Processing Bloomberg Bulk Data

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Background

There is currently no direct built-in functionality to add or update bulk data directly to a holding instrument (there are over 1300 bulk format fields in the Bloomberg Security Master fields list). However, bulk data can be associated with an instrument for later processing by a separate process, either an immediate execution via an Operation Services post processing plugin or a later bulk mechanism via a plugin.

The association of bulk data to an instrument uses Openlink’s inbuilt Tran Info features. SMART can query for bulk data and save this data to a Tran Info field on an instrument that uses the data type **Tran User Table**. As an example of this we show the setup necessary for the MTG\_HIST\_FACT bulk data field.

Findur Setup

To enable the handling of Pool Factor data (MTG\_HIST\_FACT), a user table with the following schema must first be created (Figure 37, the DDL for Oracle).

Graphical user interface, text, application

Description automatically generated

User Table

create table user\_importedpoolfactors

(

tran\_num numeric(21) ,

import\_date date ,

bloomberg\_request\_id varchar2(255) ,

poolfactor\_date date ,

poolfactor double precision ,

user\_id numeric(21) ,

tran\_version numeric(21) ,

date\_modified date

)

grant\_priv\_on\_user\_table ‘user\_importedpoolfactors’

It is advisable to consider the tran\_num, import\_date date and bloomberg\_request\_id as keys to this table. These columns should be indexed.

The schema columns are intended to be used as follows:

**Tran\_number**: required for Tran Info to link it back to the holding instrument

**Import\_date**: persists the Market Manager date for when the import was performed

**Bloomberg\_request\_id**: persists the unique query id created by Bloomberg for getting the data, useful for audit purposes

**Poolfactor\_date**: the date for the specific pool factor record

**Poolfactor**: the factor for the specific month/date specified

**User\_id**: required for Tran Info

**Tran\_version**: required for Tran Info

**Date\_modified**: required for Tran Info

Once the user table exists, it must be associated with the Openlink Tran Info functionality. Open the **Instrument Builder** module and add a new row. Set the following required properties:

Provide a label for the field: **Bloomberg Pool Factor Table**

Select data type: **Tran User Table**

Select **Bond** in the **Toolsets** column so that the new field will only be applicable to Bonds

Select **Ins** in the **Ins/Tran/Param** column so that the new field only applies to bond holding instruments

Select the user table name in the **User Table** column

Select **tran\_num** in the **User Table Tran Number Column**

Select **user\_id** in the **User Table Tran User Id Column**

Select **tran\_version** in the **User Table Transaction Version Column**

Select **date\_modified** in the **User Table Date Modified Column**

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Instrument Builder

Graphical user interface, text, application, email

Description automatically generated

Instrument Builder

To verify that the Tran Info Field was added, open a Bond Holding instrument and view the *Authorization* tab.

Graphical user interface

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Bond Input

Double-click on the new field to display a window allowing editing of the data in the user table. At this point the table should be empty.

Graphical user interface

Description automatically generated with medium confidence

User Data Worksheet

SMART Bulk Data Mapping Definition

Once Findur is configured as above, SMART can be configured to map the bulk data and save it in the user table. Right-click on an instrument-level mapping and select **Add Bulk Field**.

Graphical user interface, application, table

Description automatically generated

Mapping XML

To indicate which Info fields need to be mapped, control-drag the newly created **Bloomberg Pool Factor** **Table** field onto the new bulk field.

Graphical user interface, application

Description automatically generated

Field Sector (Part 1)

To complete the mapping process, drag the Bloomberg field **MTG\_HIST\_FACT** onto the bulk field mapping.

Graphical user interface, application, Word

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Field Sector (Part 2)

Additionally, the user should elect what SMART should do with this record. Options are available in the **Save Data Method** column on the bulk data field. Currently, the options are:

**None**: the data is retrieved from Bloomberg and displayed in SMART, but no further action is taken

**UserTable**: causes SMART to save the retrieved data to the user table referenced by the tran info field

**Note**: An info field associated with a user table will have the user table name displayed in the **UserTableName** column.

Graphical user interface

Description automatically generated with medium confidence

Field Sector (Part 3)

Upon selecting **UserTable**, the mapping is ready to be tested.

Mapping Bulk Fields to a User Table

It is also required that the bulk data be mapped to the user table columns. Right-click on the **Bulk** field and select **Map Bulk Field to User Table**.

Graphical user interface, application

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Bulk Field Mapping Menu Item

The *Bulk field to user table mapping* window displays.

Graphical user interface, text, application

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Bulk field to user table mapping window

Notice that the schema of the user table referenced on the bulk field displays on the right. On selecting a Bloomberg Bulk field for the first time, no schema data is available. In most cases, the description on the bottom left (derived from the BB supplied fields.csv file) provides sufficient data to define the schema manually. In the **MTG\_HIST\_FACT** field, we find that data in two columns will be provided.

Graphical user interface, application

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Define the Bulk Field Schema

Add the columns by right-clicking on the grid and selecting **Add**. Provide the column number, column name and data types. Note that column numbers start at zero. The column names are not used during processing, so the naming convention is not important.

Once the schema of the bulk data is finalized, right-click and select **Save**.

Graphical user interface, application

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Save the Bulk Field Schema.

The schema definition is saved to Directory Nodes in file *BulkFields.xml.*

Graphical user interface, application

Description automatically generated

Bulk Field Schema File Location

Once the Bulk Field schema is defined, a mapping between the bulk field and database schemas must be created.

Drag the rows from the Bulk Field schema to the appropriate rows on the user table schema. Notice that the column numbers are captured in the **Mapped Column**. Additional types are available in this column.

Select **Request Date** to set the date when the request occurs on all records of the user table for the current query. Select **Request Id** to set the Bloomberg provided request id on all records of the current query.

Graphical user interface, application, table

Description automatically generated

Selecting Special Fields on the Mapped Column

Once the mapping is done, click the **Save** button on the bottom of the window.

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Save Bulk Field to User Table Mapping

Test Functionality

Select the *Bond Upload Source* tab and enter a row for CUSIP 31360CWY47. Select *Fanny Mae* as **Issuer** and select the **MBS** mapping.

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Bond Upload Source Tab

Click on the **Execute Bloomberg Import** button. Once the data is available, the *Retrieved Instrument* tab automatically activates and the results of the query display. Notice the Pool factor data for the instrument.

Graphical user interface

Description automatically generated

Retrieved Instrument Tab (Part 1)

This data exists only in memory at this point. To persist the data, right-click on the instrument-level record and select **Import Object**.

Graphical user interface, text, application, email

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Retrieved Instrument Tab (Part 2)

Once the data is imported, the display will change as follows:

The newly created instrument number is shown in the **InsNum** column

The **Message** column of the instrument-level record is populated with a message similar to “Created instrument with Ins Num: ‘25672’ Instrument Id: ‘31360CWY4′”

The **Message** column of the bulk-level record is populated with a message similar to “Saved 355 Bulk Data records”

To verify that the data is indeed associated with the new instrument, click on the instrument number hyperlink in the **InsNum** column. This brings up the newly created instrument. Select the *Authorization* tab and click in the **Bloomberg Pool Factor Table** tran info record.

Graphical user interface

Description automatically generated

Bond Input Window (Authorization Tab)

The data that was imported for this instrument is now available in the user table.

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User Data Worksheet Window

Complete the Solution

The above steps show the core setup, SMART mapping, and an example processed through. At this point custom logic can be added in a plugin that can consume this data and process it onto the instrument as necessary. In this case, for pool factors, the latest (via date modified) entries can be used to update the pool factors onto the instrument.