server.
- WebLogic Server Node Manager: A Java program that lets you start and stop server instances - both Administration Servers and Managed Servers - remotely, and to monitor and automatically restart them after an unexpected failure.

Admin server start mode needs to be configured as Production Mode.

Managed Server

In a domain, server instances other than the Administration Server are referred to as Managed Servers. Managed servers host the components and associated resources that constitute your applications—for example, JSPs and EJBs.

When a Managed Server starts up, it connects to the domain's Administration Server to obtain configuration and deployment settings. In a domain with only a single WebLogic Server instance, that single server works as both the administration server and managed server.



Node Manager

The Managed Servers in a production WebLogic Server environment are often distributed across multiple machines and geographic locations.

Node Manager is a Java utility that runs as separate process from WebLogic Server and allows you to perform common operations tasks for a Managed Server, regardless of its location with respect to its Administration Server. While use of Node Manager is optional, it provides valuable benefits if your WebLogic Server environment hosts applications with high availability requirements.

If you run Node Manager on a machine that hosts Managed Servers, you can start and stop the Managed Servers remotely using the Administration Console or from the command line. Node Manager can also automatically restart a Managed Server after an unexpected failure.

<u>Machine</u>

A machine in the Weblogic Serve context is the logical representation of the computer that hosts one or more Weblogic Server instances(servers). The Admin Server uses the machine definitions to start remote servers through the Node Managers that run on those servers. A machine could be a physical or virtual server that hosts an Admin or Managed Server that belongs to a domain.

Managed Server Cluster

Two or more Managed Servers can be configured as a WebLogic Server cluster to increase application scalability and availability. In a WebLogic Server cluster, most resources and services are deployed to each Managed Server (as opposed to a single Managed Server,) enabling failover and load balancing.

The servers within a cluster can either run on the same machine or reside in different machines. To the client, a cluster appears as a single WebLogic Server instance.

Dynamic Cluster

A dynamic cluster is any cluster that contains one or more dynamic servers. Each server in the cluster will be based upon a single shared server template. The server template allows you to configure each server the same and ensures that servers do not need to be manually configured before being added to the cluster. This allows you to easily scale up or down the number of servers in your cluster without the need for setting up each server manually. Changes made to the server template are rolled out to all servers that use that template.

You cannot configure dynamic servers individually; there are no server instance definitions in the config.xml file when using a dynamic cluster. Therefore, you cannot override the server template with server-specific attributes or target applications to an individual dynamic server instance.

When configuring your cluster you specify the maximum number of servers you expect to need at peak times. The specified number of server instances is then created, each based upon your server template. You can then start up however many you need and scale up or down over time according to your needs. If you need additional server instances on top of the number you originally specified, you can increase the maximum number of servers instances (dynamic) in the dynamic cluster configuration.



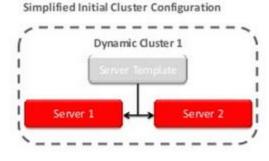
Server Templates

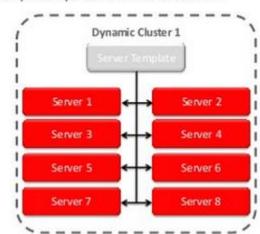
A single server template provides the basis for the creation of the dynamic servers. Using this single template provides the possibility of every member being created with exactly the same attributes. Where some of the server-specific attributes like Servername, listen-ports, machines, etc. can be calculated based upon tokens.

You can pre-create server templates and let Weblogic clone one when a Dynamic Cluster is created.

When none is available a server template is created with the Dynamic Cluster. The name and the listen ports are the only server template attributes that you provide during Dynamic Cluster creation.

Simplified Configuration with Scalability and Elasticity





Simplified Operations for Cluster Scale Out



1.3 Pre-requisites

In this document, we are going to create a domain with two managed servers. The managed servers are going to be created on two different physical servers (nodes). Note that, this document has been prepared based on a test conducted in Linux servers.

This requires Weblogic Server of same version to be installed on both the machines and services.

Environment

2 servers where linux is installed, 1 will be primary where admin console will be running along with managed servers and the other where only managed servers will be.

Softwares

- 1) Oracle Weblogic Server 12.2.1.4 installed on both the machines under same folder structure.
- 2) JDK 1.8 Latest available version installed on both the machines. In this document JDK1.8.0_241 version is used.

Clock Synchronization

The clocks of both the servers participating in the cluster must be synchronized to within one second difference to enable proper functioning of jobs otherwise it will lead to session timeouts.

Enable Graphical User Interface (GUI)

Establish a telnet or SSH connection to primary server. Start X-manager (or any similar tool) in windows desktop. Export DISPLAY environment variable to the machine IP where x-manager is running.

Syntax: export DISPLAY=<ip-address>:<port>

Test using xclock



2. Domain Configuration

2.1 **Domain Creation**

Weblogic domain creation and configuration will be done from primary server.

From primary server, launch the fusion Middleware configuration wizard using the command **config.sh** available under \$WLS_HOME/common/bin directory.

1) In the Welcome screen, select **Create a new domain** option. Enter the domain name and click on **Next**.

Configuration Type		
Configuration Type Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Configuration Summary Configuration Progress End Of Configuration		
Help	< Back	Einish Cancel

2) Select the required templates from Available Templates and click Next.



Templates	
Create Domain Templates Administrator Account Domain Mode and JDK	Create Domain Using Product Templates: Template Categories: All Templates Available Templates
Advanced Configuration <u>Configuration Summary</u> Configuration Progress End Of Configuration	Basic WebLogic Server Domain - 12.1.3.0 [wiserver] * WebLogic Advanced Web Services for JAX-RPC Extension - 12.1.3.0 [oracle_common] WebLogic Advanced Web Services for JAX-WS Extension - 12.1.3.0 [oracle_common] WebLogic Coherence Cluster Extension - 12.1.3.0 [wiserver] WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [wiserver] WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [oracle_common]
	Create Domain Using Custom Template: Template location: /scratch/app/w12c Browse
Help	< <u>Back</u> <u>Next></u> Einish Cancel

3) Specify Administrator User Name and Password.



- The specified credentials are used to access Administration console.
- You can use this screen to define the default WebLogic Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server. Click **Next**.

Administrator Account				
Create Domain	:			
Templates				
Administrator Account				
Domain Mode and JDK				
Advanced Configuration				
Configuration Summary				
Configuration Progress				
U End Of Configuration	Name	weblogic		
	Password	•••••		
	Confirm Password	•••••		
	Must be the same as one number or speci	the password. Password must conta ial character	ain at least 8 alphanumeric charact	ters with at least
	one number or speci	ai criaracter.		
Help			< Back Next > Finish	1 Cancel



4) Select Server Startup as **Production Mode** and the available **JDKs**. Click **Next**.

Domain Mode and JDK	
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Administration Server Node Manager	Domain Mode
Configuration Summary Configuration Progress End Of Configuration	Other JDK Location:
Help	< Back Next > Einish Cancel



5) Select the check box adjacent to Administration Server and Node Manager. Click Next.





6) Specify the Administration Server Listen address and Listen port.

Administration Server				FL			
🐥 Create Domain							
🙏 <u>Templates</u>							
Administrator Account							
Domain Mode and JDK							
Advanced Configuration							
Administration Server	Server Name	AdminServer					
🎍 <u>Node Manager</u>	Listen Address	All Local Addresses					
Configuration Summary	Listen Port	7001					
Configuration Progress							
O End Of Configuration							
	SSL Listen Port	7101					
	\sim						
	Port number mus	st be between 1 and 655	535, and differ	ent from list	en port and coh	ierence p	ort.
Help				< <u>B</u> ack	<u>N</u> ext >	<u>F</u> inish	Cancel

Note: The default Listen port is 7001 and SSL port is 7101. This could be changed to any other available port. Ensure to make a note, of this port since the same is required for launching the Admin console, post domain creation.

Note: Check for the port availability using the command - netstat -anp |grep <Port no>

The next screen displays Node Manager Configuration.



7) Configure Node Manager.

Select **Per Domain Default Location** option from **Node Manager Type.** And in the **Node Manager Credentials**, provide the username and password of the node manager. Click **Next**.

Node Manager		
🐥 Create Domain		
Templates		
Administrator Account		
Domain Mode and JDK		
Advanced Configuration	Node Manager Type	
Administration Server	Pr <u>D</u> omain Default L	Location
Node Manager	○ Per Domain <u>C</u> ustom	Location
Configuration Summary	Node Manager Home	:: [pp/w12c/user_projects/domains/FCUBSDomain/nodemanager] Brows
Configuration Progress	🔿 <u>M</u> anual Node Manag	er Setup
O End Of Configuration	Node Manager Credentia	als
	Username:	weblogic
	Password:	•••••
	Confirm Password:	•••••
	Must be the same as the n	assword. Password must contain at least 8 alphanumeric characters with at leas
	one number or special ch	
Help		<back next=""> Finish Cance</back>
Пењ		< <u>Back</u> <u>Next</u> <u>Finish</u> Cance



8) Verify the details and click **Create**. The domain creation process is initiated and the progress of completion is indicated.

Configuration Summary		
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Administration Server Node Manager Configuration Summary Configuration Progress End Of Configuration	View: Deployment	Name Basic WebLogic Server Domain Description Create a basic WebLogic Server domain Author Oracle Corporation Location /scratch/app/w12c/wlserver/commo
Help	Select Create to accept the above options and start creat above configuration before starting Domain Creation, g the left pane, or by using the Back button.	ting and configuring a new domain. To change the



9) Click Next.





10) The **Configuration Success** message will be displayed as follows:

Configuration Success	
A Create Domain	
Templates	Oracle Weblogic Server Configuration Succeeded
4 Administrator Account	New Domain FCUBSDomain Creation Successful
Oomain Mode and JDK	Domain Location
Advanced Configuration	<pre>/scratch/app/w12c/user_projects/domains/FCUBSDomain</pre>
Administration Server	Admin Server URL
V Node Manager	http://ofss222565:7001/console
Configuration Summary	
Configuration Progress	
Configuration Success	
Help	<u> Back</u> Next > Finish Cancel Ca

The Admin Server console URL is as indicated below:

http://<IP address>:<admin console port>/console

- 1) <IP address >: Host on which domain was created.
- 2) <admin console port> : Port specified in Administration Server configuration page.

