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EQUELLA®

Reporting User Guide

Version 6.0

Document History

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Report Designer overview

The EQUELLA Report Designer is a customised version of BIRT™ (Business Intelligence and Reporting Tools), a product derived from the Eclipse Foundation™ that supports the development of complex reports using standard relational database queries.

The purpose of this guide is to provide administrators with an understanding of the EQUELLA reporting process.

Please note that this guide has been developed to best reflect the full capabilities of EQUELLA and as such may differ in appearance to your own installation.

Report creation overview

To create an EQUELLA report the following tasks must be completed:

- A copy of the EQUELLA Report Designer must be installed on a machine that can communicate with the EQUELLA repository.
- A username and password for a user with the DESIGN_REPORT privilege must be provided to allow the Report Designer to connect to the repository. Further information on privileges is provided in the *EQUELLA Security Guide*.
- A report design is developed and tested.
- The report design is then uploaded to the EQUELLA server.

Once created and uploaded, any user with suitable privileges can run the report by selecting the **Generate Reports** link from the EQUELLA Digital Repository.

Prerequisites

Knowledge of SQL is an absolute requirement for generating reports with the Report Designer.

Additionally it is strongly recommended that training start with the online Eclipse BIRT tutorials:

http://www.eclipse.org/birt/phoenix/tutorial/.

Installation

Versions of the EQUELLA Report Designer for Microsoft Windows™, Mac OS and Linux users are available for download on the EQUELLA site at http://support.equella.com/. These versions are supported by EQUELLA and use BIRT 2.6.1.

Install the EQUELLA Report Designer

Download the Report Designer files

The Report Designer files can be obtained from the EQUELLA Service Desk at http://support.equella.com/.

To download the files

1. Log in to the EQUELLA Service Desk using a registered EQUELLA Support account.
2. Select **Downloads** from the **Main Menu**. A list of EQUELLA versions is displayed.
3. Select the **6.0** link.
4. Select the **Reporting** directory.
5. Download the archive file appropriate to your operating system. The file list is shown in Figure 1.

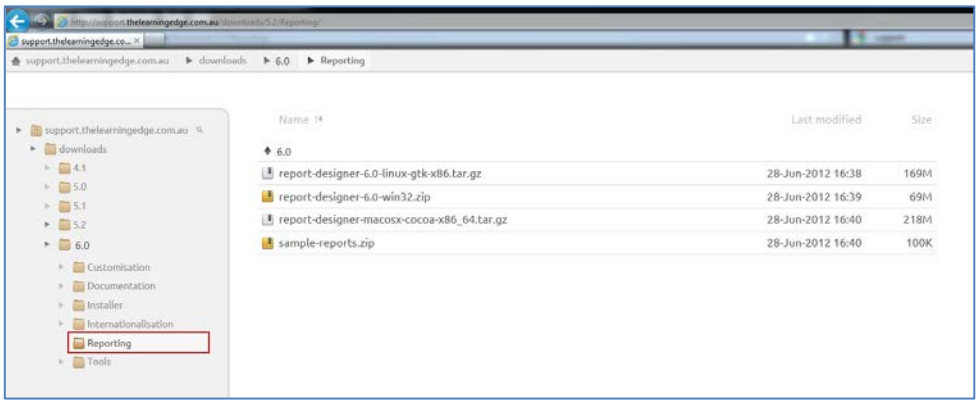

Figure 1 Report Designer files inside Reporting directory

Install the Report Designer on Windows

1. Unzip the contents of your archive file to a suitable location on a local machine. Figure 2 shows the contents of the Report Designer archive for Windows when extracted.

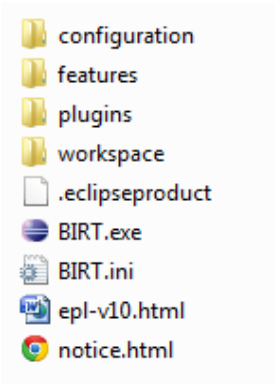

Figure 2 Extracted Report Designer files

2. Run **BIRT.exe** to open the **BIRT Report Designer**, as shown in Figure 3.

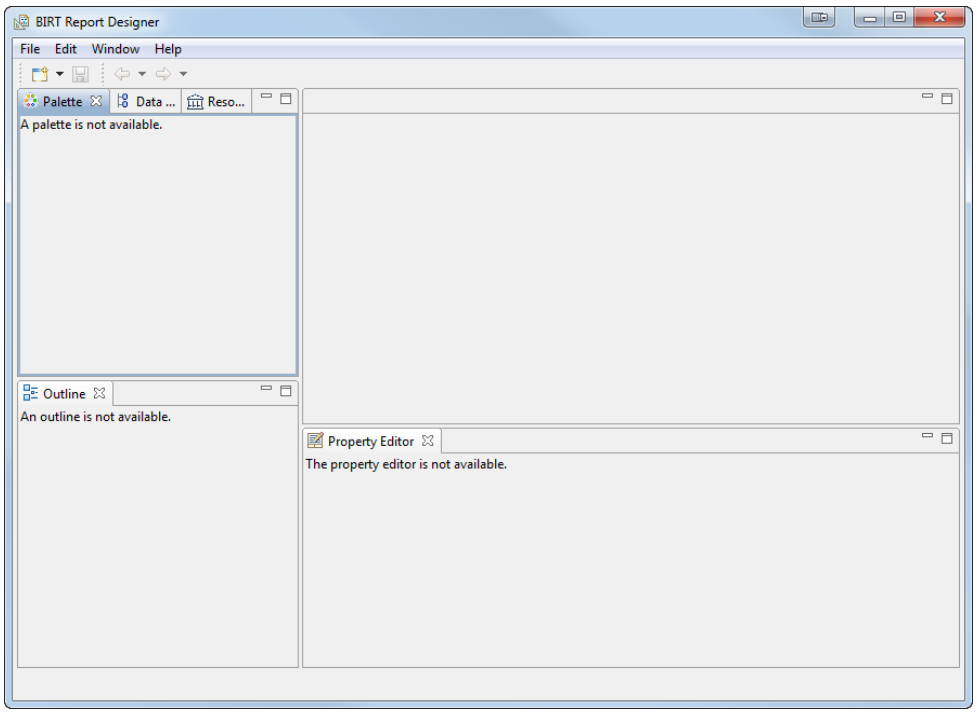

Figure 3 BIRT Report Designer

Once the BIRT Report Designer is running, it is ready for report creation and editing.

Install the Report Designer on Linux/Mac

The Linux/Mac Report Designer files are versions of Eclipse with Business Intelligence and Reporting Tools, and the EQUELLA plug-in, built in.

1. Extract the contents of the file to a suitable location on your local filesystem.
2. Inside the **eclipse** folder, run **eclipse**.
3. Select a workspace by entering one of your own or leaving it as the default.
4. Once inside Eclipse, select **New**, then **Other**, from the **File** menu, or press **Ctrl**+**N** to display the **New** dialog.
5. Expand the **Business Intelligence and Reporting Tools** folder and select **Report**.

You are ready to design your report.

Update the EQUELLA Report Designer

From time to time, a new version of the EQUELLA Report Designer is released with new features. To update, the new Report Designer archive will need to be downloaded and installed.

Download reports

Various reports can be obtained from the EQUELLA Service Desk in the **Reports** folder of the **Reporting** directory at http://support.equella.com/.

EQUELLA reporting

The following tasks must be completed to create a report that can be used with EQUELLA:

- Create a report design using the EQUELLA Report Designer.
  - Connect to the database to access the necessary data.
  - Retrieve specified data from the data source.
  - Format the report presentation.
- Upload the report design to EQUELLA using the Administration Console Reporting plug-in.

A single instance of the Report Designer can be used to create reports for multiple institutions, as each report design has a distinct database connection.

Create a report

1. Select **New** and then **New Report** from the **File** menu to open the **New Report** dialog, as shown in Figure 4.

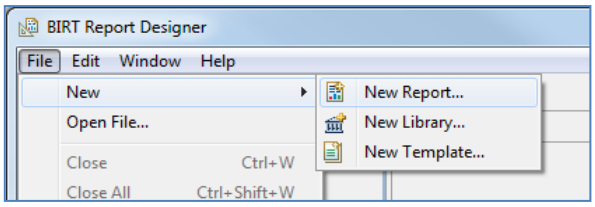

Figure 4 New report menu

2. Enter a **File name** for the new report design.
3. Select a **File location** for storing the report design, by checking the **Use default** box, or clicking Browse... to select a location from the local file system. An example is shown in Figure 5.

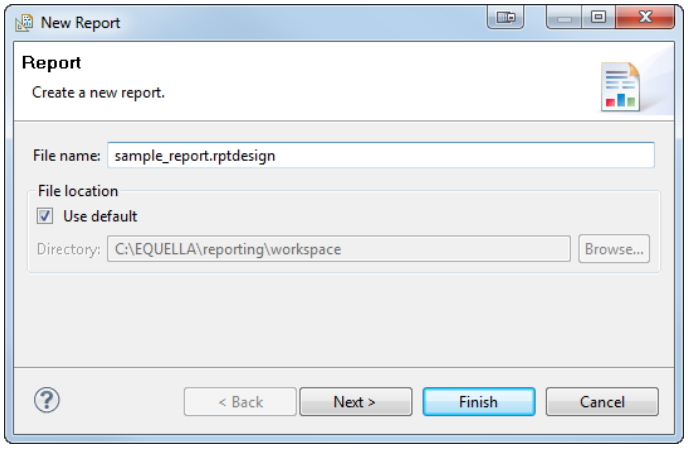

Figure 5 New Report dialog

4. Click Finish. The new report is created and opened in the Report Designer, as shown in Figure 6.

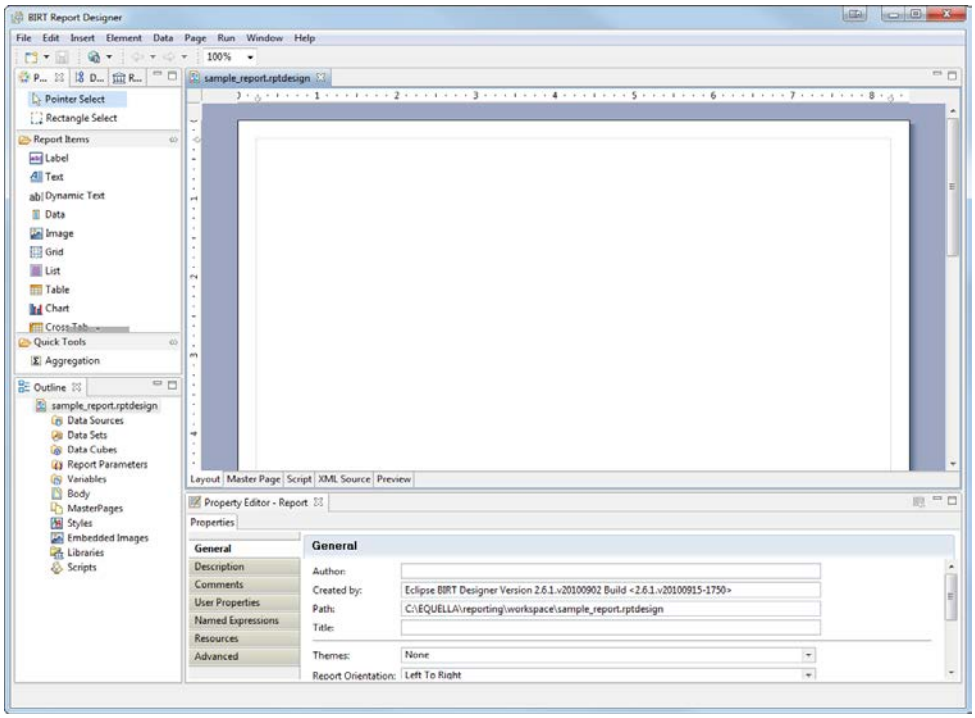

Figure 6 Default new report design

The Report Designer can now be used to create a data source, data sets and a layout for the report.

Data sources

Each report requires a connection to a data source to retrieve data for the report. The Report Designer provides a custom data source that can be used for EQUELLA reports. The Data Explorer view is used to create a connection to a database.

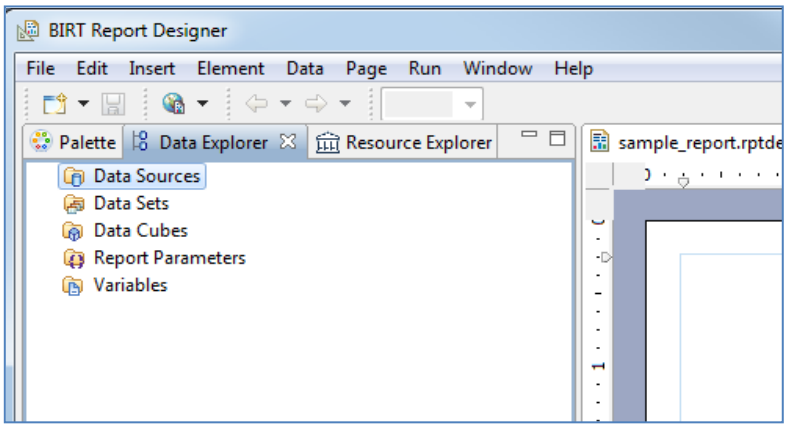

Figure 7 Data Explorer workbench window

To create a data source

1. Select the **Data Explorer** tab to activate the **Data Explorer** pane.
2. Right-click **Data Sources** then choose **New Data Source** as shown in Figure 8 to display the **New Data Source** wizard shown in Figure 9.

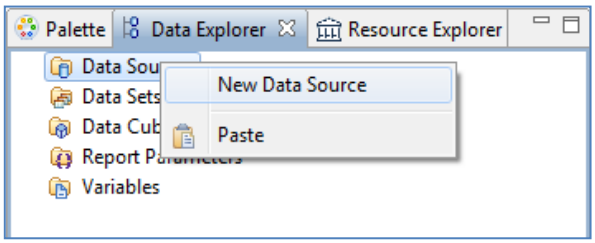

Figure 8 Data Sources context menu

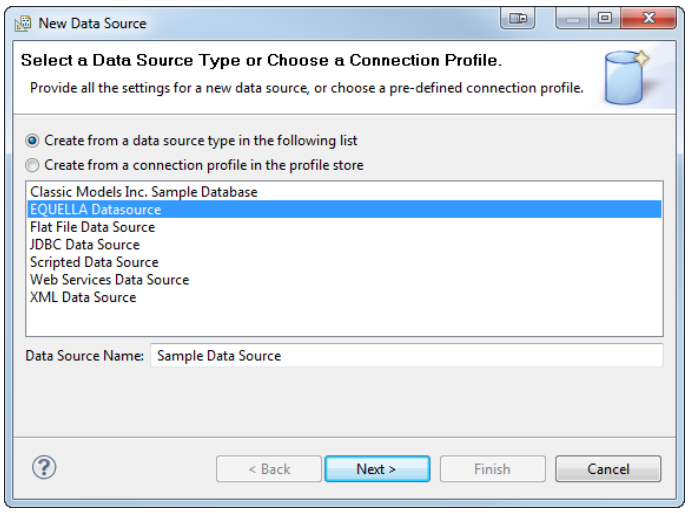

Figure 9 New Data Source wizard

3. Select **EQUELLA Datasource** from the list of available sources.
4. Enter a **Data Source Name** (e.g. *Sample Data Source*).
5. Click Next > to display the **EQUELLA Datasource Wizard**.
6. Enter the **EQUELLA institution URL** for the EQUELLA institution providing the report data (e.g. '*http://equella.myinstitution.edu/institution/*').
7. Enter the **User Name** and **Password** of a user with the DESIGN_REPORT privilege. An example is shown in Figure 10.

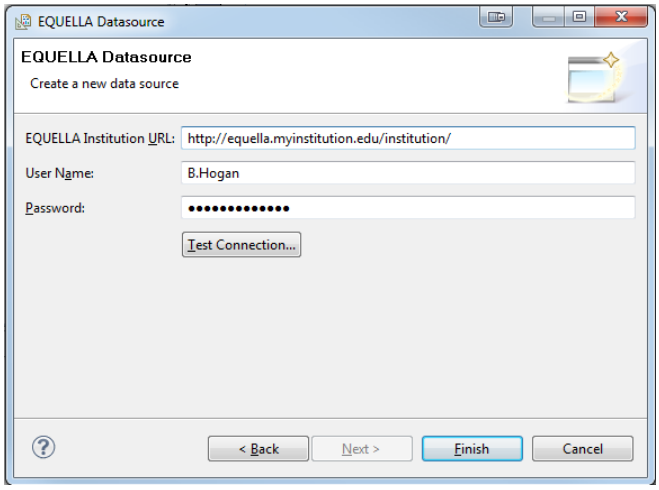

Figure 10 EQUELLA Datasource wizard

8. Click Test Connection... to display a dialog indicating the connection state. If the connection could not be made, check the connection details and repeat the test.

(*NOTE: Creating reports without a working connection is not recommended as data set columns and types cannot be verified, causing queries using the incorrect types to fail.*)

9. Click Finish to create a data source.

Data sets

Data sets specify what data to retrieve from the data source. A data set that returns report data can now be created from the previously created data source.

To create a data set

1. Right-click on **Data Sets** in the **Data Explorer** tab and select **New Data Set** as shown in Figure 11.

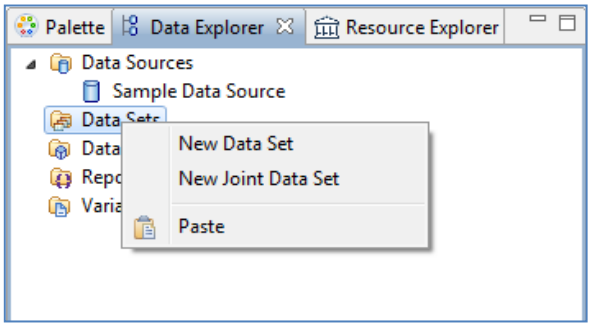

Figure 11 New Data Set context menu

The **New Data Set** wizard is displayed.

2. Select a data source from your list of available data sources. In this case, it is the previously created '*Sample Data Source*'. An example is shown in Figure 12.

