Configuring Weblogic Server 12c Oracle Banking Enterprise Limits and Collateral Management Release 14.7.0.0.0 Part No. F75024-01 [November] [2022]

FINANCIAL SERVICES

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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	
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Configuration Summary Configuration Progress End Of Configuration	What do you want to do? • Create a new domain • Update an existing domain Domain Location: /scratch/app/wl12c/user_projects/domains/FCUBSDomain Browse Create a new domain.
Help	< Back Next > 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 Configuration Summary Configuration Progress End Of Configuration	 ✓ Basic WebLogic Server Domain - 12.1.3.0 [wserver] * 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 [wserver] WebLogic JAX-WS SOAP/JMS Extension - 12.1.3.0 [oracle_common] 			
	Create Domain Using Custom Template: Template location: //scratch/app/wl12c Browse			
Help	< <u>Back</u> <u>Next></u> <u>Einish</u> 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 he the same as the nassion	ard Decement must contain at least 8 alphanume	ric characters with at least
	one number or special characte	r.	ric criaracters with at least
Hala		Z Back Nevt S	Einich 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 Development Utilize boot.properties for username and password, and poll for applications to deploy. Production Require the entry o a username and password, and do not poll for applications to deploy. JDK
Configuration Summary Configuration Progress End Of Configuration	Oracle HotSpot 1.7.0_75 /usr/java/jdk1.7.0_75 Other JDK Location: Browse
Help	Sector



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		
Administration Server	Server Name Listen Address Listen Port Enable SSL SSL Listen Port	AdminServer All Local Addresses 7001 7101 st be between 1 and 659	535, and differ	rent from liste	en port and coheren	e ()
Help				< Back	Next > Fi	nish 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	accurred. Decourred must contain at least 9 alphanumaris characters with at leas
	one number or special ch	assimutu. Passimutu musi cuntan arreasi o aphananinenc characters mith arrea: aracter.
Halm		Course
Пењ		



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

Configuration Summary		FUSIC			
Create Domain Templates Administrator Account Domain Mode and JDK Advanced Configuration Administration Server Node Manager Configuration Progress End Of Configuration	View: Deployment → FCUBSDomain (/scratch/app/w12c/user_projects/ → Server AdminServer	Name Description Author Location	Basic WebL Create a b Oracle Cor /scratch/a	ogic Server D asic WebLogic rporation upp/wll2c/wl	oomain : Server domair server/commo
	Select Create to accept the above options and start crea above configuration before starting Domain Creation, g the left pane, or by using the Back button.	ting and config o back to the re	uring a new elevant page	domain. To c by selecting	hange the its name in
Help		< <u>B</u> ack	<u>N</u> ext >	<u>C</u> reate	Cancel



9) Click Next.





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

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

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 FLEXCUBE users require one managed server of size 8GB. i.e. for 300 logged in FLEXCUBE 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 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 #	dministration Console 12c		õ
Change Center	(a) Horse Log Out Preferences Leel Record Help	4	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 Disck: New! [Pinnt:].Cancel		
Release Configuration	Machine Identity The following properties will be used to identify your new Machine.		
Consumers Structure FCISSCense FCISSCense FCISSCense FCISSCense Cohemics Clutters FCIstaters FCIstaters Structure Statutes Structure Statutes FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FCISSCENSE FC	* Manee: * Manee: * Manee: Specify the type of machine speciating system. Machined: Specify the type of machine speciating system.		
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 Java based node manager, what address and push is this Ends Manager configured to listen at?	
	Listen Address: Joca Troos	
8 Services Security Real ins	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 /	Administration Console 12c			<u>e</u> .
Change Center	Anne Lag Out. Preferences 🖾 House Help	A.	Welcome, weblogic	Connected for PCUBSDomain
View changes and restarts Click the Lock 5 Bilt instructor to modify, add or	Harte - Serverary of Hachines Hessages			
delete iterss in this domain.	All changes have been activated. No restarts are necessary.			
Lock & Edit Release Carilguration	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 r	tts one or more WebLogic Server instance epircation, are delegated. The Administrat	s (servers). WebLogic Server uses configured machine names to ton Server uses the machine definition in conjunction with Node	determine the optimum Nanager to start remote
CLUEDentals – Enternancet – Servers Bill-Clutters – Catasiance Clutters – Machinet – Vatial Hots – Votal Hots – Startig and Studdom Closes – Deployments – Servers – S	servers. This page displays lev information about each machine that has is Costomize this table Machines Click the Lock & Zulf Joston in the Change Center to activate a Table Click of Lock & Zulf Joston	been configured in the current WebLagic I the lastons on this page.	Server domain. Showing Type	1to 1 of 1 Previous Next
E: Diamostics	Machine1		Nachine	
How do 1	Name Dates Dates		Showing	1 to 1 of 1 Previous Next
Assign server instances to mathines Oren reachines Delete mathines				



