Installing and Configuring Oracle Analytics Server 6.4 for use with Oracle Enterprise Manager Cloud Control

A technical brief for using OAS 6.4.0 with Enterprise Manager 13.4 and Enterprise Manager 13.5
PURPOSE STATEMENT

This document provides an overview of the installation and configuration of Oracle Analytics Server 6.4.0 for use with Enterprise Manager 13.4 and 13.5. It is intended solely to help you assess the business benefits of upgrading to Enterprise Manager 13.4 and 13.5 and to plan your I.T. projects.

Oracle Analytics Server is a full featured reporting and analytics platform and is readily adaptable to utilize the rich data set that is available via Enterprise Manager.

This guide has been written and validated against Oracle Analytics Server 6.4.0.

---

THE NUMEROUS SCREEN SHOTS DISPLAYED IN THIS DOCUMENT ARE FROM ORACLE ANALYTICS SERVER 6.4.0

DISCLAIMER

This document in any form, software, or printed matter, contains proprietary information that is the exclusive property of Oracle. Your access to and use of this confidential material is subject to the terms and conditions of your Oracle software license and service agreement, which has been executed and with which you agree to comply. This document and information contained herein may not be disclosed, copied, reproduced, or distributed to anyone outside Oracle without prior written consent of Oracle. This document is not part of your license agreement, nor can it be incorporated into any contractual agreement with Oracle or its subsidiaries or affiliates.

This document is for informational purposes only and is intended solely to assist you in planning for the implementation and upgrade of the product features described. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described in this document remains at the sole discretion of Oracle.

Due to the nature of the product architecture, it may not be possible to safely include all features described in this document without risking significant destabilization of the code.

DISCLAIMERS FOR PRE-RELEASE, PRE-GA PRODUCTS

The revenue recognition disclaimer on this page is required for any technical brief that addresses future functionality or for products that are not yet generally available (GA). If you are unsure whether your statement of direction needs the disclaimer, read the revenue recognition policy. If you have further questions about your content and the disclaimer requirements, e-mail REVREC.US@oracle.com.

The testing disclaimer in the copyright section on the last page (highlighted in yellow) is provided by the FCC for hardware products. It must appear in the copyright section for all pre-release, pre-GA hardware products. Be sure to remove the yellow highlighting before publishing. When the product becomes GA, update your collateral by removing the disclaimer from the copyright section. If your product is already GA or if you are writing about a software product, delete the disclaimer from the copyright section.

Important: If your product is not GA, then you cannot include any regulatory compliance information in the statement of direction. Regulatory compliance information may be included for GA products only if you have completed all required safety and emissions testing, and you have received the certificates issued by the testing organization.
TABLE OF CONTENTS

Preface
Background
Design
External References
Limited Scope
Enhancement

Best practice – Planning for a Fresh Installation of Enterprise Manager 13.5
Best practice – Planning for an Upgrade of Enterprise Manager from EM 13.4 to EM 13.5
Recommendation for the version of Oracle Analytics Server
Customer Impact
Organization of this Guide

CHAPTER 1. OVERVIEW OF BASE INSTALL AND CONFIGURATION OF OAS__________________________________________1-15
CHAPTER 2. OVERVIEW OF POST INSTALL STEPS FOR OAS ______________________________________________________2-16
CHAPTER 3. OVERVIEW OF OAS SECURITY CONFIGURATIONS _____________________________________________________3-17
CHAPTER 4. OVERVIEW OF ENTERPRISE MANAGER SECURITY ____________________________________________________4-18

4.1 EM REPOSITORY BASED AUTHENTICATION ..................................................................................................4-18
4.2 LDAP-BASED AUTHENTICATION ....................................................................................................................4-18

CHAPTER 5. OVERVIEW OF REQUIRED OAS DATABASE REFERENCES ______________________________________________5-19

5.1 TWO COMMON DATABASE REFERENCES ....................................................................................................5-19
5.2 REPOSITORY BASED AUTHENTICATION ......................................................................................................5-19

CHAPTER 6. FLOW CHART FOR ALL PROCEDURES ______________________________________________________________6-20

CHAPTER 7. OVERVIEW OF UPGRADING FROM ENTERPRISE MANAGER 13.4 ______________________________________7-22

CHAPTER 8. COMPLETE STEPS TO INSTALL AND CONFIGURE OAS ______________________________________________8-23

8.1 INSTALL JDK (JDK8 8u311 OR HIGHER) .........................................................................................................8-24
8.1.1 Confirm Correct Installation ...........................................................................................................................8-24
8.2 INSTALL FUSION MIDDLEWARE INFRASTRUCTURE .......................................................................................8-25
8.2.1 Step 1 – Welcome........................................................................................................................................8-25
8.2.2 Step 2 – Auto Updates................................................................................................................................8-26
8.2.3 Step 3 – Welcome Location .........................................................................................................................8-26
8.2.4 Step 4 – Installation Type .............................................................................................................................8-27
8.2.5 Step 5 – Prerequisite Checks .....................................................................................................................8-27
8.2.6 Step 6 - Installation Summary ....................................................................................................................8-27
8.2.7 Step 7 – Installation Progress ......................................................................................................................8-28
8.2.8 Step 8 – Installation Complete ....................................................................................................................8-28
8.3 INSTALL OAS ..................................................................................................................................................8-29
8.3.1 Step 1 – Welcome........................................................................................................................................8-29
8.3.2 Step 2 – Auto Updates................................................................................................................................8-29
8.3.3 Step 3 – Choose Oracle Home ....................................................................................................................8-30
8.3.4 Step 4 – Pre-requisite Checks .....................................................................................................................8-30
8.3.5 Step 5 – Installation Summary ....................................................................................................................8-31
8.3.6 Step 6 – Installation Progress ......................................................................................................................8-31
8.3.7 Step 7 – Installation Complete ....................................................................................................................8-32
8.4 INSTALLATION OF REQUIRED PATCH SETS ...............................................................................................8-32
8.5 PRE-REQUISITES FOR ALL THE ABOVE PATCHES .......................................................................................8-33
8.5.1 Ensure that ORACLE_HOME is set properly ...............................................................................................8-33
8.5.2 Verify OPatch is 13.9.4 or later ....................................................................................................................8-33
8.5.3 Validate the OUI inventory with the following commands: ........................................................................8-33
8.5.4 For each patch, follow these standard Oracle patch procedures: .................................................................8-33
8.5.5 If the version of Opatch being used is no longer valid..................................................................................8-33
8.5.6 Updating to latest Opatch ............................................................................................................................8-34
8.5.7 Follow the instructions in the rest of the README.txt .............................................................................8-34
8.5.8 Utilize the Next Gen Installer to update Opatch ..........................................................................................8-34
8.6 PROCEED WITH INDIVIDUAL PATCHES .........................................................................................................8-37
8.6.1 Patch 1: p33618954_122140_Generic.zip - Required WSM Bundle Patch - 33618954...........................................8-37
CHAPTER 10.

11.2.5 OAS FOR EM REPOSITORY

Lowely Access To

OAS Authentication

OAS User Interface Privileges

OAS Server Catalog Access

OAS Report Execution

OAS Login Processing

OAS Privilege Assignment

CHAPTER 9. OAS SECURITY CONFIGURATION

9.1 ORACLE ANALYTICS PUBLISHER AUTHENTICATION AND REPORT EXECUTION FLOW

9.1.1 OAS Authentication

9.1.2 OAS User Interface Privileges

9.1.3 OAS Server Catalog Access

9.1.4 OAS Report Execution

9.1.5 OAS Login Processing

9.1.6 OAS Privilege Assignment

CHAPTER 10. OAS FOR EM REPOSITORY-BASED SECURITY

10.1 CREATE REQUIRED DBMS ROLES AND GRANT TO REQUIRED EM ADMINISTRATORS

10.2 PREPARATION FOR UPLOAD OF ORACLE PROVIDED REPORTS

10.3 ALLOWING ACCESS TO ORACLE PROVIDED REPORTS FOR INDIVIDUAL EM USERS

10.4 CONFIGURE OAS FOR ‘DATABASE SECURITY MODEL’

10.4.1 Step 1 - Login to OAS

10.4.2 Step 2 - Click on the Administration link

10.4.3 Step 3 - Security Configuration (located under Security Center)

10.4.4 Step 4 - Enable the local SuperUser

10.4.5 Step 5 - Configuring the OAS Database Security Model

10.4.6 Step 6 - Setting the OAS Security Model to “Oracle Database”

10.4.7 Step 7 - Hit apply

10.4.8 Step 8 - Notice that a restart of the application is required

10.4.9 Step 9 - Shutdown OAS

10.4.10 Step 10 - Startup OAS

10.4.11 Step 11 - Monitor the bipublisher.log file for errors

10.4.12 Step 12 - Confirm success

10.4.13 Confirm the correct OAS Group Assignments

10.5 PROCEED TO NEXT STEPS IN THE GUIDE

CHAPTER 11. OAS LDAP CONFIGURATION – ENTERPRISE MANAGER PARITY

11.1 OAS SECURITY MODEL CONFIGURATION – OAS ADMINISTRATION STEPS

11.1.1 Step 1 - Login to OAS

11.1.2 Step 2 - Click on the Administration link underneath My Account

11.1.3 Step 3 - Security Configuration (located under Security Center)

11.1.4 Step 4 - Enable the local SuperUser

11.1.5 Step 5 - Confirm correct configuration of ‘Fusion Middleware Security Model’

11.2 OAS WEBLOGIC DOMAIN CONFIGURATION – USING THE WEBLOGIC CONSOLE UI

11.2.1 Step 1 - Login to WebLogic console

11.2.2 Step 2 - Click on Security Realms

11.2.3 Step 3 - Click on myrealm and then the Providers tab

11.2.4 Step 4 - Duplicating Enterprise Manager’s LDAP configuration

11.2.5 Overview of steps to configure OAS identically to EM
CHAPTER 12.  OPTIONAL CONFIGURATION OF SSO ON TOP OF LDAP ............................................ 12-92

12.1 INSTALLATION OF OHS ............................................................................................................ 12-92
12.1.1 Step 1 - OHS Installation – Welcome; Step 2 – skip updates .................................................... 12-93
12.1.2 Step 3 - OHS Installation – Choose Middleware Home ......................................................... 12-93
12.1.3 Step 4 - OHS Installation – Installation Type ......................................................................... 12-94
12.1.4 Step 5 - OHS Installation – Choose JAVA HOME location .................................................... 12-94
12.1.5 Step 6 - OHS Installation – Prerequisite Checks ..................................................................... 12-94
12.1.6 Step 7 - OHS Installation – Installation Summary ................................................................. 12-95
12.1.7 Step 8 - OHS Installation – Installation Progress .................................................................. 12-95
12.1.8 Step 9 - Installation Complete .............................................................................................. 12-95
12.2 EXTENDING OAS WEBLOGIC DOMAIN WITH COLLOCATED OHS ................................. 12-96
12.3 OHS CONFIGURATION .............................................................................................................. 12-96
12.3.1 Step 1 - OHS Configuration – Update an existing WebLogic Domain ................................ 12-96
12.3.2 Step 2 - OHS Configuration – Choose Oracle HTTP Server - Collocated [OHS] ............... 12-96
12.3.3 Step 3 - OHS Configuration - High Availability Options .................................................... 12-97
12.3.4 Step 4 - OHS Configuration – Database Configuration Type .............................................. 12-97
12.3.5 Step 5- OHS Configuration – Component Datasources ..................................................... 12-98
12.3.6 Step 6 - OHS Configuration – JDBC Test ............................................................................ 12-98
12.3.7 Step 7 - OHS Configuration – Advanced Configuration ..................................................... 12-99
12.3.8 Step 8 OHS Configuration – System Components ................................................................. 12-99
12.3.9 Step 9 - OHS Configuration – OHS Server ........................................................................... 12-100
12.3.10 Step 10 - OHS Configuration – Machines ........................................................................ 12-100
12.3.11 Step 11 - OHS Configuration – Assign System Components ............................................ 12-101
12.3.12 Step 12 - OHS Configuration – Configuration Summary ................................................... 12-102
12.3.13 Step 13 - OHS Configuration – Configuration Progress .................................................... 12-102
12.3.14 Step 14 - OHS Configuration – End of Configuration ......................................................... 12-103
12.4 INTEGRATING OHS INTO WEBLOGIC DOMAIN USING WLST.SH ....................................... 12-103
12.4.1 Part 1 - Invoke WebLogic Scripting Tool (WLST) ............................................................... 12-103
12.4.2 Part 2 - Connect to Admin Server ....................................................................................... 12-103
12.4.3 Part 3 - Run special command ........................................................................................... 12-103
12.4.4 Part 4 - Confirm Correct Operations Performed ................................................................. 12-104
12.5 CONFIGURATION OF OHS FOR OAS USING FUSION MIDDLEWARE CONTROL ............... 12-105
12.5.1 Step 1 - Login to Fusion Middleware Control ................................................................. 12-105
12.5.2 Step 2 - Fusion Middleware Configuration – Administer OHS Instances ........................ 12-105
12.5.3 Step 3 - Fusion Middleware Configuration – Click on ohs1 ............................................... 12-106
12.5.4 Step 4 - Fusion Middleware Configuration – mod_wl_ohs Configuration ....................... 12-106
12.5.5 Step 5 - Fusion Middleware Configuration – lock and edit ............................................. 12-107
12.5.6 Step 6 - Fusion Middleware Configuration – Search for cluster ..................................... 12-107
12.5.7 Step 7 - Fusion Middleware Configuration – Choose bi_cluster ..................................... 12-108
12.5.8 Step 8 - Fusion Middleware Configuration – Populate Locations ................................ 12-108
12.5.9 Step 9 - Fusion Middleware Configuration – Apply and Activate Changes ..................... 12-109
12.5.10 Restart OHS – Step 10 ....................................................................................................... 12-109
12.5.11 Validate access to OAS via OHS – Step 11 ..................................................................... 12-110

CHAPTER 13.  CONFIGURATION OF SINGLE SIGN-ON ........................................................................ 13-111

13.1 Step 1 - Login to WebLogic Console (OAS) ........................................................................... 13-112
13.2 Step 2 - Click on Security Realms and myrealm ................................................................. 13-112
13.1.3 Step 3 - Click on the Providers tab ................................................................. 13-112
13.1.4 Step 4 - Prepare to make the required edits .................................................. 13-113
13.1.5 Step 5 - Create the new OAM Identity Asserter ........................................... 13-113
13.1.6 Step 6 - Configure the BIP_OAM_Provider Provider ................................... 13-114
13.1.7 Step 7 - Configuration of Oracle Webgate, running on top of OHS .................. 13-117
13.1.8 Step 8 - OAS Required Steps ........................................................................ 13-117

CHAPTER 14. CONFIGURATION OF REQUIRED OAS Datasource(s) ......................... 14-120
14.1 Step 1 - For the first EM host ............................................................................. 14-120
14.2 Part 1 - OAS Datasource Configuration Steps .................................................. 14-120
14.2.1 Part 2 - Click on the Administration Link ....................................................... 14-120
14.2.2 Part 3 - Add a JDBC Data Source .................................................................. 14-121
14.2.3 Part 4 - Ensure that the MGMT_VIEW account has been setup properly ...... 14-121
14.2.4 Part 5 - Fill in the required details .................................................................. 14-121
14.2.5 Part 6 - Review the newly defined Data Source ............................................. 14-122
14.2.6 Part 7 - Positive Result of the Test ................................................................ 14-122
14.2.7 Part 8 - Granting Required Roles to OAS Datasource ................................. 14-122
14.2.8 Part 9 - Press Apply ...................................................................................... 14-123
14.2.9 Part 10 - Completed List of JDBC Data Sources .......................................... 14-123

CHAPTER 15. PREPARE FOR ORACLE PROVIDED OUT OF BOX REPORTS ............... 15-124
15.1 If utilizing the Database security Model .............................................................. 15-125
15.2 If utilizing the OAS security Model ................................................................. 15-125
15.2.1 If utilizing the Database security Model ....................................................... 15-125
15.2.2 If utilizing the OAS security Model .............................................................. 15-125
15.3 OAS support for EM provided reports: Fusion Middleware Security Model .... 15-126
15.3.1 Step 1 - Create EMBIP* Roles as OBI-Stripe Roles ...................................... 15-126
15.3.2 Step 2 - Create Mapping of BI Service Administrator to EMBIP Administrator 15-129
15.3.3 Step 3 - Repeat step 2 twice more, for the other EMBIP roles: Completed Screen Shots Shown ................................................................. 15-133
15.3.4 Step 4 - Configure Role Hierarchy for EM roles (EMBIP*) ......................... 15-134
15.3.5 Step 5 - Summary ....................................................................................... 15-135

CHAPTER 16. MIGRATING CUSTOMIZED BIP REPORTS TO STANDALONE OAS ....... 16-136
16.1 Example Use Case ............................................................................................ 16-136
16.2 Outline of steps to download the report from EM 13.4: .................................... 16-136
16.2.1 Step 1 - EM 13.4 - Login to BIP ................................................................... 16-137
16.2.2 Step 2 - From the BIP home screen, click on the link for ‘Catalog Folders’ .... 16-137
16.2.3 Step 3 - If needed, expand the ‘Shared Folders’ node in the catalog tree ......... 16-138
16.2.4 Step 4 - Click on the MyReports’ Folder ...................................................... 16-138
16.2.5 Step 5 - Click on Download ......................................................................... 16-139
16.2.6 Step 6 - You may be asked what to do with the file named MyReports.xdrz .... 16-140
16.2.7 Step 7 - Confirm that the file was downloaded correctly .............................. 16-140
16.3 EM 13.5 – Upload Report Folder to OAS ......................................................... 16-141
16.3.1 Step 1 - Login to the OAS system on the standalone host ............................. 16-141
16.3.2 Step 2 - From the OAS home screen, click on the link for ‘Catalog Folders’ 16-142
16.3.3 Step 3 - If needed, expand the ‘Shared Folders’ node in the catalog tree ......... 16-142
16.3.4 Step 4 - Click on Upload ............................................................................. 16-143
16.3.5 Step 5 - Click the button ‘Choose File’ in the Upload popup window .......... 16-143
16.3.6 Step 6 - Choose the file named ‘MyReports.xdrz’ ......................................... 16-143
16.3.7 Step 7 - Proceed with the upload ................................................................. 16-144
16.3.8 Step 8 - Monitor the status of the upload ..................................................... 16-144
16.3.9 Step 9 - Confirm the correct layout of the OAS Catalg Folders ................. 16-145
16.3.10 Step 10 - Confirm that the report executes as expected .............................. 16-145

CHAPTER 17. UPGRADEING TO ENTERPRISE MANAGER 13.5 ............................... 17-146
17.1.1 Step A: Follow the detailed steps in this workbook before upgrading to EM 13.5 17-146
17.1.2 Step B: Upgrade to Enterprise Manager 13.5 ............................................. 17-146
17.1.3 Step C: Update the standalone OAS installation for use with Enterprise Manager 13.5 ................................................................. 17-146

CHAPTER 18. UPLOADING ENTERPRISE MANAGER PROVIDED REPORTS .......... 18-148
18.1 Framework Reports ........................................................................................ 18-148
18.2 Plugin Reports ............................................................................................... 18-148
18.3 Common File Name for all Oracle Provided Out of Box Reports .................... 18-148
18.4 Bundle Enterprise Manager 13.5 Out of Box Reports .................................. 18-149
FIGURES

Figure 1. Flow Chart – Overview of installation and configuration steps .......................................................... 6-20
Figure 2. Flow Chart – Final steps - Continued from prior page ........................................................................ 6-21
Figure 3. Step 1 of 10: Start OAS Configuration ............................................................................................... 8-44
Figure 4. Step 2 of 10: Only configure Oracle Analytics Publisher ................................................................. 8-44
Figure 5. Step 3 of 10: Prerequisite Checks ..................................................................................................... 8-45
Figure 6. Step 4 of 10: Define Domain ............................................................................................................... 8-46
Figure 7. Step 5 of 10: Database Details ........................................................................................................... 8-47
Figure 8. Step 6 of 10: Port management .......................................................................................................... 8-48
Figure 9. Step 7 of 10: Initial Application .......................................................................................................... 8-48
Figure 10. Step 8 of 10: Summary .................................................................................................................... 8-49
Figure 11. Step 9 of 10: Configuration Progress ............................................................................................... 8-50
Figure 12. Step 10 of 10: Configuration Complete .......................................................................................... 8-51
Figure 13. OAS Login flow ................................................................................................................................ 9-55
Figure 14. OAS Privilege Assignment flow ....................................................................................................... 9-56
Figure 15. Login to OAS as the weblogic user (or the local SuperUser) ......................................................... 10-58
Figure 16. Click on the Administration link underneath My Account .............................................................. 10-59
Figure 17. Administration Screens and Security Center. Needed for Security Configuration .................... 10-59
Figure 18. Enable local Superuser .................................................................................................................... 10-60
Figure 19. Configure OAS for Oracle Database Security Model ................................................................. 10-62
Figure 20. Apply Security Model Changes ....................................................................................................... 10-62
Figure 21. Required Restart of OAS ................................................................................................................ 10-62
Figure 22. Login to OAS as the SYSMAN User ................................................................................................. 10-63
Figure 23. Confirm Database Security Model ................................................................................................. 10-63
Figure 24. Login to OAS as the weblogic user (or local superuser) ............................................................... 11-65
Figure 25. Administration Screens and Security Center. Needed for Security Configuration ................. 11-66
Figure 26. Enable local Superuser .................................................................................................................... 11-66
Figure 27. Ensure that Oracle Fusion Middleware Security Model is configured correctly .................... 11-67
Figure 28. Step 1: Logic to WebLogic Consoles ............................................................................................... 11-69
Figure 29. Step 2: Click on Security Realms for each WebLogic console ....................................................... 11-69
Figure 30. Step 3: Click on myrealm and then the Providers tab in each WebLogic console ......................... 11-69
Figure 31. Comparison of WebLogic Security Configurations – Oracle Internet Directory .................... 11-70
Figure 32. Comparison of WebLogic Security Configurations – Microsoft Active Directory ................. 11-70
Figure 33. WebLogic Security Configuration for OAS .................................................................................... 11-71
Figure 34. WebLogic Security Configuration for EM when using LDAP (OID based) ................................ 11-71
Figure 35. Comparison of OAS WebLogic Domain to EM WebLogic domain at beginning of procedures 11-72
Figure 36. Comparison of OAS WebLogic Domain to EM WebLogic Domain - Completed .................. 11-72
Figure 37. Lock & Edit OAS WebLogic Domain Configuration ................................................................. 11-73
Figure 38. Add the BIP_OID_Provider or BIP_AD_Provider to OAS WebLogic Domain .......................... 11-74
Figure 39. Correct order of WebLogic Authentication Providers – Oracle Access Manager (SSO) with OID 11-75
Figure 40. Change BIP_OID_Provider from OPTIONAL to SUFFICIENT ..................................................... 11-75
Figure 41. Configure OAS with Oracle Internet Directory provider Specific parameters ........................ 11-76
Figure 42. First Section of BIP_OID_Provider changes .................................................................................. 11-77
Figure 43. Ensure that Use Retrieved User Name as Principal is checked ..................................................... 11-77
Figure 44. Second Section of BIP_OID_Provider changes ............................................................................. 11-78
Figure 45. Third Section of BIP_OID_Provider changes ................................................................................ 11-79
Figure 46. Save the changes made to the provider specific screens ............................................................... 11-79
Figure 47. Ensure the domain is in the Lock & Edit Mode ............................................................................ 11-80
Figure 48. Navigate to the Providers tab .......................................................................................................... 11-80
Figure 49. Click on the Default Authenticator ................................................................................................. 11-80
Figure 50. Change DefaultAuthenticator from REQUIRED to SUFFICIENT and Save the changes ......... 11-81
Figure 51. Login as the sysman or weblogic user ............................................................................................ 14-120
Figure 52. Click on the Administration link .................................................................................................... 14-120
Figure 53. Required Role Hierarchy for OAS Roles, including EM roles ...................................................... 15-124
Figure 54. Mapping of EMBIP* Roles to base OAS Roles ............................................................................. 15-125
Figure 55. Flow chart of best practice upgrade procedure .............................................................................. 17-147
Figure 56. Locating Oracle Provided BI Publisher Reports in Enterprise Manager 13.5 Oracle Home ......... 18-149
Figure 57. Example layout of Enterprise Manager 13.5 Provided Out-of-Box Reports ................................. 18-149
Figure 58. Script to Validate Database Details ............................................................................................... Error! Bookmark not defined.
Figure 59. Instructions for Using Java Program to Validate DBMS Connection Details ...... Error! Bookmark not defined.
TABLES

Table 1. Outline of Guide........................................................................................................... 14
Table 2. Mapping of Enterprise Manager Security Configurations to OAS Configuration.................. 3-17
Table 3. Required OAS Installer ................................................................................................. 8-23
Table 4. Key to directories used in examples ................................................................................ 8-23
Table 5. OAS Security Configuration Steps .................................................................................. 9-52
Table 6. OAS Privileges............................................................................................................... 9-53
Table 7. OAS Catalog Permissions .............................................................................................. 9-54
Table 8. Ensure correct Catalog Permissions for OAS Shared Folder ........................................ 18-157
Table 9. Arguments for OAS Scheduler Migration Script .......................................................... 19-159
Preface

» For Enterprise Manager 13.5, BI Publisher is no longer installed nor configured alongside Enterprise Manager.
» Neither BI Publisher, nor Oracle Analytics Server, can be installed in the same WebLogic domain, nor on the same host system, as Enterprise manager 13.5.
» This guide is meant to be utilized as a supplement to, and not a replacement for, the existing Fusion Middleware Documentation Book Sets specific to Oracle Analytics Server and Oracle Analytics Publisher.
» The document provides specific details and instructions for an installation of Oracle Analytics Server 6.4.0, on a host separate system, to run BI Publisher Reports against the Enterprise Manager 13.4 and 13.5 repository database.

