



Informatica®
10.2 HotFix 1

New Features Guide

Informatica New Features Guide
10.2 HotFix 1
August 2018

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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.
- Review your support cases.
- 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.

To access the Knowledge Base, visit <https://kb.informatica.com>. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at KB_Feedback@informatica.com.

Informatica Documentation

To get the latest documentation for your product, browse the Informatica Knowledge Base at https://kb.informatica.com/_layouts/ProductDocumentation/Page/ProductDocumentSearch.aspx.

If you have questions, comments, or ideas about this documentation, contact the Informatica Documentation team through email at infa_documentation@informatica.com.

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.

Informatica Marketplace

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>.

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 (10.2 HotFix 1)

This chapter includes the following topics:

- [Application Services, 9](#)
- [Business Glossary , 10](#)
- [Command Line Programs, 10](#)
- [Connectivity, 11](#)
- [Data Types, 11](#)
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- [Security, 21](#)

Application Services

This section describes new application service features in version 10.2 HotFix 1.

Model Repository Service

Git Version Control System

Effective in version 10.2 HotFix1, you can integrate the Model repository with the Git version control system. Git is a distributed version control system. When you check out and check in an object, a copy of the version is saved to the local repository and to the Git server. If the Git server goes down, the local repository retains all the versions of the object.

For more information, see the "Model Repository Service" chapter in the *Informatica 10.2 HotFix 1 Application Service Guide*.

Business Glossary

This section describes new Business Glossary features in version 10.2 HotFix 1.

Import Glossary Assets as Plain Text

Effective in 10.2 HotFix 1, you can import business glossary assets as plain text into the Analyst tool.

For more information about export and import of glossary assets, see the "Glossary Administration" chapter in the *Informatica 10.2 HotFix 1 Business Glossary Guide*.

Command Line Programs

This section describes new commands in version 10.2 HotFix 1.

infacmd isp Commands

The following table describes new infacmd isp commands:

Command	Description
PingDomain	Pings a domain, service, domain gateway host, or node.
ListPasswordRules	Lists the rules to set up complex passwords.
ListWeakPasswordUsers	Lists the users with passwords that do not meet the password policy.

For more information, see the "infacmd isp Command Reference" chapter in the *Informatica 10.2 HotFix 1 Command Reference*.

infacmd wfs Commands

The following table describes new infacmd wfs commands:

Command	Description
pruneOldInstances	Deletes workflow process data from the workflow database.

To delete the process data, you must have the Manage Service privilege on the domain.

For more information, see the "infacmd wfs Command Reference" chapter in the *Informatica 10.2 HotFix 1 Command Reference*.

Connectivity

This section describes new connectivity features in version 10.2 HotFix 1.

Connectivity to Cloud Databases

Effective in version 10.2 HotFix 1, you can configure relational connections in Informatica Developer and PowerCenter to connect to Cloud databases.

You can configure the following connections:

- Oracle connection to connect to Oracle Autonomous Data Warehouse Cloud
- Oracle connection to connect to Oracle Database Cloud Service
- Microsoft SQL Server connection to connect to Azure SQL Database
- IBM DB2 connection to connect to DashDB

For more information, see the *Informatica 10.2 HotFix 1 Installation and Configuration Guide*.

Data Types

This section describes new data type features in 10.2 HotFix 1.

Microsoft SQL Server Data Types

Effective in version 10.2 HotFix 1, you can read or write the date data type when you use the Microsoft SQL Server connection in an Informatica mapping.

For more information, see the Data Type Reference appendix in the *Informatica 10.2 HotFix 1 Developer Tool Guide*.

Installer

This section describes new Installer feature in version 10.2 HotFix 1.

Docker Utility

Effective in version 10.2 HotFix 1, you can use the Informatica PowerCenter Docker utility to create the Informatica domain services. You can build the Informatica docker image with base operating system and Informatica binaries and run the existing docker image to create the Informatica domain within a container.

For more information about installing Informatica PowerCenter Docker utility to create the Informatica domain services, see

<https://kb.informatica.com/h2l/HowTo%20Library/1213-InstallInformaticaUsingDockerUtility-H2L.pdf>.

Informatica Transformations

This section describes new features in Informatica transformations in version 10.2 HotFix 1.

Address Validator Transformation

This section describes new Address Validator transformation features.

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

All Countries

Effective in version 10.2 HotFix 1, the Address Validator transformation supports single-line address verification in every country for which Informatica provides reference address data.

In earlier versions, the transformation supported single-line address verification for 26 countries.

To verify a single-line address, enter the address in the Complete Address port. If the address identifies a country for which the default preferred script is not a Latin or Western script, use the default Preferred Script property on the transformation with the address.

Austria, Germany, and Switzerland

Effective in version 10.2 HotFix 1, the Address Validator transformation supports the uppercase character ß in Austria, Germany, and Switzerland addresses.

The transformation supports the character ß in the following ways:

- If you set the Casing property to UPPER, the transformation returns the German character ß as ß. If you set the Casing property to LOWER, the transformation returns the German character ß as ß.
- The transformation treats ß and ß as equally valid characters in an address. In reference data matches, the transformation can identify a perfect match when the same values contain either ß or ß.
- The transformation treats ß and ss as equally valid characters in an address. In reference data matches, the transformation can identify a standardized match when the same values contain either ß or ss.
- If you set the Preferred Script property to ASCII_SIMPLIFIED, the transformation returns the character ß as S.
- If you set the Preferred Script property to ASCII_EXTENDED, the transformation returns the character ß as SS.

Bolivia

Effective in version 10.2 HotFix 1, the Address Validator transformation improves the parsing and validation of Bolivia addresses. Additionally, Informatica updates the reference data for Bolivia.

The transformation also includes the following improvements for Bolivia:

- Address validation to street level.
- Geocoordinates at street mid-point level for addresses in major cities.

Canada

Informatica introduces the following features and enhancements for Canada:

Support for the Global Preferred Descriptor property in Canada Addresses

Effective in version 10.2 HotFix 1, you can configure the transformation to return the short or long form of an element descriptor.

Address Verification can return the short or long form of the following descriptors:

- Street descriptors
- Directional values
- Building descriptors
- Sub-building descriptors

To specify the output format for the descriptors, configure the Global Preferred Descriptor property on the transformation. The property applies to English-language and French-language descriptors. By default, the transformation returns the descriptor in the format that the reference data specifies. If you select the PRESERVE INPUT option on the property, the Preferred Language property takes precedence over the Global Preferred Descriptor property.

Support for CH and CHAMBER as Sub-Building Descriptors

Effective in version 10.2 HotFix 1, Address Validator transformation recognizes CH and CHAMBER as sub-building descriptors in Canada addresses.

Colombia

Effective in version 10.2 HotFix1, the Address Validator transformation improves the processing of street data in Colombia addresses. Additionally, Informatica updates the reference data for Colombia.

The Address Validator transformation validates an address in Colombia to house number level. The transformation can verify a Colombia address that includes information for the street on which the house is located and also for the nearest cross street to the house.

For example, the transformation can verify the following addresses:

AVENIDA 31 65 29 APTO 1626

AVENIDA 31 DIAGONAL 65 29 APTO 1626

Consider the following guidelines for Colombia addresses:

- The Address Validator transformation can verify the address with and without the cross street descriptor DIAGONAL.
- The transformation can verify the address with and without a dash symbol between the cross street number and the house number. The transformation does not include a dash symbol in this position in the output address.
- The transformation can recognize the # symbol before the cross street number in an input address. The transformation recognizes the address as a reference data match and not a correction.

For example, address validation recognizes the following input address as a reference data match and omits the # symbol from the verified output address:

AVENIDA 31 #65 29 APTO 1626

France

Effective in version 10.2 HotFix 1, Informatica introduces the following improvements for France addresses:

- Informatica improves the supplementary reference data for France.
- The Address Validator transformation assigns addresses to IRIS units in France with greater accuracy. The transformation uses the house number in the address to verify the IRIS unit to which the address belongs. The use of house numbers can improve the assignment accuracy when the address lies close to the border between different units.

India

Effective in version 10.2 HotFix 1 the Address Validator transformation validates an address in India to house number level.

Peru

Effective in version 10.2 HotFix 1, the Address Validator transformation validates a Peru address to house number level. Additionally, Informatica updates the reference data for Peru.

South Africa

Effective in version 10.2 HotFix 1, the Address Validator transformation improves the parsing and verification of delivery service descriptors in South Africa addresses.

The transformation improves the parsing and verification of the delivery service descriptors in the following ways:

- Address Verification recognizes Private Bag, Cluster Box, Post Office Box, and Postnet Suite as different types of delivery service. Address Verification does not standardize one delivery service descriptor to another. For example, Address Verification does not standardize Postnet Suite to Post Office Box.
- Address Verification parses Postnet Box as a non-standard delivery service descriptor and corrects Postnet Box to the valid descriptor Postnet Suite.
- Address Verification does not standardize the sub-building descriptor Flat to Fl.

South Korea

Effective in version 10.2 HotFix 1, the Address Validator transformation introduces the following features and enhancements for South Korea:

- The South Korea address reference data includes building information. The transformation can read, verify, and correct building information in a South Korea address.
- The transformation returns all of the current addresses at a property that an older address represents. The older address might represent a single current address or it might represent multiple addresses, for example if multiple residences occupy the site of the property.

To return the current addresses, first find the address ID for the older property. When you submit the address ID with the final character A in address code lookup mode, the transformation returns all current addresses that match the address ID.

Note: The Address Validator transformation uses the Max Result Count property to determine the maximum number of addresses to return for the address ID that you enter. The Count Overflow property indicates whether the database contains additional addresses for the address ID.

Sweden

Effective in version 10.2 HotFix 1, the Address Validator transformation improves the verification of street names in Sweden addresses.

The transformation improves the verification of street names in the following ways:

- The transformation can recognize a street name that ends in the character G as an alias of the same name with the final characters GATAN.
- The transformation can recognize a street name that ends in the character V as an alias of the same name with the final characters VÄGEN.

- The Address Validator transformation can recognize and correct a street name with an incorrect descriptor when either the long form or the short form of the descriptor is used.

For example, The transformation can correct RUNIUSV or RUNIUSVÄGEN to RUNIUSGATAN in the following address:

RUNIUSGATAN 7

SE-112 55 STOCKHOLM

Thailand

Effective in version 10.2 HotFix 1, the Address Validator transformation introduces the following features and enhancements for Thailand:

Improvements to Thailand Addresses

The transformation improves the parsing and validation of Thailand addresses in a Latin script.

Additionally, the transformation validates an address to house number level.

Native Support for Thailand Addresses

The Address Validator transformation can read and write Thailand addresses in native Thai and Latin scripts. Informatica updates the reference data for Thailand and adds reference data in the native Thai script.

