Informatica® Informatica
10.1.1

# Upgrading from Version 10.1

Informatica Informatica Upgrading from Version 10.1
10.1.1
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# Table of Contents


**Preface** . . . . . 9

Informatica Resources . . . . . 9

- Informatica Network . . . . . 9
- Informatica Knowledge Base . . . . . 9
- Informatica Documentation . . . . . 9
- Informatica Product Availability Matrixes . . . . . 10
- Informatica Velocity . . . . . 10
- Informatica Marketplace . . . . . 10
- Informatica Global Customer Support . . . . . 10

**Chapter 1: Upgrade Overview** . . . . . 11

Informatica Upgrade . . . . . 11

Informatica Upgrade Paths . . . . . 11

Upgrade Process . . . . . 12

**Chapter 2: Before You Upgrade the Domain on Windows** . . . . . 14

Read the Release Notes . . . . . 14

Review Changed Support . . . . . 14

Review the Patch Requirements . . . . . 15

Verify the Domain Upgrade Requirements . . . . . 15

- Temporary Disk Space Requirements . . . . . 16

Verify Application Service Hardware Requirements . . . . . 16

Review the Environment Variables . . . . . 17

Review the Maximum Heap Size . . . . . 18

Extract the Installer Files . . . . . 19

Run the Pre-Installation (i10Pi) System Check Tool . . . . . 19

Run the Informatica Upgrade Advisor . . . . . 21

**Chapter 3: Before You Upgrade the Domain on UNIX** . . . . . 26

Read the Release Notes . . . . . 26

Review Changed Support . . . . . 26

Review the Patch Requirements . . . . . 27

Install the Java Runtime Environment . . . . . 27

Verify the Domain Upgrade Requirements . . . . . 28

- Temporary Disk Space Requirements . . . . . 28

Verify Application Service Hardware Requirements . . . . . 29

Review the Environment Variables . . . . . 30

Set the File Descriptor Limit . . . . . 31

Review the Maximum Heap Size . . . . . 32

Extract the Installer Files . . . . . 32

Run the Pre-Installation (i10Pi) System Check Tool. . . . 33
Run the Informatica Upgrade Advisor (UNIX). . . . 35

**Chapter 4: Prepare for the Upgrade. . . . 37**

Back Up the Data Transformation Files. . . . 37
Prepare the Analyst Service. . . . 38
Prepare the PowerCenter Repository. . . . 38
Prepare the Model Repository. . . . 38
Back Up the Repository. . . . 38
Verify the Database User Account Requirements . . . 38
Prepare the Data Integration Service. . . . 39
Record the Execution Options . . . 39
Complete All Workflows. . . . 39
Prepare the Exception Management Audit Database. . . . 39
Prepare the Profiling Warehouse. . . . 40
Prepare the Reference Data Warehouse. . . . 40
Prepare the Reference Data Directories. . . . 40
Prepare the Workflow Database. . . . 40
Prepare Metadata Manager. . . . 41
Back Up the Metadata Manager Warehouse. . . . 41
Back Up the Metadata Manager Properties File. . . . 41
Prepare the Domain. . . . 41
Verify Database User Account Requirements . . . 41
Shut Down the Domain. . . . 42
Back Up the Domain. . . . 42

**Chapter 5: Upgrade the Domain. . . . 44**

Domain Upgrade Overview. . . . 44
Upgrading in Graphical Mode. . . . 44
Upgrading in Console Mode. . . . 52
Upgrading in Silent Mode. . . . 54
Creating the Properties File. . . . 55
Running the Silent Installer. . . . 56
Secure the Passwords in the Properties File. . . . 57
Troubleshooting the Domain Upgrade. . . . 57

**Chapter 6: Upgrade the Domain with Changes to Node Configuration. . . . 58**

Upgrade the Domain with Changes to Node Configuration Overview. . . . 58
Prepare to Change the Node Configuration. . . . 58
Migrating to a Different Database. . . . 59
Migrating the Installation to a Different Machine. . . . 59
Upgrading in Graphical Mode. . . . 63
Upgrading in Console Mode. . . . 74

Upgrading in Silent Mode. . . . 80

**Chapter 7: Before You Upgrade the Application Services. . . . 81**

Configure POSIX Asynchronous I/O. . . . 81
Configure Informatica Environment Variables. . . . 81
Configure Locale Environment Variables. . . . 82
Verify the Keystore File Location for the Administrator Tool. . . . 83
Clear Browser Cache. . . . 83
Complete Changing the Node Configuration. . . . 83
Configure Environment Variables. . . . 84
Verify the Range of Dynamic Port Numbers. . . . 85
Verify the Node Backup Directory. . . . 85
Configure PowerExchange Adapters. . . . 85

**Chapter 8: Application Service Upgrade. . . . 86**

Application Service Upgrade Overview. . . . 86
Privileges to Upgrade Services. . . . 86
Service Upgrade from Previous Versions. . . . 87
Running the Service Upgrade Wizard. . . . 87
Verify the Model Repository Service Upgrade. . . . 88
Object Dependency Graph. . . . 88
Maximum Heap Size. . . . 89

**Chapter 9: Informatica Client Upgrade. . . . 90**

Informatica Client Upgrade Overview. . . . 90
Review Changed Support. . . . 91
Informatica Client Upgrade Options. . . . 91
Upgrading in Graphical Mode. . . . 91
Upgrading in Silent Mode. . . . 92
Creating the Properties File. . . . 92
Running the Silent Installer. . . . 93

**Chapter 10: After You Upgrade. . . . 94**

Informatica Domain. . . . 94
Update the Log Events Directory. . . . 94
Configure a Secure Database. . . . 95
Verify the SMTP Configuration Properties. . . . 95
Secure Client Connections to the Domain. . . . 95
Upgrade the Connection Provider Type for Microsoft SQL Server. . . . 96
PowerCenter Integration Service. . . . 97
Configure Umask for Operating System Profiles. . . . 97
Verify the Location of the Identity Population Files. . . . 97
Content Management Service. . . . 97

Data Integration Service. . . . . 98
Reset the HTTP Proxy Server Password. . . . . 98
Verify the Execution Options. . . . . 98
Verify Maximum Memory Per Request. . . . . 98
Email Service. . . . . 99
Scheduler Service. . . . . 99
Analyst Service. . . . . 99
Enter the Model Repository Username and Password. . . . . 99
Verify the Flat File Cache Location. . . . . 99
Verify the Temporary Export File Location. . . . . 100
Verify the Business Glossary Attachments Directory. . . . . 100
Verify the Exception Management Audit Database. . . . . 100
Recycle the Analyst Service. . . . . 101
Business Glossary Desktop. . . . . 101
Changing the Business Glossary Desktop Port Number and Host Name. . . . . 101
Metadata Manager Agent. . . . . 101
Metadata Manager Service. . . . . 102
Update the Metadata Manager Properties File. . . . . 102
Verify the ODBCINST Environment Variable on UNIX. . . . . 102
Re-create Netezza Resources. . . . . 103
Purge and Reload Resources. . . . . 103
Upgrade Informatica Platform Resources. . . . . 104
Regenerate the Plug-ins for Universal Resources. . . . . 105
Update Multiple Threads for Business Intelligence Resources. . . . . 106
Reference Data. . . . . 106
Compile Probabilistic Models. . . . . 106
Restore the Reference Data Directories. . . . . 106
Update the Classifier Model and Probabilistic Model Property Files in PowerCenter. . . . . 107
Profiles. . . . . 107
Import Data Domains. . . . . 107
Run Infacmd Commands. . . . . 107
Run the Existing Scorecards. . . . . 108
Upgrade the Informatica Drivers for SQL Data Services. . . . . 108
User Authentication. . . . . 108
Copy the Data Transformation Files. . . . . 109
Read the Release Guide. . . . . 109

**Appendix A: Updating the DynamicSections Parameter of a DB2 Database. . 110**

DynamicSections Parameter Overview. . . . . 110
Updating the DynamicSections Parameter. . . . . 110
Downloading and Installing the DataDirect Connect for JDBC Utility. . . . . 110
Running the Test for JDBC Tool. . . . . 111

**Appendix B: Upgrade Checklist . . . . . 112**

Upgrade Checklist Overview . . . . . 112

Before You Upgrade the Domain . . . . . 112

Domain Upgrade . . . . . 114

Before You Upgrade the Application Services . . . . . 114

Application Service Upgrade . . . . . 115

Informatica Client Upgrade . . . . . 115

After You Upgrade . . . . . 115

**Index . . . . . 118**

# Preface

*Upgrading from Version 10.1* is written for the system administrator who is responsible for upgrading the Informatica product. This guide assumes that 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 that you are familiar with the interface requirements for your supporting applications.

## Informatica Resources

### Informatica Network

Informatica Network hosts Informatica Global Customer Support, the Informatica Knowledge Base, and other product resources. To access Informatica Network, visit https://network.informatica.com.

As a member, you can:

- Access all of your Informatica resources in one place.
- Search the Knowledge Base for product resources, including documentation, FAQs, and best practices.
- View product availability information.
- Review your support cases.
- Find your local Informatica User Group Network and collaborate with your peers.

### Informatica Knowledge Base

Use the Informatica Knowledge Base to search Informatica Network for product resources such as documentation, how-to articles, best practices, and PAMs.

To access the Knowledge Base, visit https://kb.informatica.com. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at KB_Feedback@informatica.com.

### Informatica Documentation

To get the latest documentation for your product, browse the Informatica Knowledge Base at https://kb.informatica.com/_layouts/ProductDocumentation/Page/ProductDocumentSearch.aspx.

If you have questions, comments, or ideas about this documentation, contact the Informatica Documentation team through email at infa_documentation@informatica.com.

## Informatica Product Availability Matrixes

Product Availability Matrixes (PAMs) indicate the versions of operating systems, databases, and other types of data sources and targets that a product release supports. If you are an Informatica Network member, you can access PAMs at https://network.informatica.com/community/informatica-network/product-availability-matrices.

## Informatica Velocity

Informatica Velocity is a collection of tips and best practices developed by Informatica Professional Services. Developed from the real-world experience of hundreds of data management projects, Informatica Velocity represents the collective knowledge of our consultants who have worked with organizations from around the world to plan, develop, deploy, and maintain successful data management solutions.

If you are an Informatica Network member, you can access Informatica Velocity resources at http://velocity.informatica.com.

If you have questions, comments, or ideas about Informatica Velocity, contact Informatica Professional Services at ips@informatica.com.

## Informatica Marketplace

The Informatica Marketplace is a forum where you can find solutions that augment, extend, or enhance your Informatica implementations. By leveraging any of the hundreds of solutions from Informatica developers and partners, you can improve your productivity and speed up time to implementation on your projects. You can access Informatica Marketplace at https://marketplace.informatica.com.

## Informatica Global Customer Support

You can contact a Global Support Center by telephone or through Online Support on Informatica Network.

To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link:
http://www.informatica.com/us/services-and-training/support-services/global-support-centers.

If you are an Informatica Network member, you can use Online Support at http://network.informatica.com.

CHAPTER 1

# Upgrade Overview

This chapter includes the following topics:


- Informatica Upgrade, 11
- Informatica Upgrade Paths, 11
- Upgrade Process, 12


## Informatica Upgrade

The Informatica platform consists of a server component and one or more client components. Informatica provides separate installers to upgrade the Informatica services and clients.

When you upgrade each node in the domain, you can choose to change the node configuration to allow changes to the node host name, port numbers, or domain configuration repository database.

## Informatica Upgrade Paths

You can directly upgrade to 10.1.1 from Informatica 9.5.1, 9.6.1, 10.0, and 10.1.

If the product version that is currently installed cannot be upgraded to Informatica 10.1.1, you must first upgrade to a supported version. To determine the Informatica product version that is currently installed, click **Help** > **About Informatica Administrator** in the Informatica Administrator header area.

The following table describes the Informatica product versions from which you can upgrade:

| Informatica Version | Upgrade Path | Comments |
|---|---|---|
| 8.1.x | 9.1.0 -> 9.6.1 -> 10.1.1 | If the PowerCenter® 8.1.x domain includes Metadata Manager or Data Analyzer, you must first upgrade to PowerCenter 8.6.1 and then upgrade to Informatica PowerCenter 9.1.0. |
| 8.5.x | 9.1.0 -> 9.6.1 -> 10.1.1 | If the PowerCenter 8.5.x domain includes Metadata Manager or Data Analyzer, you must first upgrade to PowerCenter 8.6.1 and then upgrade to Informatica PowerCenter 9.1.0. |

| Informatica Version | Upgrade Path | Comments |
|---|---|---|
| 8.6 | 9.1.0 -> 9.6.1 -> 10.1.1 | If the PowerCenter 8.1.x domain includes Metadata Manager or Data Analyzer, you must first upgrade to PowerCenter 8.6.1 and then upgrade to Informatica PowerCenter 9.1.0. |
| 8.6.1 | 9.1.0 -> 9.6.1 -> 10.1.1 | After you upgrade to version 9.1.0, you must upgrade to version 9.6.1, and then upgrade to version 10.1.1. |
| 8.6.2 | 9.1.0 -> 9.6.1 -> 10.1.1 | After you upgrade to version 9.1.0, you must upgrade to version 9.6.1, and then upgrade to version 10.1.1. |
| 9.0 | 9.1.0 -> 9.6.1 -> 10.1.1 | After you upgrade to version 9.1.0, you must upgrade to version 9.6.1, and then upgrade to version 10.1.1. |
| 9.0.1 | 9.1.0 -> 9.6.1 -> 10.1.1 | After you upgrade to version 9.1.0, you must upgrade to version 9.6.1, and then upgrade to version 10.1.1. |
| 9.1.0 | 9.6.1 -> 10.1.1 | Upgrade to version 9.6.1, and then upgrade to upgrade to version 10.1.1. |
| 9.5.0 | 9.5.1 -> 10.1.1 | Upgrade to version 9.5.1, and then upgrade to upgrade to version 10.1.1. |
| 9.5.1 | 10.1.1 | You can directly upgrade to version 10.1.1. |
| 9.6.0 | 9.6.1 -> 10.1.1 | Upgrade to version 9.6.1, and then upgrade to upgrade to version 10.1.1. |
| 9.6.1 | 10.1.1 | You can directly upgrade to version 10.1.1. |
| 10.0 | 10.1.1 | You can directly upgrade to version 10.1.1. |
| 10.1 | 10.1.1 | You can directly upgrade to version 10.1.1. |

# Upgrade Process

The upgrade of the Informatica services and Informatica clients consists of multiple phases.

The upgrade consists of the following phases:

1. Complete the pre-upgrade tasks for the domain to ensure that you can successfully run the installer.
2. Upgrade the domain. To upgrade the domain, run the Informatica server installer and select the upgrade option. The domain upgrade wizard installs the server files and configures the domain. If the domain has multiple nodes, you must upgrade all nodes. When you upgrade each node in the domain, you can choose to change the node configuration to allow changes to the node host name, port numbers, or domain configuration repository database.

The following table describes the actions that the installer performs when you upgrade the domain:

| Tasks | Description |
|---|---|
| Runs Informatica Upgrade Advisor | Installer runs the pre-upgrade to validate the services and checks for obsolete services in the domain.<br>Resolve the conflicts before you proceed with the upgrade. |
| Installs Informatica. | Installs Informatica directories and files into the new directory. |
| Copies infa_shared directory. | Copies the contents of the infa_shared directory from the existing installation directory into the new installation directory. |
| If the existing domain uses the Metadata Manager Service, copies mm_files directory. | Copies the contents of the mm_files directory from the default location in the existing installation directory into the new installation directory. |
| Upgrades the domain. | Upgrades the domain to run version 10.1.1 application services.<br>The upgrade retains the user and administrator accounts in the domain. |
| Starts Informatica Services. | Starts Informatica Services on the node. |

3. Upgrade the application services. After you upgrade the domain, log in to the Administrator tool and upgrade the application services. The service upgrade wizard provides a list of all application services that must be upgraded. It upgrades the services based on the order required by the dependent objects.
4. Upgrade the Informatica clients. Use the client installer to upgrade the following Informatica client tools:
   - PowerCenter Client
   - Informatica Developer

     Upgrade Informatica Developer to the Informatica version, including the hotfix version, of the domain upgrade.

     **Note:** You cannot connect to the Informatica domain using the Developer tool from a previous version.

   To upgrade Informatica clients, run the Informatica client installer and select the upgrade option. If the clients are installed on multiple machines, upgrade the clients on all machines.
5. Perform the post-upgrade tasks.

   **Note:** If you upgrade the Informatica installation on more than one machine, complete the first upgrade with the detailed instructions in this guide. You can use the upgrade checklist in the appendix to perform subsequent upgrades.

CHAPTER 2

# Before You Upgrade the Domain on Windows

This chapter includes the following topics:


- Read the Release Notes, 14
- Review Changed Support, 14
- Review the Patch Requirements, 15
- Verify the Domain Upgrade Requirements, 15
- Verify Application Service Hardware Requirements, 16
- Review the Environment Variables, 17
- Review the Maximum Heap Size, 18
- Extract the Installer Files, 19
- Run the Pre-Installation (i10Pi) System Check Tool, 19
- Run the Informatica Upgrade Advisor, 21


## Read the Release Notes

Read the Informatica Release Notes for updates to the installation and upgrade process. You can also find information about known and fixed limitations for the release.

## Review Changed Support

Effective in version 10.1.1, Informatica dropped support for Data Analyzer, the Reporting Service, and the Reporting and Dashboards Service.

For information about generating reports that are no longer available through the Reporting and Dashboards Service or the Reporting Service, see the Knowledge Base article 496097: https://kb.informatica.com/howto/6/Pages/18/496097.aspx

Effective in version 10.0, Informatica dropped support for Informatica services and Informatica Developer on 32-bit Windows. You cannot install Informatica services or the Developer tool on a machine with the 32-bit

Windows operating system. You must migrate all nodes in the domain to a supported operating system before you perform the upgrade.

After you prepare the domain for upgrade, follow upgrade instructions in the chapter Chapter 6, "Upgrade the Domain with Changes to Node Configuration" on page 58

# Review the Patch Requirements

Before you upgrade the Informatica domain, verify that the machine has the required operating system patches and libraries.

The following table lists the patches and libraries that the Informatica services require on a Windows platform:

| Platform | Operating System | Operating System Patch |
|---|---|---|
| Windows x64 | 2012 R2 64-bit | None required |
| Windows x64 | 2008 R2 64-bit | None required |

# Verify the Domain Upgrade Requirements

Verify that your machine meets the minimum system requirements to upgrade the Informatica domain.

The following table lists the minimum memory and disk space required to upgrade the Informatica domain:

| RAM | Disk Space |
|---|---|
| 4 GB | 10 GB |

**Note:** When you upgrade, the installer requires an additional 4 GB disk space plus the amount of disk space used by the existing infa_shared directory.

The following table lists the minimum system requirements to run the Informatica client tools:

| Client | Processor | RAM | Disk Space |
|---|---|---|---|
| PowerCenter Client | 1 CPU | 1GB | 3 GB |
| Informatica Developer | 1 CPU | 1GB | 6 GB |

For more information about product requirements and supported platforms, see the Product Availability Matrix on Informatica Network:
https://network.informatica.com/community/informatica-network/product-availability-matrices/overview

## 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 Informatica services installer requires 1 GB of temporary disk space.

The Informatica clients installer also requires 1 GB of temporary disk space.

# Verify Application Service Hardware Requirements

The Informatica version to which you are upgrading requires more memory and disk space than previous versions.

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

| Services | Processor | Memory | Disk Space |
|---|---|---|---|
| One node runs the following services:<br>- Analyst Service<br>- Content Management Service<br>- Data Integration Service<br>- Metadata Manager Service<br>- Model Repository Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service<br>- Search Service<br>- Web Services Hub | 2 CPUs with multiple cores | 12 GB | 20 GB |
| One node runs the following services:<br>- Analyst Service<br>- Content Management Service<br>- Data Integration Service<br>- Model Repository Service<br>- Search Service | 2 CPUs with multiple cores | 12 GB | 20 GB |
| One node runs the following service:<br>- Analyst Service | 1 CPU with multiple cores | 4 GB | n/a |
| One node runs the following service:<br>- Search Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Analyst Service<br>- Search Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Metadata Manager Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 2 CPUs with multiple cores | 8 GB | 10 GB |

| Services | Processor | Memory | Disk Space |
|---|---|---|---|
| One node runs the following services:<br>- Metadata Manager Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 2 CPUs with multiple cores | 8 GB | 10 GB |
| One node runs the following services:<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Data Integration Service<br>- Model Repository Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Data Integration Service<br>- Content Management Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following service:<br>- Metadata Manager Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following service component:<br>- Metadata Manager Agent | 1 CPU with multiple cores | 4 GB | 400 MB |
| One node runs the following service:<br>- Web Services Hub | 1 CPU with multiple cores | 4 GB | 5 GB |

# Review the Environment Variables

Configure the environment variables to work with the Informatica installation.

The following table describes environment variables to review on Windows:

| Variable | Description |
|---|---|
| %TEMP% | Location of the temporary files created during installation. Informatica requires 1 GB disk space for temporary files.<br>Configure the environment variable if you do not want to create temporary files in the default drive. |
| PATH | 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.<br>Verify that the PATH environment variables do not contain earlier versions of Informatica. |
| Library path | Verify that the library path environment variables do not contain earlier versions of Informatica. |
| INFA_HOME | Contains the location of the Informatica installation directory. Clear this variable before you start the upgrade. |

| Variable | Description |
|---|---|
| INFA_DOMAINS_FILE | Contains the location of the domains.infa file. Clear this variable before you start the upgrade. |
| DISPLAY | Unset the DISPLAY environment before you run the installer. Installation might fail if the DISPLAY environment variable has some value. |

# Review the Maximum Heap Size

Verify that Informatica Services uses the required maximum heap size for the number of users in the domain.

The following table lists the minimum requirement for the maximum heap size settings, based on the number of users and services in the domain:

| Number of Domain Users | Maximum Heap Size (1-5 Services) | Maximum Heap Size (6-10 Services) |
|---|---|---|
| 1,000 or less | 512 MB (default) | 1024 MB |
| 5,000 | 2048 MB | 3072 MB |
| 10,000 | 3072 MB | 5120 MB |
| 20,000 | 5120 MB | 6144 MB |
| 30,000 | 5120 MB | 6144 MB |

**Note:** The maximum heap size settings in the table are based on the number of application services in the domain.

If the domain has more than 1,000 users, update the maximum heap size based on the number of users in the domain.

1. Extract the installation files.
2. Go to the following directory:`<installer files directory>/source/tomcat/bin`.
3. Use a text editor to open the infaservice file.
4. Search for the following text: `INFA_JAVA_OPTS=% INFA_JAVA_OPTS% -XX`.
5. Set the value for `-Xmx` to the maximum heap size required for the number of Informatica domain users. For example, to set the maximum heap size to 3072 MB, use the following configuration:

```
set INFA_JAVA_OPTS=% INFA_JAVA_OPTS% -XX:GCTimeRatio=9 -Xmx3072m
```

# Extract the Installer Files

The installer files are compressed and distributed as a zip file.

Use a zip utility to extract the installer files to a directory on your machine. Verify the zip utility version is compatible with the Windows operating system version. When you unzip the file, verify that the zip utility also extracts empty folders.

You can extract the installer files in the following ways:

- Installation DVD. Download the Informatica zip file from the installation DVD to a directory on your machine and then extract the installer files, or extract the installer files directly from the DVD to a directory on your machine. If you download the zip file to a directory on your machine, verify the length of the entire installation directory path, including the zip file name, is 60 characters or less.
- FTP download. Download the Informatica installation zip file from the Informatica Electronic Software Download site to a directory on your machine and then extract the installer files.

**Note:** Make sure that you download the file to a local directory or a shared network drive that is mapped on your machine. You can then extract the installer files. However, you cannot run the installer from a mapped file. Copy the extracted files to a local drive and then run the installer.

# Run the Pre-Installation (i10Pi) System Check Tool

Run the Pre-installation (i10Pi) System Check Tool to verify whether the machine meets the system requirements for installation or upgrade.

1. Select **Install Informatica 10.1.1**.
2. Select **Run the Pre-Installation (i10pi) System Check Tool** to verify whether the machine meets the system requirements for the installation or upgrade.
3. Click **Start**.

   The Informatica Pre-Installation (i10Pi) System Check Tool **Welcome** page appears.
4. Click **Next**.

   The **System Information** page appears.
5. Enter the absolute path for the installation directory.

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

   **Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.
6. Enter the starting port number for the node that you will create or upgrade on the machine. The default port number for the node is 6005.
7. Click **Next**.

   The **Database and JDBC Connection Information** page appears.
8. Enter the information for the domain configuration repository database.

The following table describes the database information for the domain configuration repository:

| Prompt | Description |
|---|---|
| Database type | Database for the domain configuration repository. Select Oracle, IBM DB2, Microsoft SQL Server, or Sybase ASE. |
| Database user ID | User ID for the database user account for the domain configuration repository. |
| Database user password | Password for the database user account. |

The domain configuration repository must be accessible to all gateway nodes in the domain.

9. Enter the JDBC connection information.
   - To enter the connection information using the JDBC URL information, select **Specify the JDBC connection properties** and specify the JDBC URL properties.
     The following table describes the JDBC URL properties:

     | Property | Description |
     |---|---|
     | Database host name | Host name for the database server. |
     | Database port number | Port number for the database server. |
     | Database service name | Service name for Oracle and IBM DB2 databases or database name for Microsoft SQL Server and Sybase ASE. |

     To enter the connection information using a custom JDBC connection string, select **Custom JDBC connection string** and type the connection string.

     Use the following syntax in the JDBC connection string:
     **IBM DB2**

     ```
     jdbc:Informatica:db2://host_name:port_no;DatabaseName=
     ```

     **Oracle**

     ```
     jdbc:Informatica:oracle://host_name:port_no;ServiceName=
     ```

     **Microsoft SQL Server**

     ```
     jdbc:Informatica:sqlserver://host_name:port_no;SelectMethod=cursor;DatabaseName=
     ```

     **Sybase**

     ```
     jdbc:Informatica:sybase://host_name:port_no;DatabaseName=
     ```

     Verify that the connection string contains all the connection parameters required by your database system.

10. Click **Test Connection** to verify that you can connect to the database, and then click **OK** to continue.
11. Click **Next** to start the system check.

    The tool checks the settings of the hard drive, the availability of the ports, and the configuration of the database. After the system check is complete, the **System Check Summary** page appears, displaying the results of the system check.
12. Analyze the results of the system check.

Each requirement is listed, along with one of the following check statuses:

- [Pass] - The requirement meets the criteria for the Informatica installation or upgrade.
- [Fail] - The requirement does not meet the criteria for the Informatica installation or upgrade. Resolve the issue before you proceed with the installation or upgrade.
- [Information] - Verify the information and perform any additional tasks as outlined in the details.