BEFORE BEGINNING THE PROCEDURES DOCUMENTED IN THIS HANDBOOK, DOWNLOAD ANY CUSTOMIZED BIP REPORTS FROM THE EMBEDDED BIP IN EM 13.4, USING THE BIP USER INTERFACE.

Background

1. BI Publisher is part of the on-premises product formerly known as Business Intelligence Enterprise Edition (BIEE).
2. BIEE has been re-branded Oracle Analytics Server (OAS).
3. BI Publisher has likewise been re-branded as Oracle Analytics Publisher Pixel Perfect Reporting.
4. OAS, to a certain extent, is an on-premises version of Oracle Analytics Cloud (OAC).

Design

For those customers who want to continue to use BI Publisher capabilities with Enterprise Manager, the licensing and support model included with Enterprise Manager 13.5 will continue to support this for Oracle Analytics Publisher.

However, installation and configuration of BI Publisher (BIP), now rebranded as Oracle Analytics Publisher (OAS), will be the responsibility of the customer.

Requirements

This guide provides a best practice for installation and configuration of OAS 6.4.0.

Enterprise Manager will continue to supply and support a set of feature-rich Oracle provided Out of Box reports designed and tested with Oracle Analytics Publisher 6.4.0.

Multiple copies of each set of these Out of Box Reports can easily be generated, to support execution against multiple Enterprise Manager Installations (when LDAP security store is utilized).

This guide is not meant to replace or otherwise supersede the large set of documentation books that are currently developed and available for Oracle Analytics Server, and Fusion Middleware as a whole, via the Oracle Help Center.

Where appropriate, screenshots and other pointers are being provided to help navigate these procedures.

References to specific documentation books in the OAS product library will also be referenced to provide further details.

The next section highlights some crucial details regarding the scope of this document.

External References

Throughout this guide many footnotes are available that reference more detailed documentation books available for Oracle Analytics Server, Fusion Middleware Control, and other Oracle technologies.

These footnotes are cross referenced in 'Chapter 21 References'.
Limited Scope

1. Configuration of the full Oracle Analytics Server component is beyond the scope of this guide.
   - This guide only addresses configurations including the Oracle Analytics Publisher component, and **not the full Oracle Analytics Server component**.
     - Further details can be found in ‘section 8.7.2- Step 2 – Configuration’. This screen shot from that section is repeated below:
     - Be sure to only select **Oracle Analytics Publisher**.

   - As an alternative to this guide, utilize the standard Oracle OAS configuration documentation.¹

2. High Availability configurations and/or Disaster Recovery solutions for OAS are beyond the scope of this guide.
   - Oracle Analytics Server fully supports Oracle’s Maximum Availability Architecture (MAA).
     - The Oracle MAA architecture supports multiple Oracle Analytics Server systems as part of a single WebLogic cluster.
     - As an alternative to this guide, reference these documents:
       - Oracle® Analytics Enterprise Deployment Guide for Oracle Analytics Server.²
       - Oracle’s Maximum Availability Architecture.³

3. A dedicated host system is required for the standalone Oracle Analytics Server.
   - It is theoretically possible to install and utilize OAS on the same host system as Enterprise Manager 13.5.
   - However, there are many disadvantages to this approach.
     - Out of the box, configuration of a standalone OAS on the same host system as Enterprise Manager will fail.
     - This is due to a limitation in the underlying WebLogic framework related to “Coherence Clusters”.
   - If a customer managed to install and configure OAS on the same host system as EM 13.5, there could be unintended side effects that impact the operation of both EM 13.5 and OAS.

4. At some future date support for running OAS on the same host system as EM 13.5 may be documented.

Enhancement

A single OAS instance can be utilized to run reports against multiple Enterprise Manager installations.

- All Enterprise Manager Installations, along with the single OAS, must utilize the same LDAP configuration, with or without SSO.
- This implicitly requires that the same set of LDAP credentials be available on all Enterprise Manager installations, along with the standalone OAS.

---

¹ (Configuring Oracle Analytics Server, 2021)
² (Oracle® Analytics Enterprise Deployment Guide for Oracle Analytics Server, 2020)
³ (Oracle Maximum Availability Architecture, MAA, 2021)
Best Practice – Planning for a Fresh Installation of Enterprise Manager 13.5

**Step A: Install and configure Enterprise Manager 13.5**
1. Follow all documented procedures according to the official Enterprise Manager documentation set.
2. Do not proceed to step C until all relevant corporate internal requirements are met.

**Step B: Follow the detailed steps in this workbook**
1. Utilize this technical brief to install and configure a standalone OAS 6.4.0 installation on a separate, dedicated, host system.
2. Ensure that all relevant procedures up to and including chapter 15 are complete.

**Step C: Update the standalone OAS installation for use with Enterprise Manager 13.5**
1. Follow the procedures detailed in 'Chapter 18- Uploading Enterprise Manager Provided Reports':
   - Utilize the standalone OAS User Interface to upload this new set of Oracle Provided Out-of-Box reports to OAS.

Best practice – Planning for an Upgrade of Enterprise Manager from EM 13.4 to EM 13.5

**PREPARATION: DOWNLOAD ANY CUSTOMIZED BIP REPORTS FROM THE EMBEDDED BIP IN EM 13.4, USING THE BIP USER INTERFACE.**

**Step A: Follow the detailed steps in this workbook before upgrading to EM 13.5.**
1. Install and configure the standalone OAS:
   - Utilize this technical brief to install and configure a standalone OAS 6.4.0 installation on a separate, dedicated, host system.
   - Ensure that all relevant procedures up to and including chapter 15 are complete.
     - Integrate the standalone OAS security configuration, as detailed, against an existing Enterprise Manager 13.4 installation(s).
2. Follow the procedures detailed in 'Chapter 16 - Migrating customized BIP reports to standalone OAS':
   - Utilize the existing Enterprise Manager 13.4 environment, and the embedded BI Publisher user interface, to download any customized reports to your local PC or desktop system.
   - Utilize the standalone OAS 6.4.0 user Interface to upload these same customized reports, from your local PC or desktop system to the standalone OAS.
   - Do not proceed to step B until all relevant internal corporate requirements are met.

**Step B: Upgrade to Enterprise Manager 13.5**
1. Follow all documented procedures according to the official Enterprise Manager documentation set.
2. Do not proceed to step C until all relevant corporate internal requirements are met.

**Step C: Update the standalone OAS installation for use with Enterprise Manager 13.5**
1. Follow the procedures detailed in 'Chapter 18- Uploading Enterprise Manager Provided Reports':
   - Upload the updated set of Oracle Provided out of Box reports that are included with EM 13.5.
     - Utilize the standalone OAS User Interface to upload this new set of Oracle Provided Out-of-Box reports to OAS.
2. Follow the procedures detailed in 'Chapter 19- Migrating BIP Schedules from EM 13.4':
   - Migrate the BIP report schedules, from the embedded BIP included in EM 13.4, to the standalone OAS.
Recommendation for the version of Oracle Analytics Server

Please note that there are currently two versions of this guide.

- This guide is specific to Oracle Analytics Server (OAS) version 6.4.0.
- The prior version of this guide was specific to Oracle Analytics (OAS) version 5.5.0.

Both versions of this guide have been written, developed, and tested by the Enterprise Manager Development organizations.

The implications of this development and testing are far reaching

The two versions of this guide provide far more than just simple certification of a given version of Oracle Analytics Server. These guides have been written with the same rigor and diligence as any other Oracle software deliverable.

If the steps in this guide are followed exactly, a fully functional, standalone Oracle Analytics Server will be available with the same set of capabilities as the embedded BI Publisher included in Enterprise Manager 13.4.

Other Versions of Oracle Analytics Server are available today, such as OAS 5.9.0, and new versions of Oracle Analytics Server will be released over time.

Oracle’s recommendation is to utilize the prior version of this guide, with OAS 5.5.0, or this version with OAS 6.4.0.

- Please note that all the screenshots in this version of the guide are from OAS 6.4.0.
Customer Impact

Enterprise Manager supports a rich set of architectural and security options, as does BI Publisher and Oracle Analytics Publisher.

In past releases of Enterprise Manager, prior to Enterprise Manager 13.5, all these Enterprise Manager options had been enhanced to incorporate BIP, in parallel, with the OMS.

Some examples include:

- Enterprise Manager Login using repository-based authentication (default configuration).
- Repository-based authentication is also utilized alongside Oracle RDBMS Enterprise User Security (EUS).
- Enterprise Manager Login using LDAP, based upon WebLogic Security Providers.
- Enterprise Manager Single Sign On.
- EM High Availability and Disaster Recovery.
- EM runtime tools (start, stop, status, etc....)
- Deployment and management of Oracle Provided BIP Reports.
- The capability to patch EM with updated BIP reports.
- Target Level permissions (VPD) for BIP Report Execution.

All this automation has been removed in Enterprise Manager 13.5.

- The purpose of this document is to ease this transition from the integrated BIP to a standalone OAS installation.

Cross References to Relevant Oracle Documents

OAS supports all the same architectural and security options as was provided via the embedded BI Publisher.

However, lifecycle management for the standalone OAS product is via a rich, and complex, set of documentation books.

Beyond OAS, numerous other Oracle technologies and products are referenced and outlined within these pages.

References to relevant Oracle documentation are available throughout this guide, utilizing document footnotes.

All these foot notes are cross referenced to the complete set in the bibliography, located here:

- Chapter 21 - References
### Organization of this Guide

<table>
<thead>
<tr>
<th>STEP</th>
<th>DESCRIPTION</th>
<th>CROSS-REFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Basic installation and configuration of Oracle Analytics Server.</td>
<td>Chapter 8</td>
</tr>
</tbody>
</table>
| 2    | Security configuration | Chapter 9 **OR** Chapter 10  
And optionally  
Chapters 11, 12, 13 |
| A    | Oracle Analytics Server 6.4.0 | Chapter 9 |
| B1   | If Repository Based:  
Enterprise Manager RDBMS Repository. | Chapter 10  
⇒ Skip to Chapter 14 |
| B2   | else LDAP Based:  
Fusion Middleware and Specific WebLogic Security Configurations. | Chapter 11  
No SSO?  
⇒ Skip to Chapter 14 |
| i    | Optional configuration of Oracle HTTP Server (OHS) | Chapter 12  
No OAM?  
⇒ Skip to Chapter 14 |
| ii   | Optional configuration of Oracle Access Manager (OAM) Single Sign On. | Chapter 13 |
| 3    | Configuration of required Oracle Analytics Server Datasource(s). | Chapter 14 |
| 4    | Migrating any customized BIP reports from the embedded BIP to the standalone OAS. | Chapter 16 |
| 5    | Installation of Oracle provided Out of Box Reports to the standalone OAS. | Chapter 18 |
| 6    | Migrating schedules from the Enterprise Manager 13.4 embedded BIP. | Chapter 19 |
| 7    | Updating the Enterprise Manager 13.5 WebLogic Domain target. | Chapter 20 |

**Table 1. Outline of Guide**

*There is also a flow chart of the above table in ‘Chapter 6 - Flow chart for all Procedures’.*
CHAPTER 1. OVERVIEW OF BASE INSTALL AND CONFIGURATION OF OAS

There are three steps to get OAS installed and preliminarily configured.

All the binaries for the below items can be downloaded utilizing the standard Oracle eDelivery website.

1. Install Required JDK (JDK8 8u211 or higher)
2. Install Fusion Middleware Control Infrastructure (do not configure).
3. Installation of OAS 6.4.0.
4. Application of the OWSM bundle patch: 12.2.1.4.211129. See patch ID 33618954
5. Application of the latest Oracle Fusion Middleware patch set update: See document ID 2817011.1

---

5 (Oracle® Fusion Middleware, 2020)
6 (Configuring Oracle Analytics Server, 2021)
CHAPTER 2. OVERVIEW OF POST INSTALL STEPS FOR OAS

THE STEPS IN THIS DOCUMENT WERE SPECIFICALLY DEVELOPED AND TESTED AGAINST BOTH ENTERPRISE MANAGER 13.4 AND ENTERPRISE MANAGER 13.5

Below is an outline of the steps needed to be followed the successful base install and configuration of OAS.

It is important to follow these detailed steps against Enterprise Manager 13.4, prior to upgrading to Enterprise Manager 13.5

1. Configure the appropriate OAS security model and required roles.  
2. Configure the OAS Datasource(s), for use with the Enterprise Manager Repository database(s).  
3. Configure the EM repository database such that EM administrators have access to EM data, when logged into the standalone OAS.

After the Enterprise Manager 13.5 upgrade

1. Install and utilize the Oracle provided out-of-the-box Reports.  
2. Upload any customized reports from the prior release of EM.  
3. Migrate the BIP Report Schedules from the embedded BIP in Enterprise Manager 13.4 to the standalone OAS.

---

7 (OAS - About Alternative Security Options, 2021)  
8 (OAS - Set Up Data Sources, 2021)  
9 (Migrating Scheduler Jobs and Job History, 2021)
CHAPTER 3. OVERVIEW OF OAS SECURITY CONFIGURATIONS

Enterprise Manager is generally configured with one of the security configurations shown below. The standalone OAS can then be configured to match, or map, to this same security configuration.

<table>
<thead>
<tr>
<th>ENTERPRISE MANAGER SECURITY CONFIGURATION</th>
<th>CORRESPONDING OAS SECURITY MODEL</th>
<th>NUMBER OF EM INSTALLS PER OAS INSTALL</th>
<th>UNDERLYING SECURITY STORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Repository-based security:</td>
<td>Database Security Model(^{11})</td>
<td>One</td>
<td>• Enterprise Manager Repository database system. (RDBMS): All users and roles defined in the RDBMS.</td>
</tr>
<tr>
<td>• Default, out-of-box EM security configuration.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• LDAP, with or without SSO:</td>
<td>Fusion Middleware(^{12})</td>
<td>One or more</td>
<td>• LDAP server (i.e., OID or AD): All users and groups defined in the LDAP server.</td>
</tr>
<tr>
<td>• Configured utilizing standard \texttt{emctl} commands.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Mapping of Enterprise Manager Security Configurations to OAS Configuration

The following chapter provided an overview of the two Enterprise Manager Security Configurations from the table above.

---

\(^{10}\) (EM - Security Features : Supported Authentication Schemes, 2021)
\(^{11}\) (OAS - Integrate with Oracle Database Security, 2021)
\(^{12}\) (OAS - Configure Oracle Fusion Middleware Security Model, 2021)
CHAPTER 4. OVERVIEW OF ENTERPRISE MANAGER SECURITY

4.1 EM Repository based authentication

- Requirements:
  - OAS ‘Database Security Model’
  - Fallback ‘SuperUser’
  - Create required DBMS roles.
  - Grant/Revoke these roles to appropriate Enterprise Manager administrator(s).
    - Note: Out of box, EM administrators have a corresponding DBMS user.
  - Create the JDBC Datasource EMREPOS for use with Enterprise Manager.

4.2 LDAP-based authentication

Requirements:

- OAS ‘Fusion Middleware Security Model’
- corresponding Fusion Middleware Configuration,
- Configuration steps are required, utilizing the Fusion Middleware Control that is bundled with OAS
- Additional manual steps involving editing of specific Fusion Middleware configuration files.
- If EM is also utilizing SSO, OAS is to be likewise configured:
  - Manual configuration of additional Fusion Middleware configuration files.
  - Installation of Oracle HTTP Server (OHS) into the same domain as OAS.
  - Configuration of OHS Webgate in the OAS domain by editing additional Fusion Middleware configuration files.
  - Additional configuration of OAS.
- Configure the JDBC Datasource(s) EMREPOS [, EMREPOS2 [, EMREPOS3 ...]] for use with Enterprise Manager.

---

(OAS - Integrate with Oracle Database Security, 2021)
(OAS - Configure Oracle Fusion Middleware Security Model, 2021)
CHAPTER 5. OVERVIEW OF REQUIRED OAS DATABASE REFERENCES

Oracle Analytics Server is configured with either 2 or 3 database references.

The number of databases references depends on which Enterprise Manager security model is being utilized, as discussed in the prior Chapter 4, Overview of Enterprise Manager Security.

The three database references are summarized in the below table:

<table>
<thead>
<tr>
<th>DATABASE REFERENCE</th>
<th>OAS SECURITY MODEL</th>
<th>REFERENCED DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Oracle Analytics Server Schema</td>
<td>Common to Both</td>
<td>• Standard WebLogic schema.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• OAS scheduler schema.</td>
</tr>
<tr>
<td>2. Enterprise Manager Repository</td>
<td>Common to Both</td>
<td>The actual Enterprise Manager Repository data that is rendered by Oracle Analytics Publisher Reports.</td>
</tr>
</tbody>
</table>

Note that the databases referenced can utilize any of the standard Oracle Databases (for example, pluggable databases).

5.1 Two Common Database References

4. Oracle Analytics Server Schema:
   - The Oracle Database that contains all the database objects required by Oracle Analytics Server.
   - This consists of the complete Oracle Analytics database schema, including the OAS scheduler schema.
   - This database is configured in ‘section 8.7.5 - Step 5 - Database Schema’.
   - For further details on the OAS scheduler, see ‘section Chapter 19 - Migrating BIP Schedules from EM 13.4’.

5. Enterprise Manager Repository:
   - This is the complete Enterprise Manager Repository Database Schema.
   - This database is configured for use with OAS in ‘Chapter 14 - Configuration of required OAS Datasource(s)’.
   - This database contains all the Repository data that is utilized to run Oracle Analytics Publisher reports.

5.2 Repository Based Authentication

6. Enterprise Manager Repository:
   - The Oracle Database that contains all required credentials of all Enterprise Manager Administrators.
   - This provides support for logging into OAS as Enterprise Manager Administrators, for use with OAS.

5.3 Relationship between Database References and JDBC Simple Connect Descriptor

For each of the above three possible database references, entry of a user supplied JDBC Simple Connect Descriptor is required.

Please consult ‘Appendix J- Details on the JDBC Simple Connect’ for a complete discussion of this, and various tools for determining the correct Simple JDBC Connect Descriptor to use for the above 3 database references.

---

15 (OAS - Integrate with Oracle Database Security, 2021)
CHAPTER 6.  FLOW CHART FOR ALL PROCEDURES

Figure 1.  Flow Chart – Overview of installation and configuration steps

Chapter 7
Overview of Upgrading from Enterprise manager 13.4

Chapter 8 - Complete steps to install and configure OAS

Security Configuration Utilized by Enterprise Manager (13.4 or 13.5)

LDAP Based

Chapter 11
OAS LDAP Configuration

Is EM Utilizing OAM Single Sign on?

No

Yes

Chapter 10
OAS For EM Repository-based Security

Chapter 14
Configuration of required OAS Datasource(s)
Continue to Figure 2

Chapter 12
Optional Configuration of SSO on top of LDAP

Chapter 13
Configuration of Single sign-on
This chapter details the installation and configuration of OAS for use with Oracle Access Manage

Chapter 8 - Complete steps to install and configure OAS

LDAP Based
Chapter 14
Configuration of required OAS Datasource(s)

Upgrading?

Yes

Migrate customized BIP Reports from EM 13.4

No

Upgrade from Enterprise Manager 13.4 to Enterprise Manager 13.5

Upgrading?

Yes

Migrate BIP report schedules from the embedded BIP to the standalone OAS.

No

Upload Oracle Provided Reports included with EM 13.5 to standalone OAS

Complete
There are several distinct requirements to successfully upgrade from a prior release of EM, with the embedded BI Publisher, to the standalone OAS.

It is crucial that planning for the upgrade to EM 13.5 begin well prior to the upgrade.

The most important considerations are:

- Ensuring any customized BIP reports are available in the standalone OAS.
- Ensuring any prior BIP report schedules are migrated to the standalone OAS.
CHAPTER 8. COMPLETE STEPS TO INSTALL AND CONFIGURE OAS

The following section details the standard installation and configuration of Oracle Analytics Server (OAS).

The below 4 steps are detailed in section 8.1 through 8.4.

1. Section 8.1 - Installation of a supported Java Development Kit (JDK) [JDK8: u251 or newer].
2. Section 8.2 - Installation of Fusion Middleware Infrastructure.
3. Section 8.3 - Installation of the OAS binaries into the existing WebLogic Middleware Home.
4. Section 8.5.6- Configuration of OAS into the WebLogic Domain, along with the required Database schema objects.

The required installers for the 4 steps above can be downloaded from OTN or eDelivery, as appropriate.

<table>
<thead>
<tr>
<th>STEP</th>
<th>FILENAME</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>jdk-8u311-linux-x64.tar.gz</td>
<td>Latest JDK as of Nov. 10, 2021</td>
</tr>
<tr>
<td>2</td>
<td>fmw_12.2.1.4.0_infrastructure.jar</td>
<td>Required FMW for OAS</td>
</tr>
<tr>
<td>3</td>
<td>Oracle_Analytics_Server_Linux_6.4.0.jar</td>
<td>OAS 6.4.0 Installer</td>
</tr>
</tbody>
</table>

Table 3. Required OAS Installer

Throughout the rest of this document, example directories are color coded, as below:

<table>
<thead>
<tr>
<th>NOTATION</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>stagedir/OASMW</td>
<td>The ORACLE_HOME and MW_HOME for OAS</td>
</tr>
<tr>
<td>stagedir/java/jdk1.8.0_311</td>
<td>The JAVA_HOME</td>
</tr>
<tr>
<td>zipsdir</td>
<td>Location of all Shiphomes and ZIP files</td>
</tr>
</tbody>
</table>

Table 4. Key to directories used in examples
8.1 Install JDK (JDK8 8u311 or higher)
Choose the location for the JAVA HOME, and untar the appropriate distribution JDK.

```bash
# Create JAVA_HOME staging area
$ mkdir -p stagedir/java
$ cd stagedir/java
$ pwd
stagedir/java

# Set required environment
$ JAVA_HOME=stagedir/java/jdk1.8.0_311 ; export JAVA_HOME
$ echo $JAVA_HOME
stagedir/java/jdk1.8.0_311

# Install Java bits
$ tar xzf zipsdir/jdk-8u311-linux-x64.tar.gz
$ ls jdk1.8.0_311
bin include lib man
...
$ cd $HOME

8.1.1 Confirm Correct Installation

$ PATH=$JAVA_HOME/bin:$PATH; export PATH
$ which java
stagedir/java/bin/java/jdk1.8.0_311

$ java -version
java version "1.8.0_311"
Java(TM) SE Runtime Environment (build 1.8.0_311-b11)
Java HotSpot(TM) 64-Bit Server....
```
8.2 Install Fusion Middleware Infrastructure

NOTE: FMW is always a software-only install.

```bash
# Confirm correct java version and path
$ which java
stagedir/java/bin/java/jdk1.8.0_311
$ java -version
java version "1.8.0_311"
Java(TM) SE Runtime Environment (build 1.8.0_311-b11)
Java HotSpot(TM) 64-Bit Server....

# Setup MW_HOME
$ MW_HOME=stagedir/OASMW; export MW_HOME
$ mkdir -p $MW_HOME
$ cd $MW_HOME

# Execute installer
$ java -jar zipsdir/fmw_12.2.1.4.0_infrastructure.jar
Launcher log file is /tmp/...

Extracting the installer... Done
Checking if CPU speed is above 300 MHz... Passed
Checking monitor: must be configured... Passed
Checking swap space: must be greater ... Passed
Checking if this platform requires a 64-bit JVM.... Passed ...
Checking temp space: must be greater ... Passed
Preparing to launch the Oracle Universal Installer from /tmp/...
```

If this is the first Oracle product being installed on this system

A preliminary screen is presented for the first Oracle Product Installed on a System:

1. Enter the directory location for Oracle Inventory files.
2. Enter the operating system group for Oracle Inventory files.