In this case the Admin Console URL is: <u>https://<server1hostname>:7101/console</u>



2.2 Pack and Unpack Domain

The domain structure is expected to be copied to the second server during domain creation. To copy the same, you can use pack and unpack utility provided under \$WLSHOME/common/bin.

Pack

Pack domain in primary server:

./pack.sh -managed=true -domain=/scratch/app/wl12c/user_projects/domains/FCUBSDomain - template=/tmp/FCUBSDomain.jar -template_name="FCUBSDomain"

<u>Unpack</u>

Unpack FTP FCBUSDomain.jar in binary mode to secondary server under /tmp area and unpack the domain using unpack utility provided under \$WLSHOME/common/bin

./unpack.sh -domain=/scratch/app/wl12c/user_projects/domains/FCUBSDomain - template=/tmp/FCUBSDomain.jar

2.3 Start Admin server

Admin server is started on the primary server. Login to primary server and navigate to folder \$DOMAIN_HOME/bin and execute startWeblogic.sh.

2.4 Start Node Manager

Node Manager needs to be started on both the servers. Before starting the node mananger update ListenAddress to the Hostname/IP Address of the machine in nodemanager.properties located in folder \$DOMAIN_HOME/nodemanager

To start the node manager login to the servers and navigate to folder \$DOMAIN_HOME/bin and execute **NodeManager.sh**



3. Cluster Configuration

Dynamic Cluster configuration involves below steps

- 1) Machine Configuration
- 2) Dynamic Cluster Creation: In a normal WebLogic Cluster you define Managed Server and add them to Cluster. In Dynamic Cluster, you select number of Servers you want in Cluster and Server Template you wish to assign to Servers in this WebLogic Dynamic Cluster.
- Server template modification: Servers (or Managed Server) that are part of WebLogic Dynamic Cluster will have properties taken from Server Template.
 Modify server template for best practices parameters for Dynamic Servers (part of Dynamic Cluster), you modify Server Template that is applicable to Dynamic Cluster. These settings are applicable to all the managed servers.
- 4) Activate Changes which would automatically create the managed servers (as mentioned in the number of servers required parameter).

Calculate Number of Servers Required:

For every 50 logged in Oracle Banking Trade Finance users require one managed server of size 8GB. i.e. for 300 logged in Oracle Banking Trade Finance users, it is recommended to have 6 managed servers. Based on the logged in users that needs to be supported decide on the number of the managed servers required. This parameter is required later in the dynamic cluster creation.



3.1 Machines Configuration

 Login into Admin Console and navigate to FCUBSDomain → Environment → Machine and click New.

	dministration Console 12c	õ
Change Center	🖆 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Summary of Machines	
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Machines	
Lock & Edit Release Configuration	A machine is the logical representation of the computer that hosts one or more WebLogic Server instances (servers). server in a cluster to which certain tasks, such as HTTP session replication, are delegated. The Administration Server servers.	WebLogic Server uses configured machine names to determine the optimum uses the machine definition in conjunction with Node Manager to start remote
Domain Structure	This page displays key information about each machine that has been configured in the current WebLogic Server don	nain.
FCUBSDomain FCUBSDomain FCUBSTenvironment Servers Coherence Clusters Hachines Virtual Hosts Virtual Hosts Startup and Shutdown Classes Services Services Services Foepolymerability	Customize this table Machines Click the Lock & Edit button in the Change Center to activate all the buttons on this page. New: Clone Delete Name There are no items to display New: Clone Delete	Showing 0 to 0 of 0 Previous Next Type Showing 0 to 0 of 0 Previous Next
Diagnostics		
How do I		
Create and configure machines Assign server instances to machines Clone machines		

2) Enter the Machine Name and click Next.

ORACLE WebLogic Server A	dministration Console 12c		0
Change Center	Denne Log Out Preferences Log Record Help	1.9.	Welcome, webligic Connected to: FCUBSDomain
View changes and restarts	Hore - Summary of Machines		
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Create a New Machine		
Release Configuration	Machine Identity The following properties will be used to identify your new Machine.		
FCUBSDenain FCUBSDenain FCUBSDenain FServers Charters Caterers Caterers Caterers Caterers Caterers Servers Se	What would you life to name your new Hachine? * Marne: Specify the type of machine apending cystem. Machine OS: Black Direct Printip Cancel		
How do I			



3) Enter the Listen Address and Listen Port (this is the port mentioned in nodemanager.properties file) and click Finish.

WebLogic Server As	ministration Console 120	<u> </u>
Change Center	🔒 Home Lag Out. Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDomain
Wew changes and restarts	Home >Summary of Machines	
No pending changes exist. Click the Release Configuration betton to allow others to edit the domain. Look & Edit Release Configuration	Create a New Machine Back Finitit Encode Node Manager Properties The following properties will be used to configure the Node Manager on this machine.	
Domain Structure	What type of Node Hanager is running on this server, and what protocol should be used to communicate with it?	
FCUBSDomain A B Environment Servers	Type: SSL *	
Coherence Clusters	For a Jave based node manager, what address and push is this Ends Marager configured to listen at?	
	Listen Address: Jecabros	
R Services Security Realins	For a script based node manager, additional proporties may be carring ned.	
B-Interoperability	Node Manager Home:	
How do L_	Shell Command:	
Create and configure machines		
 Assign server instances to machines 	Debug Enabled	
Delete machines	Back Final Finan Cancel	
System Status		
Health of Running Servers		

4) Machine is created.

ORACLE WebLogic Server A	Idministration Console 12c			<u> </u>
Change Center	A Hane Lag Out. Preferences 🖾 House Help	9	Welcome, weblogic	Connected for PCUBSDomain
View changes and restarts Click the Lock & Edit button to modify, add or	Harte - Sammary of Hackines Hessages			
delete iterss in this domain.	All changes have been activated. No restarts are necessary.			
Lock & Edit	Summary of Hachines			
Domain Structure	A machine is the logical representation of the computer that ho server in a cluster to which certain tasks, such as HTTP session i	sits one or more WebLogic Server instanc replication, are delegated. The Administr	tes (servers). WebLogic Server uses configured machine names to ration Server uses the machine definition in conjunction with Node	determine the optimum Manager to start remote
PCUBSCensin -	servers. This page displays key information about each machine that has	s been configured in the current WebLag	ic Server domain.	
Coherence Clusters Machinesi Vartual Hosts	ir Customize this table			
-Work Panagers Work Panagers Startup and Stutdown Classes	Hachines Click the Lock & Edit button in the Charge Center to activate a	all the buttors on this page.		
Deployments	Tiese Deads		Shoving	1tolofl Previous Next
Security Realism	🔝 Name 🖧		Туре	
E:Datastics	Nachine1		Machine	
How do I 🗄	New Clene Dubrie		Showing	1 to 1 of 5 Previous Next
Create and configure machines Assign server instances to machines Gene machines Delete machines				
STRATIC CONTROL OF THE STRATE				



5) Similarly create a new machine entry for the other server.

Change Center	1 Home Log Cut: Preferences III Remort Help	R.	Welcome, weblogic Connected to: PCUBSDomail
New changes and restarts	Horse -Summary of Machines		
Click the Lock & Edit battan to modify, add or delete items in this domain.	Pressages # All changes have been activated. No restarts are recessary.		
Lock & Eot	Summary of Machines		
Related Centgotation			
Inmain Structure Cut6Domain Environment Servers B-Datern Coherence Clustern Hachimes Machimes	server is a cluster to which certain tasks, such as HTTP session reglication servers. This page displays key information about each machine that has been co Customate this table Machines Clust the <i>Lock & Edit</i> better in the Change Center to activite all the but		conjunction with Hode Hanager to start remote
9-Services	New Cloce Delete		Showing 1 to 2 of 2 Previous Next
Security Realing	C Name A	Type	
Billionentint	Medinet	Machine	
low do I	B Hadene2	Madaine	
Create and configure machines Antign senser instances to machines Close machines	New Close Deele	361-7999-64	Showing 1 to 2 of 2 Previous Rest

Verifying machine status

Before starting the managed servers, ensure that the Node manager Status of all the machines are "Reachable".

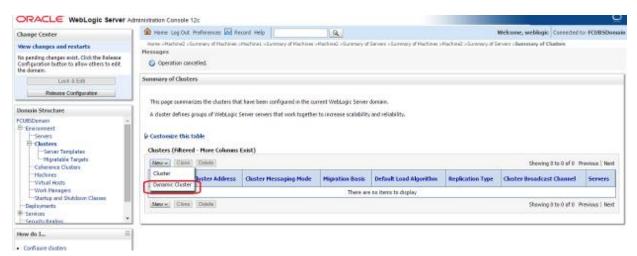
In the console, navigate through **Domain structure** \rightarrow **Machines** \rightarrow **machine1** \rightarrow **Monitoring** \rightarrow **Node Manager Status**. Status should be **Reachable**.

ORACLE WebLogic Server	Administration Console 12c		Θ
Change Center	👔 Home Log Dut Preferences 🔛 Annual Help	a.	Welcome, weblogic Connected to FCUBSDomain
New changes and restarts	Home >Sommary of Plachines >Plachine1 >Summary of	f Hactimes >Hachine2 >Summary of Plachines >Plach	Inst.>Summery of Rachmen > Hechine2 > Summary of Hechines > Hechines
Click the Lock & Edit betten to modify, add or	Settings for Machine 1		
delete items in this domain.	Configuration Honiboring Notes		
Heliane Configuration	Node Manager Status Node Manager Lag		
Domain Structure	They paper allows you to view current status infan	nation for the Node Manager instance configured	for this machine
POUSDonaiz -		and the most receipt to the construction	
B Brwrotenert	Status:	Reachable	Current status of this Node Planages. More Jafo
Clusters Server Templates Vigratable Targets Coherence Clusters	Version:	1213	Version string returned from the Node Planager. Here Jefs
Machines Work Maragers Starbup and Shatdown Classes			



3.2 **Dynamic Cluster Creation**

1) Login into Admin Console and Navigate to FCUBSDomain → Environment → Clusters → New → select Dynamic Cluster.