Informatica provides separate reference databases for Thailand addresses in each script. To verify addresses in the native Thai script, install the native Thai databases. To verify addresses in a Latin script, install the Latin databases.

Note: If you verify Thailand addresses, do not install both database types. Accept the default option for the Preferred Script property.

United Arab Emirates

Effective in version 10.2 HotFix 1, the Address Validator transformation verifies street names in United Arab Emirates addresses. To verify street names in United Arab Emirates, install the current reference address databases for the United Arab Emirates.

United Kingdom

Effective in version 10.2 HotFix 1 the Address Validator transformation can return a United Kingdom territory name.

The transformation returns the territory name in the Country_2 element and returns the country name in the Country_1 element. You can configure an output address with both elements, or you can omit the Country_1 element if you post mail within the United Kingdom. The territory name appears above the postcode in a United Kingdom address on an envelope or label.

To return the territory name, install the current United Kingdom reference data.

United States

Effective in version 10.2 HotFix 1, the Address Validator transformation can recognize up to three sub-building levels in a United States address.

In compliance with the United States Postal Service requirements, the transformation matches the information in a single sub-building element with the reference data. If the Sub-building_1 information does not match, the transformation compares the Sub-building_2 information. If the Sub-building_2 information does not match, the transformation compares the Sub-building_3 information. The transformation copies the unmatched sub-building information from the input address to the output address.

For comprehensive information about the features and operations of the address verification software engine version that Informatica embeds in version 10.2 HotFix 1 see the *Informatica Address Verification 5.13.0 Developer Guide*.

Metadata Manager

This section describes new Metadata Manager features in version 10.2 HotFix 1.

SAML Authentication for Metadata Manager

Effective in version 10.2 HotFix 1, Metadata Manager supports Security Assertion Markup Language (SAML)-based single sign-on. SAML-based single sign-on authenticates users against account credentials stored in Microsoft Active Directory. Accounts are imported from Active Directory into a security domain within the Informatica domain.

For information, see the "SAML Authentication for Informatica Web Applications" chapter in the *Informatica 10.2 HotFix 1 Security Guide*.

Skip Lineage During Metadata Manager Repository Backup or Restore Operations

Effective in version 10.2 HotFix 1, use the `[<-sl|--skipLineage> skipLineage]` option in the `backupRepository` and `restoreRepository` command to skip lineage during Metadata Manager repository back up and restore operations.

For information, see the *Informatica 10.2 HotFix 1 Metadata Manager Command Reference Guide*.

PowerCenter

This section describes new PowerCenter features in version 10.2 HotFix 1.

Pushdown Optimization for SAP HANA

Effective in version 10.2 HotFix 1, when the connection type is ODBC, you can select the ODBC provider subtype as **SAP HANA** to push transformation logic to SAP HANA. You can configure source-side, target-side, or full pushdown optimization to push the transformation logic to SAP HANA.

For more information, see the *Informatica PowerCenter 10.2 HotFix 1 Advanced Workflow Guide*.

Pushdown Optimization for Snowflake

Effective in version 10.2 HotFix 1, when the connection type is ODBC, you can configure source-side or full pushdown optimization to push the transformation logic to Snowflake.

For information, see the *Informatica PowerCenter 10.2 HotFix 1 Advanced Workflow Guide*.

PowerExchange Adapters for Informatica

This section describes new Informatica adapter features in version 10.2 HotFix 1.

PowerExchange for Microsoft Azure Blob Storage

Effective in version 10.2 HotFix 1, PowerExchange for Microsoft Azure Blob Storage includes the following functionality:

- You can run mappings on the Spark engine.
- You can use the file port to store the file name from which the Data Integration Service reads the data at run-time.
- You can read and write .csv, Avro, and Parquet files when you run a mapping in the native environment.
- You can read a directory when you run a mapping in the native environment.
- You can generate or skip header rows when you run a mapping in the native environment. On the Spark engine, the header row is created by default.
- You can append an existing blob. The append operation is applicable to only to the .csv files in the native environment.
- You can override the blob or container name. In the Blob Container Override field, specify the container name or sub-folders in the root container with the absolute path.
- You can read and write .csv files compressed in the gzip format in the native environment.

For more information, see the *Informatica PowerExchange for Microsoft Azure Blob Storage 10.2 HotFix 1 User Guide*.

PowerExchange for Microsoft Azure SQL Data Warehouse

Effective in version 10.2 HotFix 1, PowerExchange for Microsoft Azure SQL Data Warehouse includes the following features:

- You can configure key range partitioning when you read data from Microsoft Azure SQL Data Warehouse objects.
- You can override the SQL query and define constraints when you read data from a Microsoft Azure SQL Data Warehouse object.
- You can configure pre-SQL and post-SQL queries for source and target objects in a mapping.
- You can configure the native expression filter for the source data object operation.
- You can perform update, upsert, and delete operations against Microsoft Azure SQL Data Warehouse tables.
- You can configure an uncached lookup operation in the native environment.

For more information, see the *Informatica PowerExchange for Microsoft Azure SQL Data Warehouse 10.2 HotFix 1 User Guide*.

PowerExchange for Netezza

Effective in version 10.2 HotFix 1, you can configure dynamic mappings to change Netezza sources and targets at run time based on parameters and rules that you define.

When you configure dynamic mappings, you can also create or replace the target at run time. You can select the **Create or replace table at run time** option in the advanced properties of the Netezza data object write operation.

PowerExchange for Teradata Parallel Transporter API

Effective in version 10.2 HotFix 1, you can configure dynamic mappings to change Teradata sources and targets at run time based on parameters and rules that you define.

When you configure dynamic mappings, you can also create or replace the Teradata target at run time. You can select the **Create or replace table at run time** option in the advanced properties of the Teradata data object write operation.

PowerExchange Adapters for PowerCenter

This section describes new PowerCenter adapter features in version 10.2 HotFix 1.

PowerExchange for Amazon Redshift

Effective in version 10.2 HotFix 1, PowerExchange for Amazon Redshift includes the following new features:

- In addition to the existing regions, you can also read data from or write data to the **AWS GovCloud** region.
- You can specify the part size of an object to download the object from Amazon S3 in multiple parts.
- You can encrypt data while fetching the file from Amazon Redshift using the AWS-managed encryption keys or AWS KMS-managed customer master key for server-side encryption.
- You can provide the number of files to calculate the number of the staging files for each batch. If you do not provide the number of files, PowerExchange for Amazon Redshift calculates the number of the staging files.
- You can use the TRUNCATECOLUMNS option in the copy command to truncate the data of the VARCHAR and CHAR data types column before writing data to the target.
- PowerExchange for Amazon Redshift supports version 11 and 12 of SuSe Linux Enterprise Server operating system.

For more information, see the *Informatica PowerExchange for Amazon Redshift 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Amazon S3

Effective in version 10.2 HotFix 1, PowerExchange for Amazon S3 includes the following new features:

- In addition to the existing regions, you can also read data from or write data to the **AWS GovCloud** region.
- You can specify the line that you want to use as the header when you read data from Amazon S3. You can specify the line number in the **Header Line Number** property under the source session properties.
- You can specify the line number from where you want the PowerCenter Integration Service to read data. You can configure the **Read Data From Line** property under the source session properties.
- You can specify an asterisk (*) wildcard in the file name to fetch files from the Amazon S3 bucket. You can specify the asterisk (*) wildcard to fetch all the files or only the files that match the name pattern.
- You can add a single or multiple tags to the objects stored on the Amazon S3 bucket to categorize the objects. Each tag contains a key value pair. You can either enter the key value pairs or specify the absolute file path that contains the key value pairs.
- You can specify the part size of an object to download the object from Amazon S3 in multiple parts.

- You can configure partitioning for Amazon S3 sources. Partitioning optimizes the mapping performance at run time when you read data from Amazon S3 sources.
- PowerExchange for Amazon S3 supports version 11 and 12 of SuSe Linux Enterprise Server operating system.

For more information, see the *Informatica PowerExchange for Amazon S3 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Cassandra

Effective in version 10.2 HotFix 1, the Informatica Cassandra ODBC driver supports asynchronous write.

To enable asynchronous write on a Linux operating system, you must add the **EnableAsynchronousWrites** key name in the `odbc.ini` file and set the value to 1.

To enable asynchronous write on a Windows operating system, you must add the **EnableAsynchronousWrites** property in the Windows registry for the Cassandra ODBC data source name and set the value as 1.

For more information, see the *Informatica PowerExchange for Cassandra 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Microsoft Dynamics CRM

Effective in version 10.2 HotFix 1, PowerExchange for Microsoft Dynamics CRM includes the following new features:

- You can select either **Discovery Service** or **Organization Service** as a service type for passport authentication in the Microsoft Dynamics CRM run-time connection.
- You can configure an alternate key in update, upsert, and delete operations.
- You can specify an alternate key as a reference for Lookup, Customer, Owner, and PartyList data types.

For more information, see the *Informatica PowerExchange for Microsoft Dynamics CRM 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Salesforce

Effective in version 10.2 HotFix 1, PowerExchange for Salesforce includes the following new features:

- You can use version 42.0 of Salesforce API to create a Salesforce connection and access Salesforce objects.
- You can configure OAuth for Salesforce connections.

For more information, see the *Informatica PowerExchange for Salesforce 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for SAP NetWeaver

Effective in version 10.2 HotFix 1, PowerExchange for SAP NetWeaver includes the following new features:

Connection resiliency support for business content integration mappings

You can configure the following connection resiliency parameters in the listener session of business content integration mappings:

- **Number of Retries for Connection Resiliency.** Defines the number of connection retries the PowerCenter Integration Service must attempt in the event of an unsuccessful connection with SAP.
- **Delay between Retries for Connection Resiliency.** Defines the time interval in seconds between the connection retries.

New SAP data types support

You can use the following new SAP data types based on the integration method you use:

Data Type	Data Integration using the ABAP Program (Table Reader and Ttable Writer)	Data Integration using BAPI/RFC Functions	IDoc Integration using ALE
INT8	Supported	Not supported	Not supported
DF16_DEC	Supported	Supported	Not supported
DF34_DEC	Supported	Supported	Not supported
DF16_DEC	Supported	Supported	Not supported
DF34_DEC	Supported	Supported	Not supported
DF16_RAW	Supported	Supported	Not supported
DF34_RAW	Supported	Supported	Not supported
RAWSTRING	Supported	Not supported	Supported
STRING	Supported	Supported	Supported
SSTRING	Supported	Supported	Not supported

For more information, see the *Informatica PowerExchange for SAP NetWeaver 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Snowflake

Effective in version 10.2 HotFix 1, PowerExchange for Snowflake includes the following new features:

- You can configure a custom SQL query to configure a Snowflake source.
- You can override the database and schema name when you create temporary tables in the Snowflake staging database. You must add the database and schema name that you want to override in the JDBC URL parameters of the Snowflake connection.
- You can override the imported Snowflake source table name by specifying the table name in the Snowflake session properties. You can also configure a SQL override to override the default SQL query used to extract data from the Snowflake source.
- You can override the Snowflake target table name by specifying the table name in the Snowflake target session properties.