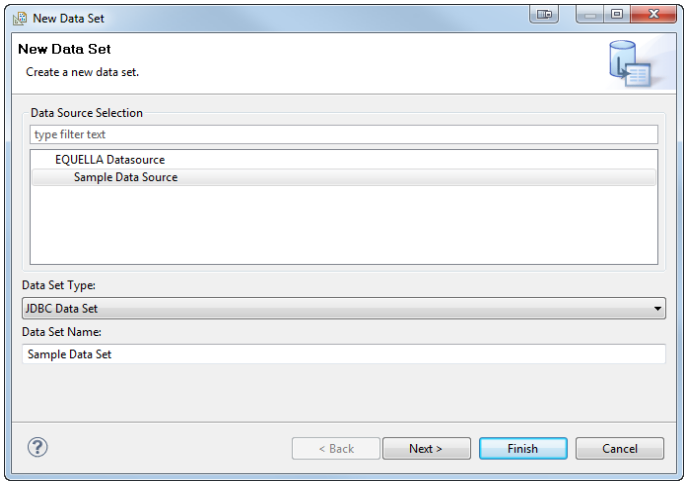

Figure 12 Data Set details

The EQUELLA Report Designer provides the following data set types:

- **UserManagement Dataset—**provides user data stored in systems outside EQUELLA.
- **JDBC Data Set**—provides data from the EQUELLA database.
- **Freetext Dataset**—provides data by performing free text queries on item metadata, returning custom fields that are not stored directly in the database.

The following example uses the '*mime_entry*' table from a JDBC Data Set. Further information on UserManagement Datasets and Freetext Datasets is provided in the Data sets section on page 37.

3. Select **JDBC Data Set** from the **Data Set Type** drop-down list.
4. Enter a **Data Set Name**. In this case, '*Sample Data Set*'.
5. Click Next > to display the **JDBC Query** wizard shown in Figure 13.

Queries can be created by dragging items from the **Available Items** list to the SQL query area. Queries can also be entered directly using Standard SQL.

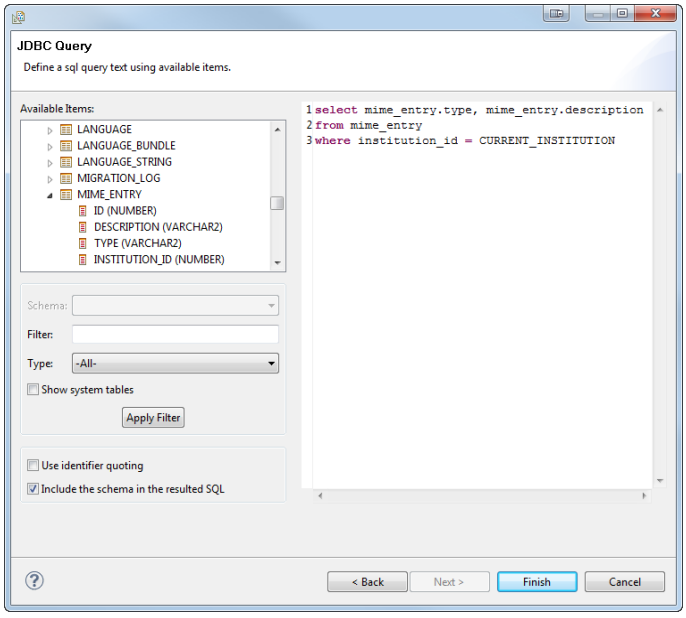

Figure 13 JDBC Query wizard

6. Create a query. The example data set created from the query shown in Figure 13 returns the name of all MIME types for the 'CURRENT' institution (logon institution).
7. Click Finish to create the data set.

The data set is displayed in the **Edit Data Set** dialog in **Edit** mode.

To provide a preview of the results returned by the query

8. Select **Preview Results**. The results of the query are displayed as shown in Figure 14.

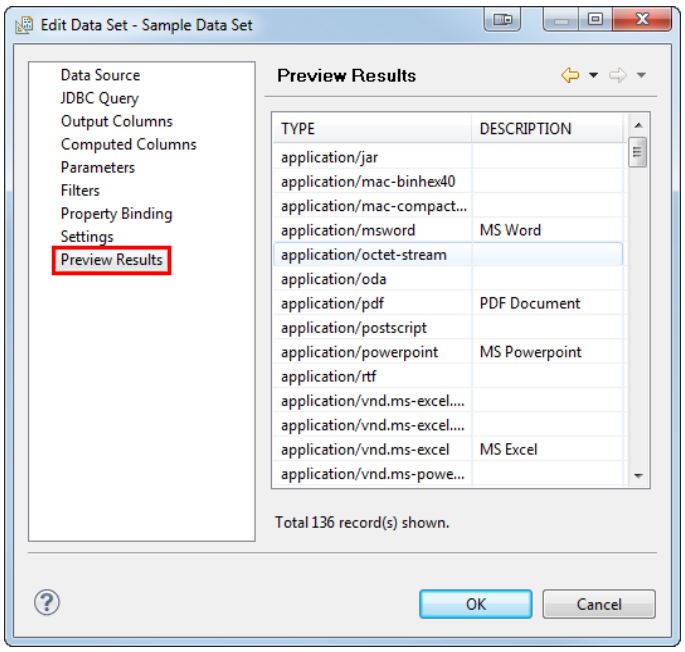

Figure 14 Query results

9. Click OK to close the **Edit Data Set** dialog.

The new *data set* and *fields* will be listed under **Data Sets** in the **Data Explorer** tab. An example is shown in Figure 15.

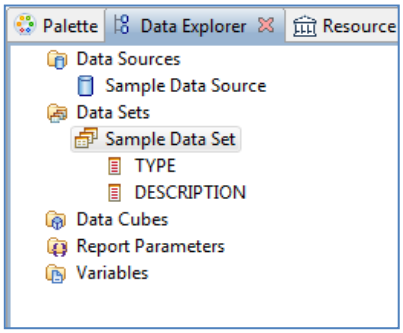

Figure 15 Data Set list

View or edit a data set

To view or edit the results returned by a data set:

1. Select the **Data Explorer** tab to activate the window.
2. Right-click the data set and select **Edit**.

The **Edit Data Set** dialog is displayed.

3. Test the query by selecting **Preview Results** from the left-hand pane.

Formatting the report

The Report Designer can now be used to format the report presentation using the **Palette** view.

1. Select the **Palette** tab to activate the Palette pane, as shown in Figure 16.
2. Click to drag a **Table** item and drop it onto the new report main layout window to display the data set results.

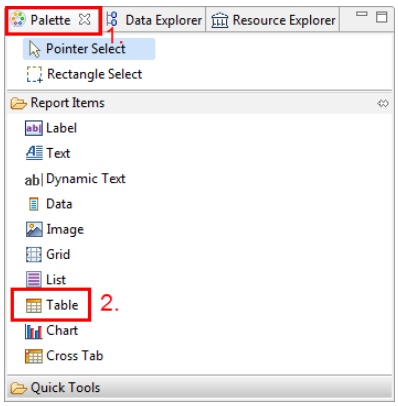

Figure 16 Palette pane

3. On the **Insert Table** dialog that appears, select the N**umber of columns** and **Number of details** to display. (*NOTE: The 'Number of details' field represents the number of rows in the details band, which repeats for each row in the data set. For*

the purposes of this report, it is set at 1, as we just want to print out one line of data for each row. An example is shown in Figure 17.)

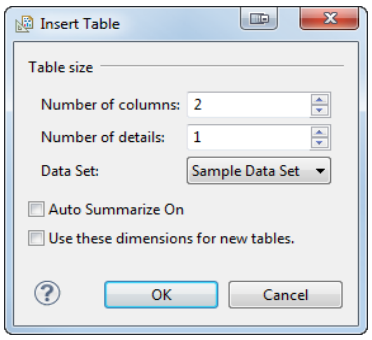

Figure 17 Insert Table dialog

4. Choose the appropriate **Data Set**. In this case '*Sample Data Set*' has been selected.
5. Click OK to create the table in the main layout window. An example is shown in Figure 18.

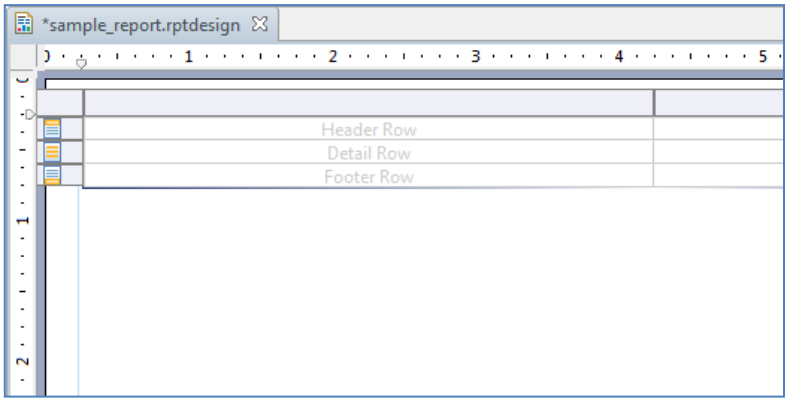

Figure 18 Blank table main layout pane

A table comprises a **Header Row**, **Detail Row** (data set results) and **Footer Row**, as displayed in Figure 18.

6. Click and drag the **Text** item from the **Palette** to each column in the **Header Row**. Doing so will open the **Edit Text Item** dialog each time, where **Header** details can be entered. An example is shown in Figure 19.

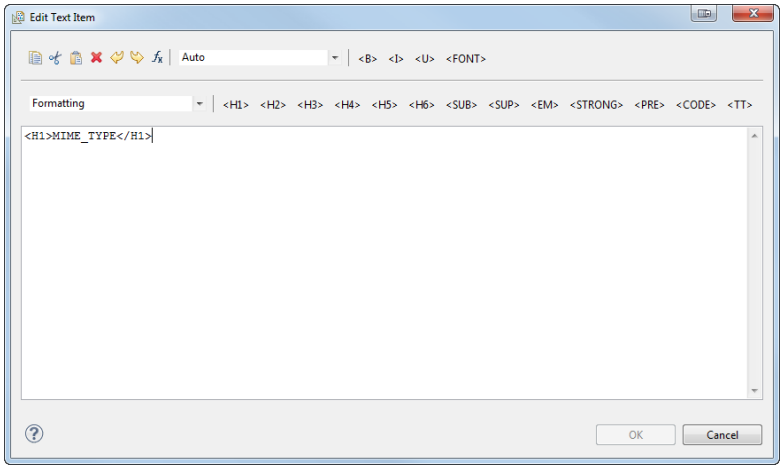

Figure 19 Edit Text Item dialog

7. To configure the **Details Row**, select the **Data Explorer** tab then expand the **Data Sets** as shown in Figure 20.

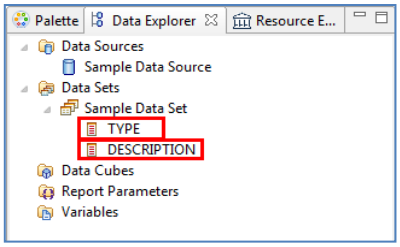

Figure 20 Select data set results

8. Drag the field (e.g. *TYPE*) from the previously created data set to the first column in the **Detail Row**.
9. Drag the next field (e.g. *DESCRIPTION*) to the second column in the **Detail Row**.

The example report layout is shown in Figure 21.

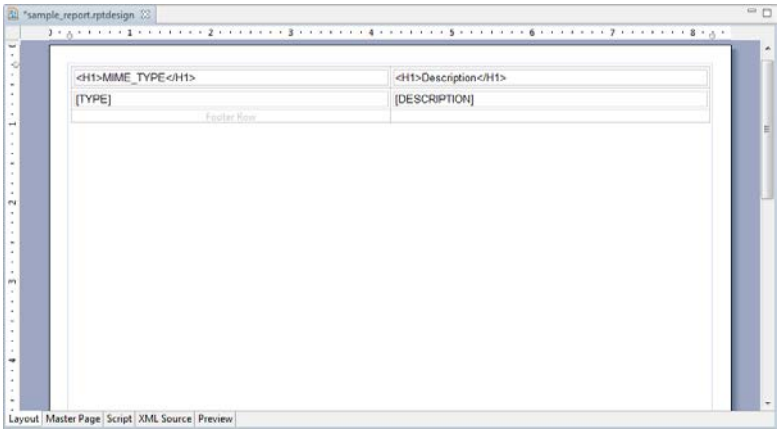

Figure 21 Complete table layout

10. Save the new report.

Further information on report creation is provided in the BIRT documentation at http://www.eclipse.org/birt/phoenix/tutorial/.

Once the report is created it can be uploaded to any instance of an EQUELLA institution. The Upload a report section on Page 28 describes this process.

Report parameters

Report parameters are values that can be passed into reports using BIRT. They are added to a report to filter results, restrict information users can view, or to allow one report to pass a parameter to another report. Report parameters can include simple parameters that a user can enter or a predefined list created from a table or several tables.

EQUELLA provides a wizard where the user will be prompted to enter the parameter values when running the report.

Create a report with parameters

The following example creates a report with parameters the user can enter via a wizard when the report is generated in the EQUELLA Digital Repository.

The details of this sample report are as follows:

- **Report name**—Status Report
- **Parameter names**—Version and Item Status
- **Data Set name**—Data Set Status
- **Query type**—JDBC Query

To create the report

1. Create a new report (e.g. *Status Report*) by following the description from the Create a report section on page 8.
2. Create a data source by following the description from the Data sources section on page 9. (Hint: alternatively, right-click on a previously created data source and copy it, then paste it in to the new report.)

To create the parameters

3. Select the **Data Explorer** tab to activate the pane.
4. Right-click on **Report Parameters** and select **New Parameter** as shown in Figure 22.

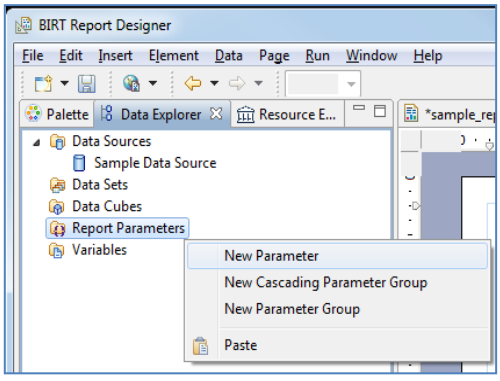

Figure 22 New Parameter context menu

The **New Parameter** dialog is displayed.

5. Enter a **Parameter Name** and **Prompt text**. An example '*Version'* parameter is shown in Figure 23.

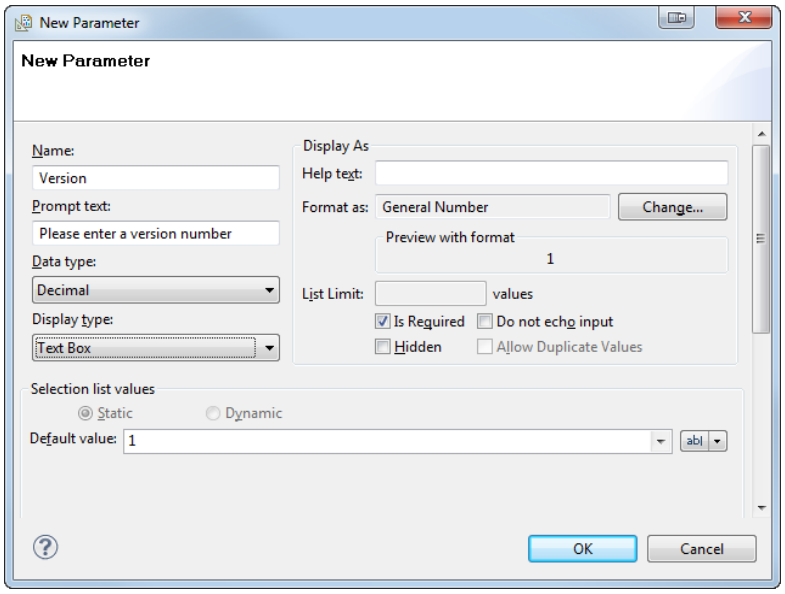

Figure 23 Setting 'Version' parameter

6. Select a type (e.g. *Decimal*) from the **Data type** drop-down list.

The EQUELLA Report Designer provides Boolean, Date, Date Time, Decimal, Float, Integer, String, and Time data types.

7. Select a display type (e.g. *Text Box*) from the **Display type** drop-down list.

The EQUELLA Report Designer provides Text Box, List Box, Combo Box and Radio Button display types.

8. Enter a **Default value**. An example is shown in Figure 23.
9. Click OK to save the details and close the **New Parameter** dialog.
10. Create another parameter. An example '*Item Status*' parameter is shown in Figure 24.

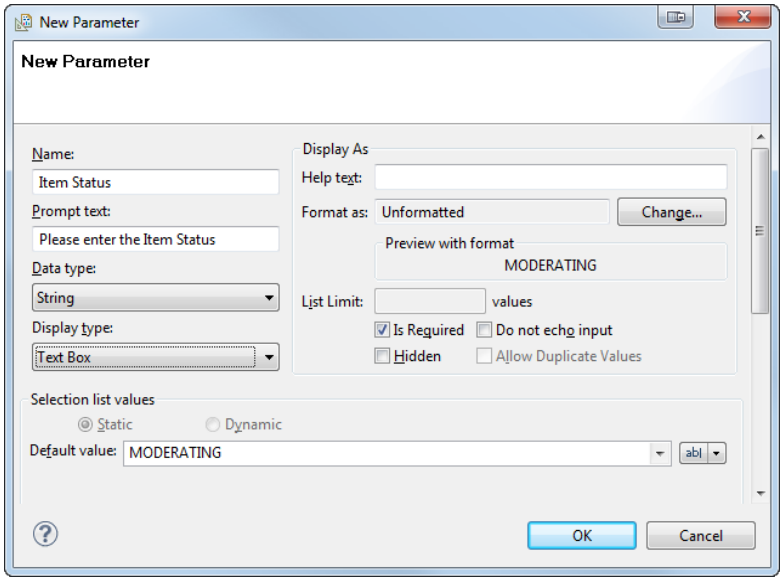

Figure 24 Setting 'Item Status' parameter

11. Click OK to save the details and close the **New Parameter** dialog.

The new parameters will be listed under **Report Parameters** in the **Data Explorer** tab. An example is shown in Figure 25.

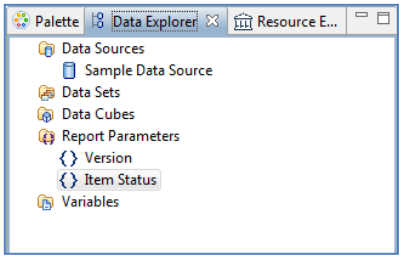

Figure 25 List of parameters

To preview the parameters

1. Select Report Parameters in the Data Explorer pane.
2. Select the Preview tab in the centre of the report designer. The preview of the parameter is displayed. An example is shown in Figure 26.

