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**Oracle FLEXCUBE Direct Banking**  
IBM WebSphere 8.5 Installation Manual  
Release12.0.2.0.0

**Part No. E50108-01**

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IBM WebSphere 8.5 Installation Manual  
September 2013

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# 1. Preface

## 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

## 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>.

## Access to OFSS Support

<https://flexsupp.oracle.com/>

## Structure

This document consists of the following chapter

### Chapter 3, "Websphere v7 features"

This chapter discusses the new features of WAS.

### Chapter 4, "Pre-requisites"

This chapter discusses the necessary installations/requirements prior to deployment on IBM WAS 8.5.

### Chapter 5, "Application Server Configuration"

This chapter discusses configuration of application server, creation of instance of IBM WAS 8.5.

### Chapter 6, "Deploying Application"

This chapter discusses the steps to be followed to deploy the application modules on IBM WAS 8.5.

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### Chapter 7, "Setup JDBC Data Source and Connection Pooling"

The steps for JDBC Data source creation and Connection Pool creation are discussed in this chapter.

### Chapter 8, "Setup of WebSphere MQ entities"

The steps for WebSphere MQ queues and queue connections.

### Chapter 9, "Appendix"

All the miscellaneous issues, for reference purpose can be found in this section.

#### Related Information Sources

For more information on Oracle FLEXCUBE Direct Banking Release 12.0.2.0.0, refer to the following documents:

- Oracle FLEXCUBE Direct Banking Licensing Guide

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## 2. Abbreviations

FCDB	Oracle FLEXCUBE Direct Banking
HTTP	Hyper Text Transfer Protocol
J2EE	Java 2 Enterprise Edition
WAS	IBM WebSphere Application Server
FCDB BASE DIR	FCDB Base Working Directory





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## **3. Websphere v7 features**

- 
- Extends the brand experience to social networking sites
  - Improves customer experience with support for advanced payment options and digital coupons
  - Delivers localized experience for Brazil and China
  - Provides powerful business user tools to centrally manage targeted marketing campaigns and promotions across Web sites
  - Helps reduce total cost of implementation by easing data loading and integration with sub-systems
  - Enables 64-bit WebSphere Application Server support with select operating systems
  - Provides WebSphere eXtreme Scale integration to support large scale high performance caching

## **Websphere v7 release notes –**

### **1. Simplified Development**

Increase developer productivity with a proven, standards-based platform. WebSphere Application Server V7 offers enhanced support for standards, emerging technology and a choice of development frameworks that simplifies programming models to increase developer productivity. Integral tooling makes the most of existing technology skills for rapid time-to-value.

- Java EE 5 certification, EJB 3.0 support and Java Persistence API (JPA) and Java Development Kit (JDK) 6.0, deliver simplified programming models for building reusable persistent object.
- Web services support, including JAX-WS, SOAP 1.2, MTOM, XOP, WS-ReliableMessaging, WS-Trust, WS-SecureConversation, WS-Policy, and Kerberos Token Profile, simplifies interoperability in mixed environments.
- Web 2.0 support (via Feature Pack for Web 2.0) extends Service Oriented Architecture (SOA) by connecting external Web services, internal SOA services, and Java Platform Enterprise Edition (JEE) objects into highly interactive Web application interfaces.
- Session Initiation Protocol (SIP) servlets simplify development with standardized support for interactive user sessions involving real-time multimedia elements such as voice, video, instant messaging and online games.
- Spring has certification for use with WebSphere Application Server to enable module-based programming.
- Single-step installation and configuration, wizards and default configurations, and easy-to-navigate documentation that includes extensive use of sample code help ensure fast and smooth start-up.
- WebSphere Application Server Feature Packs simplify the adoption of new standards such Services Component Architecture (SCA), and improve consumability by enabling users to selectively take advantage of new standards and features while maintaining a more stable internal release cycle.

---

## 2. High Performance

Keep your business agile in a constantly changing environment. WebSphere Application Server V7 provides a fast, reliable, available, secure and scalable environment that enables development and application efficiencies so that businesses can do more with fewer resources

### Unparalleled Performance

Do more with less. WebSphere Application Server V7 delivers optimized runtime performance through provisioning, Web services, and EJB3 enhancements which can result in fewer energy consuming processors performing the same workloads of previous versions.

## 3. Rock-solid Security

Rest assured, applications and data are secure from attack. Out-of-the-box security configurations and user registry, compliance with government standards, and stringent Web services security. New security capabilities add deeper levels of management, user governance and auditing to decrease system vulnerabilities while maximizing developer productivity.

- WebSphere Security Domains deliver greater granularity, flexibility and control over users and infrastructure to increase administration efficiencies
- Security auditing capabilities ensure security compliance to ease development
- Broader implementation of Kerberos improves security interoperability with other applications and environments while increasing developer productivity
- Security Assertion Markup Language (SAML) token support for web services security provides for secure, interoperable Web services

## 4. Intelligent Management

Anticipate and adjust to mission critical issues. WebSphere Application Server V7 offers a simplified infrastructure, flexible and effective application control and runtime efficiency so you can respond to evolving business needs with infrastructure and application intelligence.

- Runtime provisioning and OSGi technology dynamically selects only the needed functions for memory and space reducing the application server footprint
- Flexible Management features in WebSphere Application Server Network Deployment improve efficiencies of administration and allow remote production resource management of WAS Base and WAS Express
- Administration tools enable attention to the deepest level of security providing fine grained security management levels
- New WebSphere Business Level Applications (WBLA) expands the notion of "application" beyond Java EE 5 to significantly improve the management of multi-component applications, simplifying administrative tasks
- Improved Console Command Assistant, easier security configuration and database connectivity, wizards and a stand-alone thin administration client enable efficient management of the deployment environment.

---

## 5. Investment Protection

Protect investments in applications through reuse and integration. From service-enabling legacy assets to inventing new ones, our technology makes your business accessible to new users in innovative ways, giving you immediate insight and interaction with partners, suppliers and customers and increasing your return on investment.

- New Web services support including WS-Business Activity, WS-Notification and WS-I Basic Security Profile, helps you more securely extend your reach and gives better application portability and control. On top of already extensive Web services support, Web 2.0 and a powerful Java Messaging Service (JMS) engine help you extend the reach of your existing applications and maximize asset utilization.
- Pre-integrated support for WebSphere MQ and tight integration with WebSphere ESB - the combination of these products form a powerful Enterprise Service Bus that can integrate the most diverse set of applications and environments
- New Deployment manager enables you to manage previous versions of WebSphere Application Server so that you can adopt newer infrastructure as your plans require
- New multi-cell support and compatibility features offer the ability to seamlessly adopt newer infrastructure and run applications developed in previous Java Enterprise Edition versions (backwards compatible to JEE v1.2) for WebSphere Application Server to eliminate intensive cost and resource requirements

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## 4. Pre- requisites

1. All the relevant software requirements mentioned in the sheet  
“Oracle\_FLEXCUBE\_Direct\_Banking\_Software\_Stack” must be installed.
2. IBM WebSphere v7 must be installed on the system.
3. Flexcube Direct Banking Application is installed using Oracle FCDB Installer.
4. The document expects the user to have fair knowledge of application deployment on IBM Websphere. The document only explains deployment and configuration of Oracle FLEXCUBE Direct Banking on IBM Websphere; IBM Websphere documentation should be referred for details on IBM Websphere.

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## **5. Application Server Configuration**

## 5.1 Creating and Managing a Server Instance

Perform following steps for creating the WAS instance.

- 1) Go to the Admin console
- 2) Enter User Id as "WEBSHERE".

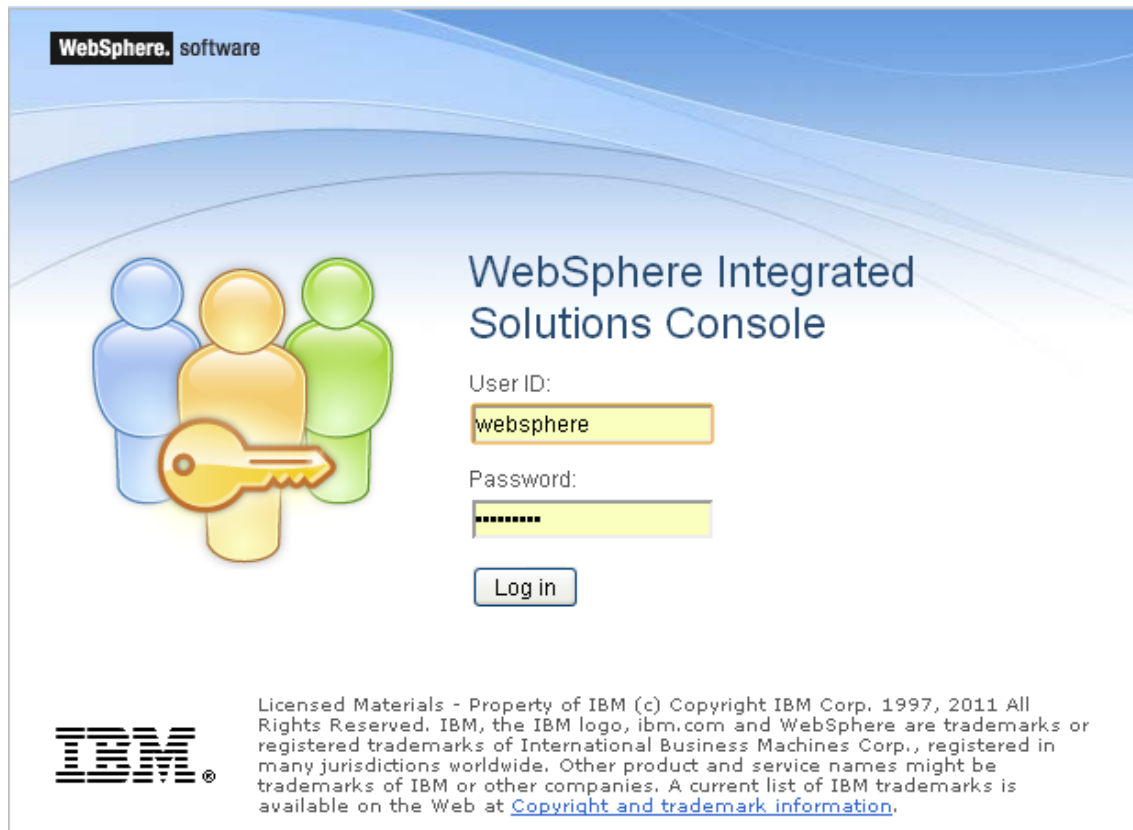


Figure 5.1.1

- 3) Following Menu will be displayed.



Figure 5.1.2

- 4) Go to Servers -> Server Types->Application servers.  
Click on the server to be configured from the list. Screen as displayed in *Figure 4.1.3* will appear.

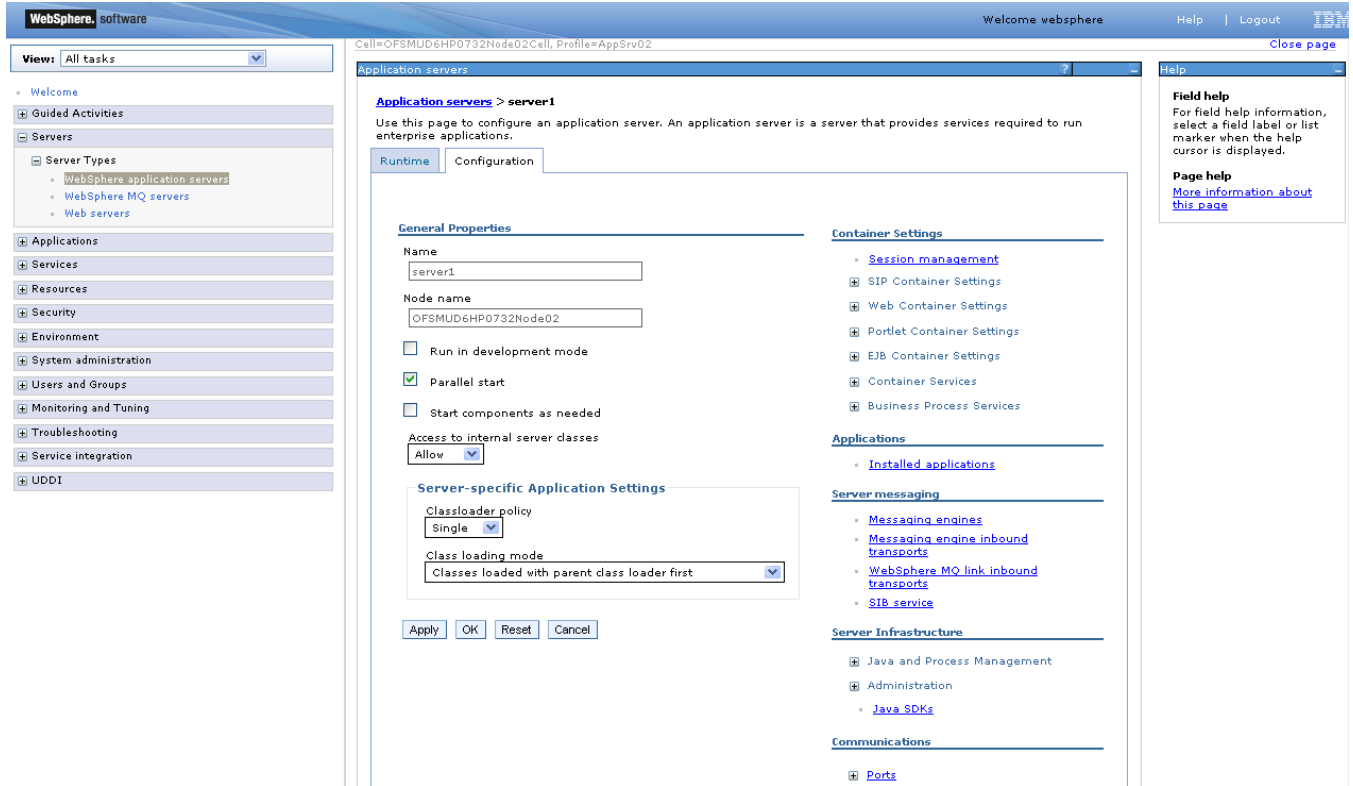


Figure 5.1.3

- 5) Select “single” as classloader policy. Click Apply.



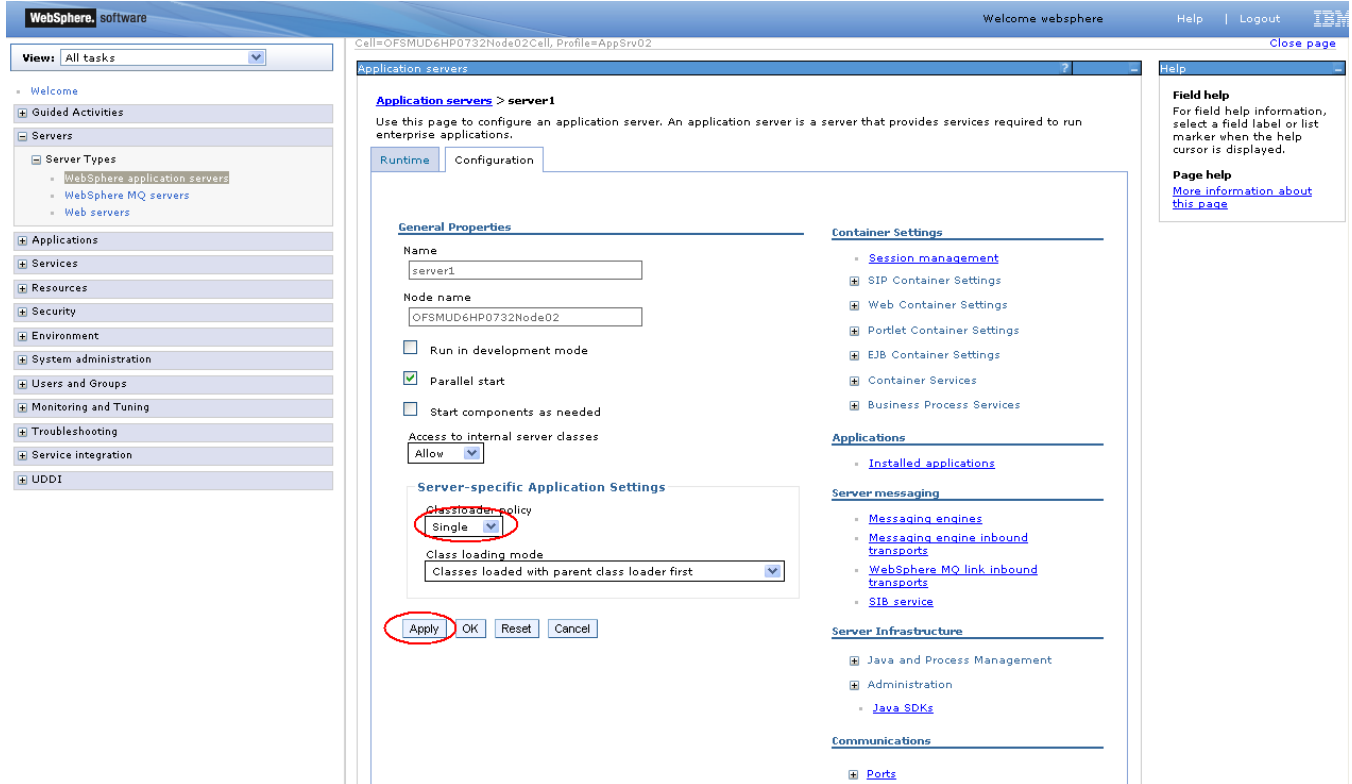


Figure 5.1.4

- 6) On the same screen, find “Port” section, expand the same to find WC\_defaulthost port (termed as default host port in document). Note down the port for later use.

WebSphere software Welcome websphere [Help](#) | [Logout](#)

View: All tasks

- Welcome
- Guided Activities
- Servers
  - Server Types
    - WebSphere application servers
    - WebSphere MQ servers
    - Web servers
- Applications
- Services
- Resources
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

Apply OK Reset Cancel

**Server Infrastructure**

- Java and Process Management
- Administration
  - Java SDKs

**Communications**

- Ports

Port Name	Port	Details
BOOTSTRAP_ADDRESS	2810	
SOAP_CONNECTOR_ADDRESS	8881	
ORB_LISTENER_ADDRESS	9101	
SAS_SSL_SERVERAUTH_LISTENER_ADDRESS	9406	
CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS	9405	
CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS	9404	
WC_adminhost	9061	
WC_defaulthost	9081	
DCS_UNICAST_ADDRESS	9354	
WC_adminhost_secure	9044	
WC_defaulthost_secure	9444	
SIP_DEFAULTHOST	5063	
SIP_DEFAULTHOST_SECURE	5062	
SIB_ENDPOINT_ADDRESS	7277	
SIB_ENDPOINT_SECURE_ADDRESS	7287	
SIB_MQ_ENDPOINT_ADDRESS	5559	
SIB_MQ_ENDPOINT_SECURE_ADDRESS	5579	
IPC_CONNECTOR_ADDRESS	9634	
OVERLAY_UDP_LISTENER_ADDRESS	11003	
OVERLAY_TCP_LISTENER_ADDRESS	11004	

- Messaging
  - Communications Enabled Applications (CEA)

**Performance**

- Performance Monitoring Infrastructure (PMI)
- Performance and Diagnostic Advisor Configuration

**Security**

- Security domain
- Default policy set bindings
- JAX-WS and JAX-RPC security runtime

**Troubleshooting**

- NCSA access and HTTP error logging

- 7) On the same Screen, locate section “Server Infrastructure”, expand the option “Java and Process Management” and click on the link “Process Definition”.

The screenshot displays the IBM WebSphere Administration Console interface. The main content area is titled "Application servers > server1" and provides instructions for configuring an application server. The "Configuration" tab is active, showing various settings sections:

- General Properties:** Name (server1), Node name (OFSMUD6HP0732Node02), Run in development mode (unchecked), Parallel start (checked), Start components as needed (unchecked), Access to internal server classes (Allow).
- Server-specific Application Settings:** Classloader policy (Single), Class loading mode (Classes loaded with parent class loader first).
- Container Settings:** Session management, SIP Container Settings, Web Container Settings, Portlet Container Settings, EJB Container Settings, Container Services, Business Process Services.
- Applications:** Installed applications.
- Server messaging:** Messaging engines, Messaging engine inbound transports, WebSphere MQ link inbound transports, SIB service.
- Server Infrastructure:** Java and Process Management (expanded), Class loader, **Process definition** (highlighted), Process execution, Administration, Java SDKs.
- Communications:** Ports, Messaging, Communications Enabled Applications (CEA).
- Performance:** (Section header visible).

Buttons at the bottom include Apply, OK, Reset, and Cancel. A "Help" sidebar on the right provides field and page help information.

8) On the “Process Definition” screen, click on the link “Java Virtual Machine”

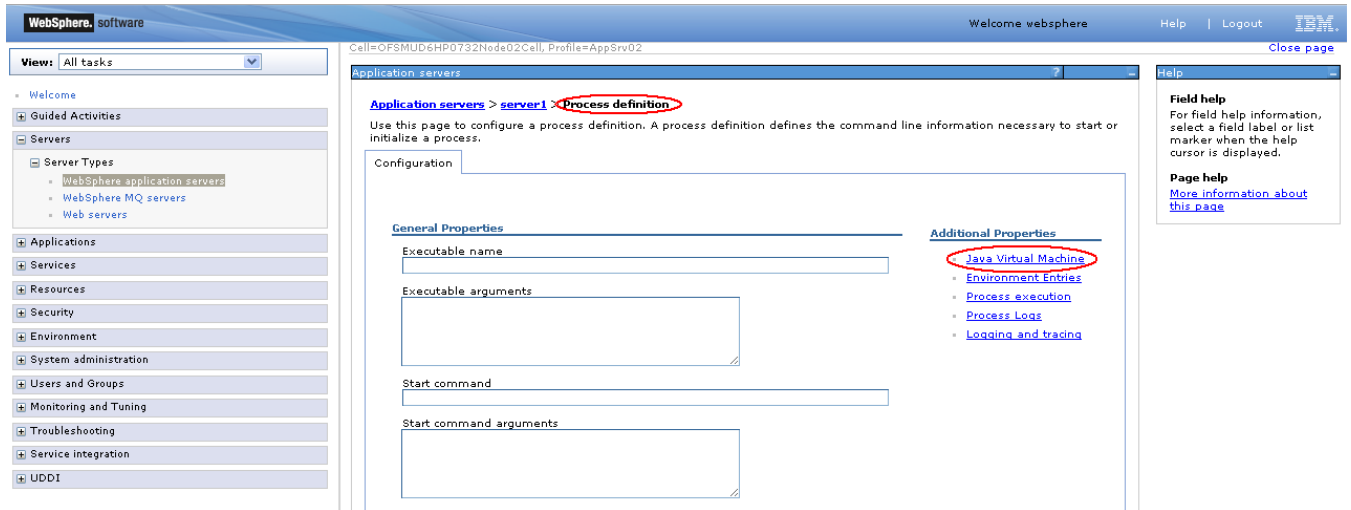


Figure 4.1.5

9) On the “Java Virtual Machine” screen, click on “Configuration” tab and then click on the link “Custom properties”.

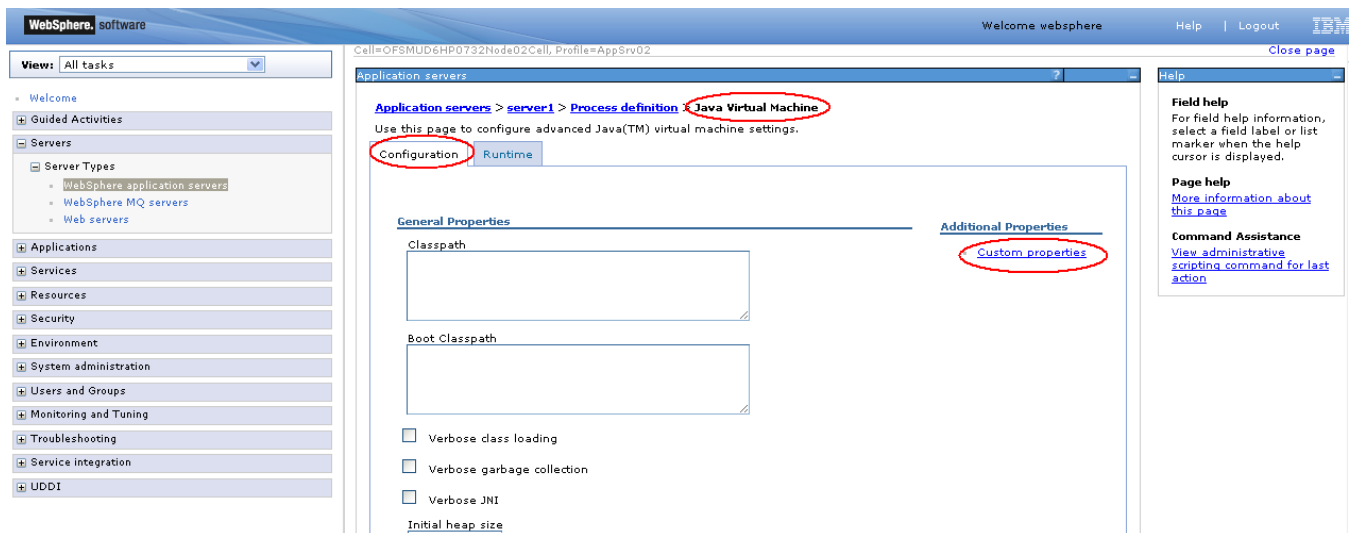


Figure 5.1.6

10) On the “Custom Properties” screen, click on “New” to configure a new custom property.

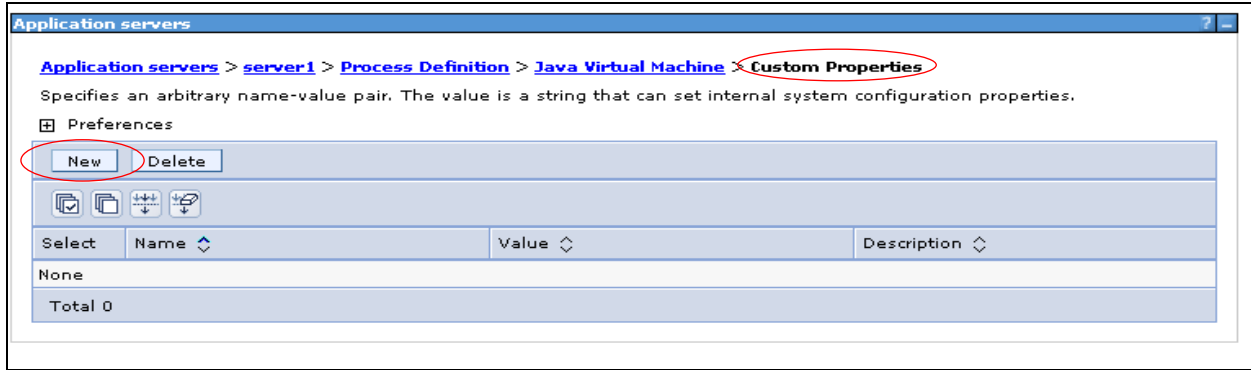


Figure 5.1.7

11) Add the property name, value and click “OK”.

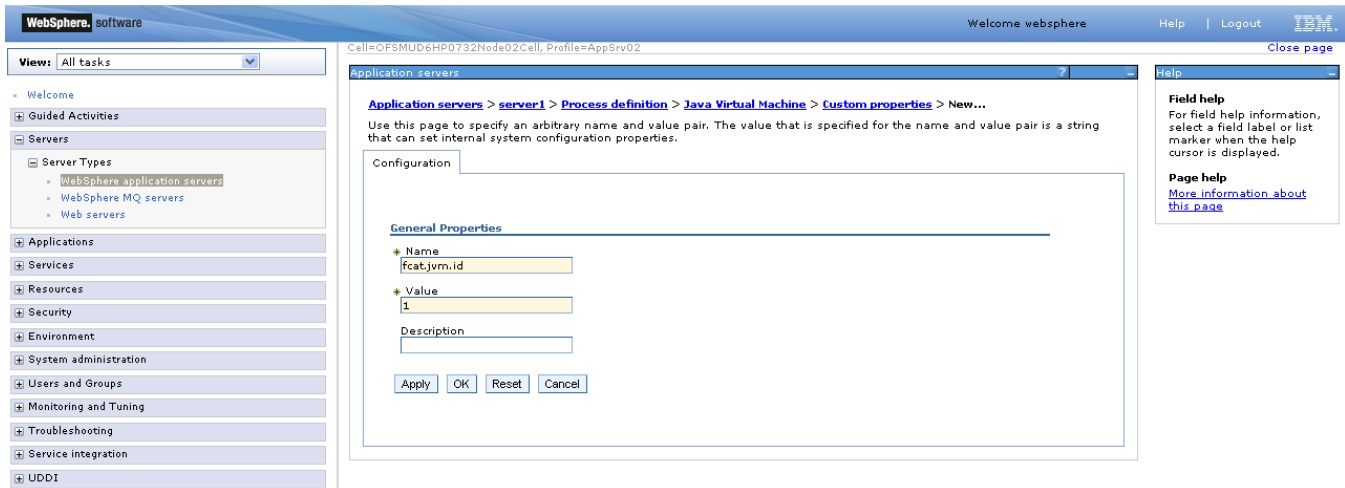


Figure 5.1.8

12) Add all below mentioned properties by following steps 11 - 12.

Property Name	Value	Explanation
fcacat.jvm.id	A unique number.	This unique number identifies the server amongst all the cluster members.
fcacat.basedir	<FCDB BASE DIR>	Path to the base folder containing FCDB application on file system. E.g.: D:\FCDB
fcacat.propfile.isencr	true/false	This property indicates the properties file's encryption status. Set as 'true' if files are encrypted, else set as 'false'.  The property files are not encrypted when installed but needs to be explicitly encrypted using FCDB tool provided. Please refer <a href="#">Encryption and Decryption of Property Files</a>
ws.ext.dirs	E.g.: d:\fcdb\system\build\kernel;d:\fcdb\system\build\extclasses\jars\axis;d:\fcdb\system\build\extclasses\jars\cocoon;d:\fcdb\system\build\extclasses\jars\dom;d:\fcdb\system\build\extclasses\jars\fc; d:\fcdb\system\build\extclasses\jars\flexcube;d:\fcdb\system\build\extclasses\jars\fofop;d:\fcdb\system\build\extclasses\jars\ibm;d:\fcdb\system\build\extclasses\jars\oracle;d:\fcdb\system\build\extclasses\jars\others;d:\fcdb\system\build\extclasses\jars\poi;d:\fcdb\system\build\extclasses\jars\sunjai;d:\fcdb\system\build\extclasses\jars\sunjndi;d:\fcdb\system\build\extclasses\jars\toolkit;d:\fcdb\system\build\extclasses\jars\txt.txt;d:\fcdb\system\build\extclasses\jars\xalan;	Path to all folders holding application relevant jar files. Folders are “;” colon separated for Windows OS. Folders are “:” colon separated for Linux/Unix OS.  Following folder should be added: <FCDB BASE DIR>/system/build/kernel And all subdirectories under folder <FCDB BASE DIR>/system/build/extclasses/jars  <b>(Note: 1.</b> Remove commons-beanutils-1.7.jar from <FCDB BASE DIR>/system/build/extclasses/jars/json  <b>2.</b> In case of <b>Patch Installer</b> delete the <i>FCDB_12.0.0.jar</i> from the < FCDB BASE DIR >/system/build/kernel)

13) After above steps are completed, save the configuration changes by clicking on the “Save” link on the top of the screen.

14) Since all the configurations of IBM Websphere application server are XML files, the server uses xalan parser to parse the configuration files. However Oracle FLEXCUBE Direct Banking application uses oracle parser for reporting module and hence is added to the classpath. This results in the server failing to parse its configuration files and hence failing to start. Please update following property as remedy:

- Locate the jre folder present in the application server installation folder. Usually <IBM Websphere Installation folder>/java/jre/lib
- In the above folder locate a file jaxp.properties or jaxp.properties.template. If template file is present, rename it to jaxp.properties.
- Edit the file jaxp.properties and uncomment the javax.xml.\* properties. Hence following properties should now be present in the properties file.

```
javax.xml.transform.TransformerFactory=org.apache.xalan.processor.TransformerFactoryImpl
javax.xml.xpath.XPathFactory=org.apache.xpath.jaxp.XPathFactoryImpl
```

---

```
javax.xml.parsers.SAXParserFactory=org.apache.xerces.jaxp.SAXParserFactoryImpl
javax.xml.parsers.DocumentBuilderFactory=org.apache.xerces.jaxp.DocumentBuilderFactory
Impl
```

- Restart the server.

## 5.2 Creating virtual host for Web Application

This section is not mandatory. In case FCDB is to be setup on the “default\_host”, this section can be skipped.

① Please refer to IBM Websphere documents to find details on virtual host and default host.

