Informatica

Informatica® B2B Data Transformation
10.1.1

Administrator Guide

Informatica B2B Data Transformation Administrator Guide
10.1.1
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Preface

The *Data Transformation Administrator Guide* is written for system administrators and users who are responsible for installing the Data Transformation software and maintaining or configuring its operation. It contains instructions and information for Linux, UNIX, and Windows platforms.

Informatica Resources

Informatica Network

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

As a member, you can:

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- Search the Knowledge Base for product resources, including documentation, FAQs, and best practices.
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Informatica Product Availability Matrixes

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

Informatica Velocity

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

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

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

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

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

CHAPTER 1

System Administration

This chapter includes the following topics:

- System Administration Overview, 7
- Data Transformation Directory Locations, 8
- User Permissions for Data Transformation Production Environment, 9
- User Permissions for Data Transformation Design Environment, 10

System Administration Overview

The Data Transformation system consists of a design environment for designers and a production environment where applications run transformation services. Use PowerCenter® Express to design and implement data integration solutions.

You can use PowerCenter Express to extract data from multiple sources, transform the data according to business logic that you build in the client application, and load the transformed data to targets. You can also run a profile to analyze the structure and content of your data, and to determine the quality of your data.

You can access data in relational databases, flat files, web services, and social media web sites.

PowerCenter Express includes the Informatica domain, application services that process data, repositories to store metadata, Informatica Administrator (the Administrator tool), and Informatica Developer (the Developer tool).

The Administrator tool, the repositories, and application services run on a single machine. The Developer tool can run on one or more machines.

Data Transformation Directory Locations

The following table describes directories that are used by Data Transformation:

Location	Description
`<INSTALL_DIR>`	The directory where Data Transformation is installed. The user chooses this directory at the time of installation. The default is: - Windows. `c:\Informatica\<version>` - Linux and UNIX (root user). `/root/Informatica/<version>` - Linux and UNIX (other user). `/home/<user_name>/Informatica/<version>`
`<INSTALL_DIR>/DataTransformation/`	The Data Transformation home directory, which contains the following files: - `CMConfig.xml` - `CMConfig.xsd` - `CDELicense.cfg` - `setEnv.sh` (Linux and UNIX) - `setEnv.csh` (Linux and UNIX) This value is stored in the *IFCONTENTMASTER_HOME* environment variable.
`<INSTALL_DIR>/DataTransformation/bin/`	Data Transformation executables.
`<INSTALL_DIR>/DataTransformation/ServiceDB`	Repository where transformation services are stored. This value is stored in `CMConfig.xml` and can be changed using the configuration editor or a text editor.
`<INSTALL_DIR>/DataTransformation/CMReports`	Engine and Studio logs. This value is stored in `CMConfig.xml` and can be changed using the configuration editor or a text editor.
`<INSTALL_DIR>/DataTransformation/CMUserLogs`	Application logs and user logs. This value is stored in `CMConfig.xml` and can be changed using the configuration editor or a text editor.
`<INSTALL_DIR>/DataTransformation/autoInclude/user`	The directory that holds custom global components (TGP files).
`<INSTALL_DIR>/DataTransformation/externLibs/user`	The directory that holds custom global components (DLL and JAR files).
`<INSTALL_DIR>\clients\java\bin`	Java home directory (design environment).
`<INSTALL_DIR>/java/bin`	Java home directory (production environment).
`<INSTALL_DIR>\clients\java\jre\bin\client`	JRE directory (design environment).
`<INSTALL_DIR>/java/jre/bin/client`	JRE directory (production environment).

Location	Description
`<INSTALL_DIR>/java/jre/lib/<processor>` `<INSTALL_DIR>/java/jre/lib/<processor>/server`	JRE directories (Linux and UNIX only). These values are stored in environment variables.
`C:\Users\<USER_NAME>\My Documents\Informatica\DataTransformation\950\workspace`	Eclipse workspace directory where projects are stored on the Studio computer. This location can be changed in the Studio using Eclipse commands.

