INFORMATICA®

Informatica (Version 9.0.1)

Data Quality Installation and Configuration Guide

Informatica Data Quality Installation and Configuration Guide

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Preface

The *Installation and Configuration Guide* is written for the system administrator who is responsible for installing the Informatica product. This guide assumes you have knowledge of 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.

Informatica Resources

Informatica Customer Portal

As an Informatica customer, you can access the Informatica Customer Portal site at http://mysupport.informatica.com. The site contains product information, user group information, newsletters, access to the Informatica customer support case management system (ATLAS), the Informatica How-To Library, the Informatica Knowledge Base, the Informatica Multimedia Knowledge Base, Informatica Product Documentation, and access to the Informatica user community.

Informatica Documentation

The Informatica Documentation team takes every effort to create accurate, usable documentation. If you have questions, comments, or ideas about this documentation, contact the Informatica Documentation team through email at infa_documentation@informatica.com. We will use your feedback to improve our documentation. Let us know if we can contact you regarding your comments.

The Documentation team updates documentation as needed. To get the latest documentation for your product, navigate to Product Documentation from http://mysupport.informatica.com.

Informatica Web Site

You can access the Informatica corporate web site at http://www.informatica.com. The site contains information about Informatica, its background, upcoming events, and sales offices. You will also find product and partner information. The services area of the site includes important information about technical support, training and education, and implementation services.

Informatica How-To Library

As an Informatica customer, you can access the Informatica How-To Library at http://mysupport.informatica.com. The How-To Library is a collection of resources to help you learn more about Informatica products and features. It includes articles and interactive demonstrations that provide solutions to common problems, compare features and behaviors, and guide you through performing specific real-world tasks.

Informatica Knowledge Base

As an Informatica customer, you can access the Informatica Knowledge Base at http://mysupport.informatica.com. Use the Knowledge Base to search for documented solutions to known technical issues about Informatica products. You can also find answers to frequently asked questions, technical white papers, and technical tips. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team through email at KB_Feedback@informatica.com.

Informatica Multimedia Knowledge Base

As an Informatica customer, you can access the Informatica Multimedia Knowledge Base at http://mysupport.informatica.com. The Multimedia Knowledge Base is a collection of instructional multimedia files that help you learn about common concepts and guide you through performing specific tasks. If you have questions, comments, or ideas about the Multimedia Knowledge Base, contact the Informatica Knowledge Base team through email at KB_Feedback@informatica.com.

Informatica Global Customer Support

You can contact a Customer Support Center by telephone or through the Online Support. Online Support requires a user name and password. You can request a user name and password at http://mysupport.informatica.com.

Use the following telephone numbers to contact Informatica Global Customer Support:

North America / South America	Europe / Middle East / Africa	Asia / Australia
Toll Free Brazil: 0800 891 0202 Mexico: 001 888 209 8853 North America: +1 877 463 2435 **Standard Rate** North America: +1 650 653 6332	**Toll Free** France: 00800 4632 4357 Germany: 00800 4632 4357 Israel: 00800 4632 4357 Italy: 800 915 985 Netherlands: 00800 4632 4357 Portugal: 800 208 360 Spain: 900 813 166 Switzerland: 00800 4632 4357 or 0800 463 200 United Kingdom: 00800 4632 4357 or 0800 023 4632 **Standard Rate** Belgium: +32 15 281 702 France: 0805 804632 Germany: +49 1805 702 702 Netherlands: +31 306 022 797	**Toll Free** Australia: 1 800 151 830 New Zealand: 1 800 151 830 Singapore: 001 800 4632 4357 **Standard Rate** India: +91 80 4112 5738

CHAPTER 1

Installation Overview

This chapter includes the following topics:

Informatica Installation

The Informatica platform consists of a server component (Informatica services) and a client component. Informatica provides separate installers to install the Informatica services and clients.

The Informatica platform includes the following products:

- Informatica Data Quality and Informatica Data Explorer AE

  Note: The procedure to install Informatica Data Quality is the same as the procedure to install Informatica Data Explorer AE.
- Informatica Data Services
- PowerCenter

The Informatica platform also includes components for PowerExchange and for Data Services and Data Quality adapters.

Installation of Multiple Products

If you purchase more than one Informatica product, you need to install the Informatica platform only once.

Before you install Informatica, review the requirements and pre-installation tasks for the products that you purchase. Verify that the machine where you install Informatica meets the requirements for all products. Most of the steps in the installation process are common to all Informatica products. You need to perform these steps only once.

Install the Informatica platform once on each machine that you want to use as a node in the Informatica domain. Verify that you have all licenses required for the products that you want to use.

After you install the Informatica platform, review the post-installation tasks for your product. Complete the configuration tasks for all the products you want to use. Most of the configuration tasks are common to all Informatica products. You need to perform the common tasks only once.

Installation Tasks

To install Data Quality, complete the following tasks:

1. Complete the pre-installation tasks. Complete the pre-installation tasks to ensure that you can successfully run the installers and create and run the services on the domain.
2. Install the Informatica services. Use the server installer to install the Informatica services on one or more Windows or UNIX machines. Create a node and configure the domain. Specify the database to store the domain configuration repository.
3. Install the Informatica client. Use the client installer to install Informatica Developer. You can install Informatica Developer on one or more Windows machines.
4. Perform the post-installation configuration tasks. Prepare the databases and user accounts for the repositories used in Data Quality. Configure the machine to ensure that you can run the domain services and components.

After you complete the installation and configuration process, log in to the Administrator tool and create and configure the following services:

- Model Repository Service
- Data Integration Service
- Analyst Sevice

Informatica Services

The domain is the main administrative unit for the informatica platform. The Informatica domain is a collection of nodes that represent the machines on which the application services run. Each node in the domain runs a Service Manager that manages domain operations on that node. The Service Manager manages operations and services in the domain. You use the Administrator tool to manage the Informatica domain.

You can run the server installer multiple times to install the Informatica services on more than one machine.

If you install on a single machine, you create a domain and a node on the machine. If you install on multiple machines, you can create multiple domains with one or more nodes in each domain or you can create one domain for all nodes.

If you install on multiple machines, you must create an Informatica domain and a node when you install the Informatica services for the first time. When you install on another machine, you can create another domain and node, or you can create a node and join the node to an existing domain. You manage each domain through a separate Administrator tool.

You can install the Informatica services in graphical or silent mode on Windows and in graphical, silent, or console mode on UNIX. The installation process creates a service named Informatica that runs as a service on Windows and as a daemon on UNIX. When you start the Informatica service, it starts the Service Manager, which manages all domain operations.

Data Quality Application Services

The Informatica domain has the following application services for Data Quality:

- Data Integration Service. Performs data integration tasks for the Analyst tool and the Developer tool and stores metadata in the Model repository.
- Model Repository Service. Manages connections to the Model repository.
- Analyst Service. Runs Informatica Analyst.

Informatica Clients

The Informatica clients consist of client applications and web applications that you use to access the services in the domain. You can install the Informatica clients on Windows in graphical or silent mode.

Data Quality Client Tools

Data Quality has the following client tools:

- Informatica Developer. Use the client installer to install Informatica Developer. The Developer tool is a client application that you use to create and run mappings, data objects, and virtual databases. Objects created in the Developer tool are stored in a Model repository and are run by a Data Integration Service.
- Informatica Analyst. After you install Informatica Services, you can log in to the Administrator tool to create an Analyst Service to run the Analyst tool. The Analyst tool is a web application that you use to create profiles and scorecards. Objects created in the Analyst tool are stored in a Model repository and are run by a Data Integration Service.

Quick Start Guides

Informatica provides Quick Start guides for the Informatica installation. You can use the installation Quick Start guides to track the information you will need when you install Informatica, such as database names and connection strings, user accounts, and port numbers.

You can get the Quick Start guides from the How-To Library at http://mysupport.informatica.com.

CHAPTER 2

Before You Install

This chapter includes the following topics:

Pre-Installation Requirements

Before you start the installation, set up the machine to meet the requirements for installing and running the Informatica platform. If the machine where you install the Informatica services is not configured correctly, the installation can fail.

Informatica provides a tool that you can use to determine if the machine where you install the Informatica services is configured correctly. Use the Informatica 9 Pre-Installer tool (i9Pi) to verify that the machine meets the system and database requirements and has enough temporary disk space. To download the i9Pi tool, go to the URL provided in the email message you receive from Informatica when you purchase the product. For more information, refer to Informatica Knowledge Base article 113590, or contact Informatica Global Customer Support.

Minimum System Requirements

The minimum requirements for the Informatica services depend on the domain components and application services that you use. The requirements for the Informatica clients depend on the client tool you install.

Informatica Services

You can create an Informatica domain with one node and run all application services on the same node. If you create an Informatica domain with multiple nodes, you can run the application services on separate nodes.

The following table describes the minimum system requirements for a domain with different node configurations:

Component	Processor	RAM	Disk Space	Operating System
Domain with all Data Quality, Data Services, and PowerCenter services running on one node	4 CPU	8 GB	20 GB	Windows 2003 / 2008 Sun Solaris HP-UX IBM AIX Red Hat Linux SUSE Linux
Domain with Data Quality and Data Services application services running on one node: - Data Integration Service - Model Repository Service - Analyst Service	2 CPU	4 GB	20 GB	

Informatica Clients

You can install all Informatica client tools on the same machine or on separate machines. You can also install the clients on multiple machines.

The following table describes the minimum system requirements to run Informatica Developer:

Client	Processor	RAM	Disk Space	Operating System
Informatica Developer	1 CPU	512 MB	900 MB	Windows 2003 / 2008 / XP / 7

Database Requirements

Informatica components store metadata in relational database repositories. The domain also stores configuration information in a domain configuration repository. The database requirements depend on the application services that you create in the domain and the number of data integration objects that you build and store in the repositories.

You must set up the database for the domain configuration repository before you start the installation process. You specify the database connection information during installation.

After installation, set up the database for a repository before you create the application service in the domain. You specify the database connection information when you create the service.

The following table describes the database requirements for the Informatica repositories and components:

Informatica Component	Database Type	Disk Space	Comments
Informatica domain configuration repository	IBM DB2 UDB Microsoft SQL Server Oracle	200 MB	Set up the database schema before you start the installation process.
Model repository	IBM DB2 UDB Microsoft SQL Server Oracle	200 MB	Set up the database before you create the Model Repository Service. Allocate more space based on the amount of metadata you want to store.
Data object cache database	IBM DB2 UDB Microsoft SQL Server Oracle	200 MB	Set up the database if you enable data object caching. Create a connection object and associate it with a Data Integration Service. Allocate more space based on the amount of data you want to cache.
Staging database	IBM DB2 UDB Microsoft SQL Server Oracle	200 MB	Set up the database before you create the Analyst Service. Allocate more space based on the amount of metadata you want to store.

Temporary Disk Space Requirements

The installer writes temporary files to the hard disk. Verify that you have enough available disk space on the machine to support the installation. When the installation completes, the installer deletes the temporary files and releases the disk space.

The following table describes the temporary disk space requirements during installation:

Product	Operating System	Disk Space
Installer	Windows or UNIX	1 GB
Informatica Services	UNIX	2 GB
	Windows	605 MB
Informatica Clients	Windows	550 MB

Before You Install the Informatica Services

Review the installation pre-requisites and ensure that the machine meets the requirements. Verify that the database server has adequate disk space for the domain configuration.

Before you install the Informatica services, complete the following pre-installation steps:

- Verify that you have the license key for the product you want to install.
- Create a system user account to run the installer.
- Set up the database and user account for the domain configuration repository.

- Determine which port numbers to use for the node and domain components.
- Set up the environment variables used by Informatica.
- Optionally, set up a keystore file for a secure connection.
- On UNIX, verify the file descriptor settings.
- On UNIX, set up the X Window server.

Verify the License Key

Before you install the software, verify that you have the license key available. You can get the license key in the following ways:

- **Installation DVD.** If you receive the Informatica installation files in a DVD, the license key file is included in the Informatica License Key CD.
- **FTP download.** If you download the Informatica installation files from the Informatica Electronic Software Download (ESD) site, the license key is in an email message from Informatica. Copy the license key file to a directory accessible to the user account that installs Informatica.

Contact Informatica Global Customer Support if you do not have a license key or if you have an incremental license key and you want to create a domain.

Create a System User Account

Create a system user account to perform the installation and to run the Informatica service or daemon. Verify that the user account you use to install Informatica has write permission to the installation directory.

Windows User Account

On Windows, you can install Informatica with the user account logged in to the machine and run it under another user account. You can create a local account or a domain account to install Informatica or run the Informatica service.

Note: To access a repository on Microsoft SQL Server that uses a Windows trusted connection, create a domain account.

The user accounts require the following permission to run the installer or run the Informatica service:

- **Logged in user account.** The user account must be a member of the Administrators group and have the *Log on as a service* permission. Log in with this user account before you install Informatica.
- **Another user account.** The user account must be a member of the Administrators group and have *Log on as a service* and *Act as operating system* permissions. You do not have to log in with this user account before you install Informatica. During installation, you can specify the user account to run the Informatica service.

UNIX User Account

On UNIX, create a user account specifically to run the Informatica daemon.

Set Up the Domain Configuration Repository

Set up a database and user account for the domain configuration repository. The domain configuration repository stores metadata for the domain. When you install Informatica, you provide the database and user account information for the domain configuration repository. The Informatica installer uses JDBC to communicate with the domain configuration repository.

For more information about configuring the database, see the documentation for your database system.

Use the following rules and guidelines when you set up the domain configuration database and user account:

- The database must be accessible to all gateway nodes in the Informatica domain.
- To prevent database errors in the domain configuration repository from affecting other repositories in the domain, create the domain configuration repository in a separate database schema with a different database user account.
- If you create more than one domain, each domain configuration repository must have a separate user account.

Oracle Database Requirements

Use the following guidelines when you set up the database on Oracle:

- Set the open_cursors parameter to 1000.
- The database user account must have the CONNECT, RESOURCE, and CREATE VIEW privileges.

IBM DB2 Database Requirements

Use the following guidelines when you set up the repository on IBM DB2:

- On the IBM DB2 instance where you create the database, set the following parameters to ON:
  - DB2_SKIPINSERTED
  - DB2_EVALUNCOMMITTED
  - DB2_SKIPDELETED
  - AUTO_RUNSTATS
- On the database, set the following configuration parameters:

Parameter	Value
applheapsz	8192
appl_ctl_heap_sz	8192
logfilsiz	8000
DynamicSections	1000
maxlocks	98
locklist	50000
auto_stmt_stats	ON Note: For IBM DB2 9.5 only

- Set the tablespace pageSize parameter to 32768.

  In a single-partition database, specify a tablespace that meets the pageSize requirements. If you do not specify a tablespace, the default tablespace must meet the pageSize requirements.

