

Oracle® Fusion Middleware

Configuration Guide for Oracle Business Intelligence Discoverer

11g Release 1 (11.1.1)

B40107-08

October 2012

This document describes how to configure and manage Discoverer components.

Oracle Fusion Middleware Configuration Guide for Oracle Business Intelligence Discoverer, 11g Release 1 (11.1.1)

B40107-08

Copyright © 1999, 2012, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Contents

Preface	xiii
Intended Audience.....	xiii
Documentation Accessibility	xiii
Related Documents	xiii
Conventions	xiv
JGoodies License Agreement.....	xiv
1 Introducing Oracle BI Discoverer	
1.1 What is Oracle BI Discoverer?.....	1-1
1.2 What are the new features in Discoverer 11g Release 1 (11.1.1)?.....	1-4
1.3 About Oracle BI Discoverer installations	1-4
1.3.1 About Discoverer installations that are associated with Oracle Internet Directory and schemas 1-5	
1.3.2 About Discoverer standalone installations	1-6
1.3.3 About Discoverer installations and the Oracle Database	1-7
1.4 About configuring Oracle BI Discoverer	1-7
1.5 How to confirm an Oracle BI Discoverer installation.....	1-8
1.6 About connecting to Discoverer	1-9
1.7 What is the Oracle BI Discoverer architecture?	1-10
1.8 About the Discoverer client tier	1-11
1.8.1 About the Discoverer client tier and Discoverer Plus	1-11
1.8.2 About the Discoverer client tier and Discoverer Viewer	1-12
1.9 About the Discoverer middle tier	1-12
1.9.1 About the Discoverer Java EE applications	1-12
1.9.2 About the Discoverer CORBA components	1-13
1.10 About the Discoverer database tier	1-14
1.11 How does Oracle BI Discoverer work?	1-15
1.11.1 How does Discoverer Plus Relational work?	1-15
1.11.2 How does Discoverer Plus OLAP work?	1-16
1.11.3 How does Discoverer Viewer work?	1-17
1.12 Oracle BI Discoverer Navigation.....	1-17
2 Starting Oracle BI Discoverer	
2.1 General information about starting Discoverer.....	2-2
2.2 Which Web browsers does Discoverer support?	2-3

2.3	About restricting how users can start Discoverer	2-3
2.4	What are the storage requirements and privileges required to start Discoverer Plus and Discoverer Viewer? 2-3	
2.5	About running Discoverer over HTTPS	2-4
2.5.1	How to install a security certificate on a Discoverer Plus client machine.....	2-4
2.5.2	How to import certificate details into the Java Plug-in certificate store.....	2-9
2.6	About running Discoverer Plus over HTTP for the first time on a client machine.....	2-10
2.7	How to start Discoverer Plus	2-11
2.8	How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine 2-12	
2.9	How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine 2-15	
2.10	How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine 2-19	
2.11	How to start Discoverer Viewer over HTTP	2-21
2.12	How to modify the URL that starts Discoverer.....	2-22

3 Managing Oracle BI Discoverer Connections

3.1	What is an Oracle BI Discoverer connection?	3-1
3.1.1	About Discoverer private connections and Single Sign-On.....	3-2
3.2	What are the types of Discoverer connections?.....	3-2
3.3	About managing Discoverer connections	3-4
3.4	About the Discoverer connections page	3-4
3.5	About specifying whether Discoverer end users can create their own private connections... 3-5	
3.6	How to create public connections.....	3-5
3.7	How to delete public connections	3-7
3.8	How to specify whether Discoverer end users can create private connections.....	3-7

4 Managing and Configuring Discoverer

4.1	About Oracle Enterprise Manager Fusion Middleware Control	4-1
4.1.1	Why use Fusion Middleware Control with Discoverer?	4-2
4.1.2	How to start Fusion Middleware Control and display the Farm Home page	4-3
4.1.3	How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages 4-4	
4.1.4	How to configure application URLs displayed on the Fusion Middleware Control Discoverer Home page 4-6	
4.1.5	About the navigation pane in Fusion Middleware Control	4-6
4.1.6	About using the Topology Viewer to view relationships between components in a Fusion Middleware Farm 4-7	
4.2	About using Fusion Middleware Control to manage Discoverer middle-tier components.... 4-7	
4.3	How to start, stop, and restart the Discoverer preferences server component using opmncctl 4-9	
4.4	About starting and stopping Discoverer servlets	4-9
4.4.1	What happens when you start Discoverer servlets?	4-9
4.4.2	What happens when you stop Discoverer servlets?.....	4-10

4.4.3	How to start and stop the Discoverer Java EE applications by using Fusion Middleware Control	4-10
4.4.4	About starting and stopping the Discoverer Java EE applications using WLST	4-11
4.5	About enabling and disabling Discoverer client-tier components	4-11
4.5.1	What happens when you enable and disable Discoverer client-tier components	4-11
4.5.2	How to disable Discoverer client-tier components	4-12
4.5.3	How to enable Discoverer client-tier components	4-13
4.6	About configuring the Discoverer middle-tier and client-tier components	4-13
4.6.1	How to configure Discoverer client-tier components	4-14
4.7	About monitoring Discoverer performance	4-15
4.7.1	How to monitor performance of all Discoverer client-tier components	4-15
4.7.2	How to monitor performance of a single Discoverer client-tier component	4-16
4.8	How to view ports used by Fusion Middleware	4-17
4.9	How to change the port on which Discoverer is deployed if Web Cache is not configured	4-17
4.10	About running Discoverer Plus with different Java Virtual Machines	4-17
4.11	Configuring Discoverer to export to Web Query format	4-18
4.12	Configuring Discoverer using the System MBean Browser	4-20
4.13	Limiting the Number of Sessions for a Discoverer User	4-20

5 Configuring Discoverer Plus OLAP

5.1	Overview of the Discoverer Catalog	5-1
5.1.1	What is the Discoverer Catalog?	5-2
5.1.2	What is the OLAP Catalog?	5-2
5.1.3	What properties can objects in the Discoverer Catalog have?	5-2
5.1.4	What is the architecture of the Discoverer Catalog?	5-2
5.1.5	Differences between the Discoverer Catalog and the BI Beans Catalog	5-3
5.2	Maintaining the Discoverer Catalog	5-3
5.2.1	Database privileges assigned to the D4OSYS user	5-4
5.2.2	Installing a Discoverer Catalog	5-4
5.2.3	Uninstalling a Discoverer Catalog	5-6
5.2.4	Exporting a Discoverer Catalog	5-7
5.2.5	Importing a Discoverer Catalog	5-7
5.3	Maintaining authorized users and roles for the Discoverer Catalog	5-8
5.3.1	Characteristics of the folder structure of the Discoverer Catalog?	5-9
5.3.2	Folders in the structure	5-9
5.3.3	Types of privileges for objects and folders	5-9
5.3.4	Managing privileges as the D4OSYS user	5-10
5.3.5	Ensuring that users can use Discoverer Plus OLAP	5-10
5.3.6	Authorizing user and role access to the Discoverer Catalog	5-10
5.3.7	Revoking user or role access to the Discoverer Catalog	5-11
5.3.8	Using private versus public connections when accessing OLAP data	5-12
5.4	Customizing the look and feel of Discoverer Plus OLAP	5-12
5.5	Information to be provided to end users	5-13
5.6	Configuration diagnostic utility for Discoverer Plus OLAP	5-13
5.6.1	Forms of output from the utility	5-13
5.6.2	Description of output from the utility	5-14

5.7	URL parameters for the Discoverer Plus OLAP.....	5-16
5.8	URL parameters for an OLAP worksheet in Discoverer Viewer.....	5-18
5.9	Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog ..	5-18

6 Managing Discoverer in a Multi-Machine or Multi-Instance Environment

6.1	About Discoverer topologies.....	6-1
6.1.1	Discoverer topology with a single instance	6-2
6.1.2	Discoverer topology with multiple instances.....	6-2
6.2	About Discoverer topologies in a multiple-machine or multiple-instance environment	6-3
6.2.1	About providing load balancing	6-3
6.2.2	About using Fusion Middleware Control to manage multiple machines.....	6-4
6.3	What are the prerequisites for using Oracle Web Cache to provide load balancing for Oracle BI Discoverer? 6-5	
6.4	About using Oracle Web Cache to configure load balancing for Discoverer	6-6
6.5	How to configure Discoverer with load balancing using Oracle Web Cache.....	6-6
6.5.1	How to configure Oracle Web Cache for load balancing	6-7
6.5.2	How to verify that Oracle Web Cache is configured correctly for load balancing	6-7
6.6	About the Discoverer Preferences component in a multiple-machine environment	6-8
6.6.1	How to specify a centralized Discoverer Preferences component	6-9
6.6.2	How to find out the host name and port number of the Preferences server machine	6-9
6.6.3	How to specify a Discoverer Preferences Server on other machines	6-10
6.7	About configuring the tnsnames.ora file in a multiple-machine environment	6-10

7 Using Discoverer Viewer with Oracle Web Cache

7.1	About Oracle Web Cache.....	7-1
7.2	What are the benefits of Oracle Web Cache?	7-2
7.3	How does Oracle Web Cache work?.....	7-3
7.4	When to use Discoverer Viewer with Oracle Web Cache.....	7-3
7.5	How to use Discoverer Viewer with Oracle Web Cache	7-4
7.5.1	How to create Discoverer caching rules.....	7-4
7.5.2	How to enable Oracle Web Cache for Discoverer Viewer.....	7-5
7.5.3	How to configure Discoverer Viewer to enable maximum caching	7-6

8 Customizing Discoverer Look and Feel

8.1	Customizing the Discoverer Plus LAF	8-1
8.1.1	About LAF styles available in Discoverer Plus	8-1
8.1.2	How to change the Discoverer Plus LAF for all end users.....	8-3
8.1.3	How to define a custom LAF for Discoverer Plus	8-4
8.2	Customizing Discoverer Viewer.....	8-4
8.2.1	About Discoverer Viewer customization	8-4
8.2.2	How to change the default Discoverer Viewer LAF	8-5
8.2.3	How to change the default Discoverer Viewer layout	8-5

9 Managing Oracle BI Discoverer Preferences

9.1	What are Discoverer preferences?	9-1
9.2	About Discoverer system preferences	9-1
9.3	About Discoverer user preferences	9-2
9.4	How to set default user preferences for all users	9-4
9.5	How to set individual preferences for specific users.....	9-4
9.6	List of Discoverer user preferences	9-5
9.6.1	About the EnhancedAggregationStrategy user preference setting	9-12
9.6.2	About setting the timeout value for Discoverer.....	9-13
9.6.3	How to set the timeout value for Discoverer Viewer.....	9-13
9.7	How to convert a Discoverer preferences file to a different platform format	9-15
9.8	About migrating Discoverer preferences	9-15

10 Optimizing Oracle BI Discoverer Performance and Scalability

10.1	About Discoverer and performance.....	10-1
10.2	About Discoverer and scalability	10-1
10.3	How to improve Discoverer performance	10-2
10.3.1	How to improve Discoverer performance by using worksheets and page items appropriately 10-2	
10.3.2	How to improve Discoverer performance by reducing the time taken to display business areas and folders 10-3	
10.3.3	How to improve Discoverer performance by using summary folders.....	10-4
10.3.4	How to improve query performance by optimizing the SQL that Discoverer generates. 10-4	
10.3.5	How to improve Discoverer performance by using Discoverer Administrator hints..... 10-5	
10.3.6	How to improve Discoverer performance by setting the Case Storage item property appropriately 10-5	
10.3.7	How to improve Discoverer performance by increasing the size of the array used to fetch rows from the database 10-6	
10.3.8	How to improve Discoverer performance by basing lists of values on tables containing distinct values 10-6	
10.3.9	How to improve Discoverer performance by changing cache settings for your system.. 10-7	
10.3.10	How to improve Discoverer performance by scheduling worksheets to run overnight.. 10-8	
10.3.11	How to improve Discoverer Viewer performance by using Oracle Web Cache	10-8
10.3.12	How to improve Discoverer Portlet Provider performance	10-8
10.3.13	Troubleshooting Discoverer performance and scalability	10-8
10.4	How to take advantage of Discoverer's scalable architecture using the scalability features of Oracle 10-9	

11 Diagnostics and Logging Facilities in Discoverer

11.1	What Discoverer diagnostics and logging capabilities are available?	11-1
11.2	What is the checkdiscoverer utility?	11-2
11.3	How to view Discoverer log files using Fusion Middleware Control	11-2
11.4	How to set the log level for Discoverer component loggers	11-3

11.5	How to copy Discoverer log files.....	11-3
------	---------------------------------------	------

12 Starting Oracle BI Discoverer Using URL Parameters

12.1	Why use Discoverer with URL parameters	12-1
12.2	What is the URL parameter syntax?.....	12-1
12.2.1	About URL parameters and format masks	12-3
12.3	About specifying login information using URL parameters	12-3
12.3.1	About using URL parameters with private connections	12-4
12.3.2	How to specify login information using a Discoverer connection	12-4
12.4	About specifying workbooks and worksheets using URL parameters	12-5
12.4.1	How to find out the unique workbook ID of a workbook.....	12-5
12.4.2	How to find out the unique worksheet ID of a worksheet.....	12-6
12.4.3	How to find out the connection ID of a connection.....	12-6
12.4.4	How to find out the unique run ID of a set of scheduled workbook results	12-8
12.5	Examples of using URL parameters.....	12-8
12.5.1	Example 1: Starting Discoverer Viewer.....	12-9
12.5.2	Example 2: Starting Discoverer Viewer using a worksheet parameter	12-9
12.5.3	Example 3: Starting Discoverer Plus.....	12-10
12.5.4	Example 4: Starting Discoverer without prompting for connection details	12-10
12.5.5	Example 5: Starting Discoverer Viewer and prompt for a password	12-11
12.5.6	Example 6: Starting Discoverer Plus OLAP.....	12-11
12.5.7	Example 7: Starting Discoverer Plus and opening a scheduled workbook	12-11
12.5.8	Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set. 12-12	
12.5.9	Example 9: Opening an OLAP worksheet in Discoverer Viewer	12-12
12.6	About syntax and notation used in URL parameter tables	12-13
12.7	List of URL parameters common to Discoverer Plus and Viewer.....	12-13
12.8	List of URL parameters specific to Discoverer Plus.....	12-15
12.9	List of URL parameters specific to Discoverer Viewer.....	12-18

13 Maintaining Security with Oracle BI Discoverer

13.1	About Discoverer and security	13-1
13.2	About Discoverer and the database security model.....	13-3
13.3	About Discoverer and the Discoverer EUL security model	13-3
13.4	About Discoverer and the Oracle Applications security model	13-4
13.5	About Discoverer and the Oracle Fusion Middleware Security model.....	13-5
13.5.1	About Discoverer public connections and the Oracle Fusion Middleware Security model 13-6	
13.6	Using Discoverer with Oracle Fusion Middleware Security	13-6
13.6.1	About specifying Discoverer communication protocols	13-6
13.6.2	About Discoverer Viewer security and communication protocols	13-7
13.6.3	About Discoverer Plus security and communication protocols	13-8
13.7	Configuring End-to-End Secure Sockets Layer for Discoverer.....	13-13
13.8	Using Discoverer with Oracle Identity Management Infrastructure	13-15
13.8.1	Using Discoverer with Oracle Single Sign-On	13-16
13.8.2	Using Discoverer with Oracle Access Manager	13-19
13.8.3	Using Discoverer without Oracle Single Sign-On or Oracle Access Manager	13-21

13.9	Discoverer support for Single Sign-On details propagation	13-21
13.9.1	Introducing Virtual Private Databases, Single Sign-On, and Discoverer.....	13-22
13.9.2	Example for using GUID or SSO user name to limit Discoverer data	13-23
13.9.3	About tasks for using SSO user names to limit Discoverer data	13-24
13.9.4	How to set up Worksheet Portlets to show data based on GUID, SSO or OAM user name 13-24	
13.9.5	When to use other options in the Users Logged In region of the Select Database Connections page 13-25	
13.9.6	How to modify database LOGON (and subsequent) triggers to use the GUID, SSO, or OAM user name 13-25	
13.9.7	How to use the eul_trigger\$post_login trigger	13-26
13.10	Frequently asked questions about security	13-27
13.10.1	What is a firewall?	13-27
13.10.2	What is a demilitarized zone (DMZ)?.....	13-27
13.10.3	What is HTTPS and why should I use it?.....	13-28
13.10.4	How do I configure Discoverer to work in an intranet.....	13-28
13.10.5	How do I configure Discoverer to work through a firewall?.....	13-29
13.10.6	Can I configure Discoverer to work through multiple firewalls?	13-30
13.10.7	How do I configure Discoverer to use encryption in an intranet?	13-30
13.10.8	How do I configure Discoverer to use encryption through firewalls?	13-30
13.10.9	How can I verify that Discoverer is encrypting communications?	13-30
13.10.10	Can I configure Discoverer for both intranet users and users accessing Discoverer through a firewall? 13-31	
13.10.11	Can I use Discoverer with a NAT device?	13-31

14 Oracle BI Discoverer and Oracle e-Business Suite

14.1	About Discoverer connections and Oracle e-Business Suite	14-1
14.2	About Discoverer private connections, Oracle Single Sign-On and Oracle e-Business Suite users 14-3	
14.2.1	About conditions for enabling Oracle Applications users to create or use private connections when using SSO-enabled Oracle Applications databases? 14-3	
14.2.2	How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases 14-3	
14.3	About Discoverer preference settings for Oracle e-Business Suite.....	14-4

A Oracle BI Discoverer Configuration Files

A.1	Discoverer file locations	A-1
A.2	Configuration settings in configuration.xml.....	A-3
A.3	Configuration settings in opmn.xml	A-7

B Upgrading from Earlier Versions of Discoverer

B.1	About upgrading from Discoverer Version 10.1.2.x to Version 11.1.1.....	B-1
B.2	About upgrading to Discoverer Version 10.1.2.1 from earlier versions	B-1
B.2.1	About using the OracleAS Upgrade Assistant for Version 10.1.2.1	B-2
B.2.2	Upgrade summary for Version 10.1.2.1.....	B-2
B.2.3	About upgrading from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1	B-3
B.2.4	How to upgrade from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1.....	B-3

B.2.5	How to upgrade from Discoverer Release 4.1 to Version 10.1.2.1.....	B-4
B.2.6	How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1	B-6
B.2.7	How to upgrade a Version 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2.1 and Oracle Portal Version 10.1.2.1	B-7

C Discoverer Connections API

C.1	What is a Oracle BI Discoverer Connection?	C-1
C.2	What is the Discoverer Connections API?.....	C-2
C.3	What is a Discoverer Connections API Command?	C-2
C.4	What is a Discoverer Connections API Command Modifier?.....	C-2
C.5	What are the Prerequisites for Using the Discoverer Connections API?.....	C-3
C.6	What Command Syntax Conventions Does This Guide Use?	C-3
C.7	What is the Syntax for Commands?	C-4
C.8	How to Run Discoverer Connections API Commands	C-4
C.9	How to Run a Command Directly at an Operating System Command Prompt.....	C-4
C.10	How to Run Multiple Commands Stored in an Operating System Command File	C-5
C.11	How to Create, Edit, and Delete Oracle BI Discoverer Connections.....	C-6
C.11.1	How to Create a Private Oracle BI Discoverer Connection for a Relational Data Source	C-6
C.11.2	How to Create a Public Oracle BI Discoverer Connection for a Relational Data Source..	C-7
C.11.3	How to Create a Private Oracle BI Discoverer Connection for an OLAP Data Source	C-7
C.11.4	How to Create a Public Oracle BI Discoverer Connection for an OLAP Data Source	C-8
C.11.5	How to Create a Private Oracle BI Discoverer Connection for an Oracle Applications Data Source	C-8
C.11.6	How to Create a Public Oracle BI Discoverer Connection for an Oracle Applications Data Source	C-9
C.11.7	How to Update a Private Oracle BI Discoverer Connection for a Relational Data Source	C-9
C.11.8	How to Delete a Private Oracle BI Discoverer Connection for a Relational Data Source.	C-10
C.12	Discoverer Connections API Command Reference	C-10
C.12.1	-ldapurl	C-11
C.12.2	-ldapconnect	C-11
C.12.3	-wlsurl	C-11
C.12.4	-wlsconnect	C-11
C.12.5	-create_conn.....	C-12
C.12.6	-update_conn.....	C-12
C.12.7	-delete_conn.....	C-13
C.13	Discoverer Connections API Command Modifier Reference.....	C-13
C.13.1	-apps	C-13
C.13.2	-cdesc	C-14
C.13.3	-cname	C-14
C.13.4	-dbname.....	C-14
C.13.5	-dbpasswd.....	C-15

C.13.6	-dbuser.....	C-15
C.13.7	-eul	C-16
C.13.8	-locale.....	C-16
C.13.9	-olap	C-16
C.13.10	-resp	C-17
C.13.11	-sg	C-17
C.13.12	-showdetails.....	C-17
C.13.13	-sso_user.....	C-17
C.13.14	-type.....	C-18

D Oracle BI Discoverer Administrative Account Information

D.1	Database privileges granted by Oracle BI Discoverer scripts to the PUBLIC user	D-1
D.2	Database privileges granted by Oracle BI Discoverer scripts to the Discoverer manager.....	D-2

E Troubleshooting Discoverer

E.1	Additional Configuration Required to Display Graphics in SSL-Enabled Discoverer Viewer E-2	
E.2	Discoverer Viewer reports errors when exporting using Microsoft Internet Explorer v6.0.... E-2	
E.3	Discoverer and Oracle Applications certification	E-3
E.4	Discoverer reports a network error	E-5
E.5	Discoverer reports the error ORA-12154	E-5
E.6	Pop-up blocker issues.....	E-5
E.7	Netscape Navigator 4.x issues	E-6
E.8	Discoverer Plus reports RMI error	E-6
E.9	Discoverer memory issues.....	E-6
E.10	Discoverer Plus Relational help issues	E-7
E.11	Configuring a SMTP Server for Discoverer Viewer.....	E-8
E.12	Problem With Microsoft Internet Explorer, HTTP 1.1 Protocol and Compressed Data	E-10
E.13	Error: Could Not Open Web Cache Connection (WWC-40019)	E-11
E.14	Opening an exported Web Query file in Microsoft Excel containing non-ASCII dynamic parameter values	E-11
E.15	List of values (LOV) is too long for a Discoverer portlet URL	E-12
E.16	Specifying a parameter by index value in Microsoft Excel does not work for Web Query file	E-12
E.17	Redirect conflicts with Oracle Single Sign-On and Secure Sockets Layer (SSL).....	E-12
E.18	Worksheet customization issues.....	E-13
E.19	Graphs do not display in Discoverer Viewer	E-13
E.20	Discoverer Portlet Provider issue	E-13
E.21	Availability of Discoverer connections	E-14
E.22	Passwords not accepted as a URL parameter	E-14
E.23	Customizing Discoverer Viewer.....	E-15
E.24	Discoverer Desktop and Plus worksheet font size issue.....	E-15
E.25	Resource limit exception in Discoverer Portlet Provider	E-15

E.26	"Portlet data limits exceeded" error in Discoverer Portlet Provider.....	E-16
------	--	------

Index

Preface

This guide describes how to configure and customize Discoverer Plus and Discoverer Viewer.

This guide does not describe how to install Oracle BI Discoverer. For information about installation, see the *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

For the latest information about Oracle BI Discoverer, see the *Oracle Fusion Middleware Release Notes*.

Intended Audience

This guide is intended for Oracle Fusion Middleware administrators (also referred to as Discoverer middle-tier administrators).

To use this guide effectively, you should be familiar with HTTP servers and database concepts.

Documentation Accessibility

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

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

You can access the documents referenced in this guide, and other information about Oracle Business Intelligence (for example, whitepapers, best practices, documentation updates, other collateral) on Oracle Technology Network at:

<http://www.oracle.com/technology>

Conventions

Conventions used in this manual are shown in the table below:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
< >	Angle brackets enclose user-supplied names or values.
[]	Square brackets enclose optional clauses from which you can choose one or none.
Menu name Command	Text in this format conveys a sequence of menu choices. For example, choose the menu, then the command under that menu.

JGoodies License Agreement

Oracle Business Intelligence includes the JGoodies software, whose License Agreement follows:

Copyright© 2003 JGoodies Karsten Lentzsch. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of JGoodies nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Introducing Oracle BI Discoverer

This chapter introduces Oracle Business Intelligence Discoverer and contains the following topics:

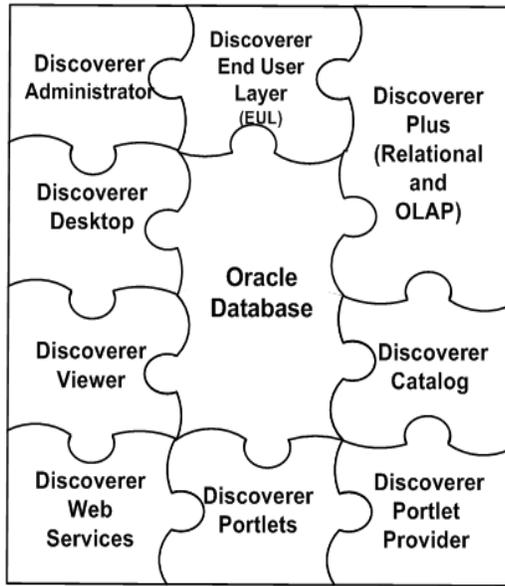
- [Section 1.1, "What is Oracle BI Discoverer?"](#)
- [Section 1.2, "What are the new features in Discoverer 11g Release 1 \(11.1.1\)?"](#)
- [Section 1.3, "About Oracle BI Discoverer installations"](#)
- [Section 1.4, "About configuring Oracle BI Discoverer"](#)
- [Section 1.5, "How to confirm an Oracle BI Discoverer installation"](#)
- [Section 1.6, "About connecting to Discoverer"](#)
- [Section 1.7, "What is the Oracle BI Discoverer architecture?"](#)
- [Section 1.8, "About the Discoverer client tier"](#)
- [Section 1.9, "About the Discoverer middle tier"](#)
- [Section 1.10, "About the Discoverer database tier"](#)
- [Section 1.11, "How does Oracle BI Discoverer work?"](#)
- [Section 1.12, "Oracle BI Discoverer Navigation"](#)

1.1 What is Oracle BI Discoverer?

Oracle BI Discoverer is a business intelligence tool for analyzing data and is a key component of Oracle Fusion Middleware. Discoverer provides an integrated business intelligence solution that comprises intuitive ad-hoc query, reporting, analysis, and Web-publishing functionality. These tools enable non-technical users to gain immediate access to information from data marts, data warehouses, multidimensional (OLAP) data sources, and online transaction processing systems. Discoverer integrates seamlessly with Oracle Portal, Oracle WebCenter Portal, and Oracle WebLogic Portal enabling rapid deployment of Discoverer workbooks and worksheets to Web portals.

Oracle BI Discoverer consists of several integrated components that work with the Oracle database to give you a complete and integrated Business Intelligence solution. [Figure 1-1](#) shows the Discoverer components.

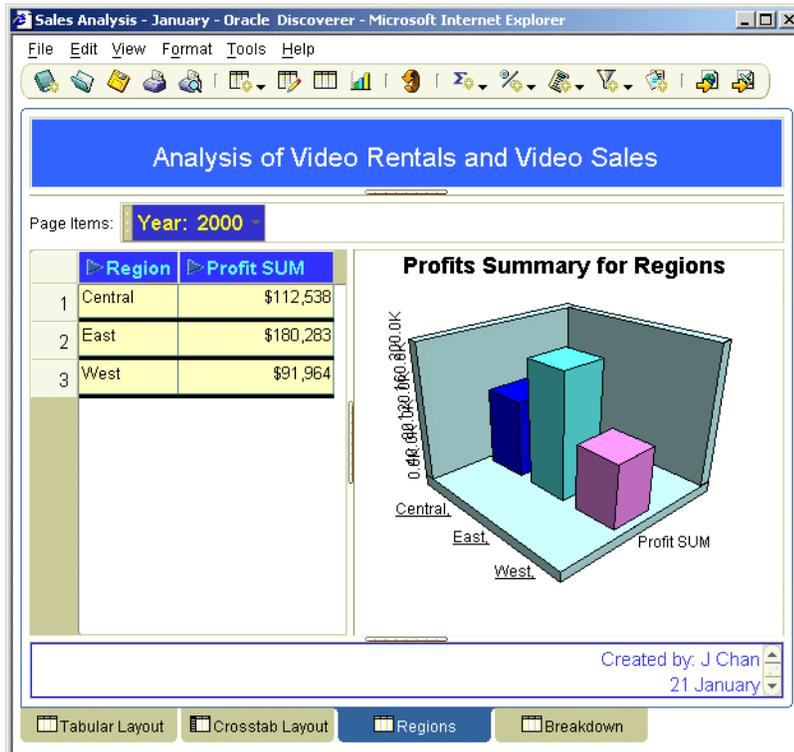
Figure 1-1 Discoverer components



The two main Oracle BI Discoverer business analysis tools for end users are:

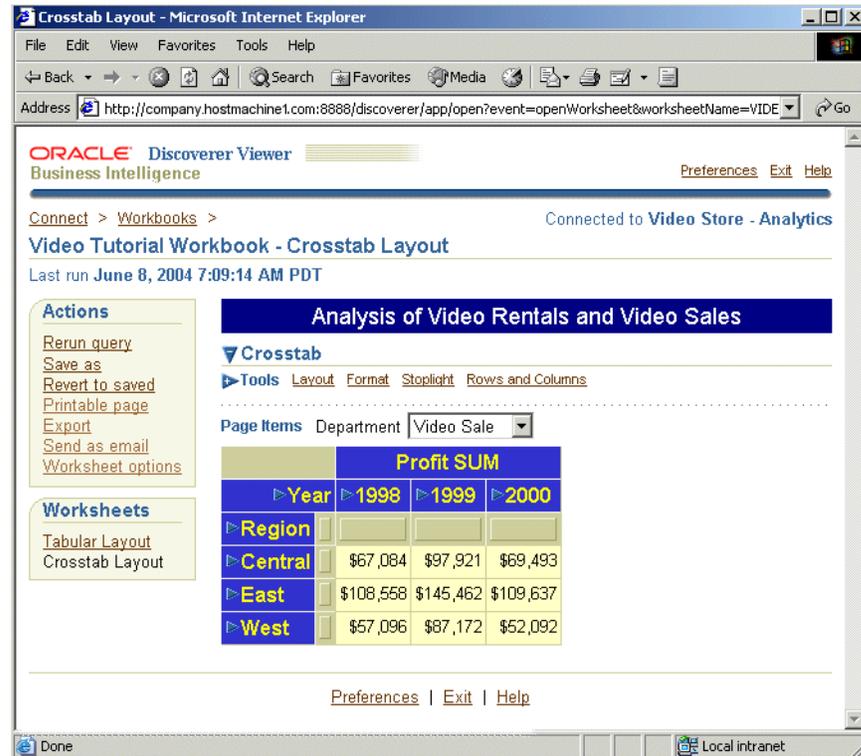
- Discoverer Plus is a Web tool that enables users to analyze data and create reports without having to understand difficult database concepts. Using Wizard dialogs and menus, Discoverer Plus guides users through the steps needed to create powerful reports and charts that can be accessed using Discoverer Plus, Discoverer Viewer, Oracle Portal, and Oracle WebCenter Portal.

Figure 1-2 Oracle BI Discoverer Plus



- Discoverer Viewer is a Web tool for accessing interactive reports and charts created using Discoverer Plus. Because Discoverer Viewer is a thin client HTML tool, users require only a Web browser to run Discoverer Viewer. Discoverer Viewer can also be used to publish reports into a portal, and is easily customized to conform to a particular Web site look and feel. Discoverer Viewer is optimized for performance and designed to minimize network traffic.

Figure 1–3 Oracle BI Discoverer Viewer



Discoverer includes Portlet Provider, which enables you to publish Discoverer worksheets and graphs in various portals (for more information, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*).

Discoverer includes Discoverer Web Services, an Application Programming Interface (API) that enables you to obtain Discoverer connections, workbooks, and worksheets, execute queries, and return worksheet content using:

- A Java client application (using the SOAP protocol)
 - For more information, see [Section 1.9.1.4, "What is the Discoverer Web Services servlet?"](#).
- Oracle BI Publisher (a part of Oracle BI Enterprise Edition)
 - For more information, see *Oracle BI Publisher User's Guide*.

Oracle Fusion Middleware Control enables you to manage Discoverer middle-tier components. For more information, see [Section 4.1, "About Oracle Enterprise Manager Fusion Middleware Control"](#).

A typical workflow for Discoverer is:

- Discoverer Plus users (sometimes referred to as power users) create interactive reports and charts. Reports typically include powerful business intelligence

components that enable end users to analyze data (for example, parameters, conditions, and totals).

- Discoverer Viewer users access the interactive reports and can typically personalize reports in a restricted number of ways (for example, drilling to the data that they require, applying parameters, and adding spotlight formats).

1.2 What are the new features in Discoverer 11g Release 1 (11.1.1)?

This section lists the key configuration changes in Oracle BI Discoverer 11g Release 1 (11.1.1).

- Certification with Oracle 11g (version 11.1) Enterprise Edition Database
General updates were made for Discoverer certification with the Oracle 11g (version 11.1) Enterprise Edition database.
- Oracle Infrastructure uptake
General updates were made to reference the latest supported version of the Java Runtime Environment.
- Single Sign-On integration
Enhancements to Single Sign-On include a new setting `propagateGUIDToVPD`, which is described in [Section A.2, "Configuration settings in configuration.xml."](#) Also, general references to the SSO user were replaced with GUID.
- Enhanced Viewer navigation
Improvements to page navigation controls in Discoverer Viewer include a new setting `pageNavigation`, which is described in [Section A.2, "Configuration settings in configuration.xml."](#)
- Enterprise Manager integration
General updates were made throughout this guide to reflect improvements in the user interface due to changes to the underlying architecture.
- Discoverer Web Services
The ability to interact with the new Discoverer Web Services is provided. For more information, see [Section 1.9.1.4, "What is the Discoverer Web Services servlet?"](#)
- Manageability and diagnosis
Advanced configuration settings can be updated using the MBean browser in Oracle Fusion Middleware Control, instead of manually editing the configuration files. For more information, see [Section 4.12, "Configuring Discoverer using the System MBean Browser."](#)

1.3 About Oracle BI Discoverer installations

Oracle BI Discoverer can be installed in the following ways:

- Standalone installation
 - You install Discoverer but do not associate it with an Oracle Internet Directory and the database schemas, the Discoverer installation is considered a standalone installation.
For more information, see [Section 1.3.2, "About Discoverer standalone installations"](#).

- After performing a standalone installation, if there is a requirement to associate Discoverer with an Oracle Internet Directory and the database schemas, then you must re-run the Discoverer Configuration tool (`config.sh`) to configure Discoverer in it by associating with an Oracle Internet Directory and the database schemas. For this new instance, you can point to the same `ORACLE_HOME` as that of the standalone instance. You can, optionally, discard the first standalone instance.

Note: No manual process exists for associating an existing standalone installation with an Oracle Internet Directory and the database schemas.

- Oracle Internet Directory installation
 - During installation, you associate Discoverer with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). This is the most common way to install.

For information, see [Section 1.3.1, "About Discoverer installations that are associated with Oracle Internet Directory and schemas."](#)

1.3.1 About Discoverer installations that are associated with Oracle Internet Directory and schemas

During a typical installation, you associate Discoverer with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). Unless stated otherwise, the instructions in this guide assume that you have this type of installation.

The Discoverer software might be on the same machine as the Oracle Internet Directory and schemas or on a different machine. For more information, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment."](#)

You can have multiple PStore and Portlet Provider schemas to support multiple instances of Discoverer. Oracle Internet Directory is the only Identity Store that Discoverer supports.

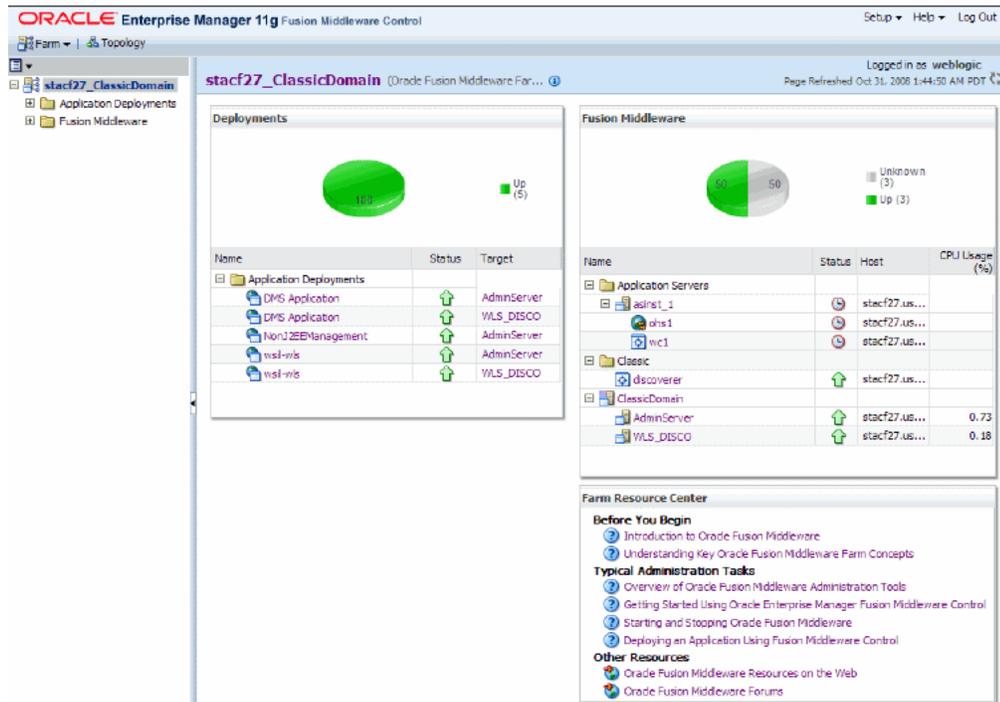
In this type of installation, the following components are available:

- Discoverer Plus Relational and Discoverer Plus OLAP
- Discoverer Viewer
- Discoverer Portlet Provider
- Discoverer Web Services
- Oracle HTTP Server (OHS)
- WebLogic Server
- OPMN
- Oracle Fusion Middleware Control
- Oracle Web Cache
- Oracle Single Sign-On
- Discoverer Connections management page
- Private and public Discoverer connections
- SSL functionality in Discoverer
- Oracle Identity Management

End users can use the Discoverer connections page to start Discoverer and manage login details. For more information about Discoverer connections, see [Chapter 3, "Managing Oracle BI Discoverer Connections."](#)

After installation, Discoverer is listed in the Fusion Middleware region on the home page in Oracle Fusion Middleware Control, as shown in [Figure 1–4](#).

Figure 1–4 Fusion Middleware Control home page for a Discoverer installation



For more information about how to display Fusion Middleware Control, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#). For information about how to display components installed from the Oracle Fusion Middleware CD, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).

1.3.2 About Discoverer standalone installations

The Discoverer standalone installation offers a limited number of components, as described in the following list:

- Discoverer Plus Relational and Discoverer Plus OLAP
- Discoverer Viewer
- Discoverer Portlet Provider (installed but not operational)
- Discoverer Web Services (installed but not operational)
- SSL functionality in Discoverer
- Oracle HTTP Server (OHS)
- WebLogic Server
- OPMN
- Oracle Fusion Middleware Control

- Oracle Web Cache

Note: End users start Discoverer by using a direct login page. Public connections for Discoverer Plus and Viewer and Oracle Single Sign-On are not available.

After installation, Discoverer is listed in the Fusion Middleware region on the home page in Oracle Fusion Middleware Control, as shown in [Figure 1-4](#).

1.3.3 About Discoverer installations and the Oracle Database

For information about database requirements, see *Oracle Fusion Middleware Supported System Configurations* at:

<http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html>.

1.4 About configuring Oracle BI Discoverer

After installation, Oracle BI Discoverer works without requiring any further configuration. Depending on your requirements, you might want to perform one or more of the Discoverer middle-tier configuration tasks listed in the table below.

What do you want to do?	Look in this section:
Configure Discoverer for use with Oracle applications.	Chapter 14, "Oracle BI Discoverer and Oracle e-Business Suite"
Configure Discoverer to work with firewalls and demilitarized zones.	Chapter 13, "Maintaining Security with Oracle BI Discoverer"
Configure the Discoverer middle tier by using Fusion Middleware Control (for example, starting and stopping the Discoverer Service).	Chapter 4, "Managing and Configuring Discoverer"
Confirm a Discoverer installation.	Section 1.5, "How to confirm an Oracle BI Discoverer installation"
Create public connections (that is, database logins).	Chapter 3, "Managing Oracle BI Discoverer Connections"
Customize the appearance of Discoverer Viewer.	Chapter 8, "Customizing Discoverer Look and Feel"
Deploy Discoverer with Oracle Web Cache to improve performance.	Chapter 7, "Using Discoverer Viewer with Oracle Web Cache"
Deploy specific Discoverer workbooks and worksheets using URL details.	Chapter 12, "Starting Oracle BI Discoverer Using URL Parameters"
Find out about administrative accounts used by Discoverer.	Appendix D, "Oracle BI Discoverer Administrative Account Information"
Find out about Discoverer configuration files.	Appendix A, "Oracle BI Discoverer Configuration Files"
Fine tune Discoverer for optimal performance and scalability.	Chapter 10, "Optimizing Oracle BI Discoverer Performance and Scalability"
Install and configure the Discoverer Catalog for Discoverer Plus OLAP.	Chapter 5, "Configuring Discoverer Plus OLAP"
Provide load balancing for Discoverer, or specify a central Discoverer Preferences server.	Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment"

What do you want to do?	Look in this section:
Run Discoverer Plus or Discoverer Viewer.	Chapter 2, "Starting Oracle BI Discoverer"
Specify Discoverer end user preferences.	Chapter 9, "Managing Oracle BI Discoverer Preferences"
Upgrade Discoverer to a newer version.	Appendix B, "Upgrading from Earlier Versions of Discoverer"

1.5 How to confirm an Oracle BI Discoverer installation

To confirm an Oracle BI Discoverer installation:

1. Start a Web browser and enter the Discoverer Viewer URL that contains the fully qualified host name (including port number, if necessary) that is used by your own Oracle installation.

For example:

`http://<host.domain>:<port>/discoverer/viewer`

If the Discoverer installation is not associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas), then end users connect directly using the **Connect Directly** area of the **Connect to Oracle BI Discoverer** page (see screenshot below).

Note: If Single Sign-On (SSO) is enabled, then you are first asked to authenticate as an SSO/OAM user.

If the Discoverer installation is associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas), then the **Connect to Discoverer Viewer** page is displayed (see screenshot below).

Connect to Oracle BI Discoverer

To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection [Create Connection](#)

Details	Connection ▾	Description	Update	Delete
▶ Show	Customer Reports	Customer reports by Region	✎	🗑
▶ Show	Weekly worksheets	Weekly reports by Region	✎	🗑
▶ Show	Monthly worksheets	Monthly reports by Region	✎	🗑
▶ Show	Annual summaries	Annual reports by Region	✎	🗑

Connect Directly [Return to Top](#)

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To

* User Name

* Password

* Database

End User Layer

Locale

2. If the **Choose Connection** area is displayed, do one of the following:
 - Select a connection name in the **Connection** column to start Discoverer Viewer.
 - Create a private connection to store database login details (click **Create Connection** to add a private connection); then, select the new connection.
 - Use the **Connect Directly** area to enter login details, then click **Go** to start Discoverer Viewer.
3. If only the **Connect Directly** area is displayed, enter login details and click **OK**.
Discoverer displays the **Worksheet List** page, which enables you to select a worksheet to open. You can now begin to analyze data using Discoverer's powerful business intelligence analysis tools.

Notes

- For more information about how to create a private connection, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*.
- For more information about starting Discoverer Viewer, see [Section 2.11, "How to start Discoverer Viewer over HTTP."](#)
- For more information about starting Discoverer Plus, see [Section 2.6, "About running Discoverer Plus over HTTP for the first time on a client machine."](#)
- You can use the checkdiscoverer utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the checkdiscoverer utility, see [Section 11.2, "What is the checkdiscoverer utility?"](#))
- Discoverer Plus OLAP has its own diagnostics utility (for more information, see [Section 5.6, "Configuration diagnostic utility for Discoverer Plus OLAP"](#))

1.6 About connecting to Discoverer

Discoverer end users connect to Discoverer in the following ways:

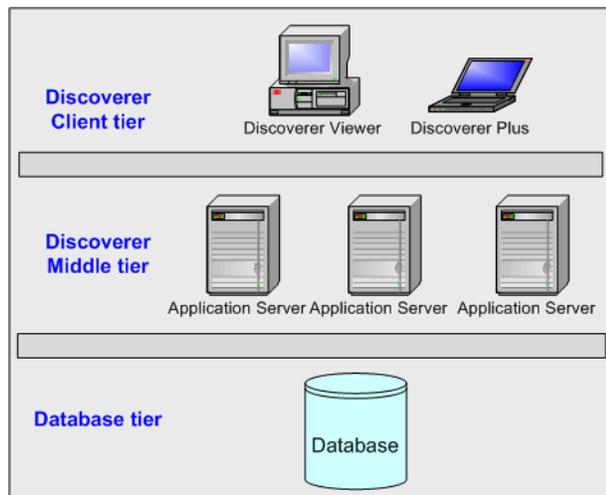
- By using Oracle BI Discoverer Desktop, end users log in using their database user name and password. For more information, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Desktop*.
- By using Oracle BI Discoverer Plus or Oracle BI Discoverer Viewer, end users store login information in private connections, and then select a connection. For more information, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus* or *Oracle Business Intelligence Discoverer Viewer Online Help*.

Discoverer middle-tier managers can also provide public connections that enable Discoverer Plus and Discoverer Viewer end users to start Discoverer automatically without having to enter login details. For more information, see [Section 3.6, "How to create public connections."](#)

1.7 What is the Oracle BI Discoverer architecture?

Oracle BI Discoverer has a multitier architecture that takes advantage of the distributed nature of the Web environment. While it is possible to install all tiers of the Oracle BI Discoverer architecture on the same machine, we recommend distributing your installation over multiple machines, to maximize performance and reliability.

Figure 1–5 Discoverer's multitier architecture



Note: Multiple application servers can be installed on the same machine.

Discoverer's multitier architecture comprises:

- The Discoverer client tier, from which Web browsers access Discoverer. For more information, see [Section 1.8, "About the Discoverer client tier."](#)
- The Discoverer middle tier, which includes one or more Oracle BI Discoverer installations, the Oracle Internet Directory and the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). For more information, see [Section 1.9, "About the Discoverer middle tier."](#)
- The Discoverer database tier, which contains data and metadata (for more information, see [Section 1.10, "About the Discoverer database tier."](#))

Notes

- For more information about configuring Discoverer on multiple machines, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment."](#)

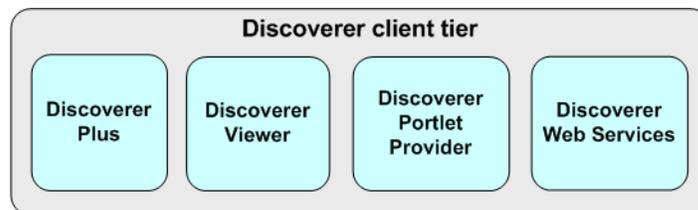
1.8 About the Discoverer client tier

The Discoverer client tier is the Web browser that accesses Discoverer Plus or Discoverer Viewer (see [Figure 1–6](#)). The Discoverer client tier also includes the following pieces:

- Discoverer Portlet Provider
Enables Discoverer workbooks to be published on various portals.
- Discoverer Web Services API
Enables third-party applications to return Discoverer content.

To deploy Discoverer Plus and Discoverer Viewer to end users, you must provide them with an appropriate URL. For more information, see [Chapter 2, "Starting Oracle BI Discoverer."](#))

Figure 1–6 Discoverer client tier



You can enable and disable Discoverer client-tier components by using Fusion Middleware Control. For more information, see [Section 4.5, "About enabling and disabling Discoverer client-tier components."](#)

1.8.1 About the Discoverer client tier and Discoverer Plus

For Discoverer Plus, the only requirement for the client machine is that it runs a supported Java-enabled Web browser (for example, Microsoft Internet Explorer, Netscape Navigator, or Mozilla Firefox), with a Java Virtual Machine (JVM). For more information on software requirements, see *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

The first time that a machine is used to connect to Discoverer, the Discoverer Plus applet is downloaded from the Discoverer middle tier and cached on the client machine.

The Discoverer Plus applet provides the Discoverer Plus user interface and functionality for creating workbooks and analyzing data. When the user logs on subsequently, the Discoverer Plus applet runs from the local cache and does not have to be downloaded.

Note: If you upgrade Discoverer, then users might have to download the Discoverer Plus applet again to Discoverer client machines. For more information, see [Chapter 2, "Starting Oracle BI Discoverer."](#)

1.8.2 About the Discoverer client tier and Discoverer Viewer

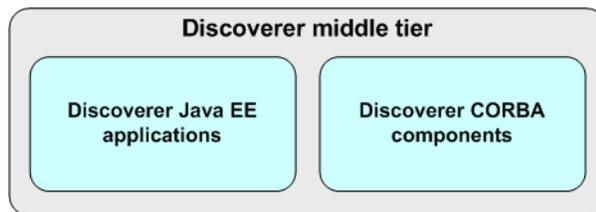
For Discoverer Viewer, the minimum requirement for the client machine is that it can run HTML through a Web browser.

For information about supported Web browser versions for Discoverer, see *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

1.9 About the Discoverer middle tier

The Discoverer middle tier is the portion of the Discoverer architecture that the Discoverer middle-tier manager maintains.

Figure 1–7 Discoverer middle tier



As shown in [Figure 1–7](#), the Discoverer middle tier consists of:

- Discoverer Java EE applications. For more information, see [Section 1.9.1, "About the Discoverer Java EE applications."](#)
- Discoverer CORBA components. For more information, see [Section 1.9.2, "About the Discoverer CORBA components."](#)

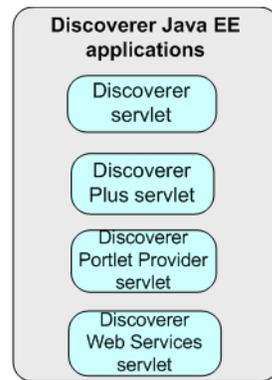
Notes

- The Discoverer middle tier also stores the Discoverer Plus applet, which is downloaded to client machines when Discoverer end users run Discoverer Plus for the first time. For more information, see [Chapter 2, "Starting Oracle BI Discoverer."](#)
- All machines that run the Discoverer middle tier must be on the same subnet.

1.9.1 About the Discoverer Java EE applications

As shown in [Figure 1–8](#), the Discoverer Java EE applications comprise the following:

- Discoverer servlet (for more information, see [Section 1.9.1.1, "What is the Discoverer servlet?."](#))
- Discoverer Plus servlet (for more information, see [Section 1.9.1.2, "What is the Discoverer Plus servlet?."](#))
- Discoverer Portlet Provider servlet (for more information, see [Section 1.9.1.3, "What is the Discoverer Portlet Provider servlet?."](#))
- Discoverer Web Services servlet (for more information, see [Section 1.9.1.4, "What is the Discoverer Web Services servlet?."](#))

Figure 1–8 Discoverer Java EE applications

A servlet comprises modules of Java code that run on a server machine to answer requests from client machines. Using a servlet minimizes client-side processing.

The Discoverer servlets are deployed into the WebLogic managed server, which includes a servlet engine to run servlets.

For more information about starting and stopping the Discoverer servlets, see [Section 4.4, "About starting and stopping Discoverer servlets"](#).

1.9.1.1 What is the Discoverer servlet?

The Discoverer servlet manages connections and login for Discoverer Plus and Discoverer Viewer.

1.9.1.2 What is the Discoverer Plus servlet?

The Discoverer Plus servlet handles traffic between the Discoverer Plus Relational applet and the Discoverer Session process started for that session.

1.9.1.3 What is the Discoverer Portlet Provider servlet?

The Discoverer Portlet Provider servlet provides a user interface for publishing Discoverer worksheets and links to Discoverer workbooks on a portal page. For more information about Discoverer Portlet Provider, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*.

1.9.1.4 What is the Discoverer Web Services servlet?

The Discoverer Web Services servlet provides an Application Programming Interface (API) to obtain Discoverer connections, workbooks, worksheets; to execute worksheet queries; and to return worksheet content through the SOAP protocol. For more information, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Web Services API*.

1.9.2 About the Discoverer CORBA components

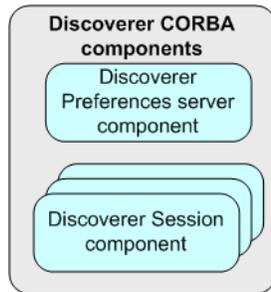
The Discoverer CORBA (Common Object Request Broker Architecture) components are responsible for activating Discoverer when an end user starts a Discoverer session (that is, when a user connects to Discoverer Plus or Discoverer Viewer).

The Discoverer CORBA components are used by all of the Discoverer client-tier components: Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services).

As shown in [Figure 1–9](#), the Discoverer CORBA components comprise the following:

- Discoverer sessions component (for more information, see [Section 1.9.2.1, "What is the Discoverer session component?"](#))
- Discoverer preferences server component (for more information, see [Section 1.9.2.2, "What is the Discoverer Preferences server component?"](#))

Figure 1–9 Discoverer CORBA components



1.9.2.1 What is the Discoverer session component?

The Discoverer session component (also referred to as a CORBA server) performs Discoverer operations such as connecting to the database or opening a workbook. The Discoverer session component provides the link between the Discoverer servlet or applet and the database. There is one Discoverer session component per active user login session.

1.9.2.2 What is the Discoverer Preferences server component?

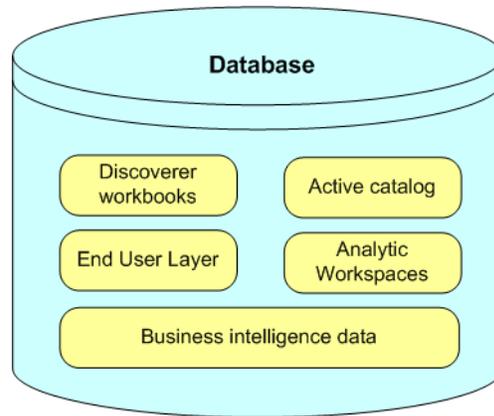
The Discoverer Preferences server component provides a single location for preference settings for all Oracle BI Discoverer users (of both Discoverer Plus and Discoverer Viewer). The Discoverer middle tier relies on stored preference settings to specify the default Discoverer behavior.

For more information, see [Section 4.2, "About using Fusion Middleware Control to manage Discoverer middle-tier components."](#)

Note: In a multiple-machine environment with different Discoverer Session components running on different machines, Discoverer uses a single preferences server. For more information about designating a single preferences server component, see [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment."](#)

1.10 About the Discoverer database tier

The database tier of the Discoverer architecture contains data and metadata.

Figure 1–10 Discoverer database tier

As shown in [Figure 1–10](#), the Discoverer database tier consists of:

- Discoverer workbooks that are used to store reports and charts
- An End User Layer (EUL), which provides an easy-to-understand view of the data
- Business intelligence data that users want to analyze
- An Active Catalog, which is a set of relational views that expose the standard form metadata that is stored in analytic workspaces, so that it can be accessed by SQL
- Analytic workspaces, which are multidimensional schemas stored in a relational table

You use Discoverer Administrator to create and maintain the EUL. For more information, see the *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

Notes

- Before users can use Discoverer to analyze relational data, the database **must** contain a Discoverer End User Layer (EUL) Version 5.1.x. The Discoverer manager must have created or upgraded the EUL with Oracle BI Discoverer Administrator.
- Before users can use Discoverer to analyze multidimensional data, you must install the Discoverer Catalog. For more information, see [Chapter 5, "Configuring Discoverer Plus OLAP."](#)

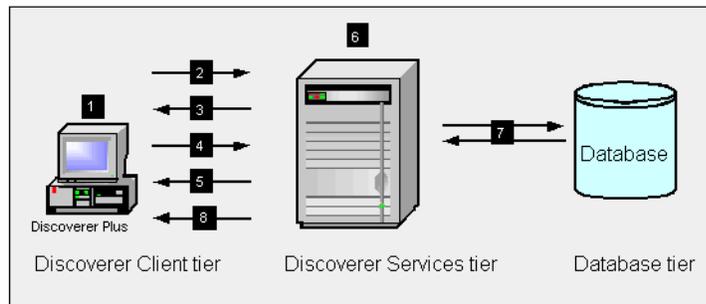
1.11 How does Oracle BI Discoverer work?

This section provides information about how Discoverer Plus and Discoverer Viewer work.

1.11.1 How does Discoverer Plus Relational work?

The section explains how Discoverer Plus Relational interacts with the Discoverer Services tier and the database.

Figure 1–11 The Discoverer Plus Relational process

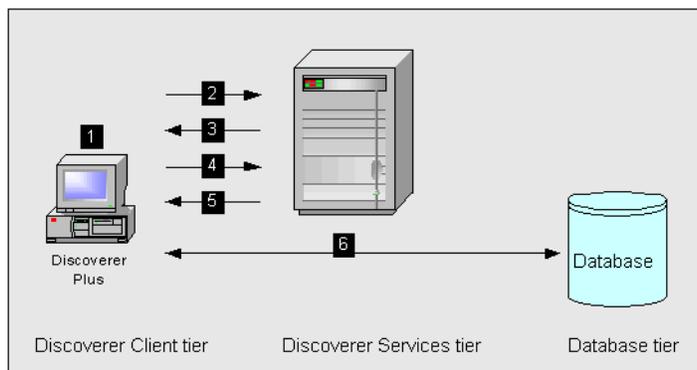


1. The user launches a Web browser on a client computer and types the URL of the Discoverer Plus servlet.
2. The Web browser accesses the Discoverer Plus servlet on the Discoverer Services tier, which forwards the request to the Discoverer servlet.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the Discoverer Plus servlet, which in turn returns the page to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. The Discoverer Plus Relational applet is transmitted to the client computer (if it is not present).
6. Meanwhile, the Discoverer servlet starts a Discoverer session and establishes a connection with the session.
7. The Discoverer session requests and receives data from the database.
8. The Discoverer session transmits data to the Discoverer servlet, which forwards it to the Discoverer Plus servlet which in turn forwards it to the client machine.

1.11.2 How does Discoverer Plus OLAP work?

The section explains how Discoverer Plus OLAP interacts with the Discoverer Services tier and the database.

Figure 1–12 The Discoverer Plus OLAP process



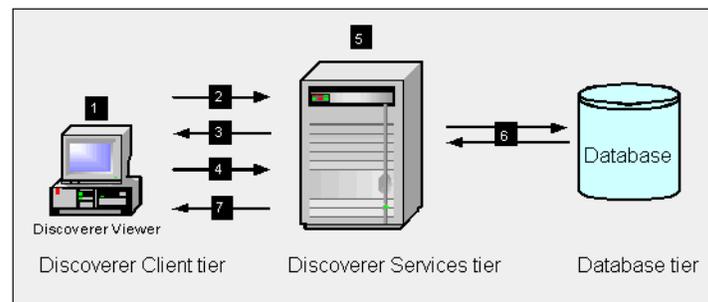
1. The user launches a Web browser on a client computer and types the URL of the Discoverer Plus servlet.

2. The Web browser accesses the Discoverer Plus servlet on the Discoverer Services tier, which forwards the request to the Discoverer servlet.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the Discoverer Plus servlet, which in turn returns the page to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. The Discoverer Plus OLAP applet is transmitted to the client computer (if it is not present).
6. The Discoverer Plus OLAP connects directly to the database.

1.11.3 How does Discoverer Viewer work?

The section explains how Discoverer Viewer interacts with the Discoverer Services tier and the database.

Figure 1–13 The Discoverer Viewer Process



1. The user launches a Web browser on a client computer and types the URL of the Discoverer servlet.
2. The Web browser accesses the Discoverer servlet on the Discoverer Services tier.
3. The Discoverer servlet retrieves the Discoverer Connections page and returns this to the client.
4. The user logs in (by connecting directly or using a Discoverer connection).
5. Meanwhile, the Discoverer servlet starts a Discoverer session and establishes the connection with the session.
6. The Discoverer session requests and receives data from the database.
7. The Discoverer session transmits data to the Discoverer servlet, which generates an HTML page and forwards it to the client machine.

1.12 Oracle BI Discoverer Navigation

Keyboard Navigation

Oracle BI Discoverer supports standard keyboard navigation. Standard keyboard navigation includes the use of the tab key, mnemonics (using the Alt key and the underlined character), and accelerators (such as Alt+F4 to exit a window).

Using the JAWS screen reader with Discoverer

If users use Discoverer with a screen reader (for example, JAWS), you must configure Discoverer Plus to be displayed in a separate window by deploying with the

`framedisplaystyle` configuration value set to `separate`. For more information, see [Section 12.8, "List of URL parameters specific to Discoverer Plus"](#) or [Section 5.7, "URL parameters for the Discoverer Plus OLAP."](#)

To further maximize usability, you might also want to ensure that the screen reader has sufficient time to read a page before the page is refreshed by delaying the query progress page.

Starting Oracle BI Discoverer

This chapter applies only to Discoverer Plus and Discoverer Viewer. For information about Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter explains how to start Oracle BI Discoverer on a client browser machine, to install and configure any required plug-ins (for example, a Java runtime environment) or security certificates, and contains the following topics:

- [Section 2.1, "General information about starting Discoverer"](#)
- [Section 2.2, "Which Web browsers does Discoverer support?"](#)
- [Section 2.3, "About restricting how users can start Discoverer"](#)
- [Section 2.4, "What are the storage requirements and privileges required to start Discoverer Plus and Discoverer Viewer?"](#)
- [Section 2.5, "About running Discoverer over HTTPS"](#)
- [Section 2.6, "About running Discoverer Plus over HTTP for the first time on a client machine"](#)
- [Section 2.7, "How to start Discoverer Plus"](#)
- [Section 2.8, "How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine"](#)
- [Section 2.9, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine"](#)
- [Section 2.10, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine"](#)
- [Section 2.11, "How to start Discoverer Viewer over HTTP"](#)
- [Section 2.12, "How to modify the URL that starts Discoverer"](#)

Notes

- The instructions in this chapter assume that the Discoverer installation is associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). If the Discoverer installation is not associated with the Oracle Internet Directory (and the PStore and Portlet Provider schemas), end users do not see the Discoverer connections page, and must enter login details directly using the Connect to Oracle BI Discoverer - Connect Directly page.
- Before users can use Discoverer to analyze relational data, the database must contain a Discoverer EUL Version 5.1.x.

- You can use the `checkdiscoverer` utility to verify a Discoverer configuration and report on failures or anomalies (for more information about the `checkdiscoverer` utility, see [Section 11.2, "What is the checkdiscoverer utility?"](#)).
- In some circumstances (for example, to provide a clean environment in which to run Discoverer Plus), you might want to remove the Discoverer Plus applet from a client machine. To remove the Discoverer Plus applet from a client machine, do the following:
 - a. Display the JVM control panel (for example, on a Windows machine, display the Control Panel, and double-click the Java icon).
 - b. Click Settings in the General tab to display the Temporary Files Settings dialog.
 - c. Click Delete Files.

Alternatively, manually remove all files from the Sun Java Deployment Cache directory. For example, on Windows, remove all files from the `C:\Documents and Settings\<Windows user name>\Application Data\Sun\Java\Deployment\Cache` directory.

You might also have to clear the browser's temporary files.

- In some circumstances you might want to remove the Java run-time environment plug-in from a client machine. To do this, remove all versions of the Java 2 Runtime Environment SE from the client machine.
- You can upgrade the Java Plug-in on a browser machine without affecting the certified Java Plug-in version installed with Discoverer. For example, when you log in to Windows you might see a Sun Java Plug-in pop-up that informs you that a new version of the Java Plug-in is available for download. If you download and install the new version, Discoverer continues to use the Java Plug-in version installed when you first started Discoverer on that machine.

2.1 General information about starting Discoverer

To start Discoverer Viewer, you just need an Internet browser, as follows:

- To start Discoverer Viewer over HTTP, start an Internet browser and enter the Discoverer Viewer HTTP URL (for example, `http://<host.domain>:<HTTP port>/discoverer/viewer`).

For more information, see [Section 2.11, "How to start Discoverer Viewer over HTTP."](#)

- To start Discoverer Viewer over HTTPS, start an Internet browser and enter the Discoverer Viewer HTTPS URL (for example, `https://<host.domain>:<HTTPS port>/discoverer/viewer`).

For more information, see [Section 2.5, "About running Discoverer over HTTPS."](#)

Depending on what software you have installed on your machine, you might also need the following:

- If the client browser machine does not have a JVM installed, you must install a JVM and initialize the Discoverer Plus applet for that machine. For more information, see [Section 2.6, "About running Discoverer Plus over HTTP for the first time on a client machine."](#)

- To start Discoverer Plus over HTTPS, you must have installed a security certificate from a Certificate Authority. For more information, see [Section 2.5, "About running Discoverer over HTTPS."](#)

Notes

- For information on finding out the default Discoverer port number, see [Section 4.8, "How to view ports used by Fusion Middleware."](#)

2.2 Which Web browsers does Discoverer support?

Discoverer is certified to support the following Internet browsers:

- Microsoft Internet Explorer 7
- Mozilla Firefox 2
- Mozilla Firefox 3

For the latest information on browser support, see the *Oracle Fusion Middleware Release Notes*.

2.3 About restricting how users can start Discoverer

In a secure Discoverer environment you want to enable only authorized end users to access Discoverer. For example, you might want to limit users to read-only access to Discoverer workbooks using Discoverer Plus.

Depending on your security requirements, you might do any of the following to provide a secure Discoverer environment:

- You might run Discoverer Plus in read-only mode for specified Discoverer end users by removing the Create/Edit Query privilege in Oracle BI Discoverer Administrator. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.
- You might enable Oracle Advanced Security (formerly Advanced Security Option) encryption between the middle tier and the database.

For more information about other Discoverer security features, see [Chapter 13, "Maintaining Security with Oracle BI Discoverer."](#)

2.4 What are the storage requirements and privileges required to start Discoverer Plus and Discoverer Viewer?

To start Oracle BI Discoverer Plus, you require the following on the Discoverer Plus client machine (that is, the browser machine):

- Administrative privileges on the client machine, because you need to be able to install a Java Virtual Machine
- At least 50 MB of Users Personal Profile Space for the Oracle Jar Cache
- A minimum of between 100 - 150 MB of available disk space to install a JVM

To start Oracle BI Discoverer Viewer, you need only to be able to run a standard Web browser (for example, Microsoft Internet Explorer) that has JavaScript and cookies enabled.

