



Informatica® MDM - Relate 360  
10.0 HotFix 7

# Release Guide

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# Preface

The *Informatica MDM Big Data Relationship Management Release Guide* lists new features and enhancements, behavior changes between versions, and tasks you might need to perform after you upgrade from a previous version. The *Informatica MDM Big Data Relationship Management Release Guide* is written for users of Informatica MDM Big Data Relationship Management. This guide assumes that you have knowledge of the features for which you are responsible.

## Informatica Resources

### Informatica Network

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As a member, you can:

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

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To find your local Informatica Global Customer Support telephone number, visit the Informatica website at the following link:

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

# Part I: Version 10.0.0

This part contains the following chapters:

- [New Features, Changes, and Release Tasks \(10.0 HotFix 7\), 9](#)
- [New Features, Changes, and Release Tasks \(10.0 HotFix 6\), 11](#)
- [New Features, Changes, and Release Tasks \(10.0 HotFix 5\), 13](#)
- [New Features, Changes, and Release Tasks \(10.0.0 HotFix 4\), 16](#)
- [New Features, Changes, and Release Tasks \(10.0.0 HotFix 3\), 18](#)
- [New Features, Changes, and Release Tasks \(10.0.0 HotFix 2\), 21](#)

# CHAPTER 1

## New Features, Changes, and Release Tasks (10.0 HotFix 7)

This chapter includes the following topics:

- [New Features \(10.0 HotFix 7\), 9](#)
- [Changes \(10.0 HotFix 7\), 10](#)

### New Features (10.0 HotFix 7)

This section describes new features in version 10.0 HotFix 7.

#### Relationship Graph

You can use Relate 360 to process different types of data, such as customer data, transaction data, and product data. Each type of data can be a business entity type. You can create relationships between the business entity types. The relationships result in a relationship graph that shows how a record is related to other records.

For more information about creating and viewing the relationship graph, see the *Informatica MDM - Relate 360 User Guide*.

#### Batch Jobs

To create a relationship graph, run the following batch jobs based on the type of data you process:

- Load pairs job
- Create relationship job

For more information about these batch jobs and their prerequisites, see the *Informatica MDM - Relate 360 User Guide*.

## RESTful Web Services

After you create relationships between the business entity types, you can retrieve details about the business entity types, their relationships, and the relationship graph. You can also create or remove the relationship between two records.

To retrieve the relationship details and manage the relationship between two records, run the following RESTful web services:

- Get Graph Metadata
- Get Entity Metadata
- Get Entity Relationship
- Get All Relationships
- Get Entity Details
- Create Relationship
- Remove Relationship

For more information about these RESTful web services, see the *Informatica MDM - Relate 360 User Guide*.

## Changes (10.0 HotFix 7)

This section describes changes in version 10.0 HotFix 7.

### Version Number of the RESTful Web Services

Effective in version 10.0 HotFix 7, all the RESTful web services use v4.0 as the version number in the URLs.

The following sample URL uses v4.0 as the version number:

```
http://BDRMServer:8080/MDMBDRMCustomer360/v4.0/Customer360/MULTISEARCH
```

Previously, all the RESTful web services used v3.0 as the version number in the URLs.

## CHAPTER 2

# New Features, Changes, and Release Tasks (10.0 HotFix 6)

This chapter includes the following topics:

- [New Features \(10.0 HotFix 6\), 11](#)
- [Changes \(10.0 HotFix 6\), 12](#)

## New Features (10.0 HotFix 6)

This section describes new features in version 10.0 HotFix 6.

### Consolidation Process

Use the consolidation process to merge data from different records in a cluster to create a preferred or golden record based on the consolidation rules. The input data can be batch or streaming data.

For more information about the consolidation process, see the *Informatica MDM Big Data Relationship Management User Guide*.

### Consolidation Rules

The consolidation process uses the consolidation rules to create a preferred record for each cluster. You must define the consolidation rules in the consolidation rules file. You can use the GETSTRATEGIES web service or command-line operation to get a list of supported consolidation rules.

For more information about the consolidation rules, see the *Informatica MDM Big Data Relationship Management Installation and Configuration Guide*.

### Retrieving the Preferred Records

After you consolidate the input data, use the GETPREFERREDRECORD or PREFERREDRECORDSEARCH web service or command-line operation to retrieve the preferred records of the clusters.

For more information about the GETPREFERREDRECORD and PREFERREDRECORDSEARCH web services or command-line operations, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Hive Enabler Job

You can use the Hive enabler job to load the consolidated data from HDFS or repository to a Hive table.

