Informatica®
10.4.1

Upgrading from Version 10.0 (10.4.1)

Informatica Upgrading from Version 10.0 (10.4.1)
10.4.1
June 2020

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Preface

Follow the instructions in this upgrade guide to upgrade the product.

In addition to upgrade steps, the guide also includes pre- and post-requisite tasks.

This guide is written for the system administrator who is responsible for upgrading the product.

Review the upgrade guide to upgrade the services and clients for the Informatica domain. Verify the database requirements and set up the databases for the domain. You can verify the distributions for the supported products in the native and non-native environments. Verify that your environment meets the minimum system requirements for the installation process, temporary disk space, port availability, databases, and application service hardware.

You can upgrade the product services and clients on one or more machines. Run the server installer to upgrade on all nodes. After you upgrade the domain, you must log into the Administrator tool and upgrade the application services. You can then upgrade the Informatica clients on all machines.

Informatica Resources

Informatica provides you with a range of product resources through the Informatica Network and other online portals. Use the resources to get the most from your Informatica products and solutions and to learn from other Informatica users and subject matter experts.

Informatica Network

The Informatica Network is the gateway to many resources, including the Informatica Knowledge Base and Informatica Global Customer Support. To enter the Informatica Network, visit https://network.informatica.com.

As an Informatica Network member, you have the following options:

- Search the Knowledge Base for product resources.
- View product availability information.
- Create and 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 find product resources such as how-to articles, best practices, video tutorials, and answers to frequently asked questions.

To search the Knowledge Base, visit https://search.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

Use the Informatica Documentation Portal to explore an extensive library of documentation for current and recent product releases. To explore the Documentation Portal, visit https://docs.informatica.com.

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

Informatica Product Availability Matrices

Product Availability Matrices (PAMs) indicate the versions of the operating systems, databases, and types of data sources and targets that a product release supports. You can browse the Informatica 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 and based on real-world experiences from hundreds of data management projects. Informatica Velocity represents the collective knowledge of Informatica consultants who work with organizations around the world to plan, develop, deploy, and maintain successful data management solutions.

You can find 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 extend and enhance your Informatica implementations. Leverage any of the hundreds of solutions from Informatica developers and partners on the Marketplace to improve your productivity and speed up time to implementation on your projects. You can find the Informatica Marketplace at https://marketplace.informatica.com.

Informatica Global Customer Support

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

To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link:
https://www.informatica.com/services-and-training/customer-success-services/contact-us.html.

To find online support resources on the Informatica Network, visit https://network.informatica.com and select the eSupport option.

CHAPTER 1

Upgrade Overview

This chapter includes the following topics:

- Informatica Upgrade, 10
- Informatica Upgrade Support, 10
- Upgrade Process, 11
- Business Glossary Upgrade, 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 Support

You can directly upgrade to 10.4.1 from Informatica 10.0, 10.1, 10.1.1, 10.2, 10.2.1, and 10.2.2. 10.4.1 is a hotfix for 10.4.0. You can apply hotfix to 10.4.0.

If the product version that is currently installed cannot be upgraded to Informatica 10.4.1, you must first upgrade to a supported version.

To upgrade to a newly supported operating system or to different database, such as PostgreSQL, follow the instructions to migrate the repository to the different database and upgrade with changes to the node configuration.

To determine the Informatica product version that is currently installed, click **Help** > **About Informatica Administrator** in the Informatica Administrator header area.

Note: For information about Support EOL statements, contact Informatica Global Customer Support or see, https://network.informatica.com/docs/DOC-16182.

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	Descriptions
Runs Informatica Upgrade Advisor.	Installer runs the pre-upgrade to validate the services and checks for obsolete services, supported database, and supported operating system in the domain. 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.
Copies the encryption key file.	Copies the domain encryption key file from the existing installation directory into the directory that you specify when you upgrade.
If the existing domain uses Kerberos authentication, copies the Kerberos configuration file and keytab files.	Copies the Kerberos configuration file from the existing installation directory into the new installation directory. Copies the keytab files from the existing installation directory into the encryption key directory that you specify when you upgrade.
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.	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

   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.

Business Glossary Upgrade

Business glossary functionality is moved from Metadata Manager to the Analyst tool. Before you upgrade the domain, you must export and delete business glossaries from Metadata Manager. You use the Metadata Manager glossary export files to create corresponding business glossaries in the Analyst tool after upgrade.

Analyst tool business glossaries contain multiple features that Metadata Manager business glossaries do not have. For example, Analyst tool business glossaries provide business policies that govern the business practices related to business terms. Analyst tool glossaries can be used by a wide range of business users. Business users that do not need to see data lineage no longer have to use Metadata Manager to create and view business terms and categories.

Perform the following steps to upgrade business glossaries:

1. Complete pre-upgrade tasks in Metadata Manager.
   a. Back up the Metadata Manager repository.
   b. Optionally, back up each glossary that uses enumerated links or rule-based links, back up the enumerated links and linking rules files.
   c. Optional. If custom attributes were added to the business glossary model, export the business glossary model.
   d. Export each business glossary to a Microsoft Excel file or an XML file.

      Note: Contact Informatica Global Customer Support to ensure that you have the latest patches before you export the business glossaries to XML files.
   e. In each Microsoft Excel file, add a worksheet contains the Metadata Manager Service name.
   f. Purge and delete each business glossary from Metadata Manager.
2. Upgrade the domain.
   a. Optional. In the Analyst tool, if custom attributes were added to the business glossary model in Metadata Manager, import the Metadata Manager model export file.
   b. Optional. In the Analyst tool, if business terms or categories were linked across glossaries in Metadata Manager, merge the glossary export files. If you exported glossaries to Microsoft Excel files, delete the duplicate business terms.
   c. In the Analyst tool, import each business glossary file.
   d. Optional. In the Analyst tool, publish any unpublished business terms and categories that you want to see in Metadata Manager.
   e. Create one business glossary resource for each Analyst tool business glossary.
   f. Optional. For each glossary that uses enumerated links or rule-based links, associate the enumerated links and linking rules files with the business glossary resource.
   g. Load each business glossary resource and check each glossary.
3. Import business glossaries into the Analyst tool, and complete post-upgrade tasks in the Analyst tool.
4. Create and load resources in Metadata Manager that are based on the Analyst tool business glossaries, and complete post-upgrade tasks in Metadata Manager.

For more information about Analyst tool business glossaries, see the *Informatica Business Glossary Guide*. For more information about creating and configuring business glossary resources in Metadata Manager, see the *Metadata Manager Administrator Guide*.

CHAPTER 2

Before You Upgrade the Domain on Linux

This chapter includes the following topics:

- Read the Release Notes, 14
- Verify System Requirements, 14
- Extract the Installer Files, 18
- Run the Informatica Upgrade Advisor, 18

Read the Release Notes

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

Find the release notes on the Informatica documentation portal.

Verify System Requirements

Verify that your environment meets the minimum system requirements for the installation process, temporary disk space, port availability, databases, and application service hardware.

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

Verify the Domain Upgrade Requirements

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

Ensure that you have a minimum disk space of 50 GB and a RAM of 6 GB to upgrade the Informatica domain.

Note: When you upgrade, the installer requires an additional disk space used by the existing infa_shared directory.

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

Verify Temporary Disk Space and Permissions

Verify that your environment meets the minimum system requirements for the temporary disk space, permissions for the temporary files, and the Informatica client tools.

Disk space for the temporary files

The installer writes temporary files to the hard disk. Verify that you have 1 GB disk space on the machine to support the installation. When the installation completes, the installer deletes the temporary files and releases the disk space.

The following table describes the minimum disk space and memory requirements for PowerCenter or Data Engineering product installation:

Options	Minimum Requirements
Temporary disk space to run the installer	1 GB disk space
Install with application services for Data Engineering products	50 GB disk space, 8 GB RAM, and 8 cores. Out of the 50 GB, 25 GB is for the product installation binaries.
Install with application services for PowerCenter	50 GB disk space, 6 GB RAM, and 6 cores, Out of 50 GB, 25 GB is for the product installation binaries.

Permissions for the temporary files

Verify that you have read, write, and execute permissions on the `/tmp` directory.

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

Verify the Distributions

Verify the distributions for the non-native environments.

In each release, Informatica can add, defer, and drop support for the non-native distributions and distribution versions. Informatica might reinstate support for deferred versions in a future release. To see a list of the latest supported versions, see the Product Availability Matrix on the Informatica Customer Portal:
https://network.informatica.com/community/informatica-network/product-availability-matrices

Review Patch Requirements on Linux

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

PowerCenter on Linux

The following table lists the patches and libraries that the Informatica services require for PowerCenter on Linux:

Platform	Operating System	Operating System Patch
AWS Linux	Amazon Linux 2 AMI 2.0.20200304	All of the following packages: - e2fsprogs-libs-1.42.9-12.amzn2.0.2.x86_64 - keyutils-libs-1.5.8-3.amzn2.0.2.x86_64 - libselinux-2.5-12.amzn2.0.2.x86_64 - libsepol-2.5-8.1.amzn2.0.2.x86_64
Ubuntu	16.04.5	All of the following packages: - e2fsprogs-1.42.13-1ubuntu1-amd64-ext2/ext3/ext4 file system utilities - libkeyutils1:amd64-1.5.9-8ubuntu1-amd64-Linux Key Management Utilities (library) - libselinux1:amd64-2.4-3build2-amd64-SELinux runtime shared libraries - libsepol1:amd64-2.4-2-amd64-SELinux library for manipulating binary security policies.
Linux-x64	Red Hat Enterprise Linux 6.7	All of the following packages, where <version> is any version of the package: - e2fsprogs-libs-<version>.el6 - keyutils-libs-<version>.el6 - libselinux-<version>.el6 - libsepol-<version>.el6
Linux-x64	Red Hat Enterprise Linux 7.3	All of the following packages, where <version> is any version of the package: - e2fsprogs-libs-<version>.el7 - keyutils-libs-<version>.el7 - libselinux-<version>.el7 - libsepol-<version>.el7
Linux-x64	SUSE Linux Enterprise Server 11	Service Pack 4
Linux-x64	SUSE Linux Enterprise Server 12	Service Pack 2

Data Engineering on Linux

The following table lists the patches and libraries that the Informatica services require for Data Engineering on Linux:

Platform	Operating System	Operating System Patch
AWS Linux	Amazon Linux 2 AMI 2.0.20200304	All of the following packages: - e2fsprogs-libs-1.42.9-12.amzn2.0.2.x86_64 - keyutils-libs-1.5.8-3.amzn2.0.2.x86_64 - libselinux-2.5-12.amzn2.0.2.x86_64 - libsepol-2.5-8.1.amzn2.0.2.x86_64
Ubuntu	16.04.5	All of the following packages: - e2fsprogs-1.42.13-1ubuntu1-amd64-ext2/ext3/ext4 file system utilities - libkeyutils1:amd64-1.5.9-8ubuntu1-amd64-Linux Key Management Utilities (library) - libselinux1:amd64-2.4-3build2-amd64-SELinux runtime shared libraries - libsepol1:amd64-2.4-2-amd64-SELinux library for manipulating binary security policies.
Linux-x64	Red Hat Enterprise Linux 6.7	All of the following packages, where <version> is any version of the package: - e2fsprogs-libs-<version>.el6 - keyutils-libs-<version>.el6 - libselinux-<version>.el6 - libsepol-<version>.el6
Linux-x64	Red Hat Enterprise Linux 7.3	All of the following packages, where <version> is any version of the package: - e2fsprogs-libs-<version>.el7 - keyutils-libs-<version>.el7 - libselinux-<version>.el7 - libsepol-<version>.el7
Linux-x64	SUSE Linux Enterprise Server 11	Service Pack 4
Linux-x64	SUSE Linux Enterprise Server 12	Service Pack 2

Review the Environment Variables

Configure the environment variables to work with the Informatica installation.

The following table describes the environment variables to review:

Variable	Description
IATEMPDIR	Location of the temporary files created during installation. Informatica requires 1 GB disk space for temporary files. Configure the environment variable if you do not want to create temporary files in the /tmp directory.
INFA_DOMAINS_FILE	Contains the location of the domains.infa file. Clear this variable before you start the upgrade.