8.2.1 Step 1 – Welcome
8.2.2 Step 2 – Auto Updates

8.2.3 Step 3 – Installation Location

- For **Oracle Home**, choose the MW_HOME location from above (i.e., `stagedir` /OASMW)
- Click **Next**
8.2.4 Step 4 – Installation Type

- Choose 'Fusion Middleware Infrastructure' and then click Next.

8.2.5 Step 5 – Prerequisite Checks

- Review the results of the prerequisite steps and click Next.

8.2.6 Step 6 - Installation Summary

- Review the installation summary and click Install.
8.2.7 Step 7 – Installation Progress

- Review the progress, and when complete, click Next.

8.2.8 Step 8 – Installation Complete

- Click Finish

NOTE: OAS comes with its own configuration tools, do not run $MW_HOME/oracle_common/common/bin/config.sh
8.3 Install OAS

- Start the installer

```
# Confirm correct java and path
$ which java
stagedir/java/bin/java/jdk1.8.0_311
$ java -version
java version "1.8.0_311"
Java(TM) SE Runtime Environment (Build 1.8.0_311-b11)
Java HotSpot(TM) 64-Bit Server....
```

```
# Setup MW_HOME
$ MW_HOME=stagedir/OASMW ; export MW_HOME
$ mkdir -p $MW_HOME
$ cd $MW_HOME
```

```
# Execute installer
$ java -jar zipdir/Oracle_Analytics_Server_Linux_6.4.0.jar
Launcher log file is /tmp/OraInstall...
Extracting the installer . . . .
```

8.3.1 Step 1 – Welcome

8.3.2 Step 2 – Auto Updates
8.3.3 Step 3 – Choose Oracle Home
- Enter the same value here as was chosen for Fusion Middleware in ‘section 8.2.3 Step 3 – Installation Location’.
- Confirm this with the View button.

8.3.4 Step 4 – Pre-requisite Checks
- Once the checks have all passed, click Next.
8.3.5 Step 5 – Installation Summary

- Click Install.

Select Install to accept the above options and start the installation.

To change the above options before starting the installation, select the option to change in the left pane or use the Back button.

Install
Cancel

8.3.6 Step 6 – Installation Progress
8.3.7  Step 7 – Installation Complete

- Click Finish

8.4 Installation of required patch sets

There are two sets of patch steps that need to be followed. Each of these steps contain several sub-steps. The exact set of sub-steps are associated with the ongoing delivery of relevant CPUs (Critical Patch Updates).

Due to the nature of CPUs, this is a bit of moving target, and it best to follow the appropriate flows, as documented in the two below support notes.

1. Application of the OWSM bundle patch: 12.2.1.4.211129. See patch ID 33618954
2. Application of the latest Oracle Fusion Middleware patch set update: See document ID 2817011.1

For convenience, as of June 2022, the complete set of sub steps are shown below.

It is best to no rely on this specific set, but these are outlined to show the general progression of the patch application.

Required Patches as of August 30, 2022:

- To be applied, in order, after the OAS installation, and prior to OAS configuration:

<table>
<thead>
<tr>
<th>#</th>
<th>Size</th>
<th>File</th>
<th>Description</th>
<th>Patch #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.5M</td>
<td>p33618954_122140_Generic.zip</td>
<td>Required WSM Bundle Patch</td>
<td>33618954</td>
</tr>
<tr>
<td>2</td>
<td>454M</td>
<td>p18143322_1800_Linux-x86-64.zip</td>
<td>Java JDK-8u333</td>
<td>18143322</td>
</tr>
<tr>
<td>3</td>
<td>517M</td>
<td>p34080315_122140_Generic.zip</td>
<td>WLS_SPB_12.2.1.4.220418</td>
<td>34080315</td>
</tr>
<tr>
<td>4</td>
<td>2M</td>
<td>p33735326_12214220105_Generic.zip</td>
<td>Required WLS Overlay Patch</td>
<td>33735326</td>
</tr>
<tr>
<td>5</td>
<td>1.1M</td>
<td>p33791665_12214220105_Generic.zip</td>
<td>Required WLS Overlay Patch</td>
<td>33791665</td>
</tr>
<tr>
<td>6</td>
<td>34M</td>
<td>p33958532_122140_Generic.zip</td>
<td>Required ADF patch</td>
<td>33958532</td>
</tr>
<tr>
<td>7</td>
<td>20M</td>
<td>p34044738_122140_Generic.zip</td>
<td>Required third party CPUs</td>
<td>34044738</td>
</tr>
<tr>
<td>8</td>
<td>237K</td>
<td>p32784652_122140_Generic.zip</td>
<td>Required OPSS Patch</td>
<td>32784652</td>
</tr>
<tr>
<td>9</td>
<td>24K</td>
<td>p30613424_122140_Generic.zip</td>
<td>Required FMW Control Patch</td>
<td>30613424</td>
</tr>
<tr>
<td>10</td>
<td>6.2M</td>
<td>p33281560_122140_Generic.zip</td>
<td>Required Web Center Patch</td>
<td>33281560</td>
</tr>
</tbody>
</table>

Review the following for more OPatch information:
Doc ID 1587524.1 Using OUI NextGen OPatch 13 for Oracle Fusion Middleware 12c
https://support.oracle.com/rs?type=doc&id=1587524.1

SPECIAL NOTE REGARDING THE JDK-8U333 PATCH UPDATE (ITEM 2 IN THE TABLE ABOVE) - ADDITIONAL PATCH REQUIRED

- Enterprise Manager Fusion Middleware Control Login Fails after Installing or Upgrading to Java 8u331 (or later - April 2022 CPU or later)  (Doc ID 2865508.1)

<table>
<thead>
<tr>
<th>#</th>
<th>Size</th>
<th>File</th>
<th>Description</th>
<th>Patch #</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>145K</td>
<td>p34065178_122140_Generic.zip</td>
<td>Required FMW Control Patch</td>
<td>34065178</td>
</tr>
</tbody>
</table>
8.5 Pre-requisites for all the above patches

8.5.1 Ensure that ORACLE_HOME is set properly.

$ export ORACLE_HOME=$MW_HOME

8.5.2 Verify OPatch is 13.9.4 or later

$ $MW_HOME/OPatch/opatch version

OPatch Version: 13.9.4.2.1
OPatch succeeded.

8.5.3 Validate the OUI inventory with the following commands:

$ $MW_HOME/OPatch/opatch lsinventory -jre $ORACLE_HOME/oracle_common/jdk/jre

Oracle Interim Patch Installer version 13.9.4.2.1
Copyright ...
Oracle Home : .../OASMW
Central Inventory : .../app/oraInventory
    from : .../OASMW/oraInst.loc
OPatch version : 13.9.4.2.1
OUI version : 13.9.4.0.0
Log file location : .../OASMW/cfgtoollogs/opatch/opatch......
OPatch detects the Middleware Home as ".../oracle/OASMW"
lsinventory Output file location : .../oracle/OASMW/cfgtoollogs/opatch/lsinv/lsinventory...

Local Machine Information::
Hostname: oas.example.com
ARU platform id: ...
ARU platform description:: ...

8.5.4 For each patch, follow these standard Oracle patch procedures:

Create a location for storing the unzipped patch:
This location will be referred to later in the document as PATCH_TOP.

Installation Instructions
1. Unzip the patch zip file into the PATCH_TOP.
$ unzip -d PATCH_TOP p******.zip
2. Set your current directory to the directory where the patch is located.
$ cd PATCH_TOP/33618954
3. Run OPatch to apply the patch.
$ opatch apply

8.5.5 If the version of OPatch being used is no longer valid

$ $MW_HOME/OPatch/opatch apply
Oracle Interim Patch Installer version 13.9.4.2.1
Copyright (c) 2022...
Oracle Home : .../OASMW
Central Inventory : .../app/oraInventory
    from : /u01/oracle/OASMW/oraInst.loc
OPatch version : 13.9.4.2.1
OUI version : 13.9.4.0.0
Log file location : .../OASMW/cfgtoollogs/opatch/opatch......
OPatch detects the Middleware Home as ".../OASMW"
verifying environment and performing prerequisite checks...
Prerequisite check "CheckMinimumOPatchVersion" failed.
The details are:
The OPatch being used has version 13.9.4.2.1 while the following patch(es) require higher versions:
Patch 33618954 requires OPatch version 13.9.4.2.5.
Please download latest OPatch from My Oracle Support.
UtilSession failed: Prerequisite check "CheckMinimumOPatchVersion" failed.
Log file location: /u01/oracle/OASMW/cfgtoollogs/opatch/opatch...
OPatch failed with error code 73
8.5.6 Updating to latest Opatch

```
$ cd OPATCH/
$ unzip ../p28186730_139428_Generic.zip
Archive: ../p28186730_139428_Generic.zip
  creating: 6880880/
  inflating: 6880880/README.txt
  inflating: 6880880/opatch_generic.jar
  inflating: 6880880/version.txt
$ cd 6880880/
[oracle@emdev-secfwk2 6880880]$ ls -CF
opatch_generic.jar* README.txt* version.txt*
$ more README.txt
PATCH 28186730 - OPATCH 13.9.4.2.8 FOR ...
```

8.5.7 Follow the instructions in the rest of the README.txt

```
$ java -jar opatch_generic.jar
Launcher log file is ...
Extracting the installer . . . . Done
Checking if CPU speed is above 300 MHz Actual 2935.235 MHz Passed
Checking monitor: ... to display at least 256 colors. Actual 16777216 Passed
Checking swap space: must be greater than 512 MB. Actual 15257 MB Passed
Checking if this platform requires a 64-bit JVM. Actual 64 (-d64 flag is not required)
Checking temp space: must be greater than 300 MB. Actual 38870 MB Passed
Preparing to launch the Oracle Universal Installer from ...
```

8.5.8 Utilize the Next Gen Installer to update Opatch

8.5.8.1 Step 1 – Welcome

8.5.8.2 Step 2 – Choose Oracle Home
8.5.8.3 Step 3 – Language Selection

8.5.8.4 Step 4 – Skip Auto Updates

8.5.8.5 Step 5 – Installation Type

8.5.8.6 Step 6 – Java Home Location
8.5.8.7 Step 7 – Installation Summary

8.5.8.8 Step 8 – Installation Progress

8.5.8.9 Step 9 – Installation Complete
8.6 Proceed with Individual Patches

8.6.1 Patch 1: p33618954_122140_Generic.zip - Required WSM Bundle Patch - 33618954

```bash
$ export ORACLE_HOME=$MW_HOME
$ cd ../../33618954
$ $MW_HOME/OPatch/opatch apply
Oracle Interim Patch Installer version 13.9.4.2.8
Copyright (c)
Oracle Home : ../../OASMW
Central Inventory : ../../app/oraInventory
  from : ../../OASMW/oraInst.loc
OPatch version : 13.9.4.2.8
OUI version : 13.9.4.0.0
Log file location : ../../OASMW/cfgtoollogs/opatch/opatch...
OPatch detects the Middleware Home as "../OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches: 33618954
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system.
(Oracle Home = '../OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y
Back up files...
Applying interim patch '33618954' to OH '/u01/oracle/OASMW'
Patching component oracle.wsm.common, 12.2.1.4.0...
Patching component oracle.wsm.common, 12.2.1.4.0...
Patching component oracle.wsm.pmlib, 12.2.1.4.0...
Patching component oracle.osdt.core, 12.2.1.4.0...
Patching component oracle.wsm.jrf, 12.2.1.4.0...
Patching component oracle.wsm.agent.wls, 12.2.1.4.0...
Patch 33618954 successfully applied.
Log file location: ../../OASMW/cfgtoollogs/opatch/opatch...
OPatch succeeded.
```

8.6.2 Patch 2: p18143322_1800_Linux-x86-64.zip - Java JDK-8u333 - 18143322

```bash
$ export ORACLE_HOME=$MW_HOME
$ cd ../../../p18143322/
$ ls -Cr
jre-8u333-linux-x64.rpm* jre-8u333-linux-x64.rpm* readme.txt*
jdk-8u333-linux-x64.tar.gz* jre-8u333-linux-x64.tar.gz* server-jre-8u333-linux-x64.tar.gz*
$ more readme.txt
...
Note:
Installation instructions and Documentation is available with the JDK readme.
#
# ➔ Proceed to install updated java using local operating system
# ➔ conventions (for example, /usr/local/java, rpm, etc...)
# You should install the full JDK (i.e. "jdk-8u333-linux-x64")
... ...
$ java -version
java version "1.8.0_333"
Java(TM) SE Runtime Environment (build 1.8.0_333-b26)
Java HotSpot(TM) 64-Bit Server VM (build 25.333-b26, mixed mode)
$ javac -version
javac 1.8.0_333
```
8.6.3 Patch 3: p34080315_122140_Generic.zip - WLS_SPB_12.2.1.4.220418 – 34080315

8.6.3.1 Execute required precheck phase and correct any errors encountered.

```bash
$ export ORACLE_HOME=$MW_HOME
$ cd ...../33618954
$ # Study the README.html
$ # Oracle recommend using SPBAT automation.
$ # NOTE: By default SPBAT needs write access to the current directory.
$ # Therefore, ensure you have a local copy of this whole
directory hierarchy.
$ $ ./spbat.sh
$ SPBAT Release Version: 2.0.2
The current patching user oracle matches with the product install user oracle
-log_dir value is not set, defaulting it to
....p34080315/WLS_SPB_12.2.1.4.220418/tools/spbat/generic/SPBAT/logs
...
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
PRECHECK SUMMARY:
No Of FAILURES: 0
No Of WARNINGS: 0
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
SPBAT precheck phase has completed successfully
Time Taken to run precheck phase: 00 hours 03 min 52 secs
```

8.6.3.2 Execute apply phase

```bash
$ ./spbat.sh -phase apply -oracle_home $ORACLE_HOME
SPBAT Release Version: 2.0.2
The current patching user oracle matches with the product install user oracle
-log_dir value is not set, defaulting it to ...
Do not close this terminal as SPBAT apply phase is currently executing...
...
[2022-07-05 10-53-44] SPB OPatch version : 13.9.4.2.8
[2022-07-05 10-53-52] The environment already has the supported version of OPatch installed
[2022-07-05 10-54-01] List of patches present in the Oracle Home: ...../oracle/OASMW
33618954;OWSM BUNDLE PATCH 12.2.1.4.211129
31555397;One-off
31032676;One-off
30657796;One-off
[2022-07-05 10-54-01] Patch compatibility check with the environment is in progress...
[2022-07-05 10-55-18] CheckForNoOpPatches has Completed on /u01/oracle/OASMW Home
[2022-07-05 10-55-26] PATCH 33868012 APPLY WILL BE SKIPPED AS IT IS NOT APPLICABLE FOR THIS ENVIRONMENT
[2022-07-05 10-55-27] PATCH 34012040 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-27] PATCH 34080360 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-28] PATCH 1221413 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-28] PATCH 32647448 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-28] PATCH 33093748 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-29] PATCH 34077658 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-29] PATCH 32647448 IS #NOT APPLIED# IN THE ENVIRONMENT
[2022-07-05 10-55-29] Patch conflict check is in progress ...
[2022-07-05 10-55-40] Patch conflict check has completed on ...../oracle/OASMW Home
PRECHECK SUMMARY:
No Of FAILURES: 0
No Of WARNINGS: 0
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
[2022-07-05 10-57-28] Application of patches is in progress ...
[2022-07-05 11-04-41] SUCCESSFUL - OPatch napply has completed for wls Home
```

8-38
**Post Installation Steps - Verify SPB Patches in ORACLE_HOME inventory**

```
$ # the most popular generic installation will have a minimum of:
$ # WLS PSU
$ # Coherence
$ # ADR patches
$ #ORACLE_HOME/OPatch/opatch lspatches
34080360;WLS STACK PATCH BUNDLE 12.2.1.4.220418 (Patch 34080315)
34077658;RDA release 22.2-202020307 for OFM SPB
34012040;WLS PATCH SET UPDATE 12.2.1.4.220329
33093748;One-off
32720458;JDBC 19.3.0.0 FOR CPUJAN2022 (WLS 12.2.1.4, WLS 14.1.1)
32647448;Bug 31544353 - ADR FOR WEBLOGIC SERVER 12.2.1.4.0 JULY CPU 2020 for WebLogic Server SPB
1221413;Bundle patch for Oracle Coherence Version 12.2.1.4.13
33618954;OWSM BUNDLE PATCH 12.2.1.4.211129
31555397;One-off
31032676;One-off
30657796;One-off
```

8.6.4 Patch 4: p33735326_12214220105_Generic.zip - Required WLS Overlay Patch

```
This will fail, and indicate that patch 33727616 is to be applied.

We can ignore the failure:
```

```
8.6.3.3
```

---

8-39
8.6.5 Patch 5: p33791665_12214220105_Generic.zip - Required WLS Overlay Patch

```bash
$ export ORACLE_HOME=$MW_HOME
$ cd /33791665/
$ $MW_HOME/OPatch/opatch apply
```

*Same Error as in prior section.*
Can be ignored

8.6.6 Patch 6: p33958532_122140_Generic.zip - Required ADF patch

```bash
$ export ORACLE_HOME=$MW_HOME
$ cd /33958532/
$ $MW_HOME/OPatch/opatch apply
```

OPatch detects the Middleware Home as ".../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches: 33958532
Do you want to proceed? [y|n] Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system.
Is the local system ready for patching? [y|n] Y
User Responded with: Y

Backing up files...
Applying interim patch '33958532' to OH '/u01/oracle/OASMW'
ApplySession: Optional component(s) [ oracle.ide.usages.tracking, 12.2.1.4.0 ], [ oracle.jdeveloper.fmw.internal.tools, 12.2.1.4.0 ], [ oracle.ide.java, 12.2.1.4.0 ], [ oracle.ide.modeler, 12.2.1.4.0 ], [ oracle.ide.diagram, 12.2.1.4.0 ], [ oracle.jdeveloper.studio, 12.2.1.4.0 ], [ oracle.jdeveloper.studio, 12.2.1.4.0 ], [ oracle.ide.webservice.analyzer, 12.2.1.4.0 ], [ oracle.ide.java, 12.2.1.4.0 ], [ oracle.ide.db.connection, 12.2.1.4.0 ], [ oracle.ide.rescat2, 12.2.1.4.0 ], [ oracle.ide.vhv, 12.2.1.4.0 ], [ oracle.org.dom4j.dom4j, 2.1.1.0.0 ], [ oracle.org.dom4j.dom4j, 2.1.1.0.0 ], [ oracle.org.springframework.spring.aop.vrelease, 5.1.3.0.0 ], [ oracle.org.springframework.spring.context.vrelease, 5.1.3.0.0 ]
Patching component oracle.jrf.adfrt, 12.2.1.4.0...
Patching component oracle.org.dom4j.dom4j, 2.1.1.0.0...
Patching component oracle.org.dom4j.dom4j, 2.1.1.0.0...
Patch 33958532 successfully applied.
Log file location: ..../opatch2022-07-05_11-47-11AM_1.log
OPatch succeeded.

8.6.7 Patch 7: p34044738_122140_Generic.zip - Required third party CPUs

```bash
$ $MW_HOME/OPatch/opatch apply
```

Oracle Home : ...
OPatch detects the Middleware Home as ".../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches: 34044738
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system (Oracle Home='oracle/OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y

Backing up files...
Applying interim patch '34044738' to OH '/u01/oracle/OASMW'
ApplySession: Optional component(s) [ oracle.org.springframework.spring.orm.vrelease, 4.3.20.0.0 ], [ oracle.org.springframework.spring.orm.vrelease, 4.3.20.0.0 ], [ oracle.org.springframework.spring.context.support.vrelease, 4.3.20.0.0 ], [ oracle.org.springframework.spring.aop.vrelease, 5.1.3.0.0 ]
Patching component oracle.org.springframework.spring.aop.vrelease, 5.1.3.0.0...
Patch 34044738 successfully applied.
Log file location: .../oracle/OASMW/cfgtoollogs/opatch/opatch.....log
OPatch succeeded.
8.6.8 Patch 8: p32784652_122140_Generic.zip - Required OPSS Patch

$ cd ....../32784652
$ $MW_HOME/OPatch/opatch apply
Oracle Interim Patch Installer version...
OPatch detects the Middleware Home as ".../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches:   32784652
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system. (Oracle Home = '.../oracle/OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y
Backing up files...
Applying interim patch '32784652' to OH '/u01/oracle/OASMW'
Patching component oracle.jrf.iau, 12.2.1.4.0...
Patching component oracle.jrf.iau, 12.2.1.4.0...
Patching component oracle.opss.core, 12.2.1.4.0...
Patch 32784652 successfully applied.
Log file location: /u01/oracle/OASMW/cfgtoollogs/opatch/opatch....log
Patch succeeded.

8.6.9 Patch 9: p30613424_122140_Generic.zip - Required FMW Control Patch

$ cd ....../30613424
$ $MW_HOME/OPatch/opatch apply
Oracle Interim Patch Installer version 13.9.4.2.8...
OPatch detects the Middleware Home as ".../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches:   30613424
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system. (Oracle Home = '.../oracle/OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y
Backing up files...
Applying interim patch '30613424' to OH '/u01/oracle/OASMW'
Patching component oracle.sysman.fmw.core, 12.2.1.4.0...
Patch 30613424 successfully applied.
Log file location: /u01/oracle/OASMW/cfgtoollogs/opatch/opatch2022-07-06_11-44-29AM_1.log
OPatch succeeded.

8.6.10 Patch 10: p33281560_122140_Generic.zip - Required Web Center Patch

$ export ORACLE_HOME=$MW_HOME
$ cd ....../33281560
$ $MW_HOME/OPatch/opatch apply
Oracle Interim Patch Installer...
OPatch detects the Middleware Home as ".../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches:   33281560
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system. (Oracle Home = '/u01/oracle/OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y
Backing up files...
Applying interim patch '33281560' to OH '/u01/oracle/OASMW'
Patching component oracle.webcenter.wccore, 12.2.1.4.0...
Patching component oracle.webcenter.wccore, 12.2.1.4.0...
Patch 33281560 successfully applied.
Log file location: ....../oracle/OASMW/cfgtoollogs/opatch/opatch2022-07-06_12-02-49PM_1.log
OPatch succeeded.
8.6.11  Patch 11: p34065178_122140_Generic.zip – Required FMW Patch due to JDK Update

$ export ORACLE_HOME=$MW_HOME
$ cd ...../34065178
$ $MW_HOME/Opatch/opatch apply
Oracle Interim Patch Installer...
OPatch detects the Middleware Home as "..../oracle/OASMW"
Verifying environment and performing prerequisite checks...
OPatch continues with these patches: 34065178
Do you want to proceed? [y|n] y
User Responded with: Y
All checks passed.
Please shutdown Oracle instances running out of this ORACLE_HOME on the local system.(Oracle Home = '..../oracle/OASMW')
Is the local system ready for patching? [y|n] y
User Responded with: Y
Backing up files...
Applying interim patch '34065178' to OH '/u01/oracle/OASMW'
Patch 34065178 successfully applied.
Log file location: ....../oracle/OASMW/cfgtoollogs/opatch/opatch2022-08-30_11-48-03AM_1.log
OPatch succeeded.

8.7 Configure OAS – Ensure only to configure ‘Oracle Analytics Publisher’
For full details, see (Configuring Oracle Analytics Server, 2021) reference

$ cd $MW_HOME/bi/bin
$ ./config.sh

» Some highlighted Requirements:
   » Ensure to use the default domain name (bi).
   » Make sure no other Fusion Middleware products are running on the same physical host.
   » By convention, the schema prefix for the OAS required database schema shall be ‘oas’.

A NOTE ON THE REQUIREMENT OF A SEPARATE SYSTEM FOR ORACLE ANALYTICS SERVER

As part of the development of this guide, specific research on the system requirements for the standalone Oracle Analytics Server was undertaken.

The result of this research is a requirement for a separate system for Oracle Analytics Server, distinct from any system(s) that may be hosting Enterprise Manager.

Some of the details uncovered are:

• There are complexities involved in running multiple WebLogic applications on the same physical host.
  o This is true even if these WebLogic applications are installed into separate Oracle Homes and separate WebLogic Domains.
  o The main incompatible interaction is related to the Coherence Cluster Unicast TCP/IP Listen Port.
  o A WebLogic domain is created with a hard-coded, default value, for this port.
    ▪ This is true for any Fusion Middleware Product.
    ▪ This includes both Enterprise Manager and Oracle Analytics Server.
  o As a result, one, or both, of these extremely undesirable consequences are evident:
    ▪ Oracle Analytics Server configuration will fail.
    ▪ Enterprise Manager will fail to start, or restart.

