Oracle® Financial Services Performance Analytics

Installation Guide

Release 8.1.2.5.0
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Oracle Financial Services Performance Analytics Installation Guide, Release 8.1.2.5.0

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Contents

1 About This Guide

2 OFS Performance Analytics Applications Pack (OFS PFT Pack)

2.1 Pre-installation Requirements 2-1
2.2 Installing This Release 2-2

3 Post-installation Steps

4 RPD, Catalog Deployment, and D3 Configuration for OAS and OBIEE

4.1 Data Visibility 4-1
4.1.1 Creating OBIEE Roles 4-1
4.1.2 Data Population as per Visibility Changes 4-5
4.2 Deploying the Report Analytics 4-6
4.2.1 Port OBIEE Artifacts to Oracle Analytics Server 4-6
4.2.2 Deploying OFS IPA, RPA, and EFPA RPD Files 4-6
4.2.3 Deploying IPA, RPA, and EFPA Catalog Files 4-7
4.3 Post-Installation Steps 4-8
4.4 Deploying D3 on OBIEE Server 4-9

Index

1

About This Guide

OFS PCD Application Pack Installation Guide is intended for Administrators and Implementation Consultants who handle installing and maintaining the application pack components.

Audience

This document assumes that you have experience in installing Enterprise Components and basic knowledge about the following:

- OFS PCD Applications Pack Components
- OFSAA Architecture
- UNIX Commands
- Database Concepts
- Web Server or Web Application Server

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 Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Resources

- OFS Price Creation and Discovery
- OFS Analytical Applications Infrastructure
- OFSAA Licensing Information User Manual
- OFS Analytical Applications Technology Matrix

Conventions

The following text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

2

OFS Performance Analytics Applications Pack (OFS PFT Pack)

OFS Performance Analytics Pack Installation Guide Maintenance Level (ML) release v8.1.2.5.0 includes all the bug fixes and minor enhancements since the previous Minor release v8.1.2.0.0.

This ML release of OFS Performance Analytics Pack (OFS PFT Pack) can be installed on a setup with any OFS Performance Analytics Pack (OFS PFT Pack) Release v8.1.2.0.0.

2.1 Pre-installation Requirements

Ensure that the following prerequisites are present before you install this Maintenance Release:

- The minimum patch level installed must be OFS PFT Release 8.1.2.0.0.

  > **Note:**
  >
  > See the OFS Analytical Applications Technology Matrix for hardware and software requirements. For more details on Java 11, see the Update the OFSAA 8.1.1.x Java 8 Instance to Java 11 section.

- The unlimited cryptographic policy for Java is enabled during the installation of OFS FTP 8.1.2.0.0. For more information, see the Enabling Unlimited Cryptographic Policy section in the OFS Analytical Applications Infrastructure Administration Guide.
- Install Python 3.12.4.
  Uninstall the following Python libraries (if this is an upgrade) using PIP uninstall:
  - ofsa_ml_tsstatstest
  - ofsa_ml_tsregression
  - ofsa_ml_tsprocessing
  - ofsa_ml_tsforecast
  - ofsa_ml_common_functions

  Install the following Python libraries:
  - cx_Oracle 8.1.0
  - imbalanced-learn 0.12.3
  - matplotlib 3.9.0
  - numpy 1.26.4
  - oracledb 2.2.1
  - pandas 2.2.2
  - plotly 5.20.0

- pmdarima 2.0.4
- requests 2.32.3
- scikit-learn 1.5.1
- scipy 1.13.1
- seaborn 0.13.2
- setuptools 75.6.0
- SQLAlchemy 2.0.30
- statsmodels 0.14.2
- wheel 0.36.2

Oracle Linux 9 Server Support

The OFS AAI 8.1.2.5.x and later MLs support Oracle Linux 9 Server in addition to the continued support on Oracle Linux 8 and Oracle Linux 7.

> **Note:**
>
> The Oracle Linux 9 Server Configuration section applies to upgrade installation of OFS AAI and the New Installation of OFS AAI 8.1.2.0.0 with Oracle Linux 9 Server section applies to new installation of OFS AAI.

New Installation of OFS AAI 8.1.2.0.0 with Oracle Linux 9 Server: To install the OFS AAI 8.1.2.0.0 base installer with Oracle Linux 9 Server, follow the instructions in the My Oracle Support Doc ID 3067623.1 and then upgrade to OFS AAI 8.1.2.5.x.

2.2 Installing This Release

To install this release patch, follow these steps:

1. Log in to My Oracle Support and search for **37569313** under the **Patches & Updates** tab.
2. Download the OFS Performance Analytics Pack 8.1.2.5.0 ML Release archive file and copy it to your OFSAA server in Binary mode.

   > **Note:**
   >
   > There are different archive files for different operating systems such as Solaris, RHEL, or OEL.

3. Stop all the OFS AAI services. For more information, see the *Stopping Infrastructure Services* section in the OFS AAI Installation and Configuration Guide. section.
4. Log in to the OFSAA server as a non-root user and navigate to the `$FIC_HOME` directory.
5. Assign WRITE permission to the files or directories such as `commonscripts`, `EXEWebService`, `ficapp`, `ficweb`, and `ficdb` using the command:
   `chmod -R 775 *`

6. If you have the Unzip utility, skip to the next step or download the Unzip utility (OS-specific) and copy it in Binary mode to the directory that is included in your PATH variable, typically `$HOME` path or directory in which you have copied the 8.1.2.5.0 ML.
   - Uncompress the unzip installer file using the command: uncompress unzip_<os>.Z

     > **Note:**
     >
     > If you notice an error message "uncompress: not found [No such file or directory]" when the package is not installed, contact your UNIX administrator.

   - Assign EXECUTE permission to the utility using the command: `chmod 751 unzip_<os>` For example, `chmod 751 unzip_linux`
7. Extract the contents of the 8.1.2.5.0 ML archive file using one of the following commands:
   `unzip_<os> -a <name of the file to be unzipped>`

   Or

   `unzip -a <name of the file to be unzipped>`

   > **Note:**
   >
   > The “-a” option is mandatory to extract the archive file. An example for the Linux operating system, `unzip -a p 37569313_81250_linux.zip`
8. Navigate to the `/OFS_PFT_PACK/appsLibConfig/conf` directory and configure the parameter `UPLOAD_MODEL` to 1 in the `params.conf` file.