Variable	Description
INFA_HOME	Contains the location of the Informatica installation directory. Clear this variable before you start the upgrade.
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	Verify that the PATH environment variables do not contain earlier versions of Informatica.

Extract the Installer Files

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

You can get the installation file from the FTP link contained in your fulfillment email. 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.

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 the executable file.

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 Informatica Upgrade Advisor

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

Note: In most cases, you can run the Informatica Upgrade Advisor to review the upgrade support before you upgrade. If you want to validate upgrade to a different database, operating system, or machine, it is recommended to run i10Pi available from the Informatica installer. For more information about the i10Pi configuration, see the *Informatica Installation Guide*.

1. Log in to the machine with a system user account.
2. Verify that the domain and the services are running before you run the Informatica Upgrade Advisor.
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.
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: The name is not case sensitive and cannot exceed 128 characters. The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < >- The name can include an ASCII space character except for the first and last character. Other space characters are not allowed.
Domain password	Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters. 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 3

Before You Upgrade the Domain on UNIX

This chapter includes the following topics:

- Read the Release Notes, 20
- Verify System Requirements, 20
- Review Patch Requirements on UNIX, 21
- Install the Java Runtime Environment, 21
- Verify the Distributions, 22
- Verify the Domain Upgrade Requirements, 22
- Review the Environment Variables, 22
- Extract the Installer Files, 23
- Run the Informatica Upgrade Advisor, 23

Read the Release Notes

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

Find the release notes on the Informatica documentation portal.

Verify System Requirements

Verify that your environment meets the minimum system requirements for the installation process, temporary disk space, port availability, databases, and application service hardware.

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

Review Patch Requirements on UNIX

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

PowerCenter on UNIX

The following table lists the patches and libraries that the Informatica services require for PowerCenter on UNIX:

Platform	Operating System	Operating System Patch
AIX	7.1 TL4	OS level: 7100-04 bos.adt.debug Version 7.1.2.0
AIX	7.2 TL0	OS level: 7200-00 bos.adt.debug Version 7.2.0.0

Install the Java Runtime Environment

Informatica does not ship the Java libraries for AIX. Before you install Informatica on AIX, you must download and install the Java Runtime Environment (JRE). The required JRE version depends on the platform where you install Informatica.

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Install the Java Runtime Environment for AIX

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 (build 8.0.6.10 - pap6480sr6fp10-20200408_01(SR6 FP10))

Download the following file: `Java8_64.jre.8.0.0.610.tar`

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

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Verify the Distributions

Verify the distributions for the non-native environments.

In each release, Informatica can add, defer, and drop support for the non-native distributions and distribution versions. Informatica might reinstate support for deferred versions in a future release. To see a list of the latest supported versions, see the Product Availability Matrix on the Informatica Customer Portal: https://network.informatica.com/community/informatica-network/product-availability-matrices

Verify the Domain Upgrade Requirements

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

Ensure that you have a minimum disk space of 50 GB and a RAM of 6 GB to upgrade the Informatica domain.

Note: When you upgrade, the installer requires an additional disk space used by the existing infa_shared directory.

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

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.

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. 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.

Variable	Description
INFA_JRE_HOME	Location of the folder containing the supported Java Runtime Environment (JRE).If you are installing Informatica on AIX, set the INFA_JRE_HOME environment variable. 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 UNIX machine, clear the JRE_HOME environment variable before you start the installation.
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	Verify that the PATH environment variables do not contain earlier versions of Informatica.

Extract the Installer Files

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

You can get the installation file from the FTP link contained in your fulfillment email. 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.

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 the executable file.

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 Informatica Upgrade Advisor

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

Note: In most cases, you can run the Informatica Upgrade Advisor to review the upgrade support before you upgrade. If you want to validate upgrade to a different database, operating system, or machine, it is

recommended to run i10Pi available from the Informatica installer. For more information about the i10Pi configuration, see the *Informatica Installation Guide*.

1. Log in to the machine with a system user account.
2. Verify that the domain and the services are running before you run the Informatica Upgrade Advisor.
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.
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: The name is not case sensitive and cannot exceed 128 characters. The name cannot include a tab, newline character, or the following special characters: % * + / ? ; < >- The name can include an ASCII space character except for the first and last character. Other space characters are not allowed.
Domain password	Password for the domain administrator. The password must be more than 2 characters and must not exceed 16 characters. 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

Before You Upgrade the Domain on Windows

This chapter includes the following topics:

- Read the Release Notes, 25
- Verify System Requirements, 25
- Verify the Distributions, 26
- Verify the Domain Upgrade Requirements, 26
- Review the Environment Variables, 27
- Extract the Installer Files, 28
- Run the Informatica Upgrade Advisor, 28

Read the Release Notes

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

Find the release notes on the Informatica documentation portal.

Verify System Requirements

Verify that your environment meets the minimum system requirements for the installation process, temporary disk space, port availability, databases, and application service hardware.

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

Verify the Distributions

Verify the distributions for the non-native environments.

In each release, Informatica can add, defer, and drop support for the non-native distributions and distribution versions. Informatica might reinstate support for deferred versions in a future release. To see a list of the latest supported versions, see the Product Availability Matrix on the Informatica Customer Portal: https://network.informatica.com/community/informatica-network/product-availability-matrices

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
6 GB	50 GB

Note: When you upgrade, the installer requires an additional 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	1 GB	3 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

Verify Temporary Disk Space and Permissions

Verify that your environment meets the minimum system requirements for the temporary disk space, permissions for the temporary files, and the Informatica client tools.

Disk space for the temporary files

The installer writes temporary files to the hard disk. Verify that you have 1 GB disk space on the machine to support the installation. When the installation completes, the installer deletes the temporary files and releases the disk space.

The following table describes the minimum disk space and memory requirements for PowerCenter or Data Engineering product installation:

Options	Minimum Requirements
Temporary disk space to run the installer	1 GB disk space
Install with application services for Data Engineering products	50 GB disk space, 8 GB RAM, and 8 cores. Out of the 50 GB, 25 GB is for the product installation binaries.
Install with application services for PowerCenter	50 GB disk space, 6 GB RAM, and 6 cores, Out of 50 GB, 25 GB is for the product installation binaries.

Permissions for the temporary files

Verify that you have read, write, and execute permissions on the `/tmp` directory.

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

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. Configure the environment variable if you do not want to create temporary files in the default drive.
PATH	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.
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.

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 through 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 Informatica Upgrade Advisor

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

Note: In most cases, you can run the Informatica Upgrade Advisor to review the upgrade support before you upgrade. If you want to validate upgrade to a different database, operating system, or machine, it is recommended to run i10Pi available from the Informatica installer. For more information about the i10Pi configuration, see the *Informatica Installation Guide*.

1. Log in to the machine with the same user account that you used to install the previous version.
2. Verify that the domain and the services are running before you run the Informatica Upgrade Advisor.
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 10.4.1** page appears.
4. Select **Upgrade to Informatica 10.4.1**

   By default, the installer selects **Run the Informatica Upgrade Advisor** to validate the services and check for obsolete services, supported database, and supported operating system 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.
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.
Domain password	Password for the domain administrator.

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 5

Prepare for the Upgrade

This chapter includes the following topics:

- Back Up the Data Transformation Files, 30
- Prepare the PowerCenter Repository, 31
- Prepare the Model Repository, 31
- Prepare the Data Integration Service, 31
- Prepare the Profiling Warehouse, 31
- Prepare the Reference Data Directories, 32
- Prepare Metadata Manager, 32
- Prepare Business Glossary, 33
- Back Up Databases, 33
- Back Up the odbc.ini File for Informatica Cassandra ODBC Driver, 33
- Prepare the Domain, 33

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 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** > **Backup**.

Prepare the Model 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**.

Prepare the Data Integration Service

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

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 Directories

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

If you install or copy any reference data file to a directory outside the installation 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 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 Business Glossary

Before you upgrade the domain, ensure that you complete all approval workflows currently in progress.

If you do not complete the approval workflow before the domain upgrade, you can only cancel the level one approvals after the upgrade. For other voting intervals, you cannot perform any action after the upgrade.

Back Up Databases

Before you upgrade the domain, back up the profiling warehouse, reference data warehouse, and workflow databases.

Back Up the odbc.ini File for Informatica Cassandra ODBC Driver

Effective in version 10.2.1, Informatica upgrades the Cassandra ODBC file.

Before you upgrade, you must back up the `odbc.ini` file located in the following location:

```
<Informatica installation directory>/tools/cassandra/lib
```

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.
  The default value for DynamicSections is too low for the Informatica repositories. Informatica requires a larger DB2 package than the default. When you set up the DB2 database for the domain configuration repository or a Model repository, you must set the DynamicSections parameter to at least 3000. If the DynamicSections parameter is set to a lower number, you can encounter problems when you install or run Informatica services.

Shut Down the Domain

You can stop all the application services before you 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 based on the supported environment:

- To stop the 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 based on the supported environment.

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. 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: - The Informatica installation directory on the client and server machines. - The location configured through the INFA_DOMAINS_FILE environment variable.

CHAPTER 6

Upgrade the Domain

This chapter includes the following topics:

- Domain Upgrade Overview , 36
- Upgrading in Graphical Mode, 36
- Upgrading in Console Mode, 44
- Upgrading in Silent Mode, 46
- Troubleshooting the Domain Upgrade, 49

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 in the 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 the upgrade. 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.

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

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

After you upgrade the domain, upgrade the Informatica client tool to the same Informatica 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.