  In a multi-partition database, you must specify a tablespace that meets the pageSize requirements.

  Define the tablespace on a single node.
- The database user account must have the CREATETAB and CONNECT privileges.

Note: The default value for DynamicSections in DB2 is too low for the Informatica domain configuration repository and Model repository. Informatica requires a larger DB2 package than the default. When you set up the DB2 database for the domain configuration repository or a Model repository, you must set the DynamicSections parameter to at least 1000. If the DynamicSections parameter is set to a lower number, you can encounter problems when you install Informatica or when you work with the Analyst tool or Developer tool. The following error message can appear:

```
[informatica][DB2 JDBC Driver]No more available statements. Please recreate your package with a larger
dynamicSections value.
```

Related Topics:

- "Updating the DynamicSections Parameter" on page 99

Microsoft SQL Server Database Requirements

Use the following guidelines when you set up the repository on Microsoft SQL Server:

- Set the read committed isolation level to READ_COMMITTED_SNAPSHOT to minimize locking contention.

  To set the isolation level for the database, run the following command:

  ```
  ALTER DATABASE DatabaseName SET READ_COMMITTED_SNAPSHOT ON
  ```

  To verify that the isolation level for the database is correct, run the following command:

  ```
  SELECT is_read_committed_snapshot_on FROM sys.databases WHERE name = DatabaseName
  ```

- The database user account must have the CONNECT, CREATE TABLE, and CREATE VIEW permissions.

Determine Port Availability

The installer sets up the ports for components in the Informatica domain, and it designates the ports to use for application service processes that run on the node where you install Informatica.

You can specify the port numbers to use for the components and a range of port numbers to use for the application services, or you can use the default port numbers provided by the installer. Verify that the port numbers are available on the machines where you install Informatica Services.

The following table describes the ports you specify during installation:

Port Type	Description
Domain port	Port number used by the domain. Default is 6005.
Service Manager port	Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
Service Manager shutdown port	Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
Informatica Administrator port	Port number used by the Administrator tool. Default is 6007.

Port Type	Description
Informatica Administrator shutdown port	Port number that controls server shutdown for the Administrator tool. The Administrator tool listens for shutdown commands on this port. Default is 6009.
Range of ports for application services	Range of port numbers that can be assigned to the application service processes that run on the node. When you create an application service in the domain, the Service Manager assigns the first available port in this range to the service process. At a minimum, the number of ports in the range must be equal to the number of application service processes that will run on the node. Default is 6013 to 6113.

Guidelines for Port Configuration

The installer validates the port numbers that you specify to ensure that there will be no port conflicts in the domain.

Use the following guidelines to determine the port numbers:

- The port number you specify for the domain and for each component in the domain must be unique.
- The port number for the domain and domain components cannot be within the range of the port numbers that you specify for the application service processes.
- The highest number in the range of port numbers that you specify must be at least three numbers higher than the lowest port number. For example, if the minimum port number in the range is 6400, the maximum port number must be at least 6403.
- The port numbers that you specify for the domain, domain and node components, and application service processes cannot be lower than 1025 or higher than 65535.

Verify Environment Variables

Configure the environment variables to work with the Informatica installation. Incorrectly configured environment variables can cause the Informatica installation to fail.

The installer appends file paths required by Informatica to the PATH environment variable. Verify that the length of the PATH environment variable does not exceed the system limits and that the variable does not contain double quotes.

On UNIX, create the environment variables with the system user account that you will use for installation. Log in with the account that you plan to use to install Informatica, and then create the environment variables.

The following table describes environment variables you configure before you install:

Variable	Operating System	Description
IATEMPDIR (InstallAnywhere)	Windows UNIX	Location of temporary files created during installation. Informatica requires 1 GB disk space for temporary files. Configure the environment variable if you do not want to create temporary files in the following locations: - /tmp directory on UNIX - default drive on Windows
JRE_HOME	SUSE Linux Linux EMT64	Clear the JRE_HOME environment variable.

Variable	Operating System	Description
Locale environment variables	UNIX	Use LANG and LC_ALL to set the UNIX code page.
DISPLAY	UNIX	Location of the graphics display server such as X Window Server. Required to install in graphical mode.

JRE_HOME

If you install the Informatica services on a machine with 32-bit or 64-bit SUSE Linux or Linux EMT64 operating system, clear the JRE_HOME environment variable before you start the installation.

Locale Environment Variables

Use LANG and LC_ALL to set the UNIX code page for the installer.

Set the LANG and LC_ALL environment variables to the following values for the language that you use:

Language	Value
English	C
Japanese	ja_JP.SJIS or ja_JP.PCK
Portuguese	pt_BR.ISO8859-1, pt_BR.8859-15, or pt_BR

After you install, update the locale setting to one that is compatible with the code page of the repository.

Set Up a Keystore File

During installation, you can configure Informatica to use SSL certificates for secure communication between the Administrator tool and the Service Manager. The installer can generate a self-signed certificate, or you can provide a certificate signed by a certification authority.

When you create application services in the domain, you can also configure secure connection for Data Analyzer, Metadata Manager, and the Web Services Hub. Use the Administrator tool to specify the keystore files for the application services.

You can use the keytool utility to generate a keystore file to store the SSL keys and certificates for a secure connection. Keytool is a key and certificate management utility to generate and administer SSL keys and certificates. The keys and certificates are stored in a keystore file. You can use a self-signed certificate or one signed by a certification authority (CA). To use a certificate signed by a CA, use keytool to generate a Certificate Signing Request (CSR) and apply for a digital identity certificate from a CA.

You can find the keytool utility in one of the following directories:

- `%JAVA_HOME%\jre\bin`
- *`InformaticaInstallDir`*`\java\bin`

For more information about using keytool, see the documentation on the Sun web site:

`http://java.sun.com/javase/6/docs/technotes/tools/windows/keytool.html`

Verify the File Descriptor Settings

On UNIX or Linux, verify that the operating system meets the file descriptor requirement.

Informatica service processes can use a large number of files. Set the file descriptor limit per process to 3000 or higher.

Set Up the X Window Server

When you run the Informatica installer in graphical mode, you must use a graphics display server. On UNIX, the graphics display server is typically an X Window server. If you do not have the X Window server installed on the machine where you want to install Informatica, you can install Informatica using an X Window server installed on another machine. Use the DISPLAY variable to redirect output of the X Window server to another UNIX machine.

The following table lists the commands to set the DISPLAY environment variable:

Shell	Command	Example
C	setenv DISPLAY <TCP/IP node of XWindow server>:0	setenv DISPLAY 10.1.50.23:0
Bash/Korn	export DISPLAY="<TCP/IP node of XWindow server>:0"	export DISPLAY="10.1.50.23:0"
Bourne	DISPLAY="<TCP/IP node of XWindow server>:0" export display	DISPLAY="10.1.50.23:0" export display

If you do not know the IP address of a UNIX machine where the X Window server is installed, ask your network administrator. For more information about redirecting the DISPLAY variable, see the documentation from the UNIX vendor.

If the X Window server does not support the font that the Informatica installer uses, the installer can display incorrect labels on the buttons. For example, the button labeled *Test Connection* can appear as *Test Connecti...*.

CHAPTER 3

Informatica Services Installation

This chapter includes the following topics:

Informatica Services Installation Overview

You can install the Informatica services on a Windows or UNIX machine. On Windows, you can run the installer in graphical or silent mode. On UNIX, you can run the installer in graphical, silent, or console mode.

Complete the pre-installation tasks to prepare for the installation. You can install the Informatica services on multiple machines. After installation, use the Administrator tool to log in to the domain and create and configure the application services.

You can install Informatica from a DVD or from the root of the directory where you download the installation files.

Note: On UNIX, use GNU tar to extract the installation files. If the install.sh file does not have sufficient permissions to run after you extract the installation files, use the chmod command to add execute permissions to the file. Then run the file with the command ./install.sh.

Creating or Joining a Domain

The Informatica domain is the fundamental administrative unit for services, users, and resources. A node is the logical representation of a single machine. A domain contains one or more nodes.

When you install the Informatica services, you create a node on the machine. You can create a domain and add the node to new domain. If you do not create a domain, you can join the node to another domain.

Create a domain if you are installing for the first time. If you are installing on multiple machines, you can create multiple domains. If you create a domain, the node on the machine where you are installing becomes a gateway node in the domain.

You can join a domain if you are installing on multiple machines and you have created a domain on another machine. If you join a domain, you can configure the node on to be a gateway node or worker node.

If you create a domain or configure a gateway node, you can configure a secure connection between the Service Manager and the Administrator tool.

Installing the Informatica Services in Graphical Mode

You can install the Informatica services in graphical mode on Windows or UNIX.

Creating a Domain

Create a domain if you are installing for the first time or if you want to administer nodes in separate domains.

1. Verify that your environment meets the minimum system requirements, and complete the pre-installation tasks.
2. Log in to the machine with a system user account.
3. Close all other applications.
4. To begin the installation on Windows, run install.bat from the root directory.

   To begin the installation on UNIX, use a shell command line to run install.sh from the root directory, and then select the option for graphical mode installation.
5. In the Installation Type window, select Install Informatica 9.0.1 and click Next.

   The Installation Pre-Requisites window displays the system requirements and the tasks to perform before installation. Verify that all installation requirements are met before you continue the installation.
6. Click Next.
7. In the License and Installation Directory window, enter the path and file name of the Informatica license key.
8. Enter the absolute path for the installation directory.

   The directory names in the path must not contain spaces or the following special characters: @|* $ # ! % ( ) { } [ ] , ; '

   On Windows, the installation directory path must be on the machine where you are installing Informatica.
9. Click Next.
10. In the Pre-Installation Summary window, review the installation information, and click Install to continue.

    The installer copies the Informatica files to the installation directory.
11. In the Domain Selection window, select Create a Dmain.

    If you create a domain, the node on the current machine becomes a gateway node on the domain. The gateway node contains a Service Manager that manages all domain operations.
12. To set up a secure connection between the Service Manager and the Administrator tool, select Enable HTTPS for Informatica Administrator.

    To use unsecure HTTP connection clear the Enable HTTPS for Informatica Administrator option.

    The following table describes the properties that you set for an HTTPS connection:

Property	Description
Enable HTTPS for Informatica Administrator	Set up a secure connection between the Administrator tool and the Service Manager. To use HTTP connection, clear this option.
Port	The port to use for communication between the Administrator tool and the Service Manager.
Use a keystore generated by the installer	Use a self-signed keystore file generated by the installer. The installer creates a keystore file named DEFAULT.keystore in the following location: *InstallationDirectory* \tomcat\conf\

Property	Description
Use an existing keystore	Use a keystore file that you create. You can use a keystore file with a self-signed certificate or a certificate signed by a certification authority.
Keystore password	A plain-text password for the keystore file. Required if you use a keystore file that you create.
Keystore file directory	Location of the keystore file. Required if you use a keystore file that you create.

13. Click Next.
14. In the Domain Configuration Database window, enter the database and user account information for the domain configuration repository.

    The domain configuration repository stores metadata for domain operations and user authentication. The database must be accessible to all gateway nodes in the domain.

    The following table describes the properties that you specify for the database and user account:

Property	Description
Database type	Database for the domain configuration repository. Select Oracle, Microsoft SQL Server, or IBM DB2.
Database user ID	Database user account for the domain configuration repository.
User password	Password for the database user account.
Tablespace	Available for IBM DB2 only. Name of the tablespace in which to create the tables. The tablespace must be defined on a single node and the page size must be 32 K. In a single-partition database, if this option is not selected, the installer creates the tables in the default tablespace. In a multi-partition database, this option must be selected.
Schema name	Available for Microsoft SQL Server only. Name of the schema that will contain domain configuration tables. If not selected, the installer creates the tables in the default schema.
Trusted connection	Available for Microsoft SQL Server only. Indicates whether to connect to Microsoft SQL Server through a trusted connection. Trusted authentication uses the security credentials of the current user to make the connection to Microsoft SQL Server. If not selected, the installer uses Microsoft SQL Server authentication.

    You can provide the JDBC connection string in one of the following ways:

    - Enter the JDBC connection properties from which the installer can create the JDBC URL.
    - Enter a complete and valid JDBC connection string.

15. To provide the connection properties, select JDBC URL.

    The installer displays optional parameters that you can use to optimize the database connection. You can use the parameters provided or enter your own parameters. The installer adds the parameters to the JDBC URL when it creates the connection string and connect to the database.

The following table describes the properties that you specify for the JDBC URL:

Property	Description
Database Address	Host name and port number for the database instance in the format HostName:Port.
Database service name	Service name for Oracle and IBM DB2 databases or database name for Microsoft SQL Server.
JDBC parameters	Optional parameters to include in the database connection string. Use the parameters to optimize database operations for the configuration database. You can use the default parameters or you can add or modify the parameters based on your database requirements. Verify that the parameter string is valid. The installer does not validate the parameter string before it adds the string to the JDBC URL. If not selected, the installer creates the JDBC URL without additional parameters.

16. To provide a complete JDBC connection string, select Custom JDBC Connection String and enter a valid connection string.

    Verify that the connections string contains all the connection parameters required by your database system.
17. Click Test Connection to verify that you can connect to the database and then click OK to continue.
18. Click Next.
19. On the Domain and Node Configuration window, enter the information for the domain and the node that you want to create.

    The following table describes the properties that you set for the domain and gateway node:

Property	Description
Domain name	Name of the domain to create. The default domain name is Domain_<*MachineName*>. The name must not exceed 128 characters and must be 7-bit ASCII only. It cannot contain a space or any of the following characters: ` % * + ; " ? , < > \ /
Domain host name	Host name of the machine on which to create the Informatica domain. If you create a domain on a machine with a single network name, use the default host name. If you create a domain on a machine with multiple network names, you can modify the default host name to use an alternate network name. Optionally, you can use the IP address of the machine on which to create the domain. Note: Do not use localhost. The host name must explicitly identify the machine.
Node name	Name of the node to create on this machine. The node name is not the host name for the machine.
Domain port number	Port number for the domain. The default port number for the Informatica domain is 6005. If the port number is not available on the machine, the installer displays the next available port number.
Domain user name	User name for the domain administrator. You can use this user name to initially log in to the Administrator tool. Use the following guidelines: - The name is not case sensitive and cannot exceed 128 characters. - The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < > - The name can include an ASCII space character except for the first and last character. Other space characters are not allowed.

Property	Description
Domain user password	Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters. Enter the password again to confirm.
Confirm password	Enter the password again to confirm.

20. To display the default ports for the domain and node components assigned by the installer, select Display advanced port configuration page.

    The installer displays the default port numbers assigned to the domain and node. You can modify the port numbers and specify a different range of port numbers for the application service processes. If you do not select the option, the installer does not display the default port numbers and you cannot modify the assigned port numbers.