• Beyond these specific issues, there is a larger issue associated with best practice system design.
• Of note, hosting two distinct products on the same system:
  o Greatly complicates life cycle management of Enterprise Manager.
  o Differing High availability requirements between Enterprise Manager and Oracle Analytics Server.
A NOTE ON THE REQUIREMENT TO ONLY CONFIGURE ORACLE ANALYTICS PUBLISHER

- It is imperative that in 'step 2 – configuration', shown on the next page, only the **Oracle Analytics Publisher** component is configured.
- If the **Oracle Analytics Server** product is also configured, it will not be possible to login to OAS as an Enterprise Manager administrator (when using the database security model).
- There will also be issues in running any reports, since the target-level privilege model will not function as intended.
8.7.1 Step 1 - Welcome Screen

Figure 3. Step 1 of 10: Start OAS Configuration

8.7.2 Step 2 – Configuration

- Be sure to only select Oracle Analytics Publisher.

Figure 4. Step 2 of 10: Only configure Oracle Analytics Publisher

NOTE: It is extremely important to only select “Oracle Analytics Publisher”
8.7.3 Step 3 - Prerequisite Checks

Figure 5. Step 3 of 10: Prerequisite Checks

» Make sure that all Prerequisite checks pass.
» Click next.
8.7.4 Step 4 - Define Domain

- For this example, the MW_HOME for OAS is chosen as: 
  `<stagedir>/OASMW`
- The domain is chosen as: `bi`
- And the domain is chosen as:  
  `<stagedir>/OAS/user_projects/domains/bi`
- Provide the required domain credential: 
  Username: `weblogic`
  Password: `******`
- Click `next`

Figure 6. Step 4 of 10: Define Domain
8.7.5 Step 5 - Database Schema

- The best practice is to choose the schema prefix: `oas`

- The OAS schema can be installed either on a dedicated Oracle RDBMS or co-located on the same database, or pluggable database, utilized for the Enterprise Manager Repository.
  
  - An Example of a dedicated OAS DBMS connect descriptor:
    
    `oasrepos.example.com:1521:orclpdb.us.oracle.com`

- It can be challenging to enter the correct syntax for the **Simple connect string**.

  Please consult relevant Oracle DBMS documentation, as well as Oracle Analytics documentation.

- Please consult ‘Appendix J - Details on the JDBC Simple Connect’ for more details.
8.7.6 Step 6 - Port Management

- This guide uses the default ports:
  
  **Port Range Starting Port:** 9500  
  **Port Range End Port:** 9999

» The default ranges from 9500 to 9999 should be adequate.

Figure 8.   Step 6 of 10: Port management

8.7.7 Step 7 - Initial Application

- Make sure to leave the default setting of **clean installation (default)**

Figure 9.   Step 7 of 10: Initial Application
8.7.8 Step 8 – Summary

- Make sure that **just Oracle Analytics Publisher** is shown for the Components being configured.

Figure 10. Step 8 of 10: Summary

- As soon as the **Configure** button is pressed, the configuration process begins.
### 8.7.9 Step 9 - Configuration Progress

- It can take some time for this to complete, and the real-time status can be monitored, as shown below.

```bash
$ cd $MW_HOME
$ ls -CF bi/
... jlib ...... config2022...
$ cd config2022...
$ tail -f startallservers.log
NodeManager started
Reading domain.../Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas1.example.com:9500
Starting AdminServer ...nmStart(AdminServer) succeeded
storing encrypted AdminServer credentials: adminServerUserConfig...
Setting restart interval for all system components to default 3600
Starting all servers...
Starting bi_server1 (Original State:SHUTDOWN) ...
NMProcess: ...oracle.dms.cam.metrics.LocalDmsChannel ...
NMProcess: INFO: DMS ...
Started bi_server1
Set runtime log level...
Setting oracle.wsm ...WARNING:1 for server: bi_server1
Finished starting servers
```

Figure 11. Step 9 of 10: Configuration Progress
8.7.10 Step 10 - Configuration Complete

When the configuration is complete, details of the environment are presented below.

- Please take note of these, as they are required in order to utilize OAS.
- The key items to verify are outlined, and are shown below:
  - Components: Oracle Analytics Publisher
  - Domain Name: bi
  - Admin Server: HTTP Port 9500
    - http://oashost.example.com:9500/em
    - http://oashost.example.com:9500/console
  - Managed Server: HTTP Port 9502
    - http://oashost.example.com:9502/xmlpserver/servlet/home
  - Connect String: oasrepos.example.com:1521:orcl.example.com
  - New RCU prefix: oas

Once verified, click Finish.

Figure 12. Step 10 of 10: Configuration Complete
CHAPTER 9. OAS SECURITY CONFIGURATION

This chapter provides an overview of the remaining configuration steps, which are somewhat complex.

BEFORE BEGINNING THE PROCEDURES DOCUMENTED IN THIS HANDBOOK, DOWNLOAD ANY CUSTOMIZED BIP REPORTS FROM THE EMBEDDED BIP IN EM 13.4, USING THE BIP USER INTERFACE.

There are two distinct OAS security models that are fully documented below.

Each of these two OAS security models map directly to a corresponding Enterprise Manager Security Configuration.

- **A single installation of OAS can only support one of the two security models below at any given time.**

### EM SECURITY CONFIGURATION

<table>
<thead>
<tr>
<th>OAS SECURITY MODEL AND ADDITIONAL REQUIRED STEPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enterprise Manager Repository-based security</td>
</tr>
<tr>
<td>- Out of box configuration</td>
</tr>
<tr>
<td>OAS Database Security Model</td>
</tr>
<tr>
<td>- Additional steps:</td>
</tr>
<tr>
<td>2. On EM Repository DBMS, perform DBMS role assignments.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. LDAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Without Single Sign On (SSO)</td>
</tr>
<tr>
<td>b. With Single Sign On (SSO)</td>
</tr>
<tr>
<td>OAS Fusion Middleware Security Model</td>
</tr>
<tr>
<td>- Additional steps:</td>
</tr>
<tr>
<td>1. Ensure OAS is configured for Fusion Middleware Security Model.</td>
</tr>
<tr>
<td>2. On OAS WebLogic Domain:</td>
</tr>
<tr>
<td>a. WebLogic Authentication Provider configuration.</td>
</tr>
<tr>
<td>b. Fusion Middleware Control Application Role assignments.</td>
</tr>
<tr>
<td>c. Edits to Java Platform Services (JPS) configuration file.</td>
</tr>
<tr>
<td>3. Further configuration Steps for SSO on OAS WebLogic Domain:</td>
</tr>
<tr>
<td>a. Additional WebLogic Authentication provider configuration.</td>
</tr>
<tr>
<td>b. Installation of Oracle HTTP Server (OHS).</td>
</tr>
<tr>
<td>c. Configuration of OHS with Oracle Webgate.</td>
</tr>
<tr>
<td>d. Oracle Access Manager (OAM) configuration.</td>
</tr>
<tr>
<td>e. Ensure OAS is a partner OAM application.</td>
</tr>
<tr>
<td>f. Edits to OHS Configuration files.</td>
</tr>
</tbody>
</table>

Table 5. OAS Security Configuration Steps

In order to change the OAS Security Model, access to the OAS Administration link, and the subsequent Administration screens, as shown in ‘Figure 17 - Administration Screens and Security Center. Needed for Security Configuration’, it is necessary to login to OAS as a user with the required permissions to access these pages.

When OAS is initially installed, the OAS Fusion Middleware security model is configured by default.

In this configuration, the weblogic user will always be available, with the password that was chosen during OAS configuration. See ’section 8.7.4 - Step 4 - Define Domain’.

Additionally, the weblogic user will by default have the required permissions to access the Administration screens.

If mistakes are made, and login to OAS using standard procedures is unavailable, or no user has the required permissions to access to the Administration link (and subsequent Administration screens), then there is no way to resolve issues using the OAS user interface and manual edits to XML configuration files would be required.

Given this, it is strongly recommended to enable the internal Superuser during these initial configuration steps.

This special Superuser does not rely on any underlying OAS security model, but instead utilizes the simpler file-based security model that is built-in to OAS.

For simplicity and proper management of OAS, ensure that the username chosen for this internal OAS Super User does not overlap with a real Enterprise Manager (or LDAP) user.

For example, **do not** use the name sysman.
9.1 Oracle Analytics Publisher Authentication and Report Execution Flow

There are four main interactions that all Enterprise Manager Administrators will utilize when Oracle Analytics Publisher is accessed.

1. Oracle Analytics Server Authentication
2. Oracle Analytics Server User Interface Capabilities.
3. Oracle Analytics Server Catalog Access.

9.1.1 OAS Authentication

As specified above, for Enterprise Manager 13.5, two main mechanisms for user authentication are provided:

1. Enterprise Manager Repository-based Security
2. LDAP, with or without SSO, based upon Fusion Middleware Security Providers.

9.1.2 OAS User Interface Privileges

OAS supports three hierarchical levels of User Interface Privileges.

As the levels below are followed, they are additive.

All capabilities from level 1 are available in level 2, and all capabilities from level 1 and level 2 are available in level 3, and all capabilities from levels 1, 2, and 3, are available in level 4.

<table>
<thead>
<tr>
<th>#</th>
<th>DESCRIPTION</th>
<th>DBMS ROLE</th>
<th>LDAP ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>View and execute OAS Reports.</td>
<td>MGMT_USER</td>
<td>BI Consumer</td>
</tr>
<tr>
<td>2</td>
<td>Schedule OAS Reports</td>
<td>XMLP_SCHEDULER</td>
<td>BI Consumer: Includes</td>
</tr>
<tr>
<td>3</td>
<td>Author OAS Reports (and manipulate catalog objects, see next table).</td>
<td>XMLP_DEVELOPER</td>
<td>BI Author</td>
</tr>
<tr>
<td>4</td>
<td>Administer OAS</td>
<td>XMLP_ADMIN</td>
<td>BI Administrator</td>
</tr>
<tr>
<td></td>
<td>○ Manage and maintain the OAS Security Model.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Manage and maintain the OAS Data Source Configuration (i.e., EMREPOS, EMREPOS2, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ Manage and maintain the OAS Scheduler.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>○ General OAS System Administration.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6. OAS Privileges
9.1.3 OAS Server Catalog Access

The same Role Names specified above are also utilized to provide varying levels of access to each OAS Catalog Object (reports, Datamodels, folders).

Typically, these Role Names are applied in a similar hierarchical manner as User Interface Level Access.

This works out as below:

<table>
<thead>
<tr>
<th>#</th>
<th>DESCRIPTION</th>
<th>DBMS ROLE</th>
<th>LDAP ROLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• View Reports, and corresponding Datamodels.</td>
<td>MGMT_USER</td>
<td>BI Consumer</td>
</tr>
<tr>
<td></td>
<td>• Expand Folder Nodes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Execute Reports (not applicable to Datamodels).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• Schedule OAS Reports.</td>
<td>XMLP_SCHEDULER</td>
<td>BI Consumer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(There is no separate FMW Scheduler Role by default)</td>
</tr>
<tr>
<td>3</td>
<td>• Edit, Cut/Copy/Paste/Delete OAS Catalog Objects (i.e., Reports, Datamodels, and folders).</td>
<td>XMLP_DEVELOPER</td>
<td>BI Author</td>
</tr>
<tr>
<td>4</td>
<td>• Full Capabilities on all Catalog Objects</td>
<td>XMLP_ADMIN</td>
<td>BI Administrator</td>
</tr>
</tbody>
</table>

Table 7. OAS Catalog Permissions

9.1.4 OAS Report Execution

Once an Enterprise Manager Administrator is logged into OAS, and has access to an OAS Report, the report itself can be executed (or scheduled).

When an OAS Report Executes, the execution model from Enterprise Manager 13.4 is maintained.

That is, for a given user logged into OAS, OAS Reports will only have target-level access to those Enterprise Manager Targets that that EM Administrator normally would have access to.

In this way, EM Data can be viewed inside of OAS with the same visibility as when utilizing the Enterprise Manager Console directly.

The following two sections provide a flow chart of the two main components of OAS Report Execution.

1. OAS Login Flow – Valid or invalid credentials provided.
2. OAS privilege assignment – If a user is valid, associate roles.
9.1.5 OAS Login Processing

Figure 13. OAS Login flow

Login Attempt

Invalid Login

OAS Login Flow

Invalid Login

SSO Configured?

NO

OAS Login Screen

Username

Password

EM Repository

DBMS

Valid Login

Oracle Database

OAS Security Model

Fusion Middleware

WebLogic LDAP Authenticator

LDAP Server Validation

Login

To OAS Privilege Assignment

LOGIN SUCCES

Username

Invalid Login

Valid Login

DBMS Validation Using `dba_users` Table

Login Attempt

SSO Login Screen (or pre-validated Authentication [prior login])

YES

OAS Login Module

Username

Password

Fusion Middleware

Username

Password
9.1.6  OAS Privilege Assignment

Figure 14.  OAS Privilege Assignment flow

From OAS Login Flow

Username

OAS Privilege Assignment

From OAS Login Flow

OAS Security Model

DBMS

FMW

Fusion Middleware

1 or more from:
- MGMT_USER
- XMLP_DEVELOPER
- XMLP_SCHEDULER
- XMLP_ADMIN

EM Repository DBMS

1 or more from:
- BI Consumer
- BI Author
- BI Administrator

WebLogic LDAP Authenticator

OPSS Policy Store

OAS UI

- Administration Links?
- Create/Edit Report Objects?
- Schedule Reports?
- Catalog Access (per report object)
CHAPTER 10. OAS FOR EM REPOSITORY-BASED SECURITY

As discussed earlier, the standalone OAS is to be configured either using OAS Database Security Model or the OAS Fusion Middleware Security Model.

This chapter details the steps for the OAS Database Security Model. If utilizing the Fusion Middleware Security Model, skip to ‘Chapter 11 - OAS LDAP Configuration – Enterprise Manager parity’.

From this point forward, the required steps are complex, and somewhat error prone.

This chapter details configuration of the standalone OAS against an Enterprise Manager Installation using the default security configuration of ‘Repository based Authentication’.

For this configuration of EM, the OAS ‘Database Security Model’ is utilized.

The referenced database for item 3 above will not necessarily be the same as items 1 and 2.

10.1 Create required DBMS roles and grant to required EM administrators.

Create the required roles, and minimal role grants, on the Enterprise Manager repository database:

```sql
$ sqlplus sys/●●●●●● as sysdba
sql> REM Create base roles
sql> create role XMLP_ADMIN;
sql> create role XMLP_DEVELOPER;
sql> create role XMLP_SCHEDULER;
sql> REM Create Role Hierarchy
sql> grant XMLP_DEVELOPER to XMLP_ADMIN;
sql> grant XMLP_SCHEDULER to XMLP_ADMIN;
sql> grant MGMT_USER to XMLP_ADMIN;
sql> grant XMLP_SCHEDULER to XMLP_DEVELOPER;
sql> grant MGMT_USER to XMLP_DEVELOPER;
sql> sql> REM Sysman gets super admin
sql> grant XMLP_ADMIN to sysman;
sql> exit;
```

When additional Enterprise Manager users need OAS permissions beyond basic report viewing, one or more of the above roles will need to be granted to them. For example:

```sql
$ sqlplus sys/●●●●●● as sysdba
sql> REM Grant any required roles to individual EM Administrators
sql> grant XMLP_DEVELOPER to USER1;
sql> grant XMLP_SCHEDULER to USER2;
sql> exit;
```

These roles form the basis of the termination in the flow chart from section 9.1.6 - OAS Privilege Assignment:

1 or more from:
- MGMT_USER
- XMLP_DEVELOPER
- XMLP_SCHEDULER
- XMLP_ADMIN

10.2 Preparation for upload of Oracle Provided Reports

In preparation for the upload of the Oracle Provided Reports, detailed in Chapter 15 - prepare for Oracle Provided Out of Box Reports, the following set of role grants should be created.

```sql
$ sqlplus sys/*●●●●●● as sysdba
REM Create base EMBIP roles
create role EMBIPADMINISTRATOR;
create role EMBIPAUTHOR;
create role EMBIPSCHEDULER;
create role EMBIPVIEWER;

REM Create Role Mapping
grant XMLP_ADMIN to EMBIPADMINISTRATOR;
grant XMLP_DEVELOPER to EMBIPAUTHOR;
grant XMLP_SCHEDULER to EMBIPSCHEDULER;
grant MGMT_USER to EMBIPVIEWER;

REM Ensure SYSMAN is an OAS Super Administrator
grant EMBIPADMINISTRATOR to SYSMAN;
```

10.3 Allowing access to Oracle Provided Reports for Individual EM users

The Oracle provided reports are installed with the four EMBIP* roles shown above.

For complete and proper access to these Oracle Provided Reports, ensure that the respective EMBIP* role(s) are assigned to the individual Enterprise Manager users.

- If there are many EM users to process, a small SQL script can be written for this purpose.

```sql
REM Setup an EMCC Report Author 'USER1'
grant EMBIPAUTHOR to USER1

REM Setup an EMCC Report Viewer 'USER2'
grant EMBIPVIEWER to USER2
```

10.4 Configure OAS for ‘Database Security Model’

The complete set of steps are outlined below, followed by example screenshots.

10.4.1 Step 1 - Login to OAS

- For first time configuration, login to OAS as the weblogic user.
  - If OAS is already configured for the ‘Database Security Model’, login as an Enterprise Manager Super Administrator, for example ‘SYSMAN’.
  - If neither of these logins are possible, and the instructions to setup a local SuperUser were followed, login as this local ‘SuperUser’.

![Login to OAS as the weblogic user (or the local SuperUser)](image)
10.4.2 Step 2 - Click on the Administration link

In the far right-hand side of the OAS user interface, just to the right-hand side of the Open link, single click on the user icon. In the drop-down menu that is shown, choose Administration.

![Figure 16. Click on the Administration link underneath My Account](image)

10.4.3 Step 3 - Security Configuration (located under Security Center)

After the Administration link is pressed, the Administration screen below should be shown.

- Underneath the Security Center label, choose Security Configuration.

![Figure 17. Administration Screens and Security Center. Needed for Security Configuration](image)
10.4.4 Step 4 - Enable the local Superuser

Due to the complexities associated with these steps, and the possibility of accidentally locking yourself out of OAS, it is highly recommended to temporarily enable the local SuperUser:

This *special* account is not designed to be utilized for running or scheduling reports, but only to administer OAS.

Proceed with these steps to enable this *special* account:

- Click the check-box next to **Enable Local Superuser**.
- Enter a username and password, for example:
  - User: SuperUser
  - Password: **********

![Enable Local Superuser](image)

**TIP** Any changes will only take effect after the application is restarted.
10.4.5  Step 5 – Configuring the OAS Database Security Model

Configuration settings for the OAS Database Security Model are somewhat error prone.

- Detailed instructions follow and can be found in the standard OAS documentation set.\(^{21}\)

10.4.5.1  Step 5, Part 1 - Determining the proper value for the JDBC Simple Connect Descriptor

It can be challenging to enter the correct syntax for the Simple connect string.

Please consult relevant Oracle DBMS documentation, as well as Oracle Analytics documentation.\(^{22}\)

Please consult ‘Appendix J - Details on the JDBC Simple Connect’ for more details and tools that can be utilized to determine the correct values to enter below.

A trivial example is shown below:

- jdbc:oracle:thin:@emrepos.example.com:1521/orclpdb.example.com

10.4.5.2  Step 5, Part 2 - Determining the Administrator Username and Password

The Administrator username and password are straightforward. They are simply 'sysman' and the sysman password.

10.4.5.3  Step 5, Part 3 - Example values

Security Model: Oracle Database

Connection String: jdbc:oracle:thin://emrepos.example.com:1521:orclpdb.example.com

Administrator Username: sysman

Administrator Password: ●●●●●●

Database Driver Class: oracle.jdbc.driver.OracleDriver

\(^{21}\) Integrate with Oracle Database Security

\(^{22}\) Configuring the Oracle Analytics Server Domain with the Configuration Assistant
10.4.6 Step 6 - Setting the OAS Security Model to “Oracle Database”

Scroll down to the Authorization section and fill in the appropriate fields.

- Make sure that 'Use LDAP' is not checked.
- Make sure that the Security Model is set to Oracle Database.
- Fill in the appropriate connect descriptor for the Enterprise Manager Repository DBMS.
- Ensure to provide the sysman credentials.

NOTE: The database connection string and credentials are for the EM Repository database, and not for the OAS database.

10.4.7 Step 7 - Hit apply

10.4.8 Step 8 - Notice that a restart of the application is required
10.4.9 Step 9 - Shutdown OAS
Use the instructions in Appendix F - Stopping the full OAS stack.

10.4.10 Step 10 - Startup OAS
Use the instructions Appendix E - Starting the full OAS stack.

10.4.11 Step 11 - Monitor the bipublisher.log file for errors
In case the connect descriptor was entered incorrectly, monitor the bipublisher.log during the startup process.

```bash
$ cd $MW_HOME/user_projects/domains/bi/servers/bi_server1/logs
$ tail -f bi_server1.outXXXX
... java.sql.SQLRecoverableException: Listener refused the connection with the following error: ORA-12514, TNS:listener does not currently know of service requested in connect descriptor
    at oracle.jdbc.driver.T4CConnection.logon(T4CConnection.java:855) ...
    at oracle.xdo.security.OraValidator.validate(OraValidator.java:117) ...
    at oracle.xdo.servlet.security.ORCLDBSecurityHandler...
    at oracle.xdo.servlet.security.ORCLDBSecurityHandler.getPrincipal ...
... ...
```

10.4.12 Step 12 – Confirm success
If no errors are encountered, you can proceed to login to OAS using the SYSMAN account and credentials.

![Login to OAS as the SYSMAN User](image)

10.4.13 Confirm the correct OAS Group Assignments

![Confirm Database Security Model](image)

10.5 Proceed to next steps in the guide
Once all the steps in this chapter are completed, proceed to Chapter 14 - Configuration of required OAS Datasource(s).
CHAPTER 11. OAS LDAP CONFIGURATION – ENTERPRISE MANAGER PARITY

As discussed earlier, the standalone OAS is to be configured either using OAS Database Security Model or the OAS Fusion Middleware Security Model.

This chapter details the steps for the Fusion Middleware Security Model.

If utilizing the OAS Database Security Model, and chapter 10 has been completed successfully, skip to ‘chapter Chapter 14 - Configuration of required OAS Datasource(s)’. Otherwise, continue with this chapter.

If Enterprise Manager is configured with LDAP alone, or LDAP along with Single Sign-on, the steps in this chapter are a required step to for the OAS configuration to match the Enterprise Manager configuration.

For this configuration of EM, the default OAS ‘Fusion Middleware Security Model’ is utilized.

There are four steps to achieve this required configuration for OAS. These three steps are required whether OAS is to be configured with Single Sign-on (SSO) or not.

1. Configure the OAS Security Model:
   - Section 11.1- OAS Security Model Configuration – OAS Administration Steps:
     - Utilizing the OAS Administration screens.
     - Requires either the SYSMAN, weblogic, or SuperUser credentials, as appropriate for the existing OAS Security Model).

2. Configure the OAS WebLogic Domain:
   - Section 11.2- OAS WebLogic Domain Configuration – Using the WebLogic Console UI
     - Utilizing the WebLogic console UI.
     - Requires the weblogic credentials.

3. Configure the OAS WebLogic Domain’s Java Platform Services (JPS):
   - Section 11.3 - Configuration of Java Platform Services (JPS)
     - Utilizing the command-line.
     - Requires Operating System privileges to the OAS WebLogic domain’s filesystem.

4. Grant OAS Fusion Middleware Application roles to EM LDAP Users and/or LDAP Groups:
   - Section 11.4 - Mapping Fusion Middleware Application roles to EM LDAP Users
     - Utilizing Fusion Middleware Control.
     - Requires the weblogic user’s credentials.

If SSO is required, on top of LDAP, there are several more steps, making for a possible total of 11 steps.

5. Install Oracle HTTP Server (OHS).
6. Extend the OAS WebLogic Domain with the collocated OHS using the config.sh script.
7. Configure OHS for OAS using Fusion Middleware Control.
8. Configure Oracle Webgate, running on top of OHS.
9. Configure and add the OAM Identity Asserter to the list of WebLogic Security Providers.
10. Reorder the WebLogic Authentication Providers.
11. Perform the OAS Required Steps.
12. Edit ServerName directive in httpd.conf.

These additional steps are fully documented in ‘Chapter 12 - Optional Configuration of SSO on top of LDAP’
11.1 OAS Security Model Configuration – OAS Administration Steps

- Due to possible user errors locking out access to OAS, a fallback ‘Super User’ is highly recommended.

11.1.1 Step 1 - Login to OAS

- For first time configuration, login to OAS as the weblogic user.
- If OAS is already configured for the ‘Database Security Model’, login as an Enterprise Manager Super Administrator, for example ‘SYSMAN’.
- If neither of these logins are possible, and the instructions to setup a local SuperUser were followed, login as this local ‘SuperUser’

11.1.2 Step 2 - Click on the Administration link underneath My Account

Towards the top right-hand section of the OAS user interface, above the Open link, and to the left of the Help link, click on the Administration link.
11.1.3 Step 3 - Security Configuration (located under Security Center)

After the Administration link is pressed, the Administration screen below should be shown.

