

Version 2 Release 2

*IBM i2 Enterprise Insight Analysis
Upgrade Guide*



Note

Before using this information and the product it supports, read the information in [“Notices” on page 33](#).

This edition applies to version 2, release 2, modification 0 of IBM® i2® Enterprise Insight Analysis (product number 5725-G23) and to all subsequent releases and modifications until otherwise indicated in new editions. Ensure that you are reading the appropriate document for the version of the product that you are using. To find a specific version of this document, access the Upgrading section of the [IBM Knowledge Center](#), and ensure that you select the correct version.

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Upgrading IBM i2 Enterprise Insight Analysis

A deployment of IBM i2 Enterprise Insight Analysis contains a number of components. To upgrade Enterprise Insight Analysis, you must install the latest versions of the components that are present in your deployment, before configuring and upgrading.

Intended audience

This information is intended for readers who are familiar with deploying web services into existing infrastructures that use an application server and one of the supported databases. These instructions also assume that you are already familiar with the deployment process for your components.

Contacting IBM Support

IBM Support provides assistance with product defects, answers FAQs, and helps users to resolve problems with the product.

About this task

After trying to find your answer or solution by using other self-help options such as technotes, you can contact IBM Support. Before contacting IBM Support, your company or organization must have an active IBM software subscription and support contract, and you must be authorized to submit problems to IBM. For information about the types of available support, see the Support portfolio topic in the *Software Support Handbook*.

Procedure

To contact IBM Support about a problem:

1. Define the problem, gather background information, and determine the severity of the problem.
For more information, see the Getting IBM Support topic in the *Software Support Handbook*.
2. Gather diagnostic information.
3. Submit the problem to IBM Support in one of the following ways:
 - Online through the IBM Support Portal at [Support Portal](#). You can open, update, and view all of your service requests from the Service Request portlet on the Service Request page.
 - By phone. For the phone number to call in your region, see the Directory of worldwide contacts web page at <https://www.ibm.com/planetwide/>

Results

If the problem that you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support website daily, so that other users who experience the same problem can benefit from the same resolution.

Upgrade patterns

You can upgrade an IBM i2 Enterprise Insight Analysis system to the latest version. Depending on the components that are configured, the steps that you need to follow to upgrade your IBM i2 Enterprise Insight Analysis system differ.

The following table indicates the earliest versions of the components that are included in IBM i2 Enterprise Insight Analysis that have supported upgrade paths. If you are on an earlier version of a component, remove that component from your deployment before you attempt to upgrade your deployment to the latest version.

Table 1: Upgradeable Components											
IBM i2 Enterprise Insight Analysis Version		2.1.1	2.1.1	2.1.2	2.1.3	2.1.4	2.1.5	2.1.6	2.1.7	2.1.8	2.2.0
IBM i2 Analyst's Notebook Premium Version	8.9.7	9.0.2	9.0.3	9.0.4	9.0.5	9.0.5	9.0.6	9.0.6	9.0.7	9.0.8	9.1.0
IBM i2 Analyze Version	3.0.5	4.1.1	4.1.1	4.1.2	4.1.3	4.1.3	4.1.4	4.1.5	4.1.6	4.1.7	4.2.0
Analyst's Notebook Premium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Analysis Repository	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
iBase Connector		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Connector Creator		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Information Store				✓	✓	✓	✓	✓	✓	✓	✓
Integrated Components				✓	✓	✓					

Note: From version 2.1.5, the IBM i2 Enterprise Insight Analysis integrated components were included in the IBM i2 Enterprise Insight Analysis installation media, as such, the features provide by the integrated components continue to work, but a separate upgrade path is no longer required.

Note: To upgrade to the latest version of IBM i2 Enterprise Insight Analysis from version 2.1.2 or earlier, you must first upgrade to version 2.1.3. After you upgrade to version 2.1.3, you can upgrade to the latest version.

Upgrading IBM i2 Analyst's Notebook Premium

IBM i2 Analyst's Notebook Premium is upgraded by using the Analyst's Notebook Premium Installation Manager. This manages the upgrade of the Analyst's Notebook application, and the connectors to i2 Analyze.

About this task

Upgrade IBM i2 Analyst's Notebook Premium to the version that is compatible with your deployment of i2 Analyze. For more information about compatible versions, see [“Upgrade patterns” on page 5](#).

Procedure

1. Extract the product files from your downloaded distribution.
2. Using Windows Explorer, browse to the root of the distribution and run `setup.exe`. The Installation Manager opens.
3. Click **Install** in the left menu to start the upgrade steps.

What to do next

If your Analyst's Notebook Premium setup contains a Local Analysis Repository, to preserve the data, after you run `setup.exe`, an upgrade wizard runs when you next open the application.

This wizard guides you through the following upgrade steps:

1. Backing up data.
2. Upgrading the database.

Upgrading IBM i2 Analyze

To upgrade a deployment of IBM i2 Analyze, you must first upgrade the version of the deployment toolkit you are using and then use this upgraded toolkit to upgrade your deployment. The version of your current deployment determines the path to follow for you to upgrade to the latest version.

Software prerequisites

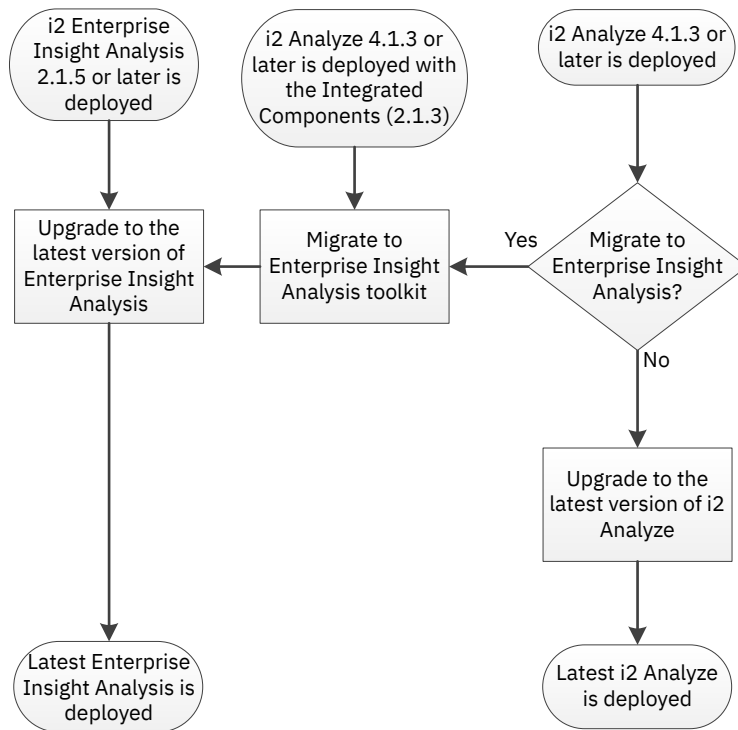
i2 Analyze 4.2.0 has a range of prerequisite software that you might need to update before you can upgrade an existing deployment. A full list of the prerequisites for i2 Analyze 4.2.0 can be found on the IBM support portal: <http://www.ibm.com/software/reports/compatibility/clarity/softwareReqsForProduct.html>.

