How-To Library

Install PowerCenter (10.4.x - 10.5) on Docker with Informatica Deployment Manager

Abstract

Informatica Deployment Manager provides a quick and easy way to install the Informatica domain. This article describes how to install PowerCenter on Docker from the Docker image using Informatica Deployment Manager.

Supported Versions

- PowerCenter 10.4 x - 10.5

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Overview

Use the web-based interface in Informatica Deployment Manager to quickly create standard Docker images and a container using Docker.

Docker is an open source platform that provides an isolated environment called containers to run the applications. Docker allows independent containers to run within a single Linux instance. A Docker image is an executable package that can run an application, a code, run-time files, environment variables, or configuration files. A container is a run-time instance of an image.

You can use Informatica Deployment Manager to build or run the Docker image. You can build the Docker image with the default base or custom operating system and Informatica product binaries. With Informatica Deployment Manager, you can create containers using this Docker image to configure the Informatica domain.

When you run the Docker image, you can install Informatica products and you can create or join a domain.

With Informatica Deployment Manager, you can build or run the Docker image with the silent installer. If you want to run the silent installer, you can choose to generate the silent input properties when you go through the wizard steps, and then copy the properties directly to the silent install properties file. You can create the application services when you run the Docker image.

Informatica Deployment Manager Process Checklist

Perform the following tasks associated with the installation:

❏ [Plan for all installation components](#) within the domain, such as nodes and services.

❏ Complete prerequisites:

- Verify system requirements.
- Configure Docker engine.
- Set up keystore and truststore files.
- Extract Informatica Deployment Manager and access the Informatica installer .tar file.
- Verify the license key.
- Set up repository databases.
- Automate the generation of the silent input property file.

❏ Build the Informatica Docker image with base operating system and Informatica binaries.

❏ Run the Docker image to configure the Informatica domain.

❏ Deploy the Docker image quickly or download and run the default image.

❏ Build or run the Docker image in silent mode.

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❑ Complete the post-requisites:

- Complete the domain configuration.
- Create the application services.
- Install the PowerCenter Client.

Before You Begin

Before you install Informatica Deployment Manager, verify that the machine meets the pre-installation requirements for the Informatica product installation.

Verify System Requirements

Verify that your environment meets the minimum system requirements for the installation process:

- Disk space of 50 GB in the Docker build directory for PowerCenter.
- Disk space of 50 GB in the current working directory for PowerCenter.
- Disk space of 27 GB in the Docker configuration directory for PowerCenter.
- Supported image name or one of the following image names for the subscribed base operating system: `registry.access.redhat.com/rhel7:7.8` or `centos:7`.
- Register and subscribe the machine where you build the docker images.
- Temporary disk space and permissions. For more information, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install.
- Patch requirements. For more information, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install.
- Sizing requirements. For more information, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install.

Set Up the Keystore and Truststore Files

When you install the Informatica services, you can configure secure communication for the domain and set up a secure connection to Informatica Administrator (the Administrator tool). If you configure the security options, you must set up the keystore and truststore files. For more information, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install..

Contact Informatica Global Customer Support

When you initially contact Informatica Global Customer Support for Informatica installation access, the Informatica Global Customer Support team initiates a shipping request. The shipping team sends the Informatica installation link and license information to you.

You can contact [Informatica Global Customer Support online](#) for access to the following files:

- Informatica installer .tar file
- License key
- Informatica client installation

Access to .tar File

You require access to both the Informatica Deployment Manager and the Informatica installer.tar file to install the product.

Download and extract the Informatica Deployment Manager installer files from the download center for PowerCenter location on Informatica Marketplace.

After you extract the `informatica_1050_deployment_manager.zip` file, contact the support team to access the Informatica installer .tar file. You can then place the Informatica installer tar file on the machine where you build the image.

Note: The name of the folder that contains the Informatica Deployment Manager installer files must not contain any space.

To gather inputs for the silent input properties files, launch Informatica Deployment Manager and click **Generate silent properties**. You can then change the format of the properties file to UNIX before you run the silent installation.

Verify the License Key

Before you install the software, verify that you have the license key available for the Informatica product installer.

The product is provided as a Bring Your Own License (BYOL). Copy the license key file to a directory accessible to the user account that installs the product. You can use an existing Informatica license or contact Informatica Global Customer Support if you do not have a license key or if you have an incremental license key.

Note: You do not need a license for Informatica Deployment Manager.

Access the Informatica Client Installation

Ensure that the Informatica Global Customer Support team has provided you with access to the Informatica client installation.

Before you install the Informatica clients, verify that the machine meets the minimum system and third-party software requirements. If the machine where you install the Informatica clients is not configured correctly, the installation can fail.

Set Up Databases

Informatica components store metadata in relational database repositories. When you set up the databases, you will need to allow for disk space and create the databases with parameters required by the product. You will also create user accounts and install the database clients.

Set up databases for the following repositories:

Domain configuration repository

> The domain stores configuration and user information in a domain configuration repository. You can create the domain configuration repository on an Oracle, PostgreSQL, or Microsoft SQL Server database.