2) Enter the Cluster Name and click on Next.

ninistration Console 12c		Q
🔒 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
Home >Machine2 >Summary of Machines >Machine1 >Summ	nary of Machines >Machine2 >Summary of Servers >Summary of I	Machines >Machine2 >Summary of Servers >Summary of Clusters
Create a New Dynamic Cluster Back Next Finish Cancel Specify Cluster Identity and Properties The following properties will be used to identify your ne	ew dynamic cluster and specify how cluster members should	i communicate with each other to coordinate work.
* Indicates required fields		
simple broadcast technology that enables multiple applic	FCUBSCluster	
Multicast Address:	239.192.0.0	
Multicast Port: Back Next Finish Cancel	7001	
	Home Log Out Preferences Record Help Home >Machine3 >Summary of Machine3 >Machine3 >Mach	Mene Log Out Preferences Record Help Home JMachines JMa



3) Enter the **number of dynamic servers** you want to configure, enter the **server name prefix** and click on **Next**.

ORACLE WebLogic Server Ad	Iministration Console 12c	Q
Change Center	🔒 Home Log Out Preferences 🗠 Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Summary of Machines >Machine2 >Summary of Servers >Summary of Machines	>Machine2 >Summary of Servers >Summary of Clusters
No pending changes exist. Click the Release Configuration button to allow others to edit	Create a New Dynamic Cluster	
the domain.	Back Next Finish Cancel	
Release Configuration	Specify Dynamic Server Properties	
	The following properties will be used to specify the size and characteristics of your new dynamic cluster.	
Domain Structure	How many dynamic servers will you need at peak load?	
FCUBSDomain -Environment -Servers	Number of Dynamic Servers:	
Clusters Server Templates	What naming convention would you like to use for new dynamic servers in this cluster?	
Migratable Targets Coherence Clusters Machines	Server Name Prefix: FCUBSMS	
Virtual Hosts Work Managers	Server templates are used to configure the characteristics that are common to all dynamic servers in this cluster. Server tem new server template will be created to support this new cluster.	plates are unique to a cluster and cannot be shared across clusters, so a
Startup and Shutdown Classes	Back Next Finish Cancel	
Services Security Realms The security Realms		
How do I		

4) Select machines that participate in domain, in this case all machines will be part of the domain, select **Use any machine configured in this domain** option and click on **Next**.

ORACLE WebLogic Server Ad	tministration Console 12c		<u>Š</u>
Change Center	🏦 Home Log Out Preferences 🖂 Record	d Help	Welcome, weblogic Connected to: PCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Mach	hinet >Summary of Machines >Machine2 >Summary of Servers >Summ	ary of Plachines >Plachine2 >Summary of Servers >Sommary of Clusters
No pending changes exist. Click the Release Configuration button to allow others to edit	Create a New Dynamic Cluster		
the domain.	Back Next Finish Cancel		
Release Configuration	Specify Machine Bindings		
	Associating dynamic servers with machines	s is essential if you intend to use Node Hanager and the Administ	ration Console (or WLST) to start server instances.
Domain Structure	How do you want to distribute dynamic serve	ers across machines?	
PCUBSDomain A III-Environment Servers	B Use any machine configured in this	domain	
B-Clusters Server Templates	🛞 Use a single machine for all dynami	k servers	
	Selected Machine:	Machine1 •	
Wittual Hests Work Nanagers	Use a subset of machines in this do	main	
Constantup and Shutdown Classes	Hachine Name Match Expression:		
B-Services v Security Realms	Back Next Finish Cancel		
How do I 😑			
Create dynamic dusters			



5) Select the **listen port for the first server** in the dynamic cluster and then the **SSL listener port** for the first server in the dynamic cluster. The subsequent servers will be assigned with an incremental port number. Click **Next**.

Change Center	🏫 Home Log Out: Preferences 💹 Record Help	Q.	Welcome, weblagic Corrected to: PCUBSDomail
View changes and restarts	Hore -Mathewa -Semenary of Machines -Machines -Semenary of P	lacheas stractures stammary of Servers strummary of Pla	chiras i=Nachira2 =Summery of Servers >Summary of Clusters
No pending changes exist. Click the Refease Configuration button to allow others to adit the domain.	Create a New Dynamic Cluster Back Next Front Carcel		
Lock & Edit			
Release Configuration	Specify Listen Port Bindings Select how these dynamic servers should be bound to listen po	da.	
Domain Structure	Usten ports for dynamic servers can be specified in a server ten	relate or can be dependently persented to be patiented	
PCUBSDomain +		share a request share share and the state of an endors.	
B-Environment	Assign each dynamic server unique listen ports	\frown	
P Clusters	Listen Part for First Server:	7002	
Coherence Clusters Machines	SSL Listen Port for First Server:	7102	
- Virtual Hosts Work Managers	Assign each dynamic server fixed listen ports		
1Startup and Shutdown Classes	Listen Port:	7100	
E-Services			
Sensity Realms	SSL Listen Parts	8100	
How do 1_		1000	
Create dynamic clusters Configure clusters	Each Next Prinh Cancel		

6) A summary of new Dynamic Cluster Configuration is presented. Click **Finish** to create Dynamic Cluster.

ORACLE WebLogic Server	Idministration Console 12c		9
Change Center	🏠 Harne Log Out: Preferences 🖂 Record Help		Welcome, weblagic Corrected to: PCUBSDomain
View changes and restarts	Home sMachine2 stemmary of Machines sMachine1 stemmary of I	Nathenas >Plathena2 >Summary of Servers >Summary of	Nethins Mechinel Summery of Servers Summary of Clasters
No pending changes exist. Chick the Refease Configuration button to allow others to edit the domain.	Create a New Dynamic Cluster		
Lock & Pate Release Configuration	Review Your Dynamic Cluster Configuration You have elected to create a new dynamic cluster with the fol	lewing certiguration.	
Domain Structure	Configuration details for new dynamic cluster:		
PCURDensin + Britesment			
Servers	Name of New Dynamic Cluster:	5	CUBS Clutter
El Clusters Server Templates	Maximum Number of Dynamic Servers:	*	5
	Server Name Prefix:	R	DUBSMS
Plachines Virtual Hosts	Enable Calculated Listen Ports	tr	ue
-Work Managers 	Enable Calculated Machine Associations:	6	ue .
Deployments Br-Services	Configuration details for new server template:		
Sengity Realms	Name of New Server Templater	R	DUBSHISTemplate
How do 1_	Listen Port:	77	102
· Create dynamic clusters			075
· Configure dusters	SSL Listen Port:	71	102
· Configure server migration in a duster	Back Next Finish Cancel		
Configure cross-duster replication	Leave Press		
Create server templates			



7) The **Summary of Clusters** screens should show the recently created Dynamic Cluster.

Change Center	😰 Hume Lig Out Preferences 🔛 Record	trely	A		V	Velcome, well-logic Connected to	FOIRSDone
New changes and restarts Verding changes exist. They must be activated in take effect. ## Activate Changes	Items offsactional - Commany of Rectines - Hach Hessages A server template samed PCUBDR/Temp Cluster created successfully.					vers - Seemary of Chebox	
Undo All Changes	Summary of Qusters						
Cution Structure Cutioneri Distriment Structure	This page summarizes the clusters that hav A cluster defines groups of WebLogic Serve						
Contern Conver Templates Higratable Targets Converse Clusters	© Customize this table Clusters (Filtered - More Columns Exist	0					
Server Templates Higratable Targets		0				Showing 1 to 1 of 1 Pro	wout Next
Server Templates Higratable Targets Caherence Clusters Hachines	Clusters (filtered - More Colorens Exist Jeeu v.] [Dimit: [Dente]	() Cluster Hessaging Hode	Magnation Basis	Default Load Algorithm	Replication Type	Showing 1 to 1 of 1 Pro- Cluster Broadcast Channel	vious liest
Server Templates - Hightable Targets - Caherooc Clusters - Mutukes - Victual Notts - Work Nanagers - Work Nanagers - Deployments	Chatters (Fibered - Hore Columns Exist Jame v. Chatter (Chatter Address		Magnation Basis Database	Default Load Algorithms Round Robin	Reglication Type (None)	The second s	P.S.O.
Server Templates Hightrable Targets Coherence Clusters Hackness Work Nanagers Starting and Shubborn Classes	Chatters (Fibered - Hore Columns Exist Jame v. Chatter (Chatter Address	Cluster Nessaging Node	10000 AND		Contraction Contraction	The second s	Servers

8) Upon Activate Changes would automatically create 4 managed servers.

ange Center	1 1 10	and Lag Dut Pr	aferros 🔛 📖	-1 Help	1.9.7			Welcome, weblogic Co	reited to: FC/#50om
ew changes and restarts	Harris	+POIRTHSTerry	ista schemerary of Servi	er fangliste «PO-BOPUTwople	-Summery of Class	ters .			
ick the Lock 5. Edit button to modify, add or fete items in this domain.	Seems	ary of Gesters							
Lock & Diff	1.00	late summariz	to the clusters that h	ave been configured in the cur	rent WebLock: Serve	o doman.			
Halistate Configuration				ver servers that work together					
main Structure	S								
AND A CONTRACTOR OF	1 1 1 1 1 1 1								
uttiDuman -	P Can	donaire this tai	bile:						
eliburan -	1.000	1.1.1.1.1.1.1.1.1							
BiDunue Environment Servers	Ches	ters (Filtered	More Columns Ex	100 U					
eliburan -	Ches Ches	ters (Filtered the Locit # Ed	• Nore Columns Ex Relation in the Charg	w() ge Center to activate all the b	uttons on this pape.				
Of Duman Concentration - Servers - Servers - Server Seruptates - Highertable Targets	Ches Ches	ters (Filtered	• Nore Columns Ex Relation in the Charg	100 U	dtors on this pape.			Shewing 1 fe	L of 1 Previous Next
BDunan	Ches Ches	ters (Filtered the Locit # Ed	Hore Columns Ex Plutter is the Charg (Dente)	100 U	ations on this pape. Migration Basis	Default Load Algorithm	Replication Type	Shearing 1 to Contex Benadicant Channel	

9) Navigate to **FCUBSDomain** \rightarrow **Environment** \rightarrow **Servers** tab and 4 new servers are created.