If you have an Onyx pattern deployment of Enterprise Insight Analysis that has been upgraded to version 2.1.4 or later, you can upgrade your reporting software to IBM Cognos Analytics. For more information about upgrading to Cognos Analytics, see [“Upgrading to Cognos Analytics”](#) on page 29.

Upgrade paths

Depending on your starting point, the steps that are involved in upgrading differ. Follow the steps that match the type of system that you are planning on upgrading both from and to.

If you are upgrading from i2 Analyze version 4.1.3, i2 Analyze version 4.1.3 with the Enterprise Insight Analysis Integrated Components, or i2 Enterprise Insight Analysis 2.1.5 or later, the following diagram shows the upgrade paths that you can choose from to upgrade to the latest version:

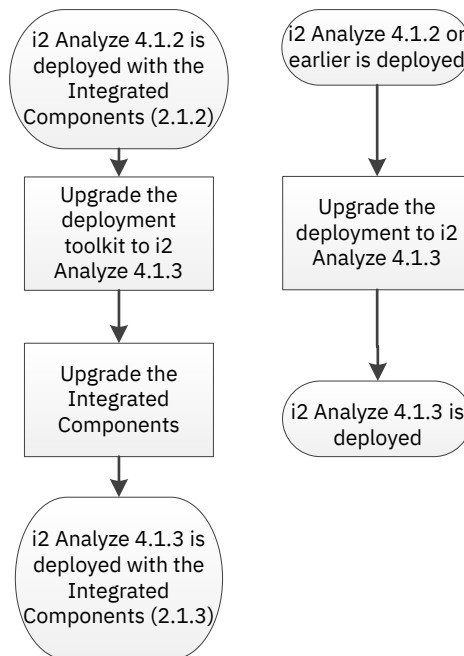


You can complete the following paths to upgrade your deployment:

- If you are upgrading to Enterprise Insight Analysis 2.2.0, complete the instructions in [“Upgrading the deployment toolkit to i2 Enterprise Insight Analysis 2.2.0”](#) on page 11.
- If you are upgrading to i2 Analyze 4.2.0, complete the instructions in [“Upgrading the deployment toolkit to i2 Analyze 4.2.0”](#) on page 13.

Upgrade from i2 Analyze 4.1.2 or earlier

To upgrade to the latest version from version 4.1.2 or earlier, you must first upgrade to version 4.1.3. Use the deployment toolkit to upgrade a deployment of i2 Analyze or the Intelligence Analysis Platform to version 4.1.3. The following diagram shows the upgrade paths that you can choose from to upgrade to version 4.1.3:



To upgrade your deployment to version i2 Analyze 4.1.3, complete the instructions in [“Upgrade from i2 Analyze 4.1.2 or earlier”](#) on page 13. After you upgrade to i2 Analyze 4.1.3, you can upgrade your deployment to the latest version.

Upgrading the deployment toolkit to i2 Enterprise Insight Analysis 2.2.0

Upgrade the deployment toolkit from version 2.1.3 or later, to version 2.2.0. After you upgrade the deployment toolkit, you can upgrade the deployment.

Before you begin

If you are upgrading from a system that did not use the Enterprise Insight Analysis installer, you need to migrate your configuration before the upgrade can occur. For more information about migrating your configuration, see [“Migrating to the IBM i2 Enterprise Insight Analysis toolkit”](#) on page 12.

Procedure

1. Make a backup of the IBM\i2EIA directory of your deployment.
2. Stop any running application server instances that are hosting i2 Analyze.
3. Install the i2 Enterprise Insight Analysis deployment toolkit.
 - a) For more information about installing i2 Enterprise Insight Analysis by using Installation Manager, see [Installing IBM i2 Enterprise Insight Analysis](#).
 - b) For more information about installing i2 Enterprise Insight Analysis by using an archive file, see [Installing i2 Enterprise Insight Analysis from an archive file](#).

Note: Before you install the toolkit using an archive file, remove the toolkit, license, and swidtag directories from your existing installation.

4. If you installed i2 Enterprise Insight Analysis by using an archive file, copy the configuration directory that you backed up in step 1 to the i2EIA\toolkit directory of the upgraded deployment toolkit that you installed in step 3.
5. If not already present, create and populate the `credentials.properties` file. This should be stored in the following location: `toolkit\configuration\environment\`.
For more information about creating the `credentials.properties` file, see [Deploying IBM i2 Analyze](#).
6. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere® Application Server.

What to do next

When you have upgraded your toolkit, you can use your updated toolkit to [Upgrade your deployment](#).

Migrating to the IBM i2 Enterprise Insight Analysis toolkit

The IBM i2 Enterprise Insight Analysis installer installs a modified version of the IBM i2 Analyze deployment toolkit that includes extra example material, and all the server-side components in a single process. If you are upgrading from a system that did not use the Enterprise Insight Analysis installer, you need to migrate your configuration before the upgrade can occur.

