

Oracle FLEXCUBE Direct Banking

Clustering on Weblogic 11g

Release 12.0.3.0.0

Part No. E52543-01

April 2014

ORACLE®

Clustering On Weblogic 11g

April 2014

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

www.oracle.com/financialservices/

Copyright © 2008, 2014, 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.

Contents

1. Preface	
1.1. Intended Audience.....	5
1.2. Documentation Accessibility.....	5
1.3. Access to OFSS Support.....	5
1.4. Structure	5
1.5. Related Information Sources	6
2. Abbreviations	7
3. Overview	9
3.1. Pre-requisites	10
4. Introduction to Weblogic Cluster	11
5. Creating Weblogic Cluster	14
6. Creating Managed Servers on Remote Machines	17
6.1. Using admin servers on Machine A and Machine B	19
6.2. Using Admin Server on Machine A and WLST	20
7. Adding Servers to Weblogic Cluster	22
8. Deploying FCDB on Weblogic Cluster	26

1. Preface

1.1. Intended Audience

This document is primarily targeted at

- Oracle FLEXCUBE Direct Banking Development Teams
- Oracle FLEXCUBE Direct Banking Implementation Teams
- Oracle FLEXCUBE Direct Banking Implementation Partners

1.2. Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

1.3. Access to OFSS Support

<https://support.us.oracle.com>

1.4. Structure

This document consists of the following chapter

Chapter 4, "Introduction to Weblogic Cluster"

This chapter discusses the clustered architecture overview of Weblogic 11g.

Chapter 5, "Creating Weblogic Cluster"

This chapter discusses the steps to create Weblogic Cluster.

Chapter 6, "Creating Managed Servers on Remote Machines"

This chapter discusses the ways with which managed servers can be created on remote machines.

Chapter 7, "Adding Servers to Weblogic Cluster"

This chapter briefs that after creating the managed servers how to add them to already created Weblogic Cluster.

Chapter 8, "Deploying FCDB on Weblogic Cluster"

This chapter discusses the way to deploy FCDB on Weblogic Cluster.

1.5. Related Information Sources

For more information on Oracle FLEXCUBE Direct Banking Release 12.0.3.0.0, refer to the following documents:

- Oracle FLEXCUBE Direct Banking Licensing Guide

2.Abbreviations

FCDB	Oracle FLEXCUBE Direct Banking
HTTP	Hyper Text Transfer Protocol
J2EE	Java 2 Enterprise Edition
WL	Weblogic 11g

3.Overview

This document discusses following topics

- Creating and managing Weblogic 11g Cluster.
- Deploying FCDB Application on Weblogic 11g Cluster.

3.1.Pre-requisites

1. Oracle FLEXCUBE Direct Banking application is successfully installed using Oracle FCDB Installer.

4.Introduction to Weblogic Cluster

Some salient features of the Weblogic 11g Cluster are mentioned below.

- 1) In a cluster, server instances can lie on different machines.
- 2) All server instances will belong to the same domain.
- 3) All the server instances are controlled using a single Admin server.
- 4) That Admin server could be the Admin server on any of the machines or it could be and Admin server on a totally different machine.
- 5) The Node Manager is a service provided by Weblogic that runs on every machine and is generally used to manage managed server instances on that machine.
- 6) We have to ensure that the Admin Server communicates with the Node Manager on each machine so that we can start/shut down the server instances in the cluster using a single Admin server.
- 7) The version of Weblogic used on all the machines must be the same.

The following diagram shows you how a managed server on a remote machine can be managed from Admin Server on another machine. (Figure 4.1)

