Configuration Guide

Informatica® PowerCenter®

(Version 8.6.1)

Informatica PowerCenter Configuration Guide

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Preface

The *PowerCenter Configuration Guide* is written for the system administrators who are responsible for configuring and upgrading the PowerCenter product after installation. This guide assumes you have knowledge of your operating systems, relational database concepts, and the database engines, flat files, or mainframe systems in your environment. This guide also assumes you are familiar with the interface requirements for your supporting applications.

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♦ support@informatica.com for technical inquiries

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Part I: Introduction

This part includes the following chapters:

CHAPTER 1

Configuration and Upgrade Overview

This chapter includes the following topics:

Configuring PowerCenter for New Installation

Complete the following steps to configure PowerCenter for a new installation:

1. **Complete the post-installation tasks.** Post-installation tasks include verifying the prerequisites, configuring environment variables, and configuring web browsers. For more information, see "Post-Installation Tasks" on page 7.

2. **Configure PowerCenter Services.** Use the Configuration Assistant to configure application services for PowerCenter. Optionally, use the Administration Console to manually configure services. For more information, see "Using the Configuration Assistant" on page 35.

3. **Complete the post-configuration steps.** Post-configuration tasks include configuring Informatica Services and configuring Microsoft SQL Server for a Data Analyzer repository. For more information, see "After You Configure" on page 41.

Upgrading PowerCenter

The PowerCenter upgrade consists of the following phases:

- **Upgrading the PowerCenter program files and repository.** To upgrade the PowerCenter program files and repository, run the PowerCenter installer and select the upgrade option. If the PowerCenter domain has multiple nodes, you must upgrade PowerCenter on all the nodes. For more information, see the *PowerCenter Installation Guide*.

♦ **Upgrading the PowerCenter services.** After you upgrade the PowerCenter program files and repository, upgrade the application services in the PowerCenter domain. If you upgrade from PowerCenter 8.6, you do not need to upgrade the PowerCenter application services.

After you run the installer to upgrade PowerCenter, complete the following tasks:

1. **Complete the post-installation tasks.** Complete the tasks required to upgrade your version of PowerCenter. The post-installation tasks include verifying the prerequisites, configuring environment variables, and configuring web browsers. For more information, see "Post-Installation Tasks" on page 7.

2. **Upgrade PowerCenter.** Complete the upgrade steps for the version of PowerCenter that you upgrade. Upgrade steps include upgrading repository content to the new repository version, and upgrading the PowerCenter repository users. For more information, see "Upgrading PowerCenter" on page 47.

3. **Complete the post-upgrade tasks.** Post-upgrade tasks include configuring and enabling application services and moving run-time files to the new installation directory. For more information, see "After You Upgrade" on page 85.

4. **Complete additional post-upgrade tasks.** After you complete the PowerCenter upgrade, perform additional tasks to upgrade metadata and configure PowerCenter to use new functionality or maintain previous functionality. For more information about behavior changes between different versions, see the *PowerCenter Release Guide.*

Compatible PowerCenter Versions

If the version of PowerCenter you use is not supported by the PowerCenter 8.6.1 upgrade, you must first upgrade to a supported version. Contact Informatica Global Customer Support to get the version of PowerCenter you need to complete the upgrade.

The following table lists the compatible upgrade for previous versions of PowerCenter:

If you have this version...	You can upgrade to any of these versions...
PowerCenter 7.0	PowerCenter 7.1/8.1/8.1.1/8.5/8.5.1/8.6/8.6.1
PowerCenter 7.1*	PowerCenter 8.1/8.1.1/8.5/8.5.1/8.6/8.6.1
PowerCenter 8.1*	PowerCenter 8.1.1/8.5/8.5.1/8.6/8.6.1
PowerCenter 8.1.1	PowerCenter 8.5/8.5.1/8.6/8.6.1
PowerCenter 8.5	PowerCenter 8.5.1/8.6/8.6.1
PowerCenter 8.5.1	PowerCenter 8.6/8.6.1
PowerCenter 8.6	PowerCenter 8.6.1

* Indicates BTree upgrades in PowerCenter. To retain the existing incremental aggregation files, you must upgrade using the indicated BTree path and run a session to realign the files. For example, to upgrade from PowerCenter 5.1.x to PowerCenter 8.1.1, first upgrade to PowerCenter 7.1 and then to PowerCenter 8.1.1.

Upgrading Data Analyzer

When you install PowerCenter Services, you install the latest version of Data Analyzer. The Reporting Service in the PowerCenter domain runs the Data Analyzer application. When you create a Reporting Service, you must specify the Data Analyzer repository you want to use.

You can specify a previous version of the Data Analyzer repository for the Reporting Service. When you create a Reporting Service and associate it with an existing Data Analyzer repository, the Reporting Service provides options to upgrade the Data Analyzer repository and groups and user accounts.

You can upgrade the following versions of Data Analyzer to version 8.6.1:

♦ Data Analyzer 8.1.1

♦ PowerAnalyzer 5.0.2

Note: You do not need to upgrade Data Analyzer version 8.5 or later.

To upgrade Data Analyzer to the latest version, complete the following steps:

1. **Prepare Data Analyzer for upgrade.** Pre-upgrade tasks include copying configuration and color scheme files to a temporary directory. For more information, see "Prepare Data Analyzer for Upgrade" on page 19.

2. **Upgrade the Data Analyzer repository and user accounts.** Use the Administration Console to upgrade the Data Analyzer repository. For more information, see "Upgrading Data Analyzer" on page 65.

3. **Complete the post-upgrade tasks.** After you upgrade the Data Analyzer repository, you need to restore any customization you previously made. For more information, see "Data Analyzer Post-Upgrade Tasks" on page 90.

After you complete the upgrade steps, verify that all schemas, dashboards, and reports are working correctly in Data Analyzer 8.6.1. If the upgrade is successful, you can uninstall the previous version of Data Analyzer.

Upgrading Metadata Manager

When you install PowerCenter Services, you install the latest version of Metadata Manager. The Metadata Manager Service in the PowerCenter domain runs the Metadata Manager application. When you create a Metadata Manager Service, you must specify the Metadata Manager repository you want to use.

You can specify a previous version of the Metadata Manager repository for the Metadata Manager Service. When you create a Metadata Manager Service and associate it with an existing Metadata Manager repository, the Metadata Manager Service provides options to upgrade the Metadata Manager repository and groups and user accounts.

You can upgrade the following versions of Metadata Manager to version 8.6.1:

♦ Metadata Manager 8.6

♦ Metadata Manager 8.5.x

♦ Metadata Manager 8.1.1

Note: You cannot upgrade from SuperGlue 2.2 to Metadata Manager 8.6.1. To upgrade from SuperGlue 2.2, upgrade to a previous version of Metadata Manager and then upgrade to Metadata Manager 8.6.1. If the SuperGlue repository does not contain custom XConnects or other customization, you do not need to upgrade. Instead, install PowerCenter 8.6.1, create a Metadata Manager Service, and then load the SuperGlue source repositories into Metadata Manager 8.6.1.

The following table describes the Metadata Manager upgrade steps:

8.1.1	8.5.x	8.6	Description
1	1	1	Prepare Metadata Manager for upgrade. For more information, see "Prepare Metadata Manager for Upgrade" on page 21.
2	2	2	Upgrade the Metadata Manager repository. For more information, see "Upgrading Metadata Manager" on page 75.
3			Upgrade user accounts. For more information, see "Upgrading Metadata Manager" on page 75.
4	3	3	Complete the post-upgrade tasks. For more information, see "Metadata Manager Post-Upgrade Tasks" on page 92.

If you upgrade from Metadata Manager 8.1.1, run Metadata Manager and verify that you can access all Metadata Manager objects and the application works properly after you complete the upgrade steps. If the upgrade is successful, you can uninstall the previous version of Metadata Manager.

C H A P T E R   2

After You Install

This chapter includes the following topics:

Post-Installation Tasks

Complete post-installation steps before you upgrade services or configure a new installation.

The following table describes the post-installation tasks:

Install	Upgrade 7.x	Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Description
1	1	1			Review the prerequisites and verify that the environment meets the minimum requirements. For more information, see "Verify Prerequisites" on page 8.
2	2	2			Create databases for PowerCenter, Data Analyzer, Metadata Manager, and Reference Table Manager repositories, and the Data Profiling warehouse. For more information, see "Create Databases and User Accounts" on page 13.

Install	Upgrade 7.x	Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Description
	3				Prepare the Data Profiling warehouse for upgrade. For more information, see "Prepare the Data Profiling Warehouse for Upgrade" on page 16.
	4				Back up Repository Agent and PowerCenter Server configuration files and copy them to a node in the domain. For more information, see "Back Up PowerCenter Configuration Files" on page 17.
	5	3			Prepare Data Analyzer for upgrade. For more information, see "Prepare Data Analyzer for Upgrade" on page 19.
	6	4	1	1	Prepare Metadata Manager for upgrade. For more information, see "Prepare Metadata Manager for Upgrade" on page 21.
3					Install and configure database client software. For more information, see "Install and Configure Database Client Software" on page 22.
4	7	5	2	2	Configure environment variables for PowerCenter Services, PowerCenter Client, and database connectivity on UNIX. For more information, see "Configure Environment Variables" on page 24.
5	8				Configure web browsers. For more information, see "Configure Web Browsers" on page 29.
		6	3	3	Configure the location of run-time files. For more information, see "Configure the Location of Run-Time Files" on page 30.
6	9	7	4	4	On IBM AIX, make POSIX Asynchronous I/O available. For more information, see "Configure POSIX Asynchronous I/O" on page 30.
7	10				Install additional languages on the PowerCenter Client to view languages other than the system locale. For more information, see "Install Languages" on page 31.

Verify Prerequisites

Step 1. Install
Step 1. Upgrade 7.x
Step 1. Upgrade 8.1.1

Verify the prerequisites before you configure or upgrade PowerCenter.

Database Requirements

The following table describes the database requirements:

PowerCenter Component	Database Type	Disk Space	Comments
PowerCenter Repository	IBM DB2 UDB Microsoft SQL Server Oracle Sybase ASE	35 MB	Allocate up to 150 MB to store metadata.
Data Profiling Warehouse	IBM DB2 UDB Informix Microsoft SQL Server Oracle Sybase ASE Teradata	256 MB	Allocate more space based on the following factors: - The amount of data you intend to profile. - Mode you run profile sessions: verbose or normal. - Types of tables: full or sampling. - Frequency you purge the Data Profiling warehouse.
Data Analyzer Repository	IBM DB2 UDB Microsoft SQL Server Oracle Sybase ASE	60 MB	
Metadata Manager Repository	IBM DB2 UDB Microsoft SQL Server Oracle Sybase ASE	1 GB	
Reference Table Manager Repository	IBM DB2 UDB Microsoft SQL Server Oracle	200 MB	

PowerCenter Repository Upgrades

The upgrade process requires additional space to copy data into temporary tables in the database. Based on the size of the repository, allocate up to approximately 50 percent more available disk space and temporary storage space in the database.

The following table describes the increase in database size for upgraded repositories:

PowerCenter 7.x Repository Size	PowerCenter 8.6.x Percentage Increase
< 1 MB	40%
< 10 MB	6%
> 10 MB	3%
There is no significant increase in repository size from version 8.1.1 to 8.6.x.	

Code Page Compatibility

PowerCenter requires that code pages for application services and locale settings on machines that access the PowerCenter Client applications or the Administration Console are compatible with code pages in the domain.

Application Services

The domain configuration database must be compatible with the code pages of the PowerCenter repository and Metadata Manager repository.

The Service Manager synchronizes the list of users in the domain with the list of users and group in each application service. If a user name in the domain has characters that the code page of the application service does not recognize, characters do not convert correctly and inconsistencies occur.

Locale Settings

The locale settings on machines that access PowerCenter Client applications or the Administration Console must be compatible with code pages of repositories in the domain. On Windows, verify the locale settings in the Regional Options of the Control Panel. For more information, see the Windows documentation.

Memory and CPU Resource Usage

Effective in PowerCenter 8.0, you might notice an increase in memory and CPU resource usage on machines running PowerCenter Services. The following factors can increase memory and CPU resource usage:

♦ **Updates to Integration Service and Repository Service processes.** The *pmserver* and *pmdtm* process for the Integration Service and the pmrepagent process for the Repository Service include updated functionality that requires more memory and CPU resource usage.

♦ **High availability.** You configure a domain for high availability, service restart, failover, and recovery operations.

♦ **Java Runtime Environment (JRE).** The PowerCenter service-oriented architecture uses JRE to run the PowerCenter domains and nodes. Domains and nodes require more memory and CPU resources than when you run a PowerCenter Server or Repository Server in PowerCenter 7.x.

♦ **Log Manager.** The Log Manager requires additional memory and CPU resources when it collects and processes a large number of log events.

♦ *pmcmd*. The PowerCenter service-oriented architecture requires that *pmcmd* connect to the domain before it connects to the Integration Service. *pmcmd* requires memory to connect to the domain before it connects to the Integration Service.

Depending on the configuration, PowerCenter 8.6.x can consume up to 5 percent more CPU resources for each domain than a PowerCenter 7.x installation. PowerCenter 8.6.x can also consume 55 percent more memory.

Web Browsers

The following table describes the web browser requirements:

Component	Web Browser
PowerCenter Client	Microsoft Internet Explorer*
PowerCenter Administration Console	Microsoft Internet Explorer, Mozilla Firefox
Web Services Hub Console	Microsoft Internet Explorer, Mozilla Firefox
Metadata Manager	Microsoft Internet Explorer, Mozilla Firefox
Data Analyzer	Microsoft Internet Explorer, Mozilla Firefox
Reference Table Manager	Microsoft Internet Explorer, Mozilla Firefox
Required to display the Start Page for the Designer, Repository Manager, and Workflow Manager.	

Third-Party Software

PowerCenter requires third-party software for Data Analyzer, Metadata Manager, and the Administration Console.

Microsoft SOAP Toolkit (Data Analyzer)

In Data Analyzer, you can export a report to an Excel file and refresh the data in Excel directly from the cached data in Data Analyzer or from the data source. To use the data refresh feature, install the Microsoft SOAP Toolkit. For information about downloading the Microsoft SOAP Toolkit, see the *Data Analyzer User Guide*.

Adobe SVG Viewer (Data Analyzer)

In Data Analyzer, you can display interactive report charts and chart indicators. Click on an interactive chart to drill into the report data and view details and select sections of the chart. To view interactive charts on Internet Explorer, install Adobe SVG Viewer. For more information about downloading Adobe SVG Viewer, see the *Data Analyzer User Guide*.

Adobe Flash Player 10 Plug-In (Metadata Manager)

Metadata Manager requires the Adobe Flash Player 10 plug-in to properly display data lineage. To run data lineage analysis in Metadata Manager or from the Designer, download and install the Flash Player 10 plug-in on the web browser. Get the Flash plug-in from the following web site:

```
http://www.adobe.com/products/flashplayer/
```

X Virtual Frame Buffer (Administration Console)

The gateway nodes on UNIX require a graphics display server to run domain reports in the Administration Console. If you do not have a graphics display server, you can install and configure X Virtual Frame Buffer (Xvfb). Xvfb is an X server that renders graphics to virtual memory rather than to a graphics display device.

You can download and install Xvfb for the following operating systems:

♦ **HP-UX.** Xvfb is part of the HP-UX operating system. Install HP-UX patches and graphical packages to run Xvfb based on when you installed or last patched the operating system. For instructions to run Xvfb on HP-UX, see the following web site:

```
http://publib.boulder.ibm.com/tividd/td/ITM/GI10-5797-01/en_US/HTML/notesmst20.htm
```

♦ **AIX and Linux.** Download and install Xvfb. For instructions to run Xvfb on AIX and Linux, see the following web site:

```
http://publib.boulder.ibm.com/infocenter/iwphelp/v2r5m1/index.jsp?topic=/com.ibm.wcs.ic.
doc_2.5.1/install/i_inst_t_lwpsetup_xfvb_on_unx.html
```

♦ **Solaris.** Download and set up Xvfb for Solaris and use the following command to start the virtual frame buffer:

```
% /usr/X11R6/bin/Xvfb :1 -screen 0 1152x900x8 &
```

This sends any graphics output going to display 1 to shared memory.

Use the following command to set the current display to use the frame buffer for graphics display in a C shell:

```
% setenv DISPLAY :1.0
```

Data Transformation

To use an Unstructured Data transformation, install and configure the Data Transformation Engine. Install the Data Transformation Engine on the machine where the PowerCenter Integration Service runs. For more information about installing and configuring the Data Transformation Engine, see the *Data Transformation Administrator Guide* and *Data Transformation Studio User Guide*.

Working with 32-bit and 64-bit Platforms

You can run PowerCenter Services on 32-bit or 64-bit platforms. A 64-bit architecture provides larger memory space that can significantly reduce or eliminate disk input and output. This can increase session performance in the following areas:

- **Caching.** With a 64-bit platform, the Integration Service is not limited to the 2 GB cache limit of a 32-bit platform.
- **Data throughput.** With a larger available memory space, the reader, writer, and Data Transformation Manager (DTM) threads can process larger blocks of data.

You can run the PowerCenter 64-bit application on AIX, HP-UX, Red Hat Linux, SUSE Linux, Solaris, and Windows.

Note: The PowerCenter 64-bit platform addresses up to 18 million terabytes (2^64 bytes) of system memory and has up to 256 terabytes (2^48 bytes) available for a single application. The 32-bit platform addresses up to 4 GB (2^32 bytes) of system memory and has up to 2 GB available for any single application.

Running PowerCenter on 32-bit and 64-bit Platforms

When running PowerCenter on both 32-bit and 64-bit platforms, configure PowerCenter to use the correct libraries, database clients, and session cache sizes.

Use the following guidelines when working with 32-bit and 64-bit platforms:

- **Libraries.** Link libraries according to the following guidelines:
  - Link 32-bit applications with 32-bit libraries. Link 64-bit applications with 64-bit libraries.
  - Link 32-bit machines running an Integration Service with a 32-bit database client. Link a 64-bit machine running an Integration Service with 64-bit database client.
- **Database clients.** Link 32-bit machines running a Repository Service with 32-bit database clients. Link 64-bit machines running a Repository Service with 64-bit database clients.
- **Integration Services and Repository Services.** 32-bit and 64-bit machines that run Integration Services and Repository Services are compatible with each other.
- **Caching.** If the total configured session cache size is 2 GB or greater (2,147,483,648 bytes), run the session using an Integration Service running on a 64-bit machine. The session fails if the Integration Service runs on a 32-bit machine.
- **Server grids.** A server grid can contain both 32-bit and 64-bit machines that run the Integration Service. If the total configured session cache size is 2 GB (2,147,483,648 bytes) or greater, configure the session to run on an Integration Service on a 64-bit machine.

Migrating to a 64-bit Platform

You can migrate to a 64-bit platform to improve performance if you process large volumes of data or perform memory-intensive transformations. Before you migrate, contact the local sales representative for information about licensing. When you migrate from a 32-bit platform to a 64-bit platform, prepare the system and PowerCenter environments.

To prepare the system environment, complete the following steps:

- Install current 64-bit database clients.
- Update the system library path to include the 64-bit application and database client libraries.

To prepare the PowerCenter environment, complete the following steps:

- Recompile procedures for Custom and External Procedure transformations using the 64-bit makefiles generated by the Designer.
- Increase cache sizes for Rank, Sorter, Aggregator, Joiner, and Lookup transformations that can benefit from the increased addressable memory.
- Increase DTM buffer size and buffer block size for sessions that can benefit from the increased memory.

Create Databases and User Accounts

| Step 2. Install |
| Step 2. Upgrade 7.x |
| Step 2. Upgrade 8.1.1 |

Set up a database and user account for the following PowerCenter components:

♦ PowerCenter repository

♦ Data Profiling warehouse

♦ Data Analyzer repository

♦ Metadata Manager repository

♦ Reference Table Manager repository

All content in this section refers to install and upgrade unless otherwise noted.

RELATED TOPICS:

♦ "Database Requirements" on page 9

Rules and Guidelines for User Accounts

Use the following rules and guidelines when you set up the user accounts:

♦ The database user account must have permissions to create and drop tables, indexes, and views, and to select, insert, update, and delete data from tables.

♦ Use 7-bit ASCII to create the password for the account.

♦ You can store the repositories and warehouse in one database under the same database user account.

♦ If you use Oracle 10.2 for a repository database, grant Resource permission to the user. The Resource permission is granted independent of the Connect privilege in Oracle 10.2.

♦ If you use Sybase for a Data Analyzer or Metadata Manager database, grant the dtm_tm_role to the user. Do not grant the sa_role to the user. If you grant the sa_role, the Metadata Manager Service reports that the repository has no content.

IBM DB2 (Metadata Manager, Metadata Source)

When you configure a Metadata Manager repository on IBM DB2 or use IBM DB2 as a metadata source, configure the following settings:

♦ Temporary tablespace and heap sizes

♦ Locking parameters

Temporary Tablespace and Heap Sizes

If the Metadata Manager repository or the metadata source resides on an IBM DB2 database, configure the system temporary tablespaces and reset the minimum heap sizes.

When you create the Metadata Manager repository on a IBM DB2 database, most of the tables are created with default tablespace page sizes of 4 KB. Other tables require larger page sizes, such as 8 KB, 16 KB, and 32 KB.

When Metadata Manager sorts rows returned by database queries from tables with tablespace sizes larger than the default 4 KB, the database uses the System Temporary tablespace with the same page size as the table being sorted. Metadata Manager uses the System Temporary tablespace to store the data during the sorting process. If the database server cannot find the required System Temporary tablespace, the server displays the following error:

```
SQL 1585N A system temporary table space with sufficient page size does not exist.
SQLSTATE=54048
```

Ask the IBM DB2 administrator to create system temporary tablespaces with 4 KB, 8 KB, 16 KB, and 32 KB page sizes. Also, ask the IBM DB2 database administrator to run the following SQL statements on each database to configure the system temporary tablespaces and update the heap sizes:

```
CREATE Bufferpool RBF IMMEDIATE  SIZE 1000 PAGESIZE 32 K  EXTENDED STORAGE ;
CREATE Bufferpool STBF IMMEDIATE  SIZE 2000 PAGESIZE 32 K  EXTENDED STORAGE ;
CREATE REGULAR  TABLESPACE REGTS32 PAGESIZE 32 K  MANAGED BY SYSTEM  USING ('C:\DB2\NODE0000\reg32' )
EXTENTSIZE 16 OVERHEAD 10.5 PREFETCHSIZE 16 TRANSFERRATE 0.33 BUFFERPOOL RBF;
CREATE  SYSTEM TEMPORARY  TABLESPACE TEMP32 PAGESIZE 32 K  MANAGED BY SYSTEM  USING
('C:\DB2\NODE0000\temp32' ) EXTENTSIZE 16 OVERHEAD 10.5 PREFETCHSIZE 16 TRANSFERRATE 0.33 BUFFERPOOL STBF;
GRANT USE OF TABLESPACE REGTS32 TO USER <USERNAME>;
UPDATE DB CFG FOR <DB NAME> USING APP_CTL_HEAP_SZ 16384
UPDATE DB CFG FOR <DB NAME> USING APPLHEAPSZ 16384
UPDATE DBM CFG USING QUERY_HEAP_SZ 8000
UPDATE DB CFG FOR <DB NAME> USING LOGPRIMARY 100
UPDATE DB CFG FOR <DB NAME> USING LOGFILSIZ 2000
UPDATE DB CFG FOR <DB NAME> USING LOCKLIST 1000
UPDATE DB CFG FOR <DB NAME> USING DBHEAP 2400
"FORCE APPLICATIONS ALL"
DB2STOP
DB2START
```

Locking Parameters

The following table describes the general locking parameters you can configure to avoid deadlocks when you load metadata into a Metadata Manager repository on IBM DB2:

Parameter Name	Value	IBM DB2 Description
LOCKLIST	8192	Max storage for lock list (4KB)
MAXLOCKS	10	Percent of lock lists per application
LOCKTIMEOUT	300	Lock timeout (sec)
DLCHKTIME	10000	Interval for checking deadlock (ms)

Also, set the DB2_RR_TO_RS parameter to YES to change the read policy from Repeatable Read to Read Stability.

IBM DB2 (PowerCenter)

When you set up an IBM DB2 database, the database administrator can define the database on a single node. You can optimize repository performance on an IBM DB2 database when you store a repository in a single-node tablespace. When the tablespace contains one node, the PowerCenter Client and Integration Service access the repository faster than if the repository tables exist on different database nodes.

Specify the single-node tablespace name when you create, copy, or restore a repository. The Repository Service creates all repository tables in the same tablespace. The repository stores the tablespace name so that when you upgrade the repository, the Repository Service uses the same tablespace name.

If you do not specify the tablespace name when you create, copy, or restore a repository, the IBM DB2 system specifies the default tablespace for each repository table.

Note: If you have an existing IBM DB2 repository, you can back it up and restore it in a single-node tablespace.

Informix (PowerCenter)

To upgrade an Informix repository from version 7.x, back up the repository and restore it to an IBM DB2, Sybase ASE, Oracle, or Microsoft SQL Server database using your current version of PowerCenter. After you restore the repository, upgrade it in the upgraded version of PowerCenter.

Microsoft SQL Server (Data Analyzer)

Install Microsoft SQL Server 2000 or 2005 with case-sensitive collation.

A Data Analyzer repository on Microsoft SQL Server 2005 must have a database compatibility level of 80 or earlier. Data Analyzer uses non-ANSI SQL statements that Microsoft SQL Server supports only on a database with a compatibility level of 80 or earlier.

To set the database compatibility level to 80, run the following query against the database:

```
sp_dbcmptlevel '<DatabaseName>', 80
```

Or open the Microsoft SQL Server Enterprise Manager, right-click the database, and select Properties > Options. Set the compatibility level to 80 and click OK.

Microsoft SQL Server (Metadata Manager)

If the Metadata Manager Warehouse needs to store metadata in a multibyte language, set the Microsoft SQL Server database collation to that multibyte language when you install the database or the database instance.

Note: You cannot change the database collation after setting it.

Oracle (PowerCenter, Data Analyzer, Metadata Manager)

To upgrade an Oracle 8 repository, back it up and restore it to a Oracle 9 or higher database.

Storage Parameters (PowerCenter, Data Analyzer)

To prevent a PowerCenter or Data Analyzer repository from using excessive disk space, set the Oracle storage parameters for the tablespace.

When you set up an Oracle database, verify that the storage parameters specified for the tablespace are not too large. Storage parameters that are set to very large values cause the repository to use an excessive amount of space. Also verify that the default tablespace for the user that owns the repository tables is set correctly.

The following example shows how to set the recommended storage parameters, assuming that the repository is stored in the "REPOSITORY" tablespace:

```
ALTER TABLESPACE "REPOSITORY" DEFAULT STORAGE ( INITIAL 10K NEXT 10K MAXEXTENTS UNLIMITED
PCTINCREASE 50 );
```

Verify or change these parameters before you create the repository.

Permissions (PowerCenter, Data Analyzer, Metadata Manager)

If you use Oracle 10.2 for PowerCenter, Data Analyzer, or Metadata Manager, grant Resource permission to the user. The Resource permission is granted independent of the Connect privilege in Oracle 10.2.

Oracle (Metadata Manager)

Configure the following properties for a Metadata Manager repository on Oracle:

Property	Setting	Oracle Version
pga_aggregate_target*	100 - 200 MB	All
sort_area_size*	50 MB	Oracle 9i
Temp tablespace (minimum requirement)	2 GB	All
Rollback/undo tablespace **	1 - 2 GB	All
Configure pga_aggregate_target and sort_area_size in ora.init. *** Undo is available in Oracle 10g and higher.*		

Sybase ASE (Data Analyzer)

The database for the Data Analyzer repository requires a page size of at least 8 KB. If you set up a Data Analyzer database on a Sybase ASE instance with a page size smaller than 8 KB, Data Analyzer can generate errors when you run reports. Sybase ASE relaxes the row size restriction when you increase the page size.

Data Analyzer includes a GROUP BY clause in the SQL query for the report. When you run the report, Sybase ASE stores all GROUP BY and aggregate columns in a temporary worktable. The maximum index row size of the worktable is limited by the database page size.

For example, if Sybase ASE is installed with the default page size of 2 KB, the index row size cannot exceed 600 bytes. However, the GROUP BY clause in the SQL query for most Data Analyzer reports generates an index row size larger than 600 bytes.

For more information about how Sybase ASE evaluates GROUP BY clauses, see the following document on the Sybase web site:

```
http://infocenter.sybase.com/help/index.jsp?topic=/com.sybase.help.ase_15.0.commands/
html/commands/commands60.htm
```

Enable the Distributed Transaction Management (DTM) option on the database server. When you create the user account, grant the dtm_tm_role to the user.

Sybase ASE (Metadata Manager)

The database for the Metadata Manager repository requires a page size of 16 KB. If you set up a Metadata Manager database on a Sybase ASE instance with a page size smaller than 16 KB, Metadata Manager can generate errors when you create the contents for the Metadata Manager repository.

Enable the Distributed Transaction Management (DTM) option on the database server. When you create the user account, grant the dtm_tm_role to the user.

Sybase ASE (PowerCenter)

When you create a PowerCenter repository on Sybase ASE, set the Allow Nulls by Default parameter to true for the database. When you set this option to true, any table created in the repository database will have columns with the default value NULL, in compliance with SQL standard.

Note for 7.x and 8.1.1 upgrades: To upgrade a repository on Sybase 12.5.0 or an earlier version for the repository database, you need to upgrade the database to Sybase 12.5.1 or a later version.

Teradata (PowerCenter)

Note for 7.x upgrades: To upgrade a Teradata repository, back it up and restore it to an IBM DB2, Sybase ASE, Oracle, or Microsoft SQL Server database using the current version of PowerCenter. After you restore the repository, upgrade it in the upgraded version of PowerCenter.

Prepare the Data Profiling Warehouse for Upgrade

Step 3. Upgrade 7.x

Before you upgrade Data Profiling, complete the following tasks:

1. Recreate the Data Profiling warehouse (Optional).

2. Back up and restore the Data Profiling warehouse.

Step 1. Recreate the Data Profiling Warehouse (Optional)

If the Data Profiling warehouse resides on the same database as a PowerCenter 7.x repository in an Informix or Teradata database, you must recreate the warehouse. Effective with version 8.0, PowerCenter does not support Informix or Teradata as a repository database.

To recreate the warehouse, complete one of the following tasks:

♦ Drop the existing warehouse tables and recreate the warehouse on the Informix or Teradata database before you move your PowerCenter 7.x repository.

♦ Create the Data Profiling warehouse on a different database.

Step 2. Back Up and Restore the Data Profiling Warehouse

Use the database backup utility to back up the Data Profiling warehouse and the existing data profile results. Restore the backup to the new database.

Back Up PowerCenter Configuration Files

Step 4. Upgrade 7.x

Back up the Repository Agent and PowerCenter Server configuration files. The upgrade process upgrades each Repository Agent configuration file to a Repository Service and each PowerCenter Server configuration file to an Integration Service.

To back up and copy the configuration files, complete the following steps:

1. Back up the PowerCenter Server configuration.

2. Back up the Repository Agent configuration.

3. Verify the character set.

4. Copy the configuration files.

5. Stop the servers.

Step 1. Back Up the PowerCenter Server Configuration

If you upgrade multiple PowerCenter Server configurations, rename each configuration file before copying it to a backup location. For example, if you back up pmserver.cfg for a PowerCenter Server named Production, you can rename the configuration file Production.cfg before copying the file.

Warning: The upgrade can fail if you change the configuration files.

UNIX

On UNIX, the PowerCenter Server configuration file pmserver.cfg is located in the Server/bin directory.