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

	A many tax that that many the same state	Lo.	Webcars webbers Considering Willighter
Change Center	all none Logicus Prenerices End remoti help	1.4	Weichne, weblogic Connected to: PCUDNDoma
View changes and restarts	Home -Semmary of Plachenes		
Click the Lock & Edit batton to modify, add or delete items in this domain.	VESSages V All changes have been activated. No restarts are recessed	у.	
Lock & Eot	Summary of Machines		
Release Centgotation			
Domain Structure	A mechine is the logical representation of the computer that server is a duster to which certain tasks, such as HTTP cesa	hosts one or more WebLogic Server Instances (server Instances (server Instances))	vers). WebLogic Server uses configured machine menes to determine the optimum erver uses the machine definition in conjunction with Node Hanager to start remote
PCUB5Domain .	servers.		
B Swironment	This page displays key information about each machine that	has been configured in the current WebLopic Serve	r damain
Servers			
Coharange Charters			
Hachines	P Customize this table		
Wintual Hests	Machines		
***Work Planagers	Chell the Lock & fold better to the Cheven Center to extent	e all the hollow on this have	
Chartery and Chartelman Classes	City of about a care of the charge circle to active	e an one passon on one page.	
stands and pressources			
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Deployment Deployment Security Realing The concentration Security Realing The concentration Security Realing Crupte and configure reachines Crupte and configure reachines Anapp server instances to reachines	Herr Chore Deele Name A Hadrine1 Hadrine2 Herr Chore Deele	9 	Showing 1 to 2 of 2 Prentous Next Inchine Showing 1 to 2 of 2 Prentous Next Showing 1 to 2 of 2 Prentous Next
Deployment Deployment Bismoor Security Realing Bismoor Thereoperability Bismoor Create and configure machines Ansign server instances to machines Chore instances	Here Case Deep	1	Showing 1 to 2 of 2 Previous Next Inchine Inchine Showing 1 to 2 of 2 Previous Next
Deployments Description Security Realing The Description The Description The Description Security Realing The Description Security Realing	Here: Coore: Deete: Name => Padrise1 Here: Coore: Deete: Here: Coore: Deete:	7 5 5	Showleg 1 to 2 of 2 Frentaux Neet fachine fachine fachine Showleg 1 to 2 of 2 Frentaux Neet

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	A Home Log Out Preferences 🖾 Ancor	i Hela	Welcome, weblogic Connected to PCUBSDomain
New changes and restarts	Home >Summary of Plachinas >Plachina1 >Sor	many of Rachines >Rachine2 >Gummary of Rachines >P	PlachineL >Summary of RachineL >Rachine2 >Summary of Machines >Machines
Click the Lock & Edit betten to modify, add or	Settings for Machine 1		
derete items in this comun.	Configuration Homboring Notes		
Heliane Configuration	Node Manager Status Stole Manager	Log	
Domain Structure	They paper allows you be view current statu	n information for the Node Manager instance config	cored for this markane
POUSDonaiz -		a new second second second second	
Servers	Status:	Reachable	Correct status of this Node Planager. Nore Jafo
B Clusters Server Templotes Higher Templotes	Version:	12.1.3	Version string returned from the Node Planager. Here \mbox{Inf}_{R-1}
Stachares Work Monagers Stachap and Shatdoon 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.

ORACLE WebLogic Server Adn	ninistration Console 12c		<u>Q</u>
Change Center	🖬 Home Log Out Preferences 🔤 Record Help	Q	Welcome, weblogic Connected to: FCUBSDomain
View changes and restarts	Home >Machine2 >Summary of Machines >Machine1 >Sum	mmary 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 the domain. Lock & Edit Release Configuration	Create a New Dynamic Cluster Back Next Finish Cancel Specify Cluster Identity and Properties The following properties will be used to identify your	new dynamic cluster and specify how cluster members sho	uld communicate with each other to coordinate work.
Domain Structure	* Indicates required fields		
FCUBSDomain FCUBSDomain FCUBSDomain FGErenronent FGErenronent FGErenrone FGErenrone FGERenrone FGERenrone FGERenrone FGERenrone FGERenrone FGEREN FGERENF FGERENFFGERENF FGERENFFGERENFFGERENFFGER FGERENFFGERENFFGERENFFGER FGERENFFGER	What would you like to name your new dynamic cluster * Name: Clusters use messaging for sharing session, load bala simple broadcast technology that enables multiple app does not have these requirements. What messaging m Messaging Mode: Unicast Broadcast Channel:	r? FCUBSCluster Incling and failower, JMS, and other information between cluc actions to subscribe to a given IP address and port number inde should this cluster use? Unicast Unicast	ter members, Clusters can use either unicast or multicast messaging. Multicast is a er and listen for messages, but requires hardware configuration and support. Unicast
How do I 😑	Multicast Address:	239.192.0.0	
Create dynamic clusters Configure clusters Configure server migration in a cluster Configure cross-cluster replication	Multicast Port:	7001	
Create server templates			



