

REST API Services Deployment in WebSphere
Oracle FLEXCUBE Universal Banking
Release 14.4.0.0.0
[May] [2020]



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1. FLEXCUBE Universal Banking Solutions

This document describes step to install REST Services into WebSphere application server in full.

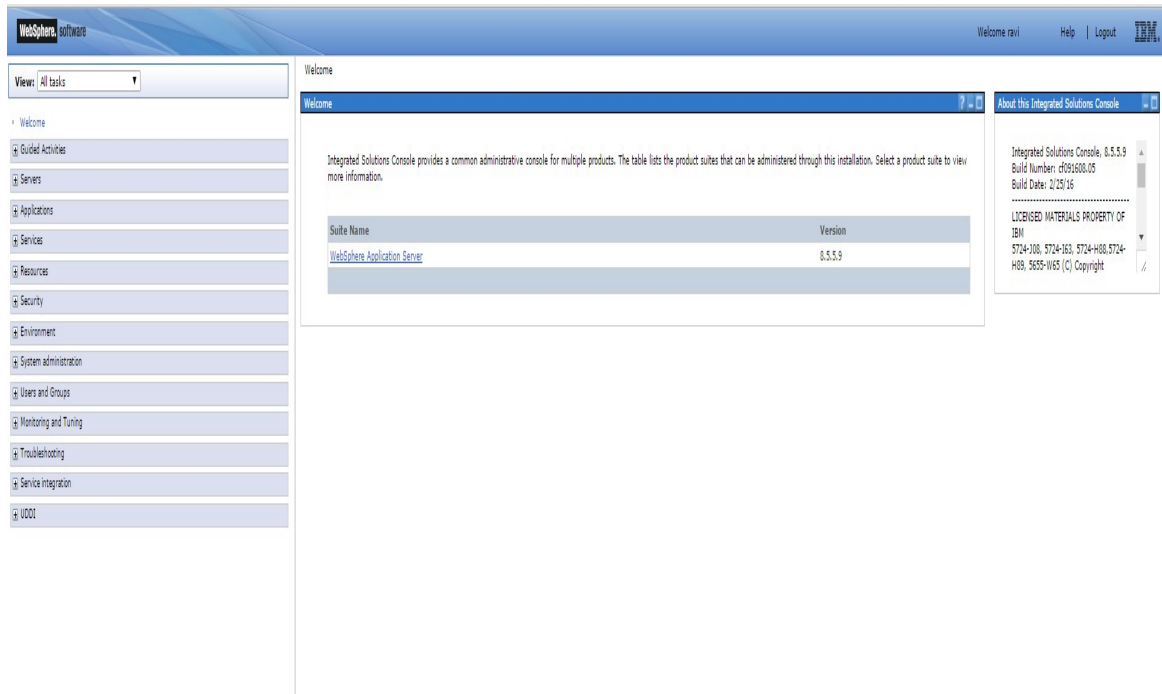
1.1 REST API Services Full Deployment

1. The following jars must be placed in the {WAS_Installed_Location}/IBM/WebSphere/AppServer/lib/ext folder of the server and restart.
 - a. **ojdbc6.jar**
 - b. **eclipselink.jar**
 - c. **jettison-1.3.7.jar**
2. Before deploying the EAR, please create an XA Datasource **jdbc/fcliteAPIDS** that will be referring to the API DB
3. Launch WebSphere console following screen will be displayed.