Windows

On Windows, the configuration information for the PowerCenter Server is stored in the Windows registry. Use the *pmserverexportreg* utility to create a configuration file from the configuration information in the Windows registry. Get *pmserverexportreg* from the installation directory for PowerCenter Services.

The *pmserverexportreg* utility uses the following syntax:

```
pmserverexportreg <directory path>\<file name>.cfg
```

The following table describes *pmserverexportreg* arguments:

Argument	Required/Optional	Description
file path	Required	Absolute or relative directory path where you want to store the configuration file.
file name	Required	Name of the configuration file you want to create.

To create a configuration file:

1. Copy the PowerCenter utilities from the installation directory of PowerCenter Services to the machine that hosts the PowerCenter Server. Copy the following directories and all included files:

   ```
   <PowerCenterInstallationDirectory>\CMD_Utilities\PC
   ```

2. From a command prompt, navigate to the location of *pmserverexportreg.exe* on the machine hosting the PowerCenter Server:

   ```
   <PowerCenterInstallationDirectory>\CMD_Utilities\PC\server\bin
   ```

3. Run the utility to create the PowerCenter Server configuration file.

   For example, use the following command:

   ```
   pmserverexportreg <file path>\Production.cfg
   ```

   Note: If you do not configure the file path, the utility creates the configuration file in the directory where *pmserverexportreg* runs.

4. Copy the PowerCenter Server configuration file you created to a backup directory.

The following error messages can occur when you use *pmserverexportreg*:

Cannot create configuration file because registry entry <key name> does not exist. PowerCenter Server not installed or registry contains errors.

Cause:	The *pmserverexportreg* utility cannot export the PowerCenter Server values from the registry on the current machine. A PowerCenter Server is not installed on the current machine or the registry contains errors.
Action:	Verify that you run the utility on a machine where the PowerCenter Server is installed.

Cannot create file <file name>. The file name is invalid or the file already exists.

Cause:	The *pmserverexportreg* utility cannot create the PowerCenter Server configuration file. The name for the configuration file is not valid or the file already exists.
Action:	Delete the current file or use a different file name, and run the command again.

Cannot create file <file name> due to error: <error text>.

Cause:	The *pmserverexportreg* utility did not create the PowerCenter Server configuration file due to an error.
Action:	Correct the error and run the utility again.

Step 2. Back Up the Repository Agent Configuration

Back up the configuration files to any directory accessible by the machines where you installed PowerCenter Services. Back up the configuration file for each Repository Agent you want to upgrade.

The Repository Agent configuration file is located in the RepositoryServer/bin/Config directory machine where the Repository Server runs. Each repository has an associated Repository Agent configuration file based on the repository name. For example, for the HR_71 repository, the Repository Agent configuration file is named HR_071-es.cfg.

If your PowerCenter repository domain includes global and local repositories, note which Repository Agent configuration files are associated with the global and local repositories.

Warning: The upgrade can fail if you change the configuration files.

Step 3. Verify the Character Set

Verify that the character set for the configuration files are compatible with the character set used by the gateway nodes in the domain. The language setting for the machine where you ran the Repository Agent and PowerCenter Server must be compatible with the language setting on the gateway nodes for the domain.

On Windows, you can verify the language setting under Regional Options in the Control Panel. On UNIX, you can verify the languages setting by viewing the setting for the LANG_C, LC_CTYPE, or LC_ALL environment variable. If the language settings are not compatible, the upgraded Repository Service or Integration Service can fail to start or can contain inconsistent metadata.

Step 4. Copy the Configuration Files to the Domain

After you back up the configuration files, copy them from the backup location to a node in the domain. Copy the configuration files to the appropriate directory under the server/upgrade/cfgfiles directory:

♦ **local_repo.** Directory for Repository Agent configuration files for a local repositories. If you are not upgrading a global repository, copy all Repository Agent configuration files into this directory.

♦ **global_repo.** Directory for Repository Agent configuration files for global repositories.

♦ **PCServer.** Directory for PowerCenter Server configuration files.

To upgrade a single configuration file, copy the configuration file to a directory that you can access from the node hosting the PowerCenter domain. You can select this file when you run the Upgrade Wizard.

Step 5. Stop the Servers

Stop the PowerCenter Server and Repository Agent.

Prepare Data Analyzer for Upgrade

Step 5. Upgrade 7.x
Step 3. Upgrade 8.1.1

If you customized Data Analyzer files in a previous version, copy the customized files to a temporary directory. You can copy any shared document to a temporary directory. If you customized any of the reports shipped with PowerCenter, export the customized reports.

Before you upgrade Data Analyzer, complete the following steps:

1. **Copy customized files and shared documents.** If you customized Data Analyzer, copy the configuration files and color schemes to a temporary directory. You also copy shared documents to a temporary directory. For more information, "Step 1. Copy Customized Files and Shared Documents" on page 20.

2. **Export custom reports and related objects.** If you customized the PowerCenter Repository Reports, Data Profiling Reports, or Data Analyzer Administrative Reports, export the reports related objects to XML files. For more information, "Step 2. Export Custom Reports and Related Objects" on page 20.

After you upgrade Data Analyzer, use the customized files to configure Data Analyzer to maintain previous behavior. Move the shared documents to a web server directory accessible to Data Analyzer 8.6.1.

Step 1. Copy Customized Files and Shared Documents

Copy the following files to a temporary directory:

♦ DataAnalyzer.properties file

♦ Color scheme files

♦ Shared documents

DataAnalyzer.properties

If you customized the DataAnalyzer.properties file, copy it to a temporary directory. DataAnalyzer.properties is stored in the Data Analyzer EAR file. Extract the file before you copy it to a temporary directory. For more information about extracting files from the Data Analyzer EAR file, see the *Data Analyzer Administrator Guide*.

Color Schemes

If you used a custom logo, created custom color schemes, or modified a pre-defined color scheme, copy the files to a temporary directory. The color scheme files are stored in the Data Analyzer EAR file. Extract the files before you copy them to a temporary directory. For more information about the color scheme files or about extracting files from the Data Analyzer EAR file, see the *Data Analyzer Administrator Guide*.

You can also recreate the color scheme in the latest version of Data Analyzer.

Shared Documents

The shared documents in Data Analyzer must be in the appropriate web server directory in the application server directory. If you have shared documents in Data Analyzer, copy the shared document files from the application server directory to a temporary directory. After you upgrade Data Analyzer, copy the shared document files into the web server directory accessed by Data Analyzer.

Step 2. Export Custom Reports and Related Objects

Complete this step if you customized PowerCenter Repository Reports or Data Profiling Reports.

You can export the following objects:

♦ Schemas

♦ Time dimensions

♦ Reports

♦ Global variables

♦ Dashboards

♦ Schedules

To export the reports and related objects in the Data Analyzer repository, complete the following steps:

1. Identify the PowerCenter reports you want to run in Data Analyzer 8.6.1 and the objects that are required to run them.

2. Start Data Analyzer and log in with administrator privilege to export and import XML files.

3. Go to the Administration tab and select XML Export/Import.

4. Export the objects and specify the path and file names for the XML files.

For more information about upgrading the PowerCenter reports, see "Step 8. Upgrade Reports" on page 70.

For more information about exporting objects in the Data Analyzer repository, see the *Data Analyzer Administrator Guide*.

Prepare Metadata Manager for Upgrade

Step 6. Upgrade 7.x
Step 4. Upgrade 8.1.1
Step 1. Upgrade 8.5.x
Step 1. Upgrade 8.6

Before you upgrade Metadata Manager, complete the following tasks:

1. **Back up the Metadata Manager repository.** This is an optional step to ensure recovery from problems in the upgrade process. For more information, see "Step 1. Back Up the Metadata Manager Repository" on page 21.

2. **Export reports and related objects.** Export reports and other related objects that you want to run in Metadata Manager 8.6.1. You need to use a Reporting Service to run these reports. Complete this step if you upgrade from Metadata Manager 8.1.1. For more information, see "Step 2. Export Custom Reports and Related Objects" on page 21.

3. **Export custom workflows.** Export any custom workflow created in the PowerCenter repository for Metadata Manager. Complete this step if you upgrade from Metadata Manager 8.1.1. For more information, see "Step 3. Export Custom Workflows" on page 22.

4. **Back up Metadata Manager files.** Copy the metadata source files, parameter files, and custom Metadata Exchange (XConnect) files to a temporary directory. Complete this step if you upgrade from Metadata Manager 8.1.1. For more information, see "Step 4. Back up Metadata Manager Files" on page 22.

Step 1. Back Up the Metadata Manager Repository

Optionally, back up the Metadata Manager repository database before starting the upgrade process. Use the native database backup option to back up the Metadata Manager repository or use the Metadata Manager repository backup utility if you upgrade from Metadata Manager 8.5.x or 8.6. For more information about the Metadata Manager repository backup utility, see the *Metadata Manager Administrator Guide*.

Step 2. Export Custom Reports and Related Objects

If you modified the Metadata Manager Reports or created custom reports in Metadata Manager, use a Reporting Service to run these reports in Data Analyzer 8.6.1. Effective in version 8.5, you cannot use Metadata Manager to run these reports.

Export the reports and related objects before you upgrade the Metadata Manager repository. To use the reports, import them into a Data Analyzer repository.

You can export the following objects:

♦ Schemas

♦ Time dimensions

♦ Reports

♦ Global variables

♦ Dashboards

To export the reports and related objects in the Metadata Manager repository, complete the following steps:

1. Identify the reports you want to run in Data Analyzer 8.6.1 and the objects that are required to run them.

2. Start Metadata Manager and log in with the administrator privilege to export and import XML files.

3. Go to the Administration tab and select XML Export/Import.

4. Export the objects and specify the path and file names for the XML files.

Exporting objects is one of the Data Analyzer tasks available in Metadata Manager. For more information about exporting objects in the Metadata Manager repository, see the *Data Analyzer Administrator Guide*.

Step 3. Export Custom Workflows

If you created custom workflows in the PowerCenter repository to load custom metadata into the Metadata Manager warehouse, export the custom workflows to a temporary directory. Use the PowerCenter Repository Manager to export the workflows.

Step 4. Back up Metadata Manager Files

Back up the following Metadata Manager files:

♦ Metadata source files

♦ Custom Metadata Exchange (XConnect) files

♦ Parameter files

Metadata Source Files

If Metadata Manager uses resources that extract metadata from source files such as Cognos Impromptu, ERwin, or Oracle Designer, and you upgrade from PowerCenter 8.1.1, copy the source files to a temporary directory.

By default, the metadata source files are located in the following directory:

```
<ClientHome>/CustomWizard/Control
```

For more information about the types of resources that extract metadata from source files, see the *Metadata Manager Administrator Guide*.

Custom Metadata Exchange Files

If Metadata Manager uses custom Metadata Exchanges, copy the element metadata files and association metadata files to a temporary directory. For more information about custom Metadata Exchange files, see the *Metadata Manager Custom Metadata Integration Guide*.

Parameter Files

If you use parameter files for the workflows in a PowerCenter resource, copy the parameter files to a temporary directory.

For PowerCenter 8.1.1, the parameter files are located in the following directory:

```
<PowerCenterInstallationDirectory>\server\infa_shared\SrcFiles
```

For more information about the PowerCenter parameter files, see the *Metadata Manager Administrator Guide*.

Install and Configure Database Client Software

Step 3. Install

Install database client software and configure connectivity on gateway node and the machines that will run the Integration Service and Repository Service processes.

RELATED TOPICS:

♦ "Connecting to Databases from Windows" on page 107

♦ "Connecting to Databases from UNIX" on page 117

Integration Service

Based on the database types that the Integration Service will access, install the following database clients and configure connectivity on machines that run Integration Service processes:

- Oracle client
- IBM DB2 Client Application Enabler (CAE)
- Informix ESQL for C, Informix Client SDK, or any other Informix client software
- Microsoft SQL Client, with Microsoft OLE DB provider for Microsoft SQL Server
- Sybase Open Client
- Teradata BTEQ client

Note for 7.x upgrades: Effective in version 8.1, the PowerCenter installation does not include DataDirect ODBC drivers for Oracle, IBM DB2, or Sybase ASE for UNIX. If you used these drivers to connect to Oracle, IBM DB2, or Sybase ASE from a UNIX machine, install database client software and configure native connectivity on the machines where the Integration Service runs.

Repository Service

Based on the repository database types, install the following database clients and configure connectivity on machines that run Repository Service processes:

- Oracle client
- IBM DB2 Client Application Enabler (CAE)
- Microsoft SQL Client, with Microsoft OLE DB provider for Microsoft SQL Server
- Sybase Open Client

Gateway Nodes (Upgrade)

Based on the PowerCenter repository database types, install the database client and configure connectivity on the gateway nodes. The repository upgrade process runs on the gateway nodes in the domain. The upgrade process uses the database client connectivity you configure on the gateway nodes to connect to the repository database during upgrade.

Configure Environment Variables

The following table describes the environment variables to configure:

Variable Type	Operating System	Description
PowerCenter Services	Windows UNIX	Configure variables for the following PowerCenter Services properties: - Designate the PowerCenter Services installation directory. - Designate the location of domains.infa. - PowerCenter Services memory usage. For more information, see "PowerCenter Services Environment Variables" on page 24. To apply changes, restart the node.
Database client	UNIX	Location of the database client. For more information, see "Database Client Environment Variables" on page 26.
Locale environment variables	UNIX	Use LANG, LC_CTYPE, or LC_ALL to set the UNIX code page for the repository. For more information, see "Locale Environment Variables" on page 25.
Library path	UNIX	Location of the database client libraries. For more information, see "Library Path Environment Variables" on page 27.
Java components	AIX HP-UX	Java Runtime Environment location for Java-based components. For more information, see "Java Component Variables" on page 27.
libstdc++.so65	Linux	Location of the libstdc++.so.6 library. For more information, see "libstdc++.so.6 Library" on page 29.

Note: To configure environment variables on UNIX, log on with the system user account you used to install PowerCenter.

PowerCenter Services Environment Variables

Optionally, configure INFA_JAVA_OPTS, INFA_DOMAINS_FILE, and INFA_HOME.

INFA_JAVA_OPTS

PowerCenter uses JRE to start and run PowerCenter Services. By default, PowerCenter Services uses a maximum of 512 MB of system memory. You can configure the amount of system memory used by PowerCenter Services with INFA_JAVA_OPTS. For example, to configure 1 GB of system memory for PowerCenter Services on UNIX in a C shell, use the following command:

```
setenv INFA_JAVA_OPTS "-Xmx1024m"
```

On Windows, configure INFA_JAVA_OPTS as a system variable.

On 64-bit HP-UX on Itanium, add the `-d64` switch.

Note: Restart the node for the changes to take effect.

INFA_DOMAINS_FILE

The domains.infa file contains the connectivity information for the gateway nodes in a domain. The connectivity information includes the domain names, domain host names, and domain host port numbers. Include the file name in the path. On Windows, configure INFA_DOMAINS_FILE as a system variable.

Configure the variable on the machines that will run the PowerCenter Services and PowerCenter Client:

♦ **PowerCenter Services.** The installer creates domains.infa in the PowerCenter installation directory when you installed PowerCenter Services. Configure INFA_DOMAINS_FILE to run *infacmd* and *pmcmd* from a directory other than server/bin.

♦ **PowerCenter Client.** The PowerCenter Client creates or updates domains.infa when you add or modify domain connectivity information in any PowerCenter Client application. To keep the domains.infa file in a location other than PowerCenter Client installation directory, you can configure INFA_DOMAINS_FILE on the machine where you installed the PowerCenter Client.

For example, you can use a shared location for domains.infa for all PowerCenter Client installations in a highly available environment. You can set the INFA_DOMAINS_FILE environment variable to the shared location on each machine where you installed the PowerCenter Client application. Each PowerCenter Client application uses the same domain connectivity information.

INFA_HOME

Use INFA_HOME to designate the PowerCenter Services installation directory. If you modify the PowerCenter Services directory structure, you need to configure the environment variable to the location of the PowerCenter Services installation directory or the directory where the installed PowerCenter Services files are located.

For example, you use a softlink in UNIX for any of the PowerCenter Services directories. To configure INFA_HOME so that any PowerCenter Services application or service can locate the other PowerCenter components it needs to run, configure INFA_HOME to the location of the PowerCenter Services installation directory.

Locale Environment Variables

Use LANG, LC_CTYPE, or LC_ALL to set the UNIX code page.If you use an existing repository, make sure the locale setting is compatible with the code page for the repository. If the locale setting is not compatible with the repository code page, you cannot create a Repository Service.

Each type of UNIX operating system can require a different value for the same locale. The locale value is case sensitive. For more information about code pages in PowerCenter, see the *PowerCenter Administrator Guide*.

Verify the Locale Setting

Use the following command to verify that the value for the locale environment variable is compatible with the language settings for the machine and the type of code page you want to use for the repository:

```
locale -a
```

The command returns the languages installed on the UNIX system and the existing locale settings.

Set the Locale on Linux

All UNIX operating systems except Linux have a unique value for each locale. Linux allows different values to represent the same locale. For example, "utf8," "UTF-8," "UTF8," and "utf-8" represent the same locale on a Linux machine. PowerCenter requires that you use a specific value for each locale on a Linux machine. Make sure that you set the LANG environment variable appropriately for all Linux machines.

RELATED TOPICS:
♦ "LANG Environment Variable for Linux" on page 143

Set the Locale for Oracle Database Clients

For Oracle database clients, set NLS_LANG to the locale you want the database client and server to use with the login. A locale setting consists of the language, territory, and character set. The value of NLS_LANG depends on the configuration. For example, if the value is american_america.UTF8, configure the variable as follows in a C shell:

```
setenv NLS_LANG american_america.UTF8
```

Set the Locale for Sybase Database Clients on HP-UX

Sybase uses a file named locales.dat to map the locales supported by the operating system to the locales supported by Sybase.

If you set LANG to an operating system supported locale for Sybase database clients on HP-UX, you must verify that locales.dat includes an entry for the locale name. If locales.dat does not include an entry for the locale name, add the locale to the file. For more information about editing the locales.dat file, see the Sybase documentation.

Database Client Environment Variables

Configure database client environment variables on the machines that run the Integration Service and the Repository Service processes. The database client path variable name and requirements depend on the UNIX platform and repository database.

After you configure the database environment variables, you can test the connection to the database from the database client.

The following table describes the database environment variables you need to set in UNIX:

Database	Environment Variable Name	Database Utility	Value
Oracle	ORACLE_HOME PATH	sqlplus	Set to: *<DatabasePath>* Add: *<DatabasePath>*/bin
IBM DB2	DB2DIR DB2INSTANCE PATH	db2connect	Set to: *<DatabasePath>* Set to: *<DB2InstanceName>* Add: *<DatabasePath>*/bin
Sybase ASE	SYBASE12 or SYBASE15 SYBASE_ASE SYBASE_OCS PATH	isql	Set to: *<DatabasePath>*/sybase*<version>* Set to: ${SYBASE[12 | 15]}/ASE-*<version>* Set to: ${SYBASE[12 | 15]}/OCS-*<version>* Add: ${SYBASE_ASE}/bin:${SYBASE_OCS}/bin:$PATH
Informix	PATH	dbaccess	Add: *<DatabasePath>*/bin
Teradata	PATH	bteq	Add: *<DatabasePath>*/bin

Library Path Environment Variables

Configure library path environment variables on the machines that run the Integration Service and the Repository Service processes. The library path variable name and requirements depend on the UNIX platform and database:

Solaris and Linux: `LD_LIBRARY_PATH`

AIX: `LIBPATH`

HP-UX: `SHLIB_PATH`

Table 2-1 shows the values for the LD_LIBRARY_PATH on Solaris and Linux:

Table 2-1. LD_LIBRARY_PATH on Solaris and Linux

Database	Value
Oracle	*<DatabasePath>*/lib
IBM DB2	*<DatabasePath>*/lib
Sybase ASE	"${SYBASE_OCS}/lib:${SYBASE_ASE}/lib:${LD_LIBRARY_PATH}"
Informix	*<DatabasePath>*/lib
Teradata	*<DatabasePath>*/lib

Table 2-2 shows the values for the LIBPATH on AIX:

Table 2-2. LIBPATH on AIX

Database	Value
Oracle	*<DatabasePath>*/lib
IBM DB2	*<DatabasePath>*/lib
Sybase ASE	"${SYBASE_OCS}/lib:${SYBASE_ASE}/lib:${LIBPATH}"
Informix	*<DatabasePath>*/lib
Teradata	*<DatabasePath>*/lib

Table 2-3 shows the values for the SHLIB_PATH on HP-UX:

Table 2-3. SHLIB_PATH on HP-UX

Database	Value
Oracle	*<DatabasePath>*/lib
IBM DB2	*<DatabasePath>*/lib
Sybase ASE	"${SYBASE_OCS}/lib:${SYBASE_ASE}/lib:${SHLIBPATH}"
Informix	*<DatabasePath>*/lib
Teradata	*<DatabasePath>*/lib

Java Component Variables

PowerCenter installs the JRE to use with the following Java-based components:

♦ Custom transformation that uses Java coding

♦ Java transformation

♦ PowerExchange for JMS

- PowerExchange for Web Services
- PowerExchange for webMethods

To use these components on AIX32, AIX64, or HP-UX, configure the library path environment variables to point to the java directory installed with PowerCenter Services. Configure these environment variables on machines where the Integration Service process runs.

The following table describes the library paths you configure to use Java-based components:

UNIX Platform	Environment Variable Name	Value
AIX32 AIX64	LIBPATH	Set to: java/jre/bin Set to: java/jre/bin/classic Set to: /usr/lib:/lib
HP-UX	SHLIB_PATH	Set to: java/jre/lib/PA_RISC2.0/server Set to: java/jre/lib/PA_RISC2.0 Set to: /usr/lib:/lib

Data Transformation Java Environment

To use an Unstructured Data transformation in PowerCenter mappings, configure the Java environment for Data Transformation and ensure that the latest version of the PowerCenter ICU libraries are available.

JVM Location

If the Integration Service is running on UNIX, ensure that Data Transformation Studio uses the same Java Virtual Machine (JVM) as PowerCenter. If Data Transformation Studio uses a different JVM than PowerCenter, the session may shut down unexpectedly.

The following table shows the JVM location in PowerCenter for UNIX platforms:

Operating System	JVM Location Settings
AIX32 or AIX64	*<PowerCenterInstallationDir>*/java/jre/bin/classic
HP-UX	*<PowerCenterInstallationDir>*/java/jre/lib/PA_RISC2.0/server
Linux	*<PowerCenterInstallationDir>*/java/jre/lib/i386/client
Solaris	*<PowerCenterInstallationDir>*/java/jre/lib/sparc/client
HP-PARISC	*<PowerCenterInstallationDir>*/java/jre/lib/PA_RISC2.0W/server
HP-IPF	*<PowerCenterInstallationDir>*/java/jre/lib/IA64W/hotspot

Set the CMJAVA_PATH environment variable to point to the JVM location in PowerCenter. You must also include the JVM location in the CMConfig.xml file.

CMConfig.xml is in the Data Transformation installation directory.

To configure JVM settings in Data Transformation running on UNIX:

1. Go to the Data Transformation installation directory.

2. In the setEnv.csh or setEnv.sh environment variable, add the following entry:

   ```
   setenv CMJAVA_PATH "<PowerCenterJVMLocation>"
   ```

   <PowerCenterJVMLocation> is the directory of the JVM installed with PowerCenter on the machine where Integration Service is installed.

3. In CMConfig.xml, set the Java home element to the PowerCenter JVM location.

For example, if the Integration Service is installed in 64 bit AIX, set the Java home element to the following value:

```
<Java>
    <Home>[PowerCenterInstallationDir]java/jre/bin/classic</Home>
    <MaxHeapSize>64</MaxHeapSize>
</Java>
```

[*PowerCenterInstallationDir*] is the PowerCenter installation directory.

For more information about configuring JVM in Data Transformation, see the *Data Transformation Administrator Guide*.

ICU Library Files on UNIX

Data Transformation must use the latest version of the International Component for Unicode (ICU) library from PowerCenter. The ICU library is packaged and installed with Data Transformation. If PowerCenter is installed after Data Transformation and contains a later version of the ICU library, set the library path so that Data Transformation uses the PowerCenter ICU library.

On UNIX, set the library path to the following value:

UNIX Platform	Variable Name	Value
Solaris and Linux	LD_LIBRARY_PATH	"*<PowerCenterInstallationDir>*/server/bin:*<CDEInstallationDir>*/bin"
AIX	LIBPATH	"*<PowerCenterInstallationDir>*/server/bin:*<CDEInstallationDir>*/bin"
HP-UX	SHLIB_PATH	"*<PowerCenterInstallationDir>*/server/bin:*<CDEInstallationDir>*/bin"

libstdc++.so.6 Library

On Linux, install the *libstdc++.so.6* version 3.2.3 library and add the location of the library to the library path environment variable. You can use the *libstdc++.so.6* version 3.2.3 library with GCC version 3.3.1 or higher.

Use the following command to verify that *libstdc++* is installed:

```
$ rpm -q --whatprovides /usr/lib/libstdc++.so.6
```

If the command returns `compat-libstdc++-3.4.6-3`, the library is properly installed. You must install the library if the command returns a lower version or the following message:

```
error: file /usr/lib/libstdc++.so.6: No such file or directory.
```

The compat-libstdc package contains *libstdc++.so.6*. You can find and install the compat-libstdc package from the following location:

```
http://rpmfind.net
```

Configure Web Browsers

Step 5. Install
Step 8. Upgrade 7.x

Configure the web browser to access the PowerCenter Administration Console, Data Analyzer, Metadata Manager, the Web Services Hub Console, Reference Table Manager, and the Start Page in the PowerCenter Client.

Configure the following options in the browser:

♦ **Scripting and ActiveX.** Internet Explorer requires the Active scripting, Allow paste operations, Run ActiveX controls and plug-ins, and Script ActiveX controls marked safe for scripting controls enabled. To configure the controls, click Tools > Internet Options > Security > Custom level.

♦ **Javascript.** Enable Javascript to use Firefox.

♦ **Pop-up blocking utility.** To display the Data Analyzer and Metadata Manager pages, disable any pop-up blocking utility on your browser.

♦ **TLS 1.0**. If you configure HTTPS for the Administration Console on a domain that runs on 64-bit AIX, Internet Explorer requires TLS 1.0. To enable TLS 1.0, click Tools > Internet Options > Advanced. The TLS 1.0 setting is listed below the Security heading.

♦ **Browser cache.** On Internet Explorer, to make sure Metadata Manager properly caches pages and applies user privileges, set the browser cache options. Click Tools > Internet Options. Under Browsing history, click Settings. Under Check for newer versions of stored pages, select Every time I visit the webpage.

♦ **Context menus**. On Firefox, to make sure Metadata Manager properly displays the shortcut menu in Metadata Manager, set the context menu option. Click Tools > Options. On the Content tab, click Advanced next to the Enable JavaScript option. In the Advanced JavaScript Settings dialog box, select Disable or replace context menus.

Configure the Location of Run-Time Files

Step 6. Upgrade 8.1.1
Step 3. Upgrade 8.5.x
Step 3. Upgrade 8.6

If you upgraded to a different installation directory, you need to configure the following properties to point to the upgraded installation directory:

♦ **$PMRootDir.** Service process variable for run-time files.

♦ **Backup Directory**. Repository backup directory.

♦ **Keystore file**. Location of the keystore file. If you configured HTTPS for PowerCenter Services or Metadata Manager and placed the keystore file in the previous PowerCenter Services installation directory, perform one of the following tasks:

– Copy the keystore file to the new PowerCenter Services installation directory.

– Make sure that the Keystore file property indicates the directory where you stored the keystore file.

Configure POSIX Asynchronous I/O

Step 6. Install
Step 9. Upgrade 7.x
Step 7. Upgrade 8.1.1
Step 4. Upgrade 8.5.x
Step 4. Upgrade 8.6

If you install PowerCenter Services on IBM AIX, make POSIX Asynchronous I/O available on any node where you want to run an Integration Service. An Integration Service running on an IBM AIX machine can fail to start if POSIX Asynchronous I/O is not available.

♦ Informatica Knowledge Base article 31077

Install Languages

Step 7. Install
Step 10. Upgrade 7.x

If you need to view languages other than the system locale and you work with repositories that use a UTF-8 code page, install additional languages on Windows for use with the PowerCenter Client. You also must install languages to use the Windows Input Method Editor (IME).

To install languages:

1. Click Start > Settings > Control Panel.

2. Click Regional Options.

3. Under Language settings for the system, select the languages you want to install.

4. Click Apply.

Note: Windows may require you to restart the system.

Part II: Configuring PowerCenter

This part includes the following chapters:

- Using the Configuration Assistant, 35
- After You Configure, 41

C H A P T E R 3

Using the Configuration Assistant

This chapter includes the following topics:

Overview

If you completed a new installation, use the Configuration Assistant to create application services for PowerCenter and Metadata Manager. Application services represent PowerCenter server-based functionality. Use the Configuration Assistant to create the following services in the PowerCenter domain:

Service	Description
PowerCenter Repository Service	Manages connections to the PowerCenter repository from client applications.
PowerCenter Integration Service	Runs PowerCenter sessions and workflows and fetches metadata from the PowerCenter repository.
Metadata Manager Service	Runs the Metadata Manager application in the PowerCenter domain.
Reporting Service	Runs the Data Analyzer application in the PowerCenter domain. You create a Reporting Service to run reports on a PowerCenter or Metadata Manager repository.

You can run the Configuration Assistant multiple times to create PowerCenter and Metadata Manager Services separately.

Rules and Guidelines

Use the following rules and guidelines when you create services with the Configuration Assistant:

♦ When you create services, you select the PowerCenter node on which the services run. If a node is disabled, the Configuration Assistant does not list it.

♦ You cannot use the Configuration Assistant to upgrade an existing repository. The repository databases you configure for the services must not contain content. If a repository database contains content, the service creation fails.

♦ If the Configuration Assistant cannot create contents for a repository, create or enable a service, or set the code page for an Integration Service, check the domain log in the Administration Console to determine the cause of the error.

- Metadata Manager Services and Reporting Services may take a while to create and enable. The Configuration Assistant may show service creation as successful while the Service Manager creates and enables the service.
- Service names are not case sensitive and must be unique within the domain. For a Repository Service, Reporting Service or Metadata Manager Service, the characters in the name must be compatible with the code page of the repository. For an Integration Service, the characters in the name must be compatible with the code page of the associated repository. The name cannot contain spaces, include carriage returns or tabs, exceed 79 characters, or contain the following characters:

  + " \ < > ; / * % : . ~ ` ! ^ ( ) = { } [ ] | ' ?

Creating Services for PowerCenter

When you create services using the Configuration Assistant, you select items such as license objects, version control for the repository, connect strings, and code pages.

To create services using the Configuration Assistant:

1. Log in to the Administration Console.

2. To start the Configuration Assistant:
   - Click Configuration Assistant on the Administration Assistant window.

   -or-

   - Click Configuration on the Domain page of the Administration Console.

   The Welcome window introduces the Configuration Assistant.

3. Select a license object.

   When you install PowerCenter, the installer creates a license object in the domain based on the license key you used for installation. The license object must support the application services you want to create.

4. Choose the component you want to create services for:
   - **PowerCenter.** Select PowerCenter to create a Repository Service, Integration Service, and an optional Reporting Service for PowerCenter. Continue to the next step.
   - **Metadata Manager.** Select Metadata Manager to create a Metadata Manager Service, the Integration Service and Repository Service to use with Metadata Manager, and an optional Reporting Service. To create services for Metadata Manager, skip to step 18.

5. Click Next.

   The Repository Service Configuration window appears.

6. Enter a name for the Repository Service.

   The Repository Service and repository have the same name.

7. Enable or disable version control for the repository.

   If you enable version control, you can maintain multiple versions of an object, control development of the object, and track changes. To update objects in a versioned repository, you must check the objects in and out. If you disable version control, you do not have to check objects in and out in order to modify them.