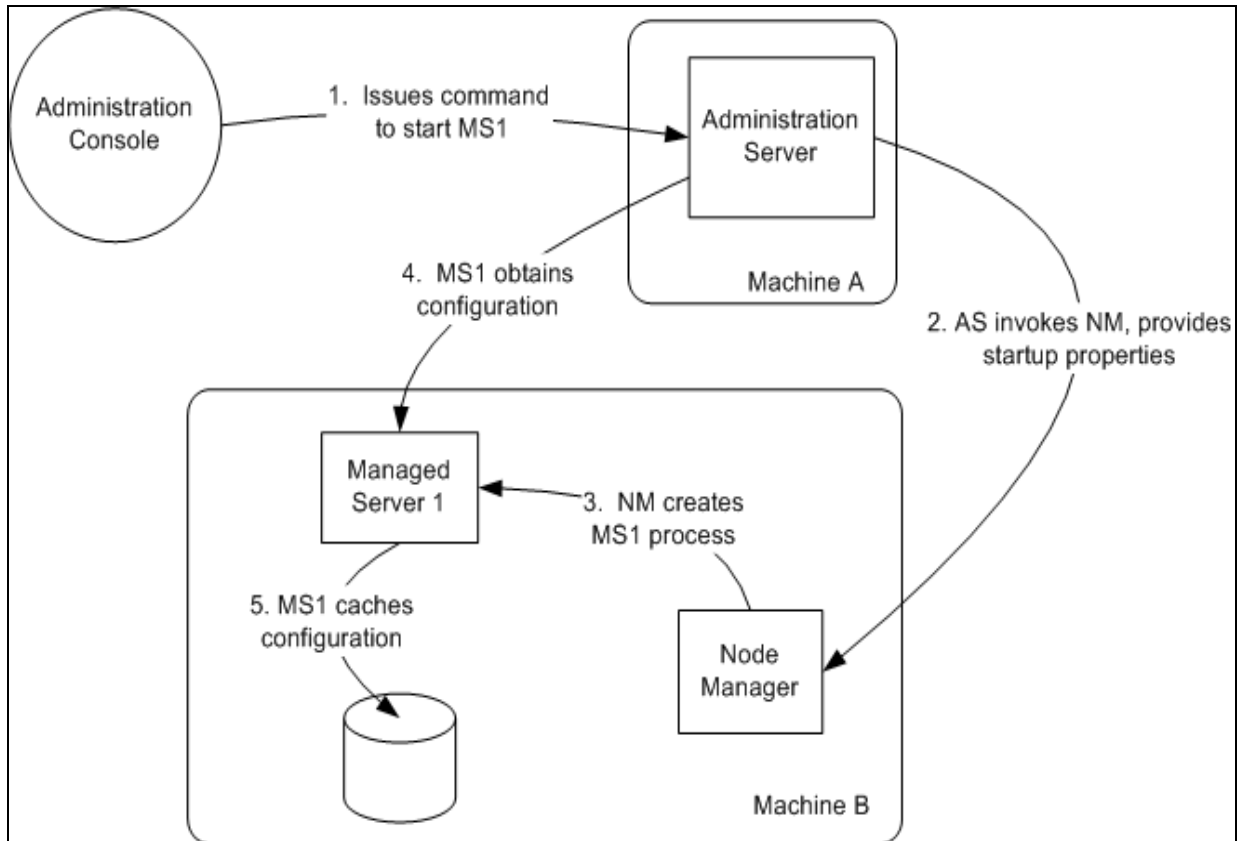


Figure 4.1

5.Creating Weblogic Cluster

1) In the BEA WebLogic Server Administration Console, click on Environment > Clusters