For more information about the Hive enabler job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Changes (10.0 HotFix 6)

This section describes changes in version 10.0 HotFix 6.

### Version Number of the RESTful Web Services

Effective in version 10.0 HotFix 6, all the RESTful web services use v3.0 as the version number in the URLs.

The following sample URLs use v3.0 as the version number:

```
[
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/SEARCH",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETCLUSTER",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETSEARCHLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETCLUSTERLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETMULTISEARCHLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/MULTISEARCH",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/RULESEARCH",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/INGEST",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETINGESTLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETRECORDLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETRECORD",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETMANAGECLUSTERLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/MANAGECLUSTER",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/DELETERECORD",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/AUTHENTICATE",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETPREFERREDRECORDLAYOUT",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETPREFERREDRECORD",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/GETSTRATEGIES",
  "http://BDRMServer:8080/MDMBDRMSYS/v3.0/SYS/PREFERREDRECORDSEARCH"
]
```

Previously, all the RESTful web services used v2.0 as the version number in the URLs.

## CHAPTER 3

# New Features, Changes, and Release Tasks (10.0 HotFix 5)

This chapter includes the following topics:

- [New Features \(10.0 HotFix 5\), 13](#)
- [Changes \(10.0 HotFix 5\), 14](#)

## New Features (10.0 HotFix 5)

This section describes new features in version 10.0 HotFix 5.

### Pagination Support

When you perform a search, you can enable pagination for the search results and specify the maximum number of results to return. If you enable pagination, a search request returns a token with the search results. You can use the token in the subsequent requests to get the search results from cache to avoid performing the search again.

For more information about pagination, see the *Informatica MDM Big Data Relationship Management User Guide*.

### Distributed Search

Use distributed search to distribute a search request to multiple region servers of the repository and perform the search on the region servers. Distributed search optimally uses the available resources and results in improved search performance.

For more information about distributed search, see the *Informatica MDM Big Data Relationship Management Installation and Configuration Guide*.

### Security for the RESTful Web Services

You can configure security for the RESTful web services to prevent any unauthorized access to the data. MDM Big Data Relationship Management uses the OpenAM-based authentication system to secure the web services.

For more information about securing the RESTful web services, see the *Informatica MDM Big Data Relationship Management Installation and Configuration Guide*.

## Processing Data in Motion

You can link or tokenize the input data in motion. The input data in motion indicates streaming data. Use the JSON format to stream the input data. MDM Big Data Relationship Management processes the input data and persists the linked or tokenized data in the repository.

For more information about processing data in motion, see the *Informatica MDM Big Data Relationship Management Installation and Configuration Guide* and *Informatica MDM Big Data Relationship Management User Guide*.

## Region Splitter Job

Use the region splitter job to uniformly distribute the linked or tokenized data across all the regions in the repository. The uniform distribution of the linked data optimally uses the resources and improves the search performance. Run the region splitter job before you run the load clustering job for the first time. A load clustering job can use the output files of a region splitter job to distribute the linked data.

For more information about the region splitter job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Post-Clustering Job

Use the post-clustering job to read the output files of an initial clustering job in HDFS and process the input data based on the mode that you configure.

You can run the post-clustering job in the following modes:

- Skip
- Recluster
- Longtail
- Export

For more information about the post-clustering job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Changes (10.0 HotFix 5)

This section describes changes in version 10.0 HotFix 5.

### Updating Linked Data in Hive

Effective in version 10.0 HotFix 5, if you persist the linked data in HDFS, you can update the linked data in Hive with incremental data. If you persist the linked data in a repository, you can link a Hive table to the repository table so that the Hive table accesses the repository table for the linked data.

Previously, you could not update the linked data in Hive.

## License File

Effective in version 10.0 HotFix 5, you do not require a license file when you install MDM Big Data Relationship Management.

Previously, when you installed MDM Big Data Relationship Management, you had to copy the license file to the installation directory.

## Version Number of the RESTful Web Services

Effective in version 10.0 HotFix 5, all the RESTful web services use v2.0 as the version number in the URLs.

The following sample URLs use v2.0 as the version number:

```
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/SEARCH",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETCLUSTER",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETSEARCHLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETCLUSTERLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETMULTISEARCHLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/MULTISEARCH",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/RULESEARCH",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/INGEST",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETINGESTLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETRECORDLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETRECORD",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/GETMANAGECLUSTERLAYOUT",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/MANAGECLUSTER",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/DELETERECORD",  
"http://BDRMServer:8080/MDMBDRMSYS/v2.0/SYS/AUTHENTICATE"
```

Previously, all the RESTful web services used v1.0 as the version number in the URLs.

## Deprecated Batch Jobs and Operations

Effective in version 10.0 HotFix 5, the following batch jobs and search operations that use simple matching are deprecated, and Informatica will drop support for them in the next major release:

- Initial linking job
- Initial loading job
- Incremental linking job
- Update linking job
- SEARCH operation
- RULESEARCH operation

Informatica recommends that you use initial clustering job, load clustering jobs, and MULTISEARCH operation instead.

## CHAPTER 4

# New Features, Changes, and Release Tasks (10.0.0 HotFix 4)

This chapter includes the following topics:

- [New Features \(10.0.0 HotFix 4\), 16](#)
- [Changes \(10.0.0 HotFix 4\), 16](#)

## New Features (10.0.0 HotFix 4)

This section describes new features in version 10.0.0 HotFix 4.

### Support for the Kerberos Authentication in Cloudera

In Cloudera, you can use the Kerberos authentication for the MapReduce jobs to access data in HBase and Hive. To use the Kerberos authentication, you must configure the parameters related to Kerberos in the configuration file.

For more information about the parameters related to the Kerberos authentication, see the *Informatica MDM Big Data Relationship Management User Guide*.

### Debug Mode for the MULTISEARCH Operation

You can perform the MULTISEARCH operation in the debug mode. The debug mode returns performance metrics that you can use for troubleshooting purposes.

For more information about configuring the debug mode, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Changes (10.0.0 HotFix 4)

This section describes changes in version 10.0.0 HotFix 4.

## Search

Effective in version 10.0.0 HotFix 4, the MULTISEARCH and RULESEARCH operations use multiple threads to perform parallel processing for matching. The parallel processing improves the search performance.

Previously, the MULTISEARCH and RULESEARCH operations used a single thread to perform matching.

## CHAPTER 5

# New Features, Changes, and Release Tasks (10.0.0 HotFix 3)

This chapter includes the following topics:

- [New Features \(10.0.0 HotFix 3\), 18](#)
- [Changes \(10.0.0 HotFix 3\), 20](#)

## New Features (10.0.0 HotFix 3)

This section describes new features in version 10.0.0 HotFix 3.

### Tokenization

Use the tokenization process to create match tokens for the input data based on the columns that you configure as index fields in the matching rules file. You can persist the tokenized data in HDFS or in a repository, and you can search the tokenized data for matching records.

For more information about the tokenization process, see the *Informatica MDM Big Data Relationship Management User Guide*.

### MapReduce Jobs

This section describes new features and enhancements to the MapReduce jobs.

#### HDFS Tokenization Job

The HDFS tokenization job creates match tokens for the input data based on the columns that you configure as index fields in the matching rules file. You can also run the HDFS tokenization job in the incremental mode to update the tokenized data that a HDFS tokenization job creates.

For more information about the HDFS tokenization job, see the *Informatica MDM Big Data Relationship Management User Guide*.

#### Repository Tokenization Job

The repository tokenization job creates match tokens for the input data in HDFS and loads the tokenized data into the repository. The repository tokenization job uses the columns that you configure as index fields to

generate the match tokens. The repository tokenization job performs the tasks of a HDFS tokenization job and a load clustering job.

For more information about the repository tokenization job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## HDFS Batch Search Job

The HDFS batch search job identifies the matching records for the input data in the output files of a HDFS tokenization job based on the match tokens.

For more information about the HDFS batch search job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Repository Batch Search Job

The repository batch search job identifies the matching records for the input data in the repository based on the match tokens.

For more information about the repository batch search job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Repository Update Job

The repository update job updates the tokenized data in the repository with the input data and creates match tokens for the input data in the repository.

For more information about the repository update job, see the *Informatica MDM Big Data Relationship Management User Guide*.

# Search

This section describes new features and enhancements to the search process.

## RULESEARCH Operation

The RULESEARCH operation generates key ranges, compares the key ranges with the key ranges in the repository data, and gets the matching records based on the rules that you configure in the matching rules file.

You can use the RULESEARCH operation to search the repository data if you define a single index in the matching rules file and use simple matching to link the records. Use the REST API or the `run_client.sh` script in the command line to perform the RULESEARCH operation.

For more information about the RULESEARCH operation, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Sorting Search Results

When you perform the MULTISEARCH or RULESEARCH operation in the command line, you can sort the search results based on a column that you define in the `PZMAP` section of the configuration file. You can also sort the search results based on the score of the search results.

For more information about sorting the search results, see the *Informatica MDM Big Data Relationship Management User Guide*.

# Changes (10.0.0 HotFix 3)

This section describes changes in version 10.0.0 HotFix 3.

## Matching Rules File

This section describes changes to the matching rules file in version 10.0.0 HotFix 3.

### Multiple Populations

Effective in version 10.0.0 HotFix 3, you can define matching rules for multiple populations in the matching rules file.

Previously, you could define matching rules only for a single population in the matching rules file.

For more information about configuring matching rules, see the *Informatica MDM Big Data Relationship Management User Guide*.

### Index Fields

Effective in version 10.0.0 HotFix 3, you can define multiple columns as index fields for an index.

Previously, you could define only one column for an index. To use multiple columns as index fields, you had to define multiple indexes.

For more information about configuring indexes in the matching rules file, see the *Informatica MDM Big Data Relationship Management User Guide*.

## CHAPTER 6

# New Features, Changes, and Release Tasks (10.0.0 HotFix 2)

This chapter includes the following topics:

- [New Features \(10.0.0 HotFix 2\), 21](#)
- [Changes \(10.0.0 HotFix 2\), 22](#)

## New Features (10.0.0 HotFix 2)

This section describes new features in version 10.0.0 HotFix 2.

### Advanced Matching

Use advanced matching to index multiple columns and configure multiple matching rules for each index. You can define indexes and matching rules in the matching rules file. You can use the matching rules file when you run the MapReduce jobs.

For more information about advanced matching, see the *Informatica MDM Big Data Relationship Management User Guide*.

### MapReduce Jobs

This section describes new features and enhancements to the MapReduce jobs.

#### Initial Clustering Job

An initial clustering job indexes and links the input data based on the rules in the matching rules file and the parameters in the configuration file. The initial clustering job reads the input data in HDFS and persists the indexed and linked data to HDFS. You can also run the initial clustering job in the incremental mode to incrementally update the indexed and linked data in HDFS.

For more information about the initial clustering job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Load Clustering Job

A load clustering job loads the integrated and linked data from HDFS into a repository. Before you run the load clustering job, you must run the initial clustering job in the initial or incremental mode.

For more information about the load clustering job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Delete Clustering Job

A delete clustering job matches the input data in HDFS with the indexed and linked data in HDFS that the initial clustering job creates. The job deletes the matching records from the indexed and linked data in HDFS.

For more information about the delete clustering job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Hive Enabler

If you persist the indexed and linked data in HDFS, you can use the Hive enabler job to load the indexed and linked data into the Hive database.

For more information about the Hive enabler job, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Search

This section describes new features and enhancements to the search process.

### GETMULTISEARCHLAYOUT Operation

The GETMULTISEARCHLAYOUT operation gets the search layout for the matching rules file. The layout contains the required fields that you can specify as input parameters in the JSON format to perform the MULTISEARCH operation. Use the REST API or the `run_client.sh` script in the command line to perform the GETMULTISEARCHLAYOUT operation.

For more information about the GETMULTISEARCHLAYOUT operation, see the *Informatica MDM Big Data Relationship Management User Guide*.

### MULTISEARCH Operation

The MULTISEARCH operation generates keys and keys ranges, compares the key ranges with the key ranges in the repository data, and gets the matching records based on the searching and matching criteria that you specify in the matching rules file. Use the REST API or the `run_client.sh` script in the command line to perform the MULTISEARCH operation.

For more information about the MULTISEARCH operation, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Changes (10.0.0 HotFix 2)

This section describes changes in version 10.0.0 HotFix 2.

## Simple Matching

Effective in version 10.0.0 HotFix 2, you can define multiple matching rules for an index in the matching rules file to perform simple matching. You can use the matching rules file when you run the MapReduce jobs.

Previously, you could define only a single matching rule for an index in the configuration file.

For more information about defining multiple matching rules, see the *Informatica MDM Big Data Relationship Management User Guide*.

## Updating Indexed and Linked Data

Effective in version 10.0.0 HotFix 2, you can incrementally update the indexed and linked data in HDFS.

Previously, you could incrementally update the indexed and linked data in a repository but not in HDFS.