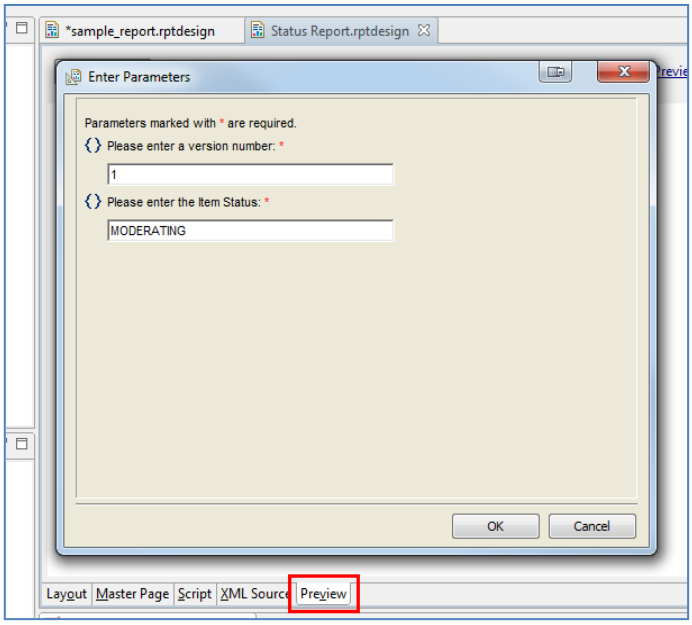

Figure 26 Parameter preview

3. Click OK to close the **Enter Parameters** dialog.

The new parameters can now be added to a report query.

Parameters are added to a report query as a **?**.

Example

The following example creates a JDBC data set called '*Data Set Status*' and uses the previously defined '*Item Status*' and '*Version*' parameters.

To add the parameters to a report query

1. Select the **Data Explorer** tab to activate the window.
2. Right-click **Data Sets** and select **New Data Set**. The **Edit Data Set** dialog is displayed.
3. Select a **Data Source** and enter a **Data Set Name** (e.g. *Data Set Status*).
4. Select **JDBC Data Set** then Next > to display the **JDBC Query** window.
5. Create a query with parameters. Figure 27 shows the '*Data Set Status*' data set with a JDBC query that includes parameters for '*Item Status*' and '*Version*'.

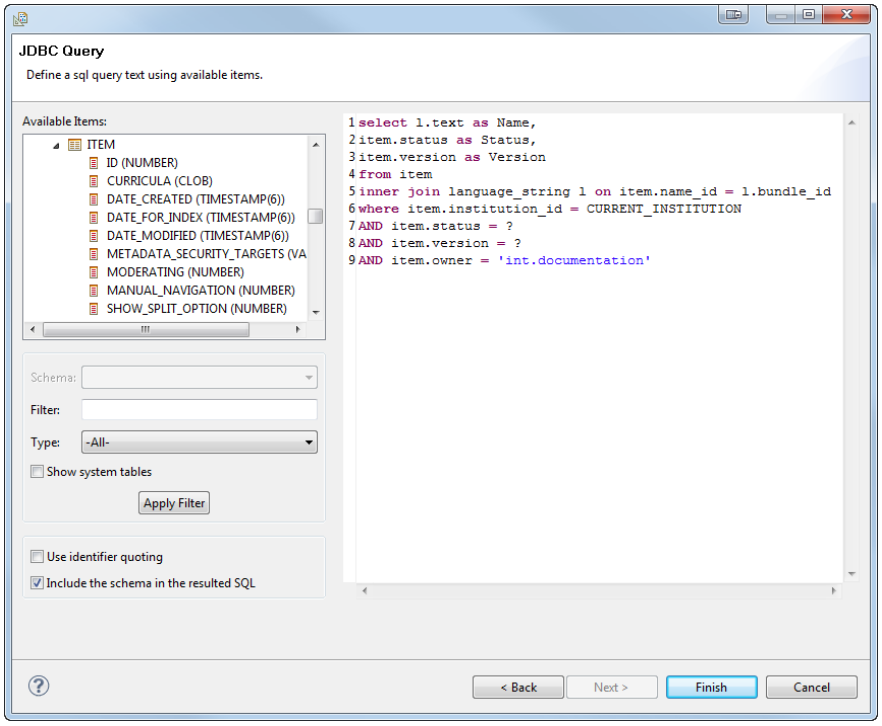

Figure 27 JDBC data set with parameters

6. Click Finish. The **Edit Data Set** dialog is displayed.
7. Select **Parameters** from the left-hand pane.
8. Select **New** to display the **New Parameter** dialog.

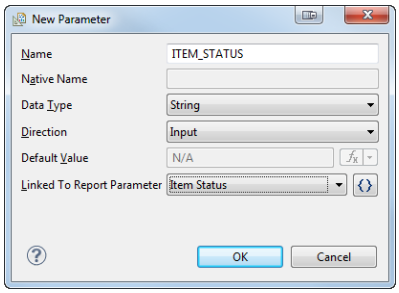

Figure 28 New Parameter dialog

9. Enter a name in the **Name** field (e.g. *ITEM_STATUS*). An example is shown in Figure 28.
10. Select a type from the **Data Type** drop-down list. (*NOTE: This should match the previously selected type for this parameter*.) An example is shown in Figure 28.
11. Select a report parameter from the **Linked to Report Parameter** field (e.g. *Item Status*); this will automatically disable the **Default Value** field.
12. Click OK to save your created parameter.
13. Select **Yes** to confirm that you wish to update the report parameter's value with the data set parameter's value.
14. Add another parameter. An example '*VERSION*' parameter is shown with the '*ITEM_STATUS'* in Figure 29.

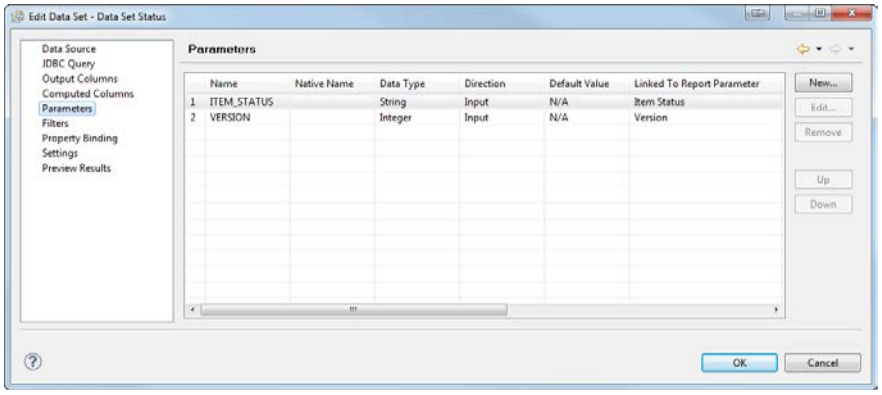

Figure 29 Edit Data Set dialog—Configured parameters

15. Click OK to close the **Edit Data Set** dialog.
16. Format the report presentation with a table by following the description from the Formatting the report section on page 14. (Hint: alternatively, drag the data set and drop it onto the new report main layout window to display the data set results in table format.) Format the report using the **Palette** tab. The '*Status Report*' example is shown in Figure 30.

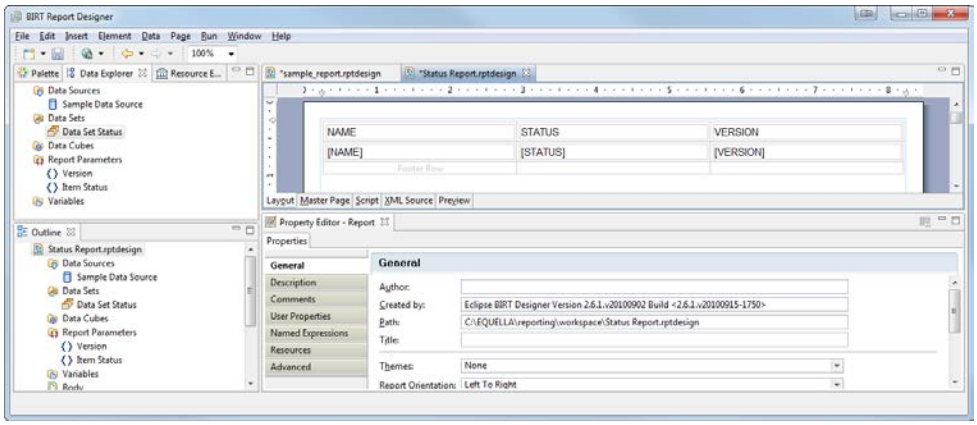

Figure 30 Status Report layout

17. Test the report by selecting the **Preview** tab in Report Designer.
18. The report will run with the default parameters.

To test the use of parameters:

19. Select **Show Report Parameters** from the **Preview** tab and enter values in the displayed fields.

Once a report with parameters is uploaded to EQUELLA the user will be prompted to enter parameter values before the report is generated. An example is shown in the Run a report with parameters section on page 32.

Hyperlinks

Reports can be created that drill-through from one report to another. The main report passes the identity of the item to the drill-through report as a report parameter. If the

item is a hyperlink, the drill-through report then uses the parameter value to display only data corresponding to the item the user clicked on.

This approach can be used to create landing pages for directing users to different reports when multiple report designs have been uploaded to a single EQUELLA report.

Create a report with a hyperlink

The following example creates a main report with a hyperlink and a drill-through sub-report. The report details are as follows:

- **Main report name**—*User Report*
- **Data Set name**—*User Data Set*
- **Query type**—*JDBC Query*
- **Sub-report name**—*Item Report*
- **Sub-report Parameter name**—*Owner*
- **Sub-report Data Set name**—*Item Data Set*
- **Sub-report Query name**—*JDBC Query*

To create the main report with hyperlinks

1. Create a main report (e.g. *User Report*) by following the description from the Create a report on page 8.
2. Create a data source by following the description from the Data sources section on page 9.
3. Create a JDBC data set by following the description from the Data sets section on page 11.

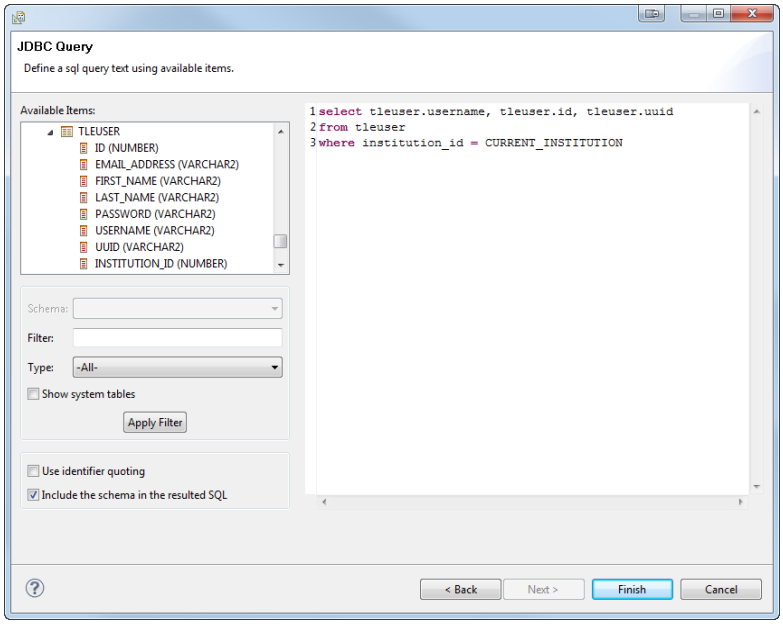

Figure 31 Example JDBC data set query

4. Format the report presentation with a table by following the description from the Formatting the report section on page 14. The example shown in Figure 35 adds the **username**, **id** and **uuid** data set results to the **Detail Row**.

To create a sub-report with a parameter

1. Create a new report (e.g. *Item Report*) with a parameter (e.g. *Owner*) by following the description in the Create a report with parameters section on page 17. An example is shown in Figure 32.

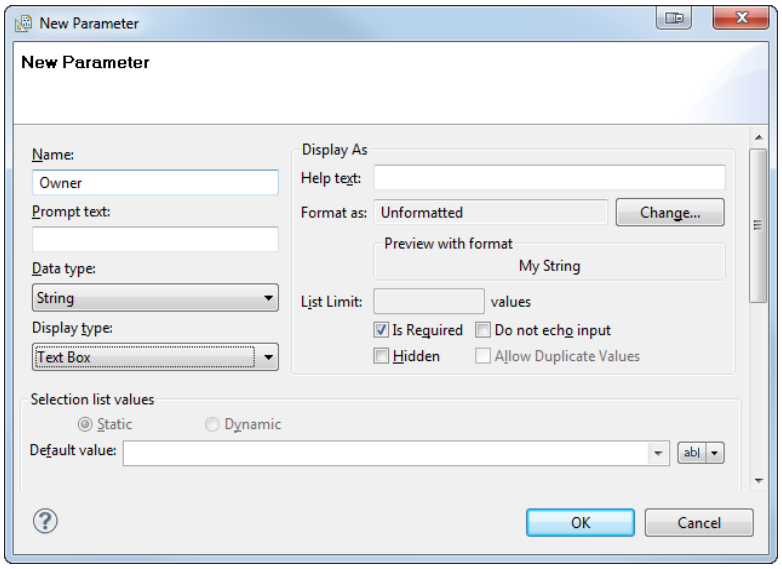

Figure 32 Item Report 'Owner' parameter

2. Create a JDBC data set with a parameter. An example *Item Data Set* is shown in Figure 33.

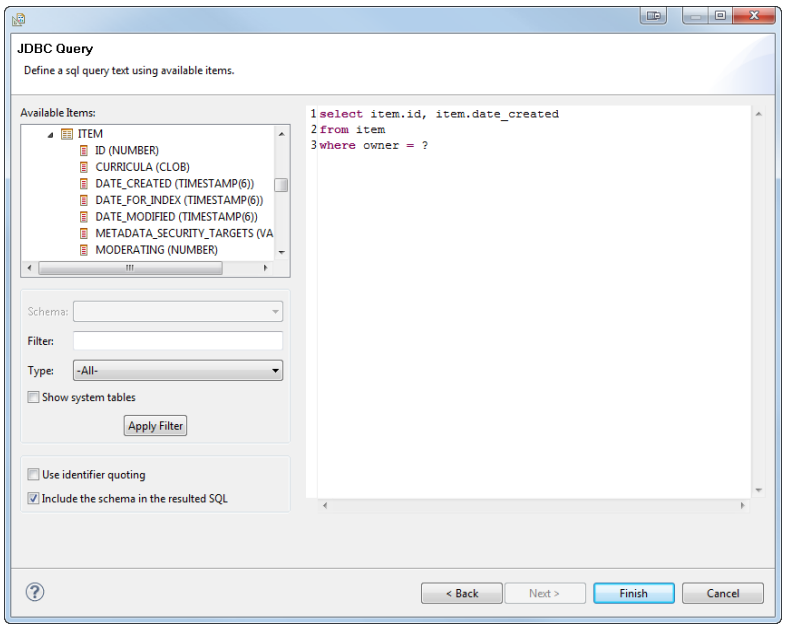

Figure 33 Item Data Set JDBC query

To add the new parameter to a report query

1. Right-click the data set (e.g. *Item Data Set*) and select **Edit** to display the **Edit Data Set** dialog.
2. Select **Parameters** from the left-hand pane.
3. Select **New** and add the parameter. An example *Owner* parameter is shown in Figure 34.

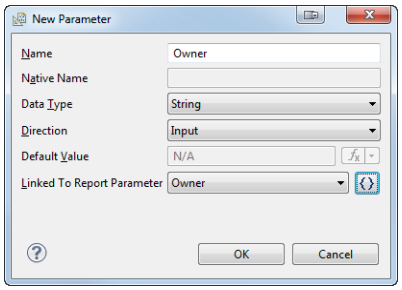

Figure 34 Data set owner parameter

4. Click OK to close the **New Parameter** dialog.
5. Click OK to close the **Edit Data Set** dialog.
6. Save the report.

To add a hyperlink to a main report

1. Select the main report in the Report Designer (e.g. *User Report*).
2. Select the **Detail Row** cell you will create as a hyperlink. Figure 35 shows *USERNAME* as the selected details row cell.

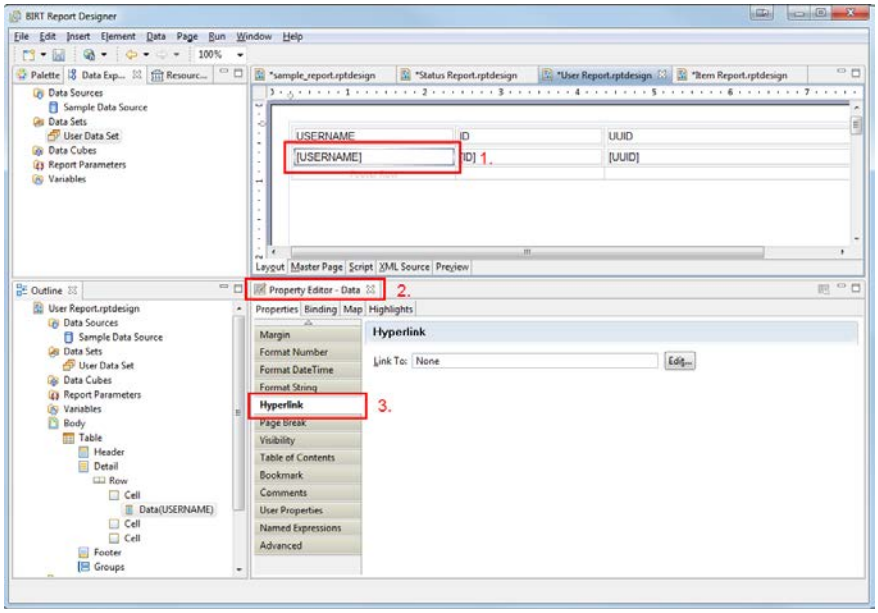

Figure 35 Adding a hyperlink to the main report

3. Select the **Property Edit-Data** tab. The **Properties** tab is displayed.
4. Select **Hyperlink** from the **Properties** list.
5. Click the **Edit...** button in the **Link To:** field to open the **Hyperlink Options** dialog.