Procedure

1. Install the Enterprise Insight Analysis deployment toolkit.
For more information about the installation process, see [Installing IBM i2 Enterprise Insight Analysis](#).
Note: If you are upgrading from a system that did not use the Enterprise Insight Analysis installer, this installation must be in a separate location from your original IBM i2 Analyze deployment.
2. Copy the configuration folder from the original IBM i2 Analyze deployment in to the IBM i2 Enterprise Insight Analysis toolkit folder.
For example, copy `C:\IBM\i2analyze\toolkit\configuration` to
`C:\IBM\i2EIA\toolkit\configuration`.
Note: Configuration files include references to file paths, by default these are locations in the IBM \i2analyze directory. After you migrate to the IBM i2 Enterprise Insight Analysis toolkit, you must either keep any referenced directories or migrate the contents and update the configuration files with the new paths.
3. If you are using the Onyx deployment pattern, copy the `xap-supplements` folder from the IBM i2 Enterprise Insight Analysis toolkit examples to the new configuration.
For example, copy `C:\IBM\i2EIA\toolkit\examples\configurations\information-store-onyx\configuration\fragments\xap-supplements` to
`C:\IBM\i2EIA\toolkit\configuration\fragments\xap-supplements`.
Note: Where duplicate files exist, overwrite the existing i2 Analyze files with the new Enterprise Insight Analysis files and ensure that you re-apply any additional customizations.
4. Stop any running application server instances that are hosting i2 Analyze.
5. If not already present, create and populate the `credentials.properties` file. This should be stored in the following location: `toolkit\configuration\environment\`.
For more information about creating the `credentials.properties` file, see [Deploying IBM i2 Analyze](#).
6. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere Application Server.

What to do next

When you have completed your toolkit migration, you can use your updated toolkit to [Upgrade your deployment](#).

Upgrading the deployment toolkit to i2 Analyze 4.2.0

If you installed i2 Analyze separately, upgrade the deployment toolkit from version 4.1.3 or later, to version 4.2.0. After you upgrade the deployment toolkit, you can upgrade the deployment.

Before you begin

To upgrade to the latest version of i2 Analyze from version 4.1.2 or earlier, you must first upgrade to version 4.1.3. For more information about upgrading to version 4.1.3, see [Upgrade from i2 Analyze 4.1.2 or earlier](#).

Procedure

1. Make a backup of the IBM\i2analyze directory of your deployment.
2. Stop any running application server instances that are hosting i2 Analyze.
3. Install the i2 Analyze deployment toolkit.
 - a) For more information about installing i2 Analyze by using Installation Manager, see [Installing IBM i2 Analyze separately](#).
 - b) For more information about installing i2 Analyze by using an archive file, see [Installing i2 Analyze from an archive file](#).

Note: Before you install the toolkit using an archive file, remove the toolkit, license, and swidtag directories from your existing installation.

4. If you installed i2 Analyze using an archive file, copy the configuration directory that you backed up in step 1 to the i2analyze\toolkit directory of the upgraded deployment toolkit that you installed in step 3.
5. If not already present, create and populate the `credentials.properties` file. This should be stored in the following location: `toolkit\configuration\environment\`.
For more information about creating the `credentials.properties` file, see [Deploying IBM i2 Analyze](#).
6. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere Application Server.

What to do next

When you have upgraded your toolkit, you can use your updated toolkit to [Upgrade your deployment](#).

Upgrade from i2 Analyze 4.1.2 or earlier

To upgrade to the latest version of i2 Analyze from version 4.1.2 or earlier, you must first upgrade to version 4.1.3. Use the deployment toolkit to upgrade a deployment of i2 Analyze or the Intelligence Analysis Platform to version 4.1.3.

The process that you follow to upgrade your deployment depends on the deployment that you are upgrading:

- If you are upgrading a system that includes the IBM i2 Enterprise Insight Analysis Integrated Components, you must upgrade the i2 Analyze deployment toolkit as well as the Integrated Components. To upgrade from i2 Analyze 4.1.2 with the Integrated Components, complete the instructions in [“Upgrading the deployment toolkit and Integrated Components”](#) on page 14.

- To upgrade from an earlier version of i2 Analyze, or a deployment of Intelligence Analysis Platform 3.0.11, complete the instructions in [“Upgrading the deployment toolkit”](#) on page 15.
- To upgrade from Intelligence Analysis Platform version 3.0.9 or earlier, complete the instructions in [“Upgrading from Intelligence Analysis Platform version 3.0.5, 3.0.7, or 3.0.9”](#) on page 16.

Upgrading the deployment toolkit and Integrated Components

If your deployment includes the IBM i2 Enterprise Insight Analysis Integrated Components, you must upgrade both your IBM i2 Analyze toolkit and the Integrated Components before you upgrade your deployment.

Procedure

1. Extract the IBM i2 Analyze product files from your downloaded distribution.
2. Run IBM Installation Manager and install the i2 Analyze software package.

Two versions of the software package are available. The installation repository location that IBM Installation Manager requires is the 4.1.3 version of the i2analyze-repository directory. This directory is in the location that you extracted or copied the product files into.

3. Extract the IBM i2 Enterprise Insight Analysis Integrated Components product files from your downloaded distribution.
4. Navigate to the EIA-Deployment-Toolkit directory in the extracted contents of the Enterprise Insight Analysis Integrated Components.
5. Merge the contents of the EIA-Deployment-Toolkit/toolkit/application directory into the i2analyze/toolkit/application directory. Where duplicate files exist, overwrite the existing i2 Analyze files with the new Enterprise Insight Analysis files.
6. Copy the contents of the EIA-Deployment-Toolkit/toolkit/examples/information-store-sig-int-onyx/configuration/fragments/xap-suppliment, to the i2analyze/toolkit/configuration/fragments/xap-suppliment directory. Where duplicate files exist, overwrite the existing i2 Analyze files with the new Enterprise Insight Analysis files to ensure that you re-apply any additional customizations.
7. Copy ApolloServerSettingsDaod.properties and InfoStoreNames.properties from EIA-Deployment-Toolkit/toolkit/examples/information-store-sig-int-onyx/configuration/fragments/cognos-connector/WEB-INF/classes, to the /configuration/fragments/cognos-connector/WEB-INF/classes directory. Where duplicate files exist, overwrite the existing i2 Analyze files with the new Enterprise Insight Analysis files and ensure that you re-apply any additional customizations.
8. Navigate to the i2analyze/toolkit/configuration/fragments/cognos-connector/WEB-INF/ directory and delete the lib directory and all the contents.

These files are now included in the deployment toolkit, and leaving the directory and files behind leads to clashes when the application is running.

What to do next

After you upgrade your toolkit and the Integrated Components, you can use your updated toolkit to [Upgrade your i2 Analyze deployment](#).

After you upgrade your deployment to version 4.1.3, upgrade to the latest version of i2 Analyze. For more information about upgrading to the latest version, see [“Upgrading the deployment toolkit to i2 Enterprise Insight Analysis 2.2.0”](#) on page 11.