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
```

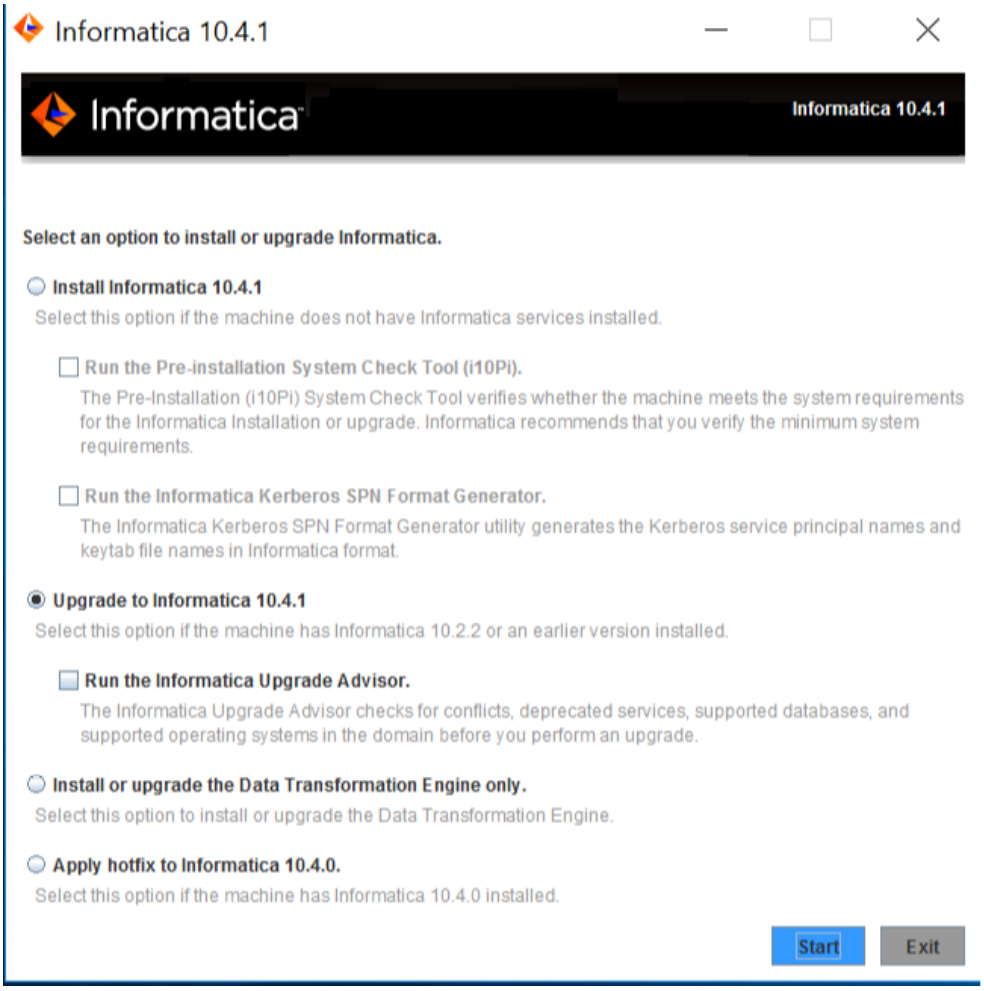
1. Log in to the machine with the same user account that you used to install the previous version.
2. Stop all processes that access the directory and subdirectories of the Informatica product to upgrade, including command prompts and tail logs.
3. Go to the root of the directory for the installation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

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

   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 10.4.1** page appears.
4. Select **Upgrade to Informatica 10.4.1**.

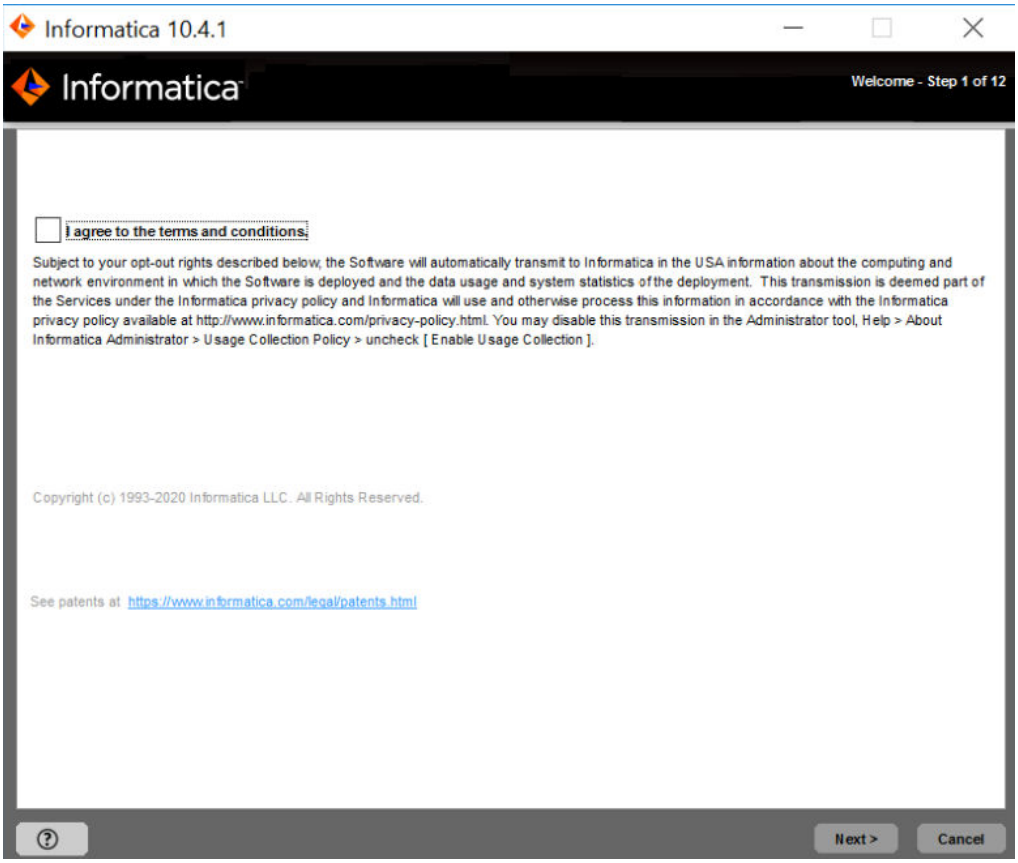


Informatica provides utilities to facilitate the Informatica services installation process. You must run the following utility before you install Informatica services:

Informatica Upgrade Advisor.

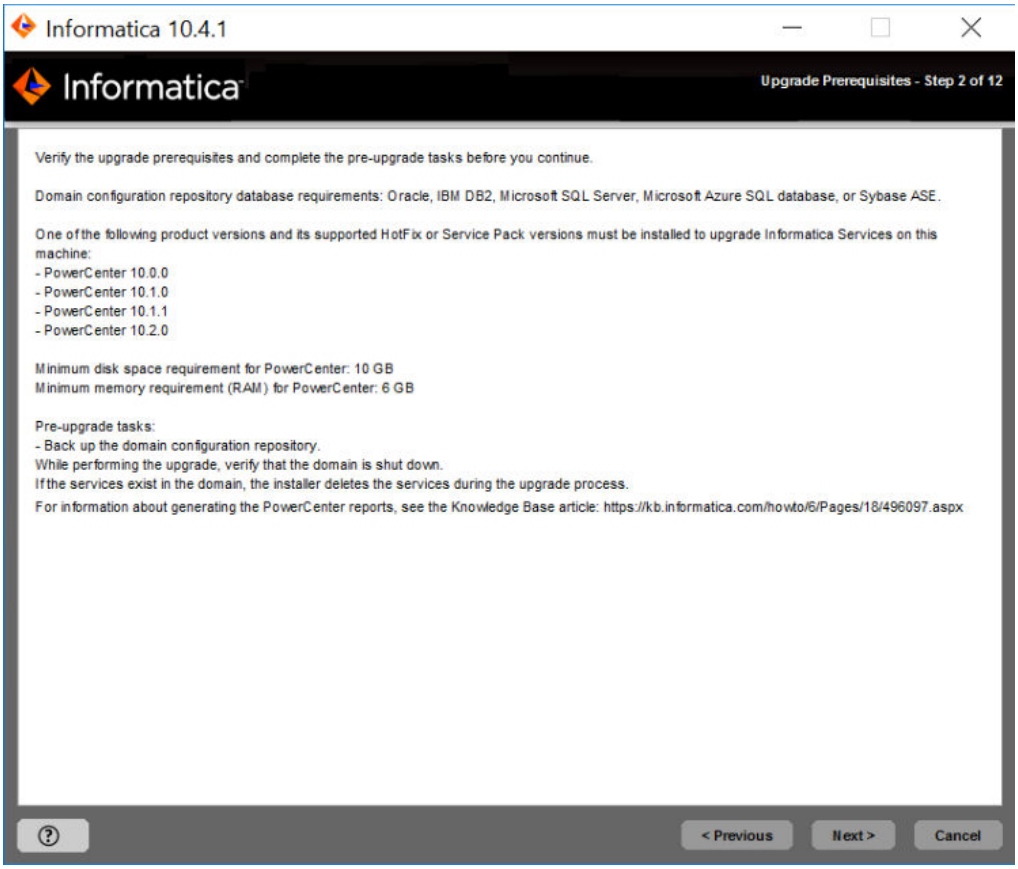
Validates the services and checks for obsolete services in the domain before you perform an upgrade. For more information about the Informatica Upgrade Advisor, see "Run the Informatica Upgrade Advisor" on page 28.

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 disable usage statistics from the Administrator tool.

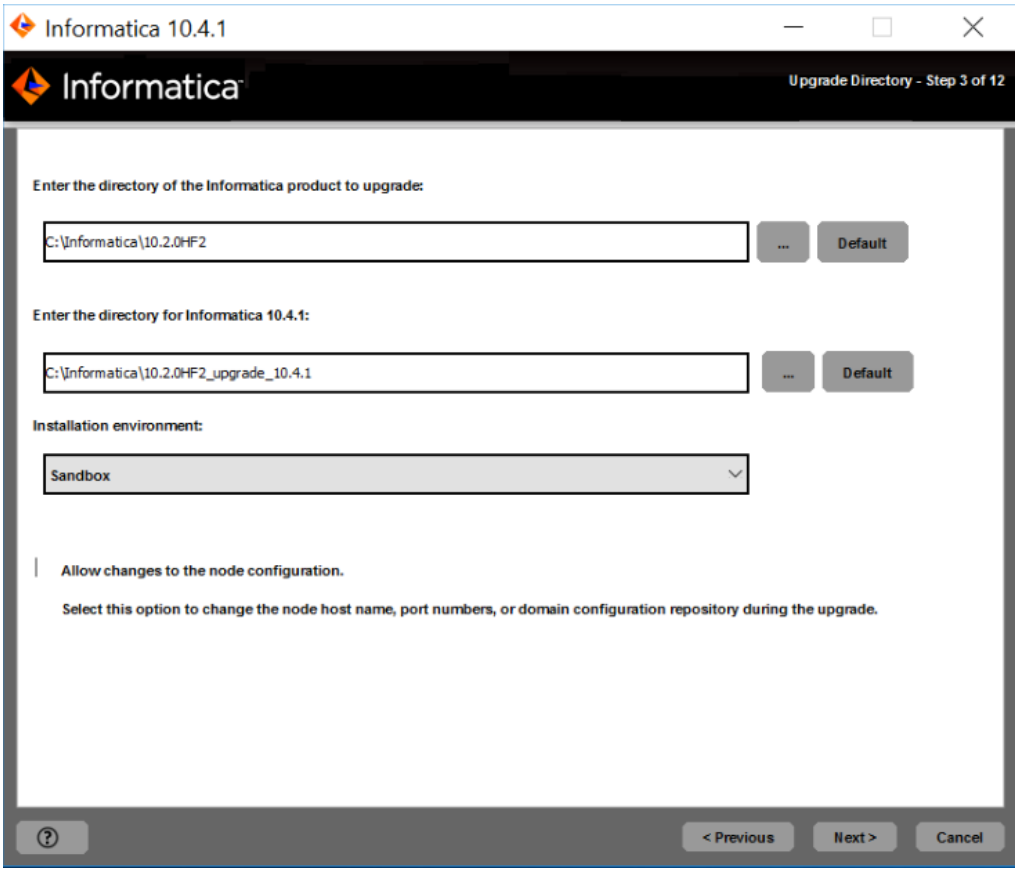
7. The **Upgrade Prerequisites** page appears.



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 10.4.1

   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 10.4.1	Directory in which to install Informatica 10.4.1. 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: @|* $ # ! % ( ) { } [ ] , ; ' **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. 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.

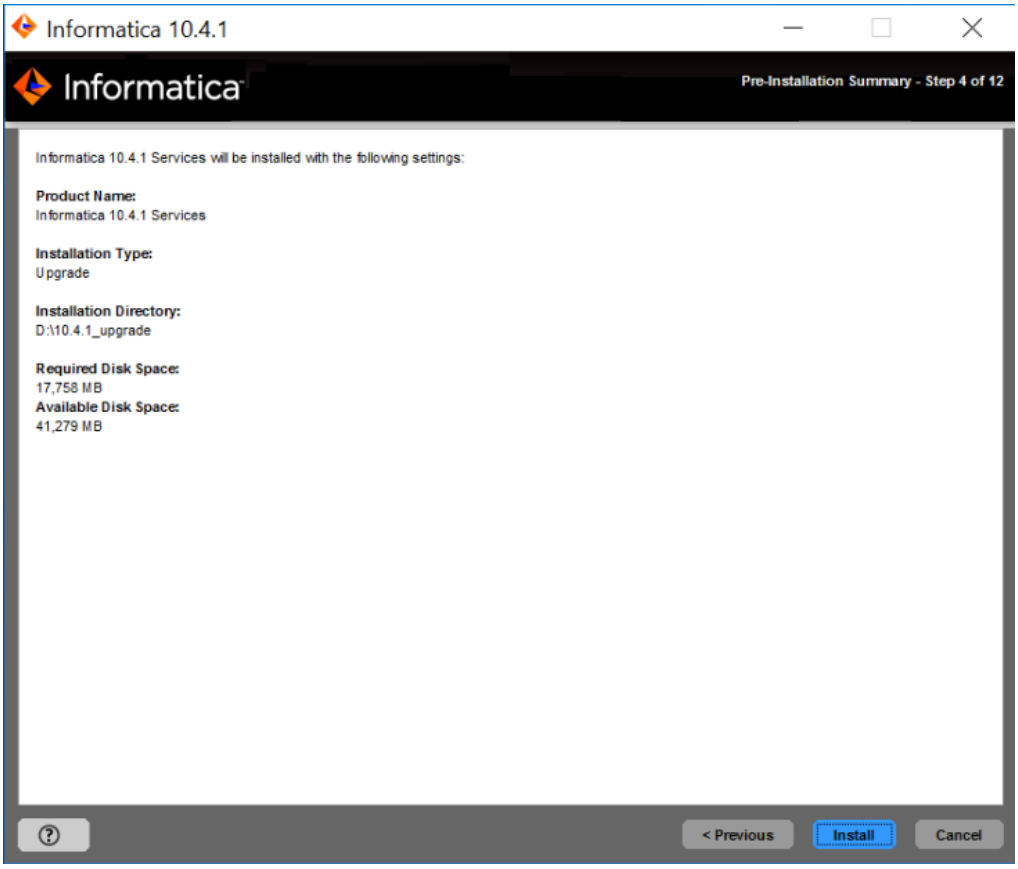
    Informatica uses an encryption key to secure sensitive data, such as passwords, that are stored in the Informatica domain. When you upgrade, you must enter the directory in which to store the encryption key on the node that you are upgrading.

    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.



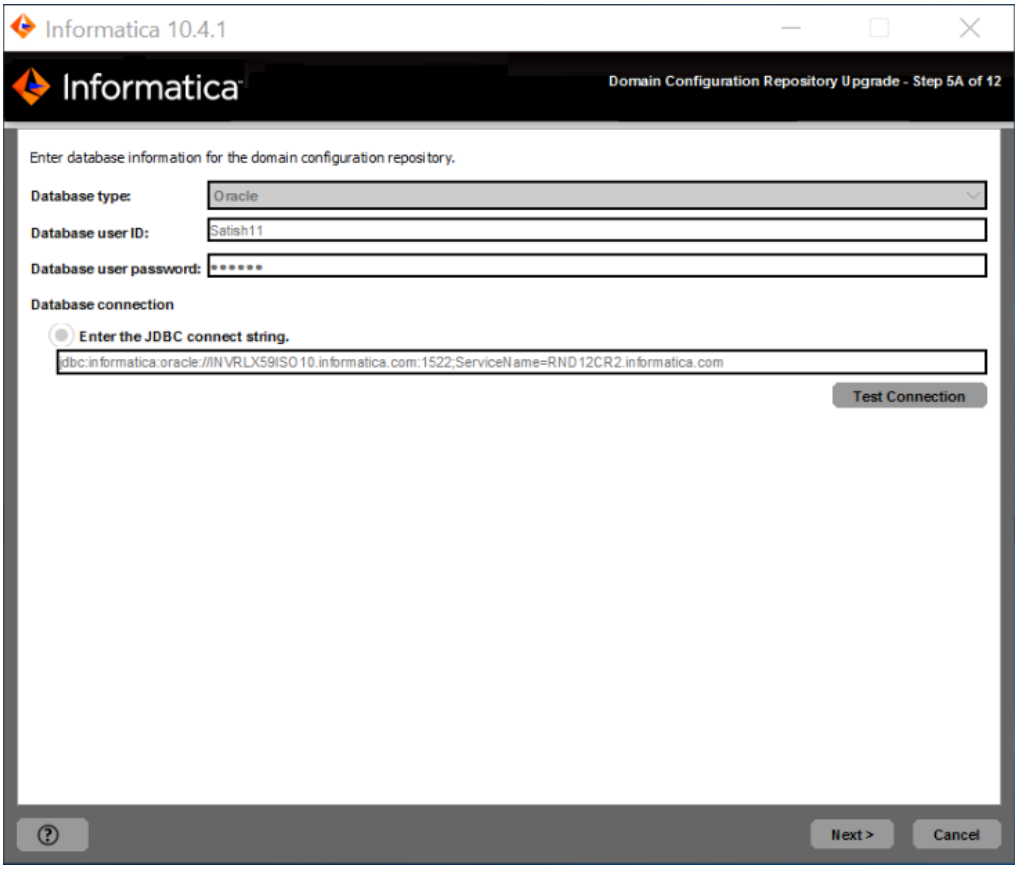
15. Review the upgrade information, and click **Install** to continue.

    The upgrade wizard installs the Informatica server files to the Informatica 10.4.1 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:

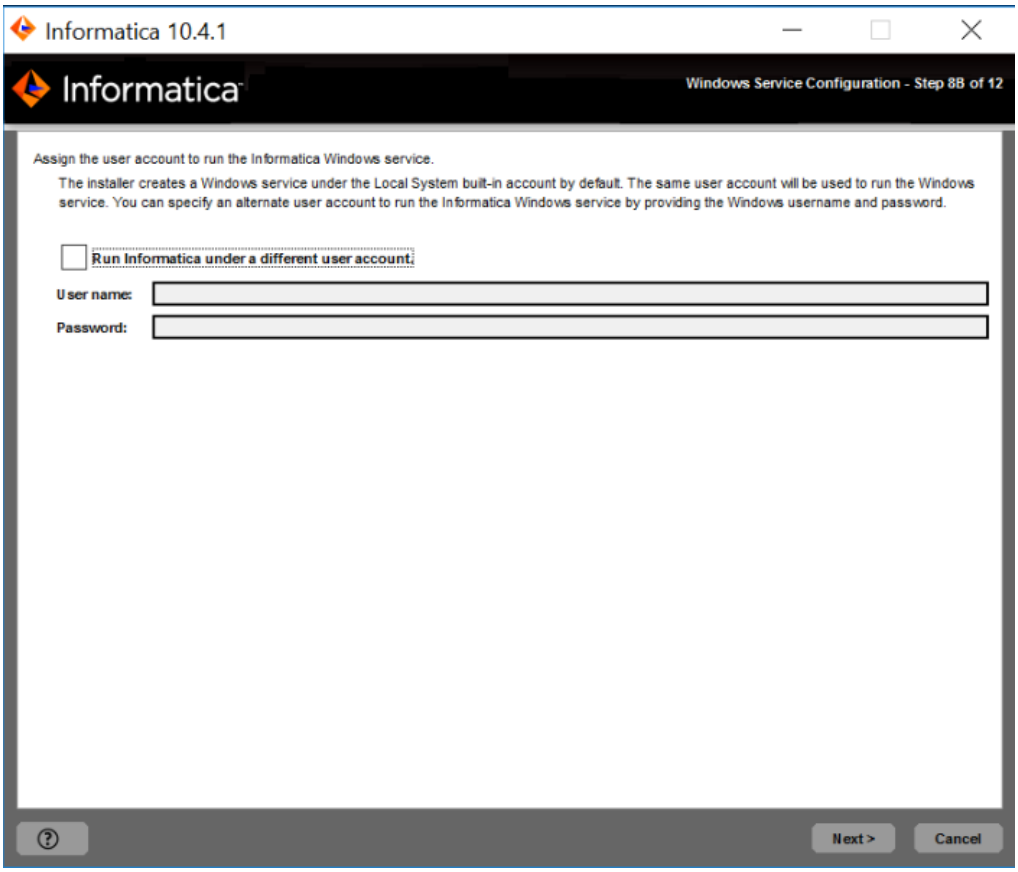
- If the previous version used a JDBC URL at installation, the upgrade wizard displays the JDBC connection properties, including the database address and service name.

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

When you run the installer in console mode, the words quit, back, and help 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 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.
6. Optionally, run the Informatica Upgrade Advisor.

   Informatica provides utilities to facilitate the Informatica services installation process. You can run the utility before you upgrade Informatica services. The Informatica Upgrade Advisor helps to validate the services and checks for obsolete services in the domain before you perform an upgrade.

   The installer displays a warning to shut down the Informatica domain that you want to upgrade before you continue the upgrade.
7. Read the terms and conditions of Informatica product usage toolkit and press **2** to continue the upgrade.

   Subject to your opt-out rights described below, the software will automatically transmit to Informatica in the USA information about the computing and network environment in which the Software is deployed

and the data usage and system statistics of the deployment. This transmission is deemed part of the Services under the Informatica privacy policy and Informatica will use and otherwise process this information in accordance with the Informatica privacy policy available at https://www.informatica.com/in/privacy-policy.html. You may disable usage collection in Administrator tool.

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 10.4.1.