6. Select the **Drill-through** radio button from the **Select Hyperlink Type** group to display the configuration options for drill-through hyperlinks. An example is displayed in Figure 36.

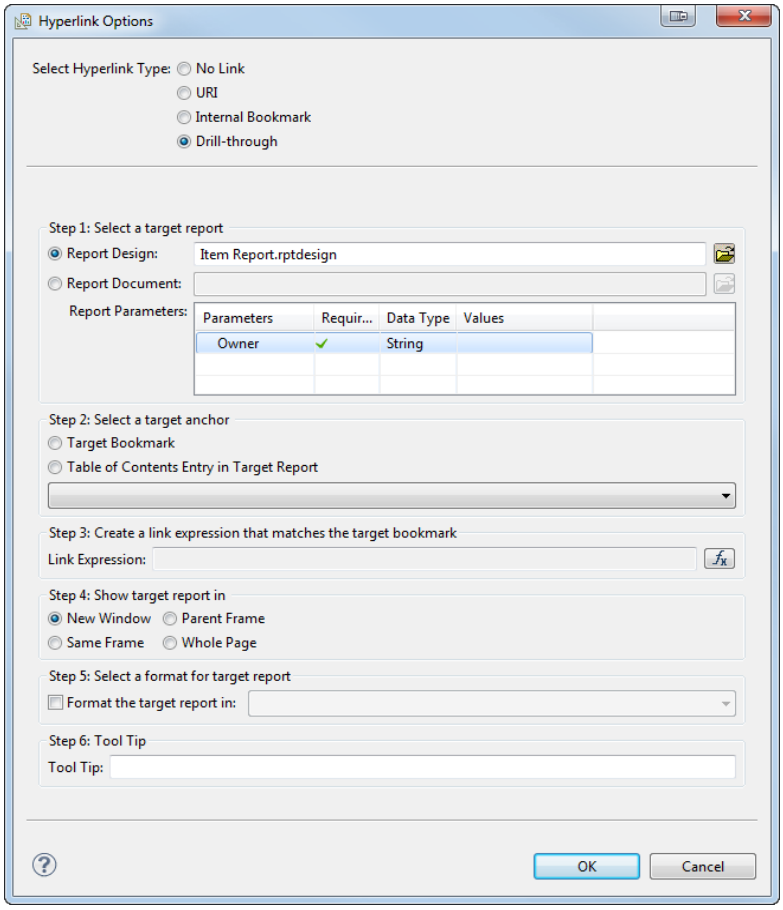

Figure 36 Hyperlink Options dialog

In **Step 1: Select a target report**:

7. Select the **Report Design** radio button.
8. Click the button and navigate to the location of your sub-folder on the file system (e.g. *Item Report*).
9. Select the sub-report then click **Open** to store the report. *Item Report* is the sub-report example shown in Figure 36.

To add the report parameters

1. In the **Report Parameters** field, select the first blank cell under the **Parameters** column heading, and click the button to display a list of available parameters.
2. Select the already defined parameter. Figure 36 shows **Owner** as the selected parameter. This is the parameter that will be passed through to the main report.
3. Select the **Values** field then the button to open the **Expression Builder**.
4. Add the value:
    a. Select a **Category** (e.g. *Available Column Bindings*).
    b. Select a **Sub-category** (e.g. *Table*).

c. **Double-click to insert** the selected binding (e.g. *uuid*).

An example completed **Expression Builder** dialog is displayed in Figure 37 and shows '*row*["*uuid*"]' as the selected column binding field set to the report table.

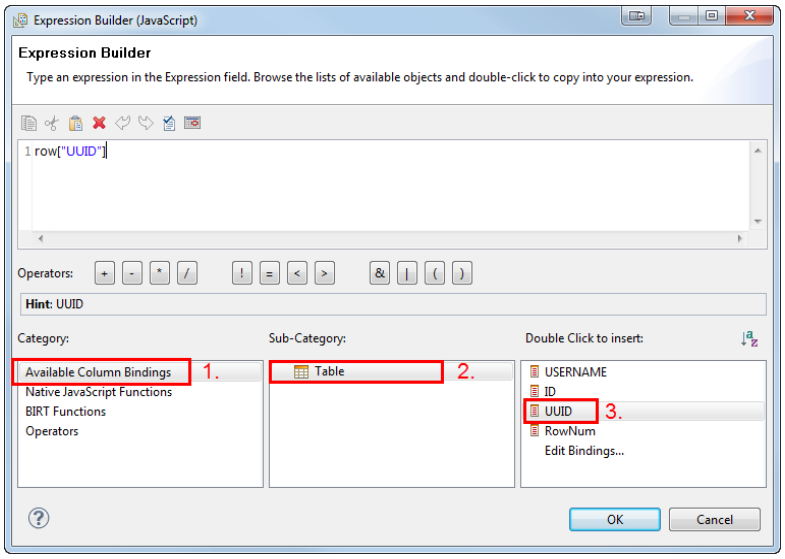

Figure 37 Adding column bindings with the Expression Builder

5. Click OK to close the Expression Builder.

In **Step 5: Select a format for target report**:

6. Check the checkbox alongside the **Format the target report in:** field.
7. In the corresponding drop-down menu, select **html**. The hyperlink feature will not work if **PDF** is selected as the target format for the report.
8. Click OK to save the options and close the **Hyperlink Options** dialog.

Once both the main report and the sub-report are uploaded to the EQUELLA Resource Centre, the main report will contain hyperlinks that when selected will drill-through to the sub-report and present only relevant information. An example is shown in the Disable generation of sub-reports section on page 33.

Create a landing page for handling multiple reports

This approach can be used to create landing pages for directing users to different reports when multiple report designs have been uploaded to a single EQUELLA report, as described in the Upload multiple reports section on page 30.

Once you know which report design files you will be adding to your report, it is possible to create links to those report designs using the 'drill-through' approach. Hyperlinks can be added to your page which, when clicked, will execute the report. An example page is displayed in Figure 38.

Once completed, the landing page can be saved as a *.rptdesign* file and uploaded to EQUELLA as part of a reporting archive, as described in the Upload multiple reports section on page 30.

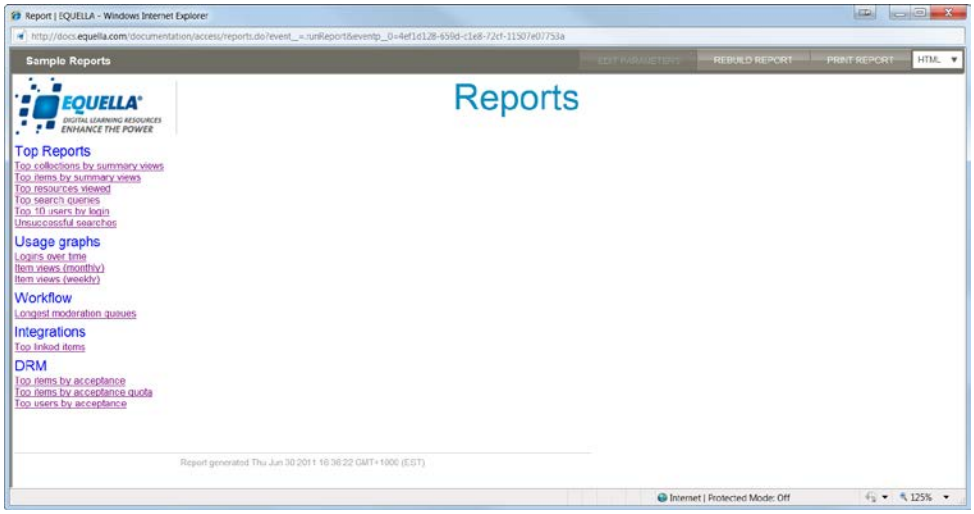

Figure 38 Multiple reports landing page

Upload a report

Once the report is created it can be uploaded to any instance of an EQUELLA institution. The data connection is automatically re-configured to use the server running the report.

Reports are uploaded using the Administration Console **Reporting** plug-in.

Upload a single report

To open the EQUELLA Administration Console

1. Open a browser and enter your EQUELLA URL (e.g. '*http://equella.myinstitution.edu/logon.do*').
2. Log in to EQUELLA as an administrator user. The EQUELLA Dashboard page is displayed.
3. Select **Settings** from the left-hand navigation pane.
4. Select **Administration Console** from the list of Settings categories. An example is shown in Figure 39.

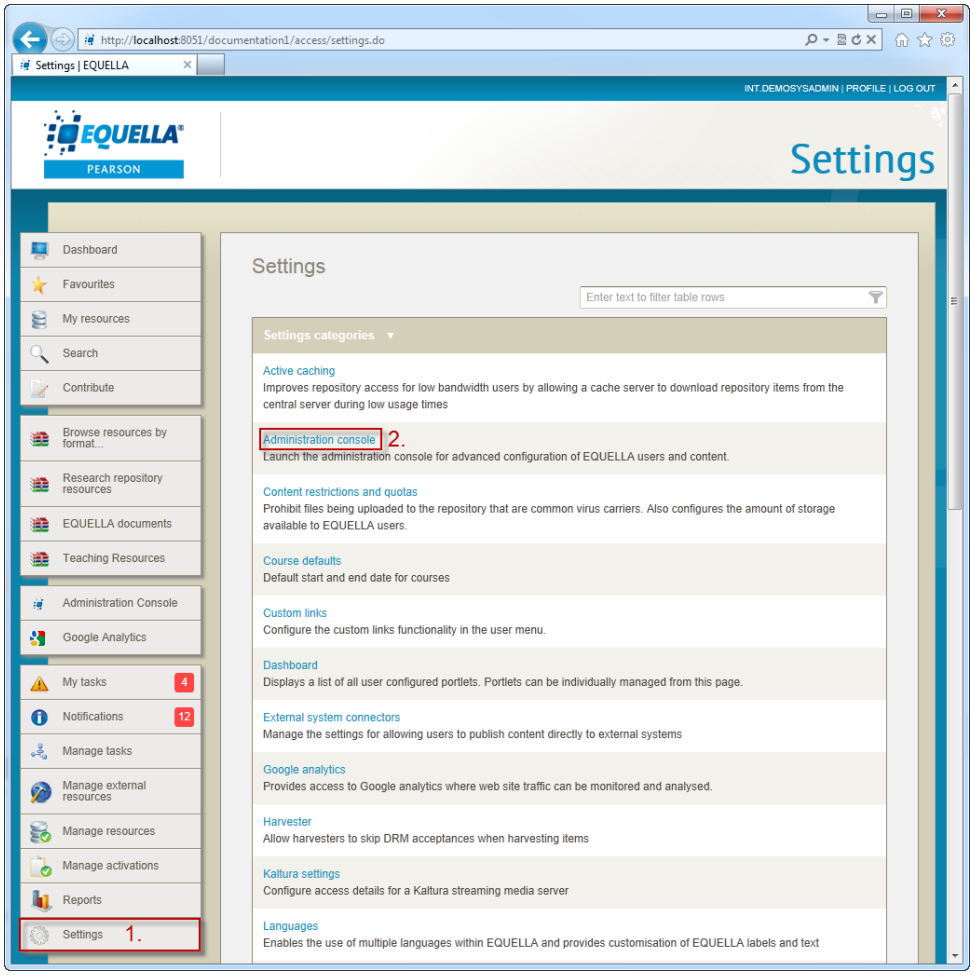

Figure 39 Settings page

5. From the Administration Console, select **Reporting** as shown in Figure 40.

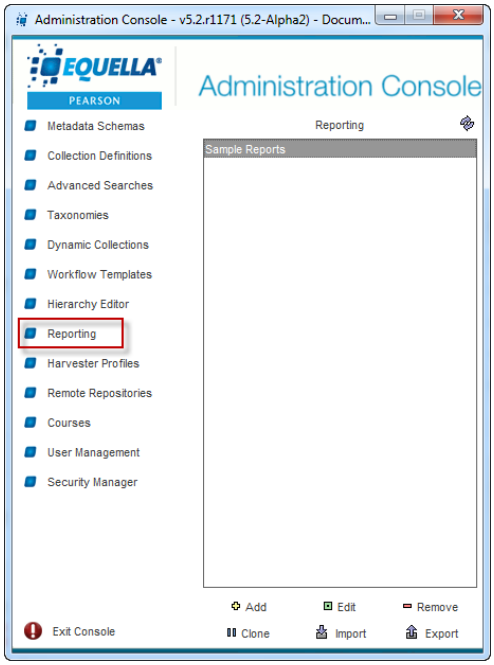

Figure 40 Administration Console Reporting

6. Click Add to open the **Report Editor** dialog.

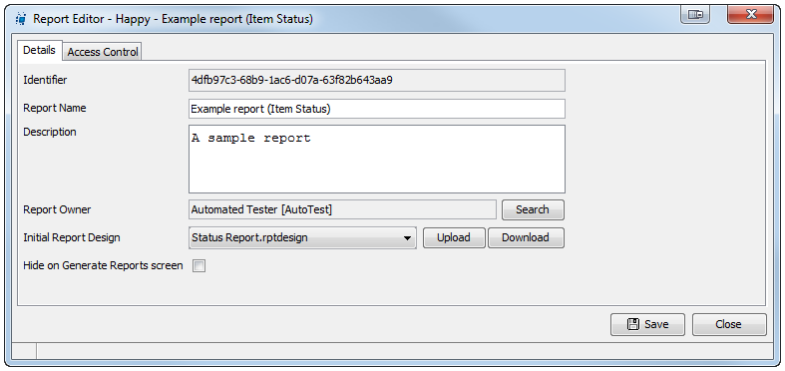

Figure 41 Report Editor dialog

7. Enter a **Report Name** and **Description**. An example is shown in Figure 41.
8. Click Upload and navigate to a previously-created report design as shown in Figure 41. (*NOTE: Clicking the **Download** button will prompt the user to save a selected report design to the local filesystem*.)
9. Select the report design then click Open to upload it to the report.
10. Configure **Access Control**, if required. Further Access Control information is provided in the *EQUELLA Security Guide*.
11. Click Save to save the report then click Close to close the Report Editor.

Upload multiple reports

As of EQUELLA version 5, it is possible to upload multiple report design files into a single EQUELLA report, by combining the report files into a .zip archive. The archive can then be

uploaded to an EQUELLA report, creating the same effect as uploading the report design files individually.

1. Create one or more report design files using the Report Designer.
2. Add them to a *.zip* archive.
3. Open the Administration Console **Report Editor**, as described above.
4. Enter a **Report Name** and **Description**.
5. Click Upload and browse to your newly created .zip file.
6. Click Open. The .zip file will attempt to upload to EQUELLA. If there are no report design files inside the zip, you will see a warning dialog informing you to upload another file because that one is not valid. Valid file types include .rptdesign and .rptlibrary. Only .zip archive types are accepted.

With the .zip file uploaded, EQUELLA automatically unpacks the files and displays them in the Administration Console.

With multiple report files uploaded, EQUELLA needs to know which report to load first. This is configured in the **Initial Report Design** field of the **Report Editor**. While any report can be chosen for this purpose, it is good practice to design a purpose-built landing page where users can access the reports from. For more information, refer to the Create a landing page for handling multiple reports section on page 27.

7. Select your landing page as the **Initial Report Design** by selecting the .rptdesign file from the drop-down menu, or leave it as the default. An example is shown in Figure 42.

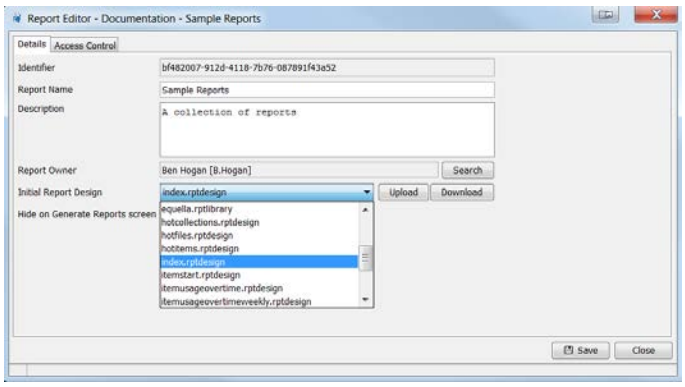

Figure 42 Initial Report Design selector

8. Click Save to save the report then click Close to close the Report Editor.

Run a report

The report access is controlled by the report Access Control and can be configured to suit the requirements of the institution. Users with the EXECUTE_REPORT privilege are able to run reports.

To run a report

1. Open a browser and enter your EQUELLA URL (e.g. '*http://equella.myinstitution.edu/logon.do*').

2. Log in to EQUELLA as an administrator user. The EQUELLA Dashboard page is displayed.
3. Select **Reports** from the left-hand navigation pane. An example is shown in Figure 43.

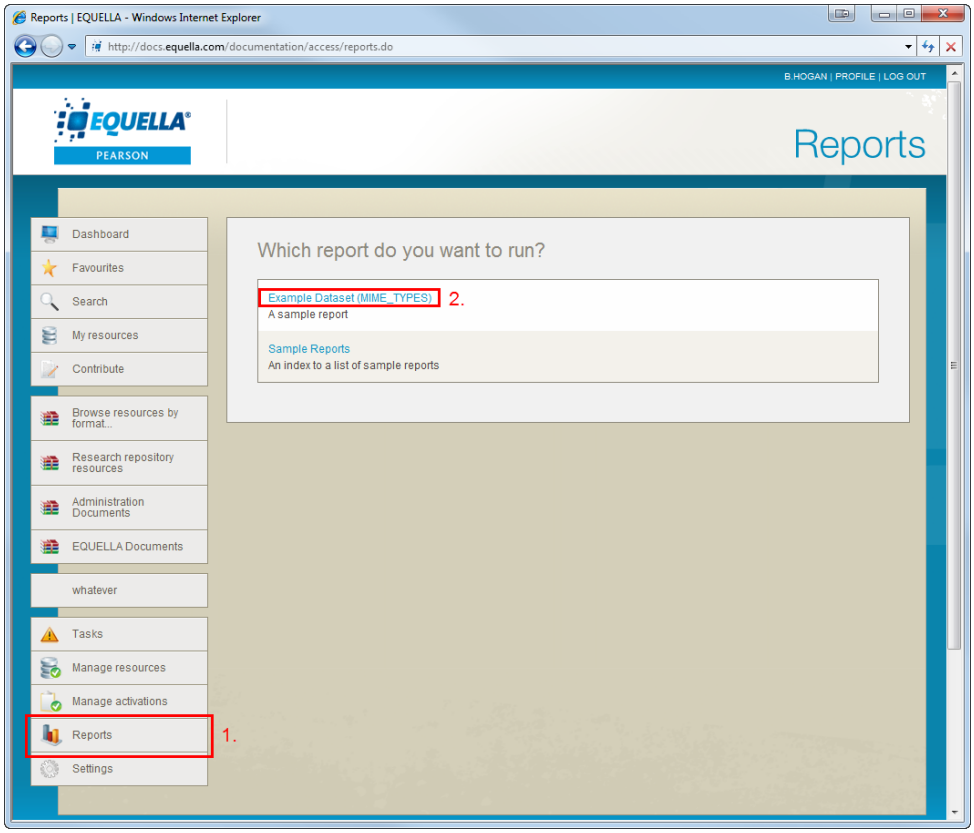

Figure 43 Reports page

4. Select the newly create report (e.g. *Example Dataset (MIME_TYPES)*).
5. Confirm that you are sure you want to run the selected report on the popup dialog.