PowerCenter repository

> The PowerCenter repository stores information about the metadata for the data objects and mappings in a relational database. Informatica certifies that you can create the PowerCenter repository on a Microsoft Azure SQL database. You can also create the PowerCenter repository on an Oracle, PostgreSQL, and Microsoft SQL Server database if you can ensure proper connectivity between the database and the Kubernetes cluster.

You can either create an on-premises database or use a managed database for each repository. When you run the Docker image, you will provide the database information.

Domain Configuration Repository

The domain stores configuration and user information in a domain configuration repository.

You can create the domain configuration repository in one of the following databases.

Oracle

Complete the following tasks to prepare the Oracle database on-premises or in the Docker container:

- Create the database with therequired parameters, allowing for 200 MB of disk space.
- Set up database user accounts.
- 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.

PostgreSQL

Complete the following tasks to prepare the PostgreSQL database on-premises or in the Docker container:

- Create the database with the required parameters, allowing for 200 MB of disk space.
- Set up database user accounts.

You do not need to install the PostgreSQL client software, as the installer bundles it with the image.

Microsoft SQL Server

Complete the following tasks to prepare the Microsoft SQL Server database on-premises or in the Docker container:

- Create the database with the required parameters, allowing for 200 MB of disk space.
- [Download the Microsoft SQL Server client](#) and install it on all machines that require it.

Note: For more information on database parameters and database user accounts, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install.

PowerCenter Repository

The PowerCenter repository stores information about the metadata for the data objects and mappings in a relational database.

You can create the PowerCenter repository in one of the following databases:

Microsoft Azure SQL

The Microsoft Azure SQL database is certified by Informatica to create the PowerCenter repository. Complete the following tasks to prepare the Microsoft Azure SQL database for the PowerCenter repository or to create a container database:

- Create the database with the required parameters, allowing for 200 MB of disk space.
- Set up database user accounts.

Oracle

You can use an Oracle database if you can ensure proper connectivity between the database and the Kubernetes cluster. Complete the following tasks to prepare the Oracle database for the PowerCenter repository or to create a container database:

- Create the database with the required parameters, allowing for 35 MB of disk space.
- Set up database user accounts.

PostgreSQL

You can use a PostgreSQL database if you can ensure proper connectivity between the database and the Kubernetes cluster. Complete the following tasks to prepare the PostgreSQL database for the PowerCenter repository or to create a container database:

- Create the database with the required parameters, allowing for 35 MB of disk space.
- Set up database user accounts.

You do not need to install the PostgreSQL client software, as the installer bundles it with the image.

Microsoft SQL Server

You can use a Microsoft SQL Server database if you can ensure proper connectivity between the database and the Kubernetes cluster. Complete the following tasks to prepare the Microsoft SQL Server database for the PowerCenter repository or to create a container database:

- Create the database with the required parameters, allowing for 200 MB of disk space.
- Set up database user accounts.

Note: For more information on database parameters and database user accounts, see the *Installation for PowerCenter and Data Quality* guide for the PowerCenter version to install.

Generate Content for Silent Input Properties File

When you create or build the Docker image in Informatica Deployment Manager, you can generate the property values to run the silent installer. Before you can run the silent installer, click **Generate silent properties** in Informatica Deployment Manager. Use the generated values to replace the contents of the silent input properties file. You must convert the properties file to the UNIX format before you run the silent installer.

In Informatica Deployment Manager, you can use the option to generate the silent properties to copy all the user input values entered to build or run the Docker image from a single panel. The generated contents are in the supported format of the silent install property files. Manually save the generated contents into the silent input properties file located in the silent installation directory. Convert the properties file to the UNIX format before you run the silent installation.

Build the Informatica Docker Image

Build a Docker image for Informatica products. After you build the Docker image, Informatica Deployment Manager uses the Docker image to run the containers. Ensure that the Informatica Docker image is stored in the local host or Docker registry before you install Informatica products in Docker with Informatica Deployment Manager.

Step 1. Choose the Deployment Type

On the **Deployment type** page, you must select the Informatica product to deploy. Additionally, you can choose to configure secure authentication to build the Docker image on a remote host.

1. Launch Informatica Deployment Manager. You can choose to launch Informatica Deployment Manager in a secure way using SSL. If you choose to use SSL, you can use the default Informatica SSL certificate or your SSL certificate.

   - To launch without SSL, run `sh startup.sh nonssl`.
   - To launch with the default SSL certificate, run `sh startup.sh`.
   - To launch with your SSL certificate, run `sh startup.sh SSL <certificate location> <certificate password>`. The password must be in single quotes.

Note: By default, Informatica Deployment Manager uses four ports that are available within the port range of 12100 to 12200. However, you can configure Informatica Deployment Manager to use the available ports from a custom port range. To specify a custom port range, you must replace the port numbers of the default port range in the `startup.sh` file with the port numbers of the custom port range. If you are using Informatica Deployment Manager on Windows platform, you must run the `dos2unix` command to convert the modified `startup.sh` file to Unix format.

2. To build the Informatica Docker image, select **Build image**.

   The **Deployment type** page appears.