   If you enable version control, you cannot disable it after you create a Repository Service.

8. Select the node where the Repository Service runs.

   A node is the logical representation of a machine in a PowerCenter domain. The services you create run on nodes in a domain.

9. Choose the database type for the repository.

10. Configure the following connection attributes for the repository database:

Attribute	Description
Database user	Account for the database containing the repository. Set up this account using the appropriate database client tools.
Database password	Repository database password corresponding to the database user. Must be in 7-bit ASCII.
Connect string	Native connection string the Repository Service uses to access the database containing the repository. Use the following syntax: - IBM DB2: *dbname* - Microsoft SQL Server: *servername@dbname* - Oracle: *dbname*.world (same as TSNAMES entry) - Sybase: *servername@dbname*
Tablespace name	Tablespace name for IBM DB2 repositories. When you specify the tablespace name, the Repository Service creates all repository tables in the same tablespace. You cannot use spaces in the tablespace name. You cannot change the tablespace name in the repository database properties after you create the service. If you create a Repository Service with the wrong tablespace name, delete the Repository Service and create a new one with the correct tablespace name. Required for IBM DB2 repositories. Not available for other database types.
Code page	Repository code page. The Repository Service uses the character set encoded in the repository code page when writing data to the repository.

11. Click Next.

The Configuration Assistant creates the Repository Service, creates repository contents, and enables the service.

The Integration Service Configuration window appears.

12. Enter a name for the Integration Service.

13. Select the node on which the Integration Service process runs by default.

14. If you want to create a Reporting Service that runs reports on the PowerCenter repository, select Create Reporting Service.

Note: To create a Reporting Service, the license you select must include the Data Analyzer option.

15. Click Next.

The Configuration Assistant creates the Integration Service.

16. The Configuration Assistant asks you to choose how the Integration Service will handle character data.

Configure the following attributes:

Attribute	Description
Character encoding	Data movement mode for the Integration Service: - ASCII. The Integration Service processes single-byte characters and does not perform code page conversions. - Unicode.Tthe Integration Service recognizes multibyte character data and allocates up to two bytes for every character. Default is ASCII.
Code page	Code page for the Integration Service. Code pages contain the encoding to specify characters in a set of one or more languages. Select a code page based on the type of character data you want to process.

17. Click OK.

The Configuration Assistant sets the code page for the Integration Service and enables the Integration Service. The action performed by the installer depends on the selections in the Configuration Assistant:

Selection	Configuration Assistant Action
Create Reporting Service for PowerCenter	The Reporting Service Configuration window appears. Skip to step 27.
Create Reporting Service for Metadata Manager	Creates and enables the Metadata Manager Service. The Reporting Service Configuration window appears. Skip to step 27.
Create Metadata Manager Service only	Creates and enables the Metadata Manager Service. The Summary page appears and lists the services that were created successfully. Skip to step 33.
Create Repository Service and Integration Service	The Summary page appears and lists the services that were created successfully. Skip to step 33.

18. Click Next.

The Metadata Manager Service Configuration window appears.

19. Enter a name for the Metadata Manager Service.

20. Select the node on which the Metadata Manager Service process runs by default.

21. Select the port number used by the Metadata Manager application.

Default is 10250.

22. Choose the database type for the Metadata Manager repository.

23. Configure the following connection attributes for the repository database:

Attribute	Description
Database user	Account for the database containing the repository. Use the appropriate database client tools to set up this account.
Database password	Repository database password corresponding to the database user. Must be in 7-bit ASCII.
Connect string	Native connection string the Metadata Manager Service uses to access the database containing the repository.Use the following syntax: - IBM DB2: *dbname* - Microsoft SQL Server: *servername@dbname* - Oracle: *dbname*.world (same as TSNAMES entry) - Sybase: *servername@dbname*
Tablespace name	Tablespace name for IBM DB2 repositories. When you specify the tablespace name, the Metadata Manager Service creates all repository tables in the same tablespace. You cannot use spaces in the tablespace name. You cannot change the tablespace name in the repository database properties after you create the service. If you create a Metadata Manager Service with the wrong tablespace name, delete the Metadata Manager Service and create another one with the correct tablespace name. Required for IBM DB2 repositories. Not available for other database types.
Database host	Host name for the Metadata Manager repository database.
Database port	Port number for the Metadata Manager repository database.
Database name	Full service name or SID for Oracle databases. Service name for IBM DB2 databases. Database name for Microsoft SQL Server or Sybase ASE databases.
SID/Service Name	Indicates whether the Database Name property contains an Oracle full service name or SID.
Code page	Repository code page. The Metadata Manager Service uses the character set encoded in the repository code page when writing data to the repository.

24. Select the Integration Service used by Metadata Manager to load metadata into the Metadata Manager warehouse or select to configure a new Integration Service.

25. To create a Reporting Service that runs reports on the Metadata Manager repository, select Create Reporting Service.

Note: To create a Reporting Service, the license you select must include the Data Analyzer option.

26. Click Next.

The action of the Configuration Assistant depends on your selections:

Selection	Configuration Assistant Action
Use existing Integration Service for Metadata Manager and do not create Reporting Service	Creates and enables the Metadata Manager Service. The Summary page appears and lists the services that were created successfully. Skip to step 33.
Configure a new Integration Service	The Configuration Assistant must create an Integration Service and Repository Service before it creates and enables the Metadata Manager Service. Skip to step 6.
Use existing Integration Service for Metadata Manager and create Reporting Service	Creates and enables the Metadata Manager Service. The Reporting Service page appears. Skip to step 27.

27. Enter a name for the Reporting Service.

28. Select the node on which the Reporting Service process runs by default.

29. Select the port number used by the Data Analyzer application.

Default is 16080.

30. Choose the database type for the Reporting Service repository.

31. Configure the following connection attributes for the repository database:

Attribute	Description
Database user	Account for the database containing the repository. Set up this account using the appropriate database client tools.
Database password	Repository database password corresponding to the database user. Must be in 7-bit ASCII.
Database name	Full service name or SID for Oracle databases. Service name for IBM DB2 databases. Database name for Microsoft SQL Server or Sybase ASE databases.
Database host	Host name for the Data Analyzer repository database.
Database port	Port number for the Data Analyzer repository database.
SID/Service Name	Indicates whether the Database Name property contains an Oracle full service name or SID.
Tablespace name	Tablespace name for IBM DB2 repositories. When you specify the tablespace name, the Reporting Service creates all repository tables in the same tablespace. You cannot use spaces in the tablespace name. You cannot change the tablespace name in the repository database properties after you create the service. If you create a Reporting Service with the wrong tablespace name, delete the Reporting Service and create a new one with the correct tablespace name. Required for IBM DB2 repositories. Not available for other database types.
Additional JDBC Parameters	Additional JDBC options.

32. Click Next.

The Configuration Assistant creates and enables the Reporting Service.

After the Configuration Assistant enables the Reporting Service, the Summary screen appears. The Configuration Assistant lists the services that were created successfully.

33. Click Finish to close the Configuration Assistant.

The Administration Console Domain page displays the services you created in the domain node in the navigator.

C H A P T E R 4

After You Configure

This chapter includes the following topic:

♦ Setting Up a Data Profiling Warehouse, 41

♦ Configuring Data Masking, 43

Setting Up a Data Profiling Warehouse

After you configure PowerCenter services, you can set up the Data Profiling warehouse.

Complete the following steps:

1. **Create a Data Profiling warehouse.** Use the Data Profiling warehouse utility to create the Data Profiling warehouse.

2. **Configure connectivity to the Data Profiling warehouse.** Create an ODBC connection and create a connection object to the Data Profiling warehouse.

Step 1. Create a Data Profiling Warehouse

Create a Data Profiling warehouse for each PowerCenter repository in which you want to store data profiles. You can create a Data Profiling warehouse on any relational database that PowerCenter supports as a source and target database. You can also create the Data Profiling warehouse on the same database instance as the PowerCenter repository.

Use the Data Profiling warehouse utility to create a Data Profiling warehouse. The utility also creates the Data Profiling warehouse schema and views for Data Analyzer. These views are required if you use Data Analyzer to view Data Profiling reports.

To create a Data Profiling warehouse:

1. At the command prompt, switch to the directory where the Data Profiling warehouse utility is located.

By default, the Data Profiling warehouse utility installs in the following directory:

    <PowerCenterClientDirectory>\bin\Extensions\DataProfile\ProfileWarehouse

2. Enter `DPWarehouseUtil.bat` to start the Data Profiling warehouse utility.

3. Enter the following command:

    DPWarehouseUtil createwh

The command uses the following syntax:

```
DPWarehouseUtil createwh
<-dbtype|-dbt> database_type
<-dburl> database_URL
<-dbuser|-dbu> database_user_name
<-dbpassword|-dbp> database_password
```

The following table describes the options and arguments for the Data Profiling warehouse utility:

Option	Argument	Description
-dbtype -dbt	database_ type	Type of database for the Data Profiling warehouse. Specify one of the following values: - ORACLE - SQLSERVER - DB2 - SYBASE - INFORMIX - TERADATA

-dburl	database_
	URL
		Database connection string. Use the following format:
		Oracle:
		`jdbc:informatica:oracle://host_name:port;SID=sid`
		Oracle RAC:
		`jdbc:informatica:oracle://host_name:port;ServiceName=[Service Name];AlternateServers=(server2:port);LoadBalancing=true`
		Microsoft SQL Server:
		`jdbc:informatica:sqlserver://host_name:port;SelectMethod=cursor;DatabaseName=db_name`
		DB2:
		`jdbc:informatica:db2://host_name:port;DatabaseName=db_name`
		Sybase:
		`jdbc:informatica:sybase://host_name:port;DatabaseName=db_name`
		Informix:
		`jdbc:informatica:informix://host_name:port;InformixServer=informix_server;DatabaseName=db_name`
		Teradata:
		`jdbc:teradata://DatabaseServerName/DATABASE=db_name`

-dbuser -dbu	database_ user_name	User name for the Data Profiling warehouse database.
-dbpassword -dbp	database_ password	Password for the Data Profiling warehouse database.

Step 2. Configure Connectivity to the Data Profiling Warehouse

Create an ODBC connection to the Data Profiling warehouse on each PowerCenter Client machine that accesses the Data Profiling warehouse. After you create the ODBC connection, create a connection object for the Data Profiling warehouse in the Workflow Manager.

RELATED TOPICS:

♦ "Connecting to Databases from Windows" on page 107

Configuring Data Masking

After you install PowerCenter, you can configure Data Masking. Verify that you have the Data Masking incremental license key available. When you add the license, you must be able to access the license key file from the Administration Console. If you do not have a license for Data Masking, contact Informatica Global Technical Support.

To configure Data Masking, complete the following steps:

1. Register the plug-in.

2. Apply the Data Masking license.

Step 1. Register the Plug-in

After you configure PowerCenter services, register the Data Masking plug-in with the repository. If you are upgrading from a previous version, update the plug-in registration when you register the plug-in.

A plug-in is an XML file that defines the functionality of Data Masking. To register the plug-in, the repository must be running in exclusive mode. Use the Administration Console or the *pmrep* RegisterPlugin command to register the plug-in.

The plug-in file for Data Masking is pmdatamasking.xml. When you install the Server component, the installer copies pmdatamasking.xml to the following directory:

```
<PowerCenter InstallDir>\server\bin
```

For more information about using the Administration Console to register a plug-in, see the *PowerCenter Administrator Guide*.

For more information about the *pmrep* RegisterPlugin command, see the *PowerCenter Command Reference*.

Note: If you do not have the correct privileges to register the plug-in, contact the user who manages the Repository Service.

Step 2. Apply the Data Masking License Key

Apply the Data Masking license key to the PowerCenter license. When you apply the incremental license key, the Service Manager adds the Data Masking option to the PowerCenter license and it updates the license expiration date.

Add the Data Masking license from the Administration Console, or use the *infacmd* UpdateLicense command.

For more information about applying an incremental license key, see the *PowerCenter Administrator Guide*.

Part III: Upgrading PowerCenter

This part includes the following chapters:

- Upgrading PowerCenter, 47
- Upgrading Data Analyzer, 65
- Upgrading Metadata Manager, 75
- After You Upgrade, 85

CHAPTER 5

Upgrading PowerCenter

This chapter includes the following topics:

Overview

This chapter describes the tasks you must complete to upgrade PowerCenter. Perform upgrade tasks based on the version of PowerCenter you upgrade.

PowerCenter Upgrade Steps

Before you upgrade PowerCenter, complete the post-installation steps for the version you upgrade. For more information, see "Post-Installation Tasks" on page 7.

If you upgrade from PowerCenter version 8.6, you must upgrade the Reference Table Manager Service. If you upgrade from PowerCenter version 8.5.x, you do not need to upgrade the PowerCenter repository or application services. If you upgrade from a PowerCenter version earlier than 8.5, complete the PowerCenter upgrade steps required for your version of PowerCenter.

The following table describes the steps for each version to upgrade an existing PowerCenter installation:

7.x	8.1.1	8.6	Description
1			Start the Upgrade Wizard and validate the configuration files for the Repository Agent or PowerCenter Server. For more information, see "Validate Configuration Files" on page 51.
2			Upgrade a Repository Agent configuration to a Repository Service, and upgrade the contents of the global repository. For more information, see "Upgrade a Global Repository (Version 7)" on page 52.
3			Upgrade a Repository Agent configuration to a Repository Service and upgrade the contents of the local repository. For more information, see "Upgrade a Local Repository (Version 7)" on page 53.
	1		Start the Upgrade Wizard and list the repositories in the domain. For more information, see "List Repositories" on page 55.
	2		Upgrade the contents of the global repository. For more information, see "Upgrade a Global Repository (Version 8)" on page 55.
	3		Upgrade the contents of the local repository. For more information, see "Upgrade a Local Repository (Version 8)" on page 56.
	4		View the results of the upgrade. For more information, see "View Upgrade Results" on page 61.
4	5		Upgrade Repository users and groups from each repository. For more information, see "Upgrade Users and Groups" on page 57.
5			Upgrade a PowerCenter Server configuration to an Integration Service. For more information, see "Upgrade the PowerCenter Server" on page 59.
6			View the results of the upgrade. For more information, see "View Upgrade Results" on page 61.
7	6		Upgrade the Data Profiling warehouse. For more information, see "Upgrade Data Profiling" on page 61.
		1	If you have a Reference Table Manager Service in the domain, upgrade the contents of the reference tables. For more information, see "Upgrade the Reference Table Manager Services" on page 62.

Understanding PowerCenter Repository Upgrade

When you upgrade a PowerCenter repository, you upgrade the repository content. The PowerCenter 8.6.1 repository version is 179 and the data version is D88. When you upgrade a repository, the upgrade process modifies repository tables to accommodate new types of metadata and introduces new objects to the repository.

The repository runs in exclusive mode until you upgrade the repository content, users, and groups.

The upgrade process proceeds incrementally, one repository version at a time, incorporating new features with each version. For information about changes to the functionality of existing metadata, see the *PowerCenter Release Guide*.

The repository upgrade process stops if it encounters problems during the upgrade such as lack of disk space. After you identify and fix the problem, you can continue the upgrade.

Note: During repository content upgrade, there can be a delay between the time that the upgrade process generates a log event and the time that the log event appears in the Log Viewer. This delay can be up to several minutes. You can refresh the query in the Log Viewer to see the log event.

Repository Upgrade Methods

You can upgrade repository content using one of the following tools:

- **Upgrade Wizard.** Use the Upgrade Wizard on the Upgrade tab to upgrade 7.x servers and 7.x or 8.x repositories. The Upgrade Wizard screens differ based on the version you upgrade. You cannot use the Upgrade Wizard to upgrade repositories that use LDAP authentication. For more information, see "Upgrading Through the Upgrade Wizard" on page 50.

- **Administration Console.** You can upgrade 7.x or 8.x PowerCenter repositories using the Administration Console if the repository uses LDAP authentication or if the Upgrade Wizard did not successfully upgrade the repository. Use the Actions menu on the Administration Console to upgrade 7.x or 8.x repositories. If the repository uses LDAP authentication you must use the Administration Console to upgrade the repository. For more information, see "Upgrading Through the Administration Console" on page 50.

Troubleshooting a Repository Upgrade

The repository upgrade process stops if the Upgrade Wizard or the Administration Console encounters problems, such as lack of disk space. An upgrade can fail for the following reasons:

- The upgrade process has trouble reading or writing to the repository database.
- The repository database has insufficient disk space or temporary storage space.
- The client system has insufficient memory.
- The repository has inconsistent data.

Note for 8.1.1 upgrades: You must upgrade repositories in a domain with the same name as the domain from the previous installation. The repository will not start if the domain name is not the same as the domain from the previous installation.

You can view the progress of the upgrade by viewing the log events for the upgrade in the Log Viewer. The Administration Console lists the upgrade activities in the Administration Console window. Use the Log Viewer or the Administration Console window to determine the cause of a failure during a repository contents upgrade.

After you identify and fix the problem, restart the upgrade in the Upgrade Wizard or the Administration Console. When you upgrade the repository the second time, the upgrade process starts at the last successful version number. However, you should always maintain a copy of the original repository in case you need to start the upgrade from the beginning.

Note: Depending on the size of the repository, the upgrade process can take several hours to several days to complete.

Creating and Enabling a Repository Service (Version 7.x)

The Upgrade Wizard uses the existing parameters, including repository database connection information, in the Repository Agent configuration file to create a Repository Service. The actions necessary to troubleshoot issues related to creating a Repository Service depend on the point at which the upgrade activity failed:

- **Creating a Repository Service.** If the Upgrade Wizard cannot create the Repository Service, correct the error indicated in the Upgrade Status section of the Upgrade Wizard and restart the upgrade.

  If the upgrade error was caused by the Repository Agent configuration file, you must revalidate the configuration file after fixing the error. For example, the creation of a Repository Service can fail if the configuration file passed validation but contains another error not caught by the validation process. Correct the error in the configuration file, revalidate the configuration file, and then proceed to the appropriate repository upgrade step. To revalidate the configuration file, see "Validate Configuration Files" on page 51.

- **Enabling a Repository Service.** If the Upgrade Wizard could not enable the Repository Service, use the log events for the Repository Service in the Log Viewer to identify the error. After you correct the error, enable the Repository Service in the Administration Console and use the Actions list in the Administration Console to upgrade the contents for the repository.

Upgrading Through the Administration Console

You can upgrade PowerCenter repositories using the Administration Console if the repository uses LDAP authentication or if the Upgrade Wizard did not successfully upgrade the repository.

Use the Administration Console to upgrade local and global repositories. A Repository Service must exist in the domain before you upgrade the repository contents.

If you create a domain when you upgrade and you have a repository that uses LDAP authentication, run the *infacmd* SetRepositoryLDAPConfiguration command to update LDAP configuration properties. Optionally, run *infacmd* ListRepoLDAPConfiguration to list LDAP configuration parameters. If you selected the upgrade PowerCenter option in the installer, you do not need to run the SetRepositoryLDAPConfiguration command.

Upgrade the global repository before you upgrade a local repository that is registered to the global repository.

Note: The user that upgrades a 7.x repository must have Administer Repository privilege. The user that upgrades an 8.1.1 repository must have the Admin Repository privilege.

To upgrade a repository:

1. Log in to the Administration Console.

2. In the Navigator, select the Repository Service for the repository you want to upgrade.

3. In the Actions list, select Upgrade Contents.

4. Enter the repository administrator user name and password and click OK.

   The activity log displays the results of the upgrade operation.

If the upgrade operation fails, view the error messages in the activity log to identify the problem. After you fix the problem, upgrade the repository again.

Upgrading Through the Upgrade Wizard

Use the Upgrade Wizard to upgrade the following versions of PowerCenter:

♦ **PowerCenter 7.x.** The Upgrade Wizard uses the parameters in the Repository Agent configuration file to create a Repository Service. It uses the existing parameters in the PowerCenter Server configuration file to create an Integration Service. You can upgrade configuration files sequentially. After the upgrade, the PowerCenter domain contains the Repository Services and Integration Services created during the upgrade.

♦ **PowerCenter 8.1.1.** The upgrade wizard lists the repositories that require upgrade. You can upgrade multiple repositories at the same time.

Note: You must have permission on the domain to use the Upgrade Wizard.

Rules and Guidelines for Running the Upgrade Wizard

Use the following rules and guidelines when you upgrade PowerCenter with the Upgrade Wizard:

♦ The Upgrade Wizard maintains the state of the upgrade during the upgrade process. You can return to any previous step in the Upgrade Wizard to restart an upgrade of a Repository Agent or PowerCenter Server configuration. If you close the browser or click Finish Upgrade in the Upgrade Wizard, the previous state of the upgrade is lost and you must restart the upgrade process.

♦ When you restart an upgrade for a Repository Agent or a PowerCenter Server, the Upgrade Wizard restarts the upgrade from the point of failure. To restart the upgrade at Repository Service creation, you must exit the wizard, remove the Repository Service, and restart the upgrade process.

♦ Upgrade the contents for a global repository before you upgrade the contents for any registered local repository.

♦ Upgrade the contents for a repository before you upgrade the PowerCenter Server for that repository.

♦ To change an option after you upgrade a Repository Agent or PowerCenter Server, you must reconfigure the Repository Service or Integration Service in the Administration Console.

♦ You can continue to a subsequent step in the Upgrade Wizard even though some upgrade activities fail during the previous step.

♦ The Upgrade Wizard reads a configuration file during validation. If an upgrade fails because of an error in a configuration file, you must revalidate the configuration file before you continue with the upgrade.

♦ Use the Administration Console to upgrade repositories that use LDAP authentication,.

♦ The user that upgrades a 7.x repository must have Administer Repository privilege. The user that upgrades an 8.1.1 repository must have the Admin Repository privilege.

Upgrade Wizard Status and Logs

The Upgrade Wizard writes upgrade log events to the service logs and writes the status of the upgrade to the Upgrade Wizard window and the service logs. You can use the status and log events in the Upgrade Wizard window and the Log Viewer to troubleshoot issues that occur during an upgrade. The Upgrade Wizard lets you correct errors and continue the upgrade without restarting the upgrade process from the beginning.

To access the log events in the Log Viewer, you can choose to view the activity log from the Upgrade Wizard. You can also click the Log tab in the main Administration Console window to view log events. If you view log events in the Log Viewer, you can return to the Upgrade Wizard without losing the current upgrade progress.

Validate Configuration Files

Step 1. Upgrade 7.x

To start the upgrade process, select the Repository Agent and PowerCenter Server configuration files you want to upgrade. You can select one or more configuration files. You must successfully validate a Repository Agent or PowerCenter Server configuration file before you can upgrade it to a Repository Service or Integration Service.

When the wizard validates the files, it checks the configuration files for the required parameters and verifies that the name of the Repository Agent or PowerCenter Server configuration does not currently exist in the domain. The validation fails if the configuration file does not meet either of the conditions.

Note: To upgrade multiple files, copy the configuration files to a node in the PowerCenter 8.6.1 domain before you validate the files. For more information, see "Create Databases and User Accounts" on page 13.

To select and validate configuration files:

1. Log in to the Administration Console.

2. In the Administration Console, click the Upgrade tab.

   The Select Configuration Files page appears.

3. To select a single configuration file:

   ♦ Click Browse to select a Configuration file.

   ♦ Select the type of configuration file: global repository, local repository, PowerCenter Server.

4. To select multiple configuration files, select the node where you copied the configuration files.

5. Click Validate Files.

   The Upgrade Wizard reads and validates the configuration files. If a configuration file is not valid, correct the error and validate the files again.

6. If the file is valid, click Proceed to Step 2: Upgrade Global Repository.

Troubleshooting Configuration File Validation

A configuration file can fail validation for the following reasons:

♦ **Application service with the same name exists.** You cannot upgrade a Repository Agent or PowerCenter Server configuration if a Repository Service or Integration Service with the same name exists in the domain. If an application service with the same name exists in the domain, remove the application service from the domain and revalidate the configuration file.

♦ **Missing required parameters.** A configuration file must contain a minimum number of parameters to be upgraded to a Repository Service or Integration Service. If a configuration file is missing a required parameter, correct the error in the configuration file and validate the file again.

The following table describes the required parameters for Repository Agent and PowerCenter Server configuration files:

Configuration File Type	Required Parameters
Repository Agent	RepositoryName DatabaseType ConnectString DBUser DBPassword
PowerCenter Server	ServerName RepositoryName PMUser PMPassword

Upgrade a Global Repository (Version 7)

Step 2. Upgrade 7.x

You can upgrade a Repository Agent configuration for a global repository, enable the Repository Service created by the Upgrade Wizard, and then upgrade the contents of the global repository. The Upgrade Wizard can upgrade multiple global repositories during this step. If you do not have a global repository in your repository domain, upgrade the local repository.

The Upgrade Wizard displays the results of the upgrade after the Repository Service has been created and enabled and the repository contents upgraded. You can view the status of the Repository Agent upgrade and the repository contents upgrade in the Log Viewer during and after the upgrade.

To upgrade a global repository:

1. Configure the following global repository upgrade options for each global Repository Agent configuration file you want to upgrade:

Option Name	Description
License	Name of the license you want to assign to the Repository Service. You must assign a license to enable the Repository Service.
Node	Name of the node that runs the Repository Service.
Location	Name of the folder in the domain that contains the Repository Service object. Click Select Folder to change the folder.
Enable the Repository Service after Upgrade	Enables the Repository Service after upgrading the Repository Agent configuration to a Repository Service. You must enable the Repository Service to upgrade repository contents.
Upgrade Contents	Upgrades the repository contents after enabling the Repository Service. You must upgrade repository contents before upgrading a local repository registered to the global repository or before upgrading the PowerCenter Server to which the global repository is associated.
Repository User Name	User name of database user account used to create the repository database. Required if you upgrade contents.
Password	Password for the database user account. Required if you upgrade contents.

2. Click Start Upgrade.

   The Upgrade Wizard begins the upgrade process. Upgrade Status shows the number of failed, successful, and in-progress Repository Agent upgrades.

3. To view the upgrade activity, click View Activity Log for Upgrade Contents.

4. If the upgrade fails, correct the errors indicated under Upgrade Status and click Restart Upgrade.

   The upgrade continues from the point of failure. For more information about troubleshooting errors that occur during a Repository Agent upgrade, see "Troubleshooting a Repository Upgrade" on page 49.

5. If the upgrade succeeds, the Upgrade Wizard displays the following message for each global repository:

   ```
   <repository name> Upgrade Status: Upgrade Complete
   ```

6. Click Proceed to Step 3: Upgrade Local Repository.

Upgrade a Local Repository (Version 7)

Step 3. Upgrade 7.x

You can upgrade a Repository Agent configuration for a local repository, enable the Repository Service created by the Upgrade Wizard, and then upgrade the contents of the local repository. The Upgrade Wizard can upgrade multiple local repositories during this step.

The Upgrade Wizard displays the results of the upgrade after the Repository Service is created and enabled and the repository contents are upgraded. You can view the status of the Repository Agent upgrade and the repository contents upgrade in the Log Viewer during and after the upgrade.

To upgrade a local repository:

1. Configure the following local repository upgrade options for each global Repository Agent configuration file you want to upgrade:

Option Name	Description
License	Name of the license you want to assign to the Repository Service.
Node	Name of the node that runs the Repository Service.
Location	Name of the folder in the domain that contains the Repository Service object. Click Select Folder to change the folder.
Enable the Repository Service after upgrade	Enables the Repository Service after upgrading the Repository Agent configuration to a Repository Service. You must enable the Repository Service to upgrade repository contents.
Upgrade Contents	Upgrades the repository contents after enabling the Repository Service. You must upgrade repository contents before upgrading the PowerCenter Server to which the local repository is associated.
Repository User Name	User name of database user account used to create the repository database. Required if you upgrade contents.
Password	Password for the database user account. Required if you upgrade contents.
This Local Repository is Registered to a Global Repository	Indicates that the local repository is registered to a global repository.
Domain for Global Repository	PowerCenter domain that contains the Repository Service for the global repository. You can also choose Manage Domain List to select a global repository in a different domain.
Global Repository	Name of the Repository Service for the global repository. Required if you upgrade contents.
Global Repository User Name	User name of database user account used to create the repository database. Required if you upgrade contents.
Password	Password for the database user account. Required if you upgrade contents.

2. If you want all local repositories to use the same configuration, click Apply Settings to All Repository Services.

3. Click Start Upgrade.

   The Upgrade Wizard begins the upgrade process. The upgrade status shows the number of failed, successful, and in-progress Repository Agent upgrades.

   -or-

   To upgrade content for all local repositories, click Start Upgrade for All Repository Services.

4. To view the upgrade activity, click View Activity Log for Upgrade Contents.

5. If the upgrade fails, correct the errors indicated under Upgrade Status, and click Restart Upgrade.

   The upgrade continues from the point of failure. For more information about troubleshooting errors that occur during a Repository Agent upgrade, see "Troubleshooting a Repository Upgrade" on page 49.

6. If the upgrade succeeds, the Upgrade Wizard displays the following message for each local repository:

   ```
   <repository name> Upgrade Status: Upgrade Complete
   ```

7. Click Proceed to Step 4: Upgrade PowerCenter Server.

List Repositories

Step 1. Upgrade 8.1.1

The Upgrade Wizard defaults to the 7.x upgrade. To start the upgrade process, select 8.1.1 as the Current version option.

The wizard list the repositories in the domain that require upgrade on the List Repositories page.

Select the following options based on the repositories you need to upgrade:

Repositories to Upgrade	Task
Global Repositories	Select the Upgrade Global Repository option to upgrade global repositories before you upgrade associated local repositories.
Local Repositories	Select the Upgrade Local Repository option to upgrade local repositories. If a local repository is associated with a global repository, upgrade the global repository first.

Upgrade a Global Repository (Version 8)

Step 2. Upgrade 8.1.1

The Upgrade Wizard can upgrade multiple global repositories during this step. If you do not have a global repository in your domain, upgrade your local repository.

The Upgrade Wizard displays the results of the upgrade after the repository contents have been upgraded. You can view the status of the repository contents upgrade in the Log Viewer during and after the upgrade.

To upgrade a global repository:

1. Configure the following global repository upgrade fields for each global repository you want to upgrade:

Field Name	Description
Repository User Name	Account used to access the repository database.
Password	Password for account used to access the repository database.

2. Click Start Upgrade.

   The Upgrade Wizard begins the upgrade process. Upgrade Status shows the number of failed, successful, and in-progress upgrades.

3. To view the upgrade activity, click View Activity Log for Upgrade Contents.

4. If the upgrade fails, correct the errors indicated under Upgrade Status and click Restart Upgrade.

   The upgrade continues from the point of failure. For more information about troubleshooting errors that occur during a repository upgrade, "Troubleshooting a Repository Upgrade" on page 49.

5. If the upgrade succeeds, the Upgrade Wizard displays the following message for each global repository:

   ```
   <repository name> Upgrade Status: Upgrade Complete
   ```

6. Click Proceed to Step 3: Upgrade Local Repository.

Upgrade a Local Repository (Version 8)

The Upgrade Wizard can upgrade multiple local repositories during this step. The Upgrade Wizard displays the results of the upgrade after the repository contents are upgraded. You can view the status of the upgrade in the Log Viewer during and after the upgrade.

To upgrade a local repository:

1. Configure the following local repository upgrade options for each global Repository Agent configuration file you want to upgrade:

Field Name	Description
Repository User Name	Account used to access the repository database.
Password	Password for account used to access the repository database.
This Local Repository is Registered to a Global Repository	Indicates that the local repository is registered to a global repository.
Domain for Global Repository	PowerCenter domain that contains the Repository Service for the global repository. You can also choose Manage Domain List to select a global repository in a different domain.
Global Repository	Name of the Repository Service for the global repository. Required if the local repository is registered to a global repository.
Global Repository User Name	Account used to access the repository database. Required if the local repository is registered to a global repository.
Password	Password for account used to access the repository database. Required if the local repository is registered to a global repository.