- 1) Click Administrative Console → Environment → Virtual Hosts

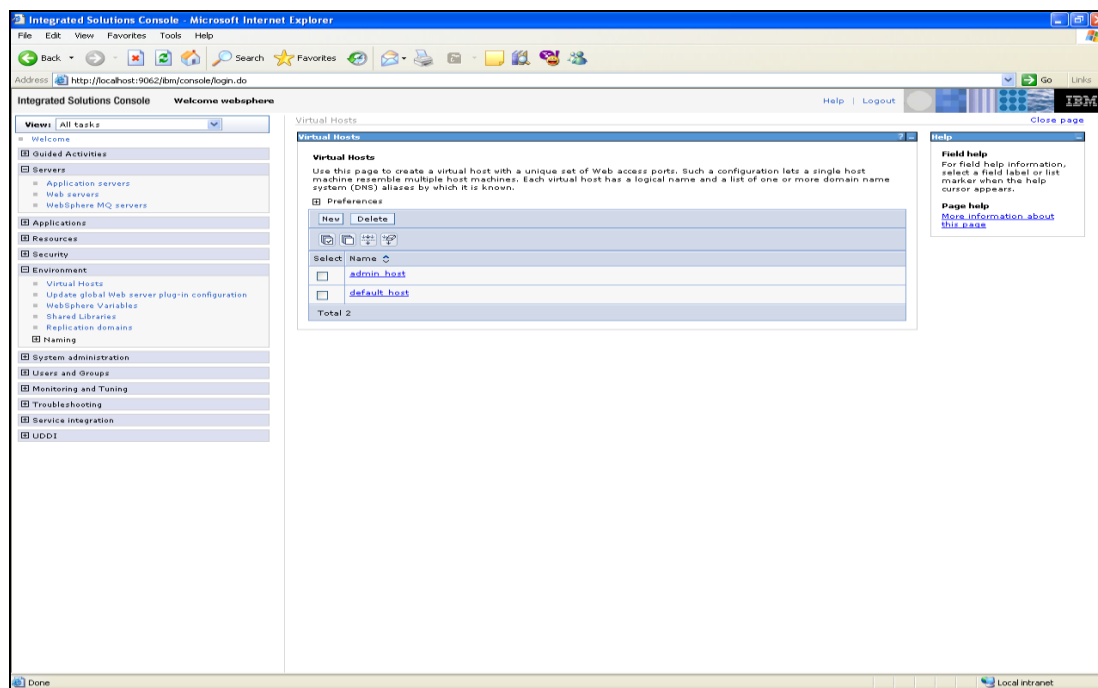


Figure 5.2.1

- 2) Click on New button. Enter the Virtual Host Name (e.g. FCDB)



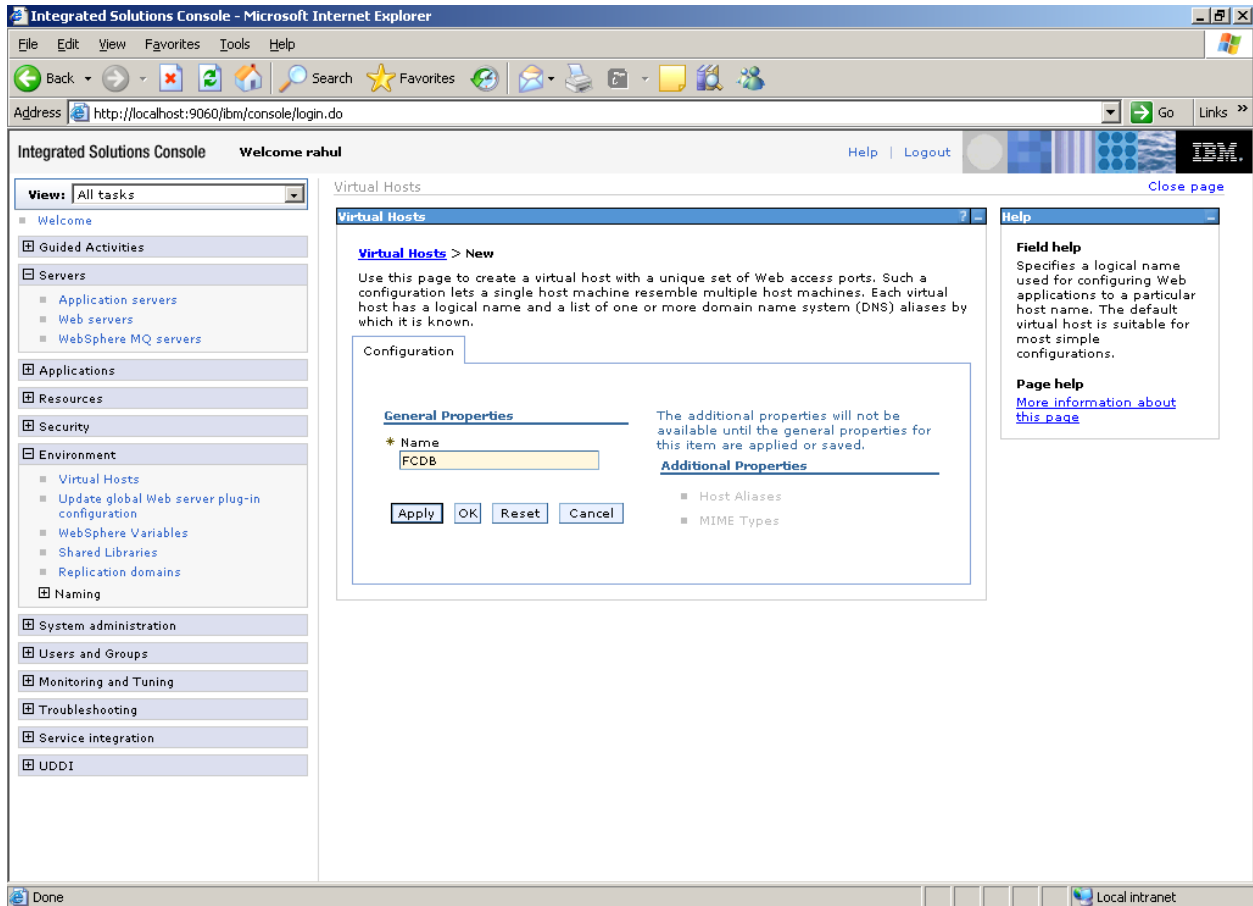


Figure 5.2.2

3) Click Apply

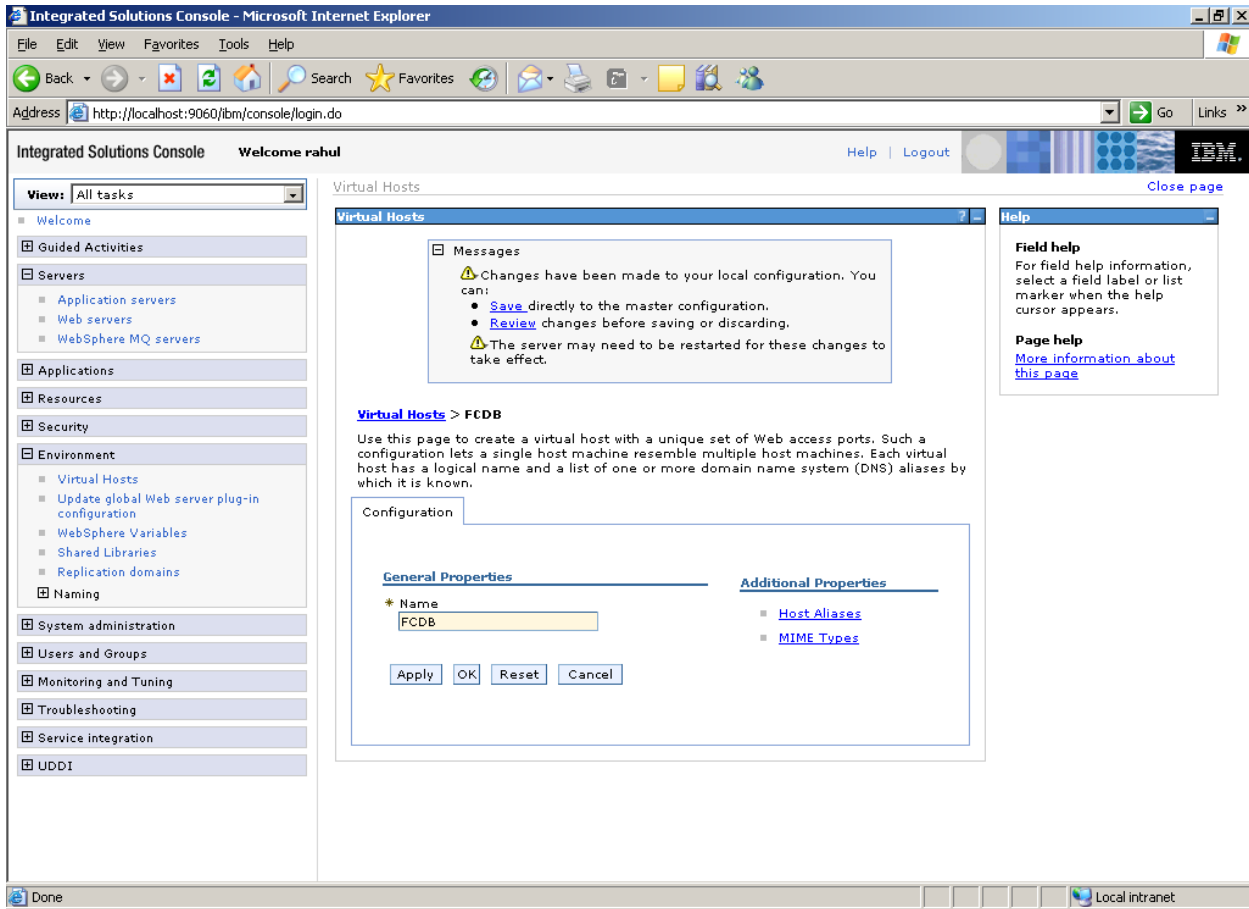


Figure 5.2.3

4) Click "Host Aliases"

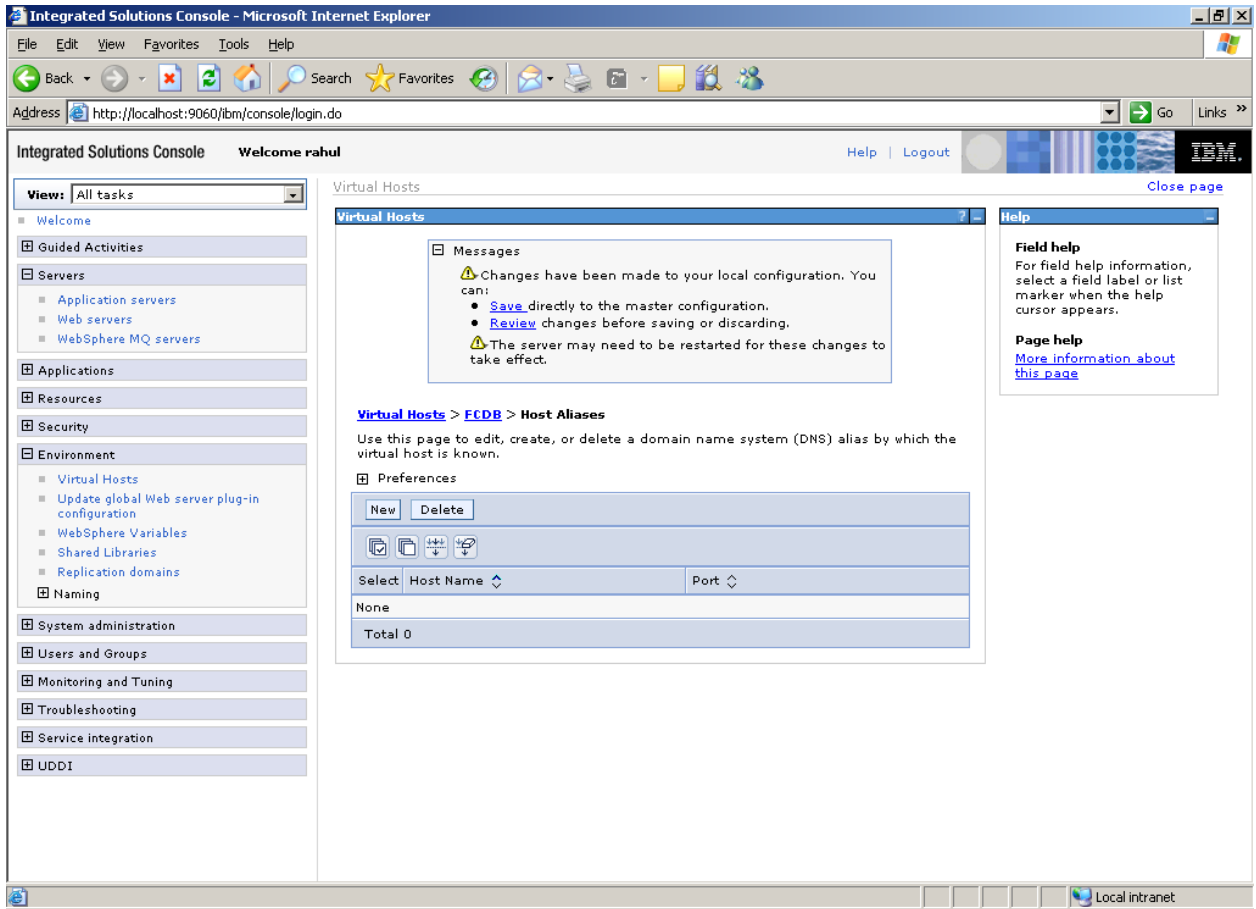


Figure 5.2.5

5) Click "New" button

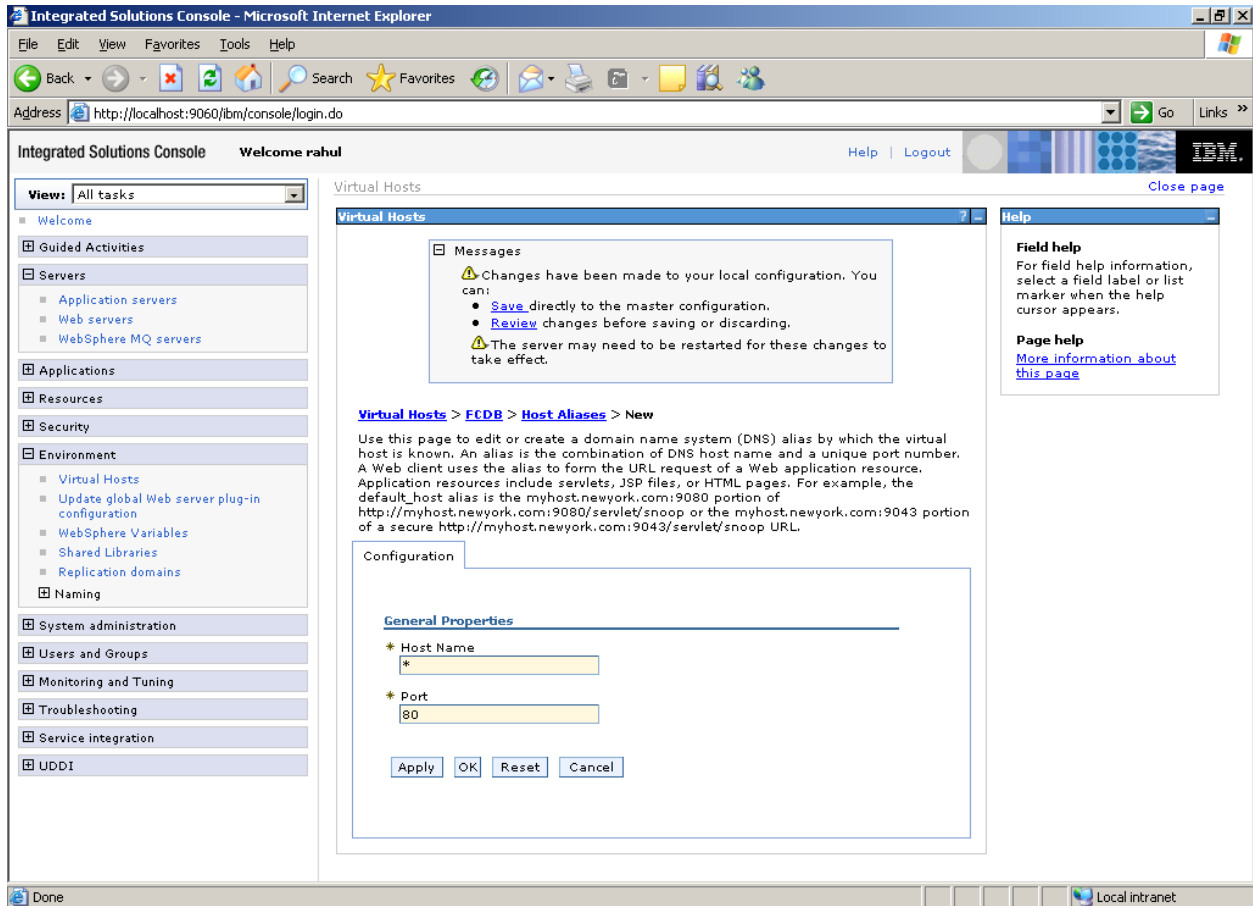


Figure 5.2.6

6) Add following host aliases (noted as default host port earlier)

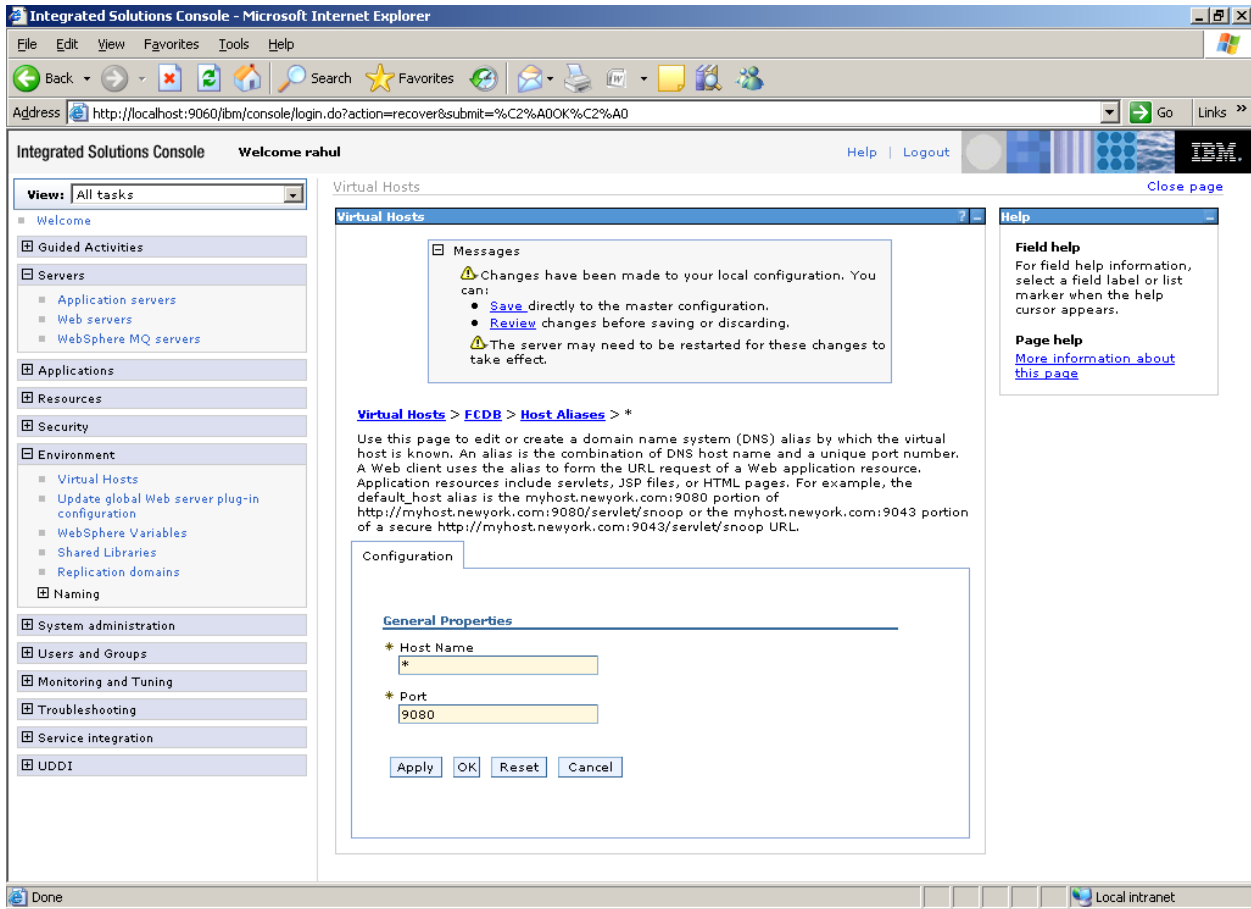


Figure 5.2.7

- 7) Click Apply
- 8) Click Save/OK

---

## **6. Deploying Applications**

---

## 6.1 Web Application Deployment

Following section explains deploying Web application on IBM Websphere. For details and different options of deployment refer to documentations provided by IBM WebSphere.

These steps should be carried out for each FCDB web application mentioned below.

Deployable	Suggested Context	Path Location	Description
F001.war	F001	<FCDB BASE DIR>\deploy	Application for Super entity F001
B001.war	B001	< FCDB BASE DIR>\deploy	Application for Bank entity B001. This is available only for Base release.
T001.war	T001	< FCDB BASE DIR>\deploy	Application for Model Third Party Bank entity T001. This is applicable only for Third party Accelerator Pack release.
SMS.war	SMS	< FCDB BASE DIR>\deploy	Required for SMS Banking.

Update following property for websphere in MSTPROPERTIES table of FCDB:

ORACLE.UTILS.IMPL.CLASS=com.iflex.fcat.xml\_sql.JFWSOracleUtils.

- 
- 1) Go to Admin Console. On the left Menu expand option “Applications” and click on the link “New Applications”

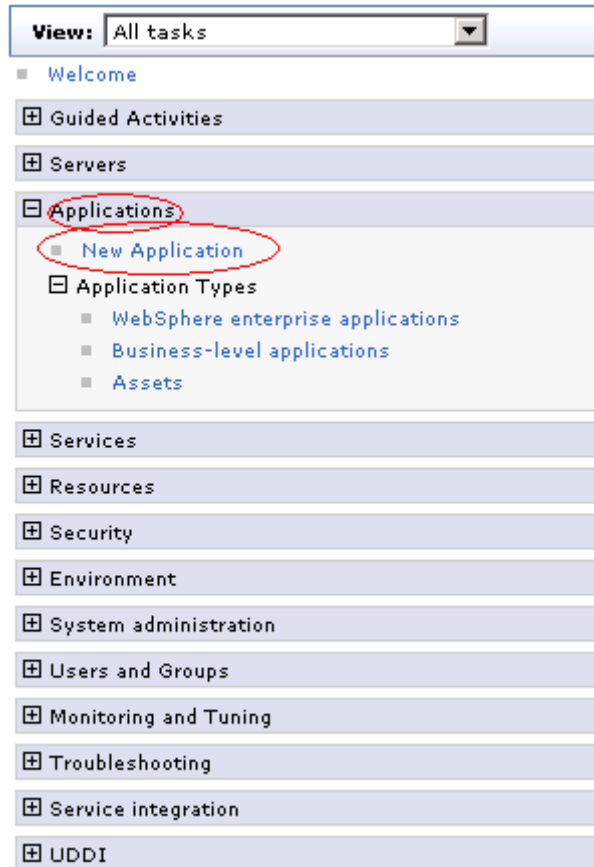
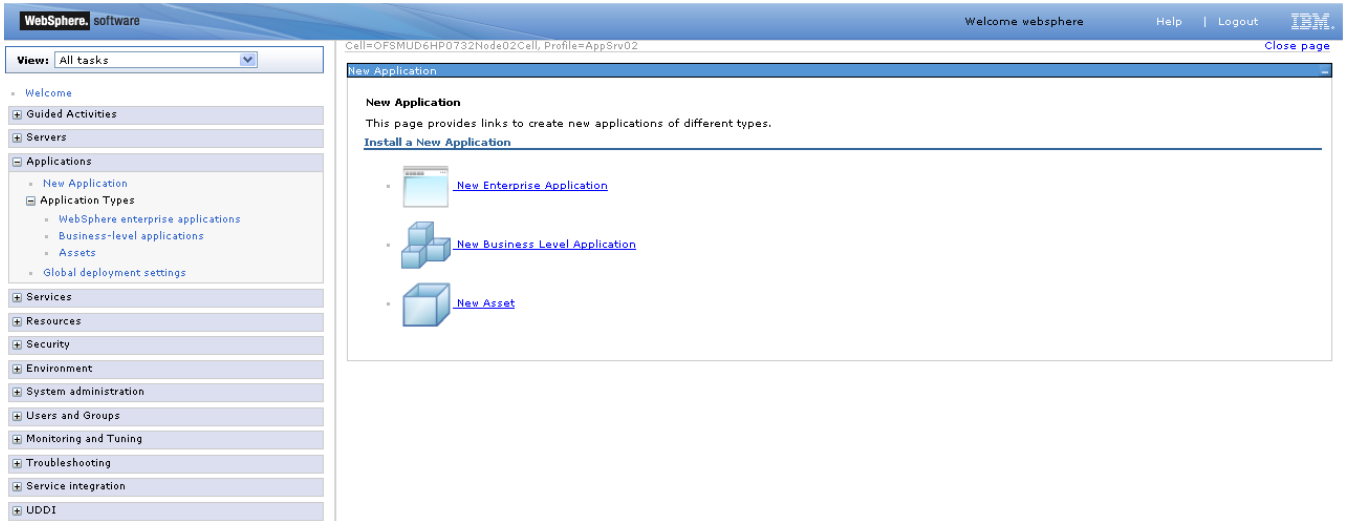


Figure 6.1



2) Screen as shown in below figure will appear. On the screen, click “New Enterprise Application”.



3) Screen as shown in below figure will appear. On the screen, click “Browse” button and browse to the web application deployable.. Click “Next” button.

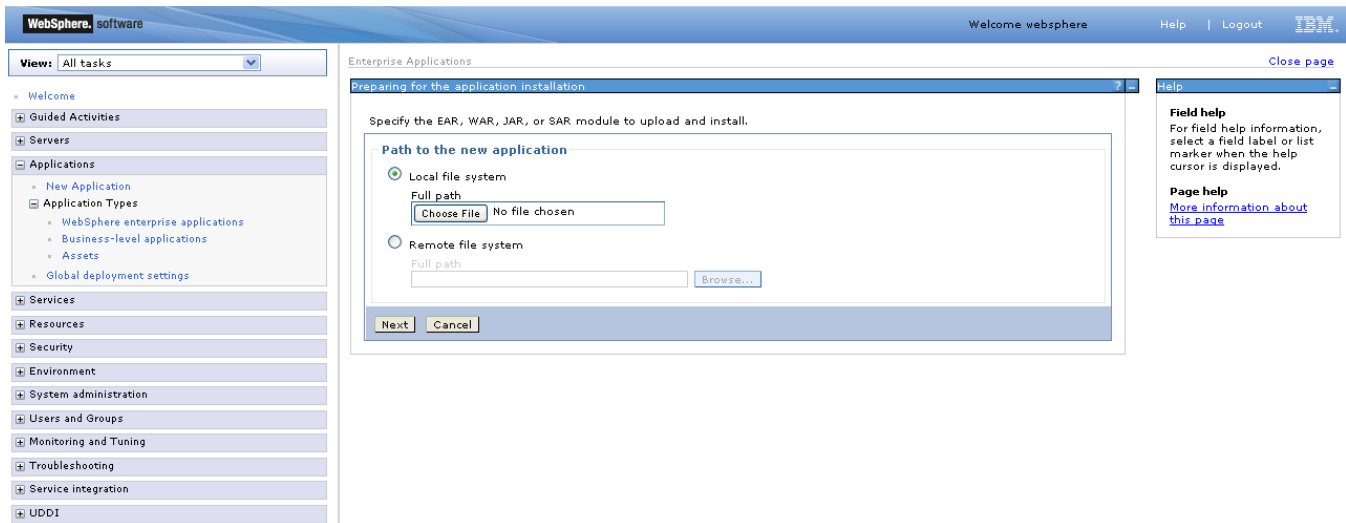
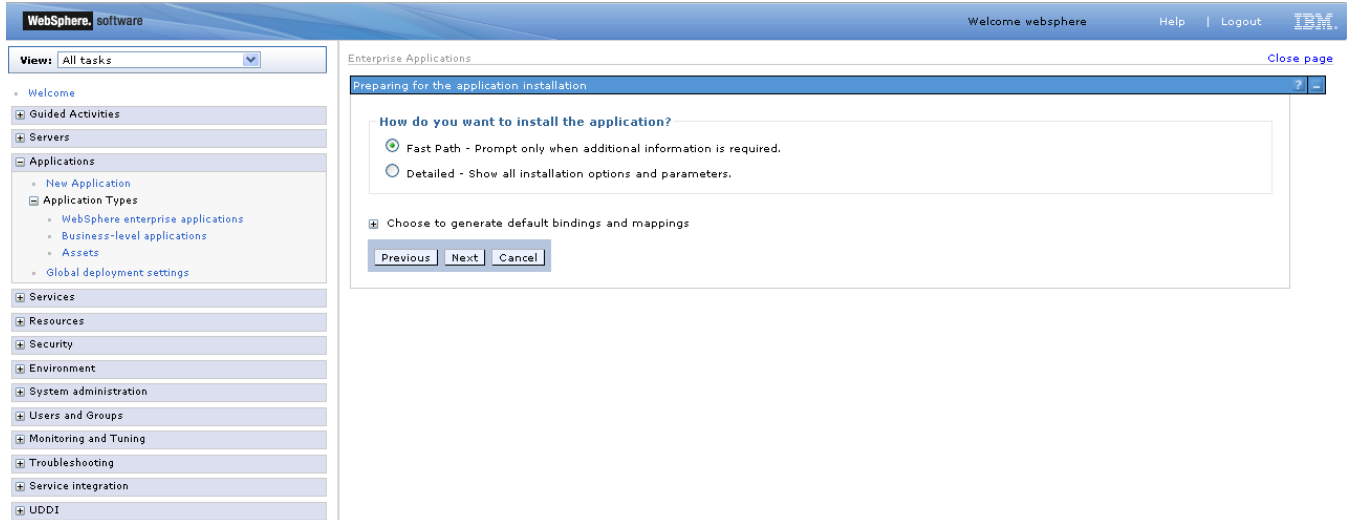


Figure 6.2

- 4) Screen as shown in below figure will appear. On the screen, click on “Fast Path - Prompt only when additional information is required” radio button and click “Next”.



5) On the Screen as shown in figure below, change the application name if required and click “Next”.

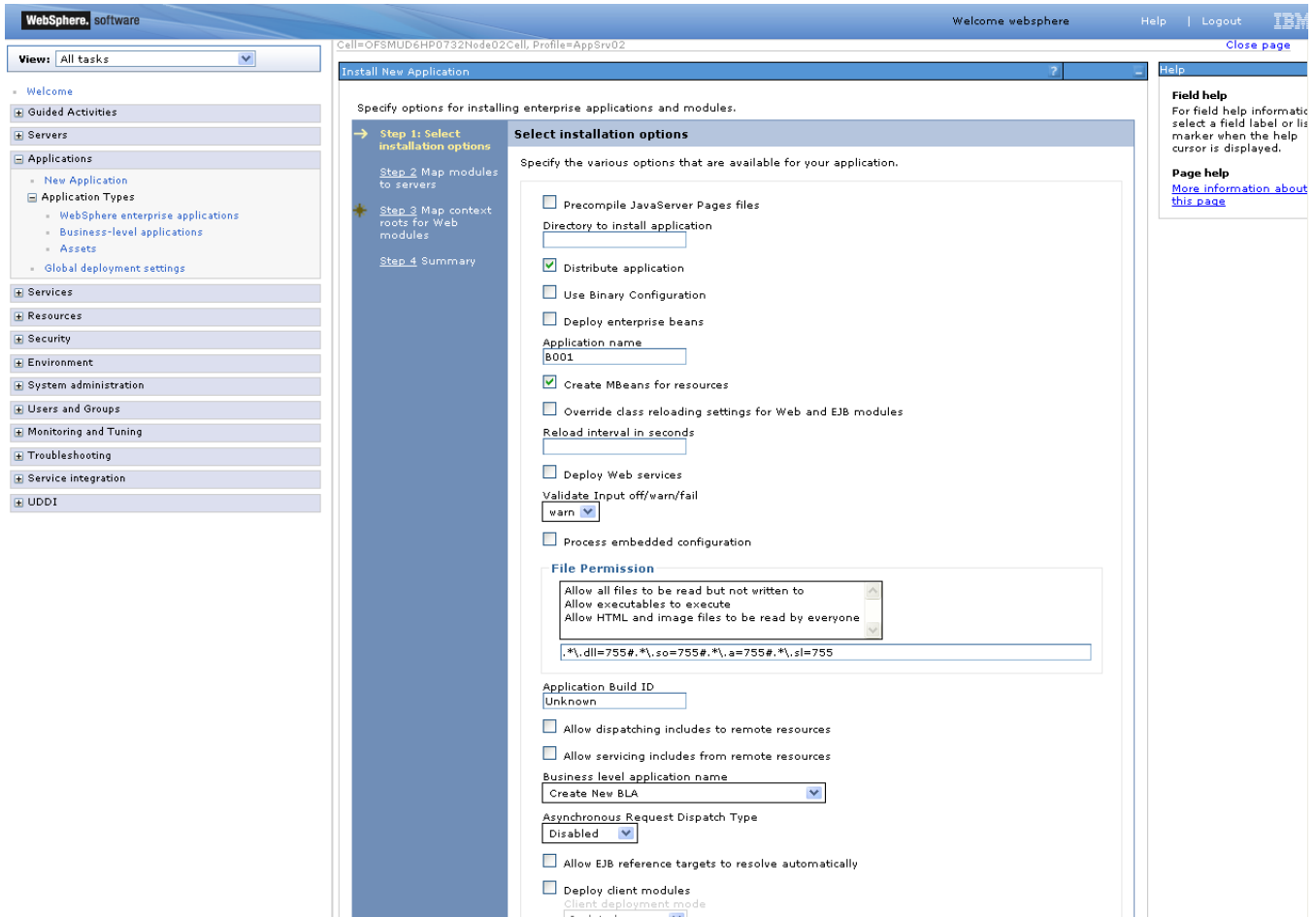
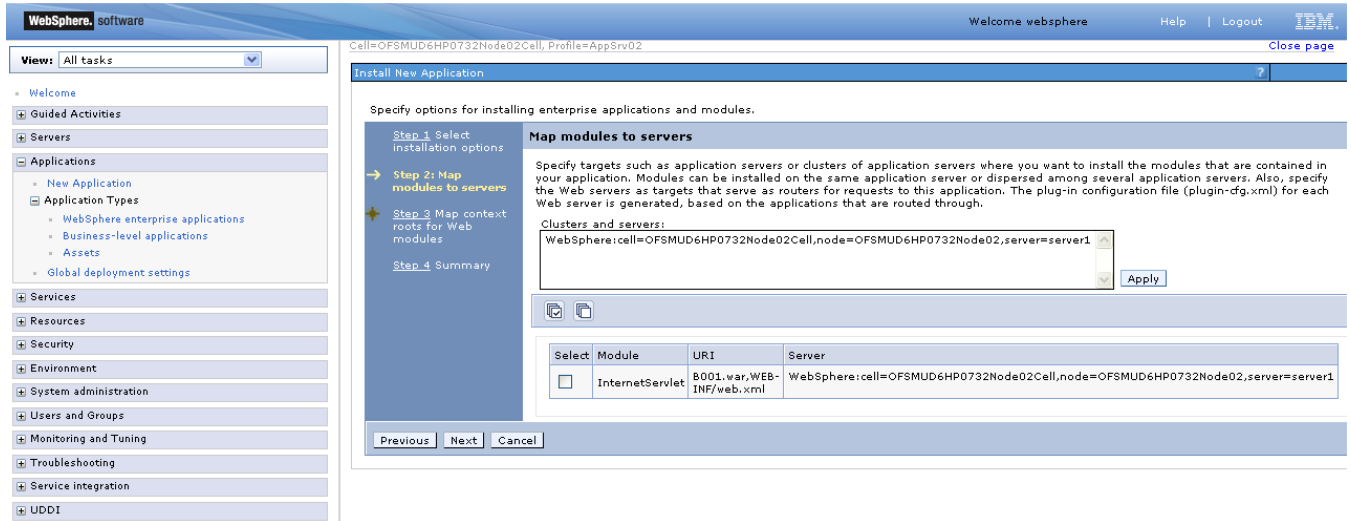
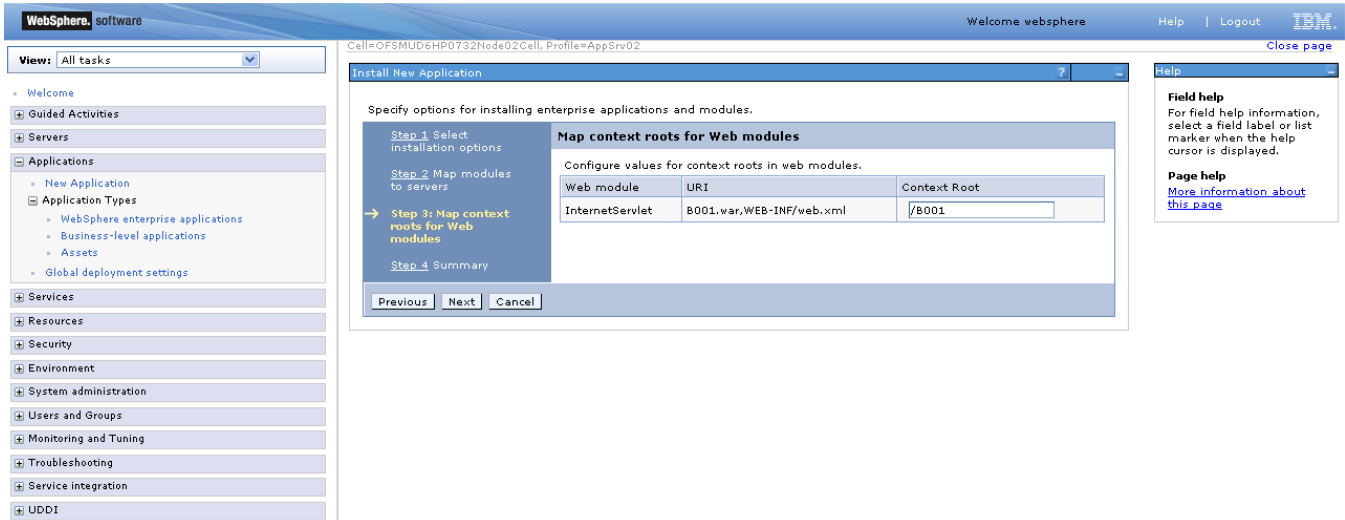


Figure 6.4

6) On the Screen as shown in figure below, Map the web module to expected server. Click “Next”.



7) Enter the context root of the application and click next.



8) Summary page will appear with selected installation options, review the same and click “Finish” to begin with installation of the web application.

WebSphere, software Welcome websphere [Help](#) | [Logout](#)

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02 [Close page](#)

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
  - New Application
  - Application Types
    - WebSphere enterprise applications
    - Business-level applications
    - Assets
  - Global deployment settings
- Services
- Resources
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

Install New Application [?](#)

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Map context roots for Web modules

→ Step 4: Summary

**Summary**

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	No
Application name	B001_war
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,s=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Business level application name	
Asynchronous Request Dispatch Type	Disabled
Allow EJB reference targets to resolve automatically	No
Deploy client modules	No
Client deployment mode	Isolated
Validate schema	No
Cell/Node/Server	<a href="#">Click here</a>

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

**Command Assistance**  
[View administrative scripting command for last action](#)

[Previous](#) [Finish](#) [Cancel](#)

- 9) Screen as shown in below figure will appear, detailing the status of the installation. On successful installation, click “Save” to complete the deploy application process.

The screenshot displays the IBM WebSphere Administration Console interface. The top navigation bar includes the text "WebSphere, software", "Welcome websphere", "Help", "Logout", and the IBM logo. On the left side, there is a navigation tree with a "View: All tasks" dropdown. The tree includes categories like "Welcome", "Guided Activities", "Servers", "Applications", "Services", "Resources", "Security", "Environment", "System administration", "Users and Groups", "Monitoring and Tuning", "Troubleshooting", "Service integration", and "UDDI". The "Applications" category is expanded, showing sub-items: "New Application", "Application Types" (with further sub-items: "WebSphere enterprise applications", "Business-level applications", "Assets", "Global deployment settings"), "Services", "Resources", "Security", "Environment", "System administration", "Users and Groups", "Monitoring and Tuning", "Troubleshooting", "Service integration", and "UDDI".

