

Data Warehouse Guide

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Data Warehouse-2014

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Data Warehouses Configuration

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Before you manage your data warehouse and OLAP information, we recommend you set up configuration options. From the Reporting data warehouse page, you can access tasks required to configure these options under **Configuration**. To access the Reporting data warehouse page click **Data warehouses** in *Administration*, and on the Data Warehouses page, select a data warehouse and click **Go to data warehouse**.

Deploy Eligible Source Analysis Rules

When the Data Warehouse Deployment Wizard creates the data warehouse, it copies data from records in the source. You can also add eligible source analysis rules to the data warehouse. Source analysis rules provide snapshots of constituent attributes at specific times and allow you to track the impact of mailings on constituents in a record source.

For more information about source analysis rules, see the *Administration Guide*.

After you set up source analysis rules that include fields from the data warehouse's source, you can manually add the source analysis rules to the data warehouse. On the Reporting data warehouse page, click **Deploy eligible source analysis rules** under **Configuration**. A confirmation message appears. To load the source analysis rules into the data warehouse, click **Yes**.

Deploy Eligible Source Codes

When the Data Warehouse Deployment Wizard creates the data warehouse, it copies data from records in the source. You can also add eligible source codes to the data warehouse. You add source codes to advertisements or promotions to identify the associated lists, offers, packages, and segments. After you add the source codes to any gifts or other responses you receive, you can use them for analysis purposes.

For more information about source codes, see the *Marketing and Communications Guide*.

After you associate source codes with the fields from the data warehouse's source, you can manually add the source codes to the data warehouse. On the Reporting data warehouse page, click **Deploy eligible source codes**

under **Configuration**. A confirmation message appears. To load the source codes into the data warehouse, click **Yes**.

Edit ETL Queues

If you have business processes that should occur immediately before or after the ETL process, you can create queues for the business process and schedule them to occur each time the ETL process runs. For example, since the ETL process adds data to the data warehouse, you can run a queue that includes the Smart Field Process after the ETL process to ensure that the smart fields are up to date.

For information about how to set up a queue process, see the *Administration Guide*.

► Attach queues to run before or after the ETL process

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1. From *Administration*, click **Data warehouses**. The Data Warehouses page appears.
2. Select the data warehouse and click **Go to data warehouse**. The Reporting data warehouse page appears.
3. Under **Configuration**, click **Edit ETL queues**.
4. In the **Pre-ETL queue** field, enter the queue to run before the ETL process. To search for a queue, click the binoculars.
5. In the **Post-ETL queue** field, enter the queue to run after the ETL process. To search for a queue, click the binoculars.
6. Click **Save**. You return to the Reporting data warehouse page.

Edit Valid Date Range

On the Reporting data warehouse page, you can specify a valid date range for the OLAP cube. The cube excludes all dates outside this date range from its date dimensions so that only dates within the date range are considered when you use the cube for reporting and analysis.

To specify a date range, click **Edit valid date range** under **Configuration**. The Edit valid date range screen appears.

In the **Start Date** and **End Date** fields, enter a date range for the cube's date dimensions. To search for dates, click the calendar icons. Click **Save**. You return to the Reporting data warehouse page.

After you set the date range, you must apply it to the cube. First, click **Reset ETL** under **Refresh data** to reset the incremental ETL refresh to prompt a full refresh during the next ETL process. Then click **Start ETL refresh** to manually start the ETL process. For more information about these tasks, see *Reset ETL on page 6* and *Start ETL Refresh on page 6*.

Data Warehouses and OLAP

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After you install the program, you can create a standard data warehouse with the Blackbaud Data Warehouse Deployment Wizard. The data warehouse copies data from your source database and places it in a data warehouse to allow you to conduct complex reporting and analysis. For information about the deployment wizard, see the *Installation Guide*.

After you create the data warehouse, options appear in *Administration* for the Extract, Transform, and Load (ETL) process. The ETL process extracts records from the source database, transforms them for optimal reporting in the program, and loads them in the data warehouse. From *Administration*, you can configure and monitor the ETL process. You can access the Reporting data warehouse page to monitor ETL activity, schedule business processes to coincide with the ETL process, and manually start an ETL refresh.

Note: After you create the standard data warehouse, you manage it and access the data within the program. In *Administration*, the data warehouse appears as a record source, and three new smart fields appear for the data warehouse. Also in *Administration*, you can configure and monitor the ETL process through the Data Warehouses page. In *Mailings* and *Reports*, you can access the data warehouse record source to create queries. The data warehouse record source is available as a source view on the Selections page in *Mailings* and on the Report model generator in *Reports*. You can use the source views to create queries of records from the source database.