2.5 About running Discoverer over HTTPS

Before you can run Discoverer over HTTPS (that is, in Secure Sockets Layer (SSL) mode), you must have installed a security certificate from a Certificate Authority (for example, Verisign) on the Oracle HTTP Server on the Oracle Fusion Middleware instance. For more information about installing security certificates, see *Oracle Fusion Middleware Administrator's Guide* and *Oracle Fusion Middleware Application Security Guide*.

An Oracle installation includes a dummy certificate on the Oracle Fusion Middleware instance that you can use to confirm that HTTPS is deployed. You must install a valid security certificate to ensure that communication with the Oracle Fusion Middleware instance is secure.

A security certificate confirms to the Discoverer client machine that the holder of the security certificate is who they say they are.

How to start Discoverer over HTTPS is different for Discoverer Viewer and Discoverer Plus, as follows:

- To run Discoverer Viewer over HTTPS, simply specify HTTPS on the Discoverer Viewer URL, and specify the HTTPS port number.

For example:

```
https://<host.domain>:<HTTPS port>/discoverer/viewer
```

When the Security Alert dialog is displayed, click Yes to accept the security certificate issued by the certificate authority you are using. Discoverer Viewer then starts in HTTPS mode. For more information about starting Discoverer Viewer, see [Section 2.11, "How to start Discoverer Viewer over HTTP"](#).

- To run Discoverer Plus over HTTPS, you install the Web server's security certificate into the Java Virtual Machine (JVM) certificate store in all client machines that run Discoverer Plus. For more information, see [Section 2.5.1, "How to install a security certificate on a Discoverer Plus client machine"](#).

Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Fusion Middleware Control (for more information, see [Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#)).

2.5.1 How to install a security certificate on a Discoverer Plus client machine

You install a security certificate on a Discoverer client machine when you start Discoverer Plus for the first time over HTTPS (that is, in Secure Sockets Layer (SSL) mode).

Tip: If you do not have a JVM installed on the client machine, before you try to start Discoverer for the first time in Secure Sockets Layer (SSL) mode, do one of the following:

- Run Discoverer Plus in HTTP mode, which installs a JVM on the client machine for you. For more information, see [Section 2.6, "About running Discoverer Plus over HTTP for the first time on a client machine."](#)
- Install a JVM on the client machine manually.

To install a Discoverer Plus security certificate:

1. Start a Web browser and enter the Discoverer Plus HTTPS URL containing the fully qualified host name (including port number if required) used by your own Oracle installation.

For example:

`https://<host.domain>:<port>/discoverer/plus`

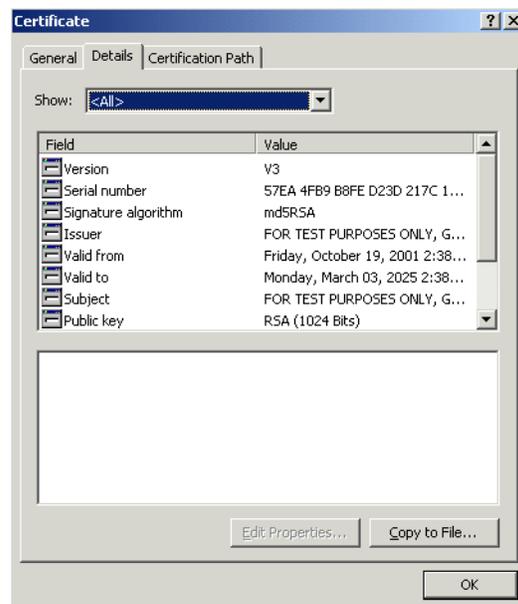
where:

- `<host.domain>` is the server name and domain on which the Oracle HTTP Server is installed
- `<port>` is the HTTPS port number (default 4443) on which Discoverer is installed
- `/discoverer/plus` is the URL command that starts Discoverer Plus

The Security Alert dialog is displayed.



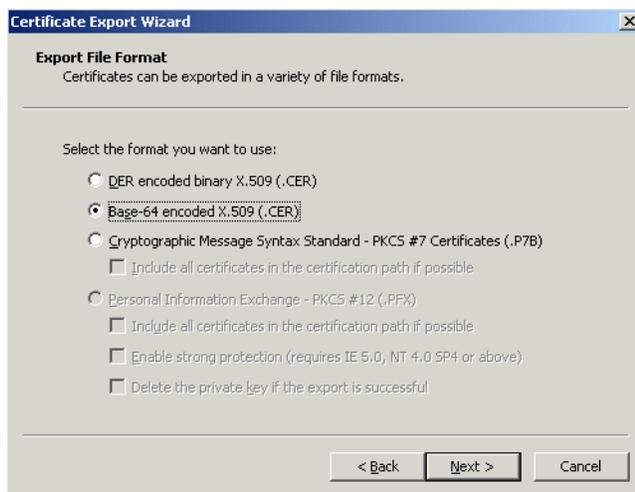
2. Click View Certificate.
3. Go to the Details tab.



4. Click Copy to File to start the Certificate Export Wizard.



5. Click Next to display the Export File Format page in the Certificate Export Wizard.



6. Select the **Base-64 encoded X.509 (.CER)** option.

7. Click Next to display the File to Export page in the Certificate Export Wizard.



You now choose a temporary name and location for the exported certificate file.

8. Enter a file location and file name (with a '.cer' extension) for the exported certificate file in the **File name** field (for example, `c:\tmp\mycertificate.cer`).
9. Click Next to display the final page of the Certificate Export Wizard dialog.



10. Click Finish to complete the certificate installation.
A confirmation dialog is displayed.

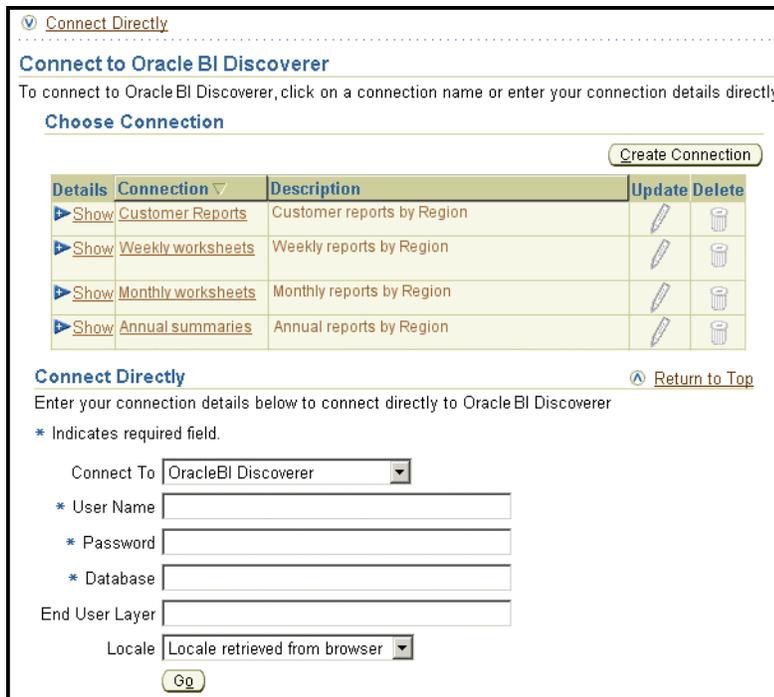


11. Click OK to close the confirmation dialog and the Certificate Export Wizard and return to the Details tab of the Certificate dialog.
12. Click OK in the Details tab of the Certificate dialog to return to the Security Alert dialog.



13. Leave the Security Alert dialog displayed.
14. Import the security certificate file that you saved earlier into the certificate store of the JVM you are using, as follows:
 - if you are using Sun Java Plug-in, see [Section 2.5.2, "How to import certificate details into the Java Plug-in certificate store"](#)
15. (optional) Delete the certificate file that you saved earlier (for example, c:\tmp\mycertificate.cer).
16. At the Security Alert dialog, click Yes to accept the security certificate and start Discoverer Plus.

Discoverer Plus starts in HTTPS mode and displays the Connect to Oracle BI Discoverer page.



Note: In HTTPS mode, Discoverer Plus displays a padlock symbol on the status bar of the browser, which indicates that the Web session is secure.

Notes

- For information about installing security certificates with a JVM other than Java Plug-in, consult the proprietary documentation for that JVM.
- If you install a new JVM when you start Discoverer Plus, you must reinstall the Web server's security certificate into the JVM certificate store on all client machines that run Discoverer Plus.

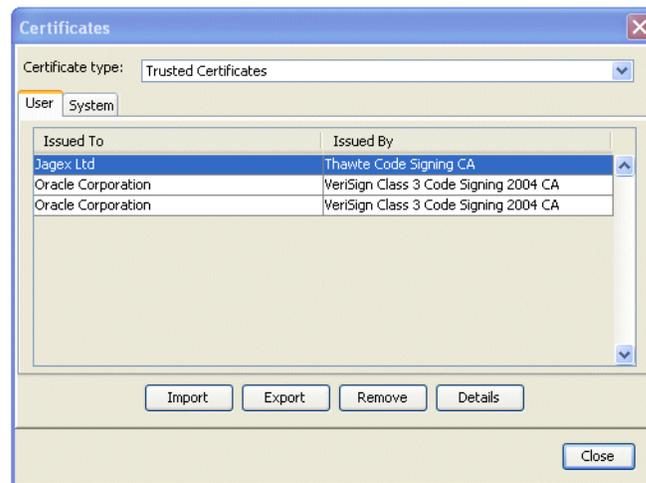
2.5.2 How to import certificate details into the Java Plug-in certificate store

When configuring Discoverer Plus to run over HTTPS using Java Plug-in, you import the certificate details into the Java Plug-in certificate store after you have used the Certificate Export Wizard to export a certificate file.

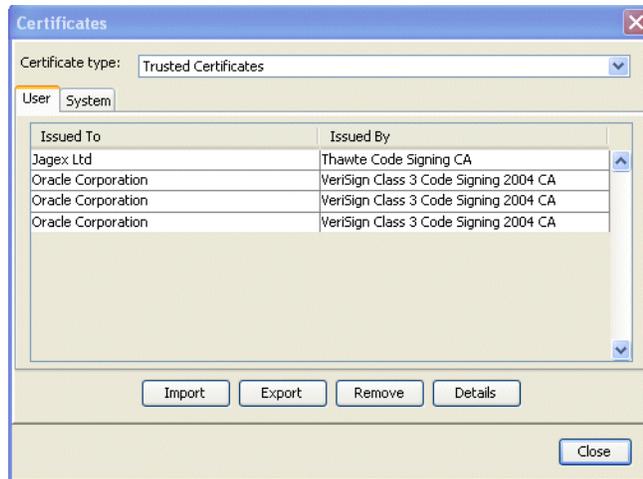
1. Display the Java Control Panel.

For example, on Windows display the Windows Control Panel, then select the Java icon.

2. Display the Security tab and click Certificates.



3. Display Trusted Certificates from the **Certificate type** drop down list (if it is not selected).
4. Click Import and import the certificate file that you saved in [Section 2.5.1, "How to install a security certificate on a Discoverer Plus client machine"](#) (for example, c:\tmp\mycertificate.cer).



The security certificate is displayed in the list of certificates in the Java Plug-in certificate store.

5. Click Apply.

2.6 About running Discoverer Plus over HTTP for the first time on a client machine

When you start Discoverer Plus for the first time on a client machine, you perform a one-time setup process to install a Java Virtual Machine and initialize the Discoverer Plus software. This process is typically performed when:

- you want to test that Discoverer is working
- a Discoverer end user wants to start Discoverer Plus for the first time on a client machine

If you upgrade Discoverer, you might have to repeat the setup process. For example, you might install a new version of Discoverer Plus that requires a new version of the Java runtime environment.

Oracle BI Discoverer installs the Sun Java Plug-in on client browser machines. For more information about changing the Java plug-in that Discoverer uses, see [Section 4.10, "About running Discoverer Plus with different Java Virtual Machines"](#).

The Discoverer Plus initialization procedure is different for different browsers. Refer to the appropriate task below:

- For Microsoft Internet Explorer on a Windows client, see [Section 2.8, "How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine"](#).
- For Netscape Navigator on a Windows client, see [Section 2.9, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine"](#).
- For Netscape Navigator on a UNIX client, see [Section 2.10, "How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine"](#).
- For Firefox on an Apple Mac client, the minimum certified version of Java Plug-In required by Discoverer Plus must be installed. The Safari browser does not support the minimum certified version of the Java plug-in required for this release.

For more information about the minimum versions required by Discoverer Plus, see the Release Notes.

To check that the browser has the required Java Plug-in, type `about:plugins` into the browser. You should see an entry for the installed Java plug-in in the Installed plug-ins page.

For more information about starting Discoverer Plus, see [Section 2.7, "How to start Discoverer Plus"](#).

Notes

- If single sign-on is enabled, you are first asked to authenticate as a Oracle Single Sign-On or Oracle Access Manager user before a Discoverer connections page is displayed.
- If single sign-on is not enabled, Discoverer end users are asked to enter a database password when they select a private connection.

Note: A Discoverer connection stores login information.

- To start Discoverer Plus in Microsoft Internet Explorer, you must have the Security level set no higher than 'Medium' or custom equivalent (that is, using the Security dialog in Microsoft Internet Explorer).
- If a Security Warning dialog is displayed when you start Discoverer, click Yes to install and start the JVM. If you have previously configured the machine to always trust content from Oracle Corporation, this dialog is not displayed.

Note: Discoverer Viewer requires no additional software to be installed on the client machine.

- If the Discoverer initialization takes longer than the session timeout (for example, you might be accessing Discoverer over a slower network), increase the Timeout value in the `pref.txt` file on the middle tier and apply the preferences. For more information, see [Section 9.6, "List of Discoverer user preferences"](#).

2.7 How to start Discoverer Plus

You start Discoverer Plus to enable you to manage and edit Discoverer worksheets.

To start Discoverer Plus:

1. Start a Web browser and enter the Discoverer Plus URL containing the fully qualified host name (including port number if required) used by your own Oracle installation.

For example:

`http://<host.domain>:<port>/discoverer/plus`

where:

- `<host.domain>` is the server name and domain on which the Oracle HTTP Server is installed
- `<port>` is the port number (typically 7777) on which Discoverer is installed
For information on finding out the default Discoverer port number, see [Section 4.8, "How to view ports used by Fusion Middleware"](#).
- `/discoverer/plus` is the URL command that starts Discoverer Plus

The Connect to Oracle BI Discoverer page is displayed.

Figure 2–1 Connect to Oracle BI Discoverer page

Connect to Oracle BI Discoverer

To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection Create Connection

Details	Connection	Description	Update	Delete
Show	Customer Reports	Customer reports by Region		
Show	Weekly worksheets	Weekly reports by Region		
Show	Monthly worksheets	Monthly reports by Region		
Show	Annual summaries	Annual reports by Region		

Connect Directly Return to Top

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To: Oracle BI Discoverer

* User Name:

* Password:

* Database:

End User Layer:

Locale: Locale retrieved from browser

Note: Connections are only displayed if the Oracle Business Intelligence installation is associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). If single sign-on is enabled, you are first asked to authenticate as a Oracle Single Sign-On or Oracle Access Manager user.

2. Do one of the following:
 - Select a connection in the **Connection** column.

Tip: If no connections are displayed in the **Connection** column, you must create a connection before continuing. For more information about creating private connections, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*. You can also use public connections that have been created by the Discoverer manager (for more information, see [Section 3.6, "How to create public connections"](#)).
 - Enter login details directly using the **Connect Directly** area, and click Go. Discoverer Plus starts (after first installing any required plug-ins).

2.8 How to start Discoverer Plus over HTTP in Microsoft Internet Explorer for the first time on a Windows client machine

To start Discoverer Plus in Microsoft Internet Explorer for the first time on a Windows client machine:

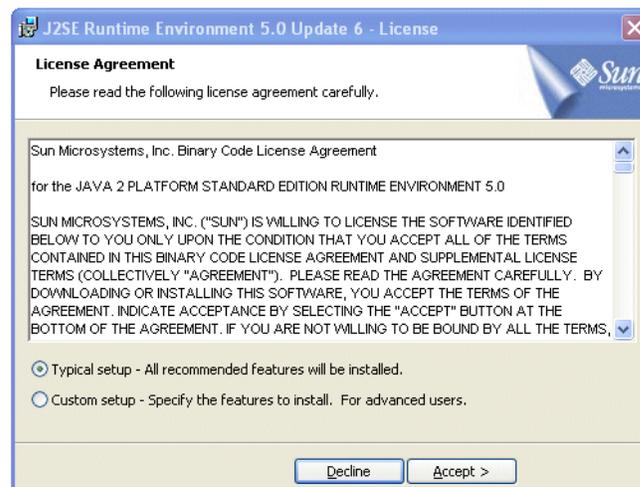
1. Start Discoverer Plus (for more information, see [Section 2.7, "How to start Discoverer Plus"](#)).
2. Depending on the software installed on the client machine, you might have to download and install a Java Virtual Machine (JVM) (for example, Java Plug-in). If you are not prompted to download and install a JVM, go straight to step 7.

Tip: If the JVM installation process fails, close down extraneous processes on the client machine, then re-try.

If you must download and install a JVM, the Security Warning dialog is displayed.

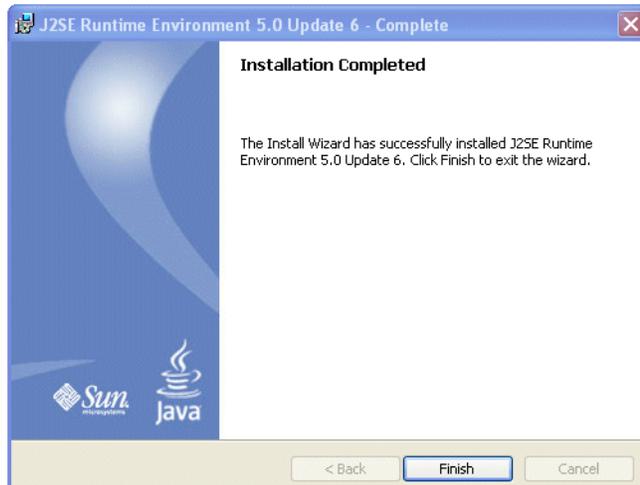


3. Click Yes to start the plug-in download and display the License Agreement page.



4. Select the **Typical setup** option and click **Accept** to start the installation.

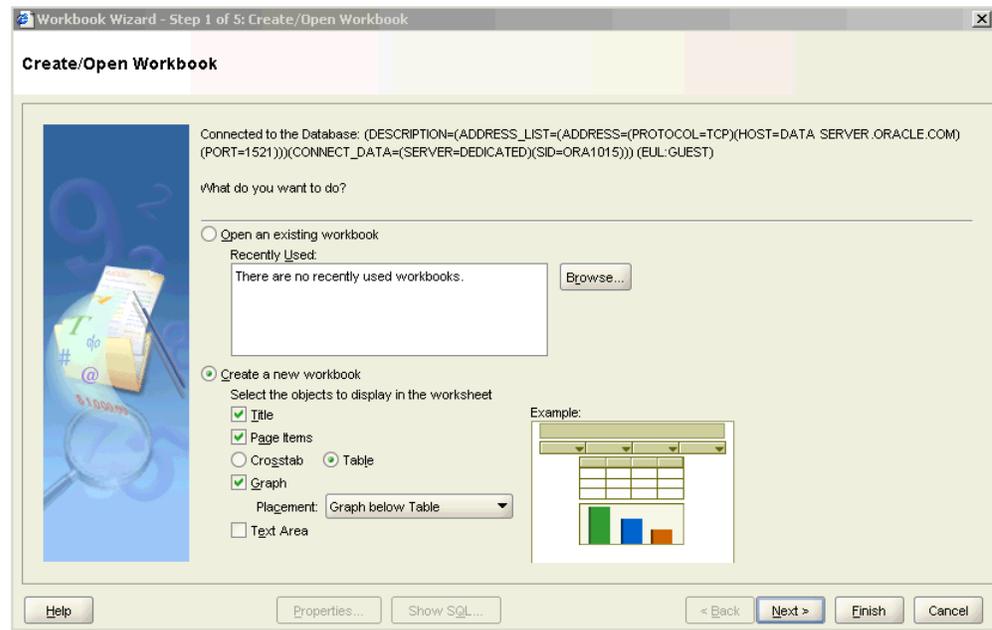
When the installation is complete, the Java Runtime Environment - Complete page is displayed.



5. Click Finish to close the installation wizard.
The Security Warning dialog is displayed.



6. Click Yes to accept the security certificate and start Discoverer Plus.
Note: If you do not want to display the Warning - Security dialog every time a new Discoverer Plus applet is installed on the client machine, click Always.
The Workbook Wizard dialog is displayed.
7. Follow the instructions on the Workbook Wizard dialog.



You are now running Discoverer Plus.

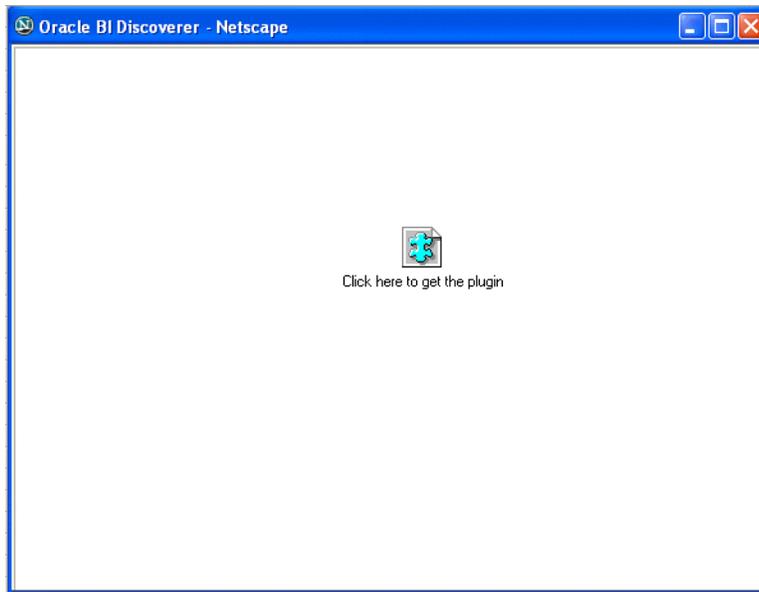
2.9 How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a Windows client machine

To start Discoverer Plus in Netscape Navigator for the first time on a Windows client machine:

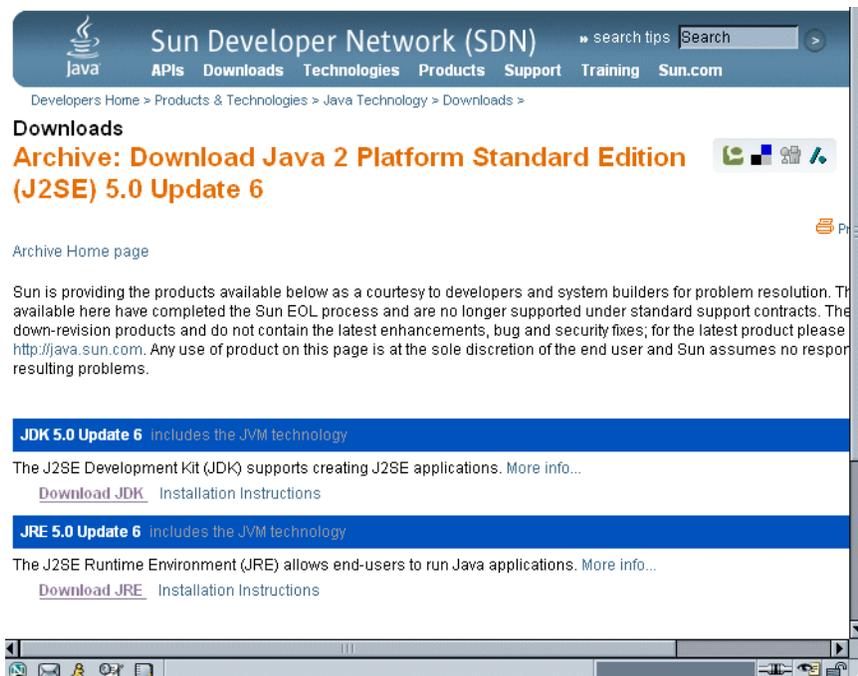
1. Start Discoverer Plus (for more information, see [Section 2.7, "How to start Discoverer Plus"](#)).

Depending on the software installed on the client machine, you might have to download and install a Java Virtual Machine (JVM) (for example, Java Plug-in). If you are not prompted to download and install a JVM, go straight to step 12.

If the client browser machine does not have a JVM installed and you need to install a JVM, Discoverer launches an empty applet browser window.



2. Click anywhere in the empty applet browser window to display the Sun Developer Network download page for JVMs in a separate browser window.



3. In the browser window containing the Sun Developer Network download page for JVMs, select the **Download JRE** link to display the Download page.

Required: You must accept the license agreement to download the product.

- Accept License Agreement | [Review License Agreement](#)
 Decline License Agreement

Download selected with Sun Download Manager Easily manage your downloads (pause, resume, restart, verify). » [Learn more](#)

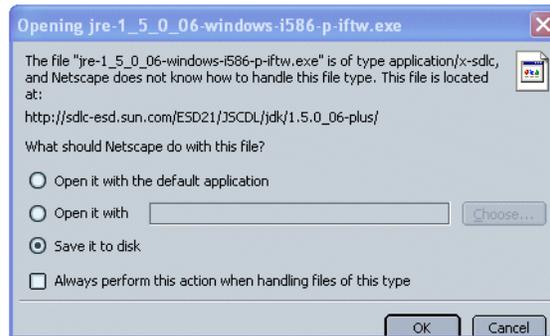
Windows Platform - J2SE(TM) Runtime Environment 5.0 Update 6			
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	↓	Windows Offline Installation, Multi-language	jre-1_5_0_06-windows-i586-p.exe 16.00 MB
<input checked="" type="checkbox"/>	↓	Windows Online Installation, Multi-language	jre-1_5_0_06-windows-i586-p-iftw.exe 237.80 KB

Linux Platform - J2SE(TM) Runtime Environment 5.0 Update 6			
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	↓	Linux RPM in self-extracting file	jre-1_5_0_06-linux-i586-rpm.bin 15.47 MB
<input type="checkbox"/>	↓	Linux self-extracting file	jre-1_5_0_06-linux-i586.bin 15.99 MB

Solaris SPARC Platform - J2SE(TM) Runtime Environment 5.0 Update 6			
<input checked="" type="checkbox"/>			
<input type="checkbox"/>	↓	Solaris SPARC 32-bit self-extracting file	jre-1_5_0_06-solaris-sparc.sh 20.06 MB
<input type="checkbox"/>	↓	Solaris SPARC 64-bit self-extracting file	jre-1_5_0_06-solaris-sparcv9.sh 8.67 MB

Solaris x86 Platform - J2SE(TM) Runtime Environment 5.0 Update 6

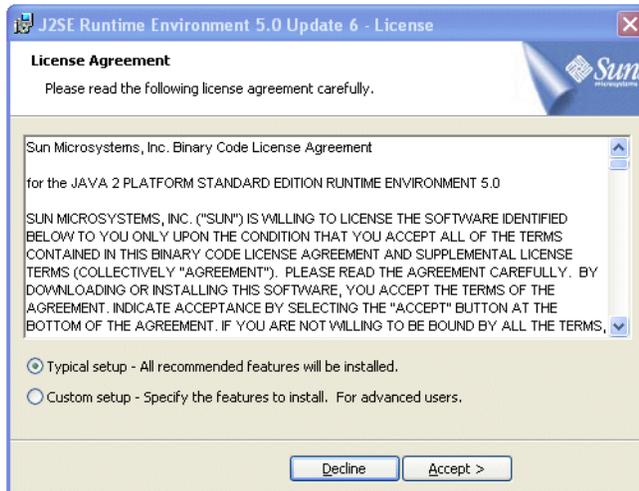
- Select the **Accept License Agreement** option.
- In the Windows Platform area, select the **Windows Installation, Multi-language** link to display the Opening *<JVM file>* dialog.



- Select the **Save it to disk** option and click OK.
- Navigate to a temporary directory on the client browser machine (for example, d:\temp\) then click Save.

When the file download is complete the Netscape Download Manager dialog is displayed, containing the status of the download.

- Close the Netscape Download Manager dialog.
- Using a Windows Explorer dialog, navigate to the temporary directory that you selected in step 7, and double click the downloaded file (for example, d:\temp\jre-1_5_0_06-windows-i586-p-iftw.exe) to start the JVM installation wizard and display the License Agreement page.

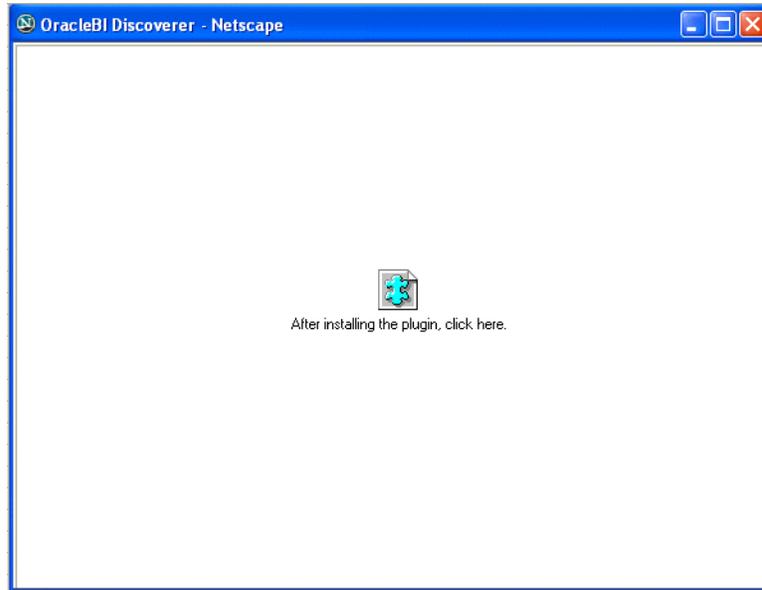


10. Select the **Typical setup** option and click **Accept** to start the installation.

When the installation is complete, the Java Runtime Environment - Complete page is displayed.

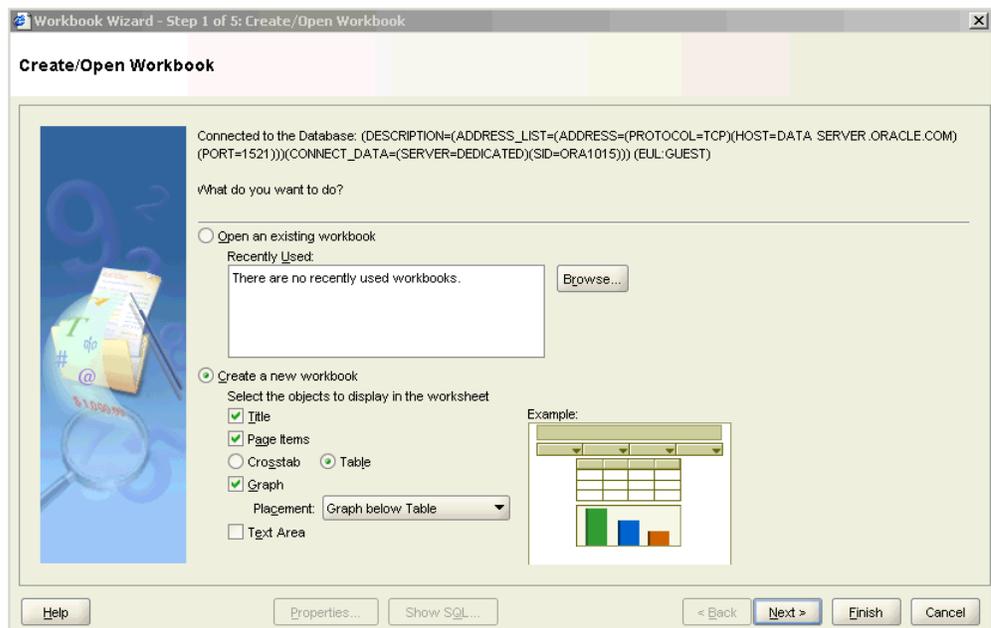


11. Click anywhere in the empty applet browser window to start Discoverer Plus.



When the Discoverer Plus applet is initialized and cached, the Workbook Wizard dialog is displayed.

12. Follow the instructions on the Workbook Wizard dialog.



You are now running Discoverer Plus.

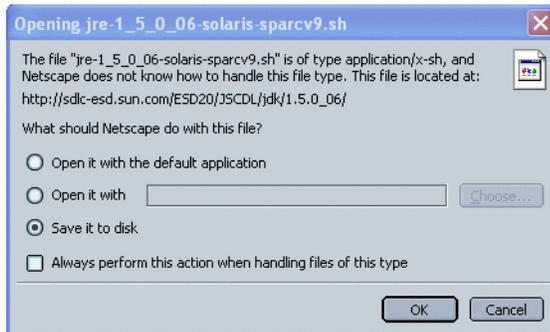
2.10 How to start Discoverer Plus over HTTP in Netscape Navigator for the first time on a UNIX client machine

To start Discoverer Plus in Netscape Navigator for the first time on a UNIX client machine:

1. Install a JVM on the client browser machine, as follows:
 - a. Start a Web browser and go to the following URL:

http://java.sun.com/products/archive/j2se/5.0_06/index.html

- b. Select the **DOWNLOAD** link in the JRE column for the Download J2SE v 1.5.0_06 option for Windows/Linux/Solaris to display the Download page.
- c. Select the **Accept License Agreement** option.
- d. Select the appropriate Solaris or Linux link to display the Opening <JVM file> dialog.

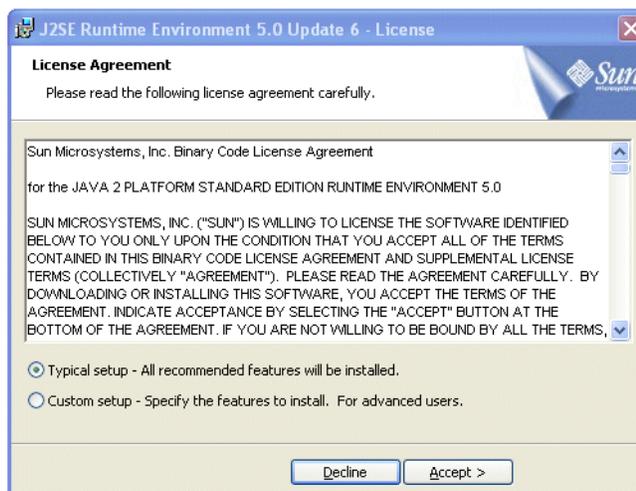


For example, for a Solaris client browser machine, you might select the **64-bit self-extracting file (jre-1_5_0_06-solaris-sparcv9.sh)** link.

- e. Select the **Save it to disk** option and click OK.
- f. Navigate to a temporary directory on the client browser machine (for example, tmp\) then click Save.

When the file download is complete the Netscape Download Manager dialog is displayed, containing the status of the download.

- g. Close the Netscape Download Manager dialog.
- h. Using a file manager tool, navigate to the temporary directory that you selected in step f and execute the downloaded file (for example, tmp\j2re-1_5_0_06-solaris-sparcv9.sh) to start the JVM installation wizard and display the License Agreement page.



- i. Follow the instructions in the JVM installation wizard to install the JVM on the client machine.

2. Start Discoverer Plus (for more information, see [Section 2.7, "How to start Discoverer Plus"](#)).
3. Wait for the Discoverer Plus applet to initialize.

While the Discoverer Plus applet initializes, the Starting product: Discoverer Plus page is displayed.

The Discoverer Plus applet is initialized and cached, then the Workbook Wizard dialog is displayed.

You are now running Discoverer Plus.

2.11 How to start Discoverer Viewer over HTTP

You might start Discoverer Viewer if you have installed Oracle and want to test that Discoverer is working.

To start Discoverer Viewer over HTTP:

1. Start a Web browser and enter the Discoverer Viewer URL containing the fully qualified host name (including port number) used by your own Oracle installation.

For example:

```
http://<host.domain>:<port>/discoverer/viewer
```

where:

- *<host.domain>* is the server name and domain on which the Oracle HTTP Server is installed
- *<HTTP port>* is the port number (typically 7777) on which Discoverer is installed.

For information on finding out the default Discoverer port number, see [Section 4.8, "How to view ports used by Fusion Middleware"](#).

- `/discoverer/viewer` is the URL command that starts Discoverer Viewer

The Connect to Discoverer Viewer page is displayed.

Figure 2–2 Connect to Discoverer Viewer page

Connect to Oracle BI Discoverer
 To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection Create Connection

Details	Connection	Description	Update	Delete
Show	Customer Reports	Customer reports by Region		
Show	Weekly worksheets	Weekly reports by Region		
Show	Monthly worksheets	Monthly reports by Region		
Show	Annual summaries	Annual reports by Region		

Connect Directly Return to Top

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To: Oracle BI Discoverer

* User Name:

* Password:

* Database:

End User Layer:

Locale: Locale retrieved from browser

Go

Note: If single sign-on is enabled, you are first asked to authenticate as a Oracle Single Sign-On or Oracle Access Manager user.

2. Do one of the following:
 - Select a connection in the **Connection** column.

Tip: If no connections are displayed in the **Connection** column, you must create a connection before continuing. For more information about creating private connections, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Viewer*. You can also use public connections that have been created by the Discoverer manager (for more information, see [Section 3.6, "How to create public connections"](#)).
 - Enter login details directly using the **Connect Directly** area, and click Go.

The Worksheet list page is displayed.

3. Select a worksheet in the **Name** column to display the workbook in Discoverer Viewer.

You are now running Discoverer Viewer.

Notes

- To start Discoverer Viewer over HTTPS, enter the Discoverer Viewer HTTPS URL (for example, `https://<host.domain>:<HTTPS port>/discoverer/viewer`). For more information about running Discoverer Viewer over HTTPS, see [Section 2.5, "About running Discoverer over HTTPS"](#).

2.12 How to modify the URL that starts Discoverer

In general, you start Discoverer by entering a URL in a browser, as described in this chapter. That URL has a format similar to the following:

`http://<host.domain>:<port>/discoverer/<component-name>`

The `/discoverer/` part of that URL is called the "context root." If your organization requires that all users enter URLs that have specific formats (that is, have a certain context root), then you can modify the default URL that starts Discoverer to match those requirements. After you modify the default URL, share that URL with the Discoverer users in your organization.

The following procedure describes how to modify the default URL for Discoverer by changing the context root. As part of the modification, you stop and restart all OPMN processes and WLS_DISCO Managed Server. WLS_DISCO Managed Server has a complete set of Java EE containers written entirely in Java that execute on the Java Virtual Machine (JVM) of the standard Java Development Kit (JDK). Discoverer has a Java EE application that is deployed to WLS_DISCO. The Discoverer application is accessed through the port for the Oracle HTTP Server.

The following procedure uses an example of modifying the URL to include the `/myBI/BI11` directory in the context root.

1. Stop the OPMN using the following `opmnctl` command:

```

$ORACLE_INSTANCE/bin/opmnctl stopall

```

2. Run the command `changeContextRoot`, which is located in the `ORACLE_INSTANCE/Discoverer/Discoverer_instance-name/util/` folder as follows:

```

changeContextRoot presentContextRoot newContextRoot

```

To include the directory `/myBI/BI11` in the context root, run the command as follows:

```

changeContextRoot discoverer myBI/BI11/discoverer

```

3. If SSO is enabled, edit the `module_disco.conf` file by following these steps:
 - a. Open the `module_disco.conf` file from the `ORACLE_INSTANCE\config\OHS\ohs-component-name\moduleconf` directory in a text editor.
 - b. Navigate to the following line:

```

<Location /discoverer/portletprovider/viewer>

```
 - c. Edit the line to read like:

```

<Location /myBI/BI11/discoverer/portletprovider/viewer>

```
 - d. Navigate to the following line:

```

<Location /discoverer>

```
 - e. Edit the line to read like:

```

<Location /myBI/BI11/discoverer>

```
 - f. Save your changes and close the file.
4. Restart OPMN using the following command:

```

$ORACLE_INSTANCE/bin/opmnctl startall

```

To use the modified context root, you must update the Discoverer application as described in the "Update (redeploy) an Enterprise application" section of *Oracle Fusion Middleware Oracle WebLogic Server Administration Console Help*

After you modify the files and restart the service as described in the previous procedure, users can start Discoverer components using the following URLs:

- Discoverer Plus:

`http://<host.domain>:<port>/myBI/BI11/discoverer/plus`

- Discoverer Viewer:

`http://<host.domain>:<port>/myBI/BI11/discoverer/viewer`

- Discoverer Portlet Provider:

`http://<host.domain>:<port>/myBI/BI11/discoverer/portletprovider`

Note: If single sign-on is enabled for Discoverer, to modify the URL you must change the `<Location>` tag for each Discoverer component in the `mod_osso.conf` file. For example, to change the URL for Discoverer Plus, change `<Location /discoverer/plus>` to `<Location /myBI/BI11/discoverer/plus>` in the `mod_osso.conf` file.

For more information about editing `mod_osso.conf`, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer."](#)

Managing Oracle BI Discoverer Connections

This chapter applies only if the Discoverer installation is associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). For more information, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

If Discoverer is not associated with an Oracle Internet Directory (and the PStore and Portlet Provider schemas), then Discoverer connections (SSO-enabled) are not available to end users. Non-SSO public and private connections are available even if Discoverer is not associated with an Oracle Internet Directory.

This chapter explains how to create and manage Oracle BI Discoverer connections, and includes the following topics:

- [Section 3.1, "What is an Oracle BI Discoverer connection?"](#)
- [Section 3.2, "What are the types of Discoverer connections?"](#)
- [Section 3.3, "About managing Discoverer connections"](#)
- [Section 3.4, "About the Discoverer connections page"](#)
- [Section 3.5, "About specifying whether Discoverer end users can create their own private connections"](#)
- [Section 3.6, "How to create public connections"](#)
- [Section 3.7, "How to delete public connections"](#)
- [Section 3.8, "How to specify whether Discoverer end users can create private connections"](#)

3.1 What is an Oracle BI Discoverer connection?

Discoverer connections enable Discoverer end users to start Discoverer without having to re-enter database login details each time they start Discoverer.

An Oracle BI Discoverer connection consists of the following database login details:

- Database username to identify the Discoverer end user
- Database password to authenticate the Discoverer end user
- Name of the database containing the information that the Discoverer end user wants to analyze
- (optional) An Oracle Applications responsibility to specify the Discoverer end user's responsibility when using Discoverer with Oracle Applications
- (relational data source only) The End User Layer to be used

- The language that should be used in Discoverer

In the example shown in [Figure 3–1](#), a connection named **Customer Reports** has been created. This connection contains login information to enable end users to connect to the database containing customer reports, without having to enter login details.

Figure 3–1 Connections page in Oracle BI Discoverer Plus

Connect to Oracle BI Discoverer
To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection Create Connection

Details	Connection	Description	Update	Delete
Show	Customer Reports	Customer reports by Region		
Show	Weekly worksheets	Weekly reports by Region		
Show	Monthly worksheets	Monthly reports by Region		
Show	Annual summaries	Annual reports by Region		

Connect Directly Return to Top

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To: Oracle BI Discoverer

* User Name:

* Password:

* Database:

End User Layer:

Locale: Locale retrieved from browser

Go

Notes

- A connection is visible to both Discoverer Plus and Discoverer Viewer end users.
- If end users do not want to store login details in a connection, they can enter login details directly by using the **Connect Directly** area of the Discoverer connections page.

3.1.1 About Discoverer private connections and Single Sign-On

If single sign-on is enabled, Discoverer private connections work as follows:

- When Discoverer end users select a Discoverer private connection for the first time, they are prompted to enter their Oracle Single Sign-On or Oracle Access Manager details (if they have not been authenticated).
- After Discoverer end users have been authenticated by Oracle Single Sign-On or Oracle Access Manager, they can select a Discoverer private connection without entering the Discoverer password.

For more information about single sign-on for Discoverer, see [Section 13.8.1, "Using Discoverer with Oracle Single Sign-On"](#) and [Section 13.8.2, "Using Discoverer with Oracle Access Manager"](#).

3.2 What are the types of Discoverer connections?

Discoverer supports the following types of connections:

- **Private connection**

Private connections are created and maintained by Discoverer end users. They have the following characteristics:

- Private connections are private to the Discoverer end user that created it.
- Discoverer end users create and maintain their own private connections.

For more information about controlling what types of connection Discoverer end users can use, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections."](#)

- If single sign-on is enabled, Discoverer end users can use their private connections from any client machine. If single sign-on is not enabled, private connections are stored as cookies, and are accessible only on the machine and browser on which they were created. For more information about Single Sign-On, see [Section 3.1.1, "About Discoverer private connections and Single Sign-On."](#)

For information about creating private connections, see the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*.

- **Public connection**

Public connections are created and maintained by Discoverer middle tier managers.

For example, if you want to provide Discoverer end users with access to the Discoverer sample workbooks, you might create a public connection called 'Sample workbooks'.

Public connections have the following characteristics:

- A public connection is available to Discoverer Plus and Discoverer Viewer end users.

Note: When you create a public connection to a multidimensional data source, the public connection is available only to Discoverer Viewer and Discoverer Portlet Provider users. Public OLAP connections are not available to Discoverer Plus OLAP users.

- Public connections enable Discoverer Plus and Discoverer Viewer end users to access data to which the PUBLIC role has access.
- Discoverer Plus and Viewer users cannot add, edit, or delete public connections.

For more information about how to create public connections, see [Section 3.6, "How to create public connections."](#)

Note: In a secure Discoverer environment you might want to use only public connections, so that you can restrict database access to login details that you specify. In other words, you might want to prevent Discoverer end users from creating private connections. For more information, see [Section 3.6, "How to create public connections."](#)

In a secure Discoverer environment you might want to use only public connections, so that you can restrict database access to login details that you specify. In other words,

you might want to prevent Discoverer end users from creating private connections. For more information, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections."](#)

3.3 About managing Discoverer connections

As a middle-tier manager, you use Fusion Middleware Control to perform the following tasks related to Discoverer connections:

- Provide public connections to enable Discoverer Plus and Discoverer Viewer users to start Discoverer. For more information, see [Section 3.6, "How to create public connections."](#)
- Enable Discoverer Plus and Discoverer Viewer users to create their own (private) connections to start Discoverer. For more information, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections."](#)

For information about copying Discoverer connections from one Oracle Business Intelligence installation to another, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*.

3.4 About the Discoverer connections page

There are two Discoverer connections pages:

- Connect to Discoverer Viewer, which is used to start Discoverer Viewer, by using a set of stored login details or by connecting directly.
- Connect to Discoverer Plus, which is used to start Discoverer Plus, by using a set of stored login details or by connecting directly.

[Figure 3–2](#) shows the Connect to Discoverer Plus page.

Figure 3–2 Connect to Oracle BI Discoverer page

Connect to Oracle BI Discoverer
To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection Create Connection

Details	Connection	Description	Update	Delete
Show	Customer Reports	Customer reports by Region		
Show	Weekly worksheets	Weekly reports by Region		
Show	Monthly worksheets	Monthly reports by Region		
Show	Annual summaries	Annual reports by Region		

Connect Directly Return to Top

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To: Oracle BI Discoverer

* User Name:

* Password:

* Database:

End User Layer:

Locale: Locale retrieved from browser

Go

3.5 About specifying whether Discoverer end users can create their own private connections

You can specify whether Discoverer end users can create their own private connections. For more information, see [Section 3.8, "How to specify whether Discoverer end users can create private connections."](#)

Note: Public connections are not available to Discoverer Plus OLAP users. If you disallow private connections, Discoverer Plus OLAP users always have to connect to Discoverer directly.

When you enable Discoverer end users to create their own private connections:

- End users can specify any login details (such as username, password, database, and EUL) for the connections that they create.
- End users can open any workbook in any EUL to which they successfully connect (if they have sufficient database privileges).

When end users create private connections:

- If they specify a database by using an alias, they can connect to databases that have an entry in the `tnsnames.ora` file.
- If they specify a database by using the full `tnsnames` entry for the database (SID, address, and port), they can connect to databases that do not have an entry in the `tnsnames.ora` file on the Discoverer middle tier.

For example, you might enter the following string in the **Database** field:

```
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS =
(PROTOCOL=TCP) (HOST=machine_
a.company.com) (PORT=1521) ) ) (CONNECT_DATA=(SERVICE_
NAME=database1) ) )
```

Ensure that you remove spaces from the TNS string.

For information about the location of the `tnsnames.ora` file, see [Section A.1, "Discoverer file locations."](#)

3.6 How to create public connections

You create a public connection when you want to provide predefined login details to Discoverer Plus and Discoverer Viewer users. For example, you might create a public connection called Start tutorial, which connects to the tutorial database as a tutorial user.

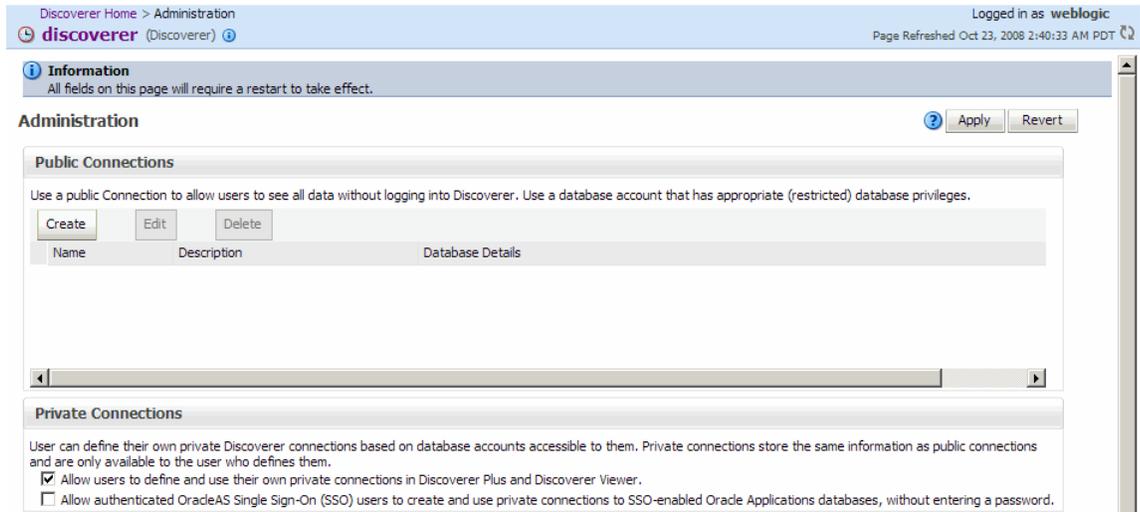
Note: When you create a public connection to a multidimensional data source, the public connection is available only to Discoverer Viewer and Discoverer Portlet Provider users. Public OLAP connections are not available to Discoverer Plus OLAP users.

To create a public connection:

1. Start Fusion Middleware Control. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)

2. Navigate to the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
3. From the **Discoverer** menu, select **Administration**.

The Discoverer Administration page is displayed.

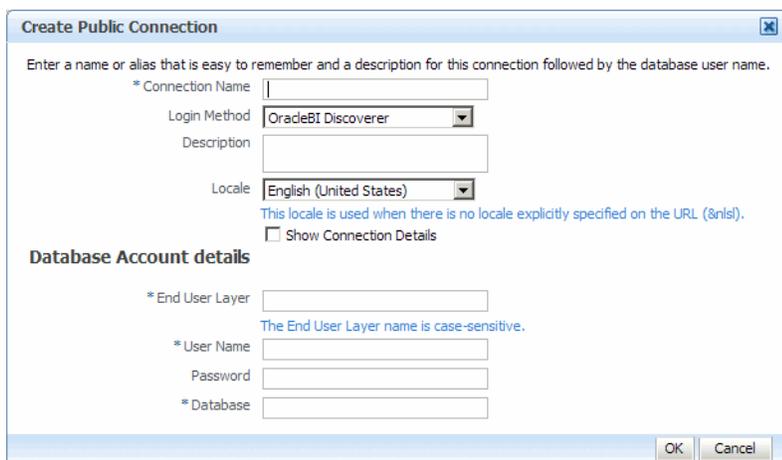


The **Database Details** column on the Discoverer connections page is visible only in Internet Explorer.

If existing public connections are not displayed under **Public Connections**, then it means that the Oracle Business Intelligence installation is not associated with an Oracle Internet Directory and with the two database schemas that Discoverer requires (the PStore and Portlet Provider schemas). For more information, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

4. Click **Create**

The **Create Public Connection** page is displayed.



5. Enter the connection details and then click **OK** to save the details.

The new connection that you created is displayed in the Discoverer Public Connections list.

When Discoverer end users connect to Discoverer Plus or Discoverer Viewer, they can select the connection that you created.

Notes

- For information about finding out the unique ID of a connection, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).
- If you specify a database by using the full tnsnames entry for the database (SID, address, and port), you can connect to databases that do not have an entry in the tnsnames.ora file on the Discoverer middle tier.

For example, you might enter the following string in the **Database** field:

```
(DESCRIPTION=(ADDRESS_LIST=(ADDRESS =
(PROTOCOL=TCP) (HOST=machine_
a.company.com) (PORT=1521) ) ) (CONNECT_DATA=(SERVICE_
NAME=database1) ) )
```

Ensure that you remove spaces from the TNS string.

- By default, users must enter the TNS alias of the database when creating connections to Discoverer. You can, however, allow users to enter a connect string rather than a TNS alias, by setting the environment variable DISCOVERER_ALLOW_DB_CONNECT_STRING to YES.

3.7 How to delete public connections

You delete a public connection when you no longer want to provide predefined login details to Discoverer Plus and Discoverer Viewer users.

To delete a public connection:

1. Start Fusion Middleware Control. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
3. From the **Discoverer** menu, select **Administration**.
The Discoverer Administration page is displayed.
4. Select the connection to delete, and click **Delete**.
5. At the confirmation prompt, click **Yes** to permanently delete the connection

The connection that you deleted is removed from the Discoverer Public Connections list and is no longer be displayed on the Discoverer Connections page in Discoverer Plus and Discoverer Viewer.

3.8 How to specify whether Discoverer end users can create private connections

To specify whether Discoverer Plus and Discoverer Viewer users can create private connections:

1. Start Fusion Middleware Control. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)

2. Navigate to the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

3. From the **Discoverer** menu, select **Administration**.

The Discoverer Administration page is displayed.

4. In the **Private Connections** region, specify whether users can create private connections, by using the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box.

If you want Discoverer end users to be able to create their own private connections, select the check box. Otherwise, clear the check box.

Note: If you do not allow Discoverer end users to create private connections they cannot start Discoverer by using URL parameters, unless they specify the connection ID for a public connection by using the `cn=URL` parameter. For more information, see [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#)).

5. Click **OK** to save the changes.

If you enable Discoverer end users to create private connections, they see a **Create Connection** button on the Discoverer Connections page, as shown in [Figure 3-2](#).

Notes

- The Details column on the Discoverer connections page is only visible in Internet Explorer.

Managing and Configuring Discoverer

This chapter applies to Discoverer Plus Relational, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services. For information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter describes how to manage and configure Discoverer, and includes the following topics:

- [Section 4.1, "About Oracle Enterprise Manager Fusion Middleware Control"](#)
- [Section 4.2, "About using Fusion Middleware Control to manage Discoverer middle-tier components"](#)
- [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl"](#)
- [Section 4.4, "About starting and stopping Discoverer servlets"](#)
- [Section 4.5, "About enabling and disabling Discoverer client-tier components"](#)
- [Section 4.6, "About configuring the Discoverer middle-tier and client-tier components"](#)
- [Section 4.7, "About monitoring Discoverer performance"](#)
- [Section 4.8, "How to view ports used by Fusion Middleware"](#)
- [Section 4.9, "How to change the port on which Discoverer is deployed if Web Cache is not configured"](#)
- [Section 4.10, "About running Discoverer Plus with different Java Virtual Machines"](#)
- [Section 4.11, "Configuring Discoverer to export to Web Query format"](#)
- [Section 4.12, "Configuring Discoverer using the System MBean Browser"](#)
- [Section 4.13, "Limiting the Number of Sessions for a Discoverer User"](#)

4.1 About Oracle Enterprise Manager Fusion Middleware Control

Oracle Enterprise Manager Fusion Middleware Control is part of Enterprise Manager, which provides a comprehensive platform for managing Oracle middle-tier products.

Fusion Middleware Control provides Web-based management tools that enable you to monitor and configure Fusion Middleware components (for example, Oracle Discoverer, Oracle Portal, and Oracle HTTP Server). You can deploy applications, manage security, and create Fusion Middleware clusters.

4.1.1 Why use Fusion Middleware Control with Discoverer?

You use Fusion Middleware Control with Discoverer to:

- Stop and start Java EE applications.
- Enable and disable components.
- Set configuration options.
- Monitor performance.
- Diagnose problems.

Note: To start and stop the Preferences server component, you use an **opmnctl** command (not Fusion Middleware Control). For more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl"](#).

The following table lists the Discoverer configuration tasks that you can perform by using Fusion Middleware Control:

Discoverer Management Task	For More Information, See ...
Manage connections for Discoverer Plus and Discoverer Viewer.	Chapter 3, "Managing Oracle BI Discoverer Connections"
Start and stop the Discoverer servlets.	Section 4.4, "About starting and stopping Discoverer servlets"
Enable and disable Discoverer client-tier components.	Section 4.5, "About enabling and disabling Discoverer client-tier components"
Monitor Discoverer metrics.	Section 4.7, "About monitoring Discoverer performance"
Monitor Discoverer metrics.	Section 4.8, "How to view ports used by Fusion Middleware"
Change the port on which Discoverer is deployed.	Section 4.9, "How to change the port on which Discoverer is deployed if Web Cache is not configured"
Customize the look and feel (LAF) of Discoverer Viewer and Discoverer Plus.	Chapter 8, "Customizing Discoverer Look and Feel"
Search for and analyze Discoverer log files.	Chapter 11, "Diagnostics and Logging Facilities in Discoverer"

Discoverer Management Task	For More Information, See ...
Configure settings for individual Discoverer client-tier components: <ul style="list-style-type: none"> ■ Specify caching settings for Discoverer Viewer. ■ Specify delay times for Discoverer Viewer. ■ Specify PDF settings for Discoverer Viewer. ■ Specify printing settings for Discoverer Viewer. ■ Specify the maximum number of sessions, and whether Discoverer Web Services are enabled or disabled. ■ Specify the maximum number of Discoverer Portlet Provider sessions to pool and the number of generic portlet parameters allowed in a Discoverer worksheet portlet. ■ Specify the use of caching, printing paper sizes, PDF generation, e-mail settings and delay times (for Query Progress page and export completion) for Discoverer Viewer. 	Section 4.6.1, "How to configure Discoverer client-tier components"
Specify communication protocols for the Discoverer Plus middle tier.	Section 13.6.3.2, "How to display Communications Protocols on the Discoverer Plus Configuration page in Fusion Middleware Control"

4.1.2 How to start Fusion Middleware Control and display the Farm Home page

You use Fusion Middleware Control to configure Discoverer and Fusion Middleware components (such as Discoverer Plus and Portal). The tasks you can perform by using Fusion Middleware Control include starting and stopping Discoverer Java EE applications, enabling and disabling Discoverer client-tier components, viewing current session details, and configuring default preferences for all users.

To display Fusion Middleware Control:

1. Start a Web browser, and, in the address bar, enter the fully qualified host name and domain of the Discoverer installation to configure.

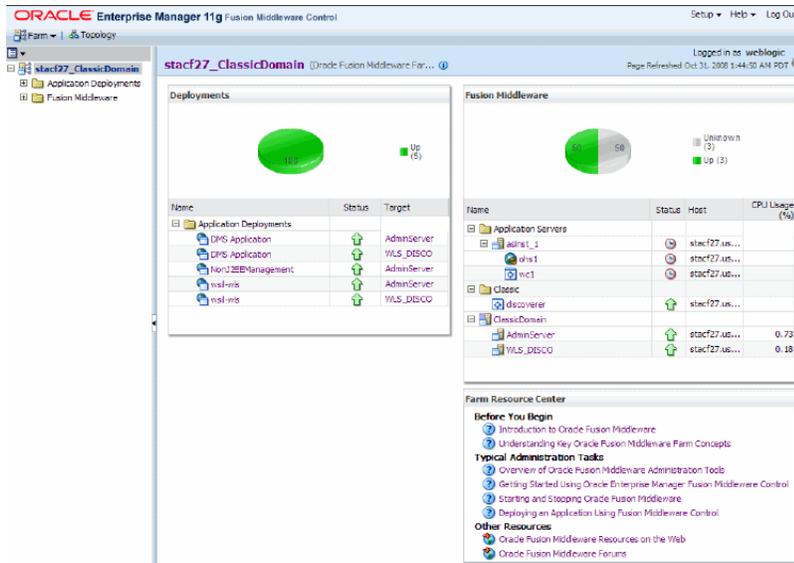
For example: `http://<host.domain>:7001`

Note: To find out the port number for Fusion Middleware Control in your installation, look in the file `<ORACLE_HOME>/install/portlist.ini`.

Fusion Middleware Control displays the **All Targets** page.

2. Click the link corresponding to the Fusion Middleware target to access.
3. When prompted, enter the user name and password.
4. Click **Login**.

The Fusion Middleware Control home page is displayed.



For an overview of Oracle BI Discoverer installations, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

4.1.3 How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages

You use the Fusion Middleware Control Discoverer Home page and Discoverer component home pages to monitor, configure, and manage Discoverer installations.

To display the Fusion Middleware Control Discoverer Home page and Discoverer component home pages:

1. Start Fusion Middleware Control and navigate to the Farm Home page (for more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#)).

In the left hand pane, the navigation tree displays folders that represent Fusion Middleware system components that are available for an Oracle BI Discoverer installation.

2. Navigate to the **Discoverer** folder and select **discoverer** to display the Fusion Middleware Discoverer Home page, as shown in [Figure 4-1](#).

Figure 4–1 Fusion Middleware Control Discoverer Home Page and Discoverer Menu

The screenshot displays the Oracle Enterprise Manager 11g Fusion Middleware Control interface. The main content area shows the Discoverer(11.1.1.1.0) component page. A table lists the components and their status:

Name	Status	Session CPU Usage (%)	Session Memory Usage (MB)	Sessions	Application URL
Discoverer Viewer	Enabled	0.00	0.00	0	http://stac...
Discoverer Plus	Enabled	0.00	0.00	0	http://stac...
Discoverer Portlet Provider	Enabled	0.00	0.00	0	http://stac...
Discoverer Web Services	Enabled	0.00	0.00	0	http://stac...

The Resource Center section at the bottom right includes links for 'Before You Begin' and 'Typical Administration Tasks'.

Key to Figure 4–1

- a. The navigation pane enables you to navigate to the components that can be managed by Fusion Middleware Control. For more information, see [Section 4.1.5, "About the navigation pane in Fusion Middleware Control"](#).
 - b. You can use the **Topology** button to display the topology viewer. For more information, see [Section 4.1.6, "About using the Topology Viewer to view relationships between components in a Fusion Middleware Farm"](#).
 - c. The **Components** region (for more information, see [Section 4.1.4, "How to configure application URLs displayed on the Fusion Middleware Control Discoverer Home page"](#) and [Section 4.2, "About using Fusion Middleware Control to manage Discoverer middle-tier components"](#))
 - d. The **Memory Usage** region displays performance information about Discoverer components.
 - e. The **Discoverer** menu enables you to do the following tasks:
 - Display the Discoverer home page
 - Monitor sessions, performance and logs
 - Start and stop the Java EE applications
 - Configure logging
 - Display the Discoverer Administration page.
 - Display general information about the Discoverer version, and path information about the Oracle Home and Oracle Instance.
 - f. The **Resource Center** region displays links to related documentation.
3. To go to the home page of a Discoverer component, click the name of the component in the **Name** column.

4.1.4 How to configure application URLs displayed on the Fusion Middleware Control Discoverer Home page

You can access Discoverer components from the Fusion Middleware Control Discoverer Home page, by clicking the appropriate URL in the **Application URL** column of the **Components** area.

For the URLs to be displayed, you must first configure the `ApplicationURL` parameter by using the System MBean Browser.

To configure the `ApplicationURL` parameter, perform the following steps:

1. Start the System MBean Browser.
 - a. In the navigation pane of Fusion Middleware Control, go to the WebLogic Domain node, and select the domain in which the Discoverer application is deployed.
 - b. From the **WebLogic Domain** menu, select System MBean Browser.
2. In the navigation tree of the System MBean Browser, navigate to the **DiscovererConfig** node under **Application Defined MBeans, com.oracle, Server: <managed_server>, Application: discoverer, xml**.
3. In the **Attributes** pane on the right, enter the host name and port in the **Value** field of the **ApplicationURL** attribute, in the following format.

```
http://<host_name>:<port_number>/<root context>
```

Note: Discoverer applications might be hosted on a machine that is different from the machine through which users access the applications (for example, users might be accessing applications through an HTTP server). If this is the case, ensure that the URL that you specify corresponds to the host that is exposed to the users, and not the machine that actually hosts the applications.

4. Click **Apply**.

4.1.5 About the navigation pane in Fusion Middleware Control

The navigation pane enables you to navigate to the components of a farm that are managed by Fusion Middleware Control.

You can display or hide lower-level nodes in the navigation pane by clicking the plus (+) or minus (-) sign at each node. When you select a node in the navigation pane, Fusion Middleware Control displays the corresponding page in the right-hand pane.

Depending on the choices made during installation, the following components might be displayed as nodes in the navigation pane:

- **WebLogic Domain**

The domain in which Discoverer applications are deployed.

- **AdminServer**

The administration server of the domain in which Discoverer applications are deployed.

- **<cluster or managed server/s>**

The cluster or managed server/s on which Discoverer Java EE applications are deployed.

- **Discoverer**

- **discoverer(11.1.1.2.0)**

The Discoverer node (Select this node to display the Discoverer pages.)

Note: There could be multiple Discoverer deployment in a single domain, allowing users to navigate between the deployments by using the navigation tree.

- **Web Tier**

- **<ohs_name>**

The Oracle HTTP Server node (Select this node to configure SSL.)

- **<wc_name>**

The Oracle Web Cache node (Select this node to configure Web Cache settings.)