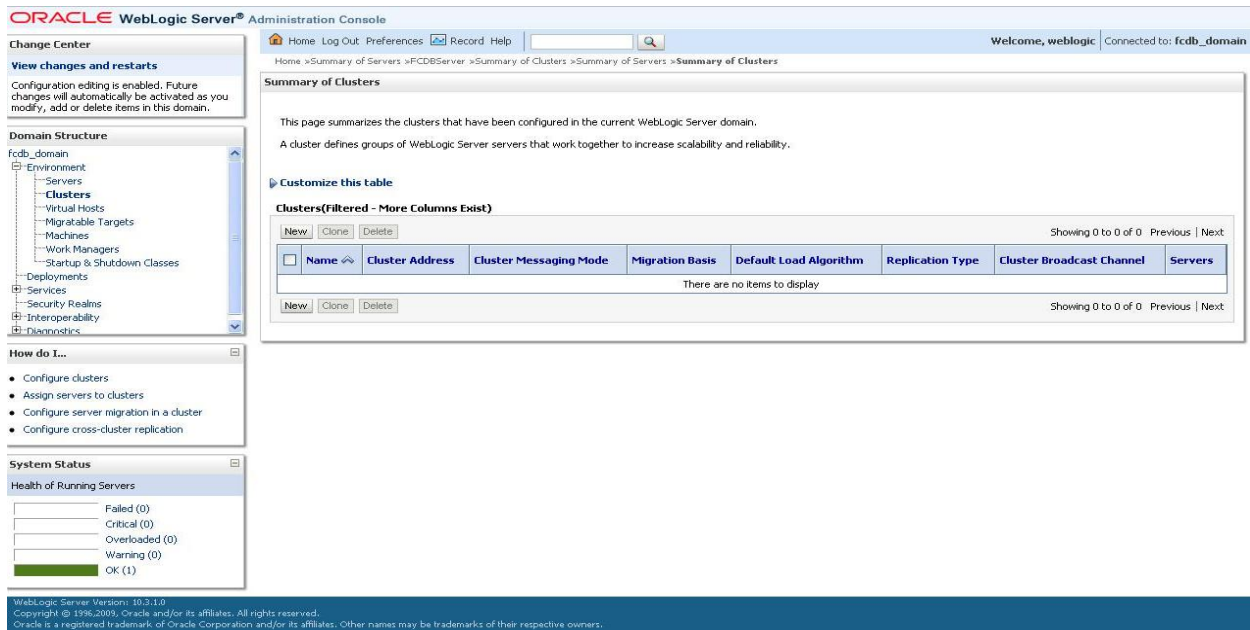


Figure 5.1

- 2) Click on “New”
3) Enter the Name as “FCDB_Cluster_1” (Figure 4.2)

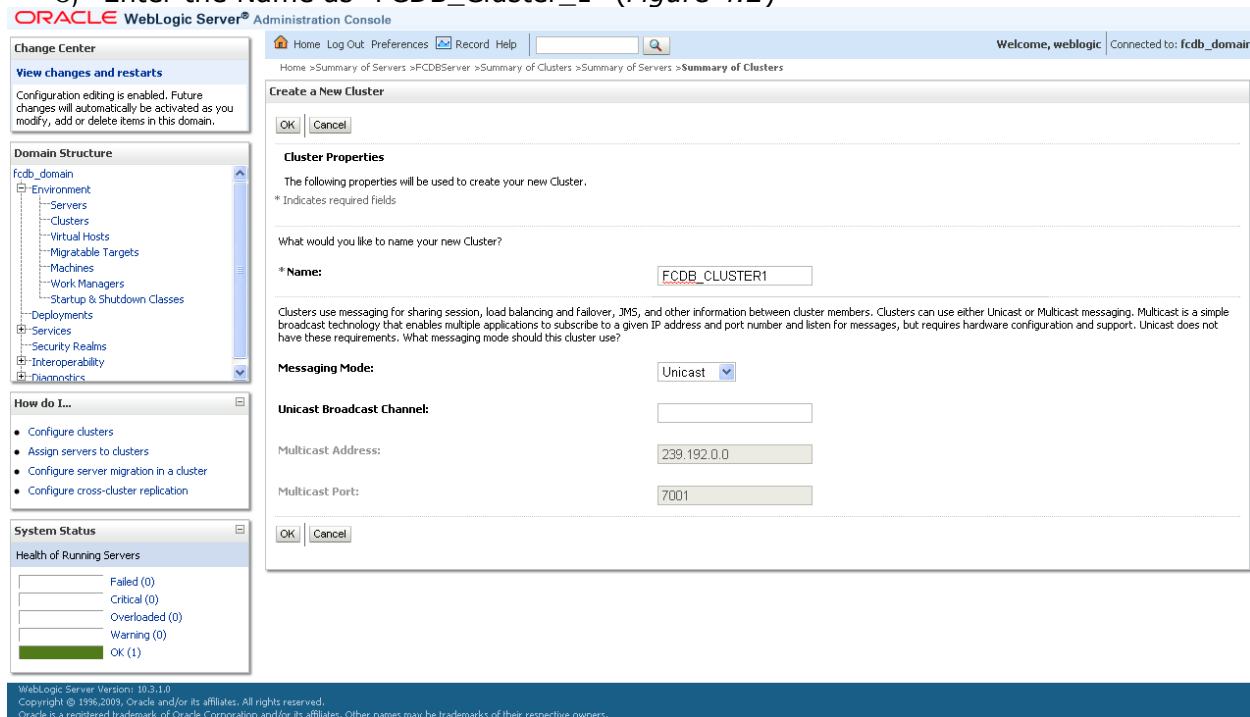


Figure 5.2

- 4) Click on “OK”

