



Informatica (Version 10.1)

# New Features Guide

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# Preface

The *Informatica New Features and Enhancements Guide* is written for all Informatica software users. This guide lists the new features and enhancements in Informatica products.

## 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:

- Access all of your Informatica resources in one place.
- Search the Knowledge Base for product resources, including documentation, FAQs, and best practices.
- View product availability information.
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- Find your local Informatica User Group Network and collaborate with your peers.

### Informatica Knowledge Base

Use the Informatica Knowledge Base to search Informatica Network for product resources such as documentation, how-to articles, best practices, and PAMs.

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### Informatica Documentation

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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

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## Informatica Marketplace

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## Informatica Global Customer Support

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

To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link: <http://www.informatica.com/us/services-and-training/support-services/global-support-centers>.

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

# CHAPTER 1

## New Features (10.1)

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## Application Services

This section describes new application services features in version 10.1.

### System Services

This section describes new system service features in version 10.1.

#### [Scheduler Service for Profiles and Scorecards](#)

Effective in version 10.1, you can use the Scheduler Service to schedule profile runs and scorecard runs to run at a specific time or intervals.

For more information about schedules, see the "Schedules" chapter in the *Informatica 10.1 Administrator Guide*.

#### [Set the Time Zone For a Schedule](#)

Effective in version 10.1, when you choose a date and time to run a schedule, you also choose the time zone. When you set the time zone, you ensure that the job runs at the time you expect it to run, no matter where the Data Integration Service is running.

For more information about schedules, see the "Schedules" chapter in the *Informatica 10.1 Administrator Guide*.

## Big Data

This section describes new big data features in version 10.1.

### Hadoop Ecosystem

#### [Support in Big Data Management 10.1](#)

Effective in version 10.1, Informatica supports the following updated versions of Hadoop distributions:

- Azure HDInsight 3.3
- Cloudera CDH 5.5
- MapR 5.1

For the full list of Hadoop distributions that Big Data Management 10.1 supports, see the *Informatica Big Data Management 10.1 Installation and Configuration Guide*.

#### [Deferred Support](#)

Effective in version 10.1, Big Data Management defers support for Amazon EMR.

Big Data Management version 10.0 Update 1 supports Amazon EMR version 4.3. Informatica plans to support Amazon EMR 4.6 in a release following Big Data Management 10.1.

## Hadoop Security Systems

Effective in version 10.1, Informatica supports the following security systems on the Hadoop ecosystem:

- Apache Knox
- Apache Ranger
- Apache Sentry
- HDFS Transparent Encryption

Limitations apply to some combinations of security system and Hadoop distribution platform. For more information on Informatica support for these technologies, see the *Informatica Big Data Management 10.1 Security Guide*.

## Spark Runtime Engine

Effective in version 10.1, you can push mappings to the Apache Spark engine in the Hadoop environment.

Spark is an Apache project with a run-time engine that can run mappings on the Hadoop cluster. Configure the Hadoop connection properties specific to the Spark engine. After you create the mapping, you can validate it and view the execution plan in the same way as the Blaze and Hive engines.

When you push mapping logic to the Spark engine, the Data Integration Service generates a Scala program and packages it into an application. It sends the application to the Spark executor that submits it to the Resource Manager on the Hadoop cluster. The Resource Manager identifies resources to run the application. You can monitor the job in the Administrator tool.

For more information about using Spark to run mappings, see the *Informatica Big Data Management 10.1 User Guide*.

## Sqoop Connectivity for Relational Sources and Targets

Effective in version 10.1, you can use Sqoop to process data between relational databases and HDFS. You can use Sqoop to read and write data. When you use Sqoop, you do not need to install the relational database client and software on any node in the Hadoop cluster.

To use Sqoop, you must configure Sqoop properties in a JDBC connection and run the mapping in the Hadoop environment. You can configure Sqoop connectivity for relational data objects, customized data objects, and logical data objects that are based on the following databases:

- Aurora
- IBM DB2
- IBM DB2 for z/OS
- Greenplum
- Microsoft SQL Server
- Netezza
- Oracle
- Teradata

You can also run a profile on data objects that use Sqoop in the Hive run-time environment.

For more information, see the *Informatica 10.1 Big Data Management User Guide*.

## Transformation Support on the Blaze Engine

Effective in version 10.1, the following transformations are supported on the Blaze engine:

- Address Validator
- Case Converter
- Comparison
- Consolidation
- Data Processor
- Decision
- Key Generator
- Labeler
- Match
- Merge
- Normalizer
- Parser
- Sequence Generator
- Standardizer
- Weighted Average

The Address Validator, Consolidation, Data Processor, Match, and Sequence Generator transformations are supported with restrictions.

Effective in version 10.1, the following transformations have additional support on the Blaze engine:

- Aggregator. Supports pass-through ports.
- Lookup. Supports unconnected Lookup transformation.

For more information, see the "Mapping Objects in a Hadoop Environment" chapter in the *Informatica Big Data Management 10.1 User Guide*.

## Business Glossary

This section describes new Business Glossary features in version 10.1.

### Inherit Glossary Content Managers to All Assets

Effective in version 10.1, the Analyst tool assigns the data steward and owner that you assign to a glossary to all the assets in the glossary.

For more information, see the "Glossary Content Management" chapter in the *Informatica 10.1 Business Glossary Guide*.

## Bi-directional Custom Relationships

Effective in version 10.1, you can create bi-directional custom relationships. You can view the direction of related assets in the relationship view diagram. In a bi-directional custom relationship, you provide the name for the relationships in both directions.

For more information, see the "Finding Glossary Content" chapter in the *Informatica 10.1 Business Glossary Guide*.

## Custom Colors in the Relationship View Diagram

Effective in version 10.1, you can define the color of the line that connects related assets in the relationship view diagram.

For more information, see the "Glossary Administration" chapter in the *Informatica 10.1 Business Glossary Guide*.