The main content area is titled "Installing..." and contains the following text:

**If there are enterprise beans in the application, the EJB deployment process can take several minutes. Do not save the configuration until the process completes.**

Check the SystemOut.log on the deployment manager or server where the application is deployed for specific information about the EJB deployment process as it occurs.

ADMA5016: Installation of B001\_war started.

ADMA0159W: Duplicate root context(B001) was found on the same node OFSMUD6HP0732Node02 and same host default\_host

ADMA5068: The resource validation for application B001\_war completed successfully, but warnings occurred during validation.

ADMA5058: Application and module versions are validated with versions of deployment targets.

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

ADMA5081: The bootstrap address for client module is configured in the WebSphere Application Server repository.

ADMA5053: The library references for the installed optional package are created.

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

ADMA5001: The application binaries are saved in C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv02\wstemp\228498399\workspace\cells\OFSMUD6HP0732Node02Cell\applications\B001\_war.ear\B001\_war.ear

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

SECJ0400: Successfully updated the application B001\_war with the appContextIDForSecurity information.

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

ADMA5005: The application B001\_war is configured in the WebSphere Application Server repository.

ADMA5113: Activation plan created successfully.

ADMA5011: The cleanup of the temp directory for application B001\_war is complete.

ADMA5013: Application B001\_war installed successfully.

**Application B001\_war installed successfully.**

To start the application, first save changes to the master configuration.

Changes have been made to your local configuration. You can:

- [Save](#) directly to the master configuration.
- [Review](#) changes before saving or discarding.

To work with installed applications, click the "Manage Applications" link.

[Manage Applications](#)

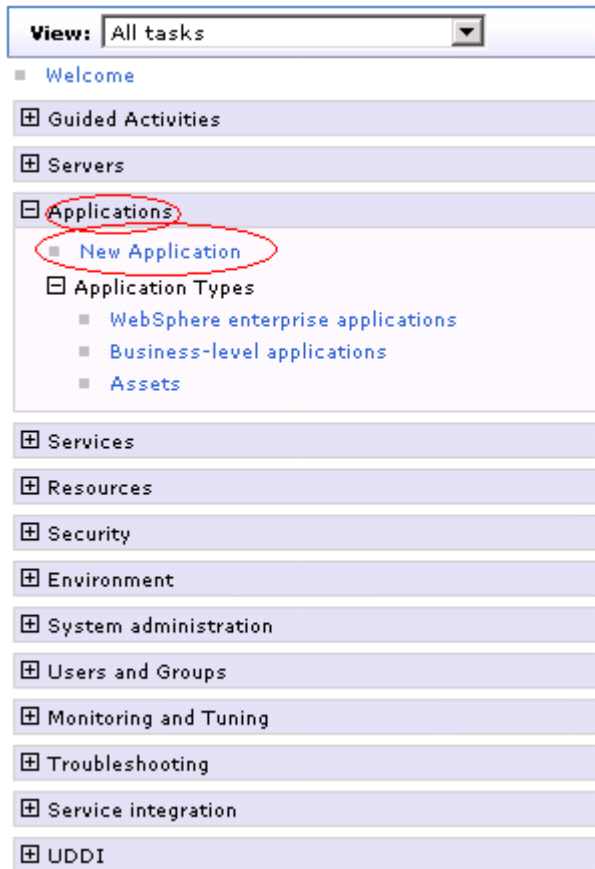
## 6.2 JAR Application Deployment

Following section explains deploying JAR application on IBM Websphere. For details and different options of deployment refer to documentations provided by IBM Websphere.

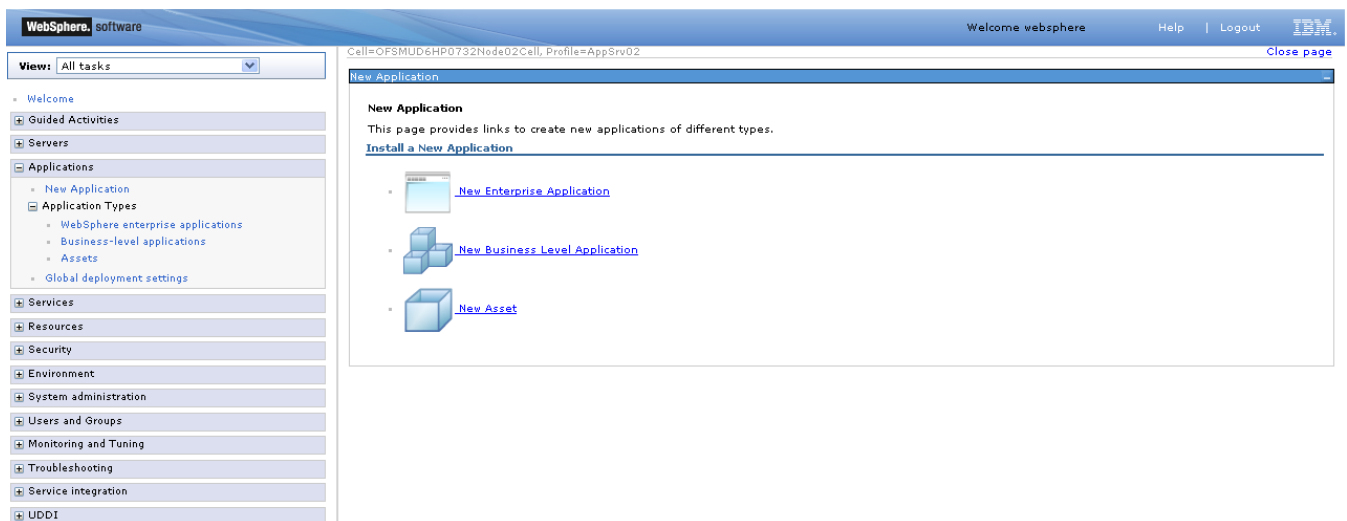
These steps should be carried out for each FCDB jar application mentioned below.

Deployable	JNDI	Path Location	Description
EJBChannleController.jar	EJBChannelController	<FCDB BASE DIR>\deploy	Deployment required. Used as interface to Channel tier.
ServiceEndPointRI.jar	ServiceEndPointEJB	<FCDB BASE DIR>\deploy	This application should be deployed if the mode of service tier invocation is EJB. If webservice mode is required, service.ear needs to be deployed. Please check "Enterprise Application Deployment" section
Service.ear	JNDI: service Context Root: service	<FCDB BASE DIR>\deploy	This application should be deployed if the mode of service tier invocation is webservice.
TransactionBean.jar	TransactionBean	<FCDB BASE DIR>\deploy	Deployment required.
TimerBean.jar	TimerBean	<FCDB BASE DIR>\deploy	Application should be deployed for timer services.

- 1) On Admin console, in the left menu, click on “New Application”.

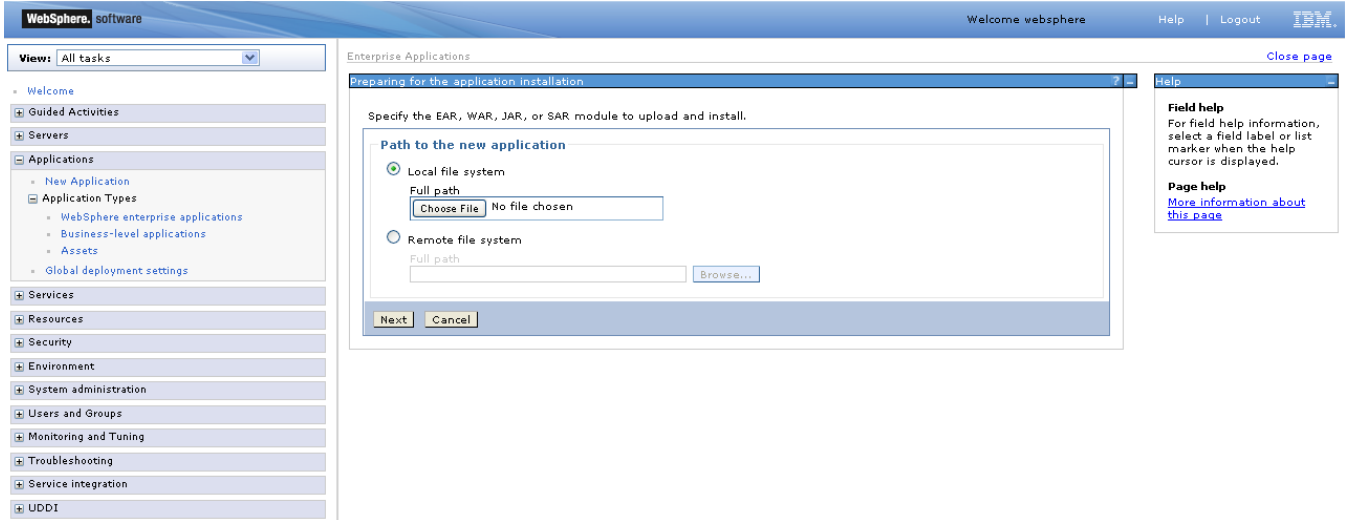


- 2) Screen as shown in below figure will appear. On the screen, click “New Enterprise Application”.

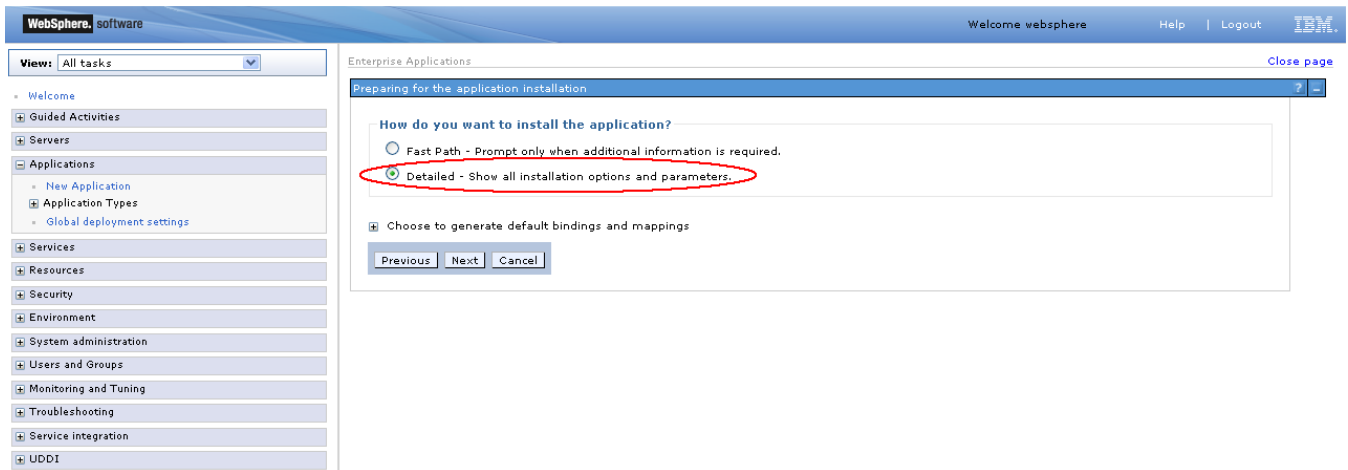


- 3) On the screen as show in figure below, use browse button to select the JAR file. Click on “Next” button.

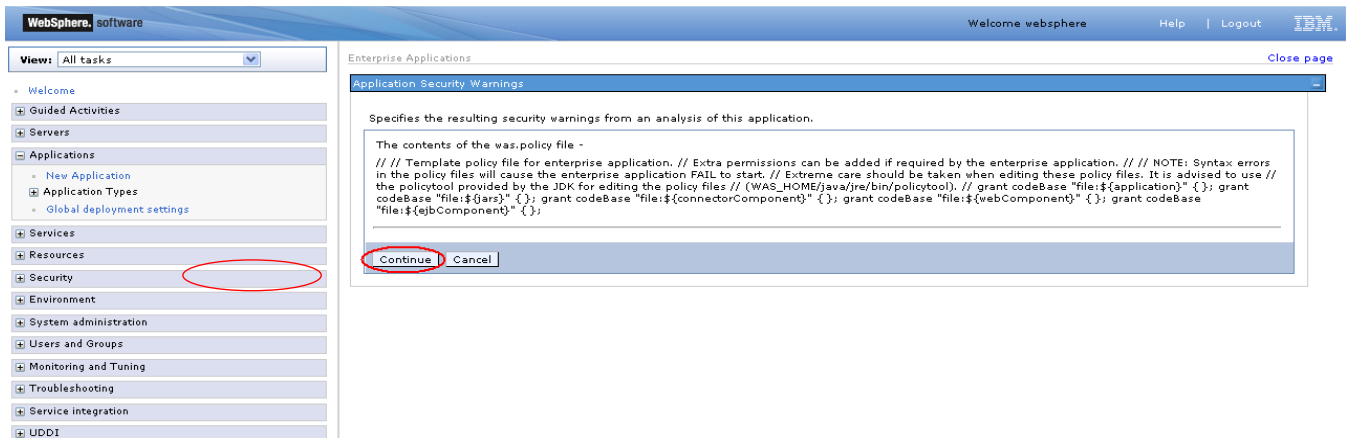




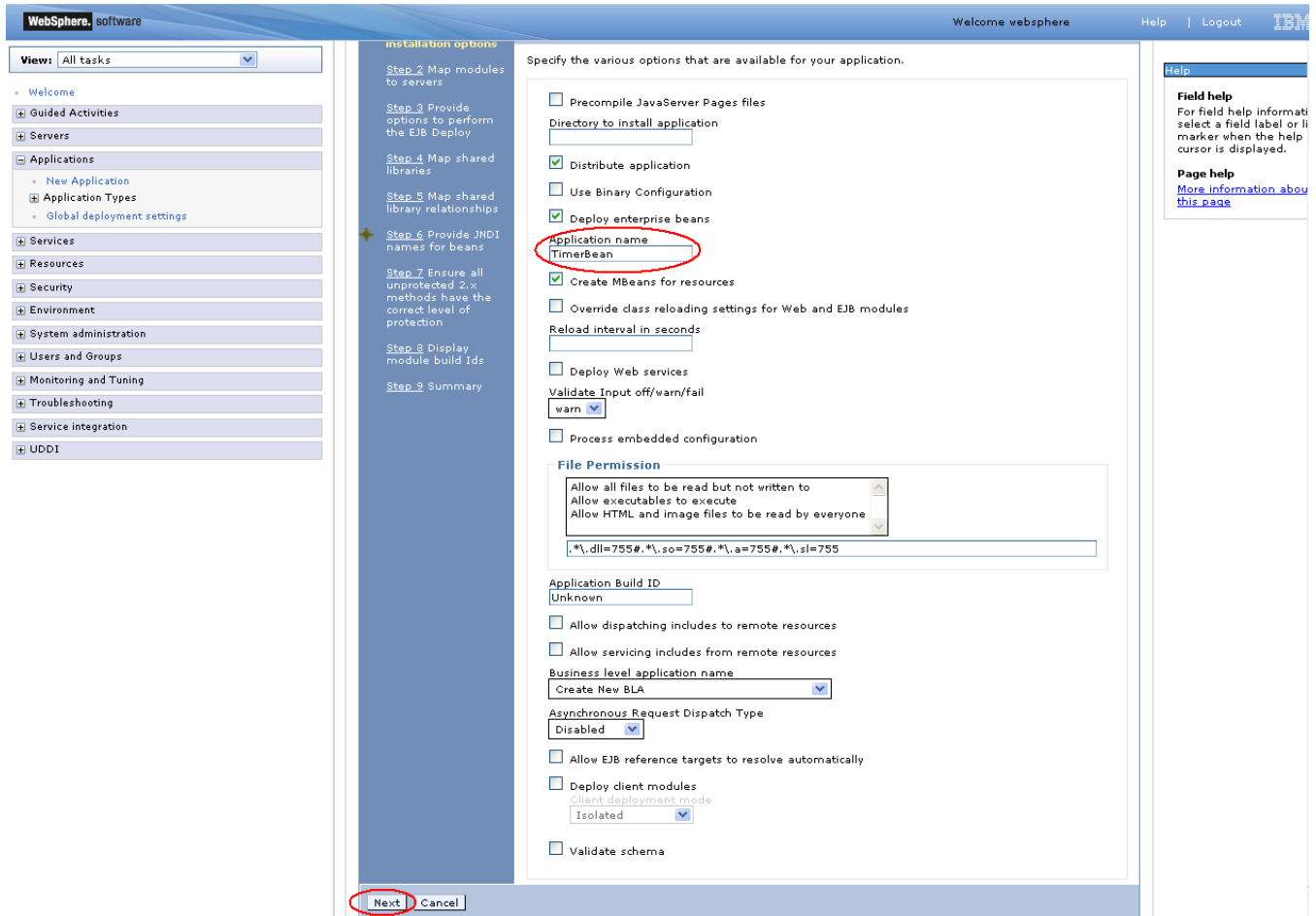
4) On the screen as show in figure below,Select the radio option “Show all installation options and parameters”. Click on “Next” button.



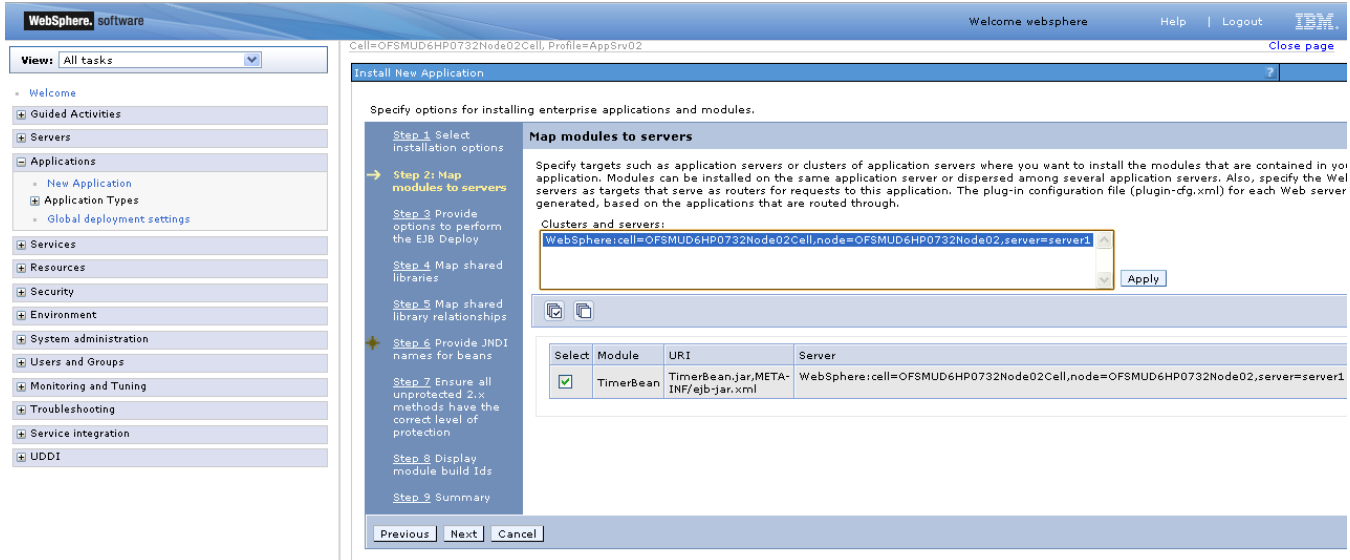
5) On the screen as shown below, click “Continue” button.



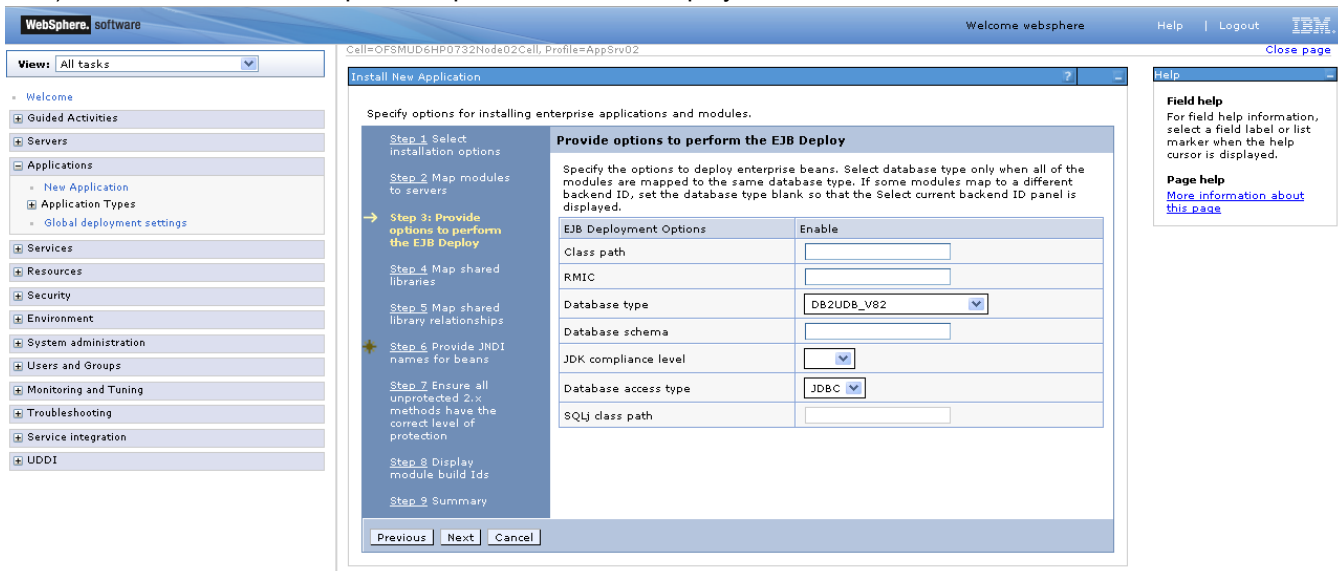
6) On the Screen as shown in below figure, Update the application name if required and click “Next”



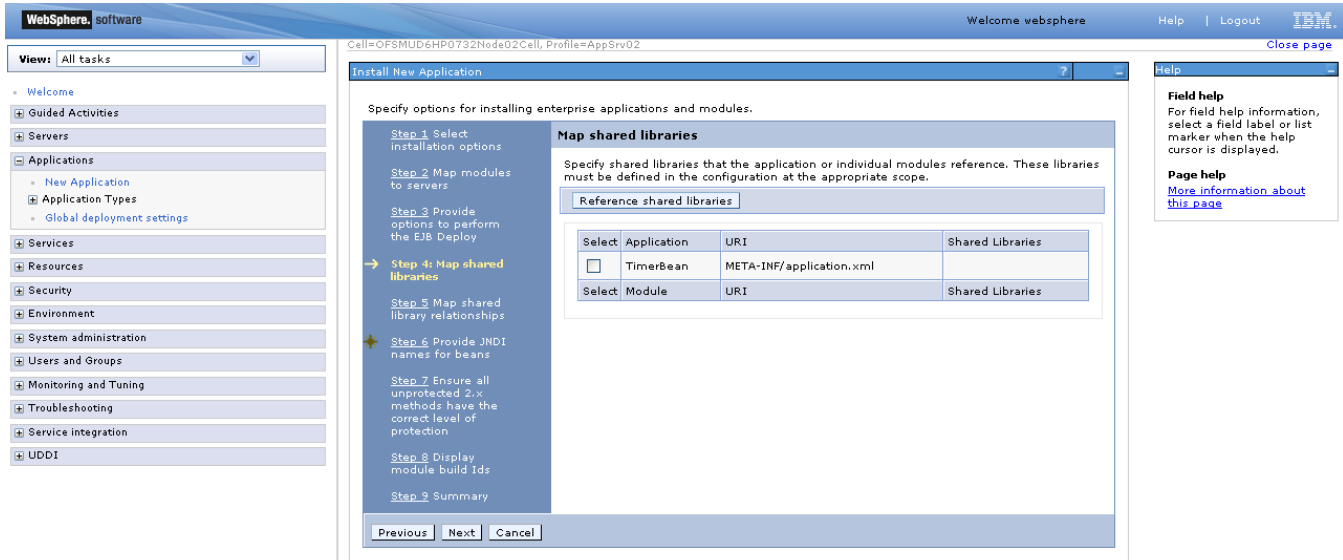
7) In screen “Map modules to server” as shown in figure below, map the JAR module to the applicable server(s) and click “Next”.



8) On Screen “Provide options to perform the EJB Deploy” Click next.




9) On the screen “Map Shared libraries” as shown below, click “Next”



10) On the Screen “Map shared libraries relationships” as shown below, click “Next”.



11) On the Screen “Provide JNDI names” as show below, provide the JNDI name for the application in field “Target Resource JNDI Name”. The JNDI name for each FCDB application is provided.

WebSphere, software Welcome websphere [Help](#) | [Logout](#) 

Cell=OPSMUD6HP0732Node02Cell, Profile=AppSrv02 [Close page](#)

View: All tasks

- Welcome
- ▣ Guided Activities
- ▣ Servers
- ▣ Applications
  - New Application
  - ▣ Application Types
  - Global deployment settings
- ▣ Services
- ▣ Resources
- ▣ Security
- ▣ Environment
- ▣ System administration
- ▣ Users and Groups
- ▣ Monitoring and Tuning
- ▣ Troubleshooting
- ▣ Service integration
- ▣ UDDI

**Install New Application**

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Map shared libraries

**Step 5** Map shared library relationships

→ **Step 6: Provide JNDI names for beans**

**Step 7** Ensure all unprotected 2.x methods have the correct level of protection

**Step 8** Display module build Ids

**Step 9** Summary

**Provide JNDI names for beans**

Each non-message-driven enterprise bean in your application or module must be bound to a Java Naming and Directory Interface (JNDI) name. For beans in a pre-EJB 3.0 module, you have to use JNDI name for the bean to provide the binding. For beans in a EJB 3.0 module, you can optionally provide binding through JNDI name for the bean or local/remote home JNDI names. If JNDI name for the bean is specified, you cannot specify binding for its local/remote home and any business interface. If no JNDI name is specified for beans in a EJB 3.0 module, runtime will provide a container default.

Module	Bean	URI	Target Resource JNDI Name
TimerBean	TimerBean	TimerBean.jar,META-INF/ejb-jar.xml	Target Resource JNDI Name

**Field help**

For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**

[More information about this page](#)

12) On the screen as show below, click “Next”.

The screenshot shows the IBM WebSphere Administration Console interface. The left-hand navigation pane is expanded to 'Applications' > 'New Application' > 'Application Types' > 'Global deployment settings'. The main content area displays the 'Install New Application' wizard, currently at Step 7: 'Ensure all unprotected 2.x methods have the correct level of protection'. The wizard title is 'Specify options for installing enterprise applications and modules.' The steps listed are: Step 1: Select installation options; Step 2: Map modules to servers; Step 3: Provide options to perform the EJB Deploy; Step 4: Map shared libraries; Step 5: Map shared library relationships; Step 6: Provide JNDI names for beans; Step 7: Ensure all unprotected 2.x methods have the correct level of protection (highlighted with a yellow arrow); Step 8: Display module build Ids; Step 9: Summary. The Step 7 section contains the following text: 'Specify whether you want to assign a security role to the unprotected method, add the method to the exclude list, or mark the method as cleared.' Below this text are three radio buttons: 'Uncheck' (selected), 'Exclude', and 'Role: [dropdown]'. An 'Apply' button is located below the radio buttons. A table below the 'Apply' button shows the following data:

Select	Module	URI	Protection type
<input type="checkbox"/>	TimerBean	TimerBean.jar,META-INF/ejb-jar.xml	methodProtection.uncheck

At the bottom of the wizard are 'Previous', 'Next', and 'Cancel' buttons. On the right side of the console, there is a 'Help' panel with 'Field help' and 'Page help' sections.

13) On the screen as show below, click “Next”.

The screenshot shows the IBM WebSphere Administration Console interface, similar to the previous one, but now at Step 8: 'Display module build Ids'. The left-hand navigation pane is expanded to 'Applications' > 'New Application' > 'Application Types' > 'Global deployment settings'. The main content area displays the 'Install New Application' wizard, currently at Step 8: 'Display module build Ids'. The wizard title is 'Specify options for installing enterprise applications and modules.' The steps listed are: Step 1: Select installation options; Step 2: Map modules to servers; Step 3: Provide options to perform the EJB Deploy; Step 4: Map shared libraries; Step 5: Map shared library relationships; Step 6: Provide JNDI names for beans; Step 7: Ensure all unprotected 2.x methods have the correct level of protection; Step 8: Display module build Ids (highlighted with a yellow arrow); Step 9: Summary. The Step 8 section contains the following text: 'Display module build IDs.' Below this text is a table with the following data:

Module	URI	Build ID
TimerBean	TimerBean.jar,META-INF/ejb-jar.xml	

At the bottom of the wizard are 'Previous', 'Next', and 'Cancel' buttons. On the right side of the console, there is a 'Help' panel with 'Field help' and 'Page help' sections.

14) On the “Summary” page, summary of selected installation options will be displayed. Verify the same and click “Next” to begin with application installation.

WebSphere, software | Welcome websphere | Help | Logout | IBM | Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02 | Close page

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
  - New Application
    - Application Types
      - Global deployment settings
- Services
- Resources
- Security
- Environment
- System administration
- Users and Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
- UDDI

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Provide options to perform the EJB Deploy

Step 4 Map shared libraries

Step 5 Map shared library relationships

Step 6 Provide JNDI names for beans

Step 7 Ensure all unprotected 2.x methods have the correct level of protection

Step 8 Display module build Ids

→ Step 9: Summary

**Summary**

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	Yes
Application name	TimerBean
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dl=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Business level application name	
Asynchronous Request Dispatch Type	Disabled
Allow EJB reference targets to resolve automatically	No
Deploy client modules	No
Client deployment mode	Isolated
Validate schema	No
Cell/Node/Server	<a href="#">Click here</a>
Class path	
RMIC	
Database type	DB2UDB_V82
Database schema	
JDK compliance level	
Database access type	JD&C

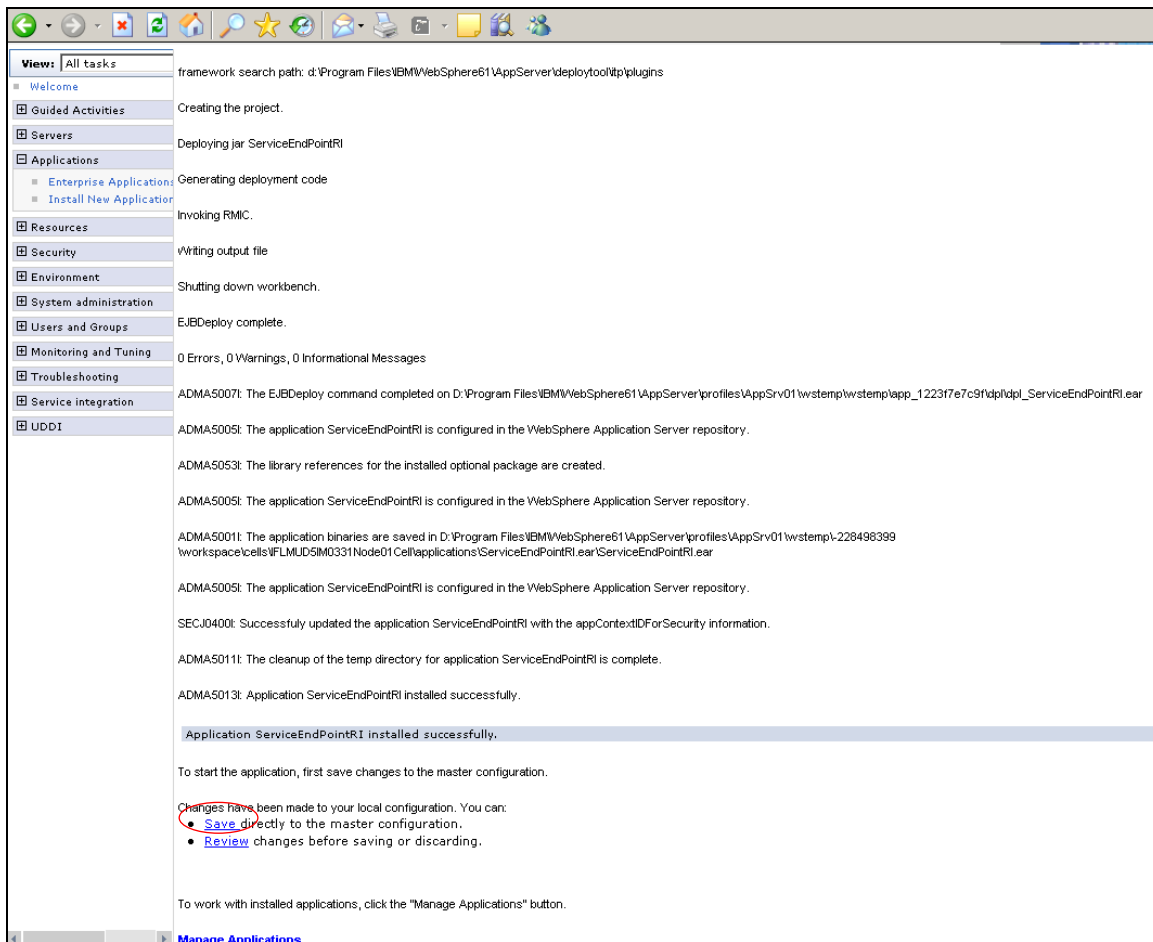
Previous Finish Cancel

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

**Command Assistance**  
[View administrative scripting command for last action](#)

- 15) The next screen displays application installation status. On successful installation, click the link “Save” to save the installation.





## 6.3 Enterprise Application Deployment

Following section explains deploying EAR application on IBM Websphere. For details and different options of deployment refer to documentations provided by IBM Websphere.

These steps should be carried out for each FCDB jar application mentioned below.

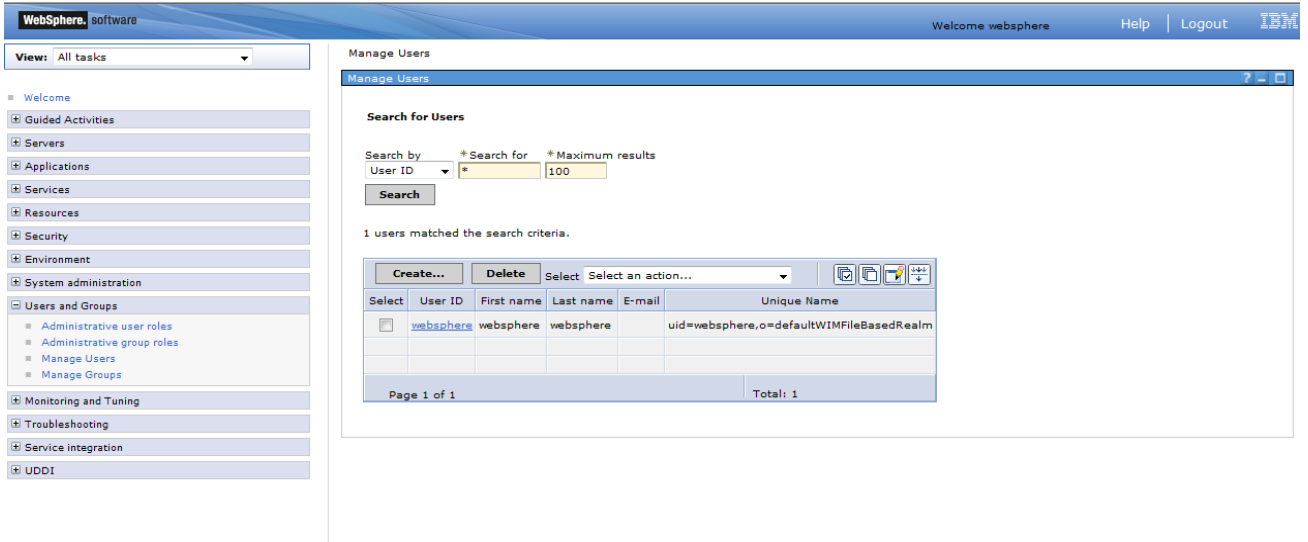
Deployable	JNDI Name/Root	Path Location	Description
Service.ear	JNDI: service Context Root: service	<FCDB BASE DIR>\deploy\ websphere	This application should be deployed if the mode of service tier invocation is webservice. If EJB mode is required, ServiceEndPointRI.jar needs to be deployed.