- You can configure source-side or full pushdown optimization to push the transformation logic to Snowflake when you use the ODBC connection type. For information about the operators and functions that the PowerCenter Integration Service can push to Snowflake, see the *Informatica PowerCenter 10.2 HotFix 1 Advanced Workflow Guide*.
- You can join multiple Snowflake source tables by specifying a join condition.
- You can configure an unconnected lookup transformation for the source qualifier in a mapping.
- You can configure pass-through partitioning for a Snowflake session. After you add the number of partitions, you can specify an SQL override or a filter override condition for each of the partitions.
- You can configure the HTTP proxy server authentication settings at design time or at run time to read data from or write data to Snowflake.
- You can configure Okta SSO authentication by specifying the authentication details in the JDBC URL parameters of the Snowflake connection.
- You can read data from and write data to Snowflake that is enabled for staging data in Azure or Amazon.

For more information, see the *Informatica PowerExchange for Snowflake 10.2 HotFix 1 User Guide for PowerCenter*.

PowerExchange for Teradata Parallel Transporter API

Effective in version 10.2 HotFix 1, when you use the Load operator, you can set the maximum buffer size in kilobytes that the Teradata PT API uses for writing data. You can set the maximum buffer size value in the Teradata target session properties.

Security

This section describes new security features in version 10.2 HotFix 1.

Security - Password Complexity

Effective in version 10.2 HotFix 1, you can enable password complexity to validate the password strength. By default this option is disabled.

For more information, see the "Security Management in Informatica Administrator" chapter in the *Informatica 10.2 HotFix 1 Security Guide*.

CHAPTER 2

New Features (10.2)

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Application Services

This section describes new application service features in 10.2.

Model Repository Service

This section describes new Model Repository Service features in 10.2.

Import Objects from Previous Versions

Effective in version 10.2, you can use `infacmd` to upgrade objects exported from an Informatica 10.1 or 10.1.1 Model repository to the current metadata format, and then import the upgraded objects into the current Informatica release.

For more information, see the "Object Import and Export" chapter in the *Informatica 10.2 Developer Tool Guide*, or the "infacmd mrs Command Reference" chapter in the *Informatica 10.2 Command Reference*.

Big Data

This section describes new big data features in 10.2.

Big Data Management Installation

Effective in version 10.2, the Data Integration Service automatically installs the Big Data Management binaries on the cluster.

When you run a mapping, the Data Integration Service checks for the binary files on the cluster. If they do not exist or if they are not synchronized, the Data Integration Service prepares the files for transfer. It transfers the files to the distributed cache through the Informatica Hadoop staging directory on HDFS. By default, the staging directory is `/tmp`. This process replaces the requirement to install distribution packages on the Hadoop cluster.

For more information, see the *Informatica Big Data Management 10.2 Hadoop Integration Guide*.

Cluster Configuration

A cluster configuration is an object in the domain that contains configuration information about the Hadoop cluster. The cluster configuration enables the Data Integration Service to push mapping logic to the Hadoop environment.

When you create the cluster configuration, you import cluster configuration properties that are contained in configuration site files. You can import these properties directly from a cluster or from a cluster configuration archive file. You can also create connections to associate with the cluster configuration.

Previously, you ran the Hadoop Configuration Manager utility to configure connections and other information to enable the Informatica domain to communicate with the cluster.

For more information about cluster configuration, see the "Cluster Configuration" chapter in the *Informatica Big Data Management 10.2 Administrator Guide*.

Processing Hierarchical Data

Effective in version 10.2, you can use complex data types, such as array, struct, and map, in mappings that run on the Spark engine. With complex data types, the Spark engine directly reads, processes, and writes hierarchical data in Avro, JSON, and Parquet complex files.

Develop mappings with complex ports, operators, and functions to perform the following tasks:

- Generate and modify hierarchical data.
- Transform relational data to hierarchical data.
- Transform hierarchical data to relational data.

- Convert data from one complex file format to another.

When you process hierarchical data, you can use hierarchical conversion wizards to simplify the mapping development tasks. Use these wizards in the following scenarios:

- To generate hierarchical data of type struct from one or more ports.
- To generate hierarchical data of a nested struct type from ports in two transformations.
- To extract elements from hierarchical data in a complex port.
- To flatten hierarchical data in a complex port.

For more information, see the "Processing Hierarchical Data on the Spark Engine" chapter in the *Informatica Big Data Management 10.2 User Guide*.

Stateful Computing on the Spark Engine

Effective in version 10.2, you can use window functions in an Expression transformation to perform stateful calculations on the Spark engine. Window functions operate on a group of rows and calculate a single return value for every input row. You can use window functions to perform the following tasks:

- Retrieve data from previous or subsequent rows.
- Calculate a cumulative sum based on a group of rows.
- Calculate a cumulative average based on a group of rows.

For more information, see the "Stateful Computing on the Spark Engine" chapter of the *Big Data Management 10.2 User Guide*.

Data Integration Service Queuing

Effective in version 10.2, if you deploy multiple mapping jobs or workflow mapping tasks at the same time, the Data Integration Service queues the jobs in a persisted queue and runs the jobs when resources are available. You can view the current status of mapping jobs on the Monitor tab of the Administrator tool.

All queues are persisted by default. If the Data Integration Service node shuts down unexpectedly, the queue does not fail over when the Data Integration Service fails over. The queue remains on the Data Integration Service machine, and the Data Integration Service resumes processing the queue when you restart it.

By default, each queue can hold 10,000 jobs at a time. When the queue is full, the Data Integration Service rejects job requests and marks them as failed. When the Data Integration Service starts running jobs in the queue, you can deploy additional jobs.

For more information, see the "Queuing" chapter in the *Informatica Big Data Management 10.2 Administrator Guide*.

Blaze Job Monitor

Effective in version 10.2, you can configure the host and port number to start the Blaze Job Monitor application in the Hadoop connection properties. The default value is <hostname>:9080. If you do not configure the host name, the Blaze engine uses the first alphabetical node in the cluster.

For more information, see the "Connections" chapter in the *Big Data Management 10.2 User Guide*.

Data Integration Service Properties for Hadoop Integration

Effective in version 10.2, the Data Integration Service added properties required to integrate the domain with the Hadoop environment.

The following table describes the new properties:

Property	Description
Hadoop Staging Directory	The HDFS directory where the Data Integration Services pushes Informatica Hadoop binaries and stores temporary files during processing. Default is /tmp.
Hadoop Staging User	Required if the Data Integration Service user is empty. The HDFS user that performs operations on the Hadoop staging directory. The user needs write permissions on Hadoop staging directory. Default is the Data Integration Service user.
Custom Hadoop OS Path	<p>The local path to the Informatica Hadoop binaries compatible with the Hadoop operating system. Required when the Hadoop cluster and the Data Integration Service are on different supported operating systems.</p> <p>Download and extract the Informatica binaries for the Hadoop cluster on the machine that hosts the Data Integration Service. The Data Integration Service uses the binaries in this directory to integrate the domain with the Hadoop cluster.</p> <p>The Data Integration Service can synchronize the following operating systems:</p> <ul style="list-style-type: none">- SUSE 11 and Redhat 6.5 <p>Changes take effect after you recycle the Data Integration Service.</p>

As a result of the changes in cluster integration, the following properties are removed from the Data Integration Service:

- Informatica Home Directory on Hadoop
- Hadoop Distribution Directory

For more information, see the *Informatica 10.2 Hadoop Integration Guide*.

Sqoop

Effective in version 10.2, if you use Sqoop data objects, you can use the following specialized Sqoop connectors to run mappings on the Spark engine:

- Cloudera Connector Powered by Teradata
- Hortonworks Connector for Teradata

These specialized connectors use native protocols to connect to the Teradata database.

For more information, see the *Informatica Big Data Management 10.2 User Guide*.

Autoscaling in an Amazon EMR Cluster

Effective in version 10.2, Big Data Management adds support for Spark mappings to take advantage of autoscaling in an Amazon EMR cluster.

Autoscaling enables the EMR cluster administrator to establish threshold-based rules for adding and subtracting cluster task and core nodes. Big Data Management certifies support for Spark mappings that run on an autoscaling-enabled EMR cluster.

Transformation Support on the Blaze Engine

Effective in version 10.2, the following transformations have additional support on the Blaze engine

- Update Strategy. Supports targets that are ORC bucketed on all columns.

For more information, see the "Mapping Objects in a Hadoop Environment" chapter in the *Informatica Big Data Management 10.2 User Guide*.

Hive Functionality for the Blaze Engine

Effective in version 10.2, mappings that run on the Blaze engine can read and write to bucketed and sorted targets.

For information about how to configure mappings for the Blaze engine, see the "Mappings in a Hadoop Environment" chapter in the *Informatica Big Data Management 10.2 User Guide*.

Transformation Support on the Spark Engine

Effective in version 10.2, the following transformations are supported with restrictions on the Spark engine:

- Normalizer
- Rank
- Update Strategy

Effective in version 10.2, the following transformations have additional support on the Spark engine:

- Lookup. Supports unconnected lookup from the Filter, Aggregator, Router, Expression, and Update Strategy transformation.

For more information, see the "Mapping Objects in a Hadoop Environment" chapter in the *Informatica Big Data Management 10.2 User Guide*.

Hive Functionality for the Spark Engine

Effective in version 10.2, the following functionality is supported for mappings that run on the Spark engine:

- Reading and writing to Hive resources in Amazon S3 buckets
- Reading and writing to transactional Hive tables
- Reading and writing to Hive table columns that are secured with fine-grained SQL authorization

For information about how to configure mappings for the Spark engine, see the "Mappings in a Hadoop Environment" chapter in the *Informatica Big Data Management 10.2 User Guide*.

Command Line Programs

This section describes new commands in 10.2.

infacmd cluster Commands

cluster is a new infacmd plugin that performs operations on cluster configurations.

The following table describes new infacmd cluster commands:

Command	Description
clearConfigurationProperties	Clears overridden property values in the cluster configuration set.
createConfiguration	Creates a new cluster configuration either from XML files or remote cluster manager.
deleteConfiguration	Deletes a cluster configuration from the domain.
exportConfiguration	Exports a cluster configuration to a compressed file or a combined XML file.
listAssociatedConnections	Lists connections by type that are associated with the specified cluster configuration.
listConfigurationGroupPermissions	Lists the permissions that a group has for a cluster configuration.
listConfigurationSets	Lists configuration sets in the cluster configuration.
listConfigurationProperties	Lists configuration properties in the cluster configuration set.
listConfigurations	Lists cluster configuration names.
listConfigurationUserPermissions	Lists the permissions that a user has for a cluster configuration.
refreshConfiguration	Refreshes a cluster configuration either from XML files or remote cluster manager.
setConfigurationPermissions	Sets permissions on cluster configuration to a user or a group after removing previous permissions.
setConfigurationProperties	Sets overridden property values in the cluster configuration set.