# Connectivity

This section describes new connectivity features in version 10.1.

## Schema Names in IBM DB2 Connections

Effective in version 10.1, when you use an IBM DB2 connection to import a table in the Developer tool or the Analyst tool, you can specify one or more schema names from which you want to import the table. Use the `ischemaname` attribute in the metadata connection string URL to specify the schema names. Use the pipe (|) character to separate multiple schema names.

For example, enter the following syntax in the metadata connection string URL:

```
jdbc:informatica:db2://<host name>:<port>;DatabaseName=<database name>;ischemaname=<schema_name1>|<schema_name2>|<schema_name3>
```

This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

For more information, see the *Informatica 10.1 Developer Tool Guide* and *Informatica 10.1 Analyst Tool Guide*.

# Command Line Programs

This section describes new commands in version 10.1.

## infacmd bg Commands

The following table describes new infacmd bg commands:

Command	Description
listGlossary	Lists the business glossaries in the Analyst tool.
exportGlossary	Exports the business glossaries available in the Analyst tool.
importGlossary	Imports business glossaries from .xlsx or .zip files that were exported from the Analyst tool.

## infacmd dis Commands

The following table describes the new infacmd dis commands:

Command	Description
ListApplicationPermissions	Lists the permissions that a user or group has for an application.
ListApplicationObjectPermissions	Lists the permissions that a user or group has for an application object such as mapping or workflow.
SetApplicationPermissions	Assigns permissions on an application to a user or a group.
SetApplicationObjectPermissions	Assigns permissions on an application object such as mapping or workflow to a user or a group.

For more information, see the "infacmd dis Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infacmd ihs Commands

The following table describes new infacmd ihs commands:

Command	Description
BackupData	Backs up HDFS data in the internal Hadoop cluster to a .zip file.
UpgradeClusterService	Upgrades the Informatica Cluster Service configuration.
removeSnapshot	Removes existing HDFS snapshots so that you can run the infacmd ihs BackupData command successfully to back up HDFS data.

For more information, see the "infacmd ihs Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infacmd isp Commands

The following table describes the new infacmd isp commands:

Command	Description
AssignDefaultOSProfile	Assigns a default operating system profile to a user or group.
ListDefaultOSProfiles	Lists the default operating system profiles for a user or group.
ListDomainCiphers	<p>Displays one or more of the following cipher suite lists used by the Informatica domain or a gateway node:</p> <p><b>Black list</b></p> <p>User-specified list of cipher suites that the Informatica domain blocks.</p> <p><b>Default list</b></p> <p>List of cipher suites that Informatica supports by default.</p> <p><b>Effective list</b></p> <p>The list of cipher suites that the Informatica domain uses after you configure it with the infasetup updateDomainCiphers command. The effective list supports cipher suites in the default list and white list but blocks cipher suites in the black list.</p> <p><b>White list</b></p> <p>User-specified list of cipher suites that the Informatica domain can use in addition to the default list.</p> <p>You can specify which lists that you want to display.</p>
UnassignDefaultOSProfile	Removes the default operating system profile that is assigned to a user or group.

The following table describes updated options for infacmd isp commands:

Command	Description
CreateOSProfile	<p>The following options are added:</p> <ul style="list-style-type: none"><li>-DISProcessVariables</li><li>-DISEnvironmentVariables</li><li>-HadoopImpersonationUser</li><li>-HadoopImpersonationProperties</li><li>-UseLoggedInUserAsProxy</li><li>-ProductExtensionName</li><li>-ProductOptions</li></ul> <p>Use these options to configure the operating system profile properties for the Data Integration Service.</p>
UpdateOSProfile	<p>The following options are added:</p> <ul style="list-style-type: none"><li>-DISProcessVariables</li><li>-DISEnvironmentVariables</li><li>-HadoopImpersonationUser</li><li>-HadoopImpersonationProperties</li><li>-UseLoggedInUserAsProxy</li><li>-ProductExtensionName</li><li>-ProductOptions</li></ul> <p>Use these options to configure the operating system profile properties for the Data Integration Service.</p>

For more information, see the "infacmd isp Command Reference" chapter in the *Informatica 10.1 Command Reference*.

### infacmd Idm Commands

The following table describes new infacmd Idm commands:

Command	Description
backupData	Takes a snapshot of the HDFS directory and creates a .zip file of the snapshot in the local machine.
restoreData	Retrieves the HDFS data backup .zip file from the local system and restores data in the HDFS directory.
removeSnapshot	Removes the snapshot from the HDFS directory.
upgrade	Upgrades the Catalog Service.

For more information, see the "infacmd Idm Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infacmd Idm Commands

The following table describes new infacmd Idm commands:

Command	Description
backupData	Takes a snapshot of the HDFS directory and creates a .zip file of the snapshot in the local machine.
restoreData	Retrieves the HDFS data backup .zip file from the local system and restores data in the HDFS directory.
removeSnapshot	Removes the snapshot from the HDFS directory.
upgrade	Upgrades the Catalog Service.

For more information, see the "infacmd Idm Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infacmd ms Commands

The following table describes new options for infacmd ms commands:

Command	Description
RunMapping	The command contains the following new option: <ul style="list-style-type: none"><li>-osp. The operating system profile name if the Data Integration Service is enabled to use operating system profiles.</li></ul>

For more information, see the "infacmd ms Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infacmd ps Commands

The following table describes new options for infacmd ps commands:

Command	Description
<ul style="list-style-type: none"><li>- Execute</li><li>- executeProfile</li></ul>	The commands contain the following new option: <ul style="list-style-type: none"><li>-ospn. The operating system profile name if the Data Integration Service is enabled to use operating system profiles.</li></ul>

For more information, see the "infacmd ps Command Reference" chapter in the *Informatica 10.1 Command Reference*.