5) Click on “Activate Changes” button (*Figure 5.3*)

ORACLE WebLogic Server® Administration Console

Home Log Out Preferences Record Help Welcome, weblogic Connected to: fcdb_domain

Change Center
View changes and restarts
Configuration editing is enabled. Future changes will automatically be activated as you modify, add or delete items in this domain.

Domain Structure
fcdb_domain
Environment
Servers
Clusters
Virtual Hosts
Migratable Targets
Machines
Work Managers
Startup & Shutdown Classes
Deployments
Services
Security Realms
Interoperability
PlanAnnotations

How do I...
• Configure clusters
• Assign servers to clusters
• Configure server migration in a cluster
• Configure cross-cluster replication

System Status
Health of Running Servers
Failed (0)
Critical (0)
Overloaded (0)
Warning (0)
OK (1)

Summary of Clusters
This page summarizes the clusters that have been configured in the current WebLogic Server domain.
A cluster defines groups of WebLogic Server servers that work together to increase scalability and reliability.

[Customize this table](#)

Clusters (Filtered - More Columns Exist)

Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
FCDB_CLUSTER1		Unicast	Database	Round Robin	(None)		

Showing 1 to 1 of 1 Previous Next

WebLogic Server Version: 10.3.1.0
Copyright © 1996, 2009, Oracle and/or its affiliates. All rights reserved.
Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Figure 5.3

6.Creating Managed Servers on Remote Machines

There are 2 ways in which we can create and manage managed server instances on remote machines. Refer to Figure 5.1 above as an example to create and manage one managed server instance on a remote machine.

6.1.Using admin servers on Machine A and Machine B

- 1) Create Machine B using the Admin Console of Machine A. The “listen address” attribute will be the IP address/machine name of Machine B.
- 2) Create a server Managed Server 1 using the Admin Console of Machine A and associate it with Machine B.
- 3) Create Machine B using the Admin Console of Machine B. The “listen address” attribute will be the IP address/machine name of Machine B.
- 4) Create a server Managed Server 1 using the Admin Console of Machine B and associate it with Machine B.
- 5) Please note that the name and listen port of the managed servers created on both machines should be the same. The domain name used on both machines should also be the same.

The server “Managed Server 1” created using the Admin Console of Machine A is merely a link to the actual managed server instance that we created on Machine B by using Admin Console of Machine B.

If we need to control server instances on different machines using Admin Server of Machine A, then we need to create server instances on those machines using their respective admin servers and then create links to all those server instances on Machine A using the Admin Server of Machine A.

Now, Node Manager on Machine B will not allow the Admin Server on Machine A to start “Managed Server 1” unless the Admin Server of Machine A provides valid credentials. “Valid Credentials” here refer to the username/password of a user of “Managed Server 1” who has the privileges to start “Managed Server 1”.

To pass these credentials,

- 1) Click on “Managed Server 1” using Admin Console of Machine A.
- 2) Click on “Server Start”.
- 3) Specify Arguments

```
-Dweblogic.management.username=<user_name>  
-Dweblogic.management.password=<password>
```

Now if you start “Managed Server 1” using the Admin Console of Machine A, it will start correctly. If you log into Admin Console of Machine B, you will see that the server instance has started correctly.

6.2.Using admin servers on Admin Server on Machine A and WLST

We use Weblogic Scripting Tool (WLST) so as to register the Node Manager on Machine B with the Admin Server of Machine A so that we don't have to explicitly pass credentials in order to start "Managed Server 1".