21. Click Next.

22. In the Port Configuration window, enter the port numbers to use.

    Note: This window appears if you select to display the advanced port configuration window.

    Specify the port numbers to use for the domain and node components. Also specify a range of port numbers to use for the service processes that will run on the node. You can use the default port numbers or specify new port numbers. Verify that the port numbers you enter are not used by other applications.

    The following table describes the ports you can set:

Port	Description
Service Manager port	Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
Service Manager shutdown port	Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
Informatica Administrator port	Port number used by the Administrator tool. Default is 6007.
Informatica Administrator shutdown port	Port number that controls server shutdown for the Administrator tool. The Administrator tool listens for shutdown commands on this port. Default is 6009.
Minimum port number	Lowest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
Maximum port number	Highest port number in the range of port numbers that can be assigned to the application service processes that run on this node.

23. Click Next.

    On Windows, the installer creates a service to start Informatica. By default, the service runs under the same user account as the account used for installation. You can run the Windows service under a different user account.

24. Select whether to run the Windows service under a different user account.

The following table describes the properties that you set:

Property	Description
Run Informatica under a different user account	Indicates whether to run the Windows service under a different user account.
User name	User account with which to run the Informatica Windows service. Use the following format: `DomainName\UserAccount` This user account must have the Act as operating system permission.
Password	Password for the user account with which to run the Informatica Windows service.

25. Click Next.

    The Post-Installation Summary window indicates whether the installation completed successfully. It also shows the status of the installed components and their configuration.

26. Click Done.

You can view the installation log files to get more information about the tasks performed by the installer and to view configuration properties for the installed components.

Joining a Domain

You can join a domain if you are installing on multiple machines and you have created a domain on another machine.

1. Verify that your environment meets the minimum system requirements, and complete the pre-installation tasks.
2. Log in to the machine with a system user account.
3. Close all other applications.
4. To begin the installation on Windows, run install.bat from the root directory.

   To begin the installation on UNIX, use a shell command line to run install.sh from the root directory, and then select the option for graphical mode installation.

5. In the Installation Type window, select Install Informatica 9.0.1 and click Next.

   The Installation Pre-Requisites window displays the system requirements and the tasks to perform before installation. Verify that all installation requirements are met before you continue the installation.

6. Click Next.
7. In the License and Installation Directory window, enter the path and file name of the Informatica license key.
8. Enter the absolute path for the installation directory.

   The directory names in the path must not contain spaces or the following special characters: @|* $ # ! % ( ) { } [ ] , ; '

   On Windows, the installation directory path must be on the machine where you are installing Informatica.

9. Click Next.
10. In the Pre-Installation Summary window, review the installation information, and click Install to continue.

    The installer copies the Informatica files to the installation directory.

11. In the Domain Selection window, select Join a Domain.
12. Select the type of node that you want to create.

To create a gateway node, select Configure the node as a gateway. To create a worker node, clear the option.

13. Click Next.
14. In the Domain Configuration window, enter the information for the domain that you want to join.

    The following table describes the properties that you specify for the domain:

Property	Description
Domain name	Name of the domain to join.
Domain host name	Host name of the machine that hosts the Informatica domain you want to join.
Domain port number	Port number for the domain you want to join.
Domain user name	User name of the administrator of the domain you want to join.
Domain user password	Password for the domain administrator.

15. Click Next.
16. In the Node Configuration window, enter the information for the node you want to create.

    The following table describes the properties that you set for the node:

Property	Description
Host name	Host name for the node. Note: Do not use localhost. The host name must explicitly identify the machine.
Node name	Name of the node to create on this machine. The node name is not the host name for the machine.
Port no	Port number for the node.

17. To display the default ports for the domain and node components assigned by the installer, select Display advanced port configuration page.

    The installer displays the default port numbers assigned to the domain and node. You can modify the port numbers and specify a different range of port numbers for the application service processes. If you do not select the option, the installer does not display the default port numbers and you cannot modify the assigned port numbers.
18. Click Next.
19. In the Port Configuration window, enter the port numbers to use for the Informatica domain components.

    Note: This window appears if you select to display the advanced port configuration window.

    Specify the port numbers to use for the domain and node components. Also specify a range of port numbers to use for the service processes that will run on the node. You can use the default port numbers or specify new port numbers. Verify that the port numbers you enter are not used by other applications.

The following table describes the ports that you specify:

Port Type	Description
Service Manager port	Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
Service Manager shutdown port	Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
Minimum port number	Lowest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
Maximum port number	Highest port number in the range of port numbers that can be assigned to the application service processes that run on this node.

20. Click Next.

    On Windows, the installer creates a service to start Informatica. By default, the service runs under the same user account as the account used for installation. You can run the Windows service under a different user account.

21. Select whether to run the Windows service under a different user account.

    The following table describes the properties that you set:

Property	Description
Run Informatica under a different user account	Indicates whether to run the Windows service under a different user account.
User name	User account with which to run the Informatica Windows service. Use the following format: `DomainName\UserAccount` This user account must have the Act as operating system permission.
Password	Password for the user account with which to run the Informatica Windows service.

22. Click Next.

    The Post-Installation Summary window indicates whether the installation completed successfully. It also shows the status of the installed components and their configuration.

23. Click Done.

You can view the installation log files to get more information about the tasks performed by the installer and to view configuration properties for the installed components.

Installing the Informatica Services in Console Mode

You can install the Informatica services in console mode on UNIX.

When you run the installer in console mode, the words Quit and Back are reserved words. Do not use them as input text.

Note: When the installer starts in console mode, it displays a message that it is preparing for silent mode installation. On Linux IA-64, it displays a message that it cannot find the libc.so.6 file. You can ignore these messages.

Creating a Domain

Create a domain if you are installing for the first time or if you want to administer nodes in separate domains.

1. Verify that your environment meets the minimum system requirements, and complete the pre-installation tasks.
2. Log in to the machine with a system user account.
3. Close all other applications.
4. On a shell command line, run the install.sh file located in the root directory.

   The installer displays the message to verify that the locale environment variables are set.
5. If the environment variables are not set, enter N to exit the installer and set them as required.

   If the environment variables are set, enter Y to continue.
6. Enter C for console mode installation.
7. Press Enter.
8. Enter 1 to install Informatica 9.0.1.

   Review the system requirements and pre-installation tasks. Verify that all installation requirements are met before you continue the installation.
9. Press Enter.
10. Enter the path and file name of the Informatica license key.
11. Enter the path for the installation directory or press Enter to use the default directory.

    The directory names in the path must not contain spaces or the following especial characters: @|* $ # ! % ( ) { } [ ] , ; '
12. Review the installation information, and press Enter to continue.

    The installer copies the Informatica files to the installation directory.
13. Enter 1 to create a domain.

    If you create a domain, the node on the current machine becomes a gateway node on the domain. The gateway node contains a Service Manager that manages all domain operations.
14. Select whether to set up a secure connection between the Service Manager and the Administrator tool:

Option	Description
1 - Enable HTTPS for Informatica Administrator	Set up a secure connection between the Administrator tool and the Service Manager.
2 - Disable HTTPS	Do not set up a secure connection between the Administrator tool and the Service Manager. Use HTTP connection.

15. If you use an HTTPS connection, enter the keystore file and port number to use to secure the connection:

Option	Description
Port	Port number for the HTTPS connection.
Keystore file	Select whether to use a keystore file generated by the installer or a keystore file you create. You can use a keystore file with a self-signed certificate or a certificate signed by a certification authority. 1 - Use a keystore generated by the installer 2 - Use an existing keystore If you select to use a keystore file generated by the installer, the installer creates a self-signed keystore file named DEFAULT.keystore in the following location: *InstallationDirectory*\tomcat\conf\

16. If you use an existing keystore, enter the password and location of the keystore file.
17. Select the database to use for the domain configuration repository:

Prompt	Description
Database type	Type of database for the domain configuration repository. Select from the following options: 1 - Oracle 2 - Microsoft SQL Server 3 - IBM DB2

The Informatica domain configuration repository stores metadata for domain operations and user authentication. The domain configuration repository must be accessible to all gateway nodes in the domain.

18. Enter the following information at the prompt:

Property	Description
Database user ID	Name for the domain configuration database User account.
User password	Password for the domain configuration database user account.

19. If you select IBM DB2, select whether to configure a tablespace and enter the tablespace name:

Property	Description
Configure tablespace	Select whether to specify a tablespace: 1 - No 2 - Yes In a single-partition database, if you select No, the installer creates the tables in the default tablespace. In a multi-partition database, you must select Yes.
Tablespace	Name of the tablespace in which to create the tables. The tablespace must be defined on a single node and the page size must be 32 K.

20. If you select Microsoft SQL Server, enter the following information at the prompt:

Property	Description
Schema name	Name of the schema that will contain domain configuration tables. If this parameter is blank, the installer creates the tables in the default schema.

21. Select how you want to specify the database connection URL:

Option	Description
1 - JDBC URL	The installer creates a JDBC URL based on the host name, port number, and database name that you enter.
2 - Custom JDBC Connection String	A connection string that includes all JDBC elements and parameters based on your database requirements.

22. If you select JDBC URL, enter the properties for the JDBC URL at the prompt:

Property	Description
Database Address	Host name and port number for the database instance in the format *Host name:Port*.
Database service name	Service name for Oracle and IBM DB2 databases or database name for Microsoft SQL Server.
Configure JDBC parameters	Select whether to use additional parameters in the connection string: 1 - Yes 2 - No If you select Yes, enter the parameters or press enter to accept the default. If you select No, the installer creates the JDBC connection string without parameters.

23. If you select Custom JDBC Connection String, enter a valid connection string.
24. If the database contains a domain configuration repository for a previous domain, select to overwrite the data or set up another database:

Option	Description
1 - OK	Enter the connection information for a new database.
2 - Continue	The installer overwrites the data in the database with new domain configuration.

25. Enter the following information at the prompt:

Property	Description
Domain name	Name of the domain to create. The default domain name is Domain_<*MachineName*>. The name must not exceed 128 characters and must be 7-bit ASCII only. It cannot contain a space or any of the following characters: ` % * + ; " ? , < > \ /
Domain host name	Host name of the machine on which to create the Informatica domain. If you create a domain on a machine with a single network name, use the default host name. If you create a domain on a machine with multiple network names, you can modify the default host name to use an alternate network name. Optionally, you can use the IP address of the machine on which to create the domain. Note: Do not use localhost. The host name must explicitly identify the machine.
Node name	Name of the node to create on this machine. The node name is not the host name for the machine.
Domain port number	Port number for the domain. The default port number for the Informatica domain is 6005. If the port number is not available on the machine, the installer displays the next available port number.
Domain user name	User name for the domain administrator. You can use this user name to initially log in to the Administrator tool. Use the following guidelines: - The name is not case sensitive and cannot exceed 128 characters. - The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < > - The name can include an ASCII space character except for the first and last character. Other space characters are not allowed.
Domain user password	Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters. Enter the password again to confirm.
Confirm password	Enter the password again to confirm.

26. Select whether to display the default ports for the domain and node components assigned by the installer.

Prompt	Description
Display advanced port configuration page	Select whether to display the port numbers for the domain and node components assigned by the installer: 1 - No 2 - Yes If you select Yes, the installer displays the default port numbers assigned to the domain components. You can specify the port numbers to use for the domain and node components. You can also specify a range of port numbers to use for the service process that will run on the node. You can use the default port numbers or specify new port numbers. Verify that the port numbers you enter are not used by other applications.

27. If you display the port configuration page, enter new the port numbers at the prompt or press Enter to use the default port numbers:

Port	Description
Service Manager port	Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
Service Manager shutdown port	Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
Informatica Administrator port	Port number used by the Administrator tool. Default is 6007.
Informatica Administrator shutdown port	Port number that controls server shutdown for the Administrator tool. The Administrator tool listens for shutdown commands on this port. Default is 6009.
Minimum port number	Lowest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
Maximum port number	Highest port number in the range of port numbers that can be assigned to the application service processes that run on this node.

The Post-installation Summary indicates whether the installation completed successfully. You can view the installation log files to get more information about the tasks performed by the installer and to view configuration properties for the installed components.

Joining a Domain

You can join a domain if you are installing on multiple machines and you have created a domain on another machine.

1. Verify that your environment meets the minimum system requirements, and complete the pre-installation tasks.
2. Log in to the machine with a system user account.
3. Close all other applications.
4. On a shell command line, run the install.sh file located in the root directory.

   The installer displays the message to verify that the locale environment variables are set.

5. If the environment variables are not set, enter N to exit the installer and set them as required.

   If the environment variables are set, enter Y to continue.
6. Enter C for console mode installation.
7. Press Enter.
8. Enter 1 to install Informatica 9.0.1.

   Review the system requirements and pre-installation tasks. Verify that all installation requirements are met before you continue the installation.
9. Press Enter.
10. Enter the path and file name of the Informatica license key.
11. Enter the path for the installation directory or press Enter to use the default directory.

    The directory names in the path must not contain spaces or the following especial characters: @|* $ # ! % ( ) { } [ ] , ; '
12. Review the installation information, and press Enter to continue.

    The installer copies the Informatica files to the installation directory.
13. Enter 2 to join a domain.

    The installer creates a node on this machine. You can specify the domain to join.
14. Select the type of node you want to create.

    Enter 1 to configure a gateway node and 2 to configure a worker node.

Property	Description
Configure this node as a gateway	Select whether to configure the node as a gateway or worker node. 1 - Yes 2 - No Select 1 to configure a gateway node or 2 to configure a worker node.

15. At the prompt, enter the information for the domain that you want to join:

Property	Description
Domain name	Name of the domain to join.
Domain host name	Host name of the machine that hosts the Informatica domain you want to join.
Domain port number	Port number for the domain you want to join.
Domain user name	User name of the administrator of the domain you want to join.
Domain user password	Password for the domain administrator.

16. At the prompt, enter the information for the node that you want to create:

Property	Description
Host name	Host name for the node. Note: Do not use localhost.
Node name	Name of the node to create on this machine. The node name is not the host name for the machine.
Port no	Port number for the node.

17. Select whether to display the default ports for the domain and node components assigned by the installer.

Prompt	Description
Display advanced port configuration page	Select whether to display the port numbers for the domain and node components assigned by the installer: 1 - No 2 - Yes If you select Yes, the installer displays the default port numbers assigned to the domain components. You can specify the port numbers to use for the domain and node components. You can also specify a range of port numbers to use for the service process that will run on the node. You can use the default port numbers or specify new port numbers. Verify that the port numbers you enter are not used by other applications.

18. If you display the port configuration page, enter new port numbers at the prompt or press Enter to use the default port numbers:

Port	Description
Service Manager port	Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
Service Manager shutdown port	Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
Minimum port number	Lowest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
Maximum port number	Highest port number in the range of port numbers that can be assigned to the application service processes that run on this node.