## infacmd sch Commands

The following table describes updated options for infacmd sch commands:

Command	Description
CreateSchedule	The following argument is added to the -RunnableObjects option: <ul style="list-style-type: none"><li>-osProfileName. The operating system profile name if the Data Integration Service is enabled to use operating system profiles.</li></ul>
UpdateSchedule	The following argument is added to the -AddRunnableObjects option: <ul style="list-style-type: none"><li>-osProfileName. The operating system profile name if the Data Integration Service is enabled to use operating system profiles.</li></ul>

For more information, see the "infacmd sch Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## infasetup Commands

The following table describes new infasetup commands:

Command	Description
ListDomainCiphers	<p>Displays one or more of the following cipher suite lists used by the Informatica domain or a gateway node uses:</p> <p><b>Black list</b></p> <p>User-specified list of cipher suites that the Informatica domain blocks.</p> <p><b>Default list</b></p> <p>List of cipher suites that Informatica supports by default.</p> <p><b>Effective list</b></p> <p>The list of cipher suites that the Informatica domain uses after you configure it with the infasetup updateDomainCiphers command. The effective list supports cipher suites in the default list and white list but blocks cipher suites in the black list.</p> <p><b>White list</b></p> <p>User-specified list of cipher suites that the Informatica domain can use.</p> <p>You can specify which lists that you want to display.</p>
updateDomainCiphers	Updates the cipher suites that the Informatica domain can use with a new effective list.

The following table describes updated options for infasetup commands:

Command	Description
<ul style="list-style-type: none"><li>- DefineDomain</li><li>- DefineGatewayNode</li><li>- DefineWorkerNode</li><li>- UpdateGatewayNode</li><li>- UpdateWorkerNode</li></ul>	<p>The commands contain the following new options:</p> <ul style="list-style-type: none"><li>- cipherWhiteList  -cwl</li><li>- cipherWhiteListFile  -cwlf</li><li>- cipherBlackList  -cbl</li><li>- cipherBlackListFile  -cblf</li></ul> <p>Use these options to configure cipher suites for an Informatica domain that uses secure communication within the domain or secure connections to web application services.</p>

For more information, see the "infasetup Command Reference" chapter in the *Informatica 10.1 Command Reference*.

## pmrep Commands

The following table describes a new pmrep command:

Command	Description
AssignIntegrationService	Assigns the PowerCenter Integration Service to the specified workflow.

The following table describes the updated option for a pmrep command:

Command	Description
CreateConnection	The command contains the following updated option: - -s. The connection type list includes FTP.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.1 Command Reference*.

# Documentation

This section describes new or updated guides with the Informatica documentation in version 10.1.

The Informatica documentation contains the following new guides:

## Metadata Manager Command Reference

Effective in version 10.1, the *Metadata Manager Command Reference* contains information about all of the Metadata Manager command line programs. The *Metadata Manager Command Reference* is included in the online help for Metadata Manager. Previously, information about the Metadata Manager command line programs was included in the *Metadata Manager Administrator Guide*.

For more information, see the *Informatica 10.1 Metadata Manager Command Reference*.

## Informatica Administrator Reference for Live Data Map

Effective in Live Data Map version 2.0, the *Informatica Administrator Reference for Live Data Map* contains basic reference information on Informatica Administrator tasks that you need to perform in Live Data Map. The *Informatica Administrator Reference for Live Data Map* is included in the online help for Informatica Administrator.

For more information, see the *Informatica 2.0 Administrator Reference for Live Data Map*.

# Exception Management

This section describes new exception management features in version 10.1.

## Search and replace data values by data type

Effective in version 10.1, you can configure the options in an exception task to search and replace data values based on the data type. You can configure the options to search and replace data in any column that contains date, string, or numeric data.

When you specify a data type, the Analyst tool searches for the value that you enter in any column that uses the data type. You can find and replace any value that a string data column contains. You can perform case-sensitive searches on string data. You can search for a partial match or a complete match between the search value and the contents of a field in a string data column.

This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

For more information, see the Exception Records chapter in the *Informatica 10.1 Exception Management Guide*.

# Informatica Administrator

This section describes new Administrator tool features in version 10.1.

## Domain View

Effective in 10.1, you can view historical statistics for CPU usage and memory usage in the domain.

You can view the CPU and memory statistics for usage for the last 60 minutes. You can toggle between the current statistics and the last 60 minutes. In the **Domain** view choose **Actions > Current** or **Actions > Last Hour Trend** in the **CPU Usage** panel or the **Memory Usage** panel.

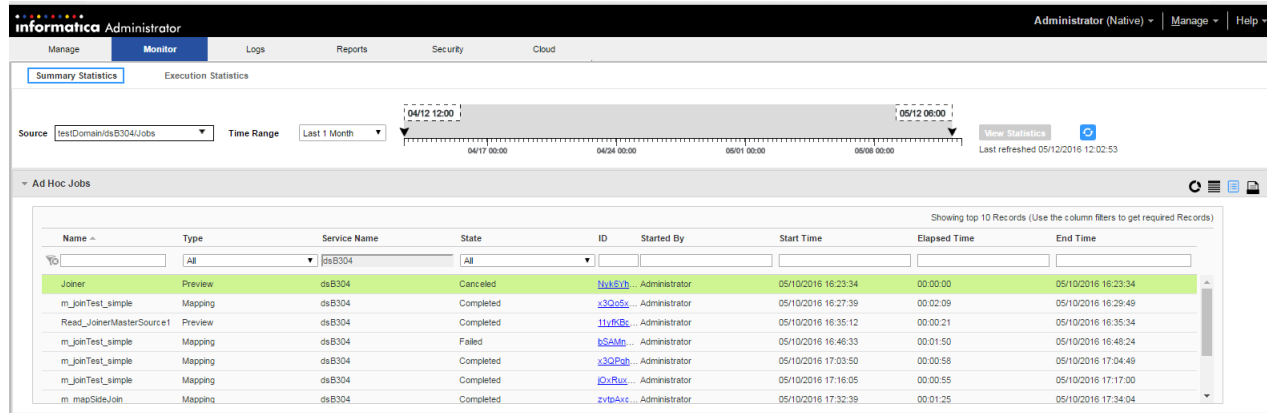
## Monitoring

Effective in version 10.1, the Monitor tab in the Administrator tool has the following features:

### Details view on the Summary Statistics view

The **Summary Statistics** view has a **Details** view. You can view information about jobs, export the list to a .csv file, and link to a job in the **Execution Statistics** view. To access the Details view, click **View Details**.