   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 10.4.1	Directory in which to install Informatica 10.4.1. 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: @|* $ # ! % ( ) { } [ ] , ; ' **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.

10. Select if you want to change the node host name, port numbers, or domain configuration repository. Press **1** to use the same node configuration as the previous version. Press **2** to change the node configuration.
11. Press **1** to upgrade Informatica services.
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. Review the upgrade information and press **Enter** to continue.

    The installer copies the server files to the Informatica 10.4.1 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.

15. Press **Enter**.
16. 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.
17. Press **Enter**.

    The **Post-Installation** section appears.
18. 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 Informatica domain 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 domain services on multiple machines on the network or to standardize the upgrade process across machines.

Copy the Informatica installation files to 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.

Encrypting Passwords in the Properties File

The installer includes a utility that you can use to encrypt passwords you set in the properties file you use to specify options when you run the installer in silent mode. Informatica uses AES encryption with multiple 128-bit keys to encrypt passwords.

You run the utility for each password you want to encrypt. When you run the utility, you specify the value of the password in plain text at the command prompt. The utility generates the password in encrypted format as output. The output includes the following prefix: `=INSTALLER:CIPHER:AES:128=`

Copy the complete output string, including the prefix, and then paste it into the properties file as the value for the password property. When you run the installer in silent mode, the installation framework decrypts the password.

1. Go to the utility directory:

   ```
   <Installer directory>/properties/utils/passwd_encryption
   ```

2. Run the utility. Specify the plain text password you want to encrypt as the value for <password>.
   - On Linux and UNIX, run the following command:

     ```
     sh install.sh <password>
     ```

   - On Windows, run the following command:

     ```
     install.bat <password>
     ```

3. Copy the encrypted password string from the output, and then paste the string into the .properties file as the value for the corresponding password.

   The following example shows the encrypted password set as the value for the DOMAIN_PSSWD property:

   ```
   DOMAIN_PSSWD==INSTALLER:CIPHER:AES:128=mjkjmDR2kzFJiizfRWIOPg==
   ```

Creating the Properties File

Informatica provides two versions of the properties file. Use either file to specify options for your installation.

Silent input upgrade new config properties file

Use the silent input upgrade new configuration properties file to upgrade Informatica domain services with changes to the node configuration and without user interaction.

The silent input upgrade new configuration properties file contains the configuration properties required to upgrade the Informatica domain services in silent mode. Use the file if you want to consider the appropriate value to set for each property in the file.

Default silent input upgrade properties file

Use the silent input upgrade properties file to upgrade Informatica domain services without user interaction.

The default silent input properties file contains default values for many configuration properties. Use the file if you plan to upgrade the Informatica domain services using the default property values, and do not want to read through all of the properties in the 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 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. 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.
DOMAIN_USER	User name for the Informatica domain.
DOMAIN_PSSWD	Password for the Informatica domain.
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*. You must set the value to 1 to upgrade.