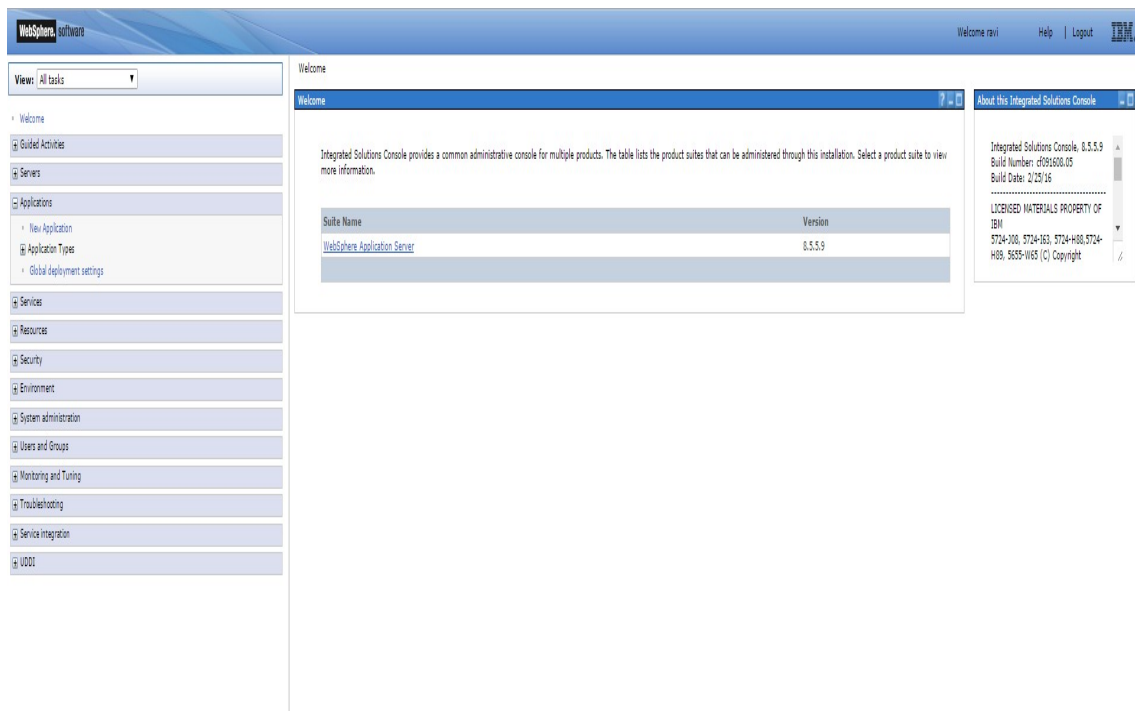


UserId: Enter user name

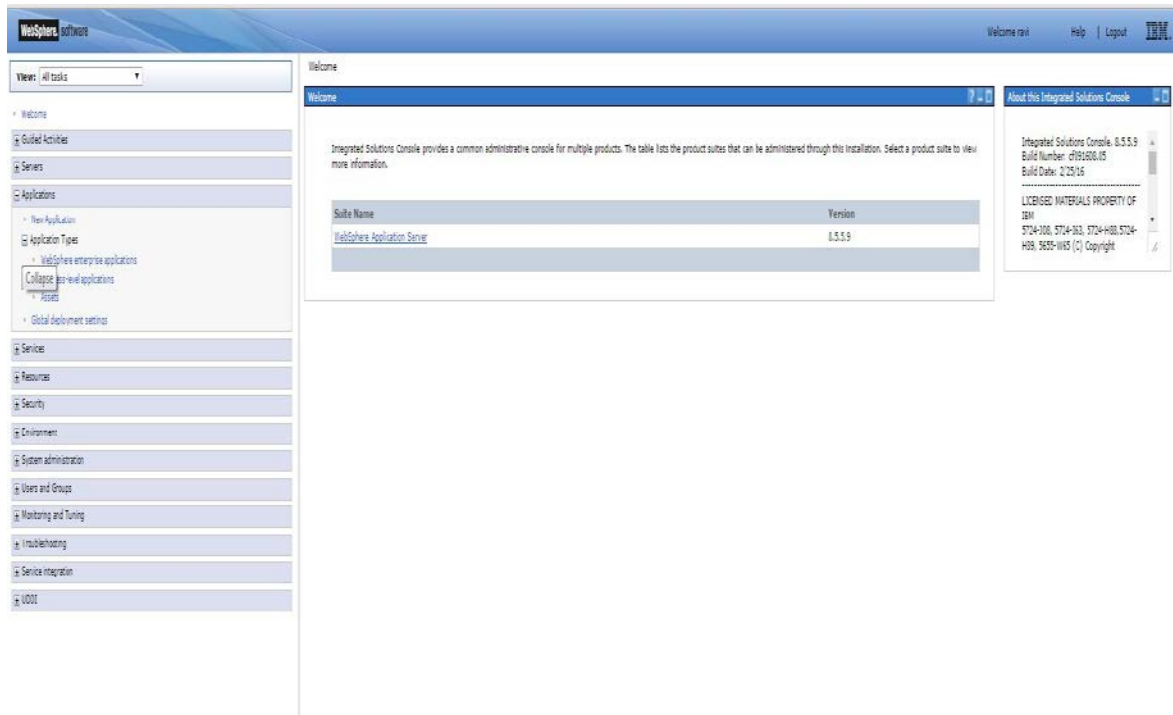
4. Click on 'Log in' and the following screen is displayed:



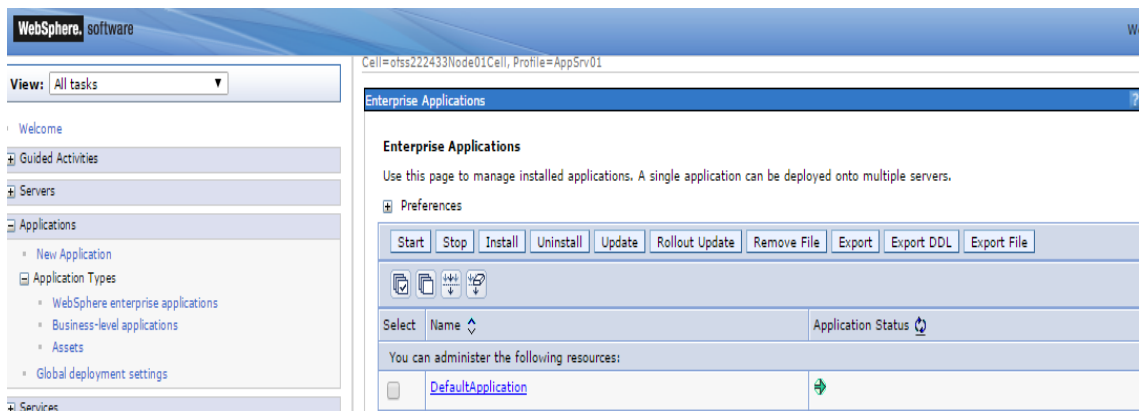
5. Expand Applications from the left panel and the following screen will be displayed.



6. Expand Application Types from the left panel and the following screen will be displayed.



7. Select WebSphere enterprise allocations and the following screen will be displayed.



8. Click on Install and the following screen will be displayed.

Preparing for the application installation

Specify the EAR, WAR, JAR, or SAR module to upload and install.

Path to the new application

☒ Local file system

Full path

Choose File FCLiteAPIEAR.ear

☐ Remote file system

Full path

Browse...

Next Cancel

Choose File

Browse and select the EAR file.

9. Click Next and the following screen will be displayed.

Preparing for the application installation

How do you want to install the application?

☒ Fast Path - Prompt only when additional information is required.

☐ Detailed - Show all installation options and parameters.

☒ Choose to generate default bindings and mappings

Previous Next Cancel

10. Click Next and the following screen will be displayed.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1: Select installation options

Step 2 Map modules to servers

Step 3 Metadata for modules

Step 4 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

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

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

11. Click Next and the following screen will be displayed.

Install New Application

Specify options for installing enterprise applications and modules.

Step 1 Select installation options

Step 2: Map modules to servers

Step 3 Metadata for modules

Step 4 Summary

Map modules to servers

Specify targets such as application servers or clusters of application servers where you want to install the modules that are contained in your application. Modules can be installed on the same application server or dispersed among several application servers. Also, specify the Web servers as targets that serve as routers for requests to this application. The plug-in configuration file (plugin-cfg.xml) for each Web server is generated, based on the applications that are routed through.