The Post-installation Summary indicates whether the installation completed successfully. You can view the installation log files to get more information about the tasks performed by the installer and to view configuration properties for the installed components.

Installing the Informatica Services in Silent Mode

To install the Informatica services without user interaction, install in silent mode. Use a properties file to specify the installation options. The installer reads the file to determine the installation options. You can use silent mode installation to install the Informatica services on multiple machines on the network or to standardize the installation across machines.

Copy the Informatica installation files to the hard disk on the machine where you plan to install the Informatica. If you install on a remote machine, verify that you can access and create files on the remote machine.

To install in silent mode, complete the following tasks:

1. Create the installation properties file and specify the installation options.
2. Run the installer with the installation properties file.

Creating the Properties File

Informatica provides a sample properties file that includes the parameters that are required by the installer. You can customize the sample properties file to specify the options for your installation. Then run the silent installation.

The sample installation properties file is named SilentInput_install.properties and is located in the root directory of the installation DVD or the installer download location. After you customize the file, save it with the file name SilentInput.properties.

1. Go to the root of the directory that contains the installation files.
2. Locate the file named SilentInput.properties.

   Back up the file before you modify it.
3. Use a text editor to open the file and modify the values of the installation parameters.

   The following table describes the installation parameters you can modify:

Property Name	Description
USER_INSTALL_DIR	Directory in which to install Informatica 9.0.1.
LICENSE_KEY_LOC	Absolute path and file name of the license key file.
INSTALL_TYPE	Indicates whether to install or upgrade Informatica. If the value is 0, the installer performs a fresh installation of Informatica 9.0.1. If the value is 1, the installer upgrades a previous version of Informatica to version 9.0.1.
HTTPS_ENABLED	Indicates whether to create a secure connection between the Administrator tool and the Service Manager. If the value is 0, the installer sets up an unsecure HTTP connection between the components. If the value is 1, the installer sets up a secure HTTPS connection between the components.
DEFAULT_HTTPS_ENABLED	Indicates whether the installer creates a keystore file. If the value is 1, the installer creates a keystore and uses it for the HTTPS connection. If the value is 0, the installer uses a keystore file that you specify.
CUSTOM_HTTPS_ENABLED	Indicates whether the installer uses an existing keystore file. If the value is 1, the installer uses a keystore file that you specify. If DEFAULT_HTTPS_ENABLED=1, you must set this parameter to 0. If DEFAULT_HTTPS_ENABLED=0, you must set this parameter to 1.
KSTORE_PSSWD	Plain text password for the keystore file.

Property Name	Description
KSTORE_FILE_LOCATION	Absolute path and file name of the keystore file.
HTTPS_PORT	Port number to use for secure communication between the Administrator tool and the Service Manager.
CREATE_DOMAIN	Indicates whether to create an Informatica domain. If the value is 1, the installer creates a node and an Informatica domain. If the value is 0, the installer creates a node and joins the node to another domain created in a previous installation.
JOIN_DOMAIN	Indicates whether to join the node to another domain created in a previous installation. If the value is 1, the installer creates a node and joins the node to another domain. If CREATE_DOMAIN=1, you must set this parameter to 0. If CREATE_DOMAIN=0, you must set this parameter to 1.
SERVES_AS_GATEWAY	Indicates whether to create a gateway or worker node. If the value is 1, the installer configures the node as a gateway node. If the value is 0, the installer configures the node as a worker node.
DB_TYPE	Database for the domain configuration repository. Enter one of the following values: - Oracle - MSSQLServer - DB2
DB_UNAME	Database user account name for the domain configuration repository.
DB_PASSWD	Password for the database user account.
SQLSERVER_SCHEMA_NAME	For Microsoft SQL Server only. Name of the schema that will contain domain configuration tables. If this parameter is empty, the installer creates the tables in the default schema.
TRUSTED_CONNECTION	For Microsoft SQL Server only. Indicates whether to connect to Microsoft SQL Server through a trusted connection. If this parameter is empty, the installer uses Microsoft SQL Server authentication. Set this parameter only if you are installing on Windows.
DB2_TABLESPACE	For IBM DB2 only. Name of the tablespace in which to create the tables. If this parameter is empty, the installer creates the tables in the default tablespace. In a multi-partition database, the tablespace page size must be 32 K. Define the database in a single-node tablespace to optimize performance.
DB_CUSTOM_STRING_SELECTION	Determines whether to use a JDBC URL or a custom connection string to connect to the domain configuration database. If the value is 0, the installer creates a JDBC URL from the database properties you provide. If the value is 1, the installer uses the custom connection string you provide.
DB_SERVICENAME	Required if DB_CUSTOM_STRING_SELECTION=0. Service name for Oracle and IBM DB2 databases or database name for Microsoft SQL Server.
DB_ADDRESS	Required if DB_CUSTOM_STRING_SELECTION=0. Host name and port number for the database instance in the format *HostName*:*Port*.

Property Name	Description
ADVANCE_JDBC_PARAM	You can set this parameter if DB_CUSTOM_STRING_SELECTION=0. Optional parameters to include in the JDBC URL connection string. Verify that the parameter string is valid. The installer does not validate the parameter string before it adds the string to the JDBC URL. If this parameter is empty, the installer creates the JDBC URL without additional parameters.
DB_CUSTOM_STRING	Required if DB_CUSTOM_STRING_SELECTION=1. Valid custom JDBC connection string.
DOMAIN_NAME	Required if CREATE_DOMAIN=1. Name of the domain to create. The default domain name is Domain_<*MachineName*>. The name must not exceed 128 characters and must be 7-bit ASCII only. It cannot contain a space or any of the following characters: ` % * + ; " ? , < > \ /
DOMAIN_HOST_NAME	Required if CREATE_DOMAIN=1. Host name of the machine on which to create the Informatica domain. If you create a domain on a machine with a single network name, use the default host name. If you create a domain on a machine with multiple network names, you can modify the default host name to use an alternate network name. Optionally, you can use the IP address of the machine on which to create the domain. Note: Do not use localhost. The host name must explicitly identify the machine.
NODE_NAME	Name of the node to create on this machine. The node name is not the host name for the machine.
DOMAIN_PORT	Required if CREATE_DOMAIN=1. Port number for the domain. The default port number for the Informatica domain is 6005. If the default port number is not available on the machine, the installer displays the next available port number.
DOMAIN_USER	Required if CREATE_DOMAIN=1. User name for the domain administrator. You can use this user name to initially log in to the Administrator tool. Use the following guidelines: - The name is not case sensitive and cannot exceed 128 characters. - The name cannot include a tab, newline character, or the following special characters: % * + \ / ' . ? ; < > - The name can include an ASCII space character except for the first and last character. Other space characters are not allowed.
DOMAIN_PSSWD	Required if CREATE_DOMAIN=1. Password for the domain administrator. The password must be more than 2 characters but cannot exceed 16 characters.
DOMAIN_CNFRM_PSSWD	Required if CREATE_DOMAIN=1. Enter the password again to confirm.
JOIN_NODE_NAME	Required if JOIN_DOMAIN=1. Name of the node to create. The node name is not the host name for the machine.
JOIN_HOST_NAME	Required if JOIN_DOMAIN=1. Host name of the machine that hosts the Informatica domain you want to join.
JOIN_DOMAIN_PORT	Required if JOIN_DOMAIN=1. Port number of the domain you want to join.

Property Name	Description
ADVANCE_PORT_CONFIG	Indicates whether to display the list of port numbers for the domain and node components. If the value is 0, the installer assigns default port numbers to the domain and node components. If the value is 1, you can set the port numbers for the domain and node components.
MIN_PORT	You can set this parameter if ADVANCE_PORT_CONFIG=1. Lowest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
MAX_PORT	You can set this parameter if ADVANCE_PORT_CONFIG=1. HIghest port number in the range of port numbers that can be assigned to the application service processes that run on this node.
TOMCAT_PORT	You can set this parameter if ADVANCE_PORT_CONFIG=1. Port number used by the Service Manager on the node. The Service Manager listens for incoming connection requests on this port. Client applications use this port to communicate with the services in the domain. This is the port that the Informatica command line programs use to communicate to the domain. This is also the port for the SQL data service JDBC/ODBC driver. Default is 6006.
AC_PORT	You can set this parameter if CREATE_DOMAIN=1 and ADVANCE_PORT_CONFIG=1. Port number used by the Administrator tool. Default is 6007.
SERVER_PORT	You can set this parameter if ADVANCE_PORT_CONFIG=1. Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. Default is 6008.
AC_SHUTDWN_PORT	You can set this parameter if CREATE_DOMAIN=1 and ADVANCE_PORT_CONFIG=1. Port number that controls server shutdown for the Administrator tool. The Administrator tool listens for shutdown commands on this port. Default is 6009.

4. On Windows, specify whether to run the Informatica service under the same user account as the account used for installation.

   Set the following parameters:

Property	Description
USE_LOGIN_DETAILS	Indicates whether to run the Windows service under a different user account. If the value is 0, the installer configures the service to run under the current user account. If the value is 1, the installer configures the service to run under a different user account.
WIN_USER_ID	User account with which to run the Informatica Windows service. Use the following format: `DomainName\UserAccount` This user account must have the Act as operating system permission.
WIN_USER_PSSWD	Password for the user account with which to run the Informatica Windows service.

5. Save the properties file with the name SilentInput.properties.

Running the Silent Installer

After you create the properties file, open a command window to start the silent installation.

1. Open a command window.
2. Go to root of the server installer directory.
3. Verify that the directory contains the file SilentInput.properties.
4. To run the silent installation, double click the file silentinstall.bat.

The silent installer runs in the background. The process can take a while. The silent installation is complete when the Informatica_9.0.1_Services_InstallLog.log is created in the installation directory.

The silent installation fails if you incorrectly configure the properties file or if the installation directory is not accessible. If the installation fails, view the installation log files and correct the errors. Then run the silent installer again.

CHAPTER 4

Informatica Client Installation

This chapter includes the following topics:

Informatica Client Installation Overview

You can install the Informatica clients on Windows. You can install on multiple machines in graphical or silent mode. Install the Informatica client tools from a DVD or from the root of the directory where you download the installation files.

Installing in Graphical Mode

To install in graphical mode:

1. Close all other applications.
2. Run install.bat from the root directory.

   The Installation Pre-Requisites window displays the system requirements. Verify that all installation requirements are met before you continue the installation.
3. Click Next.

   On the Select Component window, select the Informatica client you want to install.

   You can install the following Informatica client applications on the same machine:

   - Informatica Developer
   - PowerCenter Client
4. On the Installation Directory window, enter the absolute path for the installation directory.

   The installation directory must be on the current machine. The directory names in the path must not contain spaces or the $ symbol.
5. Click Next.
6. On the Pre-Installation Summary window, review the installation information, and click Install.

The installer copies the Informatica client files to the installation directory.

The Post-installation Summary window indicates whether the installation completed successfully.

7. Click Done.

You can view the installation log files to get more information about the tasks performed by the installer.

Installing in Silent Mode

To install the Informatica clients without user interaction, install in silent mode using a properties file that contains the installation options. The Informatica client installer reads the file to determine the installation options.

Use the silent mode installation to install the Informatica clients on multiple machines on the network or to standardize the installation across machines.

To install in silent mode, complete the following tasks:

1. Create the installation properties file and specify the installation options in the properties file.
2. Run the installer with the installation properties file.

Creating the Properties File

Informatica provides a sample properties file that includes the properties required by the installer. Customize the sample properties file to create a properties file and specify the options for your installation. Then run the silent installation.

The sample silentinput.properties is located in the root directory of the DVD or the installer download location.

1. Go to the root of the directory where you download the client installation files.
2. Locate the sample silentinput.properties file.

   Back up the file before you modify it.
3. Use a text editor to open and modify the values of the properties in the file.

   The following table describes the installation properties that you can modify:

Property Name	Description
INSTALL_TYPE	Indicates whether to install or upgrade the Informatica clients. If the value is 0, the Informatica clients are installed in the directory you specify. If the value is 1, the Informatica clients are upgraded. Default is 0.
UPG_BACKUP_DIR	Directory of the previous version of the Informatica client that you want to upgrade.
USER_INSTALL_DIR	Informatica client installation directory.

Property Name	Description
DXT_COMP	Indicates whether to install Informatica Developer. If the value is 1, the Developer tool will be installed. If the value is 0, the Developer tool will not be installed. Default is 1.
CLIENT_COMP	Indicates whether to install PowerCenter Client. If the value is 1, PowerCenter Client will be installed. If the value is 0, PowerCenter Client will not be installed. Default is 1.

4. Save the properties file.

Sample Properties File

The following example shows the contents of the sample installer.properties file:

```
############################################################
# Informatica Installer Build details
# Copyright (c) Informatica Corporation 1998 - 2010
# This software contains confidential and proprietary
# information of Informatica Corporation
# All Rights Reserved.
############################################################

#
# The INSTALL_TYPE variable indicates whether to install the latest version
# or upgrade to the latest version
#    Value    1     Upgrade to the latest version
#    Value    0     Install the latest version

INSTALL_TYPE=0

# Use the following guidelines when editing this file:
# * Any error condition that leads to failure, such as an invalid installation
#     directory, generates a log file in the root directory of the current drive.
#     For example: c:\silentErrorLog.log
# * The USER_INSTALL_DIR variable must point to a valid directory with write
#     permissions enabled.
# * The UPG_BACKUP_DIR variable must point to a valid directory that contains
#     a previous version of the Informatica clients

UPG_BACKUP_DIR=c:\Informatica\9.0

USER_INSTALL_DIR=c:\Informatica\9.0.1

# The DXT_COMP variable indicates whether to install Developer Client
#    Value    1     Install Developer Client
#    Value    0     Do not install Developer Client

DXT_COMP=1

# The CLIENT_COMP variable indicates whether to install the PowerCenter Client
#    Value    1     Install the PowerCenter Client
#    Value    0     Do not install the PowerCenter Client

CLIENT_COMP=1
```

Running the Installer

After you create the properties file, open a command window to start the silent installation.

1. Open a command window.
2. Go to root of the client installer directory.
3. To run the silent installation, double click the file silentinstall.bat.

The silent installer runs in the background. The process can take a while. The silent installation is complete when the Informatica_9.0.1_Client_InstallLog.log is created in the installation directory.

The silent installation fails if you incorrectly configure the properties file or if the installation directory is not accessible. View the installation log files and correct the errors. Then run the silent installation again.

CHAPTER 5

After You Install

This chapter includes the following topics:

Post-Installation Tasks

After installation, configure the environment for the new installation. Perform the post-installation tasks to ensure that that the domain and services run properly.