Before deploying services.ear, the below steps needs to be followed to create an user for enabling webservice authentication –

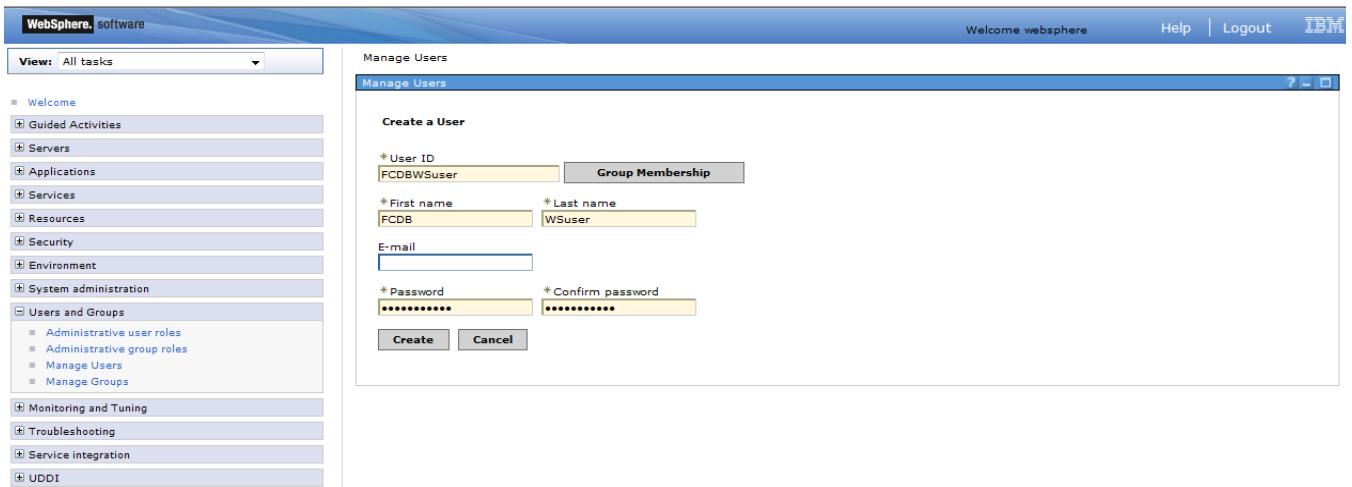
1. On Admin console, in the left menu, click on “Manage Users”.



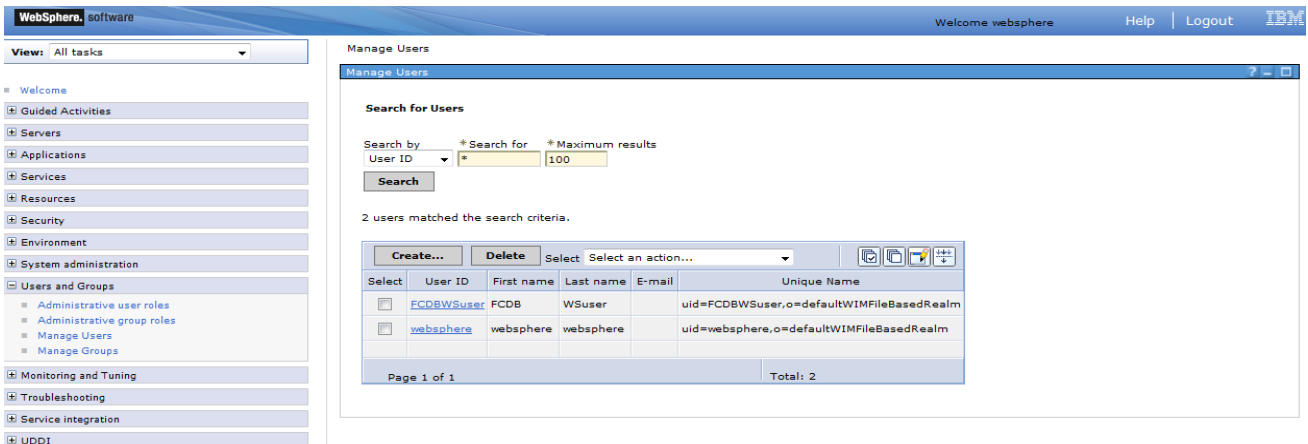
2. Screen as shown in below figure will appear. On the screen, click “Create”.



3. On the screen as show in figure below, enter the user details (e.g. FCDBWSuser). Click on “Create” button



4. User is created successfully in the current security realm.

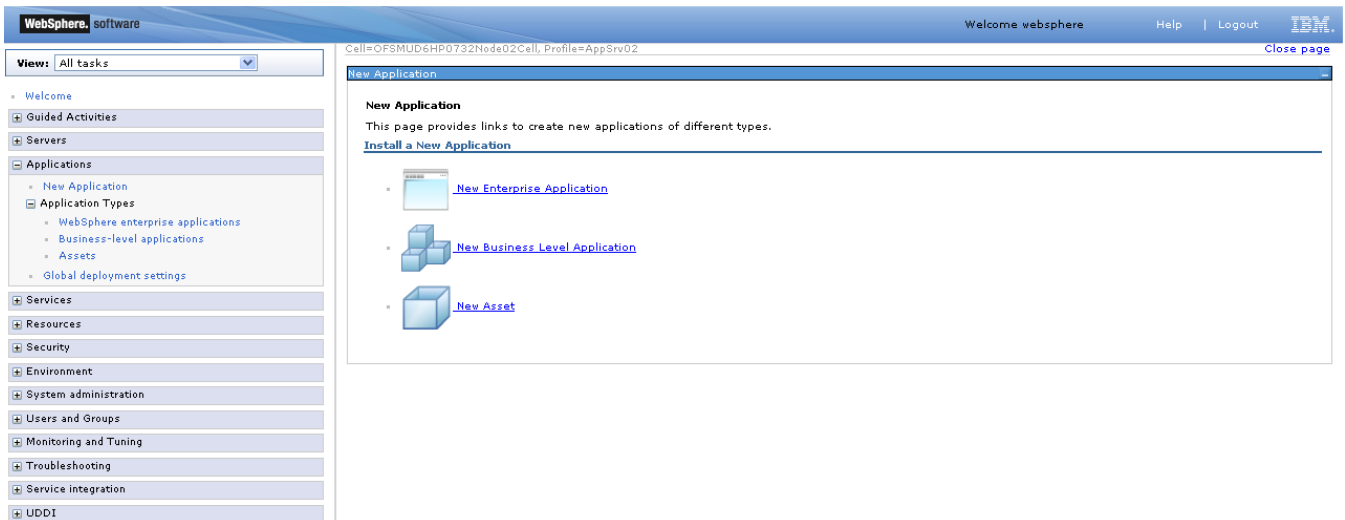


These steps needs to be followed for deploying service.ear-

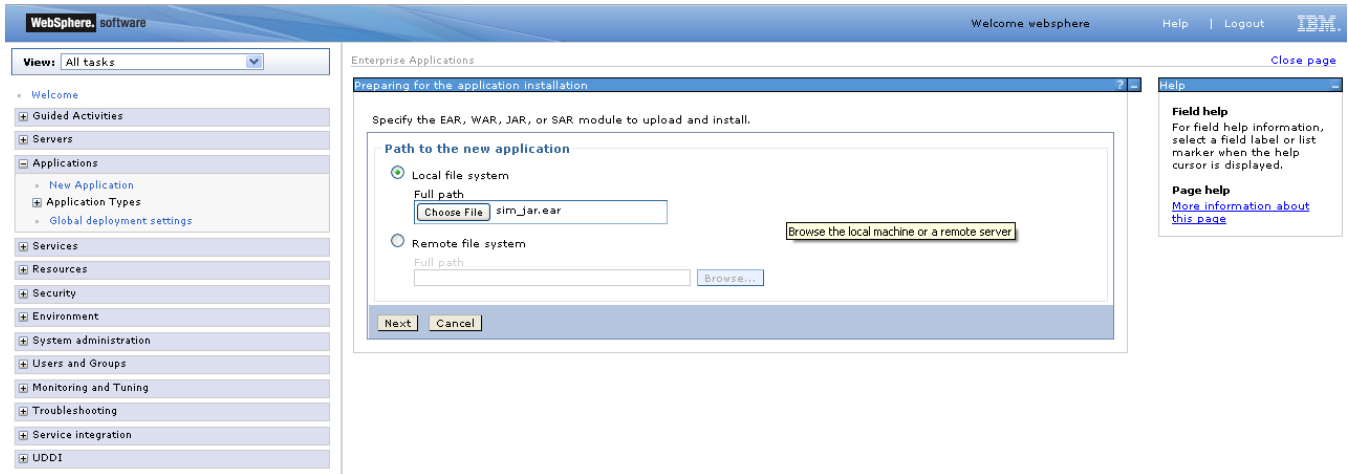
On Admin console, in the left menu, click on “New Application”.



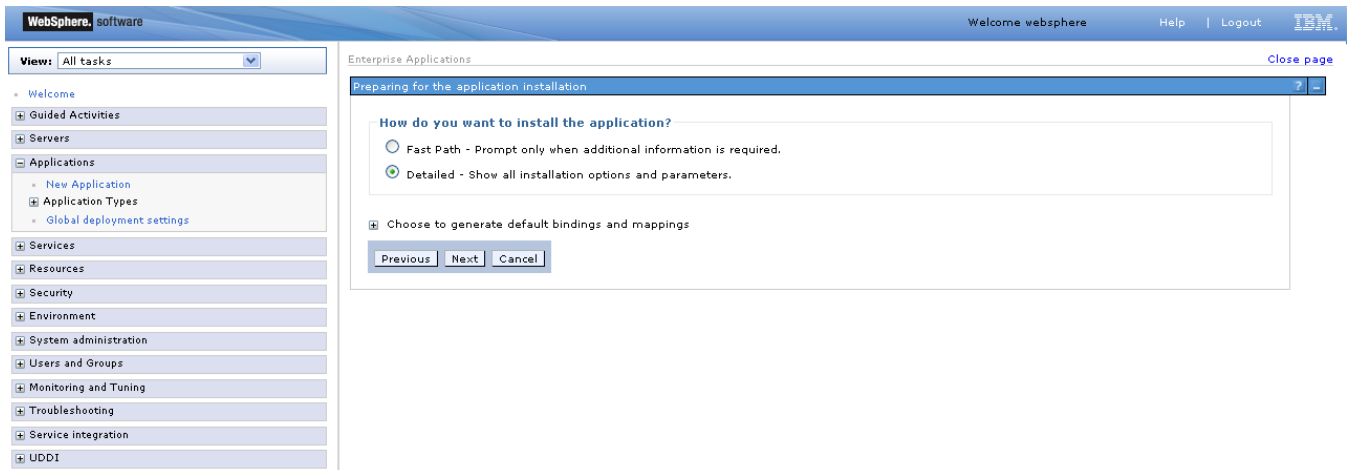
1) Screen as shown in below figure will appear. On the screen, click “New Enterprise Application”.



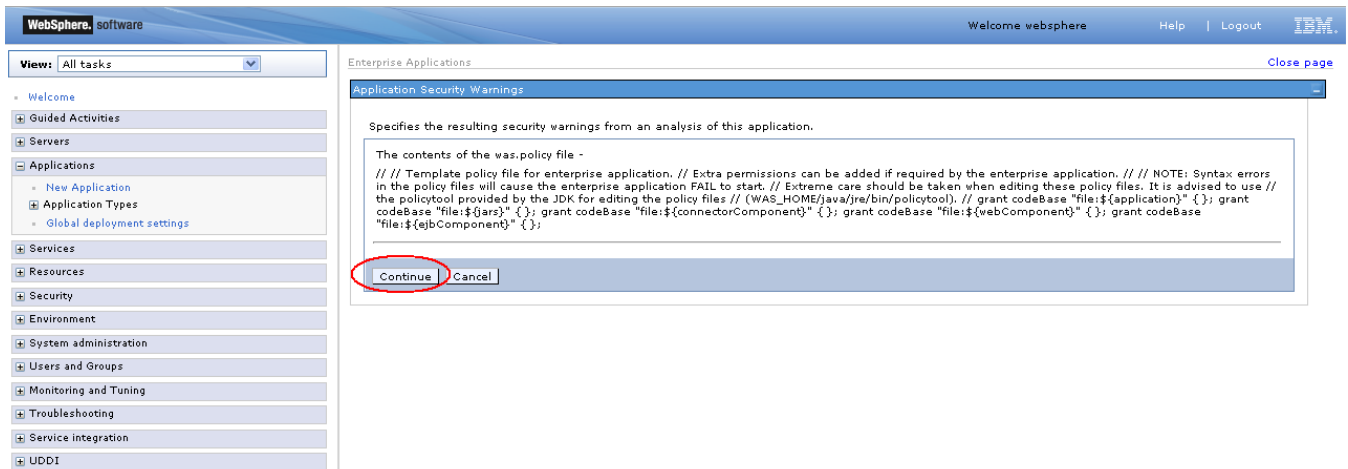
2) On the screen as show in figure below, use browse button to select the EAR file. Click on “Next” button.



3) On the screen as show in figure below, select the radio option “Show all installation options and parameters”. Click on “Next” button.



4) On the screen as shown below, click “Continue” button.

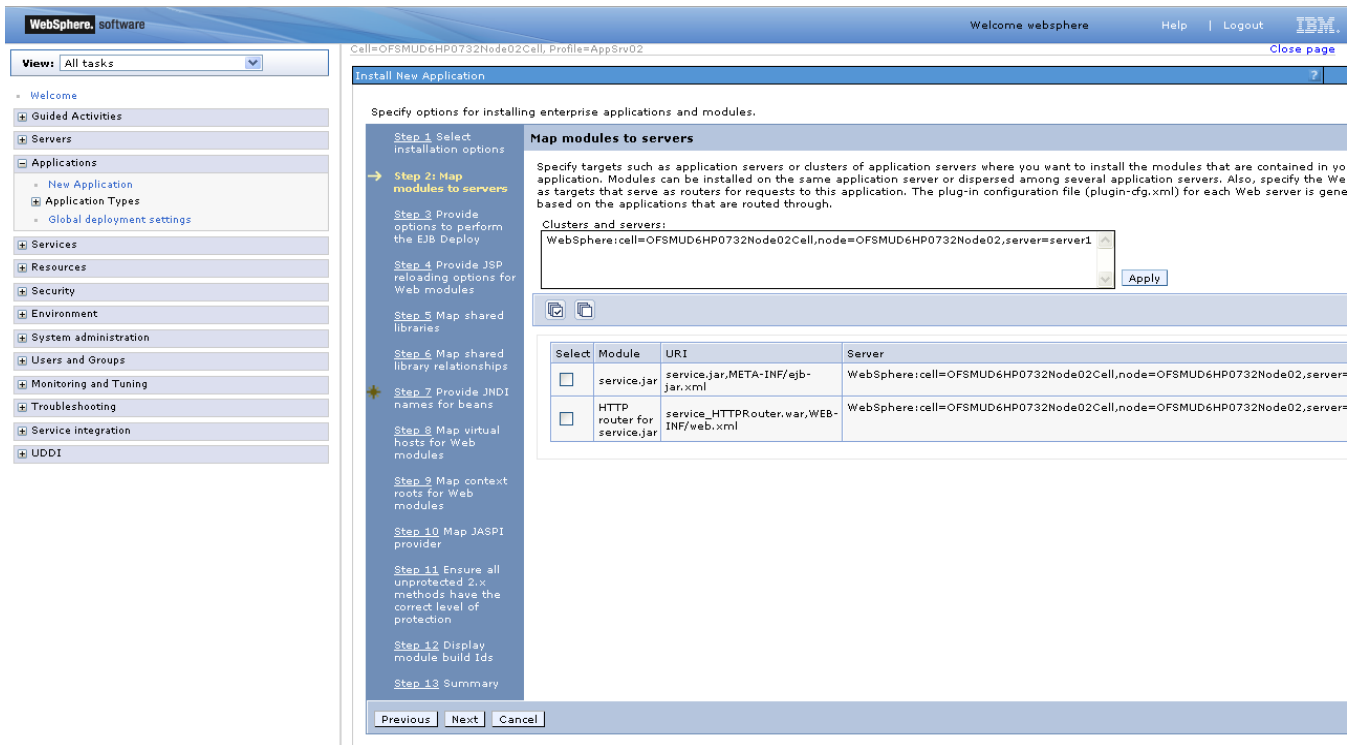


5) On the Screen as shown in below figure, Update the application name if required and click “Next”

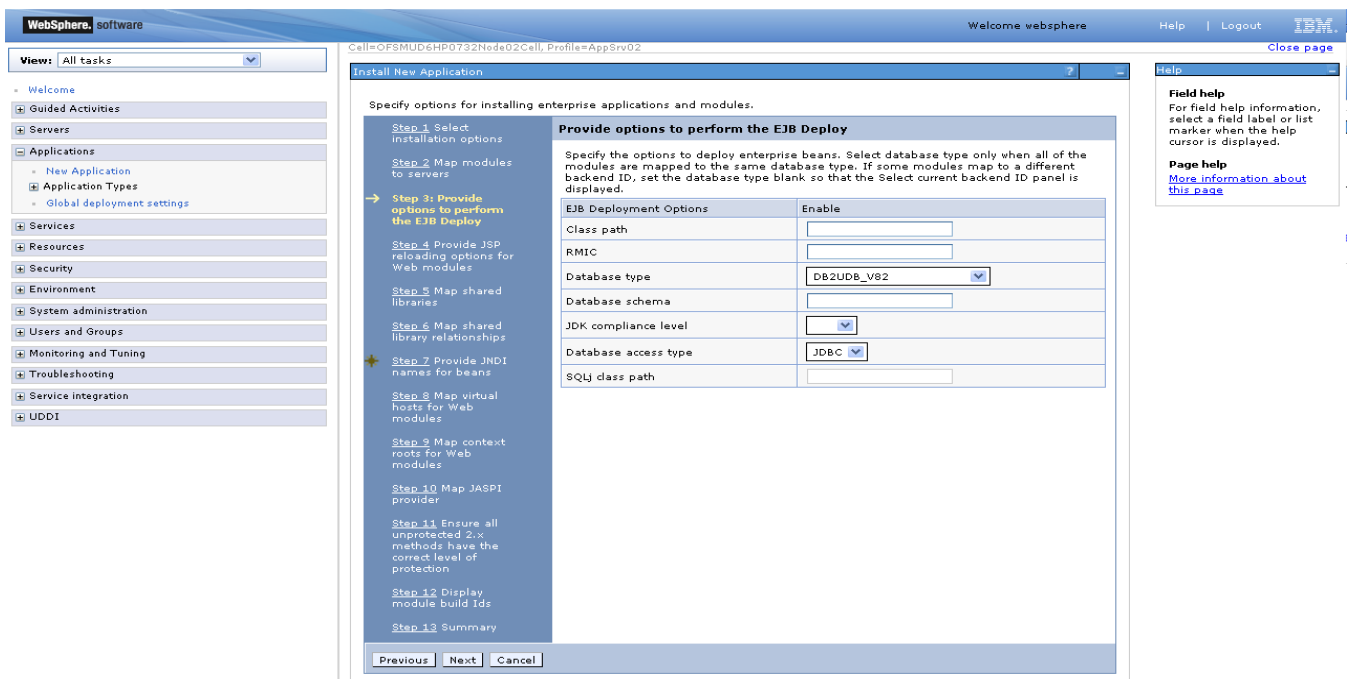
The screenshot shows the IBM WebSphere software installation wizard. The interface is divided into several sections:

- Header:** "WebSphere, software" on the left and "Welcome websphere" with "Help" and "Logout" on the right.
- Left Navigation Pane:** A list of tasks including "Welcome", "Guided Activities", "Servers", "Applications" (with sub-items "New Application", "Application Types", and "Global deployment settings"), "Services", "Resources", "Security", "Environment", "System administration", "Users and Groups", "Monitoring and Tuning", "Troubleshooting", "Service integration", and "UDDI".
- Progress Bar:** A vertical list of 13 steps. Step 7, "Provide JNDI names for beans", is currently selected and highlighted with a star icon.
- Main Configuration Area:** Titled "Specify the various options that are available for your application.", it contains several sections:
  - Options:** A list of checkboxes for "Precompile JavaServer Pages files", "Distribute application" (checked), "Use Binary Configuration", "Deploy enterprise beans" (checked), "Create MBeans for resources" (checked), and "Override class reloading settings for Web and EJB modules".
  - Application name:** A text input field containing "service.ear", which is circled in red.
  - Reload interval in seconds:** A text input field.
  - Validate Input:** A dropdown menu set to "warn".
  - Process embedded configuration:** An unchecked checkbox.
  - File Permission:** A section with a text area containing "Allow all files to be read but not written to", "Allow executables to execute", and "Allow HTML and image files to be read by everyone". Below it is a text input field with the value ".\*\,dl=755#.\*\,so=755#.\*\,a=755#.\*\,sl=755".
  - Application Build ID:** A text input field with the value "Unknown".
  - Dispatching options:** Two unchecked checkboxes for "Allow dispatching includes to remote resources" and "Allow servicing includes from remote resources".
  - Business level application name:** A dropdown menu set to "Create New BLA".
  - Asynchronous Request Dispatch Type:** A dropdown menu set to "Disabled".
  - Other options:** Unchecked checkboxes for "Allow EJB reference targets to resolve automatically", "Deploy client modules", "Validate schema", and "Client deployment mode" (set to "Isolated").
- Bottom Buttons:** "Next" and "Cancel" buttons, with "Next" circled in red.
- Right Side Help:** A "Help" section with "Field help" and "Page help" links.

- 6) In screen “Map modules to server” as shown in figure below, map the modules to the applicable server(s) and click “Next”.



- 7) On screen “Provide options” as shown in figure below, add the FCDB Kernel jar to the classpath. Add <FCDB BASE DIR>/system/build/kernel/FCDB\_<version>.jar to the class path field and click “Next”.



8) Disable JSP Class reloading for all web modules and click “Next”

WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrvV02

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options  
Step 2 Map modules to servers  
Step 3 Provide options to perform the EJB Deploy  
→ Step 4: Provide JSP reloading options for Web modules  
Step 5 Map shared libraries  
Step 6 Map shared library relationships  
★ Step 7 Provide JNDI names for beans  
Step 8 Map virtual hosts for Web modules  
Step 9 Map context roots for Web modules  
Step 10 Map JASPI provider  
Step 11 Ensure all unprotected 2.x methods have the correct level of protection  
Step 12 Display module build Ids  
Step 13 Summary

**Provide JSP reloading options for Web modules**

JSP reloading options for Web modules

Configure Servlet and JSP reload attributes in web modules.

Web module	URI	JSP enable class reloading	JSP reload interval in seconds
HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml	<input checked="" type="checkbox"/>	10

Previous Next Cancel

Field help: For field help information, select a field label or list marker when the help cursor is displayed.  
Page help: More information about this page

9) On the screen “Map Shared libraries” as shown below, click “Next”

WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrvV02

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options  
Step 2 Map modules to servers  
Step 3 Provide options to perform the EJB Deploy  
Step 4 Provide JSP reloading options for Web modules  
→ Step 5: Map shared libraries  
Step 6 Map shared library relationships  
★ Step 7 Provide JNDI names for beans  
Step 8 Map virtual hosts for Web modules  
Step 9 Map context roots for Web modules  
Step 10 Map JASPI provider  
Step 11 Ensure all unprotected 2.x methods have the correct level of protection  
Step 12 Display module build Ids  
Step 13 Summary

**Map shared libraries**

Specify shared libraries that the application or individual modules reference. These libraries must be defined in the configuration at the appropriate scope.

Reference shared libraries

Select	Application	URI	Shared Libraries
<input checked="" type="checkbox"/>	service.ear	META-INF/application.xml	
Select	Module	URI	Shared Libraries
<input checked="" type="checkbox"/>	HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml	

Previous Next Cancel

Field help: For field help information, select a field label or list marker when the help cursor is displayed.  
Page help: More information about this page

10) On “Map shared library relationships” click next.

The screenshot shows the 'Install New Application' wizard in the IBM WebSphere Administration Console. The wizard is currently at Step 6: 'Map shared library relationships'. The left sidebar shows a navigation tree with 'Applications' expanded. The main content area displays the wizard steps, with Step 6 highlighted. Below the steps is a table titled 'Reference shared libraries' with the following data:

Select	Application	URI	Asset or composition unit IDs	Match target
<input type="checkbox"/>	service.ear	META-INF/application.xml		<input checked="" type="checkbox"/>
Select	Module	URI	Asset or composition unit IDs	Match target
<input type="checkbox"/>	HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml		<input checked="" type="checkbox"/>

At the bottom of the wizard, there are 'Previous', 'Next', and 'Cancel' buttons. The 'Next' button is highlighted, indicating it is the next step to be taken.

11) On the Screen “Provide JNDI names” as show below, provide the JNDI name for the application in field “Target Resource JNDI Name”. The JNDI name for each FCDB application has been provided at the start of this section.



WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

Install New Application

Specify options for installing enterprise applications and modules.

**Step 7: Provide JNDI names for beans**

Each non-message-driven enterprise bean in your application or module must be bound to a Java Naming and Directory Interface (JNDI) name. For beans in a pre-EJB 3.0 module, you have to use JNDI name for the bean to provide the binding. For beans in an EJB 3.0 module, you can optionally provide binding through JNDI name for the bean or local/remote home JNDI names. If JNDI name for the bean is specified, you cannot specify binding for its local/remote home and any business interface. If no JNDI name is specified for beans in an EJB 3.0 module, runtime will provide a container default.

Module	Bean	URI	Target Resource JNDI Name
service.jar	ServiceEndPointRemoteSoapBindingImpl	service.jar,META-INF/ejb-jar.xml	service

Previous Next Cancel

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.  
**Page help**  
[More information about this page](#)

12) On the screen “Map Virtual host”, map web modules to the relevant virtual host & click Next.

WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

Install New Application

Specify options for installing enterprise applications and modules.

**Step 8: Map virtual hosts for Web modules**

Specify the virtual host for the Web modules that are contained in your application. You can install Web modules on the same virtual host or disperse them among several hosts.

Apply Multiple Mappings

Select	Web module	Virtual host
<input type="checkbox"/>	HTTP router for service.jar	default_host

Previous Next Cancel

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.  
**Page help**  
[More information about this page](#)

- 13) On screen “Map Context roots”, map the web modules with respective context root. The context root has been configured in the deployable and the default context root being displayed can be used. If no context root is displayed, use the context root as mentioned for the application at the start of this section.

The screenshot shows the IBM WebSphere Administration Console interface. The main window is titled "Install New Application" and displays a wizard with 13 steps. Step 9, "Map context roots for Web modules", is the active step. The wizard is titled "Specify options for installing enterprise applications and modules." and includes a sub-section "Map context roots for Web modules" with the instruction "Configure values for context roots in web modules." Below this instruction is a table with three columns: "Web module", "URI", and "Context Root".

Web module	URI	Context Root
HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml	/service

At the bottom of the wizard, there are buttons for "Previous", "Next", and "Cancel". On the right side of the console, there is a "Help" panel with "Field help" and "Page help" sections.

- 14) On screen “Map security roles to users or groups”, map the role “FCDBWSRole” and map it with the user created before deploying the ear.

View: All tasks

- Welcome
- Guided Activities
- Servers
- Applications
  - New Application
  - Application Types
    - WebSphere enterprise applications
    - Business-level applications
    - Assets
  - Global deployment settings
- Services
- Resources
- Security
- Environment
- System administration
- Users and Groups
  - Administrative user roles
  - Administrative group roles
  - Manage Users
  - Manage Groups
- Monitoring and Tuning
- Troubleshooting
- Service integration
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Specify options for installing enterprise applications and modules.

**Step 10: Map security roles to users or groups**

Each role that is defined in the application or module must map to a user or group from the domain user registry. accessIds: The accessIds are required only when using cross realm communication in a multi domain scenario. For all other scenarios the accessId will be determined during the application start based on the user or group name. The accessIds represent the user and group information that is used for Java Platform, Enterprise Edition authorization when using the WebSphere default authorization engine. The format for the accessIds is user:realm/uniqueUserID, group:realm/uniqueGroupID. Entering wrong information in these fields will cause authorization to fail. AllAuthenticatedInTrustedRealms: This indicates that any valid user in the trusted realms be given the access. AllAuthenticated: This indicates that any valid user in the current realm be given the access.

Map Users... Map Groups... Map Special Subjects

Select	Role	Special subjects	Mapped users	Mapped groups
<input type="checkbox"/>	FCDBWSRole	None		

Previous Next Cancel

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

15) On the screen as show below, click “Ok”.

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**New Application**

**New Application > Enterprise Applications > Map users/groups**

Use this page to search for users or groups and add them to the selected roles.

- FCDBWSRole

**Search and Select Users**

Decide how many results to display, enter a search string (use \* for wildcard), and click Search. Select users in the Available list and add them to the Selected list.

Display a maximum of  results

Search string

Search

Available:

Selected:

OK Cancel

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
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16) On the screen as show below, click “Next”.

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Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Provide JSP reloading options for Web modules

**Step 5** Map shared libraries

**Step 6** Map shared library relationships

**Step 7** Provide JNDI names for beans

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

→ **Step 10: Map security roles to users or groups**

**Step 11** Map JASPI provider

**Step 12** Ensure all unprotected 2.x methods have the correct level of protection

**Step 13** Display module build Ids

**Step 14** Summary

### Map security roles to users or groups

Each role that is defined in the application or module must map to a user or group from the domain user registry, accessIds: The accessIds are required only when using cross realm communication in a multi domain scenario. For all other scenarios the accessId will be determined during the application start based on the user or group name. The accessIds represent the user and group information that is used for Java Platform, Enterprise Edition authorization when using the WebSphere default authorization engine. The format for the accessids is user:realm/uniqueUserID, group:realm/uniqueGroupID. Entering wrong information in these fields will cause authorization to fail. AllAuthenticatedInTrustedRealms: This indicates that any valid user in the trusted realms be given the access. AllAuthenticated: This indicates that any valid user in the current realm be given the access.

Map Users...
Map Groups...
Map Special Subjects ▼

Select	Role	Special subjects	Mapped users	Mapped groups
<input type="checkbox"/>	FCDBWSRole	None	FCDBWSuser	

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

17) On the screen as show below, click “Next”.

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Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

Install New Application

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Provide JSP reloading options for Web modules

**Step 5** Map shared libraries

**Step 6** Map shared library relationships

**Step 7** Provide JNDI names for beans

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

→ **Step 10: Map JASPI provider**

**Step 11** Ensure all unprotected 2.x methods have the correct level of protection

**Step 12** Display module build Ids

**Step 13** Summary

### Map JASPI provider

JASPI providers offer an alternative to JAAS pluggable authentication for web modules. By default, an application inherits the JASPI settings defined in the WebSphere Application Server global or domain security configuration and web modules inherit the application setting. However, you can override these defaults by using wsadmin or the administrative console.

Select JASPI provider ▼

Select	Application	URI	JASPI provider name
<input type="checkbox"/>	service.ear	META-INF/application.xml	Inherit JASPI provider
<input type="checkbox"/>	Module	URI	JASPI provider name
<input type="checkbox"/>	HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml	Inherit JASPI provider

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

18) On the screen as show below, select the role and associate it with the module by clicking on “Apply”. Now click on “Next”

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Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Provide JSP reloading options for Web modules

**Step 5** Map shared libraries

**Step 6** Map shared library relationships

**Step 7** Provide JNDI names for beans

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

**Step 10** Map security roles to users or groups

**Step 11** Map JASPI provider

→ **Step 12: Ensure all unprotected 2.x methods have the correct level of protection**

**Step 13** Display module build IDs

**Step 14** Summary

**Ensure all unprotected 2.x methods have the correct level of protection**

Specify whether you want to assign a security role to the unprotected method, add the method to the exclude list, or mark the method as cleared.

Uncheck  
 Exclude  
 Role: FCDBWSRole

Select	Module	URI	Protection type
<input checked="" type="checkbox"/>	service.jar	service.jar,META-INF/ejb-jar.xml	FCDBWSRole

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

Previous
Next
Cancel

19) On the screen as show below, click “Next”.

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Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

Install New Application

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Provide JSP reloading options for Web modules

**Step 5** Map shared libraries

**Step 6** Map shared library relationships

**Step 7** Provide JNDI names for beans

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

**Step 10** Map JASPI provider

**Step 11** Ensure all unprotected 2.x methods have the correct level of protection

→ **Step 12: Display module build IDs**

**Step 13** Summary

**Display module build IDs**

Display module build IDs.

Module	URI	Build ID
service.jar	service.jar,META-INF/ejb-jar.xml	
HTTP router for service.jar	service_HTTPRouter.war,WEB-INF/web.xml	


Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

Previous
Next
Cancel

20) On the “Summary” page, summary of selected installation options will be displayed. Verify the same and click “Next” to begin with application installation.

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**Install New Application**

Specify options for installing enterprise applications and modules.

**Step 1** Select installation options

**Step 2** Map modules to servers

**Step 3** Provide options to perform the EJB Deploy

**Step 4** Provide JSP reloading options for Web modules

**Step 5** Map shared libraries

**Step 6** Map shared library relationships

**Step 7** Provide JNDI names for beans

**Step 8** Map virtual hosts for Web modules

**Step 9** Map context roots for Web modules

**Step 10** Map JASPI provider

**Step 11** Ensure all unprotected `@x` methods have the correct level of protection

**Step 12** Display module build ids

→ **Step 13: Summary**

**Summary**

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	Yes
Application name	service.ear
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Business level application name	
Asynchronous Request Dispatch Type	Disabled
Allow EJB reference targets to resolve automatically	No
Deploy client modules	No
Client deployment mode	Isolated
Validate schema	No
Cell/Node/Server	<a href="#">Click here</a>
Class path	
RMIC	
Database type	DB2UDB_V82
Database schema	
JDK compliance level	
Database access type	JDBC

**Help**

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
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**Command Assistance**  
[View administrative scripting command for last action](#)

21) The next screen displays application installation status. On successful installation, click the link “Save” to save the installation.

The screenshot shows the 'View: All tasks' pane on the left with a tree view of installation steps. The main pane on the right displays a log of messages. A blue bar highlights the message: 'Application service.ear installed successfully.' Below this, instructions are provided to start the application and save changes to the master configuration. A red circle highlights the 'Save' link in the instructions.

framework search path: d:\Program Files\IBM\WebSphere61\AppServer\deploytool\tp\plugins

Creating the project.

Deploying jar service\_EJB

Generating deployment code

Invoking RMI.

Writing output file

Shutting down workbench.

EJBDeploy complete.

0 Errors, 0 Warnings, 0 Informational Messages

ADMA5007I: The EJBDeploy command completed on D:\Program Files\IBM\WebSphere61\AppServer\profiles\AppSrv01\wstemp\wstemp\app\_122419e3f25\tp\l\apl\_service\_ear.ear

ADMA5005I: The application service.ear is configured in the WebSphere Application Server repository.

ADMA5003I: The library references for the installed optional package are created.

ADMA5005I: The application service.ear is configured in the WebSphere Application Server repository.

ADMA5001I: The application binaries are saved in D:\Program Files\IBM\WebSphere61\AppServer\profiles\AppSrv01\wstemp\226498399\workspace\cells\WFLMUD5IM0331Node01Cell\applications\service.ear.ear\service.ear.ear

ADMA5005I: The application service.ear is configured in the WebSphere Application Server repository.

SECJ0400I: Successfully updated the application service.ear with the appContext:IDForSecurity information.

ADMA5011I: The cleanup of the temp directory for application service.ear is complete.

ADMA5013I: Application service.ear installed successfully.

Application service.ear installed successfully.

To start the application, first save changes to the master configuration.

Changes have been made to your local configuration. You can:

- [Save](#) directly to the master configuration.
- [Review](#) changes before saving or discarding.

To work with installed applications, click the "Manage Applications" button.

22) In fcst-config.xml set the following properties with username and password of the user created in above steps and restart the server.

Field	Value
FCAT.CONNECT.SVC.USERNAME	<Enter username>
FCAT.CONNECT.SVC.PASSWORD	<Enter password>

The following section explains deploying JAR application on IBM Websphere. For details and different options of deployment refer to documentations provided by IBM Websphere.

These steps should be carried out for each FCDB jar application mentioned below.

Deployable	JNDI Name/Root	Path Location	Description
ServiceEndPointRI.jar	ServiceEndPoint	<FCDB BASE DIR>\deploy\websphere	This application should be deployed if the mode of service tier invocation is EJB mode.