There is also an optional, user-defined directory for diagnostic logs for the Server component that calls the Engine out of process. This path is stored in `CMConfig.xml` and can be changed using the configuration editor or a text editor.

Run the following command to determine the installation directory:

```
CM_console -v
```

The installation directory appears after `Configuration file:` and before `/DataTransformation/`.

For more information about environment variables and the configuration editor, see the *Informatica Installation and Configuration Guide*.

User Permissions for Data Transformation Production Environment

Windows administrator users have all permissions that are required for the Data Transformation production environment.

The following table describes the permissions required for Linux and UNIX users and Windows limited users to run the Engine in the production environment:

Directory	Permissions
Installation directory	Read
Installation directory	Execute
Repository	Read
Engine and Studio logs	Read
Engine and Studio logs	Write
Application logs and user logs	Read
Application logs and user logs	Write

For more information about the locations of these directories, see "Data Transformation Directory Locations" on page 8.

User Permissions for Data Transformation Design Environment

Windows administrator users have all permissions that are required for the Data Transformation design environment.

The following table describes the permissions that limited users require to design and test projects:

Directory	Permissions
Installation directory	Read
Installation directory	Execute
Repository	Read
Repository	Write
Eclipse location	Read
Eclipse location	Write
Engine and Studio logs	Read
Engine and Studio logs	Write

To deploy projects to the repository on a remote computer, the limited user must have read and write permissions for the repository on that machine.

The following tasks require administrator permissions:

- Installing and uninstalling Data Transformation
- Installing libraries
- Changing Data Transformation configuration settings

For more information about the locations of these directories, see "Data Transformation Directory Locations" on page 8.

CHAPTER 2

Data Transformation System Configuration

This chapter includes the following topics:

- System Configuration Overview, 11
- Using the Configuration Editor, 11
- Configuration Settings Reference, 12

System Configuration Overview

Data Transformation stores the current configuration settings in the `CMConfig.xml` file. You can find the original configuration at time of installation in `CMConfig.xml.backup`. The location of these files is determined at time of installation. The default location is `<INSTALL_DIR>/DataTransformation/`.

To identify the installation directory, run the following command:

```
CM_console -v
```

The installation directory appears after `Configuration file:` and before `/DataTransformation/`.

In systems that require multiple configurations, additional copies of `CMConfig.xml` are located in the following directories:

- The directory pointed to by the *IFConfigLocation4* environment variable on Windows machines.
- The `/home` directory of each user on Linux or UNIX systems.

You can modify the `CMConfig.xml` configuration file with the configuration editor or a text editor.

System environment variables also affect the functionality of Data Transformation. For more information, see Environment Variables Overview.

Using the Configuration Editor

You can use the configuration editor to change Data Transformation system settings.

To use the configuration editor on a Linux or UNIX computer, you must set the *DISPLAY* environment variable. For more information, see Linux and UNIX Environment Variable Reference.

1. In the `<INSTALL_DIR>/DataTransformation` directory, back up the `CMConfig.xml` configuration file.
2. Open the configuration editor by performing one of the following actions:

System	Action
Windows	Click **Start** > **All Programs** > **Informatica 9.5.0** > **Data Transformation** > **Configuration**.
Linux	Run the following command: `<INSTALL_DIR>/DataTransformation/CMConfig`
UNIX	Run the following command: `<INSTALL_DIR>/DataTransformation/CMConfig`

3. In the tree in the left panel, select a parameter group.

   The list of parameters in the group appears in the right panel. Read-only parameters are displayed on a gray background.
4. Perform one of the following actions:

Action	Description
To add a new parameter	In the tree in the left panel, right-click a parameter group, click **Add**, and then select the parameter that you want to add. The parameter appears in the right panel.
To change the value of a parameter	Double-click the value in the right column, then type or select the new value. To change the value of a path variable, click the browse button, and then select the path.
To remove a parameter	In the right panel, right-click the parameter, and then click **Remove**. **Note:** Some parameters cannot be removed.