The results of the system check are saved to the following file: `.../Server/i10Pi/i10Pi/en/i10Pi_summary.txt`

13. Click **Done** to close the Pre-Installation (i10Pi) System Check Tool.

If the Pre-Installation (i10Pi) System Check Tool finishes with failed requirements, resolve the failed requirements and run the Pre-Installation (i10Pi) System Check Tool again.

**Note:** If the Informatica Pre-Installation (i10Pi) System Check Tool check finishes with failed requirements, you can still perform the Informatica installation or upgrade. However, Informatica highly recommends that you resolve the failed requirements before you proceed.

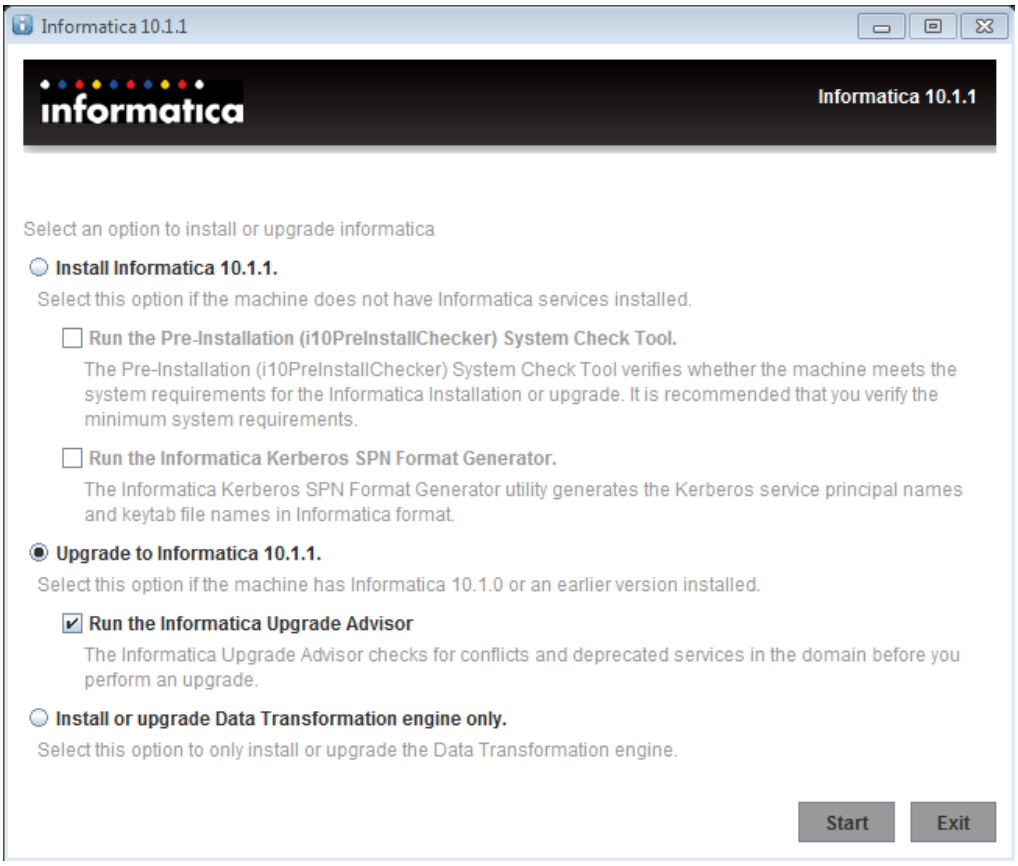
# Run the Informatica Upgrade Advisor

Before you perform an upgrade, run the Informatica Upgrade Advisor to validate the services and check for obsolete services in the domain.

1. Log in to the machine with the same user account that you used to install the previous version.
2. Stop all processes that access the directory and subdirectories of the Informatica product to upgrade, including command prompts and tail logs.
3. Go to the root of the directory for the installation files and run `install.bat` as administrator. To run the file as administrator, right-click the `install.bat` file and select **Run as administrator**.

   The **Informatica 10.1.1** page appears.

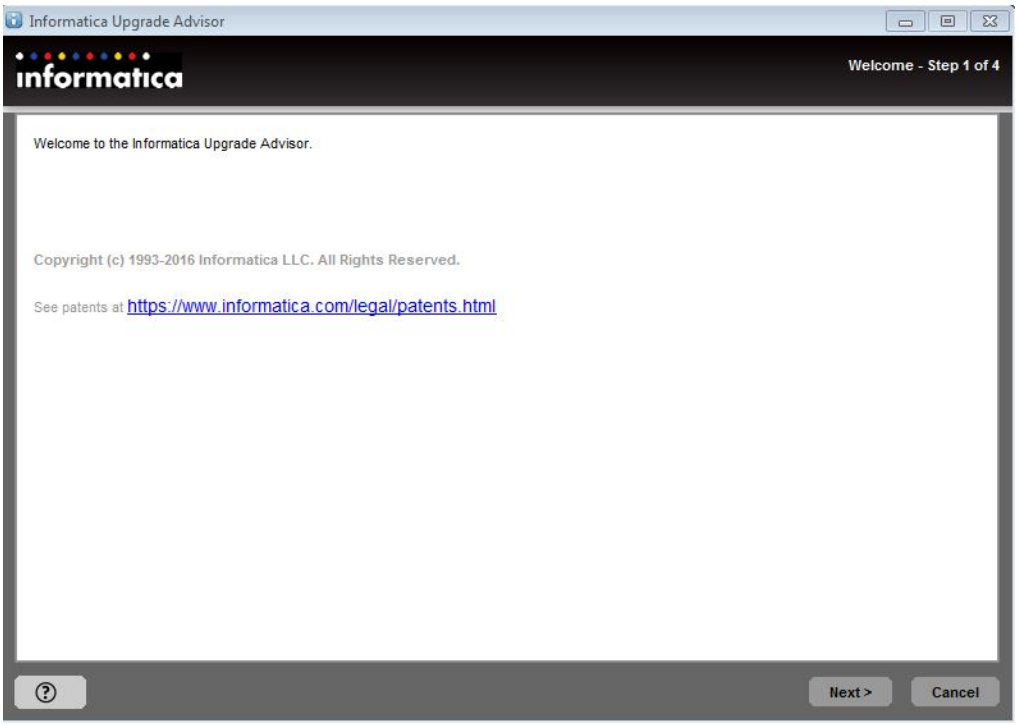
4. Select **Upgrade to Informatica 10.1.1.**




By default, the installer selects **Run the Informatica Upgrade Advisor** to validate the services and check for obsolete services in the domain before you perform an upgrade.

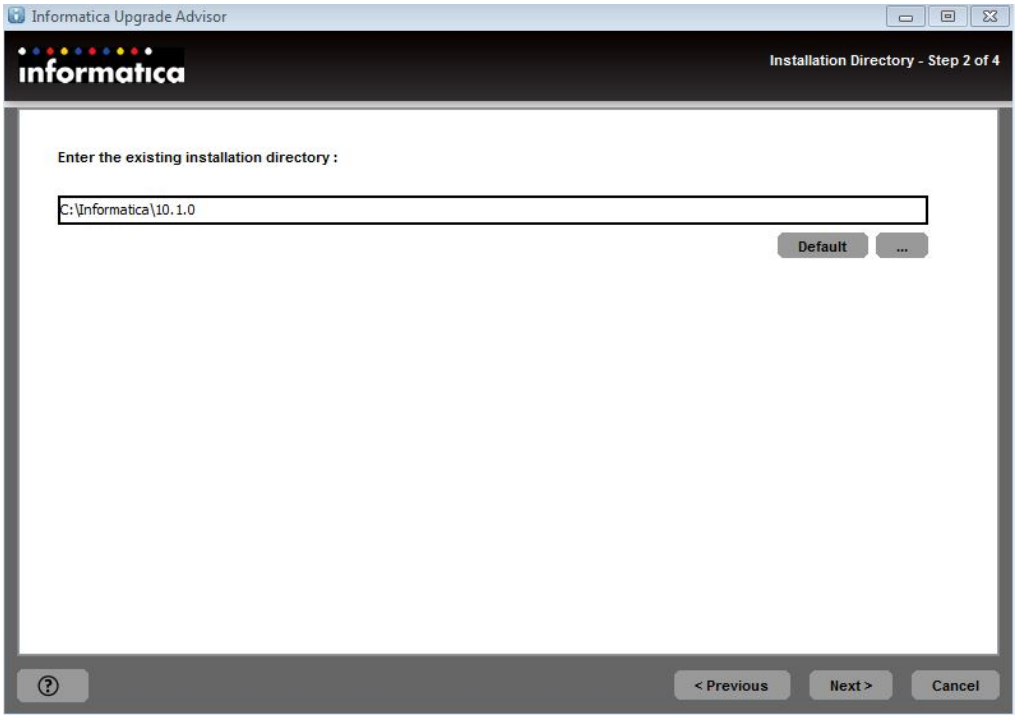
5. Click **Start**.

The **Welcome** page appears.



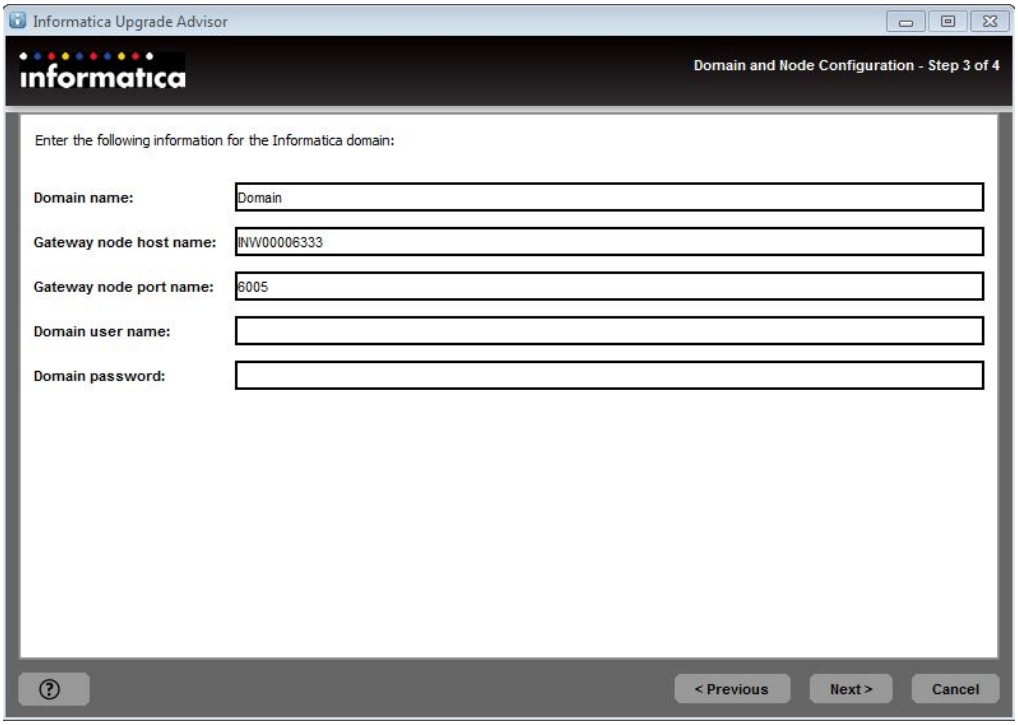

6. Click **Next**.

   The **Installation Directory** page appears.




7. Enter the current installation directory.
8. Click **Next**.

The **Domain and Node Configuration** page appears.




9. Enter the following domain information:

| Property | Description |
|---|---|
| Domain name | Name of the domain. 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: ` % * + ; " ? , < > \ / |
| Gateway node host name | Host name of the machine that hosts the gateway node for the domain. |
| Gateway node port name | Port number of the gateway node. |
| Domain user name | User name for the domain administrator. You can use this user name to initially log in to Informatica Administrator. Use the following guidelines:<br>The name is not case sensitive and cannot exceed 128 characters.<br>The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < >-<br>The name can include an ASCII space character except for the first and last character. Other space characters are not allowed. |
| Domain password | Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters.<br>Not available if you configure the Informatica domain to run on a network with Kerberos authentication. |

10. Click **Next**.

The **Infomatica Upgrade Advisor Summary** page appears.

11. Review the results of the advisor in the following log file: `Summary_<timestamp>.log`
12. Click **Done** to close the Informatica Upgrade Advisor.

CHAPTER 3

# Before You Upgrade the Domain on UNIX

This chapter includes the following topics:


- Read the Release Notes, 26
- Review Changed Support, 26
- Review the Patch Requirements, 27
- Install the Java Runtime Environment, 27
- Verify the Domain Upgrade Requirements, 28
- Verify Application Service Hardware Requirements, 29
- Review the Environment Variables, 30
- Set the File Descriptor Limit, 31
- Review the Maximum Heap Size, 32
- Extract the Installer Files, 32
- Run the Pre-Installation (i10Pi) System Check Tool, 33
- Run the Informatica Upgrade Advisor (UNIX), 35


## Read the Release Notes

Read the Informatica Release Notes for updates to the installation and upgrade process. You can also find information about known and fixed limitations for the release.

## Review Changed Support

Effective in version 10.1.1, Informatica dropped support for Data Analyzer, the Reporting Service, and the Reporting and Dashboards Service.

For information about generating reports that are no longer available through the Reporting and Dashboards Service or the Reporting Service, see the Knowledge Base article 496097: https://kb.informatica.com/howto/6/Pages/18/496097.aspx Effective in version 10.1, Informatica dropped

support for all versions of HP-UX, zLinux, and Solaris. You must migrate all nodes in the domain to a supported operating system before you perform the upgrade.

After you prepare the domain for upgrade, follow upgrade instructions in the chapter Chapter 6, "Upgrade the Domain with Changes to Node Configuration" on page 58

# Review the Patch Requirements

Before you upgrade the Informatica domain, verify that the machine has the required operating system patches and libraries.

The following table lists the patches and libraries that the Informatica services require on a UNIX platform:

| Platform | Operating System | Operating System Patch |
|---|---|---|
| AIX | 7.1 TL2 | OS level: 7100-02<br>bos.adt.debug Version 7.1.2.0 |
| AIX | 6.1 TL8 | OS level: 6100-08<br>bos.adt.debug Version 6.1.8.0 |
| Linux-x64 | Red Hat Enterprise Linux 6.5 | All of the following packages, where <version> is any version of the package:<br>- e2fsprogs-libs-<version>.el6<br>- keyutils-libs-<version>.el6<br>- libselinux-<version>.el6<br>- libsepol-<version>.el6 |
| Linux-x64 | Red Hat Enterprise Linux 7 | All of the following packages, where <version> is any version of the package:<br>- e2fsprogs-libs-<version>.el7<br>- keyutils-libs-<version>.el7<br>- libselinux-<version>.el7<br>- libsepol-<version>.el7 |
| Linux-x64 | SUSE Linux Enterprise Server 11 | Service Pack 3 |
| Solaris | 11 | |

# Install the Java Runtime Environment

Informatica ships the Java libraries for Linux. Informatica does not ship the Java libraries for AIX. Before you install Informatica on AIX, you must download the Java Runtime Environment (JRE).

The required JRE version depends on the platform where you install Informatica:

Informatica services on AIX is certified on the following version:

Java(TM) SE Runtime Environment pap6480sr3fp10-20160720_02(SR3fp10)

Download the following file: `ibm-java-x86_64-jre-8.0-3.10.tar.gz`

If you have problems installing the JRE, contact the JRE vendor.

**Note:** Optionally, to enable support for cipher suites that use AES-256 you can install the Java Cryptography Extension (JCE). Informatica does not ship the JCE policy files. For more information about downloading and installing the JCE policy files, see the JCE policy files at http://www.ibm.com/support/knowledgecenter/SS8JFY_7.5.0/com.ibm.lmt75.doc/com.ibm.license.mgmt.security.doc/lmt_scr_downloading_installing_jce_policyfiles.html.

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# Verify the Domain Upgrade Requirements

Verify that your machine meets the minimum system requirements to upgrade the Informatica domain.

The following table lists the minimum memory and disk space required to upgrade the Informatica domain:

| Operating System | RAM | Disk Space |
|---|---|---|
| AIX | 4 GB | 13 GB |
| Linux | 4 GB | 13 GB |
| Solaris | 4 GB | 13 GB |

For more information about product requirements and supported platforms, see the Product Availability Matrix on Informatica Network: https://network.informatica.com/community/informatica-network/product-availability-matrices/overview

## 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 installer requires 1 GB of temporary disk space.

# Verify Application Service Hardware Requirements

The Informatica version to which you are upgrading requires more memory and disk space than previous versions.

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

| Services | Processor | Memory | Disk Space |
|---|---|---|---|
| One node runs the following services:<br>- Analyst Service<br>- Content Management Service<br>- Data Integration Service<br>- Metadata Manager Service<br>- Model Repository Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service<br>- Search Service<br>- Web Services Hub | 2 CPUs with multiple cores | 12 GB | 20 GB |
| One node runs the following services:<br>- Analyst Service<br>- Content Management Service<br>- Data Integration Service<br>- Model Repository Service<br>- Search Service | 2 CPUs with multiple cores | 12 GB | 20 GB |
| One node runs the following service:<br>- Analyst Service | 1 CPU with multiple cores | 4 GB | n/a |
| One node runs the following service:<br>- Search Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Analyst Service<br>- Search Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Metadata Manager Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 2 CPUs with multiple cores | 8 GB | 10 GB |
| One node runs the following services:<br>- Metadata Manager Service<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 2 CPUs with multiple cores | 8 GB | 10 GB |
| One node runs the following services:<br>- PowerCenter Integration Service<br>- PowerCenter Repository Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Data Integration Service<br>- Model Repository Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following services:<br>- Data Integration Service<br>- Content Management Service | 1 CPU with multiple cores | 4 GB | 10 GB |

| Services | Processor | Memory | Disk Space |
|---|---|---|---|
| One node runs the following service:<br>- Metadata Manager Service | 1 CPU with multiple cores | 4 GB | 10 GB |
| One node runs the following service component:<br>- Metadata Manager Agent | 1 CPU with multiple cores | 4 GB | 400 MB |
| One node runs the following service:<br>- Web Services Hub | 1 CPU with multiple cores | 4 GB | 5 GB |

# Review the Environment Variables

Configure the environment variables to work with the Informatica installation.

The following table describes the environment variables to review on UNIX:

| Variable | Description |
|---|---|
| IATEMPDIR | Location of the temporary files created during installation. Informatica requires 1 GB disk space for temporary files.<br>Configure the environment variable if you do not want to create temporary files in the /tmp directory. |
| INFA_DOMAINS_FILE | Contains the location of the domains.infa file. Clear this variable before you start the upgrade. |
| INFA_HOME | Contains the location of the Informatica installation directory. Clear this variable before you start the upgrade. |
| INFA_JDK_HOME | Location of the folder containing the supported Java Development Kit (JDK). Set the INFA_JDK_HOME environment variable if you are installing Informatica on AIX.<br>In the configuration file for your shell, for example the .bashrc file, set the INFA_JDK_HOME environment variable to the directory that contains the JDK. Verify that the login shell can access the INFA_JDK_HOME environment variable. |
| INFA_JRE_HOME | Location of the folder containing the supported Java Runtime Environment (JRE). Set the INFA_JRE_HOME environment variable to run the Informatica Upgrade Advisor on AIX.<br>In the configuration file for your shell, for example the .bashrc file, set the INFA_JRE_HOME environment variable to the directory that contains the JRE. Verify that the login shell can access the INFA_JRE_HOME environment variable. |
| JRE_HOME | If you install the Informatica services on a Linux machine, clear the JRE_HOME environment variable before you start the installation. |

| Variable | Description |
|---|---|
| LANG and LC_ALL | Change the locale to set the appropriate character encoding for the terminal session. For example, set the encoding to `Latin1` or `ISO-8859-1` for French, `EUC-JP` or `Shift JIS` for Japanese, or `UTF-8` for Chinese or Korean. The character encoding determines the types of characters that appear in the UNIX terminal. |
| DISPLAY | Unset the DISPLAY environment before you run the installer. Installation might fail if the DISPLAY environment variable has some value. |
| Library path | Verify that the library path environment variables do not contain earlier versions of Informatica. |
| PATH | 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.<br>Verify that the PATH environment variables do not contain earlier versions of Informatica. |

# Set the File Descriptor Limit

Verify that the operating system meets the file descriptor requirement.

Informatica service processes can use a large number of files. To prevent errors that result from the large number of files and processes, you can change system settings with the limit command if you use a C shell, or the ulimit command if you use a Bash shell.

To get a list of the operating system settings, including the file descriptor limit, run the following command:
**C Shell**

```
limit
```

**Bash Shell**

```
ulimit -a
```

Informatica service processes can use a large number of files. Set the file descriptor limit per process to 16,000 or higher. The recommended limit is 32,000 file descriptors per process.

To change system settings, run the limit or ulimit command with the pertinent flag and value. For example, to set the file descriptor limit, run the following command:
**C Shell**

```
limit -h filesize <value>
```

**Bash Shell**

```
ulimit -n <value>
```

Informatica services use a large number of user processes. Use the ulimit -u command to adjust the max user processes setting to a level that is high enough to account for all the processes required by Blaze. Depending on the number of mappings and transformations that might run concurrently, adjust the setting from the default value of 1024 to at least 4096.

Run the following command to set the max user processes setting:

**C Shell**

```
limit -u processes <value>
```

**Bash Shell**

```
ulimit -u <value>
```

# Review the Maximum Heap Size

Verify that Informatica Services uses the required maximum heap size for the number of users in the domain.

The following table lists the minimum requirement for the maximum heap size settings, based on the number of users and services in the domain:

| Number of Domain Users | Maximum Heap Size (1-5 Services) | Maximum Heap Size (6-10 Services) |
|---|---|---|
| 1,000 or less | 512 MB (default) | 1024 MB |
| 5,000 | 2048 MB | 3072 MB |
| 10,000 | 3072 MB | 5120 MB |
| 20,000 | 5120 MB | 6144 MB |
| 30,000 | 5120 MB | 6144 MB |

**Note:** The maximum heap size settings in the table are based on the number of application services in the domain.

If the domain has more than 1,000 users, update the maximum heap size based on the number of users in the domain.

1. Extract the installation files.
2. Go to the following directory:`<installer files directory>/source/tomcat/bin`.
3. Use a text editor to open the infaservice file.
4. Search for the following text: `INFA_JAVA_OPTS=% INFA_JAVA_OPTS% -XX`.
5. Set the value for `-Xmx` to the maximum heap size required for the number of Informatica domain users. For example, to set the maximum heap size to 3072 MB, use the following configuration:

```
set INFA_JAVA_OPTS=% INFA_JAVA_OPTS% -XX:GCTimeRatio=9 -Xmx3072m
```

# Extract the Installer Files

The installer files are compressed and distributed as a tar file.

Use a native tar or GNU tar utility to extract the installer files to a directory on your machine. The user that runs the installer must have read and write permissions on the installer files directory and execute permissions on install.sh.

You can extract the installer files in the following ways:

- Installation DVD. Download the Informatica tar file from the installation DVD to a directory on your machine and then extract the installer files, or extract the installer files directly from the DVD to a directory on your machine.
- FTP download. Download the Informatica installation tar file from the Informatica Electronic Software Download site to a directory on your machine and then extract the installer files.

**Note:** Make sure that you download the file to a local directory or a shared network drive that is mapped on your machine. You can then extract the installer files. However, you cannot run the installer from a mapped file. Copy the extracted files to a local drive and then run the installer.

# Run the Pre-Installation (i10Pi) System Check Tool

Run the Pre-installation (i10Pi) System Check Tool to verify whether the machine meets the system requirements for installation or upgrade.

1. Log in to the machine with a system user account.
2. Close all other applications.
3. On a shell command line, run the install.sh file from the root directory.

   The installer displays the message to verify that the locale environment variables are set.
4. If the environment variables are not set, press **n** ti exit the installer and set them as required.

   If the environment variables are not set, press**y** to continue.
5. Press **1** to install or upgrade Informatica.
6. Press **1** to run the Pre-Installation (i10Pi) System Check Tool that verifies whether the machine meets the system requirements for the installation or upgrade.
7. From the Informatica Pre-Installation (i10Pi) System Check Tool **Welcome** section, press **Enter**.

   The **System Information** section appears.
8. Type the absolute path for the installation directory.

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

   **Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.
9. Press **Enter**.
10. Enter the starting port number for the node that you will create or upgrade on the machine. The default port number for the node is 6005.
11. Press **Enter**.

    The **Database and Connection Information** section appears.
12. To enter the JDBC connection information using a custom JDBC connection string, press **1**. To enter the JDBC connection information using the JDBC URL information, press **2**.

    To connect to a secure database, you must enter the JDBC connection using a custom JDBC connection string.

13. Enter the JDBC connection information.

- To enter the connection information using a custom JDBC connection string, type the connection string and specify the connection parameters.
  Use the following syntax in the JDBC connection string:
  **IBM DB2**

  ```
  jdbc:Informatica:db2://host_name:port_no;DatabaseName=
  ```

  **Oracle**

  ```
  jdbc:Informatica:oracle://host_name:port_no;ServiceName=
  ```

  **Microsoft SQL Server**

  ```
  jdbc:Informatica:sqlserver://host_name:port_no;SelectMethod=cursor;DatabaseName=
  ```

  **Sybase**

  ```
  jdbc:Informatica:sybase://host_name:port_no;DatabaseName=
  ```

  Verify that the connection string contains all the connection parameters required by your database system.
- To enter the connection information using the JDBC URL information, specify the JDBC URL properties.
  The following table describes the connection information:

| Prompt | Description |
|---|---|
| Database type | Type of database for the domain configuration repository. Select from the following database types:<br>- 1 - Oracle<br>- 2 - Microsoft SQL Server<br>- 3 - IBM DB2<br>- 4 - Sybase ASE |
| Database user ID | User ID for the database user account for the domain configuration repository. |
| Database user password | Password for the database user account. |
| Database host name | Host name for the database server. |
| Database port number | Port number for the database. |
| Database service name | Service name for Oracle and IBM DB2 databases or database name for Microsoft SQL Server and Sybase ASE. |

The tool checks the settings of the hard drive, the availability of the ports, and the configuration of the database. After the system check is complete, the **System Check Summary** section displays the results of the system check.

14. Analyze the results of the system check.

Each requirement is listed, along with one of the following check statuses:

- [Pass] - The requirement meets the criteria for the Informatica installation or upgrade.

- [Fail] - The requirement does not meet the criteria for the Informatica installation or upgrade. Resolve the issue before you proceed with the installation or upgrade.
- [Information] - Verify the information and perform any additional tasks as outlined in the details.

The results of the system check are saved to the following file: `.../Server/i10Pi/i10Pi/en/i10Pi_summary.txt`

15. Press **Enter** to close the Pre-Installation (i10Pi) System Check Tool.

    You can continue to the Informatica service installation or upgrade immediately or end the system check and continue with the installation or upgrade later. If you continue to the installation or upgrade immediately, you do not have to restart the installer.