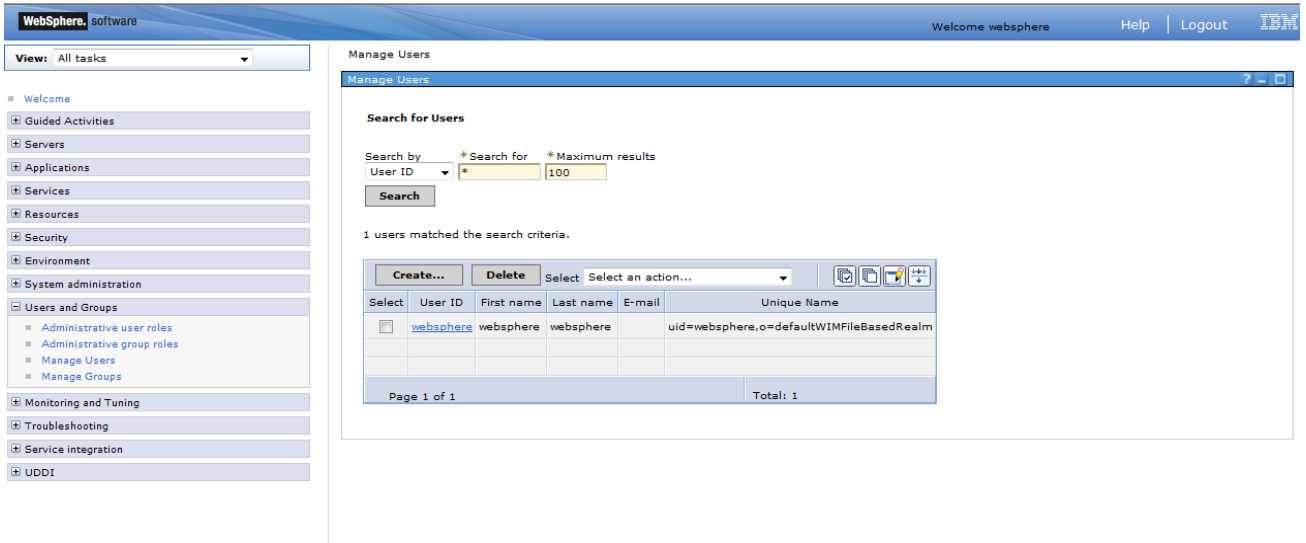
Before deploying ServiceEndPointRI.jar, the below steps needs to be followed to create an user for enabling EJB mode authentication –

- On Admin console, in the left menu, click on “Manage Users”.

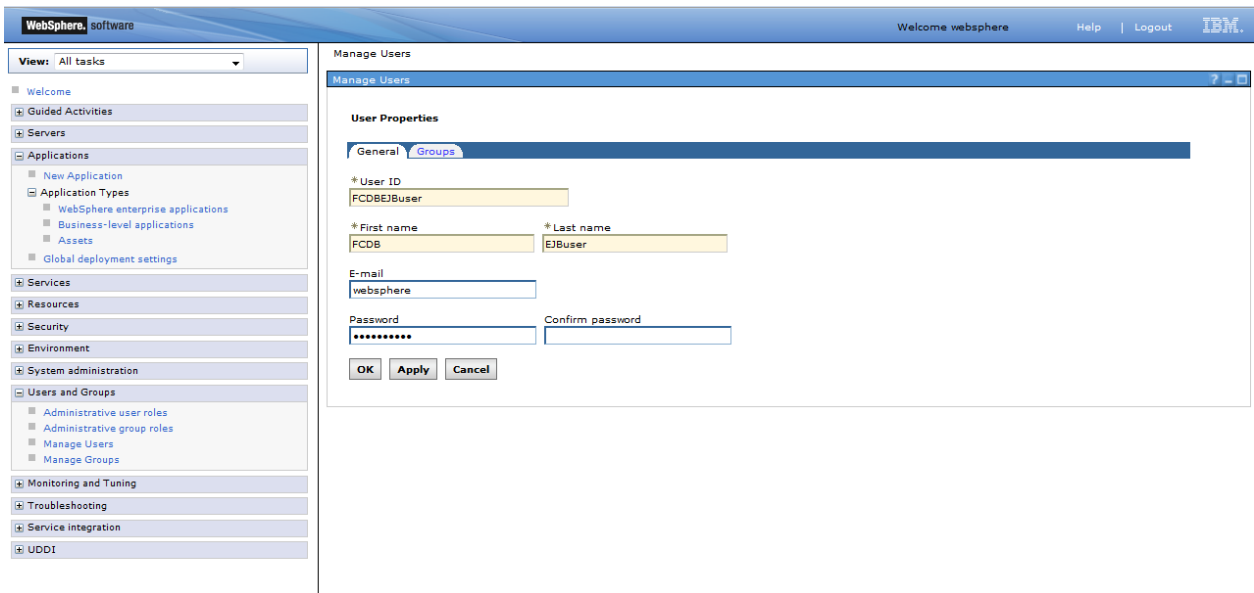


- Screen as shown in below figure will appear. On the screen, click “Create”.

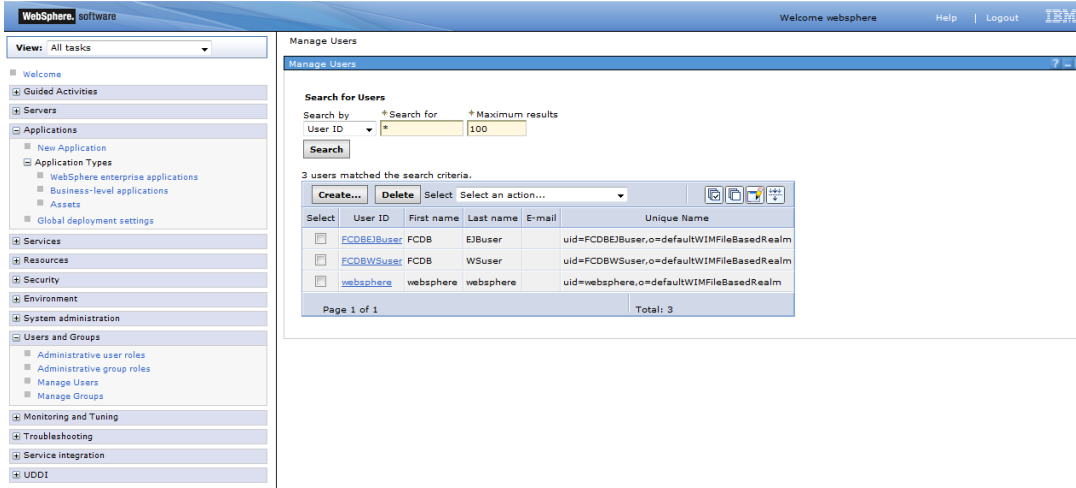




- On the screen as show in figure below, enter the user details (e.g. FCDBEJUser). Click on “Create” button



- User is created successfully in the current security realm.

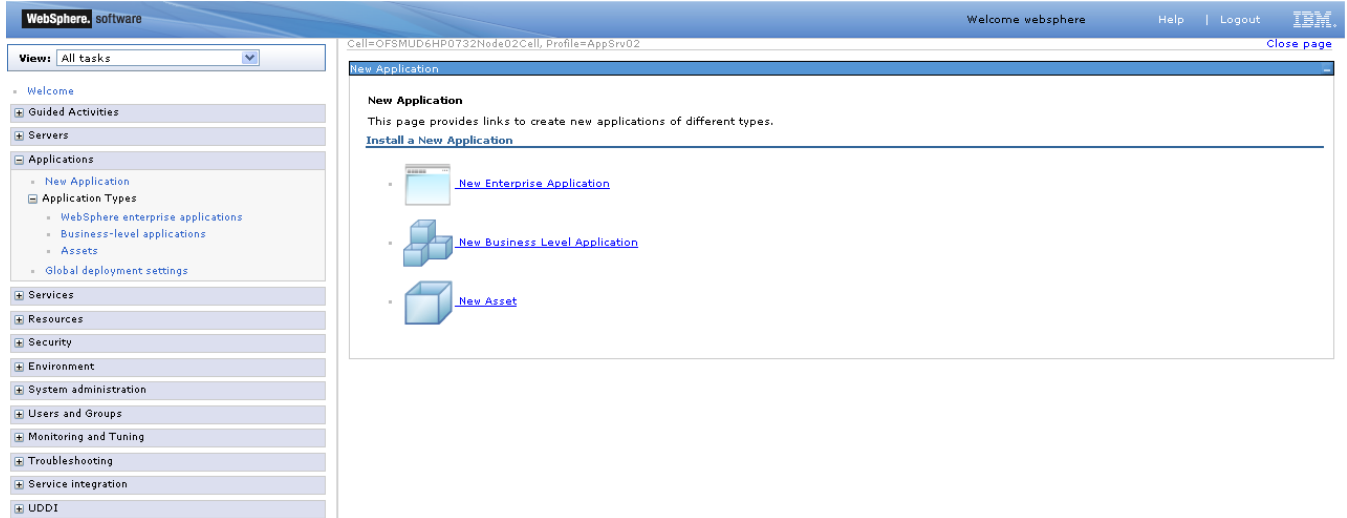


These steps need to be followed for deploying ServiceEndPointRI.jar-

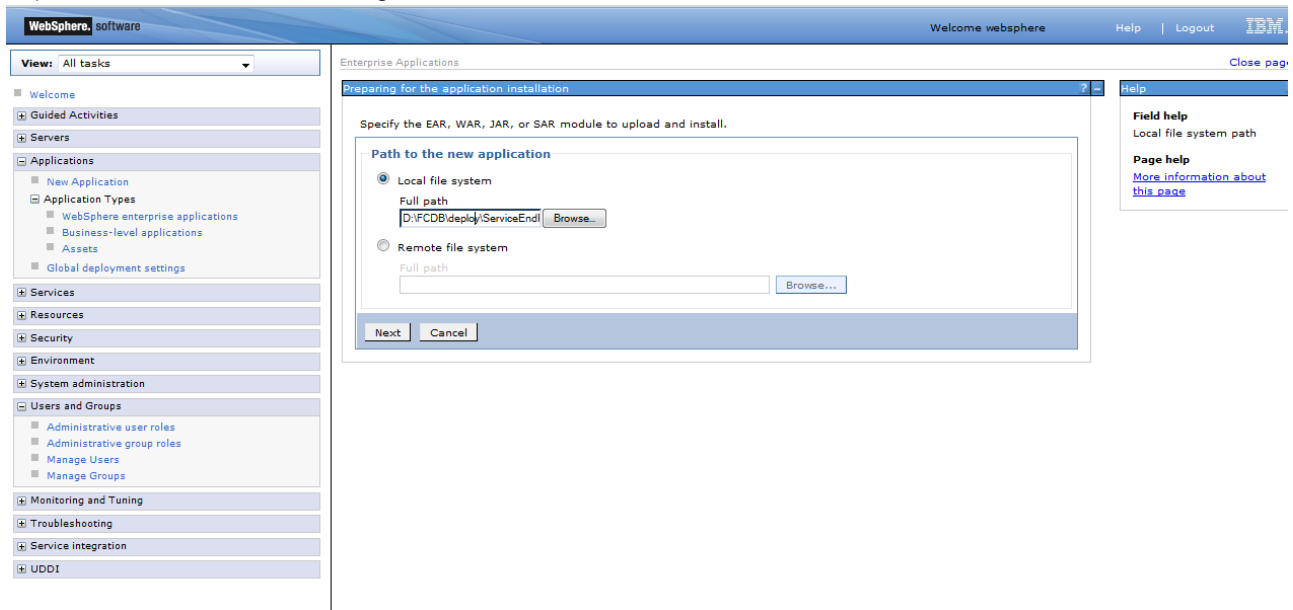
On Admin console, in the left menu, click on "New Application".



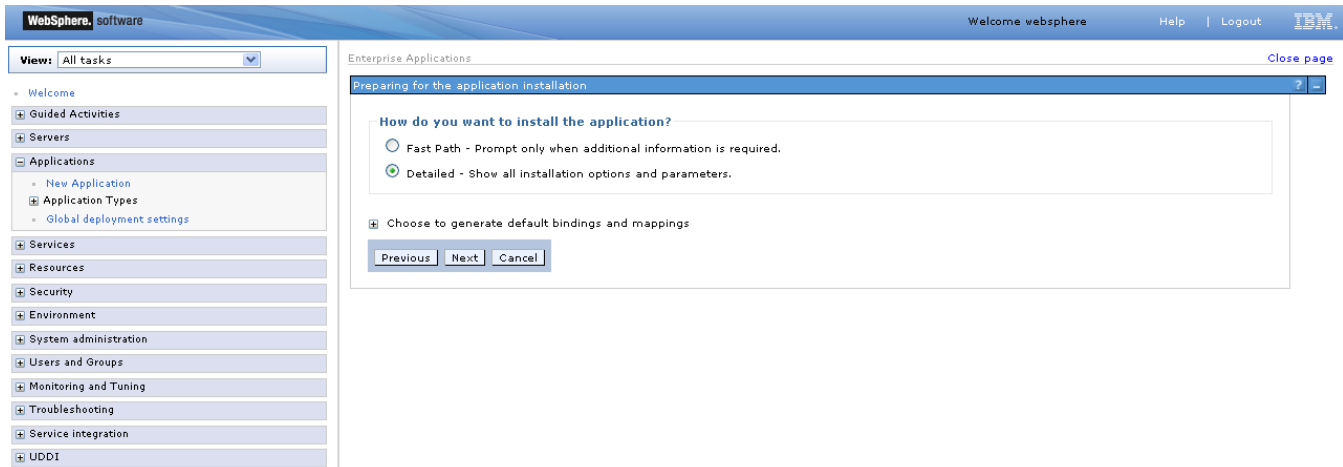
23) Screen as shown in below figure will appear. On the screen, click "New Enterprise Application".



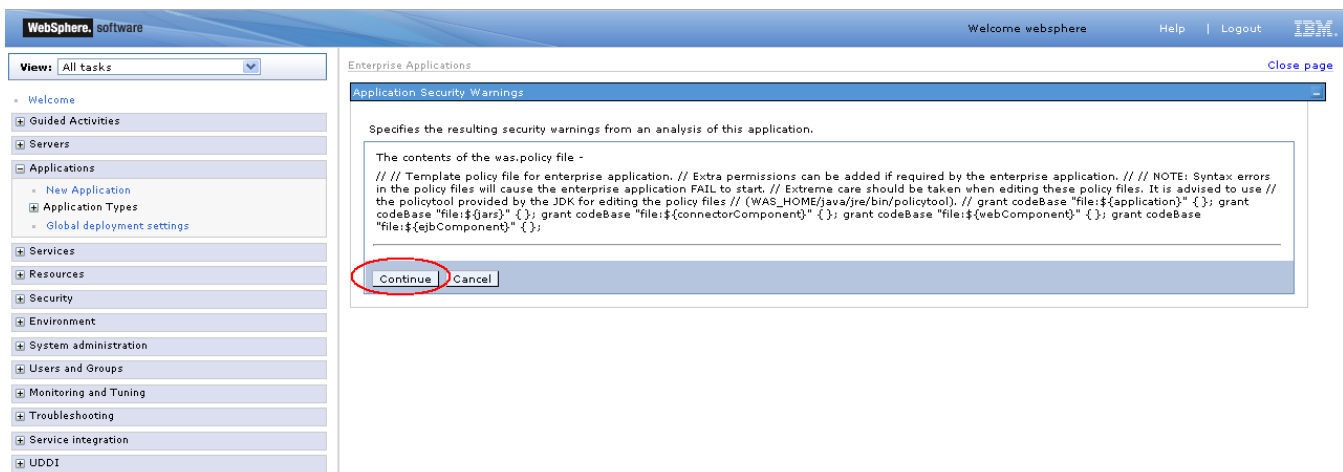
24) On the screen as show in figure below, use browse button to select the JAR file. Click on “Next” button.



25) On the screen as show in figure below, select the radio option “Show all installation options and parameters”. Click on “Next” button.



26) On the screen as shown below, click “Continue” button.



27) On the Screen as shown in below figure, Update the application name if required and click “Next”

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Install New Application

Specify options for installing enterprise applications and modules.

Step 1: Select installation options

Step 2: Map modules to servers

Step 3: Provide options to perform the EJB Deploy

Step 4: Map shared libraries

Step 5: Map shared library relationship

Step 6: Provide JNDI names for beans

Step 7: Map security roles to users or groups

Step 8: Ensure all unprotected 2.x methods have the correct level of protection

Step 9: Display module build Ids

Step 10: Summary

### Select installation options

Specify the various options that are available for your application.

- Precompile JavaServer Pages files
- Directory to install application:
- Distribute application
- Use Binary Configuration
- Deploy enterprise beans
- Application name:
- Create MBeans for resources
- Override class reloading settings for Web and EJB modules
- Reload interval in seconds:
- Deploy Web services
- Validate Input off/warn/fail:
- Process embedded configuration

#### File Permission

Allow all files to be read but not written to  
Allow executables to execute  
Allow HTML and image files to be read by everyone

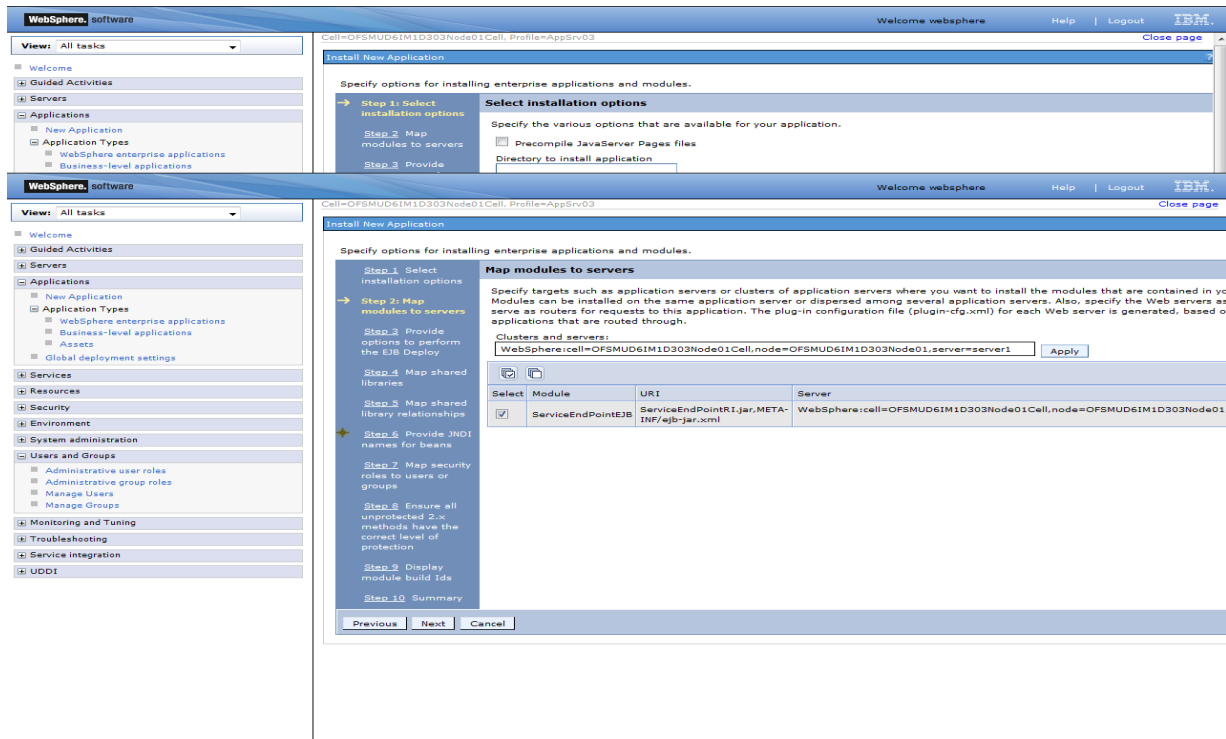
.\*\,dll=755#.\*\,so=755#.\*\,a=755#.\*\,s=755

Application Build ID:

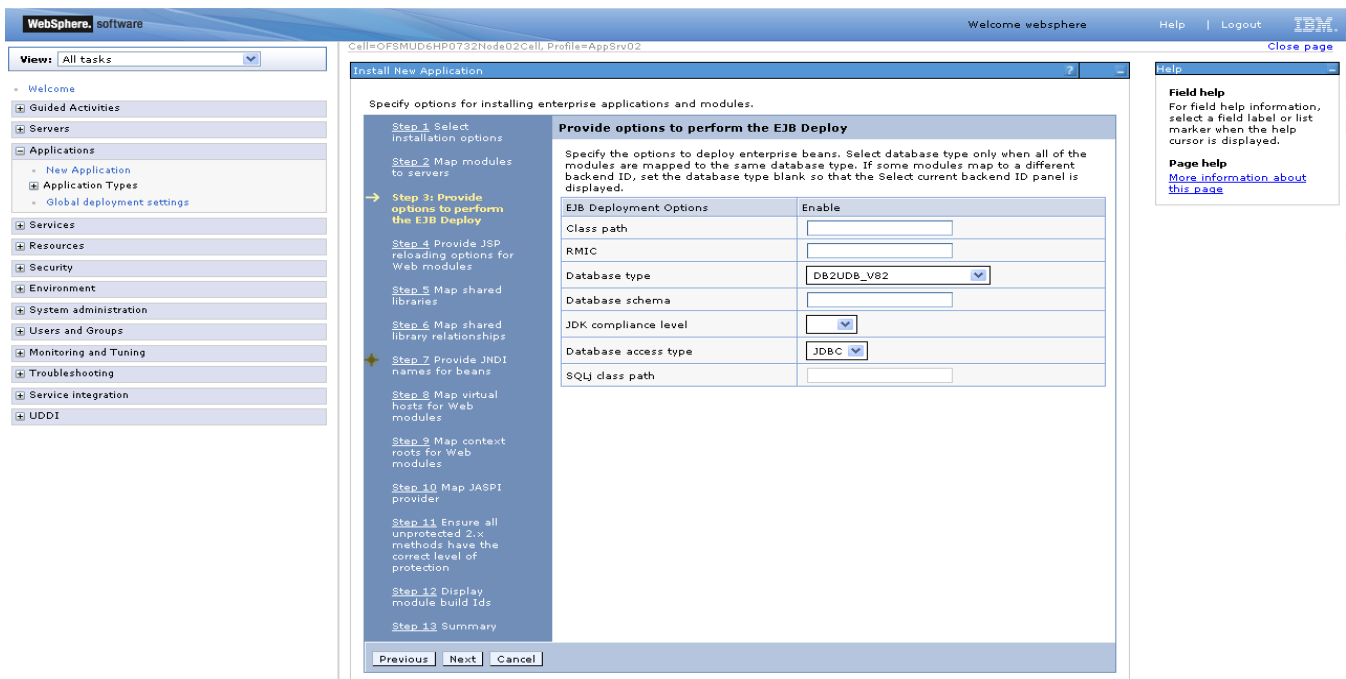
- Allow dispatching includes to remote resources
- Allow servicing includes from remote resources
- Business level application name:
- Asynchronous Request Dispatch Type:
- Allow EJB reference targets to resolve automatically
- Deploy client modules
  - Client deployment mode:
- Validate schema

Next Cancel

28) In screen “Map modules to server” as shown in figure below, map the modules to the applicable server(s) and click “Next”.



29) On screen “Provide options” as shown in figure below, add the FCDB Kernel jar to the classpath. Add <FCDB BASE DIR>/system/build/kernel/FCDB\_<version>.jar to the class path field and click “Next”.



30) On the screen “Map Shared libraries” as shown below, click “Next”

The screenshot shows the 'Install New Application' wizard in the IBM WebSphere Administration Console. The 'Map shared libraries' step is active, showing a list of shared libraries to be mapped. The left sidebar contains a navigation tree with 'Map shared libraries' selected. The main content area includes a 'Reference shared libraries' table and a 'Map shared libraries' section with instructions.

**Reference shared libraries**

Select	Application	URI	Shared Libraries
<input type="checkbox"/>	ServiceEndPointRI_jar	META-INF/application.xml	
Select	Module	URI	Shared Libraries

**Map shared libraries**

Specify shared libraries that the application or individual modules reference. These libraries must be defined in the configuration at the appropriate scope.

Step 1 Select installation options  
 Step 2 Map modules to servers  
 Step 3 Provide options to perform the EJB Deploy  
 → Step 4: Map shared libraries  
 Step 5 Map shared library relationships  
 \* Step 6 Provide JNDI names for beans  
 Step 7 Map security roles to users or groups  
 Step 8 Ensure all unprotected 2.x methods have the correct level of protection  
 Step 9 Display module build ids  
 Step 10 Summary

Buttons: Previous, Next, Cancel

31) On “Map shared library relationships” click next.

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Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Provide options to perform the EJB Deploy

Step 4 Map shared libraries

→ Step 5: Map shared library relationships

Step 6 Provide JNDI names for beans

Step 7 Map security roles to users or groups

Step 8 Ensure all unprotected 2.x methods have the correct level of protection

Step 9 Display module build Ids

Step 10 Summary

Map shared library relationships

Specify asset or composition unit IDs as shared libraries that the application or individual modules reference. If a composition unit ID is specified, it must be part of the business level application that this enterprise application belongs to. If an asset ID is specified, a composition unit is created from the asset. When editing an application, only composition unit IDs can be specified as shared libraries.

Reference shared libraries

Select	Application	URI	Asset or composition unit IDs	Match target
<input type="checkbox"/>	ServiceEndPointRI_jar	META-INF/application.xml		<input checked="" type="checkbox"/>
Select	Module	URI	Asset or composition unit IDs	Match target

Previous Next Cancel

Field help  
For field help information, select a field label or list marker when the help cursor is displayed.

Page help  
[More information about this page](#)

32) On the Screen “Provide JNDI names” as show below, provide the JNDI name for the application in field “Target Resource JNDI Name”. The JNDI name for each FCDB application has been provided at the start of this section.



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Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2 Map modules to servers

Step 3 Provide options to perform the EJB Deploy

Step 4 Map shared libraries

Step 5 Map shared library relationships

→ Step 6: Provide JNDI names for beans

Step 7 Map security roles to users or groups

Step 8 Ensure all unprotected 2.x methods have the correct level of protection

Step 9 Display module build Ids

Step 10 Summary

**Provide JNDI names for beans**

Each non-message-driven enterprise bean in your application or module must be bound to a Java Naming and Directory Interface (JNDI) name. For beans in a pre-EJB 3.0 module, you have to use JNDI name for the bean to provide the binding. For beans in a EJB 3.0 module, you can optionally provide binding through JNDI name for the bean or local/remote home JNDI names. If JNDI name for the bean is specified, you cannot specify binding for its local/remote home and any business interface. If no JNDI name is specified for beans in a EJB 3.0 module, runtime will provide a container default.

Module	Bean	URI	Target Resource JNDI Name
ServiceEndPointEJB	ServiceEndPointEJB	ServiceEndPointRI.jar,META-INF/ejb-jar.xml	Target Resource JNDI Name ServiceEndPoint

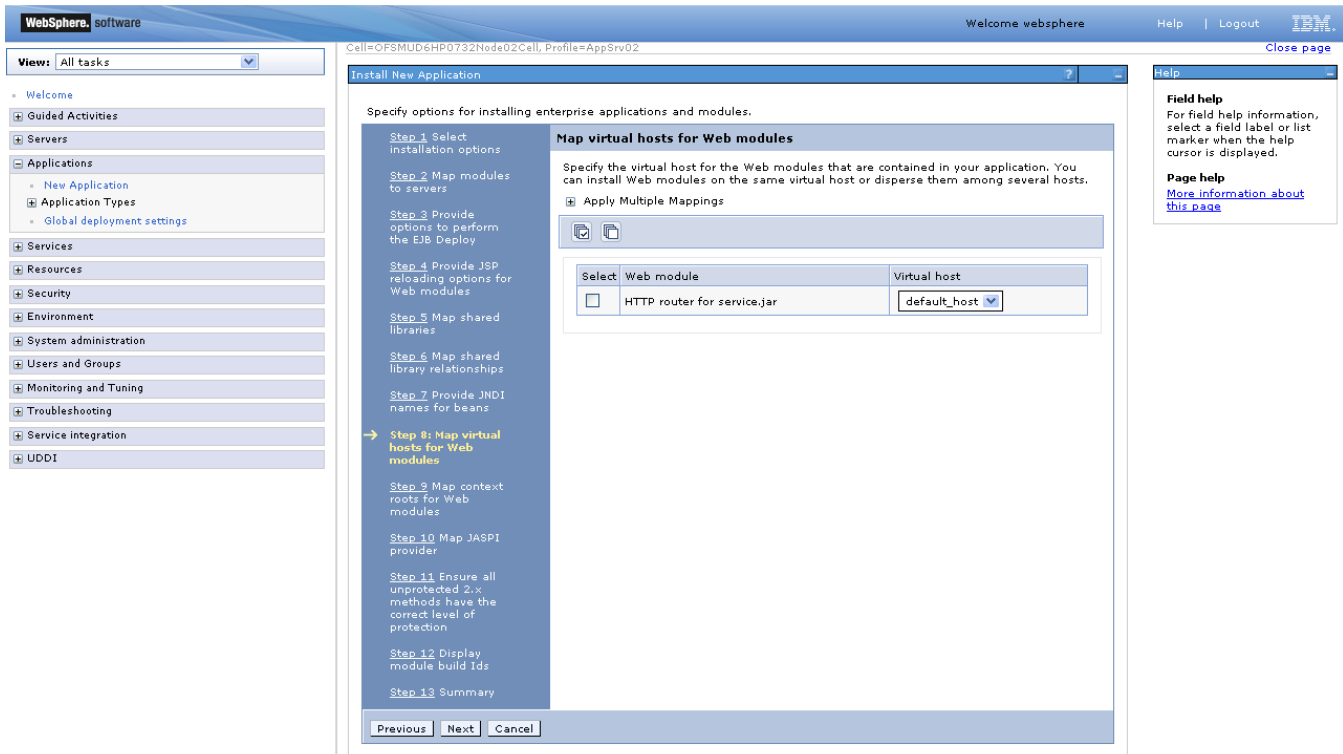
Previous Next Cancel

Help

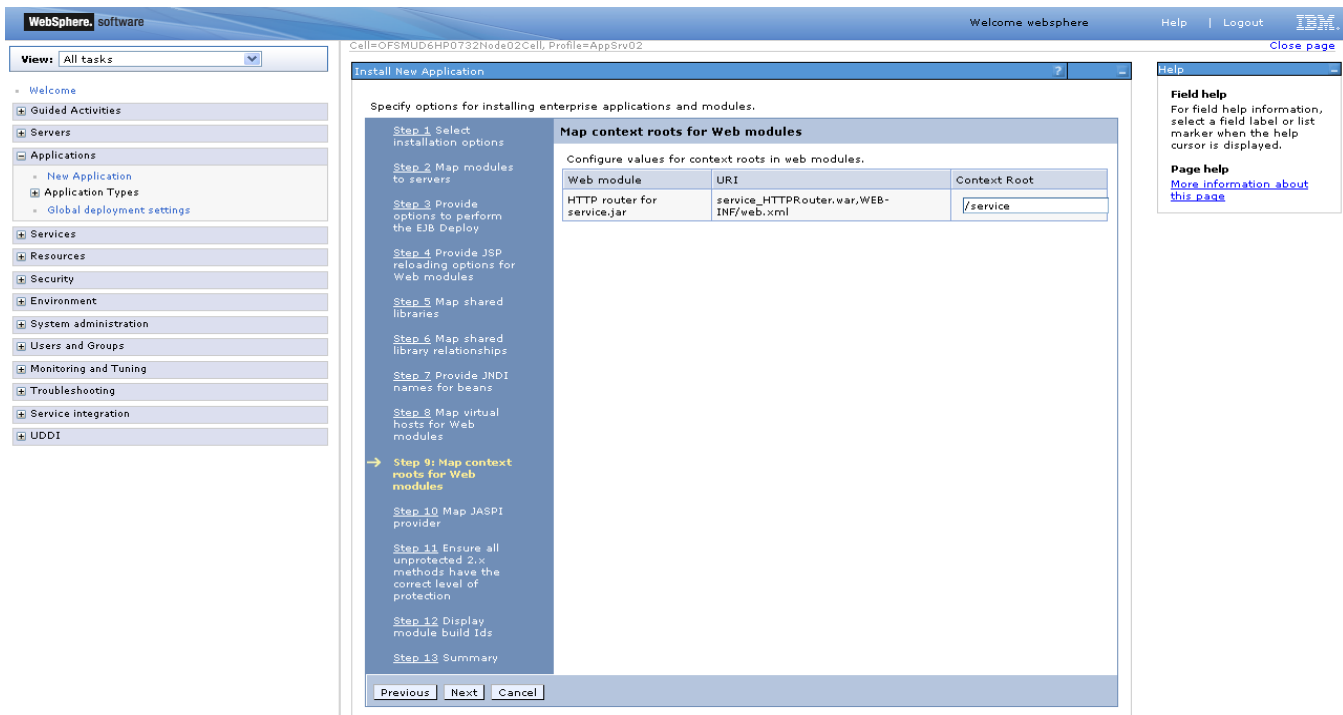
**Field help**  
For field help information select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

33) On the screen "Map Virtual host", map web modules to the relevant virtual host & click Next.



34) On screen “Map Context roots”, map the web modules with respective context root. The context root has been configured in the deployable and the default context root being displayed can be used. If no context root is displayed, use the context root as mentioned for the application at the start of this section.



35) On screen “Map security roles to users or groups”, map the role “FCDBEJBRole” and map it with the user created before deploying the ear.

The screenshot shows the 'Install New Application' wizard in the IBM WebSphere Administration Console. The current step is 'Step 7: Map security roles to users or groups'. The wizard is titled 'Specify options for installing enterprise applications and modules.' The left sidebar shows the navigation tree with 'Users and Groups' selected. The main content area has a table for mapping roles to users or groups. The table has four columns: 'Select', 'Role', 'Special subjects', 'Mapped users', and 'Mapped groups'. The 'FCDBEJBRole' is selected in the 'Role' column, and 'None' is selected in the 'Special subjects' column. The 'Mapped users' and 'Mapped groups' columns are empty. There are buttons for 'Map Users...', 'Map Groups...', and 'Map Special Subjects' above the table. A 'Help' panel on the right provides field and page help information.

Select	Role	Special subjects	Mapped users	Mapped groups
<input checked="" type="checkbox"/>	FCDBEJBRole	None		

36) On the screen as show below, click “OK”.

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**New Application**

**New Application > Enterprise Applications > Map users/groups**

Use this page to search for users or groups and add them to the selected roles.

- FCDBEJRole

**Search and Select Users**

Decide how many results to display, enter a search string (use \* for wildcard), and click Search. Select users in the Available list and add them to the Selected list.

Display a maximum of  results

Search string

Available:

Selected:

**Help**

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

37) On the screen as show below, click “Next”.

**WebSphere, software** | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD61M1D303Node01Cell, Profile=AppSrv03

**Install New Application**

Specify options for installing enterprise applications and modules.

**Map security roles to users or groups**

Each role that is defined in the application or module must map to a user or group from the domain user registry, accessids: The accessids are required only when using cross realm communication in a multi domain scenario. For all other scenarios the accessid will be determined during the application start based on the user or group name. The accessids represent the user and group information that is used for Java Platform, Enterprise Edition authorization when using the WebSphere default authorization engine. The format for the accessids is user:realm/uniqueUserID, group:realm/uniqueGroupID. Entering wrong information in these fields will cause authorization to fail. AllAuthenticatedInTrustedRealms: This indicates that any valid user in the trusted realm be given the access.

Select	Role	Special subjects	Mapped users	Mapped groups
<input type="checkbox"/>	FCDBEJRole	None	FCDBEJBuser	

**Help**

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

38) On the screen as show below, select the role and associate it with the module by clicking on “Apply”. Now click on “Next”

The screenshot shows the 'Install New Application' wizard in the IBM WebSphere Administration Console. The left sidebar contains a navigation tree with categories like 'Welcome', 'Guided Activities', 'Servers', 'Applications', 'Services', 'Resources', 'Security', 'Environment', 'System administration', 'Monitoring and Tuning', 'Troubleshooting', 'Service integration', and 'UDDI'. The main content area is titled 'Install New Application' and displays a progress bar with steps 1 through 10. Step 8, 'Ensure all unprotected 2.x methods have the correct level of protection', is the active step. It includes a section for specifying security options with radio buttons for 'Uncheck', 'Exclude', and 'Role' (selected). A dropdown menu shows 'FCDBEJBRole'. Below this is an 'Apply' button and a table with columns 'Select', 'Module', 'URI', and 'Protection type'. The table contains one entry: 'ServiceEndPointEJB' with URI 'ServiceEndPointR1.jar,META-INF/ejb-jar.xml' and Protection type 'FCDBEJBRole'. A 'Help' sidebar on the right provides field and page help information. At the bottom, there are 'Previous', 'Next', and 'Cancel' buttons.

39) On the screen as show below, click “Next”.