5. Click the **Save** icon.

   The changes are saved to `CMConfig.xml`.
6. Restart Data Transformation.

Configuration Settings Reference

The following tables describe the editable parameters as they appear in the tree in the configuration editor interface.

CM Configuration

Parameter	Description	Default Value
file_format	The version number of the configuration file format. Do not change this value unless instructed by Informatica Global Customer Support.	1001
xmlns:xsi	The namespace of the XML schema language used in Data Transformation. The value is read-only.	http://www.w3.org/2001/XMLSchema-instance
xsi:noNamespaceSchemaLocation	The file name of the schema for validating Data Transformation configuration files. The value is read-only.	CMConfig.xsd

CM Configuration > General

Parameter	Description	Default Value
Minimum configuration refresh interval	The time interval, in microseconds, at which Data Transformation checks for system configuration updates.	36000000
Default code page	The default working encoding of Studio projects.	Windows_1252
CM log files directory	The name of the log directory.	Logs
Language ID	The language of the user interface for the Studio, the configuration editor, and the syntax conversion tool.	en_US
CM Reports directory	The path to the directory where the Engine stores event logs and reports.	<INSTALL_DIR>/DataTransformation/CMReports
User logs directory	The path to the directory where the Engine stores user-defined logs.	<INSTALL_DIR>/DataTransformation/UserLogs

CM Configuration > General > Java

Parameter	Description	Default Value
Home	The path to the JRE that runs the Engine.	<INSTALL_DIR>\clients\java\jre\bin
Maximum Heap Size	The maximum heap size, in megabytes, that the JRE can use. This value controls the maximum size of documents that can be processed by document processors. Do not change this value unless instructed by Informatica Global Customer Support.	64

CM Configuration > **CM Repository**

Parameter	Description	Default Value
mode	The access mode of the repository. Do not change this value unless instructed by Informatica Global Customer Support.	FileSystem

CM Configuration > **CM Repository** > **File System**

Parameter	Description	Default Value
Base Path	The location of the repository where Data Transformation services are stored.	<INSTALL_DIR>/clients/DT/ServiceDB

CM Configuration > **CM Engine**

Parameter	Description	Default Value
Days to keep history	The number of days that the Engine saves event logs.	4
PreprocessorMaxBuf	The maximum buffer size for input documents, in bytes. Do not change this value unless instructed by Informatica Global Customer Support.	5000000
Service refresh interval	The time interval, in seconds, at which Data Transformation checks for repository updates such as new or revised services.	30
Reuse memory between requests	A memory allocation option. Do not change this value unless instructed by Informatica Global Customer Support.	true
JVM Location	The location of the JRE (Windows only). **Important:** The configuration editor requires the JRE. If you edit this value, save the new setting and exit the configuration editor before you uninstall the previous JRE.	<INSTALL_DIR>\java\bin\client
Invocation	The method of calling the Engine. - InProc. In-process - Server. Out-of-process	InProc
Disable concurrency	Disables running the Engine in more than one thread. Do not change this value unless instructed by Informatica Global Customer Support.	false

CM Configuration > **CM Engine** > **CM Server**

Parameter	Description	Default Value
Debug level	The degree of verbosity of the CMServer diagnostic log. - 0. None - 1. Vital information only - 2. Invocation diagnostic information - 3, 4. Detailed diagnostic information - 5. Complete diagnostic information	n/a
Log location	Path to the CMServer diagnostic log.	n/a
Number of retries	The maximum number of restarts permitted during the interval specified in *Restart timeout* . If a client process exceeds this number, it stops trying to restart the Engine.	4
Restart timeout	The time interval in seconds during which restarts are counted.	900
Server Path	The path to the `CM_Server.sh` shared object (Linux and UNIX only).	<INSTALL_DIR>/bin/cm_server.sh
Thread Pool Size	The maximum number of Engine threads that can run client requests concurrently per process. If the number of client requests exceeds the number of available threads, the Server queues the requests until a thread is available.	4

CM Configuration > **CM Engine** > **JVM Init Parameters**

Parameter	Description	Default Value
JVM parameter	Initialization parameters for the JRE. You can add multiple parameters if required.	n/a

CM Libraries > **HIPAA Validation**

Parameter	Description	Default Value
Url	IP address or host name and port of the HIPAA Validation engine.	n/a

CM Libraries > **HIPAA Validation** > **RemoteWS**

Parameter	Description	Default Value
LocalPath	Path of the HIPAA Validation engine as seen from the local computer. You cannot edit this parameter with the configuration editor.	n/a
RemotePath	Path of the HIPAA Validation engine as seen from a remote computer. You cannot edit this parameter with the configuration editor.	n/a

CM Configuration > **CM Studio** > **Eclipse**

Parameter	Description	Default Value
Workspace	The Studio workspace directory path. Close the Studio before editing the path.	C:\Users\<USERNAME>\My Documents\Informatica \DataTransformation \910\workspace
Eclipse Command Line Parameters	A string of parameters that control the behavior of Eclipse.	n/a

Trace

Trace parameters appear under the nodes for **CM Repository**, **CM Engine**, **System Utilities**, and **CM Agents**. **Trace** parameters are used for troubleshooting. Do not edit them unless instructed by Informatica Global Customer Support.

Parameter	Description	Default Value
Enabled	Enables a debugging trace. Do not enable the trace unless instructed by Informatica.	false
Severity level	The severity level of the trace messages: - ERROR - WARNING - INFORMATION	ERROR

Trace > **Active Categories**

Parameter	Description	Default Value
Category	The Data Transformation modules that generate trace messages.	ENVIRONMENT EXEC EXTERNALS FILESYSTEM INPUT_DOC INTERFACES NETWORKING OUTPUT_DOC PREPROCESSOR_UNIT REQUEST SYSTEMRESOURCES VIEWIO

Trace > **Message Information**

Parameter	Description	Default Value
Process and threads Ids	Includes the ID of processes and threads in the trace messages.	true
Time stamp	Includes the time stamp in the trace messages.	true

Trace > **Trace File**

Parameter	Description	Default Value
Trace file name	Name of the trace file.	CMEngine_log.txt
Maximum file size	The maximum trace file size, in bytes.	1000000
Recycling method	The method of file handling when the trace file reaches the maximum size: - Restart. Start a new file labeled with a timestamp. - Circular. The oldest messages are deleted to make room for new messages. - None. Stops the trace.	Restart

CHAPTER 3

Event Logs

This chapter includes the following topics:

- Using the Event Log for Troubleshooting, 18
- User Logs, 20

Using the Event Log for Troubleshooting

The main troubleshooting tool of Data Transformation Engine is the event log. The event log contains information about the operations that the software performs while processing a document.

Event logs can be generated both when you test a project in the Studio and when you run a service in the Engine. This chapter discusses some specific points about the Engine event logs.

For more information about using the event log for testing and debugging, see the *Data Transformation Studio User Guide*.

Log Generation

Data Transformation Engine generates event logs when it encounters an error or failure while running a service.

When you run the Data Transformation Engine from CM_console, the `Events.cme` logs are stored in the current directory.

When you call the Data Transformation Engine from PowerCenter or an API, the logs are stored in the `CMReports` directory.

- On Windows platforms, the default log location is the following directory:

  ```
  <Data Transformation installation folder>\DataTransformation\CMReports\tmp\date
  ```

- On UNIX platforms, the default location is the following directory:

  ```
  <Data Transformation installation folder>/CMReports/tmp/date
  ```

You can customize the location with the configuration editor by editing the `CMConfig.xml` file.

Within the `CMReports` directory, the logs are organized by date and service name:

```
19Jan2020\Service1_A115656584-14611-19812-12403\events.cme
```

The string `A115656584-14611-19812-12403` is a GUID identifier.

To view a log, in the Developer tool, click **Windows** > **Show View** > **Other** > **Data Processor Events**. Click and drag the `events.cme` file to the **Events** window of the Data Processor transformation.

In addition to the event log, Data Transformation Engine saves a copy of the source document in a subdirectory of the log directory. If you double-click an event in the log, the text that caused the event appears in the IntelliScript editor.

Disabling Very Large Logs

Data Transformation Studio can display event logs of up to approximately 300 MB. If a service generates logs that are larger than 300 MB, you can disable the log generation.

1. In Data Transformation Studio, open the original project from which you deployed the service.
2. Click Project > Properties > Output Control.
3. Deselect the option to Create Event Log.
4. Redeploy the service.

Log Configuration

You can configure the Engine event logs in the Data Transformation Configuration Editor. For more information on using the Configuration Editor, see the *Data Transformation Installation and Configuration Guide*.

Log Location

The following table describes the settings in the Configuration Editor that you edit to change the log location:

Setting	Description
`CM Configuration/General/CM Reports directory`	The path of the reports directory. If the Configuration Editor does not display this setting, you can add it by right-clicking the `CM Configuration/General` node, and click Add > CM Reports Directory. You can then enter the setting value.
`CM Configuration/General/CM log files directory`	Subdirectory of the reports directory, where Data Transformation stores the event logs. The default value is `Logs`.

Days to Keep History

Data Transformation purges old Engine event logs and old copies of source documents periodically. The following table describes the parameter that configures log behavior:

Parameter	Description
`CM Configuration/CM Engine/Days to keep history`	The number of days that Data Transformation saves event logs and user logs before purging. Default is 4. Only the log locations defined in the Configuration Editor are purged.

Multiple Users

If Data Transformation Engine runs under multiple user accounts, the users' logs may overwrite each other, or it may be difficult to identify the logs belonging to a particular user. You can prevent this by configuring the users with different log locations. For more information about setting up multiple configurations, see the *Data Transformation Installation and Configuration Guide*.

Engine Initialization Event Log

In addition to the logs of service events, there is an Engine initialization event log. This log records problems that occur when Data Transformation Engine starts, without reference to any service or input data. View this log to diagnose installation problems such as missing environment variables.

The initialization log is located in the `CMReports\Init` directory.

User Logs

A transformation can output failure events to a user-defined log.

If an anchor fails to find text in the source document, it can write a message in the user log. This can occur even if the anchor is defined as optional, so that the failure does not terminate the transformation processing.

The user log can contain the following information:

- Failure level: Information, Warning, or Error
- Name of the component that failed
- Failure description
- Location of the failed component in the script
- Additional information about the transformation status, such as the values of data holders.

To define the user-log output, assign the `on_fail` property of the appropriate transformation components. For more information about the `on_fail` property and failure handling, see the *Data Transformation Studio User Guide*.

On Windows platforms, you can find the user log in the following directory:

```
<INSTALL_DIR>\DataTransformation\UserLogs
```

On Linux and UNIX platforms, you can find the user log in the following directory:

```
<INSTALL_DIR>/UserLogs
```

You can customize the location with the configuration editor.

By default, each execution of a transformation generates a user log having a unique name:

```
<service_name>+<unique_string>.log
```

A transformation can set the user-log location at runtime by using `SetValue` actions to assign the following system variables. Set the phase property of `SetValue` to `initial`, ensuring that `SetValue` runs before any component that writes to the user log. For more information about `SetValue`, see the *Data Transformation Studio User Guide*.

Variable	Description
VarServiceInfo/StandardError/StandardErrorDir	Directory path of the user log
VarServiceInfo/StandardError/StandardErrorName	File name of the user log

Data Transformation purges old user logs stored in the location that is defined in the Configuration Editor. If you store user logs in another location, Data Transformation does not purge them. For more information, see "Days to Keep History" on page 19.

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