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	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	Number of Dynamic Servers:	
Clusters	What naming convention would you like to use for new dynamic servers in this cluster?	
Migratable Targets Coherence Clusters	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	
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	Create a New Dynamic Cluster		
the domain.	Back Next Finish Cancel		
Palazza Conference	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:		
BI-Services 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	9	Welcome, weblagic Connected to: PCUBSDemain
View changes and restarts	Hore -Mathine2 -Sermary of Mathines -Mathine1 -Sermary of P	lectrons structure: «Summery of Servers »Summery of Ma	closes -Machinez -Summary of Servers -Summary of Clusters
No peoding changes exist. Click the Release Configuration button to allow others to adit the domain.	Create a New Dynamic Cluster		
Lock & Edit			
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Domain Structure	tistee muts for dynamic servers can be specified in a server two	relate or can be decembrally presented to be unique.	
PCUBSDomain +		share a ran an along provid Analysis of an endor-	
B-Endroorwent	Assign each dynamic server unique listen ports	\frown	
Chosters Server Templates Micratalia Targets	Listen Port for Pirst Server:	7002	
Coherence Clusters Nechines	SSL Listen Part for First Server:	7102	
- Virtual Hosts - Work Managers	Assign each dynamic server fixed listen ports		
- Dard numerity	Listen Port:	7100	
E-Services			
Sengitz Realms	SSL Listen Parti	8100	
How do 1_			
Create dynamic dusters Configure dusters	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		Q.
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El Clusters Server Templates	Maximum Number of Dynamic Servers:	*	
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Deployments Br-Senitoes	Configuration details for new server template:		
Sengity Realms	Name of New Server Template:	60	UBSHSTemplate
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· Create dynamic clusters			75
Configure dasters	SSL Listen Port:	71	62
· Configure server migration in a duster	Tenant memory (tenant) (second		
Configure cross-cluster replication	BROK REAL FROM GROCE		
Create server templates			



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

Changer Center View Changers and restarts Pending changers exist. They must be activated in table effect. Undo: A4 Changes Undo: A4 Changes Undo: A4 Changes Changer Changers	Hartnest - Sammery of this template to furthe ment WebLogic Server d	invest - Cormery of Hacheses - P r configure the servers in this of	V lachtmail - Sammary of Sa Austen	Wekone, webiqat j Connected	to PCUBSDam
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Domain Structure CL(#Comain - This page summarizes the clusters that have been configured in the cur P-instrument	nent WebCopk Server d	ionain.			
Server: A cluster defines groups of WebLogic Server servers that work together Charters Server: Templates Grown Templates Hightable Targets Castomize thin table Castomize Charters (Filtered - Mare Columns Exist)	to increase scalability	and reliability.			
-Virtual Hosts [James] [Came] [Danie]				Showing 1 to 1 of 1	Previous Next
Startup and Shutdown Classes	e Migration Basis	Default Load Algorithm	Replication Type	Cluster Besadcast Channel	Servers
Deployments B PCUBCluster Unical	Database	Found Robin	(None)		
-Second Realment				Showing 1 to 1 of 1	Previous Next
How do L.					

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

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Unange Center View changes and restarts	Harra (POURSHSTan	uble charmen of Sec-	er Tengiates (PD/B)P()Tengiat	- Summery of Ches	ters (
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- virus Penagers - virus Penagers - Startug and Stubburn Causes - Ceptoyments	C POSSO		Uncet	Detabase	Found Robin	(Norme)		POJ85HS1, POJ85HS2, POJ85HS3, POJ85HS4
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9) Navigate to **FCUBSDomain** \rightarrow **Environment** \rightarrow **Servers** tab and 4 new servers are created.

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New changes and restarts	1.00							
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Nomaia Minucture	1.	his page summarizes each server th	tat has been configured in	the current litebLigic Ser	ver donain.	40.000		
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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**.

	Administration Console 12c				<u> </u>
Change Center	🔒 Home Log Out Preferences 🔤 Recor	d Help		We	lcome, weblogic Connected to: FCUBSDomai
View changes and restarts	Home >Machine2 >Summary of Servers >Sum Templates	nary of Machines >Machine2 >Summary of	Servers >Summary of Clusters >Summ	ary of Servers >Summary of Server Te	mplates >FCUBSMSTemplate >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 templa A server template contains common, non- manage configuration for a group of serve	te that has been configured in the curr default attributes that you can apply to r instances in one centralized location	ent WebLogic Server domain. a set of server instances, which the	en inherit the template configuratio	n. Server templates enable you to easily
FCUBSDomain	Customize this table Server Templates New Clone Delete				Showing 1 to 1 of 1 Drawings Next
Coherence Clusters Machines	□ Name ↔	Cluster	Machine	Listen Port	Listen Address
Virtual Hosts	FCUBSMSTemplate	FCUBSCluster		7002	
Startup and Shutdown Classes	New Clone Delete				Showing 1 to 1 of 1 Previous Next
Security Realms	·				
How do I	3				
Create server templates					

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

A Home Log Out Preferent	ces 🐼 Record Help	9	Welcome, weblogic Connected to: FCUBSDomai
Home >PCUBSMSTemplate >So	immary of Server Templates :	FCUBSMSTemplate	
Settings for FCUBSMSTemp	plate		
Configuration Protocols	Logging Debug No	tes	
General HTTP Data Se	ource Diagnostic Image	5	
Save			
Use this page to define the	general logging settings f	or this server.	
🥂 Log file name:	logs/FCUBSM	ISTemplate.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_NAMEJog. More Info
Rotation			
D Determine the second	1.0		wards from the differences of a second difference between the



3)	Under Advanced tab,	update the	below par	rameters ar	nd click on	Save.