3. On the **Deployment type** page, select **PowerCenter** for the product.

   The build image uses Docker as the default deployment type.

4. Optionally, you can choose to configure Secure Shell (SSH) protocol for secure authentication to build the image on a remote host. If you do not want to set the secure authentication, go to step 6.

5. If you enable secure authentication, set the authentication type to **Password** or **Key**.

   - For password type authentication, enter the machine IP address or host name, user name, password, and port to connect to the host machine.
     By default, the SSH connection uses port 22.

   - For key type authentication, enter the machine IP address or host name, user name, path of the host authentication key, and port number.

6. Click **Next**.

   The **Configure Docker image** page appears.

Step 2. Configure the Docker Image

On the **Configure Docker image** page, enter information for the tar file location and the images.

1. Specify the base operating system to build the Docker image.

   - To build the Docker image on CentOS, select `centos:7`.

   - To build the Docker image on RHEL, select `registry.access.redhat.com/rhel7:7.8`.

   - To build the Docker image on a custom operating system, select `Custom`, and then enter the name of the operating system.

2. Enter the Informatica installer tar file path on the machine where you want to build the image.

   The Informatica Deployment Manager uses the tar utility to extract the installer server files to a directory on the machine.

3. Specify the name of the Docker base image.

   Default is `informatica1041:1.0`, where `1.0` is the tag name.

4. Enter the machine working directory to build the Docker image..

   Default is `/root`.

5. Click **Next**.

   The **Configure domain services** page appears.

Step 3. Configure the Domain Services

On the **Configure domain services** page, you must specify the domain services that you want to include in the Docker image.

1. Select the type of image to build. The domain and the Informatica core services that support the domain are installed by default.
   - To build the image with all the domain services, select **Services**. You can specify this option to install the complete domain with the PowerCenter Repository Service, PowerCenter Integration Service, Model Repository Service, Data Integration Service, Email Service, and other additional services.
   - To build the image with specific domain services, select the services to install. When you select specific services instead of including all the services, the image consumes lesser disk space compared to the installation of the domain with all the services.

     Note: You can select **Other services** to install the additional services only after you select all other domain services for installation.

2. Optionally, you can choose to generate the silent properties for silent installation.

   When you generate the silent properties from Informatica Deployment Manager, you can also copy all the installation options and the values specified in the deployment manager and later paste them in the property file for the silent installer.

3. Click **Build**.

   The process of building the image starts.

After the Docker image is built, you can view the status and name of the image, along with the tasks performed by the installer in the log summary.

Step 4. Verify the Informatica Docker Image

You can verify that the Informatica image is present in the host specified while building the Docker image.

To verify that the Informatica Docker image exists, enter the docker images command from the command prompt. Ensure that the values for the tag, image ID, created date, and size information appears for the Informatica Docker image.

The following sample displays the result of the docker image command:

```
{root@master abc]#docker images
REPOSITORY                    TAG          IMAGE ID        CREATED       SIZE
informatica1050pcrspostgre    1.0          f9923fb2cfa0    20 hours ago  17.7 GB
```

Run the Informatica Docker Image to Create a Domain

You can install Informatica products by running the Docker image.

Run the Docker image to create nodes in the Informatica domain. The first time that you run the Docker image, choose to create a domain. When you create a domain, the node that you create becomes a gateway node in the domain. The gateway node contains a Service Manager that manages all the domain operations.

Step 1. Choose the Deployment Type

On the **Deployment type** page, you must select the Informatica product and version to deploy. Additionally, you can choose to configure secure authentication to run the Docker image and deploy the product on a remote host.

1. Launch Informatica Deployment Manager. You can choose to launch Informatica Deployment Manager in a secure way using SSL. If you choose to use SSL, you can use the default Informatica SSL certificate or your SSL certificate.

    *   To launch without SSL, run `sh startup.sh nonssl`.

    *   To launch with the default SSL certificate, run `sh startup.sh`.

    *   To launch with your SSL certificate, run `sh startup.sh SSL <certificate location> <certificate password>`. The password must be in single quotes.

    Note: By default, Informatica Deployment Manager uses four ports that are available within the port range of 12100 to 12200. However, you can configure Informatica Deployment Manager to use the available ports from a custom port range. To specify a custom port range, you must replace the port numbers of the default port range in the `startup.sh` file with the port numbers of the custom port range. If you are using Informatica Deployment Manager on Windows platform, you must run the `dos2unix` command to convert the modified `startup.sh` file to Unix format.

2. To run the Informatica Docker image, select **Run image**.

    The **Deployment type** page appears.

3. On the **Deployment type** page, select **PowerCenter** for the product.

4. Choose the version of the product to deploy.

5. Optionally, you can choose to configure Secure Shell (SSH) protocol for secure authentication to deploy the containers on a remote host. If you do not want to set the secure authentication, go to step 7.

6. If you enable secure authentication, set the authentication type to **Password** or **Key**.

    *   For password type authentication, enter the machine IP address or host name, user name, password, and port to connect to the host machine.
        By default, the SSH connection uses port 22.