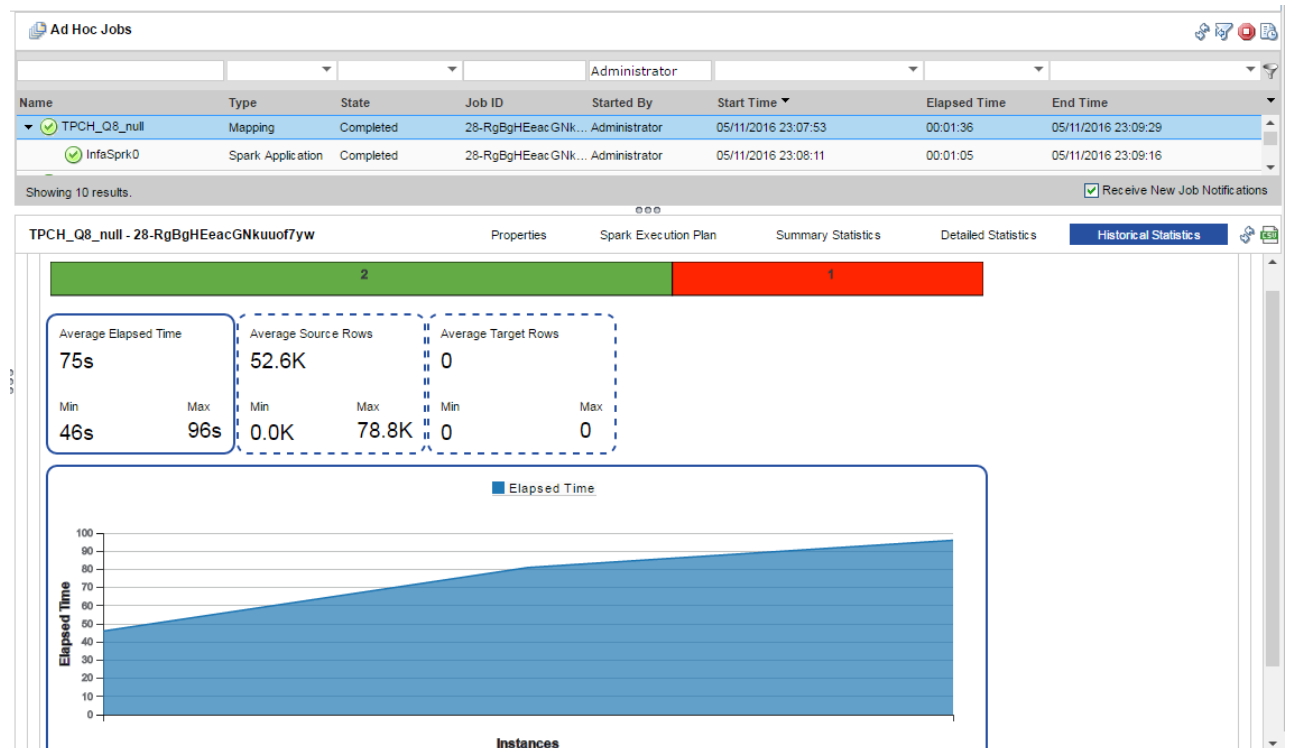
The following image shows the **Details** view:



### Historical Statistics view.

When you select an Ad Hoc or a deployed mapping job in the **Contents** panel of the **Monitor** tab, the **Details** panel contains the **Historical Statistics** view. The **Historical Statistics** view shows averaged data from multiple runs for a specific job. For example, you can view the minimum, maximum, and average duration of the mapping job. You can view the average amount of CPU that the job consumes when it runs.

The following image shows the **Historical Statistics** view:



# Informatica Analyst

This section describes new Analyst tool features in version 10.1.

## Profiles

This section describes new Analyst tool features for profiles and scorecards.

### Conformance Criteria

Effective in version 10.1, you can select a minimum number of conforming rows as conformance criteria for data domain discovery.

For more information about conformance criteria, see the "Data Domain Discovery in Informatica Analyst" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Exclude Nulls for Data Domain Discovery

Effective in version 10.1, you can exclude null values from the data set when you perform data domain discovery on a data source. When you select the minimum percentage of rows with the exclude null values option, the conformance percentage is the ratio of number of matching rows divided the total number of rows excluding the null values in the column.

For more information about exclude null values from data domain discovery option, see the "Data Domain Discovery in Informatica Analyst" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Run-time Environment

Effective in version 10.1, you can choose the Hadoop option as the run-time environment when you create or edit a column profile, data domain discovery profile, enterprise discovery profile, or scorecard. When you choose the Hadoop option, the Data Integration Service pushes the profile logic to the Blaze engine on the Hadoop cluster to run profiles.

For more information about run-time environment, see the "Data Object Profiles" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Scorecard Dashboard

Effective in version 10.1, you can view the following scorecard details in the scorecard dashboard:

- Total number of scorecards in the projects
- Scorecard run trend for the past six months
- Total number of data objects and the number of data objects that have scorecards
- Cumulative metrics trend for the past six months

For more information about scorecard dashboard, see the "Scorecards in Informatica Analyst" chapter in the *Informatica 10.1 Data Discovery Guide*.

# Informatica Developer

This section describes new Informatica Developer features in version 10.1.

## Generate Source File Name

Effective in 10.1, you can use the file name column option to return the source file name. You can configure the mapping to write the source file name to each source row.