2. Click Start Upgrade.

   The Upgrade Wizard begins the upgrade process.

   The upgrade status shows the number of failed, successful, and in-progress upgrades.

3. To view the upgrade activity, click View Activity Log for Upgrade Contents.

4. If the upgrade fails, correct the errors indicated under Upgrade Status, and click Restart Upgrade.

   The upgrade continues from the point of failure. For more information about troubleshooting errors that occur upgrade, see "Troubleshooting a Repository Upgrade" on page 49.

5. If the upgrade succeeds, the Upgrade Wizard displays the following message for each local repository:

   ```
   <repository name> Upgrade Status: Upgrade Complete
   ```

6. Click Proceed to Step 5: Upgrade Summary.

Upgrade Users and Groups

You can upgrade users and groups for a PowerCenter repository using the Administration Console. When you upgrade the users and groups in a repository, the Service Manager moves them to the PowerCenter domain. You can assign permissions to users after you upgrade users and groups.

The Repository Service runs in exclusive mode until you upgrade the repository users and groups.

Rules and Guidelines for Upgrading Native Users

Review the following rules and guidelines before you upgrade users from a repository:

♦ The default repository administrator from the repository is merged with the existing default Administrator user account in the PowerCenter domain. The password for the default repository administrator is not merged. You can change the password for the Administrator user account after you complete the user upgrade process.

♦ The names of upgraded users and groups must conform to the same rules as the names of users and groups in the PowerCenter domain. During the upgrade, the names of users and groups that are not valid are modified to conform to the rules:

– Any character in the user or group name that is not valid is replaced with an underscore. A numeric suffix is added to the name. For example, the user name Tom*Jones is modified to Tom_Jones0. The following characters are not valid for user or group names: , + " \ < > ; / * % ?

– If the new name with underscore and suffix exists in the native security domain, the suffix is increased by one.

– If a user or group name exceeds 80 characters, the name is shortened to 75 characters plus a numeric suffix. For example, a user name has 82 characters that start with A%C and ends with QRSTUVWXYZ. During the upgrade, the user name is modified to 76 characters that start with A_C and ends with QRS1. If the new name exists in the security domain, the suffix is increased by one. If the modified name exceeds 80 characters, the user account is not upgraded.

For more information about valid names for users and groups in the PowerCenter domain, see the *PowerCenter Administrator Guide*.

♦ During the upgrade, any tab, carriage return, or character that is not valid in user or group descriptions is replaced with a space. The characters < > " are not valid in user and group descriptions. For example, the description *[<title>An example</title>]* is modified to *[title An example /title]*.

♦ The user and group names are not case sensitive. A user account in the PowerCenter repository with the name JSmith is a duplicate of a user account in the PowerCenter domain with the name jsmith.

Rules and Guidelines for Upgrading LDAP Users

Review the following rules and guidelines before you upgrade users from a repository that uses LDAP authentication:

♦ If the repository uses LDAP authentication, native users in the repository are not valid and will not be upgraded.

♦ The repository administrator user does not retain Administrator privileges. After you upgrade, use the user name Administrator to perform domain administrator tasks. The Administrator user can assign privileges to the previous repository administrator user after you upgrade users.

♦ If the repository you upgrade uses LDAP authentication, you must create a security domain and import LDAP users into the domain before you upgrade users and groups. The domain does not verify that upgraded LDAP users are associated with the LDAP server that PowerCenter 7.x or 8.1.1 used for LDAP

authentication. For more information about creating security domains, see the *PowerCenter Administrator Guide*.

♦ LDAP users that are not part of a security domain are not upgraded. The Administrator is granted permission on all repository objects owned by LDAP users that are not upgraded.

Steps to Upgrade Users and Groups

If you upgrade users and groups for a global repository, complete the following steps:

1. Upgrade users and groups for the global repository.

2. Disable the global repository and enable the global repository in normal mode.

3. Upgrade users and groups for the local repository.

4. Disable the local repository and enable the local repository in normal mode.

If you upgrade users and groups for a local repository that does not have an associated global repository, complete the following steps:

1. Upgrade users and groups for the local repository.

2. Disable the local repository and enable the local repository in normal mode.

Note: The Service Manager runs the Repository Service in exclusive mode when the repository contents, users, and groups require an upgrade. The properties tab of the Repository Service displays the operating mode of the Repository Service before you upgrade. If the properties tab shows that the operating mode is normal, disable and enable the Repository Service. If the properties tab shows that the operating mode is exclusive, update the operating mode to normal and then disable and enable the Repository Service.

To upgrade users and groups:

1. Select the Repository Service for the repository you want to upgrade.

2. In the Actions list, select Upgrade Users and Groups.

    The Upgrade Users and Groups for <repository name> page appears.

3. If you are upgrading a repository with LDAP authentication, select the security domain that contains the LDAP users and groups you want to upgrade.

    For information about creating security domains, see the *PowerCenter Administrator Guide*.

4. Optionally, use the existing Administrator or public groups.

    If you select this option, users in the repository that exist in an Administrator or Public group are added to the Administrator or Public group.

5. Enter the repository administrator user name and password and click OK.

    If there are conflicts when upgrading users, the Users and Groups with Conflicts page appears. Continue to the next step. If there are no conflicts, the Summary page appears. Skip to step 7.

6. Resolve each conflict, and review the list of users and groups that are ready to migrate.

Based on the authentication type of the repository, the resolution options differ. The following table describes the resolution options:

Resolution	Description
Merge with	Adds the privileges of the user or group in the repository to the privileges of the user or group in the PowerCenter domain. Retains the password and properties of the user account in the PowerCenter domain, including full name, description, email address, and phone. Retains the parent group and description of the group in the PowerCenter domain. Maintains user and group relationships. When a user is merged with a domain user, the list of groups the user belongs to in the repository is merged with the list of groups the user belongs to in the domain. When a group is merged with a domain group, the list of users the group is merged with the list of users the group has in the domain. You cannot merge multiple users or groups with one user or group. For example, users Bob and Bill cannot merge with Jon.
Rename	Creates a new group or user account with the group or user name you provide. The new group or user account takes the privileges and properties of the group or user in the repository.
Upgrade	No conflict. Upgrades user and assign permissions.

When you upgrade a repository that uses LDAP authentication, Users and Groups Without Conflicts section of the conflict resolution screen lists the users that will be upgraded. LDAP user privileges are merged with users in the security domain that have the same name. The LDAP user retains the password and properties of the account in the LDAP security domain.

The Users and Groups With Conflicts section shows a list of users that are not in the security domain and will not be upgraded. If you want to upgrade users that are not in the security domain, use the Security page to update the security domain and synchronize users before you upgrade users.

Note: You can upgrade users and groups once for each repository.

7. Click OK.

   A Summary page lists the users and groups that were upgraded.

8. To save a copy of the upgrade log, click Save.

9. Click Close.

10. Start the Repository Service in normal mode.

Note: The domain runs the repository service in exclusive mode when the repository contents, users, and groups require an upgrade. The properties tab of the repository service displays the operating mode of the repository service before you upgrade. If the properties tab shows that the operating mode is normal mode, disable and enable the service. If the properties tab shows that the operating mode is exclusive mode, update the operating mode to normal and then disable and enable the service.

Upgrade the PowerCenter Server

Step 5. Upgrade 7.x

You can upgrade a PowerCenter Server configuration to an Integration Service and enable the Integration Service in the domain. You must upgrade the contents for the associated repository for the PowerCenter Server before you can upgrade the PowerCenter Server.

The Upgrade Wizard displays the results of the upgrade after the Integration Service has been created and enabled. You can view the status of the PowerCenter Server upgrade in the Log Viewer during and after the upgrade.

To upgrade a PowerCenter Server configuration:

1. Select the Upgrade tab.

2. Configure the following Integration Service options for the first listed Integration Service:

Option	Description
Associated Repository Service	Name of the associated Repository Service. You must upgrade a Repository Service and the repository contents or create the Repository Service in the domain before you can choose a Repository Service.
License	Name of the license you want to assign to the Integration Service. You must assign a license to enable the Integration Service.
Node	Name of the node that runs the Repository Service.
Location	Name of the folder in the domain that contains the Repository Service object. Default folder is the top-level folder for the domain. Click Select Folder to change the folder.
Enable Integration Service after upgrade	Enables the Integration Service after upgrade.

3. If you want all Integration Services to use the same configuration, click Apply Settings to All Integration Services.

4. To upgrade a single PowerCenter Server, click Start Upgrade.

   The Upgrade Wizard begins the upgrade process. Upgrade Status shows the number of failed, successful, and in-progress PowerCenter Server upgrades.

   -or-

   To upgrade all PowerCenter Servers simultaneously, click Start Upgrade for All Integration Services.

   The Upgrade Wizard begins the upgrade process for all PowerCenter Servers. Upgrade Status shows the number of failed, successful, and in-progress PowerCenter Server upgrades.

5. To view the upgrade activity, click View Log for Upgrade Service.

6. If the upgrade fails, correct the errors indicated under Upgrade Status and click Restart Upgrade.

   The upgrade continues from the last point of failure.

7. If the upgrade succeeds, the Upgrade Wizard displays the following message for each PowerCenter Server:

   ```
   <Integration Service name> Upgrade Status: Upgrade Complete
   ```

8. Click Proceed to Step 5: Upgrade Summary.

Troubleshooting Creating and Enabling an Integration Service

An error can occur when the Upgrade Wizard creates the Integration Service from a PowerCenter Server configuration file or when the Upgrade Wizard enables the Integration Service in the domain.

The actions necessary to troubleshoot issues related to the Integration Service depend on the point at which the upgrade failed:

♦ **Creating an Integration Service fails.** If the Upgrade Wizard could not create the Integration Service, correct the error indicated in the Upgrade Status section of the Upgrade Wizard and restart the upgrade.

You cannot create an Integration Service with the same name as the domain.

If the upgrade error was caused by the PowerCenter Server configuration file, you must revalidate the configuration file after fixing the error. For example, the creation of a Integration Service may fail if the configuration file passed validation but contains another error not caught by the validation process. Correct the error in the configuration file and revalidate it. Then proceed to the Upgrade PowerCenter Server step. For information about validating the configuration file, see "Validate Configuration Files" on page 51.

- **Enabling an Integration Service fails.** If the Upgrade Wizard could not enable the Integration Service, use the log events for the Integration Service in the Log Viewer to identify the error. After you correct the error, enable the Integration Service in the Administration Console.

  For more information about enabling an Integration Service, see the *PowerCenter Administrator Guide.*

View Upgrade Results

Step 6. Upgrade 7.x
Step 4. Upgrade 8.1.1

View the results of all upgrade activities on the Summary page.

After you review the upgrade summary, click Finish Upgrade to complete the upgrade process or close the browser. After you click Finish Upgrade or close the browser, you must restart the upgrade process to correct errors that occurred during the upgrade process.

To access the log events in the Log Viewer, you can choose to view the activity log from the Upgrade Wizard. You can also click the Log tab in the main Administration Console window to view log events. If you view log events in the Log Viewer, you can return to the Upgrade Wizard without losing the current upgrade progress.

Upgrade Data Profiling

Step 7. Upgrade 7.x
Step 6. Upgrade 8.1.1

When you upgrade PowerCenter, complete the following steps to upgrade Data Profiling:

1. Upgrade the Data Profiling warehouse.

2. Recreate ODBC connections to the Data Profiling warehouse.

Step 1. Upgrade the Data Profiling Warehouse

To upgrade a Data Profiling warehouse, run the Data Profiling warehouse utility. The utility also upgrades the Data Profiling warehouse schema and views for Data Analyzer. These views are required if you use Data Analyzer to view Data Profiling reports.

To upgrade the Data Profiling warehouse:

1. At the command prompt, switch to the directory where the Data Profiling warehouse utility is located.

   By default, the Data Profiling warehouse utility installs in the following directory:

   ```
   <PowerCenterClientInstallationDirectory>\bin\Extensions\DataProfile\ProfileWarehouse
   ```

2. Enter `DPWarehouseUtil.bat` to start the Data Profiling warehouse utility.

3. Enter the following command:

   ```
   DPWarehouseUtil upgradewh
   ```

   The command uses the following syntax:

   ```
   DPWarehouseUtil upgradewh
   <-dbtype|-dbt> database_type
   <-dburl> database_URL
   <-dbuser|-dbu> database_user_name
   ```

```
<-dbpassword|-dbp> database_password
```

The following table describes the options and arguments for the Data Profiling warehouse utility:

Option	Argument	Description
-dbtype -dbt	database_ type	Type of database for the Data Profiling warehouse. Specify one of the following values: - ORACLE - SQLSERVER - DB2 - SYBASE - INFORMIX - TERADATA

-dburl	database_
	URL
		Database connection string. Use the following format:
		Oracle:
		`jdbc:informatica:oracle://host_name:port;SID=s`
		`id`
		Oracle RAC:
		`jdbc:informatica:oracle://host_name:port;`
		`ServiceName=[Service`
		`Name];AlternateServers=(server2:port);LoadBala`
		`ncing=true`
		Microsoft SQL Server:
		`jdbc:informatica:sqlserver://host_name:port;`
		`SelectMethod=cursor;DatabaseName=db_name`
		DB2:
		`jdbc:informatica:db2://host_name:port;Database`
		`Name=db_name`
		Sybase:
		`jdbc:informatica:sybase://host_name:port;`
		`DatabaseName=db_name`
		Informix:
		`jdbc:informatica:informix://host_name:port;`
		`InformixServer=informix_server;DatabaseName=db`
		`_name`
		Teradata:
		`jdbc:teradata://DatabaseServerName/DATABASE=db`
		`_name`

-dbuser -dbu	database_ user_name	User name for the Data Profiling warehouse database.
-dbpassword -dbp	database_ password	Password for the Data Profiling warehouse database.

Step 2. Recreate the ODBC Connection

Effective in version 8.5, PowerCenter includes DataDirect 5.2 ODBC drivers. If the existing PowerCenter Client connection to the Data Profiling warehouse was created with an earlier version of the drivers, you must recreate the ODBC connection to each Data Profiling warehouse.

Upgrade the Reference Table Manager Services

Step 1. Upgrade 8.6

Effective in version 8.6.1, the password for the user account in a Reference Table Manager connection is encrypted when it is saved to the Reference Table Manager repository.

To encrypt the connection passwords in the Reference Table Manager repository, upgrade contents of the Reference Table Manager repository. You must upgrade the repositories of all Reference Table Manager Services in the domain.

To upgrade the contents of the Reference Table Manager repository:

1. In the Navigator of the Administration Console, select a Reference Table Manager Service.

2. Disable the service.

3. Click the Actions tab.

4. Select Upgrade Contents.

5. Enter the user name and password to connect to the Reference Table Manager repository.

   The upgrade process can take a while to complete. You cannot interrupt or stop the upgrade process after you start it. Make sure that you provide enough time for the process to complete before you start any other process in the Administration Console.

6. To start the repository upgrade process, click OK.

7. When the upgrade process completes, the activity log displays the results. The upgrade is complete when the activity log displays the action status:

   ```
   Action status for Upgrade Contents: Succeeded
   ```

8. Click Close.

CHAPTER 6

Upgrading Data Analyzer

This chapter includes the following topics:

Overview

Complete the steps in this section if you upgrade from PowerAnalyzer 5.0.2 or Data Analyzer 8.1.1.

Install and configure PowerCenter Services before you start the Data Analyzer upgrade process. The Reporting Service, an application service in the PowerCenter domain, runs the Data Analyzer application. When you create a Reporting Service, you must specify the Data Analyzer repository you want to use.

To upgrade a Data Analyzer repository, create a Reporting Service and associate it with the Data Analyzer repository you want to upgrade. Then use the Reporting Service options to upgrade the Data Analyzer repository.

Use the Administration Console to perform the following Data Analyzer upgrade tasks:

1. **Create a license object.** If the PowerCenter domain does not have a PowerCenter 8.6.1 license object, create a license object using the license key. For more information, see "Step 1. Create a License Object" on page 66.

2. **Create a service.** Create a Reporting Service and specify the Data Analyzer repository. For more information, see "Step 2. Create a Reporting Service" on page 67.

3. **Back up the repository.** This ensures that you can recover the repository if you encounter problems during the upgrade process. For more information, see "Step 3. Back Up the Data Analyzer Repository" on page 67.

4. **Upgrade the repository.** Upgrade the contents of the Data Analyzer repository so the metadata is compatible with the Reporting Service objects. For more information, see "Step 4. Upgrade the Data Analyzer Repository" on page 68.

5. **Create LDAP security domains.** Optionally, if you upgrade Data Analyzer users to LDAP security domains, create the LDAP security domains before you upgrade the users and groups. For more information, see "Step 5. Set Up LDAP Security Domains (Optional)" on page 68.

6. **Upgrade the users and groups.** Upgrade the users and groups to the security domains you want to use for Data Analyzer groups and user accounts. For LDAP authentication, set up the LDAP security domains before you upgrade. For more information, see "Step 6. Upgrade Users and Groups" on page 69.

7. **Enable the Reporting Service.** When you enable the Reporting Service, the application server deploys the Data Analyzer files. For more information, see "Step 7. Enable the Reporting Service" on page 70.

8. **Upgrade reports.** After you upgrade Data Analyzer, you can upgrade Data Analyzer Data Profiling reports and PowerCenter Repository Reports. For more information, see "Step 8. Upgrade Reports" on page 70.

Note: For large Data Analyzer repositories, you can increase upgrade performance in the Administration Console by increasing the memory available to PowerCenter Services. For more information, see "PowerCenter Services Environment Variables" on page 24.

Step 1. Create a License Object

If the PowerCenter domain does not have a PowerCenter 8.6.1 license object, use a license key to create a license object for the Reporting Service. You cannot use a license key from a previous version of PowerCenter.

To create a license object:

1. Log in to the Administration Console.

2. Click Create > License.

3. Enter the following options:

Option	Description
Name	Name of the license. The name is not case sensitive and must be unique within the domain. The name cannot have leading or trailing spaces, include carriage returns or tabs, exceed 79 characters, or contain the following characters: / * ? < > " |
Description	Description of the license.
Location	Domain in which you create the license. Read-only field.
License File	File containing the original key. Click Browse to locate the license key file.

4. Click Create.

Use this license object when you create the Reporting Service.

Step 2. Create a Reporting Service

To create a Reporting Service that uses an existing Data Analyzer repository, complete the following steps:

1. In the Administration Console, create a Reporting Service.

    In the Reporting Service Repository Properties dialog box, specify the database type, host name, and port for the relational database that contains the Data Analyzer repository you want to upgrade. Then specify the database name for the repository and the user account to log in to the repository.

    If the Service Manager detects a previous version of the Data Analyzer repository, it displays the details of the repository and the following message:

    ```
    To use this repository with the Reporting Service, upgrade the repository contents and
    users and groups before starting the new Repository Service. Click Cancel to change the
    repository connection information.
    Use this repository for the Reporting Service?
    ```

2. Click OK to use the repository.

3. Specify the data source for the reports.

    Use the same primary data source that you used in the previous version of Data Analyzer. Or, you can select another data source. It you select another data source, make sure that the metadata in the Data Analyzer repository works with the schema in the new data source.

4. Complete the process of creating the Reporting Service.

After you create the Reporting Service, the properties of the Reporting Service display in the right pane with the following message:

```
You must upgrade the repository for this Reporting Service before you enable the
Reporting Service.
```

Step 3. Back Up the Data Analyzer Repository

Before you upgrade the Data Analyzer repository, back up the repository to ensure that you can recover the metadata if you encounter problems during upgrade.

To back up the Data Analyzer repository:

1. In the Navigator of the Administration Console, select the Reporting Service.

2. On the right pane, click the Actions tab.

3. Select Back Up Contents.

4. Enter a path and file name for the backup file.

    The backup file is created in the da_backups directory in the backup directory for the node where the Reporting Service runs.

5. If you use the same file name that you used for a previous backup file, select whether to replace the existing file with the new backup file.

    To overwrite an existing repository backup file, select Replace Existing File. If you specify a file name that already exists in the backup directory and you do not choose to replace the existing file, the Reporting Service does not back up the repository.

6. Click OK and wait until the backup process completes.

    The backup process can take a while. The activity log displays the details of the backup process.

When the backup process completes, the activity log displays the results. The backup is complete when the activity log displays the action status:

```
Action status for Backup Contents: Succeeded
```

7. Click Close.

Step 4. Upgrade the Data Analyzer Repository

To ensure that the metadata in a previous version of the Data Analyzer repository is compatible with the Reporting Service, upgrade the contents of the repository.

To upgrade the contents of the Data Analyzer repository:

1. In the Navigator of the Administration Console, select the Reporting Service created in Step 2 on page 67.

2. On the right pane, click the Actions tab.

3. Select Upgrade Contents.

The upgrade process can take a while to complete. You cannot interrupt or stop the upgrade process after you start it. Make sure that you provide enough time for the process to complete before you start any other processes in the Administration Console.

To back up the repository before you upgrade it, click Cancel and select Backup Contents on the Actions tab.

4. To start the repository upgrade process, click OK.

The upgrade process can take awhile to complete. The activity log displays the details of the upgrade process.

When the upgrade process completes, the activity log displays the results. The upgrade is complete when the activity log displays the action status:

```
Action status for Upgrade Contents: Succeeded
```

5. Click Close.

Step 5. Set Up LDAP Security Domains (Optional)

In PowerCenter 8.6.x, the Service Manager in the PowerCenter domain authenticates users. When you upgrade the users and groups in the Data Analyzer repository, the Service Manager moves them to the PowerCenter domain.

The users and groups in the PowerCenter domain are organized by security domains. By default, the PowerCenter domain has a native security domain for users created and managed in the Administration Console. The PowerCenter domain can also have LDAP security domains for users imported from an LDAP directory service. When you upgrade the Data Analyzer users and groups, you can add them to the native security domain or to LDAP security domains.

If the previous version of Data Analyzer used LDAP authentication and you want to continue using LDAP authentication for Data Analyzer users, create LDAP security domains in the PowerCenter domain. Synchronize the users and groups in the new security domains before you upgrade the users and groups in the Data Analyzer repository.

To upgrade users and groups to multiple LDAP security domains, run the user and group upgrade process multiple times.

Create LDAP security domains in the Security page of the Administration Console.

To set up LDAP authentication for the domain, complete the following steps:

1. In the Administration Console, go to the Security page and click the LDAP configuration icon.

2. Set up the connection to the LDAP server.

3. Create a security domain and configure the search bases and filters to match the LDAP users and groups in the Data Analyzer repository.

4. Synchronize the security domain to ensure that the security domain contains the same users and groups as the Data Analyzer repository.

Step 6. Upgrade Users and Groups

The Service Manager uses different rules to determine how to upgrade Data Analyzer users and groups to the native security domain or an LDAP security domain.

To upgrade Data Analyzer groups and user accounts:

1. In the Navigator of the Administration Console, select the Reporting Service created in Step 2 on page 67.

2. On the right pane, click the Actions tab.

3. Select Upgrade Users and Groups.

   The Service Manager displays a list of the security domains available in the PowerCenter domain.

   To move Data Analyzer users and groups into a security domain that does not appear in the list, click Cancel and go to the Security page to create a security domain. For more information about creating a security domain, see the *PowerCenter Administrator Guide*.

4. To start the upgrade process, select the security domain you want to use and click OK.

   The Service Manager displays the list of groups and user accounts to be upgraded. If there are conflicts in the user accounts, such as a duplicate user account in the native domain, you must select a resolution.

5. If you are upgrading Data Analyzer users and groups to the native security domain, select the appropriate options to resolve all upgrade conflicts and click OK.

   If you are upgrading Data Analyzer users and groups to an LDAP security domain, review the upgrade conflicts. To resolve any upgrade conflict, click Cancel. Fix the problems in the LDAP directory service and synchronize the LDAP security domain. Then run the upgrade process for the Data Analyzer users and groups again.

   The upgrade process can take a while. While the Service Manager upgrades the users and groups, the activity log displays the details of the upgrade process.

   When the upgrade process completes, the activity log displays the results. The upgrade is complete when the activity log displays the action status:

   ```
   Action status for Upgrade Users and Groups: Succeeded
   ```

6. Click Close.

RELATED TOPICS:

♦ "Understanding Upgrades to the Native Security Domain" on page 71
♦ "Understanding Upgrades to an LDAP Security Domain" on page 72

Step 7. Enable the Reporting Service

After you upgrade the Data Analyzer repository and user accounts, enable the Reporting Service. When you enable the Reporting Service, the application server deploys the Data Analyzer application files. If the Data Analyzer users and groups are in an LDAP security domain, the Service Manager synchronizes the security domain with the LDAP directory service. The process of deploying the files can take some time. Wait until the process is complete.

After the Data Analyzer application files are deployed, you can configure the Data Analyzer application to work in the same way as the previous version. Update the configuration files to match the settings in the previous version and restore the color scheme files and shared documents. Refresh the cached reports and table definitions. If you have custom applications that use the Data Analyzer SDK, see the *Data Analyzer SDK Guide*. If necessary, update the applications to use the latest version of the Data Analyzer SDK.

For more information about the tasks to complete after the Data Analyzer upgrade, see "Data Analyzer Post-Upgrade Tasks" on page 90.

Step 8. Upgrade Reports

To upgrade Data Analyzer Data Profiling Reports and PowerCenter Repository Reports, complete the following steps:

1. Create a Reporting Service in the Administration Console and specify the PowerCenter repository or Data Profiling warehouse as the data source.

   When you create the Reporting Service, the Reporting Service imports the PowerCenter Repository Reports or Data Analyzer Data Profiling reports into the Data Analyzer repository, depending on the data source you configure.

2. Start Data Analyzer and log in.

   The user account you use to log in must have the administrator privilege to export and import XML files.

3. Go to the Administration tab and select XML Export/Import.

4. Import the following objects you exported to the XML files into the Data Analyzer repository in the following order:
   - Schemas
   - Time dimensions
   - Global variables
   - Reports
   - Dashboards
   - Schedules

5. Remove obsolete metrics and attributes from the custom reports.

   For more information about the changes to reports, see the *PowerCenter Release Guide*.

6. If you made changes to packaged reports or schemas in a previous version of Data Analyzer, you must make the changes again.

For more information about importing objects into the Data Analyzer repository, see the *Data Analyzer Administrator Guide*.

After you complete the upgrade process, verify that the schemas, dashboards, and reports run properly in Data Analyzer. You can run and manage them like any other Data Analyzer schemas, dashboards, and reports.

Understanding Upgrades to the Native Security Domain

Upgrade Data Analyzer users and groups to the native security domain in the following situations:

♦ If the previous version of Data Analyzer used repository authentication and you want to continue maintaining the users and groups in the PowerCenter domain, upgrade the users and groups to the native security domain.

♦ If the previous version of Data Analyzer used LDAP authentication but you now want to maintain the users and groups in the PowerCenter domain, upgrade the users and groups to the native security domain.

Upgrade Conflict Resolution Options

If a user or group in the Data Analyzer repository exists in the native security domain, you can merge the user or group with the user or group in the native security domain or rename the user or group and add it to the security domain.

The following table describes the types of resolution that you can choose:

Resolution	Description
Merge with	Adds the privileges of the user or group in the Data Analyzer repository to the privileges of the user or group in the PowerCenter domain. The user account retains the password and properties of the account in the PowerCenter domain, including full name, description, email address, and phone number. The group retains the parent group and description of the group in the PowerCenter domain.
Rename to	Creates a group or user account with the group or user name you provide. The new group or user account takes the privileges and properties of the group or user in the Data Analyzer repository.
Migrate	Available for users and groups without conflict. Moves the Data Analyzer user or group to the PowerCenter domain. The user or group retains the privileges and properties of the user or group in the Data Analyzer repository.

For example, the PowerCenter domain has a JSmith user account and you upgrade a jsmith user account in the Data Analyzer repository. The following table shows the results of the upgrade:

Property	Value in PowerCenter Domain	Value in Data Analyzer Repository	Upgraded User Account in PowerCenter Domain
User Name	JSmith	jsmith	JSmith
Full Name	Jane Smith	Joe Smith	Jane Smith
Description	Engineer		Engineer
Email	JaneSmith@Acme.com	JoeSmith@Acme.com	JaneSmith@Acme.com
Privileges	View reports	Manage user access, Maintain schema	Manage user access, Maintain schema, View reports

Rules and Guidelines for Upgrading Native Users and Groups

Use the following rules and guidelines when you upgrade Data Analyzer users and groups to the native security domain:

♦ The names of upgraded users and groups must conform to the same rules as the names of users and groups in the PowerCenter domain. During the upgrade, the names of Data Analyzer users and groups that are not valid are modified to conform to the following rules:

– Any character in the user or group name that is not valid is replaced with an underscore. A numeric suffix is added to the name. For example, the user name *Tom*Jones* is modified to *Tom_Jones0*. The following characters are not valid for user or group names: , + " \ < > ; / * % ?

– If the new name with underscore and suffix exists in the native security domain, the suffix is incremented by one.

For more information about valid names for users and groups in the PowerCenter domain, see the *PowerCenter Administrator Guide*.

♦ Data Analyzer combines the user account name and security domain in the format *UserName@Native* to determine the length of the user account name. If the combination of *UserName@Native* exceeds 80 characters, then the user account name is shortened to 69 characters. A numeric suffix is added to the account name.

For example, the user account name is 75 characters long, starting with *A%C* and ending with *KLTUVWXYZ*. During the upgrade, the user name is modified to 70 characters that start with *A_C* and end with *KLT0*. If the new user account name exists in the security domain, the suffix is incremented by one.

You cannot upgrade a Data Analyzer user account in which the combination of *UserName@Native* exceeds 80 characters.

♦ Data Analyzer also combines the group name and security domain in the format *GroupName@Native* to determine the length of the group name. The rules for upgrading the user account name also apply to the group name.

♦ During the upgrade, any tab, carriage return, or character that is not valid in user or group descriptions is replaced with a space. The characters < > " are not valid in user and group descriptions. For example, the description *[<title>An example</title>]* is modified to *[title An example /title]*.

♦ User and group names are not case sensitive. A user account in the Data Analyzer repository with the name JSmith is a duplicate of a user account in the PowerCenter domain with the name jsmith.

♦ The user account with the name Administrator is the default administrator account in the PowerCenter domain. This account cannot be overwritten or modified during the upgrade process. If the Data Analyzer repository contains an account with the user name Administrator, the account in Data Analyzer is renamed to RSAdministrator during the upgrade process. If a user account with the name RSAdministrator exists in the PowerCenter domain, the account from the Data Analyzer repository is renamed RSAdministrator with a numeric suffix.

♦ Role names are not case sensitive. A role in the Data Analyzer repository with the name *Acct Schema Designer* is a duplicate of a role in the PowerCenter domain with the name *Acct schema designe*r. A role in the Data Analyzer repository that is a duplicate of a role in the PowerCenter domain is not upgraded.

♦ If the name of a role in the Data Analyzer repository is the same as a role in the PowerCenter domain the privileges of both roles are combined.

Understanding Upgrades to an LDAP Security Domain

If the previous version of Data Analyzer used LDAP authentication and you want to continue maintaining the users and groups in the LDAP directory service, upgrade the users and groups to an LDAP security domain. To upgrade to multiple LDAP security domains, run the user and group upgrade process multiple times.

If the previous version of Data Analyzer used repository authentication, you cannot upgrade the users and groups to an LDAP security domain.

Upgrade Conflicts

The Service Manager determines whether an LDAP user or group can be upgraded to the LDAP security domain. You cannot resolve upgrade conflicts for LDAP users and groups during the upgrade process. You must resolve conflicts in the LDAP directory service.