   > **Note:**
   >
   > Model Upload Process: Input values required are 0 or 1.
   >
   > - 1 indicates Trigger Model Upload
   > - 0 indicates Skip Model upload process
   >
   > If the value is 1, then choose a type of Model Upload from the following:
   >
   > - 0 indicates Released Data Model
   > - 1 indicates the Customized Data Model
9. Navigate to the `OFS_PFT_PACK` directory to assign EXECUTE permission to the ML patch installer script using the command:
   `chmod 755 OFSAAIUpdate.sh`
10. Complete the patch upgrade using the command: `./OFSAAIUpdate.sh`
11. Verify if the ML patch is applied successfully by checking the log file generated in the `OFS_PFT_PACK/logs` and `OFS_PFT_PACK/OFS_PFT/logs` directory. You can ignore error codes ORA-00001 and ORA-02292 in the log file. For any other errors, contact For any other errors, contact My Oracle Support.

> **Note:**
>
> For an upgrade on Hive Infodom, you may encounter an exception "PL/SQL: ORA-00942: table or view does not exist". You can ignore this error.

12. After successful installation of the ML, follow these steps:
    - Run the following command to execute the .profile file: `. $HOME/.profile`
    - Clear the application cache. Navigate to the following path depending on the configured web application server and delete the files.
      - Tomcat: `<Tomcat installation folder>/work/Catalina/localhost/<Application name>/org/apache/jsp`
      - WebLogic: `<WebLogic installation location>/domains/<Domain name>/servers/<Server name>/tmp/_WL_user/<Application name>`
      - WebSphere: `<WebSphere installation directory>/AppServer/profiles/<Profile name>/temp/<Node name>/server1/<Application name>/<.war file name>`
13. Delete the existing EAR or WAR file available in the `$FIC_HOME/ficweb` directory.
14. Generate the application EAR or WAR file and redeploy the application onto your configured web application server. For more information, see OFS AAI Installation and Configuration Guide.
15. In the Command prompt, navigate to the `$FIC_HOME/FTPWebService` directory of the WEB tier and type `./ant.sh`. This triggers the creation of the EAR (`<contextname>.ear`) or WAR (`<contextname>.war`) file. The EAR or WAR file is created in the `$FIC_HOME/FTPWebService` directory of the WEB tier.
16. After the EAR or WAR file is created, a confirmation message stating that the build was successful is displayed.
17. Stop the webserver.
18. Take a backup of the EAR (`<contextname>.ear`) or WAR (`<contextname>.war`) file.
19. Deploy the EAR (`<contextname>.war`) WAR (`<contextname>.ear`) file in the web server.
20. Clear the webserver cache.
21. Restart all the OFSAAI services. For more information, see the *Starting Infrastructure Services* section in the OFS AAI Installation and Configuration Guide.

3
Post-installation Steps

After completing the installation, perform the following post-installation procedures.

For Python

Copy all the files including folders and sub-folders (if any) from Source to Target as given below:

- **Source**: `$OFSAA_HOME/dumps/python/dist`
- **Target**: `$OFSAA_HOME/ficdb/cmdFiles/PY`

Changes to .profile File

You should add an additional line as follows in the .profile file:

```
export PYTHONPATH=$OFSAA_HOME/ficdb/cmdFiles/PY
```

4

RPD, Catalog Deployment, and D3 Configuration for OAS and OBIEE

This chapter provides the configuration procedures for RPD, Catalog Deployment, and D3 for OAS and OBIEE.

Topics:

- Data Visibility
- Deploying the Report Analytics
- Deploying D3 on the OBIEE Server

4.1 Data Visibility

This has been implemented with the set of tables and OBIEE roles. Roles Created in OBIEE is to restrict data based on Manager Hierarchy.

Topics:

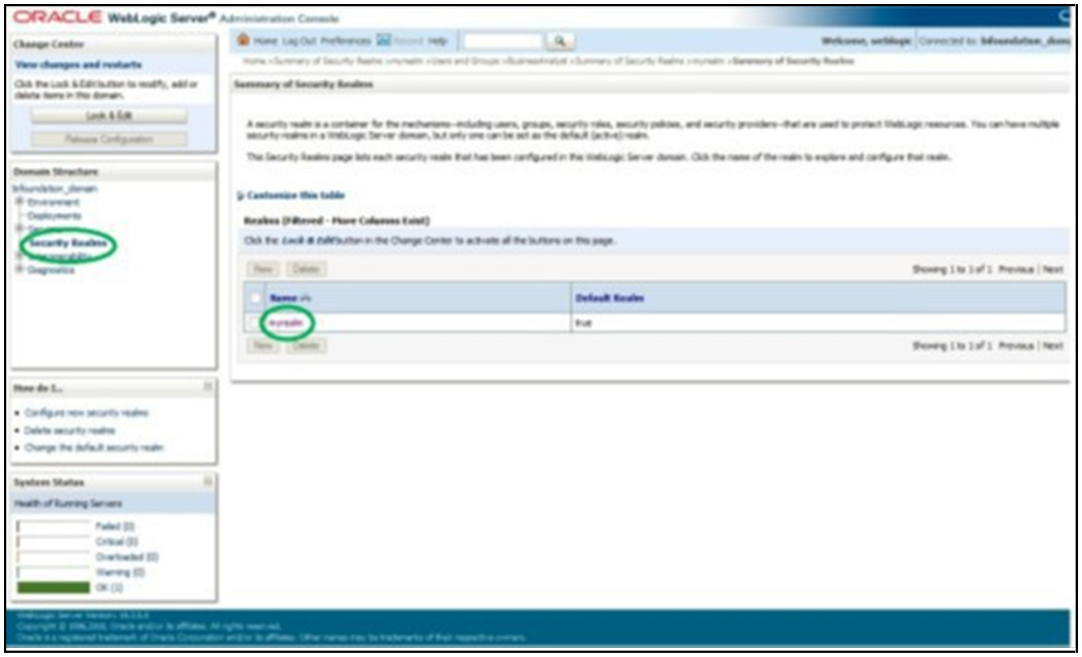
- Creating OBIEE Roles
- Data Population as per Visibility Changes

4.1.1 Creating OBIEE Roles

To create the OBIEE Roles, follow these steps:

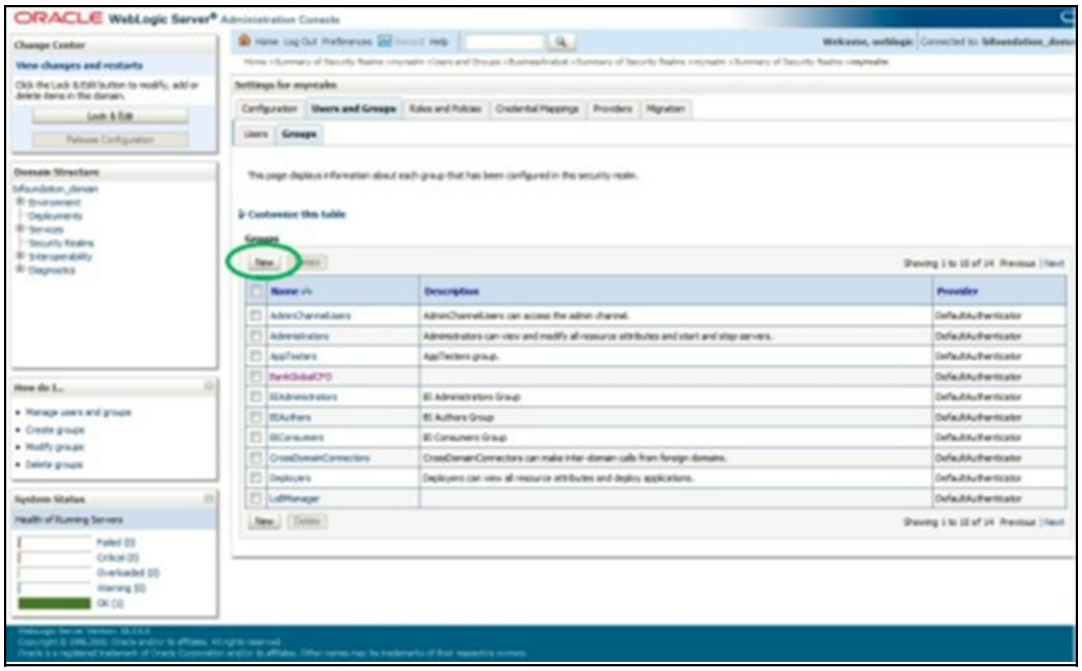
1. Open the Admin Console of OBIEE.
2. Click on **Security Realms** under Domain Structure.
3. Click on **myrealm** under Realms.

Figure 4-1 WebLogic Server Administration Console – Security Realms



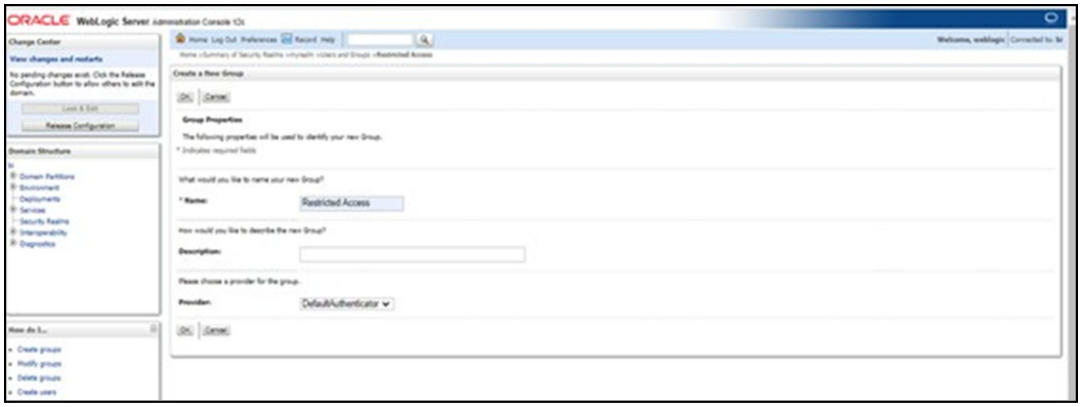
4. Click on **Groups** tab of **User and Groups**.

Figure 4-2 Groups Tab



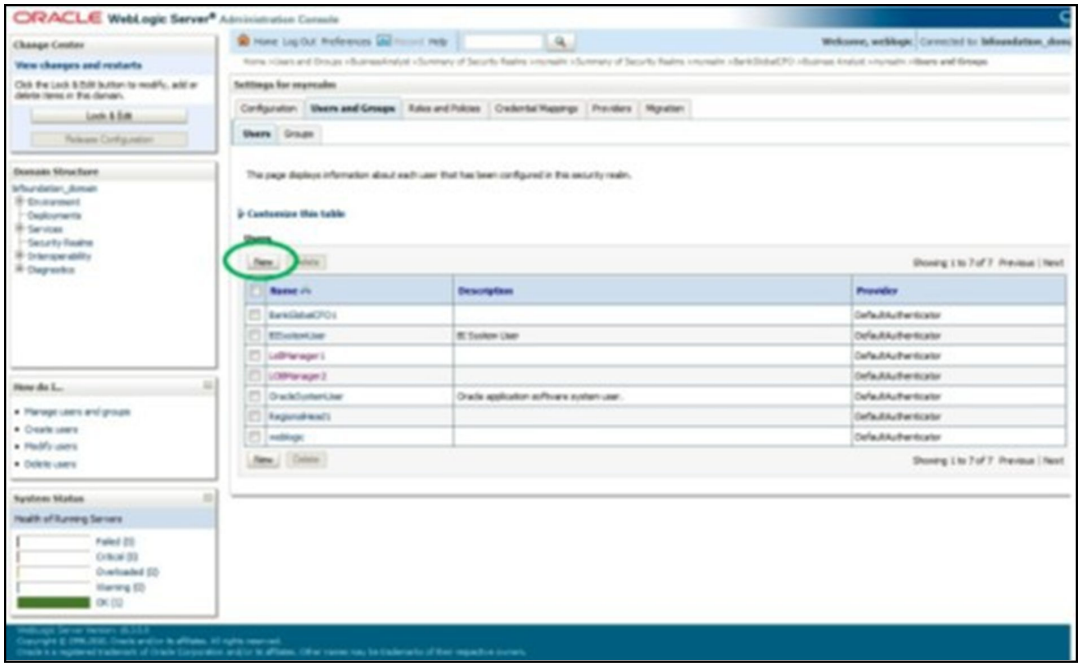
5. Click on **New** and create new user group as ‘Restricted Access’.

Figure 4-3 New User Group Creation



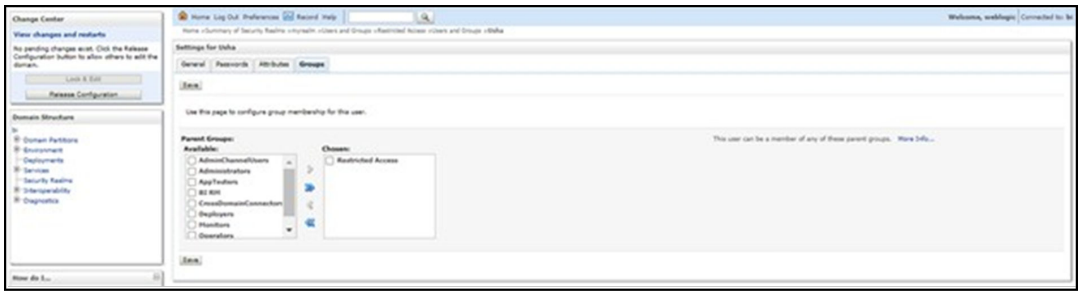
6. Create a new user under **Users** tab of **Users and Groups**.