For more information, see the "infacmd cluster Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd dis Options

The following table describes new Data Integration Service options for infacmd UpdateServiceOptions:

Command	Description
ExecutionOptions.MaxHadoopBatchExecutionPoolSize	The maximum number of deployed Hadoop jobs that can run concurrently.
ExecutionOptions.MaxNativeBatchExecutionPoolSize	The maximum number of deployed native jobs that each Data Integration Service process can run concurrently.

Command	Description
ExecutionOptions.MaxOnDemandExecutionPoolSize	The maximum number of on-demand jobs that can run concurrently. Jobs include data previews, profiling jobs, REST and SQL queries, web service requests, and mappings run from the Developer tool.
WorkflowOrchestrationServiceOptions.MaxWorkerThreads	<p>The maximum number of threads that the Data Integration Service can use to run parallel tasks between a pair of inclusive gateways in a workflow. The default value is 10.</p> <p>If the number of tasks between the inclusive gateways is greater than the maximum value, the Data Integration Service runs the tasks in batches that the value specifies.</p>

For more information, see the "infacmd dis Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd ipc Commands

The following table describes a new option for an infacmd ipc command:

Command	Description
genReuseReportFromPC	<p>Contains the following new option:</p> <p>-BlockSize: Optional. The number of mappings that you want to run the infacmd ipc genReuseReportFromPC command against.</p>

For more information, see the "infacmd ipc Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd isp Commands

The following table describes changes to infacmd isp commands:

Command	Description
createConnection	<p>Defines a connection and the connection options.</p> <p>Added, changed, and removed Hadoop connection options. See infacmd isp createConnection.</p>
getDomainSamlConfig	<p>Renamed from getSamlConfig.</p> <p>Returns the value of the cst option set for Secure Assertion Markup Language (SAML) authentication. Specifies the allowed time difference between the Active Directory Federation Services (AD FS) host system clock and the system clock on the master gateway node.</p>

Command	Description
getUserActivityLog	<p>Returns user activity log data, which now includes successful and unsuccessful user login attempts from Informatica clients.</p> <p>The user activity data includes the following properties for each login attempt from an Informatica client:</p> <ul style="list-style-type: none"> - Application name - Application version - Host name or IP address of the application host <p>If the client sets custom properties on login requests, the data includes the custom properties.</p>
listConnections	<p>Lists connection names by type. You can list by all connection types or filter the results by one connection type.</p> <p>The -ct option is now available for the command. Use the -ct option to filter connection types.</p>
purgeLog	<p>Purges log events and database records for license usage.</p> <p>The -lu option is now obsolete.</p>
SwitchToGatewayNode	<p>The following options are added for configuring SAML authentication:</p> <ul style="list-style-type: none"> - asca. The alias name specified when importing the identity provider assertion signing certificate into the truststore file used for SAML authentication. - saml. Enabled or disabled SAML authentication in the Informatica domain. - std. The directory containing the custom truststore file required to use SAML authentication on gateway nodes within the domain. - stp. The custom truststore password used for SAML authentication.

For more information, see the "infacmd isp Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd isp createConnection

This section lists new, changed, and removed Hadoop connection options for the property infacmd isp createConnection in 10.2.

Hadoop Connection Options

The following tables describes new Hadoop connection options available in 10.2:

Option	Description
clusterConfigId	The cluster configuration ID associated with the Hadoop cluster.
blazeJobMonitorURL	The host name and port number for the Blaze Job Monitor.
rejDirOnHadoop	Enables hadoopRejDir. Used to specify a location to move reject files when you run mappings.
hadoopRejDir	The remote directory where the Data Integration Service moves reject files when you run mappings. Enable the reject directory using rejDirOnHadoop.

Option	Description
sparkEventLogDir	An optional HDFS file path of the directory that the Spark engine uses to log events.
sparkYarnQueueName	The YARN scheduler queue name used by the Spark engine that specifies available resources on a cluster.

The following table describes Hadoop connection options that are renamed in 10.2:

Current Name	Previous Name	Description
blazeYarnQueueName	cadiAppYarnQueueName	The YARN scheduler queue name used by the Blaze engine that specifies available resources on a cluster. The name is case sensitive.
blazeExecutionParameterList	cadiExecutionParameterList	Custom properties that are unique to the Blaze engine.
blazeMaxPort	cadiMaxPort	The maximum value for the port number range for the Blaze engine.
blazeMinPort	cadiMinPort	The minimum value for the port number range for the Blaze engine.
blazeUserName	cadiUserName	The owner of the Blaze service and Blaze service logs.
blazeStagingDirectory	cadiWorkingDirectory	The HDFS file path of the directory that the Blaze engine uses to store temporary files.
hiveStagingDatabaseName	databaseName	Namespace for Hive staging tables.
impersonationUserName	hiveUserName	Hadoop impersonation user. The user name that the Data Integration Service impersonates to run mappings in the Hadoop environment.
sparkStagingDirectory	SparkHDFSStagingDir	The HDFS file path of the directory that the Spark engine uses to store temporary files for running jobs.

The following table describes Hadoop connection options that are removed from the UI and imported into the cluster configuration:

Option	Description
RMAddress	The service within Hadoop that submits requests for resources or spawns YARN applications. Imported into the cluster configuration as the property <code>yarn.resourcemanager.address</code> .
defaultFSURI	The URI to access the default Hadoop Distributed File System. Imported into the cluster configuration as the property <code>fs.defaultFS</code> or <code>fs.default.name</code> .

The following table describes Hadoop connection options that are deprecated in 10.2 and are no longer available in the UI:

Option	Description
metastoreDatabaseDriver*	Driver class name for the JDBC data store.
metastoreDatabasePassword*	The password for the metastore user name.
metastoreDatabaseURI*	The JDBC connection URI used to access the data store in a local metastore setup.
metastoreDatabaseUserName*	The metastore database user name.
metastoreMode*	Controls whether to connect to a remote metastore or a local metastore.
remoteMetastoreURI*	The metastore URI used to access metadata in a remote metastore setup. This property is imported into the cluster configuration as the property <code>hive.metastore.uris</code> .
jobMonitoringURL	The URL for the MapReduce JobHistory server.
* These properties are deprecated in 10.2. When you upgrade to 10.2, the property values you set in a previous release are saved in the repository, but they do not appear in the connection properties.	

The following properties are dropped. If they appear in connection strings, they will have no effect:

- `hadoopClusterInfoExecutionParametersList`
- `passThroughSecurityEnabled`
- `hiverserver2Enabled`
- `hiveInfoExecutionParametersList`
- `cadiPassword`
- `sparkMaster`
- `sparkDeployMode`

HBase Connection

The following table describes HBase connection options that are removed from the connection and imported into the cluster configuration:

Property	Description
ZOOKEEPERHOSTS	Name of the machine that hosts the ZooKeeper server.
ZOOKEEPERPORT	Port number of the machine that hosts the ZooKeeper server.
ISKERBEROSENABLED	Enables the Informatica domain to communicate with the HBase master server or region server that uses Kerberos authentication.
hbaseMasterPrincipal	Service Principal Name (SPN) of the HBase master server.
hbaseRegionServerPrincipal	Service Principal Name (SPN) of the HBase region server.

Hive Connection

The following table describes Hive connection options that are removed from the connection and imported into the cluster configuration:

Property	Description
defaultFSURI	The URI to access the default Hadoop Distributed File System.
jobTrackerURI	The service within Hadoop that submits the MapReduce tasks to specific nodes in the cluster.
hiveWarehouseDirectoryOnHDFS	The absolute HDFS file path of the default database for the warehouse that is local to the cluster.
metastoreExecutionMode	Controls whether to connect to a remote metastore or a local metastore.
metastoreDatabaseURI	The JDBC connection URI used to access the data store in a local metastore setup.
metastoreDatabaseDriver	Driver class name for the JDBC data store.
metastoreDatabaseUserName	The metastore database user name.
metastoreDatabasePassword	The password for the metastore user name.
remoteMetastoreURI	The metastore URI used to access metadata in a remote metastore setup. This property is imported into the cluster configuration as the property <code>hive.metastore.uris</code> .

HBase Connection Options for MapR-DB

The ISKERBEROSENABLED connection option is obsolete and imported into the cluster configuration.

infacmd mrs Commands

The following table describes new infacmd mrs commands:

Command	Description
manageGroupPermissionOnProject	Manages permissions on multiple projects for a group.
manageUserPermissionOnProject	Manages permissions on multiple projects for a user.
upgradeExportedObjects	Upgrades objects exported to an .xml file from a previous Informatica release to the current metadata format. The command generates an .xml file that contains the upgraded objects.

For more information, see the "infacmd mrs Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd ms Commands

The following table describes new infacmd ms commands:

Command	Description
GetMappingStatus	Gets the current status of a mapping job by job ID.

For more information, see the "infacmd ms Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infacmd wfs Commands

The following table describes new infacmd wfs commands:

Command	Description
completeTask	Completes a Human task instance that you specify.
delegateTask	Assigns ownership of a Human task instance to a user or group.
listTasks	Lists the Human task instances that meet the filter criteria that you specify.
releaseTask	Releases a Human task instance from the current owner, and returns ownership of the task instance to the business administrator that the workflow configuration identifies.
startTask	Changes the status of a Human task instance to IN_PROGRESS.

For more information, see the "infacmd wfs Command Reference" chapter in the *Informatica 10.2 Command Reference*.

infasetup Commands

The following table describes changes to infasetup commands:

Command	Description
DefineDomain	The following options are added for configuring Secure Assertion Markup Language (SAML) authentication: <ul style="list-style-type: none">- asca. The alias name specified when importing the identity provider assertion signing certificate into the truststore file used for SAML authentication.- cst. The allowed time difference between the Active Directory Federation Services (AD FS) host system clock and the system clock on the master gateway node.- std. The directory containing the custom truststore file required to use SAML authentication on gateway nodes within the domain.- stp. The custom truststore password used for SAML authentication.
DefineGatewayNode	The following options are added for configuring SAML authentication: <ul style="list-style-type: none">- asca. The alias name specified when importing the identity provider assertion signing certificate into the truststore file used for SAML authentication.- saml. Enables or disables SAML authentication in the Informatica domain.- std. The directory containing the custom truststore file required to use SAML authentication on gateway nodes within the domain.- stp. The custom truststore password used for SAML authentication.