Change Center	🙆 Pame Log Out Preferences 🗟	Treasure Party	9			Welcome, web	Rogik: Connected to: PCORSDoorse
View changes and restarts	Here a PELROPETemplete advances	of Server Templates (PDJRD)	Eteralists clummary of Ou	mes charactery of fee			
Child the Lock & Edit buttor to modify, add or delate items in this durate.	Summary of Servers						
Leck & Ealt	Configuration Control						
Remann Carrigoration	A server is an instance of VietGag	ic Server that runs in its ann	Jeva Virtual Mechine (3V	C and has its more cord	iporation.		
Domain Mnucture	This page summarizes each server	that has been configured in	the current litebLags: Ser	wer domain.			
Cuttiburan -	0						
Custers	@ Contempre this table						
Highester Targets Collectory Clusters Hachines	Servers (Filtered - Hure Color Ord: The Lock & Edit Sutton in 1		e all the buttons on this pe	ça.			
- Caherator Gusters - Hactories - Victual Hosts - Stock Hanagers	In the second state of the second		e all the bullions on this pr	ųs.		She	ning 1 to 5 of 5. Previous New!
- Coherencer Clusters - Nuclinery - Vision Prests - Usion Hamagers - Starting and Shutdwork Classes - Orginerwants	Out the Lock & Edit Sutton in t		e all the bufferes on this pa Chaster	ije. Plachane	State	Ste	ning 1 to 5 of 5 Prentuue Next
Coherence Clusters Hachares Victual Hosto Hards Handgers Tachia and Shatdown Classes Coployments Farvices	Old the Lock & Edit beller in t	le Change Center to activat			State		
- Coherence Clusters - Hachinen - Vitual Hotages - Stehl and Shatavek Classes - Copiloraments - Services - S	Old the Lock & Lidt Sutter in t	he Change Center to activat			1000	Health	Linten Port
- Coherecce Clusters - Hachsen - Wold Hods - With Hanges - Borby and Stations Classes - Copionents - Services - Service	Old the Lock & Lidt Sutter in t	Type Certificated	Owter	Plachase	RUMONG	Health # CK	Linten Port 7001
Orate Paraget Servers Orate Paraget Servers	Octo the Lock & Add Latter in 1 Tome: Clean: Domin: Denne: Vi AdamsServer(adres) PCUED451	te Change Center to activat Type Configured Dynamic	Ouster FOIESOuter	Platheet Fighter1	PUMING SHERDOWN	Health 4 ⁴ CR Tait reachable	Easten Port 2001 2003
- Collement Clusters - Hachines - Victual Heats - Tachines (Statistics Classes - Copiloramits - Services - S	Old the Code & Zidd Latter in t Termini Cleans, Desine Advertiserer (advert) PCUEDP51 PCUEDP51	Type Configured Dynamic Dynamic	Chater FOIESOuter FOIESOuter	Plachine Flachine2	PUMING SHERDOWN SHERDOWN	Health M Ca Nat reschable Nat reachable	Linten Port 2001 2002 2004



3.3 Managed Server Template configuration

The server template created is modified to apply the below parameters:

3.3.1 Logging

The process of log file writing in a Weblogic server can impact the performance. Hence, you need to keep the logging to minimum in a production environment.

Update below parameters by in Logging Screen

Minimum Severity to log	Warning
Log file Severity level	Warning
Standard Out Severity level	Critical
Domain broadcaster Severity level	Critical

1) Navigate to **FCUBSDomain** \rightarrow **Environment** \rightarrow **Clusters**.

	ministration Console 120					Ξ.
Change Center	🏠 Home Log Out Preferences 🔤 Record	Help		We	lcome, weblogic	Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Servers >Summa Templates	ry of Machines >Machine2 >Summary of Serv	ers >Summary of Clusters >Summ	ary of Servers >Summary of Server Ter	mplates >FCUBSMSTe	emplate >Summary of Server
Pending changes exist. They must be activated to take effect.	Summary of Server Templates					
Activate Changes Undo All Changes Domain Structure	This page summarizes each server template A server template contains common, non-de manage configuration for a group of server i	fault attributes that you can apply to a se		en inherit the template configuration	n. Server templates	enable you to easily
FCUBSDomain	Customize this table Server Templates New, Clone Delete					
Migratable Targets	New Clone Delete				Snowing 1	to 1 of 1 Previous Next
Machines	🔲 Name 🗇	Cluster	Machine	Listen Port	Listen Address	
Virtual Hosts Work Managers	FCUBSMSTemplate	FCUBSCluster		7002		
LStartup and Shutdown Classes Deployments B-Services Security Realms	New Clone Delete				Showing 1	to 1 of 1 Previous Next
How do I 😑						
Create server templates						

2) Select **FCUBSTemplate** and navigate to **Logging** → **General**.

Home Log Out Preferen	ces 🐼 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomail
Home >PCUBSMSTemplate >Sc	immary of Server Templates >FCUR	ISMSTemplate	
Settings for FCUBSMSTem	plate		
Configuration Protocols	Logging Debug Notes		
General HTTP Data S	ource Diagnostic Images		
Save			
Use this page to define the	general logging settings for this	i server.	
g Log file name:	logs/FCUBSMSTe	mplate log	The name of the file that stores current log messages. Usually it is a computed value based on the name of the parent of this MBean. For example, for a server log, it isSERVER_NAME.log. More Info
Rotation			
D Determine the second	12 21 1		And the formation of the mean of the second s



3)	Under Advanced tab,	update the	below parame	eters and clic	k on Save.

- ♥ Advanced		
街 Date Format Pattern:	MMM d, yyyy h:mm:ss a z	The date format pattern used for rendering dates in the log. The DateFormatPattern string conforms to the specification of thejava.text.SimpleDateFormat class. More Info
Minimum severity to log:	Warning 🔻	The minimum severity of log messages going to all log destinations. By default all messages are published. More Info
6월 Logger severity propertie	25:	The configuration of the different logger severities keyed by name. The values are one of the predefined Severity strings namely Emergency, Ale Critical, Error, Warning, Notice, Info, Debug, Trace. More Info
og file :		
Severity level:	Warning 🔻	The minimum severity of log messages going to the server log file. By default all messages go to the log file. More Info
ilter:	None •	The filter configuration for the server log file. More Info
🗄 Log File Buffer:	8	Gets the underlying log buffer size in kilobytes More Info
tandard out :		
ieverity level:	Critical	The minimum severity of log messages going to the standard out. Messages with a lower severity than the specified value will not be published to standard out. More Info
ilter:	None T	The filter configuration for log events being sent to the standard out. More Info
omain log broadcaster :		
Severity level:	Critical	The minimum severity of log messages going to the domain log from this server's log broadcaster. Messages with a lower severity than the specified value will not be published to the domain log. More Info
ilter:	None T	The filter configuration for \log events being sent to the domain \log . More $Info$
uffer Size:	10	Broadcasts log messages to the domain log in batch mode. More Info
🛿 Stack Traces to stdout		Specifies whether to dump stack traces to the console when included in logged message. More Info
tdout Stack Trace Depth:	5	Determines the no of stacktrace frames to display on standard out. All frames are displayed in the log file. * -1 means all frames are displayed. More Info



3.3.2 HTTP Logging

1) FCUBSDomain → Environment → Clusters → FCUBSTemplate → Logging → HTTP → Uncheck the Access Logs Flag.

Home Log	Out Preference	es 🔤 Reco	ard Help	Q	Welcome, weblogic Connected to: FCUBSDor
Home >FCU@SN	ISTemplate >Sur	mary of Ser	ver Templates >	FCU0SMSTemplate	
ettings for FC	UBSMSTemp	late			
Configuration	Protocols	Logging	Debug No	tes	
General HT	TP Data Sou	rce Diag	nostic Images		
Save					
	to configure H or the domain		for the server	. By default, HTTP logging is enabled and th	e server saves HTTP requests in a separate log file; it does not store HTTP requests in the
server log file		log file.	for the server	. By default, HTTP logging is enabled and th	e server saves HTTP requests in a separate log file; it does not store HTTP requests in the Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) More Info
server log file	er the domain	log file.	for the server	By default, HTTP logging is enabled and th	Indicates whether this server logs HTTP requests. (The remaining fields on
Server log file	er the domain	log file.	for the server		Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) Hore Info
server log file	e or the domain ess log file en ame:	log file.	for the server		Indicates whether this server logs HTTP requests. (The remaining fields on this page are relevant only if you select this check box.) Hore Info

3.3.3 Stuck Tread Max Time

1) FCUBSDomain → Environment → Clusters → FCUBSTemplate → Tuning, update the stuck thread max time to 18000 and Click on Save.



4. Tuning

4.1 **General Parameters**

PARAMETER	VALUE	Navigate To
JTA Time out seconds	18000	Login to Weblogic Server console.
		Click on the domain name (ex: FCUBSDomain) which is under 'Domain Structure'.
		Go to Configuration > JTA, parameter and values is found on the right side panel of console.
Session Timeout	900	Login to Weblogic Server console
		Click on Deployments which is under 'Domain Structure'.
		Click on the deployed FCJ application from right side panel.
		Click on FCJNeoWeb from 'Modules and components'
		Go to Configuration General, the parameter values can be found here.

