Extractor in R/3 and Delta Queue

Applies to:
SAP BW (3.5) / SAP BI(7.0). For more information, visit the Business Intelligence homepage.

Summary
This article contains all the information required in order to create data sources in R/3 and modifying the extractors.

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Table of Contents
Data Sources .................................................................................................................................................. 3
   Standard Extractor .................................................................................................................................. 3
   Generic Extractor .................................................................................................................................... 6
Delta Queue................................................................................................................................................ 11
Related Content.......................................................................................................................................... 14
Disclaimer and Liability Notice.................................................................................................................... 15
Data Sources

A DataSource is a source of data residing in the source system. It contains fields that are offered to be transferred to the BW system from the source system. Data is transferred from the DataSource in the form of transfer structure and is dependent on the source system. A DataSource contains:

- Extract structure
- Extraction method
- Extractor

Sometimes we need to fetch Transaction data from R/3 system. This is nothing but the Extraction of data from R/3 system.

Here Extract structure means a structure containing all the fields that are available for Extraction. Extraction method signifies the type of extraction whether Full or Delta. Extractor will have the required logic for extraction purpose.

The Extractors can be categorized into

- Standard extractor
- Generic Extractor

Now we will see the details about these types.

Standard Extractor

We know that Extractors are used to extract data from source system to BW system. SAP has provided some Standard Extractors for this purpose. But there are many situations where Standard extractors do not meet our requirements. In such cases we need to enhance our extractors in order to achieve the desired results.

Enhancement of Standard Extractor

We need to enhance the standard extractor in certain scenarios when Business Content does not include the field in a DataSource for our application. When we do some enhancement in the standard transaction, we need more fields.

Following are some of the steps to be followed in order to enhance a standard extractor:

- Go to RSA6 and select the extractor to be enhanced
Select the datasource need to be enhanced

**DataSource: Customer version Display**

<table>
<thead>
<tr>
<th>Header Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Datasource</strong></td>
</tr>
<tr>
<td><strong>Package</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
</tbody>
</table>

**Extract**

<table>
<thead>
<tr>
<th>ExtractStruct.</th>
<th>ICCTRCSTA1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Direct Access</strong></td>
<td>D</td>
</tr>
<tr>
<td><strong>Delta Update</strong></td>
<td>✔</td>
</tr>
</tbody>
</table>

Click on Extract structure **ICCTRCSTA1**

Now click on Append structure in order to add new fields.

Click on structure to be appended and then a new screen will come up where we can add new fields.
Following screen shows newly added fields

Now activate the structure.

We can even change the datasource as per our need. Use the shortcut key Ctrl + Shift + F1.

Here we can set the Selection field or can hide the field. Screenshot above shows that **GEBER & GRANT_NBR** are hidden whereas **GKOAR, GKONT, KOKRS, KOSTL** are selection fields.
Use transaction code RSA3 to test the extractor

Generic Extractor

There are many cases in BW installation when there is a requirement where custom fields are needed from the source system (R/3) and these fields are not present in the standard extractor provided by SAP. In such cases to make the fields available in BW; a new data source need to be created which will extract data. This custom made data source is called Generic extractor.

Generic extractors are of 3 types:
- Created based on View/ table
- Created based on Infoset query
- Created based on Function module

Creating extractor based on View or Query is easier compared to Function module. In creation with help of Function module, we need to take care of entire logic in FM itself.
Creating Generic Extractor

Following are the steps for Generic extractor creation:

- Go to T code RSO2

Here I have created a datasource as **ZTEST1**. As we can see datasource can be for Transaction data, Master data or Text data.

- Click on Create.
Here I have created **ZTEST** based on View. Enter the necessary details as shown below.

To maintain the delta functionality click on “Generic delta” tab.

Enter “Delta specific field” and necessary settings and click on save.

Delta type can be **New Status for Changed records** or **Additive Delta**.

**New Status for Changed records** - can be used with data target ODS

**Additive delta** – aggregated data records
Click on “save” and following screen will appear:

Here we can see that EBELN field is not available for selection as this field is used as Delta field. **Selection Field** will give selection option at the time of extraction.
After saving this datasource an Extract structure will be created by system based on view ZEKVP. This newly created structure will give all the fields present in view. To view this extract structures double click on it and following screen will appear:

Note: When you want to enhance with more fields to the existing extractor, then there should be proper linkage between the tables where they are stored to the table from which the extractor is created.
**Delta Queue**

A BW Service API enables the tight integration of data transfer from Source system to BW system.

The delta queue is a data store in the source system into which data records are automatically written using an update process in the source system.

The data is stored in a compressed form in Delta queue. The delta queue stores data from last extraction process.

**Pflege BW Delta Queue**

<table>
<thead>
<tr>
<th>Status</th>
<th>DataSource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>SBPARTNER_ATTR</td>
</tr>
<tr>
<td>Green</td>
<td>SBPARTNER_TEXT</td>
</tr>
<tr>
<td>Green</td>
<td>ZLIS_13_VOLTM</td>
</tr>
<tr>
<td>Green</td>
<td>ZLIS_02_LTM</td>
</tr>
<tr>
<td>Green</td>
<td>ZLIS_11_VOLTM</td>
</tr>
<tr>
<td>Green</td>
<td>ZLIS_02_HOR</td>
</tr>
<tr>
<td>Green</td>
<td>GFI_AR_4</td>
</tr>
<tr>
<td>Green</td>
<td>GFI_GL_4</td>
</tr>
<tr>
<td>Green</td>
<td>ZUGD_TD_HORD_ZTVERP</td>
</tr>
<tr>
<td>Green</td>
<td>ZLIS_02_GCL</td>
</tr>
<tr>
<td>Green</td>
<td>GFI_KP_4</td>
</tr>
<tr>
<td>Green</td>
<td>1_CO_PA599_146405</td>
</tr>
<tr>
<td>Green</td>
<td>PROKHP</td>
</tr>
<tr>
<td>Green</td>
<td>ZZOARTMR_TRANS</td>
</tr>
<tr>
<td>Green</td>
<td>ZCKFN_WEMPF</td>
</tr>
<tr>
<td>Red</td>
<td>ZGL_TD_ITM_ZEKVP</td>
</tr>
<tr>
<td></td>
<td>1_CO_PA351_246804</td>
</tr>
</tbody>
</table>

The status symbol indicates whether or not update into a delta queue is activated for a data source. The Delta queue is activated if it is Green. This means that queue will be filled with data records when update takes place.

In Delta queue we can perform following activities:-
- Display data
- Refresh
- Delete Queue data
- Delete queue
Display data

To check the data contained in Delta queue press ‘F2’ and then following screen will appear.

- Click on ‘Display data’ to select specific data package or data records.
- Click on ‘Execute’ to process the selected data.

Refresh

- Refreshing delta queue will:
  - Add any new delta queue to the list
  - Have new data in queue, if any
- **Delete Queue data**
  - To delete the data in Queue, press ‘Ctrl + F2’
  This will delete the data in queue.

- **Delete Queue**
  - If you want to delete the entire delta queue itself, press ‘Shift + F2’
  This will delete the delta queue itself.
Related Content

www.help.sap.com

www.sdn.sap.com

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