— ♥ Advanced —		
鑦 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
4을 Logger severity propertia	es:	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 v	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 :		
Severity 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 v	The filter configuration for log events being sent to the standard out. More Info
omain log broadcaster :		
ieverity 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 🔻	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
🖷 etdout Formati		The output format to use when logging to the console. More Info



3.3.2 HTTP Logging

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

B Home Log	Out Preference	es 🔛 Reco	and Help	Q	Welcome, weblogic Connected to: FCUBSDor
Home >FCU858	ISTemplate >Su	manary of Ser	ver Templates	>FCU05MSTemplate	
ettings for FC	UBSMSTemp	late			
Configuration	Protocols	Logging	Debug N	otes	
General HI	TP Data Sou	irce Diag	nostic Image	s	
Save					
Use this page server log file	to configure H or the domain	TTP logging log file.	for the serve	r. 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
Use this page server log file	to configure H or the domain	TTP logging log file. abled	for the serve	r. 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
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Use this page server log file HTTP acco C Log file n Rotation -	to configure H tor the domain ess log file en ame:	TTP logging log file.	for the serve	H. 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 The name of the log file. More Info
Use this page server log file HTTP acco C Log file n Rotation - Rotation	to configure H or the domain ess log file en ame: type:	TTP logging log file.	for the serve	r. By default, HTTP logging is enabled and th logs/access, log By Size •	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 The name of the log file. More Info Criteria for moving old log messages to a separate file. More 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 FLEXCUBE Universal Banking 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**.

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Change Cester	international and the state of the second states	Television of the second secon	A large statement of Second	and and a second s
View changes and restarts			Constitution of the second	
Click the Lock & Edit button to modify, add or delete items in this domain.	Summary of Servers			
Lock & Evil	Configuration Control			
Retrace Configuration	Use this page to change the state of the se mode requires the domain wide administrat	vers in this WebLogic Server domain. Ci ten port.	ntrol operations on Managed Serv	ers require starting the Node Manager, Starting Managed Servers in Standby
ET BETWEEN BETWEEN	Contraction and the second s			
B-Environment	0			
Servers Server Templates Server Templates				
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Counters Inverse Templates -Houstable Targets -Coherence Clusters -Hachines -Witaul Insets -Witaul Insets	© Centonice this table Servers (Filtered - Hore Columns Exist Start, Nexure, Suspend v. Shutte Server &	0 mt v. (Restart 354.) Machine	State	Shaving 1 to 5 of 5 Previous Rest Skatus of Last Action
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Outers Sover Templates "Sover Templates "Reparable Targets "Coherence Custers "Notual Posts "Winuel Posts "Winuel Restars "Deployments "Savies Sovers	Contonice this table Servers (Fibered - Hore Columns Exist Statt: Remore: Josepentar: Statt Server i/v An onServer(almon) Remore: An onServer(almon) Remore: An onServer(almon) Remore: An onServer(almon)	0 mitri (Restat 35), Plachae Hachael	State Runving SHUTDOWN	Shaving 1 to 5 of 5 Previous Red Status of Last Action Name
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Clusters -Sever Templates -Sever Templates -Sever Templates -Obsence Outers -Stacknee -Vistal Nats -Wink Tenapers -Stack and Sketove Classes -Sever Severes E-Severes How do 1	Contonice this table Servers (Filtered - Hore Columns Exist Stat: (Amone: Sassend.v: (Shoth Server # AnionServer(xims) Profiles(1) Profile(1) Profile(2) Profile(2) Profile(2)	0 mitivi [Restart SSL] Plachane Hachine1 Hachine2 Hachine1	State RUNKINS SHITDOWN SHITDOWN	Shaving 1 to 5 of 5 Previous Rest Status of Last Action None None None None
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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 FLEXCUBE application.

jdbc/fcjdevDS - This datasource is used by FLEXCUBE 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	c				Ξ
Change Center	1 Home Log Out Pr	eferences 🔤 Record Help	Q		Welcome, weblogic Connected to: FCU	BSDomain
Wew changes and restarts	Home >FCUESMSTemp	late >Summary of Server Templates :	>FCUBSHSTemplate >Summary of C	lutters >Summary of Servers >Se	animary of JDBC Data Sources	
No pending changes exist. Click the Release	Summary of JDBC Da	ta Sources				
Configuration button to allow others to edit the domain.	Configuration Ho	nitoring				
Look & Edit						
Release Configuration	A JDBC data source i borrow a database o	is an object bound to the JNDI tre connection from a data source.	e that provides database connect	tivity through a pool of 3DBC o	onnections. Applications can look up a data source on the JMDI tree and th	en 🛛
Domain Structure	This page summarize	es the JDBC data source objects t	hat have been created in this dar	rain.		
Startup and Shutdown Classes Deployments	Data Sources (Filte	ered - More Columns Exist)				
B-Services B-Messaging	New w Delets	7			Shewing 0 to 0 of 0 Previous	Next
Data Sources Persistent Stores	Generic Data Source		Туре	JNDI Name	Targets	
Foreign JNOI Providers	We uncure course There are no berea to display					
···· XML Registries ···· XML Entity Caches	hew will be a searce				Shawing 0 to 0 of 0 Previous	Next
-усом						