4.1.6 About using the Topology Viewer to view relationships between components in a Fusion Middleware Farm

The topology viewer provides a graphical, real-time view of the Fusion Middleware farm. The Farm Topology page provides you with a high-level view of the topology, including Oracle instances, WebLogic Server instances, Web servers, and deployed applications. Status and performance information is also displayed in context of the topology viewer. You can also print the topology or save it to a .png file.

To use the topology viewer to view the relationship between components in a Fusion Middleware farm:

1. Start Fusion Middleware Control and navigate to the Farm Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#).
2. To view the entire topology of the farm, click the **Topology** button. To view the topology for a specific node, select that node in the navigation pane and then click the **Topology** button.

For more information, see the *Oracle Fusion Middleware 2 Day Administration Guide*.

4.2 About using Fusion Middleware Control to manage Discoverer middle-tier components

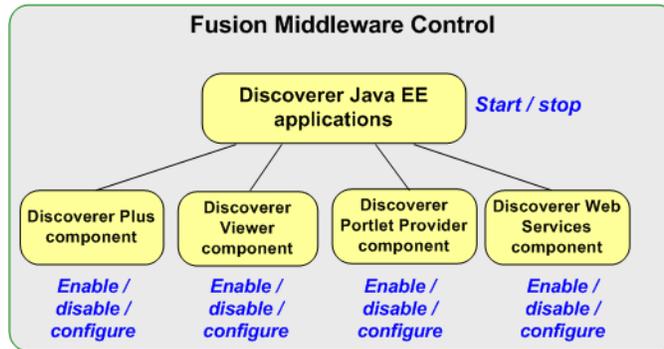
The main tasks that you perform by using Fusion Middleware Control are:

- Stopping and starting Discoverer Java EE applications. For more information, see [Section 4.4, "About starting and stopping Discoverer servlets"](#).
- Enabling and disabling Discoverer client-tier components. For more information, see [Section 4.5, "About enabling and disabling Discoverer client-tier components"](#).
- Configuring Discoverer client-tier components. For more information, see [Section 4.6, "About configuring the Discoverer middle-tier and client-tier components"](#).

- Monitoring Discoverer metrics. For more information, see [Section 4.7, "About monitoring Discoverer performance"](#).

Figure 4–2 depicts the management tasks that you can perform for Discoverer components by using Fusion Middleware Control.

Figure 4–2 Using Fusion Middleware Control to Manage the Discoverer Java EE Applications and Client-Tier Components



Notes

- Discoverer Portlet Provider and Discoverer Web Services are displayed only if the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer schemas. For more information, see [Section 1.3, "About Oracle BI Discoverer installations"](#).
- For more information about the Discoverer preferences server component, see [Section 1.9.2, "About the Discoverer CORBA components"](#).
- For more information about Discoverer client-tier components, see [Section 1.8, "About the Discoverer client tier"](#).

Role-based security for Discoverer configuration pages

Access permissions for configuration pages in Fusion Middleware Control are based on the security roles assigned to users.

Users who are assigned the following **logical** security roles can configure Discoverer by using Fusion Middleware Control:

- Admin
- Configurator
- ApplicationAdmin
- ApplicationConfigurator

All other users can only view the configuration pages in Fusion Middleware Control.

For the mapping between logical and WebLogic security roles, see "Mapping of Logical Roles to WebLogic Roles" in the *Oracle Fusion Middleware Application Security Guide*.

For information about assigning roles to users, see "Add users to roles" in the *Oracle WebLogic Server Administration Console Online Help*.

4.3 How to start, stop, and restart the Discoverer preferences server component using opmnctl

You might need to stop and restart the Discoverer preferences server component for maintenance (for example, when you apply a Discoverer patch. You can stop, start, and restart the Discoverer preferences server component by using **opmnctl** commands.

To stop, restart, or start the Discoverer preferences server component by using **opmnctl** commands:

1. At the command line, navigate to the **<ORACLE_INSTANCE>/bin** directory.
2. Enter the following command:
 - To **stop** the preferences server component: `opmnctl stopproc ias-component=Discoverer_<instance-name>`

Note: When you stop the Discoverer preferences server component, Discoverer continues to work using the current set of default preferences. Any changes made are valid only for the current session; changes to preferences made during the current session are lost when the session is closed.

- To **start** the preferences server component: `opmnctl startproc ias-component=Discoverer_<instance-name>`
- To **restart** the preferences server component: `opmnctl restartproc ias-component=Discoverer_<instance-name>`

4.4 About starting and stopping Discoverer servlets

You might need to stop and restart Discoverer servlets (to perform maintenance tasks for example). You can start and stop Discoverer servlets running on a standalone machine in an Oracle farm from any machine in the farm.

For more information about the Discoverer servlets, see [Section 1.9.1, "About the Discoverer Java EE applications"](#).

4.4.1 What happens when you start Discoverer servlets?

When you start the Discoverer Java EE applications:

- If all the Discoverer servlets are running, Discoverer Viewer, Discoverer Plus, Discoverer Portlet Provider, and Discoverer Web Services can connect to Discoverer sessions and serve requests. Users can, for example, open workbooks by using Discoverer Viewer, build worksheets by using Discoverer Plus, create portlets by using Discoverer Portlet Provider, and return data by using Discoverer Web Services).

The **Current Status** indicator is set to Up, showing that the Discoverer Java EE applications are running.

- If the Discoverer Java EE applications fail to start:
 - The **Current Status** indicator is set to Down, showing that the Discoverer Java EE applications are not running.

- Fusion Middleware Control displays an error message indicating why the Discoverer Java EE applications failed to start.

4.4.2 What happens when you stop Discoverer servlets?

When you stop the Discoverer Java EE applications:

- Discoverer Plus and Viewer users cannot access the Discoverer Plus and Viewer URLs and an information message is displayed informing users that the Discoverer Java EE applications are down (that is, a `No Response from Web Server`).
- Discoverer Portlet Provider users cannot publish new portlets, edit defaults, and customize or refresh portlets. An information message is displayed informing users that the Discoverer Java EE applications are down (that is, a `No Response from Web Server`).
- Discoverer servlets release system resources that they are using.
- Discoverer displays existing portlets in Oracle Portal pages by using cached data.
- All Discoverer sessions are terminated.
- The following processes are terminated (if running):
 - Discoverer Session
 - Discoverer Java EE applications
- Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services cannot connect to Discoverer sessions or serve requests (that is, users cannot open workbooks by using Discoverer Viewer, build worksheets by using Discoverer Plus, create portlets by using Discoverer Portlet Provider, or return data by using Discoverer Web Services).
- The **Current Status** indicator is set to Down, showing that the Discoverer Java EE applications are not running.
- If the Discoverer Java EE applications service fails to stop:
 - If all of the components are running, the **Current Status** indicator shows that the Discoverer Java EE applications are running.
 - If some (not all) of the components are running, the **Current Status** indicator shows that the Discoverer Java EE applications are in an unknown state.
 - Discoverer displays an error message indicating why the Discoverer Java EE applications failed to stop.

4.4.3 How to start and stop the Discoverer Java EE applications by using Fusion Middleware Control

To start and stop the Discoverer Java EE applications using Fusion Middleware Control:

1. Start Fusion Middleware Control and display the Farm Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#).
2. In the navigation pane, select the **WLS_DISCO** node.
3. From the **WebLogic Server** menu, select **Availability**, and do one of the following:

- To start the Discoverer servlets (Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services), click **Start Up**.
- To stop the Discoverer servlets, click **Shut Down**.

Note: Alternatively, you can start and stop Discoverer Java EE applications through the WebLogic Administration Console, by performing the following steps:

1. Start the WebLogic Administration Console by using the following URL:
`http://<host>:7001/console`
 2. Under **Domain Structure** in the left navigation pane, click **Deployments**.
 3. In the list of deployments, select the Discoverer row.
The **Start** and **Stop** buttons are enabled.
 4. Click the appropriate button, depending on whether you want to start or stop the applications.
-

4.4.4 About starting and stopping the Discoverer Java EE applications using WLST

You can use the WebLogic Scripting Tool (WLST) to start and stop Discoverer Java EE applications. For more information about using WLST commands, see the *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

4.5 About enabling and disabling Discoverer client-tier components

You might want to disable and enable Discoverer client-tier components (Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services) for the following reasons:

- To prevent new users from connecting to Discoverer
- To restrict access to Discoverer components

4.5.1 What happens when you enable and disable Discoverer client-tier components

When you **enable** Discoverer client-tier components,

- If Discoverer Java EE applications are running, the client-tier components continue normal operation.
- If Discoverer Java EE applications are not running, nothing happens immediately. When you start the Discoverer Java EE applications, the Discoverer client-tier components resume normal operation

When you **disable Discoverer Plus and Discoverer Viewer**,

- If Discoverer Java EE applications are not running, nothing happens.
- All existing Discoverer Plus or Discoverer Viewer sessions continue to run until users end their sessions.
- A message is displayed informing the Discoverer end user that the component is disabled.
- Requests for new user sessions are not accepted. Users whose sessions time out due to inactivity cannot continue to use Discoverer Plus or Discoverer Viewer.

Note: A user time out is determined differently between Discoverer Plus and Discoverer Viewer as follows:

- Discoverer Plus uses the server process to determine user time outs
- Discoverer Viewer uses the servlet to determine user time outs
- When a user attempts to access a Discoverer Plus or Discoverer Viewer URL, Discoverer displays an error message explaining that the service is unavailable.

When you **disable Discoverer Portlet Provider**,

- If Discoverer Java EE applications are not running, nothing happens.
- New Discoverer portlets cannot be added to Portal pages.
- A user cannot use the Edit Defaults option or the Customize option for existing portlets.
- If a user is editing defaults or customizing a portlet when the component is disabled, they can finish the task.
- Scheduled refreshes that are in progress can continue until they are complete. However, scheduled refreshes that have not yet started do not run until you enable the Portlet Provider component.
- If a user attempts to add a new portlet, edit defaults, or customize an existing portlet, Discoverer displays a message explaining that the service is not available.
- Discoverer continues to display data in existing Discoverer portlets using the last cached data.

4.5.2 How to disable Discoverer client-tier components

You might need to disable one or more Discoverer client-tier components to perform maintenance (for example, to apply a Discoverer patch, or to restrict user access to a Discoverer component).

To disable Discoverer client-tier components:

1. Display the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).
2. In the **Components** area, select the Discoverer component to disable.
For example, to disable Discoverer Plus, select the Discoverer Plus row.
3. Complete the following steps to disable the selected Discoverer component:
 - a. Click **Disable**.
Fusion Middleware Control displays a warning message.

- b. Click **Yes**.

Fusion Middleware Control displays a **Processing** message.

The **Status** column displays **Disabled** for the Discoverer component that you selected.

Note: Alternatively, click a link in the **Name** column to display the home page for the component you selected, and then click **Disable**.

4.5.3 How to enable Discoverer client-tier components

You might need to enable one or more Discoverer client-tier components after performing maintenance (for example, after you apply a Discoverer patch, or to enable user access to a Discoverer component).

To enable Discoverer client-tier components:

1. Display the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).
2. In the **Components** area, select the Discoverer component to enable.
For example, to enable Discoverer Plus, select the Discoverer Plus row.
3. Complete the following steps to enable the selected Discoverer component:
 - a. Click **Enable**.

Fusion Middleware Control displays a warning message.

- b. Click **Yes**.

The **Status** column displays **Enabled** for the Discoverer component that you selected.

Note: Alternatively, click a link in the **Name** column to display the home page for the component you selected, and then click **Enable**.

4.6 About configuring the Discoverer middle-tier and client-tier components

You use Fusion Middleware Control to configure options for the Discoverer middle-tier and client-tier components as follows:

- By using the **Discoverer** menu, you can perform the following tasks:
 - Manage public connections (that is, create, edit, and delete connections)
 - Enable users to create their own private connections
 - Configure logging level for Discoverer session processes
 - Select the user ID to be used in Virtual Private Database (VPD) policies
 - Configure logging level for Discoverer components
- By using the Discoverer component pages, you can perform the following tasks:
 - Specify the communication protocol, and look and feel settings for Discoverer Plus
 - Specify caching, delay time, printing, e-mail, PDF generation, Connection supported, and customization settings for Discoverer Viewer
 - Specify session, and generic parameter settings for Discoverer Portlet Provider (available if the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer database schemas).
 - Specify maximum number of sessions for Discoverer Web Services
- By using the System MBean Browser, advanced middle-tier administrators can specify values for Discoverer middle-tier configuration attributes.

For more information about configuring Discoverer and Discoverer component options, see:

- [Section 4.6.1, "How to configure Discoverer client-tier components"](#)
- [Section 4.12, "Configuring Discoverer using the System MBean Browser"](#)

4.6.1 How to configure Discoverer client-tier components

To change configuration options for individual Discoverer client-tier components:

1. Display the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).
2. In the **Components** area, in the **Name** column, select the link for the Discoverer component to configure.

For example, select the Discoverer Plus link to display the Home page for Discoverer Plus.

Fusion Middleware Control displays the home page for the component you selected.

3. On the home page, click **Configure** to display the configuration page for that component.
 - The **Discoverer Plus Configuration** page has the following options:
 - The **Look and Feel** and **Logo** regions enable you to change these settings for Discoverer Plus and Discoverer Plus OLAP. For more information, see [Section 8.1, "Customizing the Discoverer Plus LAF"](#).
 - The **Communication Protocols** region enables you to specify either the JRMP, HTTP, or HTTPS protocol. For more information, see [Section 13.6.3.1, "About specifying a Discoverer Plus communication protocol"](#).
 - The **Discoverer Viewer Configuration** page has the following options:
 - The **UseWebCache** check box lets you enable and disable Web Cache.
 - The **Viewer Delay Times** region enables you to specify how long to wait before Discoverer Viewer displays a query progress page, or the frequency for checking for export completion.
 - The **Email** region enables you to specify an SMTP server for sending e-mail, maximum attachment size, and timeout setting. For more information, see [Section E.11, "Configuring a SMTP Server for Discoverer Viewer"](#).
 - The **Printer Paper Sizes** region enables you to specify paper sizes available for printing.
 - The **PDF Generation** region enables you to specify a PDF resolution, maximum memory, and maximum users settings.
 - The **Discoverer Portlet Provider Configuration** page has the following options:
 - The **Discoverer Session** region enables you to fine-tune the caching for Discoverer portlets, to maximize Discoverer performance.

- The **Portlet Generic Parameters** region enables you to specify the number of generic parameters that you want the Discoverer Worksheet Portlet to expose.
- The **Discoverer Web Services Configuration** page enables you to set the maximum number of concurrent Discoverer sessions.

Note: For more information about configuration fields, see *Fusion Middleware Control Help*. You can also find more information about settings in [Section A.2, "Configuration settings in configuration.xml"](#) and in [Section 10.3.12, "How to improve Discoverer Portlet Provider performance"](#).

4. Modify the configuration options as required.

For more information about each option, see *Fusion Middleware Control Help*.

5. Click **Apply** to save the changes you have made.

Configuration changes take effect the next time Discoverer users log in to Discoverer. You do not have to restart the Discoverer Preferences server component or the Discoverer servlets.

4.7 About monitoring Discoverer performance

As the Discoverer middle-tier administrator, you might want to analyze system performance by monitoring several metrics. The Metrics enable you to easily compare the total resources used by Discoverer with other installed applications and services.

You can use Fusion Middleware Control to monitor the following Discoverer performance metrics:

- Current status
- Memory usage
- CPU usage
- Session information

You can view the Discoverer performance of all Discoverer client-tier components or of an individual component.

Note: Metrics displayed on the Fusion Middleware Control page are based on a snapshot of performance and do not get updated automatically. To get up-to-date metrics, refresh the Web page.

4.7.1 How to monitor performance of all Discoverer client-tier components

To monitor performance metrics for all Discoverer client-tier components:

1. Go to the Fusion Middleware Control Discoverer home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).

The Fusion Middleware Control Discoverer home page displays the following performance information:

- Session CPU and memory usage for each Discoverer component
- A chart showing total memory usage

Note the following:

- The CPU and memory consumption of the Discoverer servlets are not shown here.
 - If the current status is **Disabled**, Fusion Middleware Control does not display figures for **CPU Usage** and **Memory Usage**.
2. (optional) From the **Discoverer** menu, select **Monitoring** and then **Performance** to display the **Performance Summary** page.

The **Performance Summary** page contains charts for selected performance metrics. To add or remove metrics in the **Performance Summary** page, click the **Show Metric Palette** button. Then, in the **Metric Palette**, select or deselect the metric to add or remove. For example, in the Metric Palette, if you click the **Response** folder and select the **UpDown Status** check box, a new chart is displayed in the **Performance Summary** page showing the value of the UpDown Status Response metric.

3. (optional) From the **Discoverer** menu, select **Monitoring**, and then **Sessions**, to display the **Discoverer Sessions** page.

The **Discoverer Sessions** page shows a list of current sessions, determined by the search criteria specified in the **Search** field.

For more information about the Discoverer session details displayed on this page, see *Fusion Middleware Control Help*.

4. (optional) Click a file icon in the **View Log** column to go to the **Log Messages** page.

The **Log Messages** page enables you to display log details for the selected Discoverer session.

4.7.2 How to monitor performance of a single Discoverer client-tier component

You might want to monitor metrics for a single Discoverer component. For example, you might want to find out the number of sessions currently used by Discoverer Plus users when compared with the number of sessions used by Discoverer Viewer users.

To monitor performance metrics for a single Discoverer client-tier component:

1. Go to the Fusion Middleware Control Discoverer Home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).
2. In the **Name** column of the **Components** area, select the **Discoverer** link for the component to monitor.

Fusion Middleware Control displays the home page for the Discoverer component that you selected.

The home page of each Discoverer component shows CPU and memory usage performance charts for that component. These charts are similar to the charts displayed on the Fusion Middleware Control Discoverer home page, except that the performance information is now specific to a Discoverer component.

3. (optional) From the **Discoverer** menu, select **Monitoring**, and then **Sessions**, to display the **Discoverer Sessions** page.

The **Discoverer Sessions** page shows a list of current sessions, determined by the search criteria specified in the **Search** field.

For more information about the Discoverer session details displayed on this page, see *Fusion Middleware Control Help*.

Notes

- CPU and memory usage of the Discoverer servlets (that is, Discoverer Viewer, Plus and Portlet Provider servlets) are not shown in the charts.
- If the current status is **Disabled**, Fusion Middleware Control does not display charts for **CPU Usage** and **Memory Usage**.
- Discoverer Plus OLAP connects directly the database, and does not create sessions on the middle tier.

4.8 How to view ports used by Fusion Middleware

Discoverer uses the same listen ports as the Oracle HTTP Server (`http_main` or `http_ssl`).

To view the ports used by Fusion Middleware:

1. Start Enterprise Manager Fusion Middleware Control and display the Farm Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Oracle HTTP Server node in the navigation pane.
3. From the **Oracle HTTP Server** menu, select **Port Usage**.

The port number is displayed in the **Port in Use** column (for `http_main` and `http_ssl`).

Note: You can also view the port numbers by using the topology viewer. In the Topology Viewer, right-click the node for which you want to find out port numbers and select **Port Usage**.

4.9 How to change the port on which Discoverer is deployed if Web Cache is not configured

Note: For information about deploying Discoverer when Web Cache is configured, see [Section 6.5, "How to configure Discoverer with load balancing using Oracle Web Cache"](#).

To change the port on which Discoverer is deployed:

1. Start Enterprise Manager Fusion Middleware Control and go to the Fusion Middleware Control Farm Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the `ohs1` node in the navigation pane.
3. Change the port number, as described in the "Using Fusion Middleware Control to Edit Ports" section of the *Oracle Fusion Middleware Administrator's Guide for Oracle HTTP Server*.

If you change a Discoverer port number, ensure that other Fusion Middleware components that use that Discoverer port number are synchronized.

4.10 About running Discoverer Plus with different Java Virtual Machines

Discoverer Plus supports the Sun Java Plug-in JVM:

You might want to change the JVM in the following circumstances:

- To use a newer version of the JVM to improve performance
- If a different JVM is installed and you want to use that JVM
- To deploy Discoverer Plus on a non-Windows browser that requires a different JVM

Note: If you use a different JVM, you must ensure that it is certified to work with Oracle Business Intelligence.

You can specify a different JVM in the following ways:

- Edit the `<jvm name = "sun" ...>` entry by using the System MBean Browser in Fusion Middleware Control.
 1. Start the System MBean Browser and navigate to the **Discoverer PlusConfig** node.
For more information about using the System MBean Browser, see [Section 4.12, "Configuring Discoverer using the System MBean Browser"](#).
 2. Edit the `<jvm name = "<plug-in_name>" ...>` attribute value.
Specify details for the new JVM.
The specified JVM is now be available to use for Discoverer Plus sessions.
- Edit the `configuration.xml` file directly.

4.11 Configuring Discoverer to export to Web Query format

Microsoft Excel Web Query is an external data format in Microsoft Excel that enables you to include dynamic data from a URL (for example, a Discoverer worksheet) in a Microsoft Excel worksheet. For example, you might want to create a Microsoft Excel worksheet that contains a Discoverer sales report for a range of dates that you specify when you open the worksheet in Microsoft Excel. The Microsoft Excel worksheet stores the query used to obtain the Discoverer data, so that the data can be refreshed automatically.

You can export data to Web Query format from Discoverer Plus and Discoverer Viewer.

Note: To access Discoverer data in Web Query format, you need Microsoft Excel 2000 or later.

Discoverer enables Microsoft Excel Web Query format by default using the default Discoverer URL: `http://machine-name:port/discoverer/viewer`. If you want to disable Microsoft Excel Web Query format or change the Discoverer URL, you must add the following preferences to the `pref.txt` file on each Discoverer host:

- `ExportToWebquery=<0 or 1>`
- `WebQueryBaseURL=<Discoverer URL>`
- `EnableWebqueryRun=<0 or 1>`

Note: The `EnableWebqueryRun` preference enables you to turn the Discoverer response on or off when a query is run in Microsoft Excel.

For more information about preferences, see [Chapter 9, "Managing Oracle BI Discoverer Preferences"](#).

Notes

- If export to Web Query is enabled in Discoverer, when Discoverer end users export worksheets they see the Web Query option (**Web Query for Microsoft Excel (*.iqy)**) in the list of export types.
- If Discoverer end users open an exported file, Microsoft Excel uses the IQY file to create an XLS file. If Discoverer end users save the exported file after the export, they get an IQY file that is converted to an XLS file when they next open the IQY in Microsoft Excel. To display a prompt to either save or open the Web Query file, Discoverer end users must do the following on their machine:
 1. Start Windows Explorer.
 2. Display the **Folder Options** dialog (for example, choose **Folder Options** from the **Tools** menu).
 3. Select the **File Types** tab.
 4. Select **IQY Microsoft Excel Web Query File**; then, click **Advanced**.
The **Edit File Type** dialog is displayed.
 5. Select the **Confirm open after download** check box.
 6. Click **OK** to save the settings.
- Exporting to Microsoft Excel Web Query format is not possible for users accessing Discoverer through Single Sign-On. You must disable Single Sign-On if you want Discoverer end users to be able to export to Web Query format. For more information, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer."](#)
- Due to a limitation in Microsoft Excel, when Microsoft Excel end users enter a database password or Oracle e-Business Suite password, the password is displayed in readable text rather than with asterisks.
- The maximum length for dynamic prompts in Microsoft Excel is 257 characters. When you define dynamic prompts for parameters in Discoverer Plus, do not exceed the 257-character limit.
- Graphics bars are not exported to Microsoft Excel.
- In Microsoft Excel, worksheet data is formatted by using the left-to-right HTML tag (**LTR**). Microsoft Excel does not support the right-to-left HTML tag (**RTL**).
- Due to a limitation in Netscape Navigator, when you export a Discoverer worksheet to Web Query format, Netscape Navigator might not launch Microsoft Excel within the browser. In this scenario, run Microsoft Excel separately and open the exported Web Query file.
- If you delete a Discoverer workbook that has been exported to Web Query format while its export file is open in Microsoft Excel, Excel can continue to access the deleted workbook until the Microsoft Excel session is restarted.
- Discoverer users using a public connection do not get the **Do you want to prompt Excel users for connection information?** option when they use the Discoverer Export Wizard. A Microsoft Excel end user accessing this exported query file is always prompted for a database password. In other words, the Discoverer user must provide the public connection password to Microsoft Excel end users who want to access the data.

- Due to limitations in Microsoft Excel, the exported font size for headings and data might be reduced from the original size specified in the worksheet.
- For negative numbers formatted to be displayed with angle brackets (for example, <1, 234>) in Discoverer, the angle brackets are omitted in Microsoft Excel.

4.12 Configuring Discoverer using the System MBean Browser

The System MBean Browser is a part of Fusion Middleware Control, and is used to update configuration settings for middle-tier components. You can use the System MBean Browser to enter or modify Discoverer configuration settings that are not available in Fusion Middleware Control Discoverer pages.

Note: You should not use the System MBean Browser unless you are an advanced middle-tier administrator.

To modify Discoverer configuration settings by using the System MBean Browser:

1. Start Enterprise Manager Fusion Middleware Control and navigate to the Farm Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#).
2. Navigate to the **WLS_DISCO** node.
3. From the **WebLogic Server** menu, select **System MBean Browser**.
Fusion Middleware Control displays the **System MBean Browser** page.
4. Click the plus (+) symbol to the left of the appropriate node in the navigation tree, and drill down to the specific MBean to modify.

The navigation tree expands to display links for viewing or updating settings. Each node in the navigation tree represents settings in a configuration file.
5. Click a node in the navigation tree and select the **Attributes** tab, to display the details for a group of attributes.

For example, click the **PlusConfig** node and the **Attributes** tab to display attributes for Discoverer Plus configuration settings.
6. Update values of the attributes to modify by entering the new value in the **Value** field.
7. Click **Apply**.

4.13 Limiting the Number of Sessions for a Discoverer User

The Discoverer administrator can limit the number of concurrent sessions for a Discoverer user by using the database profiles.

To limit the number of sessions for a Discoverer user, login to the database as database administrator (SYSDBA) and execute the following SQL queries:

1. Create a new user profile as follows:

```
create profile new_profile-name limit sessions_per_user number_of_sessions;
```
2. Associate the Discoverer user to the new user profile by executing the following SQL statement:

```
alter user discoverer_user profile new_profile-name;
```

3. Enforce resource limits assigned to the Discoverer user by setting the `resource_limit` parameter to `true` as follows:

```
alter system set resource_limit=true scope=both;
```

For example, if you want to set the maximum number of concurrent sessions for the user `discol` to two sessions, execute the following SQL statements:

```
create profile db_limit_user limit sessions_per_user 2;  
alter user discol profile db_limit_user;  
alter system set resource_limit=true scope=both;
```

where `db_limit_user` is the new user profile associated with the Discoverer user `discol`.

Configuring Discoverer Plus OLAP

This chapter describes how to configure the Discoverer Catalog and Discoverer Plus OLAP, and includes the following topics:

- [Section 5.1, "Overview of the Discoverer Catalog"](#)
- [Section 5.2, "Maintaining the Discoverer Catalog"](#)
- [Section 5.3, "Maintaining authorized users and roles for the Discoverer Catalog"](#)
- [Section 5.4, "Customizing the look and feel of Discoverer Plus OLAP"](#)
- [Section 5.5, "Information to be provided to end users"](#)
- [Section 5.6, "Configuration diagnostic utility for Discoverer Plus OLAP"](#)
- [Section 5.7, "URL parameters for the Discoverer Plus OLAP"](#)
- [Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"](#)
- [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog"](#)

For information on Discoverer Plus OLAP, see the following documentation:

- *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*
- *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*
- *Oracle Fusion Middleware Control Online Help*
- *Discoverer Plus OLAP Help*

5.1 Overview of the Discoverer Catalog

Discoverer Plus OLAP is installed automatically when you install Discoverer Plus. Discoverer Plus OLAP depends on the Discoverer Catalog to store the objects that users need for analyzing data. The Discoverer Catalog is not installed automatically. Instead, you use Fusion Middleware Control to install and manage the Discoverer Catalog.

Note: You need the Discoverer Catalog, only if you intend to use Discoverer Plus OLAP.

Tip: When end users run Discoverer Plus Relational, they use the EUL, which is described elsewhere in this guide. When they run Discoverer Plus OLAP, they do not use the EUL; rather, they use the Discoverer Catalog.

5.1.1 What is the Discoverer Catalog?

The Discoverer Catalog is a repository for storing and retrieving definitions of objects for Discoverer Plus OLAP. There is one Discoverer Catalog per database. The Discoverer Catalog can also be used by applications that are built with Oracle Business Intelligence Beans (BI Beans). With Discoverer Plus OLAP, end users store in the Discoverer Catalog objects such as workbooks, calculations, and saved selections and share objects with others who have access to the Discoverer Catalog. In a BI Beans application, a user can create a graph and store it in the Discoverer Catalog. If another user has appropriate access, that user can retrieve the graph that was stored in the Discoverer Catalog and insert the graph into a new worksheet in Discoverer Plus OLAP. Oracle Business Intelligence creates a new user on the Oracle Business Intelligence middle tier installation called D4OSYS to hold the Discoverer Catalog.

The Discoverer Catalog provides security at the object level, by allowing users and system administrators to specify privileges for certain objects. The objects are saved in the Oracle database in XML format.

Note: Do not confuse the Discoverer Catalog, which contains object definitions, with the OLAP Catalog.

5.1.2 What is the OLAP Catalog?

The OLAP Catalog defines logical multidimensional objects that can be mapped either to columns in the tables of a star or snowflake schema or to multidimensional objects in an analytic workspace. Each database instance contains only one OLAP Catalog.

An analytic workspace stores multidimensional data objects and procedures that are written in the OLAP DML. The OLAP DML is a data manipulation language that is understood by the Oracle OLAP calculation engine. The OLAP DML extends the analytic capabilities of querying languages such as SQL and the OLAP API to include forecasting, modeling, and what-if scenarios.

For more information, see *Oracle OLAP Reference*.

5.1.3 What properties can objects in the Discoverer Catalog have?

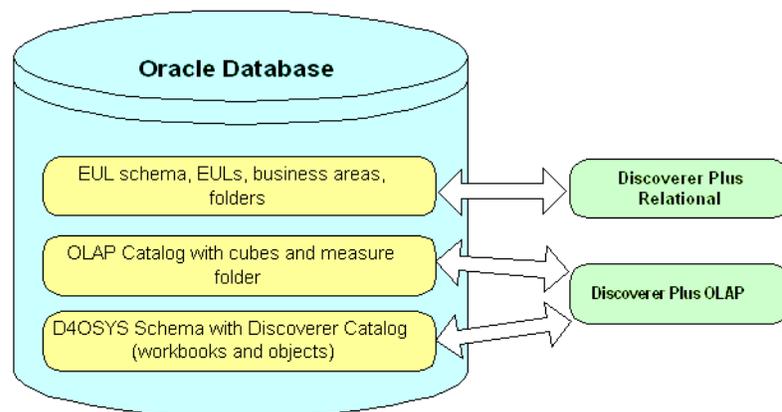
The objects in the Discoverer Catalog contain numerous properties. The Name, Description, and Keywords properties can be modified by end users. The Created On, Created By, Modified On, Modified By, and Type properties cannot be modified by users. The values of these properties are assigned by Discoverer Plus OLAP.

5.1.4 What is the architecture of the Discoverer Catalog?

The Discoverer Catalog exists in the Oracle database, along with the OLAP Catalog and the EUL schema. The following list describes how Discoverer Plus Relational and Discoverer Plus OLAP access these pieces:

- Discoverer Plus Relational accesses data and workbooks from the EUL. The database contains multiple EULs, business areas, and folders.
- Discoverer Plus OLAP accesses data from the OLAP Catalog and accesses workbooks and related objects from the Discoverer Catalog. The OLAP Catalog contains the Measures folder and cubes of OLAP data. The D4OSYS schema holds the Discoverer Catalog and its objects (workbooks, calculations, saved selections, and so on).

Figure 5–1 provides a visual representation of this architecture.

Figure 5-1 Discoverer Catalog architecture

5.1.5 Differences between the Discoverer Catalog and the BI Beans Catalog

The objects in the Discoverer Catalog can be used by BI Beans applications. However, the Discoverer Catalog does differ from the BI Beans Catalog, as described in the following list:

- The BI Beans Catalog stores many kinds of objects. The Discoverer Catalog stores only folders, workbooks, saved selections, calculations, shortcuts, user preferences, and formats.
- You can have only one Discoverer Catalog per database instance, but you can have multiple BI Beans Catalogs per database instance. The Discoverer Catalog resides in its own schema called D4OSYS. The objects in the Discoverer Catalog refer only to OLAP metadata objects in the same database instance.
- The BI Beans Catalog stores user and role information in itself. The Discoverer Catalog obtains user and role information from the database. The database users and roles must be authorized to use the Discoverer Catalog through the assignment of the D4OPUB role.
- The BI Beans Catalog does not provide user management, so application developers must manage users themselves. The Discoverer Catalog provides powerful user management features.
- BI Beans offers the use of a remote Catalog and a local, or file-based, Catalog. The Discoverer Catalog functions the same as a BI Beans remote Catalog. Searching of the Discoverer Catalog is not exposed in Discoverer Plus OLAP in the current release but is available in Discoverer Viewer.

See the BI Beans Help system for complete information on the BI Beans Catalog.

5.2 Maintaining the Discoverer Catalog

You can use Fusion Middleware Control or the Discoverer Plus OLAP command line utility to maintain the Discoverer Catalog.

You perform tasks such as installing, uninstalling, exporting, and importing the Discoverer Catalog and maintaining authorized users and roles. In Fusion Middleware Control or the Discoverer Plus OLAP command line utility, you do not create, delete, rename, copy, or move objects or folders for the Discoverer Catalog. Users perform these tasks in Discoverer Plus OLAP. Users also do not perform these tasks in Viewer; there, users simply save objects to the Discoverer Catalog.

5.2.1 Database privileges assigned to the D4OSYS user

When you install the Discoverer Catalog, you log in as a DBA user and you create the D4OSYS user, who has the following characteristics:

- Is the administrator of the Discoverer Catalog.
- Has the following roles: OLAP_DBA, RESOURCE, and CONNECT.
- Authorizes Discoverer Catalog users and assigns roles to users.
- Has Full Control privileges on all folders and objects in the Discoverer Catalog.

5.2.2 Installing a Discoverer Catalog

When you install a Discoverer Catalog, a D4OSYS user is created automatically; the D4OSYS schema is populated with the schema objects required for workbooks, worksheets, and other objects in Discoverer Plus OLAP.

Note: If you are using Oracle OLAP 11g, you must certify Discoverer Plus OLAP with the 11g database instance as described in [Section 5.2.2.2, "Certifying Discoverer Plus OLAP with Oracle Database 11g Release 2 \(11.2\)"](#).

When you log in to install the Discoverer Catalog, you are prompted to create the password for the D4OSYS user. You are the only person who knows the password, so store it in a secure location.

To install the Discoverer Catalog:

1. Use the database management tools in Fusion Middleware Control to create a tablespace into which you will install the Discoverer Catalog.
Ensure that the tablespace has the appropriate block size, as described in [Section 5.2.2.1, "Checking the block size when installing the Discoverer Catalog."](#)
2. Go to the Fusion Middleware Control Discoverer Home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
3. From the **Discoverer** menu, select **Catalog**, and then select **Install**.
The **Install Catalog** page is displayed.
4. Enter the host name, port number, and SID of the database in which you want to install the Catalog.

Note: You can specify the complete JDBC connect string in the **Host** field, in the following format:

```
jdbc:oracle:thin:@HOST:PORT:SID
```

If you specify the complete JDBC connect string in the **Host** field, then leave the **Port** and **SID** fields blank.

5. Enter the DBA user name of "system" and the appropriate password.
Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or higher).

6. Click Continue.

If a Discoverer Catalog already exists in the specified database, a warning message is displayed indicating that if you proceed with the installation process, the existing Catalog will be overwritten.

7. Click Yes to proceed.

The **Install Catalog: D4OSYS Details** page is displayed.

8. Enter the password that you want to use for the D4OSYS user. In the Tablespace field, select the tablespace into which you want to install the Discoverer Catalog. You created this tablespace in step 1.**9. Click Finish.**

A window is displayed prompting you to confirm whether you want to install the Discoverer Catalog.

10. Click Yes to complete the installation process.

Note: Alternatively, you can install the Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog."](#)

5.2.2.1 Checking the block size when installing the Discoverer Catalog

An analytic workspace has a recommended 8-KB block size; so you might want to use that specification for the block size of the tablespace into which you install the Discoverer Catalog. Depending on requirements such as the character set in use, however, the block size may need to be changed.

When creating a custom tablespace with an 8-KB block size, specify 8192 as the block size value.

If the block size is not large enough, you might see an error message such as the following one when you try to install the Discoverer Catalog:

```
oracle.dss.d4o.administration.D40InstallationException: D40-1125
Post-install verification failed, not all Discoverer Catalog
objects are installed. Expected xx, found yy.
```

xx represents the number of objects expected.

yy represents the number of objects found.

This error message indicates that, during the creation of the Discoverer Catalog, an attempt was made to create an index using a key size that is larger than the maximum allowed value. The index key size is limited by the value of the block size for the database or for the tablespace, because a key value cannot span multiple blocks.

Tip: Ask your database administrator for information about the block sizes of tablespaces and of the database.

5.2.2.2 Certifying Discoverer Plus OLAP with Oracle Database 11g Release 2 (11.2)

To certify a Discoverer Plus OLAP installation with Oracle Database 11.2, perform the following steps:

1. After installing Oracle Database 11.2, download and install the latest Oracle OLAP patches from My Oracle Support.

Note: To download patches, log in to **My Oracle Support** and select **Patches & Updates**.

2. To connect an OLAP 10.2 analytic workspace to a Oracle Database 11.2 instance, set either of the following modes:

- SupportMTM = FALSE, MetadataReaderMode = DEFAULT

Run the following script:

```
alter system set "_xsolapi_support_mtm" = FALSE scope=spfile;
alter system set "_xsolapi_metadata_reader_mode"="DEFAULT"
```

In this mode, you can either connect to OLAP 10g or OLAP 11g analytic workspaces, but you should apply the naming rules for the OLAP 11g objects to avoid naming conflicts. To connect to OLAP 10g analytic workspaces in this mode, you should run the `INITIALIZE_CUBE_UPGRADE` PL/SQL procedure for the schema. This procedure generates a table that maps old OLAP 10.2 objects to the corresponding OLAP 11.2 object names. The OLAP API uses this mapping to enable OLAP 10.2 analytic workspaces to work with the OLAP 11.2 metadata reader logic. For more information about executing the `INITIALIZE_CUBE_UPGRADE` PL/SQL procedure, see *Oracle Database PL/SQL Packages and Types Reference*.

- SupportMTM = TRUE, MetadataReaderMode = 10_ONLY

Run the following script:

```
alter system set "_xsolapi_support_mtm" = TRUE scope=spfile;
alter system set "_xsolapi_metadata_reader_mode"="10_ONLY"
```

In this mode, you can connect only to OLAP 10g analytic workspaces. The 11g naming rules need not be applied here.

5.2.3 Uninstalling a Discoverer Catalog

When you uninstall a Discoverer Catalog, the D4OSYS user and the D4OPUB role are removed from the database. As a result, all workbooks, saved selections, and other objects that were created by Discoverer Plus OLAP are also removed. If you want to save these objects, then export the Discoverer Catalog before uninstalling it.

To uninstall the Discoverer Catalog:

1. Go to the Fusion Middleware Control Discoverer Home page.

For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

2. From the **Discoverer** menu, select **Catalog**, and then select **Uninstall**.

The **Uninstall Catalog** page is displayed.

3. Enter the host name, port number, and SID for the database, the DBA user name and password, and the D4OSYS password. Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or later).

4. Click **OK**.

A warning that the Discoverer Catalog will be uninstalled is displayed.

5. Click **OK** to complete the uninstallation process.

Note: Alternatively, you can uninstall a Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog."](#)

5.2.4 Exporting a Discoverer Catalog

You can export the entire contents of a Discoverer Catalog when you want to perform a backup or to migrate to a new version. The format of the exported file is PXIF (Persistence XML Interchange File). The exported XML file contains information about folder organization, object definitions, properties, and privileges.

To export a Discoverer Catalog:

1. Go to the Fusion Middleware Control Discoverer Home page.

For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

2. From the **Discoverer** menu, select **Catalog**, and then select **Manage**.

The **Manage: Discoverer Plus OLAP Login** page is displayed.

3. Enter the host name, port number, and SID for the database, and the D4OSYS password. Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or later).

4. Click **Login**

The **Manage Catalog** page is displayed.

5. Click **Export**.

The **File Download** dialog is displayed.

6. Click **Save**.

The **Save As** dialog is displayed.

7. Specify a location and file name for the exported file, and then click **Save**.

Note: Alternatively, you can export a Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog."](#)

5.2.5 Importing a Discoverer Catalog

When you are migrating to a new version of the Discoverer Catalog or restoring from a backup, you can import a Catalog.

Notes

- You can import only from a file that was created through the export of a Discoverer Catalog or BI Beans Catalog.
- The import process adds new objects and overwrites existing objects with the same name.
- Objects in the exported file and the imported Discoverer Catalog must have access to the same OLAP schemas and metadata.

- You import the entire contents of an exported file, if the same users are authorized in the target Catalog as were authorized in the exported Catalog. You import object definitions, but you do not import user definitions. Therefore, if you import from a file that contains objects that are owned by a user who is not authorized to use the target Catalog, then that user's objects are not imported.
- When you import catalog contents from one Discoverer Catalog to another, all path names of the exported objects (workbooks, calculations, and saved selections) are preserved in the catalog. Because most objects are stored in the `Users/username` folder or the `Shared/username` folder, it is important that these folders exist. Therefore, to facilitate a successful import, ensure that all users exist in the target environment before the import.

For any users that do not exist in the target environment, you must create them with the database administration tools and authorize them using the Discoverer Administration tools.

To import a Discoverer Catalog:

1. Go to the Fusion Middleware Control Discoverer Home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
2. From the **Discoverer** menu, select **Catalog**, and then select **Manage**.
The **Manage: Discoverer Plus OLAP Login** page is displayed.
3. Enter the host name, port number, and SID for the database, and the D4OSYS password. Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or later).
4. Click **Login**.
The **Manage Catalog** page is displayed.
5. Click **Import**.
The **Import Catalog** window is displayed.
6. Specify the file name of the previously exported or backed up Catalog that you want to import.
7. Click **Import**.

Note: Alternatively, you can import a Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog"](#).

5.3 Maintaining authorized users and roles for the Discoverer Catalog

When you authorize users and roles for the Discoverer Catalog, you do not create new users or roles. Instead, you authorize existing database users and roles to access the Discoverer Catalog. Authorized users log in to Discoverer Plus OLAP using their database user names. When you authorize users and roles for the Discoverer Catalog through Fusion Middleware Control, the users and roles are automatically assigned the D4OPUB role.

5.3.1 Characteristics of the folder structure of the Discoverer Catalog?

After users and roles are authorized, they can create folders within the existing folder structure of the Discoverer Catalog (using Discoverer Plus OLAP). The folder structure has the following characteristics:

- The folder structure is created automatically when you install the Discoverer Catalog.
- Folders for each user and role are created automatically within the structure when users and roles are authorized.
- The folder structure was designed so that users can quickly store and find their own objects, but the structure also allows for sharing of objects.

5.3.2 Folders in the structure

The structure of the Discoverer Catalog consists of one root folder that contains the following main folders:

- **Users**

The Users folder contains a subfolder for each user or role that is authorized to use Discoverer Plus OLAP and is intended to store that user's or role's private objects. This subfolder is named with the user or role name, in all uppercase letters. Initially, each user's and role's subfolder contains no other subfolders, but users can create subfolders to suit their needs using Discoverer Plus OLAP. Each user or role has Full Control privileges on his or her subfolder. The D4OSYS user has Full Control privileges over the Users folder and all of its subfolders. No other users or roles have any privileges on the subfolders that belong to other users or roles.

- **Shared**

The subfolders in the Shared folder enable sharing of objects among users of Discoverer Plus OLAP. The Shared folder contains a subfolder for each user or role that is authorized to use Discoverer Plus OLAP. Initially, each user's and role's subfolder contains no other subfolders. Users can create subfolders to suit their needs using Discoverer Plus OLAP, because they have Full Control privileges for their own subfolders.

Each user and role has Read privileges on all other subfolders under the Shared folder, because the D4OPUB role has Read privileges and all Discoverer Plus OLAP users have the D4OPUB role. A user can give other users and roles Write privileges on the subfolders in that user's or role's Shared subfolder. The D4OSYS user also has Full Control privileges over the Shared folder and all of its subfolders.

5.3.3 Types of privileges for objects and folders

The following list describes the privileges that are available for objects and folders in the Discoverer Catalog. Note that users can also have no privileges on certain objects and folders.

- **Add to Folder:** Enables you to view the contents of a folder, to open a folder and the objects in it, and to create a folder or object (applies to folders only).
- **Full Control:** Enables you to change privileges on a folder or object and to create or change the folder or object.
- **List:** Enables you to view the contents of a folder (applies to folders only).
- **Read:** Enables you to open a folder or object.

- Write: Enables you to create, delete, or change a folder or object.

Privileges are cumulative. That is, the higher-level privileges inherit the controls of the privileges lower in the list. For example, the Write privilege inherits the controls of Read, List, and so on.

If a certain privilege is not applicable, then the next privilege down in the list is acquired. For example, suppose you have Write privileges on a folder on which the user that is named "Sam" has List privilege (which applies only to folders). You create an object in that folder. The user "Sam" acquires the privilege below the List privilege on that object, which is no privileges, so the user "Sam" cannot even see the object.

5.3.4 Managing privileges as the D4OSYS user

End users have Full Control privileges on all folders and objects in their `Users/username` folder and on the `Shared/username` folder, if they have been assigned that role. The D4OSYS user has Full Control privileges on the `Shared` folder and on the `Users` folder and on all their subfolders and objects.

While the D4OSYS user can change the default privileges that are assigned to all folders and objects when the Discoverer Catalog is installed, such practice is not recommended. Similarly, users could invoke their Full Control privileges to reduce the privileges of the D4OSYS user. Such practice is strongly discouraged, because it prevents the D4OSYS user from backing up users' objects.

5.3.5 Ensuring that users can use Discoverer Plus OLAP

In order for a user to run Discoverer Plus OLAP, that user must meet the following criteria:

- Has an account on the database on which the Discoverer Catalog is installed.
- Is assigned the D4OPUB role; that is, must be authorized to use Discoverer Plus OLAP on that database, as described in [Section 5.3.6, "Authorizing user and role access to the Discoverer Catalog"](#).
- Is authorized to use the OLAP measures that the user needs, which requires that the user meet the following criteria:
 - Has been assigned the OLAP_USER role, which is inherited by the D4OPUB role.
 - Has access to the OLAP data, which is controlled by the Oracle OLAP database administrator.

Note: You cannot use Discoverer Plus OLAP with Oracle e-Business Suite security.

In addition, you must ensure that the **Allow users to create their own connections in Discoverer Plus and Discoverer Viewer** check box is not cleared in the Discoverer Administration page in Fusion Middleware Control. When this box is cleared, private connections are not available. Discoverer Plus OLAP requires private connections, as described in [Section 5.3.8, "Using private versus public connections when accessing OLAP data"](#).

For more information about assisting end users, see [Section 5.5, "Information to be provided to end users"](#)

5.3.6 Authorizing user and role access to the Discoverer Catalog

You authorize users and roles to log in to Discoverer Plus OLAP on a particular database. When you authorize a user or role directly, that user or role is immediately

assigned the D4OPUB role and folders are created in the Users and Shared folders with the appropriate privileges. If you assign the D4OPUB role indirectly through another role, then the user and folders are added to the Discoverer Catalog when the user next connects.

To authorize a user or role to access the Discoverer Catalog:

1. Go to the Fusion Middleware Control Discoverer Home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
2. From the **Discoverer** menu, select **Catalog**, and then select **Manage**.
The **Manage: Discoverer Plus OLAP Login** page is displayed.
3. Enter the host name, port number, and SID for the database, and the D4OSYS password. Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or later).
4. Click **Login**.
The **Manage Catalog** page is displayed.
5. Click **Authorize Users**.
The **Authorize Users** window is displayed.
6. In the **Available Users and Roles** list, select the users and roles that you want to authorize.
7. Click **Move**.
The selected users and roles move from the **Available Users and Roles** list to the **Selected Users and Roles** list.
8. Click **OK**.

Note: Alternatively, you can authorize user and role access to the Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog"](#).

5.3.7 Revoking user or role access to the Discoverer Catalog

When you revoke access, the following steps are performed:

- The D4OPUB role is removed from that user or role.
- All privileges that have been assigned to that user or role are removed.
- All user-related properties (such as Created On and Created By) are updated to refer to the D4OSYS user. None of the objects that the revoked user or role created are deleted.

The access rights of the D4OSYS user cannot be revoked. The D4OSYS user is removed only when the Discoverer Catalog is uninstalled.

To revoke user or role access:

1. Go to the Fusion Middleware Control Discoverer Home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

2. From the **Discoverer** menu, select **Catalog**, and then select **Manage**.
The **Manage: Discoverer for OLAP Login** page is displayed.
3. Enter the host name, port number, and SID for the database, and the D4OSYS password. Note that passwords are case sensitive in Oracle databases (Enterprise Edition version 11.1 or later).
4. Click **Login**.
The **Manage Catalog** page is displayed.
5. Click **Authorize Users**.
The **Authorize Users** window is displayed.
6. In the **Selected Users and Roles** list, select the users and roles for which you want to revoke access.
7. Click **Remove**.
The selected users and roles move from the **Selected Users and Roles** list to the **Available Users and Roles** list.
8. Click **OK**.

Note: Alternatively, you can revoke user or role access to the Discoverer Catalog by using the Discoverer Plus OLAP command line utility. For more information, see [Section 5.9, "Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog"](#).

5.3.8 Using private versus public connections when accessing OLAP data

When users connect to a Discoverer component, they use either a public or a private connection. End users can also login directly without using or creating a connection. The following list describes how users work with public and private connections when connecting to OLAP data:

- Private connections: Users must use a private connection when connecting to Discoverer Plus OLAP. They can also use a private connection when connecting to Discoverer Viewer and Discoverer Portlet Provider for accessing OLAP data. With private connections, users can use Single Sign-On or not. Private connections that are not created with Single Sign-On active require users to re-enter their password.
- Public connections: You can use Fusion Middleware Control to create public connections for users who want to access OLAP data through Discoverer Viewer and Discoverer Portlet Provider.

For more information on public and private connections, see [Chapter 3, "Managing Oracle BI Discoverer Connections"](#)

5.4 Customizing the look and feel of Discoverer Plus OLAP

You use Fusion Middleware Control to customize the look and feel of Discoverer Plus OLAP, using the same page on which you configure Discoverer Plus Relational.

You can configure the following items for Discoverer Plus OLAP:

- The logo that is displayed as a small icon on the right-hand side of the toolbar in Discoverer Plus OLAP. You can specify a logo for your company.
- The style sheet that determines the look and feel for Discoverer Plus OLAP.

To configure the look-and-feel for Discoverer Plus OLAP:

1. Go to the Fusion Middleware Control Discoverer Home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#).
2. Click the **Discoverer Plus** component.
3. Click **Configure**.
The **Discoverer Plus Configuration** page is displayed.
4. Use the fields on this page to specify configuration settings.
5. Click **OK** to apply the changes.

5.5 Information to be provided to end users

After you have configured the Discoverer Catalog and Discoverer Plus OLAP, you should ensure that users have the following information, which enables them to use Discoverer Plus OLAP:

- The URL to the Discoverer Connections page. Users supply information on this page to connect to Discoverer Plus OLAP, such as the user name and password.
For more information about the Discoverer Connections page, see [Chapter 3, "Managing Oracle BI Discoverer Connections"](#).
- The information that users enter in the Database field of the Discoverer Connections page. They must enter the following string:
HOST:PORT:SID
- The version of Microsoft Excel that worksheet consumers must have to view a worksheet exported from Discoverer Plus OLAP. Worksheet consumers must have Excel 2000 or later.
- The information about the configuration diagnostic utility, if users have trouble connecting to the database when they run Discoverer Plus OLAP. See [Section 5.6, "Configuration diagnostic utility for Discoverer Plus OLAP"](#) for information about this utility.

5.6 Configuration diagnostic utility for Discoverer Plus OLAP

Discoverer Plus OLAP includes a utility that examines and reports on the configuration of the OLAP environment. Its purpose is to gather information about the configuration, to help you and Oracle Support diagnose problems that end users experience when running Discoverer Plus OLAP.

For more information about how users run the diagnostic utility, see the Discoverer Plus OLAP Help. Users simply click a button in an error dialog or choose a menu option. The dialog that is displayed provides basic output from the utility and allows end users to run another test that provides more detailed output. The Help topics instruct users to share the output with their database administrator if they need assistance.

5.6.1 Forms of output from the utility

The utility produces two forms of output, as described in the following list:

- Output that is written directly to the dialog in which users run the utility -- For details, see [Section 5.6.2, "Description of output from the utility"](#).
- An XML file -- Users name and store this file as they like, after running the utility and viewing the results in the dialog. The file contains the output that was displayed in the dialog, including version information for various components, the detailed stack trace of any errors, and a list of the folders, measures, and dimensions that were found in the database (that is, the metadata). You can send this file to Oracle Support Services as an e-mail attachment to get help in diagnosing problems.

5.6.2 Description of output from the utility

The following labels describe the items that the utility displays in the dialog and in the XML file. These labels are listed according to the sequence in which the utility performs the various checks. Many items relate to version numbers. See the installation guide that you used when installing Discoverer for information on the appropriate version numbers.

5.6.2.1 JDK version

The version number of the JDK that is being used, such as 1.5.0.

5.6.2.2 BI Beans internal version

The internal version number of BI Beans that is installed.

5.6.2.3 Discoverer Plus OLAP version

The internal version number of the Discoverer server that is installed.

5.6.2.4 Discoverer version

The internal version number of the Discoverer Plus component that is installed.

5.6.2.5 Connect to database

Whether the utility was able to establish a database connection. If a connection was established, then the result is "Successful." Otherwise, the result is "Unsuccessful." If the utility cannot connect to the database, then you can:

- Examine the errors that are shown in the dialog for more information.
- Verify that all the connection information (such as user name and password) is correct.
- Verify that the database is running and accepting connections.

5.6.2.6 JDBC driver version

The version of the JDBC driver that is being used.

5.6.2.7 JDBC JAR file location

The full path name to the directory that contains the JDBC driver JAR file.

5.6.2.8 Database version

The version of the Oracle database to which Discoverer Plus OLAP is connected.

5.6.2.9 OLAP Catalog version, OLAP AW Engine version, OLAP API Server version

The versions for various OLAP components. The returned values might not exactly match the "Database version," due to database patch releases. Under certain circumstances, these versions are returned as "NA," which is not a problem that you must resolve.

5.6.2.10 BI Beans Catalog version

The internal version of the BI Beans Catalog that is installed. If the BI Beans Catalog is not installed, then this value is "NA; not installed in *schema-name*."

5.6.2.11 Discoverer Catalog version

The internal version of the Discoverer Catalog that is installed. If the Discoverer Catalog is not installed, then this value is "NA; not installed in *schema-name*." Discoverer Plus OLAP requires that the Discoverer Catalog be installed.

5.6.2.12 Authorized for Discoverer Plus OLAP

Whether the user who is running the utility is authorized to run Discoverer Plus OLAP.

5.6.2.13 OLAP API JAR file version

The version of the OLAP API client JAR file.

5.6.2.14 OLAP API JAR file location

The full path to the directory in the user's installation that contains the OLAP API client JAR files.

5.6.2.15 Load OLAP API metadata

Whether the utility was able to load the metadata from the database. If the metadata was loaded, then the result is "Successful." Otherwise, the result is "Unsuccessful."

The database administrator must define appropriate metadata in the Oracle database to support business intelligence applications. For information about defining OLAP metadata, see *Oracle OLAP User's Guide*.

If the metadata was not loaded, then verify that the metadata is correct. If you continue to have problems, then consult the OLAP forum on Oracle Technology Network or contact Oracle Support Services.

5.6.2.16 Number of metadata folders

The number of folders that were detected in the metadata from the database.

5.6.2.17 Number of metadata measures

The number of measures that were detected in the metadata from the database.

5.6.2.18 Number of metadata dimensions

The number of dimensions that were detected in the metadata from the database.

5.6.2.19 Metadata description

The full description of all the metadata from the database.

5.6.2.20 Error message description

If any errors occurred, then brief information about them is displayed at the appropriate location in the output in the dialog. For example, if the user entered an incorrect name or password, then information to this effect is noted immediately after the "Connect to database" label and no further output is included. The XML file of the output includes more detailed information than is provided in the dialog output.

5.7 URL parameters for the Discoverer Plus OLAP

Table 5–1, "Parameters for Discoverer Plus OLAP", describes the URL parameters that you can use to start Discoverer Plus OLAP.

Note: For an example of using URL parameters to start Discoverer Plus OLAP, see Section 12.5.6, "Example 6: Starting Discoverer Plus OLAP".

Table 5–1 Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
<code>autoconnect=yes no</code>	Specifies whether to automatically connect when all parameters are present. Yes is the default.	<code>autoconnect=no</code>
<code>brandimage=logo_file_name</code>	Specifies that you display a logo in the top right-hand corner of the Discoverer Plus OLAP screen. You can reference this file in two ways: <ul style="list-style-type: none"> Using a path that is relative to the location of the <code>d4o.jar</code> file on the server. Using an absolute path. 	<code>brandimage=http://server.com:7777/discoverer/common/mylogo.gif</code>
<code>framedisplaystyle=style</code>	Specifies how to launch the Discoverer main window. The possible values for <i>style</i> are: <ul style="list-style-type: none"> <code>separate</code>: Launch Discoverer's main window as a separate frame from the browser (that is, from the Discoverer Connections list). The browser window contains a Discoverer image and must remain open while Discoverer is being used. <code>embedded</code>: Launch Discoverer's main window within the current browser window. 	<code>framedisplaystyle=separate</code>
<code>helpset=path/locale/helpset_file_name</code>	Specifies a help set location that is different from the default Discoverer Plus OLAP help set, where: <p><i>path</i> = Directory that contains the help set</p> <p><i>locale</i> = Two-character locale</p> <p><i>helpset_file_name</i> = Name of the help set file, such as <code>myhelp.hs</code></p> <p>Note: The help set must be in sub-directories that are named by the standard two-character locale.</p>	<code>helpset=mypath/en/myhelp.hs</code>
<code>lm=OLAP</code>	Specifies that you are deploying Discoverer in a non-Single Sign-On environment.	<code>lm=OLAP</code>

Table 5–1 (Cont.) Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
<code>locale=<i>language[_country][_variant]</i></code>	Specifies the language (and optionally the country and variant) that is used by Discoverer Plus OLAP. This parameter overrides the browser's language setting on the end user's client machine. Tip: Use ISO codes to specify the language, country, and variant.	<code>locale=es_ES</code> In this example, the language is Spanish and the country is Spain.
<code>loglevel=<i>type</i></code>	Specifies the level of log messages to display for end users. The values for <i>type</i> are: none = No messages (default) error = Error messages warning = Warning messages informational = Informational messages trace = Trace messages	<code>loglevel=error</code>
<code>lookandfeelname=<i>type</i></code>	Specifies a browser look and feel. The values for <i>type</i> are <code>system</code> , <code>metal</code> , <code>windows</code> , <code>motif</code> , <code>oracle</code> , and <code>plastic</code> . You can also specify a custom LAF using the fully qualified Java class of the LAF (for example, <code>javax.swing.plaf.metal.MetalLookAndFeel</code>). For more information about specifying a custom LAF on the Discoverer middle tier, see Section 8.1.3, "How to define a custom LAF for Discoverer Plus" .	<code>lookandfeelname=system</code>
<code>sheet=<i>worksheetname</i></code>	Specifies the name of the worksheet to open by default. Note: If you use the <code>sheet</code> parameter multiple times in the URL, Discoverer Plus OLAP opens the last one.	<code>sheet=Sales+Detail+Sheet</code>
<code>username=<i>database_user_name</i></code>	Specifies a database user name with which to connect to Discoverer Plus OLAP. Note: If you do not specify a user name, password, host name, port number, and SID, then the Discoverer end user is prompted to enter the missing login information.	<code>username=video_user</code>
<code>windowheight=<i>number_of_pixels</i></code>	Specifies the height in pixels of the Discoverer Plus OLAP application frame. If you do not use this parameter, then Discoverer Plus OLAP uses a default value.	<code>windowheight=600</code>
<code>windowwidth=<i>number_of_pixels</i></code>	Specifies the width in pixels of the Discoverer Plus OLAP application frame. If you do not use this parameter, then Discoverer Plus OLAP uses a default value.	<code>windowwidth=800</code>

Table 5–1 (Cont.) Parameters for Discoverer Plus OLAP

Parameter and Values	Description	Example
<code>workbookname=workbook_path_name</code>	<p>Specifies the folder location and the name of the workbook that you want users to display by default.</p> <p>You must prefix folder names and workbook names with a slash (/) or the URL-encoded value for slash: %2F. For example, to specify Workbook A, which is stored in the Users/Jchan/ folder in the Discoverer Catalog, enter:</p> <p><code>&workbookname=Users/JChan/Workbook+A</code></p>	<code>workbookname=Users/JChan/Workbook+A</code>

5.8 URL parameters for an OLAP worksheet in Discoverer Viewer

When you use URL parameters to access OLAP worksheets in Discoverer Viewer, usually, you can use the same URL parameters that you use with relational worksheets (for more information, see [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#) and [Section 12.9, "List of URL parameters specific to Discoverer Viewer"](#)). However, the URL parameter for specifying an OLAP worksheet in Discoverer Viewer is different, as described in [Table 5–2, "Parameters for an OLAP worksheet in Discoverer Viewer"](#).

Table 5–2 Parameters for an OLAP worksheet in Discoverer Viewer

Parameter and Values	Description	Example
<code>worksheetName=workbook_path/worksheet_name</code>	<p>Specifies the folder location, workbook name, and name of the worksheet to open.</p> <p>You must prefix folder names, workbook names, and worksheet names with a slash (/) or the URL-encoded value for slash: %2F. For example, to specify a worksheet called Export 1 in Workbook A, which is stored in the Users/Jchan/ folder in the Discoverer Catalog, enter:</p> <p><code>&worksheetName=Users/JChan/Workbook+A/Export+1</code></p> <p>Note: Do not prefix the root folder name with a slash. For example, specify <code>&worksheetName=Users</code>, not <code>&worksheetName=/Users</code>.</p>	<code>worksheetName=Users/JChan/Workbook+A/Export+1</code>
<code>lm=OLAP</code>	Specifies that you are deploying Discoverer in a non-Single Sign-On environment.	<code>lm=OLAP</code>

Note: For an example of using URL parameters to start Discoverer Viewer, see [Section 12.5.9, "Example 9: Opening an OLAP worksheet in Discoverer Viewer"](#).

5.9 Using the Discoverer Plus OLAP command line utility to manage the Discoverer Catalog

Discoverer Plus OLAP includes a command line utility for performing administrative functions. This utility is called `d4o.jar` and resides in the directory `ORACLE_HOME/discoverer/lib`.

To launch the utility, run the following command:

```
java -classpath d4o.jar oracle.dss.d4o.administration.D4OCommand subcommand -h  
host -po port -sid sid -su "sys as sysdba" -sp su_password -p d4o_password -t  
tablespace
```

- *subcommand* is the specific D4O command to execute.

Some of the commands are listed here:

- *users*: Lists the authorized Discoverer users
- *version*: Displays the Discoverer Catalog version number
- *allUsers*: Lists all the users in the database
- *install*: Installs the Discoverer Catalog

For more information, see [Section 5.2.2, "Installing a Discoverer Catalog."](#)

- *deinstall*: Removes the Discoverer Catalog

For more information, see [Section 5.2.3, "Uninstalling a Discoverer Catalog."](#)

- *export -f filename*: Exports the contents of the Discoverer Catalog to the specified file

For more information, see [Section 5.2.4, "Exporting a Discoverer Catalog."](#)

- *import -f filename*: Imports the contents from the specified file

For more information, see [Section 5.2.5, "Importing a Discoverer Catalog."](#)

- *authorize -u username*: Authorizes the specified database user

For more information, see [Section 5.3.6, "Authorizing user and role access to the Discoverer Catalog."](#)

- *host* is the IP address or host name of the machine where the database containing the Discoverer schema is installed.
- *port* is the database port number.
- *sid* is the SID of the database on which the Discoverer Catalog is running.
- *su_password* is the password for the database super user.
- *d4o_password* is the database password for the D4OSYS database account. D4OSYS contains the Discoverer Catalog schema.
- *tablespace* is the tablespace in which the catalog is installed.

You can obtain a list of all available commands by entering the following command:

```
java -classpath d4o.jar oracle.dss.d4o.administration.D4OCommand
```

Managing Discoverer in a Multi-Machine or Multi-Instance Environment

This chapter applies to Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider, and Discoverer Web Services. For information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter explains how to configure Oracle BI Discoverer in a multiple-machine or multiple-instance environment, and contains the following topics:

- [Section 6.1, "About Discoverer topologies"](#)
- [Section 6.2, "About Discoverer topologies in a multiple-machine or multiple-instance environment"](#)
- [Section 6.3, "What are the prerequisites for using Oracle Web Cache to provide load balancing for Oracle BI Discoverer?"](#)
- [Section 6.4, "About using Oracle Web Cache to configure load balancing for Discoverer"](#)
- [Section 6.5, "How to configure Discoverer with load balancing using Oracle Web Cache"](#)
- [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment"](#)
- [Section 6.7, "About configuring the tnsnames.ora file in a multiple-machine environment"](#)

Before you can deploy Discoverer on multiple machines or multiple instances, you need a basic understanding of Discoverer installations and topologies.