The Service Manager upgrades LDAP users and groups that exist in the LDAP security domain. You cannot upgrade a user or group in the Data Analyzer repository that does not exist in the LDAP security domain. To

add the users and groups to the LDAP security domain, add them to the LDAP directory service. Then synchronize the LDAP security domain.

By default, when you upgrade Data Analyzer users and groups that exist in the LDAP security domain, the Service Manager merges the user or group in the Data Analyzer repository with the user or group in the LDAP security domain. The Service Manager adds the privileges of the user or group in the Data Analyzer repository to the privileges of the user or group in the LDAP security domain. The user account retains the password and properties of the account in the LDAP security domain. The group retains the parent group and description of the group in the LDAP security domain.

Rules and Guidelines for Upgrading LDAP Users and Groups

Use the following rules and guidelines when you upgrade Data Analyzer users and groups to an LDAP security domain:

♦ You can create multiple LDAP security domains in the Administration Console. The user and group search bases and filters you set up in an LDAP security domain for Data Analyzer determine which users and groups in the Data Analyzer repository are upgraded. The users and groups in the Data Analyzer repository that are not included in the users and groups in an LDAP security domain are not upgraded. Run the upgrade process again to upgrade them to another LDAP security domain.

♦ Data Analyzer combines the user or group name and security domain name in the format *UserName@SecurityDomain* to determine the length of the user account name. You cannot upgrade a user or group if the combination of the user or group name and LDAP security domain exceeds 79 characters.

♦ You cannot upgrade users and groups to an LDAP security domain if the name of the security domain exceeds 70 characters.

♦ If the namespace is greater than 70 characters, the namespace users will not be migrated.

♦ If you upgrade a user account with the name *admin* to an LDAP security domain, the user account loses all permissions and privileges assigned to it in Data Analyzer. After the upgrade, you must assign the appropriate permissions and privileges to the admin account in the LDAP security domain.

♦ If you upgrade users and groups to an LDAP security domain and not all users and groups are successfully upgraded, review the users and groups search bases and filters you set up for the security domain. You can rerun the user and group upgrade process until all users and groups are upgraded.

♦ To ensure that the Data Analyzer repository contains the latest list of users and groups from the LDAP directory service, synchronize the Data Analyzer users and groups with the LDAP directory service before you upgrade users and groups.

C H A P T E R 7

Upgrading Metadata Manager

This chapter includes the following topics:

Overview

This chapter describes the tasks you must complete to upgrade Metadata Manager. Perform upgrade tasks based on the version of Metadata Manager you upgrade.

Metadata Manager Upgrade Steps

Use the Administration Console to perform the Metadata Manager upgrade tasks.

If you upgrade from Metadata Manager 8.1.1, install and configure PowerCenter Services before you start the Metadata Manager upgrade process. To upgrade a Metadata Manager repository, create a Metadata Manager Service and associate it with the Metadata Manager repository you want to upgrade. Then use the Metadata Manager options to upgrade the Metadata Manager repository.

If you upgrade from Metadata Manager 8.5.x or 8.6, install PowerCenter Services, upgrade the repository, restore Metadata Manager Service files, and enable the Metadata Manager Service.

Before you upgrade Metadata Manager, complete the post-installation steps for the version you upgrade. For more information, see "Post-Installation Tasks" on page 7.

The following table describes the Metadata Manager upgrade tasks:

8.1.1	8.5.x	8.6	Description
1			Create a license object. For more information, see "Create a License Object" on page 76.
2			Create the Metadata Manager Service. For more information, see "Create a Metadata Manager Service" on page 77.
3	1	1	Upgrade the repository. For more information, see "Upgrade the Metadata Manager Repository" on page 78.
	2	2	Restore the Metadata Manager Service files. For more information, see "Restore Metadata Manager Service Files" on page 79.
4			Create an LDAP security domain (Optional). For more information, see "Set Up an LDAP Security Domain (Optional)" on page 79.
5			Upgrade the users and groups. For more information, see "Upgrade Users and Groups" on page 80.
6	3	3	Enable the Metadata Manager Service. For more information, see "Enable the Metadata Manager Service" on page 80.

Create a License Object

Step 1. Upgrade 8.1.1

Use a license key to create a license object for the Metadata Manager Service. You cannot use a license key for a previous version of PowerCenter.

To create a license object:

1. Log in to the Administration Console.

2. Click Create > License.

3. Enter the following options:

Option	Description
Name	Name of the license. The name is not case sensitive and must be unique within the domain. The name cannot have leading or trailing spaces, include carriage returns or tabs, exceed 79 characters, or contain the following characters: / * ? < > "	
Description	Description of the license.
Location	Domain in which you create the license. Read-only field.
License File	File containing the original key. Click Browse to locate the license key file.

You must use an original 8.6.1 license key to create a license.

4. Click Create.

Use this license object when you create the Metadata Manager Service.

For more information about creating a license, see the *PowerCenter Administrator Guide*.

Create a Metadata Manager Service

Step 2. Upgrade 8.1.1

The Metadata Manager Service requires the following service and repositories:

♦ **Repository Service and Integration Service.** You can use an existing Repository Service and Integration Service, or you can create them. If you use a new Integration Service and you create the Repository Server, do not create the contents for the repository.

♦ **Metadata Manager repository.** This is the repository that you plan to upgrade in this process.

When you create a Metadata Manager Service, you must provide information for the Integration Service and Repository Server that you want to use. You must provide the database information for the Metadata Manager repository you are upgrading.

Create the Metadata Manager Service using the license object you created in "Create a License Object" on page 76.

To create a Metadata Manager Service:

1. In the Administration Console, click Create > Metadata Manager Service.

2. Enter values for the Metadata Manager Service properties.

3. Enter a name for the service and select the node where it will run.

4. Enter the values for the following properties of the Integration Service and PowerCenter repository you plan to use with Metadata Manager Service:

Property	Description
Associated Integration Service	Integration Service used by Metadata Manage to load metadata into the Metadata Manager warehouse.
Repository User Name	User account for a PowerCenter repository associated with the Integration Service. Use the repository user account you configured for the Repository Service.
Repository Password	Password for the PowerCenter repository user.
Security Domain	Security domain that contains the user account configured for the Repository Service.

5. Enter the values for the following properties of the Metadata Manager repository you want to upgrade:

Property	Description
Database Type	Type of database for the Metadata Manager repository.
CodePage	Metadata Manager repository code page. The Metadata Manager Service and Metadata Manager use the character set encoded in the repository code page when writing data to the repository.
ConnectString	Native connect string to the Metadata Manager repository database. The Metadata Manager Service uses the connect string to create a connection object to the Metadata Manager repository in the PowerCenter repository.
DBUser	User account for the Metadata Manager repository database.
DBPassword	Password for the Metadata Manager repository database user. Must be in 7-bit ASCII.
Tablespace Name	Tablespace name for Metadata Manager repositories on IBM DB2.
Database Host Name	Host name for the Metadata Manager repository database.

Property	Description
Database Port	Port number for the Metadata Manager repository database.
Database Name	Service name for Oracle or IBM DB2 databases. Database name for Microsoft SQL Server or Sybase ASE databases.
Port Number	Port number the Metadata Manager application runs on. Default is 10250.

6. Enter the port number that the Metadata Manager application runs on.

7. Enter the security protocol for the Metadata Manager application.

8. If you select the HTTPS URL scheme, enter the path and file name of the keystore file for SSL certificate.

9. Click Create.

Upgrade the Metadata Manager Repository

Step 3. Upgrade 8.1.1
Step 1. Upgrade 8.5.x
Step 1. Upgrade 8.6

To ensure that the metadata in a previous version of the Metadata Manager repository is compatible with the Metadata Manager Service, upgrade the contents of the repository.

To upgrade the contents of the Metadata Manager repository:

1. In the Navigator of the Administration Console, select the Metadata Manager Service you created or select an existing Metadata Manager Service.

2. On the right pane, click the Actions tab.

3. Select Upgrade Contents.

4. Enter the database user name and password for the Metadata Manager repository.

5. Click OK to start the upgrade process.

   Important: A message warns that upgrading the Metadata Manager repository can take several hours to complete. Do not interrupt or stop the upgrade process after you start it or navigate away from the Metadata Manager upgrade page in the Administration Console.

6. Click OK to continue.

   The activity log shows the actions performed during the upgrade process. When the upgrade process completes, the activity log displays the results.

7. Click Close.

Restore Metadata Manager Service Files

Step 2. Upgrade 8.5.x
Step 2. Upgrade 8.6

When you upgrade PowerCenter Services, the installer backs up all files required by the Metadata Manager application. Before you enable the Metadata Manager Service, you must restore the required files. The files are located in the mm_files directory in the following location:

```
<PowerCenterInstallationDirectory>\server_Bak_from_<version>\tomcat
```

Restore the files to the following location:

```
<PowerCenterInstallationDirectory>\server\tomcat
```

You must restore the entire mm_files directory.

Set Up an LDAP Security Domain (Optional)

Step 4. Upgrade 8.1.1

In PowerCenter 8.6.1, the Service Manager in the PowerCenter domain authenticates users. When you upgrade the users and groups in the Metadata Manager repository, the Service Manager moves them to the PowerCenter domain.

The users and groups in the PowerCenter domain are organized by security domain. By default, the PowerCenter domain has a native security domain for users created and managed in the Administration Console. The PowerCenter domain can also have LDAP security domains for users imported from an LDAP directory service. When you upgrade the Metadata Manager users and groups, you can add them to the native security domain or an LDAP security domain.

If the previous version of Metadata Manager used LDAP authentication and you want to continue using LDAP authentication for Metadata Manager users in the new version, create an LDAP security domain in the PowerCenter domain. Ensure that the user and group search bases and filters you set up in the new security domain matches the user and group search bases and filters for the LDAP users and groups in the Metadata Manager repository. Synchronize the users and groups in the new security domain before you upgrade the users and groups in the Metadata Manager repository.

Create the LDAP security domain in the Security page of the Administration Console.

To set up LDAP authentication for the domain, complete the following steps:

1. In the Administration Console, go to the Security page and click the LDAP configuration icon.

2. Set up the connection to the LDAP server.

3. Create a security domain and configure the search bases and filters to match the LDAP users and groups in the Metadata Manager repository.

4. Synchronize the security domain to ensure that the security domain contains the same users and groups as the Metadata Manager repository.

For more information about creating an LDAP security domain, see the *PowerCenter Administrator Guide*.

Upgrade Users and Groups

Step 5. Upgrade 8.1.1

The Service Manager uses different rules to determine how to upgrade Metadata Manager users and groups to the native security domain or an LDAP security domain.

Follow the same procedure to upgrade Metadata Manager users and groups to the native security domain or to an LDAP security domain.

To upgrade Metadata Manager groups and user accounts:

1. In the Navigator of the Administration Console, select the Metadata Manager Service you created.

2. On the right pane, click the Actions tab.

3. Select Upgrade Users and Groups.

    The Service Manager displays a list of the security domains available in the PowerCenter domain.

    To move Metadata Manager users and groups into a security domain that does not appear in the list, click Cancel and go to the Security page to create a security domain. Then start the Metadata Manager user upgrade process again. For more information about creating a security domain, see the *PowerCenter Administrator Guide*.

4. Select the security domain to store the Metadata Manager users and groups.

5. Enter the database user name and password for the Metadata Manager repository.

6. Click OK.

    The Service Manager displays the list of groups and user accounts to be upgraded. If there are conflicts in the user accounts, such as a duplicate user account in the native domain, you must select a resolution.

7. If you are upgrading Metadata Manager users and groups to the native security domain, select the appropriate options to resolve all upgrade conflicts and click OK.

    If you are upgrading Metadata Manager users and groups to an LDAP security domain, review the upgrade conflicts. To resolve any upgrade conflict, click Cancel. Fix the problems in the LDAP directory service and synchronize the LDAP security domain. Then run the upgrade process for the Metadata Manager users and groups again.

    The upgrade process can take awhile. The activity log displays the details of the upgrade process.

    The upgrade is complete when the activity log displays the action status:

    ```
    Action status for Upgrade Users and Groups: Succeeded
    ```

8. Click Close.

Enable the Metadata Manager Service

Step 6. Upgrade 8.1.1
Step 3. Upgrade 8.5.x
Step 3. Upgrade 8.6

After you upgrade the Metadata Manager repository, enable the Metadata Manager Service. When you enable the Metadata Manager Service, the Service Manager imports the required PowerCenter objects into the PowerCenter repository.

Use the Administration Console to enable the Metadata Manager Service. In the Navigator of the Administration Console, select the Metadata Manager Service you created or the existing Metadata Manager Service and click Enable.

Note: If you upgrade from Metadata Manager 8.5.x or 8.6, you must delete the mm and mmhelp directories from the following directory before you enable the Metadata Manager Service:

```
<PowerCenterInstallationDirectory>\server\tomcat\mmapps\
```

After you enable the service, complete the Metadata Manager post-upgrade tasks. For more information about the tasks to complete after the Metadata Manager upgrade, see "Metadata Manager Post-Upgrade Tasks" on page 92.

Understanding Upgrades to the Native Security Domain

If the previous version of Metadata Manager used repository authentication and you want to continue maintaining the users and groups in the PowerCenter domain, upgrade the users and groups to the native security domain.

Upgrade Conflict Resolution Options

If a user or group in the Metadata Manager repository exists in the native security domain, you can merge the user or group with the user or group in the native security domain or rename the user or group and add it to the security domain.

The following table describes the types of resolution that you can choose:

Resolution	Description
Merge with	Adds the privileges of the user or group in the Metadata Manager repository to the privileges of the user or group in the PowerCenter domain. The user account retains the password and properties of the account in the PowerCenter domain, including full name, description, email address, and phone. The group retains the parent group and description of the group in the PowerCenter domain.
Rename to	Creates a group or user account with the group or user name you provide. The new group or user account takes the privileges and properties of the group or user in the Metadata Manager repository.
Migrate	Available for users and groups without conflict. Moves the Metadata Manager user or group to the PowerCenter domain. The user or group retains the privileges and properties of the user or group in the Metadata Manager repository.

For example, the PowerCenter domain has a JSmith user account and you upgrade a jsmith user account in the Metadata Manager repository. The following table shows the results of the upgrade:

Property	Value in PowerCenter Domain	Value in Metadata Manager Repository	Upgraded User Account in PowerCenter Domain
User Name	JSmith	jsmith	JSmith
Full Name	Jane Smith	Joe Smith	Jane Smith
Description	Engineer		Engineer
Email	JaneSmith@Acme.com	JoeSmith@Acme.com	JaneSmith@Acme.com
Privileges	View reports	Manage user access, Maintain schema	Manage user access, Maintain schema, View reports

Rules and Guidelines for Upgrading Native Users and Groups

Use the following rules and guidelines when you upgrade Metadata Manager users and groups to the native security domain:

♦ The names of upgraded users and groups must conform to the same rules as the names of users and groups in the PowerCenter domain. During the upgrade, the names of Metadata Manager users and groups that are not valid are modified to conform to the following rules:

– Any character in the user or group name that is not valid is replaced with an underscore. A numeric suffix is added to the name. For example, the user name Tom*Jones is modified to Tom_Jones0. The following characters are not valid for user or group names: , + " \ < > ; / * % ?

– If the new name with underscore and suffix exists in the native security domain, the suffix is incremented by one.

– If a user or group name exceeds 80 characters, the name is shortened to 75 characters plus a numeric suffix. For example, a user name has 82 characters that start with A%C and end with QRSTUVWXYZ. During the upgrade, the user name is modified to 76 characters that start with A_C and ends with QRS0. If the name exists in the security domain, the suffix is incremented by one. If the modified name exceeds 80 characters, the user account is not upgraded.

For more information about valid names for users and groups in the PowerCenter domain, see the *PowerCenter Administrator Guide*.

♦ During the upgrade, any tab, carriage return, or character that is not valid in user or group descriptions is replaced with a space. The characters < > " are not valid in user and group descriptions. For example, the description *[<title>An example</title>]* is modified to *[title An example /title]*.

♦ The user and group names are not case sensitive. A user account in the Metadata Manager repository with the name JSmith is a duplicate of a user account in the PowerCenter domain with the name jsmith.

Understanding Upgrades to the LDAP Security Domain

If the previous version of Metadata Manager used LDAP authentication and you want to continue maintaining the users and groups in the LDAP directory service, upgrade the users and groups to an LDAP security domain.

If the previous version of Metadata Manager used repository authentication, you cannot upgrade the users and groups to an LDAP security domain.

Upgrade Conflicts

The Service Manager determines whether an LDAP user or group can be upgraded to the LDAP security domain. You cannot resolve upgrade conflicts for LDAP users and groups during the upgrade process. You must resolve conflicts in the LDAP directory service.

The Service Manager upgrades LDAP users and groups that exist in the LDAP security domain. You cannot upgrade a user or group in the Metadata Manager repository that does not exist in the LDAP security domain. To add the users and groups to the LDAP security domain, add them to the LDAP directory service. Then synchronize the LDAP security domain.

By default, when you upgrade Metadata Manager users and groups that exist in the LDAP security domain, the Service Manager merges the user or group in the Metadata Manager repository with the user or group in the LDAP security domain. The Service Manager adds the privileges of the user or group in the Metadata Manager repository to the privileges of the user or group in the LDAP security domain. The user account retains the password and properties of the account in the LDAP security domain. The group retains the parent group and description of the group in the LDAP security domain.

Rules and Guidelines for Upgrading LDAP Users and Groups

Use the following rules and guidelines when you upgrade Metadata Manager users and groups to an LDAP security domain:

♦ The user and group search bases and filters that you set up in the LDAP security domain for Metadata Manager must match the user and group search bases and filters set up for the LDAP users and groups in the previous version of Metadata Manager. If the user and group search bases and filters do not match, the users and groups that are not included in the LDAP security domain are not upgraded.

♦ If you upgrade a user account with the name *admin* to an LDAP security domain, the user account loses all permissions and privileges assigned to it in Metadata Manager. After the upgrade, you must assign the appropriate permissions and privileges to the admin account in the LDAP security domain.

CHAPTER 8

After You Upgrade

This chapter includes the following topics:

- PowerCenter Post-Upgrade Tasks, 85
- Data Analyzer Post-Upgrade Tasks, 90
- Metadata Manager Post-Upgrade Tasks, 92

PowerCenter Post-Upgrade Tasks

If you upgrade from PowerCenter version 8.6 to a mixed-version domain, verify that you upgraded the first gateway node successfully before you upgrade the other nodes in the domain.

If you upgrade from a PowerCenter version earlier than 8.5, complete the post-upgrade steps required for your version of PowerCenter.

The post-upgrade tasks you perform depend on the PowerCenter version you upgrade. The following table describes the upgrade tasks, depending on the version you upgrade:

Upgrade 7.x	Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Task
1	1			Configure and enable Integration Services. For more information, see "Configure and Enable Integration Services" on page 86.
2				Upgrade to a Unicode repository. Upgrade an existing repository to a Unicode repository. For more information, see "Upgrade to a Unicode Repository" on page 86.
3				Move run-time files to the installation directory and configure PowerCenter. For more information, see "Configure PowerCenter Run-time Files" on page 87.
4	2			Configure the Web Services Hub. For more information, see "Configure the Web Services Hub" on page 87.
	3			Update shared directory for the service logs. For more information, see "Update Service Logs Directory" on page 88.
5	4			Configure Informatica Services. For more information, see "Configure Informatica Services" on page 88.
6	5			Recreate ODBC connections to use new drivers. For more information, see "Create ODBC Connections" on page 88.

Upgrade 7.x	Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Task
			1	After you upgrade the first gateway node to a mixed version domain, verify that the upgrade was successful. For more information, see "Verify the Upgrade of the First Gateway Node" on page 88.
	6	1	2	Update the repository with the latest plug-in registration files. For more information, see "Update Plug-ins" on page 89.

Configure and Enable Integration Services

Step 1. Upgrade 7.x
Step 1. Upgrade 8.1.1

Perform the required steps for the version you upgrade before you enable the Integration Service.

Rename the Integration Service (Version 8.1.1)

If the Integration Service has the same name as the domain, recreate the Integration Service. Effective in 8.5, you cannot have services in the domain that have the same name as the domain.

Associate Linked Domains (Version 8.1.1)

If you used a linked domain repository in the previous installation, specify a repository that exists in the domain for the associated repository of the Integration Service. Effective in 8.5, you cannot associate an Integration Service in the local PowerCenter domain with a Repository Service in another PowerCenter domain. When you upgrade a domain, the Integration Service loses the linked domain repository association.

Verify Repository Database User (Versions 7.x and 8.1.1)

Verify the repository database user information for each Integration Service. When you upgrade users, you can change user information or associate LDAP users with a security domain. Verify that the repository user information specified for the associated repository of the Integration Service is still valid.

Complete one of the following tasks for the repository user based on the repository user type and upgrade method:

User Type	Upgrade Method	Task Description
LDAP User	Upgraded	Specify the security domain for the repository user.
LDAP User	Skipped	Specify a new repository user for the associated repository.
Repository User	Merged	Update the repository user name and password.
Repository User	Renamed	Update the repository user name.

RELATED TOPICS:

Upgrade to a Unicode Repository

Step 2. Upgrade 7.x

Effective in version 8.1, you can store metadata in multiple languages in a Unicode repository. If you want to upgrade an existing repository to a Unicode repository, back up the upgraded repository. Create a UTF-8 database and restore the repository backup file to the new database.

For more information about code page compatibility and backing up and restoring a repository in PowerCenter, see the *PowerCenter Administrator Guide*.

Configure PowerCenter Run-time Files

Step 3. Upgrade 7.x

PowerCenter 7.x

When you upgrade the PowerCenter Server from an Integration Service, the upgrade process sets the value of the $PMRootDir service process variable for the Integration Service process to the value in the PowerCenter Server configuration file.

Complete the following steps to access the files within the new installation:

1. Move the files to server\infa_shared directory under the PowerCenter Services installation directory.
2. Update $PMRootDir for the Integration Service process in the Administration Console.

If you upgraded the PowerCenter Server to an Integration Service on the same machine, the Integration Service can access the files if you do not move them.

Note: If you have the high availability option, PowerCenter requires the $PMRootDir\Storage directory for the state of operation files. If this directory does not exist, you must create it. You can also configure the $PMStorageDir Integration Service property to point to location of the storage directory you create.

Configure the Web Services Hub

Step 4. Upgrade 7.x
Step 2. Upgrade 8.1.1

Create and Configure the Web Services Hub (Version 7.x)

Create the Web Services Hub in the Administration Console. Use the settings in the Web Services Hub configuration file of PowerCenter 7.x as reference when you configure the Web Services Hub. The Web Services Hub configuration file in PowerCenter 7.x is named WSHConfig.xml and located in the WSH_HOME/config directory. For more information, see the *PowerCenter Administrator Guide*.

Update Client Applications (Version 7.x)

Update web service workflows and client applications to use the new Web Services Hub. Use the Web Services Hub Console to download the WSDL for the web services. For more information, see the *PowerCenter Release Guide* and the *PowerCenter Web Services Provider Guide*.

Associate Linked Domains (Version 8.1.1)

If you used a linked domain repository in the previous installation, specify a repository that exists in the domain for the associated repository of the Web Service Hub. Effective in 8.5, you cannot associate the Web Service Hub in the local PowerCenter domain with a Repository Service in another PowerCenter domain. When you upgrade a domain, the Web Services Hub loses the linked domain repository association.

Verify Repository Database User (Versions 7.x and 8.1.1)

Verify the repository database user information for each associated repository. When you upgrade users, you can change user information or associate LDAP users with a security domain. Verify that the repository user information specified for the associated repository of the Web Services Hub is still valid.

The following table describes the task to complete based on the user type and upgrade method:

User Type	Upgrade Method	Task Description
LDAP User	Upgraded	Specify the security domain for the repository user.
LDAP User	Skipped	Specify a new repository user for the associated repository.
Repository User	Merged	Update the repository user name and password.
Repository User	Renamed	Update the repository user name.

RELATED TOPICS:
♦ "Upgrade Users and Groups" on page 57

Update Service Logs Directory

Step 3. Upgrade 8.1.1

When you upgrade the domain, the shared directory location points to the previous location. For example, if you used server/infa_shared/logs directory to store log event files, the current setting for the service logs will point to the previous installation directory.

Configure the shared directory to point to the server/infa_shared/logs directory in the new installation directory. For more information about configuring the service log shared directory, see the *PowerCenter Administrator Guide*.

Configure Informatica Services

Step 5. Upgrade 7.x
Step 4. Upgrade 8.1.1

When you upgrade PowerCenter, you install Informatica Services. On Windows, you can configure the service behavior when the operating system starts or when the service fails, and configure the user account that logs on to the service.

RELATED TOPICS:
♦ "Configuring Informatica Services" on page 137

Create ODBC Connections

Step 6. Upgrade 7.x
Step 5. Upgrade 8.1.1

The PowerCenter Client includes DataDirect 5.2 ODBC drivers. Recreate ODBC connections to use the new drivers.

Verify the Upgrade of the First Gateway Node

Step 1. Upgrade 8.6

When you upgrade PowerCenter 8.6 to a PowerCenter 8.6.1 domain that can run multiple versions of application service, the first node you upgrade must be a gateway node. After you upgrade the first gateway node, verify that the upgrade was successful before you upgrade the other nodes in the domain.

To verify that the node was successfully upgraded, log in to the Administration Console and verify that the services on the node are running.

If the first gateway node was not upgraded successfully and you upgrade the rest of the nodes, the services in all the nodes will be upgraded to version 8.6.1.

Note: After you upgrade all the nodes in a domain and you want to run the domain with multiple service versions, start Informatica Services on a gateway node that runs multiple service versions before you start Informatica Services on other nodes.

Update Plug-ins

Step 6. Upgrade 8.1.1
Step 1. Upgrade 8.5.x
Step 2. Upgrade 8.6

The following table list the registration files that you need to update after you upgrade an existing PowerCenter installation:

Plug-in File	Description	8.1.1	8.5	8.5.1	8.6
httptransform.xml	- Updates the HTTP transformation Requires Single Thread per Partition property. - Updates the HTTP transformation recovery properties.	X	X	X	
pmjtx.xml	- Updates the Java transformation Requires Single Thread per Partition property. - Updates the Java transformation recovery properties.	X	X	X	
pmjms.xml	- Enables real-time streaming from JMS to the XML Parser transformation. - Enables support for JMS resilience.	X	X	X	X
pmsqlt.xml	- Updates the SQL transformation Requires Single Thread per Partition property. - Updates the SQL transformation recovery properties.	X	X	X	
pmuniontransform.xml	- Updates the Union transformation Requires Single Thread per Partition property.		X		
pmudt.xml	- Updates the Unstructured Data transformation Requires Single Thread per Partition property. - Updates the Unstructured Data transformation recovery properties.	X	X	X	
pmwsconsumer.xml	- Updates the Web Service Consumer transformation recovery properties.	X	X	X	
pmxmlmgep.xml	- Updates the XML Parser transformation recovery properties. - Updates the XML Parser transformation Requires Single Thread per Partition property. - Updates the XML Generator transformation Requires Single Thread per Partition property.	X	X	X	

Complete the following steps to update the repository with registration files:

1. Configure the Repository Service to run in exclusive mode.

2. Connect to the Repository Service with the *pmrep* Connect command using a user account with Admin Repository privilege.

3. Locate the plug-in registration file name in the following location:

   $INFA_ROOT\server\bin\native

   Note: $INFA_ROOT is the PowerCenter installation directory.

4. Use the *pmrep* RegisterPlugin command to update the repository.

   The RegisterPlugin command uses the following syntax:

   ```
   registerplugin -i <input_registration_file_name_or_path> -e -N
   ```

5. Repeat steps 3 to 4 for each registration file that you need to update the repository with.

Data Analyzer Post-Upgrade Tasks

Before you perform the post-upgrade tasks, enable the Reporting Service to deploy the Data Analyzer application files.

To complete the upgrade process for Data Analyzer, complete the following steps:

1. **Update the DataAnalyzer.properties.** Modify the values of the properties in the DataAnalyzer.properties file so that the Data Analyzer application has the same settings the previous version. For more information, see "Step 1. Update DataAnalyzer.properties" on page 90.

2. **Update the custom color schemes.** Restore the color schemes in Data Analyzer to match the color scheme and logo in the previous version. For more information, see "Step 2. Update the Custom Color Schemes" on page 91.

3. **Update the cached reports.** To ensure that Data Analyzer has the latest data in the existing reports and dashboard indicators, log in to Data Analyzer and run the cached reports to refresh the data for the reports and indicators. For more information, see "Step 3. Update the Cached Reports" on page 91.

4. **Update the location of shared documents.** If the location of shared documents has changed, update the URL address for all shared documents. For more information, see "Step 4. Update the Location of Shared Documents" on page 91.

5. **Refresh the PowerCenter table definitions.** If you use PowerCenter table definitions, refresh the table definitions to view PowerCenter metadata in the Data Analyzer reports. For more information, see "Step 5. Refresh the PowerCenter Table Definitions" on page 92.

6. **Update applications that use the Data Analyzer SDK.** The latest version of the Data Analyzer SDK works with the new features in Data Analyzer. You can update your web application to support the features in the latest version of Data Analyzer. For more information, see "Step 6. Update Applications that Use the Data Analyzer SDK" on page 92.

Step 1. Update DataAnalyzer.properties

Locate the DataAnalyzer.properties configuration file that you copied into a temporary folder before you started the upgrade process.

Customize the newly installed DataAnalyzer.properties file to match any customization you made in the previous version.

To update DataAnalyzer.properties, complete the following steps:

1. Locate DataAnalyzer.properties for the new Reporting Service.

   DataAnalyzer.properties is located in the following directory:

```
<Node>/Informatica/PowerCenter<Version>/server/tomcat/jboss/server/informatica/ias/<Serv
iceName>/properties
```

2. Modify the values of the properties in the file to match the properties you customized in the previous version of Data Analyzer.

   For more information about the properties that you can customize in the DataAnalyzer.properties file, see the *Data Analyzer Administrator Guide*.

3. Restart the Reporting Service for the changes to take effect.

Step 2. Update the Custom Color Schemes

To use the same logo and custom color schemes after you upgrade Data Analyzer, locate the color scheme files that you copied into a temporary folder before you started the upgrade process.

To update the custom color schemes, complete the following steps:

1. Copy the color scheme files to the following directory:

```
<Node>/Informatica/PowerCenter<Version>/tomcat/jboss/server/informatica/ias/<ServiceName>
```

2. Restart the Reporting Service.

3. Set up the custom color scheme in the Color Schemes and Logos section of the Administration tab in Data Analyzer.

For more information about setting up color schemes in Data Analyzer, see the *Data Analyzer Administrator Guide*.

Step 3. Update the Cached Reports

The repository upgrade process updates the Data Analyzer schedules but does not update the cached reports in the schedules. Manually update the cached reports.

Run the cached reports to update the data for the reports and indicators in Data Analyzer.

To update the cached reports:

1. Log in to Data Analyzer with Data Analyzer administration privileges.

2. Click Administration > Scheduling > Time-Based Schedules.

3. Click Run Now for each time-based schedule in the list.

   Data Analyzer queues all the cached reports and runs them on the time-based schedule. Depending on the number of cached reports, the process can take a while.

4. Click Administration > Scheduling > Event-Based Schedules.

5. Click Run Now for each event-based schedule in the list.

   Data Analyzer queues all the reports and runs them on the event-based schedule. Depending on the number of cached reports, the process can take a while.

6. Verify that the reports display correctly.

Step 4. Update the Location of Shared Documents

Locate the shared document files that you copied into a temporary folder before you started the upgrade process. Copy shared document files into a web server directory accessible from the new instance of Data Analyzer. Log in to Data Analyzer and specify the new file location. Update the URL address for all shared documents in Data Analyzer. For more information about the location of shared documents in Data Analyzer, see the *Data Analyzer User Guide*.