4. 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 silentInstall executable.

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 the log file in the root directory on Windows and in the user home directory on UNIX.

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 7

Upgrade the Domain with Changes to Node Configuration

This chapter includes the following topics:

- Upgrade the Domain with Changes to Node Configuration Overview, 50
- Migrating to a Different Database, 51
- Migrating the Installation to a Different Machine, 51
- Upgrading in Graphical Mode, 55
- Upgrading in Console Mode, 66
- Upgrading in Silent Mode, 71
- Complete Changing the Node Configuration, 72

Upgrade the Domain with Changes to Node Configuration Overview

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.

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. To validate upgrade to a different database, operating system, or machine, run i10Pi available from the Informatica installation.

On Windows, you can run the installer in graphical or silent mode. On UNIX or Linux, you can run the installer in console or silent mode.

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.

Note: In most cases, you can run the Informatica Upgrade Advisor to review the upgrade support before you upgrade. If you want to validate migrating to a different database, it is recommended to run i10Pi available from the Informatica installer. For more information about the i10Pi configuration, see the *Informatica Installation Guide*.

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.

Suppose you have the domain configuration repository on a Microsoft SQL Server database but wish to upgrade to the newly support PostgreSQL database. Run the i10Pi available from the Informatica installer to verify the supported upgrade validation for a different database before you can migrate the repository to the PostgreSQL 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

1. Run the i10Pi available from the Informatica installer to check the supported upgrade validation for a different database.
2. Verify that you have shut down the domain.
3. Verify that you have backed up the domain configuration database tables to a file with the infasetup BackupDomain command.
4. Create a database schema and a user account in a supported database.
5. Restore the domain configuration in the backup file to the specified database schema with the infasetup RestoreDomain command.
6. 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 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

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

1. Run the i10Pi available from the Informatica installer to test the domain upgrade support.
2. Copy the installation directory.

3. Verify port requirements.
4. Create a system user account.
5. Configure native connectivity for all services that require access 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.

Step 1. 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.

For example, if the previous version of Informatica is installed in `C:\Informatica\<version>`, copy the `C:\Informatica\<version>` directory and subdirectories to the new machine.

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

Step 2. 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 HTTPS port	No default port. Enter the required port number when you create the service. Setting this port to 0 disables an HTTPS connection to the Administrator tool.
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.

Port	Description
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.

Step 3. Create a System User Account

You can create a system user account on Windows or on UNIX.

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.

On UNIX

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

Step 4. 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 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.

Step 5. 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.

When you upgrade Informatica services, ensure that you install the appropriate database client on the machine that runs the Data Integration Service.