- 1) Start the Command Prompt on Machine B.
- 2) Change directory using `cd D:\bea\user_projects\domains\fcdb_domain\bin`
- 3) Run the batch file "setDomainEnv". Running this batch file will set all the appropriate JARs that we will need ahead, in the class path.
- 4) Start the WLST using the command
- 5) `java weblogic.WLST` (Figure 5.2.1)

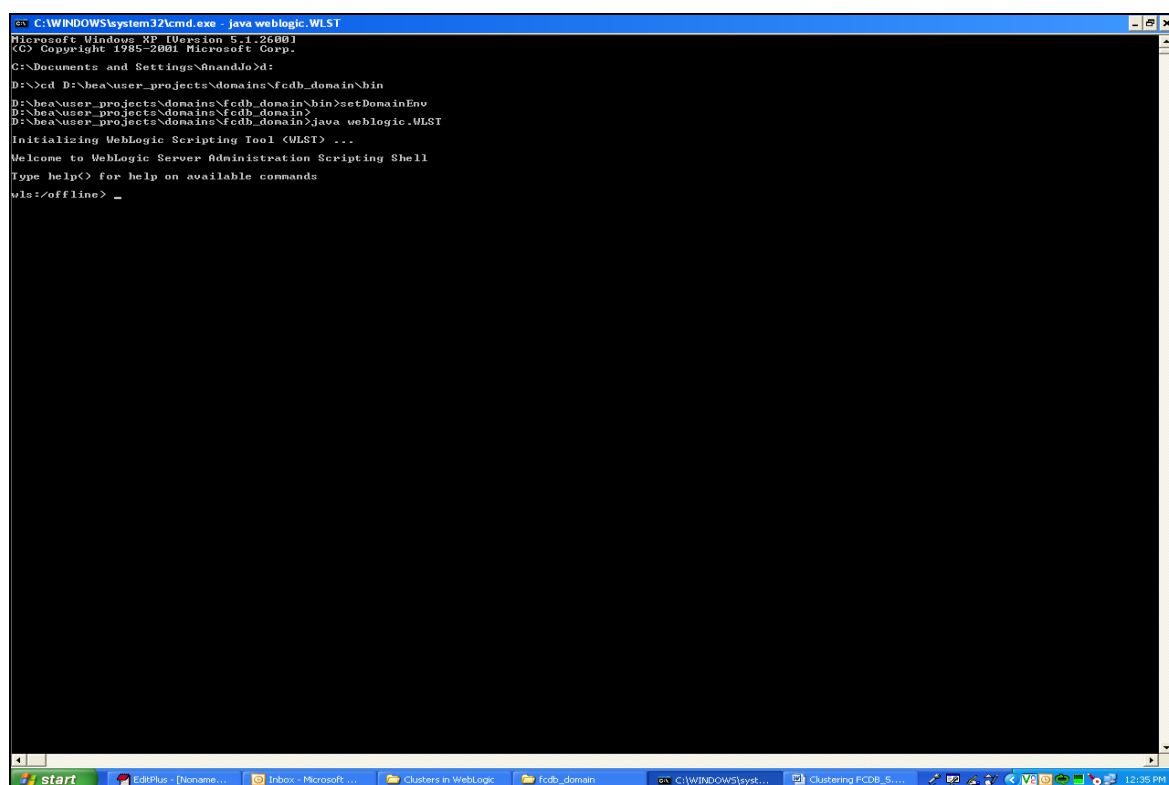


Figure 6.2.1

- 6) `wls:/offline> connect(userId,pwd,'AdminServerA:PortA')`
Where 'AdminServerA' is the name of Machine A and 'PortA' is the port on which it listens.
- 7) `wls:/offline> nmEnroll('D:/bea/user_projects/domains/fcdb_domain')`
where 'D:/bea/user_projects/domains/fcdb_domain' is the path to the fcdb_domain on Machine B.
- 8) Create Machine B using the Admin Console of Machine A. The "listen address" attribute will be the IP address/machine name of Machine B.

-
- 9) Create a server Managed Server 1 using the Admin Console of Machine A and associate it with Machine B.

The managed server is now created on Machine B. You can start it and shut it down from the Admin Console of Machine A. You don't have to do anything using the Admin Console of Machine B.

7.Adding Servers to Weblogic Cluster

This chapter discusses about how to add the managed servers to a already created Weblogic Cluster from Admin console of Weblogic.