Clusters and servers:

☒ ☐

Select	Module	URI	Server
<input type="checkbox"/>	FCLiteServices-1.0.jar	FCLiteServices-1.0.jar,META-INF/ejb-jar.xml	WebSphere:cell=ofss222433Node01Cell,node=ofss222433Node01,server=server1
<input type="checkbox"/>	FCLiteWeb-1.0.war	FCLiteWeb-1.0.war,WEB-INF/web.xml	WebSphere:cell=ofss222433Node01Cell,node=ofss222433Node01,server=server1

Previous Next Cancel

12. Click Next and the following screen will be displayed.

Install New Application

Specify options for installing enterprise applications and modules.

[Step 1 Select installation options](#)
[Step 2 Map modules to servers](#)
→ [Step 3: Metadata for modules](#)
[Step 4 Summary](#)

Metadata for modules

The metadata-complete attribute defines whether the deployment descriptor for this module is complete. Set the metadata-complete attribute to "true" to merge and persist annotation-based metadata with existing XML-based deployment descriptor metadata to avoid scanning of annotation-based metadata each time the module is read. If the attribute remains "false", then the annotation-based metadata is scanned each time the module is read and can impact performance.

Module	URI	metadata-complete attribute
FCLiteServices-1.0.jar	FCLiteServices-1.0.jar,META-INF/ejb-jar.xml	<input type="checkbox"/>
FCLiteWeb-1.0.war	FCLiteWeb-1.0.war,WEB-INF/web.xml	<input type="checkbox"/>

[Previous](#) [Next](#) [Cancel](#)

13. Click Next and the following screen will be displayed.

Install New Application

Specify options for installing enterprise applications and modules.

[Step 1 Select installation options](#)
[Step 2 Map modules to servers](#)
[Step 3 Metadata for modules](#)
→ [Step 4: Summary](#)

Summary

Summary of installation options

Options	Values
Precompile JavaServer Pages files	No
Directory to install application	\$(APP_INSTALL_ROOT)/ofss222433Node01Cell/FCLiteAPIEAR.ear
Distribute application	Yes
Use Binary Configuration	No
Application name	FCLiteAPIEAR
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	Yes
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	Click here

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

14. Click Finish and the following screen will be displayed and Save the EAR deployed.

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.

ADMA50161: Installation of FCLiteAPIEAR started.

ADMA50671: Resource validation for application FCLiteAPIEAR completed successfully.

ADMA50581: Application and module versions are validated with versions of deployment targets.

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

ADMA50811: The bootstrap address for client module is configured in the WebSphere Application Server repository.

ADMA50531: The library references for the installed optional package are created.

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

ADMA50011: The application binaries are saved in /scratch/programs/IBMWebSphere/AppServer/profiles/AppSrv01/wstemp/0/workspace/c/cells/ofss222433Node01Cell/applications/FCLiteAPIEAR.ear/FCLiteAPIEAR.ear

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

SECJ04001: Successfully updated the application FCLiteAPIEAR with the appContextIDForSecurity information.

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

ADMA50051: The application FCLiteAPIEAR is configured in the WebSphere Application Server repository.

ADMA51131: Activation plan created successfully.

ADMA50111: The cleanup of the temp directory for application FCLiteAPIEAR is complete.

ADMA50131: Application FCLiteAPIEAR installed successfully.

Application FCLiteAPIEAR 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.

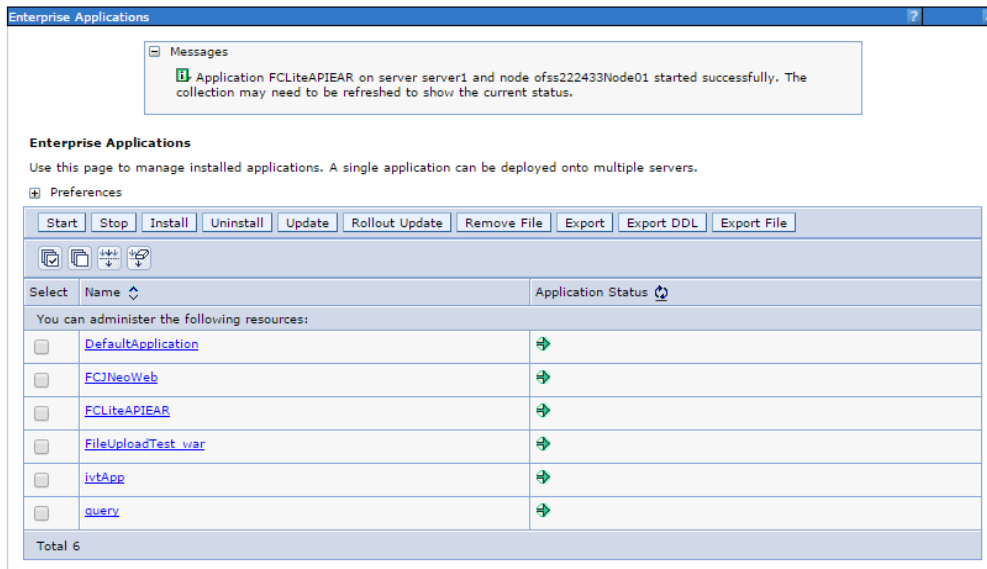
[Manage Applications](#)