4.2 JVM Tuning

This section of the document provides JVM optimization for Oracle Banking Trade Finance Solution.

Basically the JAVA minimum and maximum heap size needs to be reset for 32 and 64 bit environments. Both the minimum and maximum heap size is set to 1.5GB and 4GB in case of 32 bit and 64 bit environments respectively.

How to find whether the JVM is 32bit or 64bit?

Go to \$JAVA_HOME/bin directory. Check java version using command ./java –d64 –version 64 bit JVM shows the version details where as 32bit throws an error.

How to modify the JVM heap parameters?



To change the JVM heap parameters create a file setUserOverrides.sh under domain FCUBSCL in both servers. This file should be created in ***\$WL_HOME/user_projects/domains/\$WLS_DOMAIN/bin**" in both the servers. Paste below contents of USER_MEM_ARGS variable accordingly to override the standard memory arguments passed to java for **SUN JDK**.

32 bit JDK

```
USER_MEM_ARGS="-
Dorg.apache.xml.dtm.DTMManager=org.apache.xml.dtm.ref.DTMManagerDefault
-
Dorg.apache.xerces.xni.parser.XMLParserConfiguration=org.apache.xerces.
parsers.XML11Configuration -Dweblogic.threadpool.MinPoolSize=100 -
Dweblogic.threadpool.MaxPoolSize=100 -Xms1536M -Xmx1536M -
XX:MaxPermSize=256m -server -XX:+UseParallelOldGC -
XX:ParallelGCThreads=4"
export USER_MEM_ARGS
```

64 bit JDK

```
USER_MEM_ARGS="-
Dorg.apache.xml.dtm.DTMManager=org.apache.xml.dtm.ref.DTMManagerDefault
-Dorg.a
pache.xerces.xni.parser.XMLParserConfiguration=org.apache.xerces.parser
s.XML11Configuration -Dweblogic.threadpool.MinPoolSize=100 -
Dweblogic.threadpool.MaxPoolSize=100 -Xms8g -Xmx8g -Xmn4g -server
-XX:+UseParallelOldGC -XX:ParallelGCThreads=4"
export USER_MEM_ARGS
```

Note: Take a backup of the files before modifying the same.



5. Start Managed Servers

Starting using scripts

Managed Servers can be started by executing startManagedWebLogic.sh script present in folder **\$DOMAIN_HOME/bin**

Usage: ./startManagedWebLogic.sh SERVER_NAME {ADMIN_URL}

Eg: ./startManagedWeblogic.sh FCUBSMS1 https://<hostname1>/console

Starting using console

Alternatively, login to admin console, navigate to **FCUBSDomain** \rightarrow **Environment** \rightarrow **Servers** \rightarrow **Control**, select the managed servers to be started and click on **Start**.

Change Center	Reme Log Out Proferences 🐼 Nacural Hel	4		Welcome, weblogic	Converted to: FCUBSDoew
View changes and restarts	Hare (PO/BIRSTemplate / Summary of Server Tetra	plates >PCUEDHSTemplate >Summary of	f Clubers - Sammary of Servers		
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Servers				
Lack & Dill	Carfiguration Control				
Rolean+ Configuration	1945 State 1955 St	NUMBER OF STREET	20 10 10 100	1.000	23 195 20
Domain Structure	mode requires the domain-side administration		ritro: operations on Managed Serv	ers require starting the Node Hanager, Starting Hanag	led Servers in Standby
	10 m				
8-Environment	0				
CottOpenan	C) & Contomire this table Servers (Filtered - Hore Columns Exist) Statt Resume Suspent v Shattwee	· Restart SSL		Shaving 11	o S of S. Previous Rest
Bi Devicement Servers Couters Coherence Ousters Coherence Ousters 	© Customize this table Servers (Filtered - Hore Columns Exist)	v Restart SSL. Machine	State	Status of Last Action	o S of S Previous Red
Devicement Servers Coulder Coulder Server Templates	P Contomire this table Servers (Filtered - Hore Columns Exist) Statt Resume Suspent v Shuttwe	Contraction of the second	State RUNDING	Construction and a second seco	o S of S. Previous Red
Devicement Servers Couters Society Society	Contornize this table Servers (Fibered - Hore Columns Exist) (Stat. Resource (Suspend v. Shuttown Server # Auto-Server(selman) R rc more)	Contraction of the second	And Marine	Status of Last Action	o S of S. Previous Red
Devenseert Servers Couters Success Success Success Success Couters Couters Success Couters Success Success Couters Success Success	Contornize this table Servers (Fibered - Hore Columns Exist) (Stat. Resource (Suspend v. Shuttown Server # Auto-Server(selman) R rc more)	Machine	RUNNENG	Status of Last Action	n 5 of 5. Previous Reat
Devicement ''Server' Templates ''Server' Templates ''Server' Templates ''Optimum Clusters ''Notad Tests ''Writed Tests ''Writed Tests ''Writed Studies ''Writed Studies ''Starbige and Studies ''Services	Contornite this table Servers (Fibered - Hore Columns Exist) Stat: Resume: Suspend v: Shuttown Server ro AdvanServer(ulman) R PC 80261 R PC 80261 R PC 80262	Machine Machine1	PUNNSNG SHUTDOWN	Status of Last Action None Youre	n 5 of 5 Previous Rent

Upon successful startup, the status of Managed servers is changed to "RUNNING".



6. Data Source creation and JDBC Configuration

Following are the JNDI names of those data sources used by Oracle Banking Trade Finance application.

jdbc/fcjdevDS - This datasource is used by Oracle Banking Trade Finance online screen excluding branch screens.

- jdbc/fcjdevDSBranch This datasource is used by Branch screens.
- jdbc/fcjSchedulerDS This datasource is used by Quartz scheduler.

Note:

- jdbc/fcjdevDS should be NonXA.
- jdbc/fcjdevDSBranch and jdbc/fcjSchedulerDS should be XA

6.1 Data source creation: non XA

 Navigate to FCUBSDomain → Services → Data Sources → select New > Generic Data Source.

ORACLE: WebLogic Server Ad	Iministration Console	120							¥
Change Center	1 Home Log Ou	t Preferences	Record Help	٩		v	Velcome, weblogic	Connected to:	FCUBSDomain
View changes and restarts	Home >POUBSMS1	Template >Sume	nary of Server Templates	>PCUBSHSTemplate >Summary of (Clutters >Summary of Servers >Summ	many of JDBC Data Sources			
No pending changes exist. Click the Release	Summary of JDB	C Data Sourc	es						
Configuration button to allow others to edit the domain.	Configuration	Honitoring							
Look & Eok									
Release Configuration			t bound to the JNDI to from a data source.	ee that provides database connec	tivity through a pool of 3DBC cons	rections. Applications can look	k up a data source on	the JNDI tree ar	nd then
Domain Structure	This page summ	varizes the JDB	C data source objects t	that have been created in this do	nain.				
- Virtual Hosts									
***Work Managers	i Customize thi	s table							
*** Startup and Shutdown Classes									
Deployments B-Services	Data Sources	Filtered - Mo	re Columns Exist)						
B-Messaging	New v Dala	10 J					Shewing	0 to 0 of 0 Prev	vious Next
- Data Sources	Generic Data 5	iource		Туре	INDI Name		Targets		
Persistent Stores Foreign JNDI Providers	GridUnk Data 1	Source		of the	Junior manue		rangets		
-Work Centerds	Halti Data Sea	rre .		т	tere are no items to display				
XML Registries	THEM WE DOWN	_					Shewing	0 to 0 of 0 Prev	vicus Next
304L Entity Caches									
~_jCOM +									

2) Enter the Name and JNDI Name and Click on Next



ORACLE WebLogic Server /	Administration Console 12c		<u>o</u>
Glange Center	🔞 Hame Lag Cut. Pheferences 🖼 Record Help	Q.	Welcome, weblogic Carriedto, FOUBSDomain
View changes and restarts	Honor >PCURSHSTeroplate >Summary of Server Templates >POURSH	STemplate >Summery of Clusters >Summery of Servers >5	Summary of JDBC Data Sources
No pending changes extrt. Click the Release Configuration button to allow others to edit the domain.	Create a New JDBC Data Source		
Retease Configuration	3DBC Data Source Properties The following properties will be used to identify your new 3DBC	data source.	
Domain Structure	* Indicates required fields		
FCUBSCentain FCUBSCentain FServerTexplates FServerTexplates FServerTexplates FServerTexplates FServerClustes FMotives Work Managem Samp and Staddown Classes FDelements Services FServices FServices	What would you like to name your item 2080 data source?	Seerce®	
How do I_	Data water here it here to be a start of the		
Create JDBC generic data sources	What database type would you like to select?		
Create UR-enabled IDBC data sources	Database Type: Oracle		
System Status 8	Tac Next Traint Cancel		
Health of Running Servers			
Failed (0)			



3) Select the Driver as **Oracle's Driver(thin) for Instance connection: Versions: Any** and Click on **Next**.

ORACLE WebLogic Server	Administration Console 12c	<u> </u>
Change Gester	🙆 Horse Log Dat Preferences 🖾 Record Help	Welcome, weblagic Connected to: PCUBSDomain
Wese changes and restarts	Home >PCU83MSTamplate =Summary of Server Tamplates >PCU85HSTamplate >Summary of Ce	others >5commery of Servers >5envenuery of 308C Data Severes
No pending changes exist. Click the Release Configuration batton to allow others to edit the domain.	Create a New JOBC Data Source Back, Next Print Cancel	
Lack & Edd	Comment and a subsection of the second	
Release Configuration	108C Data Source Properties The following properties will be used to identify your new 108C data source.	
Domain Structure	 International and the second seco	
PCUBStansen B- Stankonsent - Servers - Clasters - Servers - Physicable Targets - Staktow - Machine - Within Heats - Within Meagers	Detabase Type: Oracle What database driver would you like to use to create database connections? Note: * indic Database Driver: Cracle's Driver (Thin) for Instance connections; Ve Back (Reat) Princh Cancel	
- Startup and Shutdown Oasses - Deployments B-Services R-Manual A		

4) Uncheck the **Supports Global Transactions** and click on **Next**.