Upgrading the deployment toolkit

If you are upgrading to i2 Analyze 4.1.3 from an earlier version, or you have an existing deployment of Intelligence Analysis Platform 3.0.11, the upgrade process upgrades the application without changing the architecture.

Procedure

1. Install the i2 Analyze version 4.1.3 deployment toolkit.

- a) Extract the IBM i2 Analyze product files from your downloaded distribution.
- b) Run IBM Installation Manager and install the i2 Analyze software package.

Two versions of the software package are available. The installation repository location that IBM Installation Manager requires is the 4.1.3 version of the `i2analyze-repository` directory. This directory is in the location that you extracted or copied the product files into.

2. Stop any running application server instances that are hosting IBM i2 Intelligence Analysis Platform or i2 Analyze.
3. If you are upgrading from Intelligence Analysis Platform version 3.0.11, copy the existing configuration folder from the deployed IAP-Deployment-Toolkit directory, to the i2 Analyze 4.1.3 version of the toolkit.

If you are upgrading from i2 Analyze version 4.0.0 or later, the configuration folder is already in the correct location.

4. If not already present, create and populate the `credentials.properties` file. This should be stored in the following location: `toolkit\configuration\environment\`.

For more information about creating the `credentials.properties` file, see [Deploying IBM i2 Analyze](#).

Important: From version 4.1.1 of i2 Analyze, the deployment toolkit uses a new password from the `credentials.properties` file to encrypt LTPA tokens. During an upgrade, you must provide a value for the `ltpakeys.password` property in addition to the other credentials for your existing deployment:

- For a standalone deployment of i2 Analyze, you can specify any value as the password.
- For a deployment of i2 Analyze that uses LTPA tokens to authenticate with other systems, you must specify the same password that those systems use.

5. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere Application Server.

What to do next

After you upgrade your toolkit to version 4.1.3, you can use your updated toolkit to [Upgrade your i2 Analyze deployment](#).

After you upgrade your deployment to version 4.1.3, upgrade to the latest version of i2 Analyze. For more information about upgrading to the latest version, see [“Upgrading the deployment toolkit to i2 Enterprise Insight Analysis 2.2.0” on page 11](#).

Upgrading from Intelligence Analysis Platform version 3.0.5, 3.0.7, or 3.0.9

To upgrade to i2 Analyze 4.2.0, you must first upgrade to i2 Analyze 4.1.3. The upgrade path from Intelligence Analysis Platform version 3.0.5, 3.0.7, or 3.0.9, to i2 Analyze version 4.1.3, involves migrating from the two server system into the new architecture.

Before you begin

Note: If you are using Oracle databases on a Linux based system, to migrate data into the write store from the document store, the ORACLE_HOME environment variable must be set before you run the upgrade. For example:

```
export ORACLE_HOME=/oracle/app/oracle/product/11.2.0/dbhome_1
```

To upgrade a system that has the write store and the document store on a different computer from the write side application server, upgrade tasks must be run on both servers. In this situation, use the instructions in [“Upgrading an Intelligence Analysis Platform deployment with remote database storage”](#) on page 18 instead of the following procedure.

Procedure

1. Install the i2 Analyze version 4.1.3 deployment toolkit.
 - a) Extract the IBM i2 Analyze product files from your downloaded distribution.
 - b) Run IBM Installation Manager and install the i2 Analyze software package.

Two versions of the software package are available. The installation repository location that IBM Installation Manager requires is the 4.1.3 version of the `i2analyze-repository` directory. This directory is in the location that you extracted or copied the product files into.
2. Stop any running application server instances that are hosting IBM i2 Intelligence Analysis Platform.
3. Copy the existing configuration folder from the deployed version of the IAP-Deployment-Toolkit directory, to the i2 Analyze 4.1.3 version of the toolkit.
4. If you are upgrading a deployment that includes custom files for customizing the read-side settings (for example, a changed setting in `ApolloServerSettingsItemSubscriber.properties`), copy the custom files from `configuration\fragments\read\WEB-INF\classes` into `configuration\fragments\write\WEB-INF\classes` before you run the upgrade.
5. Create and populate the `credentials.properties` file. This should be stored in the following location: `toolkit\configuration\environment\`.

For more information about creating the `credentials.properties` file, see [Deploying IBM i2 Analyze](#).

Important: From version 4.1.1 of i2 Analyze, the deployment toolkit uses a new password from the `credentials.properties` file to encrypt LTPA tokens. During an upgrade, you must provide a value for the `ltpakeys.password` property in addition to the other credentials for your existing deployment:

 - For a standalone deployment of i2 Analyze, you can specify any value as the password.
 - For a deployment of i2 Analyze that uses LTPA tokens to authenticate with other systems, you must specify the same password that those systems use.
6. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere Application Server.

7. Open a command prompt on the existing write-side server, and navigate to the toolkit \scripts directory of the i2 Analyze 4.1.3 toolkit.
8. To upgrade the deployment, run the following command:

```
setup -t upgrade
```

When the setup script runs the upgrade task, it performs the following actions:

- Installs a supported instance of IBM Java
- Installs IBM WebSphere Application Server Liberty profile
- Updates the configuration
- Consolidates all data that is stored on the write side into a single database
- Creates and deploys the upgraded i2 Analyze application

Note: As a part of the upgrade, the configuration folder is modified to match the new structure for the deployment. A part of this upgrade moves the contents of both the write and read fragments into a new fragment.

9. If you are migrating from a system that was previously using WebSphere Application Server Full profile, set up the WebSphere Application Server Liberty profile user registry to match the original settings.

For more information, see [Authenticating users in the Liberty profile](#).

Note: The Liberty user registry can be found in the Liberty home directory in the following location: usr\shared\config\user.registry.xml.

In addition, for systems that are currently using file-based security, a command is available to migrate the existing users and groups. For instructions to do this, see [“Migrating file-based user repositories”](#) on page 21.

10. To start the application, run the following command:

```
setup -t start
```



Attention:

When the application starts, the events will replay, re-creating the data and indexes that were stored on the read side. Depending on the volume and complexity of your data, the event replay might take a significant period of time. After this replay is complete, the read side server is no longer required.

The system is unavailable until the index is rebuilt.

11. Restart the HTTP server that hosts the reverse proxy.

Results

Your deployment is upgraded to i2 Analyze version 4.1.3.