Manage Data Warehouses

From *Administration*, you can access the Data Warehouses page to manage the data warehouse. On the Data Warehouses page, you can configure the Extract, Transform, and Load (ETL) process to copy new data from the source database and update the data warehouse. Also on the Data Warehouses page, you can access the Reporting data warehouse page to monitor ETL activity, schedule business processes to coincide with the ETL process, and manually start an ETL refresh. To access this page, go to *Administration* and click **Data warehouses**. The Data Warehouse page appears.

Note: Data warehouse options do not appear until you create the standard data warehouse. For information about how to deploy the data warehouse, see the *Installation Guide*.

On the Data Warehouses page, the grid displays all data warehouses that are available as record sources in the program. Currently, the standard data warehouse for The Raiser's Edge is the only available data warehouse

type. You can use this standard data warehouse to access to your Raiser's Edge records for complex reporting and analysis.

To monitor the ETL process and configure settings for the data warehouse, select it and click **Go to data warehouse**. The Reporting data warehouse page appears.

To configure the settings for the ETL process, click **ETL configuration** under **Tasks**. The ETL Configuration page appears.

Configure ETL Settings

When you create the standard data warehouse, records from the source database are placed in the data warehouse for complex reporting and analysis. To refresh the data warehouse with new data, you use the Extract, Transform, and Load (ETL) process to extract new records from source database, transform the records to meet your requirements, and load them in the data warehouse.

To configure the settings for the ETL process, click **ETL configuration** under **Tasks** on the Data Warehouses page. The ETL Configuration page appears. On this page, you can select the gift types to include in the ETL process and a cutoff date to exclude gifts before a selected date.

Under **Define configuration**, the cutoff date appears for gifts to include in the ETL process. If you do not use a cutoff date, all gift dates are included. The grid also displays the gift types that are included in the ETL process.

After you configure the settings for your ETL process, we recommend that you create a queue process for the Data Warehouse Start ETL Refresh Job Business Process. After you create this queue process, you can schedule the ETL process to run at regular intervals.

For information about how to set up a queue process, see the *Administration Guide*.

Configure ETL Settings

After you create the standard data warehouse, you can configure the settings for the ETL process. You can select the gift types to include when the ETL process updates the data warehouse, as well as a cutoff date to exclude gifts before a selected date.

Warning: Changes to the settings for the ETL process can cause smart fields related to the data warehouse to be out of date. For example, if you change the cutoff date for gifts, the ETL process will update the data warehouse with the new cutoff date, but the smart fields will still reflect the previous cutoff date. To update your smart field values to reflect the new ETL configuration settings, we recommend that you reset and refresh the smart fields before you run the ETL process. For information about smart fields, see the *Administration Guide*.

► Configure ETL settings

1. From *Administration*, click **Data warehouses**. The Data Warehouses page appears.
2. Under **Tasks**, click **ETL configuration**. The ETL Configuration page appears.
3. Click **Edit ETL configuration**. The Edit ETL configuration screen appears.

4. In the **Gift date** field, select whether to include gifts on all dates or only after a certain date. If you select “Since,” the **Start date** field appears. Enter or select a cutoff date to exclude gifts before the selected date.
5. Under **Gift types**, select the gift types to include in the record source
6. Click **Save**. You return to the ETL Configuration tab.

Note: Your selections on the Edit ETL configuration screen affect queries that use the data warehouse as the source view. On the Selections page in *Mailings* and the Report model generator in *Reports*, you can select constituent or gift information from the data warehouse as your source view. This source view includes only the information you select on the Edit ETL configuration screen. For example, with the Lifetime Giving option in a constituent query, you can filter according to constituent giving. However, the query only includes the gifts types you select on the Edit ETL configuration screen. If you do not include the Cash gift type, the query results do not include cash gifts. Likewise, if you select a cutoff date, the query results do not include gifts before that date.

Edit ETL Configuration Screen

Screen Item	Description
Gift date	Select whether to include all gifts or only those given after a certain date.
Start date	If you select “Since” in the Gift date field, this field appears. Enter or select a cutoff date to exclude gifts before the selected date.
Gift types	Select the gift types to include in the record source.

Reporting Data Warehouse Page

The Extract, Transform, and Load (ETL) process updates the data warehouse with new records from the source database. On the Reporting data warehouse page, you can monitor ETL activity, manually start an ETL refresh, reset the ETL process for a full refresh, and schedule queues to run before or after the ETL process. In addition, you can access KPI information about the data warehouse and the ETL process.