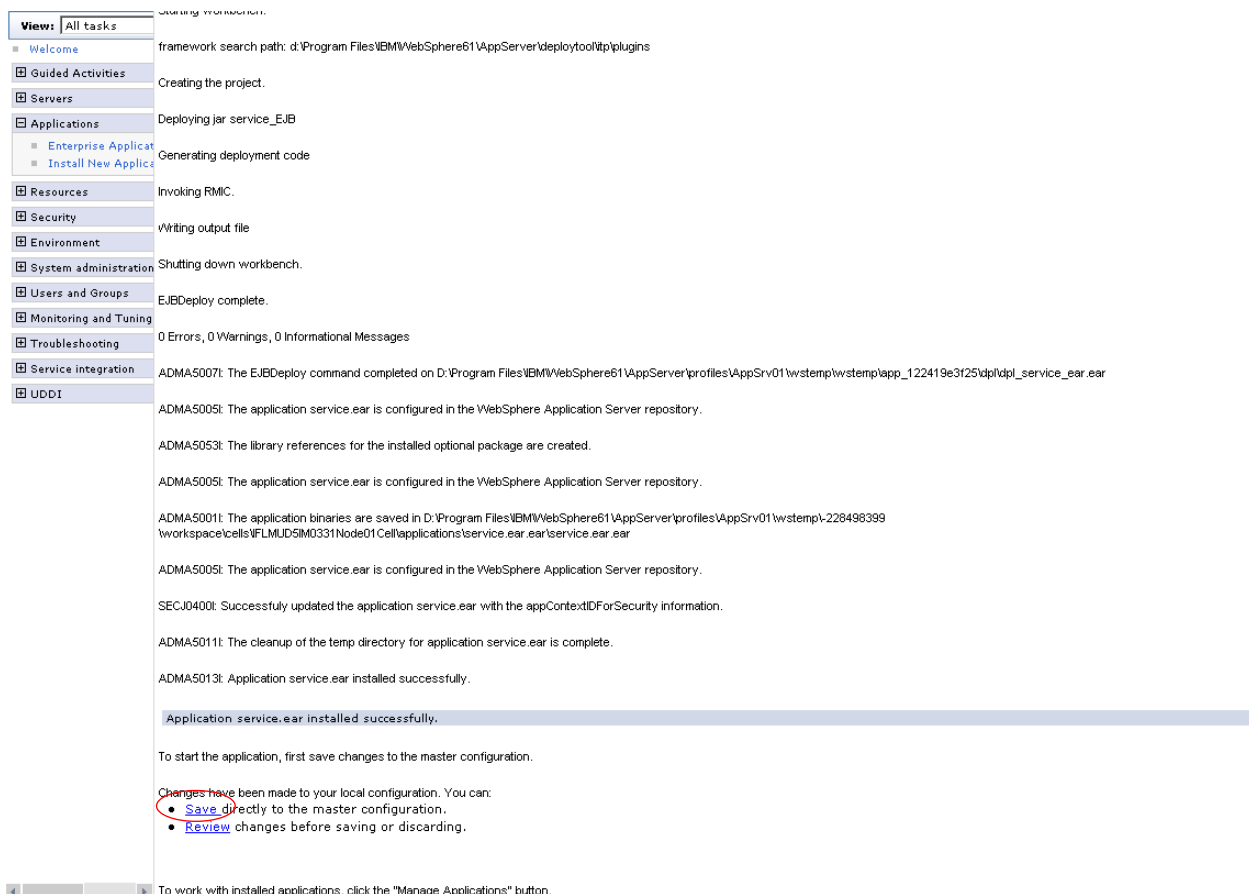
The screenshot shows the 'Install New Application' wizard in the IBM WebSphere Administration Console, now at Step 9: 'Display module build IDs'. The left sidebar is the same as in the previous screenshot. The main content area shows the progress bar with Step 9 highlighted. The 'Display module build IDs' section includes a table with columns 'Module', 'URI', and 'Build ID'. The table contains one entry: 'ServiceEndPointEJB' with URI 'ServiceEndPointR1.jar,META-INF/ejb-jar.xml'. A 'Help' sidebar on the right provides field and page help information. At the bottom, there are 'Previous', 'Next', and 'Cancel' buttons.

40) On the “Summary” page, summary of selected installation options will be displayed. Verify the same and click “Next” to begin with application installation.

The screenshot displays the IBM WebSphere Administration Console interface during the 'Install New Application' process. The main content area is titled 'Specify options for installing enterprise applications and modules.' and shows 'Step 10: Summary' as the current step. A table summarizes the installation options, and a 'Help' pane is visible on the right.

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	
Distribute application	Yes
Use Binary Configuration	No
Deploy enterprise beans	Yes
Application name	ServiceEndPointRI_jar
Create MBeans for resources	Yes
Override class reloading settings for Web and EJB modules	No
Reload interval in seconds	
Deploy Web services	No
Validate Input off/warn/fail	warn
Process embedded configuration	No
File Permission	.*\,dll=755#.*\,so=755#.*\,a=755#.*\,sl=755
Application Build ID	Unknown
Allow dispatching includes to remote resources	No
Allow servicing includes from remote resources	No
Business level application name	
Asynchronous Request Dispatch Type	Disabled
Allow EJB reference targets to resolve automatically	No
Deploy client modules	No
Client deployment mode	Isolated
Validate schema	No
Cell/Node/Server	<a href="#">Click here</a>
Class path	
RMIC	
Database type	DB2UDB_V82
Database schema	
JDK compliance level	
Database access type	JDBC

- 41) The next screen displays application installation status. On successful installation, click the link “Save” to save the installation.



- 1) In fcac-config.xml set the following properties with username and password of the user created in above steps and restart the server.

Field	Value
FCAT.CONNECT.SVC.USERNAME	<Enter username>
FCAT.CONNECT.SVC.PASSWORD	<Enter password>

---

## **7. Setup JDBC Datasource and Connection Pooling**



## 7.1 Create Connection Pools

This activity will need to be repeated for all datasources (A1, B1A1 and B1AP).  
The steps for both will be identical except where explicitly mentioned otherwise.

To create JDBC providers:

- 1) Admin Console: Click Resources → JDBC → JDBC Provider.
- 2) Select the scope for the new JDBC Provider to be created.  
Select “Node=<node name>, Server=<server name>”

The screenshot shows the IBM WebSphere Admin Console interface. The main content area is titled "JDBC providers" and contains the following text:

**JDBC providers**  
Use this page to edit properties of a JDBC provider. The JDBC provider object encapsulates the specific JDBC driver implementation class for access to the specific vendor database of your environment. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=OFSMUD6HP0732Node02Cell, Node=OFSMUD6HP0732Node02, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=OFSMUD6HP0732Node02, Server=server1

Preferences

New... Delete

Select	Name	Scope	Description
<input type="checkbox"/>	<a href="#">Derby JDBC Provider</a>	Node=OFSMUD6HP0732Node02,Server=server1	Derby embedded non-XA JDBC Provider
<input type="checkbox"/>	<a href="#">Oracle JDBC Driver</a>	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver
Total 2			

Figure 7.1

- 3) Click New.

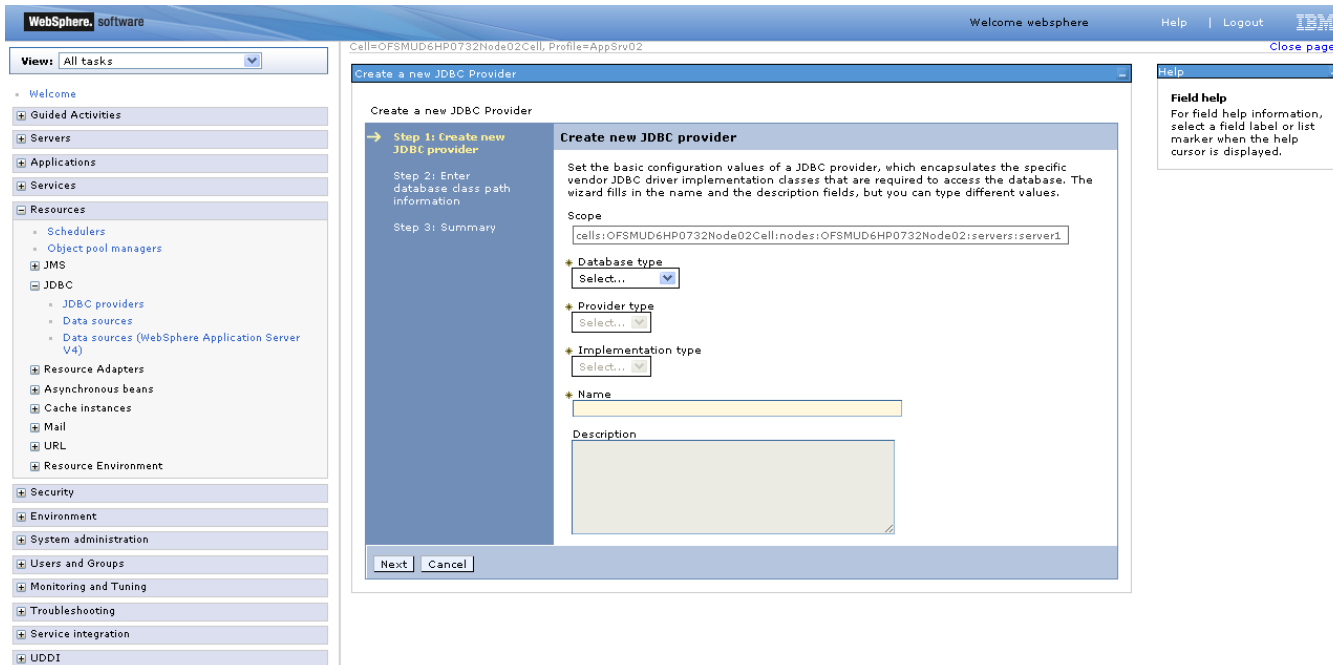


Figure 7.2

- 4) Select database type as Oracle
- 5) Select the provider type as Oracle JDBC Driver
- 6) Select the implementation type as Connection pool data source  
(During BT datasource creation, select XA datasource)

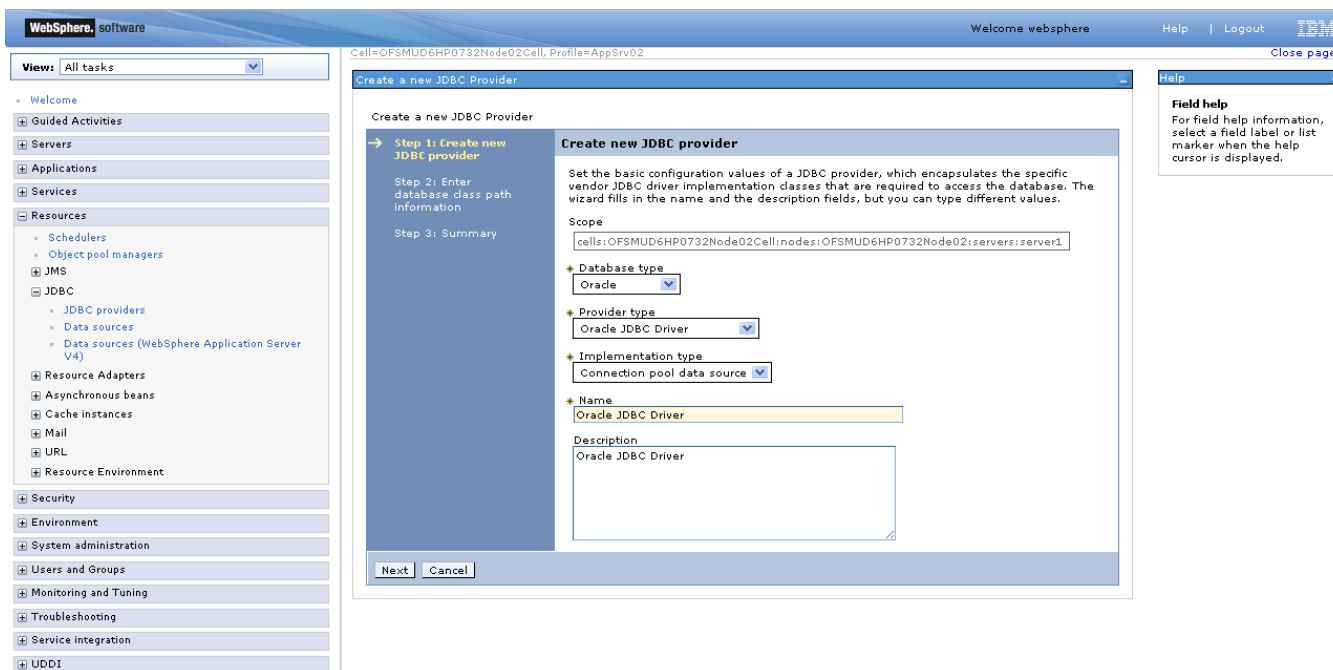


Figure 7.3

- 7) Click Next.
- 8) Enter the directory location as <FCDB BASE DIR>\system\build\extclasses\jars\oracle

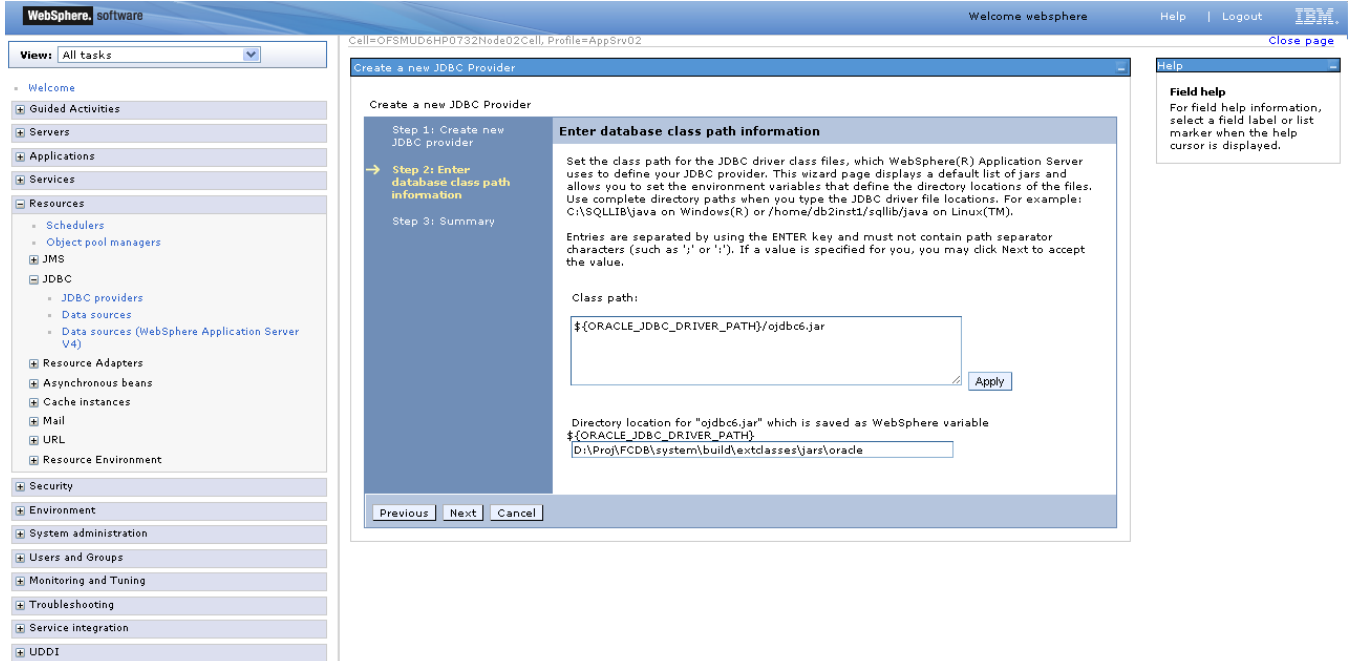


Figure 7.4

Note: Make sure oracle thin client has been installed successfully and set directory location for “ojdbc14.jar”

9) Click Next

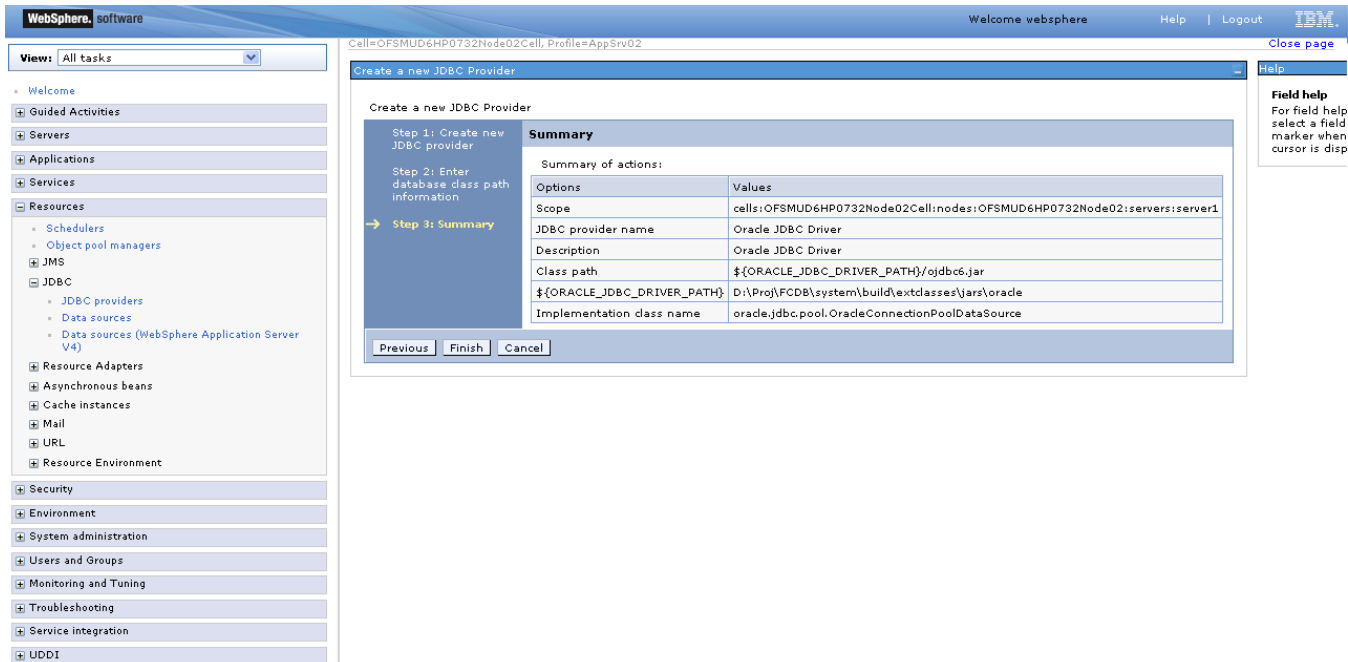


Figure 7.5

10) Click Finish

## 11) Click Save

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

Messages

- Changes have been made to your local configuration. You can:
  - Save directly to the master configuration.
  - Review changes before saving or discarding.
- The server may need to be restarted for these changes to take effect.

**JDBC providers**

Use this page to edit properties of a JDBC provider. The JDBC provider object encapsulates the specific JDBC driver implementation class for access to the specific vendor database of your environment. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=OFSMUD6HP0732Node02Cell, Node=OFSMUD6HP0732Node02, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=OFSMUD6HP0732Node02, Server=server1

Preferences

New... Delete

Select	Name	Scope	Description
<input type="checkbox"/>	Derby JDBC Provider	Node=OFSMUD6HP0732Node02,Server=server1	Derby embedded non-XA JDBC Provider
<input type="checkbox"/>	Oracle JDBC Driver	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver
Total 2			

Figure 7.6

## 7.2 Creating Data Source

This activity will need to be repeated for all datasources (Application and EHMS) e.g. A1,B1A1,B1AP etc.

The steps for both will be identical except where explicitly mentioned otherwise.

For creation of Data source:

- 1) Resources ->JDBC -> Data sources  
(For BT datasource Resources ->JDBC -> Data sources)

The screenshot shows the 'Data sources' configuration page in the IBM WebSphere Administration Console. The page title is 'Data sources' and it includes a description of the data source object and its scope. The scope is set to 'Cell=OFSMUD6HP0732Node02Cell, Node=OFSMUD6HP0732Node02, Server=server1'. Below the scope information, there are buttons for 'New...', 'Delete', 'Test connection', and 'Manage state...'. A table lists the existing data sources:

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	A1	A1	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	B1A1	B1A1	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	Default Datasource	DefaultDatasource	Node=OFSMUD6HP0732Node02,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	

Total 3

Figure 7.2.4

2) After click on New, On the below screen , put Data Source Name & JNDI name and Click on “NEXT”.

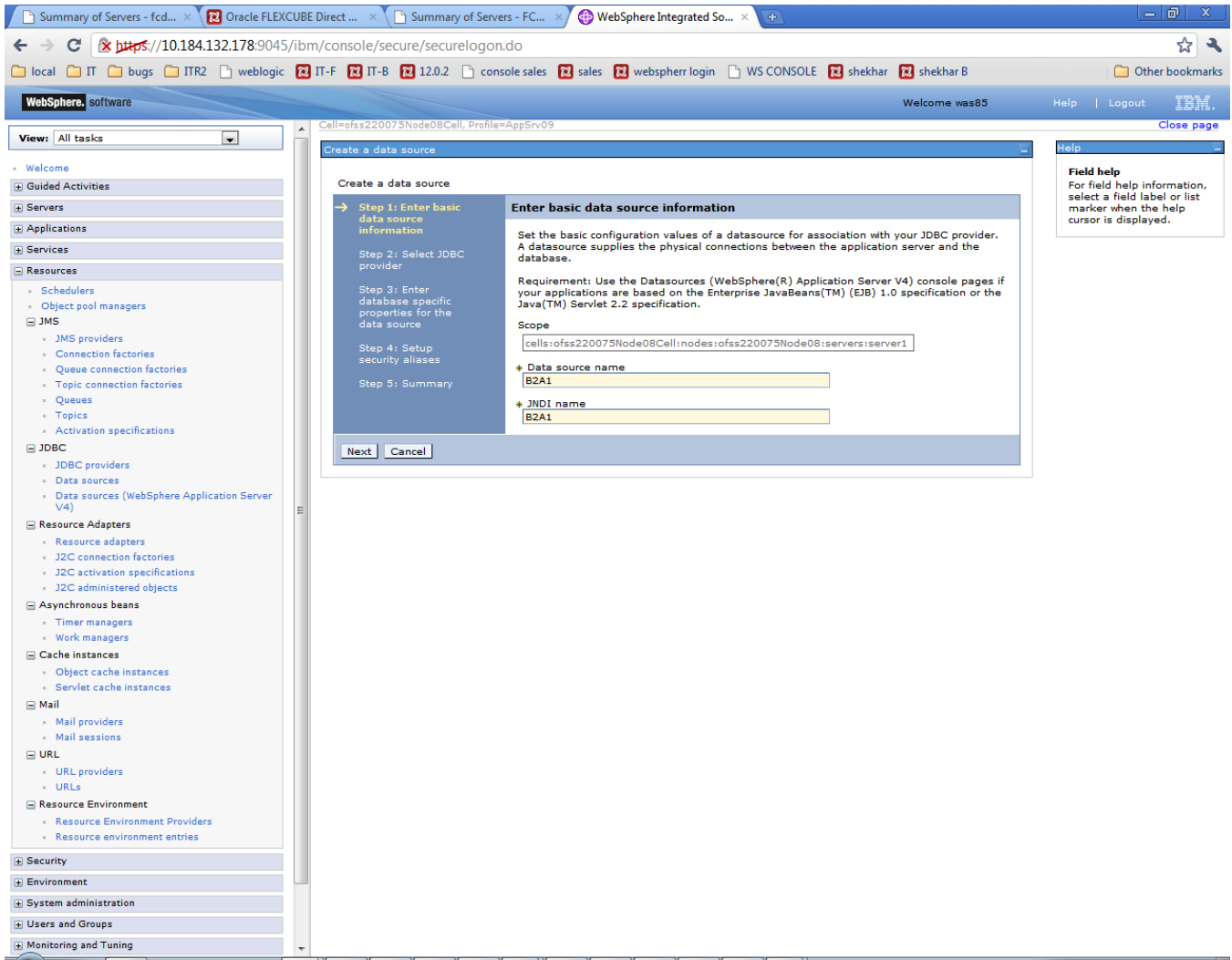


Figure 7.2.5

- 3) On the below screen , select radio “Select an existing JDBC provider” and select the value from drop down and click on NEXT..

The screenshot displays the IBM WebSphere Administration Console interface. The main window is titled "Create a data source" and shows a multi-step wizard. The current step is "Step 2: Select JDBC provider". The wizard instructions state: "Specify a JDBC provider to support the datasource. If you choose to create a new JDBC provider, it will be created at the same scope as the datasource. If you are selecting an existing JDBC provider, only those providers at the current scope are available from the list." Two radio buttons are present: "Create new JDBC provider" (unselected) and "Select an existing JDBC provider" (selected). Below the radio buttons is a dropdown menu showing "Oracle JDBC Driver". At the bottom of the wizard are "Previous", "Next", and "Cancel" buttons. On the left, a navigation tree is visible with "JDBC providers" selected under the "JDBC" category. On the right, a "Field help" box provides instructions: "For field help information, select a field label or list marker when the help cursor is displayed." The top of the console shows the "WebSphere, software" logo, the text "Welcome websphere", and links for "Help" and "Logout". The browser address bar shows "Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02".

4) Fill value in the URL and click on NEXT.

URL format: jdbc:oracle:thin:@<DATABASE HOST>:<port>:<SERVICE\_NAME>

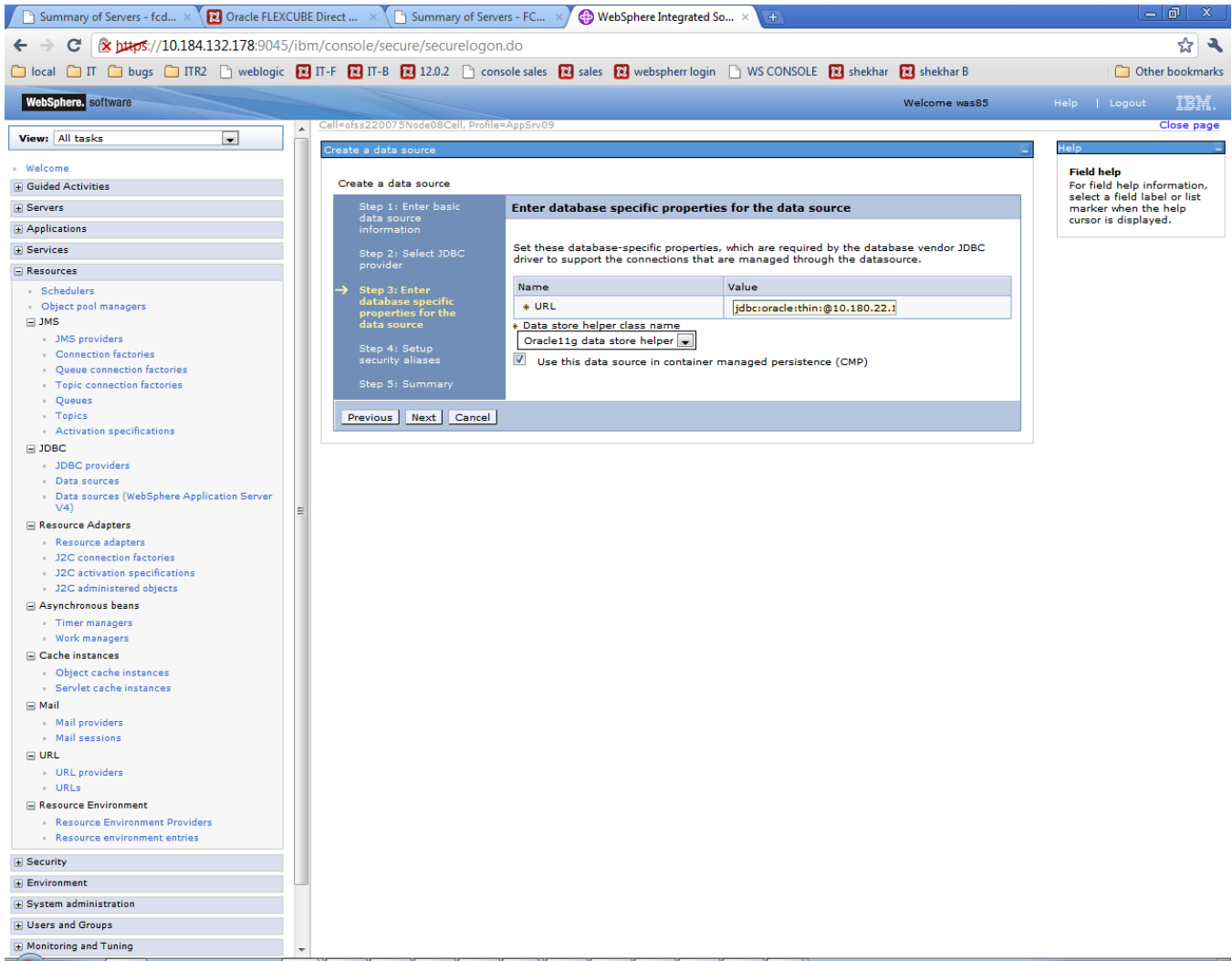


Figure 7.2.6



## 5) Setup Security aliases. Click 'Next'

The screenshot displays the IBM WebSphere Administration Console interface. The top navigation bar includes the 'WebSphere, software' logo, the user name 'Welcome websphere', and links for 'Help' and 'Logout'. The main content area is titled 'Create a data source' and shows a wizard with five steps. Step 4, 'Setup security aliases', is the active step, indicated by a blue arrow. The wizard prompts the user to 'Select the authentication values for this resource.' and provides three dropdown menus for 'Component-managed authentication alias', 'Mapping-configuration alias', and 'Container-managed authentication alias', all currently set to '(none)'. A note below the dropdowns states: 'Note: You can create a new J2C authentication alias by accessing one of the following links. Clicking on a link will cancel the wizard and your current wizard selections will be lost.' Below the note are two links: '[Global J2C authentication alias](#)' and '[Security domains](#)'. At the bottom of the wizard are three buttons: 'Previous', 'Next', and 'Cancel'. On the left side of the console, a navigation tree shows the current path: 'Resources' > 'JDBC' > 'Data sources (WebSphere Application Server V4)'. A 'Field help' box on the right side of the wizard provides instructions: 'For field help information, select a field label or list marker when the help cursor is displayed.'

Figure 7.2.7

6) Review the Summary and click Finish

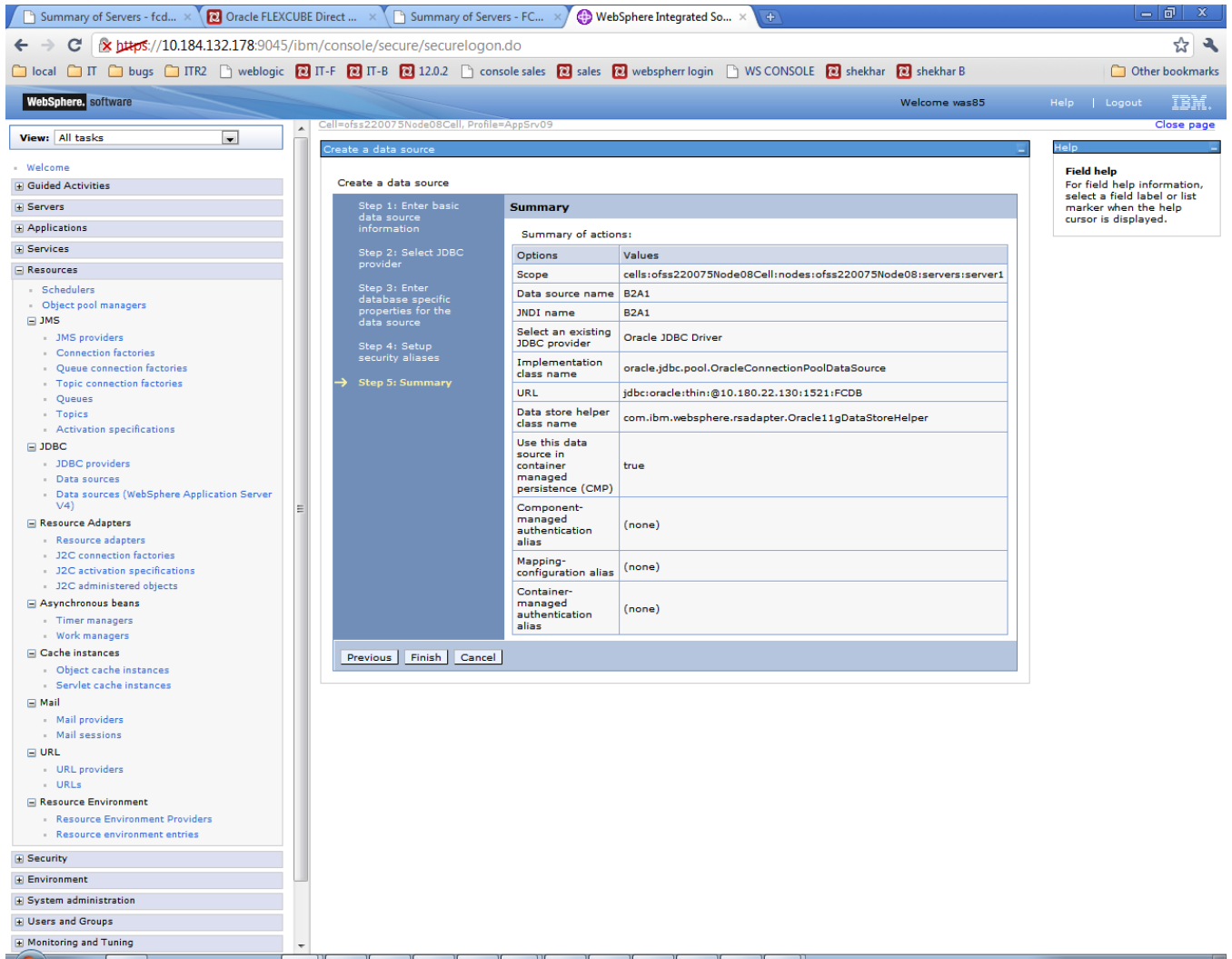


Figure 7.2.14

## 7) Click Save

The screenshot shows the IBM WebSphere Administration Console interface. The browser address bar indicates the URL: `https://10.184.132.178:9045/ibm/console/secure/securelogin.do`. The page title is "Data sources" and the breadcrumb path is "Cell=ofss220075Node08Cell, Profile=AppSrv09".

A message box at the top states: "Changes have been made to your local configuration. You can: Save directly to the master configuration. Review changes before saving or discarding. The server may need to be restarted for these changes to take effect."

The "Data sources" section explains that this page is used to edit settings for a datasource associated with a selected JDBC provider. It includes a scope selector set to "Node=ofss220075Node08, Server=server1".

Below the "Preferences" section, there is a table listing the data sources:

Select	Name	JNDI name	Scope	Provider	Description	Category
<input type="checkbox"/>	<a href="#">A1</a>	A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1A1</a>	B1A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1AP</a>	B1AP	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B2A1</a>	B2A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=ofss220075Node08,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	

The table footer indicates "Total 5".

Figure 7.2.15

8) New DataSource will be created.

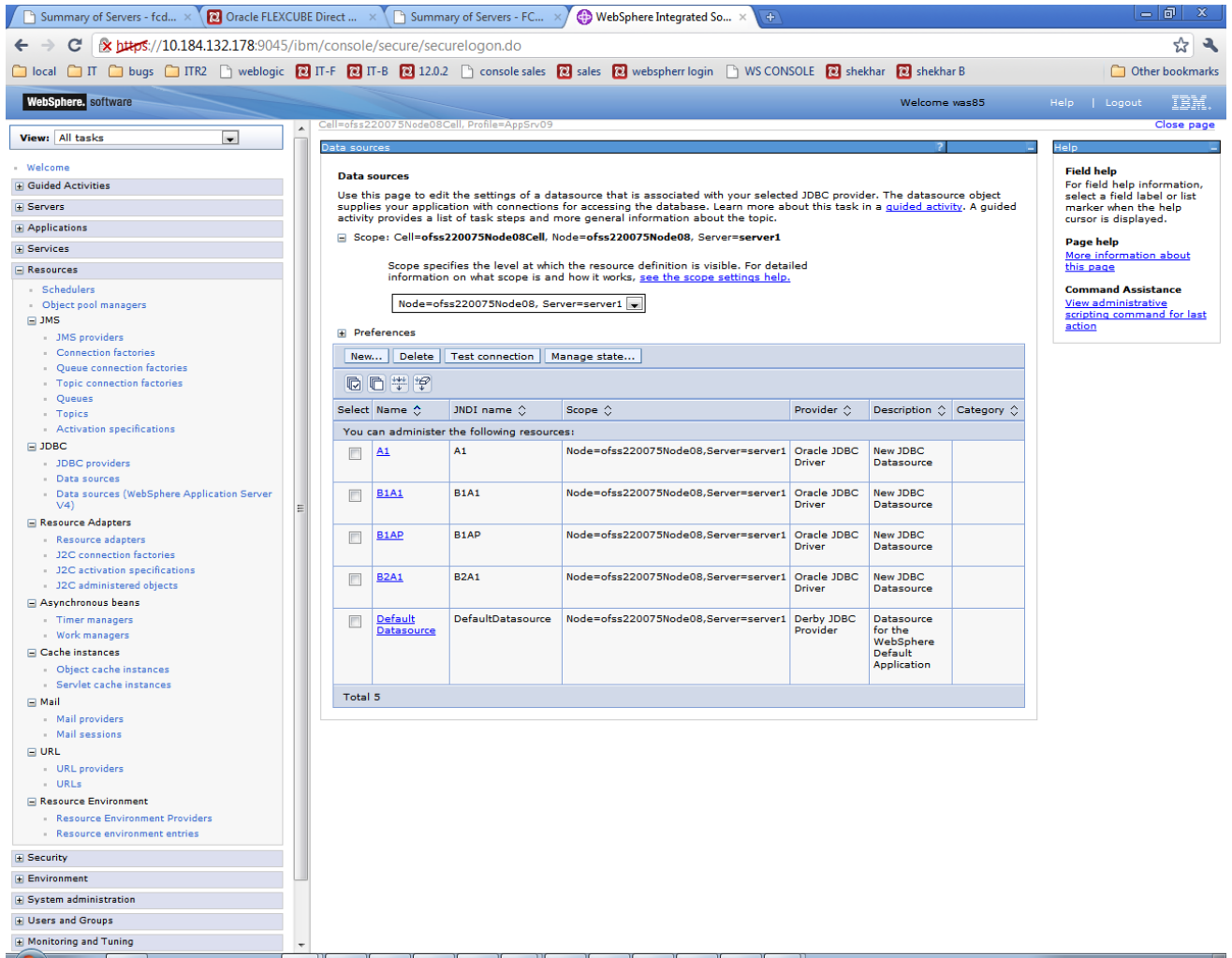


Figure 7.2.16

Steps to be followed for authentication of data.