The generated report will appear in a new browser window. The time required to generate a report depends on the complexity of the report and the system used to generate the report.

Run a report with parameters

When running a report with parameters, the user will be prompted to enter values. The display report will only contain information that matches the entered values.

An example report entitled *Status Report* with prompts for the item status and version number parameters and previously defined *1* and *LIVE* default values, is shown in Figure 44. *Status Report* is the example report created in the Create a report with parameters section on page 17.

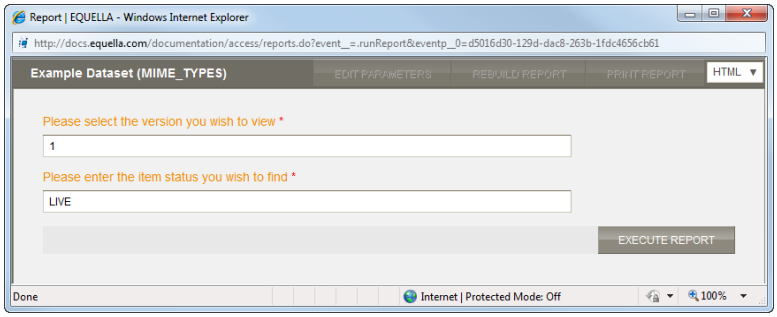

Figure 44 Enter report parameters

The report can be generated using the default parameter values, or the values can be changed as required.

To change the default parameter values

1. Enter a parameter value in the parameter field. (For example, to change the default value, in the **Please enter the item status you wish to find** type a status like *DRAFT* or *MODERATING*.)
2. Click EXECUTE REPORT to display the report details.

Figure 45 shows the generated example **Status Report** with a list of item names that match the *LIVE* item status and the version number of *1*, as per the entered parameters.

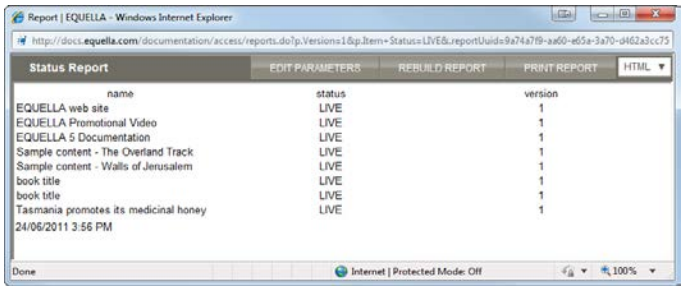

Figure 45 Generated Status Report

Disable generation of sub-reports

Some reports cannot be, or do not need to be, generated because they are created from the details of other reports. EQUELLA provides a feature that facilitates the hiding of such reports. When uploading the report, checking the **Hide on Generate Reports** screen checkbox will conceal the report from users in the Resource Centre.

When a main report uses a sub-report, the main report passes the identity of the key item to the sub-report as a report parameter. The sub-report uses to parameter value to only display detail rows corresponding to the specified key item.

This example shows a *List of Users* main report and a *User Items* sub-report.

To hide the sub-report

1. Create a main report and the sub-report. The reports used in this example are *User Report* and *Item Report* created in the Create a report with a hyperlink section on page 23.

2. Upload the main report in the Administration Console as described in the Upload a report section on page 28. Figure 46 shows an example *User Report* with *User Report.rptdesign* uploaded as the Initial Report Design.

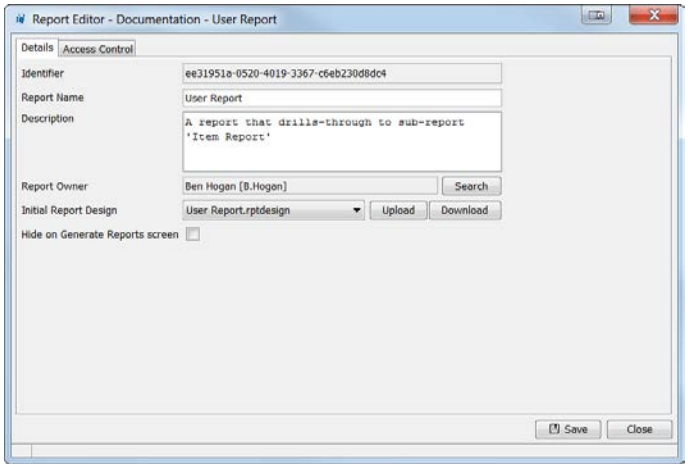

Figure 46 User Report main report

3. Upload a sub-report in the Administration Console. Figure 47 shows the example *Item Report* sub-report with *Item Report.rptdesign* uploaded as the Report Design.

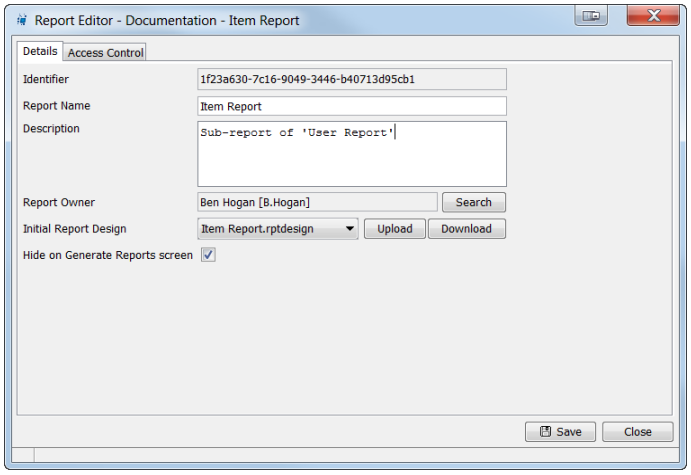

Figure 47 Item Report sub-report

4. Check the **Hide on Generate Reports screen** checkbox to conceal the sub-report from users in the EQUELLA Reports page, as shown in Figure 48.

Both reports will be visible in the Administration Console.

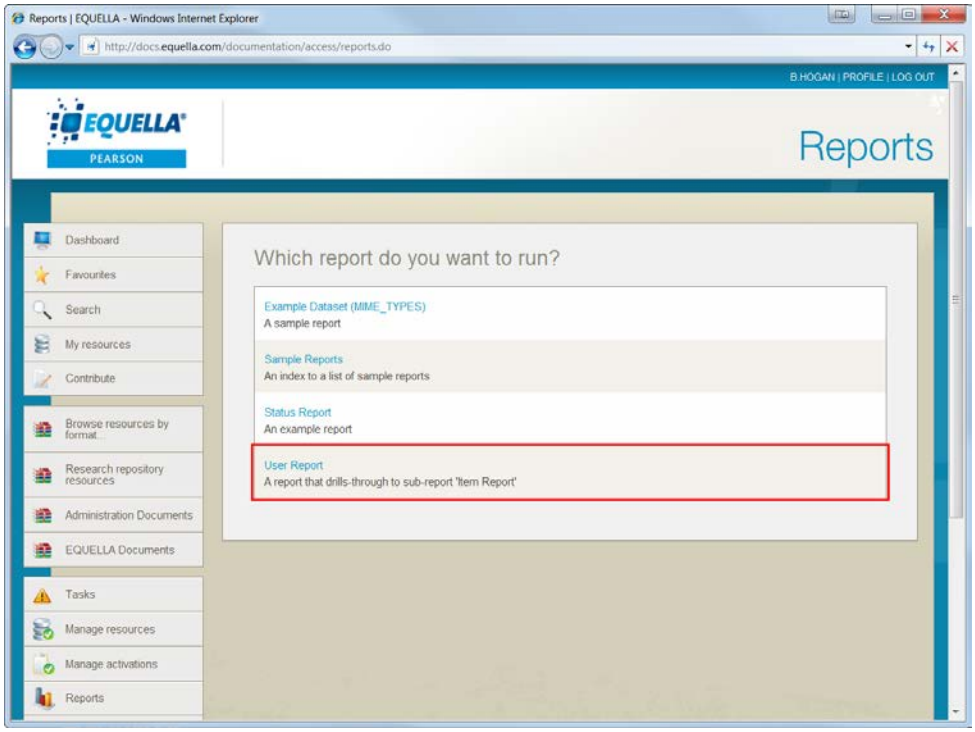

Figure 48 Resource Centre Reports list—User Report

In the EQUELLA Resource Centre

1. Select **Reports** from the left-hand navigation menu.
2. Select a report to run by clicking the report name link. The example shown in Figure 48 is *User Report*.
3. Click OK in the dialog questioning if you are sure you want to run the report.

If the main report relies on a sub-report and the sub-report has not been uploaded as a separate report, an error message will be displayed asking the user to upload the missing report.

Figure 49 shows the generated *User Report*, with the **username** field details as hyperlinks.

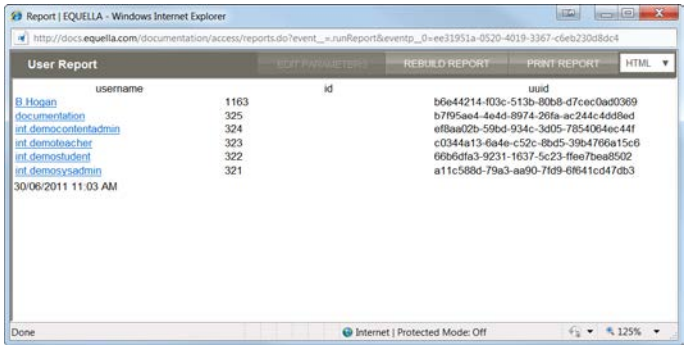

Figure 49 Generated User Report

4. Select a hyperlink in the **username** field to display only data in the sub-report corresponding to the selected item. The result displayed in Figure 50 is from the

hidden sub-report *Item Report* and contains only results matching the input parameter from the selected username hyperlink *B.Hogan*.

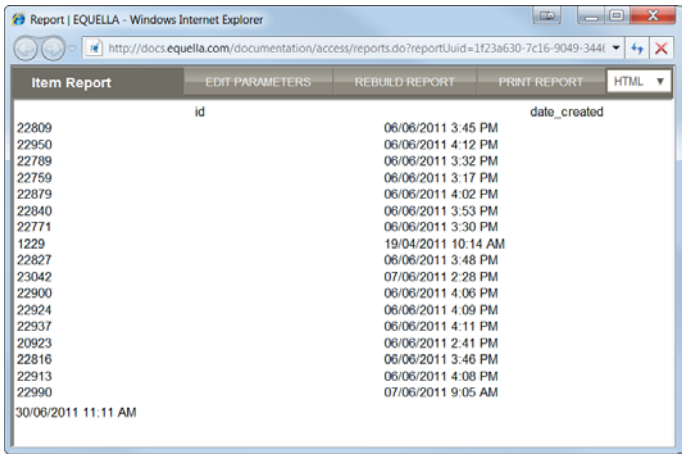

Figure 50 Generated sub-report Item Report

Data sets

EQUELLA provides multiple data sources for reporting:

- UserManagement Dataset
- JDBC Data Set
- Freetext Dataset.

The **UserManagement Dataset** provides access to user information kept in a system separate to EQUELLA such as LDAP or a replicated datastore user management system.

The **JDBC Data Set** provides a standard interface allowing any reporting tool to create reports for EQUELLA. The other two data sets are only available to users of the Report Designer.

The **Freetext Dataset** provides access to item metadata.

Any of the data sets can be selected during the Report Designer New Data Set configuration.

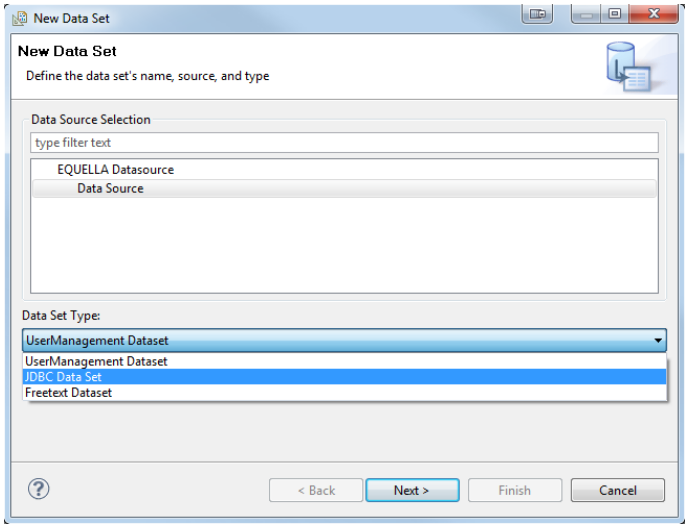

Figure 51 Data Set Types

Freetext

The **Freetext Dataset** can be used to perform fast freetext queries on item metadata returning custom fields. The returned fields are artefacts created from the freetext search and do not represent any actual database structure. It is for this reason that standard reporting tools cannot query on this data set. The fields used in queries need to be indexed for power searching.

Create a Freetext Dataset

To open the **New Data Set** dialog

1. Right-click the **Data Sets** folder in the **Data Explorer** and select **New Data Set**.

2. Select a **Data Source**, and select **Freetext Dataset** from the **Data Set Type** drop-down menu.
3. Enter a **Data Set Name**. An example is shown in Figure 52.

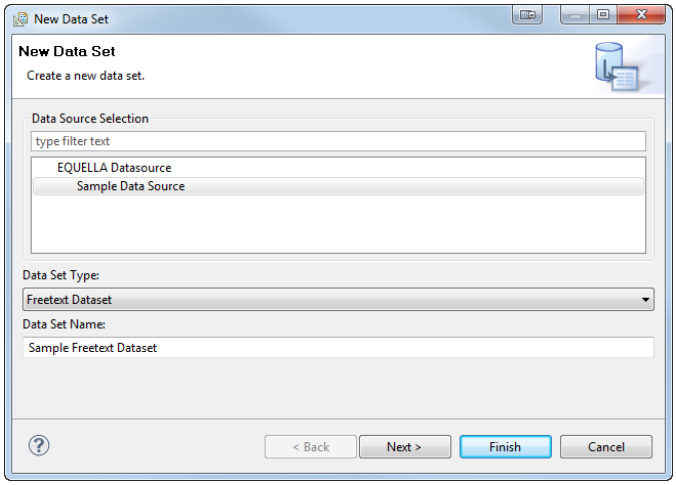

Figure 52 New Data Set—Freetext Dataset

4. Click Next > to display the **Free Text Query** dialog.

The **Freetext Dataset** provides multiple **Query Types** and each query type is optimised for returning different metadata. For more information, refer to the Freetext Query Types section on page 39. An example of the **Query items** Query Type is shown in Figure 53.

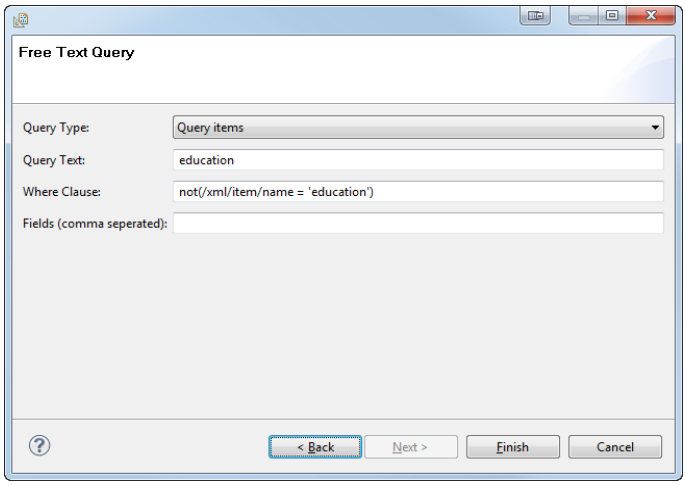

Figure 53 Free Text Query—Freetext Dataset—Query items

5. Click Finish to display the **Edit Data Set** dialog. An example is shown in Figure 54.

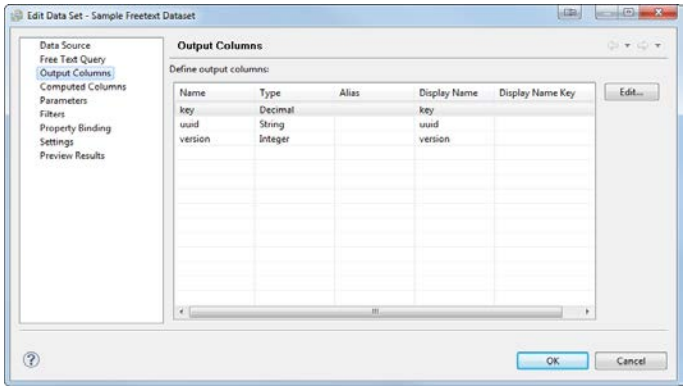

Figure 54 Edit Data Set—Freetext Dataset—Output Columns

Adding an **Alias** or **Display Name** to a column modifies the name of the columns in the preview and Report Designer interface. To modify the report columns, use the Report Designer **Palette**.

The results of the search can also be previewed by selecting **Preview Results** as shown in Figure 55.