Command	Description
UpdateDomainSamlConfig	Renamed from UpdateSamlConfig. The following option is added for configuring SAML authentication: <ul style="list-style-type: none"> - cst. The allowed time difference between the AD FS host system clock and the system clock on the master gateway node.
UpdateGatewayNode	The following options are added for configuring SAML authentication. <ul style="list-style-type: none"> - asca. The alias name specified when importing the identity provider assertion signing certificate into the truststore file used for SAML authentication. - saml. Enables or disables SAML authentication in the Informatica domain. - std. The directory containing the custom truststore file required to use SAML authentication on gateway nodes within the domain. - stp. The custom truststore password used for SAML authentication.

For more information, see the "infasetup Command Reference" chapter in the *Informatica 10.2 Command Reference*.

pmrep Commands

The following table describes new pmrep commands:

Command	Description
CreateQuery	Creates a query in the repository.
DeleteQuery	Deletes a query from the repository.

The following table describes updates to pmrep commands:

Command	Description
CreateConnection	Contains the following updated option: <ul style="list-style-type: none"> -w. Enables you to use a parameter in the password option.
ListObjectDependencies	Contains the following updated option: <ul style="list-style-type: none"> -o. The object type list includes query and deploymentgroup.
UpdateConnection	Contains the following updated options: <ul style="list-style-type: none"> -w. Enables you to use a parameter in the password option. -x. Disables the use of password parameters if you use the parameter in password.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.2 Command Reference*.

Data Types

This section describes new data type features in 10.2.

Informatica Data Types

This section describes new data types in the Developer tool.

Complex Data Types

Effective in version 10.2, some transformations support complex data types in mappings that run on the Spark engine.

The following table describes the complex data types you can use in transformations:

Complex Data Type	Description
array	Contains an ordered collection of elements. All elements in the array must be of the same data type. The elements can be of primitive or complex data type.
map	Contains an unordered collection of key-value pairs. The key part must be of primitive data type. The value part can be of primitive or complex data type.
struct	Contains a collection of elements of different data types. The elements can be of primitive or complex data types.

For more information, see the "Data Type Reference" appendix in the *Informatica Big Data Management 10.2 User Guide*.

Documentation

This section describes new or updated guides in 10.2.

The Informatica documentation contains the following changes:

Informatica Big Data Management Security Guide

Effective in version 10.2, the *Informatica Big Data Management Security Guide* is renamed to *Informatica Big Data Management Administrator Guide*. It contains the security information and additional administrator tasks for Big Data Management.

For more information see the *Informatica Big Data Management 10.2 Administrator Guide*.

Informatica Big Data Management Installation and Upgrade Guide

Effective in version 10.2, the *Informatica Big Data Management Installation and Upgrade Guide* is renamed to *Informatica Big Data Management Hadoop Integration Guide*. Effective in version 10.2, the Data Integration Service can automatically install the Big Data Management binaries to the Hadoop cluster to integrate the domain with the cluster. The integration tasks in the guide do not include installation of the distribution package.

For more information see the *Informatica Big Data Management 10.2 Hadoop Integration Guide*.

Informatica Catalog Administrator Guide

Effective in version 10.2, the *Informatica Live Data Map Administrator Guide* is renamed to *Informatica Catalog Administrator Guide*.

For more information, see the *Informatica Catalog Administrator Guide 10.2*.

Informatica Administrator Reference for Enterprise Information Catalog

Effective in version 10.2, the *Informatica Administrator Reference for Live Data Map* is renamed to *Informatica Administrator Reference for Enterprise Information Catalog*.

For more information, see the *Informatica Administrator Reference for Enterprise Information Catalog 10.2*.

Informatica Enterprise Information Catalog Custom Metadata Integration Guide

Effective in version 10.2, you can ingest custom metadata into the catalog using Enterprise Information Catalog. You can see the new guide *Informatica Enterprise Information Catalog 10.2 Custom Metadata Integration Guide* for more information.

Informatica Enterprise Information Catalog Installation and Configuration Guide

Effective in version 10.2, the *Informatica Live Data Map Installation and Configuration Guide* is renamed to *Informatica Enterprise Information Catalog Installation and Configuration Guide*.

For more information, see the *Informatica Enterprise Information Catalog 10.2 Installation and Configuration Guide*.

Informatica Enterprise Information Catalog REST API Reference

Effective in version 10.2, you can use REST APIs exposed by Enterprise Information Catalog. You can see the new guide *Informatica Enterprise Information Catalog 10.2 REST API Reference* for more information.

Informatica Enterprise Information Catalog Upgrade Guide

Effective in version 10.2, the *Informatica Live Data Map Upgrading from version <x>* is renamed to *Informatica Enterprise Information Catalog Upgrading from versions 10.1, 10.1.1, 10.1.1 HF1, and 10.1.1 Update 2*.

For more information, see the *Informatica Enterprise Information Catalog Upgrading from versions 10.1, 10.1.1, 10.1.1 HF1, and 10.1.1 Update 2* guide..

Enterprise Information Catalog

This section describes new Enterprise Information Catalog features in 10.2.

New Data Sources

Effective in version 10.2, Informatica Enterprise Information Catalog allows you to extract metadata from new data sources.

You can create resources in Informatica Catalog Administrator to extract metadata from the following data sources:

Apache Atlas

Metadata framework for Hadoop.

Azure Microsoft SQL Data Warehouse

Cloud-based relational database to process a large volume of data.

Azure Microsoft SQL Server

Managed cloud database.

Azure WASB File Systems

Windows Azure Storage Blobs interface to load data to Azure blobs.

Erwin

Data modeling tool.

Informatica Axon

Enterprise data governance solution.

For more information about new resources, see the *Informatica Catalog Administrator Guide 10.2*.

Custom Scanner Framework

Effective in version 10.2, you can ingest custom metadata into the catalog.

Custom metadata is metadata that you define. You can define a custom model, create a custom resource type, and create a custom resource to ingest custom metadata from a custom data source. You can use custom metadata integration to extract and ingest metadata from custom data sources for which Enterprise Information Catalog does not provide a model.

For more information about custom metadata integration, see the *Informatica Enterprise Information Catalog 10.2 Custom Metadata Integration Guide*.

REST APIs

Effective in version 10.2, you can use Informatica Enterprise Information Catalog REST APIs to access and configure features related to the objects and models associated with a data source.

The REST APIs allow you to retrieve information related to objects and models associated with a data source. In addition, you can create, update, or delete entities related to models and objects such as attributes, associations, and classes.

For more information about unstructured file sources, see the *Informatica Enterprise Information Catalog 10.2 REST API Reference*.

Composite Data Domains

Effective in version 10.2, you can create composite data domains. A composite data domain is a collection of data domains or other composite data domains that you can link using rules. You can use a composite data domain to search for the required details of an entity across multiple schemas in a data source.

You can view composite data domains for tabular assets in the Asset Details view after you create and enable composite data domain discovery for resources in the Catalog Administrator. You can also search for composite data domains and view details of the composite data domains in the Asset Details view.

For more information about composite data domains, see the "View Assets" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide* and see the "Catalog Administrator Concepts" and "Managing Composite Data Domains" chapters in the *Informatica Catalog Administrator Guide 10.2*.

Data Domains

This section describes new features related to data domains in Enterprise Information Catalog.

Define Data Domains

Effective in version 10.2, you can configure the following additional options when you create a data domain:

- Use reference tables, rules, and regular expressions to create a data rule or column rule.
- Use minimum conformance percentage or minimum conforming rows for data domain match.

- Use the auto-accept option to accept a data domain automatically in Enterprise Information Catalog when the data domain match exceeds the configured auto-accept percentage.

For more information about data domains in Catalog Administrator, see the "Managing Data Domains" chapter in the *Informatica Catalog Administrator Guide 10.2*.

Configure Data Domains

Effective in version 10.2, you can use predefined values or enter a conformance value for data domain match when you create or edit a resource.

For more information about data domains and resources, see the "Managing Resources" chapter in the *Informatica Catalog Administrator Guide 10.2*.

Data Domain Privileges

Effective in version 10.2, configure the **Domain Management: Admin - View Domain** and **Domain Management: Admin - Edit Domain and Domaingroup** privileges in Informatica Administrator to view, create, edit, or delete data domains or data domain groups in the Catalog Administrator.

For more information about privileges see the "Privileges and Roles" chapter in the *Informatica Administrator Reference for Enterprise Information Catalog 10.2*.

Data Domain Curation

Effective in version 10.2, Enterprise Information Catalog accepts a data domain automatically if the data domain match percentage exceeds the configured auto-accept percentage in Catalog Administrator.

For more information about data domain curation, see the "View Assets" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide*.

Export and Import of Custom Attributes

Effective in version 10.2, you can export the custom attributes configured in a resource to a CSV file and import the CSV file back into Enterprise Information Catalog. You can use the exported CSV file to assign custom attribute values to multiple assets at the same time.

For more information about export and import of custom attributes, see the "View Assets" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide*.

Rich Text as Custom Attribute Value

Effective in version 10.2, you can edit a custom attribute to assign multiple rich text strings as the attribute value.

For more information about assigning custom attribute values to an asset, see the "View Assets" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide*.

Transformation Logic

Effective in version 10.2, you can view transformation logic for assets in the Lineage and Impact view. The Lineage and Impact view displays transformation logic for assets that contain transformations. The transformation view displays transformation logic for data structures, such as tables and columns. The view also displays various types of transformations, such as filter, joiner, lookup, expression, sorter, union, and aggregate.

For more information about transformation logic, see the "View Lineage and Impact" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide*.

Unstructured File Types

Effective in version 10.2, you can run the **Data Domain Discovery** profile or **Column Profile and Data Domain Discovery** profile on unstructured file types and extended unstructured formats for all the rows in the data source. The unstructured file types include compressed files, email formats, webpage files, Microsoft Excel, Microsoft PowerPoint, Microsoft Word, and PDF. The extended unstructured formats include mp3, mp4, bmp, and jpg.

For more information about unstructured file types, see the "Managing Resources" chapter in the *Informatica Catalog Administrator Guide 10.2*.

Value Frequency

Configure and View Value Frequency

Effective in version 10.2, you can enable value frequency along with column data similarity in the Catalog Administrator to compute the frequency of values in a data source. You can view the value frequency for view column, table column, CSV field, XML file field, and JSON file data assets in the **Asset Details** view after you run the value frequency on a data source in the Catalog Administrator.

For more information about configuring value frequency, see the "Catalog Administrator Concepts" chapter in the *Informatica Catalog Administrator Guide 10.2*. To view value frequency for a data asset, see the "View Assets" chapter in the *Informatica Enterprise Information Catalog 10.2 User Guide*.

Privileges to View Value Frequency in Enterprise Information Catalog

Effective in version 10.2, you need the following permission and privileges to view the value frequency for a data asset:

- Read permission for the data asset.
- **Data Privileges: View Data** privilege.
- **Data Privileges: View Sensitive Data** privilege.

For more information about permissions and privileges, see the "Permissions Overview" and "Privileges and Roles Overview" chapter in the *Informatica Administrator Reference for Enterprise Information Catalog 10.2*.