Figure 4-4 New User Creation



7. Map the newly created users to ‘Restricted Access’ group, which need Data Visibility.

Figure 4-5 Mapping New Users to Restricted Access Group

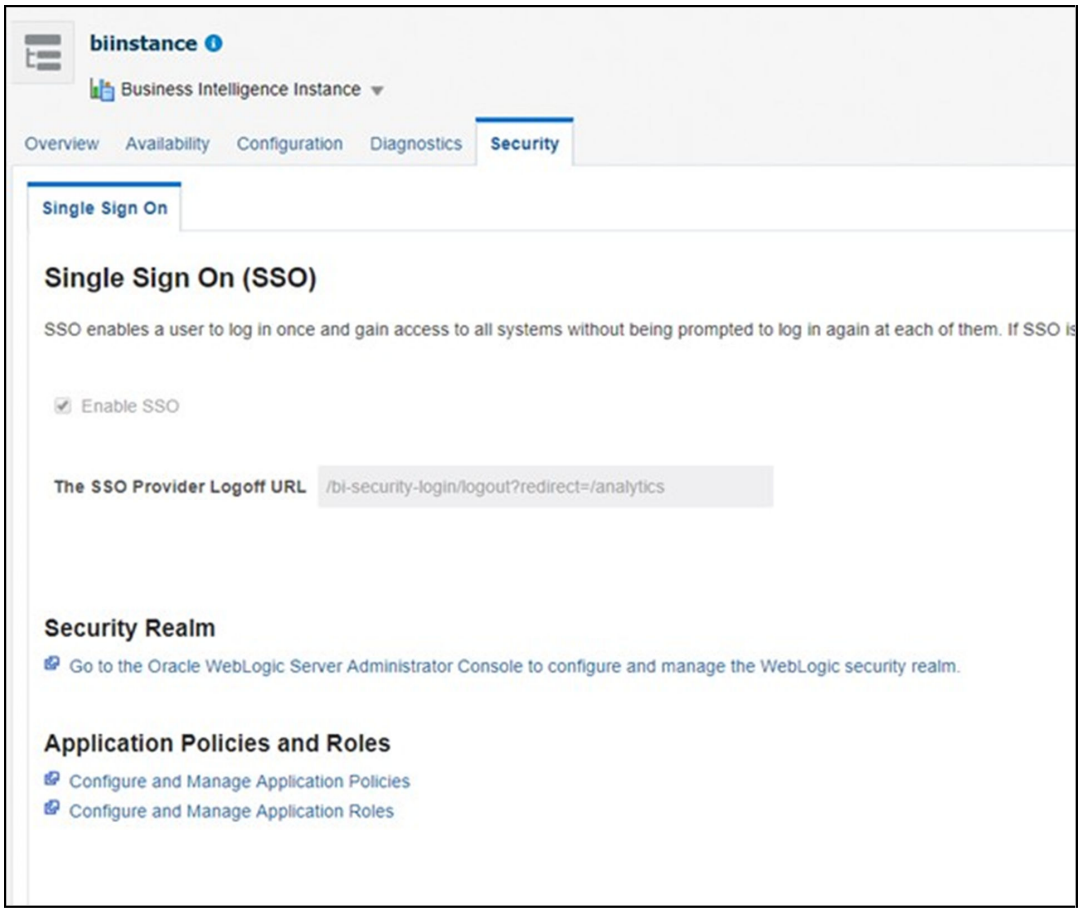


8. Close the Admin Console of OBIEE.
9. Open Enterprise Manager of OBIEE.
10. Click on **biinstance** under Business Intelligence.

Figure 4-6 BI Instance

11. Click on **Security** under biinstance.

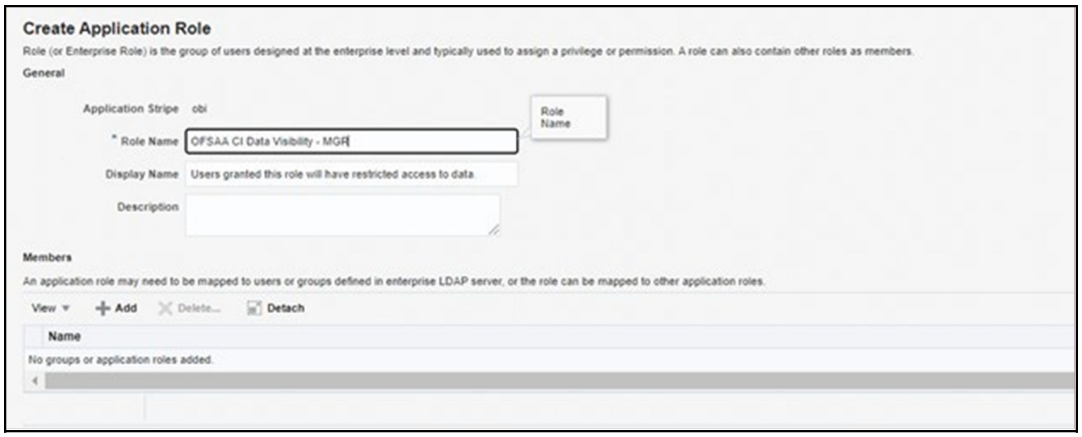
Figure 4-7 Security Tab



12. Click on **Configure and Manage Application Roles** to create Application Roles.
13. Map the newly created user group **Restricted Access** to the **BI Consumer Role**.

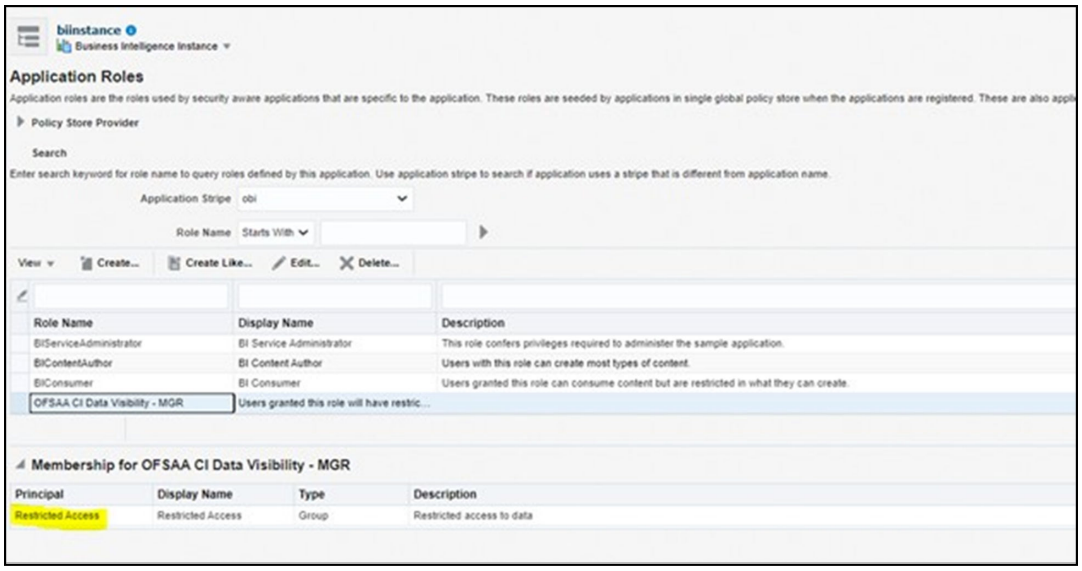
14. Click on **Create** and name as **OFSAA CI Data Visibility - MGR** role . Ensure to use the same name as it is referenced in RPD failed to do this should have access to all reports data.