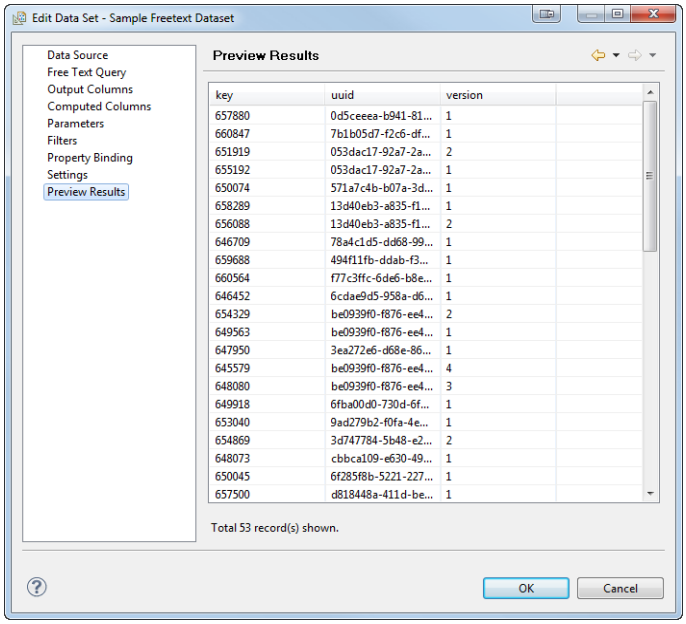

Figure 55 Edit Data Set—Freetext Dataset—Preview Results

6. Click OK to save the data set.

The data set has been created and can now be used to return data to the report.

Freetext Query Types

The available query types are:

- Query items
- Count of items
- List files

- Matrix Search
- Matrix Count.

Query items

Configuring this query type requires query text. An optional **Where Clause** can also be included to direct the searching. The behaviour of this query type mimics an EQUELLA Power Search.

Query Text

Any free text query such as 'education' or 'Tas*'.

Where Clause

This field is optional. It is an XOQL-like query for searching on specific metadata in items.

For example, */xml/item/name like 'Example%'* will search for items with a name child element starting with 'Example'.

(*NOTE: Each metadata path must start with '/xml'*.)

Figure 53 shows an example Freetext Query, with a preview of results in Figure 55.

Count of items

Count of items query type uses the same input fields as **Query items** but only returns a count of returned items.

Figure 56 shows an example **Count of items** query and Figure 57 shows a preview of the results from this query.

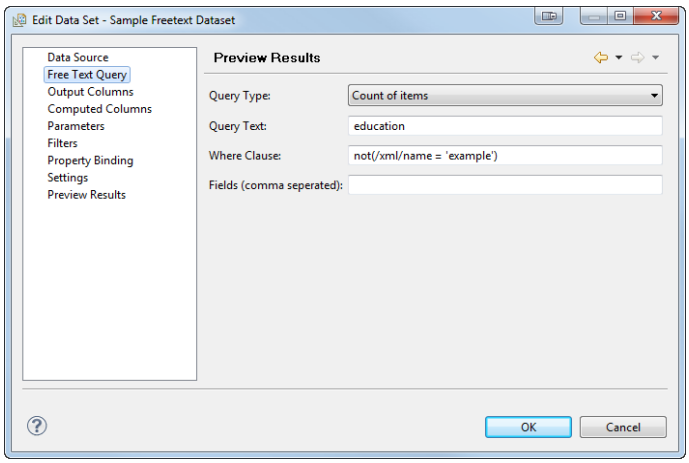

Figure 56 Edit Data Set—Freetext Dataset—Count of items

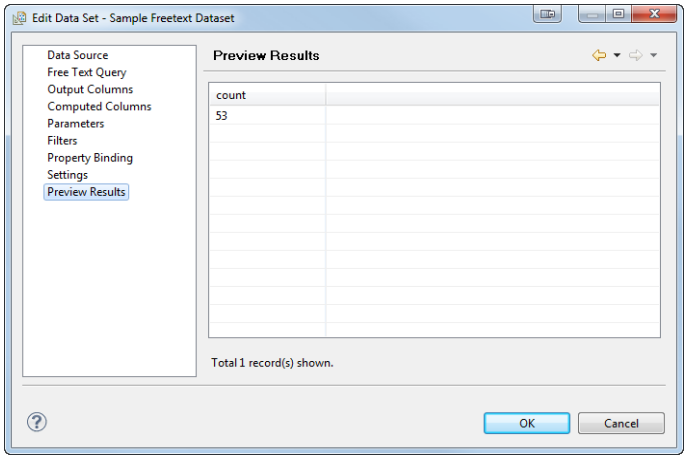

Figure 57 Edit Data Set—Freetext Dataset—Counts of items results

List files

The **List Files** option returns all the files comprising items returned by the query. Column names and aliases can be configured to allow meaningful names to be substituted for the database column names.

Figure 58 shows an example **List Files** query and Figure 59 shows a preview of the results from this query.

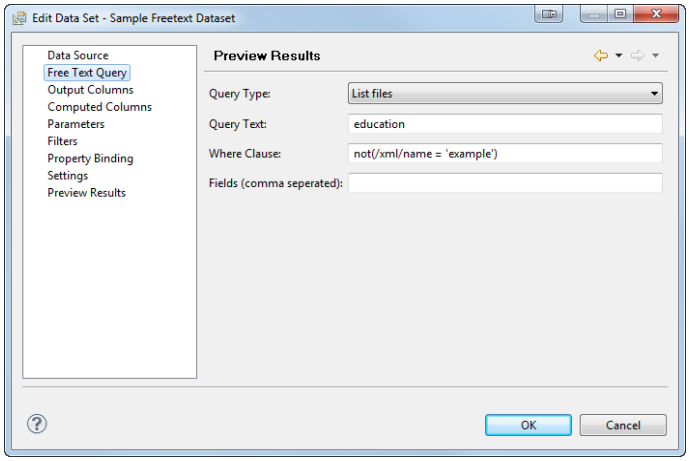

Figure 58 Edit Data Set—Freetext Dataset—List items

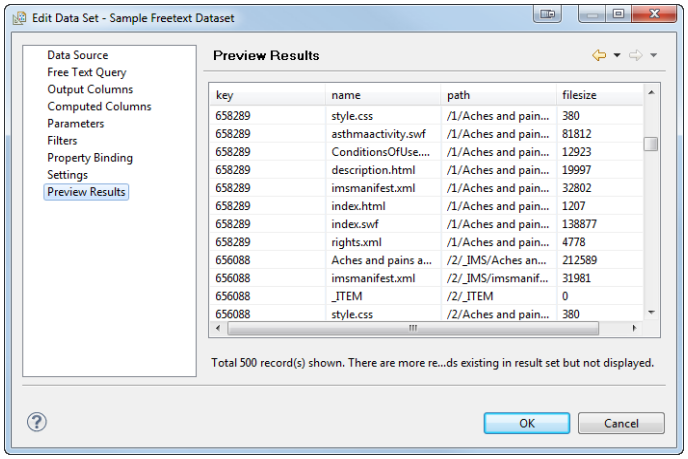

Figure 59 Edit Data Set—Freetext Dataset—List items results

Matrix Search

Matrix Search retrieves a list of items that contain one or more of the specified metadata schema fields. The Matrix Search only returns information from schema nodes that are indexed by the freetext search engine. The fields are entered as xml paths excluding the first '/xml/' of the schema.

Figure 60 shows an example **Matrix Search** query and Figure 61 shows a preview of the results.

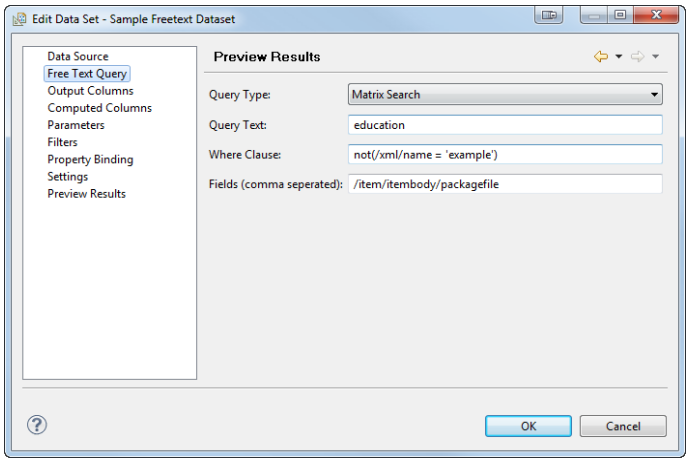

Figure 60 Edit Data Set—Freetext Dataset—Matrix Search query

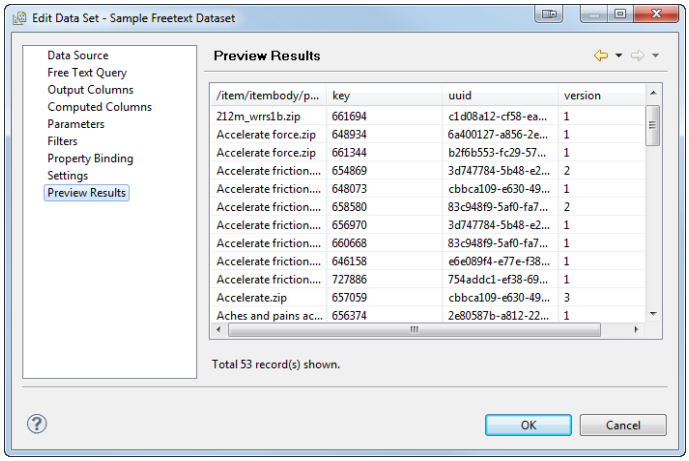

Figure 61 Edit Data Set—Freetext Dataset—Matrix Search results

Matrix Count

The **Matrix Count** query type returns all the distinct results and a count of the number of results with these values.

Figure 62 shows an example **Matrix Count** query and Figure 63 shows a preview of the results.

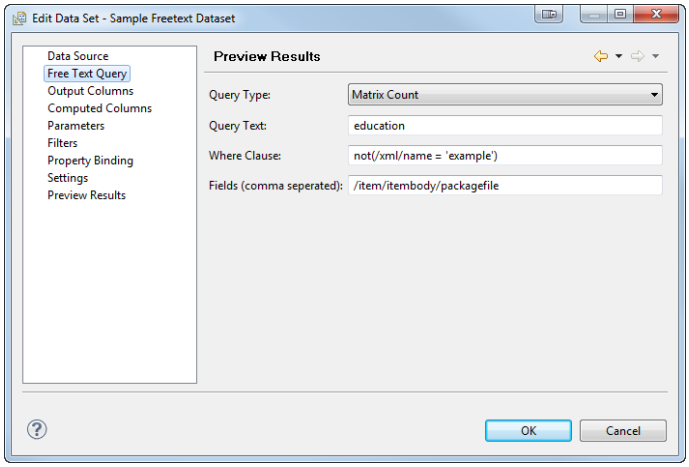

Figure 62 Edit Data Set—Freetext Dataset—Matrix Count query

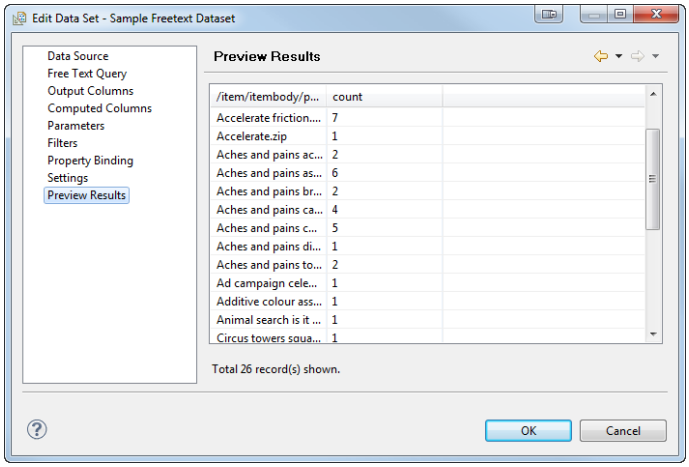

Figure 63 Edit Data Set--Freetext Dataset--Matrix Count results

Joint data set example usage

Freetext queries are commonly used in conjunction with a JDBC data set. The Report Designer provides the **Joint Dataset** to simplify joining data sets. Joint data sets can be created from any data sets used by the report. The joint data set provides a mechanism for joining data between the disparate query types that is equivalent to a **Join** clause in SQL.

This example creates a joint data set that could be used to:

- Create a report that prints custom metadata values. These values are not stored in the database and can only be retrieved using a freetext **Matrix Search** query.
- Create a report that returns a specific set of items. This report uses a standard data set **Query items** query.

To create a joint data set

1. Right-click the **Data Sets** folder in the **Data Explorer** and select **New Data Set**.
2. Select a **Data Source**, select **Freetext Dataset for the Data Set** type, and enter a value for **Data Set Name**.
3. Click Next >.
4. Set the **Query Type** to Matrix Search.
5. Add *Fields* entries for items on your system. Figure 64 shows an example configuration. (Refer to the Matrix Search section on page 42 for further information on fields.)

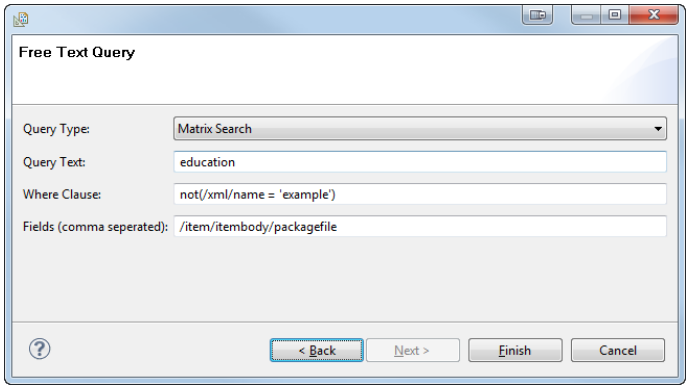

Figure 64 Freetext Dataset configuration

6. Click Finish.
7. Test the query by selecting **Preview Results** in the resulting **Edit Data Set** dialog. An example is shown in Figure 65.

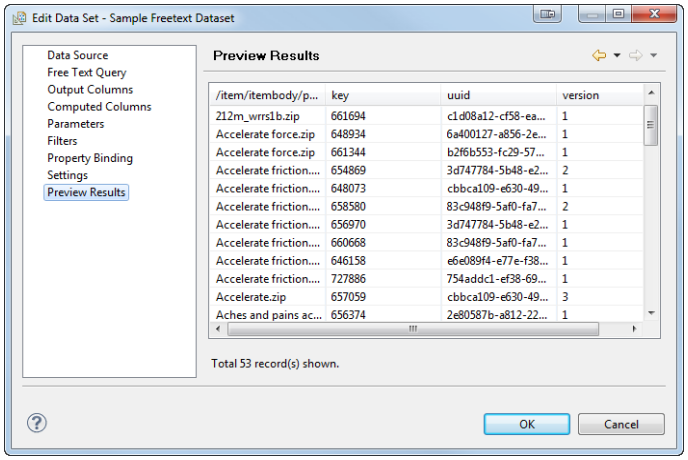

Figure 65 Preview of results

8. Click OK to save the data set.
9. Right-click the **Data Sets** folder in the **Data Explorer** and select **New Data Set**.
10. Select a **Data Source**, select **JDBC Dataset** for the **Data Set type**, and enter a value for **Data Set Name**.
11. Click Next >.
12. Complete the data set configuration so the item ID, name and description are returned. Figure 66 shows an example configuration.

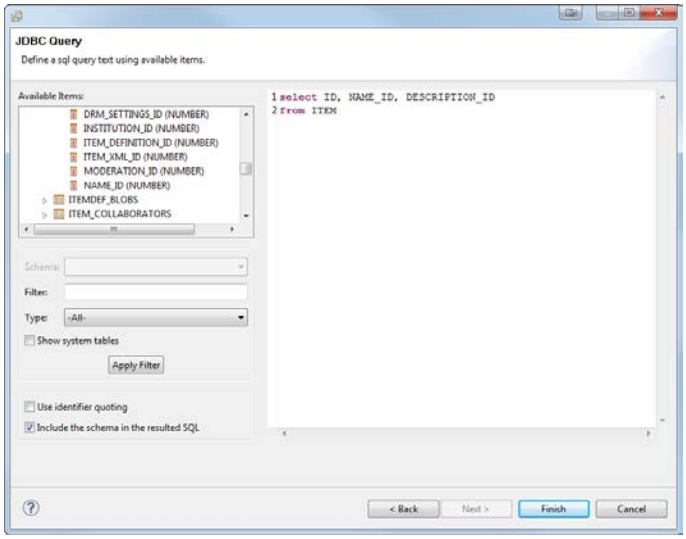

Figure 66 Example JDBC data set configuration

13. Click Finish.
14. Test the query by selecting **Preview Results** from the left-hand pane of the resulting **Edit Data Set** dialog.
15. Click OK to save the data set.
16. Right-click the **Data Sets** folder in the **Data Explorer** and select **New Joint Data Set**.
17. The **Joint Data Set** dialog is displayed to configure the data set using the data sets created in the preceding steps. An example is shown in Figure 67.

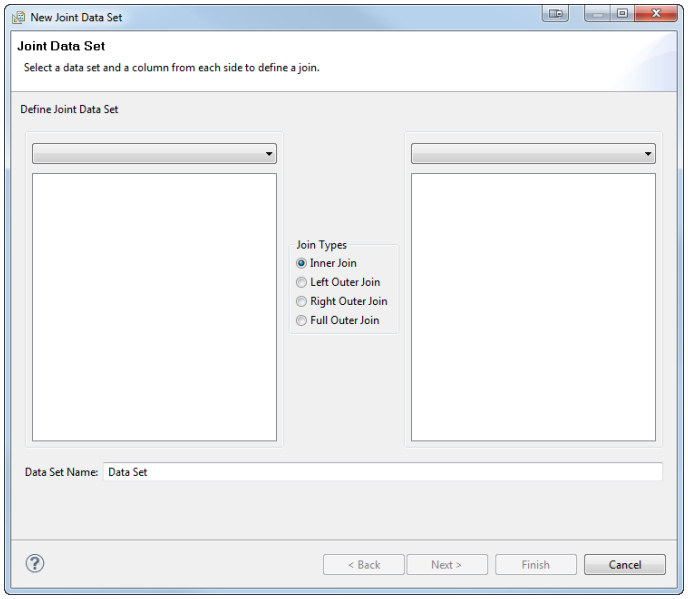

Figure 67 New Joint Data Set pane

18. In the left pane, select the created freetext data set from the drop-down menu. Select **Key** from the resulting column list.
19. In the right pane, selected the created JDBC data set from the drop-down menu. Select **ID** from the resulting column list.

20. Select the **Inner Join** option from the **Join Types** options. Inner join only returns rows contained in both result sets.