    *   For key type authentication, enter the machine IP address or host name, user name, path of the host authentication key, and port number.

7. Click **Next**.

    The **Docker information** page appears.

Step 2. Provide Docker Information

In the **Docker configuration** section of the **Docker information** page, provide the required information to connect to the Docker image and container.

1. Enter the names of the Docker image and container.

2. Select the Informatica license key file.

3. Enter the tmps volume directory and working directory.

4. Enter the network name. Default network name is infa.

Step 3. Provide the Domain Connection Information

In the **Domain selection** section of the **Docker information** page, provide information to create a domain, connection details for Informatica Administrator, and whether to secure communication to the domain or not.

1. In the **Domain selection** section, choose to create a domain.

2. Optionally, choose to enable secure communication for services in the Informatica domain.

   By default, if you enable secure communication for the domain, the installer sets up an HTTPS connection. You can also create a domain configuration repository on a secure database.

3. Specify the connection details for Informatica Administrator.

   a. If you disabled secure communication for the domain, you can specify whether to set up a secure HTTPS connection for Informatica Administrator.

   b. If you enabled secure connection for the domain or if you enabled HTTPS connection, enter the HTTPS port number and the keystore file information. Choose to use a default keystore or a custom keystore file.

      - If you use the default keystore, the installer creates a self-signed keystore file named Default.keystore in the following location:
        ```
        <Informatica installation directory>/tomcat/conf/
        ```

      - If you use a custom keystore, select the keystore file and specify its password.

4. If you enabled secure connection for the domain, specify whether to use the default Informatica SSL certificates or to use your SSL certificates to secure domain communication.

5. If you choose to provide the SSL certificates, select the keystore and truststore files and specify their passwords. The keystore file is named infa_keystore.jks and the truststore file is named infa_truststore.jks.

6. Click **Next**.

   The **Domain database** page appears.

Step 4. Configure the Domain Configuration Repository

On the **Domain database** page, provide the domain configuration repository database information, JDBC connection information, and specify information for the domain and gateway node.

1. Select the database to use for the domain configuration repository.

2. Optionally, specify if you created a database in the container. If you created a database in the container, enter the name of the database.

3. Enter the database user account ID and password.

4. Enter the parameters for the database.

   a. If you select Microsoft SQL Server or PostgreSQL, specify whether to specify the schema name for the database. If you choose to specify the schema name, enter the schema name for the database. If you select Oracle, the installer creates the tables in the default schema.

   b. To enter the JDBC connection information, you can use either the JDBC URL or the JDBC connection string.

      To use the JDBC URL information, select **JDBC URL**, and specify the following JDBC URL properties:

      - **Database address.** Host name and port number for the database.

      - **Database service name.** Oracle service name, the database name for Microsoft SQL Server, or the database name for PostgreSQL.

      Optionally, choose to include additional JDBC parameters.

c. To use a custom JDBC connection string, select **JDBC connection string**.

You can use the following syntax in the JDBC connection string to connect to a secure database:
Oracle

```
jdbc:Informatica:oracle://<host name>:<port number>;ServiceName=<service
name>;EncryptionMethod=SSL;HostNameInCertificate=<database host
name>;ValidateServerCertificate=<true or false>
```

Microsoft SQL Server

```
jdbc:Informatica:sqlserver://<host name>:<port
number>;SelectMethod=cursor;DatabaseName=<database
name>;EncryptionMethod=SSL;HostNameInCertificate=<database host
name>;ValidateServerCertificate=<true or false>
```

PostgreSQL

```
jdbc:Informatica:postgresql://<host name>:<port number>;DatabaseName=<database
name>;EncryptionMethod=SSL;HostNameInCertificate=<database host
name>;ValidateServerCertificate=<true or false>
```

5. In the **Domain and node configuration** section, enter the directory that contains the encryption key for the Informatica domain. By default, the encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`.

6. Specify the domain name, node name, domain port number, domain user name, and password. When you enter the information for the domain and the gateway node that you want to create, consider the following guidelines:

   - The default domain name is Domain. The domain name must not exceed 128 characters and must be 7-bit ASCII only. The name cannot contain a space or any of the following characters:
     `` ` % * + ; " ? , < > \ / ``

   - The default port number for the node is 6005.

   - Informatica Deployment Manager exposes the ports from the range <domain port> - <domain port > + 110 ports from the container to the Docker host, where the initial port number is the domain port number. Enter the service ports within the supported service port range.

   - The password for the domain administrator must be more than 2 characters and must not exceed 128 characters.

7. By default, Informatica Deployment Manager is configured to create the PowerCenter Repository Service and PowerCenter Integration Service while deploying the Docker image. However, you can run the image without creating the supported application services. Perform one of the following steps based on whether you want to create the application services while you configure the domain or later:

   - To create the application services, click **Next**.
     The **PowerCenter Repository Service and PowerCenter Integration Service** page appears.

   - To deploy PowerCenter without the supported application services, clear the **PowerCenter Repository Service and PowerCenter Integration Service** checkbox, and click **Deploy**.
     The Docker image runs. After the Docker image run completes, you can view the post-installation summary. You can view the installation log to get more information about the tasks performed by the installer.