9) Click on newly created DataSource.

The screenshot shows the IBM WebSphere Administration Console interface. The main content area is titled 'Data sources' and contains the following information:

**Data sources**  
 Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=**ofss220075Node08Cell**, Node=**ofss220075Node08**, Server=**server1**

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=**ofss220075Node08**, Server=**server1**

Preferences: New... Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
You can administer the following resources:						
<input type="checkbox"/>	<a href="#">A1</a>	A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1A1</a>	B1A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1AP</a>	B1AP	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B2A1</a>	B2A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=ofss220075Node08,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
Total 5						

The left sidebar shows the navigation tree with 'Data sources' selected under 'JDBC'. The right sidebar contains help and command assistance links.

10) On configuration screen, click on 'JAAS - J2C authentication data' (under 'Related Items')

The screenshot displays the IBM WebSphere Administration Console interface. The browser address bar shows the URL: `https://10.184.132.178:9045/ibm/console/secure/logon.do`. The console header indicates the user is logged in as 'was85'.

The left-hand navigation pane shows a tree view of system resources. Under 'JDBC', the 'Data sources' folder is expanded, and the 'B2A1' data source is selected.

The main content area shows the configuration page for the 'B2A1' data source. The page title is 'Data sources > B2A1'. Below the title, there is a 'Test connection' button. The configuration is organized into several sections:

- General Properties:** Includes fields for 'Scope' (cells:ofss220075Node08Cell:nodes:ofss220075Node08:servers:server1), 'Provider' (Oracle JDBC Driver), and 'Name' (B2A1). The 'JNDI name' is also set to B2A1. A checkbox 'Use this data source in container managed persistence (CMP)' is checked. The 'Description' field contains 'New JDBC Datasource'.
- Additional Properties:** Contains links for 'Connection pool properties', 'WebSphere Application Server data source properties', and 'Custom properties'.
- Related Items:** Contains a link for 'JAAS - J2C authentication data'.
- Data store helper class name:** Offers two options: 'Select a data store helper class' (selected) with a dropdown menu showing 'Oracle11g data store helper (com.ibm.websphere.rsadapter.Oracle11gDataStoreHelper)', and 'Specify a user-defined data store helper'.
- Security settings:** Includes 'Component-managed authentication alias' and 'Mapping-configuration alias', both set to '(none)'.

On the right side of the page, there is a 'Help' section with 'Field help' and 'Page help' instructions.

## 11) Click New

The screenshot displays the IBM WebSphere Administration Console interface. The browser address bar shows the URL `https://10.184.132.178:9045/ibm/console/secure/logon.do`. The console header includes the text "WebSphere, software" and "Welcome was85". The left-hand navigation pane is expanded to show the "Data sources" configuration page under the "Resources" section.

The main content area is titled "Data sources" and contains the following information:

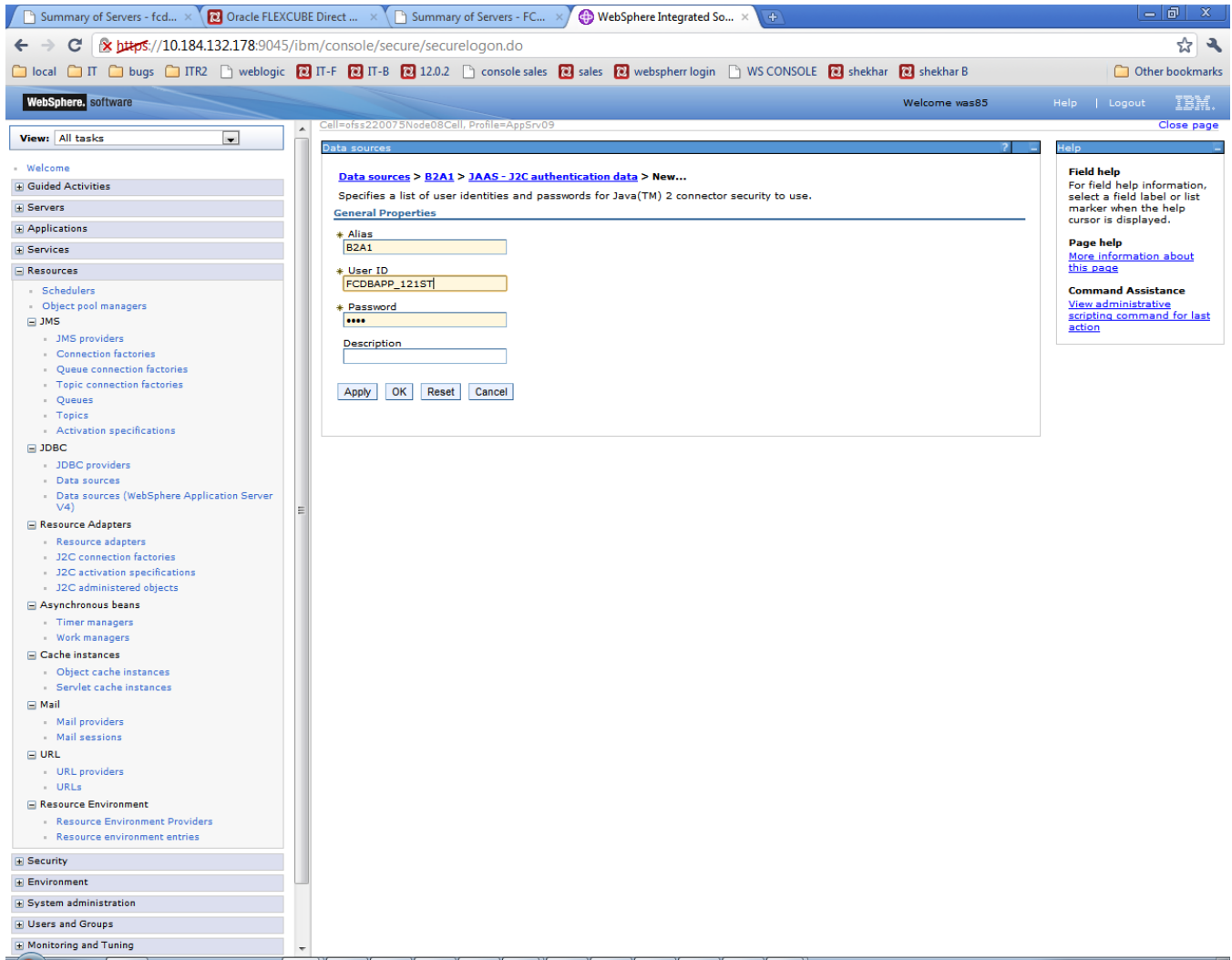
- Data sources > B2A1 > JAAS - J2C authentication data**
- Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.
- Prefix new alias names with the node name of the cell (for compatibility with earlier releases)
- 
- Preferences**
- 
- Icons for copy, paste, and refresh.
- Table with columns: Select, Alias, User ID, and Description.
- Text: "You can administer the following resources:"
- Table with 3 rows of data.
- Total 3

Select	Alias	User ID	Description
<input type="checkbox"/>	<a href="#">ofss220075Node08/A1</a>	FCDBAPP_FCDBTEST05	
<input type="checkbox"/>	<a href="#">ofss220075Node08/B1A1</a>	FCDBB001_FCDBTEST05	
<input type="checkbox"/>	<a href="#">ofss220075Node08/B1AP</a>	FCDBB001_FCDBTEST05	

On the right side of the console, there is a "Help" panel with the following sections:

- Field help**: For field help information, select a field label or list marker when the help cursor is displayed.
- Page help**: [More information about this page](#)
- Command Assistance**: [View administrative scripting command for last action](#)

12) Enter Alias, DB user Id and Password. And click 'Apply'.





### 13) Click 'Save'

The screenshot shows the IBM WebSphere Integrated Solutions console. The browser address bar indicates the URL <https://10.184.132.178:9045/ibm/console/secure/securelogin.do>. The console interface includes a left-hand navigation tree with categories like Welcome, Guided Activities, Servers, Applications, Services, Resources, Security, Environment, System administration, Users and Groups, and Monitoring and Tuning. The main content area displays the configuration for a data source, with the breadcrumb path: **Data sources > B2A1 > JAAS - J2C authentication data > B2A1**. A 'Messages' dialog box is open, containing the following text:

Changes have been made to your local configuration. You can:

- Save directly to the master configuration.
- Review changes before saving or discarding.

The server may need to be restarted for these changes to take effect.

Below the messages, the configuration page shows the following fields:

- Alias:** B2A1
- User ID:** FCDBAPP\_121ST
- Password:** [masked with asterisks]
- Description:** [empty field]

At the bottom of the configuration page, there are buttons for **Apply**, **OK**, **Reset**, and **Cancel**. On the right side of the console, there is a 'Help' panel with sections for Field help, Page help, and Command Assistance.

14) Newly created JAAS - J2C authentication data will be displayed.

The screenshot shows the IBM WebSphere Administration Console interface. The browser address bar displays `https://10.184.132.178:9045/ibm/console/secure/securelogin.do`. The page title is "WebSphere, software" and the user is logged in as "was85". The left-hand navigation pane shows a tree view of resources, with "Data sources" selected under "Resources". The main content area displays the configuration for "Data sources > B2A1 > JAAS - J2C authentication data".

The configuration page includes the following text:

**Data sources > B2A1 > JAAS - J2C authentication data**  
 Specifies a list of user identities and passwords for Java(TM) 2 connector security to use.

Prefix new alias names with the node name of the cell (for compatibility with earlier releases)

**Preferences**

Select	Alias	User ID	Description
You can administer the following resources:			
<input type="checkbox"/>	ofss220075Node08/A1	FCDBAPP_FCDBTEST05	
<input type="checkbox"/>	ofss220075Node08/B1A1	FCDBB001_FCDBTEST05	
<input type="checkbox"/>	ofss220075Node08/B1AP	FCDBB001_FCDBTEST05	
<input type="checkbox"/>	ofss220075Node08/B2A1	FCDBAPP_121ST	
<b>Total 4</b>			

On the right side of the page, there is a "Help" section with the following content:

**Field help**  
 For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

**Command Assistance**  
[View administrative scripting command for last action](#)

15) Go to the data source to which JAAS - J2C authentication data has to be applied.

The screenshot shows the IBM WebSphere Administration Console interface. The main content area is titled 'Data sources' and contains the following information:

**Data sources**  
 Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=ofss220075Node08Cell, Node=ofss220075Node08, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=ofss220075Node08, Server=server1

**Preferences**

New... Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
You can administer the following resources:						
<input type="checkbox"/>	<a href="#">A1</a>	A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1A1</a>	B1A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1AP</a>	B1AP	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B2A1</a>	B2A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=ofss220075Node08,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
Total 5						

The left sidebar shows a navigation tree with categories like 'Guided Activities', 'Servers', 'Applications', 'Services', 'Resources', 'JMS', 'JDBC', 'Resource Adapters', 'Asynchronous beans', 'Cache instances', 'Mail', 'URL', 'Resource Environment', 'Security', 'Environment', 'System administration', 'Users and Groups', and 'Monitoring and Tuning'. The right sidebar contains 'Field help', 'Page help', and 'Command Assistance' sections.

16) On configuration screen, under Security Settings, select the proper alias for Component-managed authentication alias and Container-managed authentication alias and click Apply

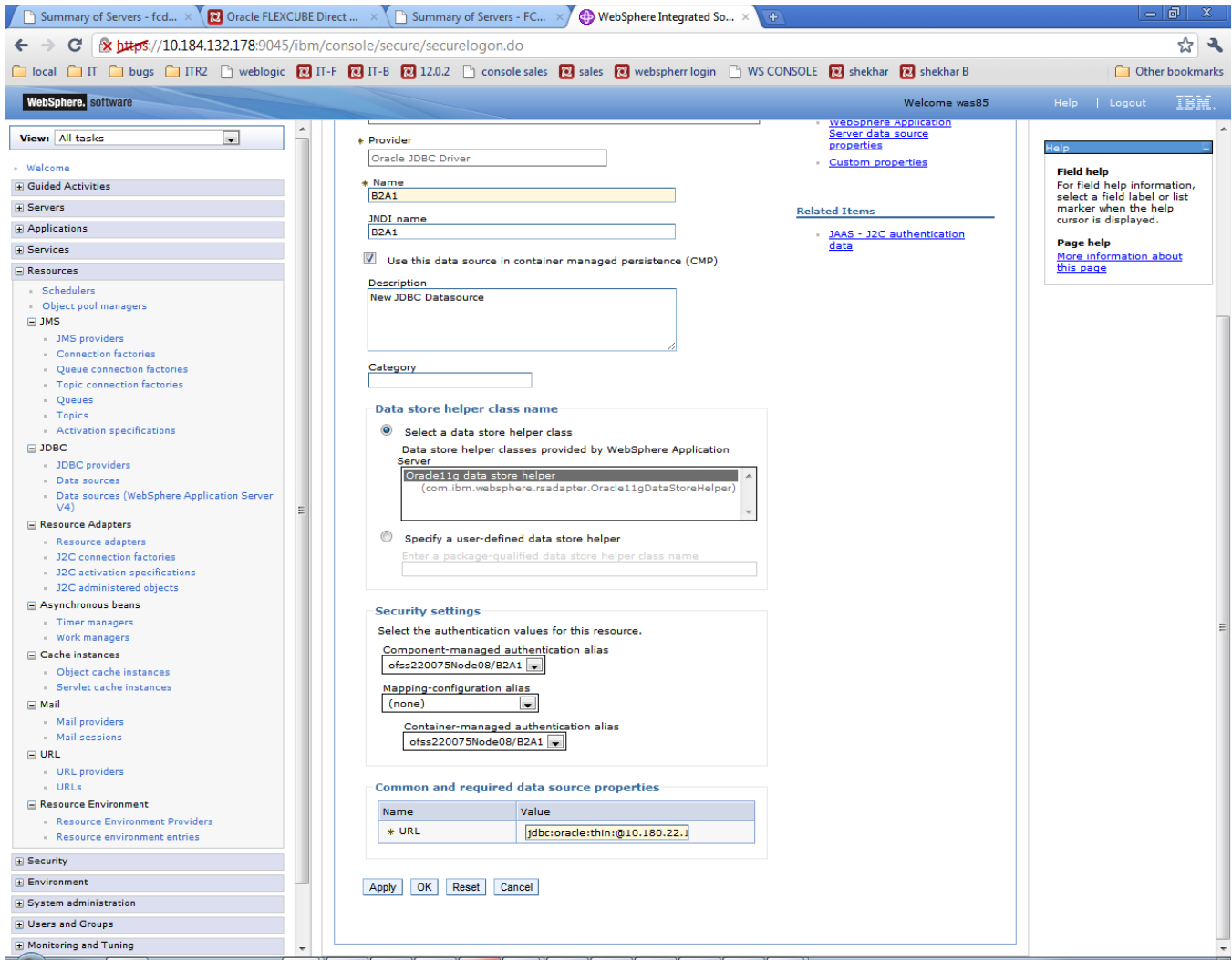


Figure 6.2.17

17) Click 'Save'

The screenshot displays the IBM WebSphere Administration Console interface. The browser address bar shows the URL `https://10.184.132.178:9045/ibm/console/secure/securelogin.do`. The console header includes the text "WebSphere, software" and "Welcome was85".

The left-hand navigation pane is expanded to show the "Data sources" configuration page. The main content area is titled "Data sources > B2A1" and contains a "Configuration" section with the following fields and options:

- Test connection**: A button to verify the data source configuration.
- General Properties**:
  - Scope**: `cells:ofss220075Node08Cell:nodes:ofss220075Node08:servers:server1`
  - Provider**: `Oracle JDBC Driver`
  - Name**: `B2A1`
  - JNDI name**: `B2A1` (with a tooltip: "The required display name for the resource.")
  - Use this data source in container managed persistence (CMP)**
  - Description**: `New JDBC Datasource`
  - Category**: (empty)
- Additional Properties**:
  - [Connection pool properties](#)
  - [WebSphere Application Server data source properties](#)
  - [Custom properties](#)
- Data store helper class name**:
  - Select a data store helper class**
    - Data store helper classes provided by WebSphere Application Server
    - `Oracle11g data store helper (com.ibm.websphere.rsadapter.Oracle11gDataStoreHelper)`
  - Specify a user-defined data store helper**
    - Enter a package-qualified data store helper class name

On the right side of the console, there is a "Help" section with "Field help", "Page help", and "Command Assistance" links.

18) Test the new created DataSource. JDBC >Data sources>select data source and click on Test connection

The screenshot shows the IBM WebSphere Administration Console interface. The main content area is titled 'Data sources' and contains the following information:

**Data sources**  
 Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=ofss220075Node08Cell, Node=ofss220075Node08, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=ofss220075Node08, Server=server1

Preferences: New... Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
You can administer the following resources:						
<input type="checkbox"/>	<a href="#">A1</a>	A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1A1</a>	B1A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1AP</a>	B1AP	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B2A1</a>	B2A1	Node=ofss220075Node08,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=ofss220075Node08,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
Total 5						

The left sidebar shows the navigation tree with 'Data sources' selected under 'JDBC'. The right sidebar contains help information for field help, page help, and command assistance.

Success screen will be displayed (shown underneath) stating the test connection operation for database at node is successful.

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

View: All tasks

Messages

The test connection operation for data source B1A1 on server server1 at node OFSMUD6HP0732Node02 was successful.

**Data sources**

Use this page to edit the settings of a datasource that is associated with your selected JDBC provider. The datasource object supplies your application with connections for accessing the database. Learn more about this task in a [guided activity](#). A guided activity provides a list of task steps and more general information about the topic.

Scope: Cell=OFSMUD6HP0732Node02Cell, Node=OFSMUD6HP0732Node02, Server=server1

Scope specifies the level at which the resource definition is visible. For detailed information on what scope is and how it works, [see the scope settings help](#).

Node=OFSMUD6HP0732Node02, Server=server1

Preferences

New... Delete Test connection Manage state...

Select	Name	JNDI name	Scope	Provider	Description	Category
You can administer the following resources:						
<input type="checkbox"/>	<a href="#">A1</a>	A1	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">B1A1</a>	B1A1	Node=OFSMUD6HP0732Node02,Server=server1	Oracle JDBC Driver	New JDBC Datasource	
<input type="checkbox"/>	<a href="#">Default Datasource</a>	DefaultDatasource	Node=OFSMUD6HP0732Node02,Server=server1	Derby JDBC Provider	Datasource for the WebSphere Default Application	
Total 3						

Help

**Field help**  
For field help information, select a field label or list marker when the help cursor is displayed.

**Page help**  
[More information about this page](#)

**Command Assistance**  
[View administrative scripting command for last action](#)

---

## **8. Integration of WebSphere MQ6 with WAS**

Only those modules which require deployment on Message Queue e.g. the Bulk module and configuration of JMS on the server need to follow the setup steps mentioned below for integration of Web sphere MQ6 with Weblogic server.



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**Pre-requisites:**

Integration of WebSphere MQ6 including creation of queue manager, queues etc must be complete as per the reference doc attached "***Oracle\_FLEXCUBE\_Direct\_Banking\_Websphere\_MQ\_6***".

Path of the directory containing following jars should be given in websphere variable - MQ\_INSTALL\_ROOT

- com.ibm.mq.jar
- com.ibm.mqjms.jar
- com.ibm.mq.jmqi.jar
- com.ibm.mq.commonservices.jar
- dhbcore.jar
- fscontext.jar
- Providerutil.jar

## 8.1 Create JMS Module

- 1) Click on “Resources → JMS Providers”

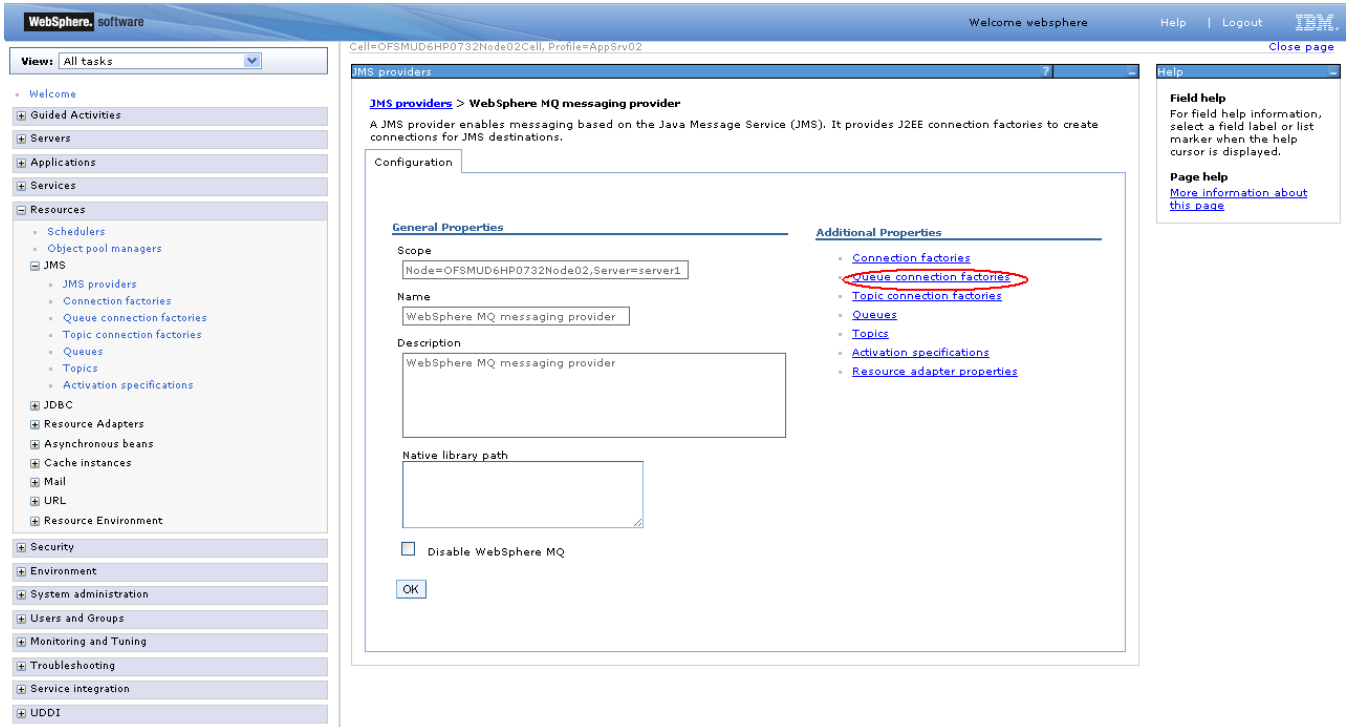
Select the scope from the dropdown as shown in below screenshot and then click on “WebSphere MQ messaging provider”

The screenshot shows the IBM WebSphere Administration Console interface. The left-hand navigation pane is expanded to 'Resources' > 'JMS' > 'JMS providers'. The main content area displays the configuration for 'JMS providers'. A dropdown menu for 'Scope' is open, showing the selected option: 'Node=OFSMUD6HP0732Node02, Server=server1'. Below this, there is a table of resources:

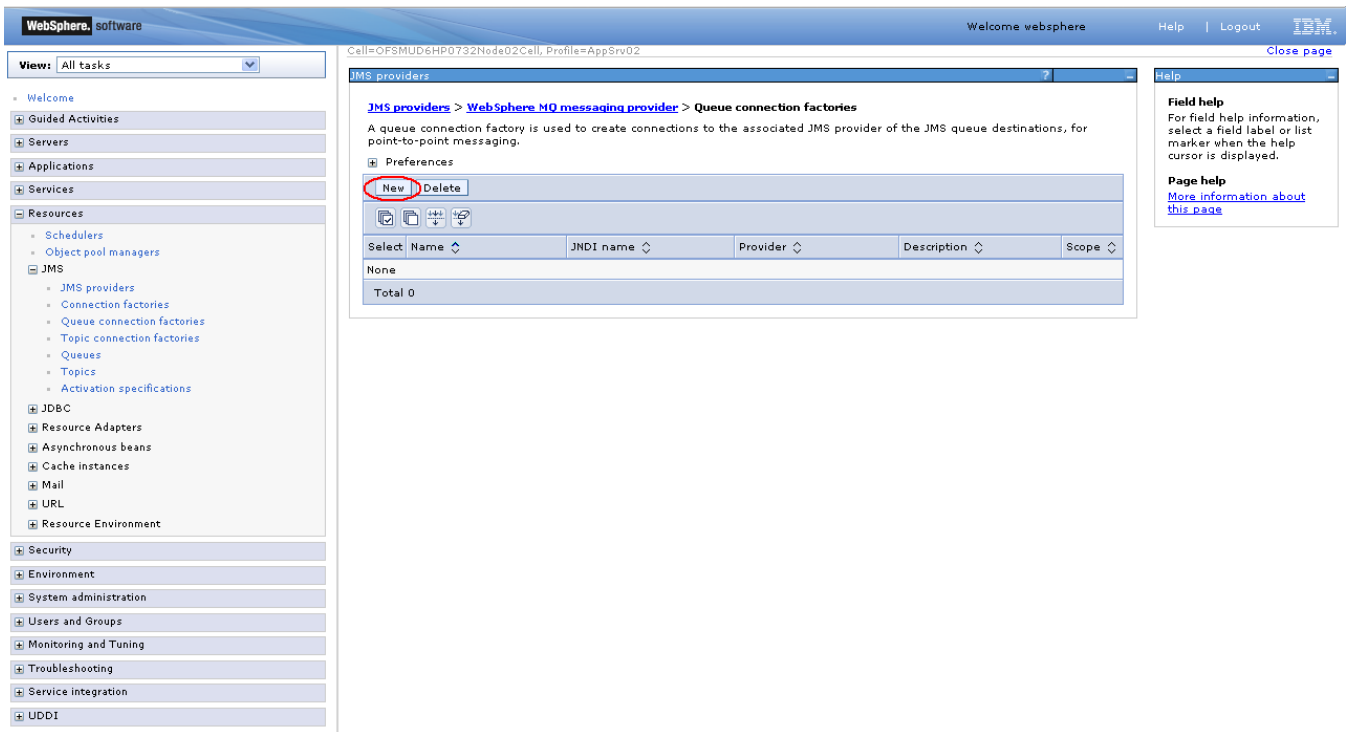
Select	Name	Description	Scope
	<a href="#">Default messaging provider</a>	Default messaging provider	Node=OFSMUD6HP0732Node02,Server=server1
	<a href="#">WebSphere MQ messaging provider</a>	WebSphere MQ messaging provider	Node=OFSMUD6HP0732Node02,Server=server1

The 'WebSphere MQ messaging provider' row is circled in red. The table footer indicates 'Total 2'.

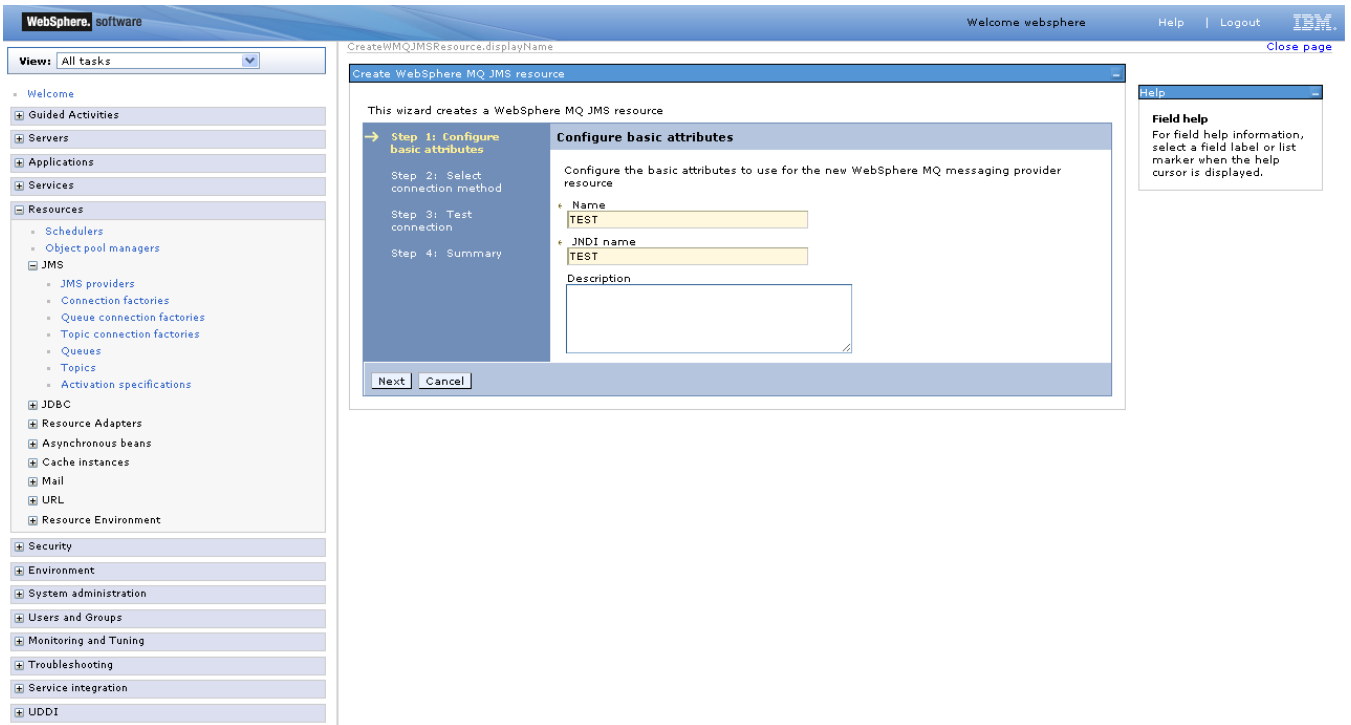
2) Click on “Queue connection factories”



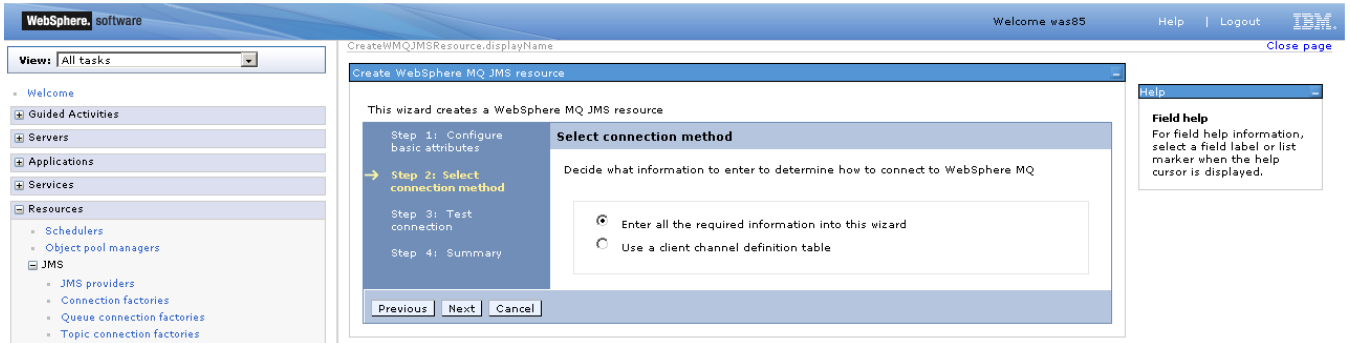
3) On “Queue connection factories screen” click on new.