15. Once the EAR is deployed click on WebSphere enterprise applications following screen will be displayed where the deployed EAR can be found in resources column.

Select	Name	Application Status
<input type="checkbox"/>	DefaultApplication	➔
<input type="checkbox"/>	FCJNeoWeb	➔
<input type="checkbox"/>	FCLiteAPIEAR	✖
<input type="checkbox"/>	FileUploadTest_war	➔
<input type="checkbox"/>	jvtApp	➔
<input type="checkbox"/>	query	➔

Total 6

16. Check the application/EAR and click on Start the following screen will be displayed and your application will be in running.



Note: Before deploying the EAR, please create an XA Datasource **jdbc/fcliteAPIDS** that will be referring to the API DB. More details of creating the data source can be found in the Resource Creation document.

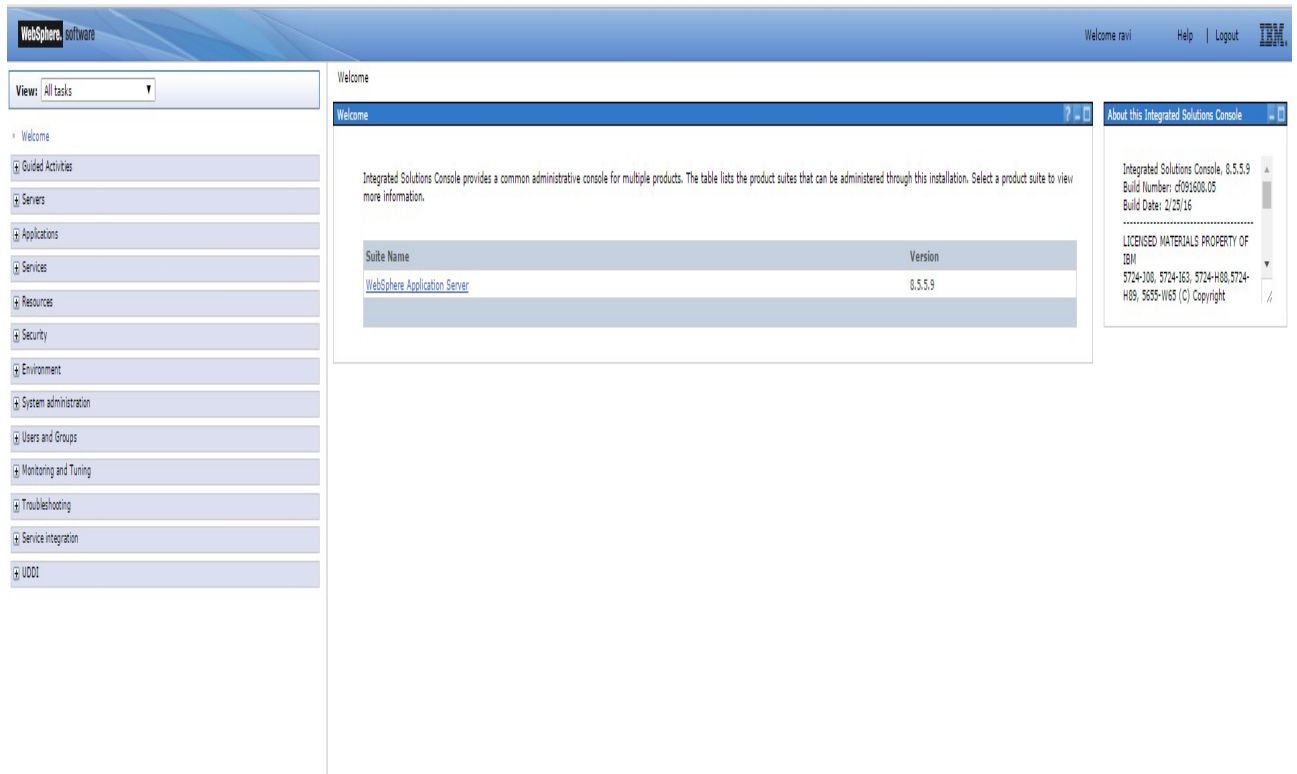