If you are familiar with Discoverer topologies, then go directly to [Section 6.3, "What are the prerequisites for using Oracle Web Cache to provide load balancing for Oracle BI Discoverer?"](#)

For information about Discoverer installations, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

6.1 About Discoverer topologies

This section provides general information about Discoverer topologies and contains the following topics:

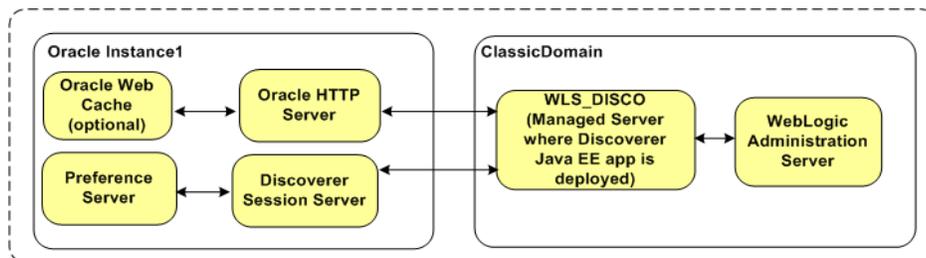
- [Section 6.1.1, "Discoverer topology with a single instance"](#)
- [Section 6.1.2, "Discoverer topology with multiple instances"](#)

6.1.1 Discoverer topology with a single instance

When you install Discoverer, you create a Discoverer topology within a single instance, as shown in [Figure 6-1](#). After installation, you can configure other types of topologies for Discoverer.

If Oracle Web Cache is present then it communicates with the Oracle HTTP Server, which handles requests from Web browsers. The Oracle HTTP Server communicates with the WebLogic Managed Server, WLS_DISCO. The Discoverer Java EE application is deployed to WLS_DISCO. The WLS_DISCO component is related to the Oracle Internet Directory and the Discoverer schemas (for installations that are not standalone). The WLS_DISCO component communicates with the Preference Server, which stores and maintains Discoverer preferences.

Figure 6-1 Discoverer topology for a single instance



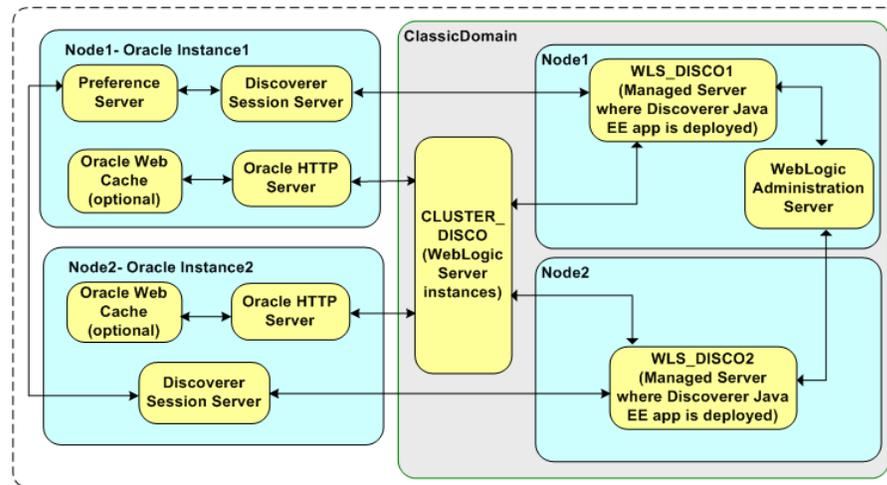
6.1.2 Discoverer topology with multiple instances

You can create a Discoverer topology with multiple instances, in which all instances communicate with a single Preference Server in one of the instances, as shown in [Figure 6-2](#).

In a multiple-instance environment, during installation, you must add managed servers for each Discoverer instance using the Expand Cluster option. All managed servers where Discoverer applications are deployed must be in the same cluster. For more information about installation, see *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.

The topology in [Figure 6-2](#) includes two instances in one cluster. For load balancing between multiple instances, either all or none of the instances must be associated with the Oracle Internet Directory and the Discoverer schemas. The managed server component in each instance communicates with the single Preference Server. Therefore, the same set of preferences are applied to the Discoverer component in each instance. The instances can exist on the same machine or on two different machines.

For more information about WebLogic Server clusters, see *Oracle Fusion Middleware Using Clusters for Oracle WebLogic Server*.

Figure 6–2 Discoverer topology for a multiple-instance environment

6.2 About Discoverer topologies in a multiple-machine or multiple-instance environment

A multiple-machine Discoverer environment is a deployment that contains two or more machines running a Discoverer installation.

A multiple-instance Discoverer environment is a deployment that contains two or more instances on one or more machines running a Discoverer installation.

6.2.1 About providing load balancing

A typical multiple-machine Discoverer environment uses a standard commercial hardware router to distribute Discoverer Web traffic to multiple Discoverer middle tier machines. This is commonly known as load balancing.

However, you can also provide load balancing using Oracle Web Cache as a proxy server to distribute Discoverer Web traffic to instances on the same machine or on other Discoverer middle tier machines. Load balancing improves Discoverer's performance, scalability, and availability.

For example, consider the topology in [Figure 6–2](#). In that environment, requests are sent from a Web browser that is running a Discoverer client application to Oracle Web Cache. Oracle Web Cache can distribute the requests to the Oracle HTTP Servers in each of the two instances. Those two instances can be running either on the same machine or on two different machines. In other words, you can have a single Discoverer URL for multiple Discoverer middle tier instances.

For more information about using Oracle Web Cache to load balance, see [Section 6.5.1, "How to configure Oracle Web Cache for load balancing"](#).

Notes

- You can also use the following types of multiple-machine and multiple-instance environments:
 - Software load balancer with high availability: This configuration provides load balancing with additional support for failure detection and failover of Oracle Web Cache servers. For more information about implementing high

availability, see *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*.

- Non-load balanced: This configuration is essentially several unconnected Discoverer middle-tier machines that operate independently. In other words, you have a different Discoverer URL for each machine. When you deploy Discoverer, you cannot configure components separately (Discoverer Plus, Viewer, and Portlet Provider). You must configure all the components, but you can choose to disable certain components. For example, you might enable Discoverer Plus only on one machine and Discoverer Viewer only on another machine.
- Hardware load balancer: This configuration distributes Discoverer Web traffic to multiple Discoverer middle tier machines.
- When you configure Discoverer across multiple machines or multiple instances with load balancing, you also provide load balancing for other Oracle Fusion Middleware components on those machines or instances. For example, you can also configure Oracle Portal with load balancing.
- To provide a consistent Discoverer interface to end users, when you configure Discoverer across multiple machines or multiple instances with load balancing, ensure that each machine has the same configuration settings (for example, user interface customizations and timeouts).

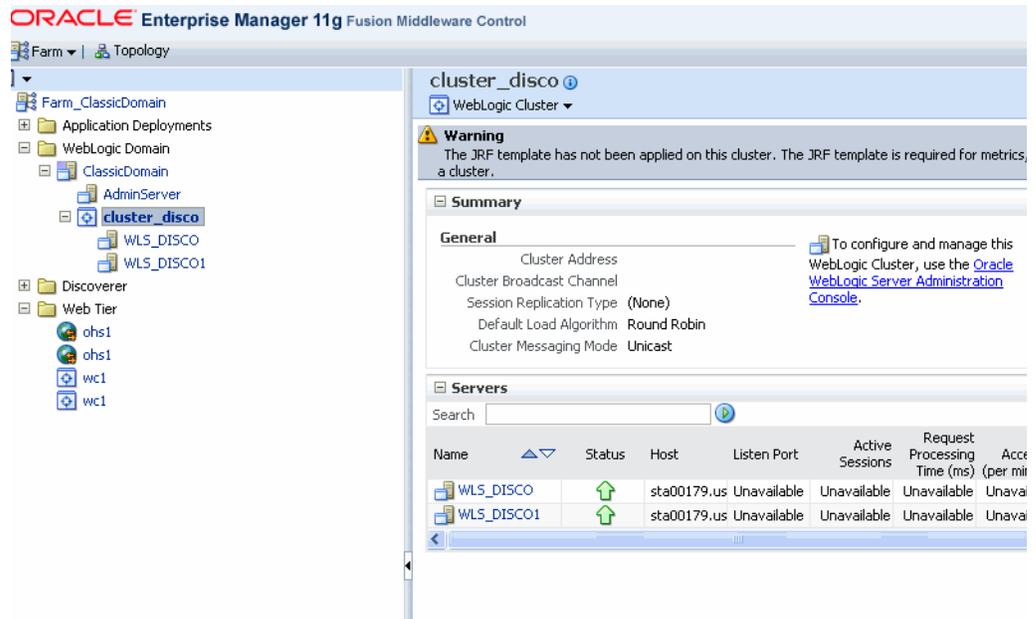
6.2.2 About using Fusion Middleware Control to manage multiple machines

When you install Discoverer on more than one machine, you can link instances together in a domain.

Consider a scenario in which you have installed the following:

- Oracle Internet Directory, and the PStore and Portlet Provider database schemas on host 1 (for example, in `d:\classicdisc1\asinst_disc18`)
- Standalone installation on host 1 (for example, in `d:\classicdisc1\asinst_19`)
- Oracle Internet Directory and the PStore and Portlet Provider database schemas on host 2 (for example, in `d:\classicdisc2\asinst_19a`)

You can manage the above scenario by using Fusion Middleware Control. Each machine would be represented as an instance in Fusion Middleware Control, displayed in the WebLogic Domain folder.



Notes

- For more information about using Fusion Middleware Control, see *Fusion Middleware Control Help*.
- When Discoverer is installed on multiple machines or in multiple instances, the Discoverer Preference Server component can be configured in the following ways:
 - One Discoverer Preference server component when there is a single instance.
 - One Discoverer Preferences server component (in one instance on one machine) to which other Discoverer instances (on the same or different machines) point.

For more information, see [Section 1.9.2.2, "What is the Discoverer Preferences server component?"](#) and [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment"](#).

6.3 What are the prerequisites for using Oracle Web Cache to provide load balancing for Oracle BI Discoverer?

Before you can configure Oracle BI Discoverer for load balancing using Oracle Web Cache, you must have the following installed:

- Two or more Discoverer installations on multiple machines or in multiple instances
- Oracle Web Cache installed in at least one instance

Note: Oracle Web Cache is included in both a Discoverer installation and an Oracle Java EE and Web Cache type installation.

Notes

- Include the Discoverer installations to load balance in the same domain.

- When load balancing between multiple installations, either all or none of the installations must be associated with the Oracle Internet Directory. Also note that multiple installations can be on the same machine or on different machines.

6.4 About using Oracle Web Cache to configure load balancing for Discoverer

You can use Oracle Web Cache to configure load balancing for Oracle BI Discoverer across multiple machines.

Configuring Oracle Web Cache for load balancing involves the following tasks:

- Choose which machine you want to specify as the proxy machine and start Oracle Web Cache on that machine.
- Define the Oracle BI Discoverer middle-tier machines to use to provide load balancing (using the Origin Servers page in Oracle Web Cache).
- Define the load balancing relationship between Oracle Web Cache and the Oracle BI Discoverer installations (using the Sites page in Oracle Web Cache).
- Enable the Default Session Binding option (using the Session Configuration page in Oracle Web Cache).
- Restart Oracle Web Cache (using the Cache Operations page in Oracle Web Cache).

For more information about using Oracle Web Cache to provide load balancing with Oracle BI Discoverer, see [Section 6.5.1, "How to configure Oracle Web Cache for load balancing"](#).

6.5 How to configure Discoverer with load balancing using Oracle Web Cache

You configure Oracle BI Discoverer with load balancing to increase the number of supported Discoverer end users and improve Discoverer performance.

To configure Oracle BI Discoverer with load balancing using Oracle Web Cache, do the following:

1. If you have not created an Oracle Farm, use Fusion Middleware Control to create a farm (for more information, see *Fusion Middleware Control Help*).
2. Use Fusion Middleware Control to add Oracle BI Discoverer installations to the farm (for more information, see *Fusion Middleware Control Help*).

Tip: Ensure that you can run Discoverer directly from a machine before trying to load balance to that machine. For example, if you want to load balance Oracle BI Discoverer installed on machine_b, start a Web browser and enter the Discoverer URL for that machine (for example, http://machine_b:80/discoverer/viewer) to ensure that Discoverer works correctly.

3. Configure Oracle Web Cache to direct Discoverer Web server requests to other Discoverer middle tier machines (for more information, see [Section 6.5.1, "How to configure Oracle Web Cache for load balancing"](#)).
4. Confirm that Discoverer Web traffic is being routed correctly (for more information, see [Section 6.5.2, "How to verify that Oracle Web Cache is configured correctly for load balancing"](#)).

5. (optional) You might want to deploy a single centralized Discoverer Preferences component (for more information, see [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment"](#)).
6. (optional) You might need to ensure that the tnsnames.ora file on each machine contains the same database names and aliases information (for more information, see [Section 6.7, "About configuring the tnsnames.ora file in a multiple-machine environment"](#)).

6.5.1 How to configure Oracle Web Cache for load balancing

You can use Oracle Web Cache page in Fusion Middleware Control to configure load balancing for Web applications such as Oracle BI Discoverer.

Note: Before you start, make sure you have the necessary components installed (for more information, see [Section 6.3, "What are the prerequisites for using Oracle Web Cache to provide load balancing for Oracle BI Discoverer?"](#)).

To configure Oracle Web Cache for load balancing:

1. Specify the origin servers (for more information, see "Specify Origin Server Settings" in *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*).
2. Specify the site to server mapping (for more information, see "Map Site Definitions to Origin Servers" in *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*).
3. Specify the session binding value (for more information, see "Configuring Session Binding" in *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*).

Note

- The recommended values for some of the Origin Server settings are as follows:
 - Capacity: 100
 - Failover Threshold: 5
 - Ping URL: /
 - Ping Frequency (seconds): 10

6.5.2 How to verify that Oracle Web Cache is configured correctly for load balancing

You can verify that Oracle Web Cache is configured correctly for load balancing by confirming that Oracle BI Discoverer Web traffic is being routed to the correct machines.

For example, you might want to confirm that Discoverer browser sessions connecting to:

`http://machine_a.company.com:80/discoverer/viewer`

are routed to:

`http://machine_b.company.com:80/discoverer/viewer`

or:

`http://machine_c.company.com:80/discoverer/viewer`

To verify that Oracle Web Cache is configured correctly for load balancing:

1. Start Oracle Web Cache (for more information, see [Section 6.5.1, "How to configure Oracle Web Cache for load balancing"](#)).
2. From the Web Cache menu, click Administration, and Origin Server to display the Origin Server page.
3. Verify the status of the Oracle BI Discoverer middle tier machines to which you are distributing Discoverer Web traffic by confirming that:
 - The Origin Server Statistics table contains a row for each Oracle BI Discoverer middle tier machine

For example, if you have Discoverer sessions running on machine_a and machine_b, the Origin Server Statistics contain a row for machine_a and a row for machine_b.
 - The application server port number is correct in the **hostname** column
 - The **up/down** setting in the **Up/Down Time** column setting is UP
 - The **Active Sessions** values should correctly reflect the number of Oracle BI Discoverer sessions running on each machine

For example, if you have ten Discoverer sessions running on machine_a and machine_b, the **Active Sessions-now** column might contain the value 6 for machine_a and the value 4 for machine_b (that is, ten sessions in total).
 - The **Active Sessions** values should indicate an even distribution of server requests between the Oracle BI Discoverer middle tier machines (that is, according to how you have configured each machine in the Origin Servers page)

For example, if you have 100 Discoverer sessions running on machine_a and machine_b, the **Active Sessions-now** column might should reflect a similar number of sessions for each machine.

Notes

- For more information about using the Origin Server Statistics page, see *Oracle Web Cache Manager Help*.
- You can also select the **Health Monitor** link in the Monitoring area of the Navigator Pane to see a summary of server requests served by the Oracle BI Discoverer middle tier machines. If Oracle Web Cache is configured correctly for load balancing, server requests are distributed evenly across the Discoverer middle-tier machines.

6.6 About the Discoverer Preferences component in a multiple-machine environment

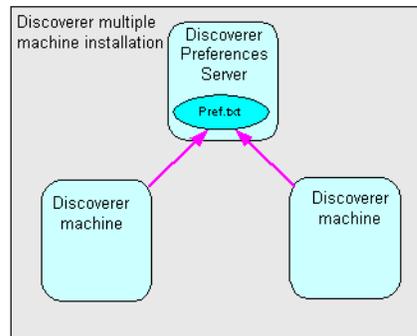
Each Discoverer installation includes a Discoverer Preferences component. The Discoverer Preferences component stores preference settings (for example, worksheet axis style, default EUL, auto-query enable) for Oracle BI Discoverer users accessing that Discoverer installation. For more information, see [Section 1.9.2.2, "What is the Discoverer Preferences server component?"](#).

In a multiple-machine environment, you might want to store all Discoverer end user preferences in a single location. In other words, you want each Discoverer installation to use the same Discoverer Preferences component. To store all Discoverer end user preferences in a single location, you specify a centralized Discoverer Preferences

component. For more information, see [Section 6.6.1, "How to specify a centralized Discoverer Preferences component."](#)

6.6.1 How to specify a centralized Discoverer Preferences component

If you want to store all Discoverer end user preferences in a single location, you configure each Discoverer installation to use the Preferences component running on the Preferences server machine, instead of running their own Preferences component. The diagram below shows how additional Discoverer middle-tier machines reference the preferences on the Preferences server machine.



To specify a centralized Discoverer Preferences component, you must perform the following tasks:

- Choose the machine you want to use as the Discoverer Preferences server machine, and find out the host name and port number of that machine. For more information, see [Section 6.6.2, "How to find out the host name and port number of the Preferences server machine."](#)
- Specify the Discoverer Preference server machine for other Discoverer instances to use, and disable the Preferences component on all machines except the Discoverer Preferences server machine. For more information, see [Section 6.6.3, "How to specify a Discoverer Preferences Server on other machines."](#)

6.6.2 How to find out the host name and port number of the Preferences server machine

To find out the host name and port number of the machine to run the Preferences component (that is, the machine you want to designate as the Discoverer Preferences server machine), perform the following steps:

1. To find out the host name,
 - a. Open a command prompt on the Discoverer Preferences server machine.
 - b. Type `hostname` and note the value displayed.
2. To find out the port number of the Discoverer Preferences server machine,
 - a. Open the `opmn.xml` file in a text editor (or XML editor).

For more information about the location of the `opmn.xml` file, see [Section A.1, "Discoverer file locations"](#).

- b. Locate the `PREFERENCE_PORT` variable ID and note the value.

For example, in the Discoverer area of the file, you might see the following line of text:

```
<variable id = "PREFERENCE_PORT" value = "16001">
```

- c. Close the opmn.xml file.

You must now change the opmn.xml file on other machines to use the Discoverer Preferences server machine, as described in [Section 6.6.3, "How to specify a Discoverer Preferences Server on other machines."](#)

6.6.3 How to specify a Discoverer Preferences Server on other machines

Having identified the host name and port number of the machine that is going to run the Preferences component (that is, the Discoverer Preferences server machine), you must now ensure that other machines use the Preferences component on the Discoverer Preferences server machine.

To modify the opmn.xml file of other machines to use the Discoverer Preferences server machine, perform the following steps on every other machine in the installation.

1. On each machine except the Preferences server machine, open the opmn.xml file in a text editor (or XML editor).

For more information about the location of the opmn.xml file, see [Section A.1, "Discoverer file locations"](#).

2. Locate the PREFERENCE_HOST variable, and change its value to the host name of the Discoverer Preferences server machine, as follows:

```
<variable id="PREFERENCE_HOST" value="hostname">
```

3. Locate the PREFERENCE_PORT variable, and change its value to the port number of the Discoverer Preferences server machine, as follows:

```
<variable id="PREFERENCE_PORT" value="port">
```

4. Locate the PreferenceServer process type, and change its status to disabled, as follows:

```
<process-type id="PreferenceServer" module-id="Disco_
PreferenceServer" working-dir="$DC_LOG_DIR"
status="disabled">
```

5. Save the opmn.xml file.
6. Stop the Discoverer Service on that machine, as described in [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl."](#)
7. Start the Discoverer Service on that machine, as described in [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl."](#)

6.7 About configuring the tnsnames.ora file in a multiple-machine environment

The tnsnames.ora file contains the names and aliases of all the databases that users can access using Oracle BI Discoverer.

Each machine in a multiple-machine Discoverer installation must have the same tnsnames.ora file or must point to a centralized tnsnames.ora file (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)).

To ensure that the tnsnames.ora files on the different machines are the same, do one of the following:

- Copy the tnsnames.ora file from one Oracle Business Intelligence middle tier machine to the same location on all of the other Oracle Business Intelligence middle tier machines, replacing the existing file
- Edit the tnsnames.ora file on each Oracle Business Intelligence middle tier machine so that they all contain the same database names and aliases

Tip: Several versions of the tnsnames.ora file might exist on a machine. Ensure that you use the tnsnames.ora file in the location listed in [Section A.1, "Discoverer file locations"](#).

Using Discoverer Viewer with Oracle Web Cache

This chapter describes how to use Oracle Web Cache to enhance Discoverer Viewer performance, and contains the following topics:

- [Section 7.1, "About Oracle Web Cache"](#)
- [Section 7.2, "What are the benefits of Oracle Web Cache?"](#)
- [Section 7.3, "How does Oracle Web Cache work?"](#)
- [Section 7.4, "When to use Discoverer Viewer with Oracle Web Cache"](#)
- [Section 7.5, "How to use Discoverer Viewer with Oracle Web Cache"](#)

7.1 About Oracle Web Cache

Oracle Web Cache is a content-aware server accelerator, or reverse proxy server, that improves the performance, scalability, and availability of Web sites. By storing frequently accessed pages in memory, Oracle Web Cache eliminates the need to repeatedly process requests for those pages on middle-tier servers and databases.

You can also use Oracle Web Cache for load balancing a multiple-machine installation. For more information, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment."](#))

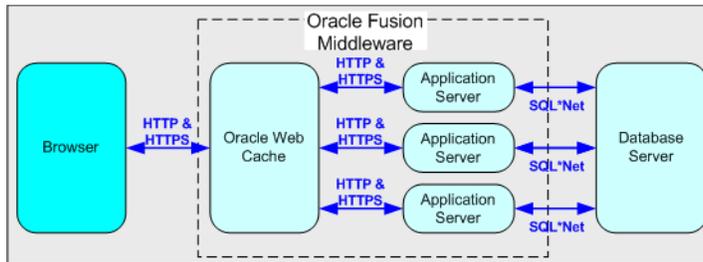
You manage Oracle Web Cache using Oracle Enterprise Manager Fusion Middleware Control.

To view Oracle Web Cache pages in Fusion Middleware Control:

1. Display the Oracle Fusion Middleware Control Home page. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Web Cache node under the **Web Tier** node in the navigation pane.

Oracle Web Cache sits in front of application Web servers, caching their content and providing that content to Web browsers that request for the content. When Web browsers access the Web site, they send HTTP protocol or HTTPS protocol requests to Oracle Web Cache. Oracle Web Cache, in turn, acts as a virtual server to the application Web servers. If the requested content has changed, Oracle Web Cache retrieves the new content from the application Web servers.

Figure 7-1 Oracle Web Cache overview



For more information about Oracle Web Cache, see *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*.

Notes

- When deploying Discoverer, you typically add Oracle BI installations to an Oracle Farm, and use Oracle Web Cache as a proxy server. For more information, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment."](#)

7.2 What are the benefits of Oracle Web Cache?

Using Oracle Web Cache:

- Improves performance
Running on inexpensive hardware, Oracle Web Cache can increase the throughput of a Web site by several orders of magnitude. In addition, Oracle Web Cache significantly reduces response time to browser requests by storing documents in memory and by serving compressed versions of documents to browsers that support the GZIP encoding method.
- Improves scalability
In addition to unparalleled throughput, Oracle Web Cache can sustain thousands of concurrent browser connections. The result is that visitors to a site see fewer application Web server errors, even during periods of peak load.
- Offers high availability
Oracle Web Cache supports content-aware load balancing and fail over detection. These features ensure that documents not in the cache (referred to as 'cache misses') are directed to the most available, highest-performing Web server in the cluster. Further features guarantee performance and provide surge protection when application Web server load increases.
- Offers cost savings
Fewer application Web servers are required to meet the challenges posed by traffic spikes and denial of service attacks. As a result, Oracle Web Cache offers a simple and inexpensive means of reducing a Web site's cost for each request.
- Reduces network traffic
Most requests are resolved by Oracle Web Cache, reducing traffic to the application Web servers. The cache also reduces traffic to back-end databases located on computers other than the application Web server.

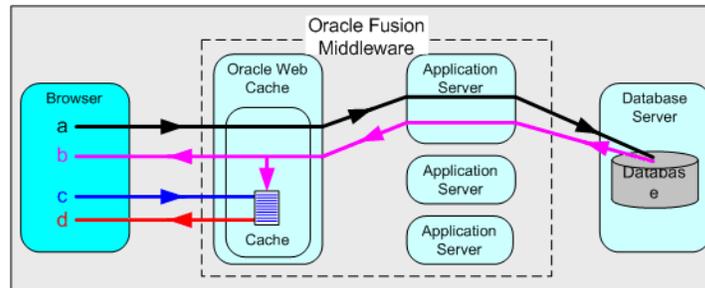
For more information about the benefits of using Oracle Web Cache, see *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*.

7.3 How does Oracle Web Cache work?

Oracle Web Cache uses cacheability rules to determine which documents to cache. A cacheability rule indicates whether you want the documents specified within a particular URL to be cached or not cached. Cacheability rules are defined using regular expressions (for more information about Oracle's implementation of regular expressions, see *Oracle Fusion Middleware Administrator's Guide for Oracle Web Cache*).

The document specified within a URL included in a cacheability rule is not actually cached until a browser requests it.

Figure 7-2 The URL and document request process



Key to figure:

- a. The first time a browser requests a particular URL, Oracle Web Cache detects that the required document is not in the cache (referred to as a cache miss). Oracle Web Cache therefore forwards the request to an application Web server, which sends the request to the database.
- b. The database returns the data to the application Web server, which forwards a document and its URL to Oracle Web Cache. If the URL is specified as one of the URLs to cache, Oracle Web Cache caches the document for subsequent requests.
- c. The next time a browser requests the URL, Oracle Web Cache detects that the document is in the cache (referred to as a cache hit).
- d. Oracle Web Cache serves the document from the cache to the browser.

7.4 When to use Discoverer Viewer with Oracle Web Cache

Using Discoverer Viewer with Oracle Web Cache to improve Web site performance, scalability, and availability would be most appropriate in the following cases:

- Where Web sites only use public workbooks
- Where Web sites access data that is relatively static
- Where the Discoverer manager or workbook creator has access to Oracle Web Cache and can refresh the cache after changes to workbooks

After installing Oracle BI Discoverer, you must manually specify caching rules, as described in [Section 7.5.1, "How to create Discoverer caching rules"](#).

For security reasons, Oracle Web Cache only caches Discoverer Viewer pages that are accessed over a public connection.

Oracle Web Cache is particularly suitable for optimizing Discoverer Viewer performance when controlling access to data is relatively unimportant (for example, where the same public connections are used by several users to access workbooks). Oracle Web Cache is less suitable in restricted environments where controlling access to data is an issue (for example, where private connections are used by individuals to access their own workbooks). If you are considering using Oracle Web Cache in a

restricted environment, note that a malicious user might be able to access pages that have been cached for another user. For more information about Oracle BI Discoverer security in general, see [Chapter 13, "Maintaining Security with Oracle BI Discoverer."](#)

7.5 How to use Discoverer Viewer with Oracle Web Cache

To use Discoverer Viewer with Oracle Web Cache, do the following:

- Disable single sign-on. For more information, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer."](#)
- Create caching rules for Discoverer on each Oracle BI middle-tier installation. For more information, see [Section 7.5.1, "How to create Discoverer caching rules."](#)
- Enable Oracle Web Cache for Discoverer Viewer on each Oracle BI middle-tier installation. For more information, see [Section 7.5.2, "How to enable Oracle Web Cache for Discoverer Viewer."](#)
- (optional) Configure Discoverer Viewer to ensure maximum caching. For more information, see [Section 7.5.3, "How to configure Discoverer Viewer to enable maximum caching."](#)

7.5.1 How to create Discoverer caching rules

Although Oracle Web Cache is installed with Oracle Fusion Middleware, it is disabled by default. To make use of Oracle Web Cache, you must create caching rules. For example, you might want to cache Discoverer Viewer pages, or use a Discoverer middle-tier machine to provide load balancing.

To enable Oracle Web Cache for Discoverer Viewer:

1. Display the Discoverer Home page in Fusion Middleware Control. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Web Cache node (for example, **wc1**) in the navigation pane to display the Web Cache Home page.
3. From the **Web Cache** menu, select **Administration**, and then select **Caching Rules**.
4. In the **Caching Rules** page that is displayed, click **Create**, to display the **Create Caching Rule** page.
5. Create a rule for caching URLs containing `/discoverer/app`.
 - a. In the **Name** field, enter a unique name (for example, `Discoverer caching rule`).
 - b. From the **Match URL By** drop-down list, select **Path Prefix**, and enter `/discoverer/app` in the adjacent text box.

Do not change the default values of the other fields.
 - c. Click **OK** to save the rule.

A confirmation message is displayed at the top of the page.
6. Create a rule for URLs containing `/discoverer/viewer`.
 - a. In the **Name** field, enter a unique name (for example, `Discoverer viewer caching rule`).
 - b. From the **Match URL By** drop-down list, select **Path Prefix**, and enter `/discoverer/viewer` in the adjacent text box.

- c. In **HTTP Methods** region, clear the **GET** check box.
- d. Select the **GET with query string** check box.
- e. Select the **POST Body Expression** check box.
- f. Click **OK** to save the rule.

A confirmation message is displayed at the top of the page.

7. Create a rule for URLs containing `/discoverer/servlet/GraphBeanServlet`.
 - a. In the **Name** field, enter a unique name for the rule.
 - b. From the **Match URL By** drop-down list, select **Path Prefix**, and enter `/discoverer/servlet/GraphBeanServlet` in the adjacent text box.
 - c. In **HTTP Methods** region, clear the **GET** check box.
 - d. Select the **GET with query string** check box.
 - e. Select the **POST Body Expression** check box.
 - f. Click **OK** to save the rule.

A confirmation message is displayed at the top of the page.

8. Display the **Multi Versioning** tab.
9. Add the **User-Agent** header to the list of selected headers.
10. Click **OK**.
11. Click **Apply**.

Oracle Web Cache now caches Discoverer Viewer pages.

7.5.2 How to enable Oracle Web Cache for Discoverer Viewer

Although Oracle Web Cache is installed with Oracle Business Intelligence, it is disabled for use with Discoverer Viewer by default. To make use of Oracle Web Cache with Discoverer, you must enable it. For example, you might want to cache Discoverer Viewer pages, or use a Discoverer middle tier machine to provide load balancing.

Note: Although Fusion Middleware Control might display the status of Oracle Web Cache as 'Enabled' in the **Components** table, this does not mean that it is enabled for use with Discoverer Viewer. You must ensure that the **Use WebCache** check box is selected on the Discoverer Viewer Configuration page, as described below.

To enable Oracle Web Cache for Discoverer Viewer:

1. Display the Discoverer Home page in Fusion Middleware Control (for more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#)).
2. In the **Components** area, select the **Discoverer Viewer** link in the **Name** column.
3. Click **Configure** to display the Discoverer Viewer Configuration page.
4. Select the **Use WebCache** check box.
5. Click **Apply**.

Oracle Web Cache is now enabled and starts caching Discoverer Viewer pages.

7.5.3 How to configure Discoverer Viewer to enable maximum caching

To maximize caching of Discoverer Viewer pages, you can optionally limit the end user options available in Discoverer Viewer. For example, if you remove the worksheet layout toolbar, you limit the amount of worksheet manipulation allowed by end users, which makes it easier for Oracle Web Cache to cache pages.

To configure Discoverer Viewer to enable maximum caching:

1. Display the Fusion Middleware Control Discoverer Home page for the machine to configure (for more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#)).
2. In the Components area, select the **Discoverer Viewer** link in the **Name** column.
3. Click **Configure**.
4. In the **Viewer Delay Times** area, set **Query Progress Page** and **Request** to a high value (for example, 60 seconds).
5. Click **Apply** to return to the Discoverer Viewer Home page.
6. Click **Customization**.
7. In the **Action Links** area of the **Layout** region, clear as many of the check boxes as possible, making sure that you enable the end users to perform any essential tasks (for example, **Print** and **Send as Email**).
8. In the **Others** area, clear the **Tool Bars** check box.
9. Click **Apply** to save the changes you have made.
10. Run Discoverer Viewer and open a workbook.

Customizing Discoverer Look and Feel

This chapter describes how to customize the Discoverer look and feel (LAF). Customization of the LAF includes tasks such as replacing the Oracle logo in Discoverer Viewer with a different logo and changing the background color of the user interface.

This chapter contains the following topics:

- [Section 8.1, "Customizing the Discoverer Plus LAF"](#)
- [Section 8.2, "Customizing Discoverer Viewer"](#)

You can also use preference settings in `pref.txt` to hide or display Discoverer user interface components. For example, you can hide or display the **Available Items** pane in Discoverer Plus (relational) by using the EUL Object Navigator preference. For more information about preferences, see [Section 9.6, "List of Discoverer user preferences"](#).

8.1 Customizing the Discoverer Plus LAF

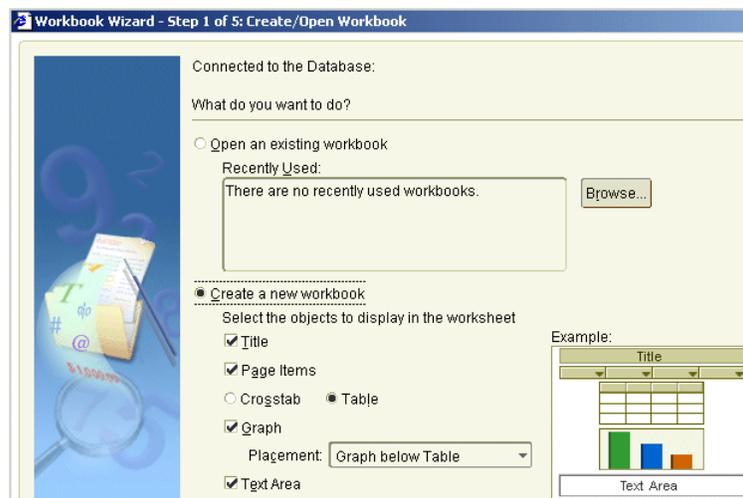
This section describes how to customize the LAF for Discoverer Plus.

8.1.1 About LAF styles available in Discoverer Plus

The following LAF styles are available:

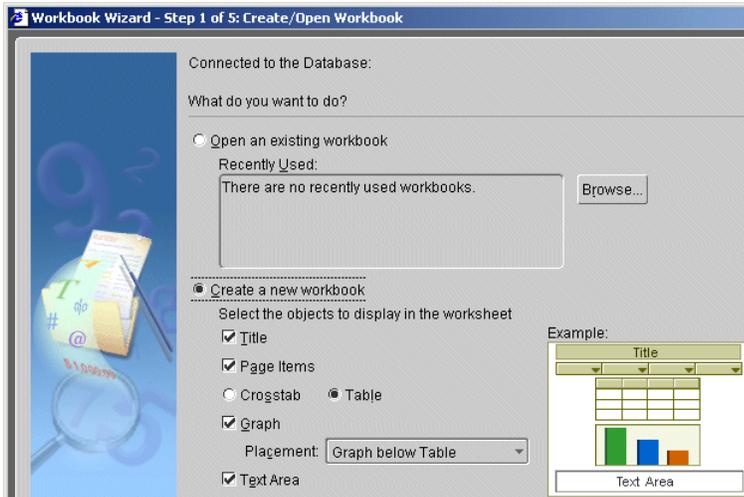
- Browser (see [Figure 8-1](#))

Figure 8-1 *Browser Look-and-Feel*



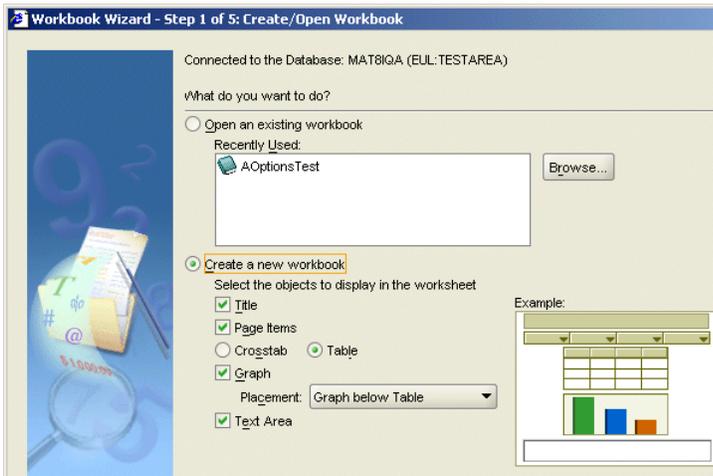
- Oracle (see [Figure 8-2](#))

Figure 8-2 Oracle LAF

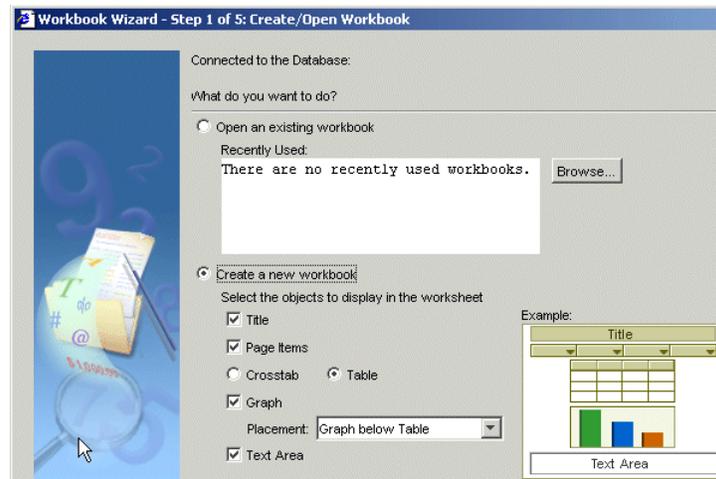


- Plastic (see [Figure 8-3](#))

Figure 8-3 Plastic LAF



- System (see [Figure 8-4](#))

Figure 8–4 System LAF

You can also create your own LAF and make this available as an LAF type called **custom**. For more information, see [Section 8.1.3, "How to define a custom LAF for Discoverer Plus."](#)

Note: To deploy Discoverer Plus with the plastic LAF, you must select plastic as the LAF option in Oracle Fusion Middleware Control. For more information, see [Section 8.2.2, "How to change the default Discoverer Viewer LAF."](#)

8.1.2 How to change the Discoverer Plus LAF for all end users

You can change the Discoverer Plus LAF for all end users by specifying the LAF in the middle tier.

Note: You can change the Discoverer Plus LAF for a specific end user, by using the `lookandfeelname` URL parameter. For more information, see [Section 12.8, "List of URL parameters specific to Discoverer Plus."](#)

To change the Discoverer Plus LAF for all end users:

1. Start Fusion Middleware Control and navigate to the Discoverer home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
2. In the **Components** area, click the **Discoverer Plus** link in the **Name** column.
The Discoverer Plus home page is displayed.
3. Click **Configure**.
The **Discoverer Plus Configuration** page is displayed.
4. From the **Look And Feel** list, select the required LAF.
5. Click **Apply**.

When end users start Discoverer Plus, the LAF that you specified is used.

8.1.3 How to define a custom LAF for Discoverer Plus

You can deploy Discoverer with your own LAF (different from the LAFs shipped with Discoverer), by defining a custom LAF.

To define a custom LAF for Discoverer Plus on a global basis:

1. Copy the JAR file containing the LAF class into the `<ORACLE_HOME>/discoverer/lib` directory.
2. Start the MBean browser and navigate to the **PlusConfig** node.
For more information, see [Section 4.12, "Configuring Discoverer using the System MBean Browser."](#)
3. Change the value of the **LAF** attribute to **custom**.
4. In the **Value** field of the **LafJar** attribute, enter the name of the JAR file containing the LAF.
5. In the **Value** field of the **LafClass** attribute, enter the fully qualified Java class name of the LAF (for example, `javax.swing.plaf.metal.MetalLookAndFeel`).
6. Click **Apply**.

When end users start Discoverer Plus, the custom LAF is applied.

You can revert the LAF to any of the standard LAFs installed with Discoverer, by using Oracle Fusion Middleware Control. For more information, see [Section 8.2.2, "How to change the default Discoverer Viewer LAF."](#)

8.2 Customizing Discoverer Viewer

This section explains how to customize Discoverer Viewer.

8.2.1 About Discoverer Viewer customization

By customizing Discoverer Viewer, you can change the following:

- **Layout**

You can change the company logo, and display or hide page elements such as the **Exit** button, **Help** button, and **Action** links. You can also change the targets of some links. For example, you can specify a URL for the **Exit** button.

Note: You might also change the layout to maximize caching in Oracle Web Cache. For more information, see [Section 7.5.3, "How to configure Discoverer Viewer to enable maximum caching."](#)

- **Look and feel (LAF)**

You can change the font size and colors used in Viewer pages (for example, the text that appears in links).

Note: If you have deployed Discoverer in a multiple-machine installation, and if you want to deploy the same customized Discoverer Viewer user interface across all the machines, you must repeat the customization changes on each Discoverer middle tier.

8.2.2 How to change the default Discoverer Viewer LAF

You change the default Discoverer Viewer interface LAF when you want to provide a customized LAF to end users.

To change the default Discoverer Viewer LAF:

1. Start Enterprise Manager Fusion Middleware Control and navigate to the Discoverer home page for the machine to configure. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

2. In the **Components** region, select **Discoverer Viewer** in the **Name** column.
The Discoverer Viewer home page is displayed.

3. Click **Customize**.

The **Discoverer Viewer Customization** page is displayed.

4. Make the required LAF changes.

For example, to change the color of all displayed links, click the arrow adjacent to the **Links** field, and select the required color. Alternatively, you can enter the hexadecimal value in the appropriate field (for example, to use the color blue, enter #0000FF).

Note: Changes that you make to color and fonts are applicable to the Discoverer Viewer user interface, not to the worksheet text styles and colors. Worksheet text styles and colors are specified in Discoverer Plus.

To preview the changes, click **Preview**.

5. Click **Apply** to save the changes you have made.

The LAF changes that you made are applied to all new or refreshed Discoverer Viewer browser sessions.

8.2.3 How to change the default Discoverer Viewer layout

You change the default Discoverer Viewer layout when you want to provide a customized layout to end users. For example, you might want to change the company logo or hide the **Preferences** link.

To change the default Discoverer Viewer layout:

1. Start Fusion Middleware Control and navigate to the Discoverer home page for the machine to configure. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)

2. In the **Components** area, click **Discoverer Viewer** in the **Name** column.
The Discoverer Viewer home page is displayed.

3. Click **Customize**.

The **Discoverer Viewer Customization** page is displayed.

4. Make changes in the **Layout** region as required.

For example, you might want to replace the default Discoverer Viewer logo with a different logo using an alternative graphic file:

- a. Select the **Logo** check box.
- b. Select the **File** option.
- c. Click **Browse** to locate the graphic file to use as an alternative logo to appear on Viewer pages.

Note: If you change the Discoverer Viewer logo, the new logo is also displayed on the Connect to Discoverer Viewer page and the Connect to Discoverer Plus page (for more information, see [Section 3.4, "About the Discoverer connections page."](#))

5. Click **Preview** to display your changes in the **Preview** area.
6. Click **Apply** to save the changes you have made.
7. Run Discoverer Viewer and open a workbook.

Tip: If you have an existing Discoverer Viewer session running, refresh the browser to update Discoverer Viewer with the changes that you have made.

The layout changes that you made are applied do all new or refreshed Discoverer Viewer browser sessions.

Notes

- For information about changing the LAF of Discoverer Viewer (colors and fonts), see [Section 8.2.2, "How to change the default Discoverer Viewer LAF."](#)

Managing Oracle BI Discoverer Preferences

This chapter only applies to Discoverer Plus Relational and Discoverer Viewer with relational and OLAP worksheets. For more information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter explains how to manage Oracle BI Discoverer preferences, and contains the following topics:

- [Section 9.1, "What are Discoverer preferences?"](#)
- [Section 9.2, "About Discoverer system preferences"](#)
- [Section 9.3, "About Discoverer user preferences"](#)
- [Section 9.8, "About migrating Discoverer preferences"](#)
- [Section 9.4, "How to set default user preferences for all users"](#)
- [Section 9.5, "How to set individual preferences for specific users"](#)
- [Section 9.6, "List of Discoverer user preferences"](#)
- [Section 9.7, "How to convert a Discoverer preferences file to a different platform format"](#)

9.1 What are Discoverer preferences?

Discoverer preferences are settings that define the Discoverer environment and control the behavior of Discoverer Plus and Discoverer Viewer.

There are two types of Discoverer preferences:

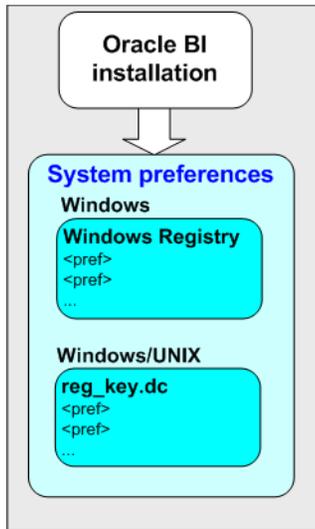
- Discoverer system preferences (for more information, see [Section 9.2, "About Discoverer system preferences"](#))
- Discoverer user preferences (for more information, see [Section 9.3, "About Discoverer user preferences"](#))

9.2 About Discoverer system preferences

Discoverer system preferences are created and set during installation. Typically you never have to change the Discoverer system preferences. System preferences are stored as follows:

- On UNIX systems, the Discoverer system preferences are stored in the `reg_key.dc` file.
- On Windows systems, the Discoverer system preferences are stored in the Windows Registry and the `reg_key.dc` file.

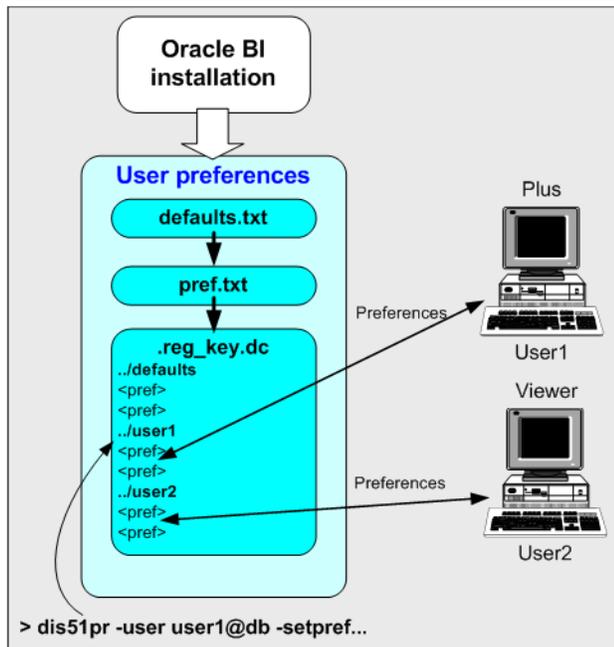
Figure 9–1 Discoverer System preferences?



9.3 About Discoverer user preferences

During installation, Discoverer uses factory-supplied default values (stored in defaults.txt) to create user preferences for all Discoverer users (stored in pref.txt).

Figure 9–2 Discoverer user preferences



When a new user starts an Oracle BI Discoverer session for the first time, the settings in the pref.txt file take effect as that user’s default settings.

After installation, the user preferences can be changed in the following ways:

- Discoverer end users can change their own user preferences using options within Discoverer Plus or Discoverer Viewer. For example, a Discoverer Viewer end user

might click Preferences and change their personal preferences. When an individual user changes a preference, this change is stored in the `reg_key.dc` file on the Discoverer middle tier (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)).

Individual preferences are stored for each user as a unique combination of database and userid in the `reg_key.dc` file, and loaded whenever the user starts a new session. Therefore, users can log on from different client machines and still have their individual settings take effect.

For example, a Discoverer Plus end user might select Tools | Options to display the Options dialog and change the **Number of rows per page** value to 15. The following entry might be stored in `reg_key.dc` for that user:

```
"RowsPerPage"=D4:4:00,00,00,0F
```

where '0F' is the hexadecimal value of 15.

Note: Unless a user changes a preference value, the value of that preference is as specified in the `pref.txt` file.

- You can change the default preference values that Discoverer end users are presented with by changing the values in the `pref.txt` file. For the changes to take effect, you must 'apply' the preferences. For more information about changing default preference values, see [Section 9.4, "How to set default user preferences for all users"](#).
- You can change an individual user's preferences using the Discoverer preferences command line utility. Changes that you make are stored in the `reg_key.dc` file (for more information about changing individual users' preferences, see [Section 9.5, "How to set individual preferences for specific users"](#)).

Notes

- On UNIX implementations, the `.reg_key.dc` is a hidden UNIX file (that is, the filename is prefixed with a '.'). Type the command `ls -a1` to list hidden files.
- Never edit the `reg_key.dc` file directly. You must only change values in `reg_key.dc` using the Discoverer preferences command line utility `dis51pr` (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)).
- If you delete the `reg_key.dc` file, you lose preferences set by Discoverer end users or preferences set using the Discoverer preferences command line utility. Default preferences stored in `pref.txt` are applied.
- The factory supplied default values for `pref.txt` are contained in the `defaults.txt` file (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)). If you make a mistake when editing the `pref.txt` file (or lose or corrupt the file), refer to `defaults.txt` to restore the content of `pref.txt` to the original values.
- Maximum values for numeric preferences are documented in the `pref.txt` file.
- You can edit the `pref.txt` file without shutting down the Preferences component. In other words, users can continue working while you edit the `pref.txt` file.
- If you want to deploy Discoverer on multiple machines, you might want to use a centralized set of Discoverer preferences. You do this by specifying one Discoverer Preferences server machine and turning off the Discoverer Preferences component on the other machines. For more information, see [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment"](#).

9.4 How to set default user preferences for all users

You set default users preferences for all users when you want to globally configure Discoverer. To set default user preferences for all users you edit the `pref.txt` file on the Discoverer Preferences server (for more information about the Discoverer Preferences server, [Section 6.6, "About the Discoverer Preferences component in a multiple-machine environment"](#)).

Note: Changes that you make to the default user preferences only apply to new end users, or end users who have not changed their settings. Changes do not affect end users who have changed their own settings.

To set default user preferences for all users:

1. On the host machine, open the `pref.txt` file in a text editor (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)).
2. Modify the file as instructed by Oracle Support.
3. Save the `pref.txt` file.
4. Stop the Discoverer preferences server component (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using `opmnctl`"](#)).
5. Run the `applypreferences` script to apply the preference changes you have made (for more information about the `applypreferences` script, see [Section A.1, "Discoverer file locations"](#)).

You must run the `applypreferences` script from the host machine.

Tip: Check for error messages in the `error.txt` file in the current directory to verify that the preferences were applied correctly (for more information about the location of configuration files, see [Section A.1, "Discoverer file locations"](#)).

6. Start the Discoverer preferences server component (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using `opmnctl`"](#)).

9.5 How to set individual preferences for specific users

To set individual preferences for specific users:

1. From the command prompt, navigate to the directory containing the Discoverer preferences command line utility `dis51pr` (to find out the location of this file, see [Section A.1, "Discoverer file locations"](#)).
2. Use the Discoverer preferences command line utility to enter a command at the command prompt.

This command sets the new preferences and creates a new version of `reg_key.dc`.

Use the following syntax:

```
dis51pr -user <user> -setpref <"preference category"> <"preference name">
<"preference value">
```

where:

- `<user>` is the name of the user for which you want to set the preference value, followed by the `@` symbol, followed by the name of the database (for example, `jchan@salesdb`)

- *<"preference category">* is the category of the preference you want to change (for example, "Database")
- *<"preference name">* is the name of the preference you want to change (for example, "DefaultEUL")
- *<"preference value">* is the value you want the preference to have

Examples:

- if you want to set the default EUL to Sales for the user jchan, type the following at a command prompt:

```
dis51pr -user jchan@salesdb -setpref "Database" "DefaultEUL" "\\"Sales\\"
```

- if you want to set the maximum amount of heap memory allowed for the data cache to 512000 for a user jchan, type the following at a command prompt:

```
dis51pr -user jchan@salesdb -setpref "Application" "MaxVirtualHeapMem"
512000
```

Notes

- To display online help for the Discoverer preferences command line utility, type the name of the script followed by -help (for example, dis51pr -help).
- Preference names and values are case-sensitive.
- When specifying a string as a preference value, prefix the string with "\\" and end the string with "\\". For example, if the preference value is Sales, enter "\\"Sales\\".
- For a list of Discoverer preferences that you can set using the Discoverer preferences command line utility, see [Section 9.6, "List of Discoverer user preferences"](#).

9.6 List of Discoverer user preferences

[Table 9-1](#) describes the category, description, default value, and valid values of Discoverer user preferences.

Note: This section describes only the default user preferences in the pref.txt file. For information about customized user preferences, see earlier versions of Oracle BI Discoverer documentation.

Maximum values for preferences are documented in the pref.txt file.

Table 9–1 List of User Preferences

User preference name	Category	Description	Default value	Valid values
AdjustPlusFontSize	Application	Specifies whether Discoverer Plus Relational adjusts the font size to correct a discrepancy in the Java virtual machine, resulting in a smaller font size than other Windows applications. To maintain consistency between Discoverer Plus Relational and Discoverer Plus OLAP, this value should be set to false.	false	true = adjust font sizes false = do not adjust font sizes
AggregationBehavior	Application	Specifies whether Discoverer linearly aggregates values that cannot be aggregated locally. For more information, see <i>Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer</i> .	0	0 = false 1 = true
AllowAggregationOverRepeatedValues	Application	Specifies whether to aggregate repeated values. If set to 0, Discoverer displays the non-aggregable label.	0	0 = do not aggregate repeat values 1 = aggregate repeat values
AppsFNDNAM	Database	Specifies the schema in which Oracle Applications data is stored.	APPS	Valid Apps foundation name
AppsGWYUID	Database	Specifies the public user name and password for the AOL security DLL.	APPLSYSPUB/PUB	Valid Apps user name and password
AxisLabelBehavior	Application	Specifies whether Discoverer exports axis labels as part of a worksheet.	1	1 = export axis labels 2 = do not export axis labels 3 = use the same export format as Discoverer Desktop
BusinessAreaFastFetchLevel	Database	Specifies the amount of pre-caching that occurs for components and items whenever a Business Area is fetched.	1	1
CacheFlushPercentage	Application	Specifies the percentage of cache flushed if the cache is full.	25	User specified

Table 9–1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
CellPadding	Application	Specifies the amount of space (in pixels) that appears around each cell value in the table or crosstab when displayed or printed. For example, 0 = no pixels, 1 = one pixel, 2 = two pixels. Note: Set this value to 0 to reduce the size of printed reports by removing extra spaces. Tip: For more information about reducing the size of a printed report, see the PrintHeadersOnce preference.	1	User specified Tip: To avoid worksheet layout problems, do not specify a value greater than 5.
ColumnWidth	Application	Specifies default column width in pixels.	100	Greater than 1
DefaultEUL	Database	Specifies the EUL to which you want all users to connect. Each user can override this default from the Discoverer Plus Options dialog.	Any EUL you have created.	Any valid EUL
DefaultExportPath	Application	Specifies a default export path in Discoverer Plus Relational. If set to "", Discoverer saves exported files in the client browser machine's home directory (that is, the profile directory in Windows). For example, on a Windows XP client, this path might be c:\Documents and Settings\<Windows user name>.	""	User specified
DefaultPreserveDisplayPropertyForRefresh	Database	When refreshing, specifies whether an updated item description is discarded and replaced with the original description, or whether the updated description is retained.	0	0 = Use updated description 1 = Use original description
DisableAlternateSortOptimization	Database	Specifies whether Discoverer writes optimized Alternate Sort queries. Tip: Set to 1 only if you use external registered summaries.	0	0 = Do not write optimized Alternate Sort queries 1 = Do write optimized Alternate Sort queries
DisableAutoOuterJoinsOnFilters	Database	Specifies the behavior of Discoverer when running queries involving an outer join with a condition (or conditions) applied. The effect of this setting is fully explained in the <i>Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus</i> .	0	0 = Do not disable outer joins on filters 1 = Disable outer joins on filters

Table 9-1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
DisableFanTrapResolution	Database	Specifies whether to resolve fan traps. For a detailed description of fan trap resolution in Discoverer, see <i>Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer</i> .	0	0 = turn on fan trap resolution 1 = turn off fan trap resolution - you get a pure cartesian product
EnhancedAggregationStrategy	Database	Specifies whether to use Enhanced Data Aggregation and if it is, what SQL generation strategy to use. For more information about setting this value, see Section 9.6.1, "About the EnhancedAggregationStrategy user preference setting" .	1	0 = Off 1 = Strict Grouping Sets 2 = Optimized 3 = Cube 4 = Auto Determine
EuroCountries	Application	Specifies a comma-delimited list of Java locales (for example, en_IE) for countries whose currency is the Euro.	A list of countries using the Euro (for example, de,de_AT,de_DE,de_LL...)	Comma-delimited list of Java locales (for example, en_IE) for countries whose currency is the Euro.
ExcelExportWithMacros	Application	Specifies whether macros are exported with the exported Excel file. Note: Macros must be enabled for pivot tables to work.	1	0=Export without macros 1=Export with macros
ExceptionFormat	Application	Specifies which HTML formatting to apply to exception formatted cells in worksheets.	<fontFormat fontName='Dialog' pitch='11' bold='false' italic='false' underline='false' strikethrough='false' foreground='0,0,0' background='247,247,231' halign='left' valign='top' wordWrap='true' ></fontFormat>	User specified
ExportGroupSortedItemsAsBlank	Application	Specifies whether repeated values on the left side of a Discoverer crosstab worksheet are displayed, or replaced as NULL. For example, if you display Month in the left axis, you might want to repeat the month for each row so that when you export the worksheet to CSV format you export all required data.	1	0 = display repeated values 1 = display repeated values as NULL

Table 9-1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
GraphAxesAutoScaledFromZero	Application	Specifies whether the default minimum value for the Graph axis scale is 0 or not. If set to 1, the minimum scale value is set to 0, otherwise Discoverer chooses the minimum scale value automatically.	1	0 = do not scale to 0 1 = scale to 0
ItemClassDelay	Database	Specifies a timeout value in seconds for fetching a list of values.	15	User specified
MaxRowsPerFetch	Database	Specifies the number of database rows retrieved in each fetch from the database.	250	User specified Minimum=1 Maximum=10000
MaxVirtualDiskMem	Application	Specifies the maximum amount of disk memory (in bytes) allowed for the data cache. Minimum = 0. Maximum = 4 GB.	1024000000	User specified
MaxVirtualHeapMem	Application	Specifies maximum amount of heap memory (in bytes) allowed for the data cache. Minimum = 0. Maximum = 4 GB.	5120000	User specified
NonAggregableValue	Application	Specifies the default value that is displayed for non-aggregable cells in worksheet. A cell is classified as non-aggregable if the aggregation function being applied does not make sense for the values being aggregated.	"N/A"	User specified
NullValue	Application	Specifies how null values are displayed in worksheets, for example, 'NULL', 'N/A', '0'.	NULL	User specified
ObjectsAlwaysAccessible	Database	Specifies whether to display Business Area objects and items even when the underlying database tables they are built on do not exist (or are inaccessible for some other reason).	1	0=verify 1=do not verify and assume that the objects and items exist
PredictionThresholdSeconds	Database	Specifies a time threshold for warning Discoverer end users that the predicted query time exceeds the threshold.	60	User specified
PredictionThresholdSecondsEnabled	Database	Specifies whether to use PredictionThresholdSeconds.	1	0 = disabled 1 = enabled

Table 9–1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
PrintHeadersOn ce	Application	Specifies whether column headers are printed for each page, or only for the first page. Note: Set this value to 1 to reduce the number of pages that Discoverer Plus generates (for example, in a crosstab worksheet where headers are repeated often). Tip: For more information about reducing the size of a printed report, see the CellPadding preference.	0	0 = Print column headers for each page 1 = Print column headers only for the first page
QPPEnable	Database	Uses query prediction/performance (QPP) if set to 1.	1	0 = false 1 = true
QueryBehavior	Application	Action to take after opening a workbook.	0	0 = Run Query Automatically 1 = Do not Run Query 2 = Ask for Confirmation
QuerySQLFastFe tchLevel	Database	Controls the amount of pre-caching that occurs during SQL generation.	1	0 = no fast fetch 1 = fast fetch (slowest) 2 = fast fetch (medium) 3 = fast fetch (fast) 4 = fast fetch (super fast)
QueryTimeLimit	Database	Limit on query time in seconds.	1800	User specified Minimum=1 Maximum=N/A
QueryTimeLimit Enabled	Database	Query time limit disabled (0) or enabled (1).	1	0 = disabled 1 = enabled
RowFetchLimit	Database	The maximum number of rows fetched.	10000	User specified Minimum=1 Maximum=N/A
RowFetchLimitE nabled	Database	RowFetchLimit parameter is disabled (0) or enabled (1).	1	0 = disabled 1 = enabled
SaveLastUsedPa ramValue	Application	When a workbook is saved, this preference specifies whether to save the most recently used parameter values, or to revert to the default parameter values when the workbook is next opened.	0	0 = Do not save the most recently used parameter values; use the default parameter value when the workbook is next opened. 1 = Save the most recently used parameter value and apply this value when the workbook is next opened.

Table 9–1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
ScatterGraphDataModel	Application	Specifies the data model to use for rendering scatter graphs in Discoverer.	0	0 = Discoverer Plus style 1 = Discoverer Desktop style 2 = Microsoft Excel style
ShowExpiredRunsAtExit	Application	Specifies whether to notify an end user on exit about expired and deleted scheduled results.	0	0 = Do not notify about expired and deleted scheduled workbook results 1 = Notify about expired and deleted scheduled workbook results
genericFormatToolBar	Generic	Specifies whether to display the Formatting toolbar by default in Discoverer Plus.	true	true = display toolbar false = do not display toolbar
genericGraphToolBar	Generic	Specifies whether to display the Graph toolbar by default in Discoverer Plus.	true	true = display toolbar false = do not display toolbar
genericDefaultCacheCapacity	Generic	Specifies the default capacity of the cache to hold the rows above when you scroll down a worksheet in Discoverer Plus.	80	User specified Minimum=1 Maximum=N/A
genericMaxCacheCapacity	Generic	Specifies the maximum capacity of the cache to hold the rows above when you scroll down a worksheet in Discoverer Plus.	500	User specified Minimum=1 Maximum=N/A
genericStandardFetchSpan	Generic	Specifies the number of rows to be fetched from a worksheet at a time in Discoverer Plus.	80	User specified Minimum=1 Maximum=N/A
StandardToolBar	Application	Specifies whether to display the Standard toolbar by default in Discoverer Plus.	1	1 = display toolbar 0=do not display toolbar
SQLTrace	Database	Specifies whether Discoverer copies SQL statements to a trace file for analysis. For more information, see the <i>Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer</i> .	0	0 = false 1 = true
SQLType	Database	Specifies the SQL style displayed in the SQL Inspector dialog in Discoverer Plus. For more information, see the <i>Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer</i> .	2	0 = Flattened 2 = Default SQL with no flattening 3 = Flattened SQL without Object Aliases
SummaryObjectsUseCachedAccessibility	Database	Specifies whether to access the summary-derived objects in the cache.	0	0 = disabled 1 = enabled

Table 9–1 (Cont.) List of User Preferences

User preference name	Category	Description	Default value	Valid values
SummaryThreshOld	Database	Use summary table only if it is no older than this number of days.	60	User specified or 0 = do not use summary at all
Timeout	Session Manager	Amount of time (in seconds) after which Discoverer Plus disconnects an idle session. Minimum time is 180 seconds (for more information, see Section 9.6.2, "About setting the timeout value for Discoverer"). Note: For SSO-based connections, Discoverer Plus does not consider the Global User Inactivity Timeout (GUIT) setting defined in the SSO server. To get the same SSO timeout behavior for Discoverer Plus, you can set the Timeout value in pref.txt the same value as the GUIT setting. To set the timeout for Discoverer Viewer, you set the session-timeout value in the web.xml file (for more information, see Section 9.6.3, "How to set the timeout value for Discoverer Viewer").	1800	User specified Minimum = 180
UseOptimizerHints	Database	Specifies whether to add optimized hints to SQL.	0	0 = off 1 = on

9.6.1 About the EnhancedAggregationStrategy user preference setting

The EnhancedAggregationStrategy user preference controls how Discoverer Plus and Discoverer Viewer make use of the Oracle9i (version 9.2.0.7 or later) database's enhanced aggregation functionality.

The settings control the SQL that is generated for the query, and specify whether there should be an exact match between client request and the aggregation levels retrieved from the database, or whether more aggregation levels are retrieved from the database than are requested by the client.

The table below explains the EnhancedAggregationStrategy user preference settings in more detail:

Value	Description
0	Off The generated SQL contains an ordinary GROUP BY clause.

Value	Description
1	<p>Strict Grouping Sets</p> <p>The generated SQL contains GROUPING SET requests that exactly match the GROUPING SET requests made by Discoverer. The requests that Discoverer makes are determined by how the end user created the worksheet.</p> <p>For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS((Department, Region, Year),(Department),())</p> <p>Note: This value (the default) might be used if you want to maximize performance.</p>
2	<p>Optimized</p> <p>The generated SQL contains GROUPING SET requests with additional ROLLUP functions. The use of ROLLUP functions enables the SQL to fetch more aggregation levels than requested by Discoverer. This typically enables the end user to add totals or pivot without needing to re-query the database.</p> <p>For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS(ROLLUP(Department, Region, Year), ROLLUP(Region, Year))</p> <p>Note: This value might be used if worksheet users do a lot of drilling or pivoting when using worksheets.</p>
3	<p>Cube</p> <p>The generated SQL contains a Grouping Set request for a CUBE of the items requested. This is the highest pre-fetch strategy for aggregation levels from the database and should be used with caution as there might be a severe performance overhead in increased query time and resource usage.</p> <p>For example, the generated GROUP BY clause might be similar to the following: GROUP BY GROUPING SETS(CUBE(Department, Region, Year))</p>
4	<p>Auto Determine</p> <p>Discoverer automatically determines which of the above strategies to use (that is, 1, 2, or 3 above).</p>

9.6.2 About setting the timeout value for Discoverer

You specify a Discoverer timeout if you want Discoverer sessions to shut down automatically after a specified time period if no user interaction has occurred during that time. Before Discoverer shuts down, a warning message is displayed in Discoverer Plus. For example, if a Discoverer session is not used for ten minutes, the Discoverer session shuts down. The Discoverer end user must reconnect to use Discoverer again.