- Underneath the Security Center label, choose Security Configuration.

11.1.4 Step 4 - Enable the local SuperUser

Due to the complexities associated with these steps, and the possibility of accidentally locking yourself out of OAS, it is highly recommended to temporarily enable the local SuperUser:

- This special account is not designed to be utilized for running or scheduling reports, but only to administer OAS.

Proceed with these steps to enable this special account:

- Click the check-box next to Enable Local Superuser.
- Enter a username and password, for example:

  - User: SuperUser
  - Password: ●●●●●●
11.1.5 Step 5- Confirm correct configuration of ‘Fusion Middleware Security Model’

- For the first LDAP configuration, without Single Sign-On, make sure that **Use Single Sign-On** is not checked.
  - For subsequent configuration of Single Sign-on, the steps are outlined in ‘Chapter 12 - Optional Configuration of SSO on top of LDAP’.
  - LDAP configuration is a pre-requisite for Single Sign-On, but do not set that option at this stage.
- Make sure that ‘Allow Guest Access’ is not checked.
- Make sure that ‘Use Single Sign-On’ is not checked.
- Make sure that ‘Use LDAP’ is not checked.
- Make sure that the ‘Security Model’ is set to **Oracle Fusion Middleware**.
- Make that ‘Fusion Apps Security’ is not checked.

Figure 27. Ensure that **Oracle Fusion Middleware** Security Model is configured correctly.
11.2 OAS WebLogic Domain Configuration – Using the WebLogic Console UI

The overall goal of these sections is to configure the OAS WebLogic domain's Security Configuration in such a way that it is functionally identical to Enterprise Manager's WebLogic domain Security Configuration.

**config.xml**

*Inspection* of specific details of the WebLogic domain(s) can be found in the *config.xml* file, for the respective WebLogic domains (i.e., the Enterprise Manager WebLogic Domain and/or the standalone OAS WebLogic Domain).

- Under no circumstances should the *config.xml* file be directly edited or manipulated directly.
- Ensure that all inspection of the *config.xml* is done in read-only mode (i.e., using the command-line tools `[more, less, view, vi -r]`).
- Editing the *config.xml*, *even if backups are made beforehand*, can result in corruption of the WebLogic domain.

**Approved Fusion Middleware Tools**

Throughout the rest of these sections, all examples will utilize the below WebLogic tools.

- WebLogic Console
- Fusion Middleware Control
- WLST Scripting tool

The screenshots will consistently display the OAS WebLogic console on the left-hand side of the screenshot, and the EM WebLogic console is on the right-hand side of the screenshot.

The easiest approach for implementing the screenshots on the following pages is to bring up the WebLogic console for the EM domain side-by-side with the OAS WebLogic domain.

---

*Due to certain limitations in the WebLogic console's user interface, it is necessary to utilize two separate browser sessions.*

Our approach is to use a specific browser for each of the WebLogic consoles (i.e., Chrome for EM, and Firefox for OAS).

**Preliminary Steps**

For each WebLogic console, it is necessary to get to the Authentication Providers screen.

To navigate to the Authentication Providers screen, on both WebLogic consoles, follow the four steps below (screen shots are on the next page).

- Login to the WebLogic console as the weblogic user
- On the left-hand side of the browser window, underneath the Domain Structure, click on the link for Security Realms.

» The list of security realms is shown. There should just be one realm, named myrealm.

- Click on myrealm.

The settings for myrealm are shown.

- Click on the tab for Providers.

Remember, these four steps must be performed for each WebLogic console.

The OAS console should be on the left-hand side of your desktop, and EM on the right-hand side.

If the above four steps are performed correctly, then you will see screens similar to what is shown in either Figure 31 - Comparison of WebLogic Security Configurations – Oracle Internet Directory, or in Figure 32 - Comparison of WebLogic Security Configurations – Microsoft Active Directory.
11.2.1 Step 1 - Login to WebLogic console

- http://oa.example.com:9500/console

Figure 28. Step 1: Logic to WebLogic Consoles

11.2.2 Step 2 - Click on Security Realms

Figure 29. Step 2: Click on Security Realms for each WebLogic console

11.2.3 Step 3 - Click on myrealm and then the Providers tab

Figure 30. Step 3: Click on myrealm and then the Providers tab in each WebLogic console
11.2.4 Step 4 - Duplicating Enterprise Manager’s LDAP configuration

In the screenshots below, the default WebLogic Security Configuration for OAS is shown on the left. The WebLogic Security Configuration for an Enterprise Manager that is configured to utilize Oracle Internet Directory (OID), and Microsoft Active Directory, respectively, as the LDAP store, is shown on the right.

11.2.4.1 Step 4 - Topic 1 - Comparison of WebLogic Security between EM and OAS

Please note that these Enterprise Manager Screenshots are from sites with either OID or AD, but without SSO.

The following two screenshots provide some more details of the two separate domains.
11.2.4.2 Step 4 - Topic 2 - WebLogic Security Configuration for OAS

In the end, the overall goal is to configure the OAS WebLogic domain to process authentication requests in a similar manner as EM.

For more details on the WebLogic Authentication Architecture, please refer to 'Appendix K - WebLogic Authentication Providers'.
11.2.5  Overview of steps to configure OAS identically to EM

In summary, the overall goal of configuring OAS for LDAP security, is such that the OAS WebLogic domain is configured with the same overall architectural configuration as Enterprise Manager.

When we begin this procedure, the two WebLogic domains are shown below, with the default WebLogic security configuration for OAS is on the left, and the default WebLogic security configuration for EM, configured with LDAP, on right.

Note: We are not modifying or changing anything in the EM WebLogic Domain, but simply using it to assist in the configuration of the OAS WebLogic Domain.

11.2.5.1  Comparison at start of procedures

Figure 35.  Comparison of OAS WebLogic Domain to EM WebLogic domain at beginning of procedures

11.2.5.2  Comparison at end of procedures

At the end of the series of steps on the following pages, the results will look like the below screen shot (without SSO).

Figure 36.  Comparison of OAS WebLogic Domain to EM WebLogic Domain - Completed
11.2.5.3 Detailed Steps for Configuration of OAS for LDAP

Returning to the earlier discussion, the easiest approach to achieving parity between the OAS WebLogic Domain, and EM's WebLogic Domain, is to use a specific browser for each of the WebLogic consoles (i.e. Chrome for EM, and Firefox for OAS).

For this example, the WebLogic console UI for the EM domain is brought up side-by-side with the WebLogic console UI for OAS.

The screenshots in the remainder of this section assume that the OAS WebLogic console is on the left-hand side of the desktop, and the EM WebLogic console is on the right-hand side.

For each WebLogic console, it is necessary to get to the Authentication Providers.

To navigate to this screen, on both WebLogic consoles, follow these four steps:

1. Login to the WebLogic console as the weblogic user
2. On the left-hand side of the browser window, underneath the Domain Structure, click on the link for Security Realms.
   - The list of security realms is shown.
   - There should just be one realm, named myrealm.
3. Click on myrealm.
   - The settings for myrealm are shown.
4. Click on the tab for Providers.

Screenshots for each of these steps are shown in Sections 11.2.1, 11.2.2, and 11.2.3.

- Remember, these four steps must be performed for each WebLogic console.
- To reiterate, the OAS WebLogic console UI will be on the left-hand side of your desktop, and EM WebLogic console UI will be on the right-hand side.

If the above four steps are performed correctly, then you will see WebLogic console similar to what is shown in Figure 35 - Comparison of OAS WebLogic Domain to EM WebLogic domain at beginning of procedures.

There are a total of 10 steps for this set of configuration items.

11.2.5.3.1 Step 1 – Edit the runtime configuration of the OAS WebLogic Domain

To perform editing operations on a Production WebLogic Domain (the default):

- Login to the OAS WebLogic Console UI as the weblogic user.
- In the top left-hand corner of the UI, click on Lock & Edit.
11.2.5.3.2 Step 2 - Configure WebLogic Provides

The next steps add a new WebLogic Authentication Provider:

- One of the below:
  - Oracle Internet Directory (OID) or
  - Microsoft Active Directory.

Ensure that you have navigated correctly to the settings for myrealm.

Ensure that the first tab Authentication is in focus.

**Steps:**

1. Click on the New button.
2. In the text box for the Name: field, choose a name as appropriate:
   - BIP_OID_Provider or BIP_AD_Provider
3. In the drop-down for the Type: field, scroll down, and choose as appropriate:
   - OracleInternetDirectoryAuthenticator
   Or:
   - ActiveDirectoryAuthenticator

Click on the OK button.

---

**Oracle Internet Directory**

- Click on the New button.
- In the Name: field, choose a name as appropriate:
  - BIP_OID_Provider
- In the Type: field, scroll down, and choose as appropriate:
  - OracleInternetDirectoryAuthenticator

**Microsoft Active Directory**

- Click on the New button.
- In the Name: field, choose a name as appropriate:
  - BIP_AD_Provider
- In the Type: field, scroll down, and choose as appropriate:
  - ActiveDirectoryAuthenticator

---

Figure 38. Add the BIP_OID_Provider or BIP_AD_Provider to OAS WebLogic Domain
11.2.5.3.3 Step 3 - Re-order the providers – Enterprise Manager 13.5 no longer requires this

11.2.5.3.4 Step 4 – Confirm correct ordering of providers

Confirm that the ordering matches the screenshots below:

![Correct order of WebLogic Authentication Providers – Oracle Access Manager (SSO) with OID](image1)

**Figure 39.** Correct order of WebLogic Authentication Providers – Oracle Access Manager (SSO) with OID

11.2.5.3.5 Step 5 – Change the OID Provider to SUFFICIENT

By default, both the BIP_OID_Provider and the BIP_AD_Provider are configured as OPTIONAL, with the WebLogic defaults.

Click on the appropriate provider (BIP_OID_Provider or BIP_AD_Provider) and then change the provider to be SUFFICIENT.

Change the Control Flag: drop-down from OPTIONAL to SUFFICIENT.

![Change BIP_OID_Provider from OPTIONAL to SUFFICIENT](image2)

**Figure 40.** Change BIP_OID_Provider from OPTIONAL to SUFFICIENT
11.2.5.3.6 Step 6 – Configure OID Provider for OAS WebLogic Domain

The next step is to configure the OID Provider for OAS WebLogic Domain to match EM’s WebLogic Domain.

The following sub-sections detail the required configuration requirements that are specific to the BIP_OID_Provider.

- Each WebLogic Authenticator supports provider-specific configuration parameters.

The overall goal is to configure the BIP_OID_Provider’s **Provider Specific** configuration parameters to match the EM_OID_Provider’s **Provider Specific** configuration parameters.

The configuration settings for the **Oracle Internet Directory** provider specific parameters are quite complex.

Due to the large size of the configuration parameters screen, three screenshots are shown for the single configuration screen.

The procedure will be to copy entries from the right side of your desktop (with the EM WebLogic Domain) to the left side of your desktop (with the OAS WebLogic Domain).

![Figure 41. Configure OAS with Oracle Internet Directory provider Specific parameters](image)
11.2.5.3.7  Step 7 - Configure the OAS provider specific screens

- There are several items that need to be configured on this page. It is broken up into 3 sections below.
- The fourth step is required to save the changes made.

11.2.5.3.7.1  Step 7 - 1st Section of OAS Provider Specific Configuration Parameters

1) Provide the Hostname of the common LDAP server to be shared between EM and OAS.
2) Provide the same port for OAS as EM is using.
3) Provide same principal for OAS as EM is using.
4) Provide same credential for OAS as EM is using.
5) Copy/Paste the following items from EM to OAS:
   a. User Base DN
   b. All Users Filter
   c. Users from Name Filter
6) Ensure to select **Use Retrieved Username as Principal**
Step 7 - 2nd Section of OID Provider Specific Configuration Parameters

1) Copy/Paste the following items from EM to OAS:
   a. Group Base DN
   b. All Groups Filter
   c. Group from Name Filter

2) Copy/Paste Static Group DNs from Member DN... from EM to OAS.
11.2.5.3.7.3 Step 7 - 3rd Section of OID Provider Specific Configuration Parameters

1) Copy/Paste Results time limit from EM to OAS.
2) Make sure the radio buttons are not selected.

Figure 45. Third Section of BIP_OID_Provider changes

11.2.5.3.7.4 Step 7 - Part 4 - Press the Save button.

Figure 46. Save the changes made to the provider specific screens
11.2.5.3.8  Step 8 – Change the DefaultAuthenticator from REQUIRED to SUFFICIENT

The DefaultAuthenticator must be changed from REQUIRED to SUFFICIENT, otherwise logins will fail.

- There are 5 parts to the step.

11.2.5.3.8.1  Step 8 - Part 1 - Ensure that the Domain is in the Edit Settings mode:

Figure 47. Ensure the domain is in the Lock & Edit Mode

11.2.5.3.8.2  Step 8 - Part 2 - From the Providers page (sections 11.2.1.1.2.211.2.3):

Security Providers → myrealm → Providers tab

Figure 48. Navigate to the Providers tab

11.2.5.3.8.3  Step 8 - Part 3 - Click on the DefaultAuthenticator

Figure 49. Click on the Default Authenticator
11.2.5.3.8.4  Step 8 - Part 4 - Change the Control Flag from REQUIRED to SUFFICIENT

This page displays basic information about this WebLogic Authenticator the login sequence.

- **Name:** DefaultAuthenticator
- **Description:** WebLogic Authentication
- **Version:** 1.0
- **Control Flag:** SUFFICIENT

Save

Figure 50. Change DefaultAuthenticator from REQUIRED to SUFFICIENT and Save the changes

11.2.5.3.8.5  Step 8 - Part 5 – Activate the changes
11.3 Configuration of Java Platform Services (JPS)

To fully utilize an LDAP Server, such as Oracle Internet Directory (OID) or Microsoft Active Directory (AD), it is necessary to configure the Oracle Virtual Directory (OVD) subsystem.

This requires logging into the Operating System for the OAS product’s Oracle Home and issuing the command-lines below. Prior to editing these files, it is necessary to bring down the entire stack. See 'Appendix F - Stopping the full OAS stack'.

There are two required steps:

1. Configure the Java Platform Services (JPS) to utilize Oracle Internet Directory (OID) for Fusion Middleware role mapping.
2. Configure OVD to support the 'BlindTrustManager'.

Part 1 - Configure Java Platform Services

The file `jps-config.xml` needs to be edited by adding the following text as shown below:

```xml
<property name="virtualize" value="true"/>
```

```
$ cd $MW_HOME
$ cd user_projects/domains/bi/config/fmwconfig
$ cp jps-config.xml jps-config.xml.ORIG
$ vi jps-config.xml
$ diff -b jps-config.xml jps-config.xml.ORIG
84d83
< <property name="virtualize" value="true"/>
```

After the edits, the file `jps-config.xml` should look something like this:

```
Line#  Text
80   <serviceInstance name="idstore.ldap" provider="idstore.ldap.provider">
81   <description>LDAP Identity Store Service Instance</description>
82   <property name="idstore.config.provider" value="......
83   <property name="CONNECTION_POOL_CLASS" value="......
84<property name="virtualize" value="true"/>
85  </serviceInstance>
```

Part 2 - Configuring Oracle Virtual Directory (OVD)

The file `provider.os_xml` needs to be edited by changing the text as shown below:

```xml
<property name="enabled" value="true"/>
```

```
$ cd $MW_HOME/user_projects/domains/bi/config/fmwconfig/ovd/default/
$ cp provider.os_xml provider.os_xml.ORIG
$ diff -b provider.os_xml provider.os_xml.ORIG
58c58
< <property name="enabled" value="true"/>
---
> <property name="enabled" value="false"/>
```

After the edits, the file should look something like this:

```
Line#  Text
55   <provider name="BlindTrustManager">
56   <configClass>oracle.ods.virtualization.config.BlindTrustManagerProviderConfig</.....
57   <properties>
58<property name="enabled" value="true"/>
59   </properties>
60   </provider>
```
11.4 Mapping Fusion Middleware Application roles to EM LDAP Users

As a pre-requisite, all the steps in the three prior sections: 11.1, 11.2, and 11.3 must have already been completed.

If the prior section was followed, the full OAS stack should be down. If not, go back to that section and re-check the steps.

Start the full OAS stack, using the instructions in 'Appendix E - Starting the full OAS stack'.

This section will detail the steps for granting OAS Fusion Middleware Application roles to LDAP Users, and/or LDAP Groups, utilizing Fusion Middleware Control.

These same LDAP users and LDAP groups will be shared between the two products (Enterprise Manager and Oracle Analytics Server).

The specifics role names and mapping form the basis of the termination in the flow chart shown in section 9.1.6 - OAS Privilege Assignment:

### NOTES:

- The three roles above would have already been created as part of the initial OAS Configuration.
- These roles are managed by the Oracle Platform Services (OPSS) as part of the `obi-stripe`.
- The `obi-stripe` is created as part of OAS configuration, and populated with these three roles, in a hierarchical manner.

<table>
<thead>
<tr>
<th>OBI-Stripe Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI Consumer</td>
<td>Can login to OAS and view reports</td>
</tr>
<tr>
<td>BI Consumer</td>
<td>Can also schedule OAS reports</td>
</tr>
<tr>
<td>BI Author</td>
<td>Can manipulate the OAS catalog (cut/copy/paste/delete)</td>
</tr>
<tr>
<td>BI Author</td>
<td>Can also edit OAS reports</td>
</tr>
<tr>
<td>BI Administrator</td>
<td>Full access to OAS, including access to the special <strong>Administration</strong> screens.</td>
</tr>
</tbody>
</table>
11.4.1 Step 4 Part 1 – Login to Fusion Middleware Control
Login to Fusion Middleware control, in a browser, as the 'weblogic' user.
For example:
http://oas.example.com:9500/em

11.4.2 Step 4 - Part 2 - Configure Fusion Middleware Application Roles for OAS
11.4.3 Step 4 - Part 3 - Select the ‘obi’ Application Stripe and click the search button

11.4.4 Step 4 - Part 4 - Select the Role BIServiceAdministrator
11.4.5  Step 4 - Part 5 - Press **Edit**

![Oracle Enterprise Manager Fusion Middleware Control 12c]

**Application Roles**

Application roles are the roles used by security-aware applications that are specific to the application. These roles are used to define roles that are created in the context of an application.

- **Policy Store Provider:**
  - **Search**

Select an application scope and enter a search keyword for the role name to search for roles defined by this application.

- **Application Scope:** obi
- **Role Name:** Starts With

View [Create... Create Like Edit Delete]

**View**

<table>
<thead>
<tr>
<th>Role Name</th>
<th>Display Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI_detailModelAuthor</td>
<td>BI Data Model Author</td>
<td>Users with this role can author detail model definitions.</td>
</tr>
<tr>
<td>DCConsumer</td>
<td>BI Consumer</td>
<td>Users with this role are allowed to create detail model definitions.</td>
</tr>
<tr>
<td>BICredentialAuthor</td>
<td>BI Content Author</td>
<td>Users with this role are allowed to create detail model definitions.</td>
</tr>
<tr>
<td>BIDeleteAuthor</td>
<td>BI DatedAuthor</td>
<td>Users with this role are allowed to create detail model definitions.</td>
</tr>
<tr>
<td>DVCredentialAuthor</td>
<td>BI Content Author</td>
<td>Users with this role are allowed to create detail model definitions.</td>
</tr>
<tr>
<td>BICredentialConsumer</td>
<td>BI Consumer</td>
<td>Users with this role are allowed to create detail model definitions.</td>
</tr>
</tbody>
</table>

**11.4.6  Step 4 - Part 6 – Press **Add**

![Oracle Enterprise Manager Fusion Middleware Control 12c]

**Edit Application Role: BI isempty Administrat...**

Role (or Enterprise Role) is the group of users designed at the enterprise level and typically used by the organization.

- **General**
  - **Application Scope:** obi
  - **Role Name:** BIServiceAdministrator
  - **Display Name:** BI Service Administrator
  - **Description:** This role confers privileges required to administer the sample application.

- **Members**

An application role may need to be mapped to users or groups defined in enterprise LDAP service.

View [Add Delete]

**Name**

weblogic
11.4.7  Step 4 - Part 7 - Add the required Principals
Enter a value for the **Principal Name**, for example `emLDAP`, and press the **search** arrow.

11.4.8  Step 4 - Part 8 - Select an LDAP user, for example `emLDAPUser1` and press **OK** in bottom right.
11.4.9  Step 4 - Part 9 – Confirm the selection by pressing **OK** in the top right

11.4.10  Step 4 – Part 10 – Confirm the changes are complete
11.4.11  Step 4 - Part 11 - Push any changes to OBI stripe

It can sometimes be necessary to bounce OAS for the changes to the OBI-stripe to propagate. To push the changes immediately:

- Bring Down OAS, the Admin Server, and the node manager:
  - Appendix F - Stopping the full OAS stack
- Start the full OAS stack:
  - Appendix E - Starting the full OAS stack

11.4.12  Step 4 – Part 12 - Confirm the operations from the prior step are complete

For final confirmation of the above steps, login to OAS as LDAP user that was just configured.

11.4.12.1  Step 4, Part 12, section 1 - Login to the OAS console as the user edited, for example emLDAPUser1

11.4.12.2  Step 4, part 12, section 2 - In the top right hand of the screen, select the user’s icon and My Account
11.4.12.3  Step 4, part 12, section 3 - Select the tab **My Group**

11.4.12.4  Step 4, part 12, section 4 - Confirm the correct entries in **My Groups**
11.5 Step 5 – Operations Complete

All the required operations to configure OAS for LDAP are now complete.

- If single sign-on is not required, skip to 'Chapter 14 - Configuration of required OAS Datasource(s)'.
- If single sign-on is required, continue to the next chapter, 'Chapter 12 - Optional Configuration of SSO on top of LDAP'.
CHAPTER 12. OPTIONAL CONFIGURATION OF SSO ON TOP OF LDAP

If Single Sign On is required to allow for a single login to both Enterprise Manager, Oracle Analytics Server, and any other possible applications, several additional steps need to be performed on top of the OAS configuration for LDAP.

For these examples, Oracle Access Manager (OAM) will be configured on top of Oracle Internet Directory (OID).

Other single sign on solutions is likely possible but will not be documented in this workbook.

Consult the Fusion Middleware Documentation Set23 for further details.

The additional steps required for OAM on top of OID, for OAS, are summarized below, with direct cross references to the relevant sections.

1. Installation of Oracle HTTP Server (OHS) – Section 12.1.
2. Extending OAS WebLogic Domain with collocated OHS using the config.sh script.
3. Integrating OHS into WebLogic Domain using wlst.sh – Section 12.4.
4. Configuration of OHS for OAS using Fusion Middleware Control – Section 0.
5. Test access to OAS using the OHS port – Section Error! Reference source not found.
7. Configuration of Oracle Webgate, running on top of OHS.
8. OAS Required Steps – Section 13.1.8.
10. Bounce the stack – Section 13.1.8.5

12.1 Installation of OHS

A pre-requisite for OAM is a properly configured WebLogic domain, with a co-located OHS installation inside of the same domain.

For complete details on installation and management of Oracle HTTP Server, please consult the full set of documentation books:

- Oracle HTTP Server 12.2.1.4.0

The following set of screenshots details the installation of OHS.

These steps are somewhat error prone, so a backup of the OAS WebLogic domain should be taken prior to these steps.

- Make sure all processes associated with OAS are shut down.
  - See 'Appendix F- Stopping the full OAS stack' for details.
- Launch the OHS installation UI for the appropriate Operating System Platform

```
$ ./fwm_12.2.1.4.0_ohs_linux64.bin
Preparing to launch the Oracle Universal Installer from /tmp/OraInstall2020-09-30_11-22-53AM
Launcher log file is /tmp/OraInstall....log.
Checking if CPU speed is above ... Passed
Checking monitor: must be configured to ... Passed
Checking swap space: must be greater than ... Passed
Checking if this platform requires a 64-bit JVM. Actual 64 ... Passed
Checking temp space: must be greater than ... Passed
```

23 (Oracle® Analytics Enterprise Deployment Guide for Oracle Analytics Server, 2020)
12.1.1 Step 1 - OHS Installation – Welcome; Step 2 – skip updates
» Skip or apply as needed.

12.1.3 Step 3 - OHS Installation – Choose Middleware Home
» Either browse or type the full path of the MW_HOME
12.1.4 Step 4 - OHS Installation – Installation Type

» Make sure to select Collocated HTTP Server

12.1.5 Step 5 - OHS Installation - Choose JAVA HOME location

» Provide same JDK as used throughout WebLogic configuration

12.1.6 Step 6 - OHS Installation – Prerequisite Checks

» Confirm no pre-requisite failures
12.1.7 Step 7 - OHS Installation – Installation Summary

» Review results of pre-requisite tests.