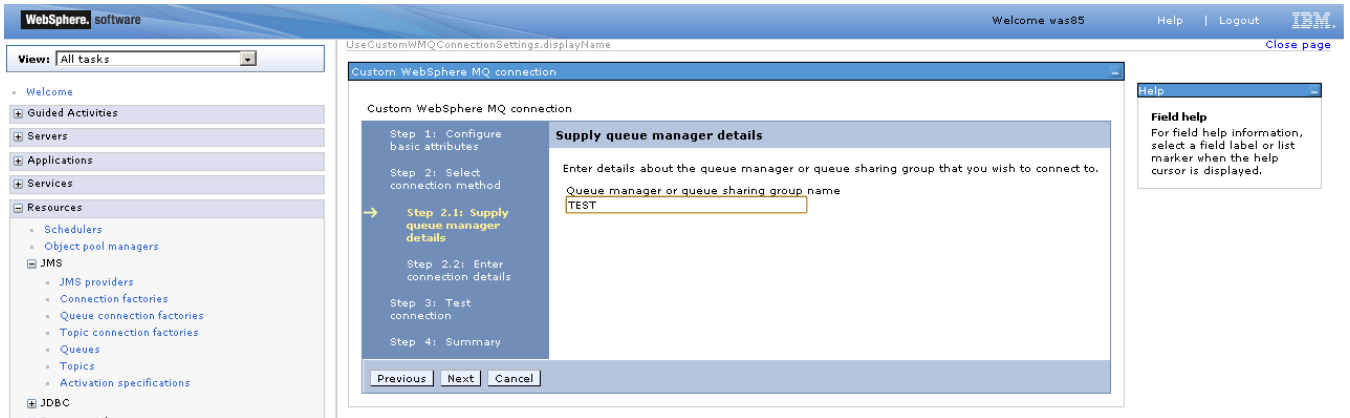
4) Enter the name of the Connection factory and JNDI name and click next



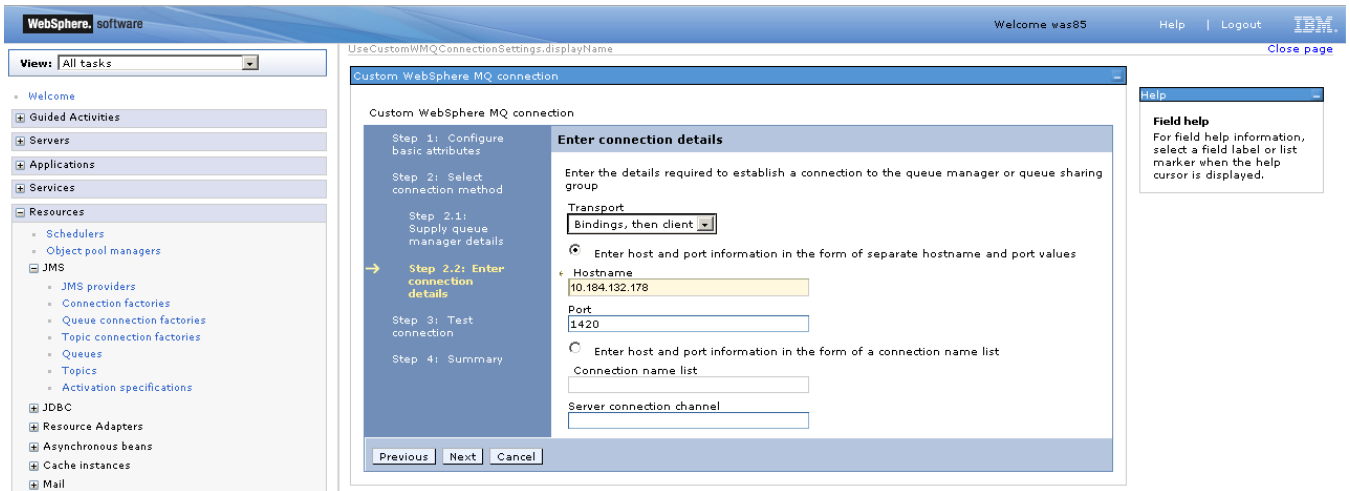
5) On "Select Connection method" screen, select *Enter all the required information into this wizard* option and click next



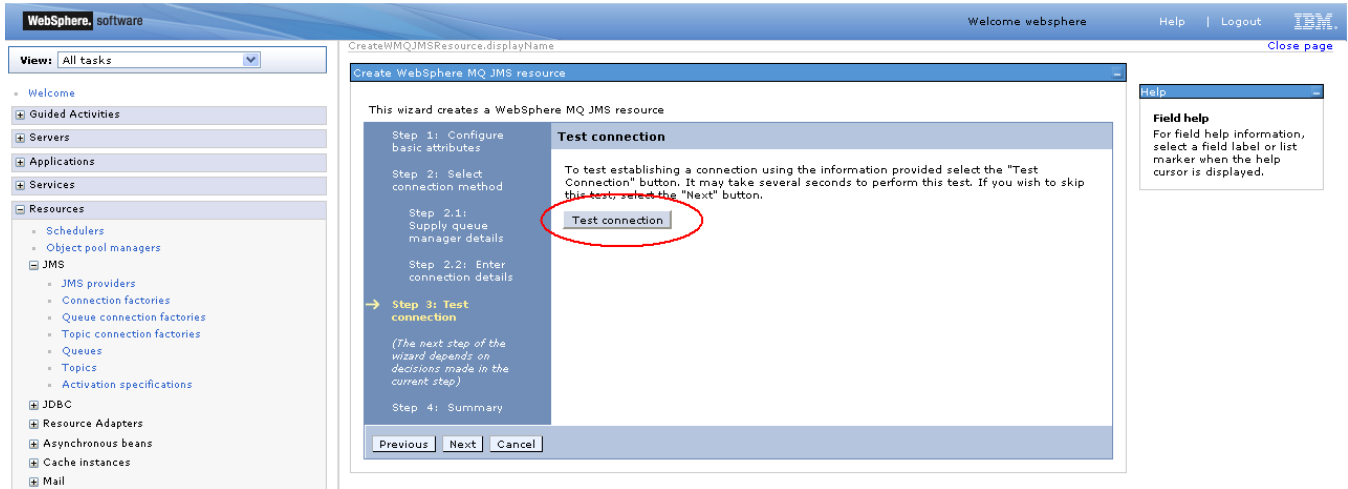
- 6) On “Supply queue manager details” screen enter the name of queue manager. Please note that this name must be same as queue manager name on websphere MQ. Now click next



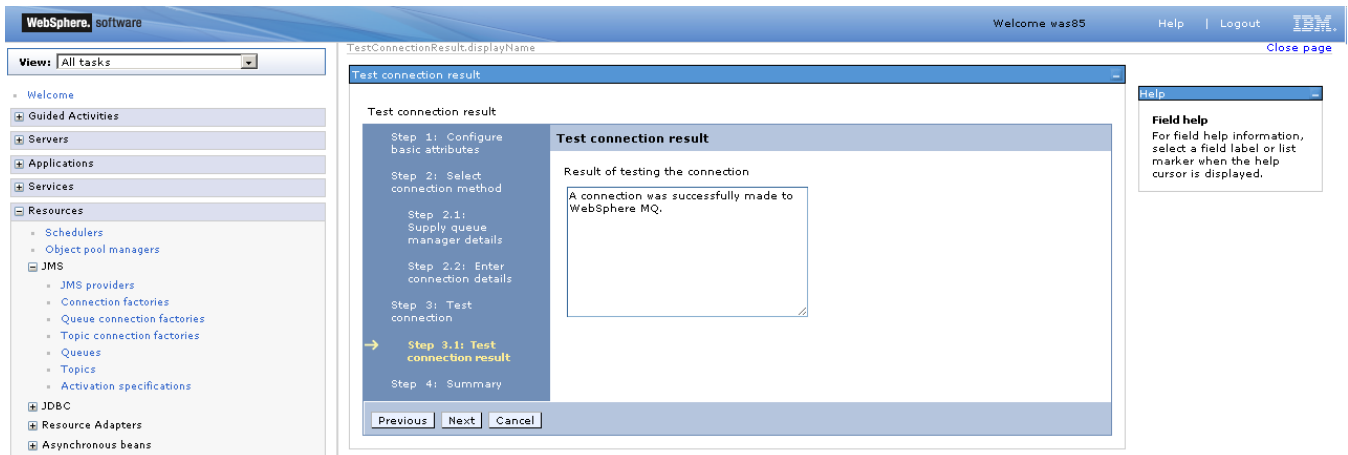
- 7) On “Enter connection details” screen enter the hostname or IP of the MQ host and port no and click next



8) On 'Test connection' screen click on test connection button



9) If everything entered on the previous screens is correct then it will display success message as shown below otherwise it will give an error.



10) On summary screen click finish



11) On the screen shown below click save.

Cell=ofss220075Node08Cell, Profile=AppSrv09

Messages

Changes have been made to your local configuration. You can:

- Save directly to the master configuration.
- Review changes before saving or discarding.

The server may need to be restarted for these changes to take effect.

JMS providers > WebSphere MQ messaging provider > Queue connection factories

A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destinations, for point-to-point messaging.

Preferences

New Delete

Select	Name	JNDI name	Provider	Description	Scope
<input type="checkbox"/>	TEST	TEST	WebSphere MQ messaging provider	TEST	Node=ofss220075Node08,Server=server1
<input type="checkbox"/>	test	test	WebSphere MQ messaging provider	test	Node=ofss220075Node08,Server=server1
Total 2					

12) Queue connection factory is now created and will be shown in the list as shown in the screenshot below:

Cell=ofss220075Node08Cell, Profile=AppSrv09

JMS providers > WebSphere MQ messaging provider > Queue connection factories

A queue connection factory is used to create connections to the associated JMS provider of the JMS queue destinations, for point-to-point messaging.

Preferences

New Delete

Select	Name	JNDI name	Provider	Description	Scope
<input type="checkbox"/>	TEST	TEST	WebSphere MQ messaging provider	TEST	Node=ofss220075Node08,Server=server1
<input type="checkbox"/>	test	test	WebSphere MQ messaging provider	test	Node=ofss220075Node08,Server=server1
<input type="checkbox"/>		TEST	WebSphere MQ messaging provider	TEST	Node=ofss220075Node08,Server=server1
Total 3					

## 8.2 Creating Destinations

1. Click on “Resources→JMS Providers”

Select the scope from the dropdown as shown in below screenshot and then click on “WebSphere MQ messaging provider”

The screenshot shows the WebSphere Administration Console interface. On the left is a navigation tree with 'Resources' expanded to 'JMS' and 'JMS providers' selected. The main content area displays the 'JMS providers' configuration page. At the top, the scope is set to 'Node=OFSMUD6HP0732Node02, Server=server1', which is circled in red. Below this, there is a table of resources:

Select	Name	Description	Scope
<input type="checkbox"/>	<a href="#">Default messaging provider</a>	Default messaging provider	Node=OFSMUD6HP0732Node02,Server=server1
<input checked="" type="checkbox"/>	<a href="#">WebSphere MQ messaging provider</a>	WebSphere MQ messaging provider	Node=OFSMUD6HP0732Node02,Server=server1

The 'WebSphere MQ messaging provider' row is circled in red. A 'Help' sidebar on the right provides field and page help information.

2. Click on “Queues”

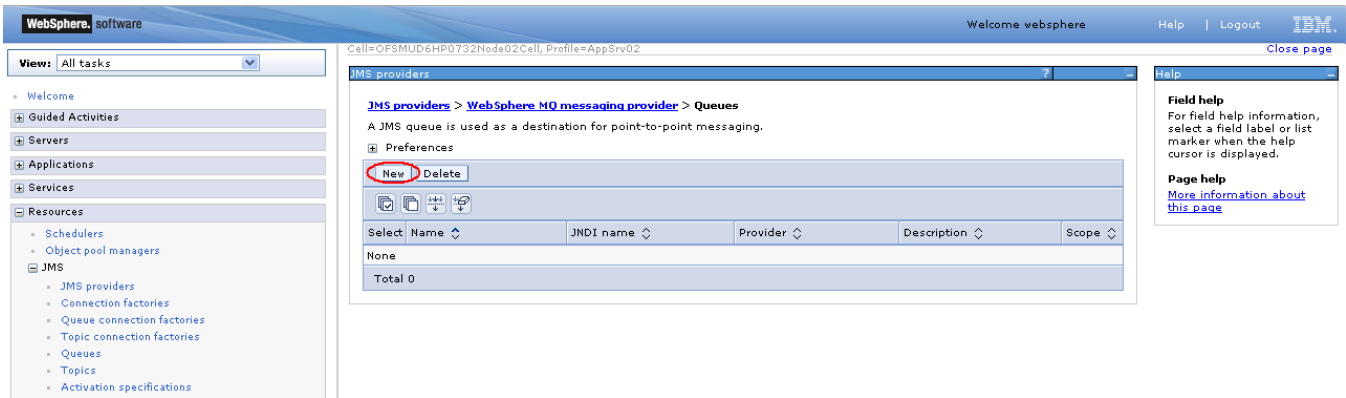
The screenshot shows the configuration page for the 'WebSphere MQ messaging provider'. The left navigation tree is the same as in the previous screenshot. The main content area is titled 'JMS providers > WebSphere MQ messaging provider'. It shows the configuration details for the selected provider:

- General Properties:**
  - Scope: Node=OFSMUD6HP0732Node02,Server=server1
  - Name: WebSphere MQ messaging provider
  - Description: WebSphere MQ messaging provider
  - Native library path: (empty text box)
  - Disable WebSphere MQ
- Additional Properties:**
  - [Connection factories](#)
  - [Queue connection factories](#)
  - [Topic connection factories](#)
  - Queues** (circled in red)
  - [Topic](#)
  - [Activation specifications](#)
  - [Resource adapter properties](#)

An 'OK' button is visible at the bottom of the configuration area. A 'Help' sidebar on the right provides field and page help information.



### 3. Click on New

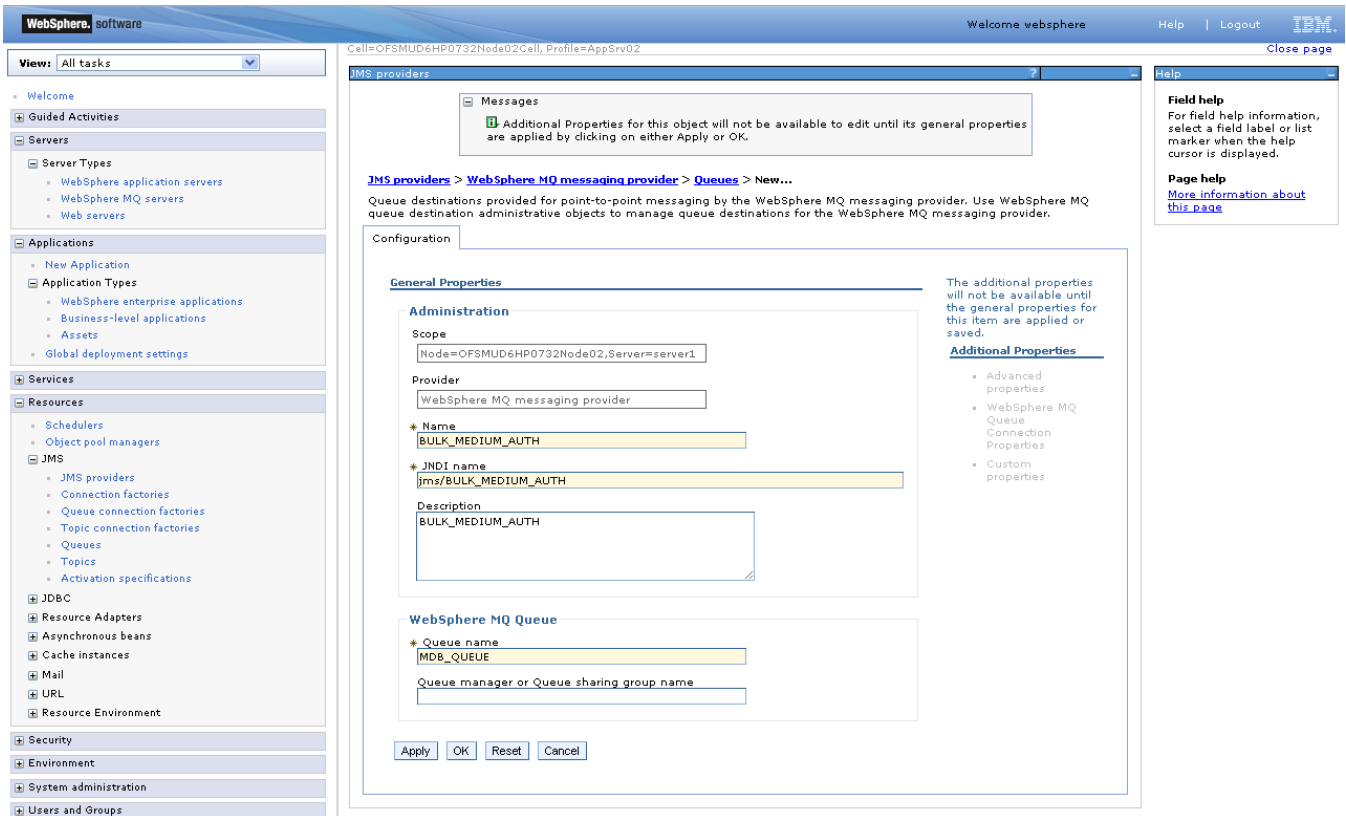


### 4. Specify following details and save settings.

NAME: <request\_queue\_name>

JNDI NAME: <request\_queue\_JNDI\_name>

WebSphere MQ Queue Name: <base\_queue\_name>



### 5. Click on apply

6. Click on “Websphere MQ queue connection properties” as shown in the screenshot below.

The screenshot shows the IBM WebSphere MQ configuration console. The left-hand navigation pane is expanded to 'Resources' > 'JMS' > 'JMS providers' > 'WebSphere MQ messaging provider' > 'Queues' > 'BULK\_MEDIUM\_AUTH'. The main content area displays the configuration for this queue. Under the 'Additional Properties' section, the 'WebSphere MQ Queue Connection Properties' link is circled in red. Other visible fields include 'Name' (BULK\_MEDIUM\_AUTH), 'JNDI name' (jmsz/BULK\_MEDIUM\_AUTH), and 'Queue name' (MDB\_QUEUE).

7. Enter queue manager hostname, queue manager port number and server connection channel name and click OK.

This screenshot shows the 'WebSphere MQ connection properties' configuration page for the 'BULK\_MEDIUM\_AUTH' queue. The 'Queue manager host' field contains '10.184.132.178', the 'Queue manager port' is '1420', and the 'Server connection channel name' is 'SYSTEM.DEF.SVRCONN'. The 'User ID' and 'Password' fields are currently empty. The 'Apply' button is highlighted.

8. Again click OK on the screen shown below.

WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

JMS providers

Messages

- Changes have been made to your local configuration. You can:
  - Save directly to the master configuration.
  - Review changes before saving or discarding.
- The server may need to be restarted for these changes to take effect.

JMS providers > WebSphere MQ messaging provider > Queues > BULK\_MEDIUM\_AUTH

Queue destinations provided for point-to-point messaging by the WebSphere MQ messaging provider. Use WebSphere MQ queue destination administrative objects to manage queue destinations for the WebSphere MQ messaging provider.

Configuration

General Properties

Administration

Scope  
Node=OFSMUD6HP0732Node02,Server=server1

Provider  
WebSphere MQ messaging provider

Name  
BULK\_MEDIUM\_AUTH

JNDI name  
jms/BULK\_MEDIUM\_AUTH

Description  
BULK\_MEDIUM\_AUTH

WebSphere MQ Queue

Queue name  
MDB\_QUEUE

Queue manager or Queue sharing group name

Apply OK Reset Cancel

Additional Properties

- Advanced properties
- WebSphere MQ Queue Connection Properties
- Custom properties

Field help  
For field help information, select a field label or marker when the help cursor is displayed.

Page help  
More information about this page

9. Click on save as shown in the below screen.

WebSphere, software | Welcome websphere | Help | Logout | IBM | Close page

Cell=OFSMUD6HP0732Node02Cell, Profile=AppSrv02

JMS providers

Messages

- Changes have been made to your local configuration. You can:
  - Save directly to the master configuration.
  - Review changes before saving or discarding.
- The server may need to be restarted for these changes to take effect.

JMS providers > WebSphere MQ messaging provider > Queues

A JMS queue is used as a destination for point-to-point messaging.

Preferences

New Delete

Select	Name	JNDI name	Provider	Description	Scope
<input type="checkbox"/>	BULK_MEDIUM_AUTH	jms/BULK_MEDIUM_AUTH	WebSphere MQ messaging provider	BULK_MEDIUM_AUTH	Node=OFSMUD6HP0732Node02,Server=server1

Total 1

Field help  
For field help information, select a field label or marker when the help cursor is displayed.

Page help  
More information about this page

Command Assistance  
View administrative scripting command for action

---

10. Repeat the above steps for response queue with following details:

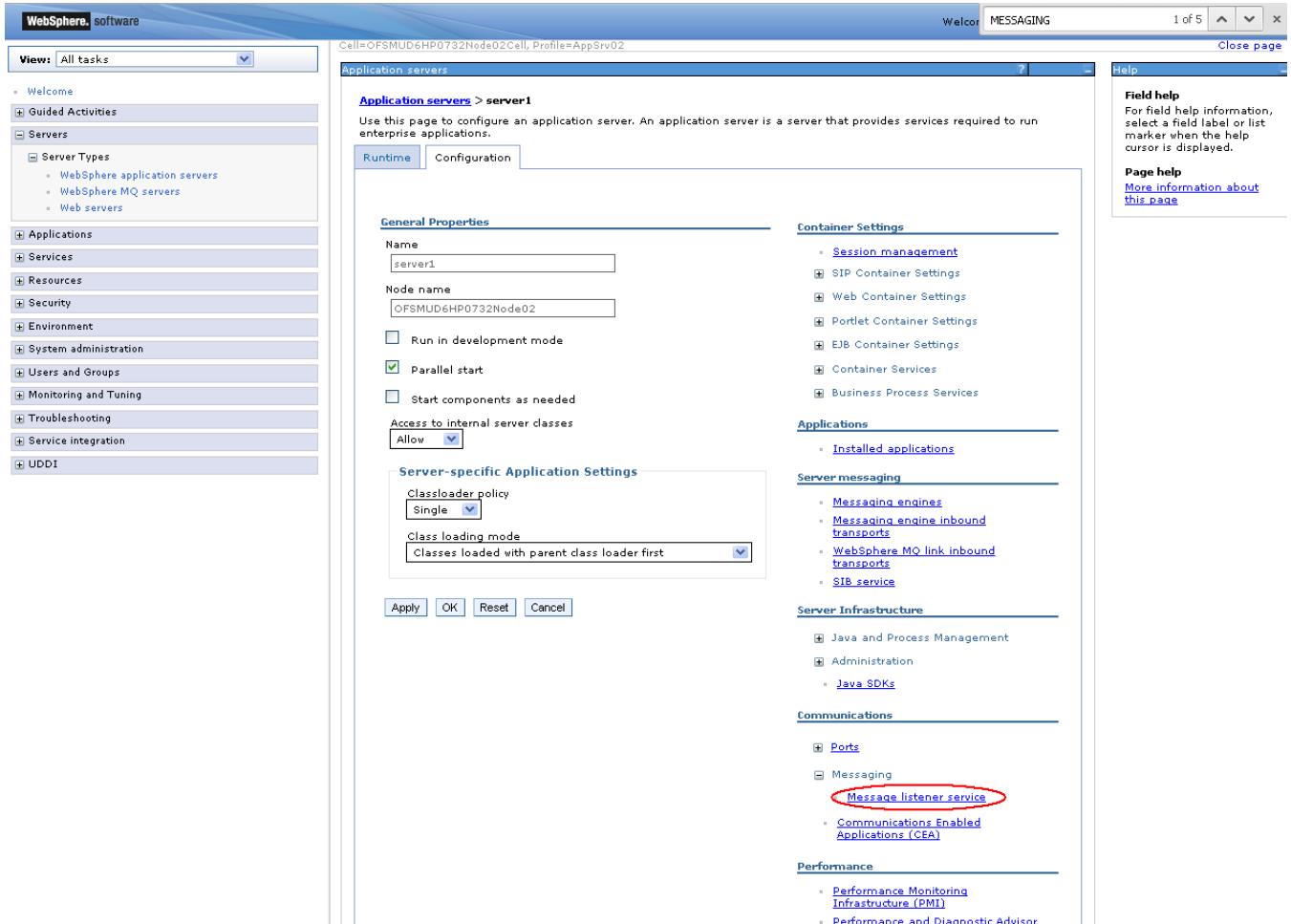
NAME: <response\_queue\_name>

JNDI NAME: < response\_queue\_JNDI\_name>

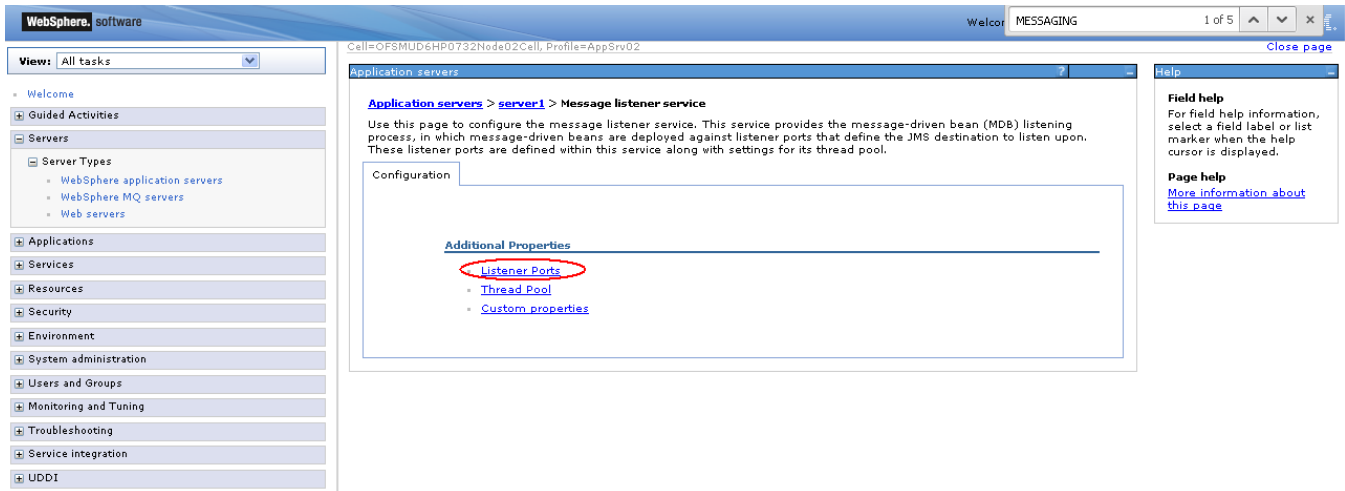
BASE QUEUE NAME: <base\_queue\_name>

### 8.3 Creation of Listeners

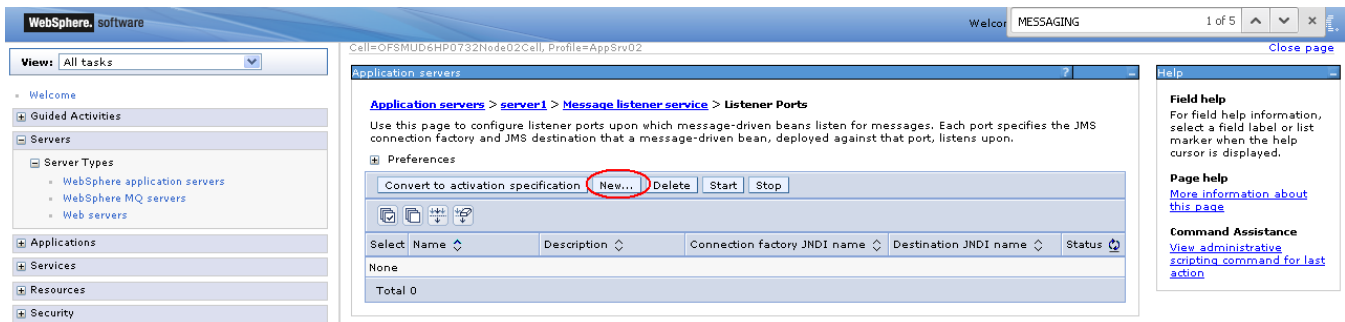
a) “ Click on Server→ Websphere application Server → Server name → Click on Messaging > Message Listener Service”



b) Click on Listener ports.



c) Click "New" as shown in the screen below.

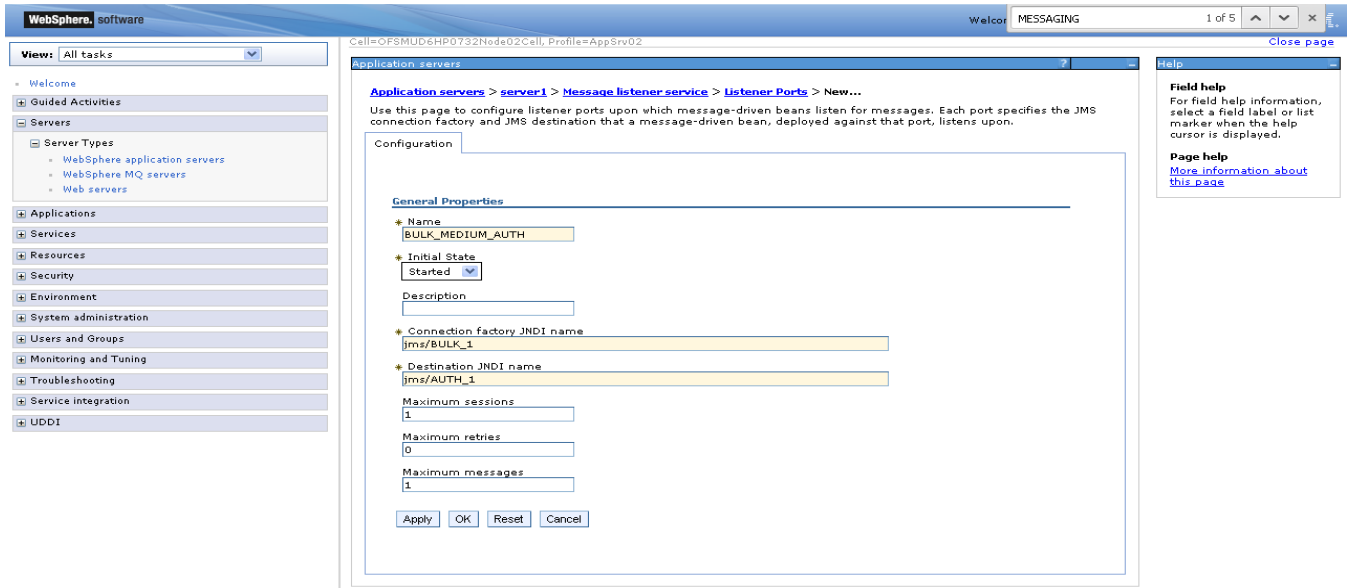


d) Enter details as mentioned below table

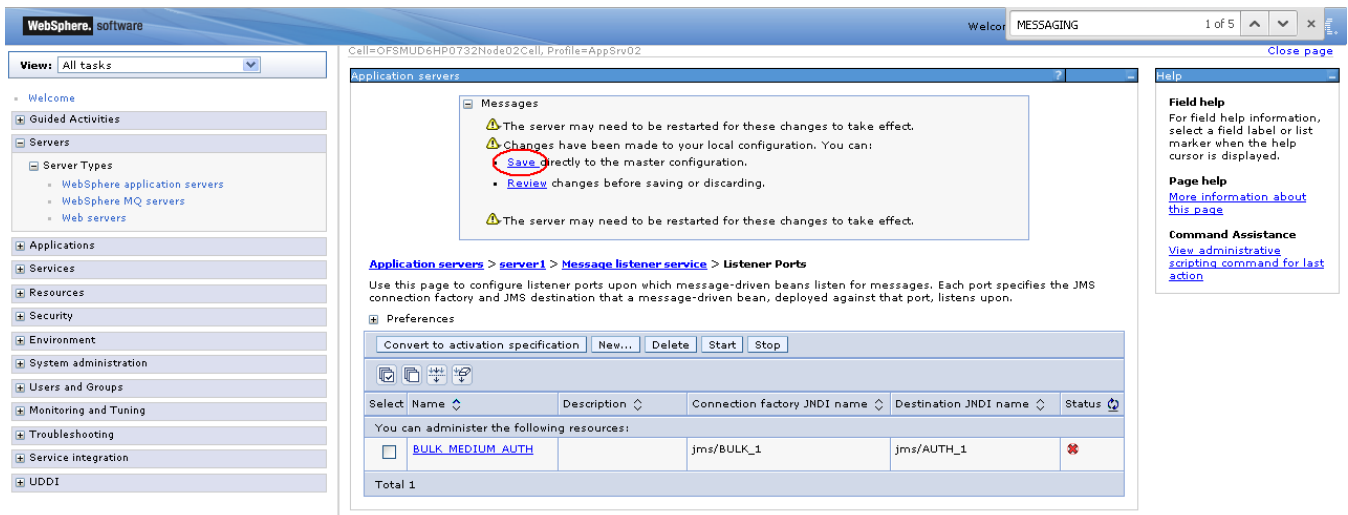
Connection factory JNDI: < *connection\_factory\_JNDI\_name* >

Destination JNDI name: <response\_queue\_JNDI\_name>

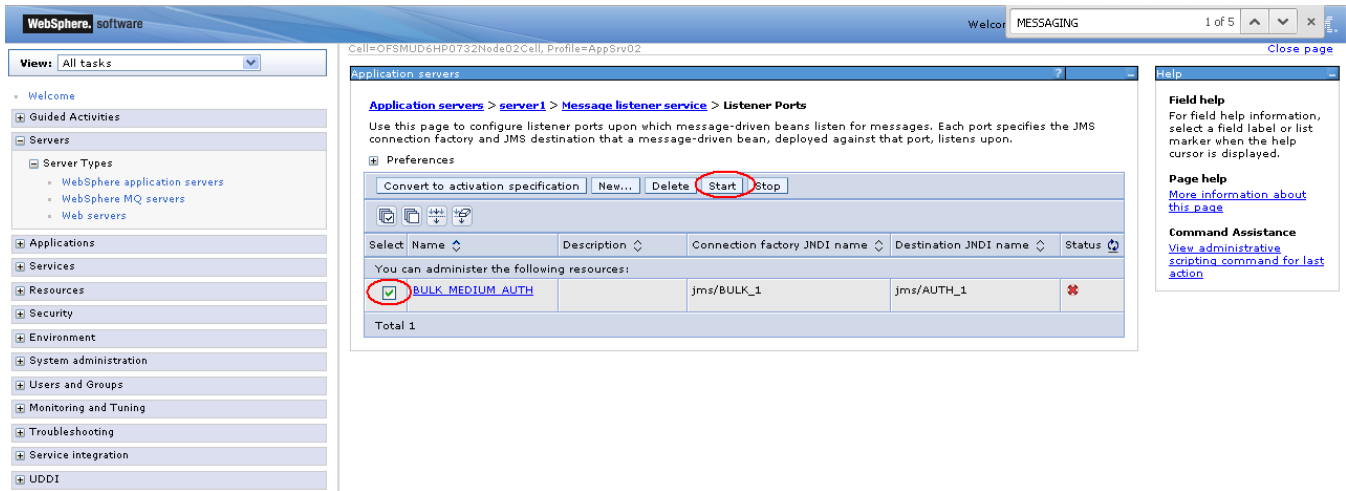
After entering all required information click OK.



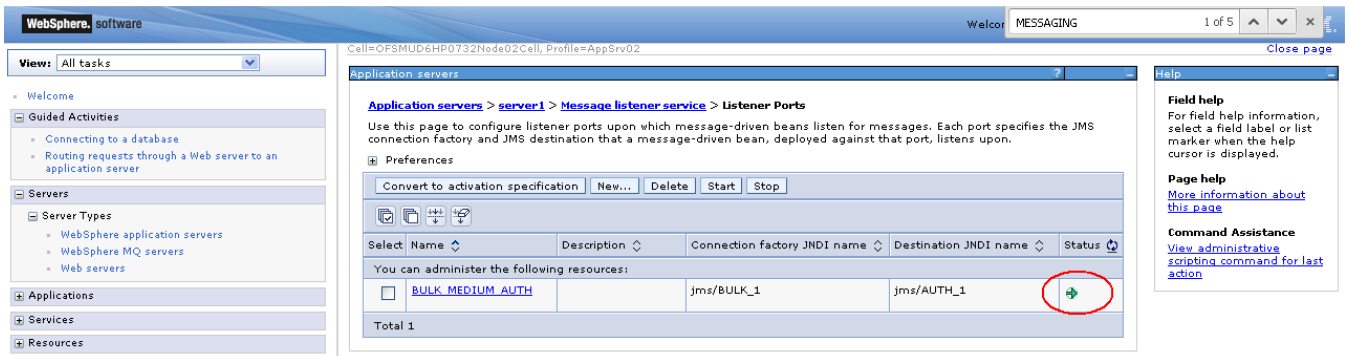
e) Now click on save as shown in the below screen.



f) Now select the listener and click on start as shown in the screenshot below.



g) If the listener started successfully then the status of the listener will turn green as shown in the screenshot below and if it is not started it will display the error and the status will remain red.





---

## Third Party Setup

For third party Listeners, destination queues and connection factories should be created separately with respective names.

Connection Factory: TPCF

Request Queue name: THIRDPARTYINQ

Response Queue name: THIRDPARTYOUTQ

Two listeners should be created for In and Out Queue.

## Bulk Setup

For Bulk file upload, following destination queues, connection factory and message listeners have to be created:

Connection factory JNDI name (as in btqueuesetup table): e.g. jms/BULK\_1

Following queues have to be configured (JNDI name as in btqueuesetup table) for each step:

Name	JNDI Name	Base queue name
AUTH	jms/AUTH_1	AUTH
AUTHREJECT	jms/AUTHREJECT_1	AUTHREJECT
COMPLETE	jms/COMPLETE_1	COMPLETE
DECRYPT	jms/DECRYPT_1	DECRYPT
PREPROCESS	jms/PREPROCESS_1	PREPROCESS
PROCESS	jms/PROCESS_1	PROCESS
RESPONSE	jms/RESPONSE_1	RESPONSE
UPLOAD	jms/UPLOAD_1	UPLOAD

For each destination, there will be a message listener:

Name	Connection factory JNDI name	Destination JNDI Name
BULK_MED_AUTH	jms/BULK_1	jms/AUTH_1
BULK_MED_AUTHREJ	jms/BULK_1	jms/AUTHREJECT_1
BULK_MED_COMPLETE	jms/BULK_1	jms/COMPLETE_1
BULK_MED_DECRYPT	jms/BULK_1	jms/DECRYPT_1
BULK_MED_PREPROCESS	jms/BULK_1	jms/PREPROCESS_1
BULK_MED_PROCESS	jms/BULK_1	jms/PROCESS_1
BULK_MED_RESPONSE	jms/BULK_1	jms/RESPONSE_1
BULK_MED_UPLOAD	jms/BULK_1	jms/UPLOAD_1

---

Update following properties in MSTPROPERTIES table of FCDB.

- FCAT.SEND.FACTORY.LOOKUP.NAME=<connection\_factory\_JNDI\_name>
- FCAT.SEND.QUEUE.LOOKUP.NAME=<request\_queue\_JNDI\_name>
- FCAT.SEND.QUEUE.NAME=<request\_queue\_JNDI\_name>
- FCAT.SEND.PORT.NO=<Queue\_Manager\_port>
- FCAT.SEND.SERVER.NAME=< Queue\_Manager\_server\_ip>
- FCAT.SEND.QMANAGER.NAME=<Queue\_Manager\_Name>
- CLONE.Q.CLASS.NAME=com.iflex.fcat.queue.JFQaIMQJMS
- FCAT.SEND.CONTEXT.FACTORY=com.ibm.websphere.naming.WsnInitialContextFactory
- FCAT.SEND.PROVIDER.URL=iiop://< FCDB\_SERVER\_IP>:<FCDBSERVER\_BOOTSTRAP\_PORT>

---

## 8.4 Deployments on application Server

Deploy the following jars on application server:

ClonedQueueReceiverMDB\_jar: to listen response queue.

ThirdPartyReceiverMDB\_jar: to listen third party response queue.

TPT\_sim.jar

Bulk Deployables:

- ✓ BulkEventHandlerEJB.jar
- ✓ StepName\_MDB.jar
  - StepName is Log queue name as in btqueuesetup table.
  - e.g UPLOAD\_MDB.jar

---

## 9. DB Creation

For completing the DB setup kindly refer to the document –  
“Oracle\_FLEXCUBE\_Direct\_Banking\_Database\_Setup“