Figure 4-8 Create Application Role



15. Map the user group, which need data visibility to the **OFSAA CI Data Visibility – MGR**.

Figure 4-9 OFSAA CI Data Visibility- MGR



4.1.2 Data Population as per Visibility Changes

- **FSI_M_USER**: This table stores all the users that have access to OBIEE. The User ID in this table must match the user's login ID of OBIEE.
- **FSI_M_USER_MANAER_MAP**: This table needs only those users details who need Restricted Access. The V_USERNAME has to be inserted with the login username created in OBIEE. `V_MANGER_CODE` has to be inserted with the manager code of the corresponding user from `DIM_MANAGEMENT` table. `V_USER_TYPE` is updated as 'R' which denotes Restricted Access. Fail to update this table may end up with report errors.

> **Note:**
>
> Users insertion in `FSI_M_USER` and `FSI_M_USER_MANAGER_MAP` has to be done directly into the table. For example, in presence of Single Signon System, these tables need to be loaded with data from Single Signon System directly.

4.2 Deploying the Report Analytics

The deployment of IPA, RPA, and EFPA Report Analytics involves the following tasks:

Topics:

- Port OBIEE Artifacts to Oracle Analytics Server
- Deploying OFS RPA RPD File
- Deploying OFS RPA Catalog Files

4.2.1 Port OBIEE Artifacts to Oracle Analytics Server

You can deploy the OBIEE artifacts in two ways as follows:

- Directly deploy the artifacts distributed with OFSAA on the Oracle Analytics Server (OAS).
- Perform an in-place upgrade from OBIEE to OAS and deploy the artifacts. For more information, see Upgrade from Oracle Business Intelligence 12c documentation.

> **Note:**
>
> See the MOS Doc ID 2648055.1 to confirm if your application or pack is certified for Oracle Analytics Server.

4.2.2 Deploying OFS IPA, RPA, and EFPA RPD Files

To deploy the RPD file, follow these steps:

1. Copy the RPD file from the following location for the IPA, RPA, and EFPA applications.

Table 4-1 RPD Files

Application	File Name	Location
IPA and RPA	OFSAA_Analytics.rpd	$FIC_HOME/OFS_RPA_DASHBOARDS/12.2.1.4.0/datamode l
EFPA	OFS_EFPA_Analytics.rpd	$FIC_HOME/OFS_EFPA_DASHBOARDS/12.2.1.4.0/datamod el

> **Note:**
>
> It is recommended to merge the OFSAA_Analytics.rpd and OFS_EFPA_Analytics.rpd files by creating fresh dummy.rpd files. You can then ignore the merge issues.
> Keep the merged rpd as the base in order to avoid the merge errors.

2. Paste the copied RPD file in the Windows machine where the OBIEE Windows Administration client or OAS Analytics client is installed and deploy. For more information on deployment, refer to your OBIEE 12c or OAS documentation.
3. Open the RPD file online with the default password.

> **Note:**
>
> The RPD files are configured with a default password, which you require to open for the first time. See the MOS Doc ID: 2691681.1 for the password.

4. In the OBIEE Windows Administration client, from the File menu, select **Save**.
5. Click **Yes** in the dialog box, Do you want to check global consistency?
6. Click **OK** to acknowledge the message, Consistency check didn't find any errors, warning, or best practices violations.
   You can ignore the warnings on the consistency check.

4.2.3 Deploying IPA, RPA, and EFPA Catalog Files

To deploy the Catalog files, follow these steps:

1. Copy the Catalog files from the following locations for the OFS IPA and OFS RPA application.

Table 4-2 Catalog Files

Application	File Name	Location
IPA	OFSAA_Analytics.catalog	$FIC_HOME/OFS_IPA_DASHBOARDS/12.2.1.4.0/content/catalog
IPA	OFSAA_Analytics_IPA.catalog	$FIC_HOME/OFS_IPA_DASHBOARDS/12.2.1.4.0/content/catalog
RPA	OFSAA_Analytics_RPA.catalog	$FIC_HOME/OFS_RPA_DASHBOARDS/12.2.1.4.0/content/catalog
EFPA	• OFS_EFPA_Management Reporting.catalog • OFS_EFPA_Financial Reporting.catalog	$FIC_HOME/OFS_EFPA_DASHBOARDS/12.2.1.4.0/content/catalog

2. Paste the copied catalog files to a local folder.
3. Open the analytics OBIEE or OAS URL-(http://<ipaddress>:<port>/analytics) and login with your server credentials.
4. Click the **Catalog** link available on the top right corner.
5. Click **Shared Folders** and then click **Un-Archive**.
6. Browse the path where catalog files are copied in the local folder. Select a file and click **Open**. Click **OK**. Repeat this for the remaining catalog files.
7. Click any of the **Dashboards** and verify if all the reports are available.