Discoverer timeout values are specified as follows:

- In Discoverer Plus, the Timeout value in the pref.txt file specifies the timeout value (for more information, see the Timeout preference in [Section 9.6, "List of Discoverer user preferences"](#)).
- In Discoverer Viewer, the session-timeout value in the web.xml files specifies the timeout value (for more information, see [Section 9.6.3, "How to set the timeout value for Discoverer Viewer"](#)).

9.6.3 How to set the timeout value for Discoverer Viewer

To set the timeout value for Discoverer Viewer, change the value of the viewerSessionTimeOut variable in the Discoverer deployment plan.

To view the location of the Discoverer deployment plan by using WebLogic Server Administration Console:

1. Log in to Oracle WebLogic Server Administration Console.
2. In the left pane, click **Deployments**.
3. In the right pane, select the Discoverer application for which you want to update the deployment plan. The Discoverer: Overview page appears.

The Deployment Plan field on the Overview page displays the path of the Discoverer application deployment plan (an XML file). Modify the deployment plan as described the following procedure:

1. Open the deployment plan from the location (as displayed on the Discoverer: Overview page) in an XML editor.
2. Navigate to the **variable-definition** section.

```
...
    <variable-definition>
      <variable>
        <name>viewerSessionTimeOut</name>
        <value>10</value>
      </variable>
    </variable-definition>
...

```

Note: The `viewerSessionTimeOut` variable is defined in the **variable-definition** and **variable-assignment** sections of the deployment plan. You should modify only the `viewerSessionTimeOut` variable which is defined in the **variable-definition** section. The value is defined in minutes.

3. Change the **value** of the `viewerSessionTimeOut` variable to a valid integer value. For example, change the value to 30 (thirty minutes).

```
...
    <variable-definition>
      <variable>
        <name>viewerSessionTimeOut</name>
        <value>30</value>
      </variable>
    </variable-definition>
...

```

4. Save your changes and close the XML file.

Once you update the deployment plan with the new value for the `viewerSessionTimeOut` variable, you must update the Discoverer application as described in the "Update (redeploy) an Enterprise application" section of *Oracle Fusion Middleware Oracle WebLogic Server Administration Console Help*

5. Restart the Discoverer components (for more information, see [Section 4.4, "About starting and stopping Discoverer servlets"](#))

When users next start Discoverer Viewer, Discoverer imposes the specified timeout value.

Note: If Single Sign-On is enabled, Discoverer Viewer also considers the Global User Inactivity Timeout (GUIT) value defined in the SSO server. In this case, the least value among the session-timeout and GUIT values takes the precedence over the other.

9.7 How to convert a Discoverer preferences file to a different platform format

Oracle Business Intelligence Discoverer stores registry settings in the `reg_key.dc` file. If you want to move a Discoverer installation from one platform to another platform (for example, from Windows to Solaris), you must convert the `reg_key.dc` file to change the format of integer values (for example, from BigEndian format to LittleEndian format). You change the format of integer values using the `convertreg.pl` script that is installed with Oracle Business Intelligence. For more information about the location of configuration files, see [Section A.1, "Discoverer file locations"](#).

You must convert the `reg_key.dc` file when you move between the following platforms:

- Windows/Linux to Solaris/HPUX/AIX
- Solaris/HPUX/AIX to Windows/Linux

Note: Do not use the `convertreg.pl` script to convert the `reg_key.dc` file between Windows to Linux.

To convert a Discoverer preferences file to a different platform format:

1. Copy the `reg_key.dc` file from the source machine to the target machine (for example, from the Windows machine to a Solaris machine).
2. On the target Oracle Business Intelligence installation, run the `convertreg.pl` script at the command prompt:

```
perl convertreg.pl <old file name> <new file name>
```

Where:

- `<old file name>` is the name of the original `reg_key.dc` file
- `<new file name>` is the name that you want to give the file produced by the `convertreg.pl` script

Note: For more information about the location of configuration files, see [Section A.1, "Discoverer file locations"](#).

For example, if the source file is called `windows_reg_key.dc`, you might type:

```
pl convertreg.pl windows_reg_key.dc solaris_reg_key.dc
```

3. If required, rename the target file.

If you named the target file `solaris_reg_key.dc`, rename this file as `reg_key.dc`.

You have now converted the `reg_key.dc` to the correct format for the target platform.

9.8 About migrating Discoverer preferences

You migrate Oracle BI Discoverer preferences when you want to upgrade to a new version of Discoverer. For example, you might want to upgrade from Oracle BI Discoverer Version 10.1.2 to the current version of Oracle BI Discoverer.

How you migrate Discoverer preferences depends on which version of Discoverer you are using, as follows:

- if you are upgrading from Oracle BI Discoverer Version 9.0.2 or 9.0.4 to Oracle BI Discoverer Version 10.1.2, refer to the 10.1.2 documentation for details.
- if you are upgrading from Discoverer Version 10.1.2 to Oracle BI Discoverer Version 11.1.1, you use the upgrade assistant utility after Discoverer installation

(for more information, see [Section B.1, "About upgrading from Discoverer Version 10.1.2.x to Version 11.1.1"](#))

Optimizing Oracle BI Discoverer Performance and Scalability

This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter describes how to optimize Discoverer performance and scalability, and contains the following topics:

- [Section 10.1, "About Discoverer and performance"](#)
- [Section 10.2, "About Discoverer and scalability"](#)
- [Section 10.3, "How to improve Discoverer performance"](#)
- [Section 10.4, "How to take advantage of Discoverer's scalable architecture using the scalability features of Oracle"](#)

10.1 About Discoverer and performance

The performance of a Discoverer system refers to the time Discoverer takes to complete a specific task. Performance time might be the time taken to:

- return the results of a query (that is, display a worksheet)
- perform a pivot or drill
- add a new user to the system

10.2 About Discoverer and scalability

The scalability of a Discoverer system refers to Discoverer's ability to handle increasing numbers of users or tasks without compromising performance.

To take advantage of Discoverer's inherently scalable architecture, you can install Discoverer on multiple machines and share the workload between those machines. For more information, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment"](#).

The main factors that determine Discoverer's scalability are:

- the number of server CPUs
- the distribution of processing across CPUs
- the total server memory (both RAM and virtual memory)
- the specific tasks requested by each user (individual workload)

- the number of Discoverer middle tier machines

10.3 How to improve Discoverer performance

Discoverer performance is largely determined by how well the database has been designed and tuned for queries. A well designed database performs significantly better than a poorly designed database. In addition, you can achieve significant performance improvements by making appropriate use of:

- summary tables and materialized views
- indexes
- database parameter settings
- network bandwidth

In addition to a well-designed and well-tuned database, there are some things you can do within Discoverer to improve performance, as described in the following sections:

- [Section 10.3.1, "How to improve Discoverer performance by using worksheets and page items appropriately"](#)
- [Section 10.3.2, "How to improve Discoverer performance by reducing the time taken to display business areas and folders"](#)
- [Section 10.3.3, "How to improve Discoverer performance by using summary folders"](#)
- [Section 10.3.4, "How to improve query performance by optimizing the SQL that Discoverer generates"](#)
- [Section 10.3.5, "How to improve Discoverer performance by using Discoverer Administrator hints"](#)
- [Section 10.3.6, "How to improve Discoverer performance by setting the Case Storage item property appropriately"](#)
- [Section 10.3.7, "How to improve Discoverer performance by increasing the size of the array used to fetch rows from the database"](#)
- [Section 10.3.8, "How to improve Discoverer performance by basing lists of values on tables containing distinct values"](#)
- [Section 10.3.9, "How to improve Discoverer performance by changing cache settings for your system"](#)
- [Section 10.3.10, "How to improve Discoverer performance by scheduling worksheets to run overnight"](#)
- [Section 10.3.11, "How to improve Discoverer Viewer performance by using Oracle Web Cache"](#)
- [Section 10.3.12, "How to improve Discoverer Portlet Provider performance"](#)
- [Section 10.3.13, "Troubleshooting Discoverer performance and scalability"](#)

10.3.1 How to improve Discoverer performance by using worksheets and page items appropriately

The time that Discoverer takes to query and display data depends on the worksheet layout (that is, table or crosstab) and whether the worksheet layout uses page items.

For example:

- When populating a tabular worksheet that does not contain page items, Discoverer uses incremental fetch (for example, retrieves rows 100 at a time) and therefore does not have to load the entire results set, which might be much larger. Data for tabular layouts that do not contain page items is displayed faster because Discoverer does not index cached items as it would if the page items were displayed.
- When populating a table worksheet that contains page items or a crosstab worksheet, Discoverer takes longer to display the data, regardless of the number of rows fetched at a time. The data takes longer to display because Discoverer spends additional time creating an index by page item on the cached results set.

To enhance performance, encourage Discoverer Plus users to follow these guidelines when designing Discoverer workbooks:

- use tabular reports rather than crosstab reports
- minimize the number of page items in reports
- avoid wide crosstab reports
- avoid creating reports that return tens of thousands of rows
- provide parameters to reduce the amount of data produced
- minimize the number of worksheets in workbooks
- remove extraneous worksheets from workbooks (especially if end users frequently use Discoverer's export option)

Note: When end users export data in Discoverer Plus or Discoverer Viewer, they can export either the current worksheet or all the worksheets. In other words, they cannot selectively choose the worksheets to be exported. Remove extraneous worksheets so that extra data is not included when end users export all worksheets.

The following worksheet setups all increase the overhead in index creation and therefore affect Discoverer performance:

- wide crosstabs
- page axis items
- page axis items with a large number of values

10.3.2 How to improve Discoverer performance by reducing the time taken to display business areas and folders

When a Discoverer Plus end user builds a query, Discoverer displays a list of the business areas, folders, and items to which that user has access in the Discoverer Plus Item Navigator (for more information, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*). Before displaying the list, Discoverer makes a database security check to confirm that the user has access to the tables referenced in the folders. Although the security check makes sure that the user cannot create workbooks that they cannot run, the security check can increase the time taken to display the list, because the check is done for all business areas and folders.

To defer the database security check, edit the `pref.txt` file and set `ObjectsAlwaysAccessible` to 1 as follows:

```
ObjectsAlwaysAccessible = 1
```

Note: After editing the `pref.txt` file, you must run the `applypreferences` script to apply the preference changes you have made (for more information, see [Section 9.4, "How to set default user preferences for all users"](#)). Then stop and restart the Oracle BI Discoverer Service (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using `opmnctl`"](#)).

If the value of `ObjectAlwaysAccessible` is not 0, Discoverer does not perform the security check when the query is built and assumes that the tables are accessible.

Note: Database security is always respected. The security check is made when the query runs, instead of when the query is built.

As a result, Discoverer displays the list of folders more quickly. Disabling the security check is likely to be more appropriate on systems where users' access rights change relatively infrequently.

Note: If a user selects a folder based on a table to which they do not have database access, Discoverer ensures database security when the query runs and no rows are returned.

10.3.3 How to improve Discoverer performance by using summary folders

When used correctly, Discoverer summary folders significantly improve query response times. For example, queries that use summary folders might take only seconds to run, whereas queries that return the same result set but do not use summary folders might take several hours. Summary folder management is the key to good performance with Discoverer implementations.

Summary folders can be based on materialized views or summary tables, with the following differences in behavior:

- if a Discoverer query includes a summary folder that is based on a materialized view, the database automatically rewrites the query to use the materialized view
- if a Discoverer query includes a summary folder that is based on a summary table, Discoverer automatically rewrites the query to use the summary table (providing the summary table has been registered with the EUL)

Use the SQL Inspector dialog to view the path taken by the query, and to find out whether the database has rewritten the query.

For more information about how Discoverer manages summary folders, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

10.3.4 How to improve query performance by optimizing the SQL that Discoverer generates

To improve query performance Discoverer optimizes the SQL that it generates, in the following three areas:

- item trimming
Discoverer removes references to irrelevant or unused columns and expressions in the query SQL, improving performance. To enable item trimming, set the value of the user preference `SQLItemTrim` to 1.
- join trimming
Discoverer detects and eliminates joins (where possible) from queries without affecting the result set, which improves query performance. To enable join trimming, set the value of the user preference `SQLJoinTrim` to 1.

- flattening

Discoverer minimizes the use of inline views in the query SQL, which makes it easier for the database to efficiently parse the SQL and select an optimal execution path. To enable flattening, set the value of the user preference SQLFlatten to 1.

For more information about:

- the user preferences SQLItemTrim, SQLJoinTrim, SQLFlatten, see [Section 9.6, "List of Discoverer user preferences"](#)
- the join properties to choose to improve performance, see the *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*

10.3.5 How to improve Discoverer performance by using Discoverer Administrator hints

To improve Discoverer performance, you can add hints to SQL statements (for example, using a custom folder) in Discoverer Administrator to force the database optimizer to use a specific path. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

10.3.6 How to improve Discoverer performance by setting the Case Storage item property appropriately

When a user adds a condition to a query, they can select the **Match Case** option. If the **Match Case** option is cleared, Discoverer performs a case insensitive search by placing an UPPER function around both sides of the condition. For example, a condition such as:

```
where Department in ('VIDEO SALES', 'VIDEO RENTALS')
```

becomes:

```
where Upper(Department) in (Upper('VIDEO SALES'), Upper('VIDEO RENTALS'))
```

However, using an UPPER function makes it impossible to use a database index (and the performance benefits of using an index are therefore not available).

If you know that the data is stored in the database as all uppercase or all lowercase, you can manage this issue by using Discoverer Administrator to set the **Case Storage** property of items.

For example, you might know that all the Region data is stored in uppercase in the database. In Discoverer Administrator, set the **Case Storage** property of the Region item to Uppercase. Discoverer now assumes that the data is stored in uppercase and does not put the UPPER function on the left hand side of the condition (that is, around the column name). So the original condition:

```
where Department in ('VIDEO SALES', 'VIDEO RENTALS')
```

becomes:

```
where Department in (Upper('VIDEO SALES'), Upper('VIDEO RENTALS'))
```

Because the UPPER function is not around the column name, the query uses whatever database indexes are available.

10.3.7 How to improve Discoverer performance by increasing the size of the array used to fetch rows from the database

If it is likely that Discoverer fetches large numbers of rows (for example, in the order of thousands) from the database, you can improve performance by increasing the size of the array that Discoverer uses to fetch the rows.

To change the default size of the array, edit the `pref.txt` file and set `MaxRowsPerFetch` to the required value, as follows:

```
MaxRowsPerFetch = <array size>
```

If you anticipate Discoverer retrieving thousands of rows, set `MaxRowsPerFetch` to 500 or 1000 to increase the size of the array.

Note: Discoverer end users can override the default value specified by `MaxRowsPerFetch` in `pref.txt` as follows:

- in Discoverer Plus, by choosing Tools | Options | Query Governor, and using the **Retrieve data incrementally in groups of field**
- in Discoverer Viewer, by selecting the **Preferences** link to display the Preferences page, and using the **Retrieve data incrementally in groups of field**

Notes

- In the case of table worksheets, there is a trade-off between perceived performance and actual performance. Table worksheets display the data immediately after the first array is retrieved. If `MaxRowsPerFetch` is set to 100, a Discoverer end user sees the first 100 rows more quickly than if `MaxRowsPerFetch` is set to 1000.
- After editing the `pref.txt` file, you must run the `applypreferences` script to apply the preference changes you have made (for more information, see [Section 9.4, "How to set default user preferences for all users"](#)). Then stop and restart the Oracle BI Discoverer service (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl"](#)).

10.3.8 How to improve Discoverer performance by basing lists of values on tables containing distinct values

By default, a Discoverer list of values (LOV) is populated using a `SELECT DISTINCT` statement in the query on the underlying data table. To populate the LOV, all of the rows must be scanned before the list of distinct values can be displayed. However, this default query is inefficient if the LOV is populated from a column that has a large number of rows but relatively few distinct values.

To improve performance, avoid creating LOVs on items based on columns in the fact table. Instead, consider the following options:

- Create LOVs for items based on columns in small 'dimension' tables (containing only distinct allowable values) attached to the fact table. If such tables do not exist, create and populate them using `SQL*PLUS`.
- If the list of allowable values is small or changes relatively infrequently, define the LOV within Discoverer Administrator by creating a custom folder based on `SQL` statements that select the allowable values from `SYS.DUAL`.

For example, to create an LOV that contains all regions in the Video Stores data, you might:

1. Create a custom folder to list all regions and based on the following `SQL` statement:

```

Select 'NORTH' Region FROM sys.dual
UNION
Select 'SOUTH' Region FROM sys.dual
UNION
Select 'EAST' Region FROM sys.dual
UNION
Select 'WEST' Region FROM sys.dual

```

2. Edit the item class for the Region item so that it uses the above custom folder for its list of values.

For more information about how to create custom folders and item classes, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

10.3.9 How to improve Discoverer performance by changing cache settings for your system

Data retrieved from the database is stored in a middle tier Discoverer cache for each user session. The cache supports Discoverer's rotation, drilling, and local calculation capabilities.

You can control the performance of the cache using the following settings in the `pref.txt` file (for more information about the location of configuration files, see [Section A.1, "Discoverer file locations"](#)):

Setting name	Default value	Description
CacheFlushPercentage	25	Percentage of cache flushed, if cache is full.
MaxVirtualDiskMem	1024000000	Maximum amount of disk memory allowed for the data cache
MaxVirtualHeapMem	5120000	Maximum amount of heap memory allowed for the data cache.

The default settings for the cache are large to enable Discoverer to take advantage of the available memory. If the system has more resources available, you can increase the default memory values (although this is only likely to be beneficial for users whose queries return large result sets). Note that the default values are the requirements for each user, but you can change the values for specific users using the Discoverer preferences command line utility `dis51pr` (for more information, see [Section 9.5, "How to set individual preferences for specific users"](#)).

Notes

- After editing the `pref.txt` file, you must run the `applypreferences` script to apply the preference changes you have made, then stop and restart the Oracle BI Discoverer service (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using `opmnctl`"](#)).
- An increase in the system resources available to one Discoverer user might have a detrimental impact on other Discoverer users, or on users of other Oracle Fusion Middleware applications.

10.3.10 How to improve Discoverer performance by scheduling worksheets to run overnight

If your data needs to be accurate on a daily basis, you can improve Discoverer performance by scheduling worksheets to be processed at off-peak times, which avoids overburdening the server during peak times. For more information about scheduling workbooks, see the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*.

10.3.11 How to improve Discoverer Viewer performance by using Oracle Web Cache

If your workbooks remain relatively stable, Oracle Web Cache can greatly improve Discoverer Viewer performance. For more information about Oracle Web Cache, see [Chapter 7, "Using Discoverer Viewer with Oracle Web Cache"](#).

10.3.12 How to improve Discoverer Portlet Provider performance

To improve the performance of Discoverer Portlet Provider, you adjust the value of the following settings on the Portlet Provider Configuration page in Oracle Enterprise Manager Fusion Middleware Control:

- Maximum Sessions (for example, 20)
- Maximum Session Inactivity (for example, 10)
- Maximum Session Age (for example, 2)
- Maximum Wait Time (for example, 120)

For more information, see [Section 4.6.1, "How to configure Discoverer client-tier components"](#).

Note: You can also specify the maximum number of Discoverer sessions that can run at the same time (for Discoverer Plus, Discoverer Viewer, Discoverer Portlet Provider and Discoverer Web Services) by setting the value of the `maxSessions` setting in the `<server> <activation>` section in `configuration.xml`.

10.3.13 Troubleshooting Discoverer performance and scalability

If you have tried the performance tips in this section and still have performance issues, you might want to try one or more of the following:

- If Discoverer's query prediction feature is affecting Discoverer's performance, first try changing the query prediction mode to use an explain plan. If changing the query prediction mode to use an explain plan does not improve performance, turn off query prediction.

To change query prediction mode to use an explain plan in Discoverer Plus, set the value of the `QPPObtainCostMethod` preference to 0 (for more information, see [Section 9.4, "How to set default user preferences for all users"](#)).

To turn off query prediction in Discoverer Plus, set the value of the `QPPEnable` preference to 0 (for more information, see [Section 9.4, "How to set default user preferences for all users"](#)). For more information about query prediction, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

- Ensure that summaries are refreshed when necessary in Discoverer Administrator. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

- Increase the amount of memory available for the Discoverer data cache (using the MaxVirtualDiskMem preference in pref.txt). For more information, see [Section 9.4, "How to set default user preferences for all users"](#).
- If Discoverer's workbook dialogs are slow to update (for example, the Open Workbook from Database dialog), ensure that Discoverer end users delete their old workbooks and worksheets when they are no longer required.
- If Discoverer's user dialogs are slow to update (for example, the Share Workbook dialog in Discoverer Plus Relational), ensure that the Discoverer manager removes old database accounts and roles, when they are no longer required.
- Minimize the amount of Discoverer log information being recorded. For more information about how to change the amount of log information recorded, see [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control"](#) and [Section 11.4, "How to set the log level for Discoverer component loggers"](#).
- If the Discoverer server is under-performing, you might want to increase the amount of memory available or the amount of swap space on the Discoverer middle tier machine. For more information, refer to the operating system documentation for the Discoverer middle tier machine.

Notes

- Some Discoverer EUL Command Line for Java commands can take longer to run than their equivalent command or operation in Discoverer Administrator.
- When diagnosing Discoverer performance issues, be aware that performance is affected by the network type being used, and the distance between the Oracle BI machine and the client browser machine. For example, using Discoverer over a LAN is typically quicker than using Discoverer over the Internet.

10.4 How to take advantage of Discoverer's scalable architecture using the scalability features of Oracle

The scalable architecture of Oracle enables you to install the Discoverer Services tier on multiple machines (for more information about installing Oracle BI Discoverer on multiple machines, see [Chapter 6, "Managing Discoverer in a Multi-Machine or Multi-Instance Environment"](#)).

You can balance the load between the different machines using:

- Oracle Web Cache
- Standard commercial HTTP/IP Router load balancers

For more information, see Oracle Fusion Middleware Performance and Tuning Guide.

Diagnosics and Logging Facilities in Discoverer

This chapter describes the server diagnostic and logging facilities that are available in Discoverer, and contains the following topics:

- [Section 11.1, "What Discoverer diagnostics and logging capabilities are available?"](#)
- [Section 11.2, "What is the checkdiscoverer utility?"](#)
- [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control"](#)
- [Section 11.4, "How to set the log level for Discoverer component loggers"](#)
- [Section 11.5, "How to copy Discoverer log files"](#)

11.1 What Discoverer diagnostics and logging capabilities are available?

Discoverer provides the following diagnostics capabilities to help you trace and diagnose problems. For example, if performance is slow, you might want to check whether the Discoverer middle tier components are configured correctly.

- Log files:
 - Discoverer Services log files
For more information, see [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control."](#)
 - Log files for Discoverer Plus, Viewer, Portlet Provider, and Web Services
For more information, see [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control."](#)
- CollectLogs script
You can use the `collectlogs` utility to collect all Discoverer logs into a single location.
For more information about using the `collectlogs` script, see [Section 11.5, "How to copy Discoverer log files"](#).
- CheckDiscoverer utility
You can use the `checkdiscoverer` utility to verify a Discoverer configuration and report on failures or anomalies. For more information about the utility, see [Section 11.2, "What is the checkdiscoverer utility?"](#)
- Diagnostic utility for Discoverer Plus (OLAP).

For more information, see [Section 5.6, "Configuration diagnostic utility for Discoverer Plus OLAP"](#)).

- Log messages

From the **Farm** menu, select **Monitoring**, and then select **Logs** to go to the **Log Messages** page, where you can search for and select log files to view. For more information, see [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control."](#)

Notes

- When diagnosing Discoverer session information, you often must know the session ID of the Discoverer Plus session to monitor. A session ID uniquely identifies a session, which starts when an end user logs in to Discoverer and finishes when an end users logs out of Discoverer. You can use this session ID to locate the corresponding server log.

If Single Sign-On is deployed, you can use the Single Sign-On user name to monitor Discoverer sessions.

To find out the session ID of a Discoverer Plus user's session, access the JConsole of the Discoverer Plus user and note the `Session ID: <number>` value.

11.2 What is the checkdiscoverer utility?

The checkdiscoverer utility is a script that checks the configuration of the Discoverer middle tier and middle-tier components, and reports any failures or anomalies.

For more information about the checkdiscoverer utility, see [Section A.1, "Discoverer file locations"](#).

Note: Discoverer Plus OLAP has its own diagnostics utility. For more information, see [Section 5.6, "Configuration diagnostic utility for Discoverer Plus OLAP"](#)).

11.3 How to view Discoverer log files using Fusion Middleware Control

The Enterprise Manager Fusion Middleware Control enables you to search for and view log files for Oracle Fusion Middleware applications. For example, you might want to examine a list of all Discoverer sessions running on a particular Discoverer middle-tier machine.

To view log files by using Fusion Middleware Control:

1. Start Enterprise Manager Fusion Middleware Control.
For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Discoverer home page.
For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
3. From the **Discoverer** menu, select **Monitoring**, and then select **Logs**.
The **Log Messages** page is displayed.
4. (optional) To search for a specific log file, enter the search criteria and click **Search**.
5. To view a list of the log files, click the **Log Files...** button.
The **Log Files** page is displayed.

6. Select the row corresponding to the log file that you want to view, and click **View Log File**.

The **View Log File** page is displayed. It shows the entries in the selected log file.

7. To view details of specific log entries, select the entries.

The details of the selected log entry are displayed below the list of entries.

For more information, see *Enterprise Manager Fusion Middleware Control Help*.

11.4 How to set the log level for Discoverer component loggers

Oracle Fusion Middleware provides the following loggers for Discoverer components:

- ORACLE.DISCOVERER.SERVER: For Discoverer session server
- ORACLE.DISCOVERER.VIEWER: For Discoverer Viewer
- ORACLE.DISCOVERER.WEB_SERVICES: For Discoverer Web Services
- ORACLE.DISCOVERER.PORTLET_PROVIDER: For Discoverer Portlet Provider
- ORACLE.DISCOVERER.MODEL: For logging messages pertaining to common internal components that are used by the Viewer, Plus, and Web Services components

For each of these loggers, you can configure the Oracle Diagnostic Logging (ODL) level. You set the log level for individual Discoverer components when you want to monitor Discoverer component session activity at a specific level of detail.

To configure the log level for Discoverer component log files:

1. Start Fusion Middleware Control. For more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page."](#)
2. Navigate to the Fusion Middleware Control Discoverer home page. For more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages."](#)
3. From the **Discoverer** menu, select **Logs**, and then select **Log Configuration**.
The **Log Configuration** page is displayed.
4. From the **View** list, select **Runtime Loggers**.
5. Select a logging level for each Discoverer component from the **Oracle Diagnostic Logging Level (Java Level)** list.
6. Click **Apply**.

You can now monitor the Discoverer session log file at the level of detail that you specified. For more information, see [Section 11.3, "How to view Discoverer log files using Fusion Middleware Control."](#)

For more information, see "Managing Log Files and Diagnostic Data" in the *Oracle Fusion Middleware Administration Guide*.

11.5 How to copy Discoverer log files

You might want to copy all Discoverer logs into a single location (for example, to provide a snap shot of a Discoverer middle-tier machine, or to provide an archive of Discoverer log files).

You use the `collectlogs` utility to copy Discoverer logs into a single location.

To copy Discoverer log files to a single location, run the following command on the Discoverer middle-tier machine.

```
collectlogs <logs_target_location>
```

The target location is either a TAR filename (UNIX) or a folder name (Windows).

The Discoverer log files are copied to the specified location.

For more information about the `collectlogs` utility, see [Section A.1, "Discoverer file locations."](#)

Note: The `collectlogs` script collects the following information:

- Middle-tier Discoverer logs
 - `application.log` file
 - `.reg_key.dc` file
 - env information
 - Discoverer server files (that is, all files in `<ORACLE_HOME>/discoverer/bin` and `<ORACLE_HOME>/discoverer/lib`)
 - UNIX-specific system parameters (for example, `/etc.hosts`, `ifconfig` output, `showrev -p` output, `uname -a` output, and `ulimit -a` output)
-
-

Starting Oracle BI Discoverer Using URL Parameters

This chapter explains how to use Oracle BI Discoverer with URL parameters, and contains the following topics:

- [Section 12.1, "Why use Discoverer with URL parameters"](#)
- [Section 12.2, "What is the URL parameter syntax?"](#)
- [Section 12.3, "About specifying login information using URL parameters"](#)
- [Section 12.4, "About specifying workbooks and worksheets using URL parameters"](#)
- [Section 12.5, "Examples of using URL parameters"](#)
- [Section 12.6, "About syntax and notation used in URL parameter tables"](#)
- [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#)
- [Section 12.8, "List of URL parameters specific to Discoverer Plus"](#)
- [Section 12.9, "List of URL parameters specific to Discoverer Viewer"](#)

12.1 Why use Discoverer with URL parameters

Discoverer end users usually start Oracle BI Discoverer by manually choosing a Discoverer connection (or connecting directly), opening a worksheet, and optionally specifying workbook parameter values. To speed up this process, you can create a URL with parameters to start Oracle BI Discoverer with specific settings (for example, login details, workbook ID, worksheet ID, parameter values). For example, you might want to provide a URL to Discoverer end users that automatically logs into Discoverer and opens a particular worksheet. For examples of Discoverer URL parameters, see [Section 12.5, "Examples of using URL parameters"](#).

Having created a URL that meets your requirements, you can:

- give the URL to end users to enter in their Web browser address box
- add the URL as a link on a Web site so that end users can start Discoverer by selecting a single hot link

12.2 What is the URL parameter syntax?

URL parameters must conform to the following syntax:

```
http://<host.domain>:<port>/<Discoverer application name>?  
arg1=value1...&argN=valueN
```

where:

- *host.domain* is the server name and domain on which the Oracle HTTP Server is installed
- *port* is the port number on which the Oracle HTTP Server is installed
Note: To start Discoverer Plus OLAP, you must also specify a SID after the port number.
- *Discoverer application name* is one of the following (depending on whether you want to start Discoverer Plus or Discoverer Viewer):
 - discoverer/plus
 - discoverer/viewer
- ? - the question mark tells Discoverer that the remaining text contains URL parameters
- arg1=value1 is the first parameter and the value specified for it. Note that subsequent URL parameters are prefixed with an ampersand character (&)

Notes:

- URL parameters are not case-sensitive. For example, 'Locale=' and 'locale=' are the same.
- URL parameter values are case-sensitive. For example, 'workbooksource=Database' is different from 'workbooksource=DataBase'.
- The order of the URL parameters is not important.
- When you specify login details, you can either specify a user name, database, and EUL, or you can specify the connection ID of a Discoverer connection. If you specify a user name, database, and EUL (for example, `http://<host.domain>:<port>/discoverer/viewer?us=video5&db=db1&eul=VIDEO5`), the end user is prompted to specify a database password before they can start Discoverer.

If you specify login details using the ID of a Discoverer connection, you specify the EUL when you create the connection.

- If the following mandatory parameters are not specified on the URL, end users are prompted for them:
 - user name
 - Responsibility (for an Oracle Applications login)
 - Security Group (for an Oracle Applications login)
- Where names contain spaces, concatenate the words with a plus symbol (+). For example, if a workbook is called 'January Analysis 2007', the URL parameter is `&wb=January+Analysis+2007`
- To include other special characters in a URL, you must replace those characters with the equivalent ASCII (or in some cases UNICODE) codes. This process is known as URL encoding. For example, to replace a vertical bar ('|') you replace it with `~7c`. Any characters not in the following lists must be URL encoded:
 - capital letters (that is, A B C D E F G H I J K L M N O P Q R S T U V W X Y Z)
 - lower case letters (that is, a b c d e f g h i j k l m n o p q r s t u v w x y z)
 - numerals (that is, 0 1 2 3 4 5 6 7 8 9)

- certain special characters (for example, _ ! ~ () * ')

Discoverer uses a proprietary encoding mechanism that is similar to HTTP URL encoding, except that Discoverer uses a tilde character (~) instead of a percent character (%). For more information about URL encoding, refer to any standard HTML guide.

- The maximum number of characters you can put in a URL depends on which Web browser you are using, as follows:
 - Internet Explorer 4 and later - 2048 characters
 - Netscape Navigator 4 and later - no known limit.

Note: The Apache Web Server on which the Oracle HTTP Server is based has a limit of 8192 characters.

12.2.1 About URL parameters and format masks

When specifying format masks for dates and numbers, note the following:

- Discoverer uses the format mask specified when the workbook was created in Discoverer Desktop or Discoverer Plus.
- If numeric and date items in a worksheet have 'default' as the format mask value, Discoverer uses the default format mask in the specified browser environment, unless optional URL parameters are specified.
- If optional URL parameters for the format masks are not provided, Discoverer uses the format mask specified when the EUL was created.

12.3 About specifying login information using URL parameters

You can specify login information in a URL in either of the following ways:

- by specifying login details individually using the following URL parameters:
 - `us=<database user name>` to specify a database user name
 - either `database=<database name>` (for Discoverer Plus) or `db=<database name>` (for Discoverer Viewer) to specify a database name
 - `eul=<EUL name>` to specify a Discoverer End User Layer

Note: For security reasons, you cannot specify a database password using a URL parameter.

For examples of specifying login details using URL parameters, see [Section 12.5, "Examples of using URL parameters"](#).

- by specifying the connection ID of a Discoverer connection

If you use a public Discoverer connection, end users are not prompted for a database password.

If you use a private Discoverer connection, end users are always prompted at least once for a database password. You can also use the `reuseConnection` URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same private Discoverer connection.

For information about how to specify login information using a connection ID, see [Section 12.3.2, "How to specify login information using a Discoverer connection"](#).

Note: If you do not specify login information, Discoverer prompts the end user for login details.

12.3.1 About using URL parameters with private connections

When you specify connection information in URL parameters, note the following restrictions:

- If Discoverer end users are not allowed to create private connections in Discoverer Plus or Discoverer Viewer, you can only use URL parameters containing public connection information. In other words, you must include the connection ID in a URL parameter string for a public connection because end users can only start Discoverer using public connections.
- If a Discoverer URL parameter string does not work, it might be because you are trying to use a private connection when private connections are not allowed. In other words, the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box is cleared in the Discoverer Administration page in Fusion Middleware Control.

Discoverer end users should navigate to the required Discoverer worksheet and store the URL as a bookmark in their browser.

For more information about the **Allow users to define and use their own private connections in Discoverer Plus and Discoverer Viewer** check box in Fusion Middleware Control, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections"](#).

For more information about connection IDs, see the `cn=` URL parameter in [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#).

12.3.2 How to specify login information using a Discoverer connection

You can use the login details stored in an existing Discoverer connection to start Discoverer.

Note: To use connections, the Discoverer installation must be associated with the Oracle Internet Directory and the Discoverer schemas (for more information, see [Section 1.3, "About Oracle BI Discoverer installations"](#)).

To specify login information using a connection:

1. If you do not have a Discoverer connection, create a Discoverer connection using login details that access the worksheet you want to open.

For information about how to create a public connection, see [Section 3.6, "How to create public connections"](#). For information about how to create a private connection, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*.

2. Find out the connection ID of the Discoverer connection (for more information, see [Section 12.4.3, "How to find out the connection ID of a connection"](#)).

For example, a connection ID might be `cf_a156`.

3. Create a URL using the `cn=` URL parameter, as follows:

```
http://<host.domain>:<port>/discoverer/viewer?cn=<connection ID value>
```

For example, if the connection ID is `cf_a156`, create a URL parameter as follows:

```
http://<host.domain>:<port>/discoverer/viewer?cn=cf_a156
```

Discoverer end users can now use this URL to start Discoverer. If you use a public connection, end users are not prompted for a database password. If you use a private connection, end users are prompted for a database password.

12.4 About specifying workbooks and worksheets using URL parameters

When using URL parameters to specify workbooks and worksheets, you can use either unique IDs (recommended), or the workbook name or worksheet name.

Tip: To avoid encoding problems and problems caused by long workbook or worksheet names, Oracle recommends that you use unique IDs to specify workbooks and worksheets (for more information, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#) and [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#)).

Note: Discoverer Plus OLAP only uses workbook names and worksheet names to identify workbooks and worksheet. For more information, see [Section 5.7, "URL parameters for the Discoverer Plus OLAP"](#).

The following table shows which URL parameters are used to specify Discoverer workbooks and worksheets.

Specifying a workbook using a URL parameter	Specifying a worksheet using a URL parameter
In Discoverer Plus, use <code>opendbid= <workbook ID></code> (or use <code>opendb= <workbook name></code> for backward compatibility)	In Discoverer Plus, use <code>sheetid= <worksheet ID></code> (or use <code>sheet= <worksheet name></code> for backward compatibility)
In Discoverer Viewer with a relational workbook, use <code>wbk= <workbook ID></code> (or use <code>wb= <workbook name></code> for backward compatibility)	In Discoverer Viewer with a relational worksheet, use <code>wsk= <worksheet ID></code> (or use <code>ws= <worksheet name></code> for backward compatibility)
In Discoverer Plus OLAP, use <code>workbookname= <workbook name></code>	In Discoverer Plus OLAP, use <code>sheet= <worksheet name></code>

Notes

- To open an OLAP worksheet in Discoverer Viewer, use `worksheetName=<name of folder, name of workbook, name of worksheet>` (for more information, see [Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"](#)).
- To use the `opendbid` and `wbk` URL parameters, you must know the unique ID of the workbook you want to specify (for more information, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#)).
- To use the `sheetid` and `wsk` URL parameters, you must know the unique ID of the worksheet you want to specify (for more information, see [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#)).

12.4.1 How to find out the unique workbook ID of a workbook

You find out the unique workbook ID of a workbook so that you can specify a workbook on a Discoverer URL using its unique workbook ID.

Note: You identify a workbook using its workbook ID in preference to using its workbook name to avoid encoding problems and problems caused by large workbook

names (for more information, see [Section 12.4, "About specifying workbooks and worksheets using URL parameters"](#)).

To find out the unique ID of a workbook in Discoverer Plus:

1. Start a Web browser.
2. Run Discoverer Plus and display the Workbook Wizard.
3. Click Browse to display the Open Workbook from Database dialog.
4. Right-click the workbook and select the Properties option to display the Workbook Properties page.
5. To find out the unique ID of a workbook, note the value in the **Identifier** field.

Notes

- Alternatively, if you have a workbook open in Discoverer Plus, choose File | Workbook Properties to display the Workbook Properties dialog and note the value in the **Identifier** field.
- You can use a workbook ID value to specify a workbook as follows:
 - in a Discoverer Plus URL using `opendbid=<workbook ID>`
 - in a Discoverer Viewer URL using `wbk=<workbook ID>`For examples, see [Section 12.5, "Examples of using URL parameters"](#).

12.4.2 How to find out the unique worksheet ID of a worksheet

You find out the unique worksheet ID of a worksheet so that you can specify a worksheet on a Discoverer URL using its unique worksheet ID.

Note: You identify a worksheet using its worksheet ID in preference to using its worksheet name to avoid encoding problems and problems caused by large worksheet names (for more information, see [Section 12.4, "About specifying workbooks and worksheets using URL parameters"](#)).

To find out the unique ID of a worksheet in Discoverer Plus:

1. Start a Web browser.
2. Run Discoverer Plus and open the worksheet.
3. Choose Edit | Worksheet Properties to display the Worksheet Properties dialog.
4. Display the General tab and look at the value in the **Identifier** field.

Notes

- You can use a worksheet ID value to specify a worksheet as follows:
 - in a Discoverer Plus URL using `sheetid=<worksheet ID>`
 - in a Discoverer Viewer URL using `wsk=<worksheet ID>`For examples, see [Section 12.5, "Examples of using URL parameters"](#).

12.4.3 How to find out the connection ID of a connection

You find out the connection ID (sometimes referred to as a connection key) of a connection so that you can start Discoverer without specifying connection details. For example, you might want to start Discoverer without prompting the end user for

connections details (for more information, see [Section 12.5.4, "Example 4: Starting Discoverer without prompting for connection details"](#)).

Note: If you use a public connection, end users are not prompted for a database password. If you use a private connection, end users are prompted for a database password. You can also use the reuseConnection URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same connection.

You can find out the connection ID of a connection in either Discoverer Viewer or Discoverer Plus.

To find out the connection ID of a connection:

1. Start a Web browser.
2. Start Discoverer to display the connections page containing the connection that you want to use, as follows:
 - if you use Discoverer Viewer, display the Connect to Discoverer Viewer page
 - if you use Discoverer Plus, display the Connect to Discoverer Plus page

The example below shows the Connect to Discoverer Plus page.

Connect to Oracle BI Discoverer

To connect to Oracle BI Discoverer, click on a connection name or enter your connection details directly.

Choose Connection [Create Connection](#)

Details	Connection ▾	Description	Update	Delete
▶ Show	Customer Reports	Customer reports by Region	✎	🗑
▶ Show	Weekly worksheets	Weekly reports by Region	✎	🗑
▶ Show	Monthly worksheets	Monthly reports by Region	✎	🗑
▶ Show	Annual summaries	Annual reports by Region	✎	🗑

Connect Directly [Return to Top](#)

Enter your connection details below to connect directly to Oracle BI Discoverer

* Indicates required field.

Connect To:

* User Name:

* Password:

* Database:

End User Layer:

Locale:

3. In the Details column, select the **Show** link next to the connection to expand the connection details.

Tip: The Show links are not available in Netscape Navigator. Use Microsoft Internet Explorer to display the connection page.

4. Note the value of **Connection Key**.

You can now use the value of Connection Key with the cn= URL parameter.

Notes

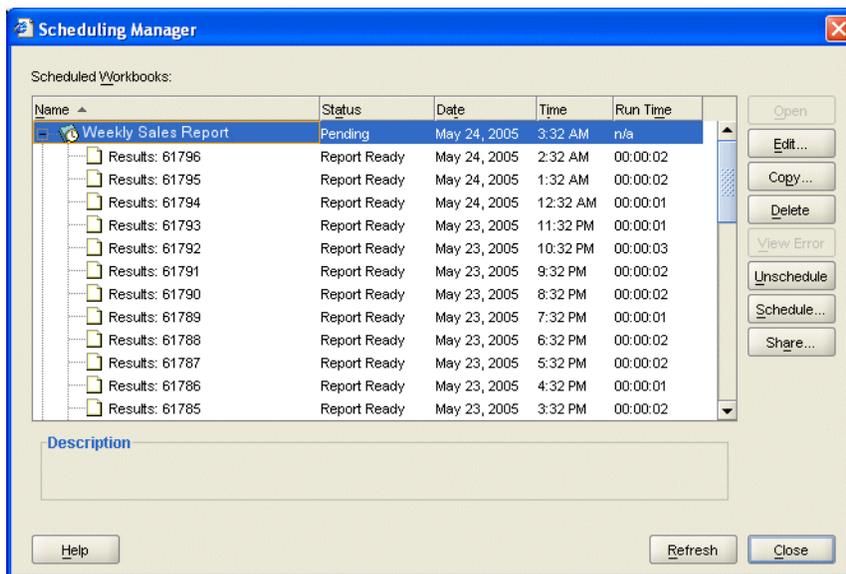
- For an example, see [Section 12.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook"](#).

12.4.4 How to find out the unique run ID of a set of scheduled workbook results

You find out the unique run ID of a set of scheduled workbook results when you want to automatically open a set of workbook results.

To find out the unique ID of a set of scheduled workbook results:

1. Start Discoverer Plus Relational (for more information about how to start Discoverer Plus Relational, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*).
2. Choose Tools | Manage Schedules to display the Scheduling Manager dialog.
3. In the **Name** column, expand the scheduled workbook containing the results set you want to use.



4. Note the number that is displayed to the right of the 'Results:' label in the **Name** column.

For example, the number of a set of results might be 61796.

You can now use this value as the `<run ID>` when you specify a set of results using the following syntax:

```
&wbk=<unique workbook ID>&<run ID>&wsk=<unique worksheet ID>
```

Note: For a worked example of using the unique run ID of a scheduled workbook results set, see [Section 12.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set"](#).

12.5 Examples of using URL parameters

This section contains the following examples of using URL parameters with Discoverer:

- [Section 12.5.1, "Example 1: Starting Discoverer Viewer"](#)
- [Section 12.5.2, "Example 2: Starting Discoverer Viewer using a worksheet parameter"](#)
- [Section 12.5.3, "Example 3: Starting Discoverer Plus"](#)

- Section 12.5.4, "Example 4: Starting Discoverer without prompting for connection details"
- Section 12.5.5, "Example 5: Starting Discoverer Viewer and prompt for a password"
- Section 12.5.6, "Example 6: Starting Discoverer Plus OLAP"
- Section 12.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook"
- Section 12.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set"

Note: Examples 1 to 4 use a public connection to specify login details. The public connection in these examples has the ID value cf_a156. Example 5 specifies login details using us=, db=, and eul=. Example 6 uses a public connection to an OLAP data source.

For information about how to create a public connection, see [Section 3.6, "How to create public connections"](#).

12.5.1 Example 1: Starting Discoverer Viewer

To start Discoverer Viewer, connect automatically as jchan, and open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&wsk=179
```

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.

For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).

- `wbk=<value>` specifies the workbook ID of a Discoverer workbook.
- `wsk=<value>` specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#) and [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#).

12.5.2 Example 2: Starting Discoverer Viewer using a worksheet parameter

To start Discoverer Viewer, connect automatically as jchan to the Sales EUL, open a worksheet called January Analysis in a workbook called Monthly Analysis, and enter the worksheet parameter value East, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&wsk=179&qp_regionparam=East
```

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.

For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).

- `wbk=<value>` specifies the workbook ID of a Discoverer workbook.
- `wsk=<value>` specifies the worksheet ID of a Discoverer worksheet.
- `qp_regionparam=<value>` specifies a value for a parameter called regionparam.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#) and [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#).

12.5.3 Example 3: Starting Discoverer Plus

To start Discoverer Plus, connect automatically as jchan to the Sales EUL, open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/plus?cn=cf_a156&opendbid=MONTHLY_ANALYSIS&sheetid=179
```

Notes

- `http://<host.domain>:<port>/discoverer/plus?` is the Discoverer Plus URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.

For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).

- `opendbid=<value>` specifies the workbook ID of a Discoverer workbook.
- `sheetid=<value>` specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#) and [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#).

12.5.4 Example 4: Starting Discoverer without prompting for connection details

To start Discoverer Viewer using a connection called Sales Data that has the connection ID cf_a157, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/viewer?cn=cf_a157
```

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.

For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).

- If the connection specified by `cn=<value>` is a public connection, the end user is not prompted for a password. If the connection specified by `cn=<value>` is a private connection, the end user is prompted for a password. You create public

connections using Oracle Enterprise Manager (for more information, see [Section 3.6, "How to create public connections"](#)).

- If private connections are not allowed, you can only use the connection ID of a public connection (for more information, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections"](#).)

12.5.5 Example 5: Starting Discoverer Viewer and prompt for a password

In this example, you want end users to be prompted to specify a password before they can access Discoverer. You therefore specify a user name, database, and EUL on the URL.

To start Discoverer Viewer, connect automatically as video5, and open a worksheet called January Analysis in a workbook called Monthly Analysis, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/viewer?us=video5&db=db1&eul=VIDEO5&wbk=MONTHLY_ANALYSIS&wsk=179
```

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `us=<value>` specifies the database user name.
- `db=<value>` specifies the database.
- `eul=<value>` specifies the End User Layer (EUL).
- `wbk=<value>` specifies the workbook ID of a Discoverer workbook.
- `wsk=<value>` specifies the worksheet ID of a Discoverer worksheet.
- In this example, MONTHLY_ANALYSIS is the workbook ID of the Monthly Analysis workbook, and 179 is the worksheet ID of the January Analysis worksheet. For more information about finding out workbook IDs and worksheet IDs, see [Section 12.4.1, "How to find out the unique workbook ID of a workbook"](#) and [Section 12.4.2, "How to find out the unique worksheet ID of a worksheet"](#).

12.5.6 Example 6: Starting Discoverer Plus OLAP

To start Discoverer Plus OLAP and display the login page, you might use the following URL:

```
http://<host.domain>:<port>/discoverer/plus?db=host1:1521:ora925
```

Notes

- `http://<host.domain>:<port>/discoverer/plus?` is the Discoverer Plus and Plus OLAP URL.
- `db=host1:1521:ora925` specifies the host name (that is, host1), port number (that is, 1521), and SID (that is, ora925).

For more information about URL parameters for Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

12.5.7 Example 7: Starting Discoverer Plus and opening a scheduled workbook

To start Discoverer Plus, connect automatically as jchan to the Sales EUL, and open a scheduled workbook, you might use the following URL:

`http://<host.domain>:<port>/discoverer/plus?cn=cf_a156&opendbid=SALES_ANALYSIS2&sheetid=42&workbooksource=Scheduled`

Notes

- `http://<host.domain>:<port>/discoverer/plus?` is the Discoverer Plus URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.
For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).
- `opendbid=<value>` specifies the workbook ID of a Discoverer scheduled workbook.
- `sheetid=<value>` specifies the worksheet ID of a Discoverer scheduled worksheet.
- `workbooksource=Scheduled` identifies the workbook as scheduled.

12.5.8 Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set

To start Discoverer Viewer, connect automatically as jchan to the Sales EUL, and open a scheduled workbook results set, you might use the following URL:

`http://<host.domain>:<port>/discoverer/viewer?cn=cf_a156&wbk=MONTHLY_ANALYSIS&3&wsk=179`

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `cn=<value>` specifies the connection ID of a Discoverer connection.
For more information about finding out connection IDs, see [Section 12.4.3, "How to find out the connection ID of a connection"](#).
- `wbk=<value>` specifies the workbook ID of a Discoverer scheduled workbook.
- `<number>` specifies the unique run ID (in this example the number 3) of a Discoverer results set.
Note: For more information about how to find out the unique run ID of a Discoverer results set, see [Section 12.4.4, "How to find out the unique run ID of a set of scheduled workbook results"](#).
- `wsk=<value>` specifies the worksheet ID.

12.5.9 Example 9: Opening an OLAP worksheet in Discoverer Viewer

To start Discoverer Viewer and open an OLAP worksheet called Export 1 that is stored in a workbook called Workbook A in the Users\JChan folder in the Discoverer Catalog, you might use the following URL:

`http://<host.domain>:<port>/discoverer/viewer?cn=cf_a102&worksheetName=Users/JChan/Workbook+A/Export+1`

Notes

- `http://<host.domain>:<port>/discoverer/viewer?` is the Discoverer Viewer URL.
- `&worksheetName` specifies the folder location and name of the OLAP worksheet.

For more information about URL parameters for Discoverer Plus OLAP, see [Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"](#).

12.6 About syntax and notation used in URL parameter tables

This document uses the following syntax and notation rules in the URL parameter tables:

- parameter names are in normal type (for example, `framedisplaystyle=`)
- variable parameter values are in italic type (for example, `cn=connection ID`)
- literal values are in normal type (for example, `framedisplaystyle=<separate or embedded>`)

12.7 List of URL parameters common to Discoverer Plus and Viewer

This table defines generic Discoverer URL parameters that you can use with both Discoverer Plus and Discoverer Viewer.

Parameter and Values	Description	Example
<code>cn=<<i>connection ID</i>></code>	Specifies the connection containing the login details with which to start Discoverer (for more information about how to find out the connection ID of a connection, see Section 12.4.3, "How to find out the connection ID of a connection"). For an example, see Section 12.5.4, "Example 4: Starting Discoverer without prompting for connection details" . For more information about using Discoverer connections in URLs, see Section 12.3, "About specifying login information using URL parameters" . See also Notes below.	<code>cn=cf_m2</code>
<code>cs=[APPS_SECURE]<<i>dbc file name</i>></code>	Specifies whether to connect in secure mode. < <i>dbc file name</i> > refers to the Applications DBC file that contains Applications connection information.	<code>cs=[APPS_SECURE]genledger_payables</code>
<code>eul=<<i>EUL name</i>></code>	Specifies the name of the EUL to which to connect. You must specify this parameter only if you want to override the default EUL. Note: EUL names are case-sensitive.	<code>eul=myEUL</code>
<code>nls_date_format=<<i>date format</i>></code>	Specifies the default date format for the session.	<code>nls_date_format='MM/DD/YY'</code>
<code>nls_date_language=<<i>date language</i>></code>	Specifies the language for day and month names displayed in Discoverer.	<code>nls_date_language=Spanish</code>
<code>nls_lang=<<i>language</i>></code>	Specifies the language and territory that Discoverer uses. Use Oracle naming conventions to specify language and territory.	<code>nls_lang=spanish_spain</code>
<code>nls_numeric_characters=<<i>separator characters</i>></code>	Specifies the default characters to use as the decimal and group separator. You must specify the decimal separator first, followed by the group separator.	<code>nls_numeric_characters=',.'</code>

Parameter and Values	Description	Example
nls_sort=<sort name or binary>	Specifies the session collating sequence for ORDER BY queries and string comparisons, as follows: <ul style="list-style-type: none"> use <sort name> to specify an alphabetical sort sequence use 'binary' to specify a binary sort 	nls_sort=binary
nls_sort=<sort type>	Specifies a character sort sequence. For more information about the nls_sort command, see <i>Oracle Database Globalization Support Guide</i> .	nls_sort=XSpanish
reuseConnection=<true or false>	Specifies whether end users must always enter a password when using URL links containing the same login details in a browser session. <p>Note: Use this preference with private Discoverer connections. End users are not prompted for a database password when using public Discoverer connections.</p> <p>Discoverer checks whether the end user has specified a database password in a browser session, and if so whether to prompt the user again for a database password.</p> <p>For example, a Web page might contain URL links to five Discoverer worksheets. If an end user selects the first worksheet and enters a database password, you might want them not to have to enter the password again if they return to the Web page and select from the other four worksheet links.</p> <p>Use 'false' if you always want end users to enter a password.</p> <p>Use 'true' if you want end users to only enter a password the first time they use a private connection in a browser session.</p>	reuseConnection=true
sg=<security group>	Specifies the Oracle Applications Security Group you want to connect with. <p>Note: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.</p>	sg=securityGroup
us=<database user name>	Specifies a database user name with which to connect to Discoverer. <p>Tip: You can also use this parameter to specify a database user name as a single parameter.</p> <p>Note: If you do not specify a user name, the Discoverer end user is prompted for a user name.</p>	us=video5
wbkowner=<workbook owner name>	Specifies the name of the owner of the workbook to open in Discoverer. <p>Note: This parameter is used when workbooks are saved with the same name under different schemas.</p>	wbkowner=guest

Notes

- When using the cn= URL parameter, note the following:
 - If Discoverer end users are not allowed to create private connections, the specified connection must be a public connection. For more information, see [Section 3.5, "About specifying whether Discoverer end users can create their own private connections"](#).

12.8 List of URL parameters specific to Discoverer Plus

This table describes Discoverer Plus-specific URL parameters that can be used in addition to the generic URL parameters in [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#).

Tip: Do not use Discoverer Plus URL parameters on the same URL as Discoverer Viewer URL parameters.

Note: For information about Discoverer Plus OLAP URL parameters, see [Section 5.7, "URL parameters for the Discoverer Plus OLAP"](#).

Parameter and Values	Description	Example
<code>_plus_popup=<true or false></code>	<p>Specifies whether to launch Discoverer Plus in a new browser window or in the Discoverer Connections page, as follows:</p> <ul style="list-style-type: none"> ■ <code>true</code> (default) launches Discoverer Plus in a new browser window. ■ <code>false</code> launches Discoverer Plus in the current browser window. <p>This URL parameter can be used with <code>framedisplaystyle</code> (for more information, see <code>framedisplaystyle=</code>).</p>	<code>_plus_popup=true</code>
<code>database=<database name or alias></code>	<p>Specifies which database to connect to when Discoverer starts.</p> <p>Tip: You can also use the connection ID URL parameter <code>cn=<value></code> to specify database, and user name as a single parameter.</p>	<code>database=mydb</code>
<code>framedisplaystyle=<separate or embedded></code>	<p>Specifies how to launch the Discoverer main window.</p> <ul style="list-style-type: none"> ■ Use <code>'separate'</code> to launch Discoverer's main window as a separate frame from the browser (that is, from the Discoverer Connections page). The browser window contains a Discoverer image and must remain open while Discoverer is being used. ■ Use <code>'embedded'</code> to launch Discoverer's main window within the current browser window. <p>When using <code>_pop_up</code> with <code>framedisplaystyle=</code>, the possible combinations are:</p> <ul style="list-style-type: none"> ■ <code>_plus_popup=true</code> and <code>framedisplaystyle=embedded</code> launches Discoverer Plus in a new pop-up browser window that contains the Plus applet embedded in it. ■ <code>_plus_popup=true</code> and <code>framedisplaystyle=separate</code> opens a new pop-up browser window and launches Discoverer Plus in a new applet window. <p>This combination launches three windows: the original browser window (that is, Discoverer Connections page), the new browser window containing the Discoverer image, and the JFrame window containing the Discoverer Plus applet.</p> <ul style="list-style-type: none"> ■ <code>_plus_popup=false</code> and <code>framedisplaystyle=embedded</code> launches Discoverer Plus in the current browser window. ■ <code>_plus_popup=false</code> and <code>framedisplaystyle=separate</code> launches Plus in a JFrame window. The current browser window contains the Discoverer image. 	<code>framedisplaystyle=separate</code>

Parameter and Values	Description	Example
helpset=<path>/<locale>/<HS file>	<p>Specifies a help set location that is different to the default Discoverer Plus help set.</p> <p>Note: The help must be in sub-directories named by the standard two character locale.</p> <p>Tip: As an alternative to using the HelpSet URL parameter to customize the help, edit the plusug.hs file and its related files.</p>	<p>helpset=Plus_files/My_custom_help</p> <p>(where the Plus_files/My_custom_help directory contains the language folders; for example, /en, /es, /fr).</p>
lookandfeelname=<system or oracle or browser or plastic or custom>	<p>Specifies a look and feel. For example, a user might want to run Discoverer Plus using the Windows look and feel.</p> <p>This setting overrides the LAF specified in Oracle Fusion Middleware Control. For more information, see Section 8.2.2, "How to change the default Discoverer Viewer LAF."</p> <p>If you specify the lookandfeelname value as 'custom', Discoverer uses the LAF class and JAR specified in the configuration.xml file.</p> <p>For more information about specifying a custom LAF on the Discoverer middle tier, see Section 8.1.3, "How to define a custom LAF for Discoverer Plus."</p>	lookandfeelname=plastic
opendb=<workbook name>	<p>Specifies the name of a workbook to open (Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook). If you use the opendb parameter more than once in the URL, Discoverer uses the last one.</p> <p>Tip: This URL parameter is included for backward compatibility. Oracle recommends that you use opendbid to specify workbooks.</p> <p>Note: 'opendb=Video+Sales+Workbook' is the equivalent of 'workbookname=Video+Sales+Workbook&workbooksource=Database'.</p> <p>See also workbookname and workbooksource.</p>	<p>opendb=Video+Sales+Workbook</p> <p>Note: You must also specify a workbook source (that is, workbooksource=Database or Scheduled). For example, workbooksource=Scheduled&opendb=Video+Sales+Workbook.</p>
opendbid=<unique ID>	<p>Specifies the unique ID of the workbook you want to open. Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook.</p> <p>For more information about how to find the unique ID of a workbook, see Section 12.4.1, "How to find out the unique workbook ID of a workbook".</p> <p>For examples, see Section 12.5, "Examples of using URL parameters".</p>	<p>opendbid=JanuarySales</p> <p>Note: You must also specify a workbook source (that is, workbooksource=Database or Scheduled). For example, workbooksource=Scheduled&opendbid=JanuarySales.</p>
param_<parameter_name>=<parameter_value>	<p>Specifies values for parameters.</p> <p>Note: If the workbook does not contain a parameter of that name, Discoverer ignores the parameter.</p>	param_regionparam=East

Parameter and Values	Description	Example
responsibility=<responsibility name>	Specifies the Oracle Applications responsibility for Oracle Applications end users. Note: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	responsibility=Manager (Discoverer bypasses the Responsibility dialog and assigns the end user an Oracle Applications responsibility of Manager)
sheet=<worksheetname>	Specifies the name of the worksheet to open by default. Note: If you use the sheet parameter more than once in the URL, Discoverer opens the last one. Tip: This URL parameter is included for backward compatibility. Oracle recommends that you use sheetid to specify worksheets.	sheet=Sales+Detail+Sheet
sheetid=<unique ID>	Specifies the unique identifier of the worksheet to open. For more information about how to find the unique ID of a worksheet, see Section 12.4.2, "How to find out the unique worksheet ID of a worksheet" . Note: You must also specify a workbook using openbid. For examples, see Section 12.5, "Examples of using URL parameters" .	sheetid=7
username=<database user name>	Specifies a database user name with which to connect to Discoverer. Tip: You can also use the connect parameter to specify a database, user name as a single parameter. Note: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	username=video_user
windowheight=<number of pixels>	Specifies the height in pixels of the Discoverer application frame. If you do not use this parameter, Discoverer uses a default value.	windowheight=600
windowwidth=<number of pixels>	Specifies the width in pixels of the Discoverer application frame. If you do not use this parameter, Discoverer uses a default value.	windowwidth=800
workbookname=<workbookname>	Specifies the name of the Discoverer workbook to open. Tip: Use this URL parameter with workbooksource. For example, 'workbookname=Video+Sales+Workbook&workbooksource=Database' is the equivalent of 'openbid=Video+Sales+Workbook'. Tip: This URL parameter is included for backward compatibility. Oracle recommends that you use openbid to specify workbooks.	workbookname=Video+Sales+Workbook
workbooksource=<Database or Scheduled>	Specifies the location of the workbook to open: <ul style="list-style-type: none"> ■ Database specifies that the workbook is saved in the database. ■ Scheduled specifies that the workbook is a scheduled workbook that is updated periodically. Tip: Use this URL parameter with openbid or workbookname. For a worked example, see Section 12.5.7, "Example 7: Starting Discoverer Plus and opening a scheduled workbook" .	workbooksource=Database

12.9 List of URL parameters specific to Discoverer Viewer

This table describes Discoverer Viewer-specific URL parameters that can be used in addition to the generic URL parameters in [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#).

Note: For information about the URL parameters to use when opening an OLAP worksheet in Discoverer Viewer, see [Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer"](#).

Tip: Do not use Discoverer Viewer URL parameters on the same URL as Discoverer Plus URL parameters.

Parameter and Values	Description	Example
anlsdf=<date format>	Specifies the date format for the session for Oracle Applications end users (synonym of nls_date_format).	anlsdf='MM/DD/YY'
anlsdl=<date language>	Specifies the language to use for the spelling of day and month names and date abbreviations (AM, PM, AD, BC) for Oracle Applications end users (synonym of nls_date_language).	anlsdl=fr
anlsl=<language>	Specifies the session language for Oracle Applications end users (synonym of nls_lang).	anlsl=en-gb
anlenc=<separator characters>	Specifies the default characters to use as the group separator and decimal for Oracle Applications end users (synonym of nls_numeric_characters). You must specify the decimal separator first, followed by the group separator.	anlenc=',.'
anlss=<sortname or binary>	Specifies the session collating sequence for ORDER BY queries and string comparisons for Oracle Applications end users (synonym of nls_sort). Values are: <ul style="list-style-type: none"> the name of an alphabetical sort sequence binary to specify a binary sort 	anlss=binary
db=<database name>	Specifies the database to connect to when Discoverer starts.	db=video
lm=<applications or discoverer>	Specifies the login method, as follows: <ul style="list-style-type: none"> applications connects as an Oracle Applications user discoverer connects as a Discoverer user 	lm=applications
pi_<page item name>=<page item value>	Specifies the name of a page item and the value to select.	pi_Region=West
qp_<parameter name>=<parameter value>	Specifies values for parameters.	qp_City=Denver
rs=<responsibility>	Specifies the Oracle Applications Responsibility you want to connect with. Note: If you do not specify a user name, responsibility, or security group, the Discoverer end user is prompted to enter the missing login information.	rs=Manager
wb=<workbook name>	Specifies the name of the Discoverer workbook to open. Tip: This URL parameter is included for backward compatibility. Oracle recommends that you use wbk to specify workbooks. Note: Use + to indicate spaces in workbook names.	wb=My+Workbook

Parameter and Values	Description	Example
wbk=<unique ID>	<p>Specifies the unique ID of the workbook to open.</p> <p>Discoverer assumes that the workbook is stored in the database, not as a scheduled workbook.</p> <p>For more information about how to find the unique ID of a workbook, see Section 12.4.1, "How to find out the unique workbook ID of a workbook".</p> <p>Note: If you want to specify a scheduled workbook results set, you must also specify the unique run ID of the scheduled workbook results set using the syntax &wbk=<unique workbook ID>&<unique run ID>&wsk=<unique worksheet ID> (for more information, see Section 12.4.4, "How to find out the unique run ID of a set of scheduled workbook results").</p> <p>For a worked example, see Section 12.5.8, "Example 8: Starting Discoverer Viewer and opening a scheduled workbook results set".</p>	wbk=JanuarySales
ws=<worksheet name>	<p>Specifies the name of the relational worksheet to open by default.</p> <p>Note: To specify an OLAP worksheet, use the worksheetName URL parameter (for more information, see Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer").</p> <p>Note: This URL parameter is included for backward compatibility. Oracle recommends that you use wsk to specify worksheets.</p>	ws=My+Worksheet
wsk=<unique ID>	<p>Specifies the unique identifier of the relational worksheet to open.</p> <p>Note: To specify an OLAP worksheet, use the worksheetName URL parameter (for more information, see Section 5.8, "URL parameters for an OLAP worksheet in Discoverer Viewer").</p> <p>For more information about how to find the unique ID of a worksheet, see Section 12.4.2, "How to find out the unique worksheet ID of a worksheet".</p> <p>Note: You must also specify a workbook using wbk.</p> <p>For examples, see Section 12.5, "Examples of using URL parameters".</p>	wsk=7

Maintaining Security with Oracle BI Discoverer

This chapter only applies to Discoverer Plus and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter describes the different security mechanisms that Discoverer uses to protect sensitive resources, and contains the following topics:

- [Section 13.1, "About Discoverer and security"](#)
- [Section 13.2, "About Discoverer and the database security model"](#)
- [Section 13.3, "About Discoverer and the Discoverer EUL security model"](#)
- [Section 13.4, "About Discoverer and the Oracle Applications security model"](#)
- [Section 13.5, "About Discoverer and the Oracle Fusion Middleware Security model"](#)
- [Section 13.6, "Using Discoverer with Oracle Fusion Middleware Security"](#)
- [Section 13.7, "Configuring End-to-End Secure Sockets Layer for Discoverer"](#)
- [Section 13.8, "Using Discoverer with Oracle Identity Management Infrastructure"](#)
- [Section 13.9, "Discoverer support for Single Sign-On details propagation"](#)
- [Section 13.10, "Frequently asked questions about security"](#)

13.1 About Discoverer and security

Discoverer uses (and must therefore protect) different sensitive resources, including:

- Data (for example, users must only see information they are allowed to see)
- Metadata (for example, users must not be able to edit workbooks to which they do not have access)
- Discoverer connections (for example, database login details must not be transmitted or persisted without being securely encrypted)
- System resources (for example, CPU, memory)
- Network resources (or more precisely, the protection of data as it is transmitted across a network)

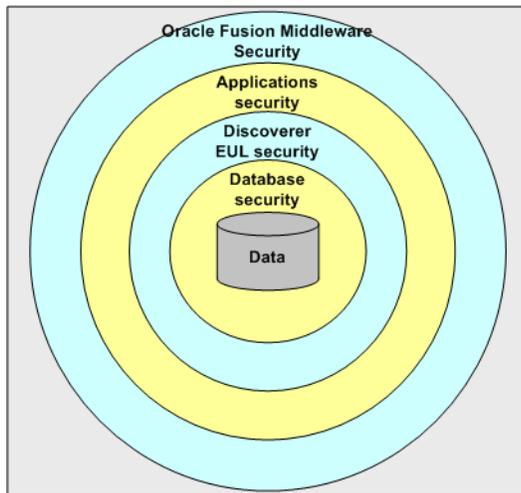
The table below shows the sensitive resources used and protected by the different Discoverer components:

Sensitive resource	Used and protected by Discoverer Plus	Used and protected by Discoverer Viewer	Used and protected by Discoverer Portlet Provider	Used and protected by Discoverer Administrator	Used and protected by Discoverer pages in Fusion Middleware Control
Data	Yes	Yes	Yes	Yes	Not used
Metadata	Yes	Yes	Yes	Yes	Yes
Discoverer connections	Yes	Yes	Yes	Not used	Yes
System resources	Yes	Yes	Yes	Yes	Yes
Network resources	Yes	Yes	Yes	Yes	Yes

Discoverer uses several security mechanisms to prevent unauthorized access to the above resources. These security mechanisms are provided by the following security models:

- Database security model
- Discoverer EUL security model
- Oracle Applications security model
- Oracle Fusion Middleware Security model

The diagram below shows the multiple security mechanisms employed by Discoverer, all of which ultimately protect data and system resources from unauthorized access:



The security mechanisms that Discoverer employs depend on the category of Discoverer user (as defined by the Discoverer product they are using), as follows:

- Discoverer Plus, Discoverer Viewer, and Discoverer Portlet Provider users (that is, Discoverer end users)
- Oracle BI Discoverer Administrator users (that is, Discoverer managers)
- users administering Discoverer using Fusion Middleware Control (that is, Discoverer middle-tier administrators)

The table below shows the security models are used by Discoverer components:

Security Model	Used by Discoverer Plus	Used by Discoverer Viewer	Used by Discoverer Portlet Provider	Used by Discoverer Administrator	Used by Discoverer pages in Fusion Middleware Control
Database	Yes	Yes	Yes	Yes	No
Discoverer EUL	Yes	Yes	Yes	Yes	No
Applications	Yes	Yes	Yes	Yes	No
Oracle Fusion Middleware	Yes	Yes	Yes	No	Yes

13.2 About Discoverer and the database security model

At the most basic level, data in the database is protected from unauthorized access by the database's own security model. In the case of an Oracle database, this security model comprises:

- database users and roles
- database privileges

The database privileges granted directly to database users (or granted indirectly through database roles) determine the data that users can access. Typically, you set up database security by using a database administration tool or SQL*Plus.

Discoverer uses the database's own security model to ensure that users never see information to which they do not have database access.

For more information about the database security model and how Discoverer uses it, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

Note: Discoverer is certified with the Oracle Advanced Security Option (ASO) encryption technology provided by the Oracle database (that is, in Oracle 8.1.7 databases and later). The certification has four encryption types (RC4, DES, Triple-DES, and AES). Oracle ASO encryption incurs little performance overhead, although performance varies depending on several factors (for example, the operating system, the encryption algorithm). For more information about Oracle ASO encryption, refer to the Oracle database documentation.

13.3 About Discoverer and the Discoverer EUL security model

Discoverer managers use Discoverer Administrator to grant Discoverer access permissions and task privileges directly to database users (or indirectly through database roles), as follows:

- to control who can see and use which business areas, Discoverer managers grant Discoverer access permissions
- to control the tasks each user is allowed to perform, Discoverer managers grant Discoverer task privileges

Regardless of the access permissions and task privileges granted in Discoverer Administrator, a Discoverer end user only sees folders if that user has been granted the following database privileges (either directly or through a database role):

- SELECT privilege on all the underlying tables used in the folder

- EXECUTE privilege on any PL/SQL functions used in the folder

Even if they share workbooks with each other, Discoverer users never see information to which they do not have database access.

Discoverer Administrator also enables Discoverer managers to protect system resources by:

- setting scheduled workbook limits to control the system resources available to end users
- preventing end user queries from running for longer than a specified maximum duration
- preventing end user queries from returning more than a specified number of rows

Discoverer managers can extend Discoverer functionality by registering their own PL/SQL functions. However, they can only register PL/SQL functions to which they have been granted the EXECUTE database privilege.

For more information about the Discoverer EUL security model, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

Notes

- To enforce read-only access to Discoverer workbooks, run Discoverer Plus in read-only mode for specified Discoverer end users by removing the Create/Edit Query privilege in Oracle BI Discoverer Administrator (for more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*).
- Some EUL maintenance scripts supplied with Discoverer grant database privileges to the Discoverer manager and the PUBLIC user (for more information, see [Appendix D, "Oracle BI Discoverer Administrative Account Information"](#)).

13.4 About Discoverer and the Oracle Applications security model

A common use of Discoverer is to provide ad-hoc query access to Oracle Applications databases. To provide such access, Discoverer managers can use Discoverer Administrator to create Applications mode EULs.

Discoverer end users can connect to an Oracle Applications database using their Oracle e-Business Suite user ID and responsibility. For more information, see [Section 14.1, "About Discoverer connections and Oracle e-Business Suite"](#).

An Oracle Applications mode EUL is a Discoverer End User Layer based on an Oracle Applications schema (containing the Oracle Applications FND (Foundation) tables and views).

Oracle Applications EULs make use of the following Oracle Applications security model features:

- Oracle Applications users and responsibilities
Oracle Applications EULs employ Oracle Applications user names and responsibilities whereas standard EULs use database users and roles. Discoverer managers running Discoverer Administrator in Oracle Applications mode grant access permissions or task privileges to Oracle Applications responsibilities instead of roles.
- Oracle Applications row level security

Many Oracle Applications tables and views are user-sensitive, and return different results depending on which user/responsibility is used to access these tables/views. Discoverer correctly runs queries that respect these user-sensitive tables and views.

- Oracle Applications multiple organizations

Oracle Applications multiple organizations support enables Discoverer to work with data from more than one organization. Discoverer end users can query and analyze data from the set of organizations to which they have been granted access. The folders in the EUL must be based on Oracle Business Views (available in Oracle Applications 11i).

For more information about the Oracle Applications security model and how Discoverer uses it, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

Notes

- Oracle Single Sign-On does not work within BIS, EDW, or DBI Web pages.

13.5 About Discoverer and the Oracle Fusion Middleware Security model

Note: This section applies only if the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer schemas. For more information, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

Oracle Security is an integrated management and security framework that provides:

- central management for Oracle and the Oracle environment to reduce total cost of ownership
- out-of-box monitoring, alerting, and diagnostics to eliminate unexpected downtime and performance problems
- end-to-end performance monitoring of Web applications, and root cause analysis to resolve performance bottlenecks
- a complete and integrated identity management infrastructure for user management, provisioning, Single Sign-On and Public Key infrastructure
- advanced security and identity management features to ensure end-to-end security of deployed Web applications

The Oracle Fusion Middleware Security model comprises:

- Oracle Fusion Middleware Framework Security
- Oracle Identity Management infrastructure
- Oracle Advanced Security

To ensure that Discoverer fully leverages the Oracle Fusion Middleware Security model:

- use the HTTPS services provided by Oracle Fusion Middleware Framework Security (for more information, see [Section 13.6, "Using Discoverer with Oracle Fusion Middleware Security"](#))
- use the Single Sign-On services provided by Oracle Identity Management infrastructure (for more information, see [Section 13.8, "Using Discoverer with Oracle Identity Management Infrastructure"](#))

In addition, the Oracle Fusion Middleware Security model underpins the Discoverer connection mechanism (for more information, see [Section 13.5.1, "About Discoverer public connections and the Oracle Fusion Middleware Security model"](#)).

For more information about Oracle Security, see:

- *Oracle Fusion Middleware Application Security Guide*
- *Oracle Fusion Middleware Getting Started with Oracle Identity Management*

13.5.1 About Discoverer public connections and the Oracle Fusion Middleware Security model

Discoverer managers can give users access to information by using Oracle Fusion Middleware Control to create public connections. Each connection specifies an EUL containing one or more business areas.

Discoverer managers can control users' access to information by restricting users to using public connections or by giving users permission to create their own private connections.

For more information about connections, see [Chapter 3, "Managing Oracle BI Discoverer Connections"](#).

13.6 Using Discoverer with Oracle Fusion Middleware Security

Oracle Fusion Middleware Security provides several services, including:

- HTTPS/SSL support (using Oracle HTTP Server)
- user authentication and authorization (using Java Authentication and Authorization Service (JAAS), also known as JAZN)
- encryption (using Java Cryptography Extension (JCE))

You can specify that Discoverer uses the HTTPS/SSL support offered by the Oracle HTTP Server as one of the communication protocols to communicate between the Discoverer server and the Discoverer client tier components. For more information, see:

- [Section 13.6.1, "About specifying Discoverer communication protocols"](#)
- [Section 13.6.2, "About Discoverer Viewer security and communication protocols"](#)
- [Section 13.6.3, "About Discoverer Plus security and communication protocols"](#)

For more information about Oracle Fusion Middleware Security, see *Oracle Fusion Middleware Application Security Guide*.

Notes

- When you install Oracle Business Intelligence, SSL is installed automatically and enabled by default. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle HTTP Server*.

13.6.1 About specifying Discoverer communication protocols

You can use Discoverer in different network environments that might or might not include firewalls using different communication protocols (that is, JRMP, HTTP, HTTPS).

The most appropriate network environment depends on both existing network strategies in your organization and your requirements for:

- performance (how long it takes to display information)
- accessibility (whether data has to be accessed through a firewall)
- security (how secure the data needs to be during transmission)

Note that you must use HTTPS if you want to ensure that sensitive information (for example, passwords, data) is securely transmitted across a network.

Discoverer Viewer and Discoverer Plus require different security configurations:

- for more information about configuring security for Discoverer Viewer, see [Section 13.6.2, "About Discoverer Viewer security and communication protocols"](#)
- for more information about configuring security for Discoverer Plus, see [Section 13.6.3, "About Discoverer Plus security and communication protocols"](#)

Notes

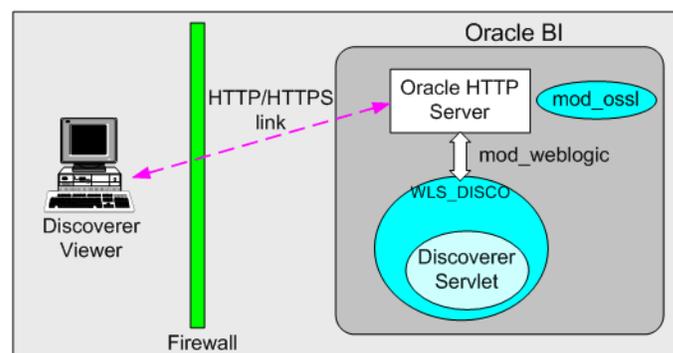
- If you are deploying Oracle BI Discoverer with Oracle Web Cache, there are security implications for some restricted user environments.

For more information, see:

- [Section 7.4, "When to use Discoverer Viewer with Oracle Web Cache"](#)
- *Oracle Fusion Middleware Application Security Guide*
- If you have deployed Discoverer in a multiple-machine installation, note that you might want to specify different communication protocols on different Discoverer middle tier machines. For example, you might use:
 - the JRMP protocol on one machine for Plus users working inside a firewall
 - the HTTPS protocol on two other machines for Viewer users accessing reports across the Web

13.6.2 About Discoverer Viewer security and communication protocols

Discoverer Viewer uses standard HTTP or HTTPS protocols to connect Discoverer Viewer clients to the Discoverer servlet.



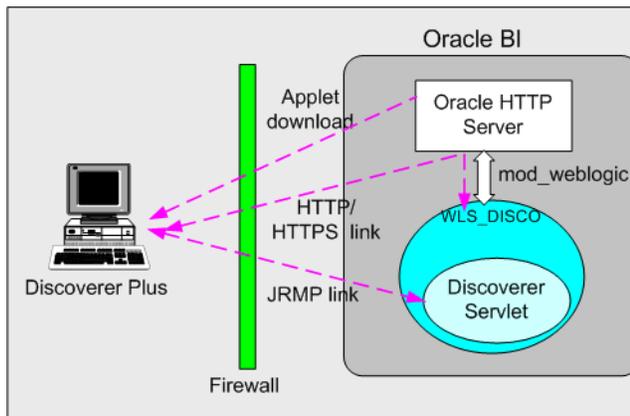
Note: Discoverer Viewer client machines require only a standard Web browser to run Discoverer Viewer.

In a default Oracle installation, Discoverer Viewer is configured as follows:

- In an HTTP environment, no additional security configuration is required. If you are using a firewall, open the firewall for the Oracle HTTP Server port used by Oracle (for example, 80).
- If you are using a firewall, open the firewall for the Oracle HTTP Server SSL port used by Oracle (for example, 4443). In an HTTPS environment, Discoverer Viewer uses SSL security certificates on the client machine's browser. If you are using a nonstandard or private SSL signing authority, you must install the root certificates in the browser. For more information about deploying Discoverer Viewer over HTTPS, see [Section 2.5, "About running Discoverer over HTTPS"](#).

13.6.3 About Discoverer Plus security and communication protocols

Discoverer Plus uses standard Java Remote Method Protocol (JRMP), HTTP, or HTTPS protocols to connect clients to the Discoverer servlet.



Discoverer Plus uses two communication channels:

- when a Discoverer Plus client first connects to the Discoverer servlet, the Discoverer Plus applet is downloaded and installed on the Discoverer client machine
- after the Discoverer Plus applet is installed on the Discoverer client machine, the Discoverer Plus client machine uses one of JRMP, HTTP, or HTTPS to communicate with the Discoverer servlet

In a default Oracle installation, Discoverer Plus is configured as follows, depending on the environment:

- In an Intranet environment (that is, inside firewalls), no additional security configuration is required. Discoverer Plus clients connect to the Discoverer servlet using the JRMP protocol.

Ensure that the default Discoverer Plus communication protocol (that is, Default) is selected (for more information, [Section 13.6.3.3, "How to set up Discoverer Plus to use the Default communication protocol"](#)).

- In an HTTPS environment, Discoverer Plus uses security certificates on the client machine's browser. When you run Discoverer Plus for the first time over HTTPS (that is, in Secure Sockets Layer (SSL) mode), you must install your Web server's security certificate into the Java Virtual Machine (JVM) certificate store in all client machines that must run Discoverer Plus.

Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Fusion Middleware Control ([Section 13.6.3.5,](#)

"How to set up Discoverer Plus to use the Secure Tunneling communication protocol").

For more information about deploying Discoverer Plus over HTTPS, see [Section 2.5, "About running Discoverer over HTTPS"](#).

If you are using a firewall, open the firewall for the Oracle HTTP Server SSL port used by Oracle (for example, port 4443 on a UNIX middle tier or 443 on a Windows middle tier).

Notes

- You typically use the same communication protocol to download the Discoverer applet as you do for communication with the Discoverer servlet (for more information, see [Section 13.6.3.1, "About specifying a Discoverer Plus communication protocol"](#)).

13.6.3.1 About specifying a Discoverer Plus communication protocol

Using Fusion Middleware Control, you can specify which communication protocol the Discoverer Plus applet (that is, the Discoverer client) and the Discoverer servlet (that is, on the Discoverer middle tier) use to communicate. The three communication protocol options are:

- Default

Specify this option if you want the Discoverer Plus applet to attempt to use JRMP and if this fails, to use HTTP or HTTPS (depending on the URL) to communicate with the Discoverer servlet.

The advantage of using the Default communication protocol is that Discoverer Plus works regardless of whether the client browser is running inside or outside a firewall. However, it is slower outside the firewall on the initial connection because JRMP is tried first.

For more information about specifying this option, see [Section 13.6.3.3, "How to set up Discoverer Plus to use the Default communication protocol"](#).

- Tunneling

Specify this option if you want the Discoverer Plus client to connect using the same method to communicate with the Discoverer servlet as was originally used to download the applet itself (that is, either HTTP or HTTPS depending on the URL). This option works regardless of whether a firewall is being used.

The advantage of using the Tunneling communication protocol is that it is quicker than the Default option, because JRMP is not attempted first before failing and trying again using HTTP or HTTPS.

For more information about specifying this option, see [Section 13.6.3.4, "How to set up Discoverer Plus to use the Tunneling communication protocol"](#).

- Secure Tunneling

Specify this option if you want the Discoverer Plus client to always use HTTPS to communicate with the Discoverer servlet.

The advantage of using the Secure Tunneling communication protocol is that it is quicker than the Default option, because JRMP is not attempted first before failing and trying again using HTTPS.

For more information about specifying this option, see [Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#).

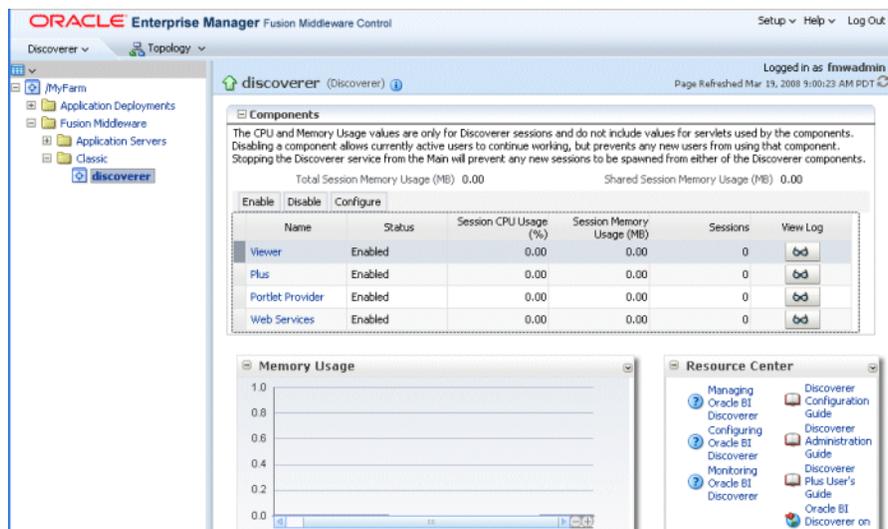
Note: If you deploy Discoverer Plus over HTTPS, end users must use an HTTPS URL. If they use an HTTP URL, Discoverer does not start (for more information about troubleshooting HTTPS problems, see [Section E.8, "Discoverer Plus reports RMI error"](#)).

13.6.3.2 How to display Communications Protocols on the Discoverer Plus Configuration page in Fusion Middleware Control

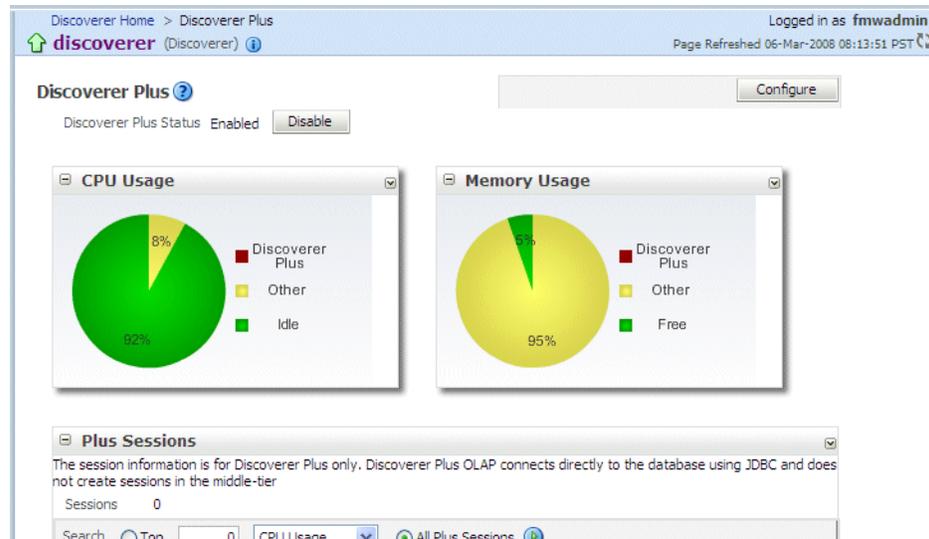
You use the Discoverer Plus Configuration page in Fusion Middleware Control to specify a Discoverer Plus communication protocol. For example, if you want to encrypt Discoverer Plus data, you might want to configure Discoverer Plus to use the HTTPS communication protocol.

To display the Discoverer Plus communication protocols in Fusion Middleware Control:

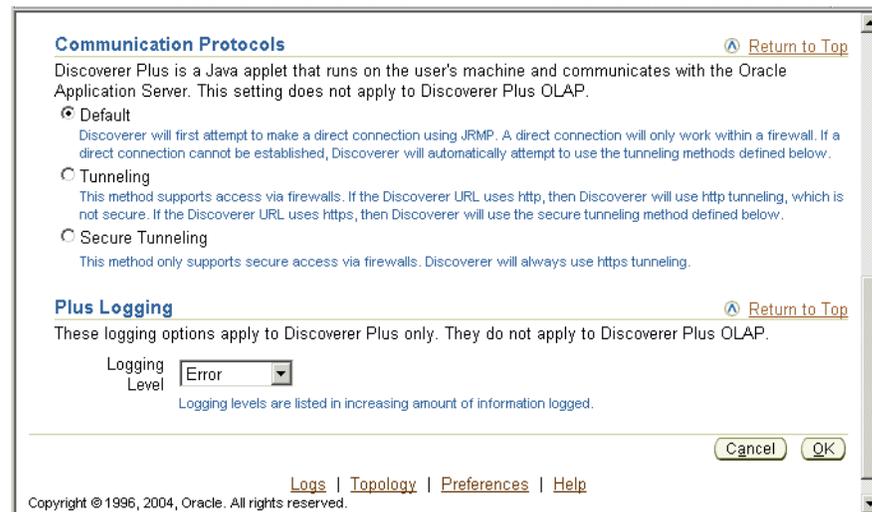
1. Display the Fusion Middleware Control Discoverer Home page (for more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#)).



2. Select **Discoverer Plus** in the Components area to display the Fusion Middleware Control Discoverer Plus Home page.



3. Click Configure to display the Discoverer Plus Configuration page.



13.6.3.3 How to set up Discoverer Plus to use the Default communication protocol

To set up Discoverer Plus to use the Default communication protocol:

1. Display Fusion Middleware Control and navigate to the Discoverer Plus Communication Protocols area in the Discoverer Plus Configuration page (for more information, see [Section 13.6.3.2, "How to display Communications Protocols on the Discoverer Plus Configuration page in Fusion Middleware Control"](#)).
2. Select the **Default** option from the **Communication Protocols** options.
3. Click Apply to save the details.
4. Give Discoverer Plus users the URL of the Discoverer servlet:

For example, `http://<host.domain>:80/discoverer/plus`

The Discoverer Plus applet attempts to use JRMP. If JRMP is not available, the Discoverer Plus applet uses HTTP or HTTPS (depending on the URL) to communicate with the Discoverer servlet.

Note: This option works regardless of whether the applet is running inside or outside a firewall. However, it is slower outside the firewall because JRMP is tried first. For more information about the other options on this page, refer to [Section 13.6.3.1, "About specifying a Discoverer Plus communication protocol"](#).

13.6.3.4 How to set up Discoverer Plus to use the Tunneling communication protocol

You use the Tunneling option when you want to run Discoverer Plus over HTTP.

To set up Discoverer Plus to use the Tunneling communication protocol:

1. Display Fusion Middleware Control and navigate to the Discoverer Plus Communication Protocols area in the Discoverer Plus Configuration page (for more information, see [Section 13.6.3.2, "How to display Communications Protocols on the Discoverer Plus Configuration page in Fusion Middleware Control"](#)).
2. Choose the **Tunneling** option from the **Communication Protocols** options.
3. Click Apply to save the details.
4. (optional) If you are using a firewall, open the appropriate port in the firewall to accept HTTP or HTTPS traffic as appropriate.
5. Give Discoverer Plus users the URL of the Discoverer servlet:

For example, `http://<host.domain>:80/discoverer/plus`

The Discoverer Plus applet uses the same protocol to communicate with the Discoverer servlet as was originally used to download the applet itself (that is, either HTTP or HTTPS). This option works regardless of whether a firewall is being used.

13.6.3.5 How to set up Discoverer Plus to use the Secure Tunneling communication protocol

You use the Secure Tunneling option when you want to run Discoverer Plus over HTTPS.

To set up Discoverer Plus to use the Secure Tunneling communication protocol:

1. Display Fusion Middleware Control and navigate to the Oracle BI Discoverer Plus Communication Protocols area in the Discoverer Plus Configuration page (for more information, see [Section 13.6.3.2, "How to display Communications Protocols on the Discoverer Plus Configuration page in Fusion Middleware Control"](#)).
2. Choose the **Secure Tunneling** option from the **Communication Protocols** options.
3. Click Apply to save the details.
4. (optional) If you are using a firewall, open the appropriate port in the firewall to accept HTTP or HTTPS traffic as appropriate.
5. Give Discoverer Plus users the URL of the Discoverer servlet:

For example, `https://<host.domain>:4443/discoverer/plus`

The Discoverer Plus applet uses the HTTPS protocol to communicate with the Discoverer servlet.

When a Discoverer end user starts Discoverer Plus for the first time on a client machine, they are prompted to confirm that they want to accept a default security certificate. Before selecting the Yes option on the Security Alert dialog, the Discoverer end user must install a Discoverer Plus security certificate on the client machine (for

more information, see [Section 2.5.1, "How to install a security certificate on a Discoverer Plus client machine"](#)).

13.7 Configuring End-to-End Secure Sockets Layer for Discoverer

If you have Oracle HTTP Server and Oracle Web Cache front-ending the Oracle WebLogic Server that hosts Oracle BI Discoverer, then to enable end-to-end Secure Sockets Layer (SSL) you must perform these steps:

1. Enable SSL for Single Sign-On. For more information, see ["Enabling SSL for the Single Sign-on Server"](#).
2. Enable SSL for the Oracle Web Cache end points. To enable inbound and outbound SSL for Web Cache, follow the procedures described in the section "Enabling SSL for Oracle Web Cache Endpoints" in *Oracle Fusion Middleware Administrator's Guide*.
3. Enable SSL for the Oracle HTTP Server virtual hosts. To enable inbound and outbound SSL for Oracle HTTP Server virtual hosts, follow the procedures described in the section "Enabling SSL for Oracle HTTP Server Virtual Hosts" in *Oracle Fusion Middleware Administrator's Guide*.
4. If Single Sign-On is enabled, modify the virtual host configuration. For more information, see ["Modifying the Virtual Host Configuration"](#).
5. Re-register the partner applications with the SSO server as described in the section ["Re-registering mod_osso"](#).

If you are using Oracle Access Manager, see section "Registering an OSSO Agent (mod_osso)" in *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager with Oracle Security Token Service*.

6. Enable the WebLogic Plug-in parameter. For more information, see ["Enabling WebLogic Plug-In"](#).

Enabling SSL for the Single Sign-on Server

To manually configure SSL, refer to the information on enabling SSL in the *Oracle Application Server Single Sign-On Administrator's Guide*. If you are going to configure OracleAS Single Sign-On behind a reverse proxy server, you should refer to the information on deploying OracleAS Single Sign-On with a proxy server, in the *Oracle Application Server Single Sign-On Administrator's Guide* at:

http://download.oracle.com/docs/cd/B28196_01/idmanage.1014/b15988/toc.htm

Note: As the OracleAS Single Sign-On middle-tier partner application is still non-SSL, you must re-register it as non-SSL. Therefore, the re-registration of mod_osso needs to specify the non-SSL URL of the OracleAS Single Sign-On middle tier for the mod_osso_url parameter to ssoreg.

Refer to the information on registering mod_osso in the *Oracle Application Server Single Sign-On Administrator's Guide*.

Modifying the Virtual Host Configuration

If you are using SSL connections, then add the `ServerName` entry in the `ssl.conf` file of the Oracle HTTP Server virtual host and specify the Oracle Web Cache listening port as follows:

1. Open the Oracle HTTP Server home page in the Oracle Enterprise Manager 11g Fusion Middleware Control, select **Administration**, and then **Advanced Configuration**.
2. Select the **ssl.conf** file, add the `ServerName` entry for the virtual host and specify the Oracle Web Cache SSL listening port as shown in the following example:

```
<VirtualHost *:OHS_listening_port>
UseCanonicalName On
ServerName https://www.abc.com:8094
<IfModule ssl_module>
SSLEngine on
SSLVerifyClient None
SSLCipherSuite
SSL_RSA_WITH_RC4_128_MD5,SSL_RSA_WITH_RC4_128_SHA,SSL_RSA_WITH_3DES_EDE_CBC_SH
A,SSL_RSA_WITH_DES_CBC_SHA,TLS_RSA_WITH_AES_128_CBC_SHA,TLS_RSA_WITH_AES_256_C
BC_SHA
SSLCRLCheck Off
SSLWallet "wallet_location"
```

Ensure that `wallet_location` specifies the full path of the custom wallet as shown in the following example:

```
SSLWallet "$ORACLE_INSTANCE/config/OHS/ohs1/keystores/default"
```

Re-registering mod_osso

If you have enabled Oracle Single Sign-On authentication (that is, if you have registered `mod_osso`), follow these steps to re-register `mod_osso`:

1. On the OracleAS Single Sign-On host, set the environment variables `ORACLE_HOME` and `ORACLE_SID`.
2. On the OracleAS Single Sign-On host, run the `ssoreg` script, using the `-remote_midtier` option. The script is located at:

```
(UNIX) ORACLE_HOME/sso/bin/ssoreg.sh
(Windows) ORACLE_HOME\sso\bin\ssoreg.bat
```

For example, on LINUX:

```
$ORACLE_HOME/sso/bin/ssoreg.sh
-site_name www.abc.com
-config_mod_osso TRUE
-mod_osso_url https://www.abc.com:8094
-update_mode MODIFY
-remote_midtier
-config_file ORACLE_INSTANCE/config/OHS/ohs1/osso.conf
-admin_info cn=orcladmin
```

3. Copy the `osso.conf` file to the Oracle HTTP Server instance where you have configured the virtual host for the web cache ssl port (`ORACLE_INSTANCE/config/OHS/ohs1/osso.conf`).
4. Restart the Oracle HTTP Server using the following commands:

```
ORACLE_HOME/bin/opmnctl stopall
ORACLE_HOME/bin/opmnctl startall
```

Enabling WebLogic Plug-In

For SSL-enabled Discoverer, you must enable the `WebLogic Plug-In Enabled` option for the Oracle WebLogic Server Administration Server and the Managed Server (WLS_DISCO). For more information about configuring the `WebLogic Plug-In Enabled` option through the Oracle WebLogic Server Administration Console, see the section "Servers: Configuration: General" in *Oracle Fusion Middleware Oracle WebLogic Server Administration Console Online Help* at:

http://download.oracle.com/docs/cd/E14571_01/apirefs.1111/e13952/core/index.html.

13.8 Using Discoverer with Oracle Identity Management Infrastructure

Note: This section applies only if the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer schemas. For more information, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

Oracle Identity Management Infrastructure provides several services, including:

- Oracle Single Sign-On
- Oracle Access Manager
- Oracle Certificate Authority
- Oracle Internet Directory
- Oracle Delegated Administration Services
- Oracle Directory Integration and Provisioning
- LDAP Developer Kit

You can specify that Discoverer uses single sign-on to enable users to access Discoverer using the same user name and password as other Web applications.

Notes:

- If you plan to use Oracle Single Sign-On (OSSO) 10g as a single sign-on solution for Oracle BI Discoverer 11g, you need to associate Oracle Identity Manager 11g with Oracle Single Sign-On (OSSO)10g before associating it with Oracle BI Discoverer 11g.
 - If you plan to use Oracle Access Manager 11g for single sign-on, skip Oracle Identity Manager 11g association during the Oracle BI Discoverer configuration.
-

For more information about the single sign-on options and recommendations, see the chapter "Evaluating Single Sign-On Installations" in *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.

This section contains the following topics:

- [Section 13.8.1, "Using Discoverer with Oracle Single Sign-On"](#)
- [Section 13.8.2, "Using Discoverer with Oracle Access Manager"](#)
- [Section 13.8.3, "Using Discoverer without Oracle Single Sign-On or Oracle Access Manager"](#)

For more information about Oracle Identity Management Infrastructure, see *Oracle Fusion Middleware Getting Started with Oracle Identity Management*.

13.8.1 Using Discoverer with Oracle Single Sign-On

This section describes Oracle Single Sign-On and how to use it with Discoverer.

13.8.1.1 About Oracle Single Sign-On and Discoverer

Oracle Single Sign-On is a component of Oracle Fusion Middleware that enables users to access multiple Web applications (for example, Oracle BI Discoverer and Oracle Portal) using a single user name and password that is entered once.

Note: Oracle Single Sign-On is implemented using Oracle Single Sign-On Server.

When you install Oracle, the Oracle Single Sign-On service is installed automatically, but it is not enabled by default for Discoverer. For information about how to enable Oracle Single Sign-On, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer"](#).

Discoverer connections work in both Single Sign-On and non-Single Sign-On environments. In an Oracle Single Sign-On environment, if a Discoverer end user starts Discoverer without having been authenticated by Oracle Single Sign-On, the user is challenged for Single Sign-On details (user name and password). Having provided Single Sign-On details, the user can display the Discoverer connections page and start Discoverer without having to enter a user name or password again.

For more information about how Oracle BI Discoverer works with Oracle Portal and Single Sign-On, see [Section 13.8.1.3, "An example showing how Discoverer works with Oracle Portal and Single Sign-On"](#).

Notes

- Oracle Single Sign-On does not work within BIS, EDW, or DBI Web pages.
- Oracle Single Sign-On, can be enabled for both Discoverer Plus and Discoverer Viewer, but not for a single Discoverer component. For example, you cannot enable Oracle Single-Sign-On for Discoverer Plus only.

When you install Oracle, the Oracle Single Sign-On service is installed automatically, but it is not enabled by default for Discoverer. For information about how to enable Oracle Single Sign-On, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer"](#).

13.8.1.2 How to enable and disable Single Sign-On for Discoverer

You enable and disable Single Sign-On on the Oracle BI Discoverer instance.

To enable and disable Single Sign-On, do the following:

1. Open the `mod_osso.conf` file in a text editor (for more information about the location of configuration files, see [Section A.1, "Discoverer file locations"](#)).
2. To enable Single Sign-On for Discoverer, add the following text to the end of the file:

```
<Location /discoverer/plus>
require valid-user
AuthType Osso
</Location>
<Location /discoverer/viewer>
require valid-user
AuthType Osso
</Location>
<Location /discoverer/app>
require valid-user
```

```
AuthType Osso
</Location>
```

3. To disable single sign-on for Discoverer, remove the following text from the file:

```
<Location /discoverer/plus>
require valid-user
AuthType Osso
</Location>
<Location /discoverer/viewer>
require valid-user
AuthType Osso
</Location>
<Location /discoverer/app>
require valid-user
AuthType Osso
</Location>
```

4. Save the `mod_osso.conf` file.
5. Restart Oracle HTTP Server by running the following `opmnctl` command (located at `ORACLE_INSTANCE\bin` directory):

```
opmnctl stopall
opmnctl startall
```

Notes

- Do **not** enable Oracle Single Sign-On for the URL `/discoverer/portletprovider`. Discoverer relies on Oracle Portal to protect the `/discoverer/portletprovider` URL. In other words, do not specify the Location value as `/discoverer`, as follows:

```
<Location /discoverer/portletprovider>
require valid-user
AuthType Osso
</Location>
```

- Do **not** enable Oracle Single Sign-On for the URL `/discoverer/wsi`. Discoverer relies on Oracle Bi Publisher to protect the `/discoverer/wsi` URL. In other words, do not specify the Location value as `/discoverer`, as follows:

```
<Location /discoverer/wsi>
require valid-user
AuthType Osso
</Location>
```

- Ensure that the `OsoIPCheck` parameter value in the `mod_osso.conf` file is set to `off`.
- If you use Oracle Web Cache to cache Discoverer Viewer pages, note that caching for Discoverer does not work if Single Sign-On is enabled.

13.8.1.3 An example showing how Discoverer works with Oracle Portal and Single Sign-On

When you publish Discoverer content in a portlet on an Oracle Portal page, you give portal users access to the Discoverer workbooks and worksheets. However, portal users accessing Discoverer workbooks only see data to which they have database access. In other words, two different users accessing the same workbook might see different data, depending on their database privileges. For more information, see

Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets.

To illustrate how Oracle BI Discoverer works with Oracle Portal, consider the following example:

Imagine that there are two Single Sign-On users:

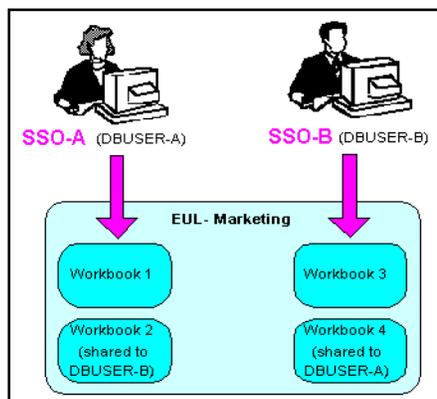
- User SSO-A has a private connection Conn-A pointing to DBUSER-A@discodb, EUL-Marketing.
- User SSO-B has a private connection Conn-B pointing to DBUSER-B@discodb, EUL-Marketing.

User SSO-A using connection Conn-A creates two workbooks Workbook 1 and Workbook 2 in the Marketing EUL. User SSO-A uses Discoverer Plus to share Workbook 2 with DBUSER-B.

User SSO-B using connection Conn-B creates two workbooks Workbook 3 and Workbook 4 in the Marketing EUL. User SSO-B uses Discoverer Plus to share Workbook 4 with DBUSER-A.

This situation is shown in the figure below:

Figure 13–1 Single Sign-On users creating workbooks



Now imagine that user SSO-A creates a List of Worksheets portlet using Conn-A, and chooses the 'Use user's database connection' option in the **Logged In users** section (that is, in the Select Database Connections page in the Discoverer Portlet Provider).

When user SSO-A accesses the List of Worksheets portlet, worksheets in the following workbooks are available:

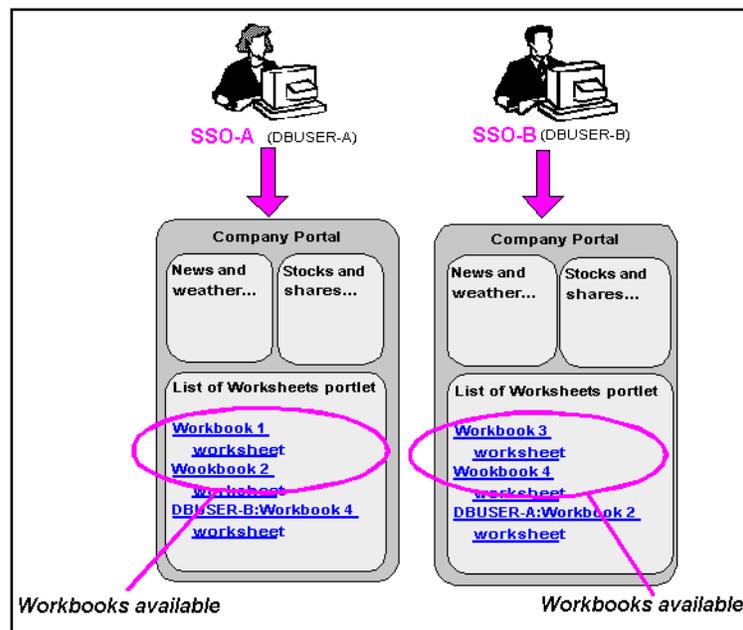
- Workbook 1
- Workbook 2
- DBUSER-B.Workbook 4

When user SSO-B accesses the same List of Worksheets portlet, worksheets in the following workbooks are available:

- Workbook 3
- Workbook 4
- DBUSER-A.Workbook 2

This situation is shown in the figure below:

Figure 13–2 Single Sign-On users accessing Discoverer portlets



13.8.2 Using Discoverer with Oracle Access Manager

Oracle Access Manager (OAM) is a component in Oracle Fusion Middleware that provides single sign-on solution to access multiple Web applications using a single user name and password. Oracle Access Manager is the recommended enterprise-wide single sign-on solution. This section describes how to use Oracle Access Manager with Oracle BI Discoverer and contains the following topics:

- [Section 13.8.2.1, "Single Sign-On using Oracle Access Manager 11g"](#)
- [Section 13.8.2.2, "Upgrading your Oracle Single Sign-On 10g Environment"](#)

13.8.2.1 Single Sign-On using Oracle Access Manager 11g

Oracle BI Discoverer 11g Release 1 (11.1.1) supports single sign-on using Oracle Access Manager 11g. Oracle recommends that you install Oracle BI Discoverer and then configure Oracle Access Manager 11g. Follow the procedure below to install and use Oracle Access Manager with Oracle BI Discoverer:

1. Install and Configure Oracle BI Discoverer. For more information, see *Oracle Fusion Middleware Installation Guide for Oracle Portal, Forms, Reports and Discoverer*.
2. Install Oracle Access Manager as described in the chapter "Installing Oracle Identity and Access Management (11.1.1.5.0)" in *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.
3. Configure Oracle Access Manager and ensure that the Oracle Access Manager server is running after the deployment. For more information, see chapter "Configuring Access Manager" in *Oracle Fusion Middleware Installation Guide for Oracle Identity Management*.
4. Register the OSSO agent (mod_osso) with OAM 11g. For more information about how to register the OSSO agent, see section "Registering an OSSO Agent (mod_osso)" in *Oracle Fusion Middleware Administrator's Guide for Oracle Access Manager with Oracle Security Token Service*.
5. Edit the `mod_osso.conf` file as follows:

- a. Copy the `mod_osso.conf` file from the `$MW_HOME/instance_name/config/OHS/ohs1/backup/disabled` directory to the `$MW_HOME/instance_name/config/OHS/ohs1/moduleconf` directory.
- b. Create a folder named 'osso' under the location `$MW_HOME/instance_name/config/OHS/ohs1/` and copy the `osso.conf` file generated after registration.
- c. Edit the `mod_osso.conf` file from the location `$MW_HOME/instance_name/config/OHS/ohs1/moduleconf` and add the following lines:

```
LoadModule osso_module "${ORACLE_HOME}/ohs/modules/mod_osso.so"

<IfModule osso_module>

    OssoIpCheck off
    OssoIdleTimeout off
    OssoHttpOnly off
    OssoSecureCookies off
    OssoConfigFile MW_Home1/asinst_1/config/OHS/ohs1/osso/osso.conf

    <Location /discoverer/plus>
        require valid-user
        AuthType Osso
    </Location>

    <Location /discoverer/viewer>
        require valid-user
        AuthType Osso
    </Location>

    <Location /discoverer/app>
        require valid-user
        AuthType Osso
    </Location>

</IfModule>
```

- d. Save the `mod_osso.conf` file.
 - e. Restart Oracle HTTP Server by running the following `opmnctl` commands located at `ORACLE_INSTANCE\bin` directory:

```
opmnctl stopall
opmnctl startall
```
6. Restart the Oracle Access Manager server that is hosting the OSSO Agent.
 7. Verify whether the Oracle BI Discoverer URLs can be accessed through the OAM authentication screen.

13.8.2.2 Upgrading your Oracle Single Sign-On 10g Environment

If you have already configured the Oracle Single Sign-On 10g service that is installed with Oracle BI Discoverer 11g, to use the OAM single sign-on solution for Discoverer, you can upgrade the existing Oracle Single Sign-On 10g Release 2 to Oracle Access Manager 11g. For more information about upgrading to OAM, see the chapter "Upgrading Your Oracle Single Sign-On Environment" in *Oracle Fusion Middleware Upgrade Guide for Oracle Identity Management*.

Note: You must retain the existing Oracle Single Sign-On 10g host name and port number. Use the same host name and port number when you install OAM 11g.

After you upgrade Oracle Single Sign-On to Oracle Access Manager, you must replace the existing `osso.conf` file with the new configuration file that is generated during the upgrade process. The configuration file created during the upgrade process is located in the `ORACLE_HOME/upgrade/temp/oam` directory as `Discovererinstance_hostname_osso.conf`. Rename this file as `osso.conf` and copy the `osso.conf` file to the `ORACLE_INSTANCE/config/OHS/ohs1` directory. Replace the existing `osso.conf` file in this directory with the new file.

Note: Create a copy of the existing `osso.conf` file before you replace it with the new configuration file. Later, if you want to use Oracle Single Sign-On, copy this configuration file back to the `ORACLE_INSTANCE/config/OHS/ohs1` directory and restart Oracle HTTP Server.

To enable and disable single sign-on for Oracle BI Discoverer, edit the `mod_osso.conf` file as described in [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer"](#).

13.8.3 Using Discoverer without Oracle Single Sign-On or Oracle Access Manager

If you are not deploying Discoverer with Single Sign-On or Oracle Access Manager, end users must confirm the database password each time a private connection is used. In other words, when a Discoverer end user chooses a private connection for the first time in a browser session, they are prompted to confirm the database password.

If the end user closes the Web browser and then starts the Web browser again (that is, creates a new browser session), they are prompted to confirm their database password. End users do not have to confirm passwords for public connections. For more information, see [Section 3.2, "What are the types of Discoverer connections?"](#).

Notes

- To store private Discoverer connections in non-Oracle Single Sign-On environments, cookies must be enabled in the Web browser.
- In non-Oracle Single Sign-On environments, a Discoverer end user can only access private connections created using the current machine and current Web browser. If an end user wants to use a different machine or different Web browser, they must re-create the private connections.

13.9 Discoverer support for Single Sign-On details propagation

This section explains how you can use Discoverer with a Virtual Private Database (VPD) using Oracle Single Sign-On details, and contains the following topics:

- [Section 13.9.1, "Introducing Virtual Private Databases, Single Sign-On, and Discoverer"](#)
- [Section 13.9.2, "Example for using GUID or SSO user name to limit Discoverer data"](#)

- [Section 13.9.3, "About tasks for using SSO user names to limit Discoverer data"](#)
- [Section 13.9.4, "How to set up Worksheet Portlets to show data based on GUID, SSO or OAM user name"](#)
- [Section 13.9.5, "When to use other options in the Users Logged In region of the Select Database Connections page"](#)
- [Section 13.9.6, "How to modify database LOGON \(and subsequent\) triggers to use the GUID, SSO, or OAM user name"](#)
- [Section 13.9.7, "How to use the eul_trigger\\$post_login trigger"](#)

Notes

- Discoverer does not support Single Sign-On details propagation when running against a multidimensional data source (for example, in Discoverer Plus OLAP). You can create a VPD using the database ID, and using the D4O_AUTOGO file to control scoping (or striping) in the database when starting a Discoverer Plus OLAP session. For more information, refer to the appropriate Oracle database documentation.

For more information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

- Discoverer only uses the Oracle Single Sign-On identity to determine what data is accessible. Discoverer uses database user names and roles internally to manage business area access, workbook sharing, and scheduling. In other words, if you create a VPD policy for an Oracle Single Sign-On user, Discoverer does not restrict the list of workbooks that it displays based on the Oracle Single Sign-On identity. Discoverer displays all workbooks available to the current user name/database connection regardless of the Oracle Single Sign-On user name that was used to log in. However, the Oracle Single Sign-On user can view only worksheet data that conforms to the VPD policy defined for that Oracle Single Sign-On user.

13.9.1 Introducing Virtual Private Databases, Single Sign-On, and Discoverer

The Oracle database's (Enterprise Edition Release 1 and later) powerful Virtual Private Database (VPD) feature enables you to define and implement custom security policies. Among other things, the VPD feature enables you to enforce fine-grained access control based upon attributes of a user's session information (referred to as application context). This VPD functionality is commonly employed as a way of controlling access to data using the currently logged-on user's Oracle Single Sign-On identity. For more information about setting up a VPD, see *Oracle Database Advanced Application Developer's Guide*.

If Discoverer has been configured to require Oracle Single Sign-On authentication, Discoverer can pass one of the following values to the database (as the CLIENT_IDENTIFIER attribute of the built-in application context USERENV):

- The Global User ID (GUID) associated with the Discoverer end user's Oracle Single Sign-On user name
This option is true for Discoverer (version 11.1.1 and later) if GUID is selected in the User ID field on the Discoverer Administration page in Oracle Fusion Middleware Control.
- The Discoverer end user's Oracle Single Sign-On user name
This option is true for either of the following:

- Discoverer (versions earlier than 11.1.1) - if Discoverer has been configured to require Oracle Single Sign-On
- Discoverer (version 11.1.1 and later) - if SSO User Name is selected in the User ID field on the Discoverer Administration page in Oracle Fusion Middleware Control

Providing a VPD policy based on GUID or Oracle Single Sign-On user names has been implemented in the database, the data returned to a Discoverer worksheet is restricted to the data that the respective GUID or Oracle Single Sign-On user is authorized to access (and depending on the conditions described in the previous paragraphs).

You can optionally add user-defined PL/SQL statements to both database LOGON (and subsequent) triggers and to a Discoverer trigger (eul_trigger\$post_login) to use the GUID or Oracle Single Sign-On user name to further control the data that is returned. You can use Discoverer triggers and the database separately or together.

13.9.2 Example for using GUID or SSO user name to limit Discoverer data

Note: To enable the Oracle Single Sign-On user name to limit Discoverer data, in Discoverer (version 11.1.1 and later), SSO User Name must be selected in the User ID field on the Discoverer Administration page in Oracle Fusion Middleware Control.

The Discoverer manager at Acme Corp. does the following:

1. Configures the Discoverer middle tier machines so that Oracle Single Sign-On authentication is necessary to access the Discoverer URLs.
2. Creates a Discoverer public connection called 'Analysis', that has access to a workbook called 'Sales'.
3. Creates a VPD policy against the base tables of the workbooks. The VPD policy determines the data that is returned, based on the value of a variable called 'CONTEXT1'.
4. Creates a database LOGON trigger that sets variable CONTEXT1 to the value of the GUID (extracted from the application context information passed to the database by Discoverer).

To enable the Oracle Single Sign-On user name to limit Discoverer data, in step 4 replace the GUID, with the Oracle Single Sign-On user name.

The Sales workbook is used by two Discoverer users at ACME Corp., Fred Bloggs and Jane Smith. A typical workflow for these two users is shown below:

1. User 'Fred.Bloggs' authenticates through Oracle Single Sign-On and accesses the top level Discoverer URL.
2. Fred selects the public connection 'Analysis', and opens the workbook 'Sales'.
3. Fred views the data in the default worksheet, and then logs out.
4. User 'Jane.Smith' authenticates through Oracle Single Sign-On and accesses the top level Discoverer URL.
5. Jane selects the public connection 'Analysis', and then opens workbook 'Sales'.
6. Jane views the data in the default worksheet.

Jane sees different data to Fred, despite the identical database connection, workbook, worksheet and database query. The difference is determined by the VPD policy being based on the GUID (or Oracle Single-Sign-On user name).

13.9.3 About tasks for using SSO user names to limit Discoverer data

Before the data shown in a Discoverer worksheet can be controlled using Oracle Single Sign-On user names, a Discoverer manager performs the following tasks:

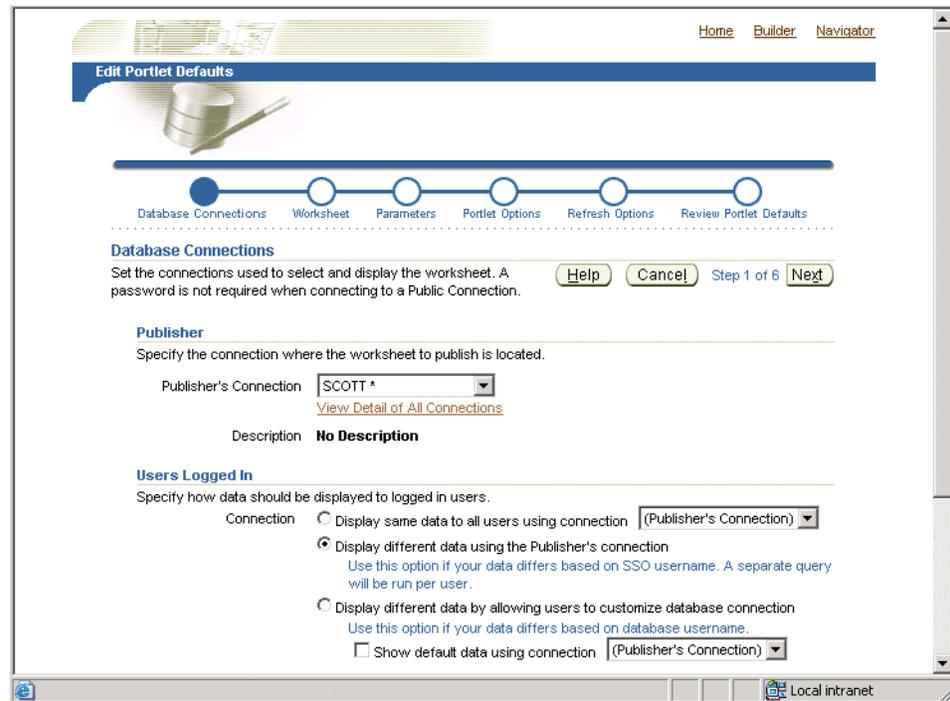
- Configures the Discoverer middle tier machines so that Oracle Single Sign-On authentication is necessary to access the Discoverer URLs (for more information, see [Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer"](#))
- Creates a Discoverer public connection, with access to one or more workbooks (for more information, see [Section 3.6, "How to create public connections"](#))
- Creates a VPD policy against the base tables of the workbooks, if one does not exist (for more information about how to create a VPD policy, see *Oracle Database Advanced Application Developer's Guide*)
- (optional) Configures a Discoverer Worksheet portlet to use Oracle Single Sign-On user names (for more information, see [Section 13.9.4, "How to set up Worksheet Portlets to show data based on GUID, SSO or OAM user name"](#))
- (optional) Creates or modifies database LOGON (and subsequent) triggers to use the Oracle Single Sign-On user name to further control the data that is available to the Oracle Single Sign-On user (for more information, see [Section 13.9.6, "How to modify database LOGON \(and subsequent\) triggers to use the GUID, SSO, or OAM user name"](#))
- (optional) Creates a function to be executed by the `eul_trigger$post_login` trigger, and registers the function using Discoverer Administrator (for more information, see [Section 13.9.7, "How to use the eul_trigger\\$post_login trigger"](#))

13.9.4 How to set up Worksheet Portlets to show data based on GUID, SSO or OAM user name

Having created a VPD policy in the database that uses GUIDs, Oracle Single Sign-On (SSO), or Oracle Access Manager (OAM) user names to determine the data that users can access, you can set up a Discoverer Worksheet portlet to only show the data that can be accessed by the current SSO/OAM user name.

To specify that users only see the data they can access with their SSO or OAM user name:

1. In the **Users Logged In** region of the Select Database Connections setup page for the Discoverer Worksheet Portlet.
2. Select the **Display different data using the Publisher's connection** option.



When you select the above option, Discoverer passes the worksheet portlet user's SSO or OAM user name to the database. The VPD policy can then use the GUID or SSO/OAM user name to restrict the data that is returned to the worksheet portlet.

13.9.5 When to use other options in the Users Logged In region of the Select Database Connections page

If you want all users to always see the same data from the database regardless of their own database user names, or SSO/OAM user names, do the following in the Select Database Connections setup page for the Discoverer Worksheet Portlet:

1. Select the **Display same data to all users using <Publisher's Connection>** option.

If you want users to initially see the same data from the database (regardless of their own database user names or SSO/OAM user names) but to give them the option of specifying an alternative database user name:

1. Select the **Display different data by allowing users to customize database connection** option.
2. Select the **Show default data using <Publisher's Connection>** check box.

13.9.6 How to modify database LOGON (and subsequent) triggers to use the GUID, SSO, or OAM user name

You can modify database LOGON (and subsequent) triggers to use the GUID or SSO/OAM user name passed by Discoverer to further control the data that is available to the SSO/OAM user. For example, you might want to call custom PL/SQL functions that take the GUID or SSO/OAM user name to perform application specific initialization.

To modify database triggers to use the GUID, SSO or OAM user name:

1. Create a suitable database trigger.

2. Add the required code to manipulate the GUID or SSO/OAM user name.

Tip: To return the GUID or SSO/OAM user name passed by Discoverer, query the CLIENT_IDENTIFIER attribute of the USERENV application context namespace using the following function call:

```
SYS_CONTEXT('USERENV', 'CLIENT_IDENTIFIER')
```

Notes

- The GUID or SSO/OAM user name passed by Discoverer is available as early as the execution of the database LOGON trigger.
- If Discoverer is not configured to use Oracle Single Sign-On, the SYS_CONTEXT function call returns NULL.
- The SSO user name is available with Oracle9i (Release 1 and later) databases.

13.9.7 How to use the eul_trigger\$post_login trigger

You can use the eul_trigger\$post_login trigger instead of, or with, the database LOGON (and subsequent) triggers to further control the information that is displayed in a Discoverer worksheet based on the GUID or Oracle Single Sign-On user name. Use the eul_trigger\$post_login trigger (rather than the database triggers) if:

- you want trigger code to affect just Discoverer users, not all database users
- you do not have DBA privilege (and therefore cannot modify the database LOGON (or subsequent) trigger code)

To use the eul_trigger\$post_login trigger:

1. Define a PL/SQL function in the database that:
 - has a return type of integer
 - does not take any arguments
2. Add the required code to manipulate the GUID or Oracle Single Sign-On user name.

Tip: To return the GUID or Oracle Single Sign-On user name passed by Discoverer, query the CLIENT_IDENTIFIER attribute of the USERENV application context namespace using the following function call:

```
SYS_CONTEXT('USERENV', 'CLIENT_IDENTIFIER')
```

3. Register the function with Discoverer Administrator and give it the following properties:
 - Name: eul_trigger\$post_login
 - Return type: Integer
 - Arguments: none

For more information about registering PL/SQL functions and using Discoverer EUL triggers, see the *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

4. If the Database/EnableTriggers preference exists in the pref.txt file, set it to a value other than zero.

Notes

- If the Database/EnableTriggers preference does not exist in the pref.txt file, do not create it.
- If the Database/EnableTriggers preference does exist and you must change its value (that is, to make it nonzero), you must subsequently:
 1. Run the applypreferences script to apply the preference change.
 2. Stop and restart the Oracle BI Discoverer service for the change to take effect.

13.10 Frequently asked questions about security

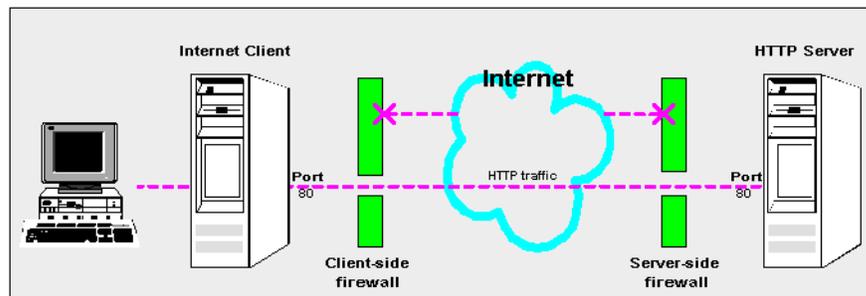
This section contains common security questions and answers.

13.10.1 What is a firewall?

A firewall is one system or a group of several systems put in place to enforce a security policy between the Internet and an organization's network.

In other words, a firewall is an electronic 'fence' around a network to protect it from unauthorized access.

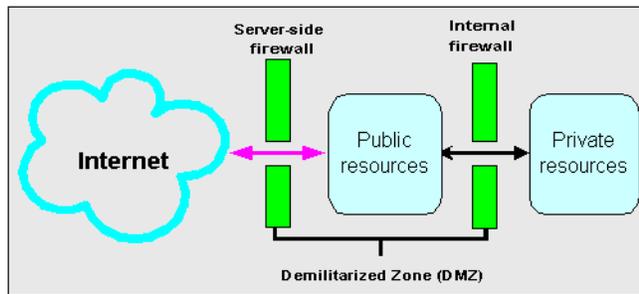
Figure 13–3 A typical Internet connection with a Client-side and Server-side firewall



Typically, an organization using a Web Server machine that communicates across the Internet has a firewall between its Oracle HTTP Server machine and the Internet. This is known as a Server-side firewall. Other organizations (or remote parts of the same organization) connecting to this Web Server machine typically have their own firewall, known as a Client-side firewall. Information that conforms to the organization's firewall policy is allowed to pass through the firewalls enabling server machines and client machines to communicate.

13.10.2 What is a demilitarized zone (DMZ)?

A demilitarized zone (DMZ) is a firewall configuration that provides an additional level of security. In this configuration, the DMZ is an extra network placed between a protected network and the Internet. Resources residing within the DMZ are visible on the public Internet, but are secure. DMZs typically hold servers that host a company's public Web site, File Transfer Protocol (FTP) site, and Simple Mail Transfer Protocol (SMTP) server.

Figure 13–4 A Demilitarized Zone (DMZ)

Firewall policies vary across organization and there are a wide variety of bespoke and off-the-shelf firewall packages in use.

A good firewall configuration assumes that resources in the DMZ will be breached, and if this happens, the firewall should minimize damage to the internal network and any sensitive data residing on the network. This involves two steps:

- Move sensitive private resources (at a minimum, databases and application logic) from the DMZ to the internal network behind the internal firewall
- Restrict access to sensitive private resources from the DMZ itself, and from internal networks

13.10.3 What is HTTPS and why should I use it?

The HTTPS protocol uses an industry standard protocol called Secure Sockets Layer (SSL) to establish secure connections between clients and servers.

The SSL protocol enables sensitive data to be transmitted over an insecure network, such as the Internet, by providing the following security features:

- Authentication - a client can determine a server's identity and be certain that the server is not an impostor (and optionally, a client can also authenticate the identity of its server)
- Privacy - data passed between the client and server is encrypted such that if a third party intercepts messages, the third party cannot unscramble the data
- Integrity - the recipient of encrypted data knows whether a third party has corrupted or modified that data

You can tell when SSL is enabled in Discoverer as follows:

- The URL to start Discoverer Plus begins with `https://`, and a closed padlock appears at the left hand side of the applet's status bar

Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Fusion Middleware Control ([Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#)).

- The URL to start Discoverer Viewer begins with `https://`, and a closed padlock or other equivalent symbol (browser dependent) appears in the browser's status bar

13.10.4 How do I configure Discoverer to work in an intranet

You configure Discoverer to work in an intranet as follows:

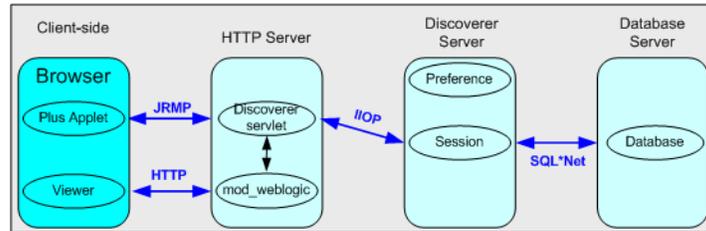
- Discoverer Viewer

Deploying Discoverer Viewer in an intranet (that is, inside a firewall) requires no additional configuration after an Oracle installation. Discoverer Viewer uses an HTTP connection.

- Discoverer Plus

Deploying Discoverer Plus in an intranet (that is, inside a firewall) requires no additional configuration after an Oracle installation. Discoverer Plus uses a direct connection using JRMP.

Figure 13–5 A typical network configuration for Discoverer in an intranet



13.10.5 How do I configure Discoverer to work through a firewall?

You configure Discoverer to work through firewalls with HTTP or HTTPS, as follows:

- Discoverer Viewer

Discoverer Viewer requires no additional configuration if the firewall allows HTTP traffic to pass through.

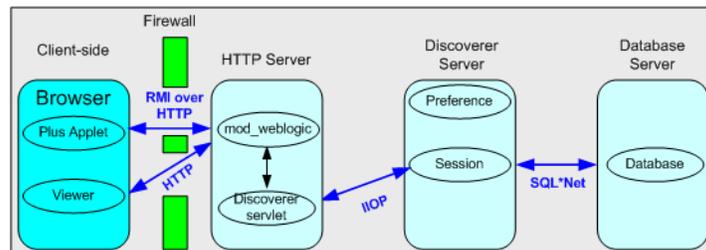
- Discoverer Plus

Discoverer Plus requires no additional configuration if the firewall allows HTTP or HTTPS traffic to pass through.

To improve performance on initial connection, you might want to change the Discoverer Plus communication protocol to one of the following:

- For HTTP, set the communication protocol to Tunneling to prevent the Discoverer client from first trying to connect using JRMP, then by HTTP (for more information, see [Section 13.6.3.4, "How to set up Discoverer Plus to use the Tunneling communication protocol"](#)).
- For HTTPS, set the communication protocol to Secure Tunneling to prevent the Discoverer client from first trying to connect using JRMP, then by HTTP, then by HTTPS (for more information, see [Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#)).

Figure 13–6 A typical firewall configuration for Discoverer using HTTP



13.10.6 Can I configure Discoverer to work through multiple firewalls?

Yes. If you are using HTTP or HTTPS, Discoverer works through multiple firewalls. For more information, see [Section 13.10.5, "How do I configure Discoverer to work through a firewall?"](#)

13.10.7 How do I configure Discoverer to use encryption in an intranet?

You configure Discoverer to use encryption as follows:

- Discoverer Viewer

Configure `mod_oss1` to use HTTPS (for more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle HTTP Server*) and deploy Discoverer Viewer on an HTTPS URL.

- Discoverer Plus

Configure `mod_oss1` to use HTTPS (for more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle HTTP Server*) and deploy Discoverer Plus on an HTTPS URL. You must change the Discoverer Plus communication protocol to Secure Tunneling (for more information, see [Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#)).

13.10.8 How do I configure Discoverer to use encryption through firewalls?

You configure Discoverer to use encryption through firewalls as follows:

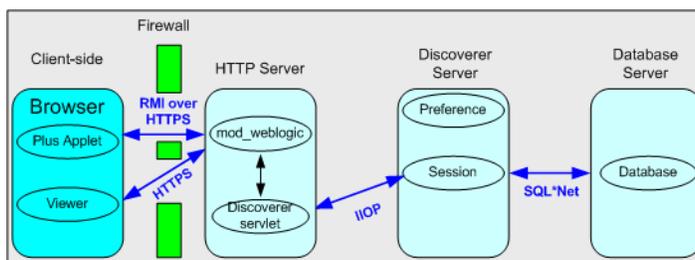
- Discoverer Viewer

Configure Discoverer Viewer to work through a firewall (for more information, see [Section 13.10.5, "How do I configure Discoverer to work through a firewall?"](#)). Then, ensure that the firewall(s) allow HTTPS traffic to pass through.

- Discoverer Plus

Configure Discoverer Plus to work through a firewall (for more information, see [Section 13.10.5, "How do I configure Discoverer to work through a firewall?"](#)). Then, ensure that the firewall(s) allow HTTPS traffic to pass through.

Figure 13–7 A typical firewall configuration for Discoverer using HTTPS



13.10.9 How can I verify that Discoverer is encrypting communications?

In Discoverer Viewer, ensure that client browsers display a closed padlock or other equivalent symbol (browser dependent) in the Discoverer Viewer browser's status bar.

In Discoverer Plus, ensure that the client displays a closed padlock symbol in the bottom left-hand corner of the Discoverer Plus applet window.

13.10.10 Can I configure Discoverer for both intranet users and users accessing Discoverer through a firewall?

Yes, you can configure Discoverer for both intranet users and Internet users. For example, if you use the Default Discoverer Plus communication protocol:

- sessions connecting from inside the firewall use a direct JRMP connection because JRMP is a direct connection that only works inside a firewall
- sessions connecting from outside the firewall automatically use an HTTP or HTTPS connection (depending on the URL)

13.10.11 Can I use Discoverer with a NAT device?

Yes, you can deploy Discoverer using any standard Network Address Translation (NAT) device.

Oracle BI Discoverer and Oracle e-Business Suite

This chapter only applies to Discoverer Plus Relational and Discoverer Viewer. For more information about configuring Discoverer Plus OLAP, see [Chapter 5, "Configuring Discoverer Plus OLAP"](#).

This chapter explains how Oracle BI Discoverer provides capabilities for integrating with Oracle e-Business Suite, and contains the following topics:

- [Section 14.1, "About Discoverer connections and Oracle e-Business Suite"](#)
- [Section 14.2, "About Discoverer private connections, Oracle Single Sign-On and Oracle e-Business Suite users"](#)
- [Section 14.3, "About Discoverer preference settings for Oracle e-Business Suite"](#)

For information about Discoverer and Oracle e-Business Suite certification, see [Section E.3, "Discoverer and Oracle Applications certification"](#).

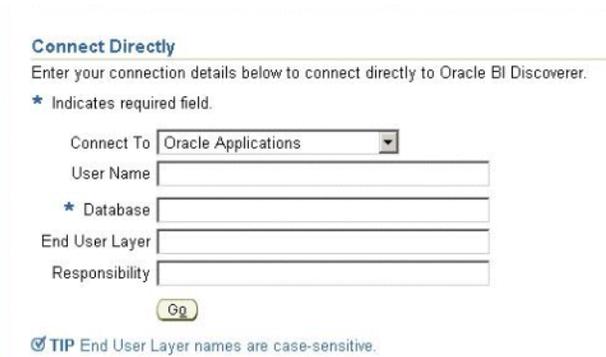
Note: The terms Oracle Applications and Oracle e-Business Suite are used interchangeably in this chapter.

14.1 About Discoverer connections and Oracle e-Business Suite

Discoverer end users can connect to an Oracle Applications database using their Oracle e-Business Suite user ID and responsibility. End users can select an existing connection (that is, a stored set of database login details) or connect to Discoverer directly. For more information about connecting to Discoverer using an existing connection, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus*.

Oracle e-Business Suite users can connect to Discoverer directly by selecting Oracle Applications from the **Connect To** drop down list in the Connect Directly area on the Connect to Discoverer page.

Figure 14–1 Discoverer Connect Directly area showing Oracle Applications selected using the Connect To drop down list



Connect Directly

Enter your connection details below to connect directly to Oracle BI Discoverer.

* Indicates required field.

Connect To: Oracle Applications

User Name: _____

* Database: _____

End User Layer: _____

Responsibility: _____

Go

TIP End User Layer names are case-sensitive.

When an end user connects as an Oracle e-Business Suite user (by selecting the Oracle Applications option from the **Connect To** drop down list), if the end user has more than one Oracle Applications Responsibility, Discoverer prompts them to specify an Applications Responsibility (for example, System Administrator).

Notes

- Discoverer is configured for a mixed application environment (that is, where some users use Oracle e-Business Suite and some do not). In other words, in the **Connect To** field on the login page (or Discoverer Create Connection page), end users can select Oracle BI Discoverer, Oracle Applications, or Oracle BI Discoverer Plus OLAP.
- Oracle e-Business Suite security can only apply if you select Oracle Applications from the **Connect To** drop down list. It is not possible to define an Oracle BI for OLAP connection that uses e-Business Suite security.
- You can also create public Oracle e-Business Suite connections using Oracle Fusion Middleware Control. For more information, refer to [Section 3.6, "How to create public connections"](#) or *Oracle Fusion Middleware Control Help*.
- A default Oracle e-Business Suite Gateway User ID (GWYUID), password, and Foundation Name (FNDNAM) is specified in the pref.txt configuration file (for more information about preference settings, see [Section 14.3, "About Discoverer preference settings for Oracle e-Business Suite"](#)).
- For connections when launching Discoverer from the BIS, EDW or DBI home pages, Discoverer uses a DBC file stored in a location specified by the FND_SECURE and FND_TOP variables stored in configuration.xml. For more information about the location of configuration.xml, see [Section A.1, "Discoverer file locations"](#).

Note: The note above does not apply when users use Oracle e-Business Suite connections from the Connect to Oracle BI Discoverer page.

For more information about Database Connection (DBC) files, see *Oracle Applications System Administrator's Guide*.

14.2 About Discoverer private connections, Oracle Single Sign-On and Oracle e-Business Suite users

Oracle e-Business Suite (Oracle Applications) users that are associated with an Oracle Single Sign-On (SSO) user, can create and use Discoverer private connections without entering a password.

This section contains the following topics:

- [Section 14.2.1, "About conditions for enabling Oracle Applications users to create or use private connections when using SSO-enabled Oracle Applications databases?"](#)
- [Section 14.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases"](#)

14.2.1 About conditions for enabling Oracle Applications users to create or use private connections when using SSO-enabled Oracle Applications databases?

Oracle Applications users can create or use private connections to Discoverer using Oracle Single Sign-On, when all of the following conditions are true:

- Oracle Applications users must use Discoverer Version 10.1.2.1 (or later)
 - Oracle Single Sign-On must be installed and enabled for Discoverer
- For more information, see [Section 13.8.1, "Using Discoverer with Oracle Single Sign-On"](#).
- Oracle Single Sign-On connections must be enabled for Oracle Applications users in Oracle Fusion Middleware Control (FMW)

To enable Oracle Single Sign-On connections, select the **Allow authenticated Oracle Single Sign-On users to create and use private connections to Oracle Single Sign-On-enabled Oracle Applications databases, without entering a password** check box on the Discoverer Administration page in Oracle Fusion Middleware Control.

For more information about how to enable connections to Oracle Single Sign-On-enabled Oracle Applications databases for Oracle Applications users in this Discoverer installation, see [Section 14.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases"](#).

- Discoverer must be running against an Oracle Single Sign-On-enabled Oracle Applications database
 - Oracle Applications users must be associated with an Oracle Single Sign-On user
- When you create or use private connections using Oracle Single Sign-On, you select an Oracle Applications user that is associated with an Oracle Single Sign-On user, and you are not prompted for password information.

14.2.2 How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases

Oracle Applications users normally enter a password when creating or using private connections. However, Oracle Applications users that are associated with an Oracle Single Sign-On user can create and use Discoverer private connections without entering a password, when using an Oracle Single Sign-On-enabled Oracle Applications database.

To enable Oracle Applications users to create or use private connections to Oracle Single Sign-On-enabled Oracle Applications databases:

1. Display the Fusion Middleware Control Discoverer Home page (for more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#)).
2. Select Administration from the Discoverer menu to display the Discoverer Administration page.
3. Use the **Allow authenticated Oracle Single Sign-On users to create and use private connections to Oracle Single Sign-On-enabled Oracle Applications databases, without entering a password** check box to specify whether Oracle Single Sign-On is enabled for the Discoverer installation, as follows:
 - Select the check box to enable Oracle Applications users (that are associated with an Oracle Single Sign-On user to create and use private connections without entering a password (when using an Oracle Single Sign-On-enabled Oracle Applications database).
 - Clear the check box to disable Oracle Applications users (that are associated with an Oracle Single Sign-On user from creating and using private connections without entering a password (when using an Oracle Single Sign-On-enabled Oracle Applications database).
4. Click Apply to save the details.

14.3 About Discoverer preference settings for Oracle e-Business Suite

When you deploy Discoverer in an Oracle e-Business Suite environment, there are two preference settings that you can override in the pref.txt file:

- the AppsGWYUID preference specifies a Gateway User ID and Password (the default value is 'APPLSYSPUB/PUB')
- the AppsFNDNAM preference specifies a Foundation Name (the default value is 'APPS')

AppsGWYUID and AppsFNDNAM are specified in the pref.txt configuration file (for more information, see [Section A.1, "Discoverer file locations"](#)).

Note: After editing the pref.txt file, you must run the applypreferences script to apply the preference changes you have made, then stop and restart the Oracle BI Discoverer service (for more information, see [Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl"](#)).

Oracle BI Discoverer Configuration Files

This appendix provides reference information about Discoverer configuration files, and contains the following topics:

- [Appendix A.1, "Discoverer file locations"](#)
- [Appendix A.2, "Configuration settings in configuration.xml"](#)
- [Appendix A.3, "Configuration settings in opmn.xml"](#)

A.1 Discoverer file locations

This section lists the locations of files that are used to configure Oracle BI Discoverer.

Many of the settings in the configuration files are configured by using Fusion Middleware Control. Where possible, use Fusion Middleware Control to configure Discoverer. If you update settings in the configuration files manually, you must only do so in accordance with the instructions in this guide.

[Table A-1](#) shows the locations of the Discoverer configuration files on UNIX. For Windows, replace the slashes (/) in the path with backslashes (\).

Table A-1 Discoverer Configuration File Locations

File name	Description and location
applypreferences.sh/.bat	This file updates the Discoverer Preferences component (Windows specific). Location: <i>ORACLE_INSTANCE/Discoverer/Discoverer_instance-name/util/</i> Note: Information about processing errors is stored in error.txt .
checkdiscoverer.sh/.bat	This file starts a utility that checks the configuration of the Discoverer middle tier, checks the status of the middle-tier components, and reports any failures or anomalies. Location: <i>ORACLE_INSTANCE/Discoverer/Discoverer_instance-name/util/</i> Note: Documentation about the <code>checkdiscoverer</code> utility is available in the <code>\util</code> directory.
collectlogs.sh/.bat	This script collects all Discoverer logs into a folder. Location: <i>ORACLE_INSTANCE/Discoverer/Discoverer_instance-name/util/</i> Note: For more information about using the <code>collectlogs</code> script, see Section 11.5, "How to copy Discoverer log files."

Table A-1 (Cont.) Discoverer Configuration File Locations

File name	Description and location
configuration.xml	This file stores configuration settings for Discoverer. Location: <i>DOMAIN_HOME</i> /config/fmwconfig/servers/WLS_DISCO/applications/discoverer_discoverer_version/configuration/ Note: Do not edit this file manually. For more information, see Appendix A.2, "Configuration settings in configuration.xml."
convertreg.pl	This script converts a <i>reg_key.dc</i> file to change the format of integer values (for example, from BigEndian format to LittleEndian format). Use this script to migrate a Discoverer installation from one platform to another platform (for example, from Windows to Solaris). Location: <i>ORACLE_HOME</i> /perl/bin/ For more information, see Section 9.8, "About migrating Discoverer preferences."
defaults.txt	This file stores factory-supplied default Discoverer preferences. If <i>pref.txt</i> becomes corrupted, you can use <i>defaults.txt</i> to restore default preference settings. Location: <i>ORACLE_INSTANCE</i> /config/PreferenceServer/Discoverer_instance-name/
dis51pr.exe/dis51pr	This file runs the command line utility used to manage preferences stored in the <i>reg_key.dc</i> file. Location: <i>ORACLE_HOME</i> /bin/
discenv.sh	This script file sets environment variables used by other Discoverer scripts. Location: <i>ORACLE_INSTANCE</i> /Discoverer/Discoverer_instance-name/util/
error.txt	This file contains information about processing errors collected when you update the Discoverer Preferences component using the <i>applypreferences</i> script. If <i>error.txt</i> is not present, no errors have been logged. Location: <i>ORACLE_INSTANCE</i> /config/PreferenceServer/Discoverer_instance-name/
httpd.conf	This file contains configuration information (for example, the Web server timeout setting <i>Timeout</i>) about the Web server used by Oracle BI Discoverer. Location: <i>ORACLE_INSTANCE</i> /config/OHSComponent/ <i>ohs-comp-name</i> /
mod_osso.conf	This file stores configuration settings for Oracle Single Sign-On (for example, settings to turn Oracle Single Sign-On on and off). Location: <i>ORACLE_INSTANCE</i> /config/OHSComponent/ <i>ohs-comp-name</i> /moduleconf/ For more information about enabling Single Sign-On, see Section 13.8.1.2, "How to enable and disable Single Sign-On for Discoverer."
opmn.xml	This file stores the OPMN configuration settings for Discoverer (for example, server timeout, maximum number of Discoverer sessions). Location: <i>ORACLE_INSTANCE</i> /config/OPMN/ <i>opmn-component-name</i> /
opmnctl.sh/.bat	This script file is used to manage OPMN processes. Location: <i>ORACLE_INSTANCE</i> /bin/ Note: To view online help for this script, type <i>opmnctl help</i> .

Table A–1 (Cont.) Discoverer Configuration File Locations

File name	Description and location
pref.txt	<p>This file stores the Discoverer middle-tier preferences, and is used to generate the <code>reg_key.dc</code> file. On installation, this file is populated using settings in the <code>defaults.txt</code> file. If <code>pref.txt</code> becomes corrupted, you can copy preferences in <code>defaults.txt</code> to <code>pref.txt</code> to restore the default preference settings.</p> <p>Location: <code>ORACLE_INSTANCE/config/PreferenceServer/Discoverer_instance-name/</code></p> <p>Note: Do not edit this file manually. Contact Oracle Support for assistance. If you edit the <code>pref.txt</code> file manually, you must run the <code>applypreferences</code> script to apply the preference changes you have made, and then stop and restart the Discoverer preferences server component. For more information, see Section 4.3, "How to start, stop, and restart the Discoverer preferences server component using opmnctl."</p>
reg_key.dc	<p>This file stores individual preferences for each user as a unique combination of database and user ID. These values override global default values specified in <code>pref.txt</code>.</p> <p>Note: Do not edit this file manually. Contact Oracle Support for assistance. For more information, see Section A.2, "Configuration settings in configuration.xml". The <code>reg_key.dc</code> is a hidden file; that is, the file name is prefixed with a period (.). Ensure that your file manager program or command console can list hidden files (for example, in UNIX, use the console command <code>ls -al</code> to list hidden files).</p> <p>Location: <code>ORACLE_INSTANCE/config/PreferenceServer/Discoverer_instance-name/</code></p>
tnsnames.ora	<p>This file contains the names and aliases of all the databases that users can access using Oracle BI Discoverer.</p> <p>Location: <code>ORACLE_INSTANCE/config/</code></p>
web.xml	<p>This file contains deployment information about the Discoverer servlets.</p> <p>Location: <code>DOMAIN_HOME/servers/WLS_DISCO/tmp/_WL_user/discoverer_discoverer_version/random-directory-name/war/WEB-INF/</code></p> <p>Note: Do not edit this file manually.</p>

A.2 Configuration settings in configuration.xml

The `configuration.xml` file stores configuration settings for Discoverer. [Table A–2](#) shows the settings defined in the `configuration.xml` file.

Note: Do not edit this file manually unless you are following instructions in this guide. You typically use pages in Fusion Middleware Control to configure settings in this file.

To change the Discoverer Portlet Provider settings, use the Discoverer Portlet Provider Configuration page in Oracle Fusion Middleware Control. For more information, see [Section 4.6.1, "How to configure Discoverer client-tier components."](#)

Table A–2 Configuration Settings in configuration.xml

Setting	Description
enableAppsSSOConnection	<p>Specifies whether authenticated Oracle Single Sign-On users using an SSO-enabled Oracle Applications database can create and use Discoverer private connections without entering a password (for more information, see Section 14.2.2, "How to enable Oracle Applications users to create or use private connections to SSO-enabled Oracle Applications databases").</p> <p>Note: You set the value using the Allow authenticated Oracle Single Sign-On (SSO) users to create and use private connections to SSO-enabled Oracle Applications databases, without entering a password check box on the Discoverer Administration page in Oracle Fusion Middleware Control.</p>

Table A–2 (Cont.) Configuration Settings in configuration.xml

Setting	Description
/disco:configuration/viewer/pageNavigation	<p>Specifies whether the page navigation tool is displayed in Discoverer Viewer. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE When the value of this setting is set to TRUE, the page navigation tool is displayed in worksheets. When the page navigation tool is displayed, query results are returned to the worksheet non-incrementally (all together). This might reduce performance when displaying large data sets the first time it is rendered. ▪ FALSE When the value of this setting is set to FALSE, the page navigation tool is not displayed in worksheets. When the page navigation tool is not displayed, query results are returned to the worksheet incrementally (in chunks). This improves performance when displaying large data sets. <p>Note: You set the value using the MBean Browser in Oracle Fusion Middleware Control.</p>
GraphAxisAutoScaledFromZero	<p>Specifies whether Discoverer Viewer (only when used with a multidimensional data source) displays graph scaled from zero or values based on the worksheet data. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE When the value of this setting is TRUE, all the graph axes in Discoverer Viewer scales from zero only. The default value of this setting is TRUE. ▪ FALSE When the value of this setting is FALSE, the graph axes in Discoverer Viewer start the scale based on the worksheet data. <p>Note: You set the value using the System MBean Browser in Oracle Fusion Middleware Control.</p>
EnableLevelOffsetBasedTimeCalc	<p>Specifies the kind of calculation templates that Discoverer Plus OLAP users see. By default, this setting is TRUE, so that users see the level-offset based templates that are new to Release 11.1.1 when they create a calculation or edit a calculation that was created with those templates. They see the calendar-based templates from Release 10.1.2 when they edit a calculation that was created with those templates. You can change the default to use the Release 10.1.2 templates if the time hierarchy is modeled on the Gregorian calendar</p> <p>Add this setting within the <plus> tag, directly after the <enablePlus> tag.</p>
ExcludeDuplicateRowsDuringExcelExport	<p>Specifies whether duplicate rows are filtered when you export a worksheet from Discoverer Plus OLAP to Microsoft Excel. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE Duplicate rows are not shown in the Microsoft Excel report. ▪ FALSE Duplicate rows are shown in the Microsoft Excel report.
ExcludeDuplicateColumnsDuringExcelExport	<p>Specifies whether duplicate columns are filtered when you export a worksheet from Discoverer Plus OLAP to Microsoft Excel. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE Duplicate columns are not shown in the Microsoft Excel report. ▪ FALSE Duplicate columns are not shown in the Microsoft Excel report.

Table A–2 (Cont.) Configuration Settings in configuration.xml

Setting	Description
SortMemberStepHierarchically	<p>Specifies whether Member Steps are sorted hierarchically in Discoverer Plus OLAP. When this option is disabled, members are sorted in the order in which they are added, rather than in hierarchical order. Valid values are:</p> <ul style="list-style-type: none"> ■ DEFAULT Always sort members hierarchically and do not display the Sort Members Hierarchically check box in the Edit Member Step dialog. ■ YES Sort members hierarchically, display the Sort Members Hierarchically check box in the Edit Member Step dialog, and have the box checked by default. Users can deselect the box to not use hierarchical order. YES is the default value for this parameter when Discoverer Plus OLAP is first installed. ■ NO Sort members in the order of selection, display the Sort Members Hierarchically check box in the Edit Member Step dialog, and have the box unchecked by default. Users can check the box to use hierarchical order. <p>Add this setting within the <plus> tag, directly after the <enablePlus> tag.</p>
SwitchWorksheetBehaviour	<p>Specifies the Discoverer Viewer behavior if an end user opens a different worksheet when they have made changes to the current worksheet. Valid values are:</p> <ul style="list-style-type: none"> ■ always_save When switching worksheets within a workbook, save changes to the worksheet (that is, save the whole workbook) without prompting the end user to confirm. ■ never_save When switching worksheets within a workbook, discard changes to the worksheet without prompting the end user to confirm. ■ prompt When switching worksheets within a workbook, prompt the user to select either save, cancel, or discard changes to the worksheet. <p>Note: If this setting is not present in the file, Discoverer defaults to 'prompt'.</p>
worksheetSaveBehavior	<p>Specifies the Discoverer Viewer saving behavior when the user navigates away from a worksheet after making some changes in it. Note that this parameter is not effective when you switch between worksheets. This setting is done in the <viewer> section of the configuration.xml file. Valid values are:</p> <ul style="list-style-type: none"> ■ always_save When navigating from a worksheet, save changes to the worksheet without prompting the end user to confirm. ■ never_save When navigating from a worksheet, discard changes to the worksheet without prompting the end user to confirm. ■ prompt When navigating from a worksheet, prompt the user to select either save, cancel, or discard changes to the worksheet. <p>Note: If this setting is not present in the file, Discoverer defaults to 'prompt'.</p>

Table A-2 (Cont.) Configuration Settings in configuration.xml

Setting	Description
propagateGUIDToVPD	<p>Specifies whether the GUID or the Oracle Single Sign-On user name is passed into Virtual Private Database (VPD) policies. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE When the value of this setting is set to TRUE, the GUID is propagated to VPD policies. ▪ FALSE When the value of this setting is set to FALSE, the SSO User Name is propagated to VPD policies. <p>Note: You set the value using the User ID field in the Discoverer Administration page in Oracle Fusion Middleware Control.</p>
pickerCompatibleVersions	<p>Specifies whether the Date or Color pickers are available on the Portal. To make these pickers available for different versions of Portal, change this parameter to the respective Portal version.</p> <p>For example, to view the Date or Color pickers on 10.1.4 Portal, change the value of pickerCompatibleVersions to "10.1.4".</p>
isCurrentPageItemsExportForOLAP	<p>Specifies how Discoverer Viewer exports worksheets of OLAP data that have page items when you export to Microsoft Excel or to HTML. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE Exports a worksheet of OLAP data to Microsoft Excel or to HTML with the current set of page items. ▪ FALSE Exports all possible combinations of page items to Microsoft Excel or to HTML. <p>This optional setting is present in the <viewer> section of the configuration.xml file with default value as FALSE.</p>
cacheThreshold	<p>Specifies the number of cache entries maintained in the infrastructure database and improves the display of portlet data as the user changes parameter values. You can set this value in the <portlet> section of the configuration.xml file.</p> <p>Default value for this setting is "1". In this case, Discoverer Portlet Provider maintains only the previous cache entry in addition to the results for the current combination of values.</p> <p>Note: When you set cacheThreshold to a value higher than 1, it can increase the amount of space consumed in the infrastructure database and the amount of time required for each portlet to refresh. For example, with cacheThreshold="15", at refresh time, the query for the portlet might run 15 times and that the DB space needed to store the results is 15 times greater. You must set cacheThreshold judiciously and ensure that portlet refreshes are completed within a reasonable time.</p>
viewerURLForPublicUser	<p>Specifies the behavior when you click the Analyze link on a public Portal page. When you specify the value of this setting as "normalViewer", clicking the Analyze link takes you to Discoverer Viewer. This setting is defined in the <portlet> section of the configuration.xml file.</p> <p>Note that if the user logs into Portal or SSO then the Analyze link always open the Single Worksheet Viewer irrespective of the setting in configuration.xml file.</p>

Table A–2 (Cont.) Configuration Settings in configuration.xml

Setting	Description
enableDataSelection	<p>Specifies whether Discoverer Viewer enables you to select data in a table and copy it to clipboard as in an HTML page. Valid values are:</p> <ul style="list-style-type: none"> ▪ TRUE Enables column selection in the table and disables data selection for copying to clipboard. ▪ FALSE Disables the column selection in the table and enables you to select and copy data to a clipboard. <p>This optional setting is present in the <viewer> section of the configuration.xml file with default value as TRUE.</p>
numberOfLOVsToBeDisplayed	<p>Specifies the number of values to be displayed in the list box of the parameter search dialog.</p> <p>This optional setting is present in the <viewer> section of the configuration.xml file. The default value of this setting is 25.</p>
numColsForLOW	<p>Specifies the number of columns to be displayed for the List of Worksheet portlet when it is opened in Single Worksheet Viewer.</p> <p>This optional setting is present in the <portlet> section of the configuration.xml file. The default value is 6. If you specify the value of this setting as '0', all columns from the worksheet are displayed.</p>
numRowsForLOW	<p>Specifies the number of rows to be displayed for the List of Worksheet portlet when it is opened in Single Worksheet Viewer.</p> <p>This optional setting is present in the <portlet> section of the configuration.xml file. The default value is 25. If you specify the value of this setting as '0', all rows from the worksheet are displayed.</p>
peekSleepIntervalSec	<p>Specifies the sleep interval for retrieving scheduled portlets to be refreshed. The default value of this parameter is 2 seconds.</p> <p>Note: If there is more than one middle tier, for load balancing scheduled portlets, you can specify different values for this parameter in each of the middle tiers. The scheduled refreshes are then distributed more evenly among the middle tiers.</p>

A.3 Configuration settings in opmn.xml

The opmn.xml file stores OPMN settings for Discoverer. Table A–3 shows the settings in opmn.xml that you might change if you need to modify the default Discoverer configuration:

Table A–3 Configuration Settings in opmn.xml

Setting	Description
FND_SECURE	<p>Specifies the directory containing a DBC file that Discoverer uses to connect to an Oracle Applications database in secure mode.</p> <p>Discoverer first attempts to find a DBC file with the file name <i>dbname.dbc</i>. If not found, Discoverer then attempts to use a file with the file name <i>hostname_SID.dbc</i>.</p> <p>If this value is not set, Discoverer attempts to use the value specified by FND_TOP.</p>

Table A-3 (Cont.) Configuration Settings in opmn.xml

Setting	Description
FND_TOP	Specifies the directory path for the secure directory containing a DBC file that Discoverer uses to connect to an Oracle Applications database in secure mode (that is, \$<FND_TOP>/secure). This variable is included for backward compatibility. Discoverer first attempts to use the value specified by FND_SECURE.
ORBDebug	Specifies whether Discoverer instructs the ORB to print debugging messages from the server configurator network. This option does not have a value, but is used as a toggle to enable or disable debugging messages.
ORBDebugLevel=<level>	Specifies the level of debugging in the ORB. The range is 1 for the minimum amount of debugging information to 10 for the maximum amount of debugging information.
ORBLogFile=<name of log file>	Specifies that all ACE_DEBUG and ACE_ERROR messages are redirected to the file specified. If you do not specify a path, the file is created in the directory in which the server is running (for example, \$ORACLE_HOME).
ORBObjRefStyle=[IOE URL]	Specifies the user-visible style of object references. The IOR style (default) is the conventional CORBA object reference, whereas the URL style looks more like a URL.
ORBVerboseLogginglevel=[0 1 2]	Specifies the amount of status data printed on each line of the debug log. Higher numbers generate more output.

Note: The ORB element is not included by default. If you want to customize the TAO ORB, add the ORB elements and attributes as described in [Table A.3](#). For more information, see the TAO documentation.

B

Upgrading from Earlier Versions of Discoverer

This appendix describes how to upgrade from earlier versions of Discoverer and contains the following topics:

- [Section B.1, "About upgrading from Discoverer Version 10.1.2.x to Version 11.1.1"](#)
- [Section B.2, "About upgrading to Discoverer Version 10.1.2.1 from earlier versions"](#)

Read this appendix with Chapter 24 of the *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

B.1 About upgrading from Discoverer Version 10.1.2.x to Version 11.1.1

You can upgrade an existing Discoverer installation to Discoverer Version 11.1.1 only if the current Discoverer installation is Version 10.1.2.x. For example, you can upgrade from Version 10.1.2.0.0, Version 10.1.2.1, and Version 10.1.2.2. To upgrade from Discoverer Version 10.1.2.x to Version 11.1.1, use the Upgrade Assistant, as described in the *Oracle Fusion Middleware Upgrade Guide for Oracle Portal, Forms, Reports, and Discoverer*.

The Upgrade Assistant performs the following tasks for Discoverer:

- Upgrades the Metadata Repository, including the following schemas:
 - Discoverer Portlet Provider schema.
 - Discoverer connections (PStore) schema.
- Upgrades the middle tier, by performing the following tasks:
 - Upgrades the following Discoverer configuration files: `pref.txt`, `.reg_key.dc`, and `configuration.xml`.

If you want to upgrade from versions lower than 10.1.2.x, then you must first upgrade to a 10.1.2.x version. For convenience, [Section B.2, "About upgrading to Discoverer Version 10.1.2.1 from earlier versions"](#) provides instructions for upgrading to Version 10.1.2.1 from earlier versions of Discoverer. Having upgraded to Version 10.1.2.1, you can then follow the instructions in this section to upgrade to Version 11.1.1

B.2 About upgrading to Discoverer Version 10.1.2.1 from earlier versions

Before you can upgrade to Discoverer Version 11.1.1, you must upgrade to Version 10.1.2.1. You can upgrade from earlier versions of Discoverer to Version 10.1.2.1, as described in the following sections:

- [Section B.2.1, "About using the OracleAS Upgrade Assistant for Version 10.1.2.1"](#)

- [Section B.2.2, "Upgrade summary for Version 10.1.2.1"](#)
- [Section B.2.3, "About upgrading from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1"](#)
- [Section B.2.4, "How to upgrade from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1"](#)
- [Section B.2.5, "How to upgrade from Discoverer Release 4.1 to Version 10.1.2.1"](#)
- [Section B.2.6, "How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1"](#)
- [Section B.2.7, "How to upgrade a Version 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2.1 and Oracle Portal Version 10.1.2.1"](#)

B.2.1 About using the OracleAS Upgrade Assistant for Version 10.1.2.1

The OracleAS Upgrade Assistant upgrades an Oracle Business Intelligence middle tier from Discoverer Version 9.0.2. or 9.0.4. to Discoverer Version 10.1.2.1 (BI and Forms type installation). For more information, see [Section B.2.3, "About upgrading from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1"](#).

The OracleAS Upgrade Assistant does not upgrade from OracleAS Version 1.0.2.2 (Discoverer 4i) to Discoverer Version 10.1.2.1. You must manually upgrade the Discoverer 4i middle tier (for more information, see [Section B.2.5, "How to upgrade from Discoverer Release 4.1 to Version 10.1.2.1"](#)).

B.2.2 Upgrade summary for Version 10.1.2.1

The table below summarizes the upgrade steps required from different Discoverer versions and types of installation.

Table B-1 Discoverer Version 10.1.2.1 upgrade summary

Upgrade From	Upgrade To	Summary steps
Discoverer Version 9.0.4 or 9.0.2 (Business Intelligence and Forms)	Discoverer Version 10.1.2.1 Business Intelligence and Forms type installation	Use the OracleAS Upgrade Assistant to upgrade the Discoverer settings. Use Discoverer Administrator to upgrade the End User Layer. For background information, see Section B.2.3, "About upgrading from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1" . For detailed upgrade steps, see Section B.2.4, "How to upgrade from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1" .
Discoverer Version 9.0.4 or 9.0.2 (Business Intelligence and Forms)	Discoverer Version 10.1.2.1 standalone type installation	NOT SUPPORTED
Discoverer Release 4.1 (OracleAS Release 1.0.2.2)	Discoverer Version 10.1.2.1 Business Intelligence and Forms type installation	Manually upgrade the Discoverer settings. Use Discoverer Administrator to upgrade the End User Layer. For more information, see Section B.2.5, "How to upgrade from Discoverer Release 4.1 to Version 10.1.2.1" .

Table B–1 (Cont.) Discoverer Version 10.1.2.1 upgrade summary

Upgrade From	Upgrade To	Summary steps
Discoverer Release 4.1 (OracleAS Release 1.0.2.2)	Discoverer Version 10.1.2.1 standalone type installation	NOT SUPPORTED

B.2.3 About upgrading from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1

You can upgrade from an OracleAS Business Intelligence and Forms Version 9.0.2/9.0.4 installation to an Oracle Business Intelligence and Forms Version 10.1.2.1 installation of Discoverer.

For detailed upgrade steps, see [Section B.2.4, "How to upgrade from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1"](#).

Notes

To continue using Discoverer portlets that were created with OracleAS Portal 9.0.4, do one of the following.

- If you want to upgrade just the Discoverer portlets but not OracleAS Portal, then use the upgradeMR script (for more information, see [Section B.2.7, "How to upgrade a Version 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2.1 and Oracle Portal Version 10.1.2.1"](#)).
- If you want to upgrade both the Discoverer portlets and OracleAS Portal to Version 10.1.2.1, then use the Metadata Repository Upgrade Assistant, (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*).

B.2.4 How to upgrade from Discoverer Version 9.0.2/9.0.4 to Version 10.1.2.1

This section explains how to upgrade from an OracleAS Business Intelligence and Forms Version 9.0.2. or 9.0.4 installation to an Oracle BI and Forms Version 10.1.2.1 type installation of Discoverer.

Note: Upgrading from Discoverer Version 9.0.2. or 9.0.4 to a Discoverer Version 10.1.2.1 standalone type installation is not supported.

To upgrade from Oracle Application Server 10g (Version 9.0.2/9.0.4) to Oracle BI Version 10.1.2.1, perform the following steps:

1. Use Discoverer Administrator Version 10.1.2.1 to upgrade the End User Layer (EUL) to Version 5.1.

For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

2. Install Oracle Business Intelligence Version 10.1.2.1 into a new Oracle Home directory.
3. Use OracleAS Upgrade Assistant to upgrade the Discoverer middle tier to the new version (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*).

OracleAS Upgrade Assistant upgrades Discoverer registry settings, configuration settings, and preferences.

4. To continue using Discoverer portlets that were created with OracleAS Portal 9.0.4, do one of the following.

- If you want to upgrade just the Discoverer portlets but not OracleAS Portal, then use the upgradeMR script (for more information, see [Section B.2.7, "How to upgrade a Version 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2.1 and Oracle Portal Version 10.1.2.1"](#)).
- If you want to upgrade both the Discoverer portlets and OracleAS Portal to Version 10.1.2.1, then use the Metadata Repository Upgrade Assistant, (for more information, see *Oracle Application Server Upgrade and Compatibility Guide*).

Note: Before you begin the upgrade process, confirm that the Oracle BI installation was successful (for more information, see [Section 1.5, "How to confirm an Oracle BI Discoverer installation"](#)).

B.2.5 How to upgrade from Discoverer Release 4.1 to Version 10.1.2.1

To upgrade from OracleAS Release 1 (1.0.2.2) to Oracle BI Version 10.1.2.1, perform the following steps:

1. Use Discoverer Administrator Version 10.1.2.1 to upgrade the End User Layer (EUL) to Version 5.1.

For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

2. Install Oracle Business Intelligence Version 10.1.2.1 into a new Oracle home directory.
3. Use Oracle Application Server Control to re-do any customizations that you had in the earlier version of Discoverer. For example, you might have changed the look and feel (LAF) for Discoverer Plus Relational or the logo in Discoverer Viewer. For more information about customizing Discoverer, see [Chapter 8, "Customizing Discoverer Look and Feel."](#)

Note: Discoverer only supports customizations made using the Discoverer customization pages in Oracle Application Server Control.

4. Upgrade the preferences (for more information, see [Section B.2.5.1, "Upgrading preferences to Version 10.1.2.1"](#)).
5. Update the Discoverer URLs (for more information, see [Section B.2.5.2, "Updating URL references for Version 10.1.2.1"](#)).

B.2.5.1 Upgrading preferences to Version 10.1.2.1

This section explains how to upgrade Discoverer preferences from a Discoverer Release 4.1 Oracle Home to an Oracle Business Intelligence Discoverer Version 10.1.2.1 Oracle Home.

Notes

- The instructions in this section assume the following:
 - OracleAS Release 1 (1.0.2.2) is installed into <ORACLE_HOME_1>
 - Discoverer Version 10.1.2.1 is installed into <ORACLE_HOME_2>

B.2.5.1.1 How to upgrade preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1 on UNIX To upgrade preferences from Discoverer Release 4.1 Oracle Home to Discoverer Version 10.1.2.1 Oracle Home, perform the following steps:

1. Make backup copies of both the 4.1 .reg_key.dc file and the 10.1.2.1 .reg_key.dc file.

2. Copy the Discoverer 4.1 .reg_key.dc file (from the location specified by the DC_REG environment variable) to the location specified for the .reg_key.dc file in [Section A.1, "Discoverer file locations"](#) in the Version 10.1.2.1 Oracle Home.

You copy the 4.1 .reg_key.dc file over the default 10.1.2.1 .reg_key.dc file.

Tip: To determine the location of the .reg_key.dc file in Discoverer Release 4.1, look in the discwb.sh file in ORACLE_HOME/<installation>/discwb4.

3. Type the following at a command prompt:

```
> <ORACLE_HOME_2>/discoverer/util/dis51pr -migrate -from 102
```

Although you have now migrated preferences from 4.1 to 10.1.2.1, the 10.1.2.1 pref.txt file might be out of sync with the 10.1.2.1 .reg_key.dc file. You should not run applypreferences.sh because it resets all the preferences in pref.txt in the .reg_key.dc file to the default values. To change preference values, use dis51pr -setpref as documented in [Section 9.5, "How to set individual preferences for specific users"](#).

B.2.5.1.2 How to upgrade preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1 on Microsoft Windows If you are upgrading from one Oracle Home to another on the same computer running Microsoft Windows, then perform the following steps to upgrade user level preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1:

1. Type the following at a command prompt:

```
> <ORACLE_HOME_2>\discoverer\util\dis51pr.exe -migrate -from 102
```

This command copies all preferences from the Windows registry to a file called .reg_key.dc in the Version 10.1.2.1 Oracle Home directory.

If you are upgrading from one computer to another computer running Windows, perform the following steps to upgrade user level preferences from Discoverer Release 4.1 to Discoverer Version 10.1.2.1:

1. On the machine where Discoverer Release 4.1 is installed:
 - a. From the Windows Start menu, select Run.
 - b. In the Run window, type regedit and press [Enter].
 - c. In the Registry Editor, open the HKEY_LOCAL_MACHINE\Software\Oracle\WebDisco4 registry key.
 - d. Choose Registry | Export Registry File to export the registry key to a file.
 - e. Specify a name for the registry export file (for example, disco41prefs.reg).
2. Copy the registry export file from the machine where Discoverer Release 4.1 is installed to the machine where Discoverer Version 10.1.2.1 is installed.
3. On the machine where Discoverer Version 10.1.2.1 is installed:
 - a. From the Windows Start menu, select Run.
 - b. In the Run window, type regedit and press [Enter].
 - c. In the Registry Editor, Registry | Import Registry File.
 - d. Specify the name of the registry export file to import (for example, disco41prefs.reg).
4. Upgrade the preferences by typing the following at a command prompt:

```
> <ORACLE_HOME_2>\discoverer\util\dis51pr.exe -migrate -from 102
```

Although you have now migrated preferences from Release 4.1 to Version 10.1.2.1, the 10.1.2.1 pref.txt file might be out of sync with the 10.1.2.1 .reg_key.dc file. You should not run applypreferences.sh because it resets all the preferences in pref.txt in the .reg_key.dc file to the default values. To change preference values, use dis51pr -setpref, as described in [Section 9.5, "How to set individual preferences for specific users"](#).

B.2.5.2 Updating URL references for Version 10.1.2.1

Discoverer Viewer and Discoverer Plus URL references have changed between Discoverer Release 4.1 and Discoverer Version 10.1.2.1. These changes include (but are not limited to) links within the Web site and client bookmarks. You must manually replace all occurrences of old URLs with the new URLs, using the table below as a guide:

For example, if Discoverer end users have a link to `http://hostname/Discwb4/html/english/ms_ie/start_ie.htm` in their browser Favorites, they must change their Favorites entry to `http://hostname/discoverer/plus`.

Table B-2 Table showing URLs for Release 4.1 and for Version 10.1.2.1

Release 4.1 URL	Version 10.1.2.1 URL
<code>http://hostname/Discwb4/html/english/ms_ie/start_ie.htm</code> or <code>http://hostname/Discwb4/html/english/netscape/start_nn.htm</code>	<code>http://hostname/discoverer/plus</code>
<code>http://hostname/Discoverer4i/Viewer</code>	<code>http://hostname/discoverer/viewer</code>

B.2.6 How to migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1

Before you can make Oracle Applications private connections (created in earlier versions of Discoverer) available in Discoverer Version 10.1.2.1, you must migrate all existing private connections by running the migratediscoconnection tool.

To migrate Oracle Applications private connections created in earlier versions of Discoverer to make them available in Version 10.1.2.1, perform the following steps:

1. Navigate to the directory that contains the migratediscoconnection tool on the middle tier machine, as described in the following list:

On UNIX: `<ORACLE_HOME>/discoverer/util`

On Windows: `<ORACLE_HOME>\discoverer\util`

2. Run the migratediscoconnection tool.

For example, on Windows, double click the migratediscoconnection.bat file in Windows Explorer to run the migratediscoconnection tool.

When you run the migratediscoconnection tool you must enter the Discoverer middle-tier administrator username and password.

If you do not know the Discoverer middle tier administrator username and password, ask the Fusion Middleware middle tier administrator.

3. Install Discoverer Version 10.1.2.1 (if it is not installed).

B.2.7 How to upgrade a Version 9.0.4 metadata repository to work with Discoverer Portlet Provider Version 10.1.2.1 and Oracle Portal Version 10.1.2.1

Oracle BI Discoverer Portlet Provider Version 10.1.2.1 can be used with either Oracle Portal Version 10.1.2.1 or Oracle Portal 9.0.4. For information on using Oracle BI Discoverer Portlet Provider with Oracle Portal Version 10.1.2.1, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*.

This section provides instructions on how to use Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal 9.0.4.

If you want to use Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal 9.0.4, you must upgrade only the Oracle BI Discoverer part of the Version 9.0.4 MDS Repository (MR) using the upgradeMR script as described in this section.

Using the upgradeMR script to upgrade just the Oracle BI Discoverer part of the MR allows Oracle Portal to continue to work against the MR. In other words, you need not upgrade your Oracle Portal instance to Version 10.1.2.1.

If you use the MDS Repository Upgrade Assistant Version 10.1.2.1 to update an MDS Repository from Version 9.0.4 to Version 10.1.2.1, you also upgrade the Oracle Portal 9.0.4 schema to Version 10.1.2.1. As a result, Oracle Portal 9.0.4 no longer works against the MR. Do not use the MDS Repository Upgrade Assistant Version 10.1.2.1 to upgrade the MDS Repository if you want to continue to use Oracle Portal 9.0.4.

To use Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal 9.0.4:

1. Associate Oracle Business Intelligence with the OracleAS Infrastructure that is associated with the Oracle Portal that you want to use
2. Upgrade the Oracle BI Discoverer part of the MDS Repository (for more information, see [Section B.2.7.1, "How to upgrade just the Oracle BI Discoverer part of a Metadata Repository to Version 10.1.2.1"](#)).
3. Do one of the following to register Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal 9.0.4:
 - If you have an existing Oracle BI Discoverer Portlet Provider Version 9.0.4 registered with Oracle Portal, then change the registration of the Oracle BI Discoverer Portlet Provider to use the URL of the Oracle BI Discoverer Portlet Provider Version 10.1.2.1.

You must change the registration of Oracle BI Discoverer Portlet Provider to Oracle BI Discoverer Portlet Provider Version 10.1.2.1 because the Oracle BI Discoverer Portlet Provider Version 9.0.4 no longer works after the Discoverer part of the MR is upgraded to Version 10.1.2.1.

- If you do not have an existing Oracle BI Discoverer Portlet Provider registered with Oracle Portal, register Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal.

For more information about registering Discoverer Portlet Provider, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*.

Notes

- If you use Oracle BI Discoverer Portlet Provider Version 10.1.2.1 with Oracle Portal 9.0.4, then note that:

- The color picker is not available. As a result you can only create gauges with the default colors.
- The date picker is not available. As a result, when you specify refresh schedules for portlets using the Set Refresh Options page, you must enter the date as text in the 'First Refresh Date' field (for example, 25-JAN-2005).

B.2.7.1 How to upgrade just the Oracle BI Discoverer part of a Metadata Repository to Version 10.1.2.1

You upgrade just the Oracle BI Discoverer part of the MDS Repository Version 9.0.4 to work with Oracle BI Discoverer Portlet Provider Version 10.1.2.1 using the upgradeMR script.

To upgrade an MDS Repository Version 9.0.4 to work with Oracle BI Discoverer Portlet Provider Version 10.1.2.1, complete the following steps:

1. Before running the script, ensure that the ORACLE_HOME environment variable is set to the Oracle BI Discoverer home directory.
2. On the Oracle Business Intelligence machine, open a command prompt and run the upgradeMR script.

The script is in one of the following locations:

On UNIX: <ORACLE_HOME>/discoverer/util/upgradeMR.sh

On Windows: <ORACLE_HOME>\discoverer\util\upgradeMR.bat

For example, on a UNIX machine, enter the following command:

```
upgradeMR.sh
```

You are prompted to confirm that you want to upgrade the Oracle BI Discoverer schema in the MDS Repository to Version 10.1.2.1.

3. Type `y` in response to the prompt.
You are prompted to enter a user name and password.
4. Enter the user name and password of the SYSTEM user on the database that has the MDS Repository.

Output from the script is displayed on the console and is also logged in the MRUpgrade.log file in the util directory. For example, on Solaris the log file is located in:

```
ORACLE_HOME/discoverer/util/MRUpgrade.log
```

Note: After you upgrade the Discoverer part of the Oracle Metadata Repository, you can use only Discoverer Portlet Provider Version 10.1.2.1. You can no longer use Discoverer Portlet Provider Version 9.0.4 with this Oracle Portal and OracleAS Infrastructure.

Discoverer Connections API

This appendix describes the Discoverer Connections API and contains the following topics:

- [Section C.1, "What is a Oracle BI Discoverer Connection?"](#)
- [Section C.2, "What is the Discoverer Connections API?"](#)
- [Section C.3, "What is a Discoverer Connections API Command?"](#)
- [Section C.4, "What is a Discoverer Connections API Command Modifier?"](#)
- [Section C.5, "What are the Prerequisites for Using the Discoverer Connections API?"](#)
- [Section C.6, "What Command Syntax Conventions Does This Guide Use?"](#)
- [Section C.7, "What is the Syntax for Commands?"](#)
- [Section C.8, "How to Run Discoverer Connections API Commands"](#)
- [Section C.9, "How to Run a Command Directly at an Operating System Command Prompt"](#)
- [Section C.10, "How to Run Multiple Commands Stored in an Operating System Command File"](#)
- [Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections"](#)
- [Section C.12, "Discoverer Connections API Command Reference"](#)
- [Section C.13, "Discoverer Connections API Command Modifier Reference"](#)

C.1 What is a Oracle BI Discoverer Connection?

A Oracle BI Discoverer connection is a stored set of login details such as database user name, database password, and database name. Oracle BI Discoverer connections enable end users to start Oracle BI Discoverer without having to enter login details.

Oracle BI Discoverer connections can be private or public, as follows:

- A private Oracle BI Discoverer connection is only accessible to an individual Oracle BI Discoverer end user (typically an OracleAS Single Sign-On user). For example, a private Oracle BI Discoverer connection called 'Western data analysis' that is created for the OracleAS Single Sign-On user jchan is only accessible to the user jchan.
- A public Oracle BI Discoverer connection is accessible to all Oracle BI Discoverer end users. For example, a public Oracle BI Discoverer connection called "Global data analysis" is accessible to all Oracle BI Discoverer end users.

You can use only private connections with Oracle BI Discoverer Plus OLAP. Public connections are not supported. However, you can use public connections with Oracle BI Discoverer Viewer and Oracle BI Discoverer Portlet Provider to access worksheets that you have created with Oracle BI Discoverer Plus OLAP.

C.2 What is the Discoverer Connections API?

The Discoverer Connections API is a set of text-based commands that enable you to programmatically create and manipulate Oracle BI Discoverer connections. For example, you might use the Discoverer Connections API to create a set of Oracle BI Discoverer connections for an Oracle Business Intelligence installation.

The Discoverer Connections API enables you to create and manipulate both public and private Oracle BI Discoverer connections for all three types of data source:

- Relational data sources
- OLAP data sources
- Oracle Applications data sources

You can run Discoverer Connections API commands individually at an operating system command prompt, or in batch-mode from an operating system command file (for more information, see [Section C.8, "How to Run Discoverer Connections API Commands"](#)).

Notes

- Oracle BI Discoverer end users can also create, edit, and delete private Oracle BI Discoverer connections using the Connect to Oracle BI Discoverer page that is used to start Oracle BI Discoverer Plus and Oracle BI Discoverer Viewer (if they have the required privileges). For information about displaying the Connect to Oracle BI Discoverer page, see *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Plus* or *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Discoverer Viewer*.
- Middle-tier administrators can also create, edit, and delete public Oracle BI Discoverer connections using the Oracle BI Discoverer Public Connections page that is accessed through the Oracle BI Discoverer Administration tab in Fusion Middleware Control. For information about managing public connections, see *Oracle Fusion Middleware Configuration Guide for Oracle Business Intelligence Discoverer*.

C.3 What is a Discoverer Connections API Command?

A Discoverer Connections API command is an instruction that creates, updates, or deletes a Oracle BI Discoverer connection. For example, the `-create_conn` command creates a new Oracle BI Discoverer connection. For a description of each Discoverer Connections API command, see [Section C.12, "Discoverer Connections API Command Reference"](#).

C.4 What is a Discoverer Connections API Command Modifier?

A Discoverer Connections API command modifier is an instruction that qualifies or refines a Discoverer Connections API command. For example, the `-type` command modifier specifies whether a Oracle BI Discoverer connection is public or private. For a description of each Discoverer Connections API command modifier, see [Section C.13, "Discoverer Connections API Command Modifier Reference"](#).

C.5 What are the Prerequisites for Using the Discoverer Connections API?

To use the Discoverer Connections API, you need:

- To know the administrator login credentials of the Oracle Internet Directory that the Discoverer middle tier is connected to.

The Oracle Internet Directory details are required only when you create private connections. To use the Discoverer Connections API, you must connect as the orcladmin user by using the command `-ldapconnect orcladmin/<orcladmin password>`.

Note: orcladmin is the default administrator name for Oracle Internet Directory.

If you need to find out the orcladmin password, then use the `ldapsearch` command (for more information, see *Oracle Fusion Middleware Reference for Oracle Identity Management*).

- To know the WebLogic domain administrator name (by default this is weblogic) and password.

To access the schema where the Discoverer private and public connection details are stored, you must connect as the weblogic user by using the command `-wlsconnect weblogic/<weblogic password>`.

- To know the URL of the WebLogic Managed Server where Discoverer Java EE application is deployed.

Note: In this document, this URL is mentioned as `<WLS_DISCO URL>`. This URL must be specified in the format `t3://<host>:<wls_disco port>`.

- To enable OracleAS Single Sign-On for the Oracle Business Intelligence installation (if you want to use the Discoverer Connections API to create private Oracle BI Discoverer connections).

C.6 What Command Syntax Conventions Does This Guide Use?

This guide uses the following command syntax conventions:

- Commands and command modifiers are shown in plain type and are prefixed with a dash (-).

Note: Do type the dash.

- Mandatory command text is enclosed in angle brackets `< >`.

Note: Do not type the angle brackets.

- Optional command text is enclosed in square brackets `[]`.

Note: Do not type the square brackets.

- Variable command text (that is, where you supply the value) is shown in italics.

- Where command text is separated by a pipe character (`|`), choose one option from the list. For example, `-olap <"true" | "false">` means specify either `-olap "true"` or `-olap "false"`.

Note: Do not type the pipe character.

C.7 What is the Syntax for Commands?

Use the following syntax for Discoverer Connections API commands:

- On Windows, use the following syntax:
capi.bat <-command> <command modifiers>
- On UNIX, use the following syntax:
capi.sh <-command> <command modifiers>

Notes:

- Commands and command modifiers are case-sensitive. In other words, you cannot use uppercase and lowercase characters interchangeably.
- Unless stated otherwise, variable command arguments are not case-sensitive.
- Command modifiers can appear in any order if their arguments immediately follow them in the correct order.
- You must specify commands in a single line with no line breaks or carriage returns.
- Enclose command modifier arguments in double quotes (""). For example, if an End User Layer is called Video Store Analysis, then specify the End User Layer name as -eul "Video Store Analysis".

C.8 How to Run Discoverer Connections API Commands

You can run an Discoverer Connections API command in two ways:

- By running the command directly at an operating system command prompt (for more information, see [Section C.9, "How to Run a Command Directly at an Operating System Command Prompt"](#))
- By running multiple commands stored in an operating system command file (for more information, see [Section C.10, "How to Run Multiple Commands Stored in an Operating System Command File"](#))

C.9 How to Run a Command Directly at an Operating System Command Prompt

You run a Discoverer Connections API command directly at a command prompt as a convenient way to manage Oracle BI Discoverer connections. For example, you might want to create a public Oracle BI Discoverer connection for an OLAP data source without having to use the Connect to Oracle BI Discoverer page in Oracle BI Discoverer.

To run a command directly at an operating system command prompt:

1. Display the operating system command prompt.
2. Type or enter a command.

For example, to create a public Oracle BI Discoverer connection for an OLAP data source on Windows, you might enter the following command:

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL>
-wlsconnect weblogic/<weblogic password> -ldapurl <OID URL>
-ldapconnect orcladmin/<orcladmin password> -cname "Analyze Sales Q1"
-cdesc "Analyze Sales First Quarter" -type "public" -olap "true"
```

```
-apps "false" -dbuser "jchan" -dbpasswd "12345" -dbname "host1:1521:DB2"
-showdetails "true"
```

C.10 How to Run Multiple Commands Stored in an Operating System Command File

You run multiple commands stored in an operating system command file as a convenient way to manage Oracle BI Discoverer connections. For example, you might want to create a set of public Oracle BI Discoverer connections without having to use Fusion Middleware Control.

You create Discoverer Connections API commands in a Windows *.bat file or a UNIX *.sh file that is stored in the util directory on the Oracle Business Intelligence middle-tier machine. For example, on Windows, you might create a batch file called create_connections.bat in <ORACLE_INSTANCE>/Discoverer/Discoverer_<instance-name>/util/create_connections.bat.

You enter Discoverer Connections API commands in a command file (one command per line) as follows:

- On Windows, prefix each command with 'call' followed by a space, as follows:


```
call capi.bat <-command> <mandatory command modifiers> [optional command modifiers] -wlsurl <WLS_DISCO URL> -wlsconnect weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect orcladmin/<orcladmin password>
```
- On UNIX, prefix each command with './', as follows:


```
./capi.sh <-command> <mandatory command modifiers> [optional command modifiers] -wlsurl <WLS_DISCO URL> -wlsconnect weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect orcladmin/<orcladmin password>
```

For example, to create three Oracle BI Discoverer connections called 'Analyze Sales Q1', 'Analyze Sales Q2', and 'Analyze Sales Q3' on Windows, a command file might contain the following text:

```
call capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname "Analyze Sales Q1" -cdesc
"Analyze Sales First Quarter" -type "public" -olap "false" -apps
"false" -dbuser "jchan" -dbpasswd "12345" -dbname "db1"
-showdetails "true"
call capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname "Analyze Sales Q2" -cdesc
"Analyze Sales Second Quarter" -type "public" -olap "false"
-apps "false" -dbuser "jchan" -dbpasswd "12345" -dbname "db1"
-showdetails "true"
call capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname "Analyze Sales Q3" -cdesc
"Analyze Sales Third Quarter" -type "public" -olap "false" -apps
"false" -dbuser "jchan" -dbpasswd "12345" -dbname "db1"
-showdetails "true"
```

To run multiple commands stored in an operating system command file:

1. Create a command file in the directory in which the Discoverer Connections API is installed, as follows:

- On Windows, create a batch (*.bat) file (for example, <ORACLE_INSTANCE>\Discoverer\Discoverer_<instance-name>\util\create_connections.bat)
 - On UNIX, create a script (*.sh) file (for example, <ORACLE_INSTANCE>/Discoverer/Discoverer_<instance-name>/util/create_connections.sh)
2. Enter (or copy) the Discoverer Connections API commands into the command file.
 3. Execute the command file.
For example, you might open a command prompt, type the name of the command file, and then press Enter.

C.11 How to Create, Edit, and Delete Oracle BI Discoverer Connections

This section explains how to create, edit, and delete Oracle BI Discoverer connections, and contains the following topics:

- [Section C.11.1, "How to Create a Private Oracle BI Discoverer Connection for a Relational Data Source"](#)
- [Section C.11.2, "How to Create a Public Oracle BI Discoverer Connection for a Relational Data Source"](#)
- [Section C.11.3, "How to Create a Private Oracle BI Discoverer Connection for an OLAP Data Source"](#)
- [Section C.11.4, "How to Create a Public Oracle BI Discoverer Connection for an OLAP Data Source"](#)
- [Section C.11.5, "How to Create a Private Oracle BI Discoverer Connection for an Oracle Applications Data Source"](#)
- [Section C.11.6, "How to Create a Public Oracle BI Discoverer Connection for an Oracle Applications Data Source"](#)
- [Section C.11.7, "How to Update a Private Oracle BI Discoverer Connection for a Relational Data Source"](#)
- [Section C.11.8, "How to Delete a Private Oracle BI Discoverer Connection for a Relational Data Source"](#)

Note: This section does not cover every task that you might undertake using the Discoverer Connections API. For comprehensive reference information about available commands, see [Section C.12, "Discoverer Connections API Command Reference"](#).

C.11.1 How to Create a Private Oracle BI Discoverer Connection for a Relational Data Source

You create a private Oracle BI Discoverer connection for a relational data source to enable an end user to start Oracle BI Discoverer and analyze relational data without entering login details.

To create a private Oracle BI Discoverer connection for a relational data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect
orcladmin/<orcladmin password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -sso_user <"Single Sign-On user name" -type
```

```
"private" -olap "false" -apps "false" -dbuser <"Database user name"> -dbpasswd
<"Database password"> -dbname <"Database name"> -eul <"End User Layer name">
[-showdetails <"true" | "false">] [-locale <"Locale">]
```

The following example command creates a private Oracle BI Discoverer connection for a relational data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -ldapurl <OID URL> -ldapconnect
orcladmin/tiger -cname "Analyze Sales" -cdesc "Analyze Sales
First Quarter" -sso_user "jchan" -type "private" -olap
"false" -apps "false" -dbuser "jchan" -dbpasswd "12345"
-database "db1" -eul "Video Stores" -showdetails "true" -locale
"EN_US"
```

C.11.2 How to Create a Public Oracle BI Discoverer Connection for a Relational Data Source

You create a public Oracle BI Discoverer connection for a relational data source to enable end users to start Oracle BI Discoverer and analyze relational data without entering login details.

To create a public Oracle BI Discoverer connection for a relational data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -type "public" -olap "false" -apps "false"
-dbuser <"Database user name"> [-dbpasswd <"Database password">] -dbname
<"Database name"> -eul <"End User Layer name"> [-showdetails <"true" | "false">]
[-locale <"Locale">]
```

The following example command creates a public Oracle BI Discoverer connection for a relational data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -cname "Analyze Sales" -cdesc "Analyze
Sales First Quarter" -type "public" -olap "false" -apps
"false" -dbuser "jchan" -dbpasswd "12345" -dbname "db1" -eul
"Video Stores" -showdetails "true" -locale "EN_US"
```

C.11.3 How to Create a Private Oracle BI Discoverer Connection for an OLAP Data Source

You create a private Oracle BI Discoverer connection for an OLAP data source to enable an end user to start Oracle BI Discoverer and analyze multi-dimensional data without entering login details.

To create a private Oracle BI Discoverer connection for an OLAP data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect
orcladmin/<orcladmin password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -sso_user <"Single Sign-On user name"> -type
"private" -olap "true" -apps "false" -dbuser <"Database user name"> -dbpasswd
<"Database password"> -dbname <"Database name"> [-showdetails <"true" |
"false">] [-locale <"Locale">]
```

The following example command creates a private Oracle BI Discoverer connection for an OLAP data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -ldapurl <OID URL> -ldapconnect
orcladmin/tiger -cname "Analyze Sales" -cdesc "Analyze Sales
First Quarter" -sso_user "jchan" -type "private" -olap "true"
-apps "false" -dbuser "jchan" -dbpasswd "12345" -dbname
"host1:1521:DB2" -showdetails "true" -locale "EN_US"
```

C.11.4 How to Create a Public Oracle BI Discoverer Connection for an OLAP Data Source

You create a public Oracle BI Discoverer connection for an OLAP data source to enable end users to start Oracle BI Discoverer and analyze multi-dimensional data without entering login details.

Public connections are not supported with Oracle BI Discoverer Plus OLAP. However, you can use public connections with Oracle BI Discoverer Viewer and Oracle BI Discoverer Portlet Provider to access worksheets that you have created with Oracle BI Discoverer Plus OLAP.

To create a public Oracle BI Discoverer connection for an OLAP data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -type "public" -olap "true" -apps "false"
-dbuser <"Database user name"> [-dbpasswd <"Database password">] -dbname
<"Database name"> [-showdetails <"true" | "false">] [-locale <"Locale">]
```

The following example command creates a public Oracle BI Discoverer connection for an OLAP data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -cname "Analyze Sales" -cdesc "Analyze
Sales First Quarter" -type "public" -olap "true" -apps
"false" -dbuser "jchan" -dbpasswd "12345" -dbname
"host1:1521:DB2" -showdetails "true" -locale "EN_US"
```

C.11.5 How to Create a Private Oracle BI Discoverer Connection for an Oracle Applications Data Source

You create a private Oracle BI Discoverer connection for an Oracle Applications data source to enable an end user to start Oracle BI Discoverer and analyze Oracle Applications data without entering login details.

To create a private Oracle BI Discoverer connection for an Oracle Applications data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect
orcladmin/<orcladmin password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -sso_user <"Single Sign-On user name"> -type
"private" -olap "false" -apps "true" -dbuser <"Database user name"> [-dbpasswd
<"Database password">] -dbname <"Database name"> -eul <"End User Layer name">
```

```
-resp <"Oracle Applications Responsibility"> -sg <"Oracle Applications Security Group"> [-showdetails <"true" | "false">] [-locale <"Locale">]
```

The following example command creates a private Oracle BI Discoverer connection for an Oracle Applications data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -ldapurl <OID URL> -ldapconnect
orcladmin/tiger -cname "Analyze Sales" -cdesc "Analyze Sales
First Quarter" -sso_user "jchan" -type "private" -olap
"false" -apps "true" -dbuser "jchan" -dbpasswd "12345"
-dbname "db1" -eul "HR" -resp "HR Manager" -sg "US HR
Security Group" -showdetails "true" -locale "EN_US"
```

Note: A database password (that you specify using the `-dbpasswd` command modifier) is mandatory in a non-OracleAS Single Sign-On installation, but optional in an OracleAS Single Sign-On installation.

C.11.6 How to Create a Public Oracle BI Discoverer Connection for an Oracle Applications Data Source

You create a public Oracle BI Discoverer connection for an Oracle Applications data source to enable end users to start Oracle BI Discoverer and analyze Oracle Applications data without entering login details.

To create a public Oracle BI Discoverer connection for an Oracle Applications data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -type "public" -olap "false" -apps "true"
-dbuser <"Database user name"> [-dbpasswd <"Database password">] -dbname
<"Database name"> -eul <"End User Layer name"> -resp <"Oracle Applications
Responsibility"> -sg <"Oracle Applications Security Group"> [-showdetails <"true" |
"false">] [-locale <"Locale">]
```

The following example command creates a public Oracle BI Discoverer connection for an Oracle Applications data source on Windows.

```
capi.bat -create_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -cname "Analyze Sales" -cdesc "Analyze
Sales First Quarter" -type "public" -olap "false" -apps
"true" -dbuser "jchan" -dbpasswd "12345" -dbname "db1" -eul
"HR" -resp "HR Manager" -sg "US HR Security Group"
-showdetails "true" -locale "EN_US"
```

C.11.7 How to Update a Private Oracle BI Discoverer Connection for a Relational Data Source

You update a private Oracle BI Discoverer connection for a relational data source to change the login details of an Oracle BI Discoverer connection.

To update a private Oracle BI Discoverer connection for a relational data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -update_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect
```

```
orcladmin/<orcladmin password> -cname <"Discoverer connection name"> [-cdesc
<"Discoverer connection description">] -sso_user <"Single Sign-On user name"> -type
"private" -olap "false" -apps "false" -dbuser <"Database user name"> -dbpasswd
<"Database password"> -dbname <"Database name"> -eul <"End User Layer name">
[-showdetails <"true" | "false">] [-locale <"Locale">]
```

The following example command changes the name of the End User Layer for a private Oracle BI Discoverer connection for a relational data source to RegionalSales on Windows:

```
capi.bat -update_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -ldapurl <OID URL> -ldapconnect
orcladmin/tiger -cname "Analyze Sales" -cdesc "Analyze Sales
First Quarter" -sso_user "jchan" -type "private" -olap
"false" -apps "false" -dbuser "jchan" -dbpasswd "12345"
-database "db1" -eul "RegionalSales" -showdetails "true"
-locale "EN_US"
```

C.11.8 How to Delete a Private Oracle BI Discoverer Connection for a Relational Data Source

You delete a private Oracle BI Discoverer connection for a relational data source to remove a connection from an Oracle BI Discoverer end user's connection list.