Deployment Support for Azure HDInsight

Effective in version 10.2, you can deploy Enterprise Information Catalog on Azure HDInsight Hadoop distribution.

For more information, see the "Create the Application Services" chapter in the *Informatica Enterprise Information Catalog 10.2 Installation and Configuration Guide*.

Informatica Analyst

This section describes new Analyst tool features in 10.2.

Profiles

This section describes new features for profiles and scorecards.

Rule Specification

Effective in version 10.2, you can configure a rule specification in the Analyst tool and use the rule specification in the column profile.

For more information about using rule specifications in the column profiles, see the "Rules in Informatica Analyst" chapter in the *Informatica 10.2 Data Discovery Guide*.

Intelligent Data Lake

This section describes new Intelligent Data Lake features in 10.2.

Validate and Assess Data Using Visualization with Apache Zeppelin

Effective in version 10.2, after you publish data, you can validate your data visually to make sure that the data is appropriate for your analysis from content and quality perspectives. You can then choose to fix the recipe thus supporting an iterative Prepare-Publish-Validate process.

Intelligent Data Lake uses Apache Zeppelin to view the worksheets in the form of a visualization Notebook that contains graphs and charts. For more details about Apache Zeppelin, see Apache Zeppelin documentation. When you visualize data using Zeppelin's capabilities, you can view relationships between different columns and create multiple charts and graphs.

When you open the visualization Notebook for the first time after a data asset is published, Intelligent Data Lake uses CLAIRE engine to create Smart Visualization suggestions in the form of histograms of the numeric columns created by the user.

For more information about the visualization notebook, see the "Validate and Assess Data Using Visualization with Apache Zeppelin" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Assess Data Using Filters During Data Preview

Effective in version 10.2, you can filter the data during data preview for better assessment of data assets. You can add filters for multiple fields and apply combinations of such filters. Filter conditions depend on the data types. If available, you can view column value frequencies found during profiling for string values.

For more information, see the "Discover Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Enhanced Layout of Recipe Panel

Effective in version 10.2, you can see a dedicated panel for Recipe steps during data preparation. The recipe steps are clearer and concise with color codes to indicate function name, columns involved, and input sources. You can edit the steps or delete them. You can also go back-in-time to a specific step in the recipe and see the state of data. You can refresh the recipe from the source. You can also see a separate Ingredients panel which shows the sources used for this sheet.

For more information, see the "Prepare Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Apply Data Quality Rules

Effective in version 10.2, while preparing data, you can use pre-built rules that are available during interactive data preparation. These rules are created using Informatica Developer or Informatica Analyst tool. If you have a Big Data Quality license, thousands of pre-built rules are available that can be used by Intelligent Data Lake users as well. Using pre-built rules promotes effective collaboration within Business and IT with reusability of rules and knowledge, consistency of usage and extensibility.

For more information, see the "Prepare Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

View Business Terms for Data Assets in Data Preview and Worksheet View

Effective in version 10.2, you can view business terms associated with columns of data assets in data preview as well as during data preparation.

For more information, see the "Discover Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Prepare Data for Delimited Files

Effective in version 10.2, as a data analyst, you can cleanse, transform, combine, aggregate, and perform other operations on delimited HDFS files that are already in the lake. You can preview these files before adding them to a project. You can then configure the sampling settings of these assets and perform data preparation operations on them.

For more information, see the "Prepare Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Edit Joins in a Joined Worksheet

Effective in version 10.2, you can edit the joinconditions for an existing joined worksheet such as join keys, join types (such as inner and outer joins).

For more information, see the "Prepare Data" chapter in the *Informatica Intelligent Data Lake User Guide*.

Edit Sampling Settings for Data Preparation

Effective in version 10.2, you can edit the sampling settings while preparing your data asset. You can change the columns selected for sampling, edit the filters selected, and change the sampling criteria.

For more information, see the "Prepare Data" chapter in the *Informatica Intelligent Data Lake 10.2 User Guide*.

Support for Multiple Enterprise Information Catalog Resources in the Data Lake

Effective in version 10.2, you can configure multiple Enterprise Information Catalog resources so that the users can work with all types of assets and all applicable Hive schemas in the lake.

Use Oracle for the Data Preparation Service Repository

Effective in version 10.2, you can now use Oracle 11gR2 and 12c for the Data Preparation Service repository.

Improved Scalability for the Data Preparation Service

Effective in version 10.2, you can ensure horizontal scalability by using grid for the Data Preparation Service with multiple Data Preparation Service nodes. Improved scalability supports high performance, interactive data preparation during increased data volumes and increased number of users.

Informatica Developer

This section describes new Developer tool features in 10.2.

Nonrelational Data Objects

Effective in version 10.2, you can import multiple nonrelational data objects at a time.

For more information, see the "Physical Data Objects" chapter in the *Informatica 10.2 Developer Tool Guide*.

Profiles

This section describes new features for profiles and scorecards.

Rule Specification

Effective in version 10.2, you can use rule specifications when you create a column profile in the Developer tool. To use the rule specification, generate a mapplet from the rule specification and validate the mapplet as a rule.

For more information about using rule specifications in the column profiles, see the "Rules in Informatica Developer" chapter in the *Informatica 10.2 Data Discovery Guide*.

Informatica Installation

This section describes new installation features in 10.2.

Informatica Upgrade Advisor

Effective in version 10.2, you can run the Informatica Upgrade Advisor to validate the services and check for obsolete services, supported databases, and supported operating systems in the domain before you perform an upgrade.

For more information about the upgrade advisor, see the *Informatica Upgrade Guides*.

Intelligent Streaming

This section describes new Intelligent Streaming features in 10.2.

CSV Format

Effective in version 10.2, Streaming mappings can read and write data in CSV format.

For more information about the CSV format, see the "Sources and Targets in a Streaming Mapping" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Data Types

Effective in version 10.2, Streaming mappings can read, process, and write hierarchical data. You can use array, struct, and map complex data types to process the hierarchical data.

For more information, see the "Sources and Targets in a Streaming Mapping" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Connections

Effective in version 10.2, you can use the following new messaging connections in Streaming mappings:

- AmazonKinesis. Access Amazon Kinesis Stream as source or Amazon Kinesis Firehose as target. You can create and manage an AmazonKinesis connection in the Developer tool or through infacmd.
- MapRStreams. Access MapRStreams as targets. You can create and manage a MapRStreams connection in the Developer tool or through infacmd.

For more information, see the "Connections" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Pass-Through Mappings

Effective in version 10.2, you can pass any payload format directly from source to target in Streaming mappings.

You can project columns in binary format to pass a payload from source to target in its original form or to pass a payload format that is not supported.

For more information, see the "Sources and Targets in a Streaming Mapping" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Sources and Targets

Effective in version 10.2, you can create the following new physical data objects:

- AmazonKinesis. Represents data in a Amazon Kinesis Stream or Amazon Kinesis Firehose Delivery Stream.
- MapRStreams. Represents data in a MapR Stream.

For more information, see the "Sources and Targets in a Streaming Mapping" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Transformation Support

Effective in version 10.2, you can use the Rank transformation with restrictions in Streaming mappings.

For more information, see the "Intelligent Streaming Mappings" chapter in the *Informatica Intelligent Streaming 10.2 User Guide*.

Metadata Manager

This section describes new Metadata Manager features in 10.2.

Cloudera Navigator

Effective in version 10.2, you can provide the truststore file information to enable a secure connection to a Cloudera Navigator resource. When you create or edit a Cloudera Navigator resource, enter the path and file name of the truststore file for the Cloudera Navigator SSL instance and the password of the truststore file.

For more information about creating a Cloudera Navigator Resource, see the "Database Management Resources" chapter in the *Informatica Metadata Manager 10.2 Administrator Guide*.

PowerCenter

This section describes new PowerCenter features in 10.2.

Audit Logs

Effective in version 10.2, you can generate audit logs when you import an .xml file into the PowerCenter repository. When you import one or more repository objects, you can generate audit logs. You can enable Security Audit Trail configuration option in the PowerCenter Repository Service properties in the Administrator tool to generate audit logs when you import an .xml file into the PowerCenter repository. The user activity logs captures all the audit messages.

The audit logs contain the following information about the file, such as the file name and size, the number of objects imported, and the time of the import operation.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.2 Command Reference*, the *Informatica 10.2 Application Service Guide*, and the *Informatica 10.2 Administrator Guide*.

Bulk Upsert for SAP HANA Targets

Effective in version 10.2, when you upsert data into SAP HANA targets, you can configure the EnableArrayUpsert custom property to upsert data in bulk and improve the session performance. You can configure the EnableArrayUpsert custom property at the session level or at the PowerCenter Integration Service level, and set its value to yes.

For more information, see the "Working with Targets" chapter in the *Informatica 10.2 PowerCenter Designer Guide*.

Object Queries

Effective in version 10.2, you can create and delete object queries with the *pmrep* commands.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.2 Command Reference*.

Use Parameter in a Password

Effective in version 10.2, you can create or update a connection with a parameter in password with the *pmrep* commands.

You can also update a connection with or without a parameter in password with the *pmrep* command.

For more information, see the "pmrep Command Reference" chapter in the *Informatica 10.2 Command Reference*.

PowerExchange Adapters

This section describes new PowerExchange adapter features in 10.2.

PowerExchange Adapters for Informatica

This section describes new Informatica adapter features in 10.2.

PowerExchange for Amazon Redshift

Effective in version 10.2, PowerExchange for Amazon Redshift includes the following new features:

- You can read data from or write data to the Amazon S3 buckets in the following regions:
 - Asia Pacific (Mumbai)
 - Asia Pacific (Seoul)
 - Canada (Central)
 - China(Beijing)
 - EU (London)
 - US East (Ohio)
- You can run Amazon Redshift mappings on the Spark engine. When you run the mapping, the Data Integration Service pushes the mapping to a Hadoop cluster and processes the mapping on the Spark engine, which significantly increases the performance.
- You can use AWS Identity and Access Management (IAM) authentication to securely control access to Amazon S3 resources.
- You can connect to Amazon Redshift Clusters available in Virtual Private Cloud (VPC) through VPC endpoints.
- You can use AWS Identity and Access Management (IAM) authentication to run a session on the EMR cluster.

For more information, see the *Informatica PowerExchange for Amazon Redshift 10.2 User Guide*.

