



Informatica® PowerExchange for MongoDB
JDBC
10.5.8

User Guide for PowerCenter

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Preface

Use the *Informatica® PowerExchange® for MongoDB User Guide* for PowerCenter® to learn how to read from or write to MongoDB by using PowerCenter client. Learn to create a connection, develop mappings, and run sessions in an Informatica domain.

Informatica Resources

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CHAPTER 1

Introduction to PowerExchange for MongoDB JDBC

This chapter includes the following topics:

- [PowerExchange for MongoDB JDBC Overview, 8](#)
- [Introduction to MongoDB JDBC, 9](#)
- [PowerExchange for MongoDB Implementation, 9](#)
- [Rules and Guidelines for MongoDB JDBC Connector, 11](#)
- [Rules and Guidelines for MongoDB ODBC Connector, 11](#)

PowerExchange for MongoDB JDBC Overview

PowerExchange for MongoDB JDBC provides connectivity between Informatica and MongoDB. Use PowerExchange for MongoDB JDBC to extract and load MongoDB documents through the PowerCenter Integration Service.

You can use PowerExchange for MongoDB JDBC to integrate and migrate data from diverse data sources that are incompatible with MongoDB architecture.

You can use PowerExchange for MongoDB JDBC for the following PowerCenter Integration scenarios:

- Perform insert, update or delete operations on the MongoDB collections. You can aggregate data from MongoDB and other source systems, transform the data, and write the data to MongoDB.
- Migrate data from a relational database or other data sources to MongoDB. For example, you want to migrate data from a relational database to MongoDB. You can write data from multiple relational database tables with different schemas to the same MongoDB collection. A MongoDB collection contains the data in a MongoDB database.
- Move data between operational data stores to synchronize data. For example, an online marketplace uses a relational database as the operational data store. You want to use MongoDB instead of the relational database. However, you want to maintain the relational database along with MongoDB for a period of time. You can use PowerExchange for MongoDB to synchronize data between the relational data store and the MongoDB data store.
- Migrate data from MongoDB to a data warehouse for reporting. For example, your organization uses a business intelligence tool that does not support MongoDB. You must migrate the data from MongoDB to a data warehouse so that the business intelligence tool can use the data to generate reports.

Introduction to MongoDB JDBC

MongoDB is an open source, document based, NoSQL database that maintains dynamic schema. You can maintain more than one database on a MongoDB server.

A MongoDB database contains a set of collections. A collection is a set of documents and is similar to a table in a relational database. MongoDB stores records as documents that are similar to rows in a relational database. A document contains fields that are similar to columns in a relational database. A document can have a dynamic schema. A document in a collection does not need to have the same set of fields or structure as another document in the same collection. A document can also contain nested documents.

The following schema provides a sample MongoDB document from the collection called Product:

```
{
  sku: "111445GB3",
  title: "CM Phone",
  description: "The best in the world.",

  manufacture_details: {
    model_number: "CMP",
    release_date: new ISODate("2011-07-17T22:14:15.656Z")
  },

  shipping_details: {
    weight: 350,
    width: 10,
    height: 10,
    depth: 1
  },

  quantity: 99,

  pricing: [
    {region: "North America",
      cost_price: 1000,
      sale_price: 1200},
    {region: "Europe",
      cost_price: 1200,
      sale_price: 1500}
  ]
}
```

In the example, sku, title, description, quantity, manufacture_details, shipping_details, and pricing are fields. The fields manufacture_details and shipping_details are nested document type fields and pricing is an array type field.

PowerExchange for MongoDB Implementation

To extract and load MongoDB data, create MongoDB source and target definitions in the Designer. You can add a source or target definition to a session and run the session to process the data.

PowerExchange for MongoDB includes the Informatica MongoDB JDBC driver that connects to the MongoDB server. You can create an JDBC connection to extract data from or load data to a MongoDB database. You can also configure the replica sets for the MongoDB server so that the PowerCenter Integration Service can access the secondary servers if the primary server is not available.

The Designer uses the schema of a collection, or you can define the schema for the collection before you import a source or target definition. The Designer flattens the schema if there is any hierarchical element in the collection and retains the original schema of the collection when you import it.

The Designer imports a document based on the schema that you set for the collection. If a document contains hierarchical elements like arrays or nested documents, the Designer imports them as columns at the same level as other columns.

For example, you need to import the collection `product_details` with the following schema:

```
{
  sku: "sku_name",
  title: "product_name",
  description: "description",

  manufacture_details: {
    model_number: "model_number",
    release_date: new ISODate("date")
  },

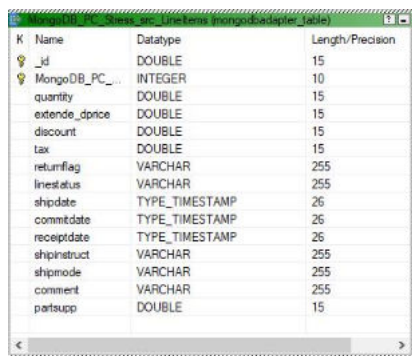
  shipping_details: {
    weight: <value>,
    width: <value>,
    height: <value>,
    depth: <value>
  },

  quantity: <value>,

  pricing: [
    {region: "North America",
      cost_price: 1000,
      sale_price: 1200},
    {region: "Europe",
      cost_price: 1200,
      sale_price: 1500}
  ]
}
```

The Designer imports the collection schema into a tabular format. You can identify arrays and nested documents with the naming convention of the column. The naming convention of a nested document is `<top level element name>.<nested document name>.<nested document element name>`. The naming convention of an array is `<array name>.<element number>`.

The following figure shows the source definition when you import the collection into the Designer:



K	Name	Datatype	Length/Precision
1	_id	DOUBLE	15
2	MongoDB_PC_...	INTEGER	10
3	quantity	DOUBLE	15
4	extended_price	DOUBLE	15
5	discount	DOUBLE	15
6	tax	DOUBLE	15
7	returnflag	VARCHAR	255
8	linestatus	VARCHAR	255
9	shipdate	TYPE_TIMESTAMP	26
10	commitdate	TYPE_TIMESTAMP	26
11	receiptdate	TYPE_TIMESTAMP	26
12	shipinstruct	VARCHAR	255
13	shipmode	VARCHAR	255
14	comment	VARCHAR	255
15	partsupp	DOUBLE	15

When you run a session, the PowerCenter Integration Service uses the MongoDB JDBC data source name in the machine that runs the PowerCenter Integration Service to extract data from or load data to a MongoDB database.

Rules and Guidelines for MongoDB JDBC Connector

Consider the following rules and guidelines for Cassandra Connector:

- Transformation errors appear in the session log even if the mapping does not contain any transformations.
Workaround: You can ignore the transformation errors.
- Column names of a MongoDB data object cannot exceed 255 characters.
- When you refresh a MongoDB data source in the **Import Tables** dialog box, the dropped MongoDB collections still appear.
- The virtual tables appear in the **Import Tables** dialog box only when you import the table metadata.
- When you create a mapping and specify special characters or white spaces in the source or target name, the mapping fails.
- When you run a mapping with a Joiner transformation to read from a MongoDB database prior to version 2.6.3, the following error might appear in the mapping log even if the nested element is not null:
LEFT_SUBFIELD only supports Object.

Rules and Guidelines for MongoDB ODBC Connector

Consider the following rules and guidelines for Cassandra Connector:

- Even when you enable **Show array count in virtual main table**, the Informatica MongoDB driver does not create the array count column.
- You cannot use the MongoDB ODBC driver to import a MongoDB collection that does not contain data.

CHAPTER 2

PowerExchange for MongoDB JDBC Configuration

This chapter includes the following topics:

- [PowerExchange for MongoDB JDBC Configuration Overview, 12](#)
- [Installation and Configuration Overview, 12](#)
- [Prerequisites, 12](#)
- [Registering the Plug-in, 13](#)

PowerExchange for MongoDB JDBC Configuration Overview

You can use PowerExchange for MongoDB JDBC on Windows, Linux, or AIX. You must configure PowerExchange for MongoDB JDBC before you can extract data from or load data to MongoDB database.

Installation and Configuration Overview

PowerExchange for MongoDB JDBC installs with PowerCenter. After you install or upgrade Informatica Services, you must register the PowerExchange for MongoDB JDBC plug-in with the PowerCenter repository.

Prerequisites

Before you use PowerExchange for MongoDB JDBC, perform the following tasks:

- Install or upgrade PowerCenter.
- Verify that you have read and write permissions on the following directories on each machine that runs the PowerCenter Integration Service and PowerCenter Repository Service:

- <Informatica installation directory>\server\connectors\cci\plugins

- <Informatica installation directory>\server\bin\Plugin
 - <Informatica installation directory>\connectors\thirdparty
 - Verify that you have read and write permissions on the following directories on each machine where you installed the PowerCenter Client:
 - <Informatica installation directory>\clients\PowerCenterClient
 - <Informatica installation directory>\clients\PowerCenterClient\bin\Help\<language>
- For more information about product requirements and supported platforms, see the Product Availability Matrix on Informatica Network:
<https://network.informatica.com/community/informatica-network/product-availability-matrices>.
- To invoke the Schema Editor from the JDBC driver in PowerCenter, follow the instructions from the following Knowledge Base article:
https://knowledge.informatica.com/s/articlepreview?c__number=HOW-TO-Invoke-schema-editor-from-MongoDB-JDBC-driver&language=en_US&type=external

Registering the Plug-in

After you complete the installation, register the PowerExchange for MongoDB JDBC plug-in with the repository.

To register the plug-in, the repository must be running in exclusive mode. Use the Administrator tool or the pmrep RegisterPlugin command line program to register the plug-in. If you do not have the correct privileges to register the plug-in, contact the user who manages the PowerCenter Repository Service.

The plug-in file is an .xml file that defines the functionality of the adapter. When you install the server component, the installer copies the plug-in file to the following directory:

```
<Informatica installation directory>/server/bin/Plugin
```

The name of the plug-in file for PowerExchange for MongoDB JDBC is MongoDB_Plugin.xml.

Registering the Plug-in from the Administrator Tool

Register a repository plug-in to add its functionality to the repository.

1. Run the PowerCenter Repository Service in exclusive mode.
2. In the **Navigator**, select the PowerCenter Repository Service to which you want to add the plug-in.
3. In the **Contents** panel, click the **Plug-ins** view.
4. In the **Actions** menu of the **Domain** tab, select **Register Plug-in**.
5. On the **Register Plugin** page, click the **Browse** button to locate the plug-in file.
6. Enter your user name and password.
7. Click **OK**.

The PowerCenter Repository Service registers the plug-in with the repository. The results of the registration operation appear in the activity log.

8. Run the PowerCenter Repository Service in normal mode.

Registering the Plug-in from the Command Line Interface

You can use the `pmrep RegisterPlugin` command to register the plug-in from the command line interface.

1. Run the PowerCenter Repository Service in exclusive mode.
2. Run the `pmrep Connect` command to connect to the Repository Service with a user account that has the Administrator Repository privilege.

The `RegisterPlugin` command uses the following syntax:

```
pmrep connect -r <repository name> -d <domain_name> -n <domain user name> -x  
<domain_password>
```

3. Find `<adaptername>.xml` in the following directory:

```
<Informatica installation directory>\server\bin\Plugin
```

4. Run the `pmrep RegisterPlugin` command to update the repository.

The `RegisterPlugin` command uses the following syntax:

```
pmrep registerplugin -i <Informatica installation directory>\server\bin\Plugin  
\MongoDB_Plugin.xml -e
```

CHAPTER 3

Schema Definition

This chapter includes the following topics:

- [Schema Definition Overview, 15](#)
- [Virtual Tables, 15](#)

Schema Definition Overview

You can define the schema for a MongoDB collection that you want to import as a source or target definition in the Designer. You can define the schema for multiple collections with the same JDBC data source name.

A collection in MongoDB might contain several fields that you do not want to import. When you define the schema you can limit metadata that you import. The driver dynamically detects the collection schema of a MongoDB database. It flattens the MongoDB schema and displays the keys in the a tabular format with each key as a column in the Schema Editor.

You can export the collection to an external schema definition file and edit the schema definition in the Schema Editor. After you modify the collection properties and column metadata, you can save the modifications in the schema definition file. The driver does not modify the schema of the actual MongoDB collection. You can choose to store the modifications in the MongoDB database or as a file.

If you enable virtual table detection in the Informatica MongoDB JDBC driver, the driver creates virtual tables in the schema if the collection contains arrays. You can import the virtual table as a source or target definition in the Designer.

Virtual Tables

The Simba MongoDB JDBC driver creates virtual tables if the column family contains collections such as arrays and objects.

Virtual tables depict the renormalized view of a MongoDB collection. You can use virtual tables as sources and targets in mappings.

The Simba MongoDB JDBC driver creates a virtual table for each collection in the column family. The virtual table for a collection uses the following naming convention by default: `<original column family name>_<original collection name>`

Each virtual table has a foreign key column that references back to the primary key column in the original collection. The key column uses the following naming convention by default: `<original collection name>.<primary key column name>`

The virtual table has an index column that shows the position of the data within the original array. The index column uses the following naming convention by default: `<original column name>_index`

Other columns in the virtual table represent the elements in the array and are named after the array element. If the array is of scalar type, the data column uses the following naming convention by default: `<original column name>_value`

When you use a virtual table in a mapping, you can perform read, insert, and update operations on a virtual table.

Note: You cannot perform upsert or delete operation on a virtual table.

Virtual Tables Example

The collection `CustomerTable` contains arrays. You want to create virtual tables from the arrays and import the virtual tables as data objects in Informatica Cloud.

The following table shows the schema of `CustomerTable` collection:

id	Customer Name	Invoices	Service Level	Contacts	Ratings
1111	John	[[{invoice_id=123,item=toaster,price=456,discout=0.2}, {invoice_id=124,item=oven,price=12345, discount=0.3}]]	Silver	[[{type=primary,name="John Johnson"}, {type= invoicing,name="Jane Johnson"}]]	[7,8]
2222	Jane	[[{invoice_id=125,item=blender,price=7456,discout=0.5},	Gold	[[{type=primary,name="Jane Johnson"}]	[5,6]

If you enable virtual table detection, the driver creates the following virtual tables:

CustomerTable

The main table uses the same name as the original table that it represents.

The following table shows the schema of `CustomerTable` virtual table:

id	Customer Name	Number of Invoices	Service Level	Number of Contacts	Number of Ratings
1111	John	2	Silver	2	2
2222	Jane	1	Gold	1	2

CustomerTable_Invoices

The following table shows the schema of CustomerTable_Invoices virtual table:

CustomerTable.id	Invoices_index	invoice_id	item	price	discount
1111	1	123	toaster	456	0.2
1111	2	124	oven	12345	0.3
2222	1	125	blender	7456	0.5

CustomerTable_Contacts

The following table shows the schema of CustomerTable_Contacts virtual table:

CustomerTable.id	Contacts_index	type	name
1111	1	primary	John Johnson
1111	2	invoicing	Jane Johnson
2222	1	primary	Jane Johnson

CustomerTable_Ratings

The following table shows the schema of CustomerTable_Ratings virtual table:

CustomerTable.id	Ratings_index	Ratings_value
1111	1	7
1111	2	8
2222	1	5
2222	2	6

Note: You cannot use the Designer to preview virtual tables. You cannot use a DD_DELETE strategy in an Update Strategy transformation to delete rows from a virtual table.

CHAPTER 4

MongoDB JDBC Sources and Targets

This chapter includes the following topics:

- [MongoDB JDBC Sources and Targets Overview, 18](#)
- [Import MongoDB JDBC Source and Target Definitions, 18](#)

MongoDB JDBC Sources and Targets Overview

You can create a mapping with a MongoDB JDBC source to extract data from MongoDB. You can create a mapping with any source and a MongoDB JDBC target to load data to MongoDB. You can use tables as MongoDB sources.

When the PowerCenter Integration Service extracts data from the source or loads data to the target, it converts the data based on the data types associated with the source or the target.

Import MongoDB JDBC Source and Target Definitions

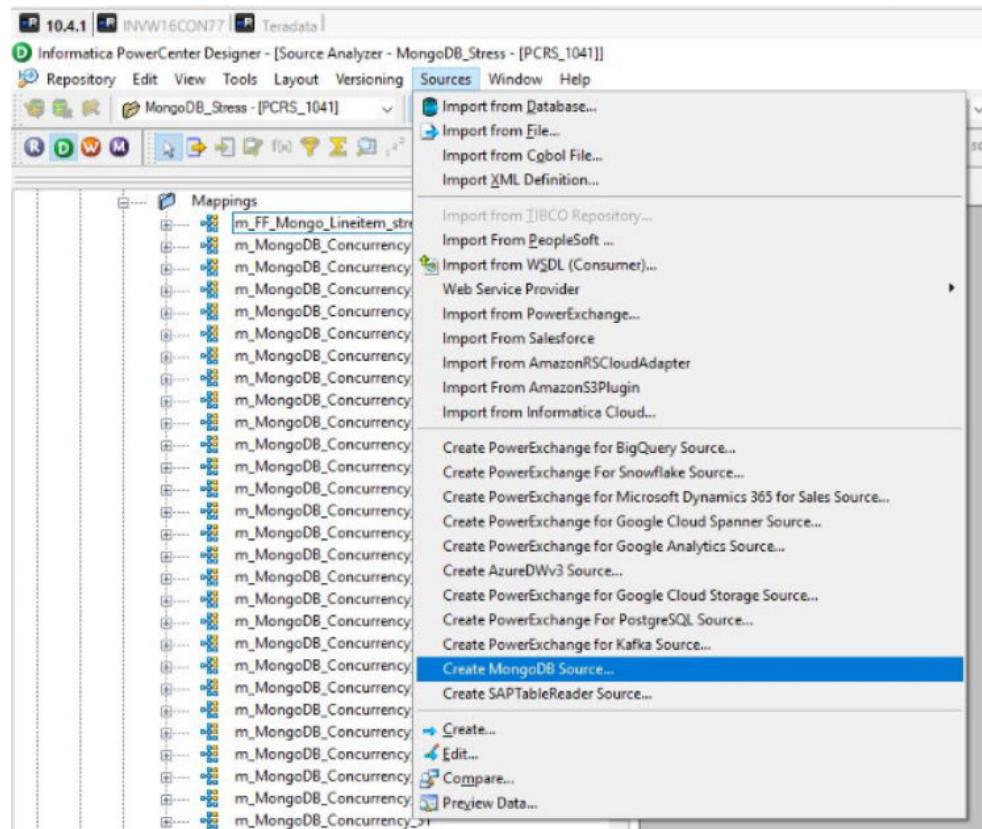
Use the **Create PowerExchange For MongoDB Source** or **Create PowerExchange For MongoDB Target** wizard to import MongoDB source and target definitions into the PowerCenter repository.

You must import MongoDB source and target objects before you create a mapping.

1. Start PowerCenter Designer and connect to a PowerCenter repository configured with a MongoDB instance.
2. Open a source or target folder.

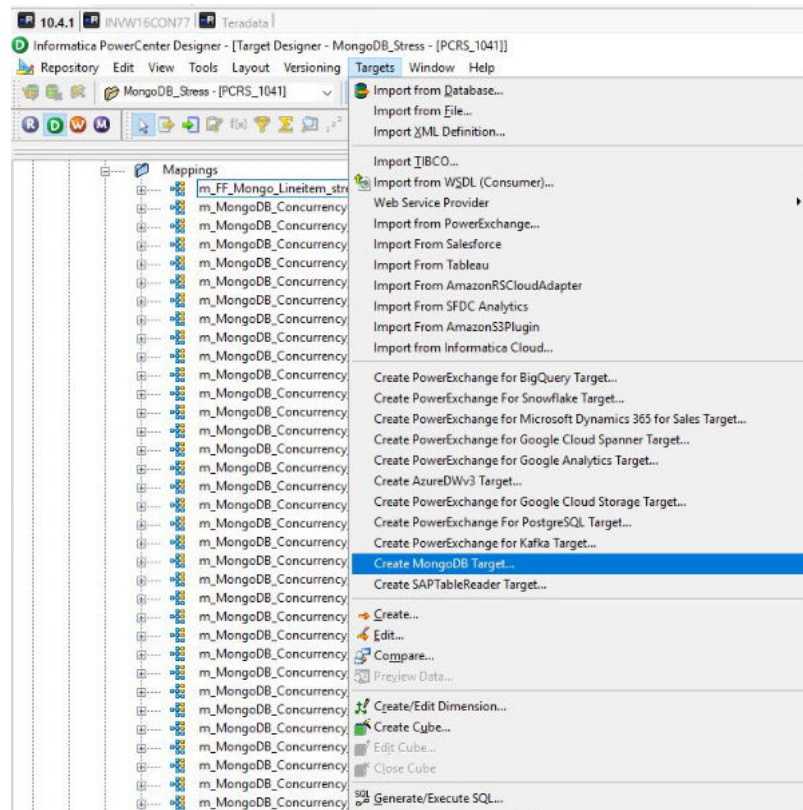
3. Select **Source Analyzer** or **Target Designer**.

- In the Source Analyzer, click **Sources > Create PowerExchange For MongoDB Source**.
The following image shows the option to create a MongoDB source:



The **MongoDB Connection Details** dialog box appears.

- In the Target Analyzer, click **Targets > Create PowerExchange For MongoDB Target**. The following image shows the option to create a MongoDB target:



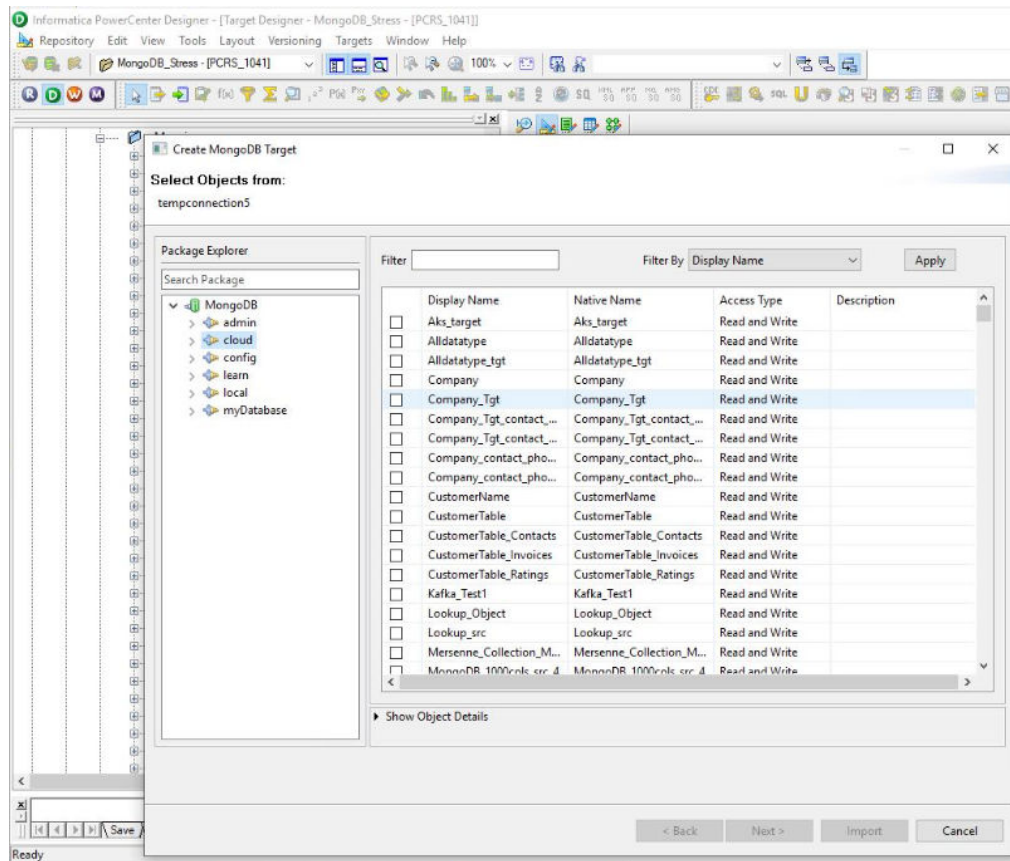
The **MongoDB Connection Details** dialog box appears.

4. Configure the MongoDB connection parameters.
5. Click **Test** to test the connection.
6. Click **Finish** to add the connection.
7. Click **Next**.

The **Select Objects from** tab appears.

8. Select the database and schema in **Package Explorer**.

The following image shows the list of tables that appear:



9. Select the table that you want to import, and then click **Import**.

To view the table metadata, select the table, and double-click the table name.

Note: You can import table collections having upto 10,000 columns and if you are unable to import 1000 columns in the table, you can increase the virtual memory size on the Windows machine that hosts the PowerCenter as mentioned in <https://kb.informatica.com/solution/23/Pages/3/152632.aspx>

CHAPTER 5

MongoDB JDBC Mappings

This chapter includes the following topics:

- [MongoDB JDBC Mappings Overview, 22](#)
- [MongoDB JDBC Mapping Example, 26](#)

MongoDB JDBC Mappings Overview

After you import a MongoDB source or target definition into the PowerCenter repository, you can create a mapping to extract data from a MongoDB source or load data to a MongoDB target.

You can extract data from one or more MongoDB sources, and load data to one or more MongoDB targets. You can join multiple MongoDB tables when you specify a join condition.

You can enter a filter condition to reduce the number of source rows the PowerCenter Integration Service returns from MongoDB sources. You can enter a single filter condition or a series of conditions.

Source Filter

You can enter a filter condition to reduce the number of source rows the PowerCenter Integration Service returns from MongoDB sources. You can enter a single filter condition or a series of conditions.

Use the source filter in the **Application Source Qualifier** to retrieve rows from an entity that meet a condition.

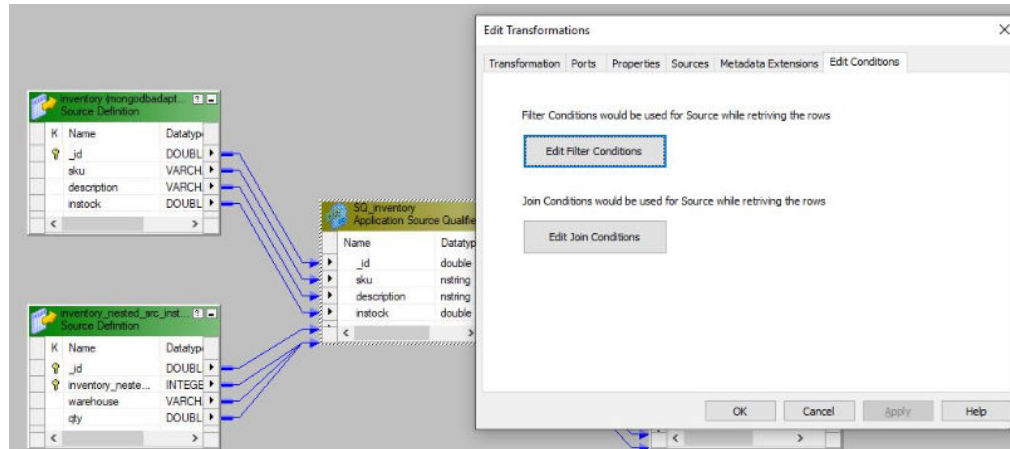
You can provide a source filter to improve the performance when you read from MongoDB.

Configuring a Source Filter

Configure a source filter from the **Application Source Qualifier**.

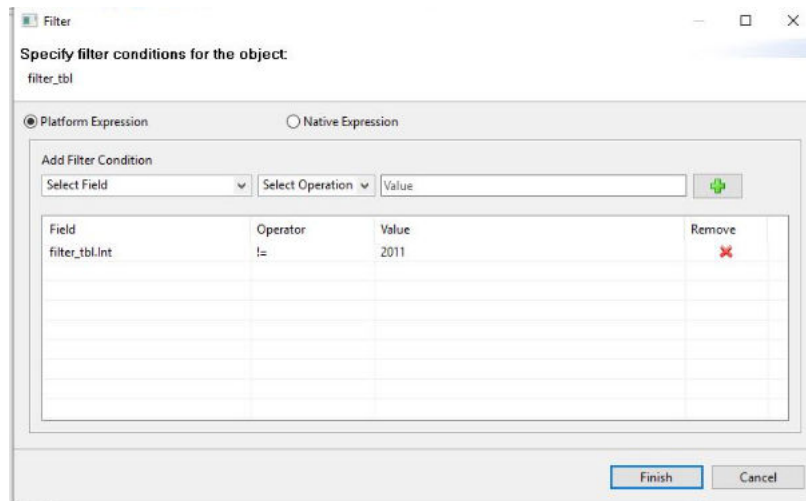
1. In the **Mapping Designer**, double-click the **Application Source Qualifier**.

The **Edit Transformation** tab appears as shown in the following image:



2. Click the **Edit Conditions** tab.
3. Click **Edit Filter Conditions**.
- The **Add Filter Condition** dialog box appears.
4. Select the filter field and operator that you want to specify in the condition, enter a value for the condition, and click **Add Condition**.

The condition appears in the Filter Expression pane as shown in the following image:



5. Click **Finish** to add the filter condition.
6. Click **OK**.

Source Join

You can enter a join condition to join multiple MongoDB source tables.

Configure the source join from the Application Source Qualifier of the parent table. When you configure the join in the Mapping Designer, retain the source qualifier only of the parent table and then link the fields from the child tables to the parent source qualifier.

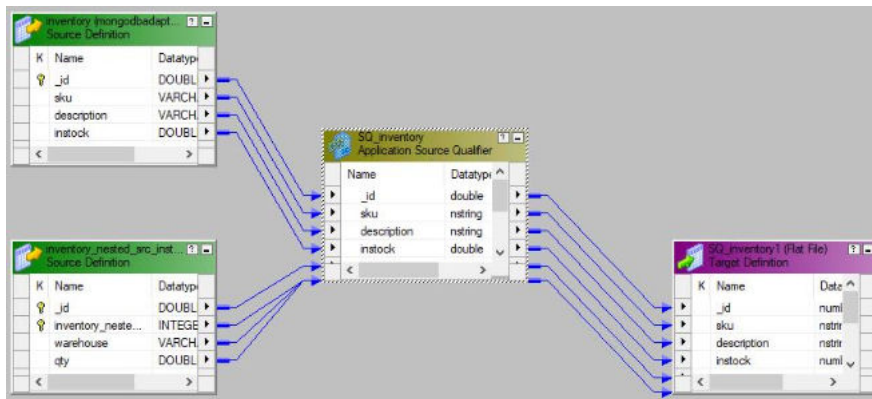
Use the Platform Expression or Native Expression type to define the relationship of the tables that you want to join.

Configuring a Source Join

You can use the Application Source Qualifier of the parent table to join multiple tables.

1. In the **Mapping Designer**, retain the source qualifier only of the parent table and manually delete the source qualifiers for the child tables.
2. Link the fields from the child tables to the parent source qualifier.

The following image shows an example mapping that contains the linked child tables with the parent source qualifier:

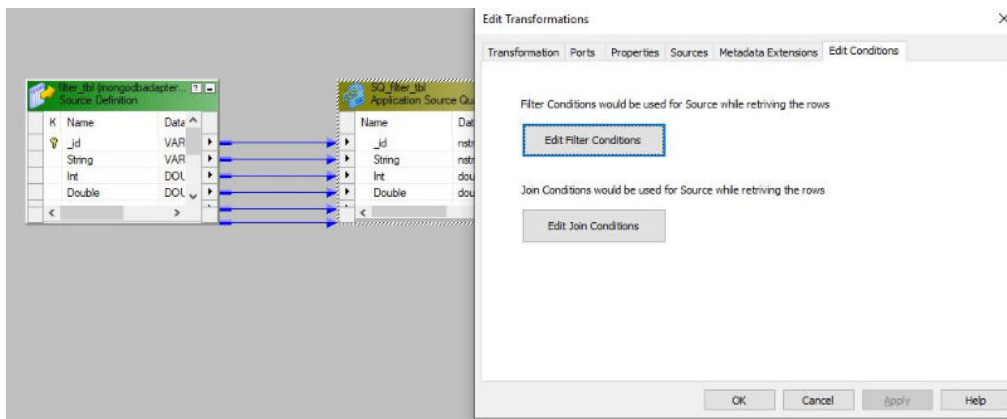


3. Double-click the **Application Source Qualifier** of the parent table.

The **Edit Transformation** tab appears.

The following image shows the **Edit Conditions** tab in the Application Source Qualifier Transformation type:

4. Click the **Edit Conditions** tab.



5. Click **Edit Join Conditions**.
6. To define a join condition for the tables using **Platform Expression**, perform the following tasks:
 - a. In the **Tables** section, select the child table, and then select the join type for the child table with the parent table.
 - b. In the **Relationships** section, define the relationship for the join.

The **Add** button in the **Relationships** section enables only when you select the child table.

The following image shows the join types that you can configure and the relationship that you can define to join tables when you use the Infa expression:

The screenshot shows a 'Join' dialog box with the following sections:

Expression Type

- ☒ Platform Expression
- ☐ Native Expression

Tables:

Order	Table Name	Join Type
1	employee_new	None
2	department	Outer

A dropdown menu for the 'Join Type' of the second table is open, showing the following options: Outer, Inner, Left, Right. The 'Outer' option is currently selected.

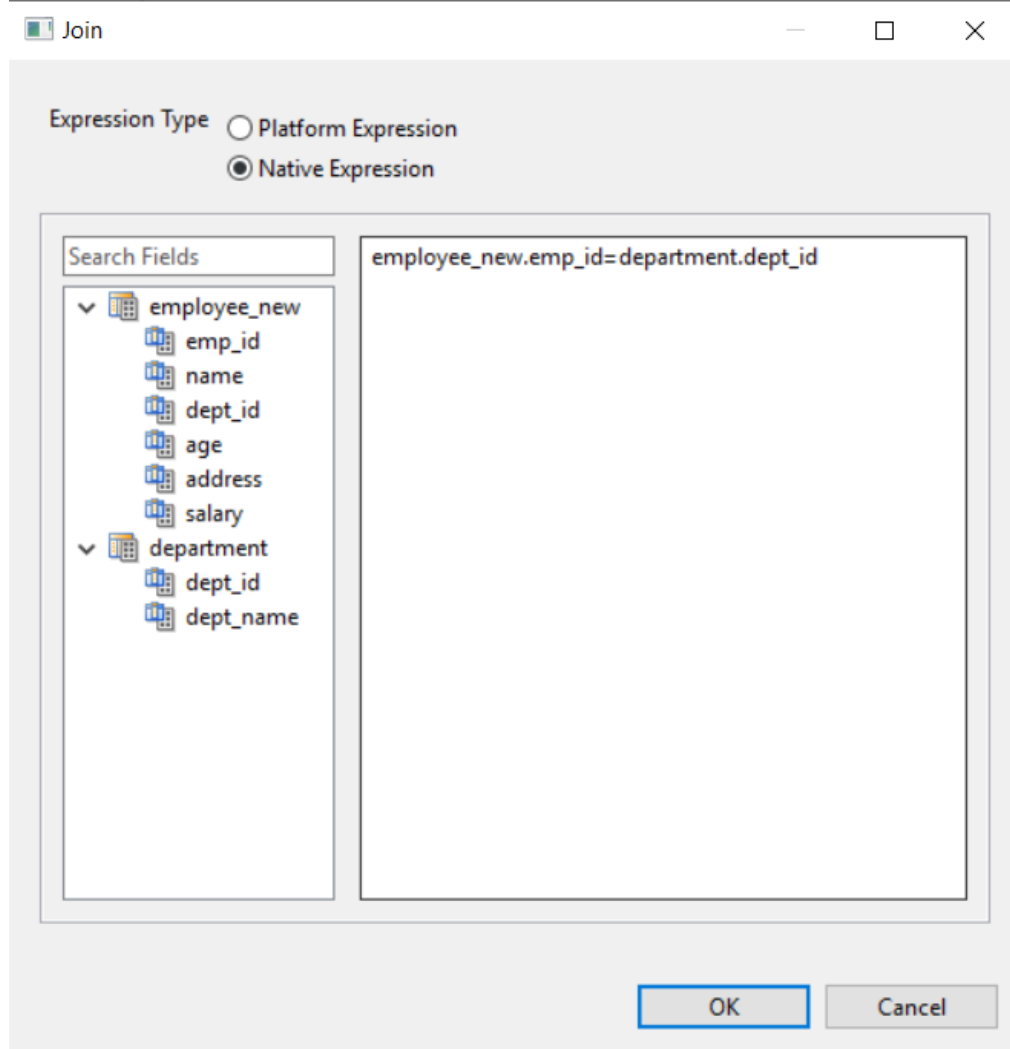
Relationships:

Left Field	Operator	Right Field
employee_new.em...	=	department.dept_id

Buttons: Move Up, Move Down, Add, Remove, OK, Cancel.

7. To define a join condition using **Native Expression**, select the fields and define a join query syntax:

The following image shows the fields that you add when you define the join query:



8. Click **OK**.

Writing to an empty collection

You can write data to the empty MongoDB targets only in JSON mode by mapping the **DocumentAsJSON** field from the source to the target through which the entire MongoDB source collection will be written to the MongoDB Target collection.

MongoDB JDBC Mapping Example

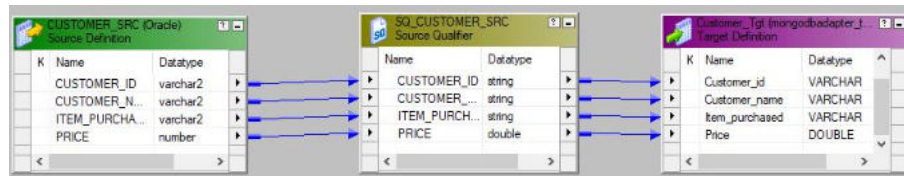
You work for an organization that stores purchase order details, such as customer ID, item codes, and item quantity in a relational database like Oracle. You need to analyze purchase order details and move data from the Oracle database to MongoDB.

Create a mapping to read all the purchase records from Oracle, process the data, and write them to a MongoDB target.

Perform the following tasks to move data from Oracle to MongoDB:

1. Import the Oracle source.
2. Import a MongoDB target.
3. Create a mapping with a Oracle source and a MongoDB target.

The following image shows the example mapping in the Mapping Designer:



4. Create a session and configure the session properties to load the data to the MongoDB target.
The mapping contains the following objects:

Source Definition

The mapping source definition is a relational database object. In the **Source Analyzer**, import the Oracle source. The PowerCenter Integration Service reads the customer transaction details from the Oracle source.

The following table describes the structure of the source definition called CUSTOMER_SRC:

Field	Data Type
CUSTOMER_ID	Varchar
CUSTOMER_NAME	Varchar
ITEM_PURCHASED	Varchar
PRICE	Float

Mapping Target

The mapping contains a MongoDB target definition.

In the **Target Designer**, import a MongoDB target definition.

The following table describes the structure of the target definition called CUSTOMER_TGT:

Field	Data Type
CUSTOMER_ID	Varchar
_ID	Varchar
CUSTOMER_NAME	Varchar
ITEM_PURCHASED	Varchar
PRICE	Double

CHAPTER 6

MongoDB JDBC Sessions

This chapter includes the following topics:

- [MongoDB JDBC Sessions Overview, 28](#)
- [PowerExchange for MongoDB JDBC Connections, 29](#)
- [Configure MongoDB JDBC Source Session Properties, 30](#)
- [Configure MongoDB JDBC Target Session Properties, 31](#)
- [Parameterization, 32](#)
- [Lookup, 32](#)
- [Update Strategy Transformation, 32](#)
- [Partitioning, 32](#)

MongoDB JDBC Sessions Overview

After you create mappings, you can create a session to extract and load data.

You must configure a MongoDB JDBC connection in the **Workflow Manager** to extract data from or load data to a MongoDB table. You can define properties in a session to determine how the PowerCenter Integration Service must extract data from a MongoDB source or load data to a MongoDB target.

PowerExchange for MongoDB JDBC Connections

When you configure a PowerExchange for MongoDB connection, you define the connection attributes that the PowerCenter Integration Service uses to connect to the MongoDB database.

The following table describes the MongoDB connection properties:

Property	Description
Connection Name	The name of the connection. The name is not case sensitive and must be unique within the domain. You can change this property after you create the connection. The name cannot exceed 128 characters, contain spaces, or contain the following special characters: ~`!\$%^&*()-+= {[]} \:;'"<, > . ? /
Type	The connection type. Select MongoDB .
Host Name	Host name or IP address of the MongoDB server.
Port	MongoDB server port number. Default is 9042.
User Name	User name to access the MongoDB server.
Password	Password corresponding to the user name to access the MongoDB server.
Database Name	Name of the MongoDB database to connect to.
Additional Connection Properties	Enter one or more JDBC connection parameters in the following format: <pre><param1>=<value>&<param2>=<value>&<param3>=<value></pre> You must provide the JDBC parameters as ampersand-separated key-value pairs. You can configure the following JDBC connection parameters in a MongoDB connection: - AuthSource - BatchSize - connectTimeoutMS - DefaultStringColumnLength - DmlBatchSize - EnableDoubleBuffer - EnableTransaction - LogLevel - LogPath - SamplingLimit - SamplingStepSize - SamplingStrategy - useJSONColumn For example, <pre>DefaultStringColumnLength=512&DmlBatchSize=1000&EnableDoubleBuffer=false&EnableTransaction=true&SamplingLimit=200&SamplingStepSize=2&SamplingStrategy=Backwards</pre> Note: If you specify the host name, port number, user name, and password of the MongoDB server in the Additional Connection Properties, the values specified in the Additional Connection Properties takes precedence.
SSL Mode	Options applicable for MongoDB Connector are: - disabled - require or one-way

Note: If you select the **Enable Reading/Writing as JSON** option, a column **documentAsJSON** appears in the collection when you read data from MongoDB through which you can read data as JSON. Default is disabled. To enable reading or writing as JSON, select **useJSONColumn=true**.

Configuring a MongoDB JDBC Connection

Configure a MongoDB JDBC connection in the Workflow Manager to define the connection attributes that the PowerCenter Integration Service uses to connect to the MongoDB database.

1. In the Workflow Manager, click **Connections > Application**.
The **Application Connection Browser** dialog box appears.
2. Click **New** and select **mongodbadapter_table**.
The **Application Connection Editor** dialog box appears.
3. Enter a name for the MongoDB JDBC connection.
4. Enter the MongoDB JDBC connection attributes.
5. Click **OK** to create a MongoDB JDBC connection.

Configure MongoDB JDBC Source Session Properties

You can configure the session properties for a MongoDB source on the **Workflow Manager** tab. Define the properties for the source instance in the session.

The following table describes the session properties that you can configure for a MongoDB source session:

Session Property	Description
Pre-SQL	The pre-SQL commands to run before the PowerCenter Integration Service reads data from the source.
Post-SQL	The post-SQL commands to run after the PowerCenter Integration Service reads data from source.
Filter Override Type	The type of filter expression that you want to override in the source qualifier. You can select Native or Platform filter expression type to override. Default is None.
Filter Override	The filter condition that overrides the filter condition you specify in the source qualifier. After you select Native or Platform Filter Override Type, specify the filter condition to override in the source qualifier. Note: When you configure a Platform filter override, you must specify the absolute qualified column name in the following format: <code>tablename.columnname</code>

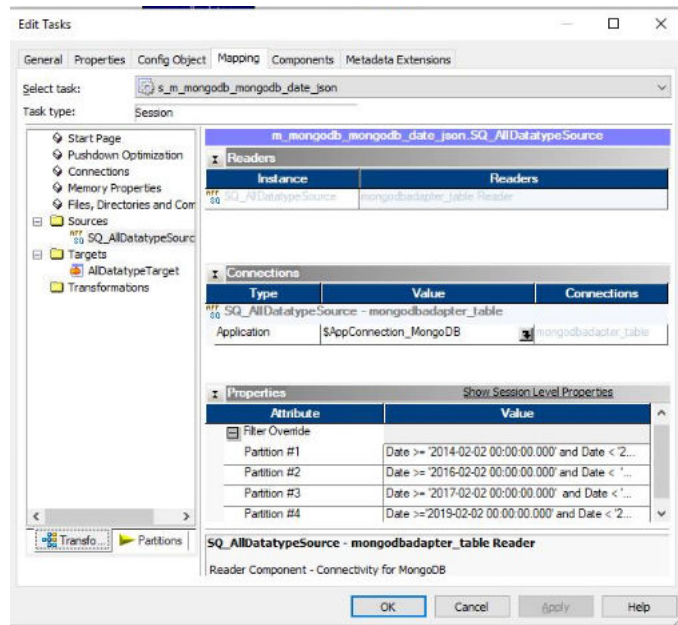
Configure a Filter Override

When you read data from a MongoDB source, you can specify the filter override type and filter override condition in the MongoDB source session properties to override the filter condition you specify in the source qualifier.

You must select the corresponding Native or Platform expression as the **Filter Override Type** in the MongoDB source session properties based on the expression used in the source qualifier. Default is None.

After you select the filter expression, specify the filter condition in the **Filter Override** field. When you run the session, the PowerCenter overrides the filter condition you specify in the source qualifier and uses the condition you specified in the session properties to filter the MongoDB data.

The following image shows the filter override type and the filter override condition fields in the MongoDB source session properties:



Configure MongoDB JDBC Target Session Properties

You can configure the session properties for a MongoDB target on the **Workflow Manager** tab. Define the properties for the target instance in the session.

The following table describes the session properties that you can configure for a MongoDB target session:

Session Property	Description
Pre-SQL	The pre-SQL commands to run before the PowerCenter Integration Service writes data to the target.
Post-SQL	The post-SQL commands to run after the PowerCenter Integration Service writes data to the target.

Parameterization

You can parameterize the MongoDB JDBC connection and session properties.

You can create a configuration file with the connection and session properties that you want to override at run time.

Lookup

You can configure a cached connected Lookup transformation in a mapping. A connected Lookup transformation is connected to a MongoDB source or target in a mapping. When you create a cached lookup, the performance increases because the Integration Service caches a large lookup source or small lookup tables. When you cache the lookup source, the Integration Service queries the lookup cache instead of querying the lookup source for each input row.

When you run a mapping that contains a connected Lookup transformation, the Integration Service passes values from another transformation to input ports in the Lookup transformation. For each input row, the Integration Service queries the lookup source or cache based on the lookup ports and the lookup condition in the transformation. The Integration Service returns data from the query and passes it to the next transformation in the mapping.

Update Strategy Transformation

You can set the update strategy at the mapping or the session level:

- Within a session. When you configure a session, you can instruct the Integration Service to either treat all rows in the same way. You can flag all rows for insert, delete, or update, or you can select the data driven option, where the Integration Service follows instructions coded into Update Strategy transformations within the session mapping.
- Within a mapping. Within a mapping, you use the Update Strategy transformation to flag all rows for insert, delete, update, or reject.

For more information, see the Update Strategy Transformation chapter in the *PowerCenter Transformation Guide*.

Partitioning

When you read from and write data to MongoDB, you can configure pass-through partitioning to optimize the session performance at run time.

When you specify pass-through partitioning for a MongoDB Source Qualifier transformation, you can specify filter conditions in the MongoDB session properties to override the filter condition you specify in the source qualifier. The Integration Service uses the filter condition you specify in the session properties when it filters data from the source.

To configure pass-through partitioning, select the Source Qualifier transformation, and add a partition point from the **Mapping** tab of the session properties. Add the number of partitions you require and select the partition type as pass through for each of the partitions.

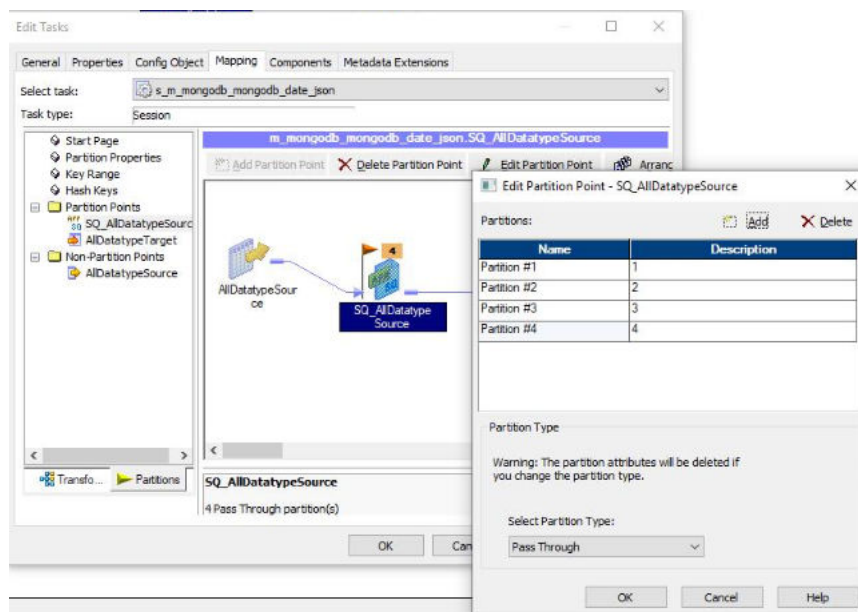
Based on the number of partitions you add, the PowerCenter Integration Service adds those many number of partition fields for the **Filter Override** attribute in the session properties. Specify the filter override condition for each of the partitions. The PowerCenter Integration Service uses the filter conditions you specify to pass data through the appropriate partition.

Similarly, you can specify the fetch size for each of the partitions in the MongoDB source session properties.

Configure Pass-Through Partitioning for a MongoDB JDBC Session

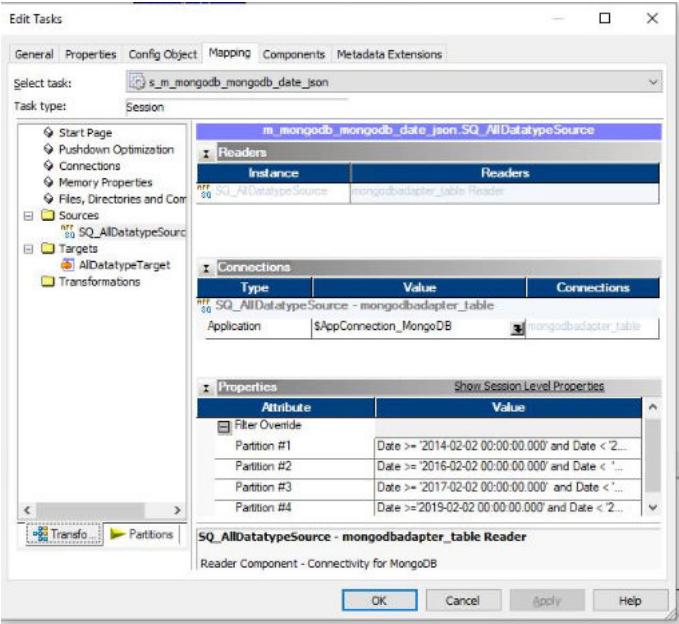
Configure pass-through partitioning for a session and specify the filter override condition for each partition. When you configure a filter override in a pass-through partitioning, key range partitioning is enabled.

1. In the Workflow Manager, double-click the Session task to open the session properties, and click the **Mapping** tab.
2. In the **Partitions** tab, double-click the source qualifier and add the required number of partitions.
3. Select the **Partition Type** as **Pass Through**.



4. Click the **Transformations** tab, and navigate to the session properties.

5. In the Filter Override session property, specify the filter override condition for each partition.



6. Click **OK**.

CHAPTER 7

Data Type Reference

This chapter includes the following topics:

- [Data Type Reference Overview, 35](#)
- [MongoDB and Transformation Data Types, 35](#)

Data Type Reference Overview

PowerCenter Integration uses the following data types in mappings and sessions with MongoDB:

MongoDB native data types

MongoDB data types appear in the **Fields** tab for Source and Target transformations when you choose to edit metadata for the fields.

Transformation data types

Set of data types that appear in the transformations. They are internal data types based on ANSI SQL-92 generic data types, which the Secure Agent uses to move data across platforms. Transformation data types appear in all transformations in a mapping.

When PowerCenter Integration reads source data, it converts the native data types to the comparable transformation data types before transforming the data. When PowerCenter Integration writes to a target, it converts the transformation data types to the comparable native data types.

MongoDB and Transformation Data Types

The following table describes the data types that PowerCenter Integration supports for MongoDB sources and targets:

MongoDB Data Types	Transformation Data Types	Range and Description
Array	NA	Simba MongoDB JDBC driver re-normalizes the data in the array into virtual tables.
Boolean	String	Precision of 1

MongoDB Data Types	Transformation Data Types	Range and Description
Date	Date/Time	Jan 1, 0001 A.D. to Dec 31, 9999 A.D. (precision to second)
NumberDouble	Double	Precision 15
NumberInt	Integer	Precision 10, scale 0
NumberLong	Decimal	Precision 1 to 28 digits, scale 0 to 28
Object	NA	Simba MongoDB JDBC driver re-normalizes the data in the object into virtual tables.
ObjectID	String	1 to 104,857,600 characters
String	String	1 to 104,857,600 characters

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