16. To continue to the Informatica service installation or upgrade immediately, press **y**.

    To end the system check and continue with the installation or upgrade later, press **n**.
    If the Pre-Installation (i10Pi) System Check Tool finishes with failed requirements, resolve the failed requirements and run the Pre-Installation (i10Pi) System Check Tool again.

    **Note:** If the Informatica Pre-Installation (i10Pi) System Check Tool check finishes with failed requirements, you can still perform the Informatica installation or upgrade. However, Informatica highly recommends that you resolve the failed requirements before you proceed.

# Run the Informatica Upgrade Advisor (UNIX)

Before you perform an upgrade, run the Informatica Upgrade Advisor to validate the services and check for obsolete services in the domain.

1. Log in to the machine with a system user account.
2. Close all other applications.
3. On a shell command line, run the install.sh file from the root directory.

   The installer displays the message to verify that the locale environment variables are set.
4. If the environment variables are not set, press **n** to exit the installer and set them as required.

   If the environment variables are not set, press**y** to continue.
5. Press **2** to Upgrade Informatica.
6. Press **1** to run the Informatica Upgrade Advisor.

   The **Welcome** section appears.
7. Press **Enter**.

   The **Installation Directory** section appears.
8. Enter the current installation directory.
9. Press **Enter**.

   The **Domain and Node Configuration** section appears.

10. Enter the following domain information:

| Property | Description |
|---|---|
| Domain name | Name of the domain. 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: ` % * + ; " ? , < > \ / |
| Gateway node host name | Host name of the machine that hosts the gateway node for the domain. |
| Gateway node port name | Port number of the gateway node. |
| Domain user name | User name for the domain administrator. You can use this user name to initially log in to Informatica Administrator. Use the following guidelines:<br>The name is not case sensitive and cannot exceed 128 characters.<br>The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < >-<br>The name can include an ASCII space character except for the first and last character. Other space characters are not allowed. |
| Domain password | Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters.<br>Not available if you configure the Informatica domain to run on a network with Kerberos authentication. |

11. Press **Enter**.

    The **Infomatica Upgrade Advisor Summary** section appears.

12. Review the results of the advisor in the following log file: `Summary_<timestamp>.log`

13. Press **Enter** to close the Informatica Upgrade Advisor.

CHAPTER 4

# Prepare for the Upgrade

This chapter includes the following topics:


- Back Up the Data Transformation Files, 37
- Prepare the Analyst Service, 38
- Prepare the PowerCenter Repository, 38
- Prepare the Model Repository, 38
- Prepare the Data Integration Service, 39
- Prepare the Exception Management Audit Database, 39
- Prepare the Profiling Warehouse, 40
- Prepare the Reference Data Warehouse, 40
- Prepare the Reference Data Directories, 40
- Prepare the Workflow Database, 40
- Prepare Metadata Manager, 41
- Prepare the Domain, 41


## Back Up the Data Transformation Files

Before you upgrade, you must back up the Data Transformation files that were created under previous versions. After you complete the upgrade, copy the files to the new installation directories to get the same custom global components as in the previous version.

The following table lists the files or directories that you must back up:

| File or Directory | Default Location |
|---|---|
| Repository | <Informatica installation directory>\DataTransformation\ServiceDB |
| Custom Global Components directory (TGP files) | <Informatica installation directory>\DataTransformation\autoInclude\user |
| Custom Global Components directory (DLL and JAR files) | <Informatica installation directory>\DataTransformation\externLibs\user |

| File or Directory | Default Location |
|---|---|
| Configuration file | <Informatica installation directory>\DataTransformation\CMConfig.xml |
| License file | <Informatica installation directory>\DataTransformation\CDELicense.cfg |

Do not copy the Data Transformation Library files. Instead, install the Data Transformation Libraries again.

# Prepare the Analyst Service

Before you upgrade the domain, prepare the Analyst Service.

- Disable the Analyst Service.

# Prepare the PowerCenter Repository

Before you upgrade the domain, back up the PowerCenter repository.

To back up a PowerCenter repository, select the PowerCenter Repository Service in the Administrator tool. On the Domain actions menu, select **Repository Contents** > **Back Up**.

# Prepare the Model Repository

Before you upgrade the domain, complete the steps to prepare the Model repository.

1. Back up the repository.
2. Verify the database user account requirements.
3. Verify the maximum heap size.

## Back Up the Repository

Before you upgrade the domain, back up the Model repository.

To back up each Model repository, select the Model Repository Service in the Administrator tool. Then, on the Domain Actions menu, click **Repository Contents** > **Backup**.

## Verify the Database User Account Requirements

If the Model repository database is on Oracle, set the OPEN_CURSORS parameter to 4000 or higher.

If the Model repository database is on IBM DB2, set the DynamicSections parameter to 3000 or higher.

# Prepare the Data Integration Service

Before you upgrade the domain, prepare the Data Integration Service.

## Record the Execution Options

If the Data Integration Service runs on multiple nodes and you configured the execution options differently for each Data Integration Service process, record the property values before you upgrade the domain. In some cases, the execution option values are not retained during the upgrade.

Effective in version 10.1, the execution options on the Processes view are moved to the Properties view for the Data Integration Service. You configure the execution options for the Data Integration Service. Each service process uses the same value for each option. To verify that the upgraded Data Integration Service uses the correct values, record the execution option values for each Data Integration Service process before upgrading.

To get the execution options for each Data Integration Service process, run the infacmd dis ListServiceProcessOptions command for each service process and redirect the output to a text file. For example, run the following command on Windows:

```
infacmd dis ListServiceProcessOptions -dn MyDomain -sn MyDIS -un MyUserName -pd
MyPassword -nn Node1 > MyDISProcessOptionsNode1.txt
```

## Complete All Workflows

Before you upgrade the domain, verify that all workflows are complete. The Data Integration Service cannot recover a workflow that you interrupt during the upgrade process.

# Prepare the Exception Management Audit Database

If you run workflows that include Human tasks, you can optionally specify a single database to store audit data for the tasks.

An exception management task is an instance of a Human task. The exception management audit database stores a record of the work that Analyst tool users perform in the task instances.

Before you upgrade, verify that the domain includes a connection to a database that can store the audit data. After you upgrade, select the exception management audit database connection and specify the database schema on the Analyst Service.

**Note:** If you do not specify a connection and schema, the Analyst Service writes audit data for each task instance to the database that stores the task instance data.

For information about the post-upgrade steps for the exception management audit database, see "Verify the Exception Management Audit Database" on page 100. For information about the exception management audit database requirements, see the current *Informatica Installation and Configuration Guide*.

# Prepare the Profiling Warehouse

Before you upgrade the domain, back up the profiling warehouse.

Use the native database backup option to back up the profiling warehouse.

# Prepare the Reference Data Warehouse

Before you upgrade the domain, back up the reference data warehouse.

Use the native database back up option to back up the reference data warehouse.

# Prepare the Reference Data Directories

If you install or copy any reference data file to a non-default directory within the PowerCenter directory structure, back up the directory before you upgrade.

If you install or copy any reference data file to a directory outside the PowerCenter directory structure, you do not need to back up the directory.

By default, the upgrade operation preserves the contents of the following reference data directories:

- `<Informatica_installation_directory>/services/DQContent/INFA_Content/dictionaries/`
  Parent directory for the reference dictionary files.
- `<Informatica_installation_directory>/services/DQContent/INFA_Content/av/`
  Parent directory for the address reference data files.
- `<Informatica_installation_directory>/services/DQContent/INFA_Content/identity/`
  Parent directory for the identity population data files.

Record the directory location, so that you can restore the directory to the directory structure after you upgrade.

# Prepare the Workflow Database

For information about the post-upgrade steps for the workflow database, see Verify the Workflow OptionsIf the Data Integration Service will run workflows, verify that the Workflow Orchestration Service module is active and identify the workflow database. . For information about the workflow database requirements, see the current *Informatica Installation and Configuration Guide*.

# Prepare Metadata Manager

Before you upgrade the domain, prepare Metadata Manager.

1. Back up the Metadata Manager warehouse.
2. Disable the Metadata Manager Service.
3. Back up the Metadata Manager properties file.

## Back Up the Metadata Manager Warehouse

Before you upgrade the domain, back up the Metadata Manager warehouse.

Use the native database backup option or the Metadata Manager mmRepoCmd command line program to back up the Metadata Manager warehouse.

mmRepoCmd includes commands to back up and restore the Metadata Manager warehouse. mmRepoCmd is in the following directory:

```
<Informatica services installation directory>\services\MetadataManagerService\utilities
\mmrepocmd
```

To back up the Metadata Manager warehouse, use the mmRepoCmd backupRepository command. The backupRepository command uses the following syntax:

```
mmRepoCmd backupRepository
    [<-dn|--domainName> domainName]
    [<-hp|--gateway> gateway_host1:port gateway_host2:port...]
    [<-mm|--mmServiceName> mmServiceName]
    <<-url> http(s)://<host>:<port>>
    <<-u|--user> user>
    [-ep|--encryptedPassword]
    [<-pw|--password> password]
    [<-n|--namespace> namespace]
    [<-kt|--keyTab> keyTab]
    <<-f|--file> file>
    [<-nt|--numThreads> numThreads]
```

## Back Up the Metadata Manager Properties File

Before you upgrade the domain, back up the Metadata Manager properties file.

The imm.properties file is in the following directory:

```
<Informatica installation directory>\services\shared\jars\pc\classes
```

# Prepare the Domain

Before you upgrade the domain, complete the steps to prepare the domain.

## Verify Database User Account Requirements

Perform the following tasks for the domain configuration repository database:

- Set the OPEN_CURSORS parameter to 4000 or higher.

- Set permissions on the view `$parameter` in the Oracle database.
- Set the privileges to run *show parameter open_cursors* in the Oracle database.
  When you run the pre-installation (i10Pi) system check tool, i10Pi runs the command against the database to identify the OPEN_CURSORS parameter with the domain database user credentials.

  You can run the following query to determine the open cursors setting for the domain database user account:

  ```
  SELECT VALUE OPEN_CURSORS FROM V$PARAMETER WHERE UPPER(NAME)=UPPER('OPEN_CURSORS')
  ```
- Set the DynamicSections parameter to 3000 or higher in the IBM DB2 database.
  For more information about updating the DynamicSections parameter, see Appendix A, “Updating the DynamicSections Parameter of a DB2 Database” on page 110.

## Shut Down the Domain

You must shut down the domain before you back up domain and then upgrade the domain.

To shut down the domain, stop the Informatica service process on each node in the domain.

You can stop the Informatica service process on each node using one of the following methods:

- To stop Informatica from the Windows Start menu, click **Programs** > **Informatica[Version]** > **Server** > **Stop Informatica Services**.
- To stop Informatica on UNIX, you use the *infaservice* command. By default, the *infaservice* executable file is installed in the following directory:

  ```
  <Informatica installation directory>/tomcat/bin
  ```

  Enter the following command to stop the daemon:

  ```
  infaservice shutdown
  ```

You can also stop the Informatica service from the Windows control panel or from the Administrator tool.

## Back Up the Domain

Before you upgrade the domain, you must back up the configuration metadata for the domain.

Complete the following steps to back up the domain:

- Run the infasetup BackupDomain command to back up the domain configuration database tables to a file.
- Back up the metadata configuration files to any directory accessible by the machines where you install Informatica.

Informatica infasetup includes command line programs to back up and restore the domain. infasetup is located in the following directory:

```
<Informatica installation directory>/isp/bin
```

To back up the domain with infasetup, use the following syntax:

```
BackupDomain
<<-DatabaseAddress|-da> database_hostname:database_port|

<-DatabaseConnectionString|-cs> database_connection_string>

<-DatabaseUserName|-du> database_user_name

<-DatabasePassword|-dp> database_password

<-DatabaseType|-dt> database_type

[<-DatabaseServiceName|-ds> database_service_name]
```

```
<-BackupFile|-bf> backup_file_name

[<-Force|-f>]

<-DomainName|-dn> domain_name

[<-Tablespace|-ts> tablespace_name (used for IBM DB2 only)]

[<-SchemaName|-sc> schema_name (used for Microsoft SQL Server only)]

[<-DatabaseTlsEnabled|-dbtls> database_tls_enabled]

[<-DatabaseTruststorePassword|-dbtp> database_truststore_password]

[<-TrustedConnection|-tc> trusted_connection (used for Microsoft SQL Server only)]

[<-EncryptionKeyLocation|-kl> encryption_key_location]
```

Back up the metadata configuration files to any directory accessible by the machines where you install Informatica. The following table describes the metadata files and the locations where you can find them:

| Metadata File | Description | Location |
|---|---|---|
| nodemeta.xml | Contains metadata for a node. | Stored in the isp/config directory on each node in the domain.<br>If you use the same backup directory name on all the nodes, rename nodemeta.xml before copying it to the backup location. For example, you back up nodemeta.xml to the /nodebak directory on nodeA and nodeB. Rename the configuration files so that on nodeA the file is backed up to /nodebak/nodemeta_A.xml, and on nodeB the file is backed up to /nodebak/nodemeta_B.xml. |
| domains.infa | Contains connectivity information for the gateway nodes. | Stored in one of the following locations:<br>- The Informatica installation directory on the client and server machines.<br>- The location configured through the INFA_DOMAINS_FILE environment variable. |

CHAPTER 5

# Upgrade the Domain

This chapter includes the following topics:


- Domain Upgrade Overview, 44
- Upgrading in Graphical Mode, 44
- Upgrading in Console Mode, 52
- Upgrading in Silent Mode, 54
- Troubleshooting the Domain Upgrade, 57


## Domain Upgrade Overview

Use the server installer to upgrade the domain of a previous version of Informatica services. The server installer provides a domain upgrade wizard to guide you through the upgrade process.

The upgrade wizard installs Informatica 10.1.1 in the installation directory you specify. It does not modify the files in the directory of the previous version.

The upgrade wizard reads the domain information from files in the previous version and uses the same settings to configure the domain and server files for Informatica 10.1.1. It upgrades the tables of the domain configuration repository in the same database as the previous version.

Complete the pre-upgrade tasks before you start the upgrade. Run the installer on all machines that host previous versions of Informatica that you want to upgrade. On Windows, you can upgrade in graphical or silent mode. On UNIX, you can upgrade in console or silent mode.

**Note:** In a multi-node domain, upgrade the master gateway node before you upgrade other nodes.

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

After you upgrade the domain, upgrade Informatica Developer to the same Informatica version, including the hotfix version.

## Upgrading in Graphical Mode

You can upgrade in graphical mode to upgrade the domain on the same machine and on the same domain configuration repository database. You can upgrade the domain in graphical mode on Windows.

To upgrade the domain to a different machine or to a different domain configuration repository database and change the node configuration, see Chapter 6, “Upgrade the Domain with Changes to Node Configuration” on page 58.

On Windows, if you encounter problems when you run the install.bat file from the root directory, run the following file:

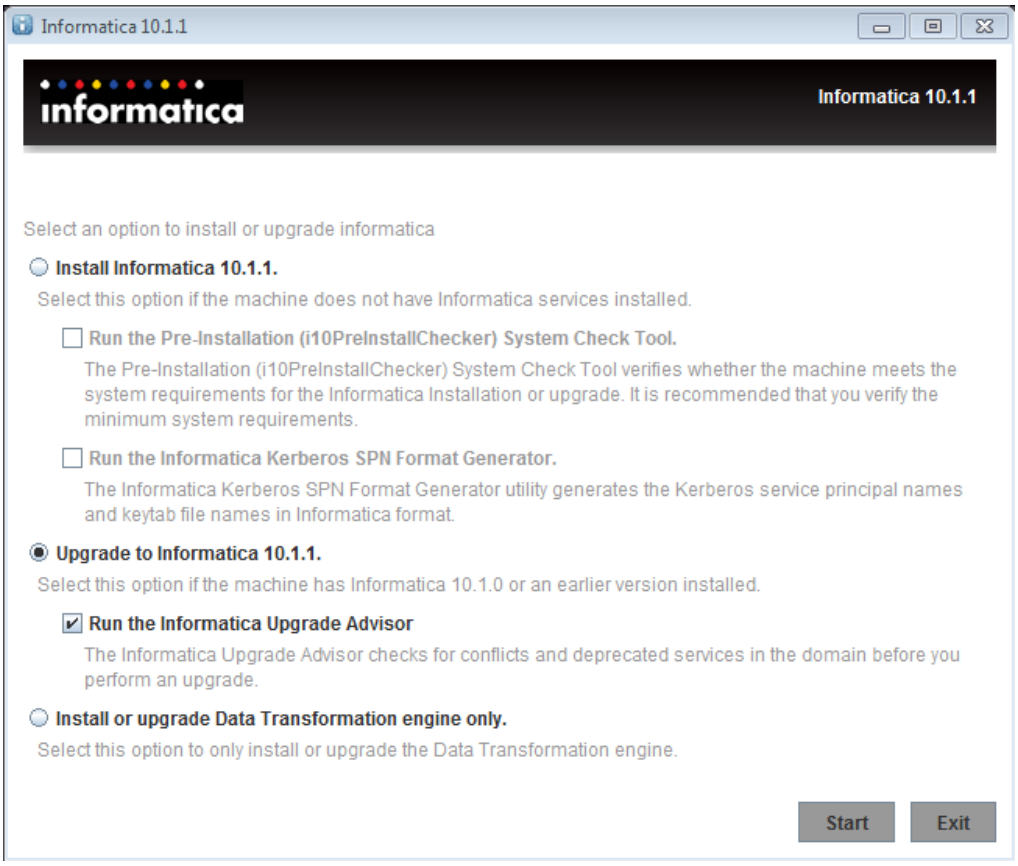
```
<Informatica installation directory>/server/install.exe
```

1. Log in to the machine with the same user account that you used to install the previous version.
2. Stop all processes that access the directory and subdirectories of the Informatica product to upgrade, including command prompts and tail logs.
3. Go to the root of the directory for the installation files and run install.bat as administrator.

   To run the file as administrator, right-click the install.bat file and select **Run as administrator**.

   **Note:** If you do not run the installer as administrator, the Windows system administrator might encounter issues when accessing files in the Informatica installation directory.

   The **Informatica 10.1.1** page appears.
4. Select **Upgrade to Informatica 10.1.1**.




Informatica provides utilities to facilitate the Informatica services installation process. You must run the following utility before you install Informatica services:

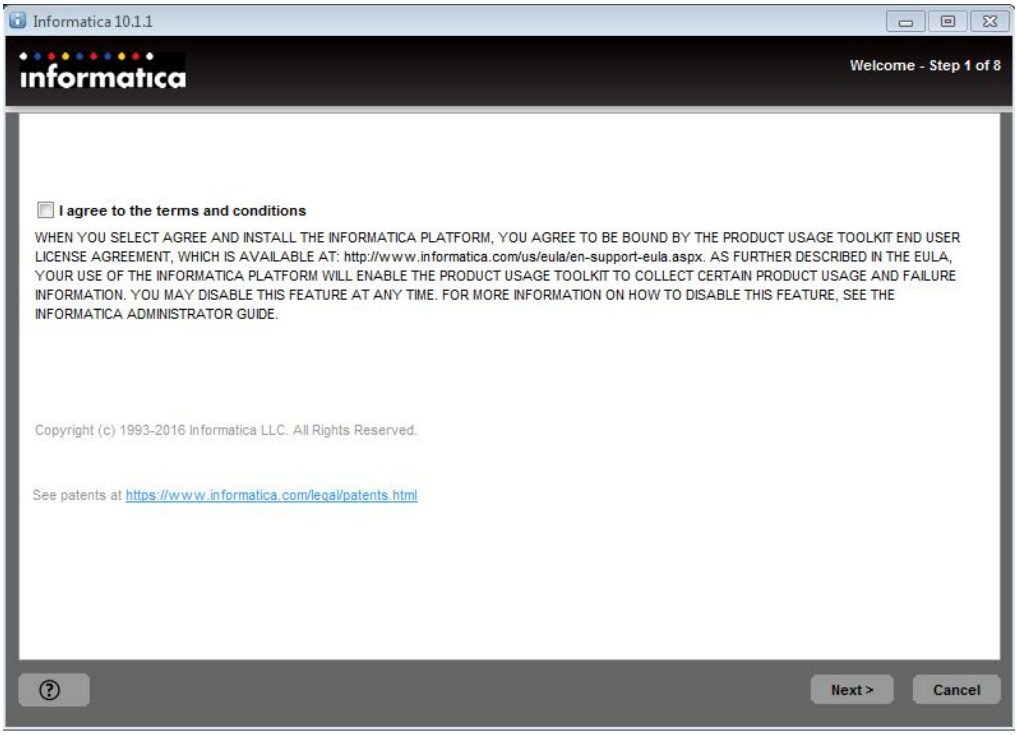
**Pre-Installation (i10Pi) System Check Tool.**

Verifies whether the machine on which you are installing Informatica services meets the system requirements for installation. For more information about the Pre-Installation (i10Pi) System Check tool, see “Run the Pre-Installation (i10Pi) System Check Tool” on page 33.

**Informatica Upgrade Advisor.**

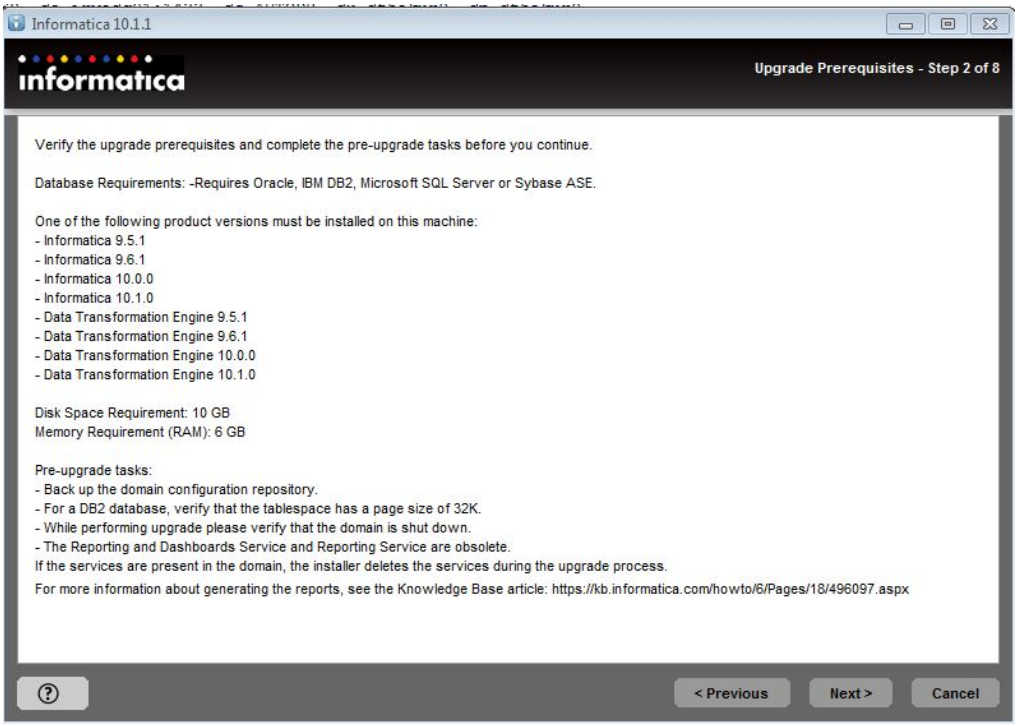
Validates the services and checks for obsolete services in the domain before you perform an upgrade. Fore more information about the Informatica Upgrade Advisor, see "Run the Informatica Upgrade Advisor" on page 21.

5. Click **Start**.
6. Read the terms and conditions of Informatica product usage toolkit and select **I agree to the terms and conditions**.




Informatica DiscoveryIQ is a product usage tool that sends routine reports on data usage and system statistics to Informatica. Informatica DiscoveryIQ uploads data to Informatica 15 minutes after you install and configure Informatica domain. Thereafter, the domain sends the data every 30 days. You can choose to not send any usage statistics to Informatica. For more information on how to disable sending usage statistics, see the *Informatica Administrator Guide*.

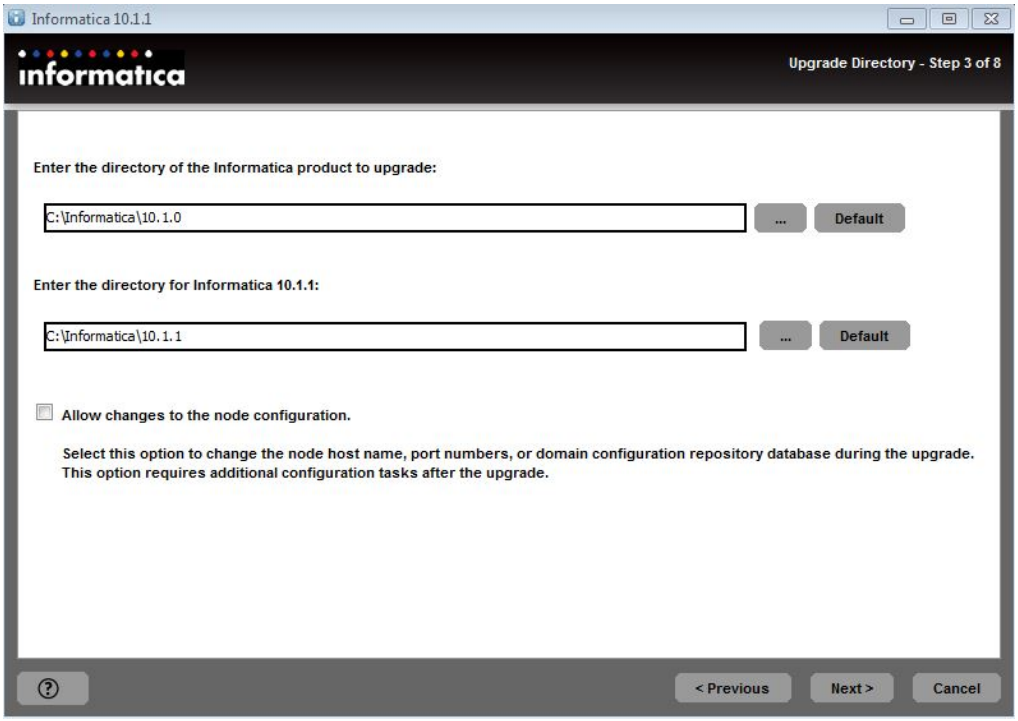
7. The **Upgrade Prerequisites** page appears.




Verify the requirements before you continue the upgrade.

8. Click **Next**.

The **Upgrade Directory** page appears.