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 2014 Native Client

You must install the Microsoft SQL Server 2014 Native Client for the existing mappings to work.

Download the client from the following Microsoft website:
http://www.microsoft.com/en-in/download/details.aspx?id=42295.

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.

Step 6. Configure Database Client Environment Variables on UNIX

Configure database client environment variables on the machines that run the PowerCenter Integration Service process.

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:

Database	Environment Variable Name	Database Utility	Value
Oracle	ORACLE_HOME PATH LD_LIBRARY_PATH TNS_ADMIN INFA_TRUSTSTORE	sqlplus	Set to: <*Client InstallDatabasePath*> Add: <*DatabasePath*>/bin and `USER_INSTALL_DIR/server/bin:$PATH` Set to: `$Oracle_HOME/lib` and `USER_INSTALL_DIR/server/bin:$LD_LIBRARY_PATH` Set to location of the tnsnames.ora file: `$ORACLE_HOME/network/admin` For default SSL domain, add to: USER_INSTALL_DIR/services/shared/security For custom SSL domain, set INFA_TRUSTSTORE and INFA_TRUSTSTORE_PASSWORD
SQL Server	ODBCHOME ODBCINI ODBCINST PATH LD_LIBRARY_PATH INFA_TRUSTSTORE		Set to: *USER_INSTALL_DIR/ODBC7.1* Set to: *$ODBCHOME/odbc.ini* Set to: *$ODBCHOME/odbcinst.ini* Add to: */opt/mssql-tools/bin:$PATH $PATHUSER_INSTALL_DIR/ODBC7.1:$PATHUSER_INSTALL_DIR/server/bin:$PATH* Add to: *$ODBCHOME/lib* *USER_INSTALL_DIR/server/bin:$LD_LIBRARY_PATH* For default SSL domain, add to: USER_INSTALL_DIR/services/shared/security For custom SSL domain, set INFA_TRUSTSTORE and INFA_TRUSTSTORE_PASSWORD

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 36.

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**.

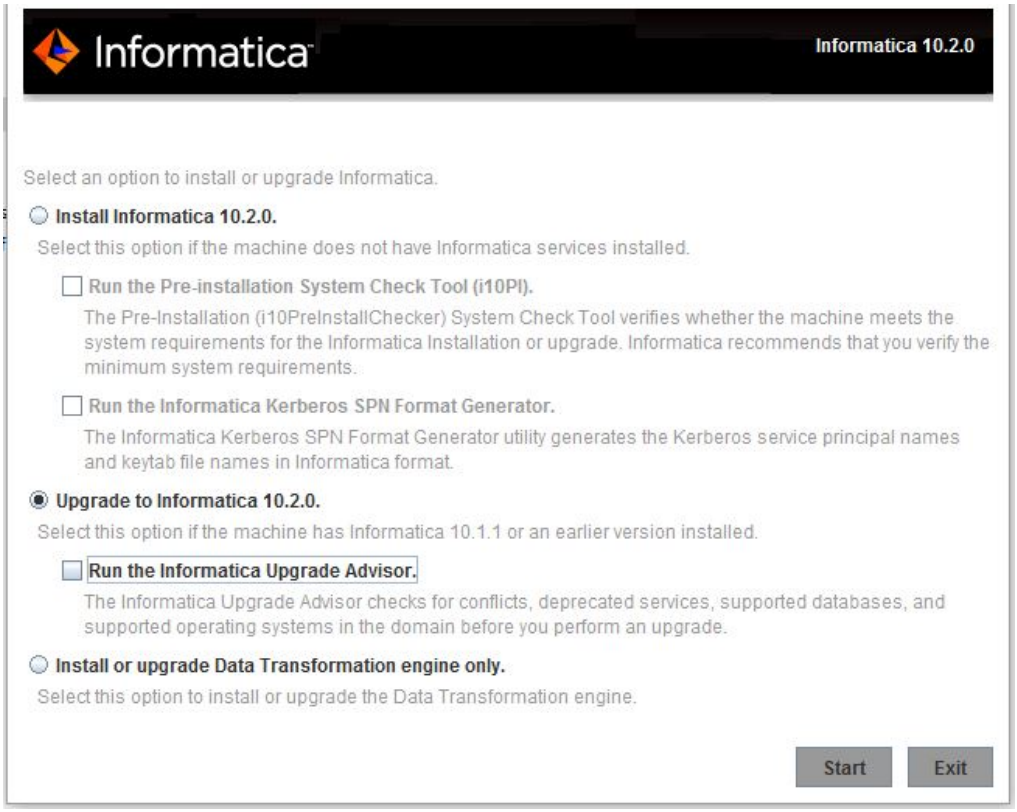
On Windows, if you encounter problems when you run the install.bat file from the root directory, run the following file:

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

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 10.4.1** page appears.

4. Select **Upgrade to Informatica 10.2**.



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.

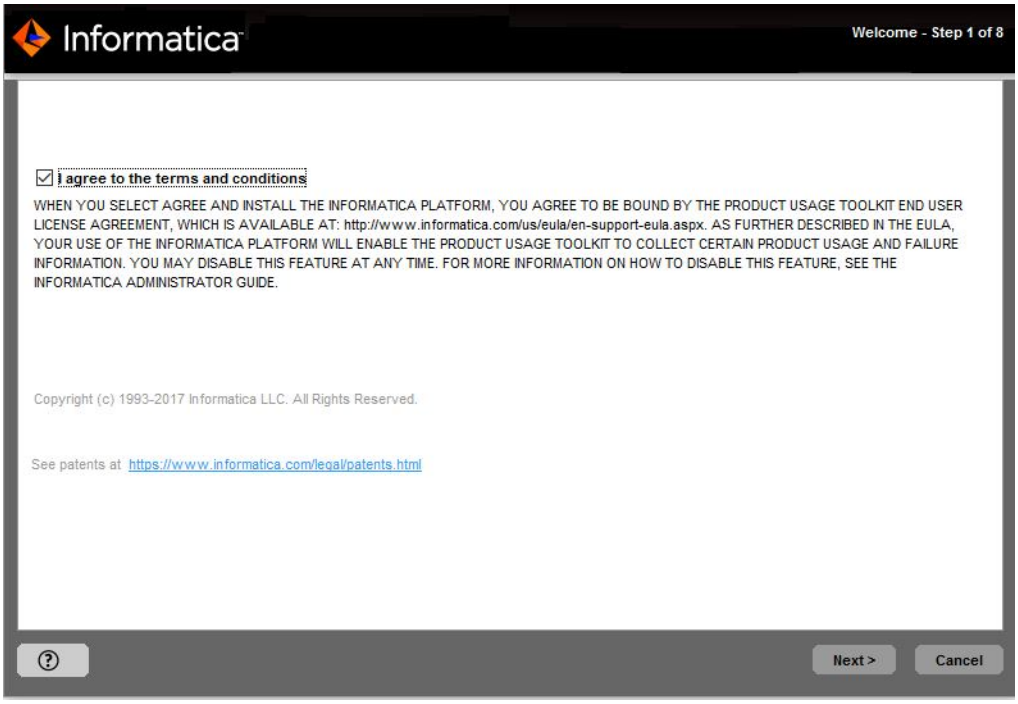
Verifies whether the machine on which you are installing Informatica services meets the system requirements for installation. For more information about running the Pre-Installation (i10Pi) System Check Tool, see GUID-41DD6761-B1F3-4021-824D-545DBE1796A0.

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 28.

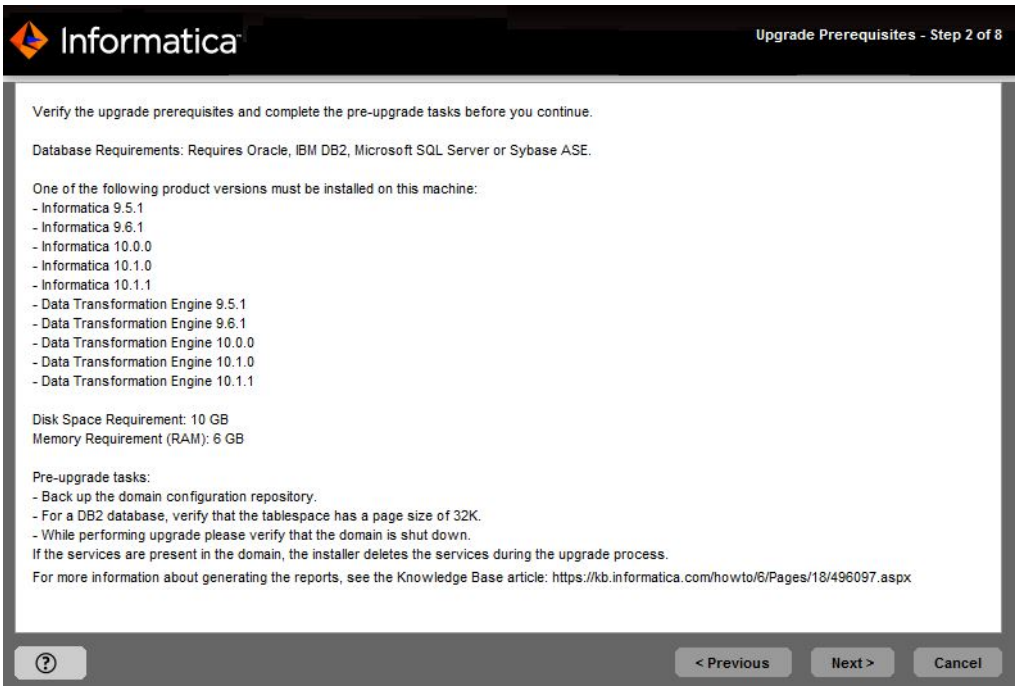
5. Click **Start**.

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 disable usage statistics from the Administrator tool.

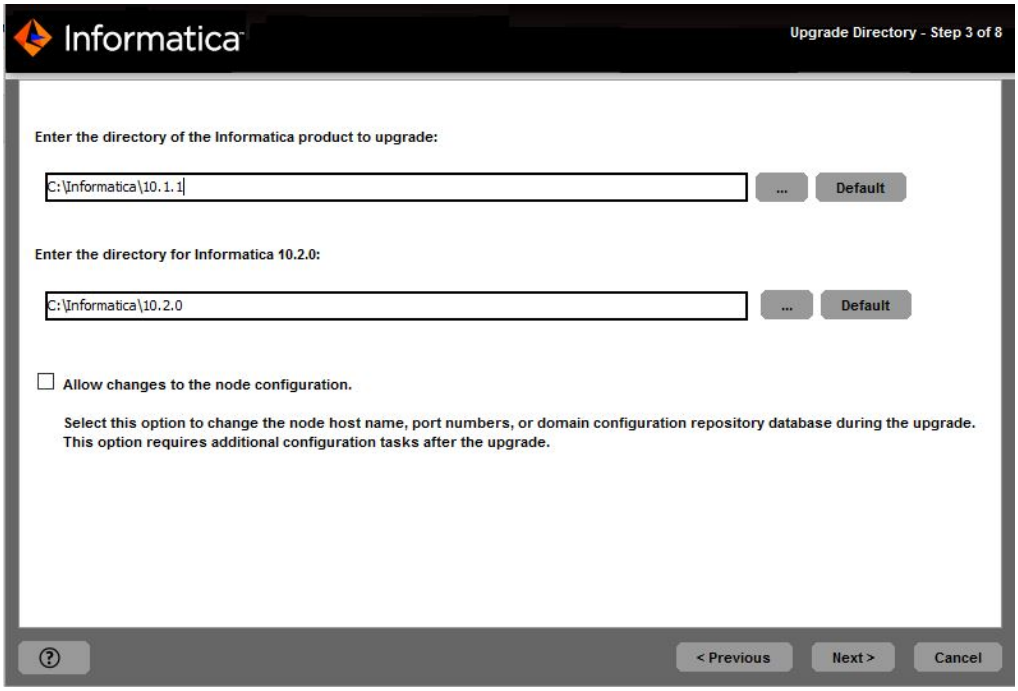
7. The **Upgrade Prerequisties** page appears.



Verify the requirements before you continue the upgrade.

8. Click **Next**.

   The **Upgrade Directory** page appears.

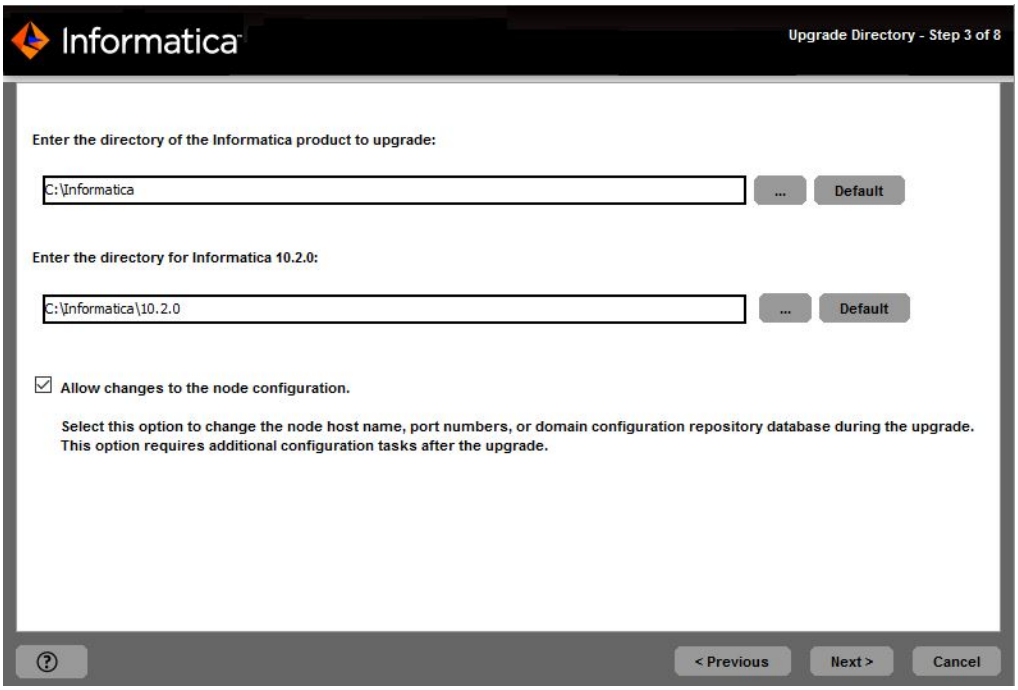


9. Enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.2.

   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 10.4.1	Directory in which to install Informatica 10.4.1. 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: @|* $ # ! % ( ) { } [ ] , ; ' **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. 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**.

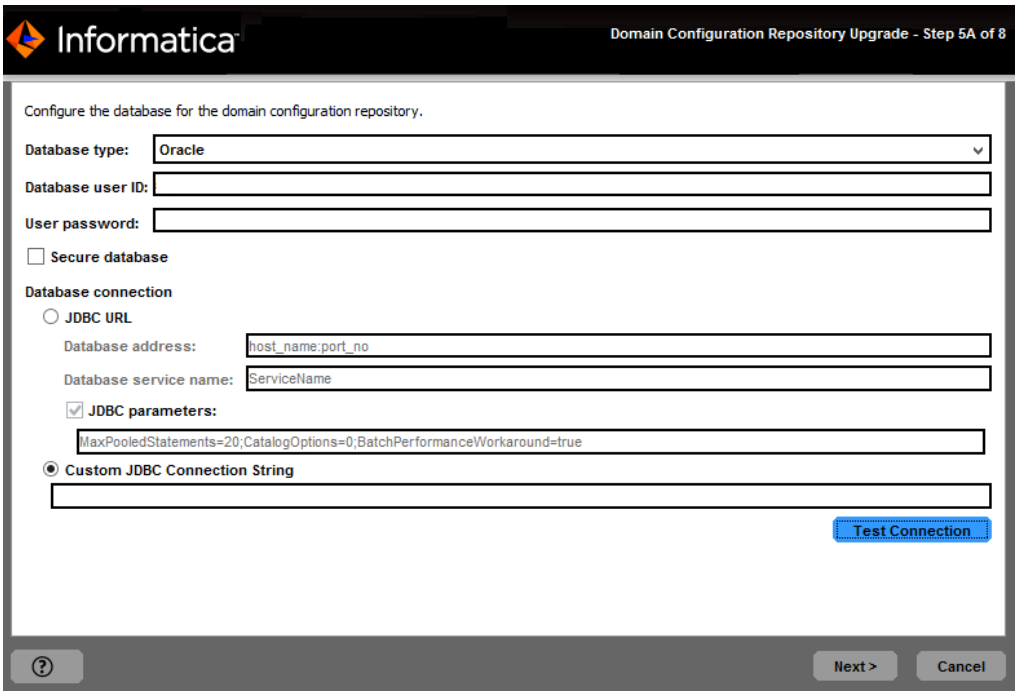
    The **Pre-Installation Summary** page appears.

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

    The upgrade wizard installs the Informatica server files to the Informatica 10.2 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, PostgreSQL, 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. In a single partition database, if this option is not selected, the installer creates the tables in the default tablespace. 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 or PostgreSQL. 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: - Oracle: Enter the service name. - Microsoft SQL Server: Enter the database name. - IBM DB2: Enter the service name. - Sybase ASE: Enter the database name. - PostgreSQL: 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 number>;DatabaseName=
  ```