Step 5. Configure Application Services

On the **PowerCenter Repository Service and PowerCenter Integration Service** page, you can create the supported application services and provide the related database information.

1. Enter the names of the PowerCenter Repository Service and PowerCenter Integration Service.

2. Specify the code page for the PowerCenter Repository Service and the code page ID for the PowerCenter Integration Service. You can choose one of the default values or specify a custom code page and ID.

3. Select the database type and enter the user ID, user password, host name, and port number of the database. The default port for Oracle database is 1521, whereas the default port for PostgreSQL, Microsoft SQL Server, and Microsoft Azure SQL is 5432. Specify the database name or database service name based on the database associated with the PowerCenter repository.

4. Click **Deploy**.

   The Docker image runs.

5. To verify that the container is present in the host specified, run the docker ps -a command from the command prompt.

   Ensure that you can see the container ID, image, names, command, created date, and status of each container appears.
   The following sample displays the result of the docker ps -a command:

   ```
   [root@irlcmg08 source]#docker ps -a
   CONTAINER ID PORTS   IMAGE NAMES                      COMMAND
   CREATED      STATUS
   566c418d0972        informaticaltd/pcdqservices:1041pc  "/Installer/launcher..." 2 days
   ago  Up 2 days
   ```

6. To verify the Docker images, run the docker images -a command in the command line.

   Ensure that you can see the repository name, tags, and the size information for the images.

After the Docker image run completes, you can view the post-installation summary. You can view the installation log files to get more information about the tasks performed by the installer.

Run the Informatica Docker Image to Join a Domain

After you create the domain, you can use Informatica Deployment Manager on any machine to join the domain. When you join the domain, you need to create a node on the machine and then add the node to the domain.

Step 1. Choose the Deployment Type

On the **Deployment type** page, you must select the Informatica product and version to deploy. Additionally, you can choose to configure secure authentication to run the Docker image and deploy the product on a remote host.

1. Launch Informatica Deployment Manager. You can choose to launch Informatica Deployment Manager in a secure way using SSL. If you choose to use SSL, you can use the default Informatica SSL certificate or your SSL certificate.

   - To launch without SSL, run `sh startup.sh nonssl`.

   - To launch with the default SSL certificate, run `sh startup.sh`.

   - To launch with your SSL certificate, run `sh startup.sh SSL <certificate location> <certificate password>`. The password must be in single quotes.

   Note: By default, Informatica Deployment Manager uses four ports that are available within the port range of 12100 to 12200. However, you can configure Informatica Deployment Manager to use the available ports from a custom port range. To specify a custom port range, you must replace the port numbers of the default port range in the `startup.sh` file with the port numbers of the custom port range. If you are using Informatica Deployment Manager on Windows platform, you must run the `dos2unix` command to convert the modified `startup.sh` file to Unix format.

2. To run the Informatica Docker image, select **Run image**.

   The **Deployment type** page appears.

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3. On the **Deployment type** page, select **PowerCenter** for the product.

4. Choose the version of the product to deploy.

5. Optionally, you can choose to configure Secure Shell (SSH) protocol for secure authentication to deploy the containers on a remote host. If you do not want to set the secure authentication, go to step 7.

6. If you enable secure authentication, set the authentication type to **Password** or **Key**.

    - For password type authentication, enter the machine IP address or host name, user name, password, and port to connect to the host machine.
      By default, the SSH connection uses port 22.

    - For key type authentication, enter the machine IP address or host name, user name, path of the host authentication key, and port number.

7. Click **Next**.

    The **Docker information** page appears.

Step 2. Provide Docker Information

In the **Docker configuration** section of the **Docker information** page, provide the required information to connect to the Docker image and container.

1. Enter the names of the Docker image and container.

2. Select the Informatica license key file.

3. Enter the paths of the tmps volume directory and working directory.

4. Enter the network name. Default network name is infa.

Step 3. Provide the Domain Connection Information

In the **Domain selection** section of the **Docker information** page, provide information to join a domain, connection details for Informatica Administrator, and whether to secure communication to the domain or not.

1. In the **Domain selection** section, choose to join a domain.

    The installer creates a node on the container where you install. You can specify the type of node to create and the domain to join.

2. Optionally, choose to join a domain with secure connection. You can also choose if you want the node you create to be a gateway node for the domain. Default is worker node.

3. Specify the connection details for Informatica Administrator.

    a. If you did not choose join a secure domain, you can specify whether to set up a secure HTTPS connection for Informatica Administrator.

    b. If you chose to join a secure domain or if you enabled HTTPS connection, enter the HTTPS port number and the keystore file information. Choose to use a default keystore or a custom keystore file.

        - If you use the default keystore, the installer creates a self-signed keystore file named Default.keystore in the following location: `<Informatica installation directory>/tomcat/conf/`

        - If you use a custom keystore, specify the location and password of the keystore file.

4. Specify whether to use the default Informatica SSL certificates or to use your SSL certificates to secure domain communication.

