

IBM InfoSphere Information Server  
Version 8 Release 7

*Guide to Migrating to IBM InfoSphere  
Information Server, Version 8.7*





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**Note**

Before using this information and the product that it supports, read the information in “Notices and trademarks” on page 37.

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# Migrating to IBM InfoSphere Information Server, Version 8.7

Use these procedures to move an existing source installation to InfoSphere® Information Server, Version 8.7.



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## Designing the migration topology

A critical planning step is to design the migration topology that describes both the source topology and the target topology.

Each migration topology consists of three tiers: engine tier, services tier, and metadata repository tier. If you are familiar with earlier versions of IBM® InfoSphere Information Server, the services tier was referred to as the domain.

You have the following choices for installing these three tiers:

- Install the tiers on a new computer or if you are distributing the tiers, on multiple new computers.
- Install the tiers on existing computers, after you remove the prior version of InfoSphere Information Server.
-   Install Version 8.7 tiers alongside the prior version on the existing computers, so that you can retain the source installation.

There are advantages to retaining the prior version. First, you can continue to use the prior version while you perform the migration process. Second, the prior version exists as a reference that you can use when you validate the Version 8.7 installation.

If you choose to install two versions side-by-side, keep the following points in mind:

- The system requirements must be met for both Version 8.7 and the prior version.
- The target computer must have enough disk space, I/O, processor power, memory, and swap space to run both versions simultaneously.
- The Version 8.7 system will typically use non-default ports for the client and internal connections. Therefore, client users must specify non-default ports for services and engine tier connections and open the additional ports in the firewall.
- To perform system management actions, such as installing a patch, shutting down and restarting services, and so on, the administrator must be careful to set environment variables to the correct version's installation.

For more information about topologies, see the following topic: Basic installation topologies

## Using multiple engine tiers

The source or target topology can include multiple engine tiers.

### Note:

- This topic uses the term "engine tier." If you currently use InfoSphere DataStage® Version 7.5.3 or earlier, the engine tier is referred to as the DataStage server.

There are two configurations for multiple engine tiers:

- Each engine tier can each be on a separate computer, but all engine tiers must be registered to the same IBM InfoSphere Information Server services tier.
- Multiple engine tiers, each of which runs a different version of InfoSphere Information Server, can be on the same UNIX or Linux computer, but each engine must be registered to a different services tier. This configuration is called an ITAG installation.

When you install InfoSphere Information Server Version 8.7, the installation wizard detects existing engine tiers. You must provide a unique ITAG value and port number to use for the Version 8.7 installation.

For more information about multiple engine tiers, see the following topic: Basic installation topologies

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## Performing a manual migration

If you are migrating from an installation that is at Version 7.5.3 or earlier or Version 8.0.1 or later, use these procedures to perform a manual migration.

For more information about migrating an existing IBM InfoSphere DataStage installation or IBM InfoSphere Information Server installation to InfoSphere Information Server, Version 8.7, see <http://www.ibm.com/support/docview.wss?uid=swg21445403>.

You can manually migrate these products:

- “Manually migrating InfoSphere DataStage”
- “Manually migrating QualityStage” on page 13
- “Manually migrating IBM WebSphere RTI” on page 23
- “Manually migrating InfoSphere Business Glossary” on page 24
- “Manually migrating InfoSphere FastTrack” on page 24
- “Manually migrating InfoSphere Information Analyzer” on page 25
- “Manually migrating InfoSphere Metadata Workbench” on page 26
- “Manually migrating reports” on page 27
- “Manually migrating credentials” on page 27

### Manually migrating InfoSphere DataStage

Use one of these procedures to manually migrate InfoSphere DataStage.

#### Procedure

Use one of the following procedures to manually migrate InfoSphere DataStage:

*Table 1. Procedures for manually migrating InfoSphere DataStage*

Version	Procedure
Version 7.5.3 or earlier	“Manually migrating from InfoSphere DataStage Version 7.5.3 or earlier or Version 8.0.1 or later” on page 3
Version 8.0.1	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/exportinglegacyprojects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/exportinglegacyprojects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/importingdatastageprojects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/importingdatastageprojects.html</a></li> </ul>



Table 1. Procedures for manually migrating InfoSphere DataStage (continued)

Version	Procedure
Versions 8.1, 8.1.1, 8.1.2	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html</a></li> </ul>
Version 8.5	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/istoolexp.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/istoolexp.html</a></li> </ul>

## Manually migrating from InfoSphere DataStage Version 7.5.3 or earlier or Version 8.0.1 or later

Complete these tasks to migrate from IBM InfoSphere DataStage Version 7.5.3 or earlier or from Version 8.0.1 or later.

### About this task

Before you use this process to migrate jobs from Version 8.0.1 or later to Version 8.7, review the jobs that you plan to migrate to determine which items might require manual intervention. The following list describes the additional items that you might need to manually move to the target:

- Parameter sets, which are listed under the project directory
- DSParams for each project and the DSParams in the template for new projects
- User-modified IBM InfoSphere QualityStage™ overrides
- The FTP/Sendmail template in the project directory
- The uvodbc.config file in the project directory
- MessageHandlers, which are under the Server directory
- Job control language (JCL) templates (DS390)
- Parallel engine configuration uvconfig file which contains specific options for the environment
- User-defined entries in the dsenv file
- Data sources in the odbc.ini file
- Parallel engine maps and locales
- Parallel engine configuration files

The following list describes the additional tasks that you might need to perform:

- Recreate user names and credential mappings
- Run the Connector Migration tool to update connectors

### Exporting InfoSphere DataStage projects:

Complete these tasks to export InfoSphere DataStage projects.

#### Procedure

1. "Capturing job log information" on page 4
2. "Backing up the installation" on page 4

3. "Saving InfoSphere DataStage settings files" on page 5
4. "Saving job dependency files, hashed files, and environment information" on page 6
5. "Exporting the projects" on page 7

*Capturing job log information:*

If you plan to remove the source installation and replace it with the target installation, save the job log information, which includes environment settings and other information that you later use to validate the results on the target system.

**Procedure**

1. On the source system, run a small number of jobs to capture the job log information.
2. For each job, complete these steps:
  - a. From the InfoSphere DataStage and QualityStage Director, open the job log view for one of the jobs.
  - b. Choose **Project > Print All entries > Full details > Print to file**, and then enter a file name that clearly identifies the job.
3. Save the logs for future use.

*Backing up the installation:*

Before you begin the export or import process, back up the installation.

**Procedure**

To back up the installation, use one of the following procedures:

*Table 2. Procedures for backing up the installation*

Version	Procedure
Version 7.5.3 or earlier	"Backing up Version 7.5.3 and earlier (Linux and UNIX)" "Backing up Version 7.5.3 and earlier (Microsoft Windows)" on page 5
Version 8.0.1	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/t_admin_backup_infsrv.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/t_admin_backup_infsrv.html</a>
Versions 8.1, 8.1.1, 8.1.2	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/t_admin_backup_infsrv.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/t_admin_backup_infsrv.html</a>
Version 8.5	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t_admin_backup_infsrv.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t_admin_backup_infsrv.html</a>
Version 8.7	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r7/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t_admin_backup_restore_super.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r7/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t_admin_backup_restore_super.html</a>

*Backing up Version 7.5.3 and earlier (Linux and UNIX):*

Before you begin the export or import process, back up the installation.

**Procedure**

1. Complete these steps to stop InfoSphere DataStage services:
  - a. Disconnect all user sessions and ensure that no jobs are running.
  - b. Log on to the InfoSphere DataStage server as dsadm or an equivalent administrative user.

- c. Change to the `../Ascential/DataStage/DSEngine/` directory.
  - d. Source the dsenv file:
 

```
./dsenv
```
  - e. Run the following commands to stop the services:
 

```
./bin/uv -admin -stop
```
  - f. Back up the `../Ascential/DataStage` directory and all of its subdirectories. If any projects are located in other directories, back up those projects.
  - g. Back up all directories that contain external files or libraries that the jobs use. External files are data sets, file sets, sequential files, hashed files, and other similar files. External libraries might be custom C++ functions that the parallel engine calls.
2. Complete these steps to start the InfoSphere DataStage services:
    - a. Log on to the InfoSphere DataStage server as the dsadm user or as an equivalent administrative user.
    - b. Change to the `../Ascential/DataStage/DSEngine/` directory.
    - c. Source the dsenv file:
 

```
./dsenv
```
    - d. Run the following commands to start the services:
 

```
./bin/uv -admin -start
```

*Backing up Version 7.5.3 and earlier (Microsoft Windows):*

Before you begin the export or import process, back up the installation.

### Procedure

1. Complete these steps to stop InfoSphere DataStage services:
  - a. Close all DataStage clients.
  - b. Log on to the DataStage server. Choose **Start > Settings > Control Panel > DataStage**.
  - c. Click **Stop all services**.
  - d. Back up the `..\Ascential\DataStage` directory and all of its subdirectories. If any projects are located in other directories, back up those projects.
  - e. Back up all directories that contain external files or libraries that the jobs use. External files are data sets, file sets, sequential files, hashed files, and other similar files. External libraries might be custom C++ functions that the parallel engine calls.
2. Complete these steps to start the InfoSphere DataStage services:
  - a. Log on to the DataStage server. Choose **Start > Settings > Control Panel > DataStage**.
  - b. Select **DSRPC Service** and then click **Start**.
  - c. If Startup is not listed as Automatic, click **Startup...**, then click **Automatic**. This ensures the service restarts automatically whenever the server is rebooted.
  - d. Repeat Steps b and c for the **DataStage Engine Resource Service**, and **DataStage Telnet Service**.

*Saving InfoSphere DataStage settings files:*

Save the settings files from the source installation. Then after you install the new version, integrate the saved settings into the settings files on the target installation.

## About this task

In the following procedure, the environment variable `$DSHOME` identifies the engine directory of the IBM InfoSphere DataStage installation.

In Linux and UNIX, for Version 7.5.3 and earlier, the engine directory is `/user_home/Ascential/DataStage/DSEngine`, where `user_home` is the home directory of the InfoSphere DataStage administrator who originally installed InfoSphere DataStage. For Version 8.0.1 and later, the engine directory is `/opt/IBM/InformationServer/Server/DSEngine`. By default, this user is named `dsadm`. For Version 7.5.3 and earlier, each project is in its own directory in the `/user_home/Ascential/DataStage/Projects` directory. For Version 8.0.1 and later, each project is in its own directory in the `/opt/IBM/InformationServer/Server/Projects` directory.

In Microsoft Windows, the engine directory is `C:\IBM\InformationServer\Server\DSEngine`. For Version 7.5.3 and earlier, each project has its own directory located, by default, in the `C:\Ascential\DataStage\Projects` directory. For Version 8.0.1 and later, each project has its own directory located, by default, in the `C:\IBM\InformationServer\Server\Projects` directory.

## Procedure

1. **Windows** Complete these steps to save the required settings files:
  - a. Copy the `$DSHOME/dsenv` file to a location that is outside of the InfoSphere DataStage file structure.
  - b. To keep a record of the existing configuration and the configuration of the ODBC drivers, copy the following files to a location that is outside of the InfoSphere DataStage file structure:
    - `$DSHOME/.odbc.ini`
    - `$DSHOME/uvodbc.config`
    - The `uvodbc.config` file that is located in each project directory
  - c. Copy the `DSParams` file from each project directory to a location that is outside of the InfoSphere DataStage file structure.
2. Complete these steps to save the required settings files:
  - a. Copy the `DSParams` file from each project directory to a safe location.
  - b. Copy the `DSParams` file from the Template project. For example, save the `C:\Ascential\DataStage\Template\DSParams` file.
  - c. Copy the `$DSHOME\uvodbc.config` file in the engine directory.
  - d. Copy the `uvodbc.config` file that is located in each project directory.

*Saving job dependency files, hashed files, and environment information:*

If the jobs in the source installation depend on files such as flat files, schema files, library files, and hashed files that are located in the directory structure of InfoSphere DataStage, you must save the files and manually move them to the target installation.

## About this task

The IBM InfoSphere DataStage export procedure exports InfoSphere DataStage objects such as job designs, table definitions, and customer routines. If jobs rely on flat files, files that contain schemas that parallel jobs use, and libraries that are called by parallel job custom routines, you must manually move the files if they

are located in the InfoSphere DataStage server directory structure or in the InfoSphere DataStage client directory structure or if you are installing InfoSphere DataStage on a different target computer.

If the parallel job custom routines call libraries, you cannot move the libraries if the target operating system or computer is different from the source operating system or computer. For these libraries, you must find alternative versions of the libraries or rebuild them from source code.

In addition to saving files, document the current operating system. Record the project and directory structure, security settings, database connection information, ODBC driver installation, and other key information about the environment. Also log into the IBM InfoSphere DataStage and QualityStage Administrator client and record the non-administrator user roles for each project.

Review the jobs that you are planning to migrate to determine all of the items that must be manually copied to the target computer. The following list contains items that you might need to copy:

- Parameter sets, which are under the Project directory
- DSParams settings, which are per-project.
- User-modified IBM InfoSphere QualityStage overrides.
- FTP/Sendmail template in the Project directory.
- uvodbc.config file in the Project directory.
- Message handlers, which are under the Server directory.
- Java Control Language (JCL) templates.
- DSEngine configuration, which is in the uvconfig file.
- User-defined entries in the dsenv file. For more information about setting up the dsenv file, see
- Data sources in the odbc.ini file.
- Parallel job configuration files.

### Procedure

1. To move the files, use operating system commands. If you have jobs that can repopulate the data sets and file sets from external sources, use the jobs to repopulate the data sets and file sets rather than manually moving them.
2. To move hashed files, perform these steps:
  - a. Locate the hashed files in the directory structure:
    - Each static hashed file is represented by two operating system files. For example, a static hashed file named price\_lookup is contained in the two files named price\_lookup and d\_price\_lookup.
    - Each dynamic hashed file is represented by a directory with the same name as the hashed file and a file named D\_hashed\_file\_name. For example, a dynamic hashed file named code\_lookup is represented by the directory named code\_lookup and the file named D-code\_lookup.
  - b. Copy the files and directories that represent each hashed file to a safe location that is outside of the InfoSphere DataStage directory structure.

*Exporting the projects:*

Use the dscmdexport command or the InfoSphere DataStage Manager client for Version 7.5.3 or earlier or the InfoSphere DataStage Designer client for Version 8.0.1

or later to export InfoSphere DataStage projects. If you use the command line, you can create a script that exports all projects at one time.

### About this task

Do not export compiled jobs. You will recompile all migrated jobs when the migration is complete. If any export file is larger than 2 GB, export the project into two or more smaller files.

### Procedure

1. To use the command line to export projects, complete these steps:

- a. On the DataStage client computer, open a command line editor and go to the DataStage client directory. For Version 7.5.3 and earlier, the default path is C:\Ascential\Program Files\Ascential\DataStage\version. For Version 8.0.1 and later, the default path is C:\IBM\InformationServer.
- b. Enter the following command:

```
dscmdexport /H=hostname /U=username /P=password project_name export_file_path [/V]
```

The arguments are the following:

- *hostname* is the name of the InfoSphere DataStage server where the project is located
  - *username* is your user name on the server computer.
  - *password* is the password for the user name.
  - *project\_name* is the name of the project that you are exporting.
  - *export\_file\_path* is the path name of the destination file. By convention, export files have the file extension `.dsx`.
  - `/V` turns the verbose option on so that you can follow the progress of the export procedure.
2. To use the DataStage client to export projects, complete these steps:
- a. Open the InfoSphere DataStage Manager client or InfoSphere DataStage Designer client and attach to the project that you want to export.
  - b. Confirm that **View > Host View** is selected.
  - c. Select **Export > DataStage Components**.
  - d. In the **Export** window, specify details about the project that you want to export:
    - In the **Export to file** field, type or browse for the path name of the file in which to store the project. By default, export files have the file extension `.dsx`.
    - On the **Components** tab, select **Whole Project**.
  - e. Click **OK** The project is exported to the file that you specify.
  - f. In the left pane of the InfoSphere DataStage Manager client, select the next project and repeat steps c through e.

### Example

This example uses the command line to export the project named `monthlyaudit` that is located on the server named `R101` and writes the project to a file named `monthlyaudit.dsx`. The target file is located in a directory named `migrated_projects` on the client computer:

```
dscmdexport /H=R101 /U=BillG /P=paddock monthlyaudit C:\migrated_projects\monthlyaudit.dsx
```

## Removing the InfoSphere DataStage server and clients:

If you plan to replace the existing version with the new version, remove the InfoSphere DataStage server and clients before you install the new version.

### About this task

In Version 8.0.1 and later, the InfoSphere DataStage server is called the engine tier.

### Procedure

- Windows** To remove InfoSphere DataStage Version 7.5.3 and earlier, perform these steps:
  - Ensure that DataStage is not running and that no clients are connected to the server.
  - Open the Microsoft Windows Control Panel, and select **Add or Remove Programs**.
  - In the list of installed programs, select **DataStage server**.
  - Click **Change/Remove**.
- Linux** **UNIX** To remove InfoSphere DataStage 7.5.3 and earlier, perform these steps:
  - Mount the original installation CD, or copy the CD contents to the computer.
  - Log in as the root user.
  - Change the directory to the top-level directory of the CD or to the directory where you copied the CD contents.
  - Enter one of the following commands to start the uninstallation program, which guides you through the process for removing the InfoSphere DataStage server:

Table 3. Commands for removing the InfoSphere DataStage server

Operating system	Command
HP-UX	'UNINSTLL.SH;1'
IBM AIX®	uninstll.sh
Linux	'uninstll.sh'
Solaris	uninstll.sh

- To remove the InfoSphere DataStage clients, complete these steps:
  - Open the Microsoft Windows control panel, and select **Add or Remove Programs**.
  - In the list of installed programs, select **DataStage clients**.
  - Click **Change/Remove**.
- To remove Version 8.0.1 or later, see the following topic: Removing InfoSphere Information Server software

### Installing the new version:

Before you perform the import process, you must install the new version of InfoSphere Information Server.

## About this task

**Note:** After you install Version 8.7, do not use it to do any work. Do not create any artifacts such as projects, connections from clients, and so on. Do not perform any testing to verify that the installation is working.

### Procedure

1. See the following topic for complete information about installing Version 8.7:  
[http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r7/topic/com.ibm.swg.im.iis.productization.iisinfsv.install.doc/topics/wsisinst\\_chk\\_server.html](http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r7/topic/com.ibm.swg.im.iis.productization.iisinfsv.install.doc/topics/wsisinst_chk_server.html)
2. If your topology includes multiple versions of IBM InfoSphere Information Server, you can install the Version 8.7 client tier on a separate Microsoft Windows computer or install it on the same computer with the prior versions of the client, and then use the Multi-client Manager to switch between versions. If you choose to install the Version 8.7 client tier along with prior clients, use the Microsoft Windows Add or Remove Programs utility to remove the existing MKS Toolkit before you install the Version 8.7 client tier. After you install Version 8.7, both the prior versions and Version 8.7 will use the latest MKS toolkit, which is installed along with the client tier.

**Note:** If you want to install the Version 8.7 client tier along with a Version 8.7 engine or services tier on the same Microsoft Windows computer, you cannot have any additional client installations on the computer. You may install only one Version 8.7 client on the computer. In addition, you must install the client tier and the other tier in the same installation directory.

Complete these steps to install the Version 8.7 client on the same Microsoft Windows computer where the client for the prior version is located.

- a. Log on to the Windows computer as an administrator.
- b. Turn off any firewall software that is installed on the computer.
- c. Turn off antivirus software.
- d. Go to the root directory on the InfoSphere Information Server Version 8.7 installation media or downloaded installation image.
- e. Double-click **setup.exe**.
- f. When asked for an installation directory, select **New Installation** and specify a directory that does not contain an existing InfoSphere Information Server client.
- g. Select the product modules and components as required.

### Importing InfoSphere DataStage projects:

Complete these tasks to import IBM InfoSphere DataStage projects into the new version of InfoSphere Information Server.

### Procedure

1. "Manually migrating project information"
2. "Merging the contents of the InfoSphere DataStage settings files" on page 11
3. "Restoring job dependency files and hashed files" on page 11
4. "Recompiling jobs" on page 13

*Manually migrating project information:*



Use the `dscmdimport` command or the InfoSphere DataStage Designer client to import projects.

### Procedure

1. Move the `.dsx` files that you created to the computer where the IBM InfoSphere DataStage clients are installed.
2. Open the InfoSphere DataStage Administrator client, and complete these steps to create a new target project:
  - On the **Projects** page, click **Add**.
  - In the **Add Project** window, type the name of the project that you want to create and specify a path name for it. You can use the original name of the project.
  - Click **OK** to create the project.
3. Open the InfoSphere DataStage Designer client and attach to the target project.
4. Select **Import > DataStage Components**.
5. Specify the name of the `.dsx` file to import, and click **OK**.
6. Repeat steps 2 through 5 for each project that you need to import.

*Merging the contents of the InfoSphere DataStage settings files:*

Use the DataStage Administrator client or the `dsadmin` command line tools to merge the settings files that you saved during the export process.

### About this task

The import process sets the required environment variable definitions in the project, if they are used as parameter variables in the job or parameter set. In general you only set project environment variable values, if required, and environment variables that are required by third-party components and that are not referenced as job parameters.

For Version 8.5 and later, use the Administrator client or the `dsadmin` command line tools to perform these tasks. For Version 7.5.3 and earlier, use the Administrator client to perform these tasks.

Only add settings to or edit settings in the new versions of the settings files. Do not delete any settings and do not copy the saved versions of the files onto the new versions of the files.

For more information about using the `dsadmin` command line tools, see the following topic: [Commands for administering projects](#)

*Restoring job dependency files and hashed files:*

Restore job dependency and hashed files to the new installation.

### Procedure

1. To restore each job dependency file, complete these tasks:
  - a. Find the location for the file in the new IBM InfoSphere Information Server directory structure. For example, if the file was in the project directory in the previous installation, find the project directory to which you imported the project contents.

- b. Use operating system commands to copy the saved file to the required location.
  - c. Ensure that the job that references the file can locate it. If the file is referred to directly, you must edit the path name in the job design. If the file is referred to by a job parameter, you might need to edit the default value of the parameter to reference the new location for the file.
2. To restore hashed files, complete these steps:
    - a. Open the IBM InfoSphere DataStage and QualityStage Director client and attach to the migrated project that uses the hashed files.
    - b. Run or validate the job that creates the hashed files.
    - c. Close all InfoSphere DataStage clients and stop the InfoSphere DataStage services.
    - d. Locate the newly created files in the directory structure and copy the hashed files on top of them. For a dynamic file, ensure that the .Type30 file accompanies the DATA.30 and OVER.30 files in the hashed file directory.
    - e. Restart the InfoSphere DataStage services.
  3. If the hashed files come from a computer that uses a different byte order, complete these steps. Note that file formats are compatible between certain operating systems. Files moved between Microsoft Windows, Suse, and Redhat should not require this step. The same is true for relocating files between IBM AIX, Solaris, HP-UX , and Z Linux.
    - a. Log in as dsadm or an equivalent user.
    - b. Linux UNIX Change to the ../InformationServer/Server//DSEngine directory.
    - c. Linux UNIX Source the dsenv file to set up the required environment variables:  
./dsenv
    - d. Linux UNIX Change to the project home directory.
    - e. Linux UNIX Run \$DSHOME/bin/fnuxihash\_file.
    - f. Windows Run ..\InformationServer\DSEngine\bin\fnuxihash\_file.
  4. If the hashed files come from a non-globalized (non-NLS) installation and you are migrating to a globalized (NLS) installation, complete these steps to run the UNICODE.FILE:
    - a. Log in as dsadm or an equivalent user.
    - b. Linux UNIX Change to the ../InformationServer/Server//DSEngine directory.
    - c. Linux UNIX Source the dsenv file to set up the required environment variables:  
./dsenv
    - d. Run bin/uvsh (Linux or UNIX) or bin\uvsh (Microsoft Windows) to get the DSEngine shell prompt.
    - e. The shell converts uppercase characters to lowercase characters, and vice-versa. To turn off this feature, enter the command PTERM CASE NOINVERT.
    - f. Enter the command LOGTO *project\_name* to change to the project.
    - g. Enter the command UNICODE.FILE *hash\_file*.
    - h. Repeat steps f and g for each project.
    - i. Enter QUIT to exit the DSEngine shell.

*Recompiling jobs:*

Before you can run jobs and routines, you must recompile them.

### About this task

#### Procedure

1. From the DataStage Designer client, select **Tools > Multiple Job Compile** and specify the criteria for selecting items to compile. Choose one or more of the following:
  - Server
  - Parallel
  - Mainframe
  - Sequence
  - Custom server routines
  - Custom parallel stages

You can also specify that you want to manually select the items to compile.

2. Click **Next**. If you chose **Show manual selection page**, the **Job Selection Override** window appears. Use the Add and Remove buttons to add all of the jobs that you want to recompile to the right pane.
3. Click **Next**. If you are compiling parallel or mainframe jobs, specify **Force compile** for parallel jobs or specify an upload profile for mainframe jobs.
4. Click **Next**. The name of each selected item and the compilation status displays.
5. Click **Start Compile** to start the compilation. The compilation output window displays the current status and details about each compiled job.
6. Click **Finish**. If you selected **Show compile report**, the report that is generated by the compilation displays.

## Manually migrating QualityStage

Use one of these procedures to manually migrate InfoSphere QualityStage.

### Procedure

Use one of these procedures to manually migrate IBM InfoSphere QualityStage:

*Table 4. Procedures for manually migrating InfoSphere QualityStage*

Version	Procedure
Version 7.5.3 or earlier	"Manually migrating InfoSphere QualityStage, Version 7.5.3 and earlier and Version 8.0.1 and later" on page 14
Version 8.0.1	<ul style="list-style-type: none"><li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/exportinglegacyprojects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/exportinglegacyprojects.html</a></li><li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/importingdatastageprojects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.productization.iisinfsv.migrate.doc/tasks/importingdatastageprojects.html</a></li></ul>
Versions 8.1, 8.1.1, 8.1.2	<ul style="list-style-type: none"><li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html</a></li><li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html</a></li></ul>

Table 4. Procedures for manually migrating InfoSphere QualityStage (continued)

Version	Procedure
Version 8.5	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/g_ddesref_Exporting_Objects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ds.design.doc/topics/c_ddesref_Importing_Objects.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/istoolexp.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/istoolexp.html</a></li> </ul>

## Manually migrating InfoSphere QualityStage, Version 7.5.3 and earlier and Version 8.0.1 and later

The QualityStage plug-in is not available or supported in Version 8.7. If you used the QualityStage plug-in stage in any jobs, after migrating the jobs, you must configure them to use the available stages in Version 8.7.

IBM InfoSphere QualityStage provides a method to migrate QualityStage jobs, match specifications, and standardization rule sets to the InfoSphere DataStage and QualityStage Designer client in the Version 8.7 environment. In legacy mode, your migrated job will use the QualityStage Legacy stage. In expanded form, your migrated job will make full use of all the specialized data quality stage types as well as the QualityStage Legacy stage.

If you are migrating to a platform that was supported by InfoSphere QualityStage Version 7.5.3 or earlier, then you can migrate by using legacy mode or expanded form. If the platform was not supported for Version 7.5.3 or earlier, then only expanded mode migration is available, and you must replace any legacy InfoSphere QualityStage stage types in the migrated jobs.

The migration utility uses information in the InfoSphere QualityStage server project directory to build the .dsx file format that InfoSphere QualityStage requires to import jobs.

The migration utility migrates the following objects:

- Standardization rule set
- Jobs in full legacy operational mode
- Jobs in expanded form, in which some legacy operations are replaced by InfoSphere QualityStage, Version 8.7 stages
- Match specification

You export projects to create a .dsx file that contains migrated jobs, rule sets, and match specifications in the Temp directory in the InfoSphere QualityStage project directory.

### Job migration in legacy operational mode:

When you migrate InfoSphere QualityStage jobs in full legacy operational mode, the original job is replaced with a single instance of a QualityStage Legacy stage and Sequential File stages linked as source and target stages.

If you migrate an IBM InfoSphere QualityStage job in legacy operational mode, you can make only minor changes to the resulting QualityStage Legacy stage. Use this option only for stable jobs that will not be modified or jobs that are due to be replaced.

Note that, in a Japanese environment, the migrated job uses Data Set stages instead of Sequential File stages. In this case, you must create an additional job that reads the source data from the sequential file and writes it to a data set. The data set can then be read by the migrated job. If your original job wrote results to a sequential file, then you must create another job to write the results from the data set produced by the migrated job to a sequential file.

Do not use the legacy operational mode option if you are migrating a job that contains the following stages because their functionality is not supported by the QualityStage Legacy stage:

- Postal stages such as CASS and SERP
- Program stage
- Multinational Standardize stage
- Format Convert stage

#### **InfoSphere QualityStage job migration in expanded form:**

When you migrate an InfoSphere QualityStage job in expanded form, the InfoSphere QualityStage migration utility replaces the original job with one or more parallel job stages for each stage in the original job and with Sequential File stages that are linked together to represent the job flow.

A job migrated in expanded form might have a mixture of data quality, processing, and legacy stages when you open the job in the InfoSphere DataStage and QualityStage Designer. For complex jobs, you can move the stages around on the canvas to make the job more intelligible. You can also replace an InfoSphere QualityStage Legacy stage with a data quality stage that has equivalent functionality.

#### **Rule set migration:**

The migration of an InfoSphere QualityStage standardization rule set option migrates the rule sets explicitly by name.

When an IBM InfoSphere QualityStage job is migrated, the migration utility detects the dependent rule sets and displays them. Then you can choose to include the rule sets in the .dsx file with the job.

The migration utility renames the rule sets in the .dsx file to prevent a naming duplication with any built-in InfoSphere QualityStage, Version 8.7 rule set. The utility uses the following naming convention:

*QS-7-Ruleset-Name\_QS-7-Project-Name*

To migrate Version 8.0.1 jobs that use Japanese or Chinese rules to Version 8.7 use one of the following procedures:

- To continue to use the Version 8.0.1 rules, as well as the new 8.7 rules, copy the Version 8.0.1 rules and save them under a different name before you upgrade to IBM InfoSphere QualityStage, Version 8.7. Then, update the jobs to use the new name.

- To use the updated Version 8.7 rules, modify the jobs to use the English long names that are supplied for the columns in IBM InfoSphere QualityStage, Version 8.7.

#### Match specification migration:

When you migrate an InfoSphere QualityStage job that contains Unduplicate Match and Reference match stages, the match specifications are migrated with the job.

The InfoSphere QualityStage migration utility includes the match processing information in the .dsx file with the job, if you selected the option "plus dependencies" to migrate the job. After the job is imported, you can locate the match specification in the **Repository > Match Specifications** folder.

As with rule sets, match specifications are renamed when the information is imported. The match specification name has the following form:

*QS-7-RefMatch-or-UndupMatch-Stage-Name\_QS-7-Project-Name*

#### Installing the InfoSphere QualityStage migration utility:

Use the InfoSphere QualityStage migration utility to migrate to IBM InfoSphere QualityStage, Version 8.7.

#### Procedure

1. Choose one of the following options, depending on operating system type and whether you want to install the IBM InfoSphere DataStage and QualityStage server on the same computer as the InfoSphere QualityStage server.

Option	Description
<b>Installing the InfoSphere DataStage and QualityStage server on the same computer as the QualityStage 7 server</b>	Install IBM Information Server, installing the engine tier on the computer where the QualityStage 7 server is installed. The migration utility is installed with the engine tier.
<b>Installing the InfoSphere DataStage and QualityStage server on a different computer from the QualityStage 7 server (Windows or UNIX or Linux)</b>	Install IBM InfoSphere Information Server on the target computer. The migration utility is installed with the engine tier. Before you run the migration utility on the target computer, make the metadata on the source computer available to the target computer. Make the metadata available by copying the InfoSphere QualityStage project directory and all its contents to the target computer or by making the directory available via the network (for example, by mapping a drive on Microsoft Windows).

2. If you are migrating from a Unicode-enabled version, make the following changes to the qsmig.env file (located in the directory where the migration utility is installed). Make the changes before you use the migration utility.
  - Change the line, FLDEXTPR=0 to FLDEXTPR=1
  - For the Japanese language, add the line, QSLCHARSET="CP932"
  - For the Chinese language, add the line QSLCHARSET="CP936"

3. On Microsoft Windows, if the InfoSphere QualityStage project directories are on a different drive from the migration utility, add the following line to the qsmig.env file:
  - APPCLIB=\${PROJ}/Controls

### Running the InfoSphere QualityStage migration utility:

Run the migration utility to create a file that contains the project metadata.

#### Before you begin

The InfoSphere QualityStage migration utility runs on UNIX and Linux. For Microsoft Windows, the script requires the MKS (Mortice Kern Systems) toolkit. The MKS toolkit is installed with the IBM InfoSphere Information Server client.

#### About this task

The InfoSphere QualityStage migration utility is automatically installed when you install the InfoSphere DataStage and QualityStage component of the suite. By default, the InfoSphere QualityStage migration utility is in the /opt/IBM/InformationServer/Server/PXEngine/bin directory on a UNIX or Linux computer or C:\IBM\InformationServer\Server\PXEngine\bin on a Microsoft Windows computer.

#### Procedure

1. Ensure that the InfoSphere QualityStage project metadata is accessible from the computer on which the migration utility is installed.
2. From the migration utility directory, run the script to start the utility.
  - On UNIX or Linux computers, enter ./qsmigrate.sh.
  - On Microsoft Windows, double-click the **qsmigrate.bat** file.
3. When prompted, enter the full path name of the project directory that contains the jobs that you want to migrate. The utility returns a list of the jobs and rule sets in the project.
4. Enter the number of an option from the list of options.
5. Select one of the following procedures, depending on the migration option that you selected:

Option	Steps for options
1. Migrate multiple QualityStage 7.x jobs plus dependencies  OR  2. Migrate multiple QualityStage 7.x jobs in expanded form plus dependencies	<ol style="list-style-type: none"> <li>1. Enter a name for the output file that the migration utility produces. All the objects that you migrate are written to this file. The utility reports the path name of this file each time it informs you of the success or failure of an object migration.</li> <li>2. When prompted with a job name, enter Y to migrate that job or N to skip that job. Repeat this step until you have migrated or skipped all the jobs.</li> <li>3. When prompted with the name of a rule set or a match specification, enter Y to migrate that object or N to skip that object. Repeat this step until you have migrated or skipped all the objects.</li> </ol>

Option	Steps for options
3. Migrate individual QualityStage 7.x job OR 4. Migrate individual QualityStage 7.x job in expanded form	When prompted, enter the name of the job that you want to migrate. The output file name is derived from the job name.
5. Migrate individual QualityStage 7.x job plus dependencies OR 6. Migrate individual QualityStage 7.x job in expanded form plus dependencies	1. When prompted, enter the name of the job that you want to migrate. The output file name is derived from the job name. 2. When prompted with the name of a rule set or a match specification, enter Y to migrate that object or N to skip that object. Repeat this step until you have migrated or skipped all the objects
<b>7. Migrate individual QualityStage 7.x standardization rule set</b>	When prompted, enter the name of the rule set or match specification that you want to migrate. The output file name is derived from this name.

### What to do next

The InfoSphere QualityStage migration utility places the .dsx files that it creates in the Temp directory under the project directory. After you complete the migration of all of your jobs and objects, move the .dsx files to the computer where the Version 8.7 IBM InfoSphere DataStage and QualityStage client is installed.

*Importing the migrated QualityStage files into the Version 8.7 Designer client:*

After you complete the file migration, you must import the contents of the migrated files into the Designer client.

### Procedure

1. Move the .dsx file or files that you created when you ran the migration script to the computer where the InfoSphere DataStage and QualityStage clients are installed.
2. Open the Designer client and attach to the project where you want to save the InfoSphere DataStage and QualityStage jobs.
3. Select **Import > DataStage Components**.
4. Specify the name of the migration file and click **OK**. The migrated jobs, rules sets, and match specifications are saved in the following folders:
  - *Project\_name* > **Jobs** folder.
  - *Project\_name* > **Standardization Rules > Imported Rules > Rule Sets** folder.
  - *Project\_name* > **Match Specifications** folder.

*Provisioning imported rule sets:*

You need to provision imported rule sets from the Designer client before a job that uses them can be compiled.

### Procedure

1. In the Designer client, find the rule set within the repository tree **Project > Standardization Rules > Imported Rules > Rule Sets** folder.



2. Select the rule set.
3. Right-click and select **Provision All** from the menu.

### Results

You can compile and run any job that uses the rule set, except for migrated jobs that used the expanded mode to migrate. If you used the expanded form, read the instructions for preparing migrated jobs in the expanded format.

*Preparing imported match specifications for use:*

You need to save the imported match specification in the InfoSphere DataStage and QualityStage Designer client and then provision the specification before you can use it in a job.

### Procedure

1. In the Designer client, find the match specification within the repository tree **Project > Match Specifications** folder.
2. Select the match specification and double-click to open the Match Designer.
3. Select **Save > All Passes**.
4. Select **Save > Specification**.
5. Click **OK** to close the Match Designer.
6. From the repository, select the match specification.
7. Right-click the match specification and select **Provision All** from the menu.

*Preparing migrated QualityStage jobs for operation:*

You must prepare migrated jobs before they can be run. The steps can vary depending on the migration option that you selected.

### Before you begin

For jobs that you migrated in Legacy operational mode (options 1, 3, or 5), compile the job to prepare it.

### Procedure

1. Double-click the job in the Designer client repository tree to open it on the Designer canvas. When you run the migrated job, the results will vary depending on how you ran the job in previous versions of QualityStage. If you used any mode other than the parallel extender mode, the results might be significantly different from previous runs.
2. If you did not previously run the job in parallel extender mode, insert a sort operation into the job design:
  - a. Double-click the target Sequential File stage to open the **Input > Partitioning** page.
  - b. Select **Sort Merge** from the **Collector type** list.
  - c. Under the Sorting section, click **Perform sort**.
3. Click **OK** to close the window.
4. Select **File > Compile** to compile the job.

*Preparing migrated jobs in the expanded format:*

You must prepare jobs migrated in expanded format before they can be run.

### Procedure

1. Double-click the job in the Designer client repository tree view to open it. The job contains both QualityStage Legacy stages and Data Quality stages.
2. If you have Standardize, Survive, or MNS stages, double-click each stage to open it and then click **OK**.
3. Review any migration warnings that display at the bottom of the job and resolve these issues.
4. Save the job.
5. Select **File > Compile**. When you run the migrated job, the results will vary depending on how you ran the job in previous versions of QualityStage. If you used any mode other than the parallel extender mode, the results might be significantly different from previous runs.
6. If you did not previously run the job in parallel extender mode, insert a sort operation into the job design:
  - a. Double-click the target Sequential File stage to open the **Input > Partitioning** page.
  - b. Select **Sort Merge** from the **Collector type** list.
  - c. Under the Sorting section, click **Perform sort**.
7. Optional: Replace QualityStage Legacy stages with the equivalent data quality or processing stage.
  - a. Double-click the QualityStage Legacy stage to open the Properties window.
  - b. Find the stage that offers functionality that is equivalent to the Legacy stage functionality from the Data Quality section of the palette.
  - c. Substitute the QualityStage Legacy stage with the equivalent data quality stage or stages. To optimize your job, it is more efficient to replace the QualityStage Legacy stages.
  - d. Configure the new stage or stages.
  - e. Compile the job.

*Preparing migrated jobs to use updated Address Verification Interface and SERP libraries:*

The IBM InfoSphere QualityStage, Version 8.7 includes updated libraries for the Address Verification Interface and SERP modules. You must update the migrated jobs to use these updated libraries before they can be run.

### About this task

For details on the new output columns and how to update the migrated jobs, see the release notes for the InfoSphere QualityStage modules.

### Migrating real-time QualityStage jobs to Version 8.7:

To migrate jobs that use the IBM InfoSphere QualityStage Real Time Client API, you run the migration utility, replace legacy stages, and publish the job as a service.

### Before you begin

Before you publish real-time jobs as services, you must complete the following tasks:

- Install IBM InfoSphere Information Services Director, which is a component of IBM InfoSphere Information Server. Unlike Version 7, Version 8.7 requires that you use InfoSphere Information Services Director to publish jobs as services. For more information about installing InfoSphere Information Server, see *IBM InfoSphere Information Server Planning, Installation, and Configuration Guide*.

### About this task

Migrates jobs in expanded form.

### Procedure

1. Migrate the job by running the migration utility in expanded form.
2. Replace the legacy stages with appropriate stages according to the table of replacement stages.
3. If your migrated job contains more than one input stage and more than one output stage, reconfigure your job to reduce the number of inputs and outputs. Alternately, you can reconfigure a job with more than one input to align with the behavior of the real-time stages. For more information about creating real-time jobs with two input sources InfoSphere DataStage and QualityStage, see *IBM InfoSphere Information Services Director User Guide*. A job can have only one ISD Input stage and only one ISD Output stage.
4. Update your jobs to add the ISD Output and ISD Input stages to replace the sequential input and output stages that exist in the migrated jobs.
5. Use InfoSphere Information Services Director to connect to InfoSphere QualityStage. For more information about connecting to InfoSphere DataStage and QualityStage, see *IBM InfoSphere Information Services Director User Guide*.
6. Develop an application, service, and operation by using InfoSphere Information Services Director. Your migrated real-time job is the information provider for the operation of the service. For more information about developing applications, services, and operations, see *IBM InfoSphere Information Services Director User Guide*.
7. Deploy the application as a service. For more information about deploying applications, see *IBM InfoSphere Information Services Director User Guide*.

### Updating jobs to use newer stages:

Use this table to select the stage to substitute for InfoSphere QualityStage stages.

If you have IBM InfoSphere DataStage jobs that use the IBM InfoSphere QualityStage plug-in stage to connect to InfoSphere QualityStage, you must rewrite the jobs to use the parallel canvas and the Version 8.7 stages.

The following table lists replacement stages for previous versions of InfoSphere QualityStage stages.

*Table 5. Replacement stages for migrated InfoSphere QualityStage stages*

Stage	Purpose	Replacement stage
Abbreviate	Creates match keys from company names.	No direct replacement. Use the Standardize stage to reformat company names and pair with an appropriate match.

Table 5. Replacement stages for migrated InfoSphere QualityStage stages (continued)

Stage	Purpose	Replacement stage
Build	Rebuilds a single record from multiple records that are created with a Parse stage.	No direct replacement. Build was often used with Parse to analyze multi-domain data fields. Use Standardize to accomplish the same function in one step.
Collapse	Generates a list of each unique value in single-domain data fields.	Sort stage
Collapse	Generates frequency counts of data values in a field or a group of fields.	Aggregate stage
Format Convert	Reformats files from delimited to fixed-length and vice versa.	Sequential File stage
Format Convert	Provides I/O to an ODBC database.	ODBC stage or database specific stage
Investigate	Analysis of data quality.	Investigate stage and the Reporting tab for the Web Console for InfoSphere Information Server.
Match	Identifying data duplicates in a single file by using fuzzy match logic.	Unduplicate Match stage in conjunction with the Match Frequency stage.
Match	Pairing records from one file with those in another by using fuzzy match logic.	Reference Match stage in conjunction with the Match Frequency stage.
Multinational Standardize	Standardize multinational address data.	MNS stage
Parse	Tokenizes a text field by resolving free-form text fields into fixed-format records that contain individual data elements.	No direct replacement. Parse was often used with Build to analyze multi-domain data fields. Use the Standardize stage to accomplish the same function in one step.
Program	Invokes a customer-written program.	Depends on the functionality of the customer-written program. Possibilities include adding a Parallel Build, Custom, or Wrapped stage type.
Select	Conditionally routes records that are based on values in selected fields.	Switch and Filter stages
Sort	Sorts a list.	Sort stage
Standardize	Breaks down multi-domain data columns into a set of standardized single-domain columns.	Standardize stage
Survive	Produces the best results record from a group of related records.	Survive stage
Transfer	Rearranges and reformats columns in a record.	No separate stage is required to do this

Table 5. Replacement stages for migrated InfoSphere QualityStage stages (continued)

Stage	Purpose	Replacement stage
Transfer	Acts as a gatekeeper for files in non-standard formats (variable length records, non-standard code page, binary or packed data).	Sequential File or Complex Flat File stage
Transfer	Produces multiple output records from a single input record.	Splitting records can be achieved by Copy stage followed by Funnel stage
Transfer	Adds record keys that consists of sequence number plus an optional fixed "file identifier."	Surrogate Key Generator stage
Unijoin	Join records from two files based on a key.	Join stage or Lookup stage
Unijoin	Pairing records from one file with those in another by using fuzzy match logic.	Reference Match stage in conjunction with Match Frequency stage
Unijoin	Merges data from multiple records into one.	Join stage and Merge stage
Unijoin	Manipulate and transform data record.	Transformer stage

## Manually migrating IBM WebSphere RTI

Use the WebSphere® RTI Export Wizard to migrate IBM WebSphere RTI to InfoSphere Information Services Director.

### About this task

Use this task to migrate IBM WebSphere RTI Version 7.5, 7.5.1, or 7.5.2 to IBM InfoSphere Information Services Director Version 8.7.

### Procedure

1. Use the WebSphere RTI Export Wizard on the source computer to create an RTIX file. This RTIX file contains descriptions of operations and services.
2. Move the RTIX file to the computer that has the newer version of InfoSphere Information Server on it.
3. Use the IBM InfoSphere Information Server console Import function to import the RTIX file. This imported file is the equivalent of the output of the console design function.
4. You must associate the imported service descriptions with an application object before you can deploy the services. The import function is done at the application level to create this association.

### Results

The imported service description is the equivalent of a service that is designed in InfoSphere Information Server. You can deploy the service description the same way that you deploy any natively designed information service.

## Manually migrating InfoSphere Business Glossary

Use these procedures to migration content from InfoSphere Business Glossary .

### Procedure

To manually migrate content from IBM InfoSphere Business Glossary, use one of the following procedures:

*Table 6. Procedures for manually migrating Business Glossary content*

Version	Procedure
Version 8.0.1	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ImportingExportingCatsTerms.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ImportingExportingCatsTerms.html</a>
Versions 8.1, 8.1.1, 8.1.2	<ul style="list-style-type: none"> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ManageImportExport.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ManageImportExport.html</a></li> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.bg.cli.doc/topics/businessglossaryassets.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.bg.cli.doc/topics/businessglossaryassets.html</a></li> </ul>
Version 8.5	<ul style="list-style-type: none"> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ManageImportExport.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.bg.doc/topics/t_iadmgde_ManageImportExport.html</a></li> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.bg.cli.doc/topics/businessglossaryassets.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.bg.cli.doc/topics/businessglossaryassets.html</a></li> </ul>

## Manually migrating InfoSphere FastTrack

Use one of these procedures to manually migrate InfoSphere FastTrack.

### Procedure

Use one of the following procedures to manually migrate InfoSphere FastTrack:

*Table 7. Procedure for manually migrating InfoSphere FastTrack*

Version	Procedure
Version 8.0.1	<ul style="list-style-type: none"> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r0/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html</a></li> <li>The switch mapping element is not exported or imported.</li> </ul>
Versions 8.1	<ul style="list-style-type: none"> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html</a></li> <li>The switch mapping element is not exported or imported.</li> </ul>
Version 8.1.1	<ul style="list-style-type: none"> <li><a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html</a></li> <li>The switch mapping and aggregate mapping elements are not exported or imported.</li> </ul>

Table 7. Procedure for manually migrating InfoSphere FastTrack (continued)

Version	Procedure
Version 8.1.2	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/assetinterchange.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/assetinterchange.html</a></li> <li>• The switch mapping and aggregate mapping elements are not exported or imported.</li> </ul>
Version 8.5	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ft.usage.doc/topics/imandexspecon.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ft.assetint.doc/topics/assetinterchange.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ft.assetint.doc/topics/assetinterchange.html</a></li> <li>• The switch mapping and aggregate mapping elements are not exported or imported.</li> </ul>

## Manually migrating InfoSphere Information Analyzer

Use these procedures to manually migrate InfoSphere Information Analyzer.

### Procedure

Use one of the following procedures to manually migrate IBM InfoSphere Information Analyzer:

Table 8. Procedures for manually migrating InfoSphere Information Analyzer

Version	Procedure
Version 8.0.1	Not available.
Version 8.1	Not available.
Versions 8.1.1 and 8.1.2	<a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ia.quality.doc/topics/dq_deploy_overview.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.swg.im.iis.ia.quality.doc/topics/dq_deploy_overview.html</a>
Version 8.5	<ul style="list-style-type: none"> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ia.assetint.doc/topics/c_ai_overview.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ia.assetint.doc/topics/c_ai_overview.html</a></li> <li>• <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ia.asset.doc/topics/ai_asset_interchange_overview.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.ia.asset.doc/topics/ai_asset_interchange_overview.html</a></li> </ul>

# Manually migrating InfoSphere Metadata Workbench

Use these procedures to manually migrate InfoSphere Metadata Workbench.

## Procedure

Use one of the following procedures to manually migrate IBM InfoSphere Metadata Workbench :

Table 9. Procedures for manually migrating InfoSphere Metadata Workbench

Version	Procedure
Version 8.1	<ul style="list-style-type: none"> <li>• <b>Option 1</b> <ul style="list-style-type: none"> <li>– Extension mappings and data sources are not supported.</li> <li>– User has to manually take note of database alias mapping. <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html</a></li> <li>– User has to manually take note of custom attributes. <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html</a></li> </ul> </li> <li>• <b>Option 2</b> <ul style="list-style-type: none"> <li>– Use the istool command line interface: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html</a></li> </ul> </li> </ul>
Version 8.1.1	<ul style="list-style-type: none"> <li>• <b>Option 1</b> <ul style="list-style-type: none"> <li>– Extension mappings and data sources are not supported.</li> <li>– Take note of database alias mapping. <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html</a></li> <li>– Take note of custom attributes. <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html</a></li> </ul> </li> <li>• <b>Option 2</b> <ul style="list-style-type: none"> <li>– Use the istool command line interface: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html</a></li> </ul> </li> </ul>
Version 8.1.2	<ul style="list-style-type: none"> <li>• <b>Option 1</b> <ul style="list-style-type: none"> <li>– Take note of database alias mapping: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_runningDatabaseAlias.html</a></li> <li>– Take note of custom attributes: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_editingCustomAttributes.html</a></li> <li>– Migrate extended data sources: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_importingManagingExtendedDataSources.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_importingManagingExtendedDataSources.html</a></li> <li>– Migrate extension mappings: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_createManageExtensionMappings.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_createManageExtensionMappings.html</a></li> </ul> </li> <li>• <b>Option 2</b> <ul style="list-style-type: none"> <li>– Use the istool command line interface: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.iisinfsv.assetint.doc/topics/pdrassets.html</a></li> </ul> </li> </ul>
Version 8.5	<ul style="list-style-type: none"> <li>• <b>Option 1</b> <ul style="list-style-type: none"> <li>– Migrate extended data sources: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_importingManagingExtendedDataSources.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r1/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_importingManagingExtendedDataSources.html</a></li> <li>– Migrate extension mappings: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_createManageExtensionMappings.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_createManageExtensionMappings.html</a></li> <li>– Migrate extended data lineage: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_manageCLI.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_manageCLI.html</a></li> <li>– Map database aliases to databases: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_manageCLI.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/ct_manageCLI.html</a></li> <li>– Create custom attributes: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/index.jsp?topic=/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_createCustomAttributes.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/index.jsp?topic=/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_createCustomAttributes.html</a></li> </ul> </li> <li>• <b>Option 2</b> <ul style="list-style-type: none"> <li>– Import project-level environment variables: <a href="http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_importingProjectLevelEnvironmentVariables.html">http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.svg.im.iis.mdwb.admin.doc/topics/t_importingProjectLevelEnvironmentVariables.html</a></li> </ul> </li> </ul>



## Manually migrating reports

Use this procedure to manually migrate reports.

### About this task

You can migrate reports from IBM InfoSphere Business Glossary, IBM InfoSphere DataStage and QualityStage, IBM InfoSphere Information Analyzer, IBM InfoSphere QualityStage and administration reports for the suite.

### Procedure

Use this procedure to manually migrate reports from Version 8.5:  
<http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/reportingassets.html>

## Manually migrating credentials

Use this procedure to manually migrate user IDs, user groups, user roles, and associated credentials.

### Procedure

Use this procedure to migrate security assets from Version 8.5:  
<http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/index.jsp?topic=/com.ibm.swg.im.iis.iisinfsv.assetint.doc/topics/securityassets.html>

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## Working with multiple engine tiers

If your topology includes multiple engine tiers, use these tasks to work with them.

### Procedure

- “Using InfoSphere DataStage clients”
- “Starting and stopping InfoSphere DataStage engine services” on page 29

## Using InfoSphere DataStage clients

Use the Multi-client Manager to choose which version of the client you want to use.

### About this task

You use a different procedure depending on the version of IBM InfoSphere DataStage and whether you are connecting from the command line. The clients for Version 7.5.3 and earlier attach directly to the engine. The clients for Version 8.0.1 and later connect to the services tier, and credential mapping provides the necessary credentials that you need to connect to the engine tier.

### Procedure

1. To specify the client version that you want to use, complete these steps:
  - a. Start the Multi-client Manager by double-clicking the desktop shortcut.
  - b. In the Current Installation field, check whether the currently selected version is the version that you want to use. If the correct version is selected, take no further action. If the correct version is not selected, select the correct client in the **Known installations** list, and click **Select**.
  - c. Click **Close** to close the Multi-client Manager.

2. To connect to Version 7.5.3 or earlier, complete these steps:
  - a. Select the client from the Start menu.
  - b. In the **Host System** field of the **Attach to Project** window, type the identify of the server in the form *hostname:portnumber*, where *portnumber* is the port number that the server uses. For example, type R101:31538.
  - c. Type your user name and password.
  - d. If you used the Manager, Director, or Designer client, specify the name of the project that you want to attach to.
3. To use the Designer or Director client to connect to Version 8.0.1 and later, complete these steps:
  - a. Select the client from the **Start** menu.
  - b. In the **Services tier** field, type the identify of the server in the form *hostname:portnumber*, where *portnumber* is the port number that the server uses. For example, type R101:9080.
  - c. Type your user name and password.
  - d. In the **Project** field, specify the identity of the project that you want to attach to in the form *engine\_hostname/project*. For example, type R101/datastage.
4. To use the Administrator client to connect to Version 8.0.1 and later, complete these steps:
  - a. Select the client from the **Start** menu.
  - b. In the **Services tier** field of the **Attach to DataStage** window, type the host name of the InfoSphere DataStage services tier in the form *hostname:9080*. For example, type R101:9080 in the field or type R201:80 in the field if you are using a front-end Web server.
  - c. Enter your user name and password.
  - d. In the **DataStage Engine** field, specify the host name of the computer that you want to attach to.
5. To use the command line to connect to Version 8.0.1 and later, complete these steps:
  - a. Log into the operating system as the user who runs the job.
  - b. Use one of the following to run a job:
    - To connect to a project from the command line, specify the server name and port number of the required instance with the **-server** argument in the form *-server server:portnumber* for local computers.
    - For computers that do not use the default ports, to connect to a project that is on a local server, specify the **-server** option with only the port number and do not specify the server name. You do not need to specify your user name and password. For example: `dsjob -server :31539 -lprojects`
    - For remote computers that run InfoSphere DataStage Version 8.7 instances, you must specify the domain and the server name in the form *-domain domain.domain\_portnumber -server server:portnumber*. The default domain port number is 9080. For example, to run a job on the local computer on the server that uses port 31359, use this command: `dsjob -server r101:31359 -run myproj myjob`.
    - To run a job on the local computer on the default server, use this command: `dsjob -run myotherproj myotherjob`.
    - To run a job on a remote computer called R101 on the Version 8.5 server that uses port 31360, you must also specify the host computer, the

domain, and provide the login information. For example, enter the following command: `dsjob -domain mydomain:9080 -server r101:31360 -user billg -password paddock -run myproj myjob`

## Starting and stopping InfoSphere DataStage engine services

When multiple versions of InfoSphere DataStage are on a single computer, you must identify the version that you want to start or stop.

### About this task

You identify the IBM InfoSphere DataStage engine that you want to start or stop by setting the `$DSHOME` environment variable to reference the `DSEngine` subdirectory of the server that hosts the engine. For example, there are two engines on the same computer with the following `DSEngine` subdirectories:

- `/disk1/Ascential/DataStage/DSEngine` (Version 7.5.1 engine)
- `/opt/IBM/InformationServer/Server/DSEngine` (Version 8.7 engine)

When you install the DataStage engine tier (on Version 7.5.3, the DataStage server) on a computer that runs UNIX or IBM AIX, the file `/.dshome` is created. This file contains the path that is used as the default setting for `$DSHOME`. Before and after installing an additional DataStage engine, delete the `/.dshome` file. When there is more than one DataStage engine, having a default setting for `$DSHOME` can result in the wrong value being used when running administrative tasks.

### Procedure

1. Log on as the InfoSphere DataStage Administrator.
2. Set the `$DSHOME` environment variable to point to the `/opt/IBM/InformationServer/Server/DSEngine` directory.
3. Stop the InfoSphere DataStage engine services by using the following command:  
`$DSHOME/bin/uv -admin -stop`
4. Wait 30 seconds so that the engine services stop.
5. Start the engine services by using the following command:  
`$DSHOME/bin/uv -admin -start`



---

## Contacting IBM

You can contact IBM for customer support, software services, product information, and general information. You also can provide feedback to IBM about products and documentation.

The following table lists resources for customer support, software services, training, and product and solutions information.

Table 10. IBM resources

Resource	Description and location
IBM Support Portal	You can customize support information by choosing the products and the topics that interest you at <a href="http://www.ibm.com/support/entry/portal/Software/Information_Management/InfoSphere_Information_Server">www.ibm.com/support/entry/portal/Software/Information_Management/InfoSphere_Information_Server</a>
Software services	You can find information about software, IT, and business consulting services, on the solutions site at <a href="http://www.ibm.com/businesssolutions/">www.ibm.com/businesssolutions/</a>
My IBM	You can manage links to IBM Web sites and information that meet your specific technical support needs by creating an account on the My IBM site at <a href="http://www.ibm.com/account/">www.ibm.com/account/</a>
Training and certification	You can learn about technical training and education services designed for individuals, companies, and public organizations to acquire, maintain, and optimize their IT skills at <a href="http://www.ibm.com/software/sw-training/">http://www.ibm.com/software/sw-training/</a>
IBM representatives	You can contact an IBM representative to learn about solutions at <a href="http://www.ibm.com/connect/ibm/us/en/">www.ibm.com/connect/ibm/us/en/</a>

## Providing feedback

The following table describes how to provide feedback to IBM about products and product documentation.

Table 11. Providing feedback to IBM

Type of feedback	Action
Product feedback	You can provide general product feedback through the Consumability Survey at <a href="http://www.ibm.com/software/data/info/consumability-survey">www.ibm.com/software/data/info/consumability-survey</a>

Table 11. Providing feedback to IBM (continued)

Type of feedback	Action
Documentation feedback	<p>To comment on the information center, click the Feedback link on the top right side of any topic in the information center. You can also send comments about PDF file books, the information center, or any other documentation in the following ways:</p> <ul style="list-style-type: none"><li>• Online reader comment form: <a href="http://www.ibm.com/software/data/rcf/">www.ibm.com/software/data/rcf/</a></li><li>• E-mail: <a href="mailto:comments@us.ibm.com">comments@us.ibm.com</a></li></ul>

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## Accessing product documentation

Documentation is provided in a variety of locations and formats, including in help that is opened directly from the product client interfaces, in a suite-wide information center, and in PDF file books.

The information center is installed as a common service with IBM InfoSphere Information Server. The information center contains help for most of the product interfaces, as well as complete documentation for all the product modules in the suite. You can open the information center from the installed product or from a Web browser.

### Accessing the information center

You can use the following methods to open the installed information center.

- Click the **Help** link in the upper right of the client interface.

**Note:** From IBM InfoSphere FastTrack and IBM InfoSphere Information Server Manager, the main Help item opens a local help system. Choose **Help > Open Info Center** to open the full suite information center.

- Press the F1 key. The F1 key typically opens the topic that describes the current context of the client interface.

**Note:** The F1 key does not work in Web clients.

- Use a Web browser to access the installed information center even when you are not logged in to the product. Enter the following address in a Web browser: `http://host_name:port_number/infocenter/topic/com.ibm.swg.im.iis.productization.iisinfsv.home.doc/ic-homepage.html`. The `host_name` is the name of the services tier computer where the information center is installed, and `port_number` is the port number for InfoSphere Information Server. The default port number is 9080. For example, on a Microsoft® Windows® Server computer named `iisdocs2`, the Web address is in the following format: `http://iisdocs2:9080/infocenter/topic/com.ibm.swg.im.iis.productization.iisinfsv.nav.doc/dochome/iisinfsv_home.html`.

A subset of the information center is also available on the IBM Web site and periodically refreshed at `http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r7/index.jsp`.

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The IBM InfoSphere Information Server product modules and user interfaces are not fully accessible. The installation program installs the following product modules and components:

- IBM InfoSphere Business Glossary
- IBM InfoSphere Business Glossary Anywhere
- IBM InfoSphere DataStage
- IBM InfoSphere FastTrack
- IBM InfoSphere Information Analyzer
- IBM InfoSphere Information Services Director
- IBM InfoSphere Metadata Workbench
- IBM InfoSphere QualityStage

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### Accessible documentation

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Printed in USA

SC19-3468-00