To keep the data warehouse up to date, we recommend that you schedule the ETL process to occur at regular intervals. You can create a queue process for the Data Warehouse Start ETL Refresh Job Business Process and schedule the queue process to run the ETL process at regular intervals.

For information about how to set up a queue process, see the *Administration Guide*.

For information about configuration options, see [Data Warehouses Configuration](#) on page 1.

Start ETL Refresh

On the Reporting data warehouse page, you can manually start the ETL process independent of any job schedules. The ETL process extracts any changes or new records from the database, transforms them to meet your requirements, and loads them in the data warehouse.

Under **Refresh data**, click **Start ETL refresh**. The the ETL refresh status page appears, and the process updates the data warehouse with data that was added or modified in the source database since the last ETL refresh.

For more information about the ETL refresh, see [Refresh ETL Process](#) on page 8.

For more information about the ETL process, see [Configure ETL Settings](#) on page 4.

Reset ETL

On the Reporting data warehouse page, you can reset the incremental ETL refresh to prompt a full refresh during the next ETL process. Under **Refresh data**, click **Reset ETL**. On the confirmation message that appears, click **Yes**.

When you reset the incremental ETL refresh, the existing data in the data warehouse is deleted immediately. And during the next ETL process, the ETL refresh includes the entire source database, not just the data that was added or modified since the previous ETL refresh. This task is useful to remove dated information from the data warehouse.

For more information about the ETL process, see [Configure ETL Settings](#) on page 4.

Manage KPIs

On the Reporting data warehouse page, you can manage the Key Performance Indicators for the ETL process. Under **More information**, click **Manage KPIs**. The KPI tab of the Information Library appears.

Information Library

Queries | **KPIs**

KPIs Manage folders

View by: Folder

Favorites (0)

All KPIs (9)

<none> (8)

Test KPI Folder (1)

KPIs (9) Add More

Sites: All sites Apply Reset

Search Columns Clear all filters

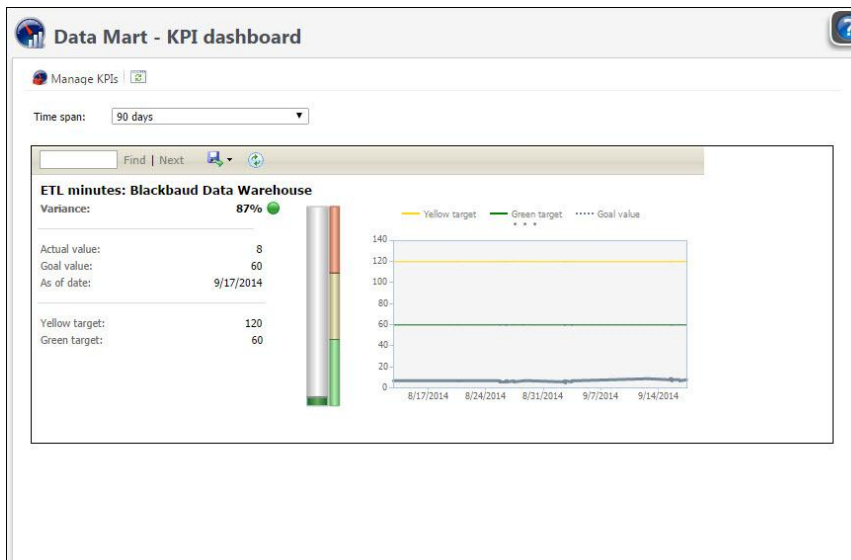
	Name	Descripi...	Actual va...	Goal value	Variance	As of date	Satisfact...	Good tar...	Si
<input checked="" type="checkbox"/>	★ ETL mi...	Tracks the t...	8	60	86.67 %	9/17/2014	120	60	
<input checked="" type="checkbox"/>	★ Test KPI		?	0	0.00 %		0	0	
<input checked="" type="checkbox"/>	★ Testttt...		?	\$0.00	0.00 %		\$0.00	\$0.00	
<input checked="" type="checkbox"/>	★ Testttt...		?	\$0.00	0.00 %		\$0.00	\$0.00	
<input checked="" type="checkbox"/>	★ Testttt...		?	0	0.00 %		0	0	
<input checked="" type="checkbox"/>	★ Testttt...		?	0.00 %	0.00 %		0.00 %	0.00 %	
<input checked="" type="checkbox"/>	★ Testttt...		?	\$0.00	0.00 %		\$0.00	\$0.00	
<input checked="" type="checkbox"/>	★ Testttt...		?	0.00 %	0.00 %		0.00 %	0.00 %	
<input checked="" type="checkbox"/>	★ Testttt...		?	\$0.00	0.00 %		\$0.00	\$0.00	

On this page, you can manage KPIs for the ETL process. You use KPIs to track your organization's strategic performance, and the KPI instance for the ETL process defines what you want to accomplish.

