# Data Explorer Guide

Axiom Software

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axiom software

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# Data Explorer

Using the Data Explorer, you can analyze and report on your data using an intuitive drag-and-drop interface. You can explore your data and see results immediately, without the overhead of designing and formatting a more formal report.

The Data Explorer is ideal for performing quick on-the-fly analysis. You can open a new Data Explorer instance at any time to simply view and explore data, or you can save certain settings in a permanent Data Explorer file that you can then reuse as needed whenever you want to analyze that set of data. Saved Data Explorer files are stored in the Reports Library and can be shared with other users.

# About Data Explorer

Using the Data Explorer, you can perform drag-and-drop analysis on your Axiom Software data. To view data, you drag values and dimensions from the Available Fields to the query settings at the top of the screen. This topic provides an overview of how the Data Explorer works.

## Prerequisites

In order to expose data to the Data Explorer, one or more data sets must be defined for your system in the Table Administration area of the Desktop Client (Excel Client or Windows Client). Data sets are defined collections of tables and columns in your database. When creating a new Data Explorer file, you select which data set you want to use to determine the data that is available for analysis. For more information, see Exposing table data for use in the Data Explorer.

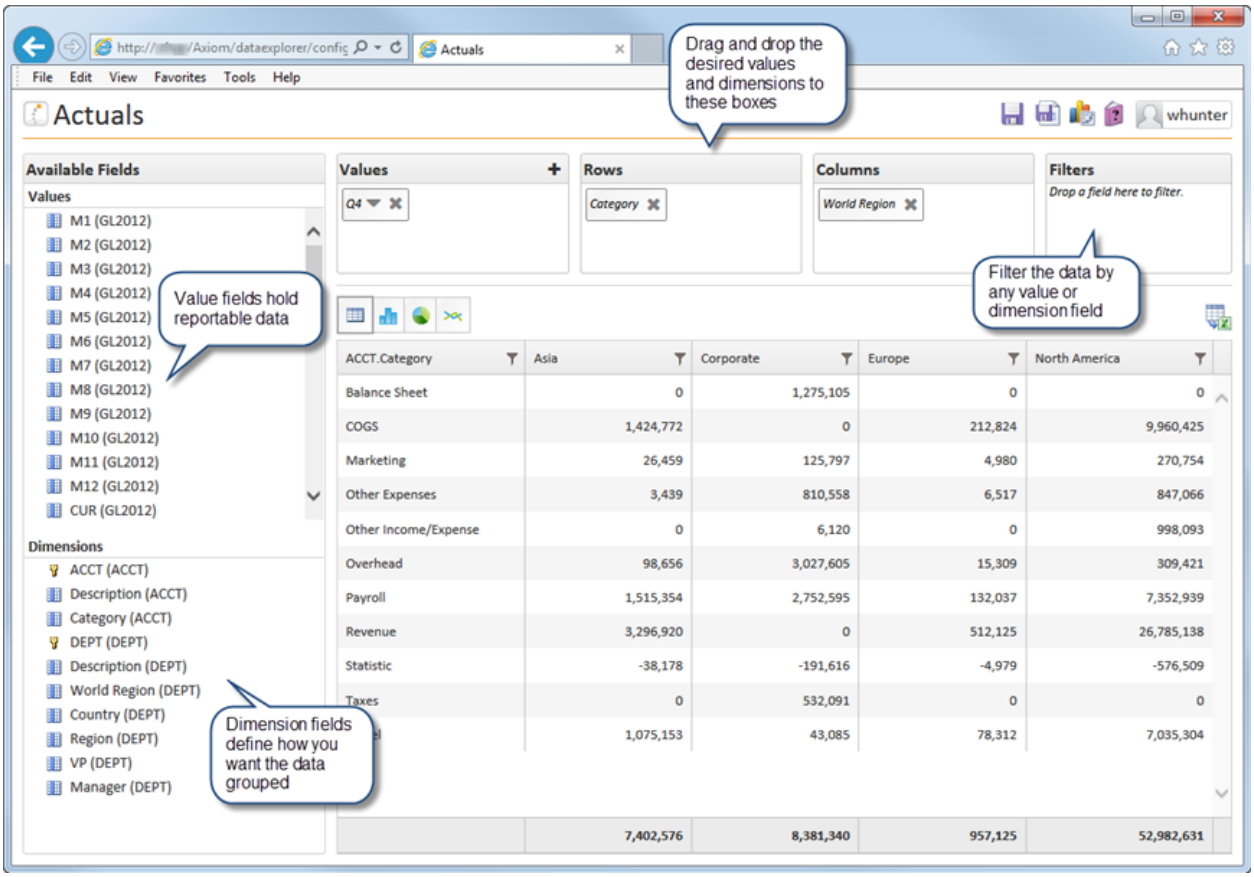
## Accessing the Data Explorer

The Data Explorer is viewed using the Axiom Web Client. You can access the Web Client directly and use the Data Explorer, or you can create and open Data Explorer files from within the Excel Client or the Windows Client (this will automatically launch the Web Client in your browser). Your browser must meet the minimum technical requirements for use of the Axiom Web Client in order to use the Data Explorer.

## Working in the Data Explorer

The Data Explorer is designed so that users do not need detailed knowledge of their database structures in order to view data. The Data Explorer works by simplifying data into two categories, *values* and *dimensions*. Values are the data values that you want to report on, such as budget data for the first quarter, or actuals data for last year. Dimensions represent how you want that data grouped and displayed. For example, do you want to see budget data by account or department, or by groupings such as category, company, region, VP, etc.?

To use the Data Explorer, you can simply drag and drop your desired values and your desired row dimension. You can also optionally specify a column dimension—for example if you want to compare revenue budgets for next year by region, with a region in each column. You can view the resulting data in an easy-to-read grid display, or you can click a button to automatically generate various charts and graphs based on the data.



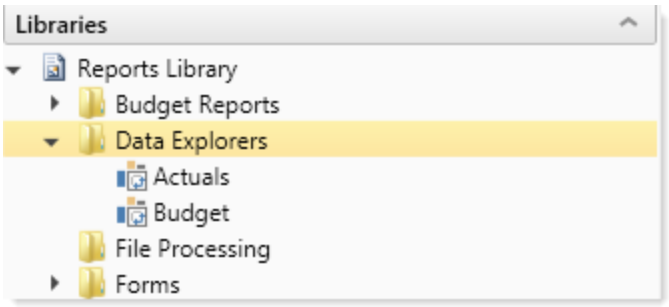

The user's table permissions as defined in security always apply to the data displayed in the Data Explorer, just as they would when refreshing a regular report. The user can see all data set names and all column names, but the data query will always be filtered according to the user's security permissions.

## Saving and sharing Data Explorer files

You can use the Data Explorer as a temporary tool for data analysis, or you can save Data Explorer files for your future use and/or to share with other users. All save actions are performed using the toolbar at the top of the Data Explorer.

When you save a Data Explorer, the current query settings are saved as a starting point. The next time the file is opened, it will start with the saved settings for Value, Row, Column, and Filter. You can change these settings as desired to perform further analysis in the current session. You can then close the file without saving the setting changes, or you can save the file to set a different "starting point" for the file. You can also save a copy of the file with these new settings.

Data Explorer files are stored in the Reports Library, using a special icon: . Access to Data Explorer files is controlled just like any other file in the Reports Library, using the file permission settings defined for the folder or the file in Axiom Software security. Users with read-only access can open the Data Explorer file to view the data and modify settings for the current session, and they can use Save As to save a copy of the file (if they have read/write access to a report folder). Users with read/write access can modify settings in the Data Explorer file and save it.




*Data Explorer files in the Reports Library*

Users can open Data Explorer files from the Reports Library in the Excel Client or the Windows Client, or they can go to the Data Explorer page in the Web Client to browse available files. New Data Explorer files can also be created in all environments.

Once a Data Explorer file has been saved, you can easily share it with other users by sending them the hyperlink to the file. If you have the file open in the Web Client, then you can simply copy and paste the URL from your browser window. In the Excel Client or Windows Client, you can right-click the file in the Reports Library and choose **Copy shortcut to clipboard**. The other user must have the appropriate permissions to view the file.

# Exposing table data for use in the Data Explorer

The Data Explorer is intended to be used for quick and easy data analysis. Therefore, instead of exposing all data in your system at once (which may be overwhelming for users to sift through and find what they want), the Data Explorer uses the concept of *data sets* to define a distinct set of data available for analysis. Administrators must define one or more data sets to enable use of the Data Explorer.

Data sets are based on table columns. When you create a data set, you pick columns from one or more tables. Users can then drag and drop those columns as desired within the Data Explorer. Any data outside of those columns is not available in the Data Explorer while the user is working with that data set.

In order to expose data for use in the Data Explorer, you must do the following:

- Review the column classification for any column that you plan to include in a data set, and adjust as needed.
- Define one or more data sets to make available for use in the Data Explorer.
- (Optional) Define intuitive display names for columns in data sets so that users can more easily understand what is in each column.

These activities are performed using table management features in the Excel Client or the Windows Client.

## Defining column classifications

Each column in a table is assigned a classification. This classification is used to determine whether the data in a column is considered to be values or dimensions:

- **Value**: Value columns contain reportable data such as budget or actuals data. For example, most columns in a data table such as GL2018 are value columns, such as M1 through M12, as well as calculated columns such as CUR, TOT, and YTD.
- **Dimension**: Dimension columns define the levels at which you want to group and display the value data. For example, the key columns in a data table such as GL2018 are dimension columns (such as Acct and Dept). Columns in lookup reference tables such as Dept and Acct are almost always dimension columns as well. In addition to the Acct and Dept key columns, this would include columns such as AcctCategory, Company, Region, VP, etc.

When using the Data Explorer, value columns define the data values to be reported on, and dimension columns define the row groupings (and optionally column groupings). For example, you can drag a dimension column to the rows or the columns of the Data Explorer, but you can't drag it to the values. Similarly you can drag a value column to the values of Data Explorer but not to the rows or columns. Filters can be defined using either value or dimension columns.

All columns are assigned a classification by default, but you can override this classification as needed. The default classifications are as follows:

- Numeric columns are classified as Value by default.
- Integer columns (all types) are classified as Dimension in reference tables. In data tables, non-key, non-validated Integer columns are classified as Value, otherwise they are classified as Dimension.
- All other columns are classified as Dimension.

**NOTE:** All columns in document reference tables are assigned Dimension as the classification. This cannot be changed.

If the default classification is not appropriate for a particular column in a data or reference table, you can change it in the column properties. To edit column properties in a table, you must either be an administrator or have the **Administer Tables** permission (as well as access to the table).

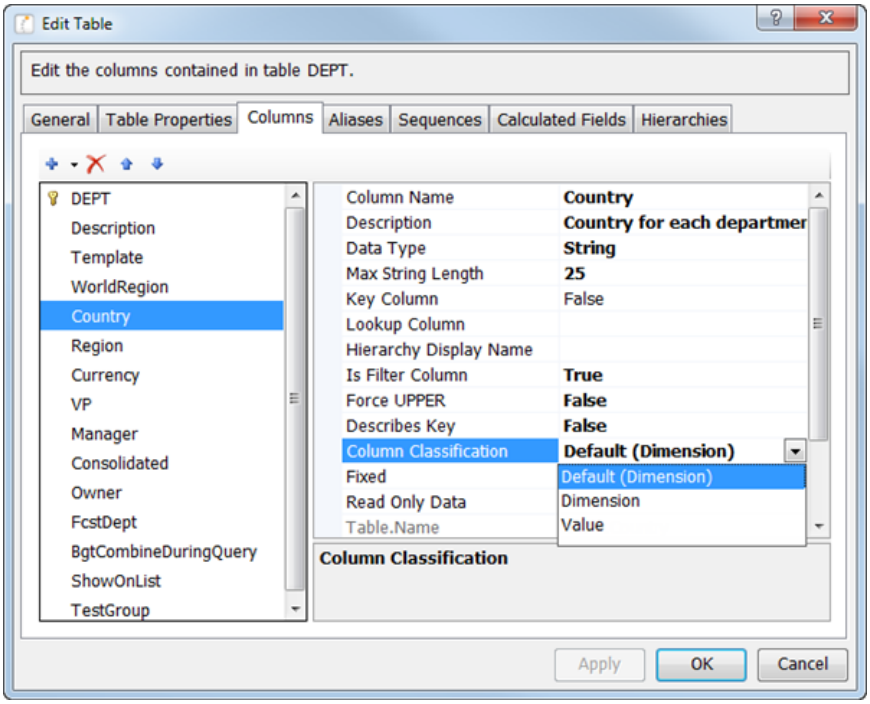
**To change the classification for a column:**

1. On the **Axiom** tab, in the **Administration** group, click **Tables** and then navigate in the Table Library to the desired table. Select **Edit Table Structure** for that table.

   **TIP:** If you are in the Axiom Explorer table view, you can right-click a table to edit the table structure.

2. In the **Edit Table** dialog, click the **Columns** tab.
3. In the left-hand pane of the Columns tab, select the column that you want to change. Then in the right-hand pane, scroll down the list of properties until you locate **Column Classification**.

4. Select one of the following options for Column Classification:
   - **Default**: The column will use the default classification for this type of column. The default classification for the current column is listed in parenthesis.
   - **Dimension**: The column is considered to be a dimension column, regardless of its default classification.
   - **Value**: The column is considered to be a value column, regardless of its default classification.




5. Click **OK** to save.

## Column display names

By default, the columns in the data set display in the Data Explorer using their actual column names. If desired, you can define more intuitive display names that will be used instead of the column names. This may make it easier for non-technical users to identify the data that they want to see. The user can still see the Table.Column name in the tooltip when they hover over a display name.

To define a display name, use the Hierarchy Display Name property for the column. This display name is also used by hierarchies (such as in the Quick Filter and Filter Wizard). Make sure that the defined display name is appropriate for all places where it will be used.

To edit column properties in a table, you must either be an administrator or have the **Administer Tables** permission (as well as access to the table).

**To define the display name for a column:**

1. On the Axiom tab, in the **Administration** group, click **Tables** and then navigate in the Table Library to the desired table. Select **Edit Table Structure** for that table.

   **TIP:** If you are in the Axiom Explorer table view, you can right-click a table to edit the table structure.

2. In the **Edit Table** dialog, click the **Columns** tab.
3. In the left-hand pane of the Columns tab, select the column that you want to change. Then in the right-hand pane, scroll down the list of properties until you locate **Hierarchy Display Name**.
4. Type the desired display name into the **Hierarchy Display Name** field.
5. Click **OK** to save.

### Defining data sets

Data sets define collections of table columns that are available for drag and drop analysis within the Data Explorer. When users create new Data Explorers, they first select which data set they want to use. They can then report on any data