Joint queries that do not use **Inner Join** return a record for every item in the database, causing the joint data set to contain a record for the item whether the item was returned by the JDBC query or not.

21. Enter a **Data Set Name** and click Finish to complete the creation of the data set.
22. In the resulting **Edit Data Set** dialog, click **Preview Results** to confirm the Joint Data Set is correctly configured. An example is shown in Figure 68.

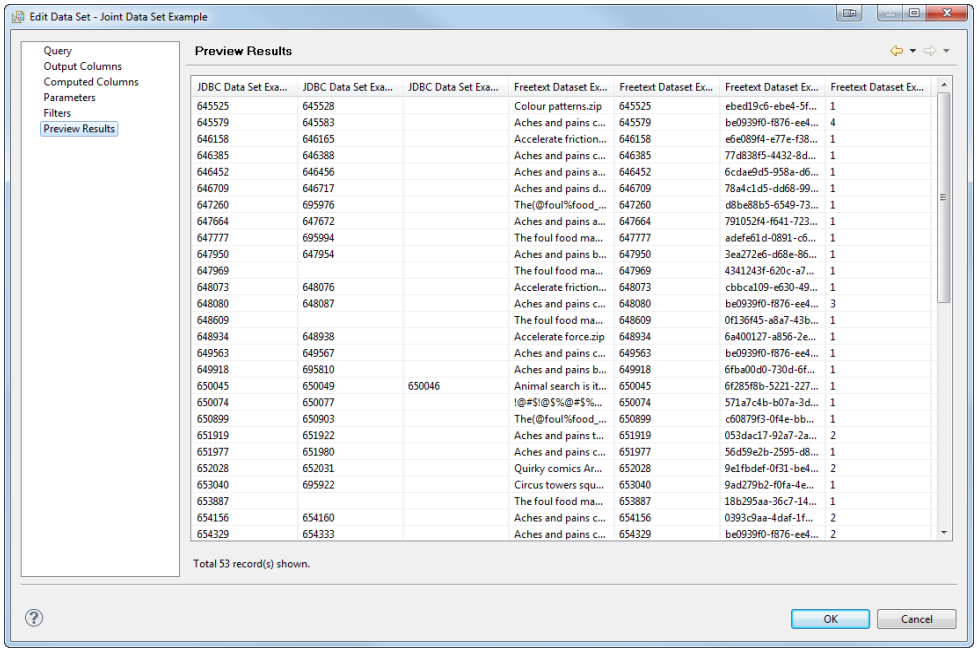

Figure 68 Joint Data Set result preview

23. Click OK to return to the Report Designer main page. The joint data set is now saved and can be used like any JDBC data set.

User management

Reporting on user and group information for LDAP and replicated datastore requires a special **UserManagement** data set, as the user management plug-ins (UMPs) store user and group information outside the EQUELLA database.

User management data sets require a parameter to be supplied from a source outside the data set, typically a Universally Unique Identifier (UUID) from a JDBC or freetext query. This parameter is represented by the question mark (?) character.

Create a user management data set

1. Right-click the **Data Sets** folder in the **Data Explorer** and select **New Data Set**.
2. Select a **Data Source**, choose **UserManagement Dataset** as the **Data Set Type**, and give the **Data Set** a **Name**. An example is shown in Figure 69.

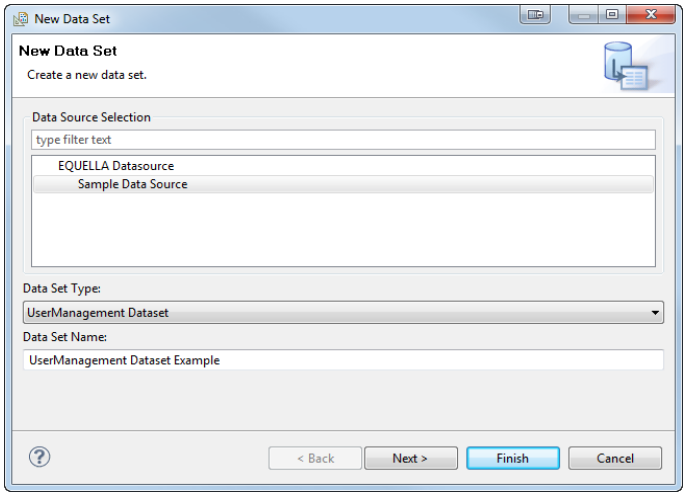

Figure 69 Example UserManagement Data Set

3. Click the Next > button to open the **User Management Query** wizard.
4. Select a **Query Type**. For information on the available query types, refer to the Query types section below.
5. Enter a question mark (?) as the **Query Text**. This is usually the only query text used. The question mark is the SQL symbol for a parameter. An example is shown in Figure 70.
6. Click the Finish button to complete the data set creation, as shown in Figure 71.

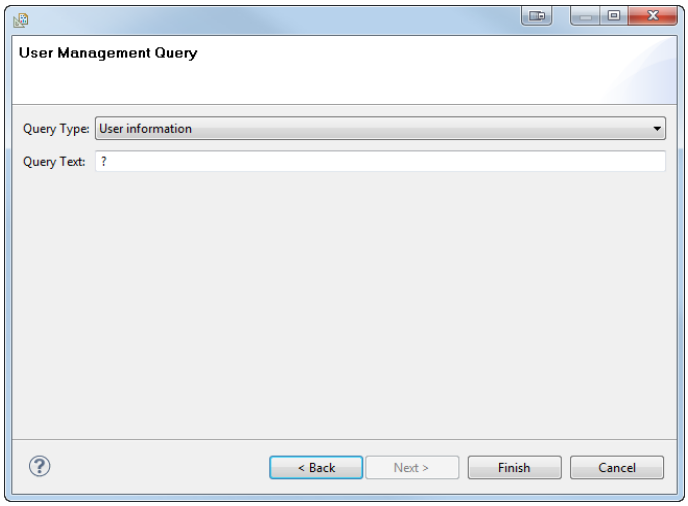

Figure 70 User Management Query

Query types

The available query types are:

- User information
- Group information
- Search users
- Search groups

- Get users in group
- Get groups for user.

User information

User information returns information for a specific user UUID. The UUID parameter is represented by a question mark (?) in the **Query Text**.

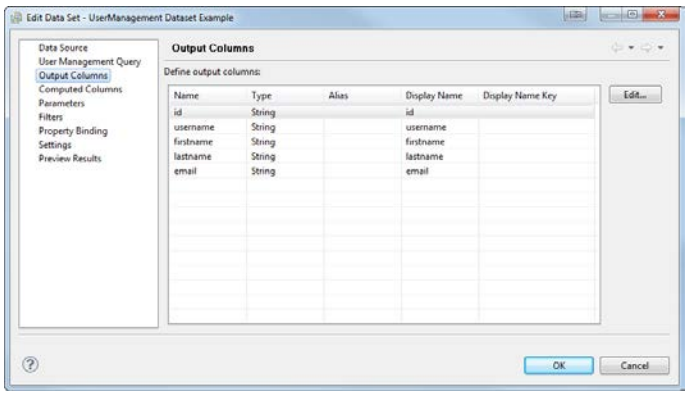

Figure 71 User Information Output Columns

Group information

Group information returns information for a specific group UUID. For a generally useful data set, a question mark (?) is used.

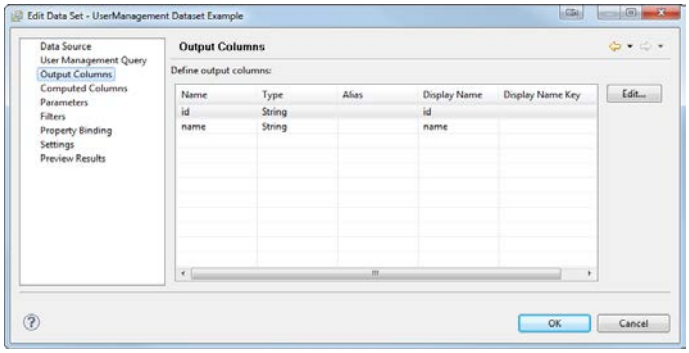

Figure 72 Group Information Output Columns

Search users

Configuring the **Search users** data set is similar to configuring a **User information** data set. This data set Query Type also recognises an asterisk (*) wild card in the **Query Text** string. Entering a single asterisk returns all users as shown in Figure 73.

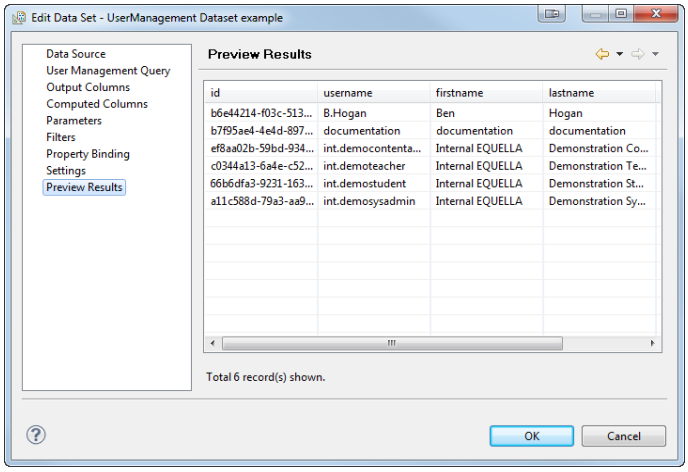

Figure 73 Search users Sample Results

Get users in group

The **Get users in group** query type takes a group UUID and returns information about each user in that group. (Refer to the User information query type description on page 49 for output columns.) Figure 74 and Figure 75 provide examples of a sample query and the expected results. In general cases, a question mark (?) can be used in the **Query Text** field.

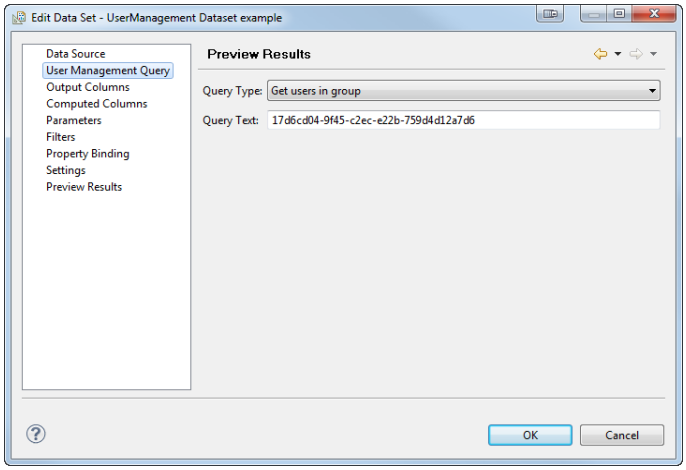

Figure 74 Get Users in Group query

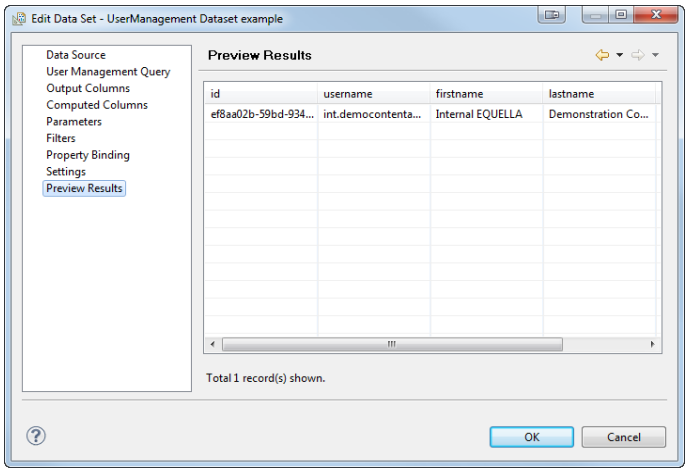

Figure 75 Get Users in Group Sample Results

Get groups for user

The **Get groups for user** query type takes a user UUID and returns information about each group that the user is a member of. (Refer to the Group information section on page 49 for output columns.) Figure 76 and Figure 77 provide an example query and a preview of the results. In general cases a question mark (?) can be used in the Query Text field.

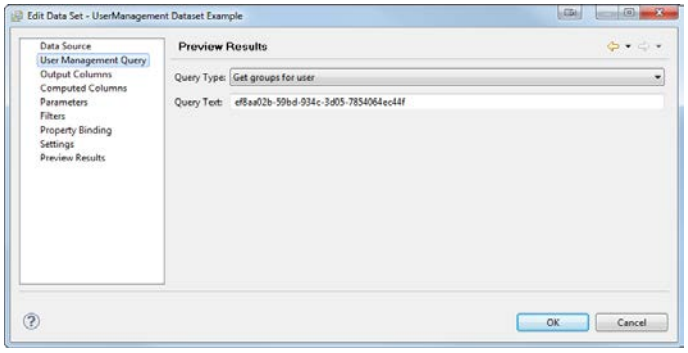

Figure 76 Get Groups for User query

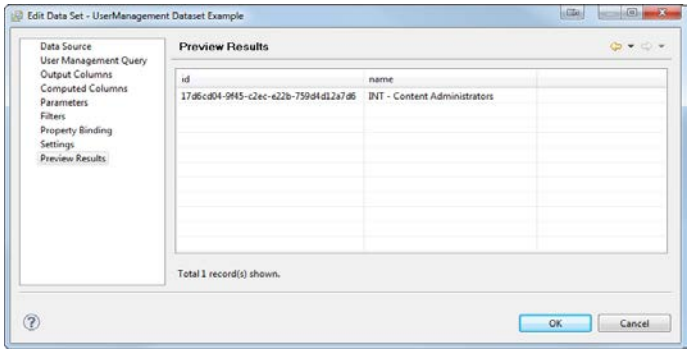

Figure 77 Get Groups for User Preview Results

Scenarios

The user management data set is typically used in conjunction with a JDBC data set that returns a user or group UUID as a row element. Using the user management data set provides user or group data for the combined result records, such as replacing a UUID with the user's name.

An example user management data set scenario is a report that lists all institution items with the owner's name.

To create this report

1. Create a **new report** by following the description from the Create a report section on page 8. For this example, the report has been named '*Item owners report*'.
2. Create a **JDBC data set** to return all items created in the last week using the data shown in the following figures.

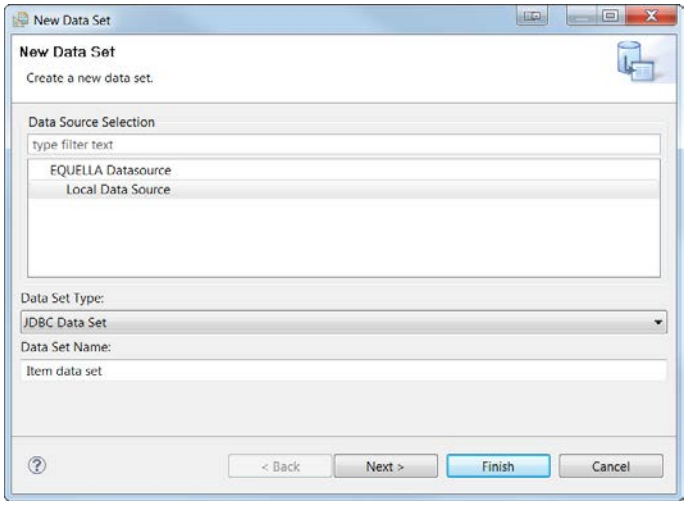

Figure 78 JDBC data set Item Owners Report sample configuration

The query shown in Figure 79 selects information on items from the CURRENT_INSTITUTION (a variable defined by EQUELLA to determine which institution is being accessed) that were created in the last seven days. (*NOTE: EQUELLA also defines a* ***CURRENT_USER*** *variable, which provides the user ID of the user running the query.*)

This particular query is written for a PostgreSQL database and uses the *date_part()* function that may not work in another database type. Check your database documentation for equivalent functions to evaluate dates.

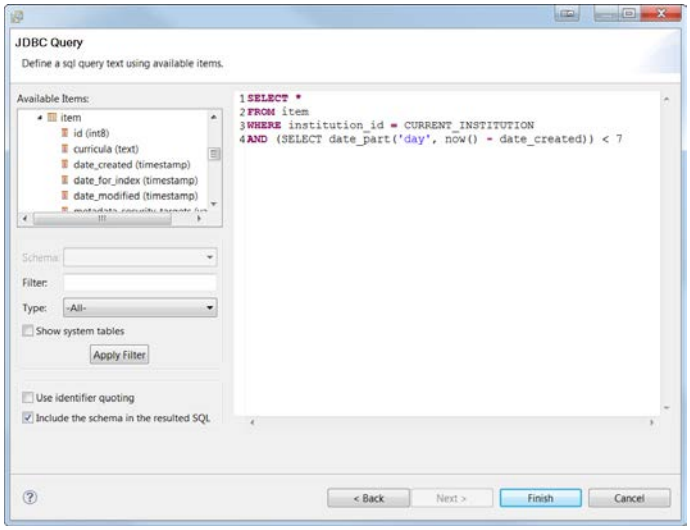

Figure 79 JDBC data set Item Owners Report sample query

3. Click Finish to complete the data set creation. The data set Output Columns are displayed, as shown in Figure 80.

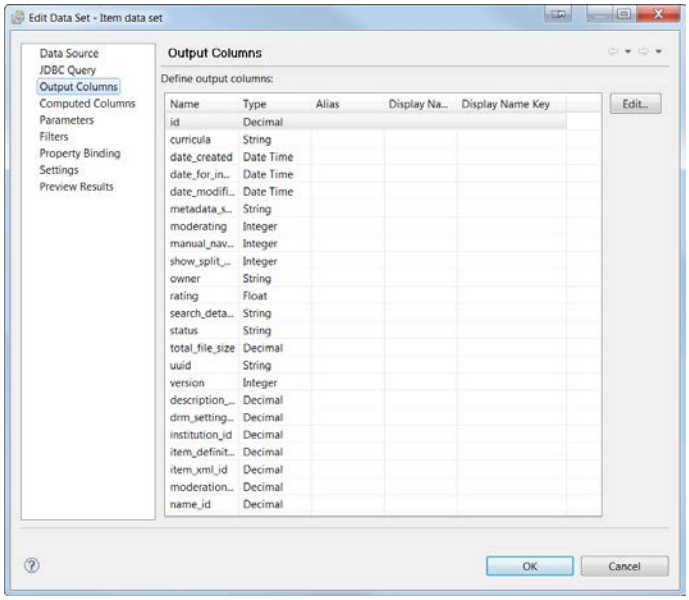

Figure 80 JDBC data set Item Owners Report output columns

Create a **UserManagement Dataset** that takes the **owner** UUID to return the owner's user name.

4. Setup a **UserManagement Dataset** as shown in the section above.
5. Select **User Information** as the **Query Type**.
6. Enter a question mark (?) as the **Query Text** to represent an input parameter, and click the **Finish** button.
7. Save the data set by clicking OK.

8. Click OK to the warning dialog about leaving the default parameter value empty.
9. Create a table for the report with two columns and headings for **Owner** and **Item UUID**.
10. Right-click the table and select **Edit Data Binding** from the displayed menu as shown in Figure 81.

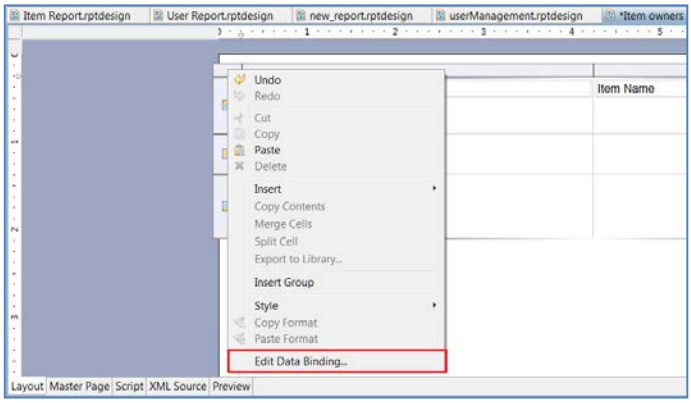

Figure 81 Edit Data Binding... on table

Binding the **JDBC data set** to the table allows use of any of the result data columns within the table, which will be required for the applying of a parameter in this example.

11. Select your **JDBC data set** ('*Item data set*') for the **Data Set** as shown in Figure 82, and click OK to close the dialog.

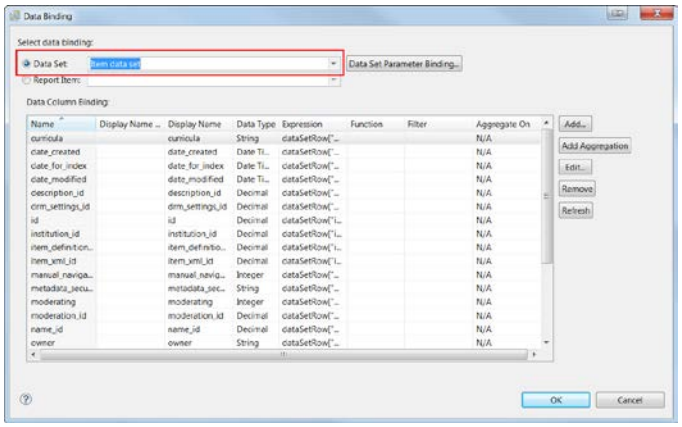

Figure 82 Bind JDBC data set to table

12. Select the **Detail Row** cell under the **Item UUID** column heading in the report table.
13. Right-click and select **Data** from the **Insert** pop-out menu to display the **New Data Binding** dialog.
14. Click Cancel without making any changes. This has added a **Data** field to your table.
15. Right-click the newly created **Data** field in the **Detail Row** of the **Item UUID** column, and select **Change Data Column**. An example is shown in Figure 83.

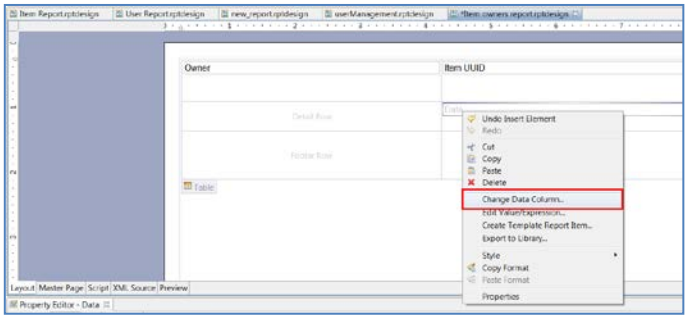

Figure 83 Change Data Column on Item UUID column

16. In the resulting **Select Data Binding** dialog, select your **JDBC data set** (‘*Item data set*’) from the **Data Set:** drop-down menu, and check the box alongside the **uuid** field in the list of column names. An example is shown in Figure 84.

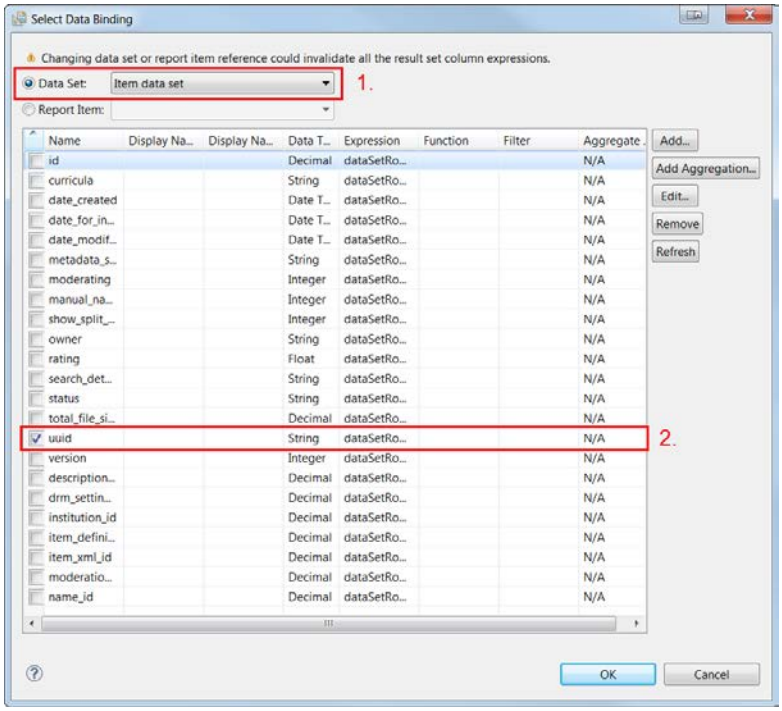

Figure 84 Select Data Binding on Item UUID column

17. Click OK to bind the data to the **Detail Row**. This will display the item UUID for each item returned by the data set.
18. Select the **Preview** tab to view the returned results, as shown in Figure 85.

The time taken to preview a report depends on the query and the number of records in the data set. Previews can take minutes to run.

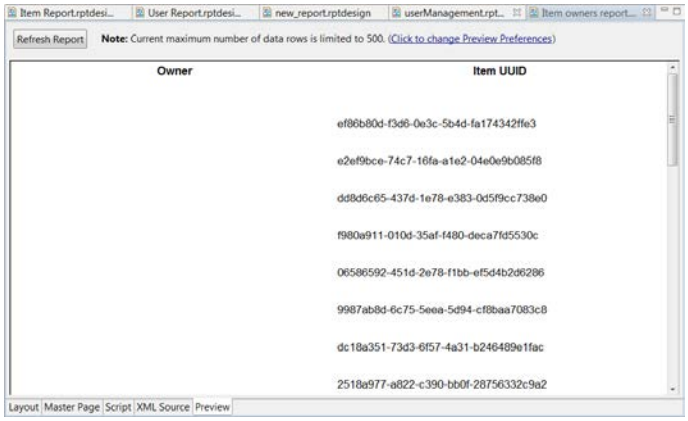

Figure 85 Item UUID Preview Results

19. After viewing the preview return to the **Layout** tab.

To configure the item **Owner** column

20. Right-click the **Detail Row** cell below the **Owner** column to display the cell context menu.
21. Right-click and select **Data** from the **Insert** pop-out menu to display the **New Data Binding** dialog.
22. Click Cancel without making any changes. This has added a **Data** field to your table.
23. Right-click the newly created **Data** field in the **Detail Row** of the **Owner** column, and select **Change Data Column**.
24. In the resulting **Select Data Binding** dialog, select your **UserManagement Data Set** (‘*Owner username data set*’) from the **Data Set:** drop-down menu. An example is shown in Figure 86.

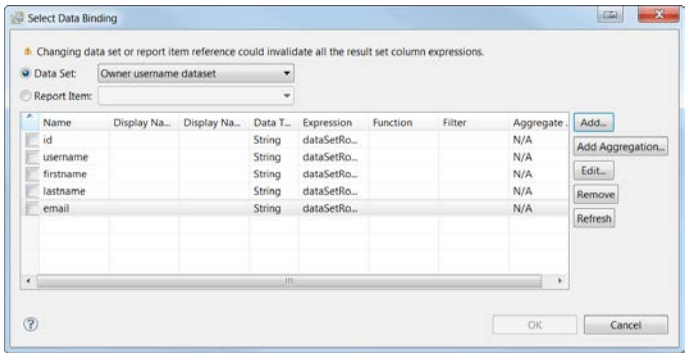

Figure 86 Select Data Binding for Owner column

The **Owner** column will display the item owner’s first and last names. The simplest method to generate these values is to create a new field using an expression.

To create the required field

1. Click Add... to add a new field.
2. Replace the default **Column Binding Name** with ‘*Owner name*’.
3. Select *String* as the **Data Type**.

4. In the **Expression** field, click the button to open the **Expression Builder**. An example is shown in Figure 87.

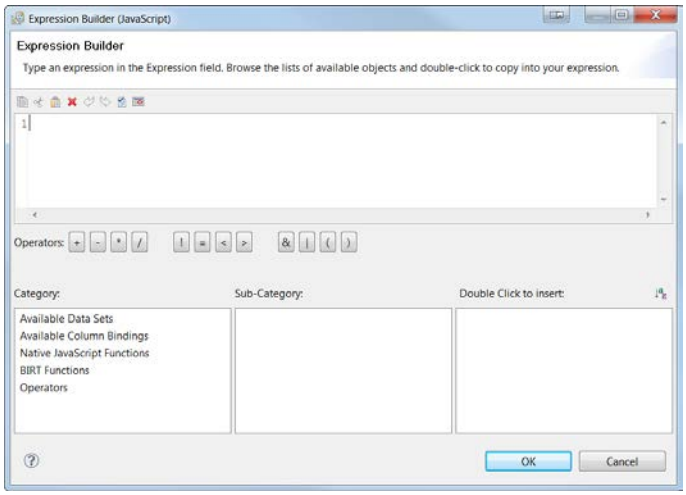

Figure 87 Expression Builder

5. Select the **Available Data Sets** from the **Category** pane to display the **UserManagement** data set ('*Owner username dataset*') in the **Sub-Category** pane.
6. Select the **UserManagement** data set ('*Owner username dataset*') to display the data set fields bound to the report table.
7. Double-click the **firstname** then **lastname** fields from the list in the **Double Click to insert** pane to enter the expression 'dataSetRow["firstname"]dataSetRow["lastname"]'.
8. Add a space between the two fields using the concatenate operator '+'. The completed expression should look similar to that in Figure 88.

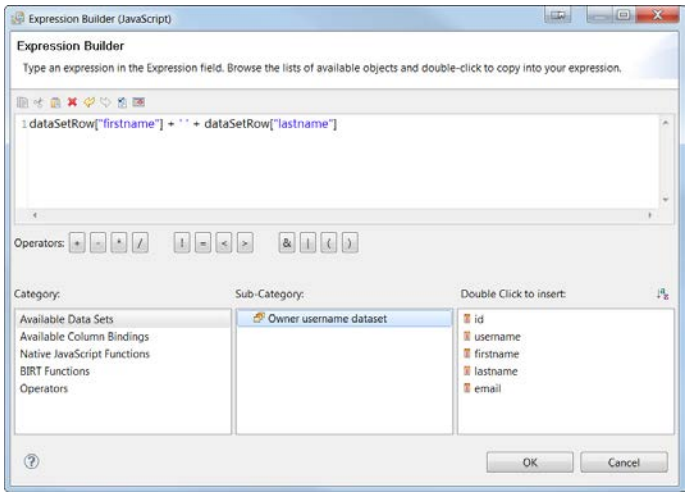

Figure 88 Owner expression

9. Click OK to close the **Expression Builder**.
10. Click OK to close the data binding dialog.
11. Make sure the **Owner** field is ticked in the **Select Data Binding** dialog, and click OK to close it.

The **Owner** field now needs to be bound to a parameter to return any data. The value of the bound field is used to replace the question mark (?) operator in the **User Information** query.

For this example, the parameter is used to look up the name of the owner from the **UserManagement** data set.

To bind a data set field to the query parameter

1. Ensure the newly created field is selected (the **Owner** field in Figure 89).
2. Select the **Binding** tab from the **Property Editor-Data** pane. An example is shown in Figure 89.

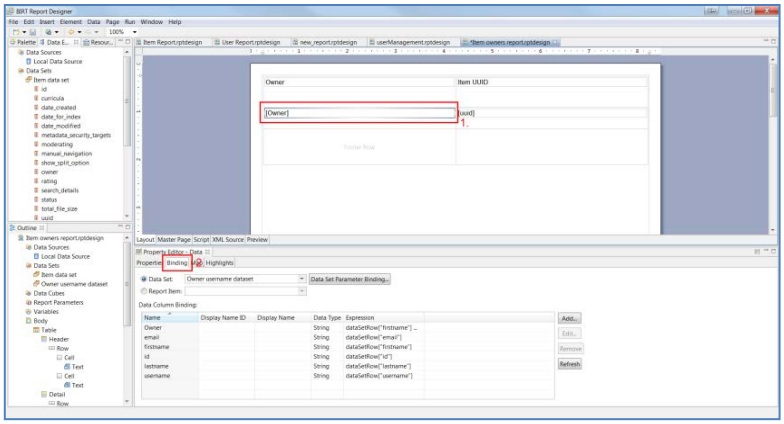

Figure 89 Select Owner field in report layout

3. Click the **Data Set Parameter Binding** button to display the **Data Set Parameter Binding** dialog.
4. Select the Parameter entry and click Edit....

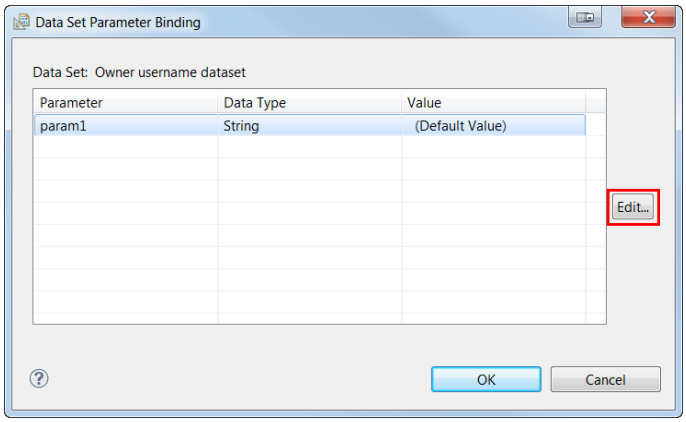

Figure 90 Data Set Parameter Binding dialog

5. In the resulting **Edit data set parameter binding** dialog, click the fx button to open the **Expression Builder**.
6. Select the **Available Column Bindings** from the **Category** pane to display the **Table** element in the **Sub-Category** pane.
7. Select the **Table** element to display the data set fields bound to the report table.
8. Double-click the **owner** field from the list in the **Double Click to insert** pane.

The **Expression Builder** dialog should now look like that in Figure 91.

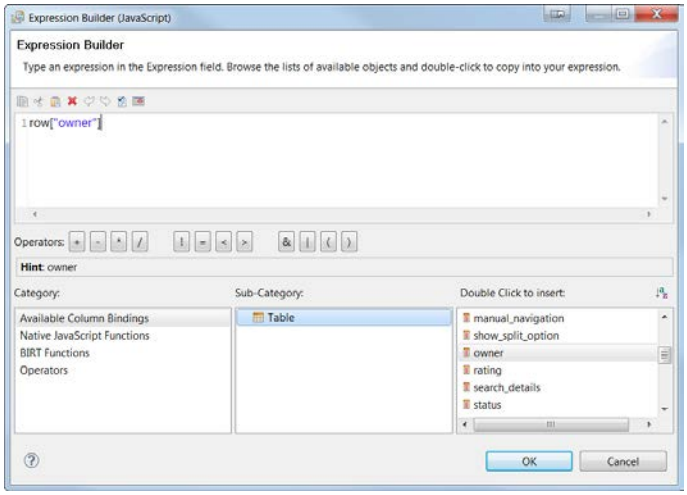

Figure 91 Expression Builder Owner parameter

9. Click OK to close the **Expression Builder**.
10. Click OK to close the **Edit data set parameter binding** dialog.
11. Click OK to close the **Data Set Parameter Binding** dialog, and return to the layout page.
12. Preview the report. Figure 92 shows the sample report with items that have been created in the last seven days.

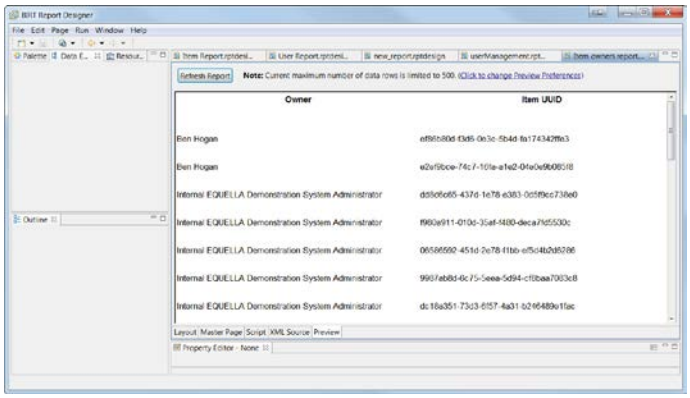

Figure 92 Previewed report

The report is complete.

13. Save the report.

Typically EQUELLA reports would require improved formatting before being uploaded to EQUELLA. Formatting is beyond the scope of this document, further information is available in the *BIRT Report Developer Guide* in the Report Designer Help.

Notes

User and Group information queries require careful implementation as each record of the JDBC data set causes a search of the User Management system. When the returned JDBC data set is large, the time to run the report can be great as each record causes a request

to EQUELLA. When EQUELLA is using the internal user management plug-in the TLEUSER and TLEGROUP tables can be joined to improve query reporting.

Contact Client Support

We are always happy to help.

If your organisation has a support agreement with EQUELLA then help is available at http://support.equella.com/.