What to do next

Upgrade to the latest version of i2 Analyze. For more information about upgrading to the latest version, see [“Upgrading the deployment toolkit to i2 Enterprise Insight Analysis 2.2.0”](#) on page 11.

Upgrading an Intelligence Analysis Platform deployment with remote database storage

IBM i2 Intelligence Analysis Platform version 3.0.9 and earlier supported deployment topologies in which the database management system was hosted separately from the write-side server. The deployment toolkit in i2 Analyze version 4.1.3 can update deployments of this form as well as the standard configuration.

Procedure

1. Install the i2 Analyze version 4.1.3 deployment toolkit.
 - a) Extract the IBM i2 Analyze product files from your downloaded distribution.
 - b) Run IBM Installation Manager and install the i2 Analyze software package.

Two versions of the software package are available. The installation repository location that IBM Installation Manager requires is the 4.1.3 version of the `i2analyze-repository` directory. This directory is in the location that you extracted or copied the product files into.
2. Stop any running application server instances that are hosting IBM i2 Intelligence Analysis Platform.
3. On the server that is hosting the write store, copy the existing configuration folder from the deployed version of the IAP-Deployment-Toolkit directory, to the i2 Analyze 4.1.3 version of the toolkit.
4. If you are upgrading a deployment that includes custom files for customizing the read-side settings (for example, a changed setting in `ApolloServerSettingsItemSubscriber.properties`), copy the custom files from `configuration\fragments\read\WEB-INF\classes` into `configuration\fragments\write\WEB-INF\classes` before you run the upgrade.
5. Create and populate the `credentials.properties` file. This is stored in the following location: `toolkit\configuration\environment\`.

For more information about creating the `credentials.properties` file, see the i2 Analyze deployment documentation.

Important: From version 4.1.1 of i2 Analyze, the deployment toolkit uses a new password from the `credentials.properties` file to encrypt LTPA tokens. During an upgrade, you must provide a value for the `ltpakeys.password` property in addition to the other credentials for your existing deployment:

 - For a standalone deployment of i2 Analyze, you can specify any value as the password.
 - For a deployment of i2 Analyze that uses LTPA tokens to authenticate with other systems, you must specify the same password that those systems use.
6. Modify `topology.xml`:
 - a) Using an XML editor, open `toolkit\configuration\environment\topology.xml`.
 - b) Ensure that the `create-database` attribute is set to `true` for the `write1` database, and to `false` for all other databases.

For example:

```
<applications>
  <application name="write" host-name="">
    <lucene-indexes>
    </lucene-indexes>
    <wars>
      <war target="write" name="write" iap-datasource-id="ar-id">
        <data-sources>
          <data-source database-id="doc1" create-
database="false" />
          <data-source database-id="write1" create-
database="true" />
        </data-sources>
        ...
      </war>
    </wars>
  </application>
  <application name="read" host-name="">
    <lucene-indexes>
      <lucene-index id="ar" main-index-location="" alternatives-
location="" />
    </lucene-indexes>
    <wars>
      <war target="read" name="read" iap-datasource-id="ar-id">
        <data-sources>
          <data-source database-id="doc1" create-
database="false"/>
          <data-source database-id="item1" create-
database="false"/>
        </data-sources>
        ...
      </war>
    </wars>
  </application>
</applications>
```

c) Save your changes and close topology.xml.

7. On the server that is hosting the write store, open a command prompt, and navigate to the toolkit\scripts directory of the i2 Analyze 4.1.3 toolkit.
8. To upgrade the server to i2 Analyze 4.1.3, run the following command:

```
setup -t remoteUpgrade -s write
```

When the setup script runs the remoteUpgrade task, it performs the following actions:

- Installs a supported instance of IBM Java
 - Updates the configuration
 - Consolidates all data that is stored on the write side into a single database
9. On the write-side server, copy the configuration folder from the database server to the i2 Analyze 4.1.3 version of the deployment toolkit.

10. Modify topology.xml:

- a) Using an XML editor, open toolkit\configuration\environment\topology.xml.
- b) Ensure that the create-database attribute for the write1 database is set to false.

For example:

```
<applications>
  <application name="write" host-name="">
    <lucene-indexes>
    </lucene-indexes>
    <wars>
      <war target="write" name="write" iap-datasource-id="ar-id">
        <data-sources>
          <data-source database-id="doc1" create-
database="false" />
          <data-source database-id="write1" create-
database="false" />
        </data-sources>
        ...
      </war>
    </wars>
  </application>
  <application name="read" host-name="">
    <lucene-indexes>
      <lucene-index id="ar" main-index-location="" alternatives-
location="" />
    </lucene-indexes>
    <wars>
      <war target="read" name="read" iap-datasource-id="ar-id">
        <data-sources>
          <data-source database-id="doc1" create-
database="false" />
          <data-source database-id="item1" create-
database="false" />
        </data-sources>
        ...
      </war>
    </wars>
  </application>
</applications>
```

- c) Save your changes and close topology.xml.

11. If you have not already done so, use IBM Installation Manager to upgrade IBM HTTP Server and the Web Server Plug-ins for WebSphere Application Server.
12. On the write side server, open a command prompt, and navigate to the toolkit\scripts directory of the i2 Analyze 4.1.3 toolkit.
13. To upgrade the write side server to i2 Analyze 4.1.3, run the following command:

```
setup -t deploy
```

When the setup script runs the deploy task, it performs the following actions:

- Installs a supported instance of IBM Java
 - Installs IBM WebSphere Application Server Liberty profile
 - Creates and deploys the upgraded i2 Analyze application
14. If you are migrating from a system that was previously using WebSphere Application Server Full profile, set up the WebSphere Application Server Liberty profile user registry to match the original settings.

For more information, see [Authenticating users in the Liberty profile](#).

Note: The Liberty user registry can be found in the Liberty home directory in the following location: `usr\shared\config\user.registry.xml`.

In addition, for systems that are currently using file-based security, a command is available to migrate the existing users and groups. For more information, see [“Migrating file-based user repositories”](#) on page 21.

15. To start the application, run the following command:

```
setup -t start
```



Attention: When the application starts, the events will replay, re-creating the data and indexes that were stored on the read side. Depending on the volume and complexity of your data, the event replay might take a significant period of time.

16. Restart the HTTP server that hosts the reverse proxy.

Migrating file-based user repositories

The setup script includes a command that you can run to convert a file-based user repository from a WebSphere Application Server Full profile version to its Liberty profile equivalent. For deployments that are set up to use file-based repositories, this command reduces the number of steps you need to perform to convert the user registry.