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



ORACLE WebLogic Server	Administration Console 12c	<u>0</u>
Change Center	🙆 Hare Lig Dut Preferences 🖾 Record Help	Welcome, weblogic Connected to: FOUBSDomail
View changes and restarts	Horee >FCURGHISTwoplate >Summary of Server Templater >FOURDRSTemplate >Summary of Clusters >Su	innery of Servera - Summary of JDBC Data Sources
No pending changes exter. Click the Release Configuration button to allow others to edit the domain.	Create a New JDBC Data Source	
Release Configuration	300C Data Source Properties The following properties will be used to identify your new JOBC data source.	
Contras Structure	resolution respected frames	
Preventer Servers Servers Templates Server Templates Server Templates Server Templates Server Templates Server Templates Server Templates Servers Servers Servers Servers Servers Servers Servers Servers	What would you like to name your new X08C data source?	
How do 1_		
Create 300C generic data sources Create 329-enabled 300C data sources	What database type would you like to select? Database Type:	
System Status 3 Health of Ranning Servers	Int Not Table Ganal	
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		Q.
Change Gester	🙆 Horse Log Out Preferences 📶 Record Help	1.9.1	Welcome, weblogic Connected to: PCUBSDomain
Wese changes and restarts	Home >PSU83MSTemplate >Summary of Server Templates >PSU83	187amplate >Summary of Clusters >Summary of Servers	-Sennary of 308C Data Searces
No pending changes exist. Click the Release Configuration batton to allow others to edit the domain.	Create a New JOBC Data Source Back Itent Printy Cancel		
Lock & Edd	and a state from the state		
Release Configuration	3DBC Data Source Properties The following properties will be used to identify your new JDB	IC data source.	
Domain Structure			
PCUEDursen B- Stankonment - Servers B- Clasters - Server TempSites - Highotoble Targets - Coherece Clasters - Machines - Virtual Mate - State Machines	Detabase Type: Oracle What database driver resuld you like to use to create database Dotabase Driver Database Driver	connections? Note: " indicates that the driver is eq stance connections. Versions Any	Alcity copparted by Oracle Weblungic Server.
Startup and Shutdows Classes	1945		•
P-Services P-Marradian			

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

ORACLE WebLogic Server Ad	dministration Console 12c	ğ
Change Center	🏦 Home Log Out Preferences 🖾 Record Help 📃 🔍 Welcome, weblogic Connu	ected to: FCUBSDomain
View changes and restarts	Home >FCUBSMSTemplate >Summary of Server Templates >FCUBSMSTemplate >Summary of Clusters >Summary 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 Finish Cancel Transaction Options You have selected non-XA JDBC driver to create database connection in your new data source.	
Domain Structure	Does this data source support global transactions? If yes, please choose the transaction protocol for this data source.	
FCUBSOmain Denvironment Servers Clusters Clusters Magnatable Targets Coherence Clusters Magnatable Targets Coherence Clusters	Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the <i>Logging Last Resource</i> (LLR) transaction option Recommended in place of Emulate Two-Phase Commit.	imization.
Virtual HostsWork ManagersStartup and Shutdown ClassesDeploymentsServices	Select this option if you want to enable non-XA JDBC connections from the data source to emulate participation in global transactions using JTA. Select this option only if your app heuristic conditions. Emulate Two-Phase Commit	plication can tolerate
How do I	Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the one-phase commit transaction processing. W other resources can participate in the global transaction.	Vith this option, no
Create JDBC generic data sources Create LLR-enabled JDBC data sources	One-Phase Commit Back Next Finish Cancel	
System Status		



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

Change Center	😰 Home Log Ost. Prefarences. 📐 Record Help	9	Welcome, weblogic Connected ba: FCUBSDonnah
View changes and restarts	Hane >PCLRSMSTamplate =Summary of Server Templates =PCLRSH1	Template stummery of Clusters interviewy of Servers –Se	insury of 200C Data Sources
No pending changes exist. Click the Release Configuration batton to allow others to add the domain. Lock & Edd Release Configuration	Create a New 205C Data Source Baok. (Next) (Frenh) (Careet) Connection Properties		
Domain Structure	Denne Contection Properties.		_
F187main	What is the name of the database you would like to connect to?		
P Environment Servers	Database Name:		1
El-Clusters	What is the name or IP address of the database server?		
-Mgratable Targets			
Coherence Clasters	Post Name:		
- Virtual Hosts	What is the port on the database server used to oppract to the s	atabase?	
-Work Managers		Read and the second sec	2
1-Startup and Stubdown Claures	Port:	1521	
B Services	The second s		
B-Hestation 7	What database inclusing user name do you want to use to create	database connections?	
How do I	Database User Name:		I
Create JDBC generic data sources	What is the database account password to use to create database	ie connections?	
 Create UR-enabled JDBC data sources 		1899 Jun	
	Password:		1
System Status	Contine Processed		
Health of Running Servers	Commin Password.		
Failed (0)	Additional Connection Properties:		
Critical (0)			
Overlaaded (3)	oracle.jdbc.DRCPConnectionClass:		
in aming (0)	THE REPORT OF A DECEMBER OF A		