1.2 Enabling logs for REST Application

1. Launch WebSphere console following screen will be displayed.

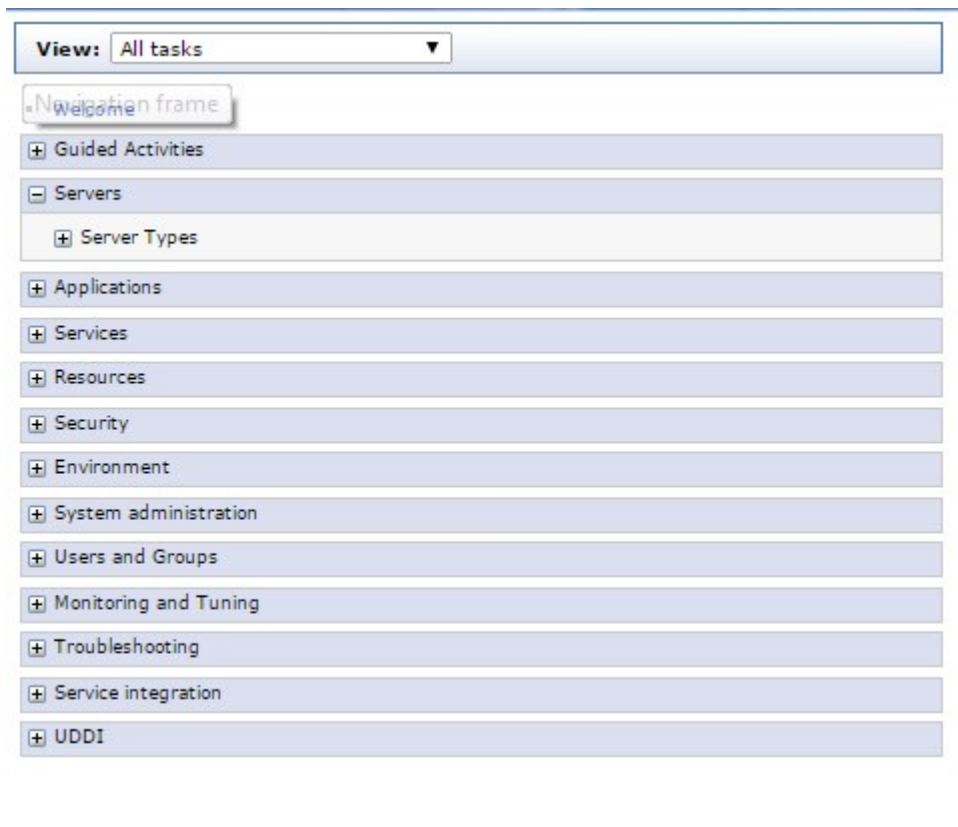


UserId: Enter user name

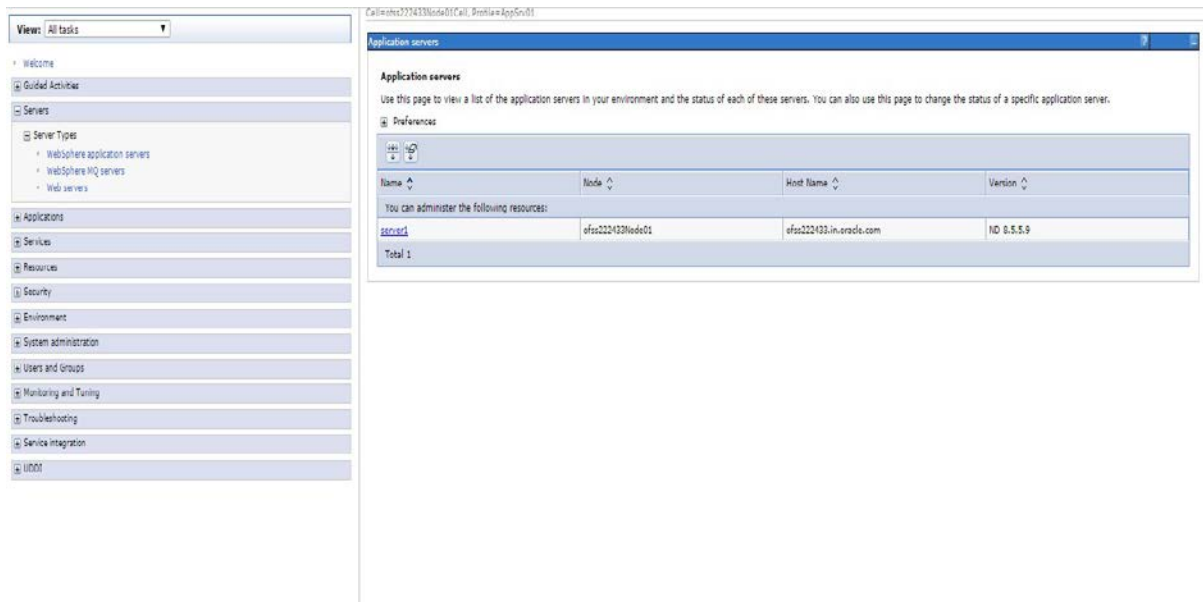
2. Click on 'Log in' and the following screen is displayed:



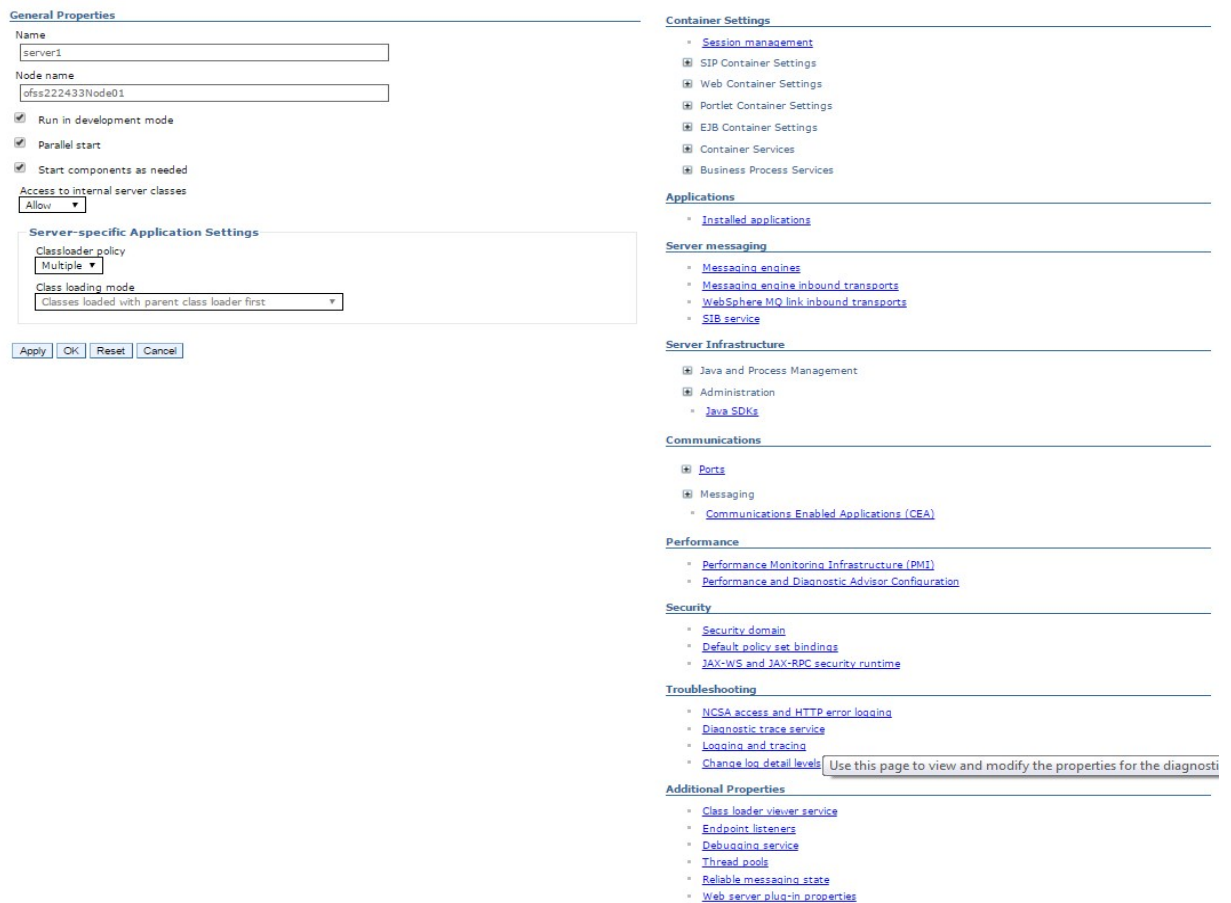
3. Expand 'Servers' from the left panel and the following screen is displayed:



4. Expand 'Server Type' and Click WebSphere application servers and the following screen is displayed:



5. Click server1 and the following screen is displayed:



6. Click Diagnostic trace service and the following screen is displayed:

Application servers

Application servers > server1 > Diagnostic trace service

Use this page to view and modify the properties of the diagnostic trace service. Diagnostic trace provides detailed information about how the application server components run within this managed process. Changes on the Configuration panel apply when the server is restarted. Changes on the Runtime panel apply immediately.

Configuration Runtime

General Properties

Trace Output

☐ None

☐ Memory Buffer

Maximum Buffer Size
8 thousand entries

☒ File

Maximum File Size
20 MB

Maximum Number of Historical Files
5

File Name
\$(SERVER_LOG_ROOT)\trace.log

Trace Output Format
Basic (Compatible)

Additional Properties

[Change log detail levels](#)

Change log detail levels

Apply OK Reset Cancel

7. Click Change log detail levels and the following screen is displayed:

Application servers

Application servers > server1 > Diagnostic trace service > Change log detail levels

Use log levels to control which events are processed by Java logging. Click Components to specify a log detail level for individual components, or click Groups to specify a log detail level for a predefined group of components. Click a component or group name to select a log detail level. Log detail levels are cumulative; a level near the top of the list includes all the subsequent levels.

Configuration Runtime

General Properties

Change log detail levels

☐ Disable logging and tracing of potentially sensitive data (WARNING: This might cause the log detail level setting to be modified when it is applied on the server.)

Select components and specify a log detail level. Log detail levels specified here will apply to the entire server. Expand Components and Groups and click Components to specify a log detail level for individual components, or click Groups to specify a log detail level for a predefined group of components. Click a component or group name to select a log detail level. Log detail levels are cumulative.

=info: com.ofss.=all

Components and Groups

Correlation

Enable log and trace correlation so entries that are serviced by more than one thread, process, or server will be identified as belonging to the same unit of work.

☐ Enable log and trace correlation

☒ Include request IDs in log and trace records

☐ Include request IDs in log and trace records and create correlation log records

☐ Include request IDs in log and trace records, create correlation log records, and capture data snapshots

Apply OK Reset Cancel

Change log detail levels

Add the entry com.off.*=all to the existing entry (i.e., now it will be *=info: com.ofss.*=all)

8. Restart the server post the change

9. The logs will now be written into the log area that is specified in the configuration **Application servers > server1 > Diagnostic trace service**.



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

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

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