5. If you choose to provide the SSL certificates, select the keystore and truststore files and specify their passwords. The keystore file is named infa_keystore.jks and the truststore file is named infa_truststore.jks.

6. Click **Next**.

    The **Domain configuration** page appears.

Step 4. Configure the Domain

On the **Domain configuration** page, provide the domain, node, gateway node, and gateway container information.

1. In the **Existing domain configuration** section, specify the domain name, gateway container name, gateway node port, domain user name and password, security domain name.

2. Optionally, choose to join an Informatica domain created through the container database and enter the name of the database.

3. Specify the key and directory for the encryption key for the Informatica domain.

   - **Select the encryption key.** Specify the custom site key to secure sensitive data in the domain. Before you can enter the site key path, copy the file from the encryption key directory within the container to the host with the following command: docker cp <container name>: <encryption key directory>/siteKey <dst path in host>

   - **Encryption key directory.** Directory in which to store the encryption key for the Informatica domain. The encryption key is created in the following directory: `<Informatica installation directory>/isp/config/keys`.

4. In the **New node configuration** section, enter the node name and node port number for the current node.

5. If you used a secure database to create the domain, enter the path and password of the database truststore file.

6. Optionally, choose to create the supported application services.

   Note: You can choose to create the application services only if you choose to deploy PowerCenter 10.5.

7. Perform one of the following steps based on whether you need to create the application services while you configure the domain or later:

   - To create the supported application services, select the **PowerCenter Repository Service and PowerCenter Integration Service** checkbox, and click **Next**.
     The **PowerCenter Repository Service and PowerCenter Integration Service** page appears.

   - To deploy PowerCenter without the supported application services, click **Deploy**.
     The Docker image runs. After the Docker image run completes, you can view the post-installation summary. You can view the installation log to get more information about the tasks performed by the installer.

Step 5. Configure Application Services

On the **PowerCenter Repository Service and PowerCenter Integration Service** page, you can create the supported application services and provide the related database information.

1. Enter the names of the PowerCenter Repository Service and PowerCenter Integration Service.

2. Specify the code page for the PowerCenter Repository Service and the code page ID for the PowerCenter Integration Service. You can choose one of the default values or specify a custom code page and ID.

3. Select the database type and enter the user ID, user password, host name, and port number of the database. The default port for Oracle database is 1521, whereas the default port for PostgreSQL, Microsoft SQL Server, and Microsoft Azure SQL is 5432. Specify the database name or database service name based on the database associated with the PowerCenter repository.

4. Click **Deploy**.

   The Docker image runs.

5. To verify that the container is present in the host specified, run the docker ps -a command from the command prompt.

Ensure that you can see the container ID, image, names, command, created date, and status of each container appears.

The following sample displays the result of the docker ps -a command:

```
[root@irlcmg08 source]#docker ps -a
CONTAINER ID PORTS  IMAGE NAMES                    COMMAND
CREATED     STATUS
566c418d0972       informaticaltd/pcdqservices:1041pc  "/Installer/launcher..." 2 days
ago  Up 2 days
```

6. To verify the Docker images, run the docker images -a command in the command line.

   Ensure that you can see the repository name, tags, and the size information for the images.

After the Docker image run completes, you can view the post-installation summary. You can view the installation log files to get more information about the tasks performed by the installer.

Quick Deployment

With the quick deployment, you can download and run the Informatica Docker image with a pre-built image. With the one-click deployment of Informatica Deployment Manager, you can configure the Informatica domain for PowerCenter.

With the quick deployment, Informatica Deployment Manager creates the PowerCenter Repository Service and the PowerCenter Integration Service.

When you download and run the Docker image, Informatica Deployment Manager uses the PostgreSQL database that is bundled with the Docker image. The Docker Hub is the registry where the Docker images are stored.

Step 1. Choose the Deployment Type

On the **Deployment type** page, you must select the Informatica product and version to deploy. Additionally, you can choose to configure secure authentication to run the Docker image and deploy the product on a remote host.

1. Launch Informatica Deployment Manager. You can choose to launch Informatica Deployment Manager in a secure way using SSL. If you choose to use SSL, you can use the default Informatica SSL certificate or your SSL certificate.

   - To launch without SSL, run `sh startup.sh nonssl`.

   - To launch with the default SSL certificate, run `sh startup.sh`.

   - To launch with your SSL certificate, run `sh startup.sh SSL <certificate location> <certificate password>`. The password must be in single quotes.

   Note: By default, Informatica Deployment Manager uses four ports that are available within the port range of 12100 to 12200. However, you can configure Informatica Deployment Manager to use the available ports from a custom port range. To specify a custom port range, you must replace the port numbers of the default port range in the `startup.sh` file with the port numbers of the custom port range. If you are using Informatica Deployment Manager on Windows platform, you must run the `dos2unix` command to convert the modified `startup.sh` file to Unix format.

2. On the Informatica Deployment Manager home page, select **Quick deployment**.

   The **Deployment type** page appears.