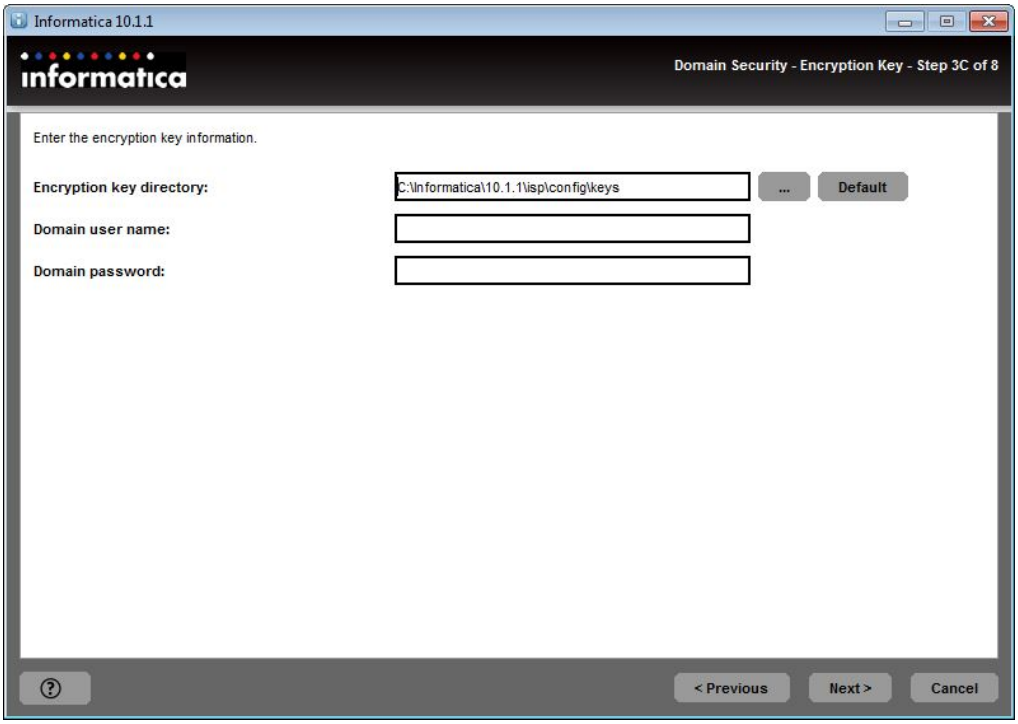
9. Enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.1.1.

   The following table describes the directories that you must specify:

| Directory | Description |
|---|---|
| Directory of the Informatica product to upgrade | Directory that contains the version of Informatica services that you want to upgrade. |
| Directory for Informatica 10.1.1 | Directory in which to install Informatica 10.1.1.<br>Enter the absolute path for the installation directory. The directory cannot be the same as the directory that contains the previous version of Informatica services.The directory names in the path must not contain spaces or the following special characters: @\|* $ # ! % ( ) { } [ ] , ; '<br>**Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.<br>On Windows, the installation directory must be on the current machine. |

10. Verify that the **Allow changes to the node host name and port numbers** option is not selected.
11. Click **Next**.

    The **Domain Security - Encryption Key** page appears.




12. Enter the directory for the encryption key for the informatica domain.

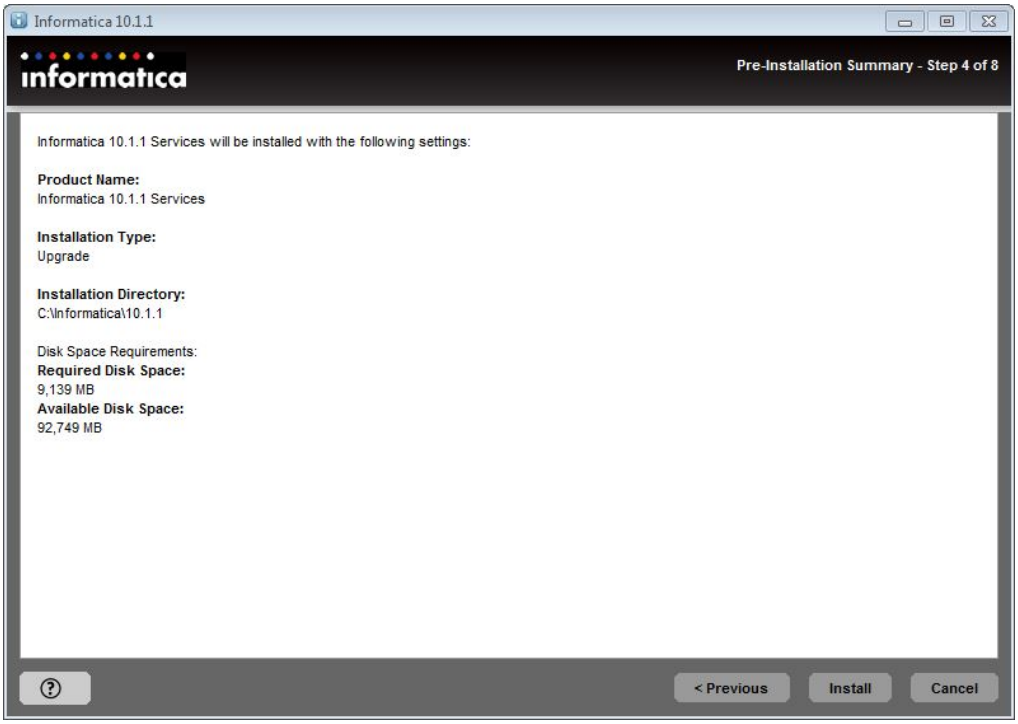
    Informatica uses an encryption key to secure sensitive data, such as passwords, that are stored in the Informatica domain. When you upgrade, you must enter the directory in which to store the encryption key on the node that you are upgrading.

**Note:** All nodes in an Informatica domain use the same keyword and encryption key. You must keep the name of the domain, the keyword for the encryption key, and the encryption key file in a secure location. The encryption key is required when you change the encryption key of the domain or move a repository to another domain.

| Property | Description |
|---|---|
| Encryption key directory | Directory in which to store the encryption key for the domain. By default, the encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`. |

13. Enter the user name and password for the informatica domain.
14. Click **Next**.

    The **Pre-Installation Summary** page appears.

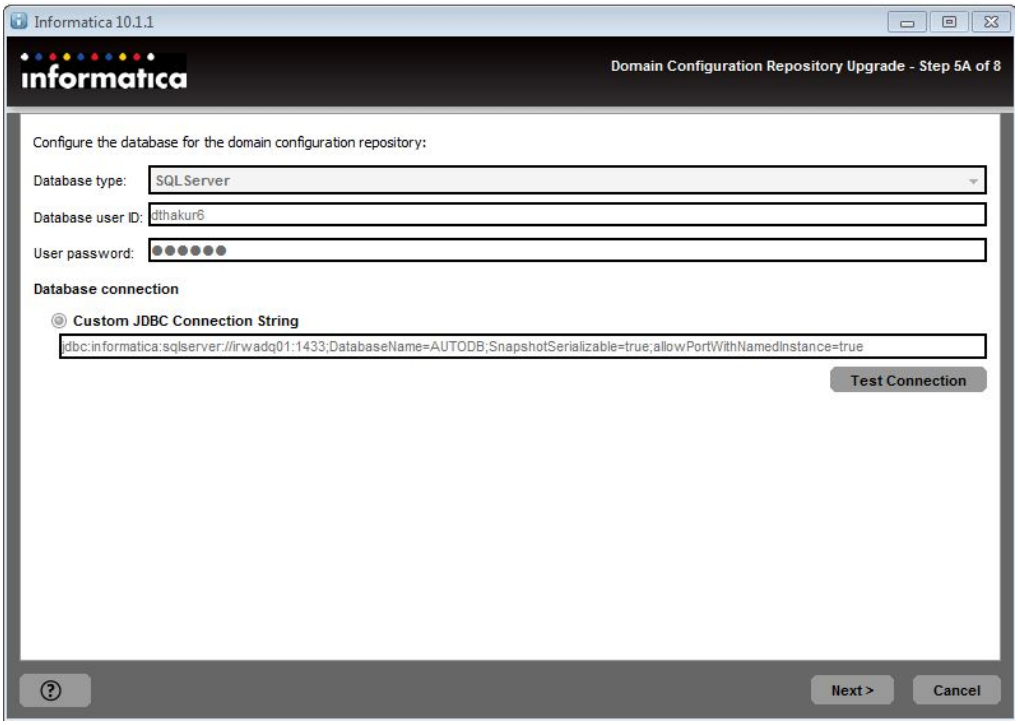



15. Review the upgrade information, and click **Install** to continue.

    The upgrade wizard installs the Informatica server files to the Informatica 10.1.1 installation directory.

    The upgrade wizard displays a warning to shut down the Informatica domain before you continue the upgrade.
16. Click **OK**.

The **Domain Configuration Repository Upgrade** page appears.




If you are upgrading a gateway node, the upgrade wizard displays the database and user account information for the domain configuration repository to be upgraded.

If you are upgrading a worker node, the upgrade wizard does not display the domain configuration repository information. You cannot modify the database connection information.

The following table describes the properties that the installer displays for the domain configuration repository:

| Property | Description |
|---|---|
| Database type | Database for the domain configuration repository. |
| Database user ID | Database user account for the domain configuration repository. |
| User password | Password for the database user account. |

The upgrade wizard displays the database connection string for the domain configuration repository based on how the connection string of the previous version was created at installation:

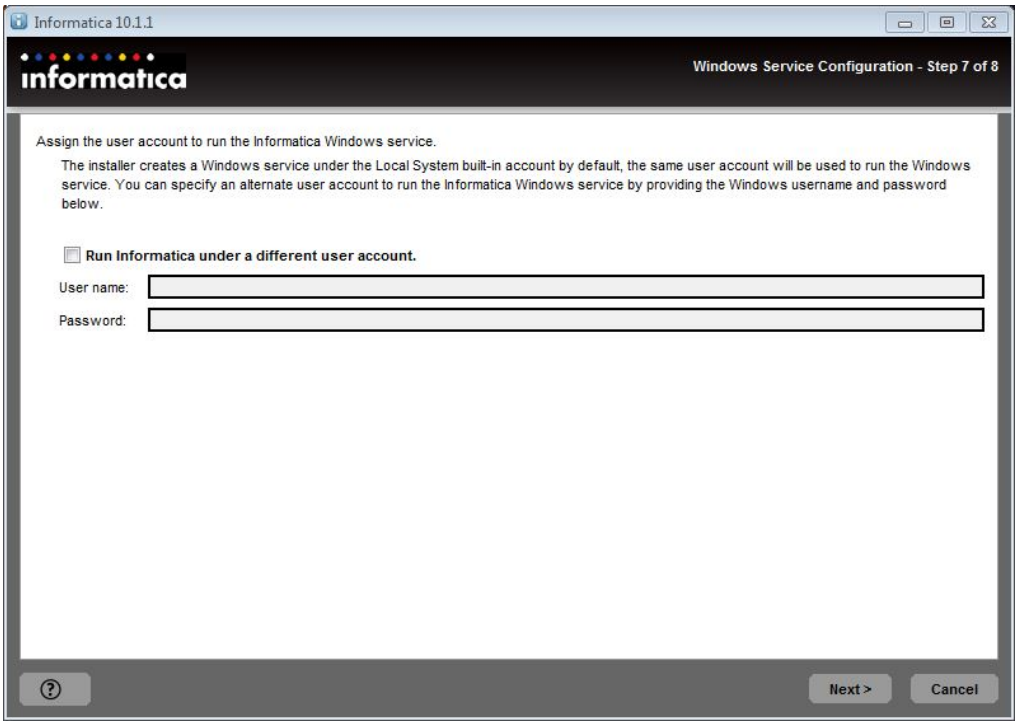
- If the previous version used a JDBC URL at installation, the upgrade wizard displays the JDBC connection properties, including the database address and service name.

  Optionally, you can specify additional JDBC parameters to include in the JDBC URL. To provide additional JDBC parameters, select JDBC parameters and enter a valid JDBC parameter string.
- If the previous version used a custom JDBC connection string at installation, the upgrade wizard displays the custom connection string.

  You cannot specify additional JDBC parameters.

17. Click **Test Connection** to verify that you can connect to the database, and then click **OK** to continue.
18. Click **Next**.

The **Windows Service Configuration** page appears.




On Windows, the upgrade wizard 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.

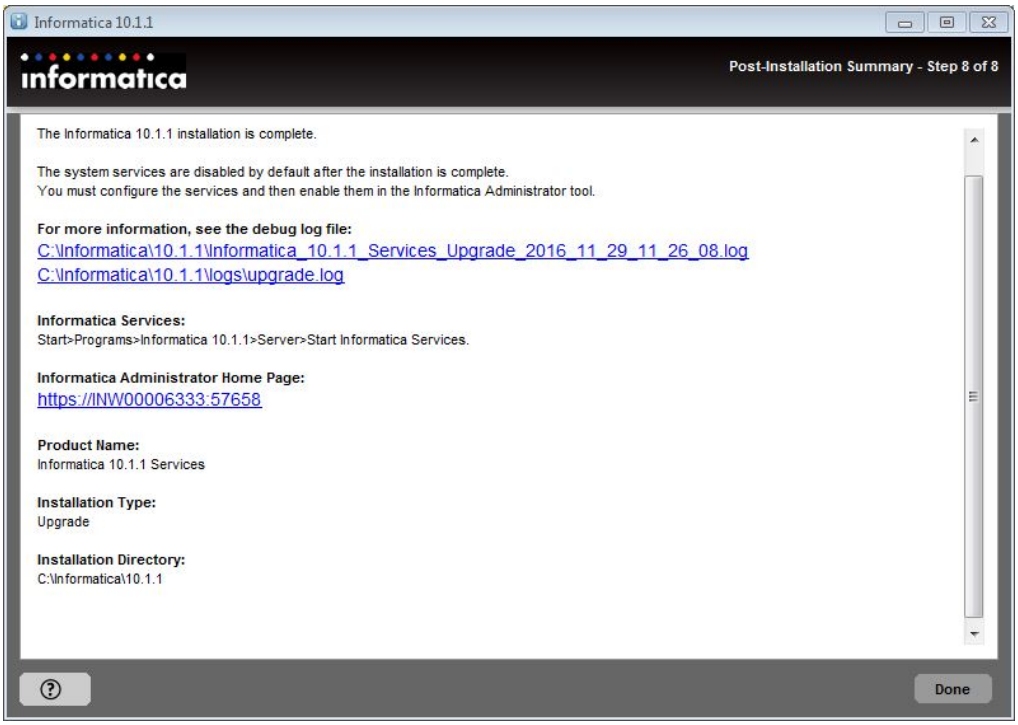
19. Select whether to run the Windows service under a different user account.

    Enter the following user account information:

| 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.<br>Use the following format:<br>`<domain name>\<user account>`<br>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. |

20. Click **Next**.

The **Post-Installation Summary** page appears.




21. Click **Done** to complete the installation procedure and exit the installer.

Review the `upgrade.log` file to get more information about the tasks performed by the upgrade wizard and to view the configuration of installed components.

# Upgrading in Console Mode

You can upgrade in console mode to upgrade the domain on the same machine and on the same domain configuration repository database. You can upgrade the domain in console mode on UNIX.

To upgrade the domain to a different machine or to a different domain configuration repository database and change the node configuration, see Chapter 6, “Upgrade the Domain with Changes to Node Configuration” on page 58.

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

1. Log in to the machine with the same user account that you used to install the previous version.
2. Stop all processes that access the directory and subdirectories of the Informatica product to upgrade, including command prompts and tail logs.
3. On a shell command line, run the install.sh file from the root directory.

   The installer displays the message to verify that the locale environment variables are set.
4. If the environment variables are not set, press **n** to exit the installer and set them as required.

   If the environment variables are set, press **y** to continue.
5. Press **2** to upgrade Informatica.

Informatica provides utilities to facilitate the Informatica services installation process. You can run the following utility before you upgrade Informatica services:

**Pre-Installation (i10Pi) System Check Tool.**

Verifies whether the machine on which you are installing Informatica services meets the system requirements for installation. For more information about the Pre-Installation (i10Pi) System Check tool, see "Run the Pre-Installation (i10Pi) System Check Tool" on page 33.

**Informatica Upgrade Advisor.**

Validates the services and checks for obsolete services in the domain before you perform an upgrade. Fore more information about the Informatica Upgrade Advisor, see "Run the Informatica Upgrade Advisor" on page 21.

The installer displays a warning to shut down the Informatica domain that you want to upgrade before you continue the upgrade.

6. Press **3** to run the Informatica Upgrade.
7. Press **2** to upgrade to Informatica 10.1.1.
8. Read the terms and conditions of Informatica product usage toolkit and press **2** to continue the upgrade.

   Informatica DiscoveryIQ is a product usage tool that sends routine reports on data usage and system statistics to Informatica. Informatica DiscoveryIQ uploads data to Informatica 15 minutes after you install and configure Informatica domain. Thereafter, the domain sends the data every 30 days. You can choose to not send any usage statistics to Informatica. For more information on how to disable sending usage statistics, see the *Informatica Administrator Guide*.
9. Press **1** to upgrade Informatica services.

   **Note:** If you are upgrading on AIX and Solaris, ignore this step.
10. The **Upgrade Prerequisites** page displays the upgrade system requirements.

    Verify the requirements before you continue the upgrade.
11. At the prompt, enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.1.1.

    The following table describes the directories you must specify:

| Directory | Description |
|---|---|
| Directory of the Informatica product to upgrade | Directory that contains the version of Informatica services that you want to upgrade. |
| Directory for Informatica 10.1.1 | Directory in which to install Informatica 10.1.1.<br>Enter the absolute path for the installation directory. The directory cannot be the same as the directory that contains the previous version of Informatica services.The directory names in the path must not contain spaces or the following special characters: @\|* $ # ! % ( ) { } [ ] , ; '<br>**Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.<br>On Windows, the installation directory must be on the current machine. |

12. Press **1** to use the same node configuration as the previous version.
13. Enter the directory for the encryption key for the informatica domain.

Informatica uses an encryption key to secure sensitive data, such as passwords, that are stored in the Informatica domain. When you upgrade, you must enter the directory in which to store the encryption key on the node that you are upgrading.

**Note:** All nodes in an Informatica domain use the same keyword and encryption key. You must keep the name of the domain, the keyword for the encryption key, and the encryption key file in a secure location. The encryption key is required when you change the encryption key of the domain or move a repository to another domain.

| Property | Description |
|---|---|
| Encryption key directory | Directory in which to store the encryption key for the domain. By default, the encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`. |

14. Enter the user name and password for the Informatica domain.
15. Review the upgrade information and press **Enter** to continue.

    The installer copies the server files to the Informatica 10.1.1 installation directory.

    The installer displays the database and user account information for the domain configuration repository to upgrade. It displays the database connection string for the domain configuration repository based on how the connection string of the previous version was created at installation:

    - If the previous version used a JDBC URL at installation, the installer displays the JDBC connection properties, including the database address and service name.
    - If the previous version used a custom JDBC connection string at installation, the installer displays the custom connection string.
16. Press **Enter**.
17. If you use a JDBC URL, you can specify additional parameters to include in the connection string.

    If you use a custom connection string, you cannot specify additional parameters.
18. Press **Enter**.

    The **Post-Installation** section appears.
19. Press**Enter** to complete the installation procedure and exit the installer.

Review the `upgrade.log` file to get more information about the tasks performed by the upgrade wizard and to view the configuration of installed components.

# Upgrading in Silent Mode

You can upgrade in silent mode to upgrade the domain on the same machine and on the same domain configuration repository database.

To upgrade the domain to a different machine or to a different domain configuration repository database and change the node configuration, see Chapter 6, “Upgrade the Domain with Changes to Node Configuration” on page 58.

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

Copy the Informatica installation files to the hard disk on the machine that hosts the Informatica instance you plan to upgrade.

To upgrade in silent mode, complete the following tasks:

1. Create the upgrade properties file and specify the upgrade options.
2. Run the installer with the upgrade properties file.
3. Secure the passwords in the upgrade properties file.

## Creating the Properties File

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

The sample upgrade properties file is named SilentInput_upgrade.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. Find the file named SilentInput_upgrade.properties.

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

   The following table describes the upgrade parameters that you can modify:

| Property Name | Description |
|---|---|
| INSTALL_TYPE | Indicates whether to install or upgrade Informatica.<br>If the value is 0, the installer performs a fresh installation of Informatica. If the value is 1, the installer upgrades a previous version of Informatica. |
| USER_INSTALL_DIR | Directory in which to install the new version of Informatica services. The directory cannot be the same as the directory that contains the previous version of Informatica services. |
| UPG_BACKUP_DIR | Directory that contains the previous version of Informatica services that you want to upgrade. |
| KEY_DEST_LOCATION | Directory in which to store the encryption key for the node created during the installation. |
| PASS_PHRASE_PASSWD | Keyword to use to create an encryption key to secure sensitive data in the domain. The keyword must meet the following criteria:<br>- From 8 to 20 characters long<br>- Includes at least one uppercase letter<br>- Includes at least one lowercase letter<br>- Includes at least one number<br>- Does not contain spaces<br>Set this property when you upgrade the master gateway node.<br>This parameter is not used for upgrades from version 9.6.0. Do not set it. |
| KEY_SRC_LOCATION | Directory that contains the encryption key for the master gateway node of the Informatica domain. Set this property when you upgrade a node other than the master gateway node. |

| Property Name | Description |
|---|---|
| DOMAIN_USER= | User name for the Informatica domain. |
| DOMAIN_PSSWD= | Password for the Informatica domain. |
| SERVER_PORT | Port number that controls server shutdown for the domain Service Manager. The Service Manager listens for shutdown commands on this port. You can set this parameter if ADVANCE_PORT_CONFIG=1. |
| AC_PORT | Port number used by the Administrator tool.<br>You can set this parameter if ADVANCE_PORT_CONFIG=1. |
| AC_SHUTDWN_PORT | Port number that controls server shutdown for the Administrator tool. The Administrator tool listens for shutdown commands on this port.<br>You can set this parameter if ADVANCE_PORT_CONFIG=1. |
| ENABLE_USAGE_COLLECTION | Enables Informatica DiscoveryIQ, a product usage tool that sends routine reports on data usage and system statistics to Informatica. Informatica DiscoveryIQ uploads data to Informatica 15 minutes after you install and configure Informatica domain. Thereafter, the domain sends the data every 30 days. You can choose to not send any usage statistics to Informatica. For more information on how to disable sending usage statistics, see the *Informatica Administrator Guide*.<br>You must set the value to 1 to upgrade. |

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

   The following table describes the properties that you set:

| 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.<br>Use the following format:<br>`<domain name>\<user account>`<br>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 prompt to start the silent upgrade.

1. Open a command prompt.

   On Windows, open the command prompt as administrator. If you do not open the command prompt as administrator, the Windows system administrator might encounter issues when accessing files in the Informatica installation directory.

2. Go to the root of the server installer directory.
3. Verify that the directory contains the file SilentInput.properties with the upgrade options.
4. Run the silent upgrade. On Windows, run silentInstall.bat. On UNIX, run silentInstall.sh.

The silent upgrade runs in the background. The process can take a while. The silent upgrade process is complete when the Informatica_<Version>_Services_InstallLog<timestamp>.log is created in the installation directory.

The silent upgrade fails if you incorrectly configure the properties file or if the installation directory is not accessible. If the upgrade fails, view the silent upgrade log file and correct the errors. Then run the silent installer again. The silent upgrade log file name is silentErrorLog.log. The installer creates it in the root directory on Windows and in the user home directory on UNIX.

## Secure the Passwords in the Properties File

After you run the silent upgrade, ensure that passwords in the properties file are kept secure.

When you configure the properties file for a silent upgrade, you enter passwords in plain text. After you run the silent upgrade, use one of the following methods to secure the passwords:

- Remove the passwords from the properties file.
- Delete the properties file.
- Store the properties file in a secure location.

# Troubleshooting the Domain Upgrade

If the upgrade does not complete successfully, review log files to determine the cause of the failure. The upgrade log files are in the root of the directory where the new version of Informatica is installed. Review the following log file: Informatica_<Version>_Services_Upgrade.log.

If the upgrade fails, restore the domain configuration repository database from the backup and run the installer again.

If the Administrator tool is configured for secure communication, you might receive a `404 Not Found` message when you access the Administrator tool. This issue occurs when the machine that runs the gateway node cannot access the keystore file used for the HTTPS connection to the Administrator tool. Copy the file to an accessible location, and then shut down the domain. Run the infasetup UpdateGatewayNode command to update the gateway node with the location of the keystore file. You must run the command on each gateway node in the domain.

CHAPTER 6

# Upgrade the Domain with Changes to Node Configuration

This chapter includes the following topics:


- Upgrade the Domain with Changes to Node Configuration Overview, 58
- Prepare to Change the Node Configuration, 58
- Upgrading in Graphical Mode, 63
- Upgrading in Console Mode, 74
- Upgrading in Silent Mode, 80


## Upgrade the Domain with Changes to Node Configuration Overview

When you upgrade the domain, you can choose to change the node configuration to allow changes to the node host name, port numbers, or domain configuration repository database.

If you migrated an Informatica services installation to a different machine, choose to change the node configuration to upgrade the domain and configure the node on the new machine. If you migrated the domain configuration repository to a different database, choose to change the node configuration to upgrade the domain and configure the new database.

Complete the pre-upgrade tasks before you run the installer. On Windows, you can run the installer in graphical or silent mode. On UNIX, you can run the installer in console or silent mode.

## Prepare to Change the Node Configuration

Before you upgrade the domain with changes to the node configuration, you must perform steps to prepare for the upgrade.

The steps that you perform depend on the kind of change that you plan to make to the node configuration. You can migrate the domain configuration repository to a different database. Or, you can migrate the Informatica services installation to a different machine.

## Migrating to a Different Database

If the domain configuration repository database type or version is no longer supported, you must migrate the repository to a different database. Migrate the repository in the previous Informatica instance before you upgrade the domain.

For example, if the domain configuration repository is in a Sybase ASE 15.0.3 database, migrate the repository to a Sybase ASE 15.7 database.

For more information about product requirements and supported platforms, see the Product Availability Matrix on Informatica Network: https://network.informatica.com/community/informatica-network/product-availability-matrices/overview

1. Verify that you have shut down the domain.
2. Verify that you have backed up the domain configuration database tables to a file with the infasetup BackupDomain command.
3. Create a database schema and a user account in a supported database.
4. Restore the domain configuration in the backup file to the specified database schema with the infasetup RestoreDomain command.
5. When you upgrade a gateway node, select the **Allow changes to the node host name and port number** option. When you select this option, you can configure the gateway node to connect to the new domain configuration repository database. All gateway nodes must have a connection to the domain configuration repository to retrieve and update domain configuration. When you upgrade a worker node, clear the **Allow changes to the node host name and port number** option.

## Migrating the Installation to a Different Machine

If the Informatica services are installed on a machine with an operating system that is no longer supported, you must migrate the installation to a different machine before you upgrade the domain.

For example, effective in 9.6.0, Informatica dropped support for 32-bit Linux. If any node in a 9.5.1 domain is on 32-bit Linux, you must migrate the node to a machine with a supported operating system before upgrading the node to 10.1.1.