Step 5. Refresh the PowerCenter Table Definitions

If you use a PowerCenter repository as a data source, refresh the table definitions imported from the PowerCenter data source after you upgrade the Data Analyzer repository.

If you do not refresh the table definitions, Data Analyzer cannot display attribute and metric information for any report that uses attributes and metrics from PowerCenter schemas. For more information about the attribute and metric information displayed for a report, see the *Data Analyzer User Guide*.

To refresh the PowerCenter table definitions:

1. Log in to Data Analyzer with Data Analyzer administration privileges.

2. Click Administration > Schema Design > Table Definitions.

3. Click Refresh Tables.

   The Refresh Tables page displays the list of data sources available in Data Analyzer. The pound symbol (#) before the data source name indicates a PowerCenter data source.

4. Select the data source for the PowerCenter tables.

   The list of tables definitions from the selected data source appears.

5. Click OK to refresh all the table definitions.

   If you do not want to refresh all the table definitions, select the tables that you want to refresh and click OK.

Step 6. Update Applications that Use the Data Analyzer SDK

The latest version of the Data Analyzer SDK works with the new features in Data Analyzer. To use the new features in the latest version of Data Analyzer, update your web applications.

If you use the Data Analyzer SDK to display Data Analyzer dashboards and reports in your own application or web portal, verify that your application code displays the Data Analyzer dashboards and reports correctly. For more information about how to use the latest version of the Data Analyzer SDK, see the *Data Analyzer SDK Guide*.

For more information about how to upgrade your portal application to use the Data Analyzer API and Portal Integration kit, see the *Data Analyzer SDK Guide*.

Metadata Manager Post-Upgrade Tasks

The post-upgrade tasks you perform depend on the Metadata Manager version you upgrade.

Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Task
1	1	1	Download and install the Metadata Manager Agent. For more information, see "Download and Install the Metadata Manager Agent" on page 93.
2			Regenerate the templates and PowerCenter workflows for custom resources. For more information, see "Regenerate the Template and PowerCenter Workflows" on page 93.
3			Import the custom PowerCenter workflows. For more information, see "Import the Custom PowerCenter Workflows" on page 94.
4			Import saved schemas, dashboard, and report objects into a Data Analyzer repository. For more information, see "Import Saved Schema, Dashboard, and Report Objects" on page 94.

Upgrade 8.1.1	Upgrade 8.5.x	Upgrade 8.6	Task
5			Update the Metadata Manager resources. For more information, see "Update the Metadata Manager Resources" on page 95.
		2	Update the configuration of the PowerCenter resources. For more information, see "Update the Configuration of the PowerCenter Resources" on page 96.
6	2	3	Update the Metadata Manager index files. For more information, see "Update the Metadata Manager Index Files" on page 96.

Before you complete the post-upgrade tasks, verify that you have enabled the Metadata Manager Service.

If you exported custom schemas, dashboard, and report objects from the Metadata Manager repository before the upgrade, verify that a Reporting Service is available to run the custom reports.

Download and Install the Metadata Manager Agent

Step 1. Upgrade 8.1.1
Step 1. Upgrade 8.5.x
Step 1. Upgrade 8.6

Metadata Manager uses the Metadata Manager Agent to access metadata sources for certain business intelligence and data modeling tools and to extract source metadata.

For business intelligence sources such as Business Objects, Cognos Impromptu, and Microstrategy, download and install the agent on the machine where the business intelligence repository is located. You can also install the Metadata Manager Agent on the machine where the metadata source files are located.

Log in to Metadata Manager and go to the Load page to download and install the Metadata Manager Agent.

Note: If you upgrade from version 8.5 or 8.5.1, uninstall the previous version of the Metadata Manager Agent before you install Metadata Manager Agent.

For more information about downloading and installing the Metadata Manager Agent, see the *Metadata Manager Administrator Guide*.

Regenerate the Template and PowerCenter Workflows

Step 2. Upgrade 8.1.1

If you use custom resources to load metadata from source repositories, you must regenerate the template and the PowerCenter workflows that extract metadata from the custom metadata sources.

Use the Custom Metadata Configurator to regenerate the PowerCenter workflows.

To regenerate workflows for custom resources, complete the following steps:

1. Log in to Custom Metadata Configurator.

2. View each template in the Configure Maps tab.

   You must place the element and association metadata files in the same location as the previous version of the template.

3. Delete any association on the Associations Map tab that displays a blank association type.

   Associations may show blank association types if you have a Struct or Field association type and another association type for the same From Element. In Metadata Manager 8.6.x, you cannot configure multiple associations for the same From Element.

4. Click Generate Workflow as you view each template.

5. Configure the template for the custom resource on the Load page in Metadata Manager.

For more information about generating the templates and PowerCenter workflows for custom resources, see the *Metadata Manager Custom Metadata Integration Guide*.

Import the Custom PowerCenter Workflows

Step 3. Upgrade 8.1.1

Complete this step if you exported PowerCenter workflows before you upgraded the Metadata Manager repository. Use the PowerCenter Repository Manager to import the workflows into the PowerCenter repository associated with the Metadata Manager Service.

To import the Metadata Manager custom workflows you exported before you upgraded the Metadata Manager repository, complete the following steps:

1. Locate the XML files that you created when you exported the objects from the PowerCenter repository for Metadata Manager.

2. Start the Repository Manager or Workflow Manager and log in to the PowerCenter repository associated with Metadata Manager.

3. Import the workflow objects in the XML files into the PowerCenter repository.

For more information about importing objects into the PowerCenter repository, see the *PowerCenter Repository Guide*.

Import Saved Schema, Dashboard, and Report Objects

Step 4. Upgrade 8.1.1

Complete this step if you exported Metadata Manager objects before you upgraded the Metadata Manager repository. To use the Metadata Manager reports, import the report objects into a Data Analyzer repository.

You must have a Reporting Service available before you can import the objects into a Data Analyzer repository. Create a Reporting Service in the Administration Console. When you create the service, specify the Metadata Manager repository as the data source. For more information about creating a Reporting Service, see the *PowerCenter Administrator Guide*.

To import the Metadata Manager report objects into a Data Analyzer repository, complete the following steps:

1. Locate the XML files that you created when you exported the objects from the Metadata Manager repository.

2. In the Administration Console, verify that the Reporting Service you want to use is enabled.

3. Start Data Analyzer and log in.

   The user account you use to log in must have the administrator privilege to export and import XML files.

4. Go to the Administration tab and select XML Export/Import.

5. Import the following objects you exported to the XML files into the Data Analyzer repository in the following order:

   ♦ Schemas

   ♦ Time dimensions

   ♦ Global variables

   ♦ Reports

   ♦ Dashboards

   ♦ Schedules

6. Remove obsolete metrics and attributes from the custom reports.

   For more information about the changes to reports, see the *PowerCenter Release Guide*.

7. If you made changes to packaged reports or schemas in a previous version of Data Analyzer, you must make the changes again.

For more information about importing objects into the Data Analyzer repository, see the *Data Analyzer Administrator Guide*.

After you import the schemas, dashboards, and reports, verify that they run properly in Data Analyzer. You can run and manage them like any other Data Analyzer schema, dashboard, and report.

Update the Metadata Manager Resources

Step 5. Upgrade 8.1.1

Metadata Manager resources contain the properties required to connect to metadata sources and extract and load metadata into the Metadata Manager repository. Metadata Manager 8.6.x provides new properties for the resources. You must configure the new properties of the Metadata Manager resources. You must also reconfigure the connection assignments for each resource.

Log in to Metadata Manager and go to the Load page to update the Metadata Manager resources. Select each resource in the list and complete the following tasks in the Resource Properties section:

♦ **Update the properties.** Different properties are available for different types of resources.

   The following table shows the properties to configure for each type of resource:

Resource Type	Property	Description
Business Objects Cognos Impromptu Cognos ReportNet Report Manager ERStudio ERwin Hyperion Essbase IBM DB2 CubeViews Rational Rose Microsoft Visio Microstrategy Oracle Designer Sybase PowerDesigner	Agent URL	Host name and port number of the Metadata Manager Agent. You can use the Metadata Manager Agent on the Metadata Manager application machine or a Metadata Manager Agent installed on another machine.
Database Management (IBM DB2, Informix, Oracle, Microsoft SQL Server, Sybase, Teradata)	JDBC connection URL	JDBC URL used to connect to the source database.
Data Analyzer PowerCenter	Source JDBC URL	JDBC URL for the repository database. For example, if you use an Oracle database, the Source JDBC URL must be "jdbc:informatica:oracle://[host]:1521;SID=[sid];". Enter the database host name and the database service name.

♦ **Reconfigure the Encoding property.** If the resource uses a code page other than MS Windows Latin 1, set the code page for the machine used to generate the metadata source file.

♦ **Reconfigure the connection assignments.** Connection assignments are connections between two metadata sources. Review the connection assignments for each resource and update the connection assignments if necessary.

♦ **Reconfigure resources to use metadata source files.** If you backed up metadata source files before the upgrade, update the resource files to use the metadata source files.

- **Reconfigure PowerCenter resources to use parameter files.** If you backed up parameter files before the upgrade to use with the upgraded PowerCenter resources, reconfigure the PowerCenter resources to use the parameter files. Upload the parameter files and assign the parameter files to the PowerCenter workflows.
- **Refresh and select the universes and models for Business Objects and Cognos ReportNet resources.** After the upgrade, the Business Objects and Cognos ReportNet resources do not display the lists of available and selected universes and models correctly. If you use Business Objects resources, refresh the list of available universes and select the universes to use for each resource. If you use Cognos ReportNet resources, refresh the list of available models and select the models to use for each resource.

Update the Configuration of the PowerCenter Resources

Step 2. Upgrade 8.6

If Metadata Manager contains a resource that points to a PowerCenter repository that has been upgraded to version 8.6.1, you must open and save the connection settings of the resource before you load the resource. If you do not save the resource configuration, Metadata Manager generates errors when you load the resource.

Note: You might not be able to save the resource configuration unless you modify the value of a property. To ensure that the connection remains valid, enter the same value in the configuration property you modify.

To modify a resource connection:

1. Log in to Metadata Manager.

2. On the Load page, select the resource in the Resource List section.

3. In the Resource Properties section, click the Configuration tab.

   The Configuration tab displays properties based on the resource type.

4. Re-enter the value of any property, such as the login user name or the database type.

   Verify that the value of the property is the same as before.

5. Click Save.

After you save the resource configuration, you can load the resource in the usual manner. For more information about loading resources, see the *Metadata Manager Administrator Guide*.

Update the Metadata Manager Index Files

Step 6. Upgrade 8.1.1
Step 2. Upgrade 8.5.x
Step 3. Upgrade 8.6

The Metadata Manager repository upgrade does not update the Metadata Manager index files. If you upgrade from Metadata Manager 8.1.1, manually update the index files to optimize search performance on the upgraded repository. If you upgrade from 8.5.x or 8.6, manually update the index files to search the metadata catalog for object properties that contain the underscore (_) character or manually update the index files if the indexing task for a PowerCenter resource failed with a null pointer exception in a previous release.

You can update the Metadata Manager index files in the Search Administration window of the Metadata Manager Load page. Select all resources and index all selected resources.

For more information about manually updating the Metadata Manager resource index files, see the *Metadata Manager Administrator Guide*.

Part IV: Configuring Connectivity

This part includes the following chapters:

- Understanding Connectivity, 99
- Connecting to Databases from Windows, 107
- Connecting to Databases from UNIX, 117

C H A P T E R   9

Understanding Connectivity

This chapter includes the following topics:

Overview

PowerCenter uses the TCP/IP network protocol, native database drivers, ODBC, and JDBC for communication between the following PowerCenter components:

- **Domain and nodes.** Nodes and services within a domain use TCP/IP to communicate with other nodes and services. For more information, see "Domain Connectivity" on page 101.
- **PowerCenter Client.** The PowerCenter Client uses ODBC to connect to source and target databases. The PowerCenter Client uses native protocol to communicate with the Repository Service and Integration Service. For more information about PowerCenter Client connectivity, see "PowerCenter Client Connectivity" on page 103.
- **Repository Service.** The Repository Service uses native database drivers to communicate with the PowerCenter repository. The Repository Service uses TCP/IP to communicate with other PowerCenter components. For more information about Repository Service connectivity, see "Repository Service Connectivity" on page 104.
- **Integration Service.** The Integration Service uses native database connectivity and ODBC to connect to source and target databases. The Integration Service uses TCP/IP to communicate with other PowerCenter components. For more information about Integration Service connectivity, see "Integration Service Connectivity" on page 105.
- **Data Analyzer and Metadata Manager.** Data Analyzer and Metadata Manager use JDBC and ODBC to access data sources and repositories. For more information, see "Data Analyzer and Metadata Manager Connectivity" on page 106.

♦ **Reference Table Manager.** Reference Table Manager uses JDBC to connect to the Reference Table Manager repository and the reference table staging area. For more information, see "Reference Table Manager Connectivity" on page 106.

The following figure shows an overview of PowerCenter components and connectivity:
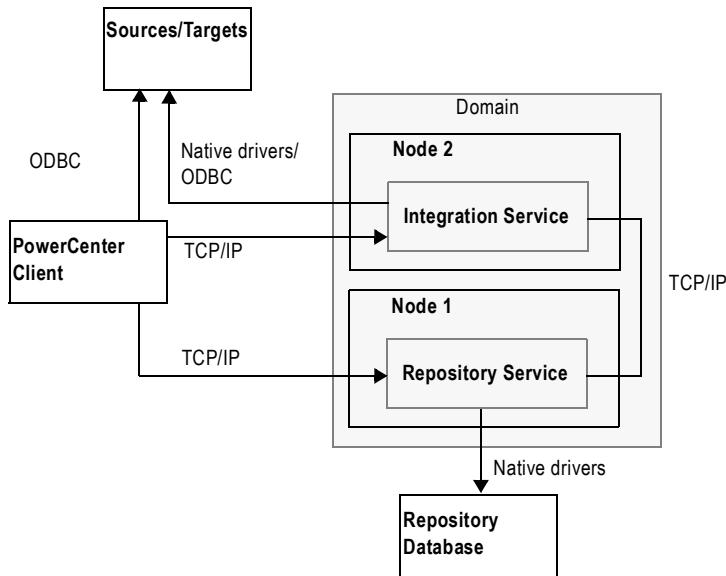
Connectivity Types

PowerCenter components use the following types of connectivity:

♦ **Network protocol.** Application services and the Service Managers in a domain use TCP/IP network protocol to communicate with other nodes and services. The PowerCenter Client also uses TCP/IP to communicate with application services. You can configure the host name and port number for TCP/IP communication on a node when you install PowerCenter Services. You can configure the port numbers used for services on a node when you install PowerCenter or by using the Administration Console.

♦ **Native drivers**. Native drivers are packaged with database server and client software. The Repository Service and Integration Service use the native drivers to communicate with databases. You must install and configure native database client software on the machines where the Integration Service and Repository Service run.

♦ **ODBC**. The PowerCenter installer installs ODBC drivers when you install PowerCenter Services and the PowerCenter Client.

♦ **JDBC.** Data Analyzer uses JDBC to communicate with the Data Analyzer repository and data sources. Metadata Manager uses JDBC to communicate with the Metadata Manager repository and metadata source repositories. For more information about connectivity between Data Analyzer and Metadata Manager components, see "Data Analyzer and Metadata Manager Connectivity" on page 106. Reference Table Manager uses JDBC to communicate with the Reference Table Manager repository and the reference table staging area.

The PowerCenter installer uses JDBC to communicate with the domain configuration database during installation. The gateway nodes in the PowerCenter domain use JDBC to connect to the domain configuration database after you install.

The following table lists the drivers used by PowerCenter components:

Component	Database	Driver
Repository Service	PowerCenter Repository	Native
Integration Service	Source Target Stored Procedure Lookup	Native ODBC

| Component	Database	Driver
Data Analyzer	Data Analyzer Repository	JDBC
Data Analyzer	Data Source	JDBC ODBC with JDBC-ODBC bridge
Metadata Manager	Metadata Manager Repository	JDBC
PowerCenter Client	PowerCenter Repository	Native
PowerCenter Client	Source Target Stored Procedure Lookup	ODBC
Custom Metadata Configurator (Metadata Manager Client)	Metadata Manager Repository	JDBC
Reference Table Manager	Reference Table Manager Repository Reference Table Staging Area	JDBC

Domain Connectivity

Services on a node in a PowerCenter domain use TCP/IP to connect to services on other nodes. Because services can run on multiple nodes in the domain, services rely on the Service Manager running on the master gateway node to route requests. The Service Manager on the master gateway node handles requests for services and responds with the address of the requested service.

Nodes communicate through TCP/IP on the port you select for a node when you install PowerCenter Services. When you create a node, you select a port number for the node. The Service Manager on a node listens for incoming TCP/IP connections on that port.

The following figure shows the path of a request when you use the PowerCenter Client to connect to the repository:
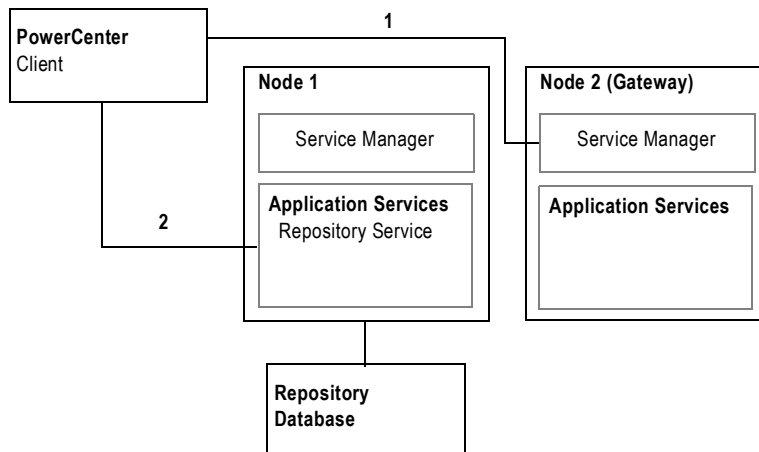
The following process describes how a repository client connects to the repository database:

1. The PowerCenter Client receives the address of the Repository Service from the master gateway node.

2. The PowerCenter Client connects to the Repository Service.

Other client applications and nodes use a similar process to establish connections between other application services and nodes in a domain.

Native Connectivity

Native drivers are packaged with database server and client software. The Repository Service and Integration Service use native drivers to communicate with databases. When communicating with a database, the services pass database calls directly to the native drivers installed with the database client software. The client software passes the calls to the database, and returns information from the database to the service.

For example, the Integration Service writes session data to a DB2 target. When you run the session, the Integration Service reads target database information from the target database connection stored in the repository. It uses this information to connect to the target database through the drivers included with the DB2 Client Application Enabler (CAE) installed on the Integration Service node. The Integration Service performs all transactions with the target database through this client software.

Establishing Native Connectivity

To establish native connectivity between the Repository Service or Integration Service and a database, you must install the client software packaged with the database platform on the machine where the service runs.

Native connectivity information includes the database user name, password, and other configuration options specific to the database platform. It also includes a native connect string. The native connect string contains the database name and database server name and allows PowerCenter and the database client to direct calls to the correct database.

The following table describes the native connect string syntax for each supported RDBMS:

Database	Connect String Syntax	Example
IBM DB2	*dbname*	mydatabase
Informix	*dbname@servername*	mydatabase@informix
Microsoft SQL Server	*servername@dbname*	sqlserver@mydatabase
Oracle	*dbname.*world (same as TNSNAMES entry)	oracle.world
Sybase ASE*	*servername@dbname*	sambrown@mydatabase
Teradata**	*ODBC_data_source_name* or *ODBC_data_source_name@db_name* or *ODBC_data_source_name@db_user_name*	TeradataODBC TeradataODBC@mydatabase TeradataODBC@sambrown
Sybase ASE servername is the name of the Adaptive Server from the interfaces file. ***Use Teradata ODBC drivers to connect to source and target databases. To process Teradata bigint data, use the Teradata ODBC driver version 03.06.00.02 or later.*		

RELATED TOPICS:

♦ "Connecting to Databases from Windows" on page 107

♦ "Connecting to Databases from UNIX" on page 117

ODBC

Open Database Connectivity (ODBC) provides a common way to communicate with different database platforms. The PowerCenter Client uses ODBC drivers to connect to source target, lookup, and stored procedure databases. The Integration Service may also use ODBC drivers to connect to databases.

When communicating with a database, the PowerCenter application passes all database calls to the ODBC driver. The driver interprets the information and sends it to the native database client connectivity software. From there, the information passes to the database that processes the command and sends the requested information back to the PowerCenter Client tool.

For example, when you import a source definition using the PowerCenter Client, the PowerCenter Client issues a call to the ODBC driver. The ODBC driver translates the call and passes it to the native database connectivity software, which in turn passes it to the database. The database processes the request and sends the information back to the Designer, which displays the source definition.

Note: Some ODBC drivers contain wire protocols and do not require database client software installed on the PowerCenter Client machine or the machine where the Integration Service process runs. For more information about which ODBC drivers require a database client, see Table 9-1 on page 103.

Establishing ODBC Connectivity

To establish ODBC connectivity between a database and the PowerCenter Client, Integration Service, or Repository Service, you must install the following components on the machine hosting the PowerCenter application:

♦ **Database client software.** Install the client software included with the database platform. This installs the client libraries needed to connect to the database.

♦ **ODBC drivers.** PowerCenter installs DataDirect closed 32-bit ODBC drivers when you install PowerCenter Services or the PowerCenter Client. Your database platform may also come with an ODBC driver.

After you install the necessary components you must configure an ODBC data source for each database you want to connect to. A data source contains information that you need to locate and access the database, such as database name, user name, and database password. On Windows, you use the ODBC Data Source Administrator to create a data source name. On UNIX, you add data source entries to the odbc.ini file found in the system $ODBCHOME directory.

When you create an ODBC data source, you must also specify the driver that the ODBC driver manager sends database calls to.

Table 9-1 shows the recommended ODBC drivers to use with each database:

Table 9-1. Recommended Database ODBC Drivers

Database	ODBC Driver	Requires Database Client Software
IBM DB2	IBM ODBC driver	Yes
Informix	DataDirect 32-bit closed ODBC driver	No
Microsoft Access	Microsoft Access driver	No
Microsoft Excel	Microsoft Excel driver	No
Microsoft SQL Server	Microsoft SQL Server ODBC driver	No
Oracle	DataDirect 32-bit closed ODBC driver	No
Sybase ASE	DataDirect 32-bit closed ODBC driver	No
Teradata*	Teradata ODBC driver	Yes
* To process Teradata bigint data, use the Teradata ODBC driver version 03.06.00.02 or later.		

RELATED TOPICS:

♦ "Connecting to Databases from Windows" on page 107

♦ "Connecting to Databases from UNIX" on page 117

PowerCenter Client Connectivity

The PowerCenter Client uses ODBC drivers and native database client connectivity software to communicate with databases. It uses TCP/IP to communicate with the Integration Service and with the repository.

The following table describes the connectivity types required to connect the PowerCenter Client to the Integration Service, repository, and source and target databases:

PowerCenter Client Connection	Connectivity Requirement
Integration Service	TCP/IP
Repository Service	TCP/IP
Databases	ODBC connection for each database

Connecting to the Repository

You can connect to the repository using the PowerCenter Client tools. All PowerCenter Client tools use TCP/IP to connect to the repository through the Repository Service each time you access the repository to perform tasks such as connecting to the repository, creating repository objects, and running object queries.

Connecting to Databases

To connect the Designer to databases, use the Windows ODBC Data Source Administrator to create a data source for each database you want to access. Select the data source names in the Designer when you perform the following tasks:

♦ **Import a table or a stored procedure definition from a database.** Use the Source Analyzer or Target Designer to import the table from the database. Use the Transformation Developer, Mapplet Designer, or Mapping Designer to import a stored procedure or a table for a Lookup transformation.

   To connect to the database, you must also provide your database user name, password, and table or stored procedure owner name.

♦ **Preview data.** You can select the data source name when you preview data in the Source Analyzer or Target Designer. You must also provide your database user name, password, and table owner name.

Connecting to the Integration Service

The Workflow Manager and Workflow Monitor communicate directly with the Integration Service over TCP/IP each time you perform session and workflow-related tasks, such as running a workflow. When you log in to a repository through the Workflow Manager or Workflow Monitor, the client application lists the Integration Services that are configured for that repository in the Administration Console.

Repository Service Connectivity

The Repository Service manages the metadata in the PowerCenter repository database. All applications that connect to the repository must connect to the Repository Service. The Repository Service uses native drivers to communicate with the repository database.

The following table describes the connectivity required to connect the Repository Service to the repository and source and target databases:

Repository Service Connection	Connectivity Requirement
PowerCenter Client	TCP/IP
Integration Service	TCP/IP
Repository database	Native database drivers

Note: The Integration Service connects to the Repository Service to retrieve metadata when it runs workflows.

Connecting from the PowerCenter Client

You can connect to the Repository Service through PowerCenter Client applications by adding a domain and repository in the PowerCenter Client application. When you connect to the repository from a PowerCenter Client application, the client application sends a connection request to the Service Manager on the gateway node. The Service Manager returns the host name and port number of the node running the Repository Service. The PowerCenter Client connects directly to the Repository Service using TCP/IP.

Connecting to Databases

The Repository Service uses the connection information for the service and native database drivers to communicate with the repository. To connect a Repository Service to a repository database, you configure the database properties in the Administration Console. You must install and configure the native database drivers for the repository database on the machine where the Repository Service runs.

Integration Service Connectivity

The Integration Service connects to the repository to read repository objects. The Integration Service connects to the repository through the Repository Service. Use the Administration Console to configure an associated repository for the Integration Service.

The following table describes the connectivity required to connect the Integration Service to the platform components, source databases, and target databases:

Integration Service Connection	Connectivity Requirement
PowerCenter Client	TCP/IP
Other Integration Service Processes	TCP/IP
Repository Service	TCP/IP
Source and target databases	Native database drivers or ODBC
Note: Both the Windows and UNIX versions of the Integration Service can use ODBC drivers to connect to databases. You can use native drivers to improve performance.	

The Integration Service includes ODBC libraries that you can use to connect to other ODBC sources. The PowerCenter installation includes ODBC drivers.

For flat file, XML, or COBOL sources, you can either access data with network connections, such as NFS, or transfer data to the Integration Service node through FTP software. For information about connectivity software for other ODBC sources, see your database documentation.

Connecting from the PowerCenter Client

The Workflow Manager communicates with an Integration Service process over a TCP/IP connection. The Workflow Manager communicates with the Integration Service process each time you start a workflow or display workflow details.

Connecting to the Repository Service

When you create or configure the Integration Service, you specify the repository associated with the Integration Service. The Integration Service connects to this Repository Service using TCP/IP to retrieve metadata when it runs a workflow.

When you install PowerCenter Services, the installer configures the associated repository for the Integration Service.

Connecting to Databases

Use the Workflow Manager to create connections to databases. You can select native database drivers for the Integration Service or you can use ODBC. For each connection, you must specify the database user name, password, and native connect string. The Integration Service uses this information to connect to the database when it runs the session.

Note: PowerCenter supports ODBC drivers, such as ISG Navigator, that do not need user names and passwords to connect. To avoid using empty strings or nulls, use the reserved words PmNullUser and PmNullPasswd for the user name and password when you configure a database connection. The Integration Service treats PmNullUser and PmNullPasswd as no user and no password.

Data Analyzer and Metadata Manager Connectivity

To connect to a Data Analyzer repository, Data Analyzer requires a Java Database Connectivity (JDBC) driver. To connect to the data source, Data Analyzer can use a JDBC driver or a JDBC-ODBC bridge with an ODBC driver.

To connect to a Metadata Manager repository, Metadata Manager requires a JDBC driver. The Custom Metadata Configurator uses JDBC drivers to connect to the Metadata Manager repository.

When you install Data Analyzer or Metadata Manager, the JDBC drivers for the following databases are installed:

♦ Oracle

♦ Microsoft SQL Server

♦ Sybase ASE

♦ IBM DB2 UDB

You can use the installed JDBC drivers to connect to the Data Analyzer or Metadata Manager repository, data source, or to a PowerCenter repository.

The PowerCenter installer does not install ODBC drivers or the JDBC-ODBC bridge for Data Analyzer or Metadata Manager.

RELATED TOPICS:

♦ "Installed JDBC Drivers" on page 147

Reference Table Manager Connectivity

Reference Table Manager requires a JDBC driver to connect to the Reference Table Manager repository and the reference table staging area.

When you install the Reference Table Manager, the JDBC drivers for the following databases are installed:

♦ IBM DB2

♦ Microsoft SQL Server

♦ Oracle

RELATED TOPICS:

♦ "Installed JDBC Drivers" on page 147

Connecting to Databases from Windows

This chapter includes the following topics:

Overview

The Repository Service uses native drivers to communicate with the repository database. The Integration Service uses either native drivers or ODBC to communicate with databases. To improve performance, use native database drivers. The PowerCenter Client uses ODBC.

To connect to a database, you must install and configure native database client connectivity software on the machine where you configure the Repository Service and Integration Service processes to run. To ensure compatibility between the Integration Service, the Repository Service, and a repository database, use the appropriate database client libraries.

PowerCenter 8.6.x includes DataDirect 5.2 ODBC drivers. If you have existing ODBC data sources created with an earlier version of the drivers, you must create new ODBC data sources using the new drivers for all ODBC data sources used by the Integration Service or PowerCenter Client. Configure ODBC connections using the DataDirect ODBC drivers provided by Informatica or third-party ODBC drivers that are Level 2 or above compliant.

RELATED TOPICS:
- "Working with 32-bit and 64-bit Platforms" on page 11

Connecting to an IBM DB2 Universal Database

You must install and configure database client software on the machines where the Integration Service and Repository Service process runs. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

You must configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install IBM DB2 Client Application Enabler (CAE) on the machine where the Integration Service process runs. The Integration Service uses either native connectivity or ODBC to communicate with IBM DB2. For increased performance, use native connectivity.

♦ **Repository Service.** If you create an IBM DB2 repository, install or verify that you have installed IBM DB2 Client Application Enabler (CAE) on the machine where the Repository Service process runs. The Repository Service uses native connectivity to communicate with IBM DB2.

♦ **PowerCenter Client.** Install IBM DB2 Client Application Enabler (CAE) on each PowerCenter Client machine accessing IBM DB2. The PowerCenter Client uses ODBC to communicate with IBM DB2. Use the Workflow Manager to create a database connection object for the IBM DB2 database.

You must install IBM DB2 Client Application Enabler (CAE) version 8.2 or later.

Configuring Native Connectivity

Use the following procedure as a guideline to configure native connectivity. For specific connectivity instructions, see the database documentation.

To connect to an IBM DB2 database:

1. Verify that the following environment variable settings have been established by DB2 Client Application Enabler:

   ```
   DB2HOME=C:\SQLLIB (directory where the client is installed)
   DB2INSTANCE = DB2
   DB2CODEPAGE = 437 (Sometimes required. Use only if you encounter problems. Depends on the
   locale, you may use other values.)
   ```

2. Verify that the PATH environment variable includes the DB2 bin directory. For example:

   ```
   PATH=C:\WINNT\SYSTEM32;C:\SQLLIB\BIN;...
   ```

3. Configure the IBM DB2 client to connect to the database that you want to access.

   ♦ Launch the Client Configuration Assistant.

   ♦ Add the database connection and BIND the connection.

4. Verify that you can connect to the DB2 database.

   Run the following command in the DB2 Command Line Processor:

   ```
   CONNECT TO <dbalias> USER <username> USING <password>
   ```

   If the connection is successful, disconnect and clean up with the TERMINATE command. If the connection fails, see the database documentation.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure ODBC. For specific connectivity instructions, see the database documentation.