3. On the **Deployment type** page, select **PowerCenter** for the product.

4. Choose the version of the product to deploy.

5. Optionally, choose to configure Secure Shell (SSH) protocol for secure authentication to deploy the containers on a remote host. If you do not want to set the secure authentication, go to step 7.

6. If you enable secure authentication, set the authentication type to **Password** or **Key**.

- For password type authentication, enter the machine IP address or host name, user name, password, and port to connect to the host machine.
  By default, the SSH connection uses port 22.

  - For key type authentication, enter the machine IP address or host name, user name, path of the host authentication key, and port number.

7. Click **Next**.

    The **Configuration options** page appears.

Step 2. Provide Configuration Options

On the **Configuration options** page, provide the required information to connect to the Docker image and container.

1. In the **Quick deployment** section, select the Informatica license key file.

2. Enter the paths of the tmps volume directory and working directory.

3. Specify the Docker registry from where you can download the Docker image. You can select the local host machine, public registry, private registry, or Informatica hosted registry.

    The private registry requires additional user login credentials to connect to the registry.

4. If you selected the Informatica hosted registry, review the terms and conditions to download the Docker image in the **User Acceptance** dialog box. To proceed with the Docker image download, select **Accept**.

5. Browse for the supported Docker image for the selected product.

    The installer uses the following defaults for the container name and port configurations:
    Creates a container name that matches the image tag name.

    Ports used in PowerCenter: `7000-7110`

6. Click **Deploy**.

    The Docker image runs.

After the Docker image run completes, you can view the post-installation summary. You can view the installation log files to get more information about the tasks performed by installer. The installation is complete when the Informatica_<Version>_Services_<timestamp>.log file is created in the installation directory.

Build or Run the Docker Image in Silent Mode

You can build or run the Docker image in silent mode after updating the required properties files with the generated silent properties from Informatica Deployment Manager.

To run the installer in silent mode, complete the following tasks:

1. Run Informatica Deployment Manager and choose to generate the silent properties.

2. Configure the silent input properties file and specify the installation options.

    When you generate silent properties from Informatica Deployment Manager, you can copy all the installation options and the values specified in Informatica Deployment Manager. You can then paste the copied contents into the property file for the silent installer.

3. Save the properties file in the UNIX format to the file path that contains the silent installer.

4. Run the silent installer with the silent installation properties file.

If you want to run Informatica Deployment Manager for additional images, you must save each property file before every run of the silent installer.

Running the Silent Installer

Manually copy the generated silent properties when you build or run the Docker image from Informatica Deployment Manager into the supported silent properties file. The customized `SilentInput_BuildImage.properties` or `SilentInput.properties` file has different content based on whether you run the silent installer to build or run the Docker image. After you configure the properties file, open a command prompt to start the silent installation.

1. Run Informatica Deployment Manager and choose to generate the silent properties.
2. Copy the generated silent properties from Informatica Deployment Manager into the supported silent properties file when you build or run the Docker image.
3. From the terminal, go to the root of the directory that contains the installation files. For build image, navigate to the following directory: `<working directory>/appconTemp/<image name>`. For run image, navigate to the following directory: `<user home>/appconTemp/<image name>`.
4. Verify that the directory contains the customized `SilentInput_BuildImage.properties` or `SilentInput.properties` file based on whether you build or run the docker image.
5. From the terminal, run the `dos2unix` command to convert the silent input properties file to the Unix format.
6. Create a log directory: `mkdir logs`
7. Run sh silentInstall.sh >> logs/<debug configure>.log.

When the silent installation is complete, you can view the log file in the working directory.

Complete the Post-Install Tasks

After you deploy PowerCenter, perform the post-installation tasks.

Complete the Domain Configuration

To complete the domain configuration after you install the Informatica services, perform the following tasks:

- Verify locale settings and code page
- Configure Informatica environment variables
- Configure the library path environment variables
- Configure locale environment variables

Complete the Domain Integration

Complete the following tasks:
Update the hosts file to access the Administrator tool through the browser.

Enter the following information in the hosts file to access the Administrator tool through the browser:

`<IP address of the machine> <host name of Informatica domain>`.

You can find the hosts file in the following location: `/etc/hosts`.

Log in to Informatica Administrator.

You must have a user account to log in to the Informatica Administrator web application with the administrator name that you used in the wizard. You can access the Administrator tool using the following link format: `https://<host name of the machine>:<port number>/administrator`

Create the application services if you did not create it during deployment.

Create the following services:

- [PowerCenter Repository Service](#)
- [PowerCenter Integration Service](#)

Install the PowerCenter Client

You can copy the PowerCenter Client installation binaries from the Akamai link that you received when you contacted Informatica Global Customer Support for the Informatica installation tar file. Copy the files to your installation directory and install the PowerCenter Client.

You can install the client to create data objects, create and run mappings, and create virtual databases. To install the client, perform the following tasks:

Before you install the client.

Before you install the Informatica client, verify that the [minimum installation requirements](#) are met. If the machine where you install the Informatica client is not configured correctly, the installation can fail.

Install the client.

Use the Informatica client installer to [install the PowerCenter Client](#).

Install languages.