ORACLE WebLogic Server Adr	ministration Console 12c		
Change Center	🚹 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >FCUBSMSTemplate >Summary of Server Template	es >FCUBSMSTemplate >Summary of Clusters >Summa	ry of Servers >Summary of JDBC Data Sources
No pending changes exist. Click the Release Configuration button to allow others to edit the domain. Lock & Edit Release Configuration	Create a New JDBC Data Source Back Next Finish Cancel Transaction Options You have selected non-XA JDBC driver to create data	abase connection in your new data source.	
Domain Structure	Does this data source support global transactions? If	ves please choose the transaction protocol for th	ic data cource
FCUBSDomain	Supports Global Transactions	connections from the data source to participate i	n global transactions using the <i>Logging Last Resource</i> (LLR) transaction optimization.
	Select this option if you want to enable non-XA JDBC heuristic conditions.	connections from the data source to emulate par	icipation in global transactions using JTA. Select this option only if your application can tolerate
How do I	Select this option if you want to enable non-XA JDBC other resources can participate in the global transact		global transactions using the one-phase commit transaction processing. With this option, no
Create JDBC generic data sources Create LLR-enabled JDBC data sources	One-Phase Commit Back Next Finish Cancel		
System Status	L		



5) Enter the Database Name, Host Name, Port, Database User Name, Password, Confirm Password and click on Next.

Change Center	😰 Home Log Out Preferences 🐼 Record Help	9.	Welcome, weblogic Connected ba: FCUBSDonnah
View changes and restarts	Harve -PCUESHSTamplate -Summary of Server Templates -PCUESH1	Template sturmery of Clusters interviewy of Servers -Se	insury of 200C Data Sources
No pending changes exist. Click the Release Configuration butters to allow others to edit the domain. Lock & Edit	Create a New 308C Data Source Back (Next) (Finish) Careel Consection Properties		
Release Configuration	Define Connection Properties.		
Domain Structure CUBSDomain CuBSDomain Contracted Servers	What is the name of the database you would like to connect to? Database Name:		
B-Clusters -Server Templates -Nigratable Targets Coherence Clusters -Pitch/ses	What is the name or IP address of the database server? Host Names	1	1
Withail Hosts Work Managers Startup and Stubdown Classes Deployments Services	What is the port on the detebase server used to connect to the d Poet:	1521	i l
B-Hestation *	What database account user name do you want to use to create	database connections?	
How do I	Database User Name:		1
Create IDBC generic data sources Create UR-enabled JDBC data sources	What is the database account password to use to create database Password:	ie connections?	
System Status 🖂	Contraction and the second	1	÷
Health of Running Servers	Confirm Password:	10 m	1
Failed (0) Critical (0) Crectoaded (0) Warning (0)	Additional Connection Properties: oracle_ddsc.DRCPConnectionClass:		1

6) Replace the JDBC URL in the below format and click on Next.

Default URL: jdbc:oracle:thin:@<IP_Adress>:<Port>:<INSTANCE_NAME>.

Change the default URL to:

jdbc:oracle:thin:@(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOS T=xxxxxx.com)(PORT=1521)))(CONNECT_DATA=(SERVICE_NAME=fcubs)))

Where,

Scan IP = xxxxxx.com

Service Name = fcubs

Port = 1521

Make sure that in URL, we make the necessary changes.

Then Click on Test Configuration. The connection test should be successful.



ORACLE WebLogic Server Adm	inistration Console 12c		<u> </u>
Change Center	🙆 Home Lag Out Preferences 🔤 Recard Help	Q	Welcome, weblogic Connected to: FOUBSDomain
View changes and restarts	Home SPCURSHSTemplate Summary of Server Templates SPC	UBSHSTemplate >Summary of Clusters >Summary of Servers >S	iummary of 3DBC Data Sources
No pending changes exist. Click the Release Configuration bottom to allow others to exist the densitie. Lock & Edit Roleane Configuration	Create a New JDBC Data Source Test Configuration Back Nect Painth Cancer Test Database Connection Test the database availability and the connection proper Test the database availability and the connection proper	-	
Domain Structure	What is the full package name of JDBC driver class used to	create database connections in the connection pool?	
FCUBSDomain A Encircles Forward Annual Annua	(Note that this driver class must be in the classpath of any		
GClusters Server Templates Nigratable Targets	Driver Class Name:	oracle.jdbc.OracleDriver	
Coherence Clusters Machines	What is the URL of the database to connect to? The format	of the URL varies by JDBC driver.	
Virtual Hosts Work Managers	URL:	idbc:oracle.oc/@(DESCRIP'	
Startup and Shutdown Classes Deployments	What database account user name do you want to use to o	eate database connections?	
E-Services	Database User Name:	FCUBS121DB	
How do L	What is the database account password to use to create d	tabase connections?	
Create JDBC generic data sources Create LDR-enabled JDBC data sources	(Note: for secure password management, enter the passw	rd in the Password field instead of the Propertie: field bel	ow)
System Status 🖂	Password:		
Health of Running Servers	Confirm Password:		
Patied (8) Critical (0) Overloaded (8) Warring (0) Or: (5)	What are the properties to pass to the 2080 driver when o Properties: USER + <u>FOURS222USER</u>	reading cistabate connections	

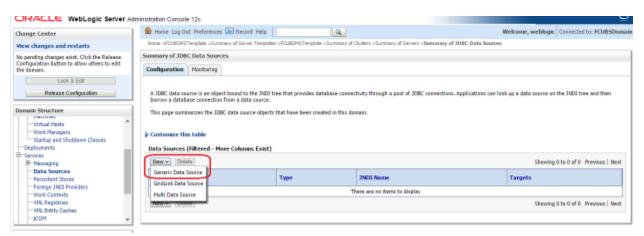
7) Select Target as **FCUBSCluster** and click on **Finish**.

ORACLE WebLogic Server A	dministration Console 12c		Q
Change Center	伦 Haine Lug Out. Preferences 🔤 Record Help	8	Welcome, weblogic Corrected to: FOUBSDomain
View changes and restarts	Rane >FCUESHSTemplate >Summary of Server Templates >FOUESHST	mplate >Semmery of Ocatero >Semmery of Server	s -Summary of 10BC Data Sources
No pending changes exist, Click the Release Configuration button to allow others to edit the domain. Lock & Edit Release Configuration	Create a New JDBC bata Source Back New! Pank! Cancel Select Targets Cancel Can		
Donalo Structure	 You can select one or more targets to deploy your new JDBC data later time. 	source. If you don't select a target, the data o	ource will be created but not deployed. You will need to deploy the data cource at a
FCI95Demain FCI95Demain FCI95Demain FCI030en FCI	Servers AdminServer Choters FOBSClaster Add servers in the claster Back Net Frank Cancel		



6.2 XA Datasource

 Navigate to FCUBSDomain → Services → Data Sources → select New > Generic Data Source.



2) Enter the Name and JNDI Name and Click on Next.

ORACLE WebLogic Server A	and the second	Welcome, weblogic Connected to FO/BSDoma
Change Center		
View changes and restarts	Hane >FCU05HSTenglate >Summary of Server Template >FCU05HSTenglate >Summ	ary of Clusters -Summary of Servers -Summary of 30BC Duta Searces
Pending changes exist. They must be activated to take effect.	Create a New 30BC Data Source	
📌 Activate Changes	Back Next Finish Cancel	
Undo All Changes	3DBC Data Source Properties	
Donain Structure	The following properties will be used to identify your new JDBC data source	
PCUBSDemain *		
Servers El-Clusters	What would you like to name your new JDBC data counce?	
El-Clusters	FCUBSBranchDS	
Pligratable Targets	reupsplatenus	
- Coherence Clusters	What 3NDE name would you like to assign to your new 3DBC Data Source?	
Virtual Hosts	(E) INDU Name:	
-Work Managers Startup and Shutdown Classes	jdbc/fcjdev0SBranch	
Deployments		
B-Services		
B-Hestaphon *		
How do 1		
Create IDBC generic data sources	What database type would you like to select?	
Create UR-enabled 3DBC data sources	Database Type: Oracle	
System Status 🛛		
Health of Ramping Servers	Bain Pest Frinth Garcel	
Failed (0)		
I comment on		



3) Select the Driver as **Oracle's Driver(thin XA) for Instance connection: Versions: Any** and Click on **Next.**

ORACLE WebLogic Server Ad	ministration Console 12c		0
Change Center	(1) Hore Lag Out: Preferences Likel Record Help	a	Welcome, weblogic Connected to: FCUBSDomain
Wew changes and restarts	Home >PCUBSHSTemplate >Summary of Server Templatee >PCUBSH	STemplete - Summary of Clusters - Summary of Server	a >Summary of JDBC Data Sources
Funding changes exist. They must be activated to take effect.	Greate a New JDBC Data Source		
Activalia Churgea	Back Next Print Cancel		
Undo All Changes	10BC Data Source Properties		
Domain Structure	The following properties will be used to identify your new 1080	: data seurce.	
FOUSDomain FOUSDomain Foundation	Detabase Type: Oracle What dotabase firver weekly wollike to use to treate dotabase Database Devee: Oracle's Driver (Thin XA) for Back Next Press: Cancel	connections? Note: * indicates that the driver is e Instance connections; Versions Any	nglicitly supported by Orade WebLogic Server,

4) Click on Next.