Complete the following tasks:

- Configure the environment variables. Verify that the following variables are set correctly:
  - Informatica environment variables
  - Locale environment variables
  - Library path environment variables
- Update the database statistics if the domain configuration repository is on IBM DB2 9.1.
- Verify that a graphics display server is available on UNIX.
- Configure the browser for the web client applications.
- Install languages for the client tools on Windows.
- Verify the setup for 32-bit and 64-bit platforms.
- Install and configure the database client software.
- Verify that the third-party software required by Informatica services are installed.

Configure the Environment Variables

Informatica uses environment variables to store configuration information when it runs the application services and connects to the clients. Configure the environment variables to meet the Informatica requirements. Incorrectly configured environment variables can cause the Informatica domain or nodes to fail to start or can cause connection problems between the Informatica clients and the domain.

To configure environment variables on UNIX, log in with the system user account you used to install Informatica.

The following table describes the environment variables you configure:

Variable Type	Operating System	Description
Informatica	Windows UNIX	Configure variables for the following Informatica properties: - Informatica installation directory. - Location of domains.infa. - Informatica memory usage. To apply changes, restart the node.
Locale environment variables	UNIX	Use LANG or LC_ALL to set the UNIX code page for the repository.
Library path	UNIX	Location of the database client libraries.

Informatica Environment Variables

You can configure the INFA_JAVA_OPTS, INFA_DOMAINS_FILE, and INFA_HOME environment variables to store memory, domain, and location settings.

INFA_JAVA_OPTS

By default, Informatica uses a maximum of 512 MB of system memory. You can use the INFA_JAVA_OPTS environment variable to configure the amount of system memory used by Informatica. For example, to configure 1 GB of system memory for the Informatica daemon 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.

Restart the node for the changes to take effect.

INFA_DOMAINS_FILE

The installer creates a domains.infa file in the Informatica installation directory. The domains.infa file contains the connectivity information for the gateway nodes in a domain, including the domain names, domain host names, and domain host port numbers.

Set the value of the INFA_DOMAINS_FILE variable to the path and file name of the domains.infa file. If you configure the INFA_DOMAINS_FILE variable, you can run infacmd and pmcmd from a directory other than /server/bin.

Configure the INFA_DOMAINS_FILE variable on the machine where you install the Informatica services. On Windows, configure INFA_DOMAINS_FILE as a system variable.

INFA_HOME

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

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

Locale Environment Variables

Use LANG, LC_CTYPE, or LC_ALL to set the UNIX code page. Verify that 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.

Different UNIX operating systems require different values for the same locale. The value for the locale variable is case sensitive.

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 operating system and the existing locale settings.

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. Informatica 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.

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, set the variable in a C shell with the following command:

```
setenv NLS_LANG american_america.UTF8
```

Library Path Environment Variables

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

Solaris and Linux

On Solaris and Linux, configure the LD_LIBRARY_PATH environment variable.

The following table describes the values you set for the LD_LIBRARY_PATH for the different databases:

Database	Value
Oracle	<*DatabasePath*>/lib
IBM DB2	<*DatabasePath*>/lib

Database	Value
Sybase ASE	“${SYBASE_OCS}/lib:${SYBASE_ASE}/lib:${LD_LIBRARY_PATH}”
Informix	<*DatabasePath*>/lib
Teradata	<*DatabasePath*>/lib
ODBC	<CLOSEDODBCHOME>/lib

AIX

On AIX, configure the LIBPATH environment variable.

The following table describes the values you set for the LIBPATH for the different databases:

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

HP-UX

On HP-UX, configure the SHLIB_PATH environment variable.

The following table describes the values you set for the SHLIB_PATH for the different databases:

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

Update Statistics for the Domain Configuration Repository

If the domain configuration repository is in an IBM DB2 9.1 database, run the DB2 reorgchk command to optimize database operations. The reorgchk command generates the database statistics used by the DB2 optimizer in queries and updates.

Use the following command:

```
REORGCHK UPDATE STATISTICS on SCHEMA SchemaName
```

Set Up the Graphics Display Server

The gateway nodes on UNIX require a graphics display server to run domain reports in Informatica Administrator. 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.** You can download Xvfb for Solaris from the following web site:

  ```
  http://ferret.pmel.noaa.gov/FERRET_17sep07/FAQ/graphics/Solaris_Xvfb.html
  ```

  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
  ```

Configure the Web Browser

You can use Microsoft Internet Explorer or Mozilla Firefox to launch the web client applications in the Informatica platform.

The following table describes the browser you can use with the web applications:

Component	Web Browser
Informatica Administrator	Microsoft Internet Explorer, Mozilla Firefox
Informatica Analyst	Microsoft Internet Explorer, Mozilla Firefox

Configure the following options in the browser to access the applications:

- **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.
- **TLS 1.0**. If you configure HTTPS for Informatica Administrator 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.

Install Languages for the Client Tools

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 Informatica clients. 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.

Windows might require you to restart the system.

Verify the Setup for 32-bit and 64-bit Platforms

You can run Data Quality 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 Data 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.

The Informatica 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.

When you run Informatica on both 32-bit and 64-bit platforms, configure the correct libraries, database clients, and session cache sizes.

Use the following guidelines when you work 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 a Data Integration Service with a 32-bit database client. Link a 64-bit machine running a Data Integration Service with 64-bit database client.
- **Database clients.** Link a 32-bit machine running a Model Repository Service with 32-bit database clients. Link a 64-bit machine running a Model Repository Service with 64-bit database clients.
- **Data Integration Service and Model Repository Service.** 32-bit and 64-bit machines that run Data Integration Services and Model Repository Services are compatible with each other.

Install the Database Client Software

Based on the types of databases that the Data Integration Service will access, install the following database clients and configure connectivity on the machine where the Data Integration Service runs:

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

Database Client Environment Variables

Configure database client environment variables on the machines that run the Data Integration Service. 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
Teradata	PATH	bteq	Add: <*DatabasePath*>/bin

Verify Third-Party Software Requirements

Informatica requires third-party software and libraries to perform certain operations. Verify that the machine where you install Informatica has the required software or library.

SAP Java Connector 3.0

The Developer tool requires the SAP Java Connector 3.0 (SAP JCo 3.0) library files to work with SAP connections and data objects. SAP JCo 3.0 is also required when you install ABAP programs.

If you plan to use SAP connections and data objects in the Developer tool, download SAP JCo 3.0 files from the SAP Service Marketplace:

http://service.sap.com/connectors

If you have problems downloading SAP JCo 3.0 from the SAP web site, contact Informatica Global Customer Support.

Download SAP JCo 3.0 to the machine that hosts the Developer tool. Extract the SAP JCo 3.0 files and copy the files to the Developer tool directory:

File	Directory
sapjco3.jar	<InformaticaInstallationDir>\clients\DeveloperClient\plugins\com.informatica.tools.adapters.ics.sap.table_1.0.0\lib **Note:** Change the name of the sapjco3.jar file to sapjco.jar.
sapjco3.dll	<InformaticaInstallationDir>\clients\DeveloperClient\bin

If you do not download and install SAP JCo 3.0, the Developer tool displays the following error message when you create SAP connections and data objects or install ABAP programs:

```
SAPJCo library files might not be installed. Install the SAPJCo library files and try again.
```

CHAPTER 6

Starting Informatica

This chapter includes the following topics:

Starting Informatica Overview

On each node where you install Informatica, the installer creates a Windows service or UNIX daemon to run Informatica. When the installation completes successfully, the installer starts the Informatica service on Windows or the Informatica daemon on UNIX.

You can configure the behavior of the Informatica Windows service.

The Informatica service runs the Service Manager on the node. The Service Manager runs the application services on the node. The method you use to start or stop Informatica depends on the operating system. You can use the Administrator tool to shut down a node. When you shut down a node, you stop Informatica on the node.

The Informatica service also runs the Administrator tool. You use the Administrator tool to administer the Informatica domain objects and user accounts. Log in to the Administrator tool to create the user accounts for users of Informatica and to create and configure the application services in the domain.

Getting Started with Data Quality

After you install and configure Informatica, you can start Data Quality.

1. Start Informatica.
2. Log in to the Administrator tool to create and manage the Informatica application services and components.
3. Create the following application services:

Model Repository Service

The Model Repository Service manages the Model repository that stores metadata created by the Developer tool and the Analyst tool. When you create the Model Repository Service, specify the database in which to create the Model repository.

Data Integration Service

The Data Integration Service performs data integration tasks for the Analyst tool, the Developer tool, and external clients. When you create the Data Integration Service, you must associate it with a Model Repository Service.
If you use the Analyst tool, specify the database to use for the Profiling Warehouse to use with the Data Integration Service.

Analyst Service

The Analyst Service runs the Analyst tool web application. If you want to use the Analyst tool to create and run profiles and scorecards, create an Analyst Service. When you create the Analyst Service, specify the Model Repository Service and Data Integration Service to associate with it. You must also specify a staging database and a flat file cache location.

4. Start the Developer tool.
5. Launch a browser and log in to the Analyst tool.

Starting and Stopping Informatica

On UNIX, use a command line program to start or stop the Informatica daemon. On Windows, you can start or stop the Informatica service from the Control Panel or the Start menu.

Starting and Stopping Informatica on UNIX

On UNIX, use the *infaservice* command to start and stop the Informatica daemon. By default, the *infaservice* executable file is installed in the following directory:

```
<InformaticaInstallationDir>/tomcat/bin
```

1. Go to the directory where *infaservice* is located.
2. At the command prompt, enter the following command to start the daemon:

   ```
   infaservice startup
   ```

   Enter the following command to stop the daemon:

   ```
   infaservice shutdown
   ```

   Note: If you use a softlink to specify the location of *infaservice*, set the INFA_HOME environment variable to the location of the Informatica installation directory.

Starting and Stopping Informatica on Windows

You can use the Services window in the Control Panel or the Start menu shortcut to start or stop the Informatica services.

Starting or Stopping Informatica from the Start Menu

To start Informatica from the Windows Start menu, click **Programs** > **Informatica[Version]** > **Server** > **Start Informatica Services**.

To stop Informatica from the Windows Start menu, click **Programs** > **Informatica[Version]** > **Server** > **Stop Informatica Services**.

After you start the Windows service, configure the firewall to allow client machines to access the Service Manager in the domain.

Starting or Stopping Informatica from the Control Panel

The procedure to start or stop the Informatica Windows service is the same as for all other Windows services.

1. Open the Windows Control Panel.
2. Select **Administrative Tools**.
3. Select **Services**.
4. Right-click the Informatica service.
5. If the service is running, click **Stop**.

   If the service is stopped, click **Start**.

After you start the Windows service, configure the firewall to allow client machines to access the Service Manager in the domain.

Configuring the Windows Firewall

When you start the Informatica Windows service, the machines where you install the Informatica clients cannot access the Service Manager in the Informatica domain. To allow the clients access to the Service Manager, you must configure the firewall to grant client machines access to the domain.

On the machine where you created the Informatica domain, add the client machines to the list of firewall exceptions.

1. On the Windows Control Panel, open Windows Firewall.
2. On the Windows Firewall window, click the Exceptions tab.
3. Click Add Program.
4. On the Add a Program window, click Browse.

   The infasvcs.exe file runs the Service Manager in the domain.
5. Go to the following directory in the Informatica installation directory:

   InformatcaInstallationDirectory\tomcat\bin
6. Select infasvcs.exe and click Open.

   The infasvcs.exe file appears in the list of programs.

   You can click Change Scope to specify the machines that you want to access Informatica.
7. Verify that the infasvcs.exe file appears in the list of programs and services and that it is enabled.
8. Click OK.

Stopping Informatica in the Administrator Tool

When you shut down a node using the Administrator tool, you stop the Informatica service on that node. You can abort the processes that are running or allow them to complete before the service shuts down. 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.

1. Log in to the Administrator tool.
2. In the Navigator, select the node to shut down.
3. On the Domain tab **Actions** menu, select **Shutdown Node**.

Rules and Guidelines for Starting or Stopping Informatica

Use the following rules and guidelines when starting and stopping Informatica 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, verify that the port used by the service on the node is available. For example, if you stop Informatica on a node, verify that the port is not used by any other process on the machine before you restart Informatica. If the port is not available, Informatica will fail to start.
- If you do not use the Administrator tool 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 Administrator tool.
- 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 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.

Logging in to the Administrator Tool

You must have a user account to log in to the Administrator tool.

1. Start a Microsoft Internet Explorer or Mozilla Firefox browser.
2. In the **Address** field, enter the URL for the Administrator tool:

   ```
   http://<host>:<port>/administrator
   ```

   Host and port in the URL represent the host name of the master gateway node and the port number for the Administrator tool. If you configure the Administrator tool to use HTTPS, the URL redirects to the HTTPS site:

   ```
   https://<host>:<https port>/administrator
   ```
3. On the login page, enter the user name and password.
4. Select **Native** or the name of a specific security domain.

   The **Security Domain** field appears when the Informatica domain contains an LDAP security domain. If you do not know the security domain that your user account belongs to, contact the Informatica domain administrator.
5. Click **Login**.
6. If this is the first time you log in with the user name and password provided by the domain administrator, change your password to maintain security.

Starting the Developer Tool

When you start the Developer tool, you connect to a Model repository. The Model repository stores metadata created in the Developer tool. The Model Repository Service manages the Model repository. Connect to the repository before you create a project.

1. From the Windows Start menu, click **Programs** > **Informatica[Version]** > **Client** > **Developer Client** > **Launch Informatica Developer**.

   The first time you run the Developer tool, the Welcome page displays several icons. The Welcome page does not appear when you run the Developer tool subsequently.
2. Click **Workbench.**

   The first time you start the Developer tool, you must select the repository in which to save the objects you create.
3. Click **File** > **Connect to Repository**.

   The **Connect to Repository** dialog box appears.
4. If you have not configured a domain in the Developer tool, click **Configure Domains** to configure a domain.

   You must configure a domain to access a Model Repository Service.
5. Click **Add** to add a domain.

   The **New Domain** dialog box appears.
6. Enter the domain name, host name, and port number.
7. Click **Finish**.
8. Click **OK**.
9. In the **Connect to Repository** dialog box, click **Browse** and select the Model Repository Service.
10. Click **OK**.
11. Click **Next**.
12. Enter a user name and password.
13. Click **Finish**.

    The Developer tool adds the Model repository to the Object Explorer view. When you run the Developer tool the next time, you can connect to the same repository.

Logging in to the Analyst Tool

The Analyst Service runs the the Analyst tool web client. You must create an Analyst Service in the Administrator tool before you start the Analyst tool.

1. Start a Microsoft Internet Explorer or Mozilla Firefox browser
2. In the **Address** field, enter the URL for the Analyst tool:

   ```
   http://<host>:<port>/AnalystTool
   ```
3. On the login page, enter the user name and password.
4. Select **Native** or the name of a specific security domain.

The **Security Domain** field appears when the Informatica domain contains an LDAP security domain. If you do not know the security domain that your user account belongs to, contact the Informatica domain administrator.

5. Click **Login**.

You can also use the Service URL link for the Analyst Service to start the the Analyst tool web client from the Administrator tool.

Configuring the Informatica Windows Service

You can configure the behavior of the Informatica Windows service when the operating system starts or when the service fails.You can also configure the user account that logs in to the service.

Use the following rules and guidelines when you configure the user account that logs in to the service:

- If you store files on a network drive, use a system account instead of the Local System account to run the Informatica service.
- 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 the Informatica service must have access to the shared location.
- If you want to use the Local System account, verify that the user starting the Informatica service has access to the network location.
- If the user that starts the Informatica service 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 the Informatica Windows service:

1. Open the Windows Control Panel.
2. Select **Administrative Tools**.
3. Select **Services**.
4. Double-click Informatica <Version>.

   The **Informatica <Version> Properties** dialog box appears.
5. Click the **Log On** tab.
6. Select **This account**.
7. Enter the domain and user name or click **Browse** to locate a system user.
8. Enter and confirm the password for the selected user account.
9. Click the **Recovery** tab. Select the options to restart the Informatica service if the service fails.

For more information about configuring system accounts for services and service restart options on Windows, see the Windows documentation.

CHAPTER 7

Troubleshooting the Informatica Installation

This chapter includes the following topics:

Installation Troubleshooting Overview

This chapter provides information about the Informatica installation process and the cause and resolution of errors that occur during installation. The examples included in this chapter describe general troubleshooting strategies and are not a comprehensive list of possible causes of installation issues.

This chapter provides information on the following topics:

- **Installation logs.** Logs generated during the Informatica installation.
- **Informatica domain and nodes.** Troubleshooting problems related to domain and node creation.
- **PowerCenter Client.** Troubleshooting problems during PowerCenter Client installation.
- **Installation error messages.** Error messages generated by the installer.

Installation Log Files

You can use the following log files to troubleshoot an Informatica installation:

- **Installation log files.** The installer produces log files during and after the installation. You can use these logs to get more information about the tasks completed by the installer and errors that occurred during installation. The installation log files include the following logs:
  - Debug logs
  - File installation logs
- **Service Manager log files.** Log files generated when the Service Manager starts on a node.

Debug Log Files

The installer writes actions and errors to the debug log file. The name of the log file depends on the Informatica component you install.

The following table describes the properties of the debug log files:

Property	Description
Log File Name	- Informatica_<Version>_Services.log - Informatica_<Version>_Client.log - Informatica_<Version>_Services_Upgrade.log - Informatica_<Version>_Client_Upgrade.log
Location	Installation directory.
Usage	Get more information about the actions performed by the installer and get more information about installation errors. The installer writes information to this file during the installation. If the installer generates an error, you can use this log to troubleshoot the error.
Contents	Detailed summary of each action performed by the installer, the information you entered in the installer, each command line command used by the installer, and the error code returned by the command.

The debug log contains output from the infacmd and infasetup commands used to create the domain, node, and application services. It also contains information about starting the application services.

File Installation Log File

The file installation log file contains information about the installed files.

The following table describes the properties of the installation log file:

Property	Description
Log File Name	- Informatica_<Version>_Services_InstallLog.log - Informatica_<Version>_Client_InstallLog.log
Location	Installation directory.
Usage	Get information about the files installed and registry entries created.
Contents	Directories created, names of the files installed and commands run, and status for each installed file.

Service Manager Log Files

The installer starts the Informatica service. The Informatica service starts the Service Manager for the node. The Service Manager generates log files that indicate the startup status of a node. Use these files to troubleshoot issues when the Informatica service fails to start and you cannot log in to the Administrator tool. The Service Manager log files are created on each node.

The following table describes the files generated by the Service Manager:

Property	Description
catalina.out	Log events from the Java Virtual Machine (JVM) that runs the Service Manager. For example, a port is available during installation, but is in use when the Service Manager starts. Use this log to get more information about which port was unavailable during startup of the Service Manager. The node.log is in the /tomcat/logs directory.
node.log	Log events generated during the startup of the Service Manager on a node. You can use this log to get more information about why the Service Manager for a node failed to start. For example, if the Service Manager cannot connect to the domain configuration database after 30 seconds, the Service Manager fails to start. The node.log is in the /server/tomcat/logs directory.

Note: The Service Manager also uses node.log to record events when the Log Manager is unavailable. For example, if the machine where the Service Manager runs does not have enough available disk space to write log event files, the Log Manager is unavailable.

Troubleshooting Domains and Nodes

The installer can generate errors when creating and configuring domains and nodes during the Informatica installation.

You can encounter errors with the following installer tasks:

- Adding the domain configuration database
- Creating or joining a domain
- Starting Informatica
- Pinging the domain
- Adding a license

Creating the Domain Configuration Repository

If you create a domain, the installer creates a domain configuration repository to store domain metadata. The installer uses the options you enter during installation to add configuration metadata to the domain configuration repository. The installer uses JDBC to communicate with the database. You do not need to configure ODBC or native connectivity on the machine where you install the Informatica services.

The installer creates and drops a table in the domain configuration repository database to verify the connection information. The user account for the database must have create privileges on the database. Each domain must have a separate domain configuration repository.

Creating or Joining a Domain

The installer completes different tasks depending on whether you create a domain or join a domain:

- **Creating a domain.** The installer runs the infasetup DefineDomain command to create the domain and the gateway node for the domain on the current machine based on the information you enter in the Configure Domain window.
- **Joining a domain.** The installer runs the infasetup DefineWorkerNode command to create a node on the current machine, and runs the infacmd AddDomainNode command to add the node to the domain. The installer uses the information you enter in the Configure Domain window to run the commands.

The infasetup and infacmd commands fail if the gateway node is unavailable. If the gateway node is unavailable, you cannot log in to Informatica Administrator.

For example, the DefineDomain command fails if you click Test Connection and the connection test passes but the database becomes unavailable before you click Next. The DefineDomain command can also fail if the host name or IP address does not belong to the current machine. Verify that the database for the domain configuration is available and that the host name is correct and try again.

If the AddDomainNode command fails, verify that the Informatica service is running on the gateway node and try again.

Starting Informatica

The installer runs infaservice to start the Informatica service. To troubleshoot issues when Informatica fails to start, use the information in the installation debug log and the node.log and catalina.out Service Manager log files to identify the cause of the error.

If you create a domain, log in to the Administrator tool after the Informatica service starts to verify that the domain is available. If you join a domain, log in to the Administrator tool after the Informatica service starts to verify that the node was successfully created and started.

Informatica can fail to start for the following reasons:

- **The Service Manager is out of system memory.** The Java Runtime Environment (JRE) that starts Informatica and runs the Service Manager may not have enough system memory to start. Set the INFA_JAVA_OPTS environment variable to configure the amount of system memory used by Informatica. On UNIX, you can set the memory configuration when you start Informatica.
- **The domain configuration database is not available.** Informatica fails to start on a node if the Service Manager on a gateway node cannot connect to the domain configuration database within 30 seconds. Verify that the domain configuration repository is available.
- **You incorrectly configure the Informatica service user account.** Informatica fails to start if you incorrectly configure the Windows domain, user name, or password when you configure the user account to start the Informatica service on Windows. In addition, the user account must have the Act as operating system permission.
- **The content of the PATH environment variable exceeds the maximum length allowed.** On Windows, Informatica fails to start if files or libraries required by Informatica are not in the system path and cannot be accessed. This problem can occur if the total number of characters in the PATH environment variable exceeds the limit.

Pinging the Domain

The installer runs the *infacmd* Ping command to verify that the domain is available before it continues the installation. The domain must be available so that license objects can be added to the domain. If the Ping command fails, start Informatica on the gateway node.

Adding a License

The installer runs the *infacmd* AddLicense command to read the Informatica license key file and create a license object in the domain. To run the application services in the Administrator tool, a valid license object must exist in the domain.

If you use an incremental license and join a domain, the serial number of the incremental license must match the serial number for an existing license object in the domain. If the serial numbers do not match, the AddLicense command fails.

You can get more information about the contents of the license key file used for installation, including serial number, version, expiration date, operating systems, and connectivity options in the installation debug log. You can get more information about existing licenses for the domain in Administrator tool.

Troubleshooting PowerCenter Client

I installed PowerCenter Client, but Mapping Architect for Visio does not appear in the Windows Start menu, and the MappingTemplate folder in the client directory is empty.

You must have the correct version and service pack level of the Microsoft .NET Framework for Mapping Architect for Visio to install properly.

Uninstall PowerCenter Client, install the correct version of the Microsoft .NET Framework, and reinstall PowerCenter Client.

CHAPTER 8

Repository Database Configuration

This chapter includes the following topics:

Repository Database Configuration Overview

Data Quality stores data and metadata in the Model repository. Before you create the Model Repository Service, set up a database and database user account for the Model repository.

You can create the Model repository in the following relational database systems:

- Oracle
- IBM DB2
- Microsoft SQL Server

For more information about configuring the database, see the documentation for your database system.

Use the following guidelines when you set up the Model repository database and user account:

- The database must be accessible to all gateway nodes in the Informatica domain.
- To prevent database errors in one repository from affecting other repositories, create the Model repository in a separate database schema with a different database user account. Do not create the Model repository in the same database schema as the domain configuration repository or the other repositories in the domain.

Oracle Database Requirements

Use the following guidelines when you set up the database on Oracle:

- Set the open_cursors parameter to 1000.
- The database user account must have the CONNECT, RESOURCE, and CREATE VIEW privileges.

IBM DB2 Database Requirements

Use the following guidelines when you set up the repository on IBM DB2:

- On the IBM DB2 instance where you create the database, set the following parameters to ON:
  - DB2_SKIPINSERTED
  - DB2_EVALUNCOMMITTED
  - DB2_SKIPDELETED
  - AUTO_RUNSTATS
- On the database, set the following configuration parameters:

Parameter	Value
applheapsz	8192
appl_ctl_heap_sz	8192
logfilsiz	8000
DynamicSections	1000
maxlocks	98
locklist	50000
auto_stmt_stats	ON Note: For IBM DB2 9.5 only

- Set the tablespace pageSize parameter to 32768.

  In a single-partition database, specify a tablespace that meets the pageSize requirements. If you do not specify a tablespace, the default tablespace must meet the pageSize requirements.

  In a multi-partition database, you must specify a tablespace that meets the pageSize requirements.

  Define the tablespace on a single node.
- The database user account must have the CREATETAB and CONNECT privileges.

Note: The default value for DynamicSections in DB2 is too low for the Informatica domain configuration repository and Model repository. Informatica requires a larger DB2 package than the default. When you set up the DB2 database for the domain configuration repository or a Model repository, you must set the DynamicSections parameter to at least 1000. If the DynamicSections parameter is set to a lower number, you can encounter problems when you install Informatica or when you work with the Analyst tool or Developer tool. The following error message can appear:

```
[informatica][DB2 JDBC Driver]No more available statements. Please recreate your package with a larger
dynamicSections value.
```

Related Topics:

- “Updating the DynamicSections Parameter” on page 99

IBM DB2 Version 9.1

If the Model repository is in an IBM DB2 9.1 database, run the DB2 reorgchk command to optimize database operations. The reorgchk command generates the database statistics used by the DB2 optimizer in queries and updates.

Use the following command:

```
REORGCHK UPDATE STATISTICS on SCHEMA <SchemaName>
```

Run the command on the database after you create the repository content.

Microsoft SQL Server Database Requirements

Use the following guidelines when you set up the repository on Microsoft SQL Server:

- Set the read committed isolation level to READ_COMMITTED_SNAPSHOT to minimize locking contention.

  To set the isolation level for the database, run the following command:

  ```
  ALTER DATABASE DatabaseName SET READ_COMMITTED_SNAPSHOT ON
  ```

  To verify that the isolation level for the database is correct, run the following command:

  ```
  SELECT is_read_committed_snapshot_on FROM sys.databases WHERE name = DatabaseName
  ```

- The database user account must have the CONNECT, CREATE TABLE, and CREATE VIEW permissions.

CHAPTER 9

Informatica Platform Connectivity

This chapter includes the following topics:

Connectivity Overview

The Informatica platform uses the following types of connectivity communicate between clients, services, and other components in the domain:

- **TCP/IP network protocol.** Application services and the Service Managers in a domain use TCP/IP network protocol to communicate with other nodes and services. The clients also use 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 the Informatica services. You can configure the port numbers used for services on a node when during installation or in the Administrator tool.
- **Native drivers**. The Data Integration Service uses native drivers to communicate with databases. Native drivers are packaged with the database server and client software. Install and configure the native database client software on the machines where the Data Integration Service runs.
- **ODBC**. The ODBC drivers are installed with the Informatica services and the Informatica clients. The integration services use ODBC drivers to communicate with databases.
- **JDBC.** The Model Repository Service uses JDBC to connect to the Model repository database.

  The server installer uses JDBC to connect to the domain configuration repository during installation. The gateway nodes in the Informatica domain use JDBC to connect to the domain configuration repository.

Domain Connectivity

Services on a node in an Informatica 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 to route requests. The Service

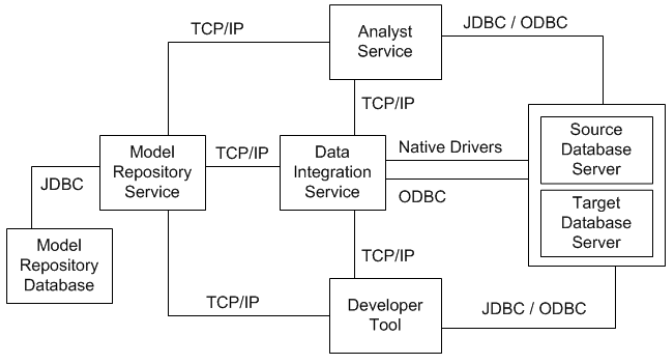
Manager on the master gateway node handles requests for services and responds with the address of the requested service.

Nodes communicate through TCP/IP on the port you select for a node when you install Informatica Services. When you create a node, you select a port number for the node. The Service Manager listens for incoming TCP/IP connections on that port.

Data Quality Connectivity

Data Quality uses TCP/IP to connect between services and clients. The services and clients use JDBC, ODBC, or native drivers to connect to databases.

The following figure shows an overview of the connectivity for components in Data Quality:



Data Quality uses connection objects to define connectivity information for source and target databases. The connection objects can use native or ODBC connectivity. The Data Integration Service uses connection objects to connect to sources and targets.

The services and clients connect in the following ways:

- **Model Repository Service.** The Model Repository Service uses TCP/IP to read or write data and metadata in the Model repository. It uses TCP/IP to communicate with the Data Integration Service and the clients.
- **Data Integration Service.** The Data Integration Service uses ODBC or native drivers to connect and read data from the source database or or write data to target database. It uses TCP/IP to communicate with Model Repository Service and the clients.
- **Informatica Developer.** The Developer tool uses TCP/IP to send data transformation requests to the Data Integration Service. When you preview mappings or data objects in the Developer tool, it uses JDBC or ODBC drivers to connect to the source or target database to fetch the metadata required for preview.
- **Informatica Analyst.** The Analyst tool uses TCP/IP to send requests to the Data Integration Service. When you preview profiles or objects in the Analyst tool, it uses JDBC or ODBC drivers to connect to the source or target database to fetch the metadata required for preview.

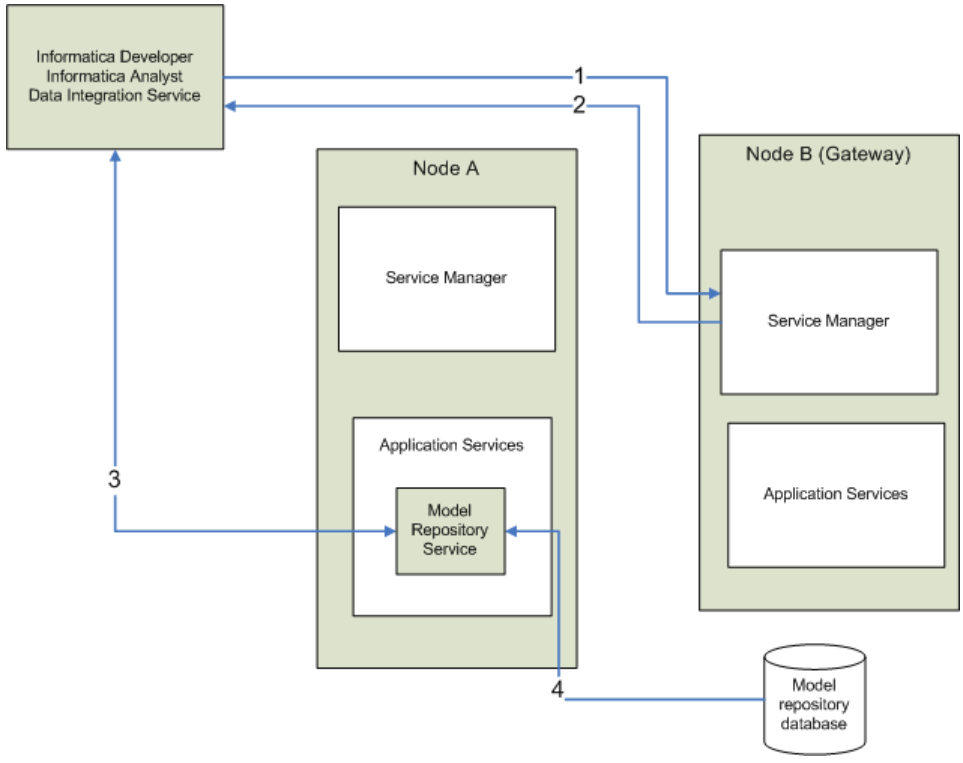
  If you use ODBC to connect to the source or target database, install the ODBC driver on the node where the Analyst Service runs.

Model Repository Connectivity

The Model Repository Service connects to the Model repository using JDBC drivers. Informatica Developer, Informatica Analyst, Informatica Administrator, and the Data Integration Service communicate with the Model

Repository Service over TCP/IP. Informatica Developer, Informatica Analyst, and Data Integration Service are Model repository clients.

The following figure shows how a Model repository client connects to the Model repository database:



1. A Model repository client sends a repository connection request to the master gateway node, which is the entry point to the domain.
2. The Service Manager sends back the host name and port number of the node running the Model Repository Service. In the diagram, the Model Repository Service is running on node A.
3. The repository client establishes a TCP/IP connection with the Model Repository Service process on node A.
4. The Model Repository Service process communicates with the Model repository database and performs repository metadata transactions for the client. This communication occurs over JDBC.

Note: The Model repository tables have an open architecture. Although you can view the repository tables, never manually edit them through other utilities. Informatica is not responsible for corrupted data that is caused by customer alteration of the repository tables or data within those tables.

Native Connectivity

To establish native connectivity between an application service and a database, you must install the database client software on the machine where the service runs.

The Data Integration Service uses native drivers to communicate with source and target databases.

The following table describes the syntax for the native connection string for each supported database system:

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 **Note:** Sybase ASE servername is the name of the Adaptive Server from the interfaces file.
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 **Note:** Use Teradata ODBC drivers to connect to source and target databases.

ODBC Connectivity

Open Database Connectivity (ODBC) provides a common way to communicate with different database systems.

The Data Integration Service use ODBC drivers to connect to databases.

To use ODBC connectivity, you must install the following components on the machine hosting the Informatica service or client tool:

- **Database client software.** Install the client software for the database system. This installs the client libraries needed to connect to the database.

  Note: Some ODBC drivers contain wire protocols and do not require the database client software.

- **ODBC drivers.** The DataDirect closed 32-bit ODBC drivers are installed when you install the Informaica services or the Informatica clients. The database server can also include an ODBC driver.

After you install the necessary components you must configure an ODBC data source for each database that 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.

The following table shows the recommended ODBC drivers to use with each database:

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
HP Neoview	HP ODBC driver	No
Netezza	Netezza SQL	No

JDBC Connectivity

JDBC (Java Database Connectivity) is a Java API that provides connectivity to relational databases. Java-based applications can use JDBC drivers to connect to databases.

The following services and clients use JDBC to connect to databases:

- Model Repository Service
- Informatica Developer
- Informatica Analyst

JDBC drivers are installed with the Informatica services and the Informatica clients.

CHAPTER 10

JDBC and ODBC Driver Installation

This chapter includes the following topics:

JDBC and ODBC Driver Installation Overview

To connect to an SQL data service through a third-party client tool, you must you must install the database drivers on the machine that you want to connect from. Download the JDBC and ODBC drivers and configure the connection based on whether you connect through a JDBC or ODBC client tool.

When you install Informatica Services or Informatica Clients, the installers copy the JDBC and ODBC drivers to the Informatica installation directory by default. Informatica provides a separate driver installer to install the JDBC and ODBC drivers on a machine that does not have Informatica Services or Informatica Clients.

JDBC Driver Installation

You can connect to an SQL data service through a JDBC client tool such as the SQL SQuirreL Client or DBClient.

Before you can connect to an SQL data service through a JDBC client tool, you must perform the following tasks:

1. Install the Informatica JDBC driver.
2. Update the CLASSPATH environment variable.

Installing the Informatica JDBC Driver

Install the Informatica JDBC driver on the machine you connect to the SQL data service from. To install the driver, run the Informatica JDBC/ODBC driver installation program.

Updating the CLASSPATH

Update the CLASSPATH environment variable to include the JDBC driver. The JDBC driver is compiled with Java 6.

The JDBC driver is installed in the following location:

```
<Informatica 9.0 Installation Directory>\jdbcdrv\infadsjdbc.jar
```

ODBC Driver Installation on Windows

You can connect to an SQL data service through an ODBC client tool such as the MySQL ODBC Client.

Before you can connect to an SQL data service through an ODBC client tool on Windows, you must perform the following tasks:

1. Install the Informatica ODBC driver.
2. Update the system path to include the Java Virtual Machine (JVM) directory.
3. Configure the Informatica ODBC driver.

Installing the Informatica ODBC Driver on Windows

Install the Informatica ODBC driver on the machine you connect to the SQL data service from. To install the driver, run the Informatica JDBC/ODBC driver installation program.

Updating the System Path

Update the PATH environment variable to include the Java Virtual Machine (jvm.dll) directory or the Java 6 path.

By default, the jvm.dll file is installed in the following location:

```
<Informatica 9.0 Installation Directory>\java\jre\bin\server
```

Note: If you install the ODBC driver on a machine with a Windows 64-bit operating system, you must restart the machine after you update the system path.

Configuring the Informatica ODBC Driver

Before you can connect to an SQL data service through an ODBC client tool on Windows, you must configure the Informatica ODBC driver.

1. Open the **Administrative Tools** from the Windows Control Panel.
2. Open the **Data Sources (ODBC)** shortcut.

   The **ODBC Data Source Administrator** appears.
3. Click **Add**.
4. Select the **Informatica Data Services ODBC Driver**.

5. Click **Finish**.
6. Configure the driver with the following options:

Option	Value
DSN name	Any valid data source name.
Connect string	jdbc:informatica:sqlds/<optional security domain\><optional user name>/<optional user password>@<domain host name>:<domain HTTP port>?dis=<Data Integration Service name>&sqlds=<runtime SQL data service name>
JDBC Jar	<Informatica 9.0 Installation Directory>\jdbcdrv\infadsjdbc.jar
Multi-threaded application	Enabled

ODBC Driver Installation on UNIX

You can connect to an SQL data service through an ODBC client tool such as the MySQL ODBC Client.

Before you can connect to an SQL data service through an ODBC client tool on UNIX, you must perform the following tasks:

1. Install the Informatica ODBC driver.
2. Update the shared library environment variable.
3. Update odbc.ini.

Installing the Informatica ODBC Driver on UNIX

Install the Informatica ODBC driver on the machine you connect to the SQL data service from. To install the driver, run the Informatica JDBC/ODBC driver installation program.

Updating the Shared Library Environment Variable

Set the shared library environment variable based on the operating system.

Update the shared library environment variable to include the directories where the Java Virtual Machine and Driver Manager library files exist.

The following table describes the shared library environment variable for each operating system:

Operating System	Shared Library Environment Variable
AIX	LIBPATH
Linux	LD_LIBRARY_PATH
Solaris	LD_LIBRARY_PATH

Update the shared library environment variable to include the following directories:

- The directory where the platform libjvm library resides.
- The directory where the libodbc and libodbcinst libraries reside. This is usually the Driver Manager lib directory.

Updating odbc.ini

Before you can connect to an SQL data service through an ODBC client tool on UNIX, you must update odbc.ini.

1. Edit odbc.ini or copy odbc.ini to the home directory and edit it. This file exists in the $ODBCHOME directory.

   ```
   $ cp $ODBCHOME/odbc.ini $HOME/.odbc.ini
   ```

2. Add an entry for the ODBC user under the section [<user name>_odbc]. For example:

   ```
   [<user name>_odbc]
   ConnectionString=jdbc:informatica:sqlds/<optional security domain\><optional user name>/<optional
   user password>@<domain host name>:<domain HTTP port>?dis=<Data Integration Service
   name>&sqlds=<runtime SQL data service name>
   Driver=$ODBC_DRIVER_INSTALL_LOCATION/bin/$OS/libinfadsodbc.so
   IsMultiThreaded=true
   JDBCDriverLocation=$INFA_HOME/jdbcdrv/infadsjdbc.jar
   UseDetach=false
   WCHARLengthInChars=true
   ```

   Configure WCHARLengthInChars only for Microstrategy.

CHAPTER 11

Informatica Utilities Installation

This chapter includes the following topics:

Informatica Utilities Installation Overview

The Informatica installation includes customer support tools and command line programs and utilities for the following products:

- PowerCenter
- Data Services
- Data Quality
- Metadata Manager
- PowerExchange

When you install the Informatica services or the Informatica clients, the command line programs and utilities are installed by default.

You can also install and run the programs and utilities on any machine without installing the Informatica products. Informatica provides a separate ZIP file to install the command line programs and utilities on a machine that does not have Informatica products installed.

The Informatica utilities are included in a ZIP file. Download the following file for your operating system:

```
Informatica_<Version>_cmd_utilities_<OperatingSystem>.zip
```

To install the utilities, extract the utilities from the file on the machine where you want to run them.

Configure the path and environment variables as required by the command line utilities. Grant execute permission on the utility files to user accounts that run the commands.

Command Line Programs and Utilities

You can use the Informatica utilities to manage the Informatica domain, application services, and objects from the command line on any machine that can access the Informatica domain.

The following table describes the Informatica command line programs:

Command Line Program	Product	Description
infacmd	PowerCenter Data Services Data Quality PowerExchange	Administer the Informatica domain and application services and processes, including the repository and integration services. You can also use infacmd to access and administer licenses and log events and export and import objects and user accounts. For more information about infacmd, see the *Informatica Command Reference*.
pmcmd	PowerCenter	Manage workflows. Use pmcmd to start, stop, schedule, and monitor workflows. For more information about pmcmd, see the *Informatica Command Reference* .
pmpasswd	PowerCenter	Encrypt passwords to use with pmcmd and pmrep environment variables. For more information about pmpasswd, see the *Informatica Command Reference*.
pmrep	PowerCenter	Performs repository administration tasks. Use pmrep to list repository objects, create and edit groups, and restore and delete repositories. For more information about pmrep, see the *Informatica Command Reference*.
mmcmd	Metadata Manager	Load and manage resources, import and export models, custom resources, and business glossaries. Create and delete Metadata Manager repository content, and restore PowerCenter repository content.
backupCmdLine	Metadata Manager	Back up and restore the Metadata Manager repository.

Configuring the PowerCenter Utilities

The PowerCenter utilities are installed in the following directory:

```
<UtilitiesInstallationDir>/PowerCenter/server/bin
```

In addition, the infacmd command line program is installed in the following directory:

```
<UtilitiesInstallationDir>/PowerCenter/isp/bin
```

Before you run the PowerCenter utilities, use the following guidelines to configure the program files and variables:

- infacmd requires the Java directory.
- To run pmrep, pmcmd, and pmpasswd on UNIX, you must copy the domains.infa file for the Informatica domain to the utilities directory. You must also set INFA_HOME, the PATH environment variable, and the library path environment variable to the location of the utilities.

Configuring the Metadata Manager Utilities

The Metadata Manager utilities require access to the Informatica domain and services. Modify the utility programs and configure the environment variables with the location of the JVM and Informatica libraries.

Note: You cannot use the mmcmd utility installed with Informatica utilities or with PowerCenter Client to create, update, or delete Metadata Manager repository content or to restore PowerCenter repository content. You must use the mmcmd utility installed with the Informatica services.

1. Go to the directory where you extracted the utility files.

   The Metadata Manager utilities are in the following directory:
   `<UtilitiesInstallationDir>\MetadataManager\utilities`
2. With a text editor, open the mmcmd.bat file on Windows or the mmcmd.sh file on UNIX.
3. Set the JAVA_HOME environment variable to the PowerCenter java directory in the command line utilities installation.

   For example:
   `set JAVA_HOME=<UtilitiesInstallationDir>\PowerCenter\java`
4. Set the INFA_HOME environment variable to the PowerCenter directory in the command line utilities installation.

   For example:
   `set INFA_HOME=<UtilitiesInstallationDir>\PowerCenter`
5. On Solaris, verify that the LD_LIBRARY_PATH environment variable contains the following directories:
   - Solaris x86 64 bit
     `${JAVA_HOME}/jre/lib/amd64/server:${JAVA_HOME}/jre/lib/amd64/jli`
   - Solaris Sparc 64 bit
     `${JAVA_HOME}/jre/lib/sparcv9/server:${JAVA_HOME}/jre/lib/sparcv9/jli`
   - Solaris Sparc
     `${JAVA_HOME}/jre/lib/sparc/server`
6. Save the mmcmd.bat or mmcmd.sh file.
7. Use a text editor to open the backupCmdLine.bat file on Windows or the backupCmdLine.sh file on UNIX.
8. Repeat steps Installing Metadata Manager Utilities through Installing Metadata Manager Utilities for the backupCmdLine.bat or backupCmdLine.sh file.

CHAPTER 12

Informatica Documentation Installation

This chapter includes the following topics:

Documentation Installation Overview

Use the Informatica Documentation DVD to install the Informatica product documentation in PDF format on Windows.

The Informatica Documentation DVD includes the following components:

- Informatica documentation in PDF format.
- Application to select and view Informatica documents.

You can use the application to view the PDF files. You can also navigate the documentation installation directory to a PDF document and open the document with Acrobat Reader.

Installing the Informatica Documentation

1. On the Informatica Documentation DVD or the location where you downloaded the documentation, locate and run the documentation installation file from the root directory:

   ```
   install.bat
   ```

   The Welcome window introduces the Informatica documentation installation.
2. Click Next.

   The Installation Directory window appears.
3. Enter the full path of the folder where you want to install the Informatica documentation.

   Click Choose to select the folder.

4. Click Next.

   The Pre-Installation Summary window displays the directory where the PDF files will be installed and the disk space required.

5. Click Install.

   When the documentation installation completes, the Post-Installation Summary window indicates whether the installation completed successfully.

6. Click Done.

   The Informatica documentation installer creates a documentation shortcut in the Informatica program group.

Viewing the Informatica Product Documentation

You can navigate through the menu pages of the Informatica documentation viewer to find the documentation you need. The documentation files are grouped by product.

1. To start the Informatica documentation application, choose Start > Programs > Informatica [Version] > Documentation > Start Documentation.
2. On the Informatica Documentation window, click the name of the product for the documentation that you want to view.

   The name of the books appear in the left pane.

3. Click the name of the document to view the document.

   Click Back to go to the previous window. Click Main Page to view the start page.

Troubleshooting

When I try to view a PDF, I get the following error:

```
Install Adobe Reader to view the document.
```

Use the following methods in the following order to resolve the error:

- Verify that Adobe Reader is installed on your machine.
- If Adobe Reader is installed, open Adobe Reader and click Help > Check for Updates. Install any updates.
- Install the latest version of Adobe Reader.

CHAPTER 13

Uninstallation

This chapter includes the following topics:

Uninstallation Overview

On UNIX, uninstall Informatica from the command line. On Windows, uninstall Informatica from the Windows Start menu.

When you uninstall Informatica, files are deleted and all configuration is cleared. The process does not delete files that are not installed with Informatica. For example, the installation process creates temporary directories. The uninstaller does not keep a record of these directories and therefore cannot delete them. You must manually delete these directories for a clean uninstallation.

Rules and Guidelines for Uninstallation

Use the following rules and guidelines when you uninstall Informatica components:

- The uninstallation mode depends on the mode you use to install Informatica. For example, you install Informatica in console mode. When you run the uninstaller, it runs in console mode.
- Uninstalling Informatica does not affect the Informatica repositories. The uninstaller removes the Informatica files. It does not remove repositories from the database. If you need to move the repositories, you can back them up and restore them to another database.
- Uninstalling Informatica does not remove the metadata tables from the domain configuration database. If you install Informatica again using the same domain configuration database and user account, you must manually remove the tables or choose to overwrite the tables. You can use the infasetup BackupDomain command to back up the domain configuration database before you overwrite the metadata tables.

  To remove the metadata tables manually, use the infasetup DeleteDomain command before you run the uninstaller.
- The uninstaller does not create a log of the uninstallation process. At the end of the uninstallation process, the uninstaller displays the names of the files and directories that could not be removed.
- If you install the Informatica services and the Informatica clients in the same directory, and then uninstall the Informatica services, the uninstaller removes the ODBC directory. The ODBC directory is required by the Informatica clients. You must reinstall the Informatica services or the Informatica clients to reinstall the ODBC drivers.

Before You Uninstall

Before you uninstall Informatica, stop all Informatica services. The uninstallation process cannot remove the files that are being used by a service that is running.

Running the Uninstaller

To uninstall the Informatica services or the Informatica clients, use the uninstaller created during the installation. On Windows, do not use the Control Panel to remove the Informatica program. Uninstalling with the Control Panel does not completely remove Informatica components.

When you install the Informatica services or Informatica cients, the installer creates an uninstallation directory in the Informatica installation directory. The uninstallation directory name depends on the installation you perform.

The following table lists the uninstallation directory for each type of installation:

Installation	Uninstallation Directory Name
Informatica Services	`<InstallationDirectory>/Uninstaller_Server`
Informatica Clients	`<InstallationDirectory>/Uninstaller_Client`

Running the Uninstaller on UNIX

To uninstall Informatica, run the uninstaller in the uninstallation directory.

For example, you want to uninstall Informatica components that you installed in the /Informatica/Version9.01 directory. To uninstall Informatica components, go to the following directory:

```
/Informatica/Version9.01/Uninstaller_Server
```

Type the following command to run the uninstaller:

```
./uninstaller
```

Running the Uninstaller on Windows

The installer creates a shortcut to the uninstaller from the Windows Start menu.

To uninstall the Informatica services on Windows, click **Start** > **Program Files** > **Informatica [Version]** > **Server** > **Uninstaller**.

To uninstall the Informatica clients on Windows, click **Start** > **Program Files** > **Informatica [Version]** > **Client** > **Uninstaller**.

APPENDIX A

Connecting to Databases from Windows

This appendix includes the following topics:

Connecting to Databases from Windows Overview

To use native connectivity, you must install and configure the database client software for the database you want to access. To ensure compatibility between the application service and the database, install a client software that is compatible with the database version and use the appropriate database client libraries. To improve performance, use native connectivity.

The Informatica installation includes DataDirect 6.0 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. Configure ODBC connections using the DataDirect ODBC drivers provided by Informatica or third-party ODBC drivers that are Level 2 compliant or higher.

Connecting to an IBM DB2 Universal Database

For native connectivity, install the version of IBM DB2 Client Application Enabler (CAE) appropriate for the IBM DB2 database server version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

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 Microsoft Access and Microsoft Excel

Configure connectivity to the following Informatica components on Windows:

- **PowerCenter Integration Service.** Install Microsoft Access or Excel on the machine where the PowerCenter Integration Service processes run. Create an ODBC data source for the Microsoft Access or Excel data you want to access.
- **PowerCenter Client.** Install Microsoft Access or Excel on the machine hosting the PowerCenter Client. Create an ODBC data source for the Microsoft Access or Excel data you want to access.

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

For native connectivity, install SQL Client, including the Microsoft OLE DB provider for Microsoft SQL Server. Verify that the version of of SQL Client is compatible with your Microsoft SQL Server version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

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

For native connectivity, install the version of Oracle client appropriate for the Oracle database server version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

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 all machines that require it. To verify compatibility, contact Oracle.

Note: If you use the DataDirect ODBC driver provided by Informatica, you do not need the database client. The ODBC wire protocols do not require the database client software to connect to the database.

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.

Connecting to a Sybase ASE Database

For native connectivity, install the version of Open Client appropriate for your database version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica 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 Informatica. To verify compatibility, contact Sybase.

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.

Note: If you use the DataDirect ODBC driver provided by Informatica, you do not need the database client. The ODBC wire protocols do not require the database client software to connect to the database.

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 Data Integration Service process runs and where you install Informatica Developer. To ensure compatibility between the Informatica products and databases, use 32-bit database client libraries only. You must configure connectivity to the following Informatica components on Windows:

- **Data Integration Service.** Install the Teradata client, the Teradata ODBC driver, and any other Teradata client software that you might need on the machine where the Data Integration Service runs. You must also configure ODBC connectivity.
- **Informatica Developer.** Install the Teradata client, the Teradata ODBC driver, and any other Teradata client software that you might need on each machine that hosts a Developer tool that accesses Teradata. You must also configure ODBC connectivity.

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 service with a *Local System account* logon. Create a User DSN if you select the *This account* log in option to start the Informatica 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.

APPENDIX B

Connecting to Databases from UNIX

This appendix includes the following topics:

Connecting to Databases from UNIX Overview

To use native connectivity, you must install and configure the database client software for the database you want to access. To ensure compatibility between the application service and the database, install a client software that is compatible with the database version and use the appropriate database client libraries. To improve performance, use native connectivity.

The Informatica installation includes DataDirect 6.0 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. Configure ODBC connections using the DataDirect ODBC drivers provided by Informatica or third-party ODBC drivers that are Level 2 compliant or higher.

Use the following guidelines when you connect to databases from Linux;

- Use native drivers to connect to IBM DB2, Oracle, or Sybase ASE databases
- Use ODBC to connect to Informix. The Informix client is not available on Linux.
- You can use ODBC to connect to other sources and targets.

Connecting to Microsoft SQL Server

Use ODBC to connect to a Microsoft SQL Server database from a UNIX machine.

Connecting to an IBM DB2 Universal Database

For native connectivity, install the version of IBM DB2 Client Application Enabler (CAE) appropriate for the IBM DB2 database server version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

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 PowerCenter 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 PowerCenter 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 Informatica 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 PowerCenter 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

For native connectivity, install ESQL for C, Informix Client SDK, or any other Informix client software. Also, install compatible versions of ESQL/runtime or iconnect. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

You must install the ESQL/C version that is compatible with the Informix database server. To verify compatibility, contact Informix.

Note: If you use the DataDirect ODBC driver provided by Informatica, you do not need the database client. The ODBC wire protocols do not require the database client software to connect to the database.

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 Informatica 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

For native connectivity, install the version of Oracle client appropriate for the Oracle database server version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica and databases, use the appropriate database client libraries.

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 all machines that require it. 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 PowerCenter 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 PowerCenter 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 Informatica 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

For native connectivity, install the version of Open Client appropriate for your database version. For ODBC connectivity, use the DataDirect 6.0 ODBC drivers installed with Informatica. To ensure compatibility between Informatica 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 Informatica. To verify compatibility, contact Sybase.

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.

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 installation directory of the Informatica services *(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 the Data Integration Service process runs and where you install Informatica Developer. To ensure compatibility between the Informatica products and databases, use 32-bit database client libraries only. You must configure connectivity to the following Informatica components on Windows:

- **Data Integration Service.** Install the Teradata client, the Teradata ODBC driver, and any other Teradata client software that you might need on the machine where the Data Integration Service runs. You must also configure ODBC connectivity.
- **Informatica Developer.** Install the Teradata client, the Teradata ODBC driver, and any other Teradata client software that you might need on each machine that hosts a Developer tool that accesses Teradata. You must also configure ODBC connectivity.

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 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 installation directory of the the Informatica service *(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, see 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.

Connecting to an ODBC Data Source

Install and configure native client software on the machine where the Data Integration Service runs. Also install and configure any underlying client access software required by the ODBC driver. To ensure compatibility between Informatica and the databases, use the appropriate database client libraries.

The Informatica installation includes DataDirect 6.0 ODBC drivers. If the odbc.ini file contains connections that use earlier versions of the ODBC driver, update the connection information to use the new drivers. Use the System DSN to specify an ODBC data source.

To connect to an ODBC data source:

1. On the machine where the Data Integration Service runs, log in 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 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 Informatica 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
```

APPENDIX C

Updating the DynamicSections Parameter of a DB2 Database

This appendix includes the following topics:

DynamicSections Parameter Overview

IBM DB2 packages contain the SQL statements to be executed on the database server. The DynamicSections parameter of a DB2 database determines the maximum number of executable statements that the database driver can have in a package. You can raise the value of the DynamicSections parameter to allow a larger number of executable statements in a DB2 package. To modify the DynamicSections parameter, connect to the database using a system administrator user account with BINDADD authority.

Updating the DynamicSections Parameter

Use the DataDirect Connect for JDBC utility to raise the value of the DynamicSections parameter in the DB2 database.

To use the DataDirect Connect for JDBC utility to update the DynamicSections parameter, complete the following tasks:

- Download and install the DataDirect Connect for JDBC utility.
- Run the Test for JDBC tool.

Downloading and Installing the DataDirect Connect for JDBC Utility

Download the DataDirect Connect for JDBC utility from the DataDirect download web site to a machine that has access to the DB2 database server. Extract the contents of the connectjdbc.jar file and run the installer.

1. Go to the DataDirect download site:

   `http://www.datadirect.com/download/index.ssp`

2. Click the JDBC link and register to download the DataDirect Connect for JDBC Utility.

3. Download the utility to a machine that has access to the DB2 database server.
4. Extract the contents of the connectjdbc.jar file to a temporary directory.
5. In the directory where you extracted the connectjdbc.jar file, run the installer.

   On Windows, run installer.bat. On UNIX, run installer.sh. You can use *eval* as a license key.

When the installation completes, the installation program creates a folder named testforjdbc in the directory where you extracted the connectjdbc.jar file.

Running the Test for JDBC Tool

After you install the DataDirect Connect for JDBC Utility, run the Test for JDBC tool to connect to the DB2 database. You must use a system administrator user account with the BINDADD authority to connect to the database.

1. In the DB2 database, set up a system adminstrator user account with the BINDADD authority.
2. In the directory where you installed the DataDirect Connect for JDBC Utility, run the Test for JDBC tool.

   On Windows, run testforjdbc.bat. On UNIX, run testforjdbc.sh.
3. On the Test for JDBC Tool window, click Press Here to Continue.
4. Click Connection > Connect to DB.
5. In the Database field, enter the following text:

   ```
   jdbc:datadirect:db2://
   HostName:PortNumber;databaseName=DatabaseName;CreateDefaultPackage=TRUE;ReplacePackage=TRUE;Dynamic
   Sections=1000
   ```

   HostName is the name of the machine hosting the DB2 database server.

   PortNumber is the port number of the database.

   DatabaseName is the name of the DB2 database.
6. In the User Name and Password fields, enter the system administrator user name and password you use to connect to the DB2 database.
7. Click Connect, and then close the window.

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