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							
Change Center	🙆 Home Lag Out Preferences 🔤 Recard Help	Q.	Welcome, weblogic Connected to: FCUBSDomain					
View changes and restarts	Home SPCURSHSTemplate Summary of Server Templates SPC	UBSHSTenglate >Summary of Clusters >Summary of Servers >S	iummary of JDBC Data Sources					
Na pending changes exist. Click the Release Configuration bottom to allow others to exist the densite. Lock & Edit Roleane Configuration	Create a New JDBC Data Source Text Configuration Back Next Cancel Text Database Connection Text the database availability and the connection properties you provided.							
Domain Structure	What is the full package page of 3DBC driver class used to	create database connections in the connection pool?						
FCUBSDomain FCUBSDomain FCUBSDomain FCUBSDomain FCUBSDomain FCUBSDomain FCUBSDomain FCUBSDOmain FC	(Note that this driver class must be in the classpath of any	server to which it is deployed.)						
GClusters Server Templates Higratable Targets	Driver Class Name:	oracle.jdbc.OracleDriver						
Coherence Clusters	What is the URL of the database to connect to? The format	of the URL varies by JOBC driver.						
Wirtual 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 LLR-enabled JDBC data sources	(Note: for secure password management, enter the passw	rd in the Password field instead of the Properties field bel	low)					
System Status 🖂	Password:							
Health of Running Servers	Confirm Password:							
Patied (0) Critical (0) Overloaded (0) Warring (0) OK (5)	What are the properties to pass to the 208C driver when o Properties: USEC+ <u>ECUBS121USER</u>	eading the abuse consettues/						

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

WebLogic Server A	ananisawoon Consple 12c	
Change Center	😰 Henre Lug Out, Preferences 🔤 Record Help	Welcome, weblogic Corrected to: FOUBSDomail
View changes and restarts	Rone >FOURSPISTemplate >Summary of Server Templates >FOURSMSTemplate >Summary of Oustace >Summary	ry of Servers -Summary of JDBC Data Sources
No pending changes exist, Click the Release	Greate a New JDBC Data Source	
Cantiguration button to allow others to edit the domain.	Sack (Net) Pask Garcal	
Release Configuration	Select Targets Vision relations or more treation to deduce our resulting data search. If we don't relation to result	the data course will be masted but not desire all you will need to desire the data secure at a
Domain Structure	later time.	ne delle result, des le richtes fee une achestore ree des richte in achest the reise session de la
FCUBSDemain +	Servers	
-Servers	C AdminServer	
Server Templates		
Caberence Clusters	Canters	
-Hachines	R FOURSCluster	
Work Managers	All servers in the cluster	
L-Startup and Shubdown Classes		
Deplayments	Back Next Field Cancel	
B-Henerico -	Renzed ()	



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.

	A second s	
Change Center	W Have Lig Out Hereites Wed Record Help	Welcome, weblogic Corrected to: FO/BSDoma
View changes and restarts	Hane >FCU8SHSTemplate >Summary of Server Template >FCU8SHSTemplate >Summary of Clustere >Summary of Server	1 -Sammary of 30BC Data Sources
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	300C Data Source Properties	
Domain Structure	The following properties will be used to identify your new JDBC data source.	
PCUBSDomain *	* Indicates required helds	
Servers	What would you like to name your new JDBC data counte?	
-Server Templates Pitratable Torgets	de * Nomes FCUBSBranchDS	
	What JNDI name would you like to assign to your new JDBC Data Source?	
-Virtual Hosts Work Managers	(INDE Name:	
Startag and Shutdown Classes	jdbc/fcjdevQSBranch	
B-Senices		
B-Hestapion .		
How do 1		
Create IDBC generic data sources	What database type would you like to select?	
Create LLR-enabled 3DBC data sources	Database Type: Oracle v	
System Status 🛛		
Health of Ramping Servers	Bain Hent Carcel	
Failed (0)		



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	9	Welcome, weblogic Connected to: FCUBSDomain
Wew changes and restarts	Home >PCUBSHSTemplate >Summary of Server Templatee >PCUBSH	STemplete - Summary of Clusters - Summary of Serve	ex >Summary of JDBC Data Sources
Pending changes exist. They must be activated to take effect.	Greate a New JDBC Data Source		
Activalia Churges	Back Next Print Cancel		
Undo All Changes	108C Data Source Properties		
Domain Structure	The following properties will be used to identify your new 1080	data seurce.	
POUSDonain POUSDonain POUSDonain Pouso Pouso Pouson Pouso Pouson	Detabase Type: Oracle What dotabase firver weekly wollike to use to use to use to dotabase Database Devee: Oracle's Driver (Thin XA) for Back Newt Press: Cancel	onnections? Note: * indicates that the driver is o Instance connections; Versions:Any	explicitly 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 affect	Create a New JDBC Data Source	
Activate Changes	Back Next Frinh Cancel	
Undo All Changes	Transaction Options	
Domain Structure	You have selected an XA JDBC 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.	vill support global transactions and use the 'Two-Phase Commit' global
COUSConsil Construction Construction Construction Construction Construction Construction Particles Construction Particles Construction Particles Construction	Back Heat Prints Cancel	



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

Change Center
View changes and restarts Home >FOURSHSTemplate >Source Prefing banges exist. They must be activated to take effect. Greate a New JOBC Data Source Undo Al Charges Data (Internet) Undo Al Charges Connection Presenties
Parafing changes exist. They must be activated Create a New JOBC Data Source Image: Source Control Changes Back Meet Finith Cancel Undo Al Changes Connection Presenties Connection Presenties Connection Presenties
Activate Changes Back Heat Finite Connection Properties
Undo All Champton Connection Properties
Domain Structure Define Connection Properties.
FCUBSDemain What is the name of the database you would like to connect to? Environment Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names Database Names
Scheme Maximum Famplates Maximum Famplates What is the name or IP address of the database server? Scheme Cousters Heat Name:
With langer What is the port on the database server used to connect to the database? Work langer What is the port on the database server used to connect to the database? Startup and Shutdown Classes Port: Services 1621
Hinterstation What database account user name do you wait to use to create database come tilions?
How do I E Database User Name:
Oreate LIR-analied JDBC data sources What is the database account password to use to create database connections
System Status Based Status
Health of Running Servers Confirm Password:
Fase (0) AddDaval Connection Properties: Orwelroaded (0) evaluation (0) Warning (0) evaluation Connection Classe OK (5) Back Meets Printel Classed