12.1.8 Step 8 - OHS Installation – Installation Progress

» Follow ongoing status until complete.

12.1.9 Step 9 – Installation Complete
12.2 Extending OAS WebLogic domain with collocated OHS

Configuration of OHS requires Extending the WebLogic Domain used by OAS via the `config.sh` script.

Launch the WebLogic Configuration Wizard:
```
cd $MW_HOME/oracle_common/common/bin
./config.sh
```

12.3 OHS Configuration

12.3.1 Step 1 - OHS Configuration – Update an existing WebLogic Domain

- Very Important – Update and existing domain

12.3.2 Step 2 - OHS Configuration – Choose Oracle HTTP Server - Collocated [OHS]

- Important – Choose template for Oracle HTTP Server (Collocated [ohs])
12.3.3 Step 3 - OHS Configuration - High Availability Options

- Review entries, do not change

12.3.4 Step 4 - OHS Configuration – Database Configuration Type

- Select Get RCU Configuration.
- Confirm successful connection.
- Click Next

12.3.5

---

- Click "Get RCU Configuration" button to test the connection and activate the "Next" button.
- Click "Next" button to continue.
12.3.6 Step 5 - OHS Configuration – Component Datasources

- Review entries – Do not change

12.3.7 Step 6 - OHS Configuration – JDBC Test

- Confirm all successful connections
12.3.8  Step 7 – OHS Configuration – Advanced Configuration

- Only check the box for **System Components**

12.3.9  Step 8 OHS Configuration – System Components

12.3.9.1  Part 1 Choose Add

12.3.9.2  Part 2 – Change Name as appropriate

- for example, ohs1
- Do not change other parameters
12.3.10 Step 9 - OHS Configuration – OHS Server

1. System Component – will be name provided in prior step, i.e., ohs1
2. Admin Host:
   - VERY IMPORTANT: Leave the default value of localhost or 127.0.0.1 [Mos Note: Doc ID 2606314.1]
3. Admin Port – Leave at 7779. No checking for port conflicts are done.
4. Listen Address – Depending on network topology, either leave the field blank (listen on all network interfaces) or provide the local hostname (listen only on physical network connection associated with this hostname).
5. Listen Port – Default of 7777 is good. This is the port of the primary server that OHS is configured with.
6. SSL Listen Port – Default of 4443 is fine. This is the port of the primary SSL virtual server.
7. Server Name – Ensure this is exactly as shown:
   a. http or https (depending on security topology).
   b. Local hostname (not localhost or 127.0.0.1)
   c. :7777 or :4443 - Must match port from step 5 (http) or step 6 (https) above.
8. For this example, the Server Name should be one of these:
   a. http://oas.example.com:7777
   b. https://oas.example.com:4443

12.3.11 Step 10 - OHS Configuration – Machines

» Confirm Machine Name and Node Manager Listen Address – do not change values
12.3.12 Step 11 - OHS Configuration – Assign System Components

1. Select/highlight the ohs1 component.
2. Select/highlight the Machine (i.e., oas.example.com)
3. Press the right arrow

Confirm the tree diagram for **Machines**:
12.3.13 Step 12 - OHS Configuration – Configuration Summary

12.3.14 Step 13 - OHS Configuration – Configuration Progress
12.3.15 Step 14 - OHS Configuration – End of Configuration

- Note the instructions at the bottom of the screen.

12.4 Integrating OHS into WebLogic Domain using wlst.sh.

Prior to managing OHS as part of the collocated WebLogic Domain in which OAS is configured, it is required to completely reset WebLogic:

- Bring Down OAS, the Admin Server, OHS, and the node manager: Appendix F - Stopping the full OAS stack
- Start the full OAS stack: Appendix E - Starting the full OAS stack

12.4.1 Part 1 - Invoke WebLogic Scripting Tool (WLST)

```bash
$ $MW_HOME/oracle_common/common/bin/wlst.sh
Initializing Web...
Welcome to W... Type help() f...
```

12.4.2 Part 2 - Connect to Admin Server

```bash
wls:/offline> connect()
Please enter your username: weblogic
weblogic
Please enter your password:
Please enter your server URL [t3://localhost:7001] : t3://localhost:9500
t3://localhost:9500
Connecting to t3://localhost:9500 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "bi".
Warning: An insecure connection ...
To ensure...
```

12.4.3 Part 3 - Run special command

```bash
wls:/bi/serverConfig/> ohs_updateInstances()
Location changed to edit custom tree. This is a writable tree with No root.
For more help...
Starting an edit session ...
Started edit session, be sure to save and activate your changes once you are done.
Saving all your changes ...
Saved all your changes successfully.
Activating all your changes, this may take a while ...
The edit lock associated with this edit session is released once the activation is completed.
Activation completed
OHS instances have been updated successfully.
```
12.4.4 Part 4 - Confirm Correct Operations Performed

wls:/bi/serverConfig/> editCustom()
Location changed to edit custom tree. This is a writable tree with No root.
For more help, use help('editCustom')
wls:/bi/editCustom/> ls()

drw- EMDomain
  drw- JMImplementation
  drw- oracle.as.jmx
  drw- oracle.as.management.mbeans.register
  drw- oracle.as.ohs
  drw- oracle.as.util
  drw- oracle.bi.admin
  drw- oracle.ohs

wls:/bi/editCustom/> cd('oracle.ohs')
wls:/bi/editCustom/oracle.ohs/> ls()

drw- oracle.ohs:OHSInstance=ohs1,name=127.0.0.1-7779,type=OHSInstance.PortConfig
  drw- oracle.ohs:OHSInstance=ohs1,name=4443,type=OHSInstance.PortConfig
  drw- oracle.ohs:OHSInstance=ohs1,name=7777,type=OHSInstance.PortConfig
  drw- oracle.ohs:OHSInstance=ohs1,name=Audit,type=OHSInstance.AuditConfig
  drw- oracle.ohs:OHSInstance=ohs1,name=VHost---4443,type=OHSInstance.VHostConfig
  drw- oracle.ohs:OHSInstance=ohs1,name=VHost-<base>,type=OHSInstance.VHostConfig
  drw- oracle.ohs:type=Component.KeyStoreConfig,name=KeyStore,OHSInstance=ohs1,component=OHS
  drw- oracle.ohs:type=OHSInstance,name=ohs1
  drw- oracle.ohs:type=OHSInstance.NMProp,OHSInstance=ohs1,component=OHS
  drw- oracle.ohs:type=OHSSystemComponent,name=OHSInstanceManager

wls:/bi/editCustom/oracle.ohs/> exit()
12.5  Configuration of OHS for OAS using Fusion Middleware Control.

12.5.1  Step 1 - Login to Fusion Middleware Control

» http://oas.example.com:9500/em

12.5.2  Step 2 - Fusion Middleware Configuration – Administer OHS Instances

WebLogic Domain → Administration → OHS Instances
12.5.3  Step 3 - Fusion Middleware Configuration – Click on ohs1

12.5.4  Step 4 - Fusion Middleware Configuration – mod_wl_ohs Configuration
12.5.5 Step 5 - Fusion Middleware Configuration – lock and edit

12.5.6 Step 6 - Fusion Middleware Configuration – Search for cluster
12.5.7  Step 7 - Fusion Middleware Configuration – Choose bi_cluster

12.5.8  Step 8 - Fusion Middleware Configuration – Populate Locations

Add OAS Location
12.5.9  Step 9 - Fusion Middleware Configuration – Apply and Activate Changes

12.5.10 Restart OHS – Step 10
see '0 -
Stopping and starting OHS using Fusion Middleware Control.

12.5.11 Validate access to OAS via OHS – Step 11

- Login to OAS, using the default OHS Port of 7777:
  - http://oas.example.com:7777/xmlpserver
CHAPTER 13.    CONFIGURATION OF SINGLE SIGN-ON

This chapter details the installation and configuration of OAS for use with Oracle Access Manager (OAM).

Like earlier steps, the overall goal is to configure the OAS WebLogic domain to closely match one (or possibly more) Enterprise Manager WebLogic Domains.

The right side shows an EM site fully configured with both OID and SSO (OAM).

Here is a side-by-side comparison of the current configuration of OAS and Enterprise Manager

![Side-by-side comparison of OAS and EM configurations]

The end goal is shown below

![End goal configuration]

The following sections detail the required steps to achieve this final goal.
13.1.1 Step 1 - Login to WebLogic Console (OAS)

- http://oas.example.com:9500/console

13.1.2 Step 2 - Click on Security Realms and myrealm

13.1.3 Step 3 - Click on the Providers tab
13.1.4 Step 4 - Prepare to make the required edits

![Image of Change Center in WebLogic Server Administration](image)

13.1.5 Step 5 - Create the new OAM Identity Asserter

**Steps:**

1. Click on the New button.
2. In the text box for the Name: field, choose a name as appropriate:
   - BIP_OAM_IDAsserter
3. In the drop-down for the Type: field, scroll down, and choose the type:
   - OAMIdentityAsserter
4. **Click on the OK button.**

![Image of Create a New Authentication Provider](image)
13.1.6  Step 6 - Configure the BIP_OAM_Provider Provider

13.1.6.1  Part 1 – Click on BIP_OAM_Provider and select 'Required'

- Ensure that OAM_REMOTE_USER is on the right side (in the Chosen: column) and press Save.
13.1.6.3 Part 2 - Configure the provider specific configuration to match Enterprise Manager’s.
Bring up two browsers (for example MS Edge and Chrome) side by side.
On the left side will be the WebLogic console for OAS, and on the right side will be the WebLogic console for Enterprise Manager.

The only relevant item that needs to be configured is the **Primary Access Server**.
- You must scroll to the very bottom of the screen to see this.
13.1.6.4  Part 3 - Reorder the providers as below:

### Customize this table

**Authentication Providers**

<table>
<thead>
<tr>
<th>New</th>
<th>Delete</th>
<th>Reorder</th>
</tr>
</thead>
</table>

**Reorder Authentication Providers**

You can reorder your Authentication Providers using the arrows next to each provider.

Select authenticator(s) in the list and use arrows to move them.

### Authentication Providers:

**Available:**

- DefaultAuthenticator
- Trust Service Identity Asserter
- DefaultIdentityAsserter
- BIP_OID_Provider
- BIP_OAM_IDAsserter

13.1.6.5  Part 4 - Save and activate the changes

**ORACLE WebLogic Server**

Change Center

- View changes and restarts
- Pending changes exist. They must be activated to take effect

- Activate Changes
- Undo All Changes

**Domain Structure**

Change Center

- View changes and restarts
- Click the Lock & Edit button to modify, add or delete items in this domain.

13.1.6.6  Restart the whole OAS stack

- Bring Down OAS, the Admin Server, OHS, and the node manager: Appendix F - Stopping the full OAS stack
- Start the full OAS stack: Appendix E - Starting the full OAS stack
13.1.7 Step 7 - Configuration of Oracle Webgate, running on top of OHS.

Oracle Analytics Server (OAS) is built on top of Fusion Middleware 12.2.1.4.

Fusion Middleware 12.2.1.4 includes all the required components needed to integrate an existing WebLogic domain, built on top of Oracle HTTP Server (OHS), using the provided Oracle Webgate (Webgate).

The following is an outline of the required steps:

1. Deploy Webgate to Collocated OHS
2. Edit httpd.conf to include Webgate.
3. Copy required artifacts to OHS (EM Internal Steps, not part of finished document).
4. Troubleshooting Webgate.

For specific details on the required configuration, please consult the following Oracle documentation:

Oracle® Analytics
Enterprise Deployment Guide for Oracle Analytics Server

The above document describes how to install and configure Oracle Analytics Server components in an enterprise deployment.

13.1.8 Step 8 - OAS Required Steps

13.1.8.1 Part 1 - OAS Required Steps – wlst.sh

```
$ $MW_HOME/oracle_common/common/bin/wlst.sh
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() for help on available commands
wls:/offline> readDomain('...../user_projects/domains/bi')
wls:/offline/bi>enableBISingleSignOn('...../user_projects/domains/bi','http://oamserver.example.com:14100/oamsso/logout.html')
wls:/offline/bi>updateDomain()
wls:/offline/bi>closeDomain()
wls:/offline>exit()
Exiting WebLogic Scripting Tool.
```

13.1.8.2 Part 2 - OAS Required Steps – User Interface

13.1.8.2.1 Login to OAS as the WebLogic user and Click on ‘Administration’ link

```
```

13.1.8.2.2 Underneath ‘Security Center’ choose ‘Security Configuration’
13.1.8.3 Part 3 - Configure OAS to utilize Oracle Access Manager

- Click on the Use Single Sign-on check box.
- Change the Single Sign-On Type to Oracle Access Manager
- Input the correct value for the Single Sign-Off URL, for example:


<table>
<thead>
<tr>
<th>Administration</th>
<th>Security Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oracle</strong></td>
<td>Analytics</td>
</tr>
<tr>
<td><strong>Administration</strong></td>
<td>Search All</td>
</tr>
<tr>
<td><strong>Home</strong></td>
<td>Catalog</td>
</tr>
<tr>
<td><strong>New</strong></td>
<td>Open</td>
</tr>
<tr>
<td><strong>SIGNED IN AS</strong></td>
<td>Administrator</td>
</tr>
<tr>
<td><strong>Security</strong></td>
<td>Digital Signature</td>
</tr>
<tr>
<td><strong>Apply</strong></td>
<td>Cancel</td>
</tr>
</tbody>
</table>

**Security Center**

**Local Supervisor**

Local supervisor can log in to the system independently of the selected security model.

- Enable Local Supervisor

**Guest Access**

- Allow Guest Access

**Authentication**

As an option, you can select either Single Sign-on or LDAP for your authentication method. If you do not select this option, authentication is taken care of by the security model you selected on Authorization section.

To enable Single Sign-On, first setup BI Publisher as a partner application on the SSO Server. Enter the value for the single sign-off URL and other required information provided by the SSO Server below.

- Use Single Sign-On

<table>
<thead>
<tr>
<th>Single Sign-On Type</th>
<th>Oracle Access Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to get username</td>
<td>HTTP Header</td>
</tr>
<tr>
<td>User Name Parameter</td>
<td>OAM_USER</td>
</tr>
<tr>
<td>How to get user locale</td>
<td>HTTP Parameter</td>
</tr>
<tr>
<td>User Locale Parameter</td>
<td>LOCALE_LANGUAGE</td>
</tr>
</tbody>
</table>
13.1.8.4  Part 4 - Edit or confirm the correct entry for the ServerName directive in httpd.conf

An example of the correct entry is shown below:

```
$ cd $MW_HOME/user_projects/domains/bi/config/fmwconfig/components/OHS/ohs1
$ diff httpd.conf httpd.conf.ORIG
203,205c203
< #ServerName http://localhost:7777
< # Added for OAS+OHS+OAM
< Servername http://oas.example.com:7777
---
> ServerName http://oas.example.com:7777
1136,1137d1133
<
< include "webgate.conf"
```

13.1.8.5  Part 5 - Bounce the stack

- Bring Down OAS, the Admin Server, OHS, and the node manager: Appendix F - Stopping the full OAS stack
- Start the full OAS stack: Appendix E - Starting the full OAS stack
CHAPTER 14. CONFIGURATION OF REQUIRED OAS DATASOURCE(S)

After successfully configuring OAS for the desired Security Infrastructure, the Oracle Provided Reports, and any customized reports can be uploaded to OAS.

Before the Oracle provided Out of Box reports can be utilized, as well as any customized reports, it is necessary to configure one or more OAS Datasource(s). 24

Each of these configured Datasource(s) are mapped one-to-one for each set of the Oracle provided Out of Box Reports.

14.1 Step 1 - For the first EM Host

The following command sets the password for the MGMT_VIEW user to the specified value. This is required so that the OAS Datasource (i.e., EMREPOS) can be properly configured.

```
emctl config oms -change_view_user_pwd -sysman_pwd ●●●●●●●● -user_pwd ●●●●●●●●
emctl stop oms -all
emctl start oms
```

14.2 Step 2 - OAS Datasource Configuration Steps

Use the following screenshots as an example of configuring an OAS Datasource.

14.2.1 Part 1 - Login to OAS as the appropriate user

When proceeding from 'Chapter 10 - OAS For EM Repository-based Security', login as the SYSMAN user.

When proceeding from Chapters 11 (and optionally 12 and 13), login as the weblogic user.

![Sign In](image1.png)

**Figure 51. Login as the sysman or weblogic user**

14.2.2 Part 2 - Click on the Administration Link

![Admin Link](image2.png)

**Figure 52. Click on the Administration link**

24 (OAS - Set Up Data Sources, 2021) Data Sources
14.2.3 Part 3 – Add a JDBC Data Source

14.2.4 Part 4 – Ensure that the MGMT_VIEW account has been setup properly

Make sure that the MGMT_VIEW user account has been set to a known password, for example:

```
$ emctl config oms -change_view_user_pwd
Oracle Enterprise Manager Cloud Control 13c Release 5
Copyright (c) ....
Enter Repository User's Password :
Enter MGMT_VIEW User's Password :
Restart all the OMSs using 'emctl stop oms -all' and 'emctl start oms'.
Successfully changed MGMT_VIEW User's password.
```

14.2.5 Part 5 – Fill in the required details

```
Name: EMREPOS
Driver Type: Oracle 12c
Database Class: oracle.jdbc.OracleDriver
Connection String: jdbc:oracle:thin://emrepos1.example.com:1521/orcl.example.com
Use System User: Do Not Check
   Username: MGMT_VIEW
   Password: ●●●●●●●●
Pre Process Function: sysman.gc$bip.bip_set_em_user_context(:xdo_user_name)
Post Process Function: Leave Blank
Client Certificate: Leave Blank
Use Proxy Authentication: Leave Blank
```
14.2.6  Part 6 - Review the newly defined Data Source

14.2.7  Part 7 - Positive Result of the Test

14.2.8  Part 8 Granting Required Roles to OAS Datasource

In general, it is not appropriate to select the 'Allow Guest Access' unless a specific use case has been identified to support the guest account.
14.2.9 Part 9 - Press Apply

14.2.10 Part 10 – Completed List of JDBC Data Sources

Administration > JDBC

Data Sources

<table>
<thead>
<tr>
<th>JDBC</th>
<th>JNDI</th>
<th>File</th>
<th>LDAP</th>
<th>OLAP</th>
<th>Web Services</th>
<th>HTTP</th>
<th>Content Server</th>
</tr>
</thead>
</table>

Add Data Source

<table>
<thead>
<tr>
<th>Data Source Name</th>
<th>Connection String</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMREPOS</td>
<td>jdbc:oracle:thin:@emrepos1.example.com:1521/orcl.example.com</td>
</tr>
</tbody>
</table>
CHAPTER 15. PREPARE FOR ORACLE PROVIDED OUT OF BOX REPORTS

Enterprise Manager 13.5 bundles a full set of the Oracle Provided out-of-box reports. This set of out-of-box reports is being delivered consistent with earlier releases of Enterprise Manager.

As in prior releases of Enterprise Manager, a set of out-of-box reports is being delivered as part of the base platform, as well as for each plug-in.

15.1 Per-requisite Step

There are several required steps to support the installation of Enterprise Manager Provided Out of Box Reports.

The Oracle Provided Out-of-Box reports utilize the Fusion Middleware Security roles from the embedded BIP that was part of prior releases of Enterprise Manager.

When utilizing the Database Security Model with OAS [section Chapter 10 - OAS For EM Repository-based Security], the EMBIP* roles can easily be created as DBMS roles.

When utilizing the Fusion Middleware Security Model, the built in OAS roles need to overlayed onto the required EMBIP* roles.

<table>
<thead>
<tr>
<th>EM 13.4 with the Embedded BIP</th>
<th>Standalone OAS support for EM OOB Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBIPAdministrator</td>
<td>EMBIPADMINISTRATOR</td>
</tr>
<tr>
<td>EMBIPScheduler</td>
<td>EMBIPADMINISTRATOR</td>
</tr>
<tr>
<td>EMBIPAuthor</td>
<td>EMBIPADMINISTRATOR</td>
</tr>
<tr>
<td>EMBIViewer</td>
<td>EMBIPADMINISTRATOR</td>
</tr>
<tr>
<td></td>
<td>XMLP_ADMIN</td>
</tr>
<tr>
<td></td>
<td>XMLP_SCHEDULER</td>
</tr>
<tr>
<td></td>
<td>XMLP_DEveloper</td>
</tr>
<tr>
<td></td>
<td>XMLP_USER</td>
</tr>
<tr>
<td></td>
<td>MGMT_USER</td>
</tr>
</tbody>
</table>

Figure 53. Required Role Hierarchy for OAS Roles, including EM roles
The above structure is achieved by utilizing either SQL*PLUS, or Fusion Middleware Control, such that the OAS Role hierarchy is:

<table>
<thead>
<tr>
<th>Fusion Middleware Security Model</th>
<th>Database Security Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBIPADMINISTRATOR</td>
<td>EMBIPADMINISTRATOR</td>
</tr>
<tr>
<td>BI Administrator</td>
<td>XMLP_ADMIN</td>
</tr>
<tr>
<td>BI Content Author</td>
<td>XMLP_DEVELOPER</td>
</tr>
<tr>
<td>BI Consumer</td>
<td>MGMT_USER</td>
</tr>
<tr>
<td>EMBIPAUTHOR</td>
<td>EMBIPVIEWER</td>
</tr>
<tr>
<td>EMBIPSCHEDULER</td>
<td></td>
</tr>
<tr>
<td>EMBIPVIEWER</td>
<td></td>
</tr>
</tbody>
</table>

Figure 54. Mapping of EMBIP* Roles to base OAS Roles

15.2 **Standalone OAS support for EM Provided Reports: Database Security Model**

The required EMBIP* database roles would have been configured using the steps from ‘section 10.2 - Preparation for upload of Oracle Provided Reports’.

These steps are repeated below in case they have been missed.

```sql
$ sqlplus sys/
sql> REM Create base EMBIP roles
sql> create role EMBIPADMINISTRATOR;
sql> create role EMBIPAUTHOR;
sql> create role EMBIPSCHEDULER;
sql> create role EMBIPVIEWER;
sql> REM Create Role Mapping
sql> grant XMLP_ADMIN to EMBIPADMINISTRATOR;
sql> grant XMLP_DEVELOPER to EMBIPAUTHOR;
sql> grant XMLP_SCHEDULER to EMBIPSCHEDULER;
sql> grant MGMT_USER to EMBIPVIEWER;
sql> exit;
```

15.2.1 If utilizing the Database security Model

- proceed to section ‘15.3.4 – Step 4 – Configure Role Hierarchy for EM roles’
15.3 OAS support for EM Provided Reports: Fusion Middleware Security Model

The steps to map the required EMBIP* roles for the Fusion Middleware Security Model are a bit more involved.

15.3.1 Step 1 - Create EMBIP* Roles as OBI-Stripe Roles

15.3.1.1 Step 1, Part 1 - Login to Fusion Middleware Control

15.3.1.2 Step 1, Part 2 - Create EMBIPADMINISTRATOR Role
15.3.1.3  Step 1, Part 3 - Create EMBIPAdministrator and all EMBIP* Roles

» Create Role

**Create Application Role**

Role (or Enterprise Role) is the group of users designed at the enterprise level and the roles are used by security aware applications that are specific to the application.

General

- **Application Stripe**: obi
- **Role Name**: EMBIPADMINISTRATOR
- **Display Name**: EMBIPADMINISTRATOR
- **Description**: This role contains privileges required to administer OAS when used with Enterprise Manager

Members

An application role may need to be mapped to users or groups defined in enterprise.
15.3.1.4 Part 4 - Repeat Above steps for the other three required roles

EMBIPAUTHOR

Create Application Role
Role (or Enterprise Role) is the group of users designed at the enterprise level and it is a set of predefined.

General

Application Stripe: obi
Role Name: EMBIPAUTHOR
Display Name: EMBIPAUTHOR
Description: This role contains privileges required to edit and run OAS reports when used with Enterprise Manager

EMBIPSCHEDULER

Create Application Role
Role (or Enterprise Role) is the group of users designed at the enterprise level and it is a set of predefined.

General

Application Stripe: obi
Role Name: EMBIPSCHEDULER
Display Name: EMBIPSCHEDULER
Description: This role contains privileges required to schedule OAS reports when used with Enterprise Manager

EMBIPVIEWER

Create Application Role
Role (or Enterprise Role) is the group of users designed at the enterprise level and it is a set of predefined.

General

Application Stripe: obi
Role Name: EMBIPVIEWER
Display Name: EMBIPVIEWER
Description: This role contains privileges required to run OAS reports when used with Enterprise Manager

15.3.1.5 Finished Result

Oracle Enterprise Manager Fusion Middleware Control 12c

Policy Store Provider

EMBIPAUTHOR

EMBIPSCHEDULER

EMBIPVIEWER

Bill Service Administrator
Bill Service Administrator
This role contains privileges required to administer the sample application.