To delete a private Oracle BI Discoverer connection for a relational data source:

1. Enter a command based on the following syntax:

```
capi.bat | capi.sh -delete_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/<weblogic password> -ldapurl <OID URL> -ldapconnect
orcladmin/<orcladmin password> -cname <"Discoverer connection name"> -sso_user
<"Single Sign-On user name"> -type "private"
```

The following example command deletes a private Oracle BI Discoverer connection for a relational data source on Windows:

```
capi.bat -delete_conn -wlsurl <WLS_DISCO URL> -wlsconnect
weblogic/weblogic -ldapurl <OID URL> -ldapconnect
orcladmin/tiger -cname "Analyze Sales" -sso_user "jchan"
-type "private"
```

C.12 Discoverer Connections API Command Reference

This section contains detailed reference information about each command in the Discoverer Connections API, and contains the following topics:

- [-ldapurl](#)
- [-ldapconnect](#)
- [-wlsurl](#)
- [-wlsconnect](#)
- [-create_conn](#)
- [-update_conn](#)
- [-delete_conn](#)

C.12.1 -ldapurl

Use this command to specify the Oracle Internet Directory URL as a prerequisite to connect to Oracle Internet Directory.

Note: This command is required only for private connections.

Information	Details
Syntax:	-ldapurl <ldap://<ldaphost>:<non-ssl-port> or -ldapurl <ldaps://<ldaphost>:<ssl-port>
Examples:	-ldapurl URL For more command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" . Note: This command is required if the value of -type is set as "private".

C.12.2 -ldapconnect

Use this command to identify the orcladmin user name and password as a prerequisite to connect to Oracle Internet Directory.

Note: This command is required only for private connections.

Information	Details
Syntax:	-ldapconnect orcladmin/<orcladmin password>
Examples:	-ldapurl orcladmin/tiger For more command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" . Note: This command is required if the value of -type is set as "private".

C.12.3 -wlsurl

Use this command to specify the WebLogic Administration Console URL.

Information	Details
Syntax:	-wlsurl <t3://<host>:<wls_disco port>
Examples:	-wlsurl URL For more command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" .

C.12.4 -wlsconnect

Use this command to identify the WebLogic Administrator user name and password as a prerequisite to run the Oracle BI Discoverer connection APIs.

Information	Details
Syntax:	-wlsconnect weblogic/<weblogic password>
Examples:	-wlsconnect weblogic/weblogic For more command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" .

C.12.5 -create_conn

Use this command to create an Oracle BI Discoverer connection that end users can use to start Oracle BI Discoverer.

Information	Details
Syntax:	-create_conn <command modifiers>
Command modifiers:	-apps <"true" "false"> -cdesc <"Discoverer connection description"> -cname <"Discoverer connection name"> -dbname <"Database name"> -dbpasswd <"Database password"> -dbuser <"Database user name"> -eul <"End User Layer name"> -locale <"Locale"> -olap <"true" "false"> -resp <"Oracle Applications Responsibility"> -sg <"Oracle Applications Responsibility Security Group"> -showdetails <"true" "false"> -sso_user <"Single Sign-On user name"> -type <"private" "public">
Examples:	For command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" .

C.12.6 -update_conn

Use this command to update the details of an existing Oracle BI Discoverer connection.

Information	Details
Syntax:	-update_conn <command modifiers>
Command modifiers:	-apps <"true" "false"> -cdesc <"Discoverer connection description"> -cname <"Discoverer connection name"> -dbname <"Database name"> -dbpasswd <"Database password"> -dbuser <"Database user name"> -eul <"End User Layer name"> -locale <"Locale"> -olap <"true" "false"> -resp <"Oracle Applications Responsibility"> -sg <"Oracle Applications Responsibility Security Group"> -showdetails <"true" "false"> -sso_user <"Single Sign-On user name"> -type <"private" "public">
Examples:	For command examples, see Section C.11, "How to Create, Edit, and Delete Oracle BI Discoverer Connections" .

C.12.7 -delete_conn

Use this command to permanently remove an existing Oracle BI Discoverer connection.

Information	Details
Syntax:	-delete_conn <command modifiers>
Command modifiers:	-cname <"Discoverer connection name"> -sso_user <"Single Sign-On user name"> -type <"private" "public">
Examples:	For a command example, see Section C.11.8, "How to Delete a Private Oracle BI Discoverer Connection for a Relational Data Source" .

C.13 Discoverer Connections API Command Modifier Reference

This section contains detailed reference information about each command modifier in the Discoverer Connections API, and contains the following topics:

- -apps
- -cdesc
- -cname
- -dbname
- -dbpasswd
- -dbuser
- -eul
- -locale
- -olap
- -resp
- -sg
- -showdetails
- -sso_user
- -type

C.13.1 -apps

Use this command modifier to specify whether an Oracle BI Discoverer connection accesses an Oracle Applications End User Layer.

Information	Details
Syntax:	-apps <"true" "false">
Optional or Mandatory:	Mandatory
Examples:	-apps "true"

C.13.2 -cdesc

Use this command modifier to specify a description for an Oracle BI Discoverer connection. For example, you might use a description to inform users which sales region they can analyze when they select the connection to start Oracle BI Discoverer.

The description that you specify is displayed in the **Description** column on the Connect to Oracle BI Discoverer page.

Information	Details
Syntax:	<code>-cdesc <"Discoverer connection description"></code>
Optional or Mandatory:	Optional
Notes:	<p>The description must be between 1 and 200 characters in length.</p> <p>If you create an Oracle BI Discoverer connection without specifying a description using <code>-cdesc</code>, then the Description column on the Connect to Oracle BI Discoverer page is blank.</p> <p>If you update an Oracle BI Discoverer connection without specifying a description using <code>-cdesc</code>, then the existing description (if any) is maintained.</p>
Examples:	<code>-cdesc "Analyze sales for the Eastern region"</code>

C.13.3 -cname

Use this command modifier to specify a connection name. If you are creating an Oracle BI Discoverer connection, then use this command modifier to specify a unique name to use to identify the connection.

The connection name that you specify is displayed in the **Name** column on the Connect to Oracle BI Discoverer page.

Information	Details
Syntax:	<code>-cname <"Discoverer connection name"></code>
Optional or Mandatory:	Mandatory
Notes:	<p>The name must be between 1 and 1000 characters in length.</p> <p>If you are updating or deleting an Oracle BI Discoverer connection, then ensure that you:</p> <ul style="list-style-type: none"> ▪ Specify the connection name correctly (including initial capitalization and spaces where these appear in the connection name). ▪ Specify the connection type correctly using the <code>-type</code> command modifier (two different Oracle BI Discoverer connections can have the same name if one is a public Oracle BI Discoverer connection and one is a private Oracle BI Discoverer connection).
Examples:	<code>-cname "Eastern First Quarter Sales"</code>

C.13.4 -dbname

Use this command modifier to specify the database that is used by an Oracle BI Discoverer connection.

Information	Details
Syntax:	<code>-dbname <"Database name"></code>
Optional or Mandatory:	Mandatory

Information	Details
Notes:	<p>For an Oracle BI Discoverer connection to a relational or Oracle Applications data source, the database that you specify using <code>-dbname</code> must meet one of the following conditions:</p> <ul style="list-style-type: none"> ■ The name must be included in the <code>tnsnames.ora</code> file on the machine on which the Discoverer Connections API program is installed. ■ The name must include the full database details, such as address, protocol, port, and SID. <p>For example (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = hostname.organization.com)(PORT = 1523))) (CONNECT_DATA = (SID = VIS)))</p> <p>For an Oracle BI Discoverer connection to an OLAP data source, the database that you specify using <code>-dbname</code> must be in the following format: <code>host:port:SID</code> where:</p> <ul style="list-style-type: none"> ■ <code>host</code> is the machine hosting the database containing the data ■ <code>port</code> is the TNS listener port ■ <code>SID</code> is the database system identifier <p>For an Oracle BI Discoverer connection to an OLAP data source, the SID must be in uppercase. For more information, contact the database administrator.</p>
Examples:	<pre>-dbname "db1" (for a relational data source) -dname "host1:1521:DB2" (for an OLAP data source)</pre>

C.13.5 -dbpasswd

Use this command modifier to specify the database password for the database user name that you specify using the `-dbuser` command modifier.

Information	Details
Syntax:	<code>-dbpasswd <"Database password"></code>
Optional or Mandatory:	<p>The <code>-dbpasswd</code> command modifier is mandatory when you create or edit a private Oracle BI Discoverer connection in a non-OracleAS Single Sign-On installation.</p> <p>The <code>-dbpasswd</code> command modifier is optional in the following cases:</p> <ul style="list-style-type: none"> ■ You create or edit a public Oracle BI Discoverer connection. ■ You create or edit a private Oracle BI Discoverer connection in an OracleAS Single Sign-On installation. <p>For an example, see Section C.11.5, "How to Create a Private Oracle BI Discoverer Connection for an Oracle Applications Data Source".</p>
Notes:	<p>When the <code>-dbpasswd</code> command modifier is optional:</p> <ul style="list-style-type: none"> ■ If you do not specify a database password using <code>-dbpasswd</code>, then end users are prompted for a password when they select the connection. ■ If you do specify a database password using <code>-dbpasswd</code>, then end users are not prompted for a password when they select the connection.
Examples:	<code>-dbpasswd "12345"</code>

C.13.6 -dbuser

Use this command modifier to specify the database user name (or Oracle Applications user) that is used by an Oracle BI Discoverer connection.

Information	Details
Syntax:	<code>-dbuser <"Database user name"></code>
Optional or Mandatory:	Mandatory
Notes:	If you are creating or updating a private Oracle BI Discoverer connection, then ensure that you also specify the OracleAS Single Sign-On user name correctly using the <code>-sso_user</code> command modifier.
Examples:	<code>-dbuser "jchan"</code>

C.13.7 -eul

Use this command modifier to specify an End User Layer for an Oracle BI Discoverer connection to a relational or Oracle Applications data source.

Information	Details
Syntax:	<code>-eul <"End User Layer name"></code>
Optional or Mandatory:	This command modifier is mandatory for an Oracle BI Discoverer connection to a relational or Oracle Applications data source. Do not use this command modifier for an Oracle BI Discoverer connection to an OLAP data source.
Notes:	End User Layer names are case-sensitive. For example, you must specify an End User Layer called VIDEO5 as "VIDEO5", not "Video5" or "video5".
Examples:	<code>-eul "Video Stores Analysis"</code>

C.13.8 -locale

Use this command modifier to specify a language and country for an Oracle BI Discoverer connection (using a standard ISO language code and country code).

Information	Details
Syntax:	<code>-locale <"Language Code_Country Code"></code>
Optional or Mandatory:	Optional
Notes:	If you do not specify a locale, then Oracle BI Discoverer uses the locale specified in the end user's Web browser.
Examples:	<code>-locale "EN_US"</code>

C.13.9 -olap

Use this command modifier to specify that an Oracle BI Discoverer connection is for an OLAP data source.

Information	Details
Syntax:	<code>-olap <"true" "false"></code>
Optional or Mandatory:	Mandatory
Notes:	None.
Examples:	<code>-olap "true"</code>

C.13.10 -resp

Use this command modifier to specify an Oracle Applications Responsibility (for example, HR Manager) for an Oracle BI Discoverer connection.

Information	Details
Syntax:	<code>-resp <"Oracle Applications Responsibility"></code>
Optional or Mandatory:	This command modifier is mandatory for an Oracle BI Discoverer connection to an Oracle Applications data source. Do not use this command modifier for an Oracle BI Discoverer connection to a relational or OLAP data source.
Notes:	None.
Examples:	<code>-resp "HR Manager"</code>

C.13.11 -sg

Use this command modifier to specify an Oracle Applications Security Group (for example, US HR Security Group) for an Oracle BI Discoverer connection.

Information	Details
Syntax:	<code>-sg <"Oracle Applications Security Group"></code>
Optional or Mandatory:	This command modifier is mandatory for an Oracle BI Discoverer connection to an Oracle Applications data source. Do not use this command modifier for an Oracle BI Discoverer connection to a relational or OLAP data source.
Notes:	None.
Examples:	<code>-sg "US HR Security Group"</code>

C.13.12 -showdetails

Use this command modifier to specify whether you want to enable Oracle BI Discoverer end users to view login details for an Oracle BI Discoverer connection on the Connect to Oracle BI Discoverer page (and in the About dialog in Oracle BI Discoverer Plus).

Information	Details
Syntax:	<code>-showdetails <"true" "false"></code>
Optional or Mandatory:	Optional
Notes:	If you do not use the <code>-showdetails</code> command modifier, then Oracle BI Discoverer end users can view login details by default.
Examples:	<code>-showdetails "false"</code>

C.13.13 -sso_user

Use this command modifier to specify an OracleAS Single Sign-On user name for a private Oracle BI Discoverer connection. This command modifier enables you to provide private Oracle BI Discoverer connections for authenticated OracleAS Single Sign-On users.

Information	Details
Syntax:	<code>-sso_user <"Single Sign-On user name"></code>
Optional or Mandatory:	This command modifier is mandatory for a private Oracle BI Discoverer connection. Do not use this command modifier for a public Oracle BI Discoverer connection.
Notes:	To create a private Oracle BI Discoverer connection, you must also set the value of <code>-type</code> to "private".
Examples:	<code>-sso_user "jchan"</code>

C.13.14 -type

Use this command modifier to specify whether an Oracle BI Discoverer connection is public or private. For more information about public and private Oracle BI Discoverer connections, see [Section C.1, "What is a Oracle BI Discoverer Connection?"](#).

Information	Details
Syntax:	<code>-type "public" "private"</code>
Optional or Mandatory:	Mandatory
Notes:	To create a private Oracle BI Discoverer connection using the Discoverer Connections API, OracleAS Single Sign-On must be enabled on the Oracle Business Intelligence installation. If you create a private Oracle BI Discoverer connection, then you must also specify an OracleAS Single Sign-On user name using <code>-sso_user</code> .
Examples:	<code>-type "public"</code>

D

Oracle BI Discoverer Administrative Account Information

This appendix lists Discoverer administrative account information, and contains the following topics:

- [Section D.1, "Database privileges granted by Oracle BI Discoverer scripts to the PUBLIC user"](#)
- [Section D.2, "Database privileges granted by Oracle BI Discoverer scripts to the Discoverer manager"](#)

Note: For information about Discoverer accounts and schemas, see *Oracle Fusion Middleware Administrator's Guide*.

D.1 Database privileges granted by Oracle BI Discoverer scripts to the PUBLIC user

The table below shows the database privileges granted by Oracle BI Discoverer scripts to the PUBLIC user.

Script name(s)	Script description	Privileges granted
batchusr.sql	Sets up the scheduling schema (granted with INVOKER rights)	EXECUTE on EUL5_BATCH_REPOSITORY
demoddl.sql	Sets up the Video Stores Tutorial data	SELECT on all tables in VIDEO5 schema
eulsuqpp.sql	Run QPP statistics on secure views	SELECT on v_\$session, v_\$sesstat, v_\$parameter, v_\$sql, v_\$open_cursor

Script name(s)	Script description	Privileges granted
eulgfn.sql, lineage.sql, eul5.sql	Sets up PL/SQL packages	EXECUTE on EUL5_GET_COMPLEX_FOLDER EXECUTE on EUL5_GET_SIMPLE_FOLDER EXECUTE on EUL5_GET_OBJECT EXECUTE on EUL5_GET_ITEM EXECUTE on EUL5_GET_HIERORD EXECUTE on EUL5_GET_HIERLVL EXECUTE on EUL5_GET_ADATE EXECUTE on EUL5_GET_ANALYZED EXECUTE on EUL5_GET_OBJECT_NAME EXECUTE on EUL5_GET_ITEM_NAME EXECUTE on EUL5_GET_APPS_USERRESP EXECUTE on EUL5_GET_ISITAPPS_EUL EXECUTE on EUL5_GET_LINURL

D.2 Database privileges granted by Oracle BI Discoverer scripts to the Discoverer manager

The table below shows the database privileges granted by Oracle BI Discoverer scripts to EUL owners.

Package name(s)	Package description	Privileges granted
EUL5_DROP_BATCH_TABLE	Grant execute to Discoverer managers. Batch repository package for dropping tables as part of batch user management. (granted with GRANT rights)	With GRANT rights.

Troubleshooting Discoverer

This appendix describes common problems that you might encounter when using Discoverer and explains how to solve them. It contains the following topics:

Note: For information about troubleshooting Discoverer performance and scalability, see [Section 10.3.13, "Troubleshooting Discoverer performance and scalability."](#)

- [Appendix E.2, "Discoverer Viewer reports errors when exporting using Microsoft Internet Explorer v6.0"](#)
- [Appendix E.3, "Discoverer and Oracle Applications certification"](#)
- [Appendix E.4, "Discoverer reports a network error"](#)
- [Appendix E.5, "Discoverer reports the error ORA-12154"](#)
- [Appendix E.6, "Pop-up blocker issues"](#)
- [Appendix E.7, "Netscape Navigator 4.x issues"](#)
- [Appendix E.8, "Discoverer Plus reports RMI error"](#)
- [Appendix E.9, "Discoverer memory issues"](#)
- [Appendix E.10, "Discoverer Plus Relational help issues"](#)
- [Appendix E.11, "Configuring a SMTP Server for Discoverer Viewer"](#)
- [Appendix E.12, "Problem With Microsoft Internet Explorer, HTTP 1.1 Protocol and Compressed Data"](#)
- [Appendix E.13, "Error: Could Not Open Web Cache Connection \(WWC-40019\)"](#)
- [Appendix E.14, "Opening an exported Web Query file in Microsoft Excel containing non-ASCII dynamic parameter values"](#)
- [Appendix E.15, "List of values \(LOV\) is too long for a Discoverer portlet URL"](#)
- [Appendix E.16, "Specifying a parameter by index value in Microsoft Excel does not work for Web Query file"](#)
- [Appendix E.17, "Redirect conflicts with Oracle Single Sign-On and Secure Sockets Layer \(SSL\)"](#)
- [Appendix E.18, "Worksheet customization issues"](#)
- [Appendix E.19, "Graphs do not display in Discoverer Viewer"](#)
- [Appendix E.20, "Discoverer Portlet Provider issue"](#)

- [Appendix E.21, "Availability of Discoverer connections"](#)
- [Appendix E.22, "Passwords not accepted as a URL parameter"](#)
- [Appendix E.23, "Customizing Discoverer Viewer"](#)
- [Appendix E.24, "Discoverer Desktop and Plus worksheet font size issue"](#)
- [Appendix E.25, "Resource limit exception in Discoverer Portlet Provider"](#)

E.1 Additional Configuration Required to Display Graphics in SSL-Enabled Discoverer Viewer

Problem

When SSL is enabled for an Oracle BI Discoverer instance, icons and other graphics are not displayed properly in the Discoverer Viewer.

Solution

This problem occurs when the `WebLogic Plug-In Enabled` property is not configured for the Oracle WebLogic Server Administration Server and the Managed Server (`WLS_DISCO`). For more information about configuring the `WebLogic Plug-In Enabled` property through the Oracle WebLogic Server Administration Console, see the section "Servers: Configuration: General" in Oracle Fusion Middleware *Oracle WebLogic Server Administration Console Online Help*.

E.2 Discoverer Viewer reports errors when exporting using Microsoft Internet Explorer v6.0

When Discoverer Viewer users export data using Microsoft Internet Explorer v6.0, a bug in Microsoft Internet Explorer can lead to several errors being reported.

Note: Discoverer supports data exported Microsoft Excel 97 or later.

Problem 1

Microsoft Internet Explorer v6.0 is not configured correctly and displays an error message, for example:

- Internet Explorer was not able to open this Internet Site. The requested site is either unavailable or is not found. Try again later.

The error messages vary depending upon the application or mime type configured to open the extensions.

For example, if SSL is enabled in addition to Oracle Single Sign-On then you may receive an error such as:

- Could not open 'https://:/discoverer/viewer/'. For details see c:\path to temp directory \wecerr.txt

Clicking OK then gives the following error in Excel 'Microsoft Excel cannot access the file 'https://:/discoverer/viewer''. There are several possible reasons:

- The file name or path does not exist.
- The file being opened is being used by another program. Close the document in the other program, and try again.
- The name of the workbook that you are trying to save is the same as another document that is read-only. Try saving the document under another name.

This category of error is caused by an Internet Explorer bug, in which certain configurations involving a ReverseProxy such as Oracle Web Cache cause a problem during a redirected request (302). The Internet Explorer Host header contains the host header of the server you were redirected from rather than the host you were redirected to.

Solution

To resolve this problem, do the following:

1. On the middle-tier, open the `mod_osso.conf` file in a text editor (for more information about the location of the `mod_osso.conf` file, see [Section A.1, "Discoverer file locations"](#)).
2. Replace any existing Discoverer Viewer URL protection with the following text:
Header unset Pragma
OssoSendCacheHeaders off
require valid-user
AuthType Basic
3. Save the `mod_osso.conf` file.
4. Restart the Oracle HTTP Server.

Problem 2

Microsoft Internet Explorer v6.0 displays an error message when Discoverer exports to Microsoft Excel format.

Solution

Specify the Discoverer middle tier as a trusted site in Microsoft Internet Explorer, by doing the following:

1. Select Tools | Internet Options from the Microsoft Internet Explorer menu bar to display the Internet Options dialog.
2. Display the Security tab.
3. Select the Trusted Sites icon and click the Sites button to display the Trusted sites dialog.
4. Enter the URL of the Discoverer middle tier in the format:

`http://<host.domain>:<port>`

where:

- `<host.domain>` is the server name and domain on which the Oracle HTTP Server is installed
- `<port>` is the port number (typically 7777 or 7778) on which Discoverer is installed

E.3 Discoverer and Oracle Applications certification

This section explains Discoverer's supported patch installation strategy and Oracle Applications certification strategy.

Problem

Oracle periodically certifies the Oracle E-Business Suite 11*i* (for example, Applications 11*i*) with a specific patch-set or release version of Oracle BI Discoverer. This certification means that the version of Discoverer has been tested by Oracle Applications product teams against the workbooks and EULs that ship with their Oracle Applications modules (for example, Financials Intelligence). So a customer using an Oracle Applications 11*i* module that ships Discoverer content is now free to upgrade to the announced certified version and can typically install it in the ORACLE_HOMEs of existing application-tier server nodes of Oracle Applications 11*i* environments.

Oracle Applications 11*i* is certified against Discoverer Version 10.1.2.0.0, so that Discoverer content can be seamlessly integrated with the rest of the Oracle Applications suite. Oracle Applications continues to certify Discoverer patch-sets applicable to these releases.

Independent of this Oracle Applications certification process, Oracle BI Discoverer supports creation of custom workbooks and EULs against an Oracle Applications instance as a fully supported standalone feature. So, regardless of whether a given Discoverer patch-set or release has been Oracle Applications-certified, a customer is free to use any production release of Discoverer against their Oracle Applications instance to create custom workbooks and EULs through standalone use of Discoverer (that is, usage of Discoverer outside of an Oracle Applications module that utilizes Discoverer, such as Financials Intelligence). For example, customers can use Discoverer 10.1.2 against Oracle Applications 11*i* to develop their own custom workbooks and EUL in support of an enterprise-wide Business Intelligence solution even though this release has not been Oracle Applications-certified. Note that in this case, Discoverer must be installed outside of the middle-tier Oracle Homes provided with the Oracle Applications install. For more information, see *Oracle Fusion Middleware Administrator's Guide for Oracle Business Intelligence Discoverer*.

Can an uncertified version of Discoverer be used with Release 11*i*? In general, system administrators are advised to install only Oracle Applications-certified Discoverer versions and patches in their Oracle E-Business Suite Release 11*i* environments by using the standard Oracle Applications 11*i* workbooks and End User Layer content.

For more information, see the following My Oracle Support notes:

- Note 313418.1: Using Discoverer 10.1.2 with Oracle E-Business Suite Release 11*i*
- Note 373634.1: Using Discoverer 10.1.2 with Oracle E-Business Suite Release 12

There may be circumstances that make the installation of uncertified Discoverer patches necessary. Consult Oracle Support for guidance, based upon your specific circumstances.

Certification of Discoverer versions and patches with Oracle E-Business Suite Release 11*i* involves a coordinated testing effort across all Release 11*i* products that use Discoverer. Certifications are generally performed for production releases for Discoverer. Oracle does not generally certify small, individual emergency patches against Oracle E-Business Release 11*i*. Oracle's Discoverer support policy is to respond to bugs filed against both certified production patch releases and emergency patches.

Solution

Follow controlled configuration management strategies when working with uncertified emergency patches. In particular, do the following:

- Always back up a known working environment before applying patches.
- Always back up a known working environment at the certified patch level.

- Always test patches thoroughly before applying them to production environments.
- Only apply uncertified, emergency patches if it is unfeasible to wait until the next production patch release is certified.

E.4 Discoverer reports a network error

Oracle BI Discoverer reports a network exception during login.

Problem

One possible cause is that Oracle BI Discoverer cannot start.

Solution

Check that the Preferences component is up and running. To confirm that the Preferences component is up and running, use the Windows Task Manager and ensure that the Discoverer preferences command line utility `dis51pr` is running.

You can also run the following `opmnctl` command to find out the status of the preference server:

```
$ORACLE_INSTANCE/bin/opmnctl status
```

Tip: You can use the `checkdiscoverer` utility to verify a Discoverer configuration and report on failures or anomalies. For more information about the `checkdiscoverer` utility, see [Section 11.2, "What is the checkdiscoverer utility?"](#)

E.5 Discoverer reports the error ORA-12154

Oracle BI Discoverer reports error ORA-12154: Could not resolve service name.

Problem

Oracle BI Discoverer cannot connect to the database alias specified by the connection details.

Solution

Ensure that:

- the database alias is in the `tnsnames.ora` file on the middle tier
- the database alias exists in the `tnsnames.ora` file on every machine that runs sessions

Tip: If you have SQL*Plus (or any other Oracle product) running on that machine, try connecting to the database with that product.

E.6 Pop-up blocker issues

Oracle BI Discoverer does not start.

Problem

Oracle BI Discoverer does not work on an Internet browser with a pop-up blocker activated.

Solution

Turn off all the pop-up blockers on the client browser machine.

E.7 Netscape Navigator 4.x issues

Oracle BI Discoverer does not start when using Netscape Navigator 4.x as a client browser.

Problem

The following are known issues when using Discoverer with Netscape 4.x:

- it is not possible to filter the workbook list using non-ASCII characters when using Discoverer Viewer with Netscape 4.x
- it is not possible to use non-ASCII parameters when using Discoverer Viewer with Netscape 4.x
- it is not possible to create private connections using non-ASCII characters when using Discoverer with Netscape 4.x
- browser window re-sizing is disabled when using Discoverer Plus with Netscape 4.x

Solution

Use a later version of Netscape Navigator.

E.8 Discoverer Plus reports RMI error

A Discoverer Plus end user attempts to start Discoverer Plus over HTTP instead of HTTPS in an HTTPS environment.

Problem

Discoverer displays the following error message when an end user attempts to start Discoverer Plus using an HTTP URL:

Unable to connect to Oracle Discoverer Application Server. Attempt 1. RMI protocol over HTTPS transport: no response from web server at <url>.

Solution

Ensure that Discoverer end users use an HTTPS URL in an HTTPS environment. For more information, see [Section 13.6.3, "About Discoverer Plus security and communication protocols"](#).

Note: To deploy Discoverer Plus over HTTPS, you must select the Secure Tunneling security protocol in Oracle Fusion Middleware Control ([Section 13.6.3.5, "How to set up Discoverer Plus to use the Secure Tunneling communication protocol"](#)).

E.9 Discoverer memory issues

Oracle BI Discoverer Plus becomes unstable when a workbook contains a large number of worksheets (for example, more than 20) that contain graphs, typically maximized in a separate browser window.

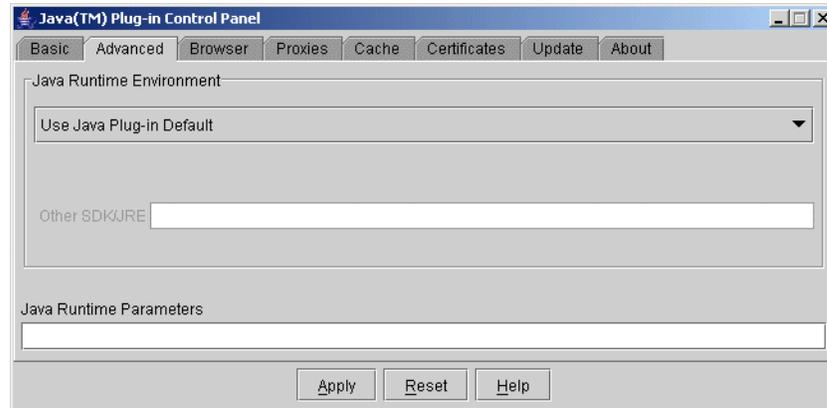
Problem

Oracle BI Discoverer Plus displays an out-of-memory error when running on a client browser machine.

Solution

Increase the JVM maximum heap memory size, as follows:

1. On the client browser machine, display the JVM control panel (for example, on a Windows machine, display the Control Panel, and double-click the Java Plug-in icon).
2. Display the Advanced tab.



3. In the Java Runtime Parameters field, enter the following text:
`-Xmx<amount of memory>M`
 For example, to increase the maximum memory level to 256MB, enter `-Xmx256M`.
4. Click Apply.
5. Restart Discoverer Plus on the client browser machine.

E.10 Discoverer Plus Relational help issues

Oracle BI Discoverer Plus Relational context sensitive help might not work on Microsoft Internet Explorer and Netscape Navigator with Sun Java Plug-in if the proxy settings for the Sun Java Plug-in are not set correctly.

Problem

When an Oracle BI Discoverer Plus Relational end user clicks Help when using a dialog, Discoverer does not display the correct help page for that dialog. In addition, links in the help table of contents and index do not work.

Solution

Change the proxy settings for the Sun Java Plug-in, as follows:

1. On the client browser machine, display the dialog in which you specify proxy settings.

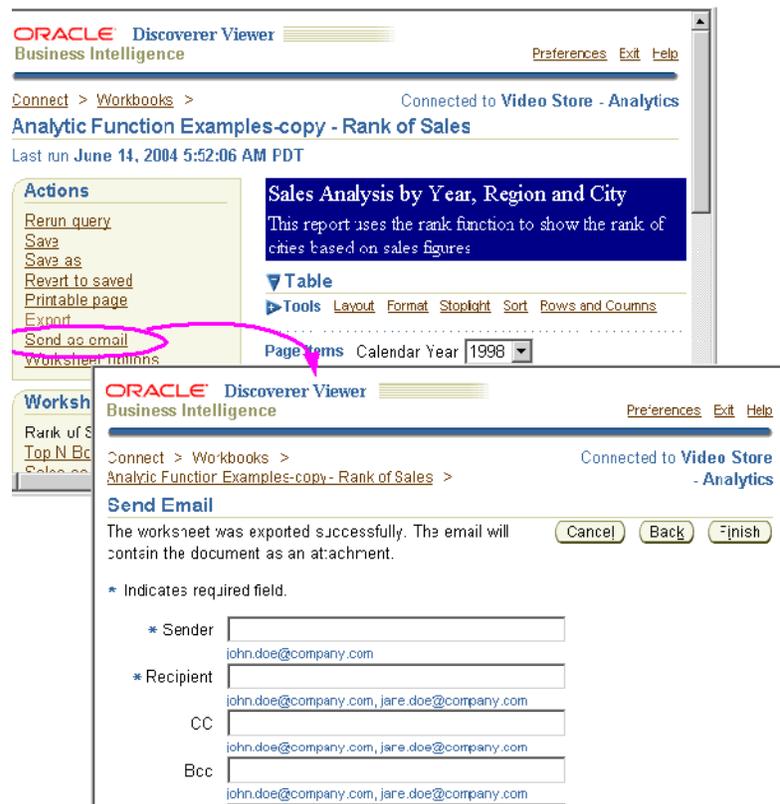
For example, in Microsoft Internet Explorer, from the Tools menu, choose Internet Options, Connections, LAN Settings, then Advanced to display the Proxy Settings dialog.



2. Ensure that the Exceptions field contains the following string:
*.oraclecorp.com
3. Click **OK** to save the changes.
4. Start a new client browser session and start Oracle BI Discoverer Plus.

E.11 Configuring a SMTP Server for Discoverer Viewer

Discoverer Viewer includes an option to send a Discoverer worksheet in an e-mail message by selecting the **Send as email** link in the Actions list (see [Figure E-1](#)).

Figure E-1 The Send as email option in Discoverer Viewer

If you want to change the SMTP server used, you must configure the Discoverer middle tier to use a different SMTP server.

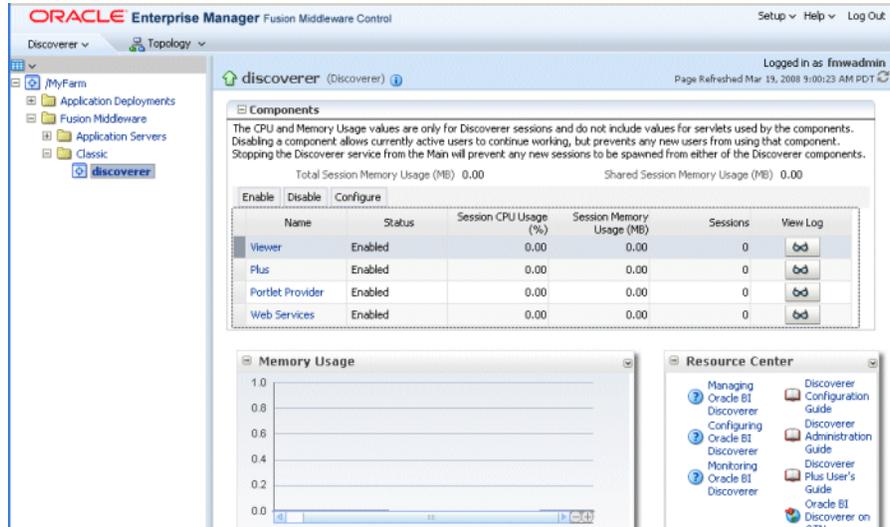
Problem

Discoverer Viewer is configured to use the wrong SMTP Server.

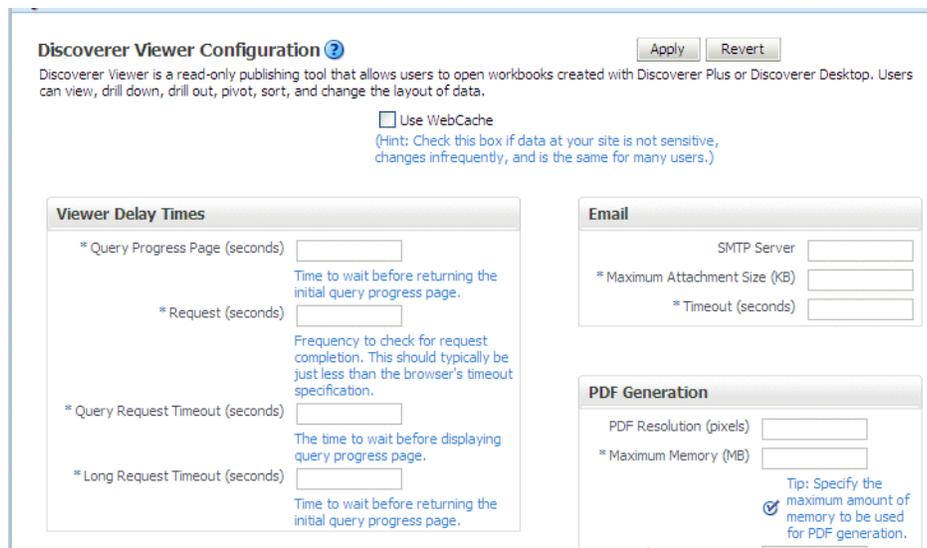
Solution

To configure the SMTP server for Discoverer Viewer:

1. Display Fusion Middleware Control (for more information, see [Section 4.1.2, "How to start Fusion Middleware Control and display the Farm Home page"](#)).
2. Display the Fusion Middleware Control Discoverer Home page (for more information, see [Section 4.1.3, "How to display the Fusion Middleware Control Discoverer Home page and Discoverer component Home pages"](#)).



3. In the Components area, select the **Discoverer Viewer** link in the Name column to display the Discoverer Viewer Home page.
4. Click **Configure** to display the Discoverer Viewer Configuration page.



5. In the **Email** region specify the SMTP server details.
6. Click **Apply** to save the details.

When Discoverer end users use the **Send as email** option to mail a worksheet, Discoverer Viewer uses the SMTP server that you specified.

E.12 Problem With Microsoft Internet Explorer, HTTP 1.1 Protocol and Compressed Data

Sometimes when using Microsoft Internet Explorer, the first 2048 bytes of data sent by a Web server using HTTP compression are lost. To find out more information about this problem, go to the following link:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;Q313712>

Problem

The first 2048 bytes of data sent by a Web server using HTTP compression are lost.

Solution

Specify HTTP 1.0 on the client to disable HTTP compression, as follows:

1. Select Tools | Internet Options from the Microsoft Internet Explorer menu bar to display the Internet Options dialog.
2. Display the Advanced tab.
3. Clear both of the following check boxes (in the HTTP 1.1 settings category):
 - the Use HTTP 1.1 check box
 - the Use HTTP 1.1 through proxy connections check box

E.13 Error: Could Not Open Web Cache Connection (WWC-40019)

The following error message appears if you try to publish Discoverer portlets after you have associated an Oracle BI installation with an existing Oracle installation:

Error: Could Not Open Web Cache Connection (WWC-40019)

Problem

Discoverer cannot open an Oracle Web Cache connection when an end user tries to publish a Discoverer portlet.

Solution

Disable Oracle Web Cache for Oracle Portal content, as follows:

1. Log in to Oracle Portal as the Portal administrator (for example, with the user name Portal).
2. Display the Administer tab.
3. Display the Portal sub-tab.
4. Select the Global Settings link in the Services area.
5. Display the Cache tab.
6. Clear the **Enable Web Cache for Caching Portal Content** check box.
7. Ensure that the **Host Name** field is set correctly.

Note: If more than one Oracle Business Intelligence middle tier has been installed, the Host Name is updated with the most recent Oracle Business Intelligence installation. You might need to change the Host Name to that of a previous Oracle Business Intelligence installation.

8. Save the changes you have made by clicking Apply or OK.

E.14 Opening an exported Web Query file in Microsoft Excel containing non-ASCII dynamic parameter values

You must set the encoding correctly in Microsoft Excel to correctly export Discoverer worksheets in Web Query (IQY) format containing non-ASCII dynamic parameter values.

Problem

Microsoft Excel users cannot correctly open a Discoverer worksheet exported in Web Query (IQY) format from Discoverer Plus Relational containing non-ASCII dynamic parameter values.

Solution

In Microsoft Excel, set the Excel encoding to UTF-8, as follows:

1. In Microsoft Excel, choose Options from the Tools menu to display the Options dialog.
2. Display the General tab.
3. Click Web Options to display the Web Options dialog.
4. Display the Encoding tab.
5. In the 'Save this document as' drop-down list, choose Unicode (UTF-8).

E.15 List of values (LOV) is too long for a Discoverer portlet URL

A list of values (LOV) might be greater than the URL limit.

Problem

When launching a list of values (LOV) from the worksheet/portlet provider parameter pages, if the total length of the current list of values in the text field is close to or greater than the URL length limit, the selected values may not work correctly when the LOV is launched.

Solution

Close the LOV window, empty the text field, and re-launch the LOV window to clear the selected values pane.

E.16 Specifying a parameter by index value in Microsoft Excel does not work for Web Query file

If you export a worksheet with a parameter value that uses the "let users choose value or index" option, Excel end users must enter a parameter value, not an index value.

Problem

No data is returned in a Microsoft Web Query (IQY) file after an end user specifies a parameter value using an index value.

Solution

The Microsoft Excel end user must specify a value for a parameter using an actual value (for example, East) instead of an index value (for example, 1).

E.17 Redirect conflicts with Oracle Single Sign-On and Secure Sockets Layer (SSL)

Redirect conflicts sometimes occur when both Oracle Single Sign-On and Secure Socket Layer (SSL) are turned on, especially if a SSL site is not registered with the Oracle Single Sign-On server, but a non-SSL site is registered.

Problem

Redirect conflicts occur.

Solution

Do the following:

1. Register the SSL site with the Oracle Single Sign-On server using the `ossoreg.sh` tool.

For information on registering a SSL site with the Oracle Single Sign-On server, follow the instructions in the *Oracle Fusion Middleware Administrator's Guide for Oracle Single Sign-On*. See the section that is entitled "Configuring `mod_osso` with Virtual Hosts."

2. Modify the configuration file to point to the generated `osso-https.conf` file.

E.18 Worksheet customization issues

When you use a Discoverer portlet or when you access Discoverer Viewer from a portlet using the Analyze button, you might encounter an error if a customization made in Discoverer Viewer is in conflict with some aspect of the source worksheet.

Problem

When you use a Discoverer portlet or when you access Discoverer Viewer from a portlet using the Analyze button, an error message is displayed: "The application encountered an invalid state. Oracle BI Discoverer Viewer was unable to find the necessary data for displaying the results of this event. Correct any errors and try again."

Solution

Either recreate the portlet based on the updated worksheet or revert the worksheet to its original state.

E.19 Graphs do not display in Discoverer Viewer

If Oracle Web Cache is enabled, graphs do not display in Discoverer Viewer unless Oracle Web Cache has been configured.

Problem

Graphs do not display in Discoverer Viewer.

Solution

Create a caching rule in Oracle Web Cache for the `/discoverer/GraphBeanServlet/` URL (for more information, see [Section 7.5.1, "How to create Discoverer caching rules"](#)).

E.20 Discoverer Portlet Provider issue

If Discoverer Portlet Provider is not correctly registered in Oracle Portal, you might encounter errors when creating or editing Discoverer portlets.

Problem

You might encounter one or more of the following problems when using the Discoverer Portlet Provider wizard:

- When you click Next on the Database Connections page, the wizard does not advance to the next page.
- When you select the Edit Defaults link next to a portlet, then click Next, Oracle Portal displays the following error message:

```
An error occurred while handling the request in the controller.
```
- Pages in the Edit Defaults wizard load twice.

Solution

In Oracle Portal, edit the Discoverer Portlet Provider registration settings and clear the **Web provider in same cookie domain as the portal** check box. For more information about how to edit or register Discoverer Portlet Provider, see *Oracle Fusion Middleware Guide to Publishing Oracle Business Intelligence Discoverer Portlets*.

E.21 Availability of Discoverer connections

Discoverer connections are available only when the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer schemas.

Problem

The Discoverer connections page does not display connections and does not provide options to enable you to create private connections. End users can only connect directly using the Connect Directly fields.

Solution

Ensure that the Discoverer installation is associated with the Oracle Internet Directory and the Discoverer schemas. For more information, see [Section 1.3, "About Oracle BI Discoverer installations."](#)

E.22 Passwords not accepted as a URL parameter

For security reasons, in Oracle Business Intelligence release 10.1.2.1 (and later) you cannot specify a database password using a URL parameter.

Problem

Discoverer ignores a password specified on a URL with the pw= URL parameter, and the Discoverer end user is prompted for a database password.

Solution

If you use a private Discoverer connection, end users are always prompted at least once for a database password. You can also use the reuseConnection= URL parameter to reuse login details in the same browser session so that end users do not have to enter a database password repeatedly for the same private Discoverer connection.

For information about how to specify login information using a connection ID, see [Section 12.3.2, "How to specify login information using a Discoverer connection"](#). For more information about the reuseConnection URL parameter, see [Section 12.7, "List of URL parameters common to Discoverer Plus and Viewer"](#).

E.23 Customizing Discoverer Viewer

In Oracle Business Intelligence release 10.1.2.1 (and later) you can no longer customize Discoverer Viewer look and feel by directly editing XSL files on the middle tier.

Problem

You cannot find XSL files for Discoverer Viewer on the middle tier.

Solution

Use Oracle Fusion Middleware Control to customize the Discoverer Viewer look and feel (for more information, see [Section 8.2, "Customizing Discoverer Viewer"](#)).

E.24 Discoverer Desktop and Plus worksheet font size issue

Worksheet font sizes can appear smaller in Discoverer Plus than they are in Discoverer Desktop.

Problem

When a worksheet is created using Discoverer Desktop, the font size is correct when the worksheet is viewed in Discoverer Desktop, but when the same worksheet is viewed in Discoverer Plus the font size appears to be smaller.

Solution

Add the following entry under the [Application] section in the pref.txt file, and apply the changes (for more information, see [Section A.1, "Discoverer file locations"](#)):

```
AdjustPlusFontSize = "true"
```

E.25 Resource limit exception in Discoverer Portlet Provider

Discoverer Portlet Provider might throw an exception while processing requests.

Problem

Users might see the following error message when Discoverer Portlet Provider processes requests:

```
The following error occurred during the call to Web provider:
BaseException is
weblogic.common.resourcepool.ResourceLimitException: No
resources currently available in pool <data_source> to allocate
to applications, please increase the size of the pool and retry.
```

In the error message, <data_source> is the name of the Weblogic JDBC data source created with the JNDI name jdbc/disco_portlet.

Solution

This exception occurs when the connection pool capacity (default: 1500) is not adequate.

1. Log in to the WebLogic Administration Console by using the following URL:
http://<host>:7001/console
2. From the left navigation pane, select **Services**.
3. From the submenu, select **JDBC** and then **Data Sources**.

4. Select the data source with the JNDI name `jdbc/disco_portlet`, by clicking the link in the **Name** column.
5. Select the **Connection Pool** tab under the **Configuration** tab group.
6. Increase the **Maximum Capacity** to a value that is appropriate to your Discoverer Portlet Provider usage.
7. Click **Save**.

This change takes effect immediately. It does not require Discoverer applications to be restarted.

For more information, see the *WebLogic Administration Console Online Help*.

E.26 "Portlet data limits exceeded" error in Discoverer Portlet Provider

Discoverer Portlet Provider might throw an exception while processing requests.

Problem

Users might see the following error message when Discoverer Portlet Provider processes requests:

```
Portlet data limits exceeded. Data shown may be incomplete.
```

Solution

This error occurs when the Discoverer worksheet query returns more rows than allowed by the Discoverer PortletProvider cache. The (default) maximum number of rows cached by Discoverer PortletProvider is 1000.

You can increase the Discoverer PortletProvider cache, by changing the `maxDataRows` parameter in the `configuration.xml` file, as shown in the following example:

```
<!-- Portlet Provider configuration. -->
<portlet logKey="disco.portlet.fatal" logLevel="error"
pickerCompatibleVersions="10.1.2" maxDataRows="1500">
<enablePortlet status="true"/>
<sessionPool maxSessions="20" useCachedSession="true" maxSessionAgeHour="35" @
maxSessionInactivityPeriodMinute="17" maxRefreshWaitMinute="1"
maxRefreshRetries="1" maxGenericParameters="10" maxNewSessionPerMinute="6"
maxWaitNewSessionMinute="30" minRequestThreadPoolSize="20"
peekSleepIntervalSec="2"/>
</portlet>
```

Note: Publishing a query (that returns a large number of rows) to a portlet affects performance.

A

Apache
 timeout, A-2

Apple Mac
 prerequisites, 2-10
 running Discoverer Plus, 2-10

Application Server Control
 how to display the Discoverer home page, 4-3
 how to start, 4-3
 using to manage Discoverer components, 4-3
 why use with Discoverer, 4-2

applypreferences.bat, A-1

architecture
 of Discoverer, 1-10
 of Discoverer Catalog, 5-2

ASO encryption certification, 13-3

Available Items pane
 hide and display, 8-1

B

BI Beans Catalog, 5-3
 administer, 4-2

block size
 Discoverer Catalog, 5-5

browser
 requirements, 2-3
 supported by Discoverer, 2-3

C

caching
 creating a rule for Discoverer, 7-4

caching Discoverer Viewer pages
 enabling, 7-5

Catalog
 Discoverer, 5-1
 OLAP, 5-2

CellPadding preference, 9-7

certification
 Oracle Applications, E-3

character limits
 browser limits, 12-3

checkconfiguration utility, 5-13

checkdiscoverer utility, 11-1, 11-2, A-1

collectlogs.bat, 11-1, 11-3, A-1

collectlogs.sh, 11-1, 11-3

column spacing in reports, 9-7

command line utility for managing the Discoverer Plus OLAP Catalog, 5-18

commands
 connect, C-11

communication protocols, 4-2
 about HTTP, 13-8, 13-9
 about HTTPS, 13-9, 13-28
 about JRMP, 13-8, 13-9

configuration diagnostic utility
 Discoverer Plus OLAP, 5-13

configuration files
 applypreferences.bat, A-1
 checkdiscoverer.bat, A-1
 collectlogs.bat, A-1
 configuration.xml, A-2, A-3
 convertreg.pl, A-2
 defaults.txt, A-2
 dis51pr, A-2
 discwb.sh, A-2
 error.txt, A-2
 mod_osso.conf, A-2
 opmncnt, A-2
 opmn.xml, A-7
 pref.txt, A-3
 reg_key.dc, A-3
 tnsnames.ora, A-3
 web.xml, A-3

configuration.xml
 settings, A-3
 summary, A-2

connection ID
 how to find out, 12-6

connections, 2-12, 2-22
 about, 3-1, 3-4
 connections page, 3-4
 copying, 3-4
 creating a public connection, 3-5, 3-7
 enabling private, 3-7
 how to find out a connection ID, 12-6
 managing with Oracle Application Server Control, 3-4
 private, 2-12, 2-22
 private for OLAP data, 5-12

- public, 4-2
- troubleshooting, E-14
- types, 3-2
- convertreg.pl script, 9-15
- copying Discoverer connections, 3-4
- CORBA components
 - Preferences, 1-13
 - Session, 1-13
- currency
 - Euro countries, 9-8
- customizing
 - hide and display Available Items pane, 8-1
- customizing Discoverer Plus
 - about, 8-1
- customizing Discoverer Viewer
 - about, 8-4
 - layout, 8-5
 - look and feel, 8-5
 - troubleshooting, E-15

D

- D4OSYS user
 - database privileges, 5-4
 - privileges, 5-10
- database
 - specifying, C-15
 - tnsnames.ora, C-15
- Database Connection file, 14-2
- database privileges
 - D4OSYS, 5-4
- database security
 - about, 13-3
 - ASO encryption certification, 13-3
- database users and performance, 10-9
- DBC files, 14-2
- defaults.txt, A-2
- demilitarized zones (DMZs)
 - about, 13-27
- diagnosing problems, 11-2
 - checkdiscoverer utility, 11-2
- dis51pr, A-2
- Discoverer
 - about, 1-1
 - and Oracle Applications, 14-1
 - and Oracle Fusion Middleware, 1-4
 - architecture, 1-10
 - CORBA components, 1-13
 - J2EE components, 1-12
 - over SSL/HTTPS, 13-6
 - Plus servlet, 1-13
 - port numbers, 4-17
 - Portlet Provider servlet, 1-13
 - process, 1-15
 - security, 2-3, 3-8
 - servlet, 1-13
 - URL arguments for Discoverer Plus, 12-15
 - URL parameters for Discoverer Viewer, 12-18
 - Viewer, 1-1
- Discoverer Catalog, 5-1

- about, 5-2
- administer, 5-1
- architecture, 5-2
- authorize access, 5-10
- authorized users and roles, 5-8
- block size, 5-5
- D4OSYS user, 5-4
- defined, 5-2
- deinstallation, 5-6
- export, 5-7
- folder structure, 5-9
- import, 5-7
- installation, 5-4
- maintain users and roles, 5-8
- manage using the Discoverer Plus OLAP
 - command line utility, 5-18
- object properties, 5-2
- privileges, 5-9
- privileges for objects and folders, 5-9
- revoke access, 5-11
- Discoverer connections
 - about, 3-1
 - and Oracle Applications, 14-1
 - copying, 3-4
 - Oracle e-Business Suite, 13-4, 14-1
- Discoverer Java applet, 1-11
- Discoverer logins
 - managing with Oracle Application Server Control, 3-4
- Discoverer memory and performance, 10-9
- Discoverer Plus, 2-10
 - about, 1-1
 - accessing over dial-up, 2-11
 - client machine requirements, 1-11
 - configuration, 4-2
 - hide and display UI panes, 8-1
 - look and feel, 8-1
 - operating system rights, 2-3
 - process, 1-15, 1-16
 - removing applet, 2-2
 - running, 2-10
 - running on Apple Mac, 2-10
 - running on Internet Explorer, 2-10, 2-12
 - running on Netscape Navigator, 2-10, 2-15
 - running over HTTPS, 13-9
 - security settings, 2-10
 - session timeout, 2-11
 - upgrading the applet, 1-11
 - URL arguments, 12-15
- Discoverer Plus OLAP
 - about, 1-2
 - about the configuration diagnostic utility, 5-13
 - customizing, 5-12
 - ensuring access, 5-10
 - information for end users, 5-13
 - starting with URL parameters, 12-11
 - URL parameters, 5-16
- Discoverer Portlet Provider, 10-8
 - security example, 13-18
- Discoverer preferences

- about, 9-1
- migrating, 9-15
- Discoverer Preferences component
 - specifying the machine that is going to run it, 6-8
- Discoverer security
 - communication protocols, 13-9
 - configuring with HTTPS, 13-12
 - connections, 13-6
 - database, 13-3
 - default, 13-9
 - Discoverer Services Configuration page, 13-10
 - JRMP,HTTP,HTTPS, 13-6
 - non-Oracle Single Sign-On, 13-21
 - Oracle Portal, 13-17
 - Oracle Single Sign-On, 13-16,13-19
 - secure tunneling, 13-9
 - tunneling, 13-9
- Discoverer Services components
 - about, 1-12
 - Discoverer Session component, 1-14
 - Preferences component, 1-14
 - Session component, 1-14
- Discoverer Services Configuration page
 - starting OEM, 13-10
- Discoverer Viewer
 - about, 1-1
 - client machine requirements, 1-12
 - customization, 4-2
 - customization troubleshooting, E-15
 - email option, E-8
 - graph display problem, E-13
 - JavaScript, 1-12
 - look and feel, 8-4
 - page navigation tool, A-4
 - process, 1-17
 - running, 2-21
 - security, 13-7
 - troubleshooting, E-2
 - URL parameter for OLAP worksheet, 5-18
 - URL parameters, 12-18
- discwb.sh, A-2
- DMZs, 13-27

E

- e-Business Suite login, 13-4,14-1
- email option in Discoverer Viewer, E-8
- encryption
 - how to configure Discoverer to use encryption in an intranet, 13-30
 - how to configure Discoverer to use encryption through firewalls, 13-30
 - how to verify that Discoverer is encrypting communications, 13-30
- Endian format in preferences file, 9-15
- Enterprise Manager
 - query progress delay, 4-2
- error message - Could not resolve service name?, E-5
- error message ORA-12154, E-5

- Euro currency, 9-8
- EuroCountries preference, 9-8
- export Discoverer Catalog, 5-7
- export errors
 - troubleshooting, E-2
- exporting data
 - displaying repeating values, 9-8
 - minimum required Excel version, E-2
 - NULL values, 9-8

F

- Firefox browser
 - running Discoverer Plus, 2-10
- firewalls
 - about, 13-27
 - how to configure Discoverer for both intranet users and users accessing Discoverer through a firewall, 13-31
 - how to configure Discoverer to use encryption through firewalls, 13-30
 - how to configure Discoverer to work through a firewall, 13-29,13-30
 - policies, 13-28
- FND_SECURE, A-7
- FND_TOP, A-8
- folder structure of Discoverer Catalog, 5-9
- frequently asked questions
 - about security, 13-27
- Fusion, 4-3
- Fusion Middleware Control, 4-1
 - about, 4-1

G

- graphing
 - troubleshooting, E-13
- GUID, Global User ID, 13-22

H

- HTTP, 13-6
 - about, 13-8,13-9
- HTTPS, 13-6
 - about, 13-9,13-28
 - enabling, 13-6
 - running Discoverer, 2-4
 - running Discoverer Plus, 13-9
 - troubleshooting, E-6

I

- import Discoverer Catalog, 5-7
- index values
 - troubleshooting, E-12
- Internet Explorer
 - running Discoverer, 2-12
- intranet
 - configure Discoverer for both intranet users and users accessing Discoverer through a firewall, 13-31

- how to configure Discoverer to work in an intranet, 13-28
- IQY format, 4-18

J

- J2EE components
 - about, 1-12
- Java Plug-in
 - pop-up, 2-2
- Java runtime environment, 2-2
 - Oracle JInitiator, 2-2
 - Sun Java Plug-in, 2-2
- Java Virtual Machine
 - running with different version, 4-17
- Javascript
 - Discoverer Viewer requirements, 1-12
- JRMP, 13-6
 - about, 13-8, 13-9

L

- LAFs
 - browser, 8-1, 8-2
 - plastic, 8-2
 - system, 8-2
- layout
 - customizing, 8-5
- log files, 11-1, 11-3
 - collecting, 11-1, 11-3
 - enabling Discoverer Servlet logs, 11-3
 - OPMN, A-7
 - ORB debug file, A-7
 - server diagnostics available, 11-1
- logging, 10-9
- look and feel, 8-4
 - creating a custom LAF, 8-4
 - customizing, 8-1, 8-4, 8-5
 - types, 8-1

M

- Metadata Repository
 - upgrading Discoverer part of, B-8
- Microsoft Excel
 - minimum supported version for export, E-2
 - minimum supported version for Web Query format, 4-18
- minimum security settings, 2-10
- mod_osso.conf, A-2
- multiple-machine installation
 - about configuring Discoverer, 6-5

N

- NAT (Network Address Translation), deploy
 - Discoverer using a standard NAT, 13-31
- Netscape Navigator, 2-10
 - running Discoverer, 2-15
- Netscape V4.x
 - troubleshooting, E-6

- network exception
 - troubleshooting, E-5
- NULL values in exported data, 9-8

O

- OLAP
 - starting Discoverer Plus OLAP, 12-11
- OLAP Catalog, 5-2
 - about, 5-2
- OPMN
 - list of configuration settings in opmn.xml, A-7
 - opmnctl script, A-2
 - ORBDebug, A-7
 - ORBDebugLevel, A-7
 - ORBLogFile, A-7
 - settings, A-7
- opmn.xml, A-7
- ORA-12154 error message, E-5
- Oracle Application Server Control
 - changing database passwords, 4-2
 - creating public connections, 4-2
 - query progress delay, 4-2
 - stylesheet pooling, 4-2
- Oracle Applications, 14-1
 - and Oracle BI Discoverer, 14-1
 - AppsFNDNAM, 14-4
 - AppsGWYUID, 14-4
 - certification, E-3
 - configuration settings, 14-4
 - DBC files, 14-2
 - FND_SECURE, A-7
 - FND_TOP, A-8
 - using Discoverer with, 14-1
- Oracle BI Discoverer
 - about Discoverer Plus, 1-1
 - about Discoverer Viewer, 1-1
- Oracle BI standalone CD, 1-4
- Oracle e-Business Suite login, 13-4, 14-1
- Oracle Enterprise Manager
 - enabling private connections, 3-7
- Oracle Fusion Middleware
 - and Oracle BI Discoverer, 1-4
 - Infrastructure, 1-4
- Oracle Fusion Middleware Control
 - changing database passwords, 4-2
 - query progress delay, 4-2
- Oracle Fusion Middleware Security
 - and Discoverer, 13-6
- Oracle Jar Cache, 2-3
- Oracle Portal
 - security example, 13-18
- Oracle Single Sign-On
 - about, 13-16, 13-19
 - details propagation, 13-21
 - enabling for Oracle Applications users, 14-3
 - Oracle Portal example, 13-18
 - troubleshooting, E-12
 - why enable or disable, 7-4
- Oracle Web Cache

- about, 7-1
- benefits, 7-2
- creating a caching rule, 7-4
- enabling, 7-5
- how does it work?, 7-3
- how it works, 7-3
- using Viewer with, 7-3, 7-4
- out of memory issues
 - troubleshooting, E-6

P

- pageNavigation flag, A-4
- parameter values
 - troubleshooting, E-12
- password
 - prompting for with URL parameters, 12-11
- performance, 10-8
 - about Discoverer and performance, 10-1
 - Discoverer Portlet Provider, 10-8
 - enabling Web Cache, 7-5
 - how to improve Discoverer's performance, 10-2
 - by basing lists of values on tables containing distinct values, 10-6
 - by changing cache settings, 10-7
 - by increasing the size of the array used to fetch rows from the database, 10-6
 - by reducing the time taken to display business areas and folders, 10-3
 - by scheduling worksheets to run overnight, 10-8
 - by setting the Case Storage item property appropriately, 10-5
 - by using Discoverer Administrator hints, 10-5
 - by using Oracle Web Cache, 10-8
 - by using summary folders, 10-4
 - reducing the size of reports, 9-7, 9-10
 - swap space., 10-9
 - troubleshooting, 10-8
- pop-up stoppers
 - troubleshooting, E-5
- port numbers for Discoverer, 4-17
- ports, 4-17
- Preference server
 - configuring, A-7
- preferences
 - about Discoverer preferences?, 9-1
 - about Discoverer system preferences, 9-1
 - about Discoverer user preferences, 9-2
 - converting file format, 9-15
 - convertreg.pl script, 9-15
 - Endian format, 9-15
 - list of Discoverer user preferences, 9-5
 - migrating, 9-15
 - upgrading Discoverer, 9-15
- Preferences component of Discoverer Services, 1-14
- pref.txt, A-3
- PrintHeadersOnce preference, 9-10
- printing
 - reducing the size of reports, 9-7, 9-10

- Private connections
 - Viewer pages not cached with, 7-3
- private connections
 - for OLAP data, 5-12
 - not allowed, 12-4, 12-13
 - URL parameters for, 12-4, 12-13
- privileges
 - granted to PUBLIC, D-1
 - granted to the Discoverer manager, D-2
 - required for Discoverer, 2-3
- public connections
 - not allowed, 12-4, 12-13
 - URL parameters for, 12-4, 12-13

Q

- query prediction and performance, 10-8

R

- redirect conflicts, E-12
- reg_key.dc, A-3
- reports
 - reducing the size of reports, 9-7, 9-10
- RMI error
 - troubleshooting, E-6
- role-based security for Fusion Middleware Control
 - pages, 4-8
- running Discoverer Plus in IE, 2-12
- running Discoverer Plus in Netscape, 2-15
- running Discoverer Viewer, 2-21

S

- scalability
 - troubleshooting, 10-8
- scalable architecture of Discoverer
 - how to take advantage of
 - using the scalability features of Oracle, 10-9
- Secure Sockets Layer (SSL), 2-4
- security
 - about, 13-1
 - database level, 13-3
 - disabling Discoverer Plus, 2-3, 3-8
 - disabling private connections, 2-3, 3-8
 - Discoverer Plus, 13-8
 - Discoverer Viewer, 13-7
 - encryption, 13-30
 - FND_SECURE, A-7
 - FND_TOP, A-8
 - installing certificates, 2-4
 - network level, 13-6
 - private connections not allowed, 12-4, 12-13
 - protocols, 13-8, 13-9
 - running Discoverer, 2-3, 3-8
 - security settings for Discoverer Plus, 2-10
- Session component, 1-14
- Session component of Discoverer Services, 1-14
- session ID
 - in logs, 11-2
- session pooling, 4-2

- session timeout, A-7
- session timeout in Discoverer Plus, 9-13
- session-timeout value, 9-13
- SMTP Server for Discoverer Viewer, E-8
- SSL
 - enabling, 13-6
 - troubleshooting, E-12
- starting Discoverer with URL parameters, 12-1
- storage requirements of Discoverer, 2-3
- summaries and performance, 10-8
- Sun Java Plug-in alerts, 2-2
- swap space and performance, 10-9

T

- TAO ORB
 - defaults, A-8
 - settings, A-8
- tiered architecture of Discoverer
 - Client tier (Plus and Viewer), 1-11
 - Database tier (Plus and Viewer), 1-14
 - Discoverer Services tier (Plus and Viewer), 1-12
- Timeout
 - in Discoverer Plus, 9-13
 - in Discoverer Viewer, 9-13
 - preferences, 9-13
 - session timeout, 2-11, 9-12
 - setting timeout values, 9-13
- timeout
 - Apache, A-2
 - Web server, A-2
- tnsnames.ora, A-3, C-15
 - about, 6-10
 - editing, 6-10, A-3
- troubleshooting
 - connections not available, E-14
 - customizing Discoverer Viewer, E-15
 - database users, 10-9
 - Discoverer memory, 10-9
 - Discoverer Plus Relational help, E-7
 - Discoverer Viewer Send as email option, E-8
 - graph display in Discoverer Viewer, E-13
 - HTTPS, E-6
 - index value for parameters, E-12
 - MS Internet Explorer v6.0, E-2
 - Netscape V4.x, E-6
 - network errors, E-5
 - ORA-12154 error, E-5
 - Oracle Applications certification, E-3
 - out of memory error, E-6
 - parameter values, E-12
 - performance and scalability, 10-8
 - pop-up stoppers, E-5
 - query prediction, 10-8
 - redirect conflicts, E-12
 - resource limit exception in Discoverer Portlet Provider, E-15, E-16
 - RMI error, E-6
 - summaries, 10-8
 - swap space, 10-9

- workbooks, 10-9
- worksheet fonts in Desktop are too small in Plus, E-15
- XSL files, E-15

U

- upgradeMR script
 - using, B-8
- upgrading
 - Discoverer preferences, 9-15
 - upgrading Sun Java Plug-in, 2-2
- URL parameters
 - character limits, 12-3
 - example of starting Plus OLAP, 12-11
 - for Discoverer Plus OLAP, 5-16
 - opening OLAP worksheets in Discoverer Viewer, 5-18
 - prompting for a password, 12-11
 - specifying workbooks and worksheets, 12-5
 - syntax, 12-1
 - URL parameters common to Plus and Viewer, 12-13
 - why use URL parameters?, 12-1
- Users Personal Profile Space, 2-3

V

- Virtual Private Database (VPD), 13-21
- VPD, 13-21
 - with a multidimensional data source, 13-22
 - with a relational data source, 13-21

W

- Web Cache
 - see Oracle Web Cache
- Web Query
 - about, 4-18
 - configuring Discoverer, 4-18
 - file association, 4-18
 - format limitations, 4-18
 - minimum required Excel version, 4-18
- Web server
 - timeout, A-2
- web.xml, A-3
- workbook ID
 - how to find out, 12-5
- workbooks and performance, 10-9
- worksheet
 - URL parameter for OLAP worksheet, 5-18
- worksheet ID
 - how to find out, 12-6
- worksheet layout
 - padding cells, 9-7