About this task

You should only run this command on systems that are using a file-based user repository. For systems that are configured to use other mechanisms, you must re-create your settings manually.

Important: When the conversion of the repository is complete, all the passwords that were stored in an encrypted format will be reset to 'password'. You must re-encrypt the passwords to re-secure your system.

Procedure

1. Stop any running application server instances that are hosting i2 Analyze.
2. Open a command prompt on the upgraded server, and navigate to the `toolkit\scripts` directory of the i2 Analyze 4.2.0 toolkit.
3. To migrate the repository, run the following command:

```
setup -t migrateFileRegistry
```

This script migrates all the users that have been entered into `user.registry.xml`, and sets all of their passwords to 'password'.

4. Using an XML editor, open the `user.registry.xml` file, which is in `\IBM\iap\deploy\wlp\use\shared\config`.
5. Replace the passwords in your user registry with encrypted values. To do this, use the WebSphere Application Server Liberty profile `securityUtility` tool to encrypt the passwords for each user. For example:

```
securityUtility encode my_password
```

Where `my_password` is replaced with the password to encode.

For more information on using the security utility, see [Configuring a basic user registry for the Liberty profile](#).

6. Save and close the `user.registry.xml` file.

Changes to the security model

From IBM i2 Analyze 4.1.0, there is a new security model for controlling access to data in the i2 Analyze deployment. Fresh deployments of i2 Analyze use the new security model, but the upgrade process for existing deployments maintains the existing security model by default.

The new and existing security models are not compatible with each other. If you attempt to change a deployment of i2 Analyze from a release earlier than 4.1.0 with a populated Analysis Repository, from the existing to the new model, the result is a validation failure.

If you have a demonstration or test system that must change to use the new security model, you can use the `clearData` task to remove all items from the Analysis Repository. With the system in this condition, you can safely change its security model.

For information on setting up the new security model, see the i2 Analyze deployment documentation.

Other upgrade considerations

If the deployment that you are upgrading is deployed in an environment that isn't using the default configuration, you might need to complete extra tasks to upgrade your system. The extra tasks might need to be completed before you upgrade the system, or after.

Configuration settings

In addition to the following task topics, you might need to consider configuration settings that are new to your environment as a result of an upgrade. Depending on the default setting of the property, you might want to change the setting to meet your requirements.

Table 2: Property attribute changes that might be required as part of the upgrade			
Configuration setting	Introduced	Default	Changing the property values
In a deployment with Opal services, when users create Information Store records in Analyst's Notebook Premium, i2 Analyze applies a default set of security dimension values to the record. You must change the default dimension values that are applied to records to suit your requirements.	V2.1.6	By default, the value for this property uses dimension values from the example security schema.	For more information about configuring the default security dimension values, see Setting default dimension values for Opal
In a deployment with Opal services, you can configure the types of items and properties, as well as metadata criteria, that appear in the filter list by creating and configuring facets.	V2.1.6	The value of the property is blank, which means that no results configuration is specified in your upgraded system.	For more information about configuring the search results filtering, see Setting up search results filtering

Specifying remote IBM DB2 database locations

Deployments that contain databases on different servers from your application server must be upgraded by using the deployment toolkit that is installed on the application server. To enable the upgrade scripts to access your remote databases, you must first specify the locations of the remote databases.

Before you begin

To deploy i2 Analyze using remote DB2 database storage, you must install DB2 on your database server, and DB2 or IBM Data Server Client on the application server. Both instances of DB2 must be installed according to the specifications defined in the i2 Analyze software prerequisites. For more information about installing the prerequisites, see [Software prerequisites](#).

About this task

Before you specify the locations of your databases, you must ensure that the deployment toolkit you are using supports this information. To upgrade a deployment that uses remote DB2 database storage, update the deployment toolkit to the latest version. Then, update the configuration with the details of your remote databases and upgrade the deployment and remote databases to the latest version.

If you previously specified the location of your remote DB2 databases and deployed or upgraded them by using the i2 Analyze deployment toolkit on the i2 Analyze server, you can upgrade your deployment without specifying the location of your databases again. For more information about upgrading, see [“Upgrading the deployment” on page 26](#).

Procedure

1. To ensure that your deployment toolkit contains support for the remote database parameters, upgrade your deployment toolkit to the latest version. To upgrade your deployment toolkit, follow the instructions in [“Upgrading the deployment toolkit” on page 15](#).

2. Run the following command to update the configuration files in the deployment toolkit:

```
setup -t ensureConfigurationUpToDate
```

3. Edit the `topology.xml` file to specify your remote DB2 databases:

- a) Using an XML editor, open `toolkit\configuration\environment\topology.xml`.
- b) Update the `host-name` and `port-number` attribute values of the `<database>` element to match the values of your remote DB2 instance.

Note: The value of the `instance-name` attribute must match the instance name of local instance DB2.

- c) Add the `node-name` attribute to the `<database>` element of the databases to be hosted remotely.

For example:

```
<database dialect="db2" xa="false" instance-name="DB2"
  database-name="WriteSto" database-type="WriteStore" id="write1"
  host-name="hostname" port-number="50000" node-name="node1" />
```

Where the value for `node-name` is the name of the node to create in the DB2 node directory. The value of the `node-name` attribute must start with a letter, and have fewer than 8 characters. For more information about naming in DB2, see [Naming conventions](#).

Note: If the Analysis Repository and Information Store are using the same DB2 instance, they can use the same node.

- d) If you are deploying the Information Store database, add the `os-type` attribute to the `<database>` element for the Information Store database. The value of the `os-type` is used to support the search functionality for the Information Store.

For example:

```
<database database-type="InfoStore" dialect="db2" instance-name="DB2"
  database-name="ISTORE" xa="false" edition="" id="infostore"
  host-name="hostname" port-number="50000" version=""
  node-name="node1" os-type="WIN" />
```

Where the value for `os-type` is the operating system of the remote DB2 server.

Note: The value of the `os-type` attribute must be one of the following values: AIX, UNIX, or WIN.

- e) Set the value of the `create-database` attribute to `true` for each `<data-source>` element that uses a remote DB2 database.

4. Edit the `environment.properties` file, to specify the details of your remote and local instance of DB2.

- a) Using a text editor, open `toolkit\configuration\environment\server-name\environment.properties`.