- 1) Click on the “Lock & Edit” button
- 2) Click on Environment > Clusters > FCDB_Cluster_1

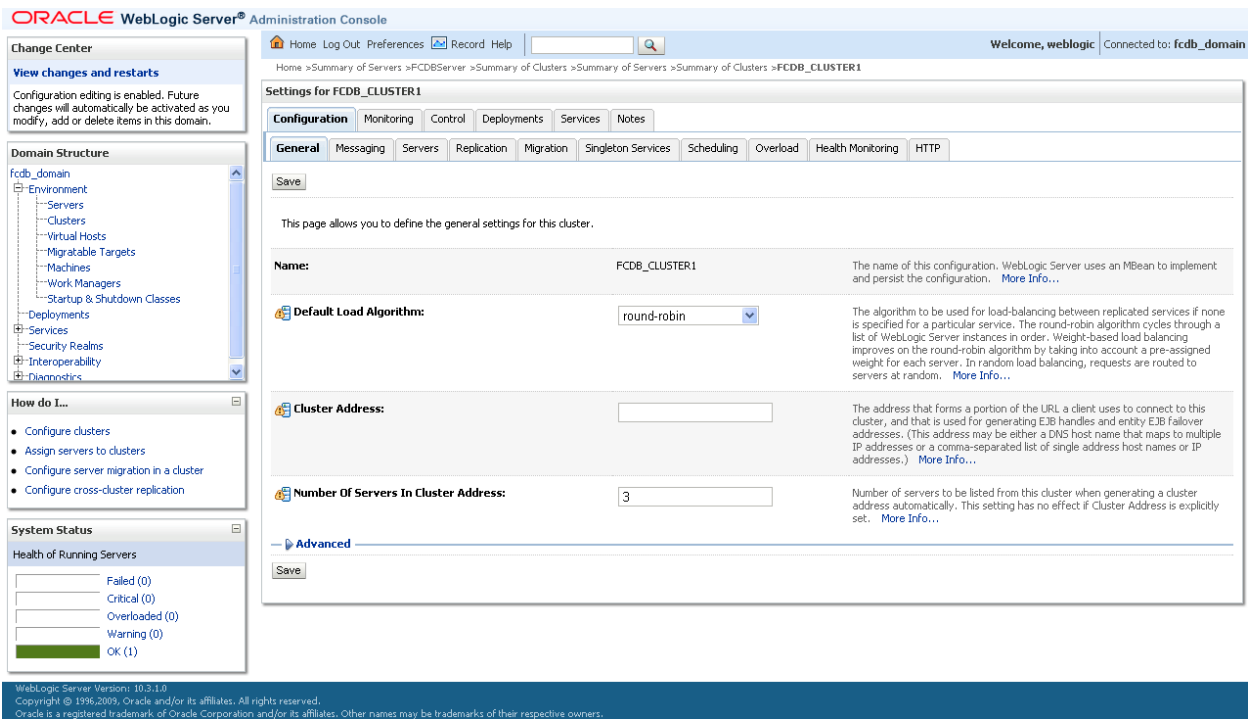


Figure 7.1

- 3) Click on “Servers” tab.