4.3 Post-Installation Steps

After successfully deploying the RPD and Catalog files, perform the following steps:

1. Apply the patch **Bundle Patch** for OBIEE 12.2.1.4.0. See the **Readme** packaged with the patch for further instructions on how to install the patch. See the Doc ID 2070465.1 for more information about the bundle patch.
2. Do the following changes in the instanceconfig.xml file:
   a. Backup and edit the instanceconfig.xml file located at:
   `$ORACLE_HOME/user_projects/domains/bi/config/fmwconfig/biconfig/OBIP S`

Table 4-3 Tags and Changes for instanceconfig.xml File

Tag to be changed or added	Changes
Change the following tag: <Views>	<Charts> <DefaultWebImageType>html5</DefaultWebImageType> <MaxVisibleColumns>10000</MaxVisibleColumns> <MaxVisiblePages>600000</MaxVisiblePages> <MaxVisibleRows>900000</MaxVisibleRows> <MaxVisibleSections>600000</MaxVisibleSections> <JavaHostReadLimitInKB>8192</JavaHostReadLimitInKB> </Charts> <Cube> <CubeMaxRecords>9999999</CubeMaxRecords> <CubeMaxPopulatedCells>999999999</CubeMaxPopulatedCells> </Cube>
Change the followingtag: <Security>	<Security> <CheckUrlFreshness>false</CheckUrlFreshness> <EnableSavingContentWithHTML>true</EnableSavingContentWithHTML> </Security>

Table 4-3 (Cont.) Tags and Changes for instanceconfig.xml File

Tag to be changed or added	Changes
Add the following tag: <ServerIns tance>	<Prompts> <MaxDropDownValues>256</ MaxDropDownValues> <ResultRowLimit>65000</ResultRowLimit> <AutoApplyDashboardPromptValues>true</ AutoApplyDashboardPromptVal ues> <AutoSearchPromptDialogBox>true</ AutoSearchPromptDialogBox> <AutoCompletePromptDropDowns> <SupportAutoComplete>true</ SupportAutoComplete> <CaseInsensitive>true</CaseInsensitive> <MatchingLevel>MatchAll</MatchingLevel> <ResultsLimit>50</ResultsLimit> </AutoCompletePromptDropDowns> <ShowNullValueWhenColumnIsNullable>never </ShowNullValueWhenColumn IsNullable> </Prompts>

b. Save and close the file.

c. Restart the presentation server for the changes to take effect.

3. Do the following changes in the `NQSConfig.INI` file.
Evaluate function is used in filters of many reports. To support the evaluation function in reports, the value of `EVALUATE_SUPPORT_LEVEL` must be set as `2` instead of `0` in the `NQSConfig.INI` file of the OBIEE server present in the `$ORACLE_HOME/user_projects/domains/bi/config/fmwconfig/biconfig/OBIS` directory.

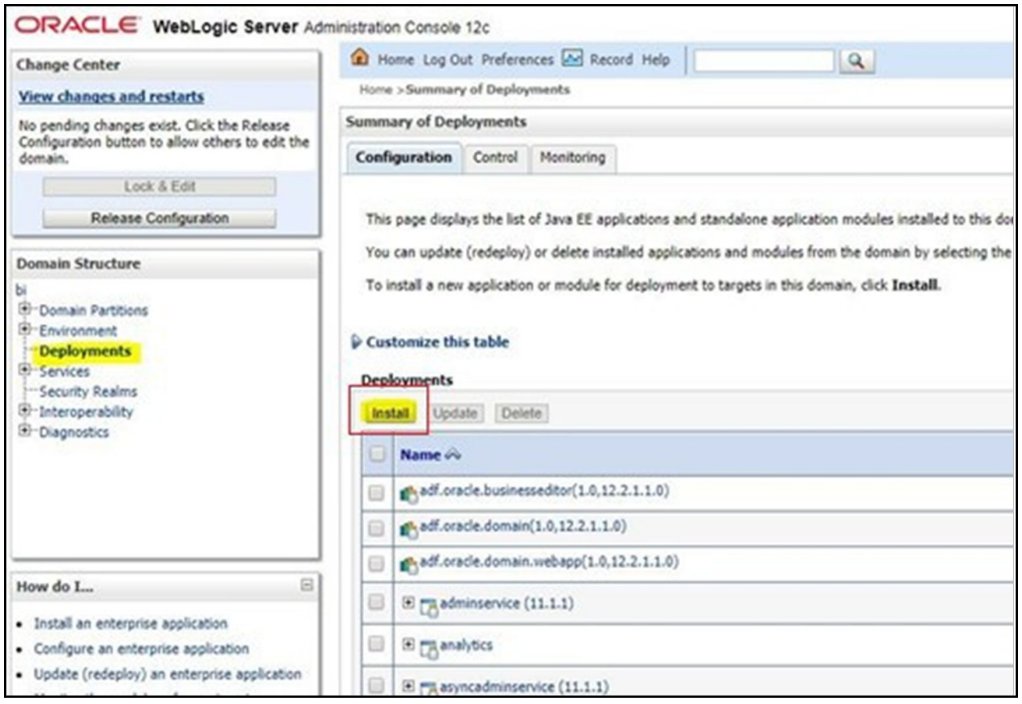
4.4 Deploying D3 on OBIEE Server

This section provides detailed steps to install and configure D3, a visualization framework, which is used in a few reports of the OFS RPA application.

To deploy the D3 in the OBIEE server, follow these steps:

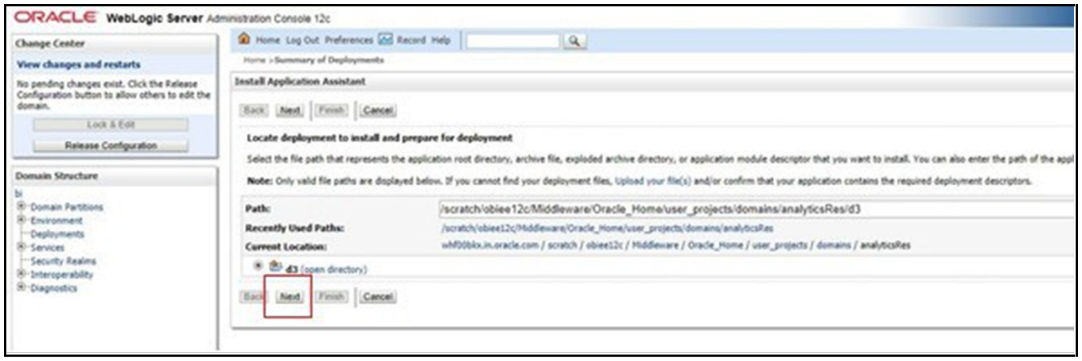
1. Download version D3 v.5.4.0 from the D3 website:
https://github.com/d3/d3/releases/download/v5.4.0/d3.zip
2. Unzip the contents of d3.zip.
3. Copy the `d3.min.js` file and place it under `analyticsRes/d3` from `$FIC_HOME/OFS_RPA_DASHBOARDS` directory and paste the `analyticsRes` folder to OBIEE Server at the following location:
`$ORACLE_HOME/user_projects/domains/`
4. Log in to the WebLogic server, navigate to **Deployments** in your Domain Structure, and then click **Install**.