Where `server-name` is the name of your application server.

- b) Ensure that the value of the `db.installation.dir.db2` property is set for the local instance of DB2 on the application server.
- c) Set the value of the `db.database.location.dir.db2` property for the remote instance of DB2 on the database server.

5. Ensure that the users that are specified for your databases in the `toolkit\configuration\environment\credentials.properties` file are valid for your remote instance of DB2.
6. Run the following command to add the nodes that are defined in the `topology.xml` file to the DB2 node directory:

```
setup -t catalogRemoteDB2Nodes
```

Note: The directory cache is refreshed as part of this process without any further action.

7. To catalog your remote DB2 databases against the remote nodes that you created, run the following command:

```
setup -t catalogDB2Databases
```

Note: The directory cache is refreshed as part of this process without any further action.

Results

Your deployment toolkit now contains the information to allow your databases to be upgraded.

To check that the remote nodes and databases are cataloged, you can use the `listDB2NodeDirectory` and `listDB2SystemDatabaseDirectory` tasks:

- The `listDB2NodeDirectory` task lists the contents of the DB2 node directory.
- The `listDB2SystemDatabaseDirectory` task lists the contents of the local DB2 system database directory.

What to do next

Follow the steps in [“Upgrading the deployment” on page 26](#) to upgrade your deployment.

Upgrading the ETL toolkit

If your deployment includes the ETL toolkit, you must upgrade the ETL toolkit to version 2.2.0 separately from the rest of the deployment. To upgrade the ETL toolkit, you must remove the existing version and replace it with one that is deployed with version 2.2.0 of the i2 Analyze toolkit.

Before you begin

You must upgrade your deployment to version 2.2.0 before you can upgrade your ETL toolkit.

Procedure

1. If you modified the connection properties of your ETL toolkit to connect to a remote instance of DB2, make a backup of the properties file. Navigate to the `etltoolkit\classes` directory of your ETL toolkit, and copy the `Connection.properties` file to a location outside of the `etltoolkit` directory.
You can remove the previous ETL toolkit.
2. After you upgrade your deployment, deploy the ETL toolkit from the upgraded i2 Analyze toolkit at version 2.2.0.
For more information about deploying the ETL toolkit, see [Deploying the ETL toolkit](#).
3. Update the `Connection.properties` file in the new ETL toolkit with the `db.installation.dir.db2` property and value from your backup `Connection.properties` file from your previous ETL toolkit.

Results

The ETL toolkit is upgraded to version 2.2.0, and ready for use by your ETL logic to modify the Information Store.

Upgrading a customized Information Store

The Information Store is designed to store large amounts of data, and the underlying database can be customized to optimize performance at scale. If you have modified your database in this manner you must also handle the database upgrade separately.

About this task

If you have customized your Information Store, having the deployment toolkit upgrade your database structure automatically is not desirable. However to upgrade your system the Information Store will need to be modified to match the newer version.

Note: Depending on the scale and complexity of your data, making changes of this nature can take time. Plan your upgrade to take place in a period of low activity, and backup your system before proceeding.

Procedure

1. Open a command prompt on the server, and navigate to the toolkit\scripts directory of the i2 Analyze 4.2.0 toolkit.
2. To generate the DDL scripts that can be used to upgrade your Information Store, run the following command:

```
setup -t generateInfoStoreUpgradeScripts
```

The upgrade scripts are placed in the following location: toolkit\scripts\database\db2\InfoStore\generated\upgrade

3. Evaluate the scripts provided and use them to update your database.

Results

Once you have modified your Information Store to match the latest structure, you must ensure that your applications are upgraded without the database upgrade. To do this, ensure that you have set the create-database attribute of the Information Store data-source to false in the topology.xml before [“Upgrading the deployment”](#) on page 26.

Upgrading the deployment

The upgraded deployment toolkit can be used to upgrade your existing deployment to use a later version of the server components. The new features available in the later versions are only available after the upgrade is completed.

About this task

Upgrading a deployment not only upgrades the application, but can change the way that data is stored both in the index and in the data stores.

Depending on the scale and complexity of your data, changes of this nature can take time. You might want to plan your upgrade to take place in a period of low activity, and backup your system before proceeding.

For the Analysis Repository with the Onyx pattern, a full reindex is required when you upgrade from versions 4.1.3 and 4.1.4, consider this operation as an extra overhead on your environment.

For the Information Store with the Opal pattern, an in-place reindex occurs when you upgrade from versions earlier than 4.1.6. The index is not deleted, so searches can still be performed. However, until the reindex is completed, you cannot add Notes to items that are not reindexed and some facets for metadata might be missing.

Procedure

1. Open a command prompt on the server, and navigate to the `toolkit\scripts` directory of the i2 Analyze toolkit.
2. If your existing deployment includes Connector Creator or iBase Connector, you must run the command to add the connector before you run the upgrade task.

For Connector Creator, run the following commands:

```
setup -t ensureConfigurationUpToDate
setup -t addConnectorCreator
```

For iBase Connector, run the following commands:

```
setup -t ensureConfigurationUpToDate
setup -t addIBaseConnector
```

For iBase Connector, you must also ensure that the iBase password is set in the `ibase.password` property in the `toolkit\configuration\environment\iBase\environment.properties` file.

3. To upgrade the deployment, run the following command:

```
setup -t upgrade
```

When the setup script runs the upgrade task, it performs the following actions:

- Updates the application configuration
- Creates and deploys the upgraded i2 Analyze application

4. To start the application, run the following command:

```
setup -t start
```

5. Restart the HTTP server that hosts the reverse proxy.

What to do next

If your deployment includes the ETL toolkit, you must upgrade the ETL toolkit to version 2.2.0 after you upgrade the rest of the deployment. For more information, see [“Upgrading the ETL toolkit” on page 25](#).

Upgrading software prerequisites

When you upgrade any i2 Enterprise Insight Analysis or i2 Analyze deployment, you might need to upgrade the prerequisite software that is used in your environment.

Upgrading to Cognos Analytics

If you have an Enterprise Insight Analysis deployment version 2.1.5 or later, you can upgrade your reporting software to IBM Cognos Analytics. Upgrading to IBM Cognos Analytics means that you can take advantage of new features for management reporting against the Information Store.

Before you begin

This Cognos upgrade task applies to a deployment that uses the Onyx services to connect to the Information Store.