To connect to an IBM DB2 database using ODBC:

1. Install the IBM DB2 Client Application Enabler (CAE) and configure native connectivity.

2. Create an ODBC data source using the driver provided by IBM. Do not use the DataDirect 32-bit closed ODBC driver for DB2 provided by Informatica.

For specific instructions on creating an ODBC data source using the IBM DB2 ODBC driver, see the database documentation.

3. Verify that you can connect to the DB2 database using the ODBC data source. If the connection fails, see the database documentation.

Connecting to an Informix Database

Install and configure native client software on the machines where the Integration Service process runs and the machines where you install the PowerCenter Client. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install ESQL for C, Informix Client SDK, or any other Informix client software on the machine where the Integration Service process runs. Also, install compatible versions of ESQL/runtime or iconnect. The Integration Service uses either native connectivity or ODBC to communicate with Informix. Use native connectivity for increased performance.

You must install the ESQL/C version that is compatible with the Informix database server. To verify compatibility, contact Informix.

♦ **PowerCenter Client.** Use the Workflow Manager to create a database connection object for the Informix database.

Note: You do not need to install the database client on PowerCenter Client machines. To connect to an Informix database using the PowerCenter Client, use the DataDirect ODBC drivers provided by Informatica. The ODBC wire protocols do not require database client software to connect to sources and targets.

Configuring Native Connectivity

Use the following procedure as a guideline to configure native connectivity. For specific connectivity instructions, see the database documentation.

To connect to an Informix database:

1. Set environment variables for INFORMIXDIR, DBDATE, and DBMONEY:

   INFORMIXDIR. Verify that the INFORMIXDIR environment variable is set.

   For example:

   ```
   INFORMIXDIR=C:\Informix
   ```

   DBDATE. Verify that DBDATE is set to the default value, MDY4/.

   DBMONEY. Set DBMONEY environment variable to ensure that Informix does not prefix the data with the dollar sign ($).

   ```
   DBMONEY=' .'
   ```

2. Verify that the PATH environment variable includes the INFORMIXDIR\bin directory.

   For example:

   ```
   PATH=C:\Informix\bin;....
   ```

3. Launch Informix SetNet32 and configure the Informix client to connect to the database that you want to access.

   Ask the Informix administrator for the following entries for the Server Information tab:

   ♦ **Protocol Name.** Enter the protocol the Informix database server uses, usually 'onsoctcp.'

♦ **Service Name**. Enter the service name the Informix server uses. The Informix server must also be defined in the services file. You might find the services file in the following location:

```
%WINDIR%\System32\Drivers\etc\Services
```

A sample entry in the services file might look like the following entry:

```
inflsnr   1525/tcp
```

4. Verify that you can connect to the Informix database.

   To connect to the database, launch dbping and enter the necessary information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information. The syntax for the connect string is *dbname@servername*.

   User names and database names might be case sensitive.

Configuring ODBC Connectivity

To connect to an Informix database using ODBC, create an ODBC data source using the DataDirect ODBC drivers for Informix provided by Informatica. The ODBC wire protocols do not require database client software to connect to sources and targets.

For specific connectivity instructions, see the database documentation.

Connecting to Microsoft Access and Microsoft Excel

Configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install Microsoft Access or Excel on the machine where the Integration Service process runs. You must also create an ODBC data source to connect to a database.

♦ **PowerCenter Client.** Install Microsoft Access or Excel on the machine hosting the PowerCenter Client. You must also create an ODBC data source to connect to a database.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure connectivity. For specific connectivity instructions, see the Microsoft Access or Excel documentation.

To connect to an Access or Excel database:

1. Create an ODBC data source using the driver provided by Microsoft.

2. To avoid using empty string or nulls, use the reserved words PmNullUser for the user name and PmNullPasswd for the password when you create a database connection in the Workflow Manager.

Connecting to a Microsoft SQL Server Database

Install and configure native client software on the machines where the Integration Service and Repository Service process runs and the machines where you install the PowerCenter Client. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

You must configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install SQL Client, including the Microsoft OLE DB provider for Microsoft SQL Server, on the machine where the Integration Service process runs. The Integration Service uses either native

connectivity or ODBC to communicate with Microsoft SQL Server. Use native connectivity for increased performance.

♦ **Repository Service.** If you create a Microsoft SQL Server repository, install or verify that you have installed SQL Client, including the Microsoft OLE DB provider, on the machine where the Repository Service runs. The Repository Service uses native connectivity to communicate with Microsoft SQL Server.

♦ **PowerCenter Client.** Install SQL Client, including the Microsoft OLE DB provider for Microsoft SQL Server, on each PowerCenter Client machine accessing Microsoft SQL Server. The PowerCenter Client uses ODBC to communicate with Microsoft SQL Server. Use the Workflow Manager to create a database connection object for the Microsoft SQL Server database.

You must install an SQL Client version that is compatible with the Microsoft SQL Server database server. To verify compatibility, contact Microsoft.

Note: PowerCenter can communicate with Microsoft SQL Server 7.0, with Service Pack 1 or later, and later versions of Microsoft SQL Server.

Configuring Native Connectivity

Use the following procedure as a guideline to configure native connectivity. For specific connectivity instructions, see the database documentation.

To connect to a Microsoft SQL Server database:

1. Verify that the Microsoft SQL Server home directory is set.

2. Verify that the PATH environment variable includes the Microsoft SQL Server directory.

   For example:

   ```
   PATH=C:\MSSQL\BIN;C:\MSSQL\BINN;....
   ```

3. Configure the Microsoft SQL Server client to connect to the database that you want to access.

   Launch the Client Network Utility. On the General tab, verify that the Default Network Library matches the default network for the Microsoft SQL Server database.

4. Verify that you can connect to the Microsoft SQL Server database.

   To connect to the database, launch ISQL_w, and enter the connectivity information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure ODBC. For specific connectivity instructions, see the Microsoft SQL Server documentation.

To connect to a Microsoft SQL Server database using ODBC:

1. Install the Microsoft SQL Server client and configure native connectivity.

2. Create an ODBC data source using the driver provided by Microsoft.

   Do not use the DataDirect 32-bit closed ODBC driver for Microsoft SQL Server provided by Informatica.

   To ensure consistent data in Microsoft SQL Server repositories, clear the Create temporary stored procedures for prepared SQL statements option in the Create a New Data Source to SQL Server dialog box.

   If you have difficulty clearing the temporary stored procedures for prepared SQL statements options, see the Informatica Knowledge Base for more information about configuring Microsoft SQL Server. Access the Knowledge Base at http://my.informatica.com.

3. Verify that you can connect to the Microsoft SQL Server database using the ODBC data source. If the connection fails, see the database documentation.

Connecting to an Oracle Database

Install and configure native client software on the machines where Integration Service and Repository Service processes run. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install Oracle client on the machine hosting the Integration Service. The Integration Service can use native connectivity or ODBC to communicate with Oracle. Use native connectivity for increased performance.

♦ **Repository Service.** If you create an Oracle repository, install Oracle client on the machine where Repository Service process runs. The Repository Service uses native connectivity to communicate with Oracle.

♦ **PowerCenter Client.** Use the Workflow Manager to create a database connection object for the Oracle database.

Note: You do not need to install the database client on PowerCenter Client machines. To connect to an Oracle database using the PowerCenter Client, use the DataDirect ODBC driver provided by Informatica. The ODBC wire protocols do not require database client software to connect to sources and targets.

You must install compatible versions of the Oracle client and Oracle database server. You must also install the same version of the Oracle client on each machine where an Integration Service or Repository Service process runs and hosts the Oracle database server. To verify compatibility, contact Oracle.

Configuring Native Connectivity

Use the following procedure as a guideline to configure native connectivity using Oracle Net Services or Net8. For specific connectivity instructions, see the database documentation.

To connect to an Oracle database:

1. Verify that the Oracle home directory is set.

   For example:

   ```
   ORACLE_HOME=C:\Oracle
   ```

2. Verify that the PATH environment variable includes the Oracle bin directory.

   For example, if you install Net8, the path might include the following entry:

   ```
   PATH=C:\ORANT\BIN;
   ```

3. Configure the Oracle client to connect to the database that you want to access.

   Launch SQL*Net Easy Configuration Utility or edit an existing tnsnames.ora file to the home directory and modify it.

   The tnsnames.ora file is stored in the $ORACLE_HOME\network\admin directory.

   Enter the correct syntax for the Oracle connect string, typically *databasename*.world. Make sure the SID entered here matches the database server instance ID defined on the Oracle server.

   Following is a sample tnsnames.ora. You need to enter the information for the database.

   ```
   mydatabase.world =
       (DESCRIPTION
       (ADDRESS_LIST =
           (ADDRESS =
               (COMMUNITY = mycompany.world
               (PROTOCOL = TCP)
               (Host = mymachine)
               (Port = 1521)
           )
       )
       (CONNECT_DATA =
           (SID = MYORA7)
   ```

```
            (GLOBAL_NAMES = mydatabase.world)
```

4. Set the NLS_LANG environment variable to the locale (language, territory, and character set) you want the database client and server to use with the login.

   The value of this variable depends on the configuration. For example, if the value is american_america.UTF8, you must set the variable as follows:

   ```
   NLS_LANG=american_america.UTF8;
   ```

   To determine the value of this variable, contact the database administrator.

5. Verify that you can connect to the Oracle database.

   To connect to the database, launch SQL*Plus and enter the connectivity information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information.

   Use the connect string as defined in tnsnames.ora.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure ODBC. For specific connectivity instructions, see the database documentation.

To connect to an Oracle database using ODBC:

1. Create an ODBC data source using the DataDirect ODBC driver for Oracle provided by Informatica.

2. Verify that you can connect to the Oracle database using the ODBC data source.

Troubleshooting Database Connection to Oracle

PowerCenter Clients do not accurately display non-ASCII characters.

Set the NLS_LANG environment variable to the locale (language, territory, and character set) you want the database client and server to use with the login.

The value of this variable depends on the configuration. For example, if the value is american_america.UTF8, you must set the variable as follows:

```
NLS_LANG=american_america.UTF8;
```

To determine the value of this variable, contact the database administrator.

Connecting to a Sybase ASE Database

Install and configure native client software on the machines where the Integration Service and Repository Service processes run. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Install an Open Client version that is compatible with the Sybase ASE database server. You must also install the same version of Open Client on the machines hosting the Sybase ASE database and PowerCenter. To verify compatibility, contact Sybase.

You must configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install Open Client on the machine where the Integration Service process runs. The Integration Service uses either native connectivity or ODBC to communicate with Sybase ASE. You should use native connectivity.

♦ **Repository Service.** Install Open Client on the machine where the Repository Service process runs. The Repository Service uses native connectivity to communicate with Sybase ASE.

If you want to create, restore, or upgrade a Sybase ASE repository, set *allow nulls by default* to TRUE at the database level. Setting this option changes the default null type of the column to null in compliance with the SQL standard.

♦ **PowerCenter Client.** Use the Workflow Manager to create a database connection object for the Sybase ASE database.

Note: You do not need to install the database client on PowerCenter Client machines. To connect to an Sybase ASE database using the PowerCenter Client, use the DataDirect ODBC drivers provided by Informatica. The ODBC wire protocols do not require database client software to connect to sources and targets.

Configuring Native Connectivity

Use the following procedure as a guideline to configure native connectivity. For specific connectivity instructions, see the database documentation.

To connect to a Sybase ASE database:

1. Verify that the SYBASE environment variable refers to the Sybase ASE directory.

   For example:
   ```
   SYBASE=C:\SYBASE
   ```

2. Verify that the PATH environment variable includes the Sybase ASE directory.

   For example:
   ```
   PATH=C:\SYBASE\BIN;C:\SYBASE\DLL
   ```

3. Configure Sybase Open Client to connect to the database that you want to access.

   Use SQLEDIT to configure the Sybase client, or copy an existing SQL.INI file (located in the %SYBASE%\INI directory) and make any necessary changes.

   Select NLWNSCK as the Net-Library driver and include the Sybase ASE server name.

   Enter the host name and port number for the Sybase ASE server. If you do not know the host name and port number, check with the system administrator.

4. Verify that you can connect to the Sybase ASE database.

   To connect to the database, launch ISQL and enter the connectivity information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information.

   User names and database names are case sensitive.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure ODBC. For specific connectivity instructions, see the database documentation.

To connect to a Sybase ASE database using ODBC:

1. Create an ODBC data source using the DataDirect 32-bit closed ODBC driver for Sybase provided by Informatica.

2. On the Performance tab, set Prepare Method to 2-Full. This ensures consistent data in the repository, optimizes performance, and reduces overhead on tempdb.

3. Verify that you can connect to the Sybase ASE database using the ODBC data source.

Connecting to a Teradata Database

Install and configure native client software on the machines where the Integration Service process runs and where you install the PowerCenter Client. To ensure compatibility between the Informatica products and databases, use 32-bit database client libraries only. You must configure connectivity to the following PowerCenter components on Windows:

♦ **Integration Service.** Install Teradata client, the Teradata ODBC driver, and any other Teradata client software you might need on the machine where the Integration Service process runs. You must also configure ODBC connectivity.

♦ **PowerCenter Client.** Install Teradata client, the Teradata ODBC driver, and any other Teradata client software you might need on each PowerCenter Client machine accessing Teradata. Use the Workflow Manager to create a database connection object for the Teradata database.

Note: Based on a recommendation from Teradata, Informatica uses ODBC to connect to Teradata. ODBC is a *native* interface for Teradata. To process Teradata bigint data, use the Teradata ODBC driver version 03.06.00.02 or later.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure connectivity. For specific connectivity instructions, see the database documentation.

To connect to a Teradata database:

1. Create an ODBC data source for each Teradata database that you want to access.

    To create the ODBC data source, use the driver provided by Teradata.

    Create a System DSN if you start the Informatica Services service with a *Local System account* logon. Create a User DSN if you select the *This account* log in option to start the Informatica Services service.

2. Enter the name for the new ODBC data source and the name of the Teradata server or its IP address.

    To configure a connection to a single Teradata database, enter the DefaultDatabase name. To create a single connection to the default database, enter the user name and password. To connect to multiple databases, using the same ODBC data source, leave the DefaultDatabase field and the user name and password fields empty.

3. Configure Date Options in the Options dialog box.

    In the Teradata Options dialog box, specify AAA for DateTime Format.

4. Configure Session Mode in the Options dialog box.

    When you create a target data source, choose ANSI session mode. If you choose ANSI session mode, Teradata does not roll back the transaction when it encounters a row error. If you choose Teradata session mode, Teradata rolls back the transaction when it encounters a row error. In Teradata mode, the Integration Service cannot detect the rollback and does not report this in the session log.

5. Verify that you can connect to the Teradata database.

    To test the connection, use a Teradata client program, such as WinDDI, BTEQ, Teradata Administrator, or Teradata SQL Assistant.

CHAPTER 11

Connecting to Databases from UNIX

This chapter includes the following topics:

Overview

The Repository Service uses native drivers to communicate with the repository database. The Integration Service can use native drivers or ODBC to communicate with databases. Use native database drivers to increase performance.

To connect to a database, install and configure native database client connectivity software on the machine where you configure the Repository Service and Integration Service processes to run. To ensure compatibility between the Integration Service, the Repository Service, and a repository database, use the appropriate database client libraries.

On Linux, use native drivers to connect to IBM DB2, Oracle, or Sybase ASE databases.You can connect to other sources and targets using ODBC. The Informix client is not available on Linux. Use ODBC to connect to Informix from Linux.

Configure ODBC connections using the DataDirect ODBC drivers provided with PowerCenter or third-party ODBC drivers that are Level 2 or above compliant. The ODBC wire protocols do not require database client software to connect to sources and targets.

Note: You cannot use Teradata or Informix for a PowerCenter repository.

RELATED TOPICS:
- "Working with 32-bit and 64-bit Platforms" on page 11

Connecting to Microsoft SQL Server on UNIX

Use ODBC to connect to a Microsoft SQL Server database from a UNIX machine.

Connecting to an IBM DB2 Universal Database

Install and configure native client software on the machines where Integration Service and Repository Service processes run. To ensure compatibility between the PowerCenter and databases, use the appropriate database client libraries.

Configure connectivity to the following PowerCenter components on UNIX:

♦ **Integration Service.** Install IBM DB2 Client Application Enabler (CAE) on the machine where the Integration Service process runs. The Integration Service can use native connectivity or ODBC to communicate with IBM DB2. Use native connectivity for increased performance.

♦ **Repository Service.** If you create an IBM DB2 repository, install IBM DB2 Client Application Enabler (CAE) on the machine where the Repository Service process runs. The Repository Service uses native connectivity to communicate with IBM DB2.

Install the IBM DB2 Client Application Enabler (CAE) version that is compatible with the IBM DB2 database server. To verify compatibility, contact IBM.

Configuring Native Connectivity

Use the following procedure as a guideline to configure connectivity. For specific connectivity instructions, see the database documentation.

To connect to a DB2 database:

1. To configure connectivity on the machine where the Integration Service or Repository Service process runs, log in to the machine as a user who can start a service process.

2. Set the DB2INSTANCE, INSTHOME, DB2DIR, and PATH environment variables.

   The UNIX IBM DB2 software always has an associated user login, often db2admin, which serves as a holder for database configurations. This user holds the instance for DB2.

   DB2INSTANCE. The name of the instance holder.

   Using a Bourne shell:

   ```
   $ DB2INSTANCE=db2admin; export DB2INSTANCE
   ```

   Using a C shell:

   ```
   $ setenv DB2INSTANCE db2admin
   ```

   INSTHOME. This is db2admin home directory path.

   Using a Bourne shell:

   ```
   $ INSTHOME=~db2admin
   ```

   Using a C shell:

   ```
   $ setenv INSTHOME ~db2admin>
   ```

DB2DIR. Set the variable to point to the IBM DB2 CAE installation directory. For example, if the client is installed in the /opt/IBMdb2/v6.1 directory:

Using a Bourne shell:

```
$ DB2DIR=/opt/IBMdb2/v6.1; export DB2DIR
```

Using a C shell:

```
$ setenv DB2DIR /opt/IBMdb2/v6.1
```

PATH. To run the IBM DB2 command line programs, set the variable to include the DB2 bin directory.

Using a Bourne shell:

```
$ PATH=${PATH}:$DB2DIR/bin; export PATH
```

Using a C shell:

```
$ setenv PATH ${PATH}:$DB2DIR/bin
```

3. Set the shared library variable to include the DB2 lib directory.

The IBM DB2 client software contains a number of shared library components that the Integration Service and the Repository Service processes load dynamically. To locate the shared libraries during run time, set the shared library environment variable.

The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system:

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

For example, use the following syntax for Solaris and Linux:

♦ Using a Bourne shell:

```
$ LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$HOME/server_dir:$DB2DIR/lib; export
LD_LIBRARY_PATH
```

♦ Using a C shell:

```
$ setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$HOME/server_dir:$DB2DIR/lib
```

For HP-UX:

♦ Using a Bourne shell:

```
$ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$DB2DIR/lib; export SHLIB_PATH
```

♦ Using a C shell:

```
$ setenv SHLIB_PATH ${SHLIB_PATH}:$HOME/server_dir:$DB2DIR/lib
```

For AIX:

♦ Using a Bourne shell:

```
$ LIBPATH=${LIBPATH}:$HOME/server_dir:$DB2DIR/lib; export LIBPATH
```

♦ Using a C shell:

```
$ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$DB2DIR/lib
```

4. Edit the .cshrc or .profile to include the complete set of shell commands. Save the file and either log out and log in again or run the source command.

Using a Bourne shell:

```
$ source .profile
```

Using a C shell:

```
$ source .cshrc
```

5. If the DB2 database resides on the same machine on which Integration Service or Repository Service processes run, configure the DB2 instance as a remote instance.

Run the following command to verify if there is a remote entry for the database:

```
DB2 LIST DATABASE DIRECTORY
```

The command lists all the databases that the DB2 client can access and their configuration properties. If this command lists an entry for "Directory entry type" of "Remote," skip to step 6.

If the database is not configured as remote, run the following command to verify whether a TCP/IP node is cataloged for the host:

```
DB2 LIST NODE DIRECTORY
```

If the node name is empty, you can create one when you set up a remote database. Use the following command to set up a remote database and, if needed, create a node:

```
db2 CATALOG TCPIP NODE <nodename> REMOTE <hostname_or_address> SERVER <port number>
```

Run the following command to catalog the database:

```
db2 CATALOG DATABASE <dbname> as <dbalias> at NODE <nodename>
```

For more information about these commands, see the database documentation.

6. Verify that you can connect to the DB2 database. Run the DB2 Command Line Processor and run the command:

```
CONNECT TO <dbalias> USER <username> USING <password>
```

If the connection is successful, clean up with the CONNECT RESET or TERMINATE command.

Connecting to an Informix Database

Install and configure native client software on the machines where the Integration Service process runs. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Install ESQL for C, Informix Client SDK, or any other Informix client software on the machine where the Integration Service process runs. Also, install compatible versions of ESQL/runtime or iconnect. The Integration Service uses either native connectivity or ODBC to communicate with Informix. Use native connectivity for increased performance.

The Informix client is not available on Linux. Use ODBC to connect to Informix from Linux.

Install the ESQL/C version that is compatible with the Informix database server. To verify compatibility, contact Informix.

Configuring Native Connectivity

Use the following procedure as a guideline to configure connectivity. For specific connectivity instructions, see the database documentation.

To connect to an Informix database:

1. To configure connectivity for the Integration Service process, log in to the machine as a user who can start the server process.

2. Set the INFORMIXDIR, INFORMIXSERVER, DBMONEY, and PATH environment variables.

INFORMIXDIR. Set the variable to the directory where the database client is installed. For example, if the client is installed in the /databases/informix directory:

Using a Bourne shell:

```
$ INFORMIXDIR=/databases/informix; export INFORMIXDIR
```

Using a C shell:

```
$ setenv INFORMIXDIR /databases/informix
```

INFORMIXSERVER. Set the variable to the name of the server. For example, if the name of the Informix server is INFSERVER:

Using a Bourne shell:

```
$ INFORMIXSERVER=INFSERVER; export INFORMIXSERVER
```

Using a C shell:

```
$ setenv INFORMIXSERVER INFSERVER
```

DBMONEY. Set the variable so Informix does not prefix the data with the dollar sign ($) for money datatypes.

Using a Bourne shell:

```
$ DBMONEY=' .'; export DBMONEY
```

Using a C shell:

```
$ setenv DBMONEY=' .'
```

PATH. To run the Informix command line programs, set the variable to include the Informix bin directory.

Using a Bourne shell:

```
$ PATH=${PATH}:$INFORMIXDIR/bin; export PATH
```

Using a C shell:

```
$ setenv PATH ${PATH}:$INFORMIXDIR/bin
```

3. Set the shared library path to include the Informix lib directory.

The Informix client software contains a number of shared library components that the Integration Service process loads dynamically. To locate the shared libraries during run time, set the shared library environment variable.

The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system:

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

For example, use the following syntax for Solaris:

♦ Using a Bourne shell:

```
$ LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$HOME/server_dir:$INFORMIXDIR/lib:
$INFORMIXDIR/lib/esql; export LD_LIBRARY_PATH
```

♦ Using a C shell:

```
$ setenv LD_LIBRARY_PATH
${LD_LIBRARY_PATH}:$HOME/server_dir:$INFORMIXDIR/lib:$INFORMIXDIR/lib/esql
```

For HP-UX:

- ♦ Using a Bourne shell:

  ```
  $ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$INFORMIXDIR/lib:$INFORMIXDIR/lib/esql;
  export SHLIB_PATH
  ```

- ♦ Using a C shell:

  ```
  $ setenv SHLIB_PATH
  ${SHLIB_PATH}:$HOME/server_dir:$INFORMIXDIR/lib:$INFORMIXDIR/lib/esql
  ```

For AIX:

- ♦ Using a Bourne shell:

  ```
  $ LIBPATH=${LIBPATH}:$HOME/server_dir:$INFORMIXDIR/lib:$INFORMIXDIR/lib/esql; export
  LIBPATH
  ```

- ♦ Using a C shell:

  ```
  $ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$INFORMIXDIR/lib:$INFORMIXDIR/lib/esql
  ```

4. Optionally, set the $ONCONFIG environment variable to the Informix configuration file name.

5. If you plan to call Informix stored procedures in mappings, set all of the date parameters to the Informix datatype Datetime year to fraction(5).

6. Make sure the DBDATE environment variable is *not* set.

   For example, to check if DBDATE is set, you might enter the following at a UNIX prompt:

   ```
   $ env | grep -i DBDATE
   ```

   If DBDATE=MDY2/ appears, unset DBDATE by typing:

   ```
   $ unsetenv DBDATE
   ```

7. Edit the .cshrc or .profile to include the complete set of shell commands. Save the file and either log out and log in again, or run the source command.

   Using a Bourne shell:

   ```
   $ source .profile
   ```

   Using a C shell:

   ```
   $ source .cshrc
   ```

8. Verify that the Informix server name is defined in the $INFORMIXDIR/etc/sqlhosts file.

9. Verify that the Service (last column entry for the server named in the sqlhosts file) is defined in the services file (usually /etc/services).

   If not, define the Informix Services name in the Services file.

   Enter the Services name and port number. The default port number is 1525, which should work in most cases.

   For more information, see the Informix and UNIX documentation.

10. Verify that you can connect to the Informix database.

    If you fail to connect to the database, verify that you have correctly entered all the information.

Connecting to an Oracle Database

Install and configure native client software on the machines where Integration Service and Repository Service processes run. To ensure compatibility between the PowerCenter and databases, use the appropriate database client libraries.

Configure connectivity to the following PowerCenter components on UNIX:

♦ **Integration Service.** Install the Oracle client on the machine where the Integration Service process runs. The Integration Service can use native connectivity or ODBC to communicate with Oracle. Use native connectivity for increased performance.

♦ **Repository Service.** If you create an Oracle repository, install the Oracle client on the machine where the Repository Service process runs. The Repository Service uses native connectivity to communicate with Oracle.

Install compatible versions of Oracle client and Oracle database server. You must also install the same version of the Oracle client on the Oracle database server and each machine where Integration Service or Repository Service processes run. To verify compatibility, contact Oracle.

Configuring Native Connectivity

Use the following procedure as a guideline to connect to an Oracle database through Oracle Net Services or Net8. For specific connectivity instructions, see the database documentation.

To connect to an Oracle database:

1. To configure connectivity for the Integration Service or Repository Service process, log in to the machine as a user who can start the server process.

2. Set the ORACLE_HOME, NLS_LANG, TNS_ADMIN, and PATH environment variables.

   ORACLE_HOME. Set the variable to the Oracle client installation directory. For example, if the client is installed in the /HOME2/oracle directory:

   Using a Bourne shell:

   ```
   $ ORACLE_HOME=/HOME2/oracle; export ORACLE_HOME
   ```

   Using a C shell:

   ```
   $ setenv ORACLE_HOME /HOME2/oracle
   ```

   NLS_LANG. Set the variable to the locale (language, territory, and character set) you want the database client and server to use with the login. The value of this variable depends on the configuration. For example, if the value is american_america.UTF8, you must set the variable as follows:

   Using a Bourne shell:

   ```
   $ NLS_LANG=american_america.UTF8; export NLS_LANG
   ```

   Using a C shell:

   ```
   $ NLS_LANG american_america.UTF8
   ```

   To determine the value of this variable, contact the Administrator.

   TNS_ADMIN. Set the variable to the directory where the tnsnames.ora file resides. For example, if the file is in the /HOME2/oracle/network/admin directory:

   Using a Bourne shell:

   ```
   $ TNS_ADMIN=$HOME2/oracle/network/admin; export TNS_ADMIN
   ```

   Using a C shell:

   ```
   $ setenv TNS_ADMIN=$HOME2/oracle/network/admin
   ```

   Setting the TNS_ADMIN is optional, and might vary depending on the configuration.

   PATH. To run the Oracle command line programs, set the variable to include the Oracle bin directory.

   Using a Bourne shell:

   ```
   $ PATH=${PATH}:$ORACLE_HOME/bin; export PATH
   ```

   Using a C shell:

   ```
   $ setenv PATH ${PATH}:ORACLE_HOME/bin
   ```

3. Set the shared library environment variable.

The Oracle client software contains a number of shared library components that the Integration Service and Repository Service processes load dynamically. To locate the shared libraries during run time, set the shared library environment variable.

The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system:

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

For example, use the following syntax for Solaris and Linux:

♦ Using a Bourne shell:

```
$ LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$HOME/server_dir:$ORACLE_HOME/lib; export
LD_LIBRARY_PATH
```

♦ Using a C shell:

```
$ setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$HOME/server_dir:$ORACLE_HOME/lib
```

For HP-UX

♦ Using a Bourne shell:

```
$ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$ORACLE_HOME/lib; export SHLIB_PATH
```

♦ Using a C shell:

```
$ setenv SHLIB_PATH ${SHLIB_PATH}:$HOME/server_dir:$ORACLE_HOME/lib
```

For AIX

♦ Using a Bourne shell:

```
$ LIBPATH=${LIBPATH}:$HOME/server_dir:$ORACLE_HOME/lib; export LIBPATH
```

♦ Using a C shell:

```
$ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$ORACLE_HOME/lib
```

4. Edit the .cshrc or .profile to include the complete set of shell commands. Save the file and either log out and log in again, or run the source command.

Using a Bourne shell:

```
$ source .profile
```

Using a C shell:

```
$ source .cshrc
```

5. Verify that the Oracle client is configured to access the database.

Use the SQL*Net Easy Configuration Utility or copy an existing tnsnames.ora file to the home directory and modify it.

The tnsnames.ora file is stored in the $ORACLE_HOME/network/admin directory.

Enter the correct syntax for the Oracle connect string, typically *databasename*.world.

Here is a sample tnsnames.ora. You need to enter the information for the database.

```
mydatabase.world =
    (DESCRIPTION
    (ADDRESS_LIST =
        (ADDRESS =
```

```
            (COMMUNITY = mycompany.world
            (PROTOCOL = TCP)
            (Host = mymachine)
            (Port = 1521)
        )
    )
    (CONNECT_DATA =
        (SID = MYORA7)
        (GLOBAL_NAMES = mydatabase.world)
```

6. Verify that you can connect to the Oracle database.

   To connect to the Oracle database, launch SQL*Plus and enter the connectivity information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information.

   Enter the user name and connect string as defined in tnsnames.ora.

Connecting to a Sybase ASE Database

Install and configure native client software on the machines where Integration Service and Repository processes run. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Configure connectivity to the following PowerCenter components on UNIX:

♦ **Integration Service.** Install Open Client on the machine where the Integration Service process runs. The Integration Service can use native connectivity or ODBC to communicate with Sybase ASE. Use native connectivity for increased performance.

♦ **Repository Service.** If you create an Sybase ASE repository, install Open Client on the machine where the Repository Service process runs. The Repository Service uses native connectivity to communicate with Sybase ASE.

Note: If you want to create, restore, or upgrade a Sybase ASE repository, set *allow nulls by default* to TRUE at the database level. Setting this option changes the default null type of the column to null in compliance with the SQL standard.

Install Open Client version that is compatible with the Sybase ASE database server. You must also install the same version of Open Client on the machines hosting the Sybase ASE database and PowerCenter. To verify compatibility, contact Sybase.

Configuring Native Connectivity

Use the following procedure as a guideline to connect to a Sybase ASE database. For specific connectivity instructions, see the database documentation.

To connect to a Sybase ASE database:

1. To configure connectivity to the Integration Service or Repository Service, log in to the machine as a user who can start the server process.

2. Set the SYBASE and PATH environment variables.

   SYBASE. Set the variable to the Sybase Open Client installation directory. For example if the client is installed in the /usr/sybase directory:

   Using a Bourne shell:

   ```
   $ SYBASE=/usr/sybase; export SYBASE
   ```

   Using a C shell:

   ```
   $ setenv SYBASE /usr/sybase
   ```

PATH. To run the Sybase command line programs, set the variable to include the Sybase bin directory.