Figure 4-10 WebLogic Administration Console



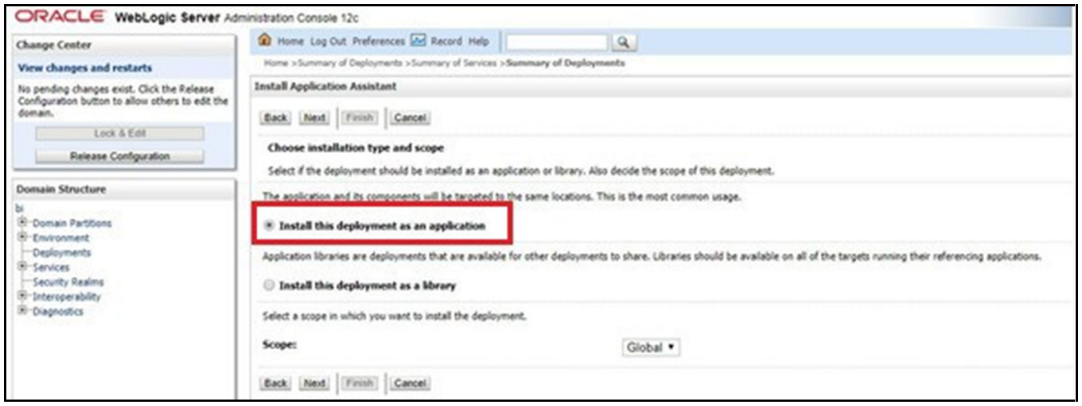
5. Paste the full path of the D3 directory, select D3 (open directory), and click **Next**.

Figure 4-11 Locale Deployment



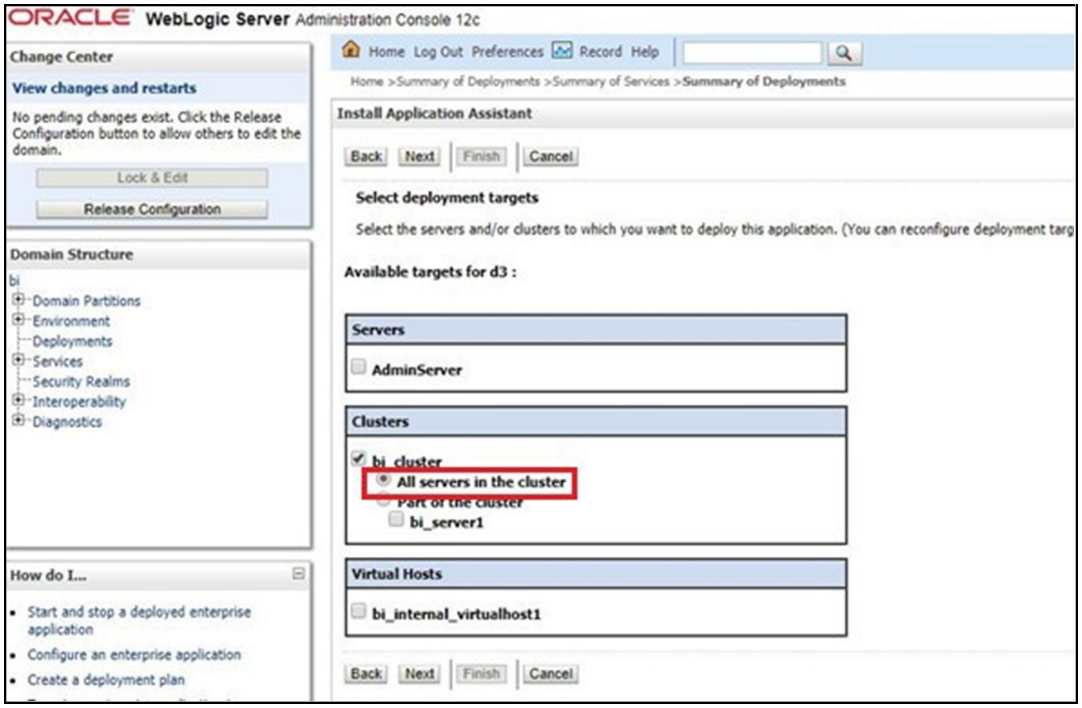
6. Select **Install this deployment as an application** and click **Next**.

Figure 4-12 Installation Type Selection



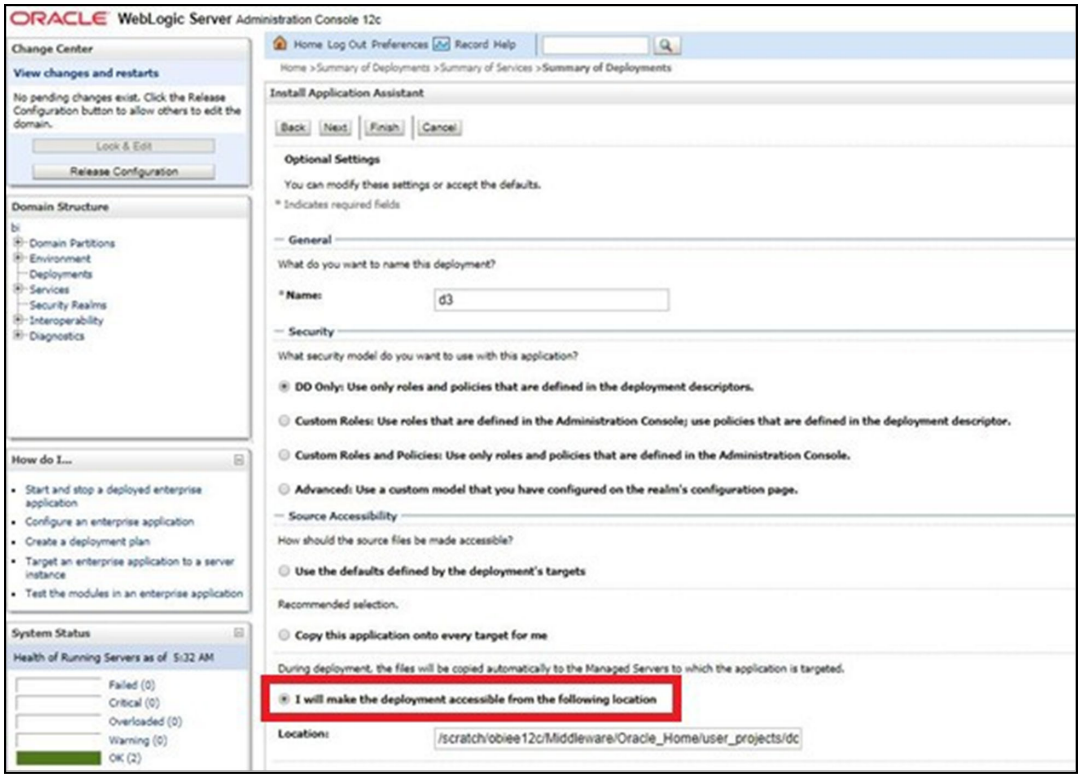
7. Select **bi_cluster**, and then select **All servers in the cluster**.