For information about KPIs, see the *Reports and KPIs Guide*.

Edit KPI Dashboard

On the Reporting data warehouse page, you can view the KPI dashboard for the ETL process. Under **More information**, click **KPI dashboard**. The KPI dashboard page appears.



On this page, you can view Key Performance Indicator data for the ETL process. You use KPIs to track your organization's strategic performance, and the KPI dashboard displays your progress toward the goals.

For information about the KPI dashboard, see the *Reports and KPIs Guide*.

Refresh ETL Process

After you click **Start ETL refresh** Under **Refresh data** on the Reporting data warehouse page, the ETL refresh status page appears. The **Start ETL refresh** task manually starts the ETL process independent of any job schedules and updates the data warehouse with data that was added or modified in the source database since the previous ETL refresh. On the ETL refresh status page, you can view information about the ETL process as it runs.

The page displays the job name, current ETL status, whether the process was completed successfully, the date, and how long the process has run. Under **Status log**, a log appears for the ETL process. You can use this log to check the status and to troubleshoot if a problem occurs during the process.

ETL History Tab

On the ETL history tab, you can monitor ETL activity for the data warehouse.

The screenshot shows the 'ETL history' tab with the following configuration details:

- Name: Fundraising OLAP
- Description: Blackbaud Fundraising OLAP 8A Unified Dimensional Model
- ETL server: CHS-JLY-PD830\SQL2008
- ETL database: BBECv1_7_RPT_BBFR8A
- Pre-ETL queue:
- Post-ETL queue:
- Run-as user: BBNT\JohnLy

Below the configuration is the 'SSIS ETL history' grid:

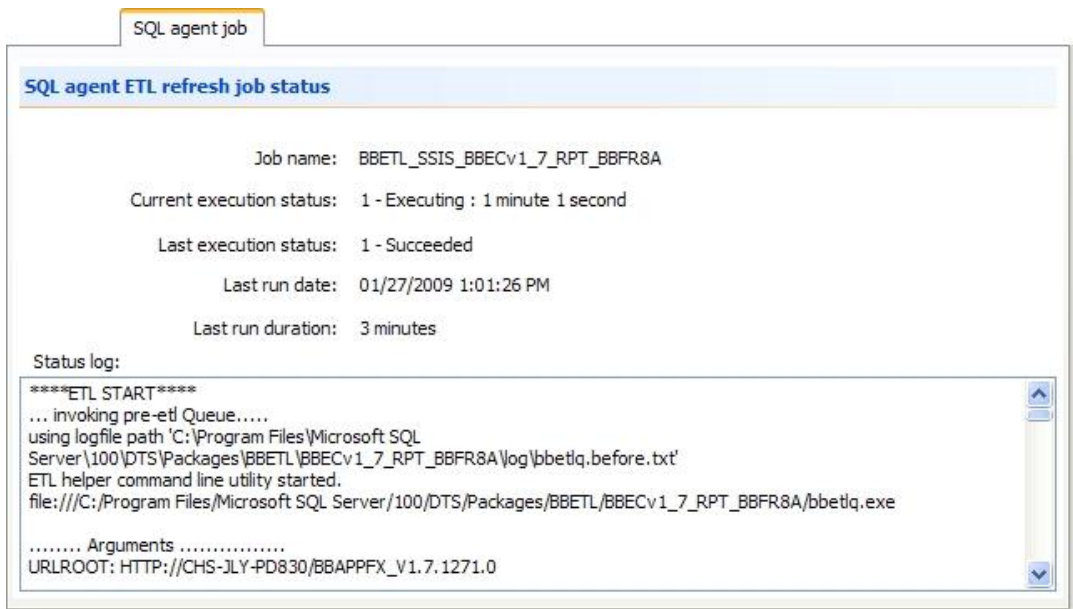
Started	Finished	Completed	Total minutes	ETL control ID	Data window open
01/27/2009 1:01:39 PM	01/27/...	✓	3	55	01/20/2009 1:23:57 PM
01/20/2009 1:23:57 PM	01/20/...	✓	3	1	07/04/1776 12:00:00 AM

This tab displays the name and description of the data warehouse, the *SQL Server* instance, the application database, any queues you schedule to run before or after the ETL process, and the Microsoft Windows user account that communicates between the program and The Raiser's Edge.