Using a Bourne shell:

```
$ PATH=${PATH}:/usr/sybase/bin; export PATH
```

Using a C shell:

```
$ setenv PATH ${PATH}:/usr/sybase/bin
```

3. Set the shared library environment variable.

    The Sybase Open Client software contains a number of shared library components that the Integration Service and the Repository Service processes load dynamically. To locate the shared libraries during run time, set the shared library environment variable.

    The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

    Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system.

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

For example, use the following syntax for Solaris and Linux:

♦ Using a Bourne shell:

```
$ LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$HOME/server_dir:$SYBASE/lib; export
LD_LIBRARY_PATH
```

♦ Using a C shell:

```
$ setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$HOME/server_dir:$SYBASE/lib
```

For HP-UX

♦ Using a Bourne shell:

```
$ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$SYBASE/lib; export SHLIB_PATH
```

♦ Using a C shell:

```
$ setenv SHLIB_PATH ${SHLIB_PATH}:$HOME/server_dir:$SYBASE/lib
```

For AIX

♦ Using a Bourne shell:

```
$ LIBPATH=${LIBPATH}:$HOME/server_dir:$SYBASE/lib; export LIBPATH
```

♦ Using a C shell:

```
$ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$SYBASE/lib
```

4. Edit the .cshrc or .profile to include the complete set of shell commands. Save the file and either log out and log in again, or run the source command.

    Using a Bourne shell:

```
$ source .profile
```

    Using a C shell:

```
$ source .cshrc
```

5. Verify the Sybase ASE server name in the Sybase interfaces file stored in the $SYBASE directory.

6. Verify that you can connect to the Sybase ASE database.

To connect to the Sybase ASE database, launch ISQL and enter the connectivity information. If you fail to connect to the database, verify that you correctly entered all of the connectivity information.

User names and database names are case sensitive.

Connecting to a Teradata Database

Install and configure native client software on the machines where Integration Service processes run. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

Install the Teradata BTEQ client software, the Teradata ODBC driver, and any other Teradata client software you need on the machine where the Integration Service process runs.

Note: Based on recommendation from Teradata, Informatica uses ODBC to connect to Teradata. ODBC is a *native* interface for Teradata. To process Teradata bigint data, use the Teradata ODBC driver version 03.06.00.02 or later. Teradata does not have an ODBC driver for Linux.

Configuring ODBC Connectivity

Use the following procedure as a guideline to configure connectivity. For specific connectivity instructions, see the database documentation.

To connect to a Teradata database on UNIX:

1. To configure connectivity for the Integration Service process, log in to the machine as a user who can start a service process.

2. Set the TERADATA_HOME, ODBCHOME, and PATH environment variables.

    TERADATA_HOME. Set the variable to the Teradata driver installation directory. The defaults are as follows:

    Using a Bourne shell:

    ```
    $ TERADATA_HOME=/teradata/usr; export TERADATA_HOME
    ```

    Using a C shell:

    ```
    $ setenv TERADATA_HOME /teradata/usr
    ```

    ODBCHOME. Set the variable to the ODBC installation directory. For example:

    Using a Bourne shell:

    ```
    $ ODBCHOME=/usr/odbc; export ODBCHOME
    ```

    Using a C shell:

    ```
    $ setenv ODBCHOME /usr/odbc
    ```

    PATH. To run the *ivtestlib* utility, to verify that the UNIX ODBC manager can load the driver files, set the variable as follows:

    Using a Bourne shell:

    ```
    PATH="${PATH}:$ODBCHOME/bin:$TERADATA_HOME/bin"
    ```

    Using a C shell:

    ```
    $ setenv PATH ${PATH}:$ODBCHOME/bin:$TERADATA_HOME/bin
    ```

3. Set the shared library environment variable.

    The Teradata software contains a number of shared library components that the Integration Service process loads dynamically. To locate the shared libraries during run time, set the shared library environment variable.

The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system:

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

For example, use the following syntax for Solaris:

♦ Using a Bourne shell:

```
$ LD_LIBRARY_PATH="${LD_LIBRARY_PATH}:$HOME/server_dir:$ODBCHOME/lib:
$TERADATA_HOME/lib:$TERADATA_HOME/odbc/lib";
export LD_LIBRARY_PATH
```

♦ Using a C shell:

```
$ setenv LD_LIBRARY_PATH
"${LD_LIBRARY_PATH}:$HOME/server_dir:$ODBCHOME/lib:$TERADATA_HOME/lib:
$TERADATA_HOME/odbc/lib"
```

For HP-UX

♦ Using a Bourne shell:

```
$ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$ODBCHOME/lib; export SHLIB_PATH
```

♦ Using a C shell:

```
$ setenv SHLIB_PATH ${SHLIB_PATH}:$HOME/server_dir:$ODBCHOME/lib
```

For AIX

♦ Using a Bourne shell:

```
$ LIBPATH=${LIBPATH}:$HOME/server_dir:$ODBCHOME/lib; export LIBPATH
```

♦ Using a C shell:

```
$ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$ODBCHOME/lib
```

4. Edit the existing odbc.ini file or copy the odbc.ini file to the home directory and edit it.

This file exists in $ODBCHOME directory.

```
$ cp $ODBCHOME/odbc.ini $HOME/.odbc.ini
```

Add an entry for the Teradata data source under the section [ODBC Data Sources] and configure the data source.

For example:

```
MY_TERADATA_SOURCE=Teradata Driver
[MY_TERADATA_SOURCE]
Driver=/u01/app/teradata/td-tuf611/odbc/drivers/tdata.so
Description=NCR 3600 running Teradata V1R5.2
DBCName=208.199.59.208
DateTimeFormat=AAA
SessionMode=ANSI
DefaultDatabase=
Username=
Password=
```

5. Set the DateTimeFormat to AAA in the Teradata data ODBC configuration.

6. Optionally, set the SessionMode to ANSI. When you use ANSI session mode, Teradata does not roll back the transaction when it encounters a row error.

If you choose Teradata session mode, Teradata rolls back the transaction when it encounters a row error. In Teradata mode, the Integration Service process cannot detect the rollback, and does not report this in the session log.

7. To configure connection to a single Teradata database, enter the DefaultDatabase name. To create a single connection to the default database, enter the user name and password. To connect to multiple databases, using the same ODBC DSN, leave the DefaultDatabase field empty.

   For more information about Teradata connectivity, consult the Teradata ODBC driver documentation.

8. Verify that the last entry in the odbc.ini is InstallDir and set it to the odbc installation directory.

   For example:

   ```
   InstallDir=/usr/odbc
   ```

9. Edit the .cshrc or .profile to include the complete set of shell commands.

10. Save the file and either log out and log in again, or run the source command.

    Using a Bourne shell:

    ```
    $ source .profile
    ```

    Using a C shell:

    ```
    $ source .cshrc
    ```

11. For each data source you use, make a note of the file name under the Driver=<parameter> in the data source entry in odbc.ini. Use the *ivtestlib* utility to verify that the UNIX ODBC manager can load the driver file.

    For example, if you have the driver entry:

    ```
    Driver=/u01/app/teradata/td-tuf611/odbc/drivers/tdata.so
    ```

    run the following command:

    ```
    ivtestlib /u01/app/teradata/td-tuf611/odbc/drivers/tdata.so
    ```

12. Test the connection using BTEQ or another Teradata client tool.

RELATED TOPICS:

♦ "Sample odbc.ini File" on page 132

Connecting to an ODBC Data Source

Install and configure native client software on the machines where Integration Service and Repository Service processes run. To ensure compatibility between PowerCenter and databases, use the appropriate database client libraries.

To connect the Integration Service process to each ODBC database, you must install and configure any underlying client access software needed by the ODBC driver. If you want to access sources in a Windows environment, such as Microsoft Excel or Access, you must install PowerChannel.

The PowerCenter Services installer installs ODBC drivers for use with the Integration Service in the ODBC5.2 directory under the server directory. The Integration Service uses the System DSN to specify an ODBC data source.

Note: PowerCenter includes DataDirect 5.2 ODBC drivers. If odbc.ini references an earlier version, edit odbc.ini to update your existing connections to use the new drivers.

To connect to an ODBC data source:

1. To configure connectivity for the Integration Service process, log in to the machine as a user who can start a service process.

2. Set the ODBCHOME and PATH environment variables.

   ODBCHOME. Set to the DataDirect ODBC installation directory. For example, if the install directory is /opt/ODBC5.2.

   Using a Bourne shell:

   ```
   $ ODBCHOME=/opt/ODBC5.2; export ODBCHOME
   ```

   Using a C shell:

   ```
   $ setenv ODBCHOME /opt/ODBC5.2
   ```

   PATH. To run the ODBC command line programs, like *ivtestlib*, set the variable to include the odbc bin directory.

   Using a Bourne shell:

   ```
   $ PATH=${PATH}:$ODBCHOME/bin; export PATH
   ```

   Using a C shell:

   ```
   $ setenv PATH ${PATH}:$ODBCHOME/bin
   ```

   Run the *ivtestlib* utility to verify that the UNIX ODBC manager can load the driver files.

3. Set the shared library environment variable.

   The ODBC software contains a number of shared library components that the Integration Service and Repository Service processes load dynamically. To locate the shared libraries during run time, set the shared library environment variable.

   The shared library path must also include the PowerCenter Services installation directory *(server_dir)*.

   Set the shared library environment variable based on the operating system. The following table describes the shared library variables for each operating system:

Operating System	Variable
Solaris	LD_LIBRARY_PATH
Linux	LD_LIBRARY_PATH
AIX	LIBPATH
HP-UX	SHLIB_PATH

   For example, use the following syntax for Solaris and Linux:

   - Using a Bourne shell:

     ```
     $ LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:$HOME/server_dir:$ODBCHOME/lib; export LD_LIBRARY_PATH
     ```

   - Using a C shell:

     ```
     $ setenv LD_LIBRARY_PATH $HOME/server_dir:$ODBCHOME:${LD_LIBRARY_PATH}
     ```

   For HP-UX

   - Using a Bourne shell:

     ```
     $ SHLIB_PATH=${SHLIB_PATH}:$HOME/server_dir:$ODBCHOME/lib; export SHLIB_PATH
     ```

   - Using a C shell:

     ```
     $ setenv SHLIB_PATH ${SHLIB_PATH}:$HOME/server_dir:$ODBCHOME/lib
     ```

   For AIX

   - Using a Bourne shell:

     ```
     $ LIBPATH=${LIBPATH}:$HOME/server_dir:$ODBCHOME/lib; export LIBPATH
     ```

♦ Using a C shell:

```
$ setenv LIBPATH ${LIBPATH}:$HOME/server_dir:$ODBCHOME/lib
```

4. Edit the existing odbc.ini file or copy the odbc.ini file to the home directory and edit it.

This file exists in $ODBCHOME directory.

```
$ cp $ODBCHOME/odbc.ini $HOME/.odbc.ini
```

Add an entry for the ODBC data source under the section [ODBC Data Sources] and configure the data source.

For example:

```
MY_MSSQLSERVER_ODBC_SOURCE=<Driver name or Data source description>
[MY_SQLSERVER_ODBC_SOURCE]
Driver=<path to ODBC drivers>
Description=DataDirect 5.2 SQL Server Wire Protocol
Database=<SQLServer_database_name>
LogonID=<username>
Password=<password>
Address=<TCP/IP address>,<port number>
QuoteId=No
AnsiNPW=No
ApplicationsUsingThreads=1
```

This file might already exist if you have configured one or more ODBC data sources.

5. Verify that the last entry in the odbc.ini is InstallDir and set it to the odbc installation directory.

For example:

```
InstallDir=/usr/odbc
```

6. If you use the odbc.ini file in the home directory, set the ODBCINI environment variable.

Using a Bourne shell:

```
$ ODBCINI=/$HOME/.odbc.ini; export ODBCINI
```

Using a C shell:

```
$ setenv ODBCINI $HOME/.odbc.ini
```

7. Edit the .cshrc or .profile to include the complete set of shell commands. Save the file and either log out and log in again, or run the source command.

Using a Bourne shell:

```
$ source .profile
```

Using a C shell:

```
$ source .cshrc
```

8. Use the *ivtestlib* utility to verify that the UNIX ODBC manager can load the driver file you specified for the data source in the odbc.ini file.

For example, if you have the driver entry:

```
Driver = /opt/odbc/lib/DWxxxx.so
```

run the following command:

```
ivtestlib /opt/odbc/lib/DWxxxx.so
```

9. Install and configure any underlying client access software needed by the ODBC driver.

Note: While some ODBC drivers are self-contained and have all information inside the .odbc.ini file, most are not. For example, if you want to use an ODBC driver to access Oracle, you must install the Oracle SQL*NET software and set the appropriate environment variables. Verify such additional software configuration separately before using ODBC.

Sample odbc.ini File

```
[ODBC Data Sources]
DB2 Wire Protocol=DataDirect 5.2 DB2 Wire Protocol
Informix Wire Protocol=DataDirect 5.2 Informix Wire Protocol
Oracle Wire Protocol=DataDirect 5.2 Oracle Wire Protocol
Oracle=DataDirect 5.2 Oracle
SQLServer Wire Protocol=DataDirect 5.2 SQL Server Wire Protocol
Sybase Wire Protocol=DataDirect 5.2 Sybase Wire Protocol

[DB2 Wire Protocol]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/dddb222.so
Description=DataDirect 5.2 DB2 Wire Protocol
AddStringToCreateTable=
AlternateID=
AlternateServers=
ApplicationUsingThreads=1
CatalogSchema=
CharsetFor65535=0
#Collection applies to OS/390 and AS/400 only
Collection=
ConnectionRetryCount=0
ConnectionRetryDelay=3
#Database applies to DB2 UDB only
Database=<database_name>
DynamicSections=200
GrantAuthid=PUBLIC
GrantExecute=1
IpAddress=<DB2_server_host>
LoadBalancing=0
#Location applies to OS/390 and AS/400 only
Location=<location_name>
LogonID=
Password=
PackageOwner=
ReportCodePageConversionErrors=0
SecurityMechanism=0
TcpPort=<DB2_server_port>
UseCurrentSchema=1
WithHold=1

[Informix Wire Protocol]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/ddifcl22.so
Description=DataDirect 5.2 Informix Wire Protocol
AlternateServers=
ApplicationUsingThreads=1
CancelDetectInterval=0
ConnectionRetryCount=0
ConnectionRetryDelay=3
Database=<database_name>
HostName=<Informix_host>
LoadBalancing=0
LogonID=
Password=
PortNumber=<Informix_server_port>
ReportCodePageConversionErrors=0
ServerName=<Informix_server>
TrimBlankFromIndexName=1

[Test]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/ddora22.so
Description=DataDirect 5.2 Oracle Wire Protocol
AlternateServers=
ApplicationUsingThreads=1
ArraySize=60000
CachedCursorLimit=32
CachedDescLimit=0
CatalogIncludesSynonyms=1
CatalogOptions=0
ConnectionRetryCount=0
ConnectionRetryDelay=3
DefaultLongDataBuffLen=1024
DescribeAtPrepare=0
EnableDescribeParam=0
```

```
EnableNcharSupport=0
EnableScrollableCursors=1
EnableStaticCursorsForLongData=0
EnableTimestampWithTimeZone=0
HostName=hercules
LoadBalancing=0
LocalTimeZoneOffset=
LockTimeOut=-1
LogonID=ksuthan
Password=an3d45jk
PortNumber=1531
ProcedureRetResults=0
ReportCodePageConversionErrors=0
ServiceType=0
ServiceName=
SID=SUN10G
TimeEscapeMapping=0
UseCurrentSchema=1

[Oracle]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/ddor822.so
Description=DataDirect 5.2 Oracle
AlternateServers=
ApplicationUsingThreads=1
ArraySize=60000
CatalogIncludesSynonyms=1
CatalogOptions=0
ClientVersion=9iR2
ConnectionRetryCount=0
ConnectionRetryDelay=3
DefaultLongDataBuffLen=1024
DescribeAtPrepare=0
EnableDescribeParam=0
EnableNcharSupport=0
EnableScrollableCursors=1
EnableStaticCursorsForLongData=0
EnableTimestampWithTimeZone=0
LoadBalancing=0
LocalTimeZoneOffset=
LockTimeOut=-1
LogonID=
OptimizeLongPerformance=0
Password=
ProcedureRetResults=0
ReportCodePageConversionErrors=0
ServerName=<Oracle_server>
TimestampEscapeMapping=0
UseCurrentSchema=1

[SQLServer Wire Protocol]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/ddmsss22.so
Description=DataDirect 5.2 SQL Server Wire Protocol
Address=<SQLServer_host, SQLServer_server_port>
AlternateServers=
AnsiNPW=Yes
ConnectionRetryCount=0
ConnectionRetryDelay=3
Database=<database_name>
LoadBalancing=0
LogonID=
Password=
QuotedId=No
ReportCodePageConversionErrors=0

[Sybase Wire Protocol]
Driver=/home/ksuthan/odbc/52/solaris32/installed/lib/ddase22.so
Description=DataDirect 5.2 Sybase Wire Protocol
AlternateServers=
ApplicationName=
ApplicationUsingThreads=1
ArraySize=50
Charset=
ConnectionRetryCount=0
ConnectionRetryDelay=3
CursorCacheSize=1
Database=<database_name>
DefaultLongDataBuffLen=1024
EnableDescribeParam=0
EnableQuotedIdentifiers=0
InitializationString=
Language=
LoadBalancing=0
LogonID=
NetworkAddress=<Sybase_host, Sybase_server_port>
OptimizePrepare=1
PacketSize=0
```

```
Password=
RaiseErrorPositionBehavior=0
ReportCodePageConversionErrors=0
SelectMethod=0
TruncateTimeTypeFractions=0
WorkStationID=

[ODBC]
IANAAppCodePage=4
InstallDir=/home/ksuthan/odbc/52/solaris32/installed
Trace=0
TraceDll=/home/ksuthan/odbc/52/solaris32/installed/lib/odbctrac.so
TraceFile=odbctrace.out
UseCursorLib=0
```

Part V: Appendixes

This part includes the following appendixes:

Managing Informatica Services

This appendix includes the following topics:

Overview

Informatica Services is the name of the service or daemon that runs on each node. Informatica Services is started on each node when you complete installation. Informatica Services starts the Service Manager for a node. The Service Manager runs within Informatica Services. The Service Manager runs application services on a node. The method you use to start and stop Informatica Services depends on the operating system. You can also use the Administration Console to shut down a node. When you shut down a node, you stop Informatica Services on the node.

To manage Informatica Services, you can perform the following tasks:

♦ **Configure the Informatica Services service on Windows**. You can configure the service behavior when the operating system starts or when the service fails, and configure the user account that logs on to the service. For more information, see "Configuring Informatica Services" on page 137.

♦ **Start and stop Informatica Services on UNIX.** Start and stop Informatica Services from the command line. For more information, see "Starting and Stopping Informatica Services on UNIX" on page 138.

♦ **Start and stop Informatica Services on Windows.** Start and stop Informatica Services from the Windows Start Menu or from Windows Services. For more information, see "Starting and Stopping Informatica Services on Windows" on page 138.

♦ **Review rules and guidelines**. Review the rules and guidelines to start and stop Informatica Services. For more information, see "Rules and Guidelines to Manage Informatica Services" on page 139.

Configuring Informatica Services

You can configure the Informatica Services service on Windows. You can configure the service behavior when the operating system starts or when the service fails, and configure the user account that logs on to the service.

Use the following rules and guidelines when you configure the user account that logs on to the service:

♦ If you store files on a network drive, use a system account instead of the Local System account to run Informatica Services.

♦ If you configure shared storage on a network drive to store files used by the domain or the application services that run on the domain, the user account that runs Informatica Services must have access to the shared location.

♦ If you want to use the Local System account, make sure the user starting Informatica Services has access to the network location.

♦ If the user account used to start Informatica Services cannot access the shared storage location, service processes on the node fail or the node or domain will not start.

♦ If you configure a system user account, the user account must have the *Act as operating system* permission. For more information, see the Windows documentation.

To configure Informatica Services service:

1. From the Start Menu, click Administrative Tools > Services.

2. Double-click Informatica Services.

   The Informatica Services Properties dialog box appears.

3. Click the Log On tab.

4. Select This account.

5. Enter the domain and user name or click Browse to locate a system user.

6. Enter and confirm the password for the selected user account.

7. Click the Recovery tab. Select the options to restart Informatica Services if the service fails.

For more information about configuring system accounts for services and service restart options on Windows, see the Windows documentation.

Starting and Stopping Informatica Services on UNIX

On UNIX, you use the *infaservice* command to start and stop Informatica Services. By default, *infaservice* is installed in the server/tomcat/bin directory in the PowerCenter Services installation directory.

To start or stop Informatica Services on UNIX:

1. At the command prompt, switch to the directory where the *infaservice* executable is located.

2. At the command prompt, enter the following command to start or stop the Service Manager:

   ```
   infaservice [startup | shutdown]
   ```

Note: If you use a softlink to specify the location of *infaservice*, set the INFA_HOME environment variable to the location of the PowerCenter Services installation directory.

Starting and Stopping Informatica Services on Windows

The PowerCenter installer installs Informatica Services as a service with the following name:

```
Informatica Services <Version>
```

You can start and stop Informatica Services by starting and stopping the service using Windows Services or by using the Windows shortcut.

To use Windows Services to start or stop the Informatica Services service:

1. From the Start Menu, click Administrative Tools > Services.

2. Double-click Informatica Services.

   The Informatica Services *<Version>* Properties dialog box appears.

3. If the service is running, click Stop.

   -or-

   If the service is stopped, click Start.

To start or stop Informatica Services using the Start menu:

▶ Choose Start menu > Informatica PowerCenter [*Version*] > Services > Stop | Start Informatica Services.

Stopping Informatica Services Using the Administration Console

When you shut down a node using the Administration Console, you stop Informatica Services on that node. You can abort the processes that are running or allow them to complete. If you abort a node running Repository Service processes, you can lose changes that have not yet been written to the repository. If you abort a node running Integration Service processes, the workflows will abort.

To shut down a node in the Administration Console:

1. Log in to the Administration Console.

2. Select the node in the Navigator.

3. Click Shutdown in the Main window.

Rules and Guidelines to Manage Informatica Services

Use the following rules and guidelines when starting and stopping Informatica Services on a node:

♦ When you shut down a node, the node is unavailable to the domain. If you shut down a gateway node and do not have another gateway node in the domain, the domain is unavailable.

♦ When you start Informatica Services, verify that the port used by Informatica Services on the node is available. For example, if you stop Informatica Services on a node and then restart Informatica Services, verify that another process on the machine is not using the port. If the port is not available, Informatica Services will fail to start on the node.

♦ If you do not use the Administration Console to shut down a node, any process running on the node will be aborted. If you want to wait for all processes to complete before shutting down a node, use the Administration Console.

♦ If you have two nodes in a domain with one node configured as a primary node for an application service and the other node configured as a backup node, start Informatica Services on the primary node before you start the backup node. Otherwise, the application service will run on the backup node and not the primary node.

A P P E N D I X B

Logging in to the Administration Console

This appendix includes the following topic:

Logging In to the Administration Console

When you create a domain, the Administration Console is created on the gateway node of the domain. Log in to the Administration Console to configure application services and nodes in the domain.

To log in to the Administration Console:

1. Open Microsoft Internet Explorer or Mozilla Firefox.

2. In the Address field, enter the following URL for the Administration Console login page:

   ```
   http://<host>:<port>/adminconsole
   ```

   In the URL, <host>:<port> represents the host name and port number of any gateway node. If you are not using the Internet Explorer Enhanced Security Configuration, you can enter the following URL, and the browser is directed to the full URL for the login page:

   ```
   http://<host>:<port>
   ```

   If you configure HTTPS for the Administration Console, the HTTP URL redirects to the following HTTPS enabled site:

   ```
   https://<host>:<https port>/adminconsole
   ```

   If the node is configured for HTTPS with a keystore that uses a self-signed certificate, a warning message appears. To enter the site, accept the certificate.

   The Informatica PowerCenter Administration Console login page appears.

3. Enter the domain user name and password.

   The first time you log in to the Administration Console, use the domain administrator user name and password you entered when you created the domain with the installer.

4. Click Login.

   The PowerCenter Administration Assistant appears.

5. Select one of the following options:

Option	Description
Configuration Assistant	Start the Configuration Assistant to create PowerCenter or Metadata Manager services.
Configuration Documentation	Get help on the Configuration Assistant.
Upgrade Services	Start the Upgrade Wizard to upgrade PowerCenter 7.x or PowerCenter 8.x.
Upgrade Services Documentation	Get help on the Upgrade Wizard.
Administration Console	Go to the Administration Console.

6. Click 'Don't show this dialog again' if you do not want to view the Administration Assistant the next time you log in.

7. Select the administration component you want to use or the documentation you want to read.

APPENDIX C

LANG Environment Variable for Linux

This appendix includes the following topic:

♦ LANG Environment Variable, 143

LANG Environment Variable

When you set up the locale on a Linux machine, you can specify one of many values for the locale in the LANG environment variable. PowerCenter accepts a subset of all possible values that Linux accepts. If you install PowerCenter on a Linux machine, use one of the valid values for the LANG environment variable.

The following table provides a list of values that PowerCenter accepts for the LANG environment variable:

Language	Territory/Region	Locale
Basque	Spain	eu_ES
CanadianFrench	French-Canada	fr_CA
Catalan	Catalonia	ca_ES
Croatian	Croatia	croatian
Croatian	Croatia	hr_HR
Czech	Czech Republic	czech
Czech	Czech Republic	cs_CZ
Danish	Denmark	da_DK
Danish	Denmark	da_DK.iso885915
Danish	Denmark	danish
Danish	Denmark	dansk
Dutch	Dutch-Belgium	nl_BE.iso885915
Dutch	Dutch-Belgium	nl_BE
Dutch	Netherlands	dutch
Dutch	Netherlands	nl_NL
Dutch	Netherlands	nl_NL.iso885915

Language	Territory/Region	Locale
English	Australia	en_AU
English	Canada	en_CA
English	Denmark	en_DK
English	Ireland	en_IE
English	United Kingdom	en_GB
English	United Kingdom	en_GB.iso885915
English	United States	C
English	United States	en_US
English	United States	en_US.utf8
English	United States	POSIX
English	United States	en_US.iso88591
Estonian	Estonia	et_EE
Faroese	Faroes	fo_FO
Finnish	Finland	fi_FI
Finnish	Finland	fi_FI.iso885915
Finnish	Finland	finnish
French	France	fr_FR
French	France	fr_FR.iso885915
French	France	french
French	French-Belgium	fr_BE
French	French-Belgium	fr_BE.iso885915
French	French-Switzerland	fr_CH
French	Luxembourg	fr_LU
German	Austria	de_AT
German	Austria	de_AT.iso885915
German	German-Switzerland	de_CH
German	Germany	de_DE
German	Germany	deutsch
German	Germany	german
German	Luxembourg	de_LU
Greek	Greece	el_GR
Greek	Greece	el_GR.iso88597
Greek	Greece	greek
Hebrew	Israel	hebrew
Hebrew	Israel	iw_IL
Hungarian	Hungary	hu_HU
Hungarian	Hungary	hungarian
Icelandic	Iceland	icelandic
Icelandic	Iceland	is_IS

Language	Territory/Region	Locale
Indonesian	Indonesia	id_ID
Irish	Ireland	ga_IE
Italian	Italian-Switzerland	it_CH
Italian	Italy	it_IT
Italian	Italy	it_IT.iso885915
Italian	Italy	it_IT.utf8
Italian	Italy	italian
Japanese	Japan	ja_JP.eucjp
Japanese	Japan	ja_JP.sjis
Japanese	Japan	ja_JP.utf8
Korean	Korea	ko_KR
Korean	Korea	ko_KR.euckr
Latvian	Latvia	lv_LV
Lithuanian	Lithuania	lt_LT
Macedonian	Macedonia	mk_MK
Norwegian	Norway	no_NO
Norwegian	Norway	norwegian
Norwegian	Norway	nynorsk
Polish	Poland	pl_PL
Polish	Poland	polish
Portuguese	Brazil	pt_BR
Portuguese	Portugal	portuguese
Portuguese	Portugal	pt_PT
Portuguese	Portugal	pt_PT.iso885915
Romanian	Romania	ro_RO
Romanian	Romania	romanian
Russian	Russia	ru_RU
Russian	Russia	ru_RU.koi8r
Russian	Ukraine	ru_UA
Serbian	Yugoslavia	sr
Serbian	Yugoslavia	sr_YU
Simplified Chinese	China	zh_CN.gbk
Simplified Chinese	China	zh_CN
Slovak	Slovakia	sk_SK
Slovak	Slovakia	slovak
Slovenian	Slovenia	slovene
Slovenian	Slovenia	slovenian
Slovenian	Slovenia	sl_SI
Spanish	Dominican Republic	es_DO

Language	Territory/Region	Locale
Spanish	El Salvador	es_SV
Spanish	Guatemala	es_GT
Spanish	Honduras	es_HN
Spanish	Mexico	es_MX
Spanish	Panama	es_PA
Spanish	Peru	es_PE
Spanish	Spain	spanish
Spanish	Spain	es_ES.iso885915
Spanish	Spain	es_ES.utf8
Spanish	Spain	es_ES
Swedish	Finland	sv_FI
Swedish	Sweden	sv_SE
Swedish	Sweden	sv_SE.iso885915
Swedish	Sweden	swedish
TraditionalChinese	Taiwan	zh_TW.big5
Ukrainian	Ukraine	uk_UA

APPENDIX D

JDBC Drivers

This appendix includes the following topic:

♦ Installed JDBC Drivers, 147

Installed JDBC Drivers

The following table describes the details on the JDBC drivers installed with PowerCenter for Data Analyzer and Metadata Manager:

Oracle	
Vendor:	Informatica (Shipped with PowerCenter)
JDBC Driver and Type:	DataDirect Connect for JDBC, Type 4
JDBC Driver Name:	`com.informatica.jdbc.oracle.OracleDriver`

Database URL:	Oracle:
	`jdbc:informatica:oracle://`*host_name*`:`*port*`:SID=`*sid*
	Oracle RAC:
	`jdbc:informatica:oracle://`*host_name*`:`*port*`;`
	`ServiceName=[Service`
	`Name];AlternateServers=(server2:port);LoadBal`
	`ancing=true`

Default Database Port:	1521
Microsoft SQL Server	
Vendor:	Informatica (Shipped with PowerCenter)
JDBC Driver and Type:	DataDirect Connect for JDBC, Type 4
JDBC Driver Name:	`com.informatica.jdbc.sqlserver.SQLServerDrive` `r`
Database URL:	`jdbc:informatica:sqlserver://`*host_name*`:`*port*`;` `SelectMethod=cursor;DatabaseName=`*database_name*
Default Database Port:	1433
IBM DB2	
Vendor:	Informatica (Shipped with PowerCenter)
JDBC Driver Type:	DataDirect Connect for JDBC, Type 4
JDBC Driver Name:	`com.informatica.jdbc.db2.DB2Driver`

Database URL:	`jdbc:informatica:db2://host_name:port;` `DatabaseName=database_name`	
Default Database Port:	50000	
Sybase ASE		
Vendor:	Informatica (Shipped with PowerCenter)	
JDBC Driver and Type:	DataDirect Connect for JDBC, Type 4	
JDBC Driver Name:	`com.informatica.jdbc.sybase.SybaseDriver`	
Database URL:	`jdbc:informatica:sybase://host_name:port;Data` `baseName=database_name`	
Default Database Port:	2048	

The following table describes the information you need to supply in the database URL for the supported JDBC drivers:

Element	Description
host_name	IP address or host name of the machine hosting the database server.
port	Port number of the database server.
sid	Unique system identifier that represents an instance of an Oracle database in a server.
database_name	Name of the database to connect to.

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