PowerExchange for Amazon S3

Effective in version 10.2, PowerExchange for Amazon S3 includes the following new features:

- You can read data from or write data to the Amazon S3 buckets in the following regions:
 - Asia Pacific (Mumbai)
 - Asia Pacific (Seoul)
 - Canada (Central)
 - China (Beijing)
 - EU (London)
 - US East (Ohio)

- You can compress data in the following formats when you read data from or write data to Amazon S3 in the native environment and Spark engine:

Compression format	Read	Write
Bzip2	Yes	Yes
Deflate	No	Yes
Gzip	Yes	Yes
Lzo	Yes	Yes
None	Yes	Yes
Snappy	No	Yes

- You can select the type of source from which you want to read data in the **Source Type** option under the advanced properties for an Amazon S3 data object read operation. You can select **Directory** or **File** source types.
- You can select the type of the data sources in the **Resource Format** option under the Amazon S3 data objects properties. You can read data from the following source formats:
 - Binary
 - Flat
 - Avro
 - Parquet
- You can connect to Amazon S3 buckets available in Virtual Private Cloud (VPC) through VPC endpoints.
- You can run Amazon S3 mappings on the Spark engine. When you run the mapping, the Data Integration Service pushes the mapping to a Hadoop cluster and processes the mapping on the Spark engine.
- You can choose to overwrite the existing files. You can select the **Overwrite File(s) If Exists** option in the Amazon S3 data object write operation properties to overwrite the existing files.
- You can use AWS Identity and Access Management (IAM) authentication to securely control access to Amazon S3 resources.
- You can filter the metadata to optimize the search performance in the **Object Explorer** view.
- You can use AWS Identity and Access Management (IAM) authentication to run a session on the EMR cluster.

For more information, see the *Informatica PowerExchange for Amazon S3 10.2 User Guide*.

PowerExchange for HBase

Effective in version 10.2, PowerExchange for HBase contains the following new features:

- You can use PowerExchange for HBase to read from sources and write to targets stored in the WASB file system on Azure HDInsight.
- You can associate a cluster configuration with an HBase connection. A cluster configuration is an object in the domain that contains configuration information about the Hadoop cluster. The cluster configuration enables the Data Integration Service to push mapping logic to the Hadoop environment.

For more information, see the *Informatica PowerExchange for HBase 10.2 User Guide*.

PowerExchange for HDFS

Effective in version 10.2, you can associate a cluster configuration with an HDFS connection. A cluster configuration is an object in the domain that contains configuration information about the Hadoop cluster. The cluster configuration enables the Data Integration Service to push mapping logic to the Hadoop environment.

For more information, see the *Informatica PowerExchange for HDFS 10.2 User Guide*.

PowerExchange for Hive

Effective in version 10.2, you can associate a cluster configuration with an Hive connection. A cluster configuration is an object in the domain that contains configuration information about the Hadoop cluster. The cluster configuration enables the Data Integration Service to push mapping logic to the Hadoop environment.

For more information, see the *Informatica PowerExchange for Hive 10.2 User Guide*.

PowerExchange for MapR-DB

Effective in version 10.2, PowerExchange for MapR-DB contains the following new features:

- You can run MapR-DB mappings on the Spark engine. When you run the mapping, the Data Integration Service pushes the mapping to a Hadoop cluster and processes the mapping on the Spark engine, which significantly increases the performance.
- You can configure dynamic partitioning for MapR-DB mappings that you run on the Spark engine.
- You can associate a cluster configuration with an HBase connection for MapR-DB. A cluster configuration is an object in the domain that contains configuration information about the Hadoop cluster. The cluster configuration enables the Data Integration Service to push mapping logic to the Hadoop environment.

For more information, see the *Informatica PowerExchange for MapR-DB 10.2 User Guide*.

PowerExchange for Microsoft Azure Blob Storage

Effective in version 10.2, you can read data from or write data to a subdirectory in Microsoft Azure Blob Storage. You can use the **Blob Container Override** and **Blob Name Override** fields to read data from or write data to a subdirectory in Microsoft Azure Blob Storage.

For more information, see the *Informatica PowerExchange for Microsoft Azure Blob Storage 10.2 User Guide*.

PowerExchange for Microsoft Azure SQL Data Warehouse

Effective in version 10.2, you can run Microsoft Azure SQL Data Warehouse mappings in a Hadoop environment on Kerberos enabled clusters.

For more information, see the *Informatica PowerExchange for Microsoft Azure SQL Data Warehouse 10.2 User Guide*.

PowerExchange for Salesforce

Effective in version 10.2, you can use version 39 of Salesforce API to create a Salesforce connection and access Salesforce objects.

For more information, see the *Informatica PowerExchange for Salesforce 10.2 User Guide*.

PowerExchange Adapters for PowerCenter

This section describes new PowerCenter adapter features in version 10.2.

PowerExchange for Amazon Redshift

Effective in version 10.2, PowerExchange for Amazon Redshift includes the following new features:

- You can read data from or write data to the China (Beijing) region.
- When you import objects from **AmazonRSCloudAdapter** in the PowerCenter Designer, the PowerCenter Integration Service lists the table names alphabetically.
- In addition to the existing recovery options in the vacuum table, you can select the **Reindex** option to analyze the distribution of the values in an interleaved sort key column.
- You can configure the multipart upload option to upload a single object as a set of independent parts. TransferManager API uploads the multiple parts of a single object to Amazon S3. After uploading, Amazon S3 assembles the parts and creates the whole object. TransferManager API uses the multipart uploads option to achieve performance and increase throughput when the content size of the data is large and the bandwidth is high.
You can configure the **Part Size** and **TransferManager Thread Pool Size** options in the target session properties.
- PowerExchange for Amazon Redshift uses the `commons-beanutils.jar` file to address potential security issues when accessing properties. The following is the location of the `commons-beanutils.jar` file:
`<Informatica installation directory>server/bin/javaliib/505100/commons-beanutils-1.9.3.jar`

For more information, see the *Informatica PowerExchange for Amazon Redshift 10.2 User Guide for PowerCenter*.

PowerExchange for Amazon S3

Effective in version 10.2, PowerExchange for Amazon S3 includes the following new features:

- You can read data from or write data to the China (Beijing) region.
- You can read multiple files from Amazon S3 and write data to a target.
- You can write multiple files to Amazon S3 target from a single source. You can configure the **Distribution Column** options in the target session properties.
- When you create a mapping task to write data to Amazon S3 targets, you can configure partitions to improve performance. You can configure the **Merge Partition Files** option in the target session properties.
- You can specify a directory path that is available on the PowerCenter Integration Service in the **Staging File Location** property.
- You can configure the multipart upload option to upload a single object as a set of independent parts. TransferManager API uploads the multiple parts of a single object to Amazon S3. After uploading, Amazon S3 assembles the parts and creates the whole object. TransferManager API uses the multipart uploads option to achieve performance and increase throughput when the content size of the data is large and the bandwidth is high.
You can configure the **Part Size** and **TransferManager Thread Pool Size** options in the target session properties.

For more information, see the *Informatica PowerExchange for Amazon S3 version 10.2 User Guide for PowerCenter*.

PowerExchange for Microsoft Dynamics CRM

Effective in version 10.2, you can use the following target session properties with PowerExchange for Microsoft Dynamics CRM:

- Add row reject reason. Select to include the reason for rejection of rows to the reject file.

- Alternate Key Name. Indicates whether the column is an alternate key for an entity. Specify the name of the alternate key. You can use alternate key in update and upsert operations.
- You can configure PowerExchange for Microsoft Dynamics CRM to run on AIX platform.

For more information, see the *Informatica PowerExchange for Microsoft Dynamics CRM 10.2 User Guide for PowerCenter*.

PowerExchange for SAP NetWeaver

Effective in version 10.2, PowerExchange for SAP NetWeaver includes the following new features:

- When you run ABAP mappings to read data from SAP tables, you can use the STRING, SSTRING, and RAWSTRING data types. The SSTRING data type is represented as SSTR in PowerCenter.
- When you read or write data through IDocs, you can use the SSTRING data type.
- When you run ABAP mappings to read data from SAP tables, you can configure HTTP streaming.

For more information, see the *Informatica PowerExchange for SAP NetWeaver 10.2 User Guide for PowerCenter*.

Rule Specifications

Effective in version 10.2, you can select a rule specification from the Model repository in Informatica Developer and add the rule specification to a mapping. You can also deploy a rule specification as a web service.

A rule specification is a read-only object in the Developer tool. Add a rule specification to a mapping in the same way that you add a mapplet to a mapping. You can continue to select a mapplet that you generated from a rule specification and add the mapplet to a mapping.

Add a rule specification to a mapping when you want the mapping to apply the logic that the current rule specification represents. Add the corresponding mapplet to a mapping when you want to use or update the mapplet logic independently of the rule specification.

When you add a rule specification to a mapping, you can specify the type of outputs on the rule specification. By default, a rule specification has a single output port that contains the final result of the rule specification analysis for each input data row. You can configure the rule specification to create an output port for every rule set in the rule specification.

For more information, see the "Mapplets" chapter in the *Informatica 10.2 Developer Mapping Guide*.

Security

This section describes new security features in 10.2.

User Activity Logs

Effective in version 10.2, you can view login attempts from Informatica client applications in user activity logs.

The user activity data includes the following properties for each login attempt from an Informatica client:

- Application name
- Application version
- Host name or IP address of the application host

If the client set custom properties on login requests, the data includes the custom properties.

For more information, see the "Users and Groups" chapter in the *Informatica 10.2 Security Guide*.

Transformation Language

This section describes new transformation language features in 10.2.

Informatica Transformation Language

This section describes Informatica Transformation Language new features in 10.2.

Complex Functions

Effective in version 10.2, the transformation language introduces complex functions for complex data types. Use complex functions to process hierarchical data on the Spark engine.

The transformation language includes the following complex functions:

- ARRAY
- CAST
- COLLECT_LIST
- CONCAT_ARRAY
- RESPEC
- SIZE
- STRUCT
- STRUCT_AS

For more information about complex functions, see the "Functions" chapter in the *Informatica 10.2 Developer Transformation Language Reference*.

Complex Operators

Effective in version 10.2, the transformation language introduces complex operators for complex data types. In mappings that run on the Spark engine, use complex operators to access elements of hierarchical data.

The transformation language includes the following complex operators:

- Subscript operator []
- Dot operator .

For more information about complex operators, see the "Operators" chapter in the *Informatica 10.2 Developer Transformation Language Reference*.

Window Functions

Effective in version 10.2, the transformation language introduces window functions. Use window functions to process a small subset of a larger set of data on the Spark engine.

The transformation language includes the following window functions:

- LEAD. Provides access to a row at a given physical offset that comes after the current row.
- LAG. Provides access to a row at a given physical offset that comes before the current row.

For more information, see the "Functions" chapter in the *Informatica 10.2 Transformation Language Reference*.

Transformations

This section describes new transformation features in version 10.2.

Informatica Transformations

This section describes new features in Informatica transformations in 10.2.

Address Validator Transformation

This section describes the new Address Validator transformation features.

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

Austria

Effective in version 10.2, you can configure the Address Validator transformation to return a postal address code identifier for a mailbox that has two valid street addresses. For example, a building at an intersection of two streets might have an address on both streets. The building might prefer to receive mail at one of the addresses. The other address remains a valid address, but the postal carrier does not use it to deliver mail.