  Oracle

  ```
  jdbc:Informatica:oracle://<host name>:<port number>;ServiceName=
  ```

  Use the following connection string to connect to the Oracle database through the Oracle Connection Manager:

  ```
  jdbc:Informatica:oracle:TNSNamesFile=<fully qualified path to the tnsnames.ora file>;TNSServerName=<TNS name>;
  ```

  Microsoft SQL Server

  ```
  jdbc:Informatica:sqlserver://<host name>:<port number>;SelectMethod=cursor;DatabaseName=
  ```

Microsoft Azure SQL Database

```
jdbc:Informatica:sqlserver://<host name>:<port
number>;SelectMethod=cursor;DatabaseName=<database
name>;SnapshotSerializable=true;EncryptionMethod=SSL;HostNameInCertificate=*.datab
ase.windows.net;ValidateServerCertificate=false
```

PostgreSQL

```
jdbc:Informatica:postgresql://<host name>:<port number>;DatabaseName=
```

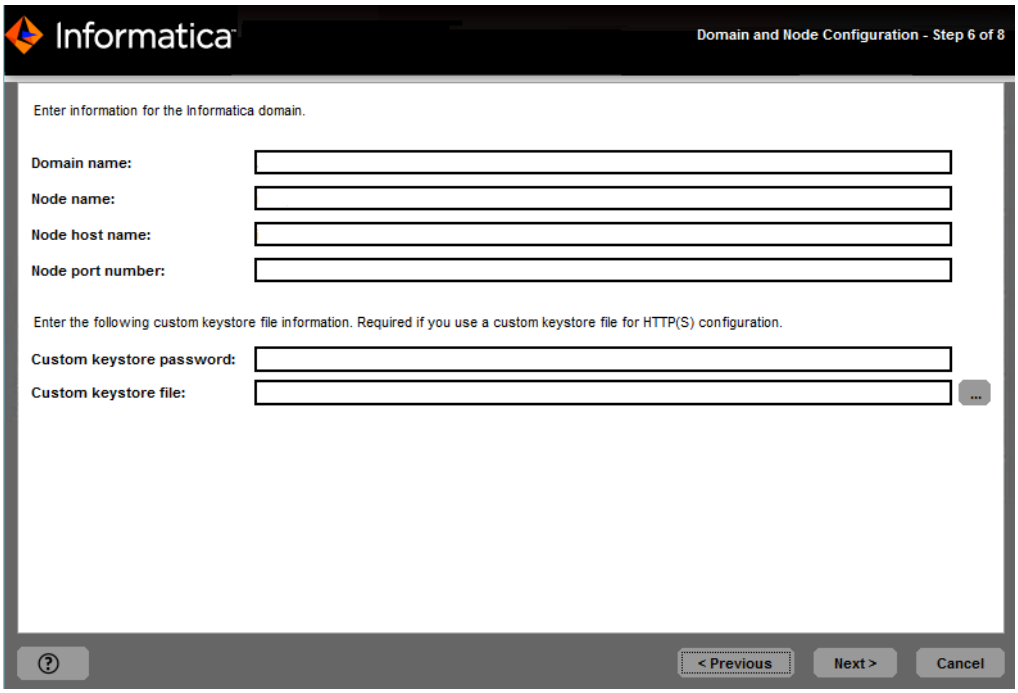
Sybase

```
jdbc:Informatica:sybase://<host name>:<port number>;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. 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. Available if you upgrade a worker node.
Gateway node port number	Port number of the gateway node. Available if you upgrade a worker node.

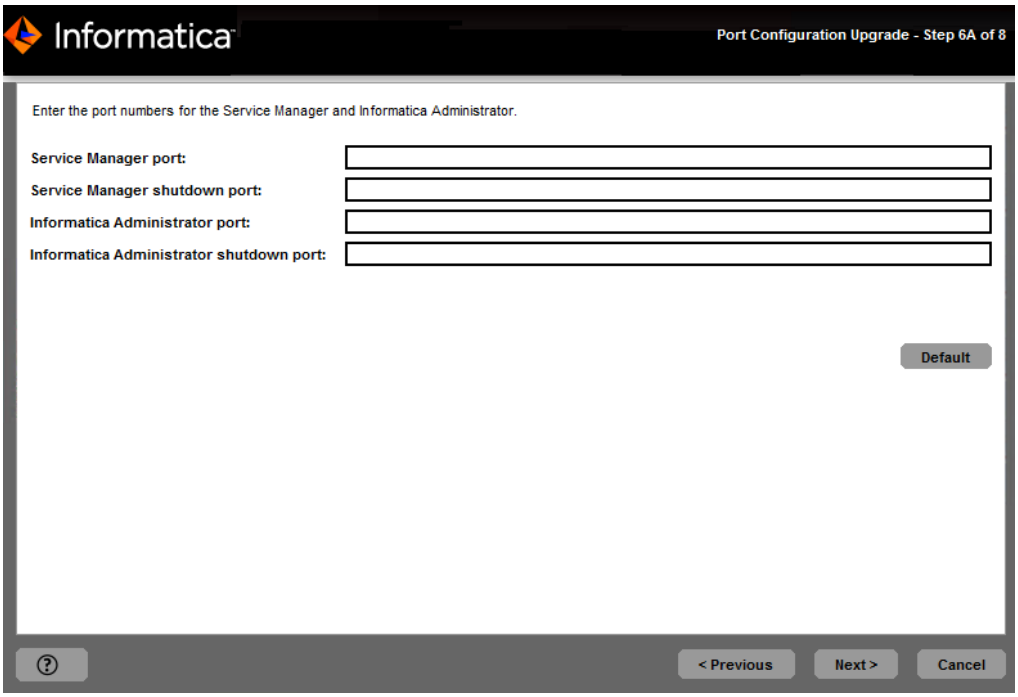
22. Enter the custom keystore file password and location if you are securing the Informatica Administrator with a custom keystore file and you are upgrading to a different gateway node configuration.

    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: `<Informatica installation directory>\tomcat\conf\`

23. Click **Next**.

The **Port Configuration Upgrade** page appears.



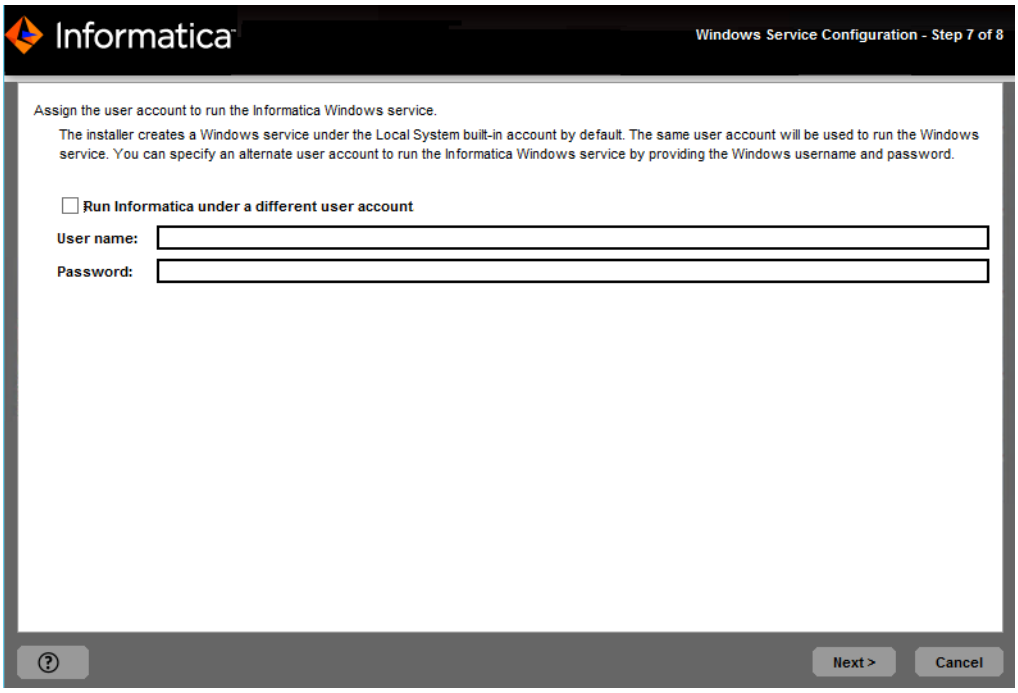
24. Enter the new port numbers or use the default port numbers.

    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.
Informatica Administrator port	Port number used by the Administrator tool. Available if you upgrade a gateway node.
Informatica Administrator shutdown port	Port number used by the Administrator tool to listen for shut down commands. 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. Use the following format: `<domain name>\<user account>` 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.

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:
   Informatica Upgrade Advisor.

   Validates the services and checks for obsolete services in the domain before you perform an upgrade.

   The installer displays a warning to shut down the Informatica domain that you want to upgrade before you continue the upgrade.
4. Press **2** to upgrade to Informatica 10.2.
5. 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*.
6. Press **1** to upgrade Informatica services.

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

   Verify the requirements before you continue the upgrade.
8. At the prompt, enter the directory of the Informatica version you want to upgrade and the directory in which you want to install Informatica 10.2.

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 10.4.1	Directory in which to install Informatica 10.4.1. 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: @|* $ # ! % ( ) { } [ ] , ; ' **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. On Windows, the installation directory must be on the current machine.

9. 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.

10. 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`.

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

    The installer copies the server files to the Informatica 10.2 installation directory.

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

13. Press **Enter**.
14. 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 17.

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: 1 - Oracle 2 - Microsoft SQL Server 3 - IBM DB2 4 - Sybase ASE 5 - PostgreSQL

15. 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.

16. 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: 1 - No 2 - Yes In a single-partition database, if you select No, the installer creates the tables in the default tablespace. In a multi-partition database, you must select Yes.
Tablespace	Name of the tablespace in which to create the tables. Specify a tablespace that meets the pageSize requirement of 32768 bytes. 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. 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.
Database service name	Service or database name: - Oracle: Enter the service name. - Microsoft SQL Server: Enter the database name. - IBM DB2: Enter the service name. - Sybase ASE: Enter the database name. - PostgreSQL: Enter the database name.
Configure JDBC Parameters	Select whether to add additional JDBC parameters to the connection string: 1 - Yes 2 - No If you select Yes, enter the parameters or press Enter to accept the default. If you select No, the installer creates the JDBC connection string without parameters.

- 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 number>;DatabaseName=
  ```

  Oracle

  ```
  jdbc:Informatica:oracle://<host name>:<port number>;ServiceName=
  ```

  Use the following connection string to connect to the Oracle database through the Oracle Connection Manager:

  ```
  jdbc:Informatica:oracle:TNSNamesFile=<fully qualified path to the tnsnames.ora file>;TNSServerName=<TNS name>;
  ```

Microsoft SQL Server

```
jdbc:Informatica:sqlserver://<host name>:<port
number>;SelectMethod=cursor;DatabaseName=
```

Microsoft Azure SQL Database

```
jdbc:Informatica:sqlserver://<host name>:<port
number>;SelectMethod=cursor;DatabaseName=<database
name>;SnapshotSerializable=true;EncryptionMethod=SSL;HostNameInCertificate=*.d
atabase.windows.net;ValidateServerCertificate=false
```

PostgreSQL

```
jdbc:Informatica:postgresql://<host name>:<port number>;DatabaseName=
```

Sybase

```
jdbc:Informatica:sybase://<host name>:<port number>;DatabaseName=
```

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

17. 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. Note: Do not use localhost. The host name must explicitly identify the machine.
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. If you leave this field blank, the installer looks for the keystore file in the following directory: <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.

Property	Description
Gateway node host name	Host name of the machine that hosts the gateway node for the domain. Available if you upgrade a worker node.
Gateway node port number	Port number of the gateway node. Available if you upgrade a worker node.

18. 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. Available if you upgrade a gateway node.
Informatica Administrator shutdown port	Port number used by the Administrator tool to listen for shut down commands. 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 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 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.

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.

Clear the 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.

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.

Configure Library Path Environment Variables

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

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	<Database path>/lib
IBM DB2	<Database path>/lib
Sybase ASE	"${SYBASE_OCS}/lib:${SYBASE_ASE}/lib:${LD_LIBRARY_PATH}"
Informix	<Database path>/lib
Teradata	<Database path>/lib
ODBC	<CLOSEDODBCHOME>/lib
PostgreSQL	$PGHOME/lib:$ {LD_LIBRARY_PATH}

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 upgraded version of Informatica. If the PowerExchange adapter has an installer, re-install the PowerExchange adapter.

CHAPTER 8

Before You Upgrade the Application Services

This chapter includes the following topics:

- Configure POSIX Asynchronous I/O, 74
- Configure Informatica Environment Variables, 74
- Configure Locale Environment Variables, 75
- Verify the Keystore File Location for the Administrator Tool, 76
- Clear the Browser Cache, 76

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 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 the 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.

CHAPTER 9

Application Service Upgrade

This chapter includes the following topics:

- Application Service Upgrade Overview, 77
- Running the Service Upgrade Wizard, 78
- Verify the Model Repository Service Upgrade, 79

Application Service Upgrade Overview

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.

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
5. PowerCenter Repository 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]
```

Advanced Properties for the Model Repository Service

You can configure the Maximum Heap Size and MaxMetaspaceSize values after Model Repository Service upgrade. Set the **-Xss** value before you upgrade the service. You need to reset the **-Xss** value after you upgrade the service.

Configure the following advanced properties for the Model Repository Service:

Maximum Heap Size

Before the upgrade process, you can configure the **Maximum Heap Size** property value for the Model Repository Service to 4GB if the property value is lower than 4GB. After the upgrade, reset the property value to the previous value before the upgrade or to a value that Global Customer Support recommends for your environment.

JVM Command Line Options

Configure the following JVM command line options:

- -Xss. Configure the **-Xss** value to 1m before you upgrade the Model Repository Service upgrade. After the upgrade, reset the **-Xss** option back to the value before upgrade. The default value is 512k.
- MaxMetaspaceSize. Effective in version 10.1, the **MaxPermSize** property is replaced with **MaxMetaspaceSize** property. By default, the **MaxMetaspaceSize** property value is set to 512 MB.

To configure the advanced properties for a Model Repository Service, navigate to **Manage** > **Services and Nodes**, select a Model Repository Service, and edit the **Properties** > **Advanced Properties** section.

CHAPTER 10

Informatica Client Upgrade

This chapter includes the following topics:

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- Informatica Client Upgrade Options, 82
- Profiles, 82
- Upgrading in Graphical Mode, 83
- Upgrading in Silent Mode, 84

Informatica Client Upgrade Overview

Use the client installer to upgrade a previous version of Informatica Developer. Informatica Developer is installed on the installation directory you specify. The client installer configures the newly installed Informatica Developer 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 Informatica Developer 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:

- Mapping Architect for Visio
- Mapping Analyst for Excel

When you run the client installer, you can upgrade Informatica Developer.

The following entries describe the minimum system requirements to run the Informatica Developer:

Processor

Requires at least 1 CPU.

RAM

Requires at least 1 GB.

Disk Space

Requires at least 6 GB.

The following entries describe the minimum system requirements to run the PowerCenter Client:

Processor

Requires at least 1 CPU.

RAM

Requires at least 1 GB.

Disk Space

Requires at least 3 GB.

If you upgrade Informatica Developer, verify that the Informatica version exactly matches the version of the domain upgrade.

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 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.

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.

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.

Restore Profiles and Scorecards

Run infacmd ps restoreProfilesAndScorecards command to restore the profiles and scorecards from a previous version to the current version. Make sure that you back up the Model repository content before you run the command.

Run the Existing Scorecards

To view the statistics in the **Cumulative Metrics Trend** pane for the scorecards that you 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.

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 10.4.0 Clients** and click **Next**.
4. Read the terms and conditions for Informatica installation and the product usage toolkit and select **I agree to the terms and conditions**.

   Subject to your opt-out rights described below, the software will automatically transmit to Informatica in the USA information about the computing and network environment in which the Software is deployed and the data usage and system statistics of the deployment. This transmission is deemed part of the Services under the Informatica privacy policy and Informatica will use and otherwise process this information in accordance with the Informatica privacy policy available at https://www.informatica.com/in/privacy-policy.html. You may disable usage collection in Administrator tool.

   a. Press **1** if you do not want to accept the terms and conditions.

   b. Press **2** to accept the terms and conditions.
5. On the **Upgrade Pre-Requisites** page, verify the system requirements before you continue the installation and click **Next**.
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 10.4.0.

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 10.4 client tools	Directory in which to install the Informatica 10.4 client tools. 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: @|* $ # ! % ( ) { } [ ] , ; ' **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. 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.

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 11

After You Upgrade

This chapter includes the following topics:

- Dropped Support for Reports, 86
- Informatica Domain, 86
- Migrating to PostgreSQL , 87
- Secure Client Connections to the Domain, 88
- Upgrade the Connection Provider Type for Microsoft SQL Server, 89
- PowerCenter Integration Service, 89
- Data Integration Service, 90
- Update the Log Events Directory, 90
- Metadata Access Service, 90
- Scheduler Service, 92
- Analyst Service, 92
- Metadata Manager Agent, 93
- Metadata Manager Service, 94

Dropped Support for Reports

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

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.

Migrating to PostgreSQL

Effective in version 10.4.0, you can use PostgreSQL for the domain configuration repository database, PowerCenter repository database, the monitoring Model repository database, or for the Model repository database.

To use the PostgreSQL database for the existing services, complete the following tasks after you upgrade the domain and services to version 10.4.0:

1. Create a PostgreSQL database. For more information about creating a database, see the *Informatica 10.4.0 Application Service Guide*.
2. Enter the required commands to configure the domain and repositories:
   Domain

   To back up the domain, enter the following command:

   ```
   infasetup BackupDomain
   ```

   To update the domain with PostgreSQL database, enter the following command:

   ```
   infacmd isp UpdateRepositoryService
   ```

   To restore the domain to PostgreSQL, enter the following command and set the database type and schema name to PostgreSQL :

   ```
   infasetup RestoreDomain
   ```

   PowerCenter Repository

   To back up the PowerCenter repository, enter the following command:

   ```
   pmrep backup
   ```

   To update the PowerCenter Repository Service with PostgreSQL database, enter the following command:

   ```
   infacmd isp UpdateRepositoryService
   ```

   To recycle the service, enter the following command:

   ```
   infacmd isp EnableService
   ```

To restore the PowerCenter repository with PostgreSQL database type, enter the following command:

```
pmrep restore
```

Model Repository

To back up the Model Repository Service, enter the following command:

```
infacmd mrs BackupContents
```

To update the Model Repository Service with PostgreSQL database, enter the following command:

```
infacmd mrs UpdateServiceOptions
```

To recycle the service, enter the following command:

```
infacmd isp EnableService
```

To restore the Model Repository Service with PostgreSQL database type, enter the following command:

```
infacmd mrs restoreContents
```

3. Set the following environment variable for PostgreSQL for the PowerCenter Repository Service:

```
PGSERVICE: Set to the location of the pg_service.conf file:
<pg_service.conf file directory>/pg_service.conf
PGHOME: Set to PostgreSQL client install location. For example, /usr/pgsql -10
Add to PATH: $PGHOME:${PATH}
Add to LD_LIBRARY_PATH: $PGHOME/lib:${LD_LIBRARY_PATH}
```

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 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.

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.

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.

Metadata Access Service

After you upgrade, you can create a Metadata Access Service for Data Engineering Integration. The Metadata Access Service is an application service that allows the Developer tool to access Hadoop connection information to import and preview metadata.

The Metadata Access Service contains information about the Service Principal Name (SPN) and keytab information if the Hadoop cluster uses Kerberos authentication.

The Metadata Access Service is not dependent on other services. You can create a Metadata Access Service in any order. When you import an object from a Hadoop cluster, the HBase, the Hive, and the HDFS connections use Metadata Access Service to extract the object metadata at design time.

Create the Metadata Access Service

The Metadata Access Service allows the Developer tool to access Hadoop connection information to import and preview metadata from the Hadoop environment. The Metadata Access Service is required for design-time access to the Hadoop environment.

1. In the Administrator tool, click the **Manage** tab.
2. Click the **Services and Nodes** view.
3. In the Domain Navigator, select the domain.
4. Click **Actions** > **New** > **Metadata Access Service**.

   The **New Metadata Access Service** wizard appears.
5. On the **New Metadata Access Service - Step 1 of 3** page, enter the following properties:

Property	Description
Name	Name of the service. The name is not case sensitive and must be unique within the domain. It cannot exceed 128 characters or begin with @. It also cannot contain spaces or the following special characters: ` ~ % ^ * + = { } \ ; : ' " / ? . , < > | ! ( )] [
Description	Description of the service. The description cannot exceed 765 characters.
Location	Domain and folder where the service is created. Click **Browse** to choose a different folder. You can move the service after you create it.
License	License object that allows use of the service.
Node	Node on which the service runs.
Backup Nodes	If your license includes high availability, nodes on which the service can run if the primary node is unavailable.

6. Click **Next**.

   The **New Metadata Access Service - Step 2 of 3** page appears.
7. Select the HTTP Protocol Type and enter the respective port number to use for the Metadata Access Service.
8. Accept the default values for the remaining security properties. You can configure the security properties after you create the Metadata Access Service.
9. Select **Enable Service**.

   The Metadata Access Service does not have any other service dependency.
10. Click **Next**.

    The **New Metadata Access Service - Step 3 of 3** page appears.
11. If applicable, specify the execution options for impersonation user, Kerberos cluster, logging options, and click **Next**.

12. Click **Finish**.

    The domain creates and enables the Metadata Access Service.

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

Effective in version 10.1, 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.

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.

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. Migrate and reload Metadata Manager resources.
6. Upgrade Informatica Platform resources.
7. 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.
8. If a secure connection is configured for the Metadata Manager web application, verify the truststore file for the mmcmd and mmRepoCmd command line programs.

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.

Upgrade Informatica Platform Resources

If you created an Informatica Platform resource that extracts metadata from an Informatica 10.0 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 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 10.0 Command Line Utilities.

To configure the resource to use the 10.0 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.
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** property.

   Set the property to the directory where you installed the Command Line Utilities, for example, `C:\Informatica\100_CLU`.

After you configure the 10.0 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*.

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*.

Verify the Truststore File for Metadata Manager Command Line Programs

Effective in version 10.1, when you configure a secure connection for the Metadata Manager web application, the Metadata Manager command line programs do not accept security certificates that have errors. The property that controls whether a command line program can accept security certificates that have errors is removed.

The Security.Authentication.Level property in the MMCmdConfig.properties file controlled certificate validation for mmcmd or mmRepoCmd. You could set the property to one of the following values:

- NO_AUTH. The command line program accepts the digital certificate, even if the certificate has errors.
- FULL_AUTH. The command line program does not accept a security certificate that has errors.

The NO_AUTH setting is no longer valid. The command line programs now only accept security certificates that do not contain errors.

If a secure connection is configured for the Metadata Manager web application, and you previously set the Security.Authentication.Level property to NO_AUTH, you must now configure a truststore file. To configure mmcmd or mmRepoCmd to use a truststore file, edit the MMCmdConfig.properties file that is associated with mmcmd or mmRepoCmd. Set the TrustStore.Path property to the path and file name of the truststore file.

For more information about the MMCmdConfig.properties files for mmcmd and mmRepoCmd, see the *Metadata Manager Command Reference*.

Update the DataDirect Drivers

Update the DataDirect Oracle ODBC and SQL Server ODBC driver files. If an existing connection is using the DataDirect SQL Server Legacy ODBC driver, you must use the DataDirect 8.0 New SQL Server Wire Protocol.

DataDirect Oracle ODBC Driver

The DataDirect Oracle Wire Protocol is upgraded from version 7.1 to 8.0. On Windows, the DataDirect Oracle ODBC driver is upgraded from `DWora27.dll` to `DWora28.dll`. On Linux, the driver is upgraded from `DWora27.so` to `DWora28.so`. Existing ODBC connections that use the Oracle ODBC driver `DWora27.so` fail.

After the upgrade, perform the following tasks:

- On Linux, if you want to use an existing ODBC connection to connect to an Oracle database, you must update the `odbc.ini` file to point to the ODBC driver path that contains the `DWora28.so` file.
- On Windows, if you want to use an existing ODBC connection to connect to an Oracle database, you must create a new data source using the DataDirect 8.0 Oracle Wire Protocol driver.

DataDirect SQL Server Legacy ODBC Driver

Informatica dropped support for the DataDirect SQL Server Legacy ODBC Driver file `DWmsss27.x` because DataDirect no longer supports this driver. After you upgrade, existing ODBC connections that use the DataDirect SQL Server Legacy ODBC Driver file `DWmsss27.x` fail. You must use the DataDirect 8.0 New SQL Server Wire Protocol packaged with the Informatica installer, or any ODBC driver from a third-party vendor.

DataDirect SQL Server ODBC driver

The DataDirect SQL Server ODBC driver is upgraded from `DWsqls27.so` to `DWsqls28.so` on Linux. On Windows, the DataDirect SQL Server ODBC driver is upgraded from `DWsqls27.dll` to `DWsqls28.dll`. Existing

connections that use the DataDirect SQL Server ODBC driver `DWsqls27.so` on Linux or `DWsqls27.dll` on Windows fail.

After the upgrade, perform the following tasks on Linux:

- To use an existing Microsoft SQL Server connection with the Use DSN property enabled in the connection, you must update the `odbc.ini` file to point to the ODBC driver path that contains the `DWsqls28.so` file.
- To use an existing ODBC connection that used the `DWsqls27.so` driver, you must update the `odbc.ini` file to point to the ODBC driver path that contains the `DWsqls28.so` file.

After the upgrade, perform the following tasks on Windows:

- To use an existing Microsoft SQL Server connection with the Use DSN property enabled in the connection, you must create a new data source for the Microsoft SQL Server database using the DataDirect 8.0 New SQL Server Wire Protocol driver.
- To use an existing ODBC connection that used the DataDirect 7.1 New SQL Server Wire Protocol driver, you must create a new data source for the Microsoft SQL Server database using the DataDirect 8.0 New SQL Server Wire Protocol driver.

Upgrade the Informatica Cassandra ODBC Data Sources

After you upgrade, you must replace the `odbc.ini` file with the back up copy of the `odbc.ini` file and change the Cassandra ODBC driver name.

After you replace the `odbc.ini` file, you must update the value of the `Driver` property in the `odbc.ini` file to `<Informatica installation directory>\tools\cassandra\lib\libcassandraodbc_sb64.so`.

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.

Update Profiles for Dropped Hive Engine Support

Effective in version 10.2.2, Informatica dropped support for the Hive engine. If you have profiles configured to run on the Hive engine, you need to update them to run on a different engine. Informatica continues to support the Blaze engine in the Hadoop environment.

You must manually identify and change profiles configured to run on the Hive engine.

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

Upgrade Checklist

This appendix includes the following topics:

- Upgrade Checklist Overview, 99
- Before You Upgrade the Domain, 99
- Domain Upgrade, 100
- Before You Upgrade the Application Services, 101
- Application Service Upgrade, 101
- Informatica Client Upgrade, 102
- After You Upgrade, 102

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.
- ❑ Split the Domain.
- ❑ 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.
  - 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.
- Run the Informatica Upgrade Advisor.

❑ Back up the Data Transformation Files.

❑ Disable the Analyst Service through Administrator tool or through infacmd DisableService.

❑ Perform the following tasks to prepare the Model repository:
- Back up the Model repository.
- Verify the user account requirements for the Model repository database.

❑ 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 profiling warehouse, reference data warehouse, and workflow database.

❑ Back Up the odbc.ini File for Informatica Cassandra ODBC Driver.

❑ Perform the following tasks to prepare the domain:
- 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:

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.

Before You Upgrade the Application Services

Before you upgrade application services, perform the following pre-upgrade tasks:

- ❑ Configure locale environment variables.
  Verify that the locale setting is compatible with the code page for the repository.
- ❑ 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.
  - Configure Library Path 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.

Application Service Upgrade

Some service versions require a service upgrade. You can use the service upgrade wizard to upgrade services.

- ❑ Verify the privileges required to upgrade for the following application services:
  - Model Repository Service
  - Data Integration Service
  - Content Management Service
- ❑ Upgrade the following services and associated databases:
  - Model Repository Service
  - Data Integration Service
  - Profiling warehouse for the Data Integration Service
- ❑ Run the Service Upgrade Wizard to upgrade application services and the database contents of the databases associated with the services.
- ❑ Verify the Model Repository Service Upgrade.
  - Object dependency graph.
  - Maximum heap size

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.

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:
  - If you used your SSL certificate files to enable secure communication in the previous domain, verify the keystore and truststore file locations. The upgrade process does not update these locations.
  - You can optionally configure the domain configuration repository on a database that is secured with the SSL protocol.
- ❑ Create the Metadata Access Service to access Hadoop connection information to import and preview metadata from the Hadoop environment.
- ❑ 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.
  - If you work with rule specifications in the Analyst tool or the Developer tool, verify the Maximum Heap Size value.
  - 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.

- ❑ 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.
  - Run infacmd ps restoreProfilesAndScorecards command to restore the profiles and scorecards from a previous version to the current version.
  - Run the scorecards to view the statistics in the Cumulative Metrics Trend pane for the scorecards that you had created.
- ❑ Upgrade all your Microsoft SQL Server connections to use the ODBC provider type.
- ❑ Upgrade the Informatica Drivers for SQL Data Service.
- ❑ Upgrade the Informatica Cassandra ODBC Data Sources.
- ❑ Copy the Data Transformation 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.
- ❑ 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.

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