Change Center	1 Hume Log Out Preferences 🔤 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								
Activate 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 Higratable Targets	Driver Class Name:	oracle.jdbc.xa.client.OracleX.							
-Hachines	What is the URL of the database to connect to? The form	of the URL varies by 3DBC driver.							
Virtual Hests Work Henagers Startup and Stubdown Classes	URL:	jdbc.anacie oci @IDESCRIP							
Deployments	What database account user name do you want to use to	create database connections?							
B-Neccoles *	Database User Name:	FC121DB							
How do I									
Create 30BC generic data sources	What is the database account password to use to create	database connections?							
Create LLK-enabled 108C data sources	(Nate: for secure paceword wavagement, extentive pace	which is the Passward field instead of the Properties (reld below)							
System Statue	Password:								
Health of Running Servers									
Failed (0)	Contirm Password:								
Critical (0) Overloaded (0)	What are the properties to pass to the JDBC driver when	CHARTER CHINACTORY							
Warning (0)	Properties	· · ·							
OK(S)	user=FCUBS121User								



ORACLE WebLogic Server Ad	trainistration Compole 12c		
Change Center	😰 Home Log Out Preferences 🔤 Record Help	4	Welcome, weblogic Connected to: FCUBSDoma
West changes and restarts	mane -POJ85MSTeriplek >Survey of Server Templeter (POJ85	HSTerglate -Summary of Clinters -Summary of Server	s - Summary of 30BC Data Sources
Pending changes exist. They must be activated	Create a New JDBC Data Source		
Activate Changes	(Back) (Swell (Fresh) (Cancel)		
Unde Ad Changes	Select Targets		
Doosain Structure	You can select one or more targets to deploy your new 3080 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
PCUESDomain IB-Environment	Servers		
B-Ousters Server Templates	C AdminServer		
Higratable Tergets Coherence Clusters	Oesters		
Victual Hests	FCURSChaster		
Startup and Shutdown Classes			
Deployments IE-Services	Back Freit Freit Carcel		

6) Upon Activate Changes would create the XA Datasource.

ORACLE WebLogic Server A	dministration Console 12c			<u> </u>			
Change Center	Anne Log Out. Preferences 🔛 Know	-J Help	Q	Welcome, weblogic Connected to: FO0BSDoma			
View changes and restarts	Hare >POJESHS7argide >Sormary of Ser-	er Templates >52/85HS7emplate >54	remary of Challers -Summary of Servers -Summary of	X0C Data Science +PC/8005 +Sammary of 300C Data Seames			
Click the Lock & Edit button to modify, add or	Summary of 2016 Data Sources						
Lock & Edit	Configuration Hostoring						
Demain Comparison Possion Possion Virtual Holds Virtual Holds	 a 200C data source is an object bound to bornin a database connection from a dat This page summarizes the 200C data sou if Contomize this table: Data Sources (Fibered - More Colum Click the Lock & Edif button in the Chan 	the NRC tree that provides databa is source. The abjects that have been created mn Exist) ge Center to activate all the buttoe	ue connectivity through a pool of JDBC cunnection in this domain. Is on this page.	n. Applications can look up a data source on the TREE true and then			
Persistent Stores Foreign 1952 Providers	Terrier Colline Shaving 1 to 2 of 2 Previous Next						
Werk Contracts							
- XHL Entry Caches	CuttibranchOS	Generic	atho/fode-DSBranch	PCUBSCluster			
- 1. krow -	CI POUBSDS	Generic	38c/fg6n05	FCUBSClutter			
How do L_	(have w) [Deterin]			Quantum 1 to 2 of 2 Previous 1 lieut			

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

ORACLE: WebLogic Server Ad	ministration Console	12c			<u> </u>					
Change Center	🟦 Home Log Or	😰 Home Log Out Preferences 🖾 Record Help								
Wew changes and restarts	Home >PCUBSMS1 Sources >PCUBSB	Home #PCUERHSTemplate Scummary of Cultures Scummary of Servers Scummary of 200C Data Sources #PCUERSC >Scummary of 200C Data S								
Click the Lock & Edit buttoe to modify, add or delete items in this domain. Lock & Edit Release Configuration	Messages # All changes I Summary of JDB	ave been activated. No restart C Data Sources	ts are necessary.							
The set of sign over 1	Configuration	Honitoring								
"With Wrods "With Wrodss "Startup and Shutdown Classes "Deployments "Devices # Hessaging "Deta Sources "Positizet Stores "Farsign TND Providers "Work Contexts "Work "Work Contexts "Work "W	es A 100C data source is an object bound to the JNDI tree that provides database connectivity through a pool of JDBC connections. Applications can look up a data source on the JNDI tree and then borrow a database connection from a data source on the JNDI tree and then borrow a database connection from a data source objects that have been orwated in this domain. Customize this table Data Sources (Fibered - More Columns Exist) Click the Lock & Edd button in the Change Center to activate all the buttons on this page. Nearest Column 1 to a data but the Column 2 to activate all the buttons on this page. Nearest Column 2 to act data database connection in the Change Center to activate all the buttons on this page.									
	🗆 Name 🔿		Туре	JNDI Name	Targets					
How do L.,	E FCUBSBra	ich05	Generic	jdbc/fcjdevDSBranch	FCUBSCluster					
 Create 3DBC generic data sources 	PCUBSDS		Generic	jdbc/fcjdev05	FCUBSCluster					
Create 3DBC GridLink data sources	PCUBSDS_	ASYNC	Generic	jdbc/fcjdevDS_ASYNC	PCUBSCharter					
Create JDBC multi data sources Delate IDBC data sources	E POUBSDS	XA	Generic	jdbc/fcjdev05_XA	FCUBSCluster					
Delete JDBC multi data sources	E FCUBSSIC	eduler06	Generic	jdbc/ftjSchedulerDS	FOUBSCluster					
	PLD/TEST.	WORLD	Generic	FLEXTEST.WORLD	FCUBSCluster					
System Status 🖂	New - Dele	(e			Showing 1 to 6 of 6 Previous Next					
Health of Running Servers										