For more information, see the *Informatica 10.1 Developer Tool Guide*.

## Import from PowerCenter

Effective in version 10.1, you can import mappings that contain Netezza and Teradata objects from PowerCenter into the Developer tool and run the mappings in a native or Hadoop run-time environment.

For more information, see the *Informatica 10.1 Developer Mapping Guide*.

## Copy Text Between Excel and the Developer Tool

Effective in version 10.1, you can copy text from Excel to the Developer tool or from the Developer tool to Excel. Copy text from Excel to the Developer tool to provide metadata for transformations. For example, you have designed a mapping in Excel that includes all transformations, their port names, data types, and transformation logic. In the Developer tool, you can copy the fields from Excel into the ports of empty transformations. Similarly, you can copy transformation ports from the Developer tool into Excel.

## Logical Data Object Read and Write Mapping Editing

Effective in Informatica 10.1, you can use the logical data object editor to edit and change metadata in logical data object Read and Write mappings. For more information, see the "Logical View of Data" chapter in the *Informatica 10.1 Developer Tool Guide*.

## DDL Query

Effective in version 10.1, you can define a DDL query to create or replace relational and Hive target tables at run time.

You can enter the following placeholders in the DDL query:

- INFA\_TABLE\_NAME
- INFA\_COLUMN\_LIST

You can also configure port selectors in the DDL query.

For more information, see the *Informatica 10.1 Developer Mapping Guide*.

## Profiles

This section describes new Developer tool features for profiles and scorecards.

### Columns Profiles with Avro and Parquet Data Sources

Effective in version 10.1, you can create a column profile on an Avro or Parquet data source in HDFS.

For more information about column profiles on Avro and Parquet data sources, see the "Column Profiles on Semi-structured Data Sources" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Conformance Criteria

Effective in version 10.1, you can select a minimum number of conforming rows as conformance criteria for data domain discovery.

For more information about conformance criteria, see the "Data Domain Discovery in Informatica Developer" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Exclude Nulls for Data Domain Discovery

Effective in version 10.1, you can exclude null values from the data set when you perform data domain discovery on a data source. When you select the minimum percentage of rows with the exclude null values option, the conformance percentage is the ratio of number of matching rows divided by the total number of rows excluding the null values in the column.

For more information about exclude null values from data domain discovery option, see the "Data Domain Discovery in Informatica Developer" chapter in the *Informatica 10.1 Data Discovery Guide*.

### Run-time Environment

Effective in version 10.1, you can choose the Hadoop option as the run-time environment when you create or edit a column profile, data domain discovery profile, enterprise discovery profile, or scorecard. When you choose the Hadoop option, the Data Integration Service pushes the profile logic to the Blaze engine on the Hadoop cluster to run profiles.

For more information about run-time environment, see the "Data Object Profiles" chapter in the *Informatica 10.1 Data Discovery Guide*.

## Informatica Development Platform

This section describes new features and enhancements to the Informatica Development Platform.

### Informatica Connector Toolkit

Effective in version 10.1, you can use the following features in the Informatica Connector Toolkit:

#### Pre-defined type system

When you create a connector that uses REST APIs to connect to the data source, you can use pre-defined data types. You can use the following Informatica Platform data types:

- string
- integer
- bigInteger
- decimal
- double
- binary
- date

#### Procedure pattern

When you create a connector for Informatica Cloud, you can define native metadata objects for procedures in data sources. You can use the following options to define the native metadata object for a procedure:

### Manually create the native metadata object

When you define the native metadata objects manually, you can specify the following details:

Metadata Component	Description
Procedure extension	Additional metadata information that you can specify for a procedure.
Parameter extension	Additional metadata information that you can specify for parameters.
Call capability attributes	Additional metadata information that you can specify to create a read or write call to a procedure.

### Use swagger specifications

When you use swagger specifications to define the native metadata object, you can either use an existing swagger specification or you can generate a swagger specification by sampling the REST end point.

### Edit common metadata

You can specify common metadata information for Informatica Cloud connectors, such as schema name and foreign key name.

### Export the connector files for Informatica Cloud

After you design and implement the connector components, you can export the connector files for Informatica Cloud by specifying the plug-in ID and plug-in version.

### Export the connector files for PowerCenter

After you design and implement the connector components, you can export the connector files for PowerCenter by specifying the PowerCenter version.

## Intelligent Data Lake

In version 10.1, Informatica introduces Intelligent Data Lake, a new product to help customers derive more value from their Hadoop-based data lake and make data available to all users in the organization.

Intelligent Data Lake is a collaborative self-service Big Data discovery and preparation solution for data analysts and data scientists. It enables analysts to rapidly discover and turn raw data into insight and allows IT to ensure quality, visibility, and governance. With Intelligent Data Lake, analysts to spend more time on analysis and less time on finding and preparing data.

Intelligent Data Lake provides the following benefits:

- Data analysts can quickly and easily find and explore trusted data assets within the data lake and outside the data lake using semantic search and smart recommendations.
- Data analysts can transform, cleanse, and enrich data in the data lake using an Excel-like spreadsheet interface in a self-service manner without the need for coding skills.
- Data analysts can publish data and share knowledge with the rest of the community and analyze the data using their choice of BI or analytic tools.
- IT and governance staff can monitor user activity related to data usage in the lake.
- IT can track data lineage to verify that data is coming from the right sources and going to the right targets.



- IT can enforce appropriate security and governance on the data lake
- IT can operationalize the work done by data analysts into a data delivery process that can be repeated and scheduled.

Intelligent Data Lake has the following features:

#### **Search**

- Find the data in the lake as well as in the other enterprise systems using smart search and inference-based results.
- Filter assets based on dynamic facets using system attributes and custom defined classifications.