Figure 4-13 Deployment Targets



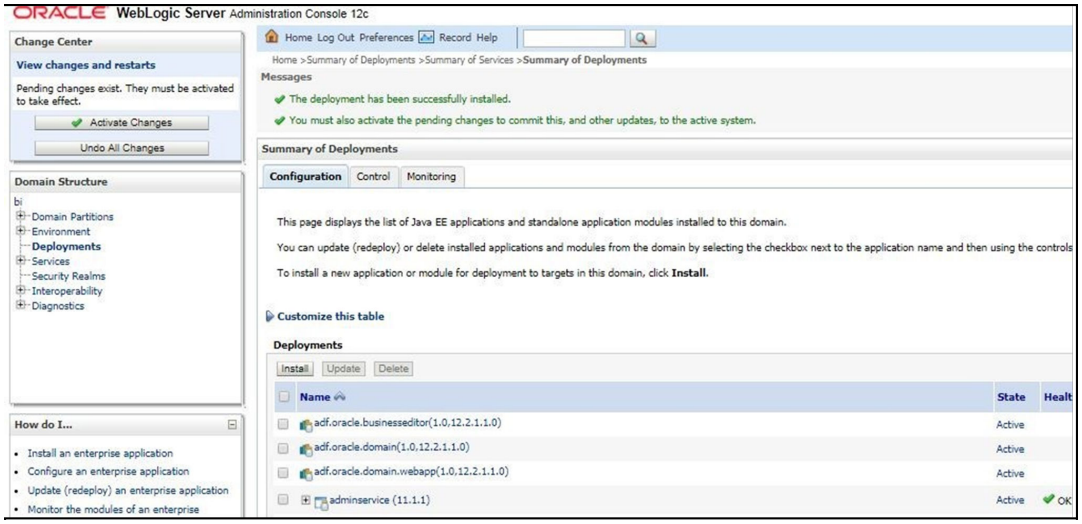
8. Select **I will make the deployment accessible from the following location** (as highlighted in the following screenshot) and click **Finish**.

Figure 4-14 Optional Settings



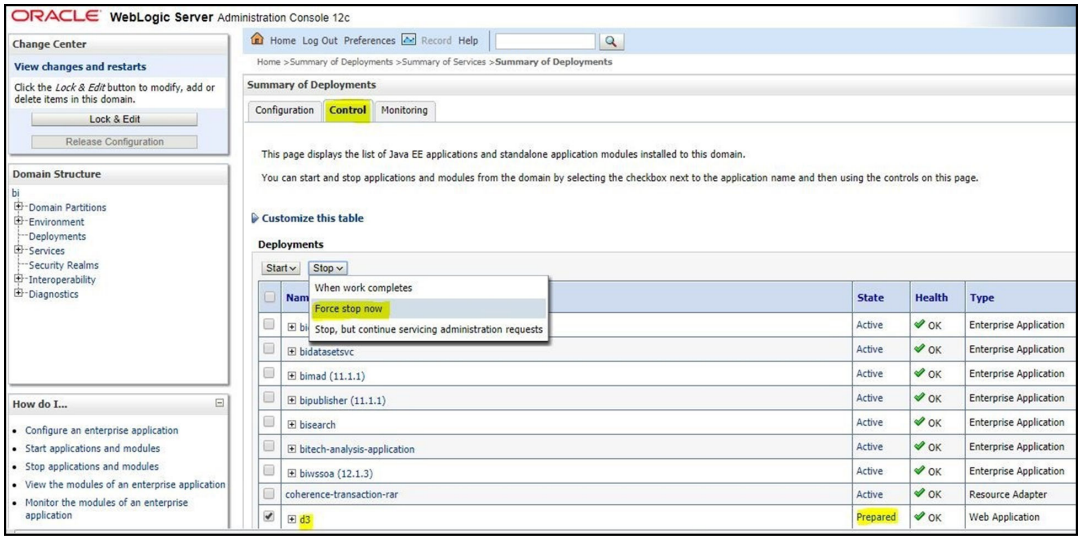
9. Click **Activate Changes**.

Figure 4-15 Summary of Deployments



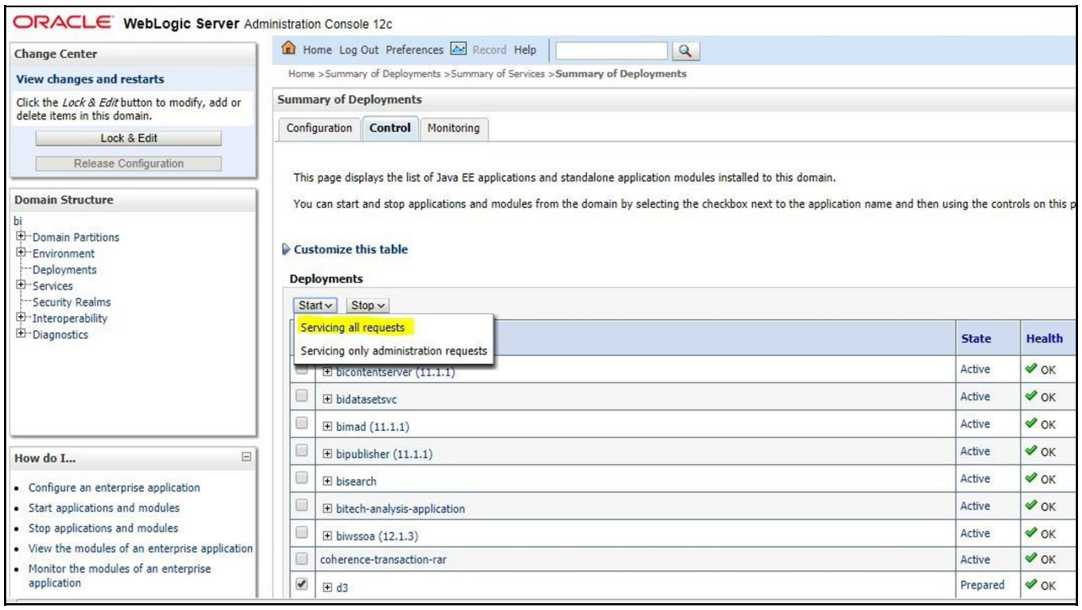
10. After activating the changes, the application is in a **Prepared** state. Select the **Control** tab. All the installed applications are displayed. Select the application from the **Deployments** table, click **Stop**, and then select **Force stop now** from the drop-down menu.

Figure 4-16 Customize the Deployed Applications



11. Start the application by selecting the check box next to it and then select **Servicing all requests** from the **Start** drop-down menu in the **Deployments** table in the WebLogic Server Administration Console.

Figure 4-17 Customize the Deployed Applications



12. The application changes to the **Active** state and is ready to use.

Glossary

Index