For more information about product requirements and supported platforms, see the Product Availability Matrix on Informatica Network: https://network.informatica.com/community/informatica-network/product-availability-matrices/overview

Before you upgrade the domain, complete the following steps on the machine where you want the new version of Informatica to run:

1. Copy the installation directory.
2. Verify port requirements.
3. Create a system user account.
4. If you plan to run the Data Integration Service, PowerCenter Repository Service, or PowerCenter Integration Service on the new machine, configure native connectivity on the new machine so that these services can connect to databases.

When you upgrade the migrated node, select the **Allow changes to the node host name and port number** option. When you select this option, you can update the configuration of the node on the new machine. When you upgrade other nodes in the domain that you did not migrate to different machines, clear the **Allow changes to the node host name and port number** option.

## Copy the Installation Directory

Copy the directory of the previous version of Informatica to the machine where you want the new version of Informatica to run.

When you run the upgrade installer, specify the Informatica installation directory on the new machine as the one that you want to upgrade.

## Verify Port Requirements

The installer sets up the ports for components in the Informatica domain, and it designates a range of dynamic ports to use for some application services.

You can specify the port numbers to use for the components and a range of dynamic 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 the Informatica services.

The following table describes the ports that 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. The Informatica command line programs use this port 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 6007. |
| Informatica Administrator port | Port number used by Informatica Administrator. Default is 6008. |
| Informatica Administrator shutdown port | Port number that controls server shutdown for Informatica Administrator. Informatica Administrator listens for shutdown commands on this port. Default is 6009. |
| Minimum port number | Lowest port number in the range of dynamic port numbers that can be assigned to the application service processes that run on this node. Default is 6014. |
| Maximum port number | Highest port number in the range of dynamic port numbers that can be assigned to the application service processes that run on this node. Default is 6114. |

**Note:** Services and nodes can fail to start if there is a port conflict. You can update the range of ports for application services after you upgrade.

## Create a System User Account on Windows

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

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 Windows 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 permissions to run the installer or to run the Informatica Windows 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 Windows service.

## Create a System User Account on UNIX

Create a user account specifically to run the Informatica daemon.

Verify that the user account you use to install Informatica has write permission on the installation directory.

## Configure Native Connectivity on Service Machines

To establish native connectivity between an application service and a database, install the database client software for the database that you want to access.

Native drivers are packaged with the database server and client software. Configure connectivity on the machines that need to access the databases. 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.

The following services use native connectivity to connect to different databases:

**Data Integration Service**

The Data Integration Service uses native database drivers to connect to the following databases:

- Source and target databases. Reads data from source databases and writes data to target databases.
- Data object cache database. Stores the data object cache.
- Profiling source databases. Reads from relational source databases to run profiles against the sources.
- Profiling warehouse. Writes the profiling results to the profiling warehouse.
- Reference tables. Runs mappings to transfer data between the reference tables and the external data sources.

When the Data Integration Service runs on a single node or on primary and back-up nodes, install database client software and configure connectivity on the machines where the Data Integration Service runs.

When the Data Integration Service runs on a grid, install database client software and configure connectivity on each machine that represents a node with the compute role or a node with both the service and compute roles.

**PowerCenter Repository Service**

The PowerCenter Repository Service uses native database drivers to connect to the PowerCenter repository database.

Install database client software and configure connectivity on the machines where the PowerCenter Repository Service and the PowerCenter Repository Service processes run.

**PowerCenter Integration Service**

The PowerCenter Integration Service uses native database drivers to connect to the following databases:

- Source and target databases. Reads from the source databases and writes to the target databases.
- Metadata Manager source databases. Loads the relational data sources in Metadata Manager.

Install database client software associated with the relational data sources and the repository databases on the machines where the PowerCenter Integration Service runs.

## Install Database Client Software

You must install the database clients on the required machines based on the types of databases that the application services access.

To ensure compatibility between the application service and the database, use the appropriate database client libraries and install a client software that is compatible with the database version.

Install the following database client software based on the type of database that the application service accesses:

**IBM DB2 Client Application Enabler (CAE)**

Configure connectivity on the required machines by logging in to the machine as the user who starts Informatica services.

**Microsoft SQL Server 2012 Native Client**

Download the client from the following Microsoft website: http://www.microsoft.com/en-in/download/details.aspx?id=29065.

**Oracle client**

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.

**Sybase Open Client (OCS)**

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.

## Configure Database Client Environment Variables on UNIX

Configure database client environment variables on the machines that run the Data Integration Service, PowerCenter Integration Service, and PowerCenter Repository Service processes.

The database client path variable name and requirements depend on the UNIX platform and the database.

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

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

| Database | Environment Variable Name | Database Utility | Value |
|---|---|---|---|
| Oracle | ORACLE_HOME<br>PATH | sqlplus | Set to: <*DatabasePath*><br>Add: <*DatabasePath*>/bin |
| IBM DB2 | DB2DIR<br>DB2INSTANCE<br>PATH | db2connect | Set to: <*DatabasePath*><br>Set to: <*DB2InstanceName*><br>Add: <*DatabasePath*>/bin |
| Sybase ASE | SYBASE15<br>SYBASE_ASE<br>SYBASE_OCS<br>PATH | isql | Set to: <*DatabasePath*>/sybase<*version*><br>Set to: ${SYBASE15}/ASE-<*version*><br>Set to: ${SYBASE15}/OCS-<*version*><br>Add: ${SYBASE_ASE}/bin:${SYBASE_OCS}/bin:$PATH |

# Upgrading in Graphical Mode

When you upgrade in graphical mode, you can change the node configuration to upgrade the domain to a different machine or to a different domain configuration repository database. You can upgrade the domain in graphical mode on Windows.

To upgrade the domain on the same machine and on the same domain configuration repository database, see "Upgrading in Graphical Mode" on page 44.

On Windows, if you encounter problems when you run the install.bat file from the root directory, run the following file:

```
<Informatica installation directory>/server/install.exe
```

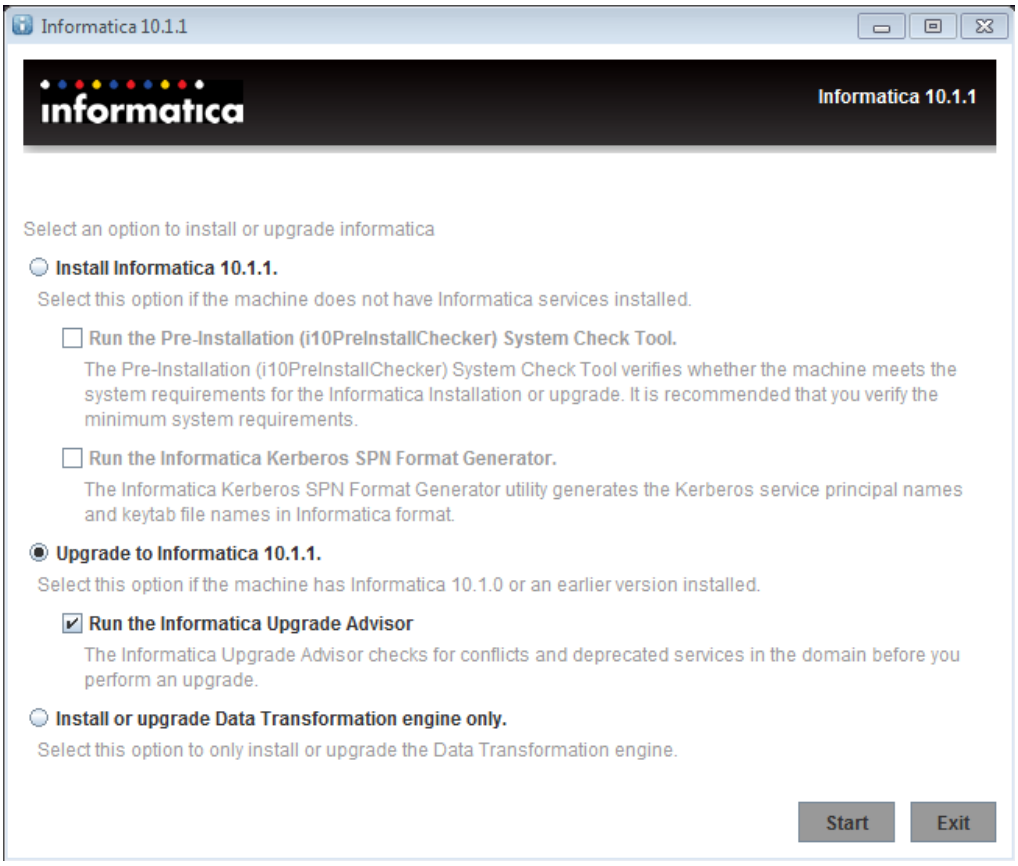
1. Log in to the machine with the same user account that you used to install the previous version.
2. Stop all processes that access the directory and subdirectories of the Informatica product to upgrade, including command prompts and tail logs.
3. Go to the root of the directory for the installation files and run install.bat as administrator.

   To run the file as administrator, right-click the install.bat file and select **Run as administrator**.

   **Note:** If you do not run the installer as administrator, the Windows system administrator might encounter issues when accessing files in the Informatica installation directory.

   The **Informatica 10.1.1** page appears.

4. Select **Upgrade to Informatica 10.1.1**.




Informatica provides utilities to facilitate the Informatica services installation process. You can run the following utility before you upgrade Informatica services:

**Pre-Installation (i10Pi) System Check Tool.**

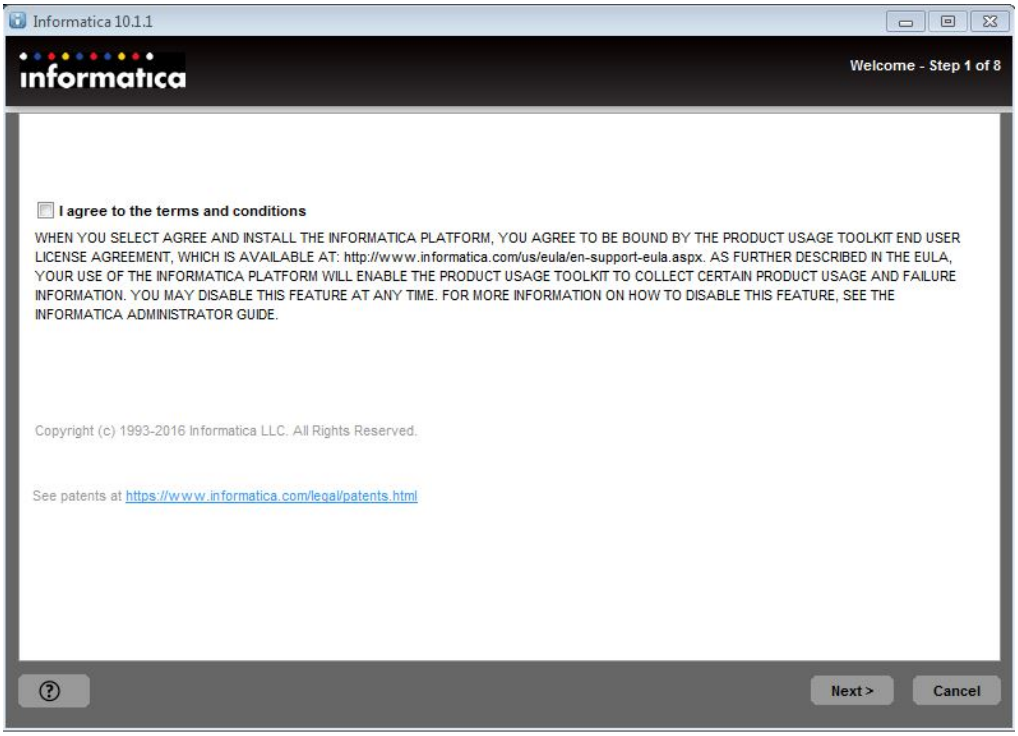
Verifies whether the machine on which you are installing Informatica services meets the system requirements for installation. For more information about running the Pre-Installation (i10Pi) System Check Tool, see "Run the Pre-Installation (i10Pi) System Check Tool" on page 19.

**Informatica Upgrade Advisor.**

Validates the services and checks for obsolete services in the domain before you perform an upgrade. Fore more information about the Informatica Upgrade Advisor, see "Run the Informatica Upgrade Advisor" on page 21.

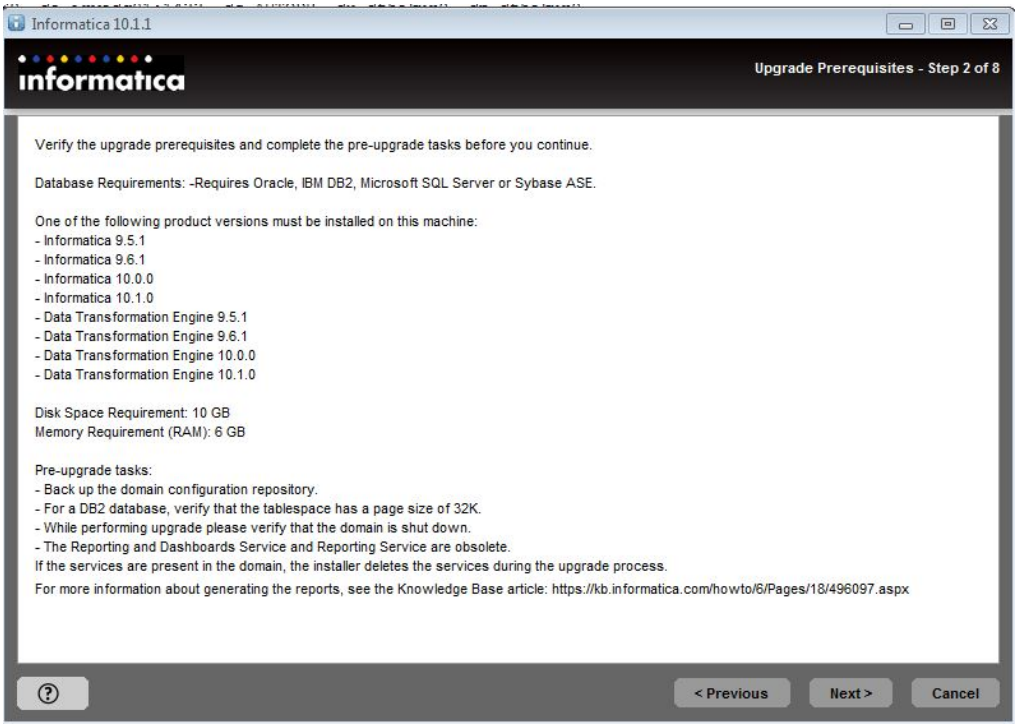
5. Click **Start**.

6. Read the terms and conditions of Informatica product usage toolkit and select **I agree to the terms and conditions**.




Informatica DiscoveryIQ is a product usage tool that sends routine reports on data usage and system statistics to Informatica. Informatica DiscoveryIQ uploads data to Informatica 15 minutes after you install and configure Informatica domain. Thereafter, the domain sends the data every 30 days. You can choose to not send any usage statistics to Informatica. For more information on how to disable sending usage statistics, see the *Informatica Administrator Guide*.

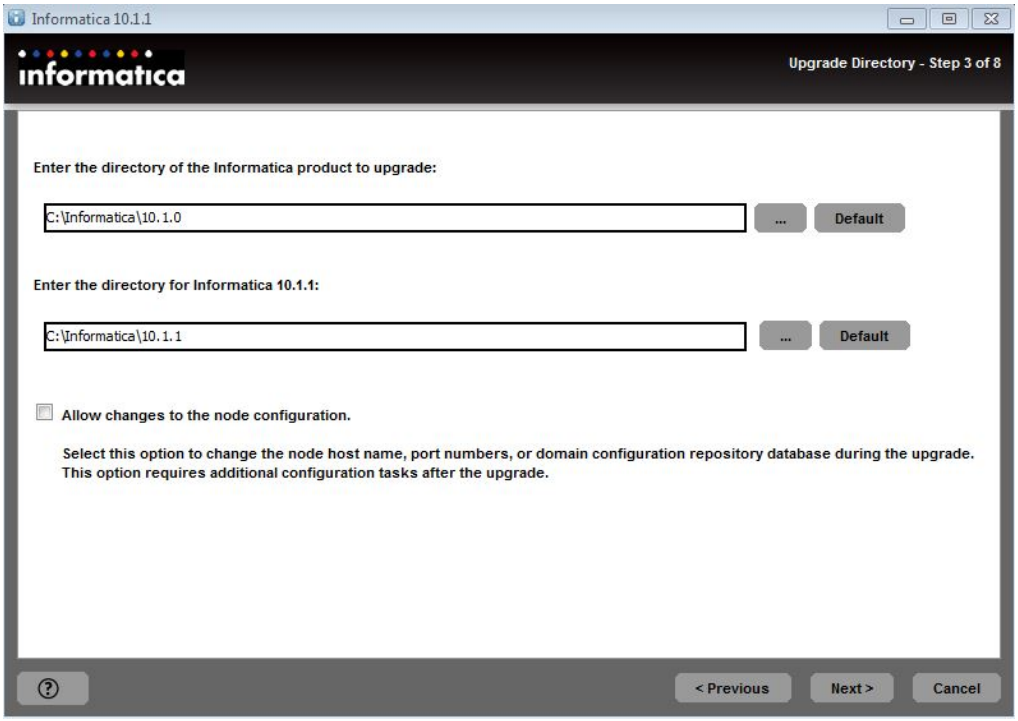
7. The **Upgrade Prerequisties** page appears.




Verify the requirements before you continue the upgrade.

8. Click **Next**.

The **Upgrade Directory** page appears.



9. Enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.1.1.

   The following table describes the directories that you must specify:

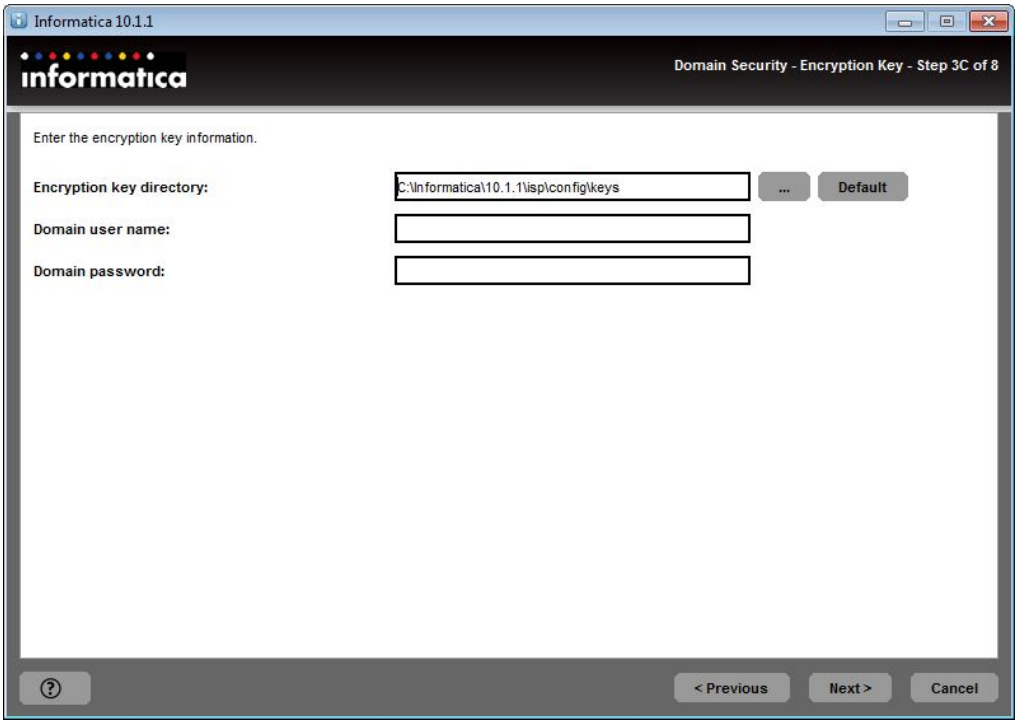
| Directory | Description |
|---|---|
| Directory of the Informatica product to upgrade | Directory that contains the version of Informatica services that you want to upgrade. |
| Directory for Informatica 10.1.1 | Directory in which to install Informatica 10.1.1.<br>Enter the absolute path for the installation directory. The directory cannot be the same as the directory that contains the previous version of Informatica services.The directory names in the path must not contain spaces or the following special characters: @\|* $ # ! % ( ) { } [ ] , ; '<br>**Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.<br>On Windows, the installation directory must be on the current machine. |

10. Select **Allow changes to the node host name and port numbers**.

    Use this option to change the configuration of the Informatica installation that you upgrade. If you are upgrading to a different machine, change the node configuration to match the configuration of the new machine. If you are upgrading to a different domain configuration repository database, change the node configuration to match the configuration of the new database.

11. Click **Next**.

    The **Domain Security - Encryption Key** page appears.




12. Enter the directory for the encryption key for the informatica domain.

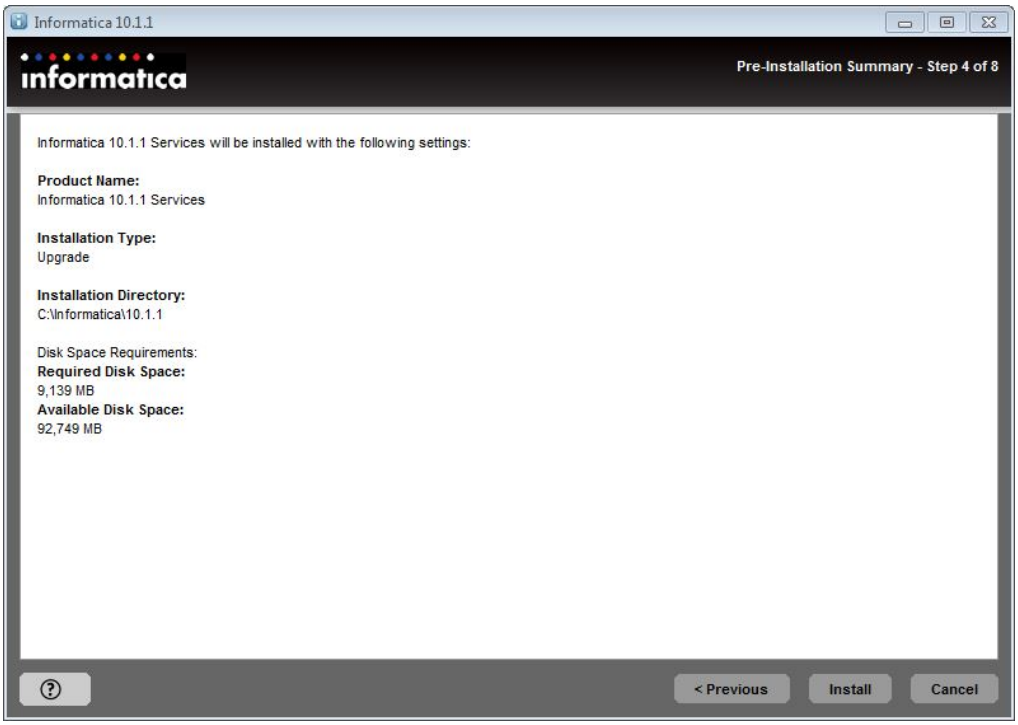
Informatica uses an encryption key to secure sensitive data, such as passwords, that are stored in the Informatica domain. When you upgrade, you must enter the directory in which to store the encryption key on the node that you are upgrading.

**Note:** All nodes in an Informatica domain use the same keyword and encryption key. You must keep the name of the domain, the keyword for the encryption key, and the encryption key file in a secure location. The encryption key is required when you change the encryption key of the domain or move a repository to another domain.

| Property | Description |
|---|---|
| Encryption key directory | Directory in which to store the encryption key for the domain. By default, the encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`. |

13. Enter the user name and password for the informatica domain.
14. Click **Next**.

    The **Pre-Installation Summary** page appears.

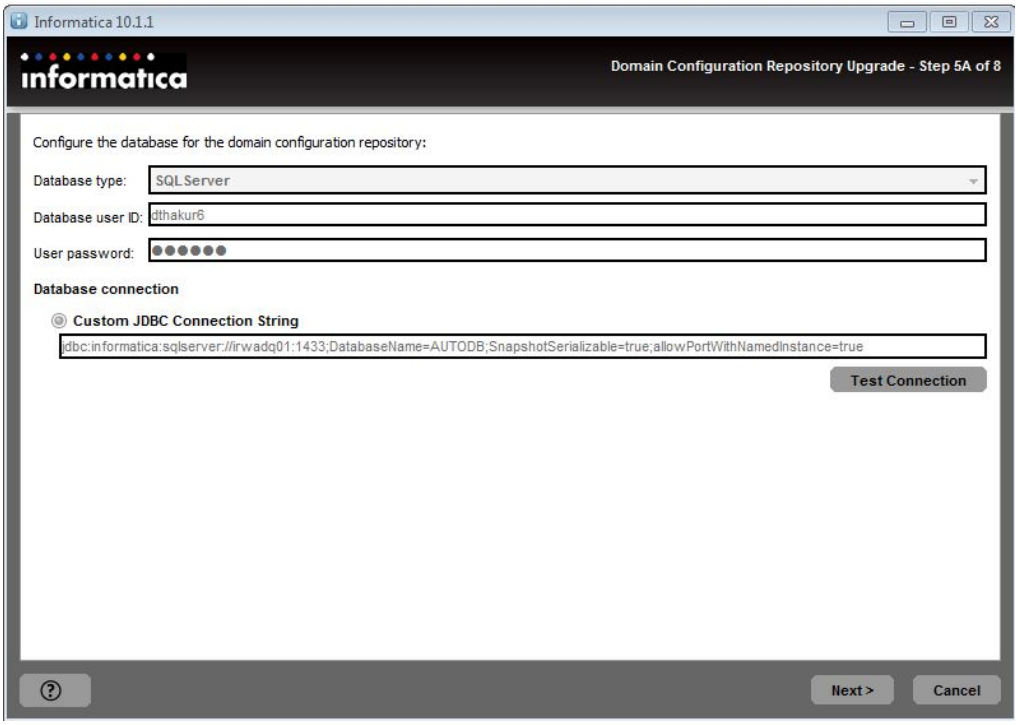



15. Review the upgrade information, and click **Install** to continue.

    The upgrade wizard installs the Informatica server files to the Informatica 10.1.1 installation directory.

    The upgrade wizard displays a warning to shut down the Informatica domain before you continue the upgrade.
16. Click **OK**.

17. If you are upgrading a gateway node, enter the database and user account information for the domain configuration repository on the **Domain Configuration Repository Upgrade** page.




If you are upgrading a worker node, the upgrade wizard does not display the domain configuration repository information. You cannot modify the database connection information. Skip to step 21.