#### **Explore**

- Get an overview of assets, including custom attributes, profiling statistics for data quality, data domains for business content, and usage information.
- Add business context information by crowd-sourcing metadata enrichment and tagging.
- Preview sample data to get a sense of the data asset based on user credentials.
- Get lineage of assets to understand where data is coming from and where it is going and to build trust in the data.
- Know how the data asset is related to other assets in the enterprise based on associations with other tables or views, users, reports and data domains.
- Progressively discover additional assets with lineage and relationship views.

#### **Acquire**

- Upload personal delimited files to the lake using a wizard-based interface. Hive tables are automatically created for the uploads in the most optimal format.
- Create, append to, or overwrite assets for uploaded data.

#### **Collaborate**

- Organize work by adding data assets to projects.
- Add collaborators to projects with different roles, such as co-owner, editor, or viewer, and with different privileges.

#### **Recommendations**

- Improve productivity by using recommendations based on the behavior and shared knowledge of other users.
- Get recommendations for alternate assets that can be used in a project.
- Get recommendations for additional assets that can be used a project.
- Recommendations change based on what is in the project.

#### **Prepare**

- Use excel-like environment to interactively specify transformation using sample data.
- See sheet-level and column-level overviews, including value distributions and numeric and date distributions.
- Add transformations in the form of recipe steps and see the results immediately on the sheets.
- Perform column-level data cleansing and data transformation using string, math, date, logical operations.
- Perform sheet-level operations to combine, merge, aggregate, or filter data.
- Refresh the sample in the worksheet if the data in the underlying tables change.

- Derive sheets from existing sheets and get alerts when parent sheets change.
- All transformation steps are stored in the recipe which can be played back interactively.

#### **Publish**

- Use the power of the underlying Hadoop system to run large-scale data transformation without coding or scripting.
- Run data preparation steps on actual large data sets in the lake to create new data assets.
- Publish the data in the lake as a Hive table in the desired database.
- Create, append, or overwrite assets for published data.

#### **Data Asset Operations**

- Export data from the lake to a CSV file.
- Copy data into another database or table.
- Delete the data asset if allowed by user credentials.

#### **My Activities**

- Keep track of upload activities and their status.
- Keep track of publications and their status.
- View log files in case of errors and share with IT administrators if needed.

#### **IT Monitoring**

- Keep track of user, data asset and project activities by building reports on top of the audit database.
- Find information such as the top active users, the top datasets by size, prior updates, most reused assets, and the most active projects.

#### **IT Operationalization**

- Operationalize the ad-hoc work done by analysts.
- Use Informatica Developer to customize and optimize the Informatica Big Data Management mappings translated from the recipes that analysts create.
- Deploy, schedule, and monitor the Informatica Big Data Management mappings to ensure that data assets are delivered at the right time to the right destinations.
- Make sure that the entitlements for access to various databases and tables in the data lake are according to security policies.

## **Live Data Map**

This section describes new Live Data Map features in version 10.1.

### **Email Notifications**

Effective in version 10.1, you can configure and receive email notifications on the Catalog Service status to closely monitor and troubleshoot the application service issues. You use the Email Service and the associated Model Repository Service to send email notifications.

For more information, see the *Informatica 10.1 Administrator Reference for Live Data Map*.

## Keyword Search

Effective in version 10.1, you can use the following keywords to restrict the search results to specific types of assets:

- Table
- Column
- File
- Report

For example, if you want to search for all the tables with the term "customer" in them, type in "tables with customer" in the Search box. Enterprise Information Catalog lists all the tables that include the search term "customer" in the table name.

For more information, see the *Informatica 10.1 Enterprise Information Catalog User Guide*.

## Profiling

Effective in version 10.1, Live Data Map can run profiles in the Hadoop environment. When you choose the Hadoop connection, the Data Integration Service pushes the profile logic to the Blaze engine on the Hadoop cluster to run profiles.

For more information, see the *Informatica 10.1 Live Data Map Administrator Guide*.

## Scanners

Effective in version 10.1, you can extract metadata from the following sources:

- Amazon Redshift
- Amazon S3
- Custom Lineage
- HDFS
- Hive
- Informatica Cloud
- MicroStrategy

For more information, see the *Informatica 10.1 Live Data Map Administrator Guide*.

# Mappings

This section describes new mapping features in version 10.1.

## Informatica Mappings

This section describes new features for Informatica mappings in version 10.1.

### Generate a Mapplet from Connected Transformations

Effective in version 10.1, you can generate a mapplet from a group of connected transformations in a mapping. Use the mapplet as a template to add to multiple mappings that connect to different sources and targets.

### Generate a Mapping or Logical Data Object from an SQL Query

Effective in version 10.1, you can generate a mapping or a logical data object from an SQL query in the Developer tool.

To generate a mapping or logical data object from an SQL query, click **File > New > Mapping from SQL Query**. Enter a SQL query or select the location of the text file with an SQL query that you want to convert to a mapping. You can also generate a logical data object from an SQL query that contains only SELECT statements.

For more information about generating a mapping or a logical data object from an SQL query, see the *Informatica 10.1 Developer Mapping Guide*.

# Metadata Manager

This section describes new Metadata Manager features in version 10.1.

## Universal Resources

Effective in version 10.1, you can create universal resources to extract metadata from some metadata sources for which Metadata Manager does not package a model. For example, you can create a universal resource to extract metadata from an Apache Hadoop Hive Server, QlikView, or Talend metadata source.

To extract metadata from these sources, you first create an XConnect that represents the metadata source type. The XConnect includes the model for the metadata source. You then create one or more resources that are based on the model. The universal resources that you create behave like packaged resources in Metadata Manager.

For more information about universal resources, see the "Universal Resources" chapter in the *Informatica 10.1 Metadata Manager Administrator Guide*.

## Incremental Loading for Oracle and Teradata Resources

Effective in version 10.1, you can enable incremental loading for Oracle resources and for Teradata resources. An incremental load causes Metadata Manager to load recent changes to the metadata instead of loading complete metadata. Incremental loading reduces the amount of time it takes to load the resource.

To enable incremental loading for an Oracle resource or for a Teradata resource, enable **Incremental load** option in the resource configuration properties. This option is disabled by default.

For more information about incremental loading for Oracle and Teradata resources, see the "Database Management Resources" chapter in the *Informatica 10.1 Metadata Manager Administrator Guide*.

## Hiding Resources in the Summary View

Effective in version 10.1, you can prevent a resource and its child objects from being displayed in the summary view of data lineage diagrams. To hide a resource, enable the **Hide in Summary Lineage** option on the **Properties** page of the resource configuration properties. This option is available for all resource types. It is disabled by default.

You can hide objects such as staging databases from data lineage diagrams. If you want to view the hidden objects, you can switch from the summary view to the detail view through the task bar.

For more information about the summary view of data lineage diagrams, see the "Working with Data Lineage" chapter in the *Informatica 10.1 Metadata Manager User Guide*.

## Metadata Manager Command Line Programs

Effective in version 10.1, Metadata Manager has a new command line program. The mmXConPluginUtil command line program generates the image mapping information or the plug-in for a universal XConnect.

The following table describes the mmXConPluginUtil commands:

Command Name	Description
generateImageMapping	Generates the image mapping information for a universal XConnect.
generatePlugin	Generates the plug-in for a universal XConnect.

For more information about the mmXConPluginUtil command line program, see the "mmXConPluginUtil" chapter in the *Informatica 10.1 Metadata Manager Command Reference*.

## Application Properties

Effective in version 10.1 you can configure new application properties in the Metadata Manager `imm.properties` file. This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

The following table describes new Metadata Manager application properties in `imm.properties`:

Property	Description
<code>xconnect.custom.failLoadOnErrorCount</code>	Maximum number of errors that the Metadata Manager Service can encounter before the custom resource load fails.
<code>xconnect.io.print.batch.errors</code>	Number of errors that the Metadata Manager Service writes to the in memory cache and to the <code>mm.log</code> file in one batch when you load a custom resource.

For more information about the `imm.properties` file, see the "Metadata Manager Properties Files" appendix in the *Informatica 10.1 Metadata Manager Administrator Guide*.

## Migrate Business Glossary Audit Trail History and Links to Technical Metadata

Effective in version 10.1, you can migrate audit trail history and links to technical metadata when you export business glossaries. You can import the audit trail history and links in the Analyst tool.

This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

For more information, see the *Informatica 10.1 Upgrading from Version 9.5.1 Guide*.

## PowerCenter

This section describes new PowerCenter features in version 10.1.

### Create a Source Definition from a Target Definition

Effective in version 10.1, you can create a source definition from a target definition. You can drag the target definitions into the Source Analyzer to create source definitions.

For more information, see the *Informatica 10.1 PowerCenter Designer Guide*.

### Create an FTP Connection Type from the Command Line

Effective in version 10.1, you can create an FTP connection with the `pmrep CreateConnection` command.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.1 Command Reference*.

### Pushdown Optimization for Greenplum

Effective in version 10.1, the PowerCenter Integration Service can push transformation logic to Greenplum sources and targets when the connection type is ODBC.

For more information, see the *Informatica PowerCenter 10.1 Advanced Workflow Guide*.

# PowerExchange Adapters

This section describes new PowerExchange adapter features in version 10.1.

## PowerExchange Adapters for Informatica

This section describes new Informatica adapter features in version 10.1.

### PowerExchange for Amazon Redshift

Effective in version 10.1, you can use PowerExchange for Amazon Redshift to read data from and write data to Amazon Redshift. You can import Amazon Redshift business entities as read and write data objects to create and run mappings to extract data from or load data to an Amazon Redshift entity.

For more information, see the *Informatica PowerExchange for Amazon Redshift 10.1 User Guide*.

### PowerExchange for HDFS

Effective in version 10.1, you can use PowerExchange for HDFS to read Avro and Parquet data files from and write Avro and Parquet data files to HDFS and local file system without using a Data Processor transformation.

For more information, see the *Informatica PowerExchange for HDFS 10.1 User Guide*.

### PowerExchange for Microsoft Azure Blob Storage

Effective in version 10.1, you can use PowerExchange for Microsoft Azure Blob Storage to read data from and write data to Microsoft Azure Blob Storage. You can create a Microsoft Azure Blob Storage connection to read or write Microsoft Azure Blob Storage data into a Microsoft Azure Blob Storage data object. You can validate and run mappings in native and Hadoop environments.

For more information, see the *Informatica PowerExchange for Microsoft Azure Blob Storage 10.1 User Guide*.

### PowerExchange for Microsoft Azure SQL Data Warehouse

Effective in version 10.1, you can use PowerExchange for Microsoft Azure SQL Data Warehouse to read data from and write data to Microsoft Azure SQL Data Warehouse. You can validate and run mappings in native and Hadoop environments.

For more information, see the *Informatica PowerExchange for Microsoft Azure SQL Data Warehouse 10.1 User Guide*.

### PowerExchange for Teradata Parallel Transporter API

Effective in version 10.1, you can enable Teradata Connector for Hadoop (TDCH) to run a Teradata mapping on a Blaze engine. When you run the mapping, the Data Integration Service pushes the mapping to a Hadoop cluster and processes the mapping on a Blaze engine, which significantly increases the performance.

For more information, see the *Informatica PowerExchange for Teradata Parallel Transporter API 10.1 User Guide*.

## PowerExchange Adapters for PowerCenter

This section describes new PowerCenter adapter features in version 10.1.

### PowerExchange for Greenplum

Effective in version 10.1, you can configure Kerberos authentication for native Greenplum connections.

This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

For more information, see the "Greenplum Sessions and Workflows" chapter in the *Informatica 10.1 PowerExchange for Greenplum User Guide for PowerCenter*.

## Security

This section describes new security features in version 10.1.

### Custom Cipher Suites

Effective in version 10.1, you can customize the cipher suites that the Informatica domain uses for secure communication within the domain and secure connections to web application services. You can create a whitelist and blacklist to enable or block specific ciphersuites. This feature is also available in 9.6.1 HotFix 4. It is not available in 10.0.

The Informatica domain uses an effective list of cipher suites that uses the cipher suites in the default and whitelists but blocks cipher suites in the blacklist.

For more information, see the "Domain Security" chapter in the *Informatica 10.1 Security Guide*.

### Operating System Profiles

Effective in version 10.1, if the Data Integration Service runs on UNIX or Linux, you can create operating system profiles and configure the Data Integration Service to use operating system profiles. Use operating system profiles to increase security and to isolate the run-time user environment in Informatica products such as Big Data Management, Data Quality, and Intelligent Data Lake.

The Data Integration Service uses operating system profiles to run mappings, profiles, scorecards, and workflows. The operating system profile contains the operating system user name, service process variables, Hadoop impersonation properties, the Analyst Service properties, environment variables, and permissions. The Data Integration Service runs the mapping, profile, scorecard, or workflow with the system permissions of the operating system user and the properties defined in the operating system profile.

For more information about operating system profiles, see the "Users and Groups" chapter in the *Informatica 10.1 Security Guide*.

### Application and Application Object Permissions

Effective in version 10.1, you can assign permissions to control the level of access that a user or group has on applications and application objects such as mappings and workflows.

For more information about application and application object permissions, see the "Permissions" chapter in the *Informatica 10.1 Security Guide*.

## Transformations

This section describes new transformation features in version 10.1.

### Informatica Transformations

This section describes new features in Informatica transformation in version 10.1.



## Address Validator Transformation

This section describes the new Address Validator transformation features.

The Address Validator transformation contains additional address functionality for the following countries:

### Ireland

Effective in version 10.1, you can return the eircode for an address in Ireland. An eircode is a seven-character code that uniquely identifies an Ireland address. The eircode system covers all residences, public buildings, and business premises and includes apartment addresses and addresses in rural townlands.

To return the eircode for an address, select a Postcode port or a Postcode Complete port.

### France

Effective in version 10.1, address validation uses the Hexaligne 3 repository of the National Address Management Service to certify a France address to the SNA standard.

The Hexaligne 3 data set contains additional information on delivery point addresses, including sub-building details such as building names and residence names.

### Germany

Effective in version 10.1, you can retrieve the three-digit street code part of the *Frachtleitcode* or Freight Code as an enrichment to a valid Germany addresses. The street code identifies the street within the address.

To retrieve the street code as an enrichment to verified Germany addresses, select the Street Code DE port. Find the port in the DE Supplementary port group.

Informatica adds the Street Code DE port in version 10.1.

### South Korea

Effective in version 10.1, you can verify older, lot-based addresses and addresses with older, six-digit post codes in South Korea. You can verify and update addresses that use the current format, the older format, and a combination of the current and older formats. A current South Korea address has a street-based format and includes a five-digit post code. A non-current address has a lot-based format and includes a six-digit post code.

To verify a South Korea address in an older format and to change the information to another format, use the Address Identifier KR ports. You update the address information in two stages. First, run the address validation mapping in batch or interactive mode and select the Address Identifier KR output port. Then, run the address validation mapping in address code lookup mode and select the Address Identifier KR input port. Find the Address Identifier KR input port in the Discrete port group. Find the Address Identifier KR output port in the KR Supplementary port group.

To verify that the Address Validator transformation can read and write the address data, add the Supplementary KR Status port to the transformation.

Informatica adds the Address Identifier KR ports, the Supplementary KR Status port, and the KR Supplementary port group in version 10.1.

Effective in version 10.1, you can retrieve South Korea address data in the Hangul script and in a Latin script.

### United Kingdom

Effective in version 10.1, you can retrieve delivery point type data and organization key data for a United Kingdom address. The delivery point type is a single-character code that indicates whether the address points to a residence, a small organization, or a large organization. The organization key is an eight-digit code that the Royal Mail assigns to small organizations.

To add the delivery point type to a United Kingdom address, use the Delivery Point Type GB port. To add the organization key to a United Kingdom address, use the Organization Key GB port. Find the ports in the UK Supplementary port group. To verify that the Address Validator transformation can read and write the data, add the Supplementary UK Status port to the transformation.

Informatica adds the Delivery Point Type GB port and the Organization Key GB port in version 10.1.

These features are also available in 9.6.1 HotFix 4. They are not available in 10.0.

For more information, see the *Informatica 10.1 Address Validator Port Reference*.

## Data Processor Transformation

This section describes new Data Processor transformation features.

### REST API

An application can call the Data Transformation REST API to run a Data Transformation service.

For more information, see the *Informatica 10.1 Data Transformation REST API User Guide*.

### XmlToDocument\_45 Document Processor

The **XmlToDocument\_45** document processor converts XML data to document formats, such as PDF or Excel. This component uses the **Business Intelligence and Reporting Tool** (BIRT) version 4.5 Eclipse add-on. Document processors for older versions of BIRT are also available.

For more information, see the *Informatica 10.1 Data Transformation User Guide*.

## Relational to Hierarchical Transformation

This section describes the Relational to Hierarchical transformation that you create in the Developer tool.

The Relational to Hierarchical transformation is an optimized transformation introduced in version 10.1 that converts relational input to hierarchical output.

For more information, see the *Informatica 10.1 Developer Transformation Guide*.

# Workflows

This section describes new workflow features in version 10.1.

## PowerCenter Workflows

This section describes new features in PowerCenter workflows in version 10.1.

### Assign Workflows to the PowerCenter Integration Service

Effective in version 10.1, you can assign a workflow to the PowerCenter Integration Service with the *pmrep AssignIntegrationService* command.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.1 Command Reference*.