To upgrade to Cognos Analytics from Cognos Business Intelligence, you install Cognos Analytics alongside your existing Cognos Business Intelligence deployment. The Cognos documentation provides detailed information about developing an upgrade plan and the tasks that you must complete. For more information about upgrading to Cognos Analytics, see [Planning your upgrade to IBM Cognos Analytics](#) and [Upgrade process](#).

Install the supported version of Cognos Analytics. For more information, see [Installing IBM Cognos](#).

Configure Cognos for Enterprise Insight Analysis. For more information about configuring Cognos, see [Configuring Cognos](#).

About this task

After you install and configure Cognos Analytics, you can migrate your existing reports and visualizations to the new Cognos installation.

After you install Cognos Analytics, modify the IBM HTTP Server, and i2 Analyze configurations to enable communication between Enterprise Insight Analysis and Cognos Analytics. Then, ensure that the connection between Cognos and the Information Store database is correct.

Procedure

1. Migrate your existing reports and visualizations to the new Cognos installation. For more information about migrating your existing content, see [Move your content to the new version of the product](#).
2. Modify the IBM HTTP Server configuration. For more information about configuring the IBM HTTP Server, see [“Modifying the IBM HTTP Server configuration” on page 30](#).
3. Modify the i2 Analyze configuration. For more information about configuring i2 Analyze, see [“Modifying the i2 Analyze configuration” on page 31](#).
4. Configure the connection between Cognos and Enterprise Insight Analysis. For more information about configuring the connection between Cognos and Enterprise Insight Analysis, see [Configuring the connection between Cognos and the Information Store](#).

Modifying the IBM HTTP Server configuration

IBM HTTP Server uses configurable information to identify your Cognos installation. To direct traffic to your new installation, modify the aliases to Cognos in the HTTP server configuration.

Procedure

1. Using a text editor, open the `httpd.conf` file in the `conf` directory of the IBM HTTP Server installation.
2. Remove the existing alias definitions from the `httpd.conf` file. Remove the alias configuration for the `cgi-bin`, `webcontent/documentation`, `webcontent`, `webcontent/samples`, and `v5dataserver/XQE/Logs` directories.
3. At the end of the `httpd.conf` file, add the following configuration to define aliases for the `bi`, `cgi-bin`, and `webcontent` directories:

```
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_http_module modules/mod_proxy_http.so

<Location /analytics/bi>
    RequestHeader set X-BI-PATH /analytics/bi/v1
    Header always unset X-Frame-Options
    ProxyPass http://host_name.my.domain.com:9300/bi
    ProxyPassReverse http://host_name.my.domain.com:9300/bi
    ProxyPassReverseCookieDomain "." "my.domain.com"
</Location>

ScriptAlias /analytics/cgi-bin "installation_path/cognos/analytics/cgi-bin"

<Directory "installation_path/cognos/analytics/cgi-bin">
    Header always unset X-Frame-Options
    Header always append X-Frame-Options SAMEORIGIN
    Header always unset X-Frame-Options "ALLOW-FROM http://
host_name.my.domain.com/"
    AllowOverride None
    Options None
    Require all granted
</Directory>

Alias /analytics "installation_path/cognos/analytics/webcontent"
<Directory "installation_path/cognos/analytics/webcontent">
    AllowOverride None
    Options None
    Require all granted
</Directory>

<Location /analytics/cgi-bin/mod2_2_cognos.dll>
    SetHandler cognos-handler
    Require all granted
</Location>
```

Where *installation_path* is the Cognos installation location. Ensure that you use forward slashes (/) in all file paths, for both Linux and Windows paths.

Where *host_name* is the fully qualified domain name of the i2 Analyze server.

Note: analytics is the default value for the **Gateway URI** property in IBM Cognos Configuration.

Note: For a Linux deployment, in the previous configuration change mod2_2_cognos.dll to mod2_4_cognos.so. You must also add the following configuration to the httpd.conf file:

```
LoadModule expires_module modules/mod_expires.so
LoadModule filter_module modules/mod_filter.so

LoadModule cognos_module "/opt/ibm/cognos/analytics/cgi-bin/mod2_4_cognos.so"

<IfModule mod_expires.c>
    <FilesMatch "\.(jpe?g|png|gif|js|css|json|html|woff2?|template)$">
        ExpiresActive On
        ExpiresDefault "access plus 1 day"
    </FilesMatch>
</IfModule>

<IfModule mod2_4_cognos.c>
    CGIBinDir "installation_path/cognos/analytics/cgi-bin"
</IfModule>

<Directory installation_path/cognos/analytics>
    <IfModule mod_deflate>
        AddOutputFilterByType DEFLATE text/html application/json
        text/css application/javascript
    </IfModule>
    Options Indexes MultiViews
    AllowOverride None
    Require all granted
</Directory>
```

Modifying the i2 Analyze configuration

The URLs that you use to connect to Cognos Analytics are different from the URLs that you use for Cognos Business Intelligence. Modify the i2 Analyze configuration to update the URLs.

Before you begin

The Enterprise Insight Analysis toolkit must be version 2.1.4 or later.

Procedure

1. Using a text editor, open the ApolloServerSettingsDaodMandatory.properties file. You can find this file in the following location: i2analyze\toolkit\configuration\fragments\cognos-connector\WEB-INF\classes\.
 - a) Update the values of the Cognos properties for your environment. The following property values must be updated for Cognos Analytics:

CognosURL

For example, `http://host-name/analytics/cgi-bin/cognos.cgi`

CognosSDKURL

For example, `http://host-name:port/bi/v1/disp`

Note: The host name that you specify in the CognosURL and CognosSDKURL must match the host name that is used in the Cognos configuration. You cannot use an alias.

- b) If you cleared the value for CognosSDKPassword from your previous configuration, populate the value for the Cognos SDK user's password.

The password that is stored in the CognosSDKPassword property is not encoded after you deploy i2 Analyze. After you deploy i2 Analyze, remove the value from the `ApolloServerSettingsDaodMandatory.properties` file.

2. In a command line, navigate to the `i2analyze\toolkit\scripts` directory. Run the following command to deploy i2 Analyze:

```
setup -t deploy
```

3. Restart the IBM HTTP Server that hosts the reverse proxy.

What to do next

Configure the connection between Cognos and the Information Store. For more information, see [Configuring the connection between Cognos and the Information Store](#).

Connect a client to test the deployment of Enterprise Insight Analysis. For more information, see [Connecting clients](#).

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