Enter the following database and user account :

| Property | Description |
|---|---|
| Database type | Database for the domain configuration repository. Select Oracle, IBM DB2, Microsoft SQL Server, or Sybase ASE. |
| Database user ID | Database user account for the domain configuration repository. |
| User password | Password for the database user account. |
| Tablespace | Available for IBM DB2. Name of the tablespace in which to create the tables. Specify a tablespace that meets the pageSize requirement of 32768 bytes.<br>In a single partition database, if this option is not selected, the installer creates the tables in the default tablespace.<br>In a multipartition database, select this option and specify the name of the tablespace that resides in the catalog partition of the database. |

| Property | Description |
|---|---|
| Schema name | Available for Microsoft SQL Server. 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. 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. |

18. Enter the JDBC connection information.
    - To enter the connection information using the JDBC URL information, select **JDBC URL** and specify the JDBC URL properties.
      The following table describes the JDBC URL properties that you must specify:

      | Property | Description |
      |---|---|
      | Database address | Host name and port number for the database in the format `host_name:port`. |
      | Database service name | Service or database name :<br>- Oracle: Enter the service name.<br>- Microsoft SQL Server: Enter the database name.<br>- IBM DB2: Enter the service name.<br>- Sybase ASE: Enter the database name. |
      | JDBC parameters | Optional parameters to include in the database connection string. Use the parameters to optimize database operations for the database. 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 string without additional parameters. |

    - To enter the connection information using a custom JDBC connection string, select **Custom JDBC connection string** and type the connection string.

      Use the following syntax in the JDBC connection string:
      **IBM DB2**

      ```
      jdbc:Informatica:db2://host_name:port_no;DatabaseName=
      ```

      **Oracle**

      ```
      jdbc:Informatica:oracle://host_name:port_no;ServiceName=
      ```

      **Microsoft SQL Server**

      ```
      jdbc:Informatica:sqlserver://host_name:port_no;SelectMethod=cursor;DatabaseName=
      ```

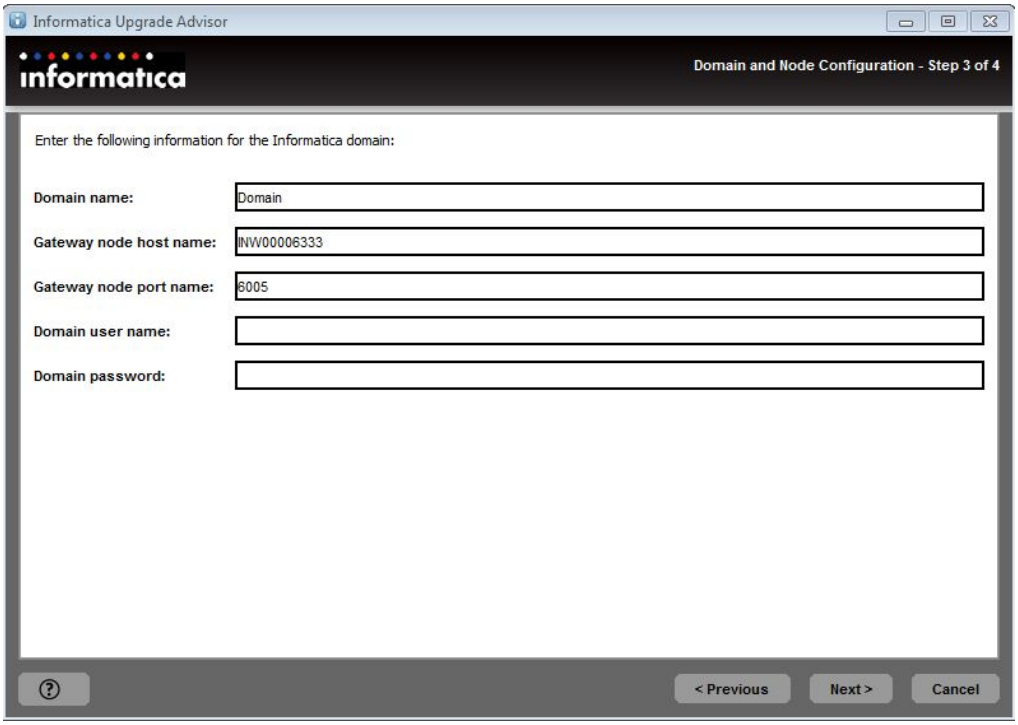
      **Sybase**

      ```
      jdbc:Informatica:sybase://host_name:port_no;DatabaseName=
      ```

      Verify that the connection string contains all the connection parameters required by your database system.

19. Click **Test Connection** to verify that you can connect to the database, and then click **OK** to continue.
20. Click **Next**.

The **Domain and Node Configuration** page appears.




21. Modify the node host name and port number to match the configuration of the new version of Informatica.

    The following table describes the domain and node properties that you can specify:

| Property | Description |
|---|---|
| Domain name | Name of the domain. 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: ` % * + ; " ? , < > \ / |
| Node name | Name of the node that you are upgrading. |
| Node host name | Host name of the machine that hosts the node for the new version of Informatica. If the machine has a single network name, use the default host name. If the machine has multiple network names, you can modify the default host name to use an alternate network name. Optionally, you can use the IP address.<br>Note: Do not use localhost. The host name must explicitly identify the machine. |
| Node port number | Port number for the node you are upgrading. The default port number for the node is 6005. |
| Gateway node host name | Host name of the machine that hosts the gateway node for the domain.<br>Available if you upgrade a worker node. |
| Gateway node port number | Port number of the gateway node.<br>Available if you upgrade a worker node. |

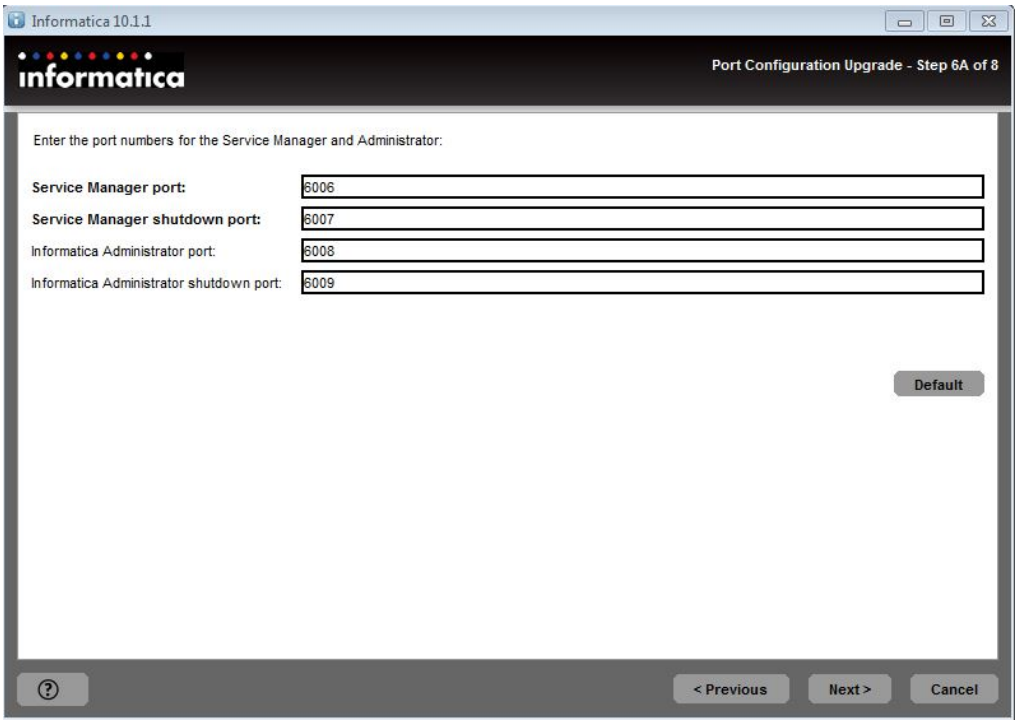
22. Enter the custom keystore file password and location if you are securing the Informatica Administrator with a custom keystore file and you are upgrading to a different gateway node configuration.

    The following table describes the properties for the Informatica Administrator custom keystore:

| Property | Description |
|---|---|
| Custom Keystore Password | Plain text password for the custom keystore file. |
| Custom Keystore File | Path and file name of the custom keystore file. If you leave this field blank, the installer looks for the keystore file in the following directory:<br><Informatica installation directory>\tomcat\conf\ |

23. Click **Next**.

    The **Port Configuration Upgrade** page appears.




24. Enter the new port numbers or use the default port numbers.

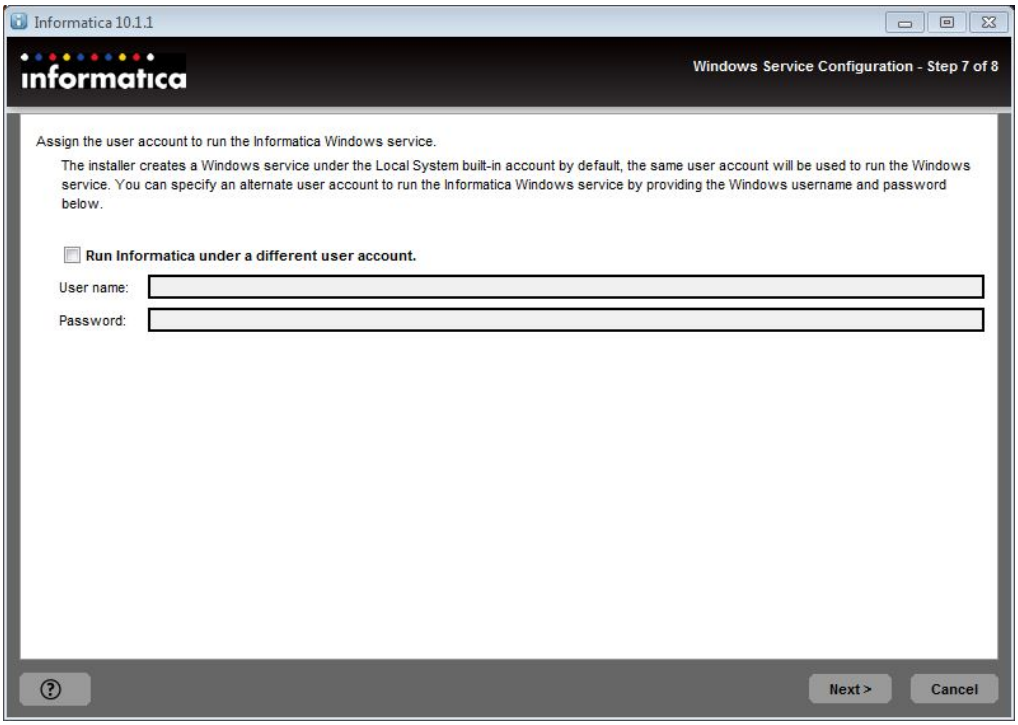
    The following table describes the ports that you can specify:

| Port | Description |
|---|---|
| Service Manager port | Port number used by the Service Manager in the node. Client applications and the Informatica command line programs use this port to communicate to the services in the domain. |
| 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. |

| Port | Description |
|---|---|
| Informatica Administrator port | Port number used by the Administrator tool.<br>Available if you upgrade a gateway node. |
| Informatica Administrator shutdown port | Port number used by the Administrator tool to listen for shut down commands.<br>Available if you upgrade a gateway node. |

25. Click **Next**.

The **Windows Service Configuration** page appears.




On Windows, the upgrade wizard 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.

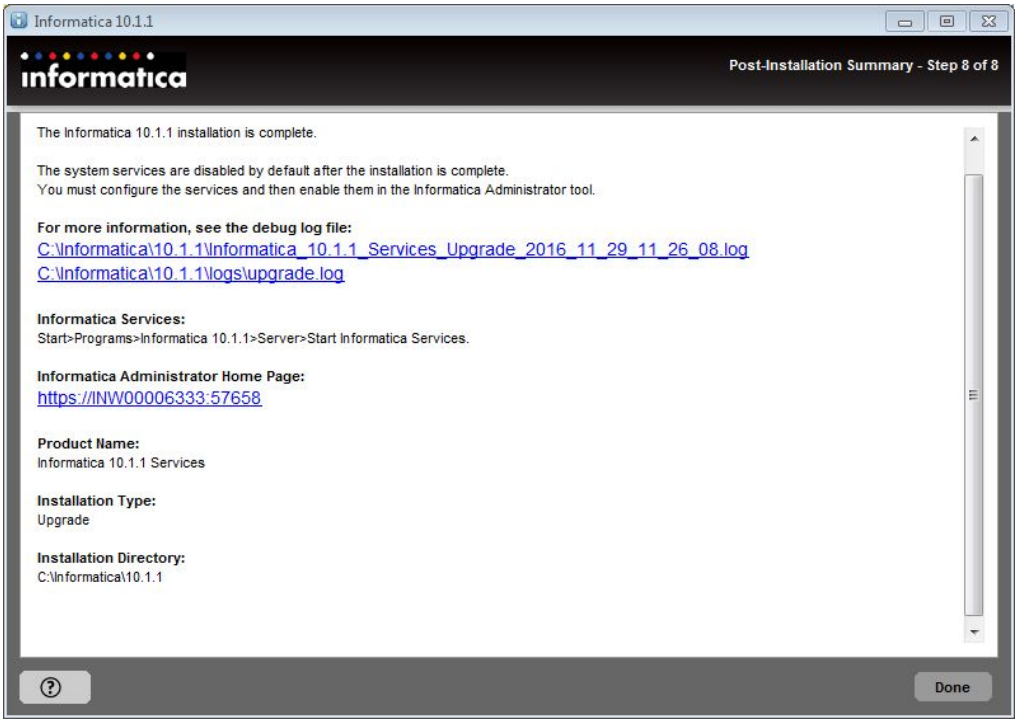
26. Select whether to run the Windows service under a different user account.

Enter the following user account information:

| 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.<br>Use the following format:<br>`<domain name>\<user account>`<br>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. |

27. Click **Next**.

    The **Post-Installation Summary** page appears.




28. Click **Done** to complete the installation procedure and exit the installer.

Review the `upgrade.log` file to get more information about the tasks performed by the upgrade wizard and to view the configuration of installed components.

# Upgrading in Console Mode

When you upgrade in console mode, you can change the node configuration to upgrade the domain to a different machine or to a different domain configuration repository database. You can upgrade the domain in console mode on UNIX.

To upgrade the domain on the same machine and on the same domain configuration repository database, see "Upgrading in Console Mode" on page 52.

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

1. On a shell command line, run the install.sh file from the root directory.

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

2. If the environment variables are not set, press **n** to exit the installer and set them as required.

   If the environment variables are set, press **y** to continue.

3. Press **2** to upgrade Informatica.

   Informatica provides utilities to facilitate the Informatica services installation process. You can run the following utility before you upgrade Informatica services:

**Pre-Installation (i10Pi) System Check Tool.**

Verifies whether the machine on which you are installing Informatica services meets the system requirements for installation. For more information about the Pre-Installation (i10Pi) System Check tool, see "Run the Pre-Installation (i10Pi) System Check Tool" on page 33.

**Informatica Upgrade Advisor.**

Validates the services and checks for obsolete services in the domain before you perform an upgrade. Fore more information about the Informatica Upgrade Advisor, see "Run the Informatica Upgrade Advisor" on page 21.

The installer displays a warning to shut down the Informatica domain that you want to upgrade before you continue the upgrade.

4. Press **3** to run the Informatica service installation.
5. Press **2** to upgrade to Informatica 10.1.1.
6. Read the terms and conditions of Informatica product usage toolkit and press **2** to continue the upgrade.

   Informatica DiscoveryIQ is a product usage tool that sends routine reports on data usage and system statistics to Informatica. Informatica DiscoveryIQ uploads data to Informatica 15 minutes after you install and configure Informatica domain. Thereafter, the domain sends the data every 30 days. You can choose to not send any usage statistics to Informatica. For more information on how to disable sending usage statistics, see *Informatica Administrator Guide*.
7. Press **1** to upgrade Informatica services.

   **Note:** If you are upgrading on AIX, ignore this step.
8. The **Upgrade Prerequisites** page displays the upgrade system requirements.

   Verify the requirements before you continue the upgrade.
9. At the prompt, enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.1.1.

   The following table describes the directories you must specify:

| Directory | Description |
|---|---|
| Directory of the Informatica product to upgrade | Directory that contains the version of Informatica services that you want to upgrade. |
| Directory for Informatica 10.1.1 | Directory in which to install Informatica 10.1.1.<br>Enter the absolute path for the installation directory. The directory cannot be the same as the directory that contains the previous version of Informatica services.The directory names in the path must not contain spaces or the following special characters: @\|* $ # ! % ( ) { } [ ] , ; '<br>**Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time.<br>On Windows, the installation directory must be on the current machine. |

10. Enter **2** to allow changes to the node host name and port number.

    Use this option to change the configuration of the Informatica installation that you upgrade. If you are upgrading to a different machine, change the node configuration to match the configuration of the new machine. If you are upgrading to a different domain configuration repository database, change the node configuration to match the configuration of the new database.

11. Enter the directory for the encryption key for the informatica domain.

    Informatica uses an encryption key to secure sensitive data, such as passwords, that are stored in the Informatica domain. When you upgrade, you must enter the directory in which to store the encryption key on the node that you are upgrading.

    **Note:** All nodes in an Informatica domain use the same keyword and encryption key. You must keep the name of the domain, the keyword for the encryption key, and the encryption key file in a secure location. The encryption key is required when you change the encryption key of the domain or move a repository to another domain.

| Property | Description |
|---|---|
| Encryption key directory | Directory in which to store the encryption key for the domain. By default, the encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`. |

12. Enter the user name and password for the informatica domain.
13. Review the upgrade information and press **Enter** to continue.

    The installer copies the server files to the Informatica 10.1.1 installation directory.

    The installer displays a warning to shut down the Informatica domain that you want to upgrade before you continue the upgrade.
14. Press **Enter**.
15. If you are upgrading a gateway node, select the database to use for the domain configuration repository.

    If you are upgrading a worker node, the domain configuration repository information does not display. You cannot modify the database connection information. Skip to step 18.

    The following table lists the databases you can use for the domain configuration repository:

| Prompt | Description |
|---|---|
| Database type | Type of database for the domain configuration repository. Select from the following options:<br>1 - Oracle<br>2 - Microsoft SQL Server<br>3 - IBM DB2<br>4 - Sybase ASE |

16. Enter the properties for the database user account.

    The following table lists the properties for the database user account:

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

17. Enter the parameters for the database. If you do not create a secure domain configuration repository, enter the parameters for the database.

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

    The following table describes the properties that you must configure for the IBM DB2 database:

| Property | Description |
|---|---|
| Configure tablespace | Select whether to specify a tablespace:<br>1 - No<br>2 - Yes<br>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. Specify a tablespace that meets the pageSize requirement of 32768 bytes.<br>In a single-partition database, if you select Yes to configure the tablespace, enter the name of the tablespace in which to create the tables.<br>In a multi-partition database, specify the name of the tablespace that resides in the catalog partition of the database. |

    b. If you select Microsoft SQL Server, enter the schema name for the database.

    The following table describes the properties that you must configure for the Microsoft SQL Server database:

| 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. |

    c. To enter the JDBC connection information using the JDBC URL information, press **1**. To enter the JDBC connection information using a custom JDBC connection string, press **2**.

    d. Enter the JDBC connection information.

    - To enter the connection information using the JDBC URL information, specify the JDBC URL properties.
      The following table describes the database connection information:

| Prompt | Description |
|---|---|
| Database host name | Host name for the database. |
| Database port number | Port number for the database. |

| Prompt | Description |
|---|---|
| Database service name | Service or database name :<br>- Oracle: Enter the service name.<br>- Microsoft SQL Server: Enter the database name.<br>- IBM DB2: Enter the service name.<br>- Sybase ASE: Enter the database name. |
| Configure JDBC Parameters | Select whether to add additional JDBC parameters to the connection string:<br>1 - Yes<br>2 - No<br>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. |

- To enter the connection information using a custom JDBC connection string, type the connection string.
  Use the following syntax in the JDBC connection string:
  **IBM DB2**

  ```
  jdbc:Informatica:db2://host_name:port_no;DatabaseName=
  ```

  **Oracle**

  ```
  jdbc:Informatica:oracle://host_name:port_no;ServiceName=
  ```

  **Microsoft SQL Server**

  ```
  jdbc:Informatica:sqlserver://
  host_name:port_no;SelectMethod=cursor;DatabaseName=
  ```

  **Sybase**

  ```
  jdbc:Informatica:sybase://host_name:port_no;DatabaseName=
  ```

  Verify that the connection string contains all the connection parameters required by your database system.

18. Modify the node host name and port number to match the configuration of the new version of Informatica.

    The following table describes the domain and node properties that you can specify:

| Property | Description |
|---|---|
| Domain name | Name of the domain. 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: ` % * + ; " ? , < > \ / |
| Node name | Name of the node that you are upgrading. |
| Node host name | Host name of the machine that hosts the node you are upgrading. If the machine has a single network name, use the default host name. If the machine has multiple network names, you can modify the default host name to use an alternate network name. Optionally, you can use the IP address.<br>Note: Do not use localhost. The host name must explicitly identify the machine. |

| Property | Description |
|---|---|
| Custom keystore password | Plain text password for the custom keystore file. Enter the custom keystore password if you are securing the Informatica Administrator with a custom keystore file and you are upgrading to a different gateway node configuration. |
| Custom keystore file | Path and file name of the custom keystore file. Enter the custom keystore file if you are securing the Informatica Administrator with a custom keystore file and you are upgrading to a different gateway node configuration.<br>If you leave this field blank, the installer looks for the keystore file in the following directory:<br><Informatica installation directory>\tomcat\conf\ |
| Node port number | Port number for the node you are upgrading. The default port number for the node is 6005. |
| Gateway node host name | Host name of the machine that hosts the gateway node for the domain.<br>Available if you upgrade a worker node. |
| Gateway node port number | Port number of the gateway node.<br>Available if you upgrade a worker node. |

19. The installer displays the port numbers assigned the domain components.

    You can specify new port numbers or use the default port numbers.

    The following table describes the ports that you can specify:

| Port | Description |
|---|---|
| Service Manager port | Port number used by the Service Manager in the node. Client applications and the Informatica command line programs use this port to communicate to the services in the domain. |
| 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. |
| Informatica Administrator port | Port number used by the Administrator tool.<br>Available if you upgrade a gateway node. |
| Informatica Administrator shutdown port | Port number used by the Administrator tool to listen for shut down commands.<br>Available if you upgrade a gateway node. |

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

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

# Upgrading in Silent Mode

When you upgrade in silent mode, you can change the node configuration to upgrade the domain to a different machine or to a different domain configuration repository database.

To upgrade the domain on the same machine and on the same domain configuration repository database, see "Upgrading in Silent Mode" on page 54.

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

Copy the Informatica installation files to the hard disk on the machine that hosts the Informatica instance you plan to upgrade.

To upgrade in silent mode, complete the following tasks:

1. Create the upgrade properties file and specify the upgrade options.
2. Run the installer with the upgrade properties file.
3. Secure the passwords in the upgrade properties file.

CHAPTER 7

# Before You Upgrade the Application Services

This chapter includes the following topics:


- Configure POSIX Asynchronous I/O, 81
- Configure Informatica Environment Variables, 81
- Configure Locale Environment Variables, 82
- Verify the Keystore File Location for the Administrator Tool, 83
- Clear Browser Cache, 83
- Complete Changing the Node Configuration, 83


## Configure POSIX Asynchronous I/O

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

## Configure Informatica Environment Variables

You can configure the INFA_DOMAINS_FILE and INFA_HOME environment variables to store the domain and installation location settings.

**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.

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.