The **SSIS ETL history** grid includes each instance of the ETL process. The grid displays when each process occurred, whether it completed successfully, how long it lasted, the ETL Control ID, when the data window was open, and details about the *SQL Server Integration Services* used during the ETL process. To sort entries in the grid according to package name and type, click **Filter**.

SQL Agent Job Tab

On the SQL agent job tab, you can view information about the most recent instance of the ETL process.



The screenshot shows a window titled "SQL agent job" with a sub-tab "SQL agent ETL refresh job status". The job name is "BBETL_SIS_BBECv1_7_RPT_BBFR8A". The current execution status is "1 - Executing : 1 minute 1 second". The last execution status is "1 - Succeeded". The last run date is "01/27/2009 1:01:26 PM" and the last run duration is "3 minutes". Below this information is a "Status log" section containing the following text:

```
*****ETL START*****
... invoking pre-etl Queue.....
using logfile path 'C:\Program Files\Microsoft SQL
Server\100\DTS\Packages\BBETL\BBECv1_7_RPT_BBFR8A\log\bбетq.before.txt'
ETL helper command line utility started.
file:///C:/Program Files/Microsoft SQL Server/100/DTS/Packages/BBETL/BBECv1_7_RPT_BBFR8A/bбетq.exe

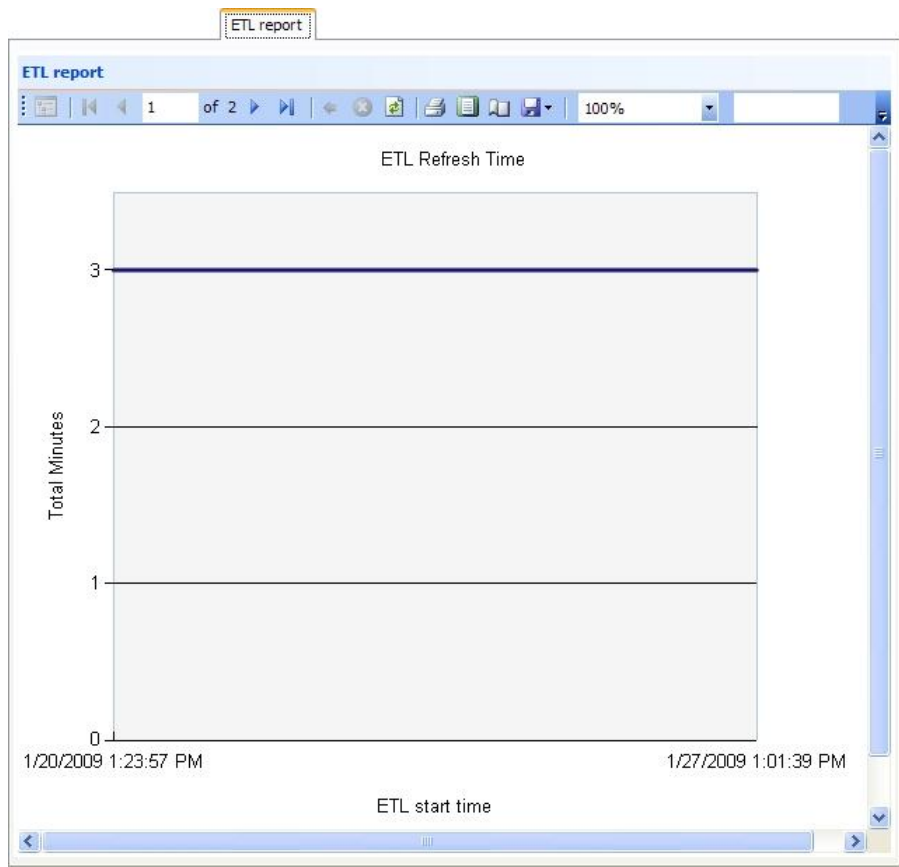
..... Arguments .....
URLROOT: HTTP://CHS-JLY-PD830/BBAPPFV_V1.7.1271.0
```

This tab displays the job name, the current ETL status, whether the most recent instance of the ETL process was completed successfully, when the process was run, and how long it lasted.

Under **Status log**, a log appears for the most recent instance of the ETL process. You can use this log to check the status or to troubleshoot if a problem occurs during the process.

ETL Report Tab

On the ETL report tab, you can view a report on the ETL activity.



This tab tracks the instances of the ETL process and displays how long each instance lasts. You can view this information in two formats. A graph chart provides a visual representation of how long each ETL processes lasts, while a standard report lists each instance in a spreadsheet and includes the ETL Control ID and the refresh type. You can use the Report toolbar to print or export the report.

For information about the Report toolbar, see the *General Features Guide*.