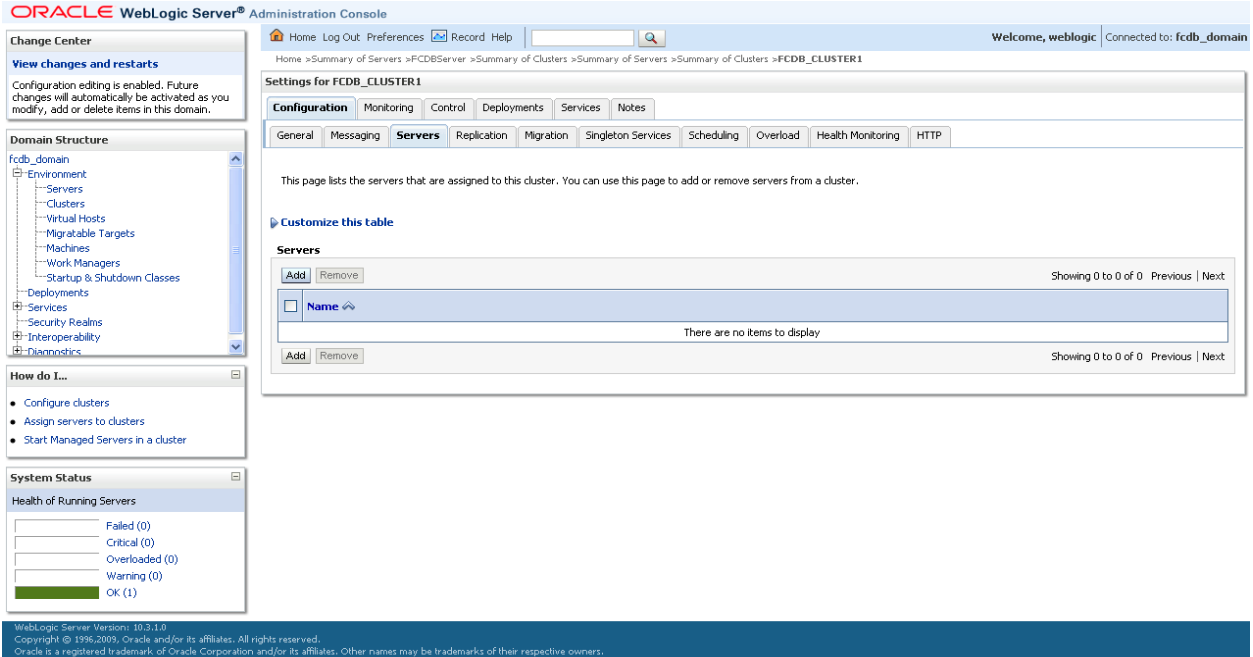


Figure7.2

- 4) Click on “Add”
- 5) Check the first option “Select an existing server, and add it as a member of this cluster”