ORACLE WebLogic Server A	dministration Console 12c	<u> </u>
Change Center	🏦 Home Log Out Preferences 🔛 Record Help	Welcome, weblogic Connected to: FCU8SDomain
View changes and restarts	Home >POUBSMSTemplate >Summary of Server Templates >POUBSMSTemplate >Summary of Clusters >Summary of Servers >Se	mmary of 300C Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data Source	
Activate Changes	Back Next Frinh Cancel	
Undo All Changes	Transaction Options	
Domain Structure	You have selected an XA IDBC driver to use to create database connection in your new data source. The data source v transaction protocol. No other transaction configuration options are available.	will support global transactions and use the "Two-Phase Commit' global
COUSConsil Construction Construction Construction Construction Construction Construction Construction Paddimets Work Managers	Back Heat Prints Cancel	



5) From this step to target setting step follow as mentioned in non-xa.

URACLE WebLogic Server Ad	ministration Console 12c	¥.
Change Center	🙆 Home Log Out Preferences 🔛 Record Help	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >PCUESHSTemplate >Summary of Server Templates >PCUESHSTemplate >Summary of Clusters >S	armary of Servers >Summary of JDBC Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JOBC Data Source	
Undo All Changes	Connection Properties	
Domain Structure	Define Connection Properties.	
Clustern Contern Servers Contern Server Templates Marchaller	What is the name of the database you would like to connect to? Database Name: What is the name or 3P address of the database server?	
Coherence Clusters Wachines Without Hosts	Host Reme:	
Work Managers Startup and Shutdown Classes Deployments B-Services	What is the port as the database server used to connect to the database? Port: 1621	
How do L. Elements	What database account user name do you want to use to create database conerctions? Database User Name:	
Create LLR-enabled JDBC data sources	What is the database account password to use to create database connections?	
System Status 🖂	Password:	
Health of Running Servers	Confirm Password:	
Failed (0) Critical (0) Overleaded (0) Warning (0) OK (5)	Additional Connection Properties: onacle_jdlrc.DRCPConnectionClass:	
	Back Next Finish Cancel	I

Change Center	1 Have Log Out Preferences Int Record Help	Q.	Welcome, weblogic Connected to: FOUBSDomail
View changes and restarts	Hone -FCUEGHSTemplate -Survivary of Server Templates -F	CUESHSTemplete >Summery of Clusters >Summery of Servers >Seam	rary of 300C Data Sources
Fending changes exist. They must be activated to take effect.	Create a New JDBC Data Source		
🧳 Activale Changes	Test Configuration Back Next Finish Care	la.	
Undo All Changes	Test Database Connection		
Domain Structure	Test the database availability and the connection prope	rties you provided.	
PCUBSDumain +	What is the full package name of JDBC driver class used	to create database connections in the connection pool?	
B Entimenent Servers B-Clusters	(Note that this driver class must be in the classpath of an	n nerver to which it is deployed.)	
-Server Templates 	Driver Class Name:	oracle.jdbc.xa.client.OracleX.	
-Hachines	What is the URL of the database to connect to? The form	at of the UPL varies by 30BC driver.	
	URL:	jdbc.anacle.oci @IDESCRIP	
Deplayments	What database account user name do you want to use to	create database connections?	
B-Senios B-Neccoltz *	Database User Name:	FC121DB	
How do I			
Create 30BC generic data sources	What is the database account password to use to create		
Create LLK-enabled 108C data sources	(Hate) for secure paceword surveyersent, extending pace	which is the Plasoward field instead of the Properties (reld below)	
System Status 📰	Password:		
Health of Running Servers			
Failed (0)	Confirm Password:		
Critical (0) Overloaded (0)	What are the properties to pass to the JDBC driver when	creating canadata contactorer	
Warning (0)	Properties	· · ·	
OK(5)	user=FCUBS121User		



ORACLE WebLogic Server Ad	tesinistration Console 12c		
Change Center	1 Home Log Out Preferences and Record Help	4	Welcome, weblogic Connected to: FCUBSDoma
West changes and restarts	mana -PCUESHSTanglide > Summary of Server Templeter (PCUES	PETemplate - Summary of Clubters - Summary of Same	1 - Summary of 200C Data Sources
Pending changes exist. They must be activated to take effect.	Create a New JDBC Data Source		
Activate Changes	(Back) (Trivit) (Family) (Garcet)		
Unde Ad Changes	Select Targets		
Doosain Structure	You can select one or more targets to deploy your new JOBC later time.	data source. If you don't select a target, the data o	surce will be created but not deployed. You will need to deploy the data source at a
PCUBSDomain +	Servers		
B-Outers Server Templates	AdminServer		
Higratable Tergets	Clusters		
Victual Hosts Victual Hosts	PCUISChater		
Startup and Shutdown Classes			
Deployments El Services	Back Freit Freit Cancel		

6) Upon Activate Changes would create the XA Datasource.

Change Center	Anna Log Out. Freierences 🔛 Fire	-d Help	Q.	Welcame, weblogic Canner	ted to: FOURSDoesa	
View changes and restarts	Hare sPOJESHSTargide stormery of Ser	ver Templates >PCI/80HS7emplate >5	strengery of Choller's -Surrenery of Servers -Surrenery of	ODC Data Science: «PC/8005 ~ Sammary of 300C Data	ta Seamas	
Click the Lock & Edit button to modify, add or	Summary of JOBC Data Sources					
delete items in this domain. Lock & Edit	Configuration Plantaring					
Researc Configuration Provided Redb Work Honogers Santag and Studionn Classes Digitizemetik @ Sentes @ Researce	borrow a database connection from a da	ata source.		s. Applications can look up a data source on the 3400	I tree and then	
Virtual Hosts Work Hanagers Sartup and Shutdown Classes Deplayments @:Services	ir Custonize this table Data Sources (Filtered - Hore Colur Circli the Lock & Editbutton in the Cha	nes Exist)		Gaussian 1 km 7 at	7 Provide Hard	
Virtual Hosts Virush Havagors Startup and Shuddown Classes Deployments Brithesiaging Total Sources Persign 1200 Providers	© Contomize this table Data Sources (Piltered - Hore Colum Click the <i>Lock & Edit</i> button in the Cha [hore w] [Canter]	nen Exist) nge Center to activate all the buttor	ni on this page.	1.000	2 Previous Next	
Virtual Holds Virtual Holds Virtual Hanagers Deployments Sertup and Shutdown Classes Deployments Sertup Sertup For Heinsgong Data Sources Persubert Scores	ir Custonize this table Data Sources (Filtered - Hore Colur Circli the Lock & Editbutton in the Cha	nes Exist)		Showing 1 to 2 of Targets	2 Previous Next	
Workal Heals Work Hearagon Scartup and Shutdown Classes Deployments Senaces Resizent Presizent Presizent Presizent Presizent Scares Wark Scares Warks Contexts	Contonice this table Data Sources (Piltered - Hore Colum Oci: the Lock at Airbituttos in the Cha There :: Contite Source ::- PountSourchOS	nen Exist) nge Center to activate all the buttor	ni on this page.	1.000	2 Previous Next	

7) Similarly create all the other Data Source required for the FCUBS Application and Gateway Deployments.

hange Center	🛍 Home Log Out Preferences 🔤 Record Help	Welcome, weblogic Connected to: FCUBSDome
iew changes and restarts	Home >FCUBSHSTemplate >Summary of Clusters >Summary of Servers >Summary of 3DBC Data Sources >FCUBSDS >Summary of 3	DBC Data Sources >FCUBSDomain >Summary of 3DBC Data
lick the Lock & Edit button to modify, add or	Sources >FOUBSBranchOS >Semimary of 3DBC Data Sources Messages	
elete items in this domain.		
Lock & Edit	All changes have been activated. No restarts are necessary.	
Release Configuration	Summary of JDBC Data Sources	
The ease consignments	Configuration Honitoring	
main Structure	Comparation Personny	
Work Honogers 	A JOBC data scores is an object hourd to the JNDT free that provides database connectivity through a gool of JOBC con- borows a database connections from a data score. This page summarizes the JOBC data scores objects that have been created in this domain.	**
No Messaging "Data Sources "Persistent Stores "Tonign JNDI Providers "Wisk Center "Unit, Englistica "DNL Registrica "DNL Registrica "DNL Softy Caches "DCM		Shewing 1 to 6 of 6 Previous Next
Metasagina Tata Scences Tata Scences Fendisted Stores Foreign JNDI Providers Triba Castedas Solutions Solutio	Data Sources (Filtered - Hore Columns Exist) Click the Lock & Editbutton in the Change Center to activate all the buttons on this page. New yr Dates Name # Type	Showing I to 6 of 6 Previous Next Targets
Messaging Data SourceS Persident Stores -Famige JND (Providers Yound Contenden	Data Sources (Filtered - Hore Columns Exist) Click the Lock & Editbutton in the Change Center to activate all the buttons on this page. New yr Dates Name # Type	
Messaging Data Sources Data Sources Data Sources Persistent Stores Persing JUCI Providers "Wind: Contexts "JUL Brith Caches "JOL Brith Caches "JOL Brith Caches "JOL Brith Caches "Context 100C generic data sources	Data Sources (Filtered - Hore Columns Exist) Citck the Lock & Edifbutton in the Change Center to activate all the buttors on this page. Hinne V Name IP Name IP	Targets
Weinsging Data Sources Persistent Stores Persistent Stores Persistent Stores Provide Stores Wisk Contexts Wisk Contexts Wisk Contexts Wisk Contexts Wisk Contexts Wisk Contexts Context 3DBC generic data sources Create 3DBC GridLink data sources	Name Type INOT Name PCUSSbrand/05 Generic jdbc/fbjde/05Brandh	Tangets FCUBSCluster
"Messaging "Data Sources "Founders INCO "Founders INCO "Founders "None Contends "Sources	Name A Type JMOI Name Processor Focussor Generic Jdk/lgdevGSeandh Processor Generic Jdk/lgdevGSeandh Focussor Processor Generic Jdk/lgdevGSeandh Focussor Processor Generic Jdk/lgdevGSeandh Focussor	Targets FCUBCLuter FCUBCLuter FCUBCLuter
"Herisaging Data Scences Data Scences Data Scences Persistent Stores Persistent Stores Providens "Wisk Centends "XOL Broty Caches "XOL Broty Caches "XOL Broty Caches "XOL Broty Caches "Control 305C genetic data sources Create 305C minit data sources Create 305C callain data sources Delete 100C data sources	Name #k Type JNOI Name PCUBDS As fully button in the Change Center to activate all the buttors on this page. Name #k Type JNOI Name PCUBDS Reard/DS Generic jdou/flighter/DS Reard/D Generic jdou/flighter/DS Reard/D PCUBDS	Targets FCUBSCAster FCUBSCAster FCUBSCAster FCUBSCAster
"Messaging "Data Sources "Founders INCO "Founders INCO "Founders "None Contends "Sources	Name +> Type INDI Name PCUBSDRandOD Generic jdbc/figder/DShandh PCUBSDR_ASTINC Generic jdbc/figder/DShandh PCUBSDR_VA Generic jdbc/figder/DShandh PCUBSDR_VA Generic jdbc/figder/DShandh PCUBSDR_VA Generic jdbc/figder/DShandh PCUBSDR_VA Generic jdbc/figder/DS_VA PCUBSDR_VA Generic jdbc/figder/DS_VA PCUBSDR_VA Generic jdbc/figder/DS_VA	Targets FCUBSChater FCUBSChater FCUBSChater FCUBSChater FCUBSChater
Messaging Data Sources Persistent Stores Persistent Stores Persistent Stores Persistent Stores Persistents "301. Britty Caches "301. Brit	Name Type JNOI Name FCUBSDRashDS Generic jdbc/figlex05 PCUBSDR_ASTINC Generic jdbc/figlex05_ASTINC PCUBSDR_MALDD Generic jdbc/figlex05_NA	Targets FOURSCAster FOURSCAster FOURSCAster FOURSCAster FOURSCAster