To view languages other than the system locale and to work with repositories that use a UTF-8 code page, [install additional languages](#) on Windows for use with the Informatica clients.

Configure the client for a secure domain.

When you enable secure communication within the domain, you also secure connections between the domain and Informatica client applications. Based on the truststore files used, you might need to specify the location and password for the truststore files in [environment variables](#) on each client host.

Start the PowerCenter Client.

The first time you [start the PowerCenter Client](#), you add the domain and connect to a PowerCenter repository. To connect to the node, you can get the host name and port number from node present on the Administrator tool.

Start and Stop the Informatica Services

Run infaservice.sh to start and stop the Informatica daemon.

You can start the daemon with the infaservice.sh startup command. To stop the daemon, enter the infaservice.sh shutdown command. By default, infaservice.sh is installed in the following directory:

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

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

Troubleshooting

I tried to build the Docker image, but the build image fails.

If build image fails during installer tar file extraction or before the Docker build image starts, verify that adequate disk space is available in the current working directory. PowerCenter requires 50 GB disk space in the current working directory.

If the build image fails at the step `Copy/Binaries/home/Informatica` in the log file, then there is not enough disk space in the Docker configuration directory. To find the Docker configuration directory, run the `docker info` command. PowerCenter requires 27 GB disk space in the Docker configuration directory.

You can also free up some space from the Docker configuration directory when you delete a dangling image. When you create the new build of the image but do not specify a new name, you create a dangling image and the old image becomes the dangling image. Those old images remain untagged and display "<none>" as the name when you run the `docker images` command.

To delete the dangling images, complete the following steps:

1. To list all dangling images and to get the image ID, run the command: `docker images -f dangling=true`

2. To delete each dangling image, run the command: `docker image rm -f <image id>`

If the build image fails with the following error, you need to manually pull the Docker image:

```
Sending build context to Docker daemon 25.75GB
Step 1/30: FROM registry.access.redhat.com/rhel7:7.7
Trying to pull repository registry.access.redhat.com/rhel7 ...
Installation Status:ERROR
```

To fix the issue, you can manually run the following command:

```
docker pull registry.access.redhat.com/rhel7:7.7
```

If the build image fails with the following error, the Docker build script has failed to access the repository to download dependencies:

```
This system is not registered with an entitlement server.
```

To register and subscribe the machine where you build the Docker image:

1. Run the `yum repolist all` command to see all the repositories.

2. Use the `subscription-manager` to register with the following command: `subscription-manager repos --enable`.

3. To enable custom repositories, run the command: `yum-config-manager --enable`

If the build image displays the `authenticationrequired` error when you run the docker pull command to pull the image from RHEL, the authentication with the Docker authentication might have expired. Run the `docker logout` command and then pull the Docker image. If the issue persists, try to pull the Docker image from registry.redhat.io instead of registry.access.redhat.com. If any issue remains with RHEL, you could try to use Centos7 for proof of concept cases.

I cannot access Administrator tool from the browser.

Check the IP address from where you access the Administrator tool:

Ensure that you use the host IP of the node on which container is running to access the Administrator tool.

Appendix A: Sample Silent Properties for Build Image

The following example shows the contents of the file:

```
INSTALL_OPTION=1
IMAGE_NAME=edc1050:1.0
TAR_FILE_LOC=
OS_NAME=centos:centos7
AMBARI_FILE_LOC=
SCANNER_FILE_LOC=
DPM_TAR_FILE_LOC=
INSTALL_DPM=0
CLUSTER_TYPE=1
INSTALL_EDP=0
```

```
DOWNLOAD_AND_RUN=0
productType=
PCRSIS_ONLYIMAGE=0
HubUserName=
HubPassword=
PRIVATE_HUB=1
INFA_REPO=0
FULL_IMAGE=1
```

Appendix B: Sample Silent Properties for Run Image

The following example shows the contents of the file:

```
IMAGE_NAME=edc1040:1.0
INFA_CONTAINER_NAME=edc1040
PORT_RANGE=8000-8300
VOLUME_DIRECTORY=/data/Volume
LICENSE_KEY_LOC=/data/EDC_Resources/abdeic_1020_All_8850.key
SILENT_FILE_LOC=/data/EDC_Resources/SilentInput.properties
DOCKER_NETWORK_NAME=
DPM_LICENSE_KEY_LOC=/data2/EDC_Resources/DataPrivacyManagement.key
INSTALL_DPM=0
productType=PC
SE_DB_CONTAINER=false
DB_CONTAINER_NAME=
PCRS_DB_TYPE=
PCRS_DBTYPE_AZURE=
PCRS_DB_HOST=
PCRS_DB_PORT=
EXTERNAL_CLUSTER_TRUSTSTORE_FILE_LOC=
EXTERNAL_CLUSTER_TRUSTSTORE_FILE_PASSWD=
INSTALL_EDP=0
DPS_CLUSTER_TRUSTSTORE_FILE_LOC=
DPS_CLUSTER_TRUSTSTORE_FILE_PASSWD=
EDC_KDC_HOST_IP=
DPS_KDC_HOST_IP=
```

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