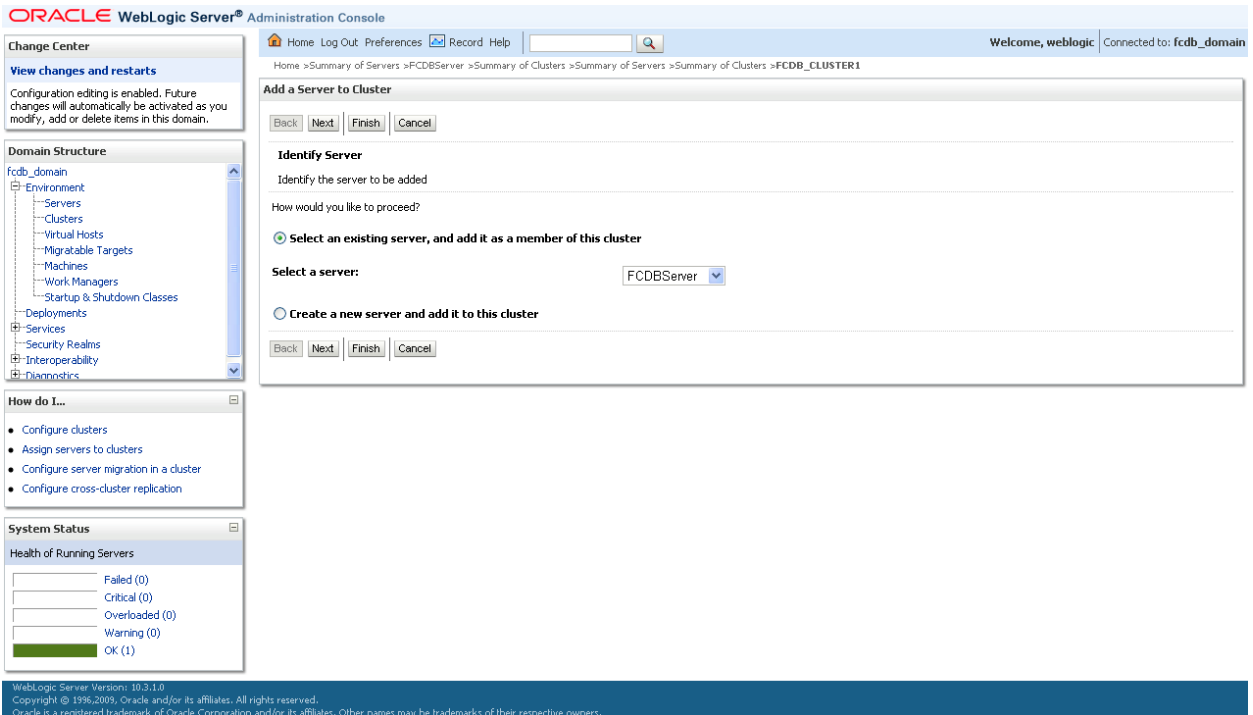


Figure 7.3

-
- 6) Select a server that must be added to the cluster.
 - 7) Click on finish.
 - 8) Add as many servers as you want to the cluster.
 - 9) Click on “Activate Changes” button

8.Deploying FCDB on Weblogic Cluster

This chapter describes the steps on the deployment of FCDB on Weblogic Cluster which is already created.

- 1) During the installation process of an application, it prompts you to specify the server or cluster to which you wish to deploy the application.

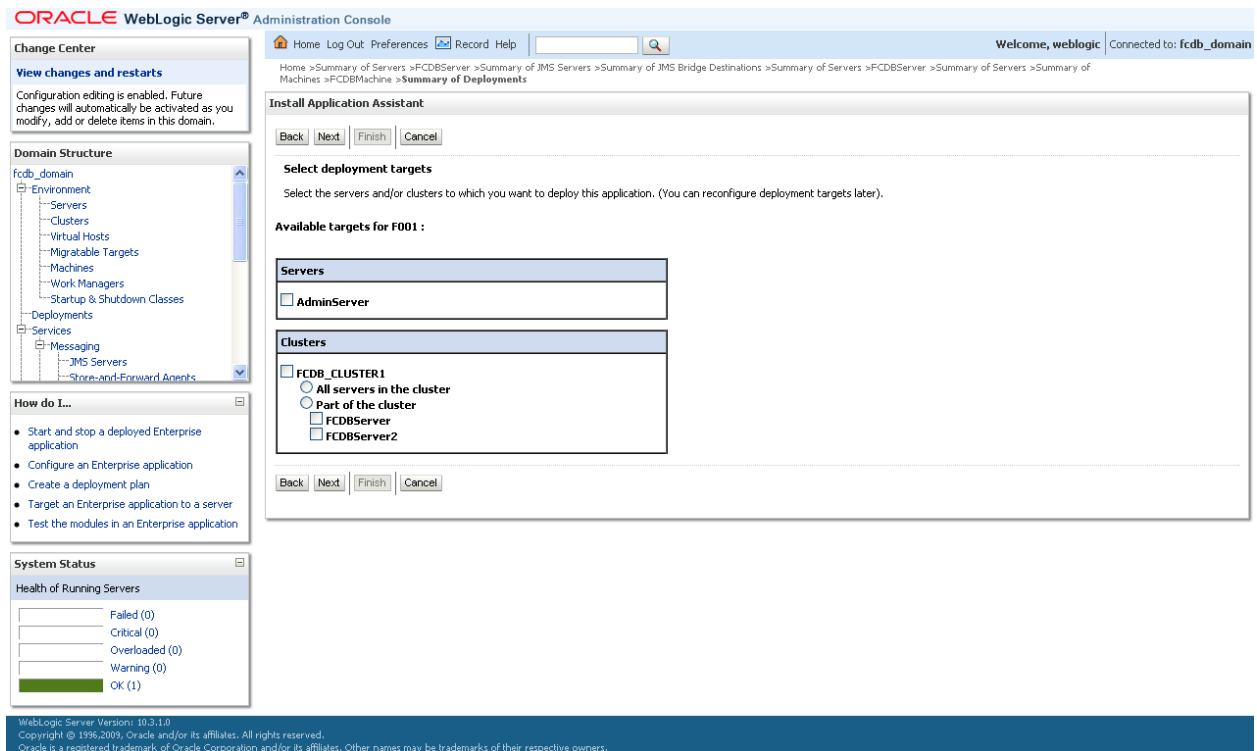


Figure 8.1

-
- 2) Instead of Managed Servers, you can select FCDB_Cluster_1.