6.3 JDBC Parameters Tuning

Below JDBC parameters needs to updated for all the Datasources.

	VALUE	Navigate To
PARAMETER		
Connection Reserve time out	30	Connection Pool->Advance
Test Frequency	60	Connection Pool->Advance
Inactive connection time out	30	Connection Pool->Advance
Initial Capacity	1	Connection Pool
Max capacity	Based on Site Requirement	Connection Pool
Capacity Increment	5	Connection Pool
Shrink Frequency	900	Connection Pool->Advance
Test Connection on Reserve	Checked	Connection Pool->Advance
Statement Cache Size	50	Connection Pool



7. JMS Resource Creation

JMS Resource Creation involves various steps:

- Persistence Store Creation
- JMS Server Creation
- JMS Module Creation
- Resource Creation: Connection Factory and Queue's

Refer to the Configuring JMS on Weblogic Server for further details on JMS setup.



8. Oracle WebLogic Load Balancing

For Weblogic Load balancing, use

- 1) Oracle HTTP Server: Refer to Configuration for Oracle HTTP Server for setup.
- 2) Apache: Refer to Configuration for Apache for setup.



9. Frequently Asked Questions

9.1 Machine status is Unreachable

If the machine status is unreachable, means that machine is not reachable and from console you cannot start/stop the managed servers.

In the console, navigate through Domain structure \rightarrow Machines \rightarrow machine1 \rightarrow Monitoring \rightarrow Node Manager Status will be **Unreachable.**

To change the status, you need to start the node manager on that server. Refer to start node manager section on steps to start the node manager.

9.2 How to restart node manager?

- 1) Locate node manager pid using ps -ef|grep weblogic.nodemanager.javaHome
- 2) Change directory to \$DOMAIN_HOME/bin
- 3) Kill the unix process using kill -9 <pid>
- 4) Verify that the node manager is killed by *tail –f nohup.out*
- 5) Start node manager using nohup ./startNodeManager.sh &
- 6) Verify nodemanager is started using tail -f nohup.out

9.3 Scaling Up Dynamic Cluster

When the capacity is insufficient and you need to scale-up, you can add dynamic servers on demand. It requires only a few clicks.

1) Navigate to **FCUBSDomain** → **Environment** → **Clusters**.

WebLogic Server				CONTRACTOR OF STREET, STRE					
Change Center	1 10 H	tome Log Out P	references 🔛 Neco	eit Help.	9			Welcone, weblogic Co	method to: FCUBSDomain
View changes and restarts	Han	Hume -PC000455anglate >Surrenzey of Server Templates >RC002045Templates >Sommany of Chartere							
Click the Lock 5 Edit button to modify, add or delete items in this domain.	Same	sary of Cluster							
Lock & Edit		a sale summaris	es the clusters that I	have been configured in the cu	went Weblanis Serve	e domain.			
Release Configuration				over servers that work together					
Domain Structure	1								
Environment Servers Server Templates Higratable Targets	Che	ALC: NO DECISION OF		ent) ope Center to activate all the b	uttons on this page.			Showing 1 to	1 of 1 . Previous Next
Coherence Clusters Hachines Virtual Peets	16	Name -	Christer Address	Cluster Hessaging Hode	Migration Basis	Default Load Algorithm	Replication Type	Guster Broadcast Channel	Servers
- Werk Hanagers Startup and Shutdown Classes - Deployments	6	PCUBSChuter		Unicast	Detabase	Pound Robin	(None)		POUBSH53, POUBSH52, POUBSH53, POUBSH54
H Services Security Realm	IN	nr+ One	Deinte			2		Showing 1 to	1 of 1 Previous Next
How do L. II									



2) Click FCUBSCluster → Configuration → Servers tab.

TEPLOSIC SEIVELAU	mmaaaon o		126										\sim	
Change Center	🏦 Home Log Out Preferences 🖾 Record Help									ic Connected to: FCUBSDomain				
View changes and restarts	Home >Su Clusters >I			urces >Sum	mary of Clusters >	Summary of I	Machines >MAC-1 >Su	mmary of Machine	s >Summary (of Servers >Summary of	Server Te	emplates >Sumn	ary of Machines >Summary of	
No pending changes exist. Click the Release Configuration button to allow others to edit	Settings for FCUBSCluster													
Lock & Edit	Configuration		Monitoring Control		Deployments	Services	Notes							
Release Configuration	General	JTA	Messaging	Servers	Replication	Migration	Singleton Service	s Scheduling	Overload	Health Monitoring	нттр	Coherence		
Domain Structure	Save													
FCUBSDomain	This page is used to configure the servers that are assigned to this cluster. Clusters can contain both explicitly configured and dynamically created servers. The following settings are used to determine the number and characteristics for these dynamic servers.													
Server TemplatesMigratable TargetsCoherence ClustersCoherence ClustersMachines	Server Template:				FC	FCUBSMSTemplate •				Specifies the server template that is to be used to configure the dynamic servers in this cluster. Only templates that specify this cluster are valid choices. More Info				
Virtual Hosts Work Managers Startup and Shutdown Classes	Maximum Number of Dynamic Servers:				: 4	4				Specifies the maximum number of dynamic servers in this cluster. More Info				
Deployments Services	n Server Name Prefix:				FC	FCUBSMS				Specifies the prefix to be used when naming new dynamic servers in this cluster. More Info				

3) Change the Maximum Number of Dynamic Servers to 8. Click Save.

ORACLE WebLogic Server Administration Console 12c														
Change Center	🏦 Home Log Out Preferences 🔤 Record Help									Welcome, weblogic Connected to: FCUBSDomai				
View changes and restarts Home -Summary of Deats Sources -Summary of Clusters -Summary of Machines -MAC-1 -Summary of Machines -Summary of Servers -Summary of Servers -Summary of Machines -Summary of Clusters -Summary of Servers -Summary -Servers -Summary -Servers -Summary -Servers -Summary -Servers -Summ										mary of				
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Settings for FCUBSCluster													
Lock & Edit	Configuration Monitoring Control Deployments Services Notes													
Release Configuration	General JT	TA Messaging	Servers	Replication	Migration	Singleton Services	Scheduling	Overload	Health Monitoring	HTTP	Coherence			
Domain Structure Save														
FCUBSDomain		used to configure I contain both expl				ster. I servers. The following	g settings are u	used to deter	mine the number and	characte	ristics for thes	e dynamic servers.		
Server Templates Migratable Targets Coherence Clusters Machines									Specifies the server template that is to be used to configure the dynamic servers in this cluster. Only templates that specify this cluster are valid choices. More Info					
Virtual Hosts Work Managers Startup and Shutdown Classes	Maximum N	umber of Dynan	ic Servers	5: 8]			pecifies the maximum fo	number	of dynamic ser	vers in this cluster.	More	
EDeployments E-Services ⊡-Messaning	街 Server N	lame Prefix:		FC	UBSMS				pecifies the prefix to b uster. More Info	oe used v	/hen naming n	ew dynamic servers i	n this	

4) Activate changes in the **Change Center** of the Weblogic Console. After activation, 4 new Dynamic Servers are added to the Dynamic Cluster.

Name 🖗	Туре	Machine	Listen Port
FCUBSM51	Dynamic	MAC-1	7101
FCUBSM52	Dynamic	MAC-2	7102
FCUBSM53	Dynamic	MAC-1	7103
FCUBSM54	Dynamic	MAC-2	7104
FCUBSMS5	Dynamic	MAC-1	7105
FCUBSMS6	Dynamic	MAC-2	7106
FCUBSMS7	Dynamic	MAC-1	7107
FCUB5M58	Dynamic	MAC-2	7108

5) Start the 4 new Dynamic Servers and you have doubled you capacity.



9.4 Session Timeout

Session timeouts occur intermittently during load condition. Verify the following:

- 1. Clock Synchronization: Time across the nodes/machines is same.
- 2. Session Stickiness in load balancer: Persistence Type in load balancer should be set to SOURCE IP and should not be cookie.





FCUBS Weblogic 12c Middleware Practices [November] [2022]

Version 14.7.0.0.0

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

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

Copyright © 2007, 2022, Oracle and/or its affiliates. All rights reserved.

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

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

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

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

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

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