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** \rightarrow **Environment** \rightarrow **Clusters**.

				CONTRACTOR OF THE OWNER							
Change Center	1 10 H	tome Log Out P	references into Press	vit Help	9			Welcone, weblogic Co	method to: FCU85Dumain		
View changes and restarts	Harr	Hume +PC0E0455mplate >Summary of Sarver Templates >ScutterETemplates >Seemenary of Chartery									
Click the Lock 5 Edit button to modify, add or delete items in this domain.	Same	Summary of Ousters									
Lock & Edit		This page summarizes the clusters that have been configured in the current WebLopic Server domain. A cluster defines groups of WebLopic Server servers that work together to increase scatability and reliability.									
Release Configuration	A										
Domain Structure	1										
B Environment Servers B Clasters Server Templates Horactalle Tarpets	Che Che	sters (Filtered 5 the Lock & Ex	• More Columns E M botton in the Char [Drinte]	ost) ope Center to activate all the b	uttons on this page.			Showing 1 to	1 of 1 Previous Next		
Coherence Clusters Hachines	10	Name 🙃	Christer Address	Cluster Messaging Hode	Migration Basis	Default Load Algorithm	Replication Type	Guster Broadcast Channel	Servers		
-West Managers - Startup and Shotdown Classes - Deployments	6	PCUBSChutter		Unicast	Detabase	Round Robin	(None)		POUBSH51, POUBSH52, POUBSH53, POUBSH54		
-Secucity Realmy -	110	nr + Dint	Deinte			2		Showing 1 to	1 of 1 Previous Next		
How do L. II											



2) Click FCUBSCluster → Configuration → Servers tab.

Change Center	A Home Log Out Preferences 🖻 Record Help Ketome, weblogic Connected to: FCUBSDa								
View changes and restarts Home Summary of DBC Data Sources Sourmary of Clusters >Summary of Machines >NMC-1 >Summary of Machines >Summary of Server Templates >Summary of Machines >Summary of Server Templates >Summary of									
No pending changes exist. Click the Release Configuration button to allow others to edit	Settings for FCUBSCluster								
Lock & Edit	Configuration Monitoring Control Deplo	yments Services Notes							
Release Configuration	General JTA Messaging Servers Rep	lication Migration Singleton Services Scheduling Over	load Health Monitoring HTTP Coherence						
Domain Structure	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 Template:	FCUBSMSTemplate •	Specifies the server template that is to be used to configure the dynamic servers in this duster. Only templates that specify this duster are valid choices. More Info						
Virtual Hosts Work Managers Startup and Shutdown Classes	Maximum Number of Dynamic Servers:	4	Specifies the maximum number of dynamic servers in this cluster. More Info						
Deployments E-Services Messaning	👸 Server Name Prefix:	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: FCUBSDomain				
View changes and restarts	Home >Summary of DBC Data Sources >Summary of Machines >MAC-1 >Summary of Machines >Summary of Server Templates >Summary of Machines >Summary of Cerver Templates >Summary of Machines >Summary of Server Templates >Summary of Server Templates >Summary of Server Server Server Server >Summary of Server Templates >Summary of Server Templates >Summary of Server Serv												
No pending changes exist. Click the Release Configuration button to allow others to edit the domain.	Settings for F	CUBSCluster											
Lock & Edit	Configuratio	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	This page is Clusters can	used to configure I contain both expl	the servers ictly config	s that are assign ured and dynam	ned to this clu ically created	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	Server Temp	Server Template: FCUBSMSTemplate Maximum Number of Dynamic Servers:						St se ch	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							Sı İn	Specifies the maximum number of dynamic servers in this cluster. More Info				
EDeployments E-Services ⊡-Messaning ▼	街 Server N	lame Prefix:		FC	UBSMS			Sr cl	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
FCUBSMS1	Dynamic	MAC-1	7101
FCUBSMS2	Dynamic	MAC-2	7102
FCUBSMS3	Dynamic	MAC-1	7103
FCUBSMS4	Dynamic	MAC-2	7104
FCUBSMS5	Dynamic	MAC-1	7105
FCUBSMS6	Dynamic	MAC-2	7106
FCUBSMS7	Dynamic	MAC-1	7107
FCUBSMS8	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.





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

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

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