# Configure Locale Environment Variables

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

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 that 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
```

To read multibyte characters from the database, set the variable with the following command:

```
setenv NLS_LANG=american_america.AL32UTF8
```

You must set the correct variable on the Data Integration Service machine so that the Data Integration Service can read the Oracle data correctly.

# Verify the Keystore File Location for the Administrator Tool

If you used a keystore file that you created to secure the connection to the Administrator tool, you must verify the keystore file location before you access the Administrator tool. The upgrade process does not update this location.

If you used the default keystore file generated by the installer in the previous domain, you do not need to verify the keystore file location.

The tasks that you must perform depend on the following locations where you previously stored the keystore file:

**A location inside the previous Informatica installation directory structure**

If you stored the keystore file in a location inside the previous Informatica installation directory structure, perform the following steps:

1. Copy the file to another location.
2. Update the gateway node with the copied keystore file location.

   Run the infasetup UpdateGatewayNode command to update the gateway node with the location of the keystore file. You must run the command on each gateway node in the domain.

**A location outside the previous Informatica installation directory structure**

If you stored the keystore file in a location outside the previous Informatica installation directory structure, verify that the machine that runs the gateway node can access the file.

# Clear Browser Cache

Before you access the Administrator tool, clear the browser cache.

On Windows Internet Explorer, delete the browsing history, including temporary files, cookies, and history.

If you do not clear the browser cache, the previous Administrator tool URL is not redirected to the latest URL and some menu options may not appear.

# Complete Changing the Node Configuration

If you chose to change the node configuration during the domain upgrade because you migrated the Informatica services installation to a different machine, you must perform additional tasks before you upgrade the application services.

**Note:** If you chose to change the node configuration during the domain upgrade because you migrated the domain configuration repository to a different database, you do not need to perform additional tasks.

You must perform the following additional tasks:

1. Configure the environment variables.
2. Verify the range of dynamic port numbers.

3. Verify the location of the node backup directory.
4. Configure PowerExchange® Adapters.

# Configure 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.

## Configure Library Path Environment Variables on UNIX

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

### Linux

Configure the LD_LIBRARY_PATH environment variable.

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

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

### AIX

Configure the LIBPATH environment variable for the following Java-based components and databases:

**Java component variables**

The PowerCenter Integration Service requires the Java Runtime Environment libraries to process the following Java-based components:

- Custom transformations that use Java
- Java transformations
- PowerExchange® adapters that use Java: PowerExchange for JMS, PowerExchange for Web Services, and PowerExchange for webMethods.

Configure the library path environment variable to point to the installed Java directory on machines where the PowerCenter Integration Service process runs. Configure the LIBPATH environment variable with the following values:

- *INFA_JRE_HOME*/bin
- *JAVA_HOME*/java/jre/bin/classic

**Databases**

The following table describes the values that you set for the LIBPATH environment variable 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 |

# Verify the Range of Dynamic Port Numbers

When you upgrade a migrated node, the upgrade wizard assigns a default range of port numbers that can be dynamically assigned to application service processes that run on the node.

The default range of dynamic port numbers is 6013 to 6113. Verify that the default range of port numbers are available on the machine that runs the new version of Informatica. If the range of port numbers are not available, use the Administrator tool to update the range. Configure the minimum and maximum dynamic port numbers for service processes in the **Advanced Properties** section of the node **Properties** view.

# Verify the Node Backup Directory

Verify that the backup directory for the node is accessible by the machine that runs the new version of Informatica. In the Administrator tool, view the **Backup Directory** property in the **Advanced Properties** section of the node **Properties** view.

# Configure PowerExchange Adapters

If your previous installation included PowerExchange adapters, configure the PowerExchange adapters on the machine that runs the new version of Informatica. If the PowerExchange adapter has an installer, re-install the PowerExchange adapter.

CHAPTER 8

# Application Service Upgrade

This chapter includes the following topics:


- Application Service Upgrade Overview, 86
- Running the Service Upgrade Wizard, 87
- Verify the Model Repository Service Upgrade, 88


## Application Service Upgrade Overview

The Informatica services version that you upgrade from determines the application service upgrade process.

Some Informatica services versions require that you upgrade the application services. When you upgrade an application service, you must also upgrade the dependent services. When you upgrade an application service, the upgrade process upgrades the database contents of the databases associated with the service.

Use the service upgrade wizard, the actions menu of each service, or the command line to upgrade application services. The service upgrade wizard upgrades multiple services in the appropriate order and checks for dependencies. If you use the actions menu of each service or the command line to upgrade application services, you must upgrade the application services in the correct order and verify that you upgrade dependent services.

The privileges required to upgrade application services depend on the service.

After you upgrade the Model Repository Service, check the log to verify that the upgrade completed successfully.

### Privileges to Upgrade Services

The privileges required to upgrade application services depend on the application service.

A user with the Administrator role on the domain can access the service upgrade wizard.

A user must have these roles, privileges, and permissions to upgrade the following application services:

**Model Repository Service**

To upgrade the Model Repository Service using the service upgrade wizard, a user must have the following credentials:

- Administrator role on the domain.
- Create, Edit, and Delete Projects privilege for the Model Repository Service and write permission on projects.

To upgrade the Model Repository Service from the Actions menu or from the command line, a user must have the following credentials:

- Manage Services privilege for the domain and permission on the Model Repository Service.
- Create, Edit, and Delete Projects privilege for the Model Repository Service and write permission on projects.

**Data Integration Service**

To upgrade the Data Integration Service, a user must have the Administrator role on the Data Integration Service.

**Content Management Service**

To upgrade the Content Management Service, a user must have the Administrator role on the Content Management Service.

**PowerCenter Repository Service**

To upgrade the PowerCenter Repository Service, a user must have the Manage Services privilege for the domain and permission on the PowerCenter Repository Service.

**Metadata Manager Service**

To upgrade the Metadata Manager Service, a user must have the Manage Services privilege for the domain and permission on the Metadata Manager Service.

## Service Upgrade from Previous Versions

When you upgrade from a previous version, some application services require an upgrade. Upgrade the application services that you used in the previous version.

Before you upgrade, verify that the Metadata Manager Service is disabled. Verify that all other application services are enabled.

To upgrade application services, upgrade the following services and associated databases in this order:

1. Model Repository Service
2. Data Integration Service
3. Profiling warehouse for the Data Integration Service
4. Metadata Manager Service

**Note:** When you upgrade all other application services, the upgrade process upgrades the database contents of the databases associated with the service.

# Running the Service Upgrade Wizard

Use the service upgrade wizard to upgrade application services and the database contents of the databases associated with the services. The service upgrade wizard displays upgraded services in a list along with services and associated databases that require an upgrade. You can also save the current or previous upgrade report.

**Note:** The Metadata Manager Service must be disabled before the upgrade. All other services must be enabled before the upgrade.

1. In the Informatica Administrator header area click **Manage** > **Upgrade**.

2. Select the application services and associated databases to upgrade.
3. Optionally, specify if you want to **Automatically recycle services after upgrade**.

   If you choose to automatically recycle application services after the upgrade, the upgrade wizard restarts the services after they have been upgraded.
4. Click **Next**.
5. If dependency errors exist, the **Dependency Errors** dialog box appears. Review the dependency errors and click **OK**. Then, resolve dependency errors and click **Next**.
6. Enter the repository login information.
7. Click **Next**.

   The service upgrade wizard upgrades each application service and associated database and displays the status and processing details.
8. When the upgrade completes, the **Summary** section displays the list of application services and their upgrade status. Click each service to view the upgrade details in the **Service Details** section.
9. Optionally, click **Save Report** to save the upgrade details to a file.

   If you choose not to save the report, you can click **Save Previous Report** the next time you launch the service upgrade wizard.
10. Click **Close**.
11. If you did not choose to automatically recycle application services after the upgrade, restart the upgraded services.

You can view the upgrade report and save the upgrade report. The second time you run the service upgrade wizard, the Save Previous Report option appears in the service upgrade wizard. If you did not save the upgrade report after upgrading services, you can select this option to view or save the previous upgrade report.

# Verify the Model Repository Service Upgrade

After you upgrade the Model Repository Service, check the Model Repository Service log to verify that the upgrade completed successfully.

## Object Dependency Graph

When you upgrade a Model Repository Service, the upgrade process upgrades the contents of the Model repository and rebuilds the object dependency graph.

If the upgrade process encounters a fatal error while upgrading the Model repository contents, then the service upgrade fails. The Administrator tool or the command line program informs you that you must perform the upgrade again.

If the upgrade process encounters a fatal error while rebuilding the object dependency graph, then the upgrade of the service succeeds. You cannot view object dependencies in the Developer tool until you rebuild the object dependency graph.

After you upgrade the Model Repository Service, verify that the Model Repository Service log includes the following message:

```
MRS_50431 "Finished rebuilding the object dependency graph for project group '<project group>'."
```

If the message does not exist in the log, run the infacmd mrs rebuildDependencyGraph command to rebuild the object dependency graph. Users must not access Model repository objects until the rebuild process completes, or the object dependency graph might not be accurate. Ask the users to log out of the Model Repository Service before service upgrade.

The infacmd mrs rebuildDependencyGraph command uses the following syntax:

```
rebuildDependencyGraph
<-DomainName|-dn> domain_name
[<-SecurityDomain|-sdn> security_domain]
<-UserName|-un> user_name
<-Password|-pd> password
<-ServiceName|-sn> service_name
[<-ResilienceTimeout|-re> timeout_period_in_seconds]
```

## Maximum Heap Size

After you upgrade the Model repository, reset the maximum heap size to the recommended 1 GB setting.

The upgrade process resets the Model Repository Service maximum heap size to 4 GB. After the upgrade, reset the maximum heap size property to the value to which it was set prior to the upgrade, or to the setting that Global Customer Support recommended for your environment.

Effective in version 10.1, the property **MaxPermSize** in the JVM Command Line Option is replaced with **MaxMetaspaceSize**.

To reset the maximum heap size, select the service in the **Domain Navigator**, click the **Properties** view, and expand **Advanced Properties**. Set the **Maximum Heap Size** property to the pre-upgrade value. Set the **MaxMetaspaceSize** property to the minimum of 512 MB.

CHAPTER 9

# Informatica Client Upgrade

This chapter includes the following topics:


- Informatica Client Upgrade Overview, 90
- Review Changed Support, 91
- Informatica Client Upgrade Options, 91
- Upgrading in Graphical Mode, 91
- Upgrading in Silent Mode, 92


## Informatica Client Upgrade Overview

Use the client installer to upgrade a previous version of the Informatica client tools. The Informatica client tools are installed on the installation directory you specify. The client installer configures the newly installed client tools with the same settings as the previous version. The client installer does not modify the files of the previous version of the client tools.

Complete the pre-upgrade tasks before you start the upgrade. Run the installer on all machines that host previous versions of the Informatica client tools that you want to upgrade. You can upgrade the Informatica clients in graphical or silent mode.

When you run the client installer, you can select the following Informatica client tools to upgrade:

**Informatica Developer**

Informatica Developer is a client application that you use to create and run mappings, data objects, and virtual databases. Objects created in Informatica Developer are stored in a Model repository and are run by a Data Integration Service. If you upgrade Informatica Developer, verify that the Informatica version, including the hotfix version, matches the version of the domain upgrade.

**PowerCenter Client tools**

The PowerCenter Client is a set of tools you can use to manage the PowerCenter repository, mappings, and sessions. The client upgrade also upgrades the following client tools:

- Custom Metadata Configurator
- Mapping Architect for Visio
- Mapping Analyst for Excel

By default, the when you upgrade the Informatica client tools, the following components are also upgraded:

- DataDirect ODBC drivers
- Java Runtime Environment libraries

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

On Windows, the length of the entire installation directory path, including the zip file name, must be 60 characters or less. Verify that the zip utility version is compatible with the Windows operating system version. When you unzip the file, verify that the zip utility also extracts empty folders.

# Review Changed Support

Effective in version 10.1.1, Informatica added support for Informatica clients on 32-bit and 64-bit Windows 10 and Informatica Developer on 64-bit Windows 10.

# Informatica Client Upgrade Options

You can upgrade the Informatica client tools in one of the following ways:

- Upgrade in Graphical Mode. Upgrades the Informatica client tools in graphical mode. The installer guides you through the upgrade process.
- Upgrade in Silent Mode. Upgrades the Informatica client tools using a properties file that contains the upgrade options.

# Upgrading in Graphical Mode

If you encounter problems when you run the install.bat file from the root directory, run the following file:

```
<Informatica installation directory>\client\install.exe
```

1. Close all applications.
2. Run install.bat from the root directory.
3. On the **Installation Type** page, select **Upgrade to Informatica 10.1.1 Clients** and click **Next**.
4. On the **Upgrade Pre-Requisites** page, verify the system requirements before you continue the installation and click **Next**.
5. On the **Select Client Tool Selection** page, select the Informatica client you want to upgrade.

   You can upgrade the following Informatica client applications:

   - Informatica Developer
   - PowerCenter Client
6. Click **Next**.
7. On the **Select Directory** page, enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.1.1.

The following table describes the directories you must specify:

| Directory | Description |
|---|---|
| Directory of the Informatica client to upgrade | Directory that contains the previous version of the Informatica client tool that you want to upgrade. |
| Directory for the Informatica 10.1.1 client tools | Directory in which to install the Informatica 10.1 client tools.<br>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 following special characters: @\|* $ # ! % ( ) { } [ ] , ; '<br>**Note:** Informatica recommends using alphanumeric characters in the installation directory path. If you use a special character such as á or €, unexpected results might occur at run time. |

8. Click **Next**.
9. On the **Pre-Installation Summary** page, review the installation information and click **Install**.

   The installer copies the Informatica client files to the installation directory.
10. On the **Post-installation Summary** page, verify whether the upgrade completed successfully and click **Done** to close the installer.
11. After you complete an upgrade of Informatica Developer, log off the Windows machine and then log back on to complete the system configurations.

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

# Upgrading in Silent Mode

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

Copy the Informatica installation files to the hard disk on the machine that hosts the Informatica client you plan to upgrade.

To upgrade in silent mode, complete the following tasks:

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

## Creating the Properties File

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

The sample properties file is named SilentInput.properties and is located in the root of the client installer directory.

1. Go to the root of the directory that contains the client 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 upgrade parameters.

   The following table describes the upgrade parameters you can modify:

| Property Name | Description |
|---|---|
| INSTALL_TYPE | Indicates whether to install or upgrade the Informatica client tools.<br>To upgrade from a previous version of Informatica, set the value to 1. |
| USER_INSTALL_DIR | Directory in which to install the new version of the Informatica client tools. |
| UPG_BACKUP_DIR | Directory of the previous version of the Informatica tools that you want to upgrade. |
| DXT_COMP | Indicates whether to install Informatica Developer.<br>If the value is 1, the Developer tool will be installed. If the value is 0, the Developer tool will not be installed.<br>Default is 1. |
| CLIENT_COMP | Indicates whether to install the PowerCenter Client.<br>If the value is 1, the PowerCenter Client will be installed. If the value is 0, the PowerCenter Client will not be installed.<br>Default is 1. |

4. Save the properties file.

## Running the Silent Installer

After you create the properties file, open a command prompt to start the silent upgrade.

1. Open a command prompt.
2. Go to root of the client installer directory.
3. Verify that the directory contains the file SilentInput.properties with the upgrade options.
4. To start the silent upgrade process, run silentInstall.bat.

   The silent upgrade runs in the background. The process can take a while. The silent upgrade process is complete when the Informatica_<Version>_Client_InstallLog.log is created in the installation directory.

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

5. After you complete an upgrade of Informatica Developer, log off the Windows machine and then log back on to complete the system configurations.

CHAPTER 10

# After You Upgrade

This chapter includes the following topics:


- Informatica Domain, 94
- Secure Client Connections to the Domain, 95
- Upgrade the Connection Provider Type for Microsoft SQL Server, 96
- PowerCenter Integration Service, 97
- Content Management Service, 97
- Data Integration Service, 98
- Email Service, 99
- Scheduler Service, 99
- Analyst Service, 99
- Business Glossary Desktop, 101
- Metadata Manager Agent, 101
- Metadata Manager Service, 102
- Reference Data, 106
- Profiles, 107
- Upgrade the Informatica Drivers for SQL Data Services, 108
- User Authentication, 108
- Copy the Data Transformation Files, 109
- Read the Release Guide, 109


## Informatica Domain

After you upgrade, complete the post-upgrade tasks for the domain.

### Update the Log Events Directory

After you upgrade, you might want to update the log events directory for the domain.

The default value of the log events directory after an upgrade depends on the following upgrade types:

**Upgrade the domain without changes to the node configuration.**

The log events directory points to the location that you specified in the previous version.

**Upgrade the domain with changes to the node configuration.**

The log events directory points to the `isp/logs` directory in the new installation directory.

To use a different directory for the logs, update the Log Directory Path property for the domain in the Administrator tool. You can also use the infasetup updateGatewaynode command to update the directory. For example, you can configure the log events directory as the `server/infa_shared/logs` directory in the new installation directory.

## Configure a Secure Database

After you upgrade, you can optionally configure the domain configuration repository on a database that is secured with the SSL protocol. You configure a secure domain configuration repository database from the command line.

The SSL protocol uses SSL certificates stored in a truststore file. Access to the secure database requires a truststore that contains the certificates for the database. You can use a secure domain configuration repository database only if you enable secure communication for the domain.

For more information about configuring a secure domain configuration repository database, see the *Informatica Security Guide*.

## Verify the SMTP Configuration Properties

Verify the SMTP configuration properties that the domain uses to send domain alerts and service alerts.

If you configured the SMTP properties on the domain in the previous version, the domain uses the same properties after you upgrade.

# Secure Client Connections to the Domain

If you enabled secure communication between client applications and the Informatica domain in the previous version, you must verify the keystore file locations or generate a new keystore after you upgrade. If you use Metadata Manager, you must generate a new keystore file after you upgrade. If you use other client applications, you must verify the keystore file locations after you upgrade

When you configure a secure connection between a client application and a service, you specify the keystore file that contains the keys and certificates for the secure HTTPS connection. After you upgrade, you must generate a new keystore file or verify the keystore file locations. The upgrade process does not update the keystore file or locations.

**Note:** If you used RSA encryption with fewer than 512 bits to create the private key and SSL certificate, you must create new SSL certificate files. Due to the FREAK vulnerability, Informatica does not support RSA encryption with fewer than 512 bits.

The tasks that you must perform depend on which client applications you use.

### Metadata Manager

If you use Metadata Manager, generate a new keystore file after you upgrade. Regenerate the keystore file to ensure that the Java version used to generate the keystore file matches the Java version installed with Informatica. If the Java versions do not match, users that perform operations in Metadata Manager might get a "Cannot connect to Metadata Manager Service" error.

To generate a new keystore file, perform the following steps:

1. Generate a new keystore file that contains the keys and certificates required to secure the connection for the Metadata Manager web application. Use the keytool utility installed with the current version of Informatica to generate the keystore file.

   **Note:** The Metadata Manager Service uses RSA encryption. Therefore, Informatica recommends that you use a security certificate that was generated with the RSA algorithm.
2. Save the keystore file in a directory that can be accessed from the machine where the Metadata Manager Service runs.
3. Use the Administrator tool to update the keystore file for the Metadata Manager Service.

### Other Web Client Applications

If you use other web client applications, the tasks that you must perform depend on the following locations where you previously stored the keystore files:

**A location inside the previous Informatica installation directory structure**

If you stored the keystore file in a location inside the previous Informatica installation directory structure, perform the following steps:

1. Copy the file to another location.
2. Update the application service with the copied keystore file location.

   Use the Administrator tool to update the location of the keystore file for the appropriate application service. For example, if the keystore file is used for Analyst tool security, update the keystore file location in the Analyst Service properties.

**A location outside the previous Informatica installation directory structure**

If you stored the keystore file in a location outside the previous Informatica installation directory structure, verify that the keystore file can be accessed from the machine where the application service runs.

# Upgrade the Connection Provider Type for Microsoft SQL Server

After you upgrade, the Microsoft SQL Server connection is set to the OLEDB provider type by default.

It is recommended that you upgrade all your Microsoft SQL Server connections to use the ODBC provider type. You can upgrade all your Microsoft SQL Server connections to the ODBC provider type by using the following commands:

- If you are using PowerCenter, run the following command: pmrep upgradeSqlServerConnection
- If you are using the Informatica platform, run the following command: infacmd.sh isp upgradeSQLSConnection

After you run the upgrade command, you must set the environment variable on each machine that hosts the Developer tool and on the machine that hosts Informatica services in the following format:

```
ODBCINST=<INFA_HOME>/ODBC7.1/odbcinst.ini
```

After you set the environment variable, you must restart the node that hosts the Informatica services.

# PowerCenter Integration Service

After you upgrade, complete the post-upgrade task for the PowerCenter Integration Service.

## Configure Umask for Operating System Profiles

If you upgraded from a version that used operating system profiles, set the umask setting to change the security on files that the DTM writes.

For example, you can change umask to 077 for maximum security. You must restart Informatica services if you change the umask setting.

## Verify the Location of the Identity Population Files

If you install identity population data files, verify that the Informatica services that run mappings and sessions can find the files.

By default, the PowerCenter Integration Service reads the path to the identity population files from the IDQTx.cfg configuration file.

When you upgrade, the installer writes an empty IDQTx.cfg file to the following directory:

```
<Informatica installation directory>/server/bin
```

If the installer finds an IDQTx.cfg file in the `server/bin` directory, it renames it to IDQTx.cfg.bak.

The IDQTx.cfg file that the upgrade operation installs does not specify a location for the identity population data files. To maintain the address reference data configuration that you defined before you upgraded, update the upgrade file with the contents of the backup file. Or, delete the upgrade file, and remove the `bak` extension from the backup file name.

**Note:** The PowerCenter Integration Service can also read the location of the population files from the SSAPR environment variable. If the installation includes the SSAPR environment variable, you do not need to update the IDQTx.cfg file after you upgrade.

# Content Management Service

The Content Management Service interacts with other services to manage reference data. Restart the Content Management Service after you upgrade.

You can manually restart the service, or you can restart services automatically when you run the service upgrade wizard. If you update a property on the Content Management Service, restart any service that uses the property that you updated.

Restart the Analyst Service if you update the following property:

- Reference data warehouse name

Restart the Data Integration Service if you update a property for the following types of reference data:

- Address reference data
- Identity population data
- Classifier model data
- Probabilistic model data

# Data Integration Service

After you upgrade, complete the post-upgrade tasks for each Data Integration Service.

## Reset the HTTP Proxy Server Password

If the Data Integration Service runs Web Service Consumer transformations and is configured to use an HTTP proxy server with authentication, reset the HTTP proxy server password.

If you do not reset the password, then the Data Integration Service cannot successfully process Web Service Consumer transformations.

Reset the HTTP Proxy Server Password for the Data Integration Service in the Administrator tool.

## Verify the Execution Options

If the Data Integration Service runs on multiple nodes and you configured the execution options differently for each service process, verify that the Execution Options on the Properties view use the correct values. Use the values that you recorded for each Data Integration Service process before upgrading.

Effective in version 10.0, the execution options on the Processes view are moved to the Properties view for the Data Integration Service. You configure the execution options for the Data Integration Service. Each Data Integration Service process uses the same value for each option.

The upgrade determines the values based on the following situations:

- If the option defines a maximum integer value, the highest value defined for all processes is used as the Data Integration Service value on the Properties view.
- If the option defines a string value, the value defined for the first node encountered during the upgrade is used as the Data Integration Service value on the Properties view.

## Verify Maximum Memory Per Request

If you changed the default value of the Maximum Session Size property for a Data Integration Service process in the previous version, verify that the Maximum Memory Per Request property for the service uses the correct values.

Effective in version 10.0, the Data Integration Service process property Maximum Session Size is renamed to Maximum Memory Per Request. You configure the Maximum Memory Per Request property for the following Data Integration Service modules:

- Mapping Service Module. Default is 536,870,912 bytes.
- Profiling Service Module. Default is 536,870,912 bytes.
- SQL Service Module. Default is 50,000,000 bytes.
- Web Service Module. Default is 50,000,000 bytes.

The upgraded service uses the version 10.0 default value for each module. If you changed the default value of Maximum Session Size in a previous version, you must change the value of Maximum Memory Per Request after you upgrade. Use the value that you recorded for each Data Integration Service process before upgrading.

# Email Service

The Email Service sends email notifications for business glossaries, scorecards, and workflows. Configure the email server properties that the service can use to send the notifications.

# Scheduler Service

After you upgrade, you might need to copy files for the Scheduler Service from a previous installation to the upgraded installation.

The default location for the Scheduler Service temporary files is `./scheduler/temp`. If you changed this path in the Scheduler Service properties, you need to manually copy all the files from the previous location to the location in the upgraded domain.

You do not have to copy the files if the Scheduler Service uses the default location or if you changed the path to a directory outside the domain.

**Note:** If the Scheduler Service cannot find the files, a scheduler instance that uses a parameter file does not run in the upgraded domain.

# Analyst Service

After you upgrade, complete the post-upgrade tasks for each Analyst Service.

## Enter the Model Repository Username and Password

If you use Business Glossary approval in a domain with Kerberos authentication, you must enter the user name and password for the Model Repository Service in the Analyst Service. The user name and password are not mandatory when you create the Analyst Service, but they are required for the approval workflow to work in a domain with Kerberos authentication.

To ensure that the approval workflow works in a domain with Kerberos authentication, perform the following steps:

1. In the Administrator tool, click the **Services and Nodes** tab.
2. In the Domain Navigator, select the Analyst Service.
3. Edit the Model Repository Service properties.
4. In the **Edit Model Repository Service Properties** dialog box, enter the user name and password for the Model Repository Service.
5. Click **OK**.

## Verify the Flat File Cache Location

You must verify the location of the flat file cache directory after you upgrade. The upgrade process does not update this location.

If you created the flat file cache directory within the previous Informatica installation directory, copy the directory to the upgraded Informatica installation directory and update the Analyst Service property with the new location.

If you created the directory outside of the previous Informatica installation directory, verify that both the Analyst Service and the Data Integration Service can access the directory.

If the Analyst Service and the Data Integration Service run on different nodes, configure the flat file directory to use a shared directory. If the Data Integration Service runs on primary and back-up nodes or on a grid, each Data Integration Service process must be able to access the files in the shared directory.

To verify the location of the flat file cache directory, view the **Flat File Cache Location** property in the run-time properties for the Analyst Service.

## Verify the Temporary Export File Location

You must verify or provide the location of the temporary export file directory after you upgrade. The Analyst tool uses this location to store business glossaries that you export. The upgrade process does not update this location.

If you created the temporary export file directory within the previous Informatica installation directory, copy the directory to the upgraded Informatica installation directory and update the Analyst Service property with the new location. If you created the directory outside of the previous Informatica installation directory, verify that the machine that runs the Analyst Service can access the directory. If you have not configured the location of the temporary export file directory, provide a location where the Analyst tool can store glossaries during export.

To verify or provide the location of the temporary export file directory, view the **Temporary Export File Directory** property in the Business Glossary properties for the Analyst Service.

## Verify the Business Glossary Attachments Directory

You must verify or provide the location of the Business Glossary asset attachments directory after you upgrade. The upgrade process does not update this location.

If you created the asset attachments directory within the previous Informatica installation directory, copy the directory to the upgraded Informatica installation directory and update the Analyst Service property with the new location. If you created the asset attachments directory outside of the previous Informatica installation directory, verify that the machine that runs the Analyst Service can access the directory. If you have not configured the location of the asset attachments directory, provide a location where the Analyst tool can store attachments that content managers add to assets.

To verify or configure the location of the asset attachments directory, view the **Asset Attachments Directory** property in the Business Glossary properties for the Analyst Service.

## Verify the Exception Management Audit Database

If you will run workflows that contain Human tasks, you can optionally specify a single database to store the audit data for the tasks. The exception management audit database stores the audit data.

Select the connection to the exception management audit database, and specify a database schema for the audit tables. The database connection and the schema name are properties of the Analyst Service.

After you identify the exception management audit database and schema, create the database contents. To create the contents, use the **Actions** menu options for the Analyst Service in the Administrator tool.

If you do not specify a connection and schema, the Analyst Service writes audit data for each task instance to the database that stores the task instance data. If you run workflows that write exception management data to multiple databases, the Analyst Service writes the audit data to the respective databases.

## Recycle the Analyst Service

To access the Analyst tool after you upgrade, recycle the Analyst Service. Before you recycle the Analyst Service, complete the upgrade and post-upgrade steps for the Model Repository Service and Data Integration Service. After you recycle the Analyst Service, wait for at least 10 minutes before you access the **Glossary** workspace.

Before you recycle the Analyst Service, verify that you have performed the following tasks:

- Upgrade the Model Repository Service.
- Upgrade the Data Integration Service.

**Note:** The Model Repository Service and the Data Integration Service must be running before you recycle the Analyst Service.

# Business Glossary Desktop

Change the port number and host name of the Business Glossary Desktop application to reference glossaries on a machine that hosts the Analyst Service.

## Changing the Business Glossary Desktop Port Number and Host Name

Change the Business Glossary Desktop server settings to establish a connection to the machine that hosts the Analyst Service.

1. In the Business Glossary Desktop application, click **Edit** > **Settings**.

   The **Informatica Business Glossary Settings** window appears.
2. Click the **Server** tab.
3. In the **Port** field, enter the port number of the machine on which the Analyst Service runs.
4. In the **Host** field, enter the host name of the machine on which the Analyst Service runs.
5. Optionally, in the **Username** and **Password** fields, update the Analyst tool user name and password.
6. Click **Test** to test the connection to the business glossary.
7. Click **OK**.

# Metadata Manager Agent

After you upgrade, you must uninstall and reinstall each Metadata Manager Agent so that Metadata Manager can extract metadata from the metadata sources. Install the latest version of the Metadata Manager Agent before you migrate resources.

1. Stop the Metadata Manager Agent.

2. Reinstall the Metadata Manager Agent.

For information about installing the Metadata Manager Agent, see the *Metadata Manager Administrator Guide*.

# Metadata Manager Service

After you reinstall the Metadata Manager Agent, perform the following post-upgrade tasks for each Metadata Manager Service:

1. Update the Metadata Manager properties file to include any customization.
2. If the Metadata Manager repository is a Microsoft SQL Server database and the Metadata Manager Service runs on UNIX, verify that the ODBCINST environment variable is set.
3. Enable the Metadata Manager Service.
4. Re-create Netezza resources.
5. Purge and reload database management, Tableau, and PowerCenter resources.
6. Upgrade Informatica Platform resources.
7. Regenerate the plug-in for each universal resource.

   After you regenerate the plug-ins, copy them to the Metadata Manager Service plug-ins directory, and then recycle the Metadata Manager Service.
8. If you set the **Worker Threads** configuration property for any Business Intelligence resource in the previous version, set the **Multiple Threads** configuration property to the same value.

## Update the Metadata Manager Properties File

Compare the imm.properties file in the previous installation directory with the current version. Update the current version of the imm.properties file as required.

The imm.properties file is in the following directory:

```
<Informatica installation directory>\services\shared\jars\pc\classes
```

The changes take effect when you enable the Metadata Manager Service.

## Verify the ODBCINST Environment Variable on UNIX

If the Metadata Manager repository is a Microsoft SQL Server database and the Metadata Manager Service runs on UNIX, verify that the ODBCINST environment variable is set on the machine that runs the PowerCenter Integration Service.

The PowerCenter Integration Service runs the workflows that extract metadata from the IME-based files and load it into the Metadata Manager warehouse. The PowerCenter Integration Service uses ODBC to connect to the Microsoft SQL Server database. On UNIX, the ODBCINST environment variable must be set to the location of the odbcinst.ini file. Otherwise, the PowerCenter Integration Service cannot access the ODBC driver.

On the machine that runs the PowerCenter Integration Service, verify that the ODBCINST environment variable is set to the following value:

```
ODBCINST=<INFA_HOME>/ODBC7.1/odbcinst.ini
```

If the environment variable is not set, set the environment variable, and then restart the domain.

## Re-create Netezza Resources

Effective in version 10.1.1, the Netezza model is changed to support multiple schemas. Metadata objects in the Netezza model are organized by schema instead of by database. Because of the model change, you must re-create Netezza resources in the current version of Metadata Manager.

The model change makes Netezza resources behave like other relational resources. When you create a Netezza resource, you select the schema or schemas from which to extract metadata. Metadata Manager organizes Netezza objects in the metadata catalog by schema. When you configure connection assignments to Netezza, you select the schema to which to assign the connection.

The upgrade process marks the previous Netezza model and all resources that are based on the model as deprecated. You can view the deprecated model and resources, but you cannot create, configure, edit, load, or add schedules for deprecated resources.

After you upgrade, you must create new resources to replace the deprecated Netezza resources. You cannot run the rmu or rcfmu migration utilities to migrate Netezza resources from the previous version of Metadata Manager to the current version.

To re-create Netezza resources, perform the following tasks:

1. If you added custom class attributes to the previous Netezza model, add the attributes to the new model.
2. If you uploaded rule set definition files to the previous model, upload the rule set definition files to the new model.
3. Create new resources to replace the deprecated resources.

   When you create a new resource, select the schemas from which you want to extract metadata.
4. Load the new resources to import the metadata.
5. If you updated the values of custom attributes or the business names for objects in the previous resources, update these values in the new resources.
6. If any business intelligence, data modeling, or data integration resource contains a connection to a Netezza database, perform either of the following tasks:
   - If the resource uses automatic connection assignments, reload the resource or use the **Resource Link Administration** window to reestablish the data lineage links.
   - If the resource uses manual connection assignments, reassign the connections to a Netezza schema instead of a database. Then, reload the resource or use the **Resource Link Administration** window to reestablish the data lineage links.
7. Optionally, delete the deprecated Netezza resources.

## Purge and Reload Resources

Some models are changed between Metadata Manager versions. If a model has minor changes, such as new class attributes, you must purge and reload the resources that are based on the model.

Effective in version 10.1.1, Tableau, PowerCenter, and most database management models have minor changes. Therefore, you must purge and reload the resources that are based on these models after you upgrade.

The following table lists the resources that you must purge and reload:

| Metadata Source Type | Resource Type |
|---|---|
| Business Intelligence | Tableau |
| Data Integration | PowerCenter |
| Database Management | Cloudera Navigator<br>IBM DB2 for Linux, UNIX, and Windows<br>IBM DB2 for z/OS<br>IBM Informix<br>JDBC<br>Microsoft SQL Server<br>Oracle<br>Sybase ASE<br>Teradata |

To prevent the loss of connection information for business intelligence and database management resources, purge and reload resources in the following order:

1. Database management resources
2. Tableau resources
3. PowerCenter resources

## Upgrade Informatica Platform Resources

If you created an Informatica Platform resource that extracts metadata from an Informatica 10.0 or 10.1 application, you must upgrade the resource. To upgrade the resource, you either re-create the resource or configure the resource to use the 10.0 or 10.1 Command Line Utilities.

You upgrade the resource differently based on whether you upgraded the services on which the application is based:

**You upgraded the Data Integration Service and Model Repository Service to version 10.1.1.**

If you upgraded the services on which the application is based to version 10.1.1, you must re-create the resource after upgrade. After you create the new resource, you can purge and delete the old resource.

**You did not upgrade the Data Integration Service and Model Repository Service.**

If you did not upgrade the services on which the application is based, you must configure the resource to use the previous version of the Command Line Utilities. For example, if the application is deployed to a 10.1 Data Integration Service, you must configure the resource to use the 10.1 Command Line Utilities.

To configure the resource to use the 10.0 or 10.1 Command Line Utilities, perform the following steps:

1. Contact Informatica Global Customer Support to get the Command Line Utilities zip file for version 10.0 or 10.1.
2. Extract the files to a directory that the 10.1.1 Metadata Manager Service can access.

   For best performance, extract the files to a directory on the machine that runs the Metadata Manager Service. If you extract the files to a different machine, the Metadata Manager Service can take several minutes to access the directory.

3. Edit the resource and configure the **10.0 Command Line Utilities Directory** or **10.1 Command Line Utilities Directory** property.

   Set the property to the directory where you installed the Command Line Utilities, for example, `C:\Informatica\101_CLU`.

After you configure the 10.0 or 10.1 Command Line Utilities directory, you can load the resource.

For more information about creating Informatica Platform resources and installing the Command Line Utilities for Informatica Platform resources, see the "Data Integration Resources" chapter in the *Metadata Manager Administrator Guide*.

## Regenerate the Plug-ins for Universal Resources

If you use universal resources, you must regenerate the plug-in for each universal resource. After you regenerate the plug-ins, copy them to the Metadata Manager Service plug-ins directory, and then recycle the Metadata Manager Service.

Perform the following tasks for each universal resource:

1. Copy the plug-in definition file from the previous Metadata Manager version and save it with a different file name.
2. Edit the new plug-in definition file, change the values of the name element, the owner element, or both, and then save the file.

   The following code shows an example of a plug-in definition file for an XConnect that you use to extract metadata from QlikView Files:

```
<?xml version="1.0" encoding="utf-8" ?>
<xconnect xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation='xconndef.xsd' xmlns="http://www.informatica.com/
XCONDEF">
    <name>QlikView1011</name>
    <owner>HypoStores</owner>
    <domain>Business Intelligence</domain>
    <sourcename>QlikView Files</sourcename>
</xconnect>
```

3. Run the mmXConPluginUtil generatePlugin command with the definition file (-x) option to regenerate the plug-in.

   For example:

```
mmXConPluginUtil generatePlugin -x C:\MMPlugInDefs\HypoStores_QlikView1011.xml
```

   mmXConPluginUtil generates the plug-in as an XConnect archive (XAR) file. It generates the plug-in in the following directory, where the owner and name are defined in the plug-in definition file:

```
<Informatica services installation directory>\services\MetadataManagerService\utilities
\mmxconpluginutil\<owner>.<name>
```

   mmXConPluginUtil names the plug-in `mm-<owner>.<name>-xconnect.xar`.

4. Copy the plug-in to the Metadata Manager Service plug-ins directory:

```
<Informatica services installation directory>\services\MetadataManagerService\mm-plugins
\xconnect\<Metadata Manager Service name>
```

After you copy all plug-ins to the Metadata Manager Service plug-ins directory, recycle the Metadata Manager Service in the Administrator tool. Metadata Manager imports the models when the service is enabled.

## Update Multiple Threads for Business Intelligence Resources

Effective in version 10.1.1, the **Worker Threads** configuration property for some Business Intelligence resources is replaced with the **Multiple Threads** configuration property. If you set the Worker Threads property in the previous version of Metadata Manager, set the Multiple Threads property to the same value after you upgrade.

Update the value of the Multiple Threads property for the following resources:

- Business Objects
- Cognos
- Oracle Business Intelligence Enterprise Edition
- Tableau

The Multiple Threads configuration property controls the number of worker threads that the Metadata Manager Agent uses to extract metadata asynchronously. If you do not update the Multiple Threads property after upgrade, the Metadata Manager Agent calculates the number of worker threads. The Metadata Manager Agent allocates between one and six threads based on the JVM architecture and the number of available CPU cores on the machine that runs the Metadata Manager Agent.

For more information about the Multiple Threads configuration property, see the "Business Intelligence Resources" chapter in the *Metadata Manager Administrator Guide*.

# Reference Data

After you upgrade, complete the post-upgrade tasks for reference data objects and files.

## Compile Probabilistic Models

Informatica uses Named Entity Recognition technology to compile the logic in a probabilistic model. To verify that a probabilistic model uses the current Named Entity Recognition engine, a Developer tool user can recompile the model after the upgrade is complete.

Recompilation is optional. A probabilistic model generates the same results for an input data set before and after you upgrade. A Developer tool user might recompile a probabilistic model to take advantage of any change to the data analysis algorithms in the Named Entity Recognition engine.

## Restore the Reference Data Directories

If you backed up a reference data directory from a non-default directory in the PowerCenter directory structure before the upgrade, restore the directory to the same location.

If you cannot restore a directory to the same location, restore the directory to a location that the PowerCenter Integration Service can read.

Use the following files and environment variables to specify the directory locations:

- To specify the parent directory for reference dictionary files, update the INFA_CONTENT environment variable.
- To specify the parent directory for address reference data files, update the AD50.cfg configuration file.

- To specify the parent directory for identity population data files, update the IDQTx.cfg configuration file.

  **Note:** The PowerCenter Integration Service reads the identity population data files from a directory with the name `/default/`. The parent directory for the identity population data files contains the `/default/` directory.

## Update the Classifier Model and Probabilistic Model Property Files in PowerCenter

The PowerCenter Integration Service reads configuration settings for classifier model files and probabilistic model files from property files. The classifier model property file name is CLASSIFIER.properties. The probabilistic model property file name is NER.properties.

During the upgrade process, the installer writes empty property files to the following location:

`<Informatica installation directory>/server/bin`

If the installer finds a CLASSIFIER.properties file or NER.properties file at the location, it renames the files with the following names:

CLASSIFIER.properties.bak

NER.properties.bak

To maintain the classifier model and probabilistic model properties that you defined before you upgraded, update the upgrade files with the contents of the backup files. Or, delete the upgrade files, and remove the `bak` extension from the backup file names.

# Profiles

After you upgrade, complete the post-upgrade tasks for profiles and scorecards.

## Import Data Domains

To add predefined data domain groups and related data domains to the data domain glossary, import the `Informatica_IDE_DataDomain.xml` file into the Developer tool using the **Windows > Preferences > Informatica > Data Domain Glossary > Import** menu option.

To view and make changes to rules associated with data domains, import the `Informatica_IDE_DataDomainRule.xml` file using the **File > Import** menu option in the Developer tool.

## Run Infacmd Commands

After the upgrade, run the infacmd migrateProfileResults and infacmd migrateScorecards commands if you created profiles in version 9.0.1 or version 9.1.0 and then migrated to later versions before upgrading to version 10.1.

**Note:** If you have run profiles and scorecards in versions 9.0, 9.0.1, or 9.1.0, then enter the value 9.1.0 for the `<-migrateFrom|-mfr>` option. If you have run profiles and scorecards in version 9.5.0, then enter 9.5.0 as the value.

Navigate to the Informatica services installation directory `<Informatica installation directory>/isp/bin`, and run the following commands:

- `infacmd.bat ps migrateProfileResults <-DomainName|-dn> domain_name <-UserName|-un> user_name <-Password|-pd> password <-MrsServiceName|-msn> MRS_name <-DsServiceName|-dsn> data_integration_service_name`
- `infacmd.bat ps migrateScorecards <-DomainName|-dn> domain_name <-UserName|-un> user_name <-Password|-pd> password <-MrsServiceName|-msn> MRS_name <-DsServiceName|-dsn> data_integration_service_name <-migrateFrom|-mfr> migrate_from_release`

## Run the Existing Scorecards

After the upgrade, to view the statistics in the **Cumulative Metrics Trend** pane for the scorecards that you had created in version 10.1.0 or earlier, you can run the scorecards. You can view the **Cumulative Metrics Trend** pane in the scorecard dashboard in the Analyst tool.

# Upgrade the Informatica Drivers for SQL Data Services

Upgrade the Informatica JDBC or ODBC drivers for SQL data services.

Upgrade the Informatica ODBC or JDBC driver on the machine from which you connect to the SQL data service. To upgrade the driver, run the Informatica JDBC/ODBC driver installation program and select the upgrade option.

# User Authentication

To ensure a high level of security for the Informatica domain, you can configure the domain to use Kerberos authentication.

Before you configure the Informatica domain to use Kerberos authentication, verify that the upgraded domain and services are working as expected. Verify that you can enable all upgraded services and run all operations in the domain and all domain functionality works as expected.

For more information about setting up Kerberos authentication, see the *Informatica Security Guide*.

# Copy the Data Transformation Files

After you upgrade Data Transformation, copy the files from the previous installation directories to the new installation directories, to get the same workspace, repository, and custom global components as in the previous version.

| File or Directory | Default Location |
|---|---|
| Repository | <Informatica installation directory>\DataTransformation\ServiceDB |
| Custom Global Components directory (TGP files) | <Informatica installation directory>\DataTransformation\autoInclude\user |
| Custom Global Components directory (DLL and JAR files) | <Informatica installation directory>\DataTransformation\externLibs\user |

Do not copy the Data Transformation Library files. Instead, install the Data Transformation Libraries again.

# Read the Release Guide

The *Informatica Release Guide* lists new features and enhancements, behavior changes between versions, and tasks that you might need to perform after you upgrade. Read the *Informatica Release Guide* to view the list of new functionality that you might want to implement or new options that you might want to enable.

APPENDIX A

# Updating the DynamicSections Parameter of a DB2 Database

This appendix includes the following topics:


- DynamicSections Parameter Overview, 110
- Updating the DynamicSections Parameter, 110


## 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 utility file and run the installer.

1. Go to the DataDirect download site: http://www.datadirect.com/support/product-documentation/downloads
2. Choose the Connect for JDBC driver for an IBM DB2 data source.

3. Register to download the DataDirect Connect for JDBC Utility.
4. Download the utility to a machine that has access to the DB2 database server.
5. Extract the contents of the utility file to a temporary directory.
6. In the directory where you extracted the file, run the installer.

The installation program creates a folder named testforjdbc in the installation directory.

## 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;ReplacePackag
   e=TRUE;DynamicSections=3000
   ```

   *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.

APPENDIX B

# Upgrade Checklist

This appendix includes the following topics:


- Upgrade Checklist Overview, 112
- Before You Upgrade the Domain, 112
- Domain Upgrade, 114
- Before You Upgrade the Application Services, 114
- Application Service Upgrade, 115
- Informatica Client Upgrade, 115
- After You Upgrade, 115


## Upgrade Checklist Overview

The upgrade checklist summarizes the tasks that you must perform to complete an upgrade. If you upgrade the Informatica product on more than one machine, complete the first upgrade using the detailed instructions in this guide. You can use this checklist to perform subsequent upgrades.

## Before You Upgrade the Domain

Before you upgrade the domain, perform the following pre-upgrade tasks:

- ❑ Read the Informatica Release Notes.
- ❑ Perform the following tasks to set up the machine to meet the requirements on Windows:
  - Verify that the machine has the required operating system patches and libraries.
  - Verify that the machine meets the minimum system requirements to upgrade the domain.
  - Verify that the machine meets the hardware requirements to upgrade the application services.
  - Review the environment variables.
  - Review the maximum heap size setting.
  - Extract the installer files.
  - Run the pre-installation (i10Pi) system check tool.

- ❑ Perform the following tasks to set up the machine to meet the requirements on UNIX:
  - Verify that the machine has the required operating system patches and libraries.
  - Install the Java Developer Kit when you upgrade Informatica on AIX, HP-UX, or zLinux.
  - Verify that the machine meets the minimum system requirements to upgrade the domain.
  - Verify that the machine meets the hardware requirements to upgrade the application services.
  - Review the environment variables.
  - Verify that the operating system meets the file descriptor requirement.
  - Review the maximum heap size setting.
  - Extract the installer files.
  - Run the pre-installation (i10Pi) system check tool.
- ❑ Back up the PowerCenter repository.
- ❑ Perform the following tasks to prepare the Model repository:
  - Back up the Model repository.
  - Verify the user account requirements for the Model repository database.
  - Verify the maximum heap size setting.
- ❑ Perform the following tasks to prepare the Data Integration Service:
  - Record the execution options for each Data Integration Service process.
  - Verify that all workflows are complete.
- ❑ Perform the following tasks to prepare the profiling warehouse:
  - Use the native database back up option to back up the profiling warehouse.
  - Verify the user account permissions for the database.
- ❑ Use the native database back-up option to back up the reference data warehouse.
- ❑ Back up any reference data directory at a non-default location in the PowerCenter directory structure.
- ❑ Optionally, prepare the exception management audit database.
- ❑ Perform the following tasks to prepare Metadata Manager:
  - Back up the Metadata Manager warehouse.
  - Disable the Metadata Manager Service.
  - Back up the Metadata Manager properties file.
- ❑ Record the ODBC data source names of the ODBC connections in the domain.
- ❑ Perform the following tasks to prepare the domain:
  - Verify user account requirements for the domain configuration repository database.
  - Shut down the domain. To shut down the domain, stop the Informatica service process on each node in the domain.
  - Back up the domain.
- ❑ Prepare to change the node configuration.

Perform the additional pre-upgrade tasks if you choose to change the node configuration for the following reasons:

- If the domain configuration repository database type or version is no longer supported, migrate the repository to a different database.
- If the Informatica installation is on a machine with an operating system that is no longer supported, migrate the installation to a different machine.

# Domain Upgrade

Use the server installer to upgrade the domain. The server installer provides a domain upgrade wizard to guide you through the upgrade process.

The upgrade wizard installs the Informatica files in the installation directory that you specify. It does not modify the files in the directory of the previous version.

When you run the upgrade wizard, select the option to change the node configuration if you upgrade the domain to a different machine or to a different domain configuration repository database.

### Related Topics:

- "Upgrade the Domain" on page 44

# Before You Upgrade the Application Services

Before you upgrade application services, perform the following pre-upgrade tasks:

- ❑ Configure POSIX Asynchronous I/O.
  If you install Informatica on IBM AIX, make POSIX Asynchronous I/O available on any node where you want to run a PowerCenter Integration Service.
- ❑ Configure Informatica environment variables.
- ❑ Configure locale environment variables.
  Verify that the locale setting is compatible with the code page for the repository.
- ❑ If you used a keystore file that you created to secure the connection to the Administrator tool, verify the keystore file location.
- ❑ Clear the browser cache.
- ❑ If you chose the option to change the node configuration to migrate the Informatica installation to a different machine, perform the following tasks:
  - Configure the environment variables.
  - Verify the range of port numbers that can be dynamically assigned to application service processes that run on the node.
  - Verify that the backup directory for the node is accessible by the node.
  - Configure PowerExchange adapters. If the PowerExchange adapter has an installer, re-install the PowerExchange adapter.

### Related Topics:

- "Before You Upgrade the Application Services" on page 81

# Application Service Upgrade

Some service versions require a service upgrade. You can use the service upgrade wizard to upgrade services.

### Related Topics:

- "Application Service Upgrade" on page 86

# Informatica Client Upgrade

Use the client installer to upgrade the client tools. The client tools are installed in the installation directory you specify. The client installer configures the newly installed client tools with the same settings as the previous version.

### Related Topics:

- "Informatica Client Upgrade" on page 90

# After You Upgrade

After you upgrade the domain, application services, and client files, perform the following post-upgrade tasks:

❑ Perform the following tasks for the domain:

- Verify that the log events directory is correct.
  To use a different directory for the logs, update the Log Directory Path property for the domain.
- Verify the SMTP configuration properties that the domain uses to send domain alerts and service alerts.
- You can optionally configure the domain configuration repository on a database that is secured with the SSL protocol.

❑ If you enabled secure communication between client applications and the previous domain, verify the keystore file locations. If you use Metadata Manager, generate a new keystore file.

❑ Perform the following tasks for each PowerCenter Integration Service:

- If you upgraded from a version that used operating system profiles, set the umask setting to change the security on files that the DTM writes.
- If you install identity population data files, verify that the Informatica services that run mappings and sessions can find the files.

- ❑ Perform the following tasks for each Content Management Service:
  - If you update any property for address reference data, identity population data, classifier model data, or probabilistic model data, restart the Data Integration Service.
  - If you update the location of the reference data warehouse, restart the Analyst Service and the Data Integration Service.
- ❑ Perform the following tasks for each Data Integration Service:
  - Reset the HTTP proxy server password.
    If the Data Integration Service runs Web Service Consumer transformations and is configured to use an HTTP proxy server with authentication, reset the HTTP proxy server password.
  - If the Data Integration Service runs on multiple nodes and you configured the execution options differently for each service process, verify that the Execution Options on the Properties view use the correct values.
  - Verify that the Maximum Memory Per Request property uses the correct value for each Data Integration Service module.
- ❑ Perform the following tasks for each Analyst Service:
  - If you use Business Glossary approval workflow in a domain with Kerberos authentication, enter the user name and password for the Model Repository Service.
  - Verify the location of the flat file cache directory. The upgrade process does not update this location.
  - Verify or configure the location of the temporary export file directory for Business Glossary files. The upgrade process does not update this location.
  - Verify or configure the location of the asset attachment directory for Business Glossary files. The upgrade process does not update this location.
  - If you will run workflows that contain Human tasks, optionally specify an exception management audit database and schema.
  - Recycle the Analyst Service.
    Before you recycle the Analyst Service, complete the upgrade and post-upgrade steps for the Model Repository Service, Data Integration Service, and Content Management Service.
- ❑ Change the port number and host name of the Business Glossary Desktop application to reference glossaries on a machine that hosts the Analyst Service.
- ❑ Uninstall and reinstall the Metadata Manager Agent.
- ❑ Perform the following tasks for each Metadata Manager Service:
  - Update the Metadata Manager properties file to include any customization.
  - If the Metadata Manager repository is a Microsoft SQL Server database and the Metadata Manager Service runs on UNIX, verify that the ODBCINST environment variable is set.
  - Enable the Metadata Manager Service.
  - Re-create Netezza resources.
  - Purge and reload database management, Tableau, and PowerCenter resources.
  - Upgrade Informatica Platform resources.
  - Regenerate the plug-ins for universal resources, copy them to the Metadata Manager Service plug-ins directory, and then recycle the Metadata Manager Service.
  - If you set the **Worker Threads** configuration property for any Business Intelligence resource in the previous version, set the **Multiple Threads** configuration property to the same value.

- ❑ Perform the following tasks for reference data objects and files:
  - If you created a backup copy of a reference data directory from the PowerCenter directory structure, restore the directory to the PowerCenter directory structure.
  - If you use probabilistic model files in PowerCenter, configure the NER.properties file.
  - If you use classifier model files in PowerCenter, configure the classifier.properties file.
- ❑ Perform the following tasks for profiles and scorecards:
  - Import data domain groups and related data domains to the data domain glossary. If you want to add predefined data domain groups and their related data domains to the data domain glossary, import the `Informatica_IDE_DataDomain.xml` file.
- ❑ Upgrade the Informatica ODBC or JDBC driver on each machine from which you connect to the SQL data service.
- ❑ To ensure a high level of security for the Informatica domain, you can optionally configure the domain to use Kerberos authentication.
- ❑ Read the *Informatica Release Guide* to view the list of new functionality that you might want to implement or new options that you might want to enable.

## Related Topics:

- "After You Upgrade" on page 94

# INDEX


## A

application service upgrade
  privileges 86
application services
  ports 60

## B

back up files
  before installing 37
  before upgrading 37

## C

configuration
  environment variables on UNIX 84
copy files
  after upgrade 109

## D

database clients
  configuring 62
  environment variables 62
  IBM DB2 client application enabler 62
  Microsoft SQL Server native clients 62
  Oracle clients 62
  Sybase open clients 62
databases
  testing connections 62
dbs2 connect
  testing database connections 62
dependency graph
  rebuilding 88
disk space requirements
  installation requirements 28
DISPLAY
  environment variables 17
domain configuration repository
  migrating during upgrade 58
domains
  ports 60

## E

environment variables
  configuring on UNIX 84
  database clients 62
  installation 17, 30
  library paths on UNIX 84
  UNIX database clients 62

## I

IATEMPDIR
  environment variables 17, 30
identity population data
  PowerCenter Integration Service 97
  Content Management Service 97
installation
  backing up files before 37
installation requirements
  disk space 28
  environment variables 17, 30
  minimum system requirements 28
  port requirements 60
isql
  testing database connections 62

## J

JRE_HOME
  environment variables 17, 30

## L

LANG
  locale environment variables 17, 30
LC_ALL
  locale environment variables 17, 30
library paths
  environment variables 30
library requirements
  UNIX 27
  Windows 15
Linux
  database client environment variables 62

## M

Model Repository Service
  upgrade error 88

## N

node
  migrating during upgrade 58, 83
node configuration
  completing the change process 83
  preparing to change 58

## O

object dependency graph
  rebuilding 88
operating system
  dropped support 59

## P

patch requirements
  UNIX 27
  Windows 15
PATH
  environment variables 30
port requirements
  installation requirements 60
ports
  application services 60
  domains 60
  requirements 60
probabilistic models
  compile following upgrade 106
  update in PowerCenter 107

## R

repositories
  configuring native connectivity 61
  installing database clients 62

## S

Scheduler
  copying files after upgrade 99
sqlplus
  testing database connections 62
system requirements
  minimum installation requirements 28

## U

UNIX
  database client environment variables 62
  database client variables 62
  library paths 84
  library requirements 27
  patch requirements 27
  user accounts 61
upgrade
  copying files after 109
upgrade error
  Model Repository Service 88
upgrades
  backing up files before 37
user accounts
  UNIX 61
  Windows 60

## W

Windows
  library requirements 15
  patch requirements 15
  user accounts 60