EMBIPADMINISTRATOR
EMBIPADMINISTRATOR
This role contains privileges required to administer OAS when used with Enterprise Manager

EMBIPAUTHOR
EMBIPAUTHOR
This role contains privileges required to edit and run OAS reports when used with Enterprise Manager

EMBIPSCHEDULER
EMBIPSCHEDULER
This role contains privileges required to schedule OAS reports when used with Enterprise Manager

EMBIPVIEWER
EMBIPVIEWER
This role contains privileges required to run OAS reports when used with Enterprise Manager
15.3.2 Step 2 - Create Mapping of BI Service Administrator to EMBIPAdministrator

To achieve the mapping shown in Figure 54 - Mapping of EMBIP* Roles to base OAS Roles, the following steps are required:

15.3.2.1 Step 2, Part 1 - Login to Fusion Middleware Control

15.3.2.2 Step 2, Part 2 - Navigate to OBI Application Stripe
15.3.2.3 Step 2, Part 3 - Edit the BIServiceAdministrator role

15.3.2.4 Step 2, Part 4 - Click Add to add a role mapping
15.3.2.5  Step 2, Part 5 - Search for the EMBIP roles

Add Principal

Specify criteria to search and select the application roles that you want to grant permissions to.

Search

- Type: Application Role
- Principal Name: Starts With EMBIP
- Display Name: Starts With

Searched Principals

- View: Detach

<table>
<thead>
<tr>
<th>Principal</th>
<th>Display Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBIPADMINISTRATOR</td>
<td>EMBIPADMINISTRATOR</td>
<td>This role contains privileges required to access and manage the system.</td>
</tr>
<tr>
<td>EMBIPAUTHOR</td>
<td>EMBIPAUTHOR</td>
<td>This role contains privileges required to edit settings and user data.</td>
</tr>
<tr>
<td>EMBIPSCHEDULER</td>
<td>EMBIPSCHEDULER</td>
<td>This role contains privileges required to schedule and run tasks.</td>
</tr>
<tr>
<td>EMBIPVIEWER</td>
<td>EMBIPVIEWER</td>
<td>This role contains privileges required to view system data.</td>
</tr>
</tbody>
</table>

15.3.2.6  Step 2, Part 6 - Results of the search

Add Principal

Specify criteria to search and select the application roles that you want to grant permissions to.

Search

- Type: Application Role
- Principal Name: Starts With EMBIP
- Display Name: Starts With

Searched Principals

- View: Detach

<table>
<thead>
<tr>
<th>Principal</th>
<th>Display Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMBIPADMINISTRATOR</td>
<td>EMBIPADMINISTRATOR</td>
<td>This role contains privileges required to access and manage the system.</td>
</tr>
<tr>
<td>EMBIPAUTHOR</td>
<td>EMBIPAUTHOR</td>
<td>This role contains privileges required to edit settings and user data.</td>
</tr>
<tr>
<td>EMBIPSCHEDULER</td>
<td>EMBIPSCHEDULER</td>
<td>This role contains privileges required to schedule and run tasks.</td>
</tr>
<tr>
<td>EMBIPVIEWER</td>
<td>EMBIPVIEWER</td>
<td>This role contains privileges required to view system data.</td>
</tr>
</tbody>
</table>
### 15.3.2.7 Step 2, Part 7 - Select the EMBIPADMINISTRATOR role and click OK

Add Principal

Specify criteria to search and select the application roles that you want to grant permissions to.

<table>
<thead>
<tr>
<th>Type</th>
<th>Principal Name</th>
<th>Display Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Role</td>
<td>EMBIPADMINISTRATOR</td>
<td>EMBIPADMINISTRATOR</td>
<td>This role contains privileges required to administer OAS when used with Enterprise Manager.</td>
</tr>
<tr>
<td>EMBIPAUTHOR</td>
<td>EMBIPAUTHOR</td>
<td>EMBIPAUTHOR</td>
<td>This role contains privileges required to edit and run OAS reports when used with Enterprise Manager.</td>
</tr>
<tr>
<td>EMBIPSCHEDULER</td>
<td>EMBIPSCHEDULER</td>
<td>EMBIPSCHEDULER</td>
<td>This role contains privileges required to schedule OAS reports when used with Enterprise Manager.</td>
</tr>
<tr>
<td>EMBIPVIEWER</td>
<td>EMBIPVIEWER</td>
<td>EMBIPVIEWER</td>
<td>This role contains privileges required to run OAS reports when used with Enterprise Manager.</td>
</tr>
</tbody>
</table>

### 15.3.2.8 Step 2, Part 8 - The New list is shown, press OK

![Image of Enterprise Manager Fusion Middleware Control 12c with application roles](image)

An application role may need to be mapped to users or groups defined in enterprise LDAP servers, or the role can be mapped to other application roles.

### 15.3.2.9 Step 2, Part 9 - Confirmation

![Image of Enterprise Manager Fusion Middleware Control 12c with application role update](image)

Information:

An application role BIServiceAdministrator has been updated.
15.3.3 Step 3 - Repeat step 2 twice more, for the other EMBIP roles: Completed Screen Shots Shown

1. EMBIPAUTHOR

**Information**

An application role BIConsumer has been updated.

<table>
<thead>
<tr>
<th>Principal</th>
<th>Display Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIConsumer</td>
<td>BI Consumer</td>
<td>Application Role</td>
<td>Users granted this role can create most types of new objects.</td>
</tr>
<tr>
<td>DVContentAuthor</td>
<td>DV Content Author</td>
<td>Application Role</td>
<td>Users with this role can create most types of new objects.</td>
</tr>
</tbody>
</table>

**Membership for BIConsumer**

2. EMBIPVIEWER

**Information**

An application role BIContentAuthor has been updated.

<table>
<thead>
<tr>
<th>Principal</th>
<th>Display Name</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVCContentAuthor</td>
<td>DV Content Author</td>
<td>Application Role</td>
<td>Users with this role can create most types of new objects.</td>
</tr>
<tr>
<td>BIServiceAdministrator</td>
<td>BI Service Author</td>
<td>Application Role</td>
<td>This role confers privileges required to create most types of new objects.</td>
</tr>
<tr>
<td>EMBIPAUTHOR</td>
<td>EMBIPAUTHOR</td>
<td>Application Role</td>
<td>This role contains privileges required to create most types of new objects.</td>
</tr>
</tbody>
</table>

**Membership for BIConentAuthor**
15.3.4 Step 4 – Configure Role Hierarchy for EM roles (EMBIP*)

Referring to 'Figure 53- Required Role Hierarchy for OAS Roles, including EM roles', the roles created in the prior step need to be repeated for the specific EMBIP* roles.

- **EMBAUTHOR** role requires **EMBIPADMINISTRATOR** as a member.
- **EMBIPSCHEDULER** role requires **EMBIPADMINISTRATOR** as a member.
- **EMBIPVIEWER** role requires **EMBAUTHOR** as a member.

An example showing the proper membership for the **EMBAUTHOR** role is shown below:

![Image of Oracle Enterprise Manager showing the **EMBAUTHOR** role membership](image-url)
15.3.5  Step 5 – Summary

Once all the prior steps are completed, the basic role hierarchy that is required for proper management and execution of the Oracle provided reports that are installed alongside Enterprise Manager 13.5.

However, for individual Enterprise Manager administrators to have access to the various required permissions, these Enterprise Manager administrators need to be granted membership in one of the specified roles.

As a simple example, if the EM administrator named EMBIP_VIEWER1 needs to be able to execute Oracle provided reports, then EM administrator EMBIP_VIEWER1 needs to be granted membership in the EMBIPVIEWER application role.

Likewise, if the EM administrator named EMBIP_AUTHOR1 needs to be able to edit and create private reports, then the EM administrator EMBIP_AUTHOR1 needs to be granted membership in the EMBIPAUTHOR role.

- Note that direct editing of the Oracle provided reports is not supported. However, these reports can be copy/pasted and then the copy can be customized.

Please also note that the EM administrators above would normally have their credentials managed by the appropriate LDAP provider that was setup in 'section 11.2.5.3- Detailed Steps for Configuration of OAS for LDAP'.
CHAPTER 16. MIGRATING CUSTOMIZED BIP REPORTS TO STANDALONE OAS

In addition to support for the Oracle provided out of box reports, customized reports developed in EM 13.4, on BIP 12.2.1.3, can be migrated to OAS.

The standard process for this, using BIP or OAS, is to download the report from the prior release, and upload the report to the current release.

*Make sure to download these customized reports from EM 13.4 prior to the upgrade to EM 13.5.*

Since BIP reports are composed of 2, and sometimes 3, separate objects, all these need to be downloaded/uploaded.

Additionally, the complete folder path(s) for these objects needs to be maintained.

It is often easiest to download/upload whole catalog folders as opposed to individual objects.

The steps documented in this chapter assume that the download steps are executed against the embedded BIP included with Enterprise Manager 13.4, and that the upload steps are executed against the standalone OAS.

16.1 Example Use Case

For this example, a customized report named **Targets** has been developed.

» This report uses the BIP interactive report editor and viewer.

» The data model and the report are in the BIP shared folder named **MyReports**.

» Inside of this shared folder are two subfolders: **Datamodels** and **Reports**.

» Inside of these two subfolders are the report **Datamodel** and report **report**, respectively.

For this example, the EM administrator that developed the report is named ‘jerry’.

16.2 Outline of steps to download the report from EM 13.4:

1. Login to the embedded BIP from Enterprise Manager 13.4
2. Navigate to the BIP catalog.
3. Expand the ‘Shared Folders’
4. Click on your customized report folder.
5. Click on **Download** from the tasks pane.
6. Use the operating system dialog, if required, to save the folder as a **xdrz** file.
7. Confirm that the file was downloaded correctly.
16.2.1 Step 1 – EM 13.4 – Login to BIP
Login to the BIP system on the EM 13.4 host as the user ‘jerry’.

16.2.2 Step 2 – From the BIP home screen, click on the link for ‘Catalog Folders’
Underneath the Browse/Manage… heading, chose the Catalog Folders link.
16.2.3 Step 3 – If needed, expand the ‘Shared Folders’ node in the catalog tree.
Make sure that you are logged in as the correct user (jerry in this example).
Navigate the OAS catalog tree such that the **MyReports** node is expanded with two sub-folders.

16.2.4 Step 4 - Click on the MyReports' Folder.
After the node is clicked on the left-hand tree, the right-hand side of the browser will show the contents of that folder. In this case, there are two sub-folders.
16.2.5 Step 5 - Click on Download.

The **Download** link is in the bottom-left-hand side of the browser window, in the ‘Tasks’ pane. All catalog related activities can be access in the **Tasks** pane.

When you click on the **Download** link, an operating system, or browser, dialog may come up asking where to save the downloaded file.
16.2.6  Step 6 – You may be asked what to do with the file named MyReports.xdrz

» Choose to save this on your local disk.

16.2.7  Step 7 - Confirm that the file was downloaded correctly.

```
$ unzip -l MyReports.xdrz
Archive: MyReports.xdrz

<table>
<thead>
<tr>
<th>Length</th>
<th>Date</th>
<th>Time</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>456</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>~metadata.meta</td>
</tr>
<tr>
<td>0</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Reports/</td>
</tr>
<tr>
<td>420</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Reports/~metadata.meta</td>
</tr>
<tr>
<td>2459</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Reports/Targets.xdoz</td>
</tr>
<tr>
<td>0</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Datamodels/</td>
</tr>
<tr>
<td>423</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Datamodels/~metadata.meta</td>
</tr>
<tr>
<td>1453</td>
<td>06-29-2020</td>
<td>21:17</td>
<td>Datamodels/Targets.xdmz</td>
</tr>
<tr>
<td>5211</td>
<td></td>
<td></td>
<td>7 files</td>
</tr>
</tbody>
</table>
```
16.3  EM 13.5 – Upload Report Folder to OAS

Outline of steps to upload the BIP report folder to the standalone OAS:

Assumption: The standalone OAS has been configured using the detailed steps from this guide.

1. Login to OAS.
2. Click on Catalog Folders.
3. Expand Shared Folders.
4. Choose the Upload link from the Tasks pane.
5. Press the Choose File button.
6. Choose the file previously downloaded, for example, MyReports.xdrz
7. Optionally choose the Overwrite checkbox.
8. Click the Upload button.
9. Confirm the OAS catalog is displayed as expected.
10. Run the report.

16.3.1 Step 1 - Login to the OAS system on the standalone OAS host

- Login to the OAS system as the user ‘jerry’.
16.3.2  Step 2 - From the OAS home screen, click on the link for ‘Catalog Folders’. Underneath the **Browse/Manage...** heading, click on the **Catalog Folders** link.

16.3.3  Step 3 - If needed, expand the ‘Shared Folders’ node in the catalog tree. It may be necessary to expand the **Shared Folders** node to see the equivalent screen shot below.
16.3.4  Step 4 - Click on Upload.
The Upload link is in the bottom-left-hand side of the browser window, in the Tasks pane.

» NOTE: This step is symmetrical to the Download steps we performed on BIP earlier.

16.3.5  Step 5 - Click the button ‘Choose File’ in the Upload popup window.
16.3.6  Step 6 - Choose the file named ‘MyReports.xdrz’
   •  On the operating system dialog, choose the file named MyReports.xdrz.

16.3.7  Step 7 – Proceed with the upload
   »  If desired, choose the Overwrite existing file checkbox.
   »  Press the Upload button.

16.3.8  Step 8 – Monitor the status of the upload
   »  Initially the message Uploading is show.
   »  Once the upload is completed, the message Upload Completed is briefly displayed.
16.3.9 Step 9 – Confirm the correct layout of the OAS Catalog Folders.

- It might be necessary to expand and collapse the Shared Folders node in the tree, as shown below:

![OAS Catalog after successful upload]

16.3.10 Step 10 - Confirm that the report executes as expected.

- If the report fails to execute with the message Error with Data XML, then the Datamodel may need to be edited to change the Datasource name.
- For example, in EM 13.4 all reports used the Datasource named EMREPOS.
- For EM 13.5, when utilizing LDAP for OAS and EM, multiple EM systems can be reported against, using Datasource named ‘EMREPOS1, EMREPOS2 ...’
- In this case, change the Datasource name, in the Datamodel, as appropriate.
- For example, from EMREPOS to EMREPOS1.
CHAPTER 17. UPGRADING TO ENTERPRISE MANAGER 13.5

17.1.1 Step A: Follow the detailed steps in this workbook before upgrading to EM 13.5.
1. Part 1: Install and Configure the standalone OAS:
   − Utilize this technical brief to install and configure a standalone OAS 6.4.0 installation on a separate, dedicated, host system.
   − Ensure that all relevant procedures up to and including the prior chapter are complete.
     ♦ Integrate the standalone OAS security configuration, as detailed, against an existing Enterprise Manager 13.4 installation(s).
2. Part 2: Migrate customized Reports: Detailed in ‘Chapter 16 - Migrating customized BIP reports to standalone OAS’
   − Utilize the existing Enterprise Manager 13.4 environment, and the embedded BI Publisher user interface, to download any customized reports to your local PC or desktop system.
   − Utilize the standalone OAS 6.4.0 user Interface to upload these same customized reports, from your local PC or desktop system to the standalone OAS.
   − Do not proceed to step B until all relevant internal corporate requirements are met.

17.1.2 Step B: Upgrade to Enterprise Manager 13.5
1. Follow all documented procedures according to the official Enterprise Manager documentation set.
2. Do not proceed to step C until all relevant corporate internal requirements are met.

17.1.3 Step C: Update the standalone OAS installation for use with Enterprise Manager 13.5
1. Part 1: Detailed in ‘Chapter 18 - Uploading Enterprise Manager Provided Reports’
   − Upload the updated set of Oracle Provided out of Box reports that are included with EM 13.5.
     ♦ Utilize the standalone OAS User Interface to upload this new set of Oracle Provided Out-of-Box reports to OAS.
2. Part 2: Detailed in ‘Chapter 19 - Migrating BIP Schedules from EM 13.4’
   − Migrate the BIP report schedules, from the embedded BIP included in EM 13.4, to the standalone OAS.

The following flow chart illustrates the upgrade steps
Figure 55. Flow chart of best practice upgrade procedure

**Step A: Part 1:**
Utilize this technical brief to install and configure a standalone OAS 6.4 installation.

**Step A: Part 2:**
Migrate customized BIP Reports.

**Step B:**
Upgrade from Enterprise Manager 13.4 to Enterprise Manager 13.5

**Step C, part 1:**
Upload Oracle Provided Reports included with EM 13.5 to standalone OAS

**Step C, part 2:**
Migrate BIP report schedules from the embedded BIP to the standalone OAS.

**Complete**
CHAPTER 18. UPLOADING ENTERPRISE MANAGER PROVIDED REPORTS

18.1 Framework Reports
The Enterprise Manager Provided Reports for the base framework will be in the MW_HOME in which EM 13.5 is installed.

```
$ ls -sh $MW_HOME/syman/jlib/Enterprise\ Manager\ Cloud\ Control.xdrz
2.5M ..../sysman/jlib/Enterprise Manager Cloud Control.xdrz
```

18.2 Plugin Reports
Each EM plugin that is bundled with EM Provided Out of Box Reports, whether installed during the initial install/upgrade of EM 13.5, or subsequently installed via self-update or other mechanism, will follow this pattern:

```
$ ls -sh $MW_HOME/plugins/oracle.sysman.*.plugin_13.5*/metadata/bipublisherreport/emreports/*.xdrz
216K .../plugins/oracle.sysman.oms.plugin_13.5.1.5.0/metadata/bipublisherreport/emreports/Enterprise Manager Cloud Control.xdrz
 ... ... ...
```

18.3 Common File name for all Oracle Provided Out of Box Reports
Each set of these out-of-box reports has the name below, which facilitates straightforward upgrades to the standalone OAS installation:

```
Enterprise Manager Cloud Control.xdrz
```
18.4 Bundle Enterprise Manager 13.5 Out of Box Reports

In preparation for uploading the EM provided reports, copy all instances of files named `Enterprise Manager Cloud Control.xdrz` from the EM 13.5 MW_HOME, to your local desktop (i.e., using putty, scp, etc...).

On Linux systems, these files can be located using these commands:

```
$ bash
$ cd $MW_HOME
$ find . -name 'Enterprise Manager Cloud Control.xdrz'
./plugins/oracle.sysman.xa.oms.plugin_13.5.1.0.0/metadata/bipublisherreport/emreports/Enterprise Manager Cloud Control.xdrz
./plugins/oracle.sysman.db.oms.plugin_13.5.1.0.0/metadata/bipublisherreport/emreports/Enterprise Manager Cloud Control.xdrz
...
./sysman/jlib/Enterprise Manager Cloud Control.xdrz
```

Figure 56. Locating Oracle Provided BI Publisher Reports in Enterprise Manager 13.5 Oracle Home

Once all XDRZ files are copied to your local desktop, one may see the following structure:

```
| [3.1M] plugins
| ├── [1.5M] oracle.sysman.db.oms.plugin_13.5.1.0.0
| │   └── [1.5M] metadata
| │       └── [1.5M] bipublisherreport
| │           └── [1.5M] emreports
| │               └── [1.5M] Enterprise Manager Cloud Control.xdrz
| [1.5M] oracle.sysman.xa.oms.plugin_13.5.1.0.0
| │   └── [1.5M] metadata
| │       └── [1.5M] bipublisherreport
| │           └── [1.5M] emreports
| │               └── [1.5M] Enterprise Manager Cloud Control.xdrz
| [2.6M] sysman
| └── [2.5M] jlib
  └── [2.5M] Enterprise Manager Cloud Control.xdrz

5.6M used in 11 directories, 3 files
```

Figure 57. Example layout of Enterprise Manager 13.5 Provided Out-of-Box Reports

Once the example layout above is created on your local desktop system, these set(s) can then be directly uploaded to the new OAS installation using the standard OAS upload process.

Any subsequent updates or patching of Enterprise Manager out-of-box reports would be done using the standard OAS user interface, against one or more reports.

The following screenshots demonstrate some examples of uploading these out-of-box reports.
18.5 Upload Oracle Provided Out-of-box Reports to standalone OAS

18.5.1 Step 1 - Login to the standalone OAS as a user with OAS Administrator privileges.

### OAS for EM Repository-Based Security

**Sign In**

Please enter username and password

- **Username**: system
- **Password**: ********

**Accessibility Mode**

- English (United States)

### OAS for LDAP Based Security

**Sign In**

Please enter username and password

- **Username**: weblogic
- **Password**: ********

**Accessibility Mode**

- English (United States)

18.5.2 Steps 2 through 5 - Prepare to Upload to Shared Folders

1. Navigate to Catalog
2. Navigate to Shared Folders
3. Make sure Shared Folders is highlighted
4. Select Upload

18.5.5 Steps 5 and 6 – Choose to upload the Reports - Ensure to select ‘Overwrite Existing file’
18.5.7  Step 7 and 8 – Choose the Platform Reports

18.5.9  Steps 9 and 10 - Uploading status is shown, and in a few minutes, Upload Completed is shown.

18.5.11  Step 11 – Operation Completed
18.6 Repeat the above procedure for each EM plugin

<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Manager Cloud Control.xdrz</td>
<td>3/21/2021 8:51 AM</td>
<td>XDRZ File</td>
<td>215 KB</td>
</tr>
<tr>
<td>Enterprise Manager Cloud Control.xdrz</td>
<td>3/21/2021 10:08 AM</td>
<td>XDRZ File</td>
<td>1,479 KB</td>
</tr>
<tr>
<td>Enterprise Manager Cloud Control.xdrz</td>
<td>3/21/2021 10:33 AM</td>
<td>XDRZ File</td>
<td>3,178 KB</td>
</tr>
<tr>
<td>Enterprise Manager Cloud Control.xdrz</td>
<td>3/21/2021 11:29 AM</td>
<td>XDRZ File</td>
<td>1,491 KB</td>
</tr>
</tbody>
</table>
18.7 Verify Sample Report

- This series of 4 steps demonstrate testing the sample report.

1. Navigate to Shared Folders

2. Navigate to Enterprise Manager Cloud Control Folder

3. Click on EM Sample Reports

4. Click on the "Targets of Specified Type" Report

The Report is Displayed
18.8  Steps to complete after uploading the Enterprise Manager Provided Reports

In certain circumstances, the OAS catalog's root folder, which is displayed in the user interface via the Shared Folders icon, does not have the correct permissions.

The symptom of this would be for OAS users without the Super Admin privilege (either BI Administrator, EMBIPADMINISTRATOR, or XMLP_ADMIN, depending on the security model) will be unable to see the reports that were just uploaded.

There can be circumstances that arise from time to time when the same behavior can be exhibited for customized reports that are either developed directly in OAS, or uploaded to OAS, show this same behavior.

In order to repair or set appropriate permissions for an OAS Catalog Object, note the four types of Catalog Objects that are available.

18.8.1  OAS Catalog Object Types

Every OAS catalog Object has an associated set of permissions, which are derived from the set of available roles.

Note that the roles are stored as appropriate, depending on the OAS Security Model.

Review ‘Figure 54- Mapping of EMBIP* Roles to base OAS Roles’ for review.

<table>
<thead>
<tr>
<th>Object</th>
<th>Comment</th>
<th>Screenshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folder</td>
<td>Root of My Folders tree.</td>
<td><img src="image1.png" alt="Folder Screenshot" /></td>
</tr>
<tr>
<td></td>
<td>A subfolder of Shared Folders.</td>
<td><img src="image2.png" alt="Subfolder Screenshot" /></td>
</tr>
<tr>
<td>Datamodel</td>
<td>SQL Queries against EM repository data.</td>
<td><img src="image3.png" alt="Datamodel Screenshot" /></td>
</tr>
<tr>
<td>Report</td>
<td>Layout and properties for viewing report content.</td>
<td><img src="image4.png" alt="Report Screenshot" /></td>
</tr>
<tr>
<td>Subtemplate</td>
<td>Can be included by Report’s (i.e., for headers/footers).</td>
<td><img src="image5.png" alt="Subtemplate Screenshot" /></td>
</tr>
</tbody>
</table>
18.8.2 Resolving Permissions issues against one or more OAS Catalog Object(s)

As a user with OAS super admin privileges (i.e., sysman, weblogic, etc...), navigate to the OAS Catalog Object that needs to have its catalog permissions set or reset.

For this example, The **Shared Folders** OAS Catalog Object is demonstrated:

<table>
<thead>
<tr>
<th>Step</th>
<th>Screenshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Select <strong>Shared Folders</strong></td>
<td><img src="image1.png" alt="Screenshot 1" /></td>
</tr>
<tr>
<td>2. Do not highlight any other items.</td>
<td><img src="image2.png" alt="Screenshot 2" /></td>
</tr>
<tr>
<td>3. Press <strong>Permissions</strong> link.</td>
<td><img src="image3.png" alt="Screenshot 3" /></td>
</tr>
<tr>
<td>4. An empty list.</td>
<td><img src="image4.png" alt="Screenshot 4" /></td>
</tr>
<tr>
<td>5. Press the + sign.</td>
<td><img src="image5.png" alt="Screenshot 5" /></td>
</tr>
<tr>
<td>6. Enter <strong>EMBIP</strong> in Name.</td>
<td><img src="image6.png" alt="Screenshot 6" /></td>
</tr>
<tr>
<td>7. Press Search button.</td>
<td><img src="image7.png" alt="Screenshot 7" /></td>
</tr>
<tr>
<td>Step</td>
<td>Screenshot</td>
</tr>
<tr>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>8.</td>
<td>List shown.</td>
</tr>
<tr>
<td>9.</td>
<td>Press <strong>Move All</strong></td>
</tr>
</tbody>
</table>

10. Fill to match the screen shot.

11. If this checkbox is selected, the catalog operation can take significantly more time.

12. Only select this checkbox if it is required.
Table 8. Ensure correct Catalog Permissions for OAS Shared Folder

18.9 Reminder On Required Roles for EM Administrators

Anytime that a new Enterprise Manager Administrator is configured, refer to the relevant section, depending on whether Repository Based Authentication, or LDAP Based Authentication, for the steps to provide access to this new EM user.

Refer to section ‘Error! Reference source not found. - Error! Reference source not found.’ for further details.

REM Setup an EMCC Report Viewer named ‘USER3’
grant EMBIPVIEWER to USER3
CHAPTER 19. MIGRATING BIP SCHEDULES FROM EM 13.4

If an upgrade from Enterprise Manager 13.4 to Enterprise Manager 13.5 has been completed, it is necessary to migrate any existing schedules from the embedded BI Publisher to the standalone OAS.

After all steps in this handbook are completed, and the standalone Oracle Analytics Server environment is fully functional, the scheduler jobs and the job history data can be migrated from the embedded BIP in EM 13.4.

The standalone OAS provides a script to perform this migration.

Many of the required arguments to the script can be gleaned from the flow during the initial standalone OAS configuration, from section “8.7.5 - Step 5 - Database”, and from the section “14.2.5- Part 5 - Fill in the required details”, which are repeated below:

<table>
<thead>
<tr>
<th>Name</th>
<th>EMREPOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver Type</td>
<td>Oracle 12c</td>
</tr>
<tr>
<td>Database Class</td>
<td>oracle.jdbc.OracleDriver</td>
</tr>
<tr>
<td>Connection String</td>
<td>jdbc:oracle:thin:@//emrepos1.example.com:1521/orclpdb.example.com</td>
</tr>
<tr>
<td>Use System User</td>
<td>Do Not Check</td>
</tr>
<tr>
<td>Username</td>
<td>MGMT_VIEW</td>
</tr>
<tr>
<td>Password</td>
<td>********</td>
</tr>
<tr>
<td>Pre Process Function</td>
<td>sysman.gc$bip.bip_set_em_user_context(:xdo_user_name)</td>
</tr>
<tr>
<td>Post Process Function</td>
<td>Leave Blank</td>
</tr>
<tr>
<td>Client Certificate</td>
<td>Leave Blank</td>
</tr>
<tr>
<td>Use Proxy Authentication</td>
<td>Leave Blank</td>
</tr>
</tbody>
</table>
# Arguments for OAS Scheduler Migration Script

<table>
<thead>
<tr>
<th>Context</th>
<th>Argument Value (color coded)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQL*plus invocation</td>
<td>SYS</td>
<td>The sysdba username usually “sys”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SYSDBA Password</td>
</tr>
<tr>
<td></td>
<td>●●●●●●●●●●●●●●●●</td>
<td>The connect descriptor would be the value of the “Simple connect string” in the screenshot above, reformatted for use with SQL*plus.</td>
</tr>
<tr>
<td></td>
<td>@oasrepos.example.com:1521/orcl</td>
<td>oasrepos.example.com:1521/orcl</td>
</tr>
<tr>
<td>SQL Script Execution</td>
<td>sysman biplatform</td>
<td>EM 13.4 Embedded BIP Schema Username.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The “sysman” User's password.</td>
</tr>
<tr>
<td></td>
<td>●●●●●●●●●●●●●●●●</td>
<td>This value would the same as entered in highlighted value from “14.2.5- Part 5 - Fill in the required details”:</td>
</tr>
<tr>
<td></td>
<td>emrepos1.example.com:1521/orcl</td>
<td>Connection String: [jdbc:oracle:thin:@//emrepos1.example.com:1521/orclpdb.example.com]</td>
</tr>
<tr>
<td></td>
<td>oas biplatform</td>
<td>The actual username will be the prefixed with the value from the “Schema prefix” field in the screenshot:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“Schema_prefix” + “_” + “BIPLATFORM”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In this case, the complete username is:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OAS_BIPLATFORM</td>
</tr>
</tbody>
</table>

Table 9. Arguments for OAS Scheduler Migration Script
19.1.1 Example execution of OAS Scheduler Migration Script using example values

19.1.1.1 Change to the directory appropriate for your platform:

```bash
cd /u01/oracle/OAS/bi/modules/oracle.bi.publisher/upgradeutil
```

19.1.1.2 Using the table above as an example, and the color coding in the table, execute the script as follows:

```bash
$ sqlplus sys/●●●●●●●●@oasrepos.example.com:1521/orcl as sysdba
```

19.1.1.3 Run the `bip_12c_scheduler_migration.sql` script

Pass in the command-line parameters, using the color coding from the table.

```sql
sql> @bip_12cScheduler_migration.sql sysman_biplatform ●●●●●●●● emrepos1.example.com:1521/orcl.example.com old 1: &&1 new 1: sysman_biplatform old 2: &&2 new 2: ●●●●●● old 3: '&&3' new 3: emrepos1.example.com:1521/orcl.example.com old 4: '&&4' new 4: oas_biplatform 12C_BIPLATFORM_SCHEMA_NAME Database link created. 9979 rows created. 9769 rows created. 9739 rows created. 4159 rows created. 6 rows created. 6 rows created. 6 rows created. Commit complete. Database link dropped. SQL> exit;
```

$
CHAPTER 20. UPDATING THE EM 13.5 WEBLOGIC DOMAIN TARGET

After the upgrade to Enterprise Manager 13.5 is completed, the embedded BIP related WebLogic artifacts will still be shown as monitored targets.

Since these targets no longer exist, they are stale, and it is necessary to refresh the WebLogic domain.

20.1 Login to Enterprise Manager 13.5 and navigate to GCDomain

20.2 Refresh WebLogic Domain and Delete Stale Targets

20.3 Stale embedded BIP* targets are removed
20.4 Delete any remaining stale BIP targets

1. All Targets
2. Search for `bip`
3. For each target:
   a. Right Click on targets
   b. Choose Target Setup
      i. Choose remove Target...
      ii. Confirm Deletion
      iii. Receive Confirmation
Appendix A. Shutting down OAS using the WebLogic console

Full details on OAS lifecycles commands are detailed in the below document:

Oracle® Analytics
Administering Oracle Analytics Server
6.4.0
F24224-18

In order to shut down the full OAS stack, see ‘Appendix F - Stopping the full OAS stack’

1. Login to WebLogic console

2. In the left hand ‘Domain Structure’ choose Servers
3. The summary of servers is displayed

<table>
<thead>
<tr>
<th>Server</th>
<th>Machine</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdminServer</td>
<td></td>
<td>RUNNING</td>
</tr>
<tr>
<td>bi_server1</td>
<td>case.example.com</td>
<td>RUNNING</td>
</tr>
</tbody>
</table>

4. Click the checkbox next to **bi_server1** and choose **Shutdown** -> **Force Shutdown Now**
Appendix B. Shutting down the Admin Server via WebLogic console

Full details on OAS lifecycles commands are detailed in the below document:

Oracle® Analytics
Administering Oracle Analytics Server
6.4.0
F24224-18

To shut down the full OAS stack, see 'Appendix F - Stopping the full OAS stack'

1. Login to WebLogic console

2. In the left hand ‘Domain Structure’ choose Servers
3. The summary of servers is displayed

4. Click the checkbox next to **AdminServer(admin)** and choose **Shutdown**->**Force Shutdown Now**

5. Since the Admin Server is being stopped, the following message is displayed:
Appendix C. Starting OAS using the WebLogic Console

Full details on OAS lifecycles commands are detailed in the below document:

Oracle® Analytics
Administering Oracle Analytics Server
6.4.0
F24224-18

In order to startup the full OAS stack, see ‘Appendix E- Starting the full OAS’

If necessary, navigate back to the WebLogic control panel for Servers, click on the “Control” tab, check the box for **bi_server1**, and choose **Start**.
Appendix D. Determine the status of OAS

Full details on OAS lifecycles commands are detailed in the below document:

Oracle® Analytics
Administering Oracle Analytics Server
6.4.0
F24224-18

$ cd DOMAIN_HOME/bitools/bin
$ ./status.sh
Domain status; Using domainHome: .../user_projects/domains/bi ...
Initializing WebLogic Scripting Tool (WLST) ...

/Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas.example.com:9500
Status of Domain: /home/oracle/OASMW/user_projects/domains/bi

NodeManager (oas.example.com:9506:SSL): RUNNING

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Machine</th>
<th>Restart Int</th>
<th>Max Restart</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdminServer</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>bi_server1</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Customize this table

Servers (Filtered - More Columns Exist)

<table>
<thead>
<tr>
<th>Start</th>
<th>Resume</th>
<th>Suspend</th>
<th>Shutdown</th>
<th>Restart SSL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary of Servers

Use this page to change the state of the servers in this WebLogic Server domain. Control operations on Managed Servers require start wide administration port.
Appendix E. Starting the full OAS stack

Full details on OAS lifecycles commands are detailed in the below document:

```
$ cd DOMAIN_HOME/bitools/bin
$ ./start.sh
Starting domain; Using domainHome: .../user_projects/domains/bi ...
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() ...
... Node manager not running. Starting it...
NMProcess: NODEMGR_HOME is already set to .../user_projects/domains/bi/nodemanager
NMProcess: ...
... NodeManager started
Reading domain...
/Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas.example.com:9500
Starting AdminServer ...
nmStart(AdminServer) succeeded
Setting restart interval for all ...
Setting max restart for ...
Starting all servers ...
Starting bi_server1 (Original State:SHUTDOWN) ...
... Started bi_server1
Set runtime log level...
Setting oracle.wsm log level to WARNING:1 for server: bi_server1
Finished starting servers

./status.sh
Domain status; Using domainHome: .../user_projects/domains/bi ...
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() ...
...
/Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas.example.com:9500
AdminServer already running

Status of Domain: /home/oracle/OASMW/user_projects/domains/bi
NodeManager (oas.example.com:9506:SSL): RUNNING

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Machine</th>
<th>Restart Int</th>
<th>Max Restart</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdminServer</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>RUNNING</td>
</tr>
<tr>
<td>bi_server1</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>RUNNING</td>
</tr>
</tbody>
</table>
```
Appendix F. Stopping the full OAS stack

Full details on OAS lifecycles commands are detailed in the below document:

Oracle® Analytics
Administering Oracle Analytics Server
6.4.0
F24224-18

$ cd DOMAIN_HOME/bitools/bin
$ ./stop.sh
Stopping domain; Using domainHome: /home/oracle/OASMW/user_projects/domains/bi ...
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() ...
...
Reading domain...
/Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas.example.com:9500
AdminServer already running
Stopping all managed servers and system components ...
Stopping bi_server1 (Original State:RUNNING) ...
......
Stopped bi_server1
Finished stopping managed servers and system components
Stopping AdminServer (Original State:RUNNING) ...
.Stopped AdminServer
Stopping NodeManager...

./status.sh
Domain status; Using domainHome: ..../user_projects/domains/bi ...
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() ...
...
/Servers/AdminServer/ListenPort=9500
Accessing admin server using URL t3://oas.example.com:9500
AdminServer already running

Status of Domain: /home/oracle/OASMW/user_projects/domains/bi
NodeManager (oas.example.com:9506:SSL): RUNNING

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Machine</th>
<th>Restart Int</th>
<th>Max Restart</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AdminServer</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>RUNNING</td>
</tr>
<tr>
<td>bi_server1</td>
<td>Server</td>
<td>oas.example.com</td>
<td>unknown</td>
<td>unknown</td>
<td>RUNNING</td>
</tr>
</tbody>
</table>
Appendix G. Recovering from a failed installation/configuration of OAS

The steps below can be utilized to recover from a failed installation/configuration of OAS:

1. Stop any running WebLogic Processes:
   - Utilize 'Appendix F - Stopping the full OAS stack'
2. Clean up all related OAS artifacts from both DBMS and WebLogic:
   a. Run the RCU utility from the OAS $MW_HOME
      
      ```bash
      $MW_HOME/oracle_common/bin/rcu
      ```
   b. On the first pages of the RCU utility, choose to drop a schema.
   c. Ensure to specify the correct schema prefix (i.e. OAS).
   d. Delete the OAS schema using RCU.
   e. Delete the Domain for OAS in the $MW_HOME for OAS:
      
      ```bash
      rm -rf $MW_HOME/user_projects/domains/bi
      ```
3. It is not necessary, nor desirable, to delete the OAS $MW_HOME.
Appendix H. Deleting embedded BI Publisher Schema from EM 13.5

After an upgrade of Enterprise Manager to 13.5, the database schema associated with the embedded BI Publisher will still be present in the Enterprise Manager repository database.

This schema is important if the steps in ‘section Chapter 19 - Migrating BIP Schedules from EM 13.4’ are utilized.

Once the database schema from the embedded BI Publisher is no longer needed, this schema can be deleted using the standard Repository Creation Utility (RCU) from the Enterprise Manager 13.5 MiddleWare home.

The following steps outline this procedure:

If required, ensure to follow the steps in in ‘section Chapter 19 - Migrating BIP Schedules from EM 13.4’ to ensure that any existing BI Publisher schedules are not lost.

1. From the Enterprise Manager 13.5 MiddleWare home, run the RCU utility:

   `bash
   $ $MW_HOME/oracle_common/bin/rcu`

2. Choose ‘Drop Repository’
3. Fill in the required DBMS details (for the EM 13.5 DBMS Schema [PDB/CDB]
4. Ensure to uncheck the entry for ‘AS Common Schemas’.
5. Make sure to select ‘Oracle Business Intelligence’.

1) Take special note of the warning, and when sure, select ok:
6. If you see an error, please follow the instructions, and start over:

![Repository Creation Utility - Checking Prerequisites](image1)

Checking Component Prerequisites

<table>
<thead>
<tr>
<th>Component</th>
<th>Time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Infrastructure Services</td>
<td>00:00.206</td>
</tr>
<tr>
<td>Metadata Services</td>
<td>00:00.100</td>
</tr>
<tr>
<td>Weblogic Services</td>
<td>0</td>
</tr>
</tbody>
</table>

Operation failed. Click OK to return to wizard to see the error.

7. You should see this screen

![Repository Creation Utility - Checking Prerequisites](image2)

Checking Component Prerequisites

<table>
<thead>
<tr>
<th>Component</th>
<th>Time (ms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Intelligence Platform</td>
<td>00:00.105</td>
</tr>
<tr>
<td>Weblogic Services</td>
<td>00:00.102</td>
</tr>
</tbody>
</table>

Operation completed. Click OK to continue to next page.

8. And when you hit 'OK' you should see this screen:

![Repository Creation Utility](image3)

<table>
<thead>
<tr>
<th>Component</th>
<th>Schema Owner</th>
<th>Tablespace to drop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Intelligence Platform</td>
<td>SYSMAN_BIPLATFORM</td>
<td>No Tablespace to drop</td>
</tr>
<tr>
<td>Weblogic Services</td>
<td>WLS</td>
<td>No Tablespace to drop</td>
</tr>
</tbody>
</table>
9. It is safe to ignore the warnings:
10. Choose **Ignore** twice:

![Warning dialog box]

**ORA-01916: user 'WLS' does not exist**

![Warning dialog box]

**ORA-01918: user 'WLS_RUNTIME' does not exist**

![Completion Status]

11. Completion Status
Appendix I. Stopping and starting OHS using Fusion Middleware Control

» Login to Fusion Middleware Control

» [http://oas.example.com:9500/em](http://oas.example.com:9500/em)

WebLogic Domain

→ Administration

→ OHS Instances

---

Starting OHS:

---
Appendix J. Details on the JDBC Simple Connect Descriptor

The JDBC Simple Connect descriptor is used by a Java application, such as Oracle Analytics Server, to connect to a remote Oracle Database.

Some of the common elements in all JDBC Simple Connect Descriptors are:

- Host Name
- TCP/IP Port
- Service Name (or deprecated Oracle SID)

In addition to the above standard elements, many other elements and options can be specified as part of a JDBC Simple Connect Descriptor.

A few examples of this includes:

- Oracle Secure TCPs Wallet
- Oracle RAC Database ‘Scan’ addresses

There are many other options and capabilities that are available.

Since the JDBC Simple Connect Descriptor is a standardized mechanism for any Java application to connect to an Oracle Database, a small set of tools has been developed to assist with determining the correct value to utilize.

Please see the following web page for a more detailed discussion:

Appendix K. WebLogic Authentication Providers

To understand what the configuration goals are, it is important to provide some background.

WebLogic supports two distinct types of providers:

2. Identity Asserters – Only requires that the given username is valid.

Not shown in the above screen shot is a critical flag associated with each item in the list:

- **REQUIRED**
  - If the test fails, all the remaining providers are still consulted, but an overall result of FALSE is returned.
  - If the test succeeds, the overall result is temporarily set to TRUE, and the rest of the providers are consulted.

- **REQUISITE**
  - If the test succeeds, the overall result is temporarily set to TRUE, and the rest of the providers are consulted.
  - If the test fails, all the remaining providers are skipped, and FALSE is returned.

- **SUFFICIENT**
  - If the test succeeds, the rest of the providers can be skipped, and an overall result of TRUE is returned.
  - Otherwise, processing continues with the next provider in the list (if any).

- **OPTIONAL**
  - If the test succeeds, the overall result is temporarily set to TRUE.
  - If the test fails, the overall result is temporarily set to FALSE.

These flags, in conjunction with the order of the providers, determines whether a given username/password (for Authenticators) or a given username (for Identity Asserters), is valid.

Furthermore, consider that when a username/password, or just username, is being processed by WebLogic, the list of providers is consulted in order.

If the overall result of the chain of providers is TRUE, then the validation succeeds and an overall result of TRUE is returned, otherwise, an overall result of FALSE is returned.

(Google Search, n.d.)
CHAPTER 21. REFERENCES


OAS: Quick Reference For In-Place Upgrade From Oracle Business Intelligence Enterprise 12c To OAS On Linux (Doc ID 2645014.1). (2020, March). Retrieved from https://support.oracle.com/epmos/faces/DocContentDisplay?id=2645014.1


index

4443, 12-100, 12-104
7777, 12-100, 12-104, 12-110, 13-119
Admin Server, 11-89, 12-103, 15-116, 13-119
BI Administrator, 9-53, 9-54, 11-83
BI Author, 9-53, 9-54, 11-83
BI Consumer, 9-53, 9-54, 11-83
BI Publisher, 9, 13, 7-22
BI Service Administrator, 15-129
bi_cluster, 12-108
BIAAdministrator, 18-154
BIEE, 9
bip_12c_scheduler_migration.sql, 19-160
BlindTrustManager, 11-82
Catalog Folders', 16-137, 16-142
consle, 11-68, 11-69, 11-73, 13-112, 164, 166
Database Security Model, 4-18, 10-57, 10-58
Datasource, 14, 2-16, 5-19, 6-20, 6-21, 10-63, 11-64, 11-91, 14-120, 14-122, 16-145
DefaultAuthenticator, 11-80, 11-81
EMBIPADMINISTRATOR, 15-125, 15-126, 18-154
EMBIPAUTHOR, 15-125, 15-128
EMBIPADMINISTRATOR, 15-125, 15-128, 15-133
EMREPOS, 9-53, 14-120, 14-121, 16-145, 19-158
EMREPOS1, 16-145
emrepos1.example.com, 14-121, 19-158, 19-159, 19-160
Enterprise Manager 13.5, 9, 11, 13, 14, 2-16, 9-53, 15-124, 17-146, 18-149, 20-162
Enterprise Manager Cloud Control, 18-148, 18-149
Enterprise Manager Repository, 6-20, 8-47, 9-52, 9-53, 10-57, 10-62, 14-120, 15-124
Fusion Middleware Security Model, 4-18, 11-64, 11-67
https, 12-100
Java Platform Services, 9-52, 11-64, 11-82
Java Program to Validate Database Details, 179
JPS, 9-52, 11-64, 11-82
LDAP, 9, 13, 3-17, 4-18, 6-20, 9-52, 9-53, 9-54, 10-57, 10-62, 11-64, 11-67, 11-70, 11-71, 11-73, 11-77, 11-82, 11-83, 12-92, 16-145
MGMT_USER, 9-53, 9-54, 10-57, 15-125
MGMT_VIEW, 14-120, 14-121, 19-158
Middleware Home, 8-23, 12-93
MW_HOME, 8-23, 8-25, 8-26, 8-28, 8-29, 8-42, 8-46, 11-82, 12-93, 12-96, 12-103, 13-117, 13-119, 18-148, 18-149, 172, 173
myrealm, 11-68, 11-69, 11-73, 11-74, 13-112
MyReports, 16-136, 16-158, 16-140, 16-141, 16-144
MyReports.xdrz', 16-140
Node Manager, 12-100, 169, 170, 171
OAC, 9
OAM Identity Asserter, 11-64, 12-92, 13-113
OAS, 9, 11, 13, 14, 1-15, 2-16, 3-17, 4-18, 5-19, 6-20, 6-21, 7-22, 8-23, 8-28, 8-29, 8-42, 8-44, 8-46, 8-47, 8-51, 9-52, 9-53, 9-54, 9-55, 9-56, 10-57, 10-58, 10-59, 10-61, 10-62, 10-63, 11-64, 11-65, 11-68, 11-70, 11-71, 11-72, 11-73, 11-74, 11-76, 11-77, 11-78, 11-
OBI stripe, 11-89
OID, 3-17, 11-70, 11-71, 11-74, 11-75, 11-76, 11-77, 11-78, 11-79, 11-82, 12-92, 13-111
OPTIONAL, 180
Oracle Access Manager, 14, 9-52, 11-75, 12-92, 13-118
Oracle Analytics Cloud, 9
Oracle HTTP Server, 14, 4-18, 9-52, 11-64, 12-92, 12-96, 13-117
oracle.jdbc.OracleDriver, 14-121, 19-158
oracle.example.com, 10-61, 14-121, 19-158, 19-159, 19-160
out-of-box reports, 15-124, 18-148, 18-149
OVD, 11-82
Plugin, 18-148
port, 11-77, 12-92, 12-100
Principals, 11-87
providers, 11-75, 13-116, 180
RDBMS, 13, 14, 3-17, 8-47
reports, 9, 11, 13, 14, 2-16, 7-22, 9-52, 9-54, 11-83, 14-120, 15-124, 16-136, 16-145, 17-146, 18-149, 18-150, 18-154
REQUIRED, 9-52, 11-80, 11-81, 13-114, 180
REQUISITE, 180
screen shot, 11-72, 16-142, 18-156, 180
Security Realms, 11-68, 11-69, 11-73, 13-112
Shutdown, 10-63, 165, 167
Single Sign-on, 11-64, 13-118
sqlplus, 10-57, 10-58, 15-125, 19-160
SSO, 3-17, 4-18, 6-20, 9-52, 9-53, 9-54, 11-64, 11-67, 11-70, 11-71, 11-72, 11-75, 11-91, 12-92, 13-111
Startup, 10-63
step, 8-23, 11-64, 11-76, 12-100, 16-143
SUFFICIENT, 11-75, 11-80, 11-81, 180
sys, 10-57, 10-58, 15-125, 19-159, 19-160
sysman_biplatform, 19-159, 19-160
System Component, 12-100
the standalone OAS, 11, 16-141, 17-146
VERY IMPORTANT, 12-100
virtualize, 11-82
Webgate, 4-18, 9-52, 11-64, 12-92, 13-117
WebLogic Domain, 14, 8-23, 9-52, 11-64, 11-72, 11-73, 11-74, 11-76, 11-80, 12-92, 12-96, 12-103, 12-105, 20-162, 178
XMLP_ADMIN, 9-53, 9-54, 10-57, 15-125, 18-154
XMLP_DEVELOPER, 9-53, 9-54, 10-57, 15-125
XMLP_SCHEDULER, 9-53, 9-54, 10-57, 15-125

Installing and Configuring Oracle Analytics Server 6.4 for use with Oracle Enterprise Manager Cloud Control

January 2323

Author: Abramson, Jerry (Oracle)