

COGNOS Query Studio

Ad Hoc Reporting

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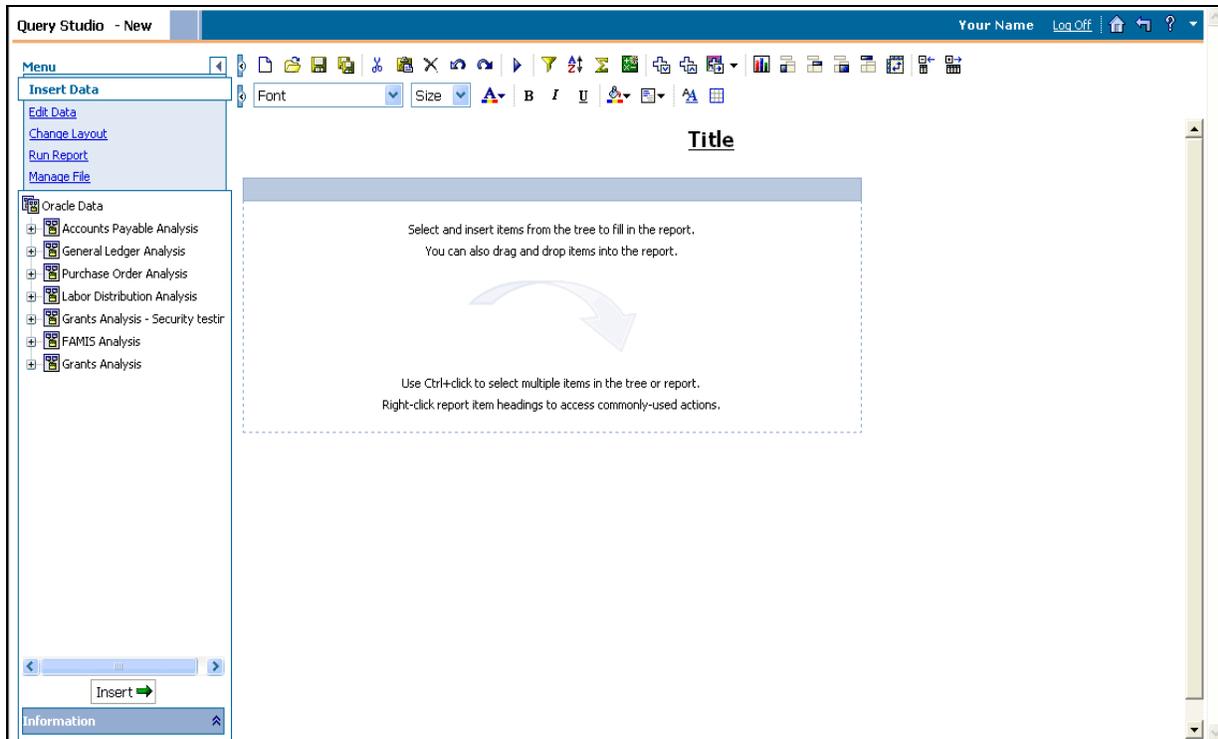
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Query Studio Topics

At the end of this course, students should be able to:

- Use Query Studio Reporting
 - Understand database structure
 - Understand ad hoc reporting
 - Understand the Query Studio menu panel
- Create ad hoc reports
 - Insert data
 - Edit data
 - Filter data
 - Calculate data
 - Sort data
 - Change the layout
 - Add a title
 - Format a title
 - Group records
 - Run the Report
 - Manage ad hoc reports
 - Save reports

Query Studio User Interface



Query Studio is the data-warehouse approach to ad hoc reporting. The application is accessed directly from the data warehouse web portal. It is easy to use, organized into three main work areas, and opens in a separate browser window.

- The **Menu** panel lists the report author, and provides Insert Data, Edit Data, Change Layout, Run Report, and Manage File categories for stepping through the entire ad hoc reporting process.
- The **Work area** is the central work area where data is inserted, filters and calculations are defined, and report results are displayed.
- The **toolbars** provide direct access to commonly used reporting functions, such as copy and paste, undo and redo, filters, and calculations. It also provides direct access to formatting options, such as font and point size.

A new report does not yet contain any data or structure. Creating a report is simple once the ad hoc reporting process is understood.

Understanding database structure

A database is a collection of information that is organized into tables. Databases usually contain many tables that have related information. For example, a database about students may have a database with a table for student personal data and related tables for class activities and tuition. Information about housing availability is unrelated to these tables, so it is not stored in the same database. In Query Studio, this database source is called a **Subject Area**.

Each **Subject Area** can contain many tables. In Query Studio, these tables are called **Query Subjects**. To explain the table structure, an example of a database table for account activity (a checkbook register) is displayed below:

StudentID	Enrolled	Major	Lab Fees
101	7/1/2008	Engineering	\$150.75
102	7/5/2008	Biology	\$433.98

Each database table is structured in columns that represent the categories (or types) of information it contains. In the above example, the columns are *StudentID*, *Enrolled*, *Major*, and *Lab Fees*. These are called *fields*. In Query Studio, fields are called **Query Items**.

Data types can also be important to reporting. For example, a numeric **Query Item** (called a **Measure** in Query Studio), such as *Lab Fees*, can be calculated to sum, and a date can be specified to filter a range.

In Query Studio, users can create a report from a single **Subject Area** (database), but **Query Items** can be used from multiple **Query Subjects** within that **Subject Area**.

Understanding Ad Hoc Report Planning

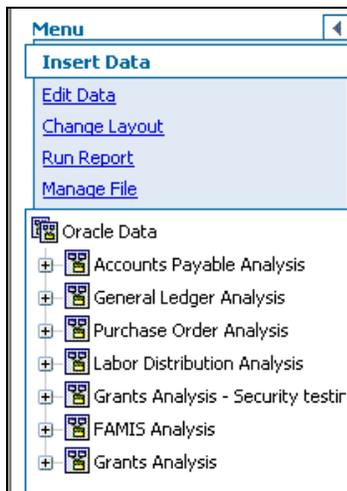
Ad hoc reports are designed to provide answers to irregular, uncommon, or specific business questions. Before beginning the ad hoc reporting process, it is important to answer the following questions:

1. What is the business question being asked?
2. How should the data be displayed to best answer the question?
3. Where is the required data?
4. What **Subject Area**¹, **Query Subjects**, and **Query Items** will be used?
5. Are filters and calculations required?
6. Who needs to see the report?

¹ Remember, only data from one Subject Area can be used in a single report.

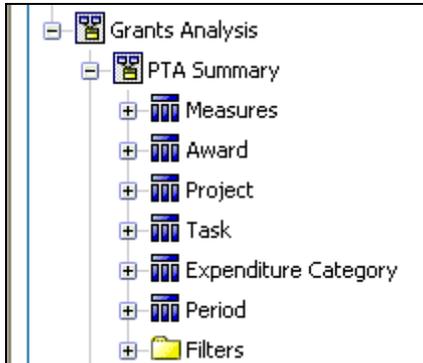
Understanding the Query Studio Menu Panel

The data warehouse Query Studio process is performed by using the Menu panel. The Menu panel is used to define the report. The report should answer the business question being asked and conform to the requirements defined in the planning stage.

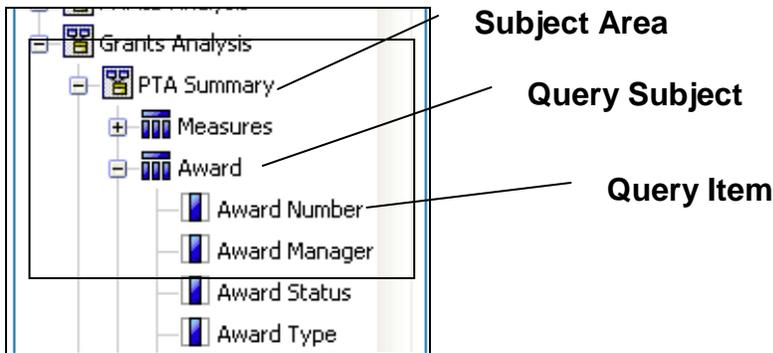


A new report does not contain any data or structure. It is important to know how data elements are organized within the particular data source before creating a report.

The user chooses the report items to include in the report from the **Subject Area**. Each **Subject Area** includes multiple **Query Subjects**, including subjects, measures, and filters.



Each **Query Subject** may contain multiple **Query Items**. These **Query Items** become rows, columns, or data values in a report.



Creating Ad Hoc Reports

Inserting Data, Step by Step

Query Items appear as columns in list reports, and as rows and columns in crosstab reports. In charts, Query Items appear as data markers and axis labels.

To facilitate faster report creation, it is recommended that the data be turned off prior to building the report structure.

NOTE: When the Data is turned off, placeholder data such as “abcd” or “1234” is displayed.

1. Turn off the display of data by clicking the **Run Report** menu item in the panel. *The display updates to list Run Report options.*



2. Click the **Preview with No Data** option to increase report-building speed.
3. Click the **Insert Data** menu item in the panel. *The Datamart list displays.*



4. Click the **Expand**  icon next to the desired datamart. *The Subject Area list is displayed.*

5. Click the **Expand**  icon next to the desired Subject Area.
The Query Subject list is displayed.
6. Expand any desired Query Subjects to view available Query Items.
7. Drag the desired **Query Items** into the Main section of the report, or select the **Query Item** and click the **Insert**  button in the Menu panel.
The column will display in the sample.
 - By default, each new report item follows the last report item, but you can insert an item in a different position by selecting an existing heading in your report. The next item added from the package will precede this heading.
 - To add several query items simultaneously, use Ctrl+click to select multiple items, and then, at the bottom of the left pane, click the Insert button.
 - To remove a Query Item from the report, right-click the column head to be removed, and select Delete.

Editing Data

The **Edit Data** menu item allows users to control what data a report uses, and how that data will be formatted, calculated, and sorted. Also, many common commands can be added by using the toolbar icons. This training will cover adding filters, summary calculation, and sorting.

The edit data options:

- Filter data to retrieve only the data that is needed.
- Organize report results by sorting and grouping.
- Format data to determine how number, currency, date, and time values display.
- Perform calculations using the data in your reports.



Filtering Data, Step by Step

1. Select the **Edit Data** menu item.
The Edit Data list displays in the menu panel.
2. In the main section, select the column header to be filtered.
3. Click the **Filter**  icon.
The Filter page displays in the main section².



² The options on the Filter building page are determined by the type of information in the column.

4. Set desired **Condition**, and **Prompt** options.
5. Click the **OK** button.
The report building page displays.
6. Set desired criteria (condition, results, search, etc.), and Prompt options.
7. Click the **OK** button.
The report building page displays.
8. Set additional filters as desired.

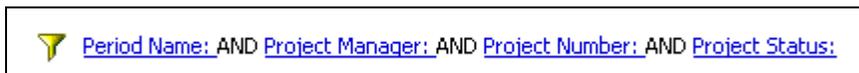
When multiple filters are employed, a filter list is displayed. This list of filters offers options for grouping filters and applying **And**, **Or**, and **Not** conditions.

- **And** conditions reduce records.
- **Or** conditions increase records.
- **Not** conditions exclude records.



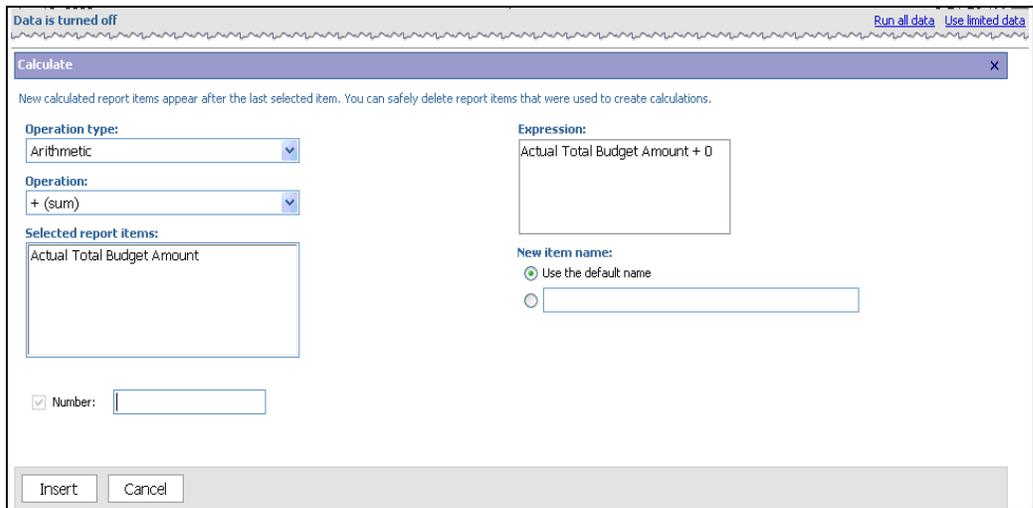
9. Click the **Apply** button, if multiple filters have been set.

NOTE: Applied filters are listed and can be accessed at the top of the main section.



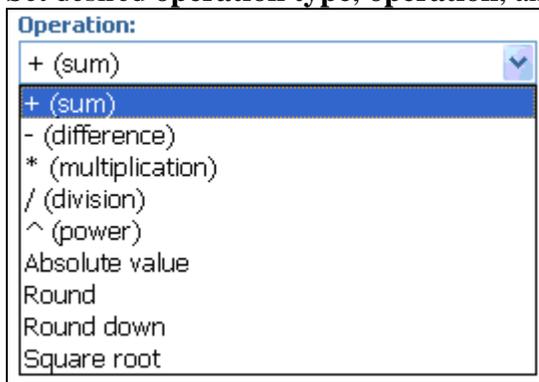
Calculating Data, Step by Step

1. Select the **Edit Data** menu item, if necessary.
The Edit Data list displays in the menu panel.
2. In the main section, select the column header to be calculated.
3. Click the **Calculate**  icon.
The Calculate data screen displays.



NOTE: Summary values are automatically assigned to measurement Query Items.

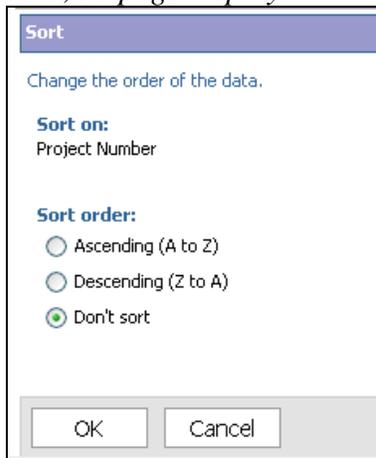
4. Set desired **operation type, operation, and expression.**



5. Assign the desired column name.
6. Click the **Insert**  button.
The report updates to display the calculated field.

Sorting Data, Step by Step

1. Select the **Edit Data** menu item, if necessary.
The Edit Data list displays in the menu panel.
2. In the main section, select the column header to be sorted.
3. Click the **Sort**  icon.
The Sort screen displays for all numeric fields. If a text field is selected, and the toolbar is used, no page displays.



4. Select **Ascending** or **Descending**, as desired.
5. Click the **OK**  button.

Changing the Layout

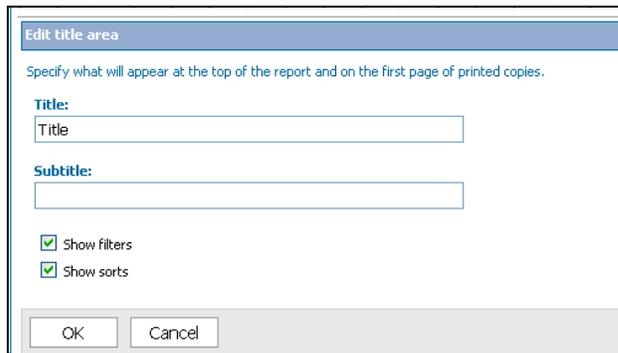
The **Change Layout** option can be used to change the appearance of a report, making it easier to understand and interpret without changing the underlying data.

Use the Change Layout option to:

- Enter a report title.
- Collapse or expand a report.
- Reorder report items.
- Rename column headings.
- Swap rows and columns.
- Control the number of rows per page.

Edit Title Area, Step By Step

1. Select the **Edit Data** menu item, if necessary.
The Edit Data list displays in the menu panel.
2. In the main section, select the **Edit Title Area** [Edit Title Area...](#) link.
The Edit Title Area page is displayed.



3. Enter desired **Title** and **Subtitle**.
4. Set **filter** and **sort** options as desired.
5. Click the **OK**  button.
6. Drag title to select the text.
7. Click the **Text Color**  icon on the toolbar. Select desired color.

Grouping Data, Step By Step

Grouping records hides duplicate values to enhance report clarity. Grouping can only be performed on text fields.

1. Select the **Change Layout** menu item.
2. Click the **Group**  icon.
3. Click the **Create Sections**  icon.
The report groups and hides duplicate values.

Running The Report, Step By Step

A report is run to retrieve requested data from the database. An ad hoc report also runs when it is opened, or whenever changes are made.

NOTE: To improve processing during development, be sure the report is set to *Run with No Data*.

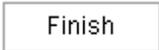
Use the **Run Report** option to:

- Run the report with all data, limited data, or no data.
- Run the report in PDF, Excel, or CSV format.
- Specify advanced query options.



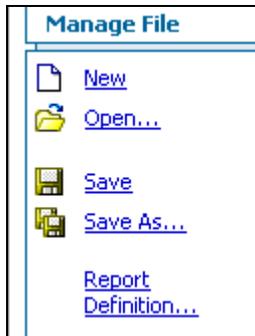
1. Open the Run Report  menu item.
2. Click **Run with All Data**  icon or a **View in** option in the menu panel.
3. Set any report filters, if the Report Filters page displays.

NOTE: Select *Prompt every time report runs to display filters.*

4. Click the Finish  button.

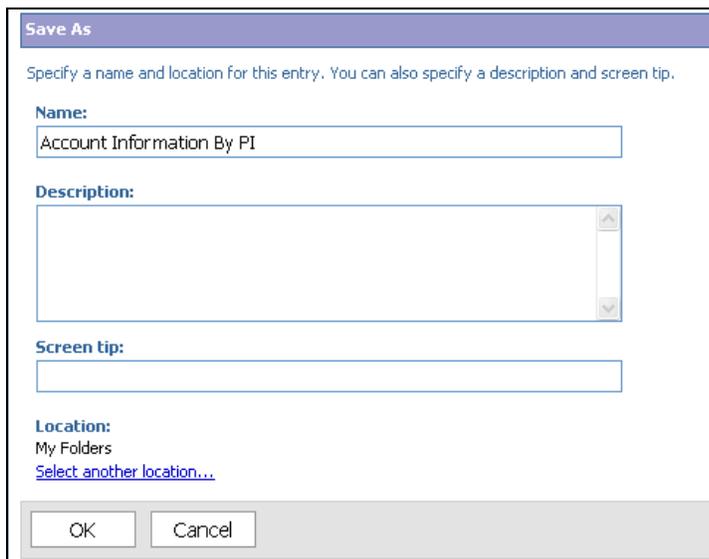
Managing the Report

Save a report to preserve any changes. When a report is saved, Query Studio saves the query definition, which is a specific set of instructions for extracting particular data. *It is not a snapshot of the data you retrieve at the time you saved the report.* For example, if a user runs a report that was saved two weeks ago, the data in the new report will reflect any changes in the updated data source.



Saving Reports, Step by Step

1. Open the **Manage File** menu list.
The Manage File list displays in the menu panel.
2. Click the **Save As**  icon in the menu panel.
The save options display.



Save As

Specify a name and location for this entry. You can also specify a description and screen tip.

Name:
Account Information By PI

Description:

Screen tip:

Location:
My Folders
[Select another location...](#)

OK Cancel

3. Type a report **name** and **description**, as desired.
4. Select a location (usually My Folders),
5. Click the **OK**  button.

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Lesson Labs

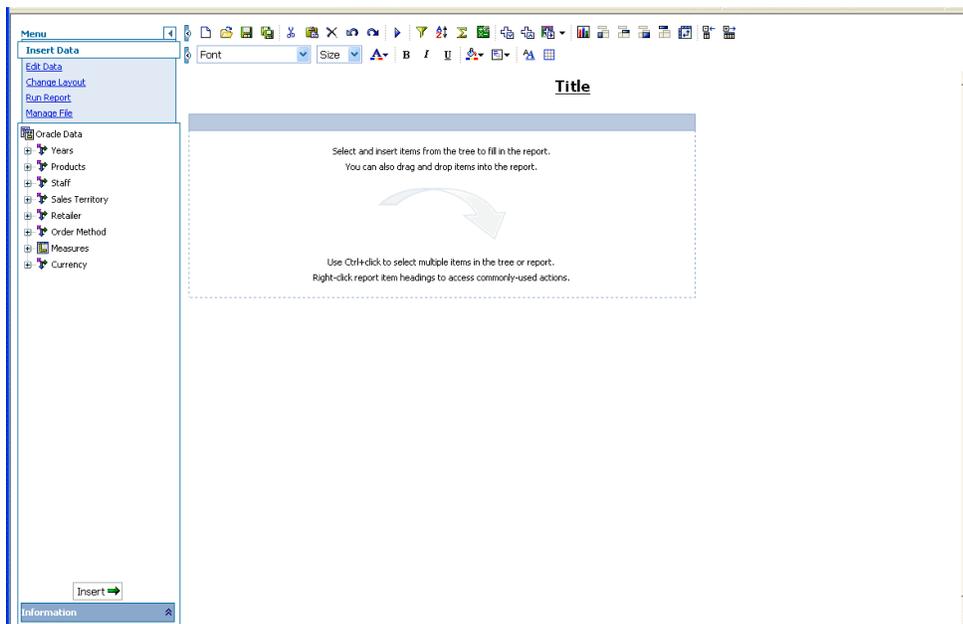
Creating Ad Hoc Reports

Lab Overview

In this practice, students will gain experience planning, creating, filtering, running, and saving ad hoc reports.

Group Tasks

1. Plan a report that will display PTA information (Project Number, Total Budget, Period Expenditure, Actual Expenditure, Actual Period Commitment and Available Balance) for those Active Projects in the Period Sep FY2007 that are managed by Scott Leingang.
2. Navigate: Datamarts → Oracle Data
3. Click the Launch command.
4. Select Query Studio.



5. Click the **Run Report** menu command.
6. Select **View with No Data**.
7. Click the **Insert Data** menu command.
All data sources are listed in the menu panel.

8. Expand the Grants **Datamart** to view the available **Subject Areas**.
9. Open the PTA **Subject Area** to view available **Query Subjects**.
10. Add the following fields to the report by dragging them into the main section or by selecting them and then clicking the Insert button in the menu panel:
 - Period Name
 - Project Manager
 - Project Number
 - Task Number
 - Award Number
 - Project Status
 - Total Budget Amount
 - Period Expenditure Amount
 - Actual ITD Expenditure Amount
 - Actual Period Commitment Amount
 - Available Balance Amount
11. Assign the appropriate filters to the following fields, prompting for values every time the report is run:
 - Period Name
 - Project Manager
 - Project Status
12. Add a report title in a colored font.
13. Select the Run Report menu item.
14. Run the report with all data.
15. Save the report in My Folders.

Group Tasks

Plan and build a report that will display information that would be used in your office.

Also Try

Remove a column, sort a column, calculate a column.

End of Activity.

Appendix

Troubleshooting Guide

Reports and Package Versions

In Query Studio, reports always use the most recent version of the Subject Area. If the Subject Area is republished, the user is notified that the report will use the newest version of the package. The user must save the report to complete the update.

In the report viewer, if you open a saved report after the package it is based on has been republished, one of two things happens:

- If the original version of the package still exists, the report runs against the original version.
- If the original version of the package no longer exists, the report is updated to run against the most recent version.

Filters

Filters

You can use a filter to specify the subset of records that the report will retrieve. Any data that does not meet the criteria will be eliminated from the report. You can filter textual, numeric, or date and time data. When filtering measures, you can apply the filter to:

- Details;
- summaries in reports that contain summaries;
- individual records in the database for measures only.

Filtering Based On Report Details

When you filter on details, you filter the values that appear in the detail rows of your report. For example, if you filter on details using as criteria all quantities greater than 100,000, only data that matches these criteria are the detail rows for camping equipment sold in the United States and Germany.

Filtering Based On Group Summaries

When you filter on summaries, you filter the values in the footers. Filtering on summaries eliminates groups from your report.

Filtering Based On Individual Records in the Database

In a report that shows the quantity of units of camping equipment sold in three countries, the actual figures do not exist in the data source. The numbers are aggregates, the result of totaling a number of individual records. If you add another column to the report based on order numbers, it would look like this, listing the quantity of units sold for each individual order.

When you use a filter based on individual records in the database, it is these underlying values that are filtered.

Turn Off Automatic Summarization

Query Studio automatically suppresses duplicates. For example, if you add the report items Product Line and Country to a report, Query Studio will only show each unique combination of Product Line and Country once, rather than show all combinations that occur.

Query Studio also automatically summarizes detail values. For example, if you add the report items Product Line and Quantity to a report, you get one row for each Product Line, with the Quantities summarized for that Product Line, rather than thousands of rows, showing each individual record.

Query Studio also automatically generates footer summaries for measures. For example, if you add the report items Product Line and Quantity to a report, you get an overall total for Quantity at the bottom of the report. These defaults make the presentation of reports more convenient for users, but can also make the report run slower or produce unexpected results. You can change these defaults.

Note: Turning off automatic summarization changes the normal behavior of Query Studio, and can affect the usability of reports. You can also turn off the automatic suppression of duplicates and summarization of detail values.

Steps

1. From the Run Report menu, click Advanced Query.
2. In the Advanced Query Options dialog box, choose an option:

To turn off the automatic generation of footer summaries for measures, clear the **Automatically generate footer summaries for measures** check box.

To turn off the automatic suppression of duplicates and the summarization of detail values, clear the **Automatically summarize detail values, suppressing duplicates** check box.

Click **OK**.

Change the Data Format

You can use predefined formats to change the appearance of numbers, dates, and times without changing the underlying data. For example, you can show a date in abbreviated format or in a long format that spells out the day and month.

Default

The default format is the format of the report item before any formatting is applied in Query Studio. Use default to remove formatting.

Number

Use the number format to change the number of decimal places, to specify whether to use a thousands separator, to choose different symbols to represent negative numbers, and to scale large numbers.

You can turn off the automatic suppression of duplicates and the summarization of detail values.

Currency

You can choose from many world currencies. Use either the currency symbol or the international code. For example the currency symbol for the euro is € and the international code is EUR. You can also change the number of decimal places, specify whether to use a thousands separator, choose different symbols to represent negative numbers, and to scale large numbers.

Percentage

This format shows a number multiplied by 100, using two decimal places and a percent sign. For example, 0.7356 appears as 73.56%.

Scientific

This format shows a number in exponential notation. For example, the number 224,110 is 2.24110E+05 in scientific notation.

Date and Time

You can choose from a list of date and time formats, including the 12- or 24-hour clock.

Steps

1. Open the report that you want in Query Studio.
2. Click the heading of the report item you want to format.
3. From the Edit Data menu, click Format.
 - To format numeric data, in the Category box, click a type and define the format, as required.
 - To format text data, in the Category box, click Text and type a number in the Number of visible characters box.
 - To format date and time data, in the Category box, click a type; then, in the Type box, click a format.
4. Click **OK**.

Calculations

You can perform many types of calculations in Query Studio. For example, you can calculate the sum or average of the values in one column, or multiply the values in two columns. Calculation results are not stored in the underlying data source. Instead, Query Studio reruns the calculation each time you run the report. The results are always based on the most current data in the data source.

Note: If you use a SAP BW data source, the functions available when creating calculations are restricted by functions available in SAP BW. You can perform calculations in Query Studio by adding summaries or by adding calculations.

Summaries

Use the Summarize command to add or remove footer values, or to change how detail values are calculated. For example, use the Summarize command to place an average in each footer.

Calculations

Use the Calculate command to create new report items using data from one or more report items. For example, use the Calculate command to add together several columns in a list report.

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Addendum Query Studio Rules

Query Studio Rules

To get accurate and consistent results from a Query Studio Report, these rules should be followed in sequence:

Always

1. Choose one Query Subject for the report
2. Drag over an individual Query Item (such as Award, Project, or Funding Source)
3. Add the desired filter for the Query Item.
4. Add additional query items and filters, if desired.
5. Add measures

Never

1. Drag measures first
2. Drag items from different Query Subjects
3. Drag whole subjects