Austria Post assigns a postal address code to both addresses. Austria Post additionally assigns a postal address code identifier to the address that does not receive mail. The postal address code identifier is identical to the postal address code of the preferred address. You can use the postal address code identifier to look up the preferred address with the Address Validator transformation.

To find the postal address code identifier for an address in Austria, select the Postal Address Code Identifier AT output port. Find the port in the AT Supplementary port group.

To find the address that a postal address identifier represents, select the Postal Address Code Identifier AT input port. Find the port in the Discrete port group.

Czech Republic

Effective in version 10.2, you can configure the Address Validator transformation to add RUIAN ID values to a valid Czech Republic address.

You can find the following RUIAN ID values:

- RUIANAM_ID. Uniquely identifies the address delivery point.
To find the RUIAN ID value that uniquely identifies the address delivery point, select the RUIAN Delivery Point Identifier output port.
- RUIANSO_ID. Identifies the address to building level.
To find the RUIAN ID value that identifies the address to building level, select the RUIAN Building Identifier output port.
- RUIANTEA_ID. Identifies the building entrance.
To find the RUIAN ID value that identifies the entrance to building, select the RUIAN Building Entrance Identifier output port.

Find the ports in the CZ Supplementary port group.

Hong Kong

The Address Validator transformation includes the following features for Hong Kong:

Multilanguage support for Hong Kong addresses

Effective in version 10.2, the Address Validator transformation can read and write Hong Kong addresses in Chinese or in English.

Use the Preferred Language property to select the preferred language for the addresses that the transformation returns. The default language is Chinese. To return Hong Kong addresses in English, update the property to ENGLISH.

Use the Preferred Script property to select the preferred character set for the address data. The default character set is Hanzi. To return Hong Kong addresses in Latin characters, update the property to a Latin or ASCII option. When you select a Latin script, address validation transliterates the address data into Pinyin.

Single-line address validation in suggestion list mode

Effective in version 10.2, you can configure the Address Validator transformation to return valid suggestions for a Hong Kong address that you enter on a single line. To return the suggestions, configure the transformation to run in suggestion list mode.

Submit the address in the native Chinese language and in the Hanzi script. The Address Validator transformation reads the address in the Hanzi script and returns the address suggestions in the Hanzi script.

Submit a Hong Kong address in the following format:

```
[Province] [Locality] [Street] [House Number] [Building 1] [Building 2] [Sub-  
building]
```

When you submit a partial address, the transformation returns one or more address suggestions for the address that you enter. When you enter a complete or almost complete address, the transformation returns a single suggestion for the address that you enter.

To verify single-line addresses, use the Complete Address port.

Macau

The Address Validator transformation includes the following features for Macau:

Multilanguage support for Macau addresses

Effective in version 10.2, the Address Validator transformation can read and write Macau addresses in Chinese or in Portuguese.

Use the Preferred Language property to select the preferred language for the addresses that the transformation returns. The default language is Chinese. To return Macau addresses in Portuguese, update the property to ALTERNATIVE_2.

Use the Preferred Script property to select the preferred character set for the address data. The default character set is Hanzi. To return Macau addresses in Latin characters, update the property to a Latin or ASCII option.

Note: When you select a Latin script with the default preferred language option, address validation transliterates the Chinese address data into Cantonese or Mandarin. When you select a Latin script with the ALTERNATIVE_2 preferred language option, address validation returns the address in Portuguese.

Single-line address verification for native Macau addresses in suggestion list mode

Effective in version 10.2, you can configure the Address Validator transformation to return valid suggestions for a Macau address that you enter on a single line in suggestion list mode. When you enter a partial address in suggestion list mode, the transformation returns one or more address suggestions for the address that you enter. Submit the address in the Chinese language and in the Hanzi script. The transformation returns address suggestions in the Chinese language and in the Hanzi script. Enter a Macau address in the following format:

```
[Locality] [Street] [House Number] [Building]
```

Use the Preferred Language property to select the preferred language for the addresses. The default preferred language is Chinese. Use the Preferred Script property to select the preferred character set for the address data. The default preferred script is Hanzi. To verify single-line addresses, enter the addresses in the Complete Address port.

Taiwan

Effective in version 10.2, you can configure the Address Validator transformation to return a Taiwan address in the Chinese language or the English language.

Use the Preferred Language property to select the preferred language for the addresses that the transformation returns. The default language is traditional Chinese. To return Taiwan addresses in English, update the property to ENGLISH.

Use the Preferred Script property to select the preferred character set for the address data. The default character set is Hanzi. To return Taiwan addresses in Latin characters, update the property to a Latin or ASCII option.

Note: The Taiwan address structure in the native script lists all address elements in a single line. You can submit the address as a single string in a Formatted Address Line port.

When you format an input address, enter the elements in the address in the following order:

```
Postal Code, Locality, Dependent Locality, Street, Dependent Street, House or Building  
Number, Building Name, Sub-Building Name
```

United States

The Address Validator transformation includes the following features for the United States:

Support for the Secure Hash Algorithm-compliant versions of CASS data files

Effective in version 10.2, the Address Validator transformation reads CASS certification data files that comply with the SHA-256 standard.

The current CASS certification files are numbered USA5C101.MD through USA5C126.MD. To verify United States addresses in certified mode, you must use the current files.

Note: The SHA-256-compliant files are not compatible with older versions of Informatica.

Support for Door Not Accessible addresses in certified mode

Effective in version 10.2, you can configure the Address Validator transformation to identify United States addresses that do not provide a door or entry point for a mail carrier. The mail carrier might be unable to deliver a large item to the address.

The United States Postal Service maintains a list of addresses for which a mailbox is accessible but for which a physical entrance is inaccessible. For example, a residence might locate a mailbox outside a locked gate or on a rural route. The address reference data includes the list of inaccessible addresses that the USPS recognizes. Address validation can return the accessible status of an address when you verify the address in certified mode.

To identify DNA addresses, select the Delivery Point Validation Door not Accessible port. Find the port in the US Specific port group.

Support for No Secure Location address in certified mode

Effective in version 10.2, you can configure the Address Validator transformation to identify United States addresses that do not provide a secure mailbox or reception point for mail. The mail carrier might be unable to deliver a large item to the address.

The United States Postal Service maintains a list of addresses at which the mailbox is not secure. For example, a retail store is not a secure location if the mail carrier can enter the store but cannot find a mailbox or an employee to receive the mail. The address reference data includes the list of non-secure addresses that the USPS recognizes. Address validation can return the non-secure status of an address when you verify the address in certified mode.

To identify DNA addresses, select the Delivery Point Validation No Secure Location port. Find the port in the US Specific port group.

Support for Post Office Box Only Delivery Zones

Effective in version 10.2, you can configure the Address Validator transformation to identify ZIP Codes that contain post office box addresses and no other addresses. When all of the addresses in a ZIP Code are post office box addresses, the ZIP Code represents a Post Office Box Only Delivery Zone.

The Address Validator transformation adds the value Y to an address to indicate that it contains a ZIP Code in a Post Office Box Only Delivery Zone. The value enables the postal carrier to sort mail more easily. For example, the mailboxes in a Post Office Box Only Delivery Zone might reside in a single post office building. The postal carrier can deliver all mail to the Post Office Box Only Delivery Zone in a single trip.

To identify Post Office Box Only Delivery Zones, select the Post Office Box Delivery Zone Indicator port. Find the port in the US Specific port group.

For more information, see the *Informatica 10.2 Developer Transformation Guide* and the *Informatica 10.2 Address Validator Port Reference*.

Data Processor Transformation

This section describes new Data Processor transformation features.

JsonStreamer

Use the JsonStreamer object in a Data Processor transformation to process large JSON files. The transformation splits very large JSON files into complete JSON messages. The transformation can then call other Data Processor transformation components, or a Hierarchical to Relational transformation, to complete the processing.

For more information, see the "Streamers" chapter in the *Informatica Data Transformation 10.2 User Guide*.

RunPCWebService

Use the RunPCWebService action to call a PowerCenter mapplet from within a Data Processor transformation.

For more information, see the "Actions" chapter in the *Informatica Data Transformation 10.2 User Guide*.

PowerCenter Transformations

Evaluate Expression

Effective in version 10.2, you can evaluate expressions that you configure in the Expression Editor of an Expression transformation. When you test an expression, you can enter sample data and then evaluate the expression.

For more information about evaluating an expression, see the "Working with Transformations" chapter and the "Expression Transformation" chapter in the *Informatica PowerCenter 10.2 Transformation Guide*.

Workflows

This section describes new workflow features in version 10.2.

Informatica Workflows

This section describes new features in Informatica workflows in 10.2.

Human Task Distribution Properties

Effective in version 10.2, you can store a list of the users or groups who can work on Human task instances in an external database table. You select the table when you configure the Human task to define task instances based on the values in a column of source data.

The table identifies the users or groups who can work on the task instances and specifies the column values to associate with each user or group. You can update the table independently of the workflow configuration, for example as users join or leave the project. When the workflow runs, the Data Integration Service uses the current information in the table to assign task instances to users or groups.

You can also specify a range of numeric values or date values when you associate users or groups with the values in a source data column. When one or more records contain a value in a range that you specify, the Data Integration Service assigns the task instance to a user or group that you specify.

For more information, see the "Human Task" chapter in the *Informatica 10.2 Developer Workflow Guide*.

Human Task Notification Properties

Effective in version 10.2, you can edit the subject line of an email notification that you configure in a Human task. You can also add a workflow variable to the subject line of the notification.

A Human task can send email notifications when the Human task completes in the workflow and when a task instance that the Human task defines changes status. To configure notifications for a Human task, update the Notifications properties on the Human task in the workflow. To configure notifications for a task

instance, update the Notification properties on the step within the Human task that defines the task instances.

When you configure notifications for a Human task instance, you can select an option to notify the task instance owner in addition to any recipient that you specify. The option applies when a single user owns the task instance. When you select the option to notify the task instance owner, you can optionally leave the Recipients field empty

For more information, see the "Human Task" chapter in the *Informatica 10.2 Developer Workflow Guide*.

Import from PowerCenter

Effective in version 10.2, you can import mappings with multiple pipelines, sessions, workflows, and worklets from PowerCenter into the Model repository. Sessions within a workflow are imported as Mapping tasks in the Model repository. Workflows are imported as workflows within the Model repository. Worklets within a workflow are expanded and objects are imported into the Model repository.

Multiple pipelines within a mapping are imported as separate mappings into the Model repository based on the target load order. If a workflow contains a session that runs a mapping with multiple pipelines, the import process creates a separate Model repository mapping and mapping task for each pipeline in the PowerCenter mapping to preserve the target load order.

For more information about importing from PowerCenter, see the "Import from PowerCenter" chapter in the *Informatica 10.2 Developer Mapping Guide* and the "Workflows" chapter in the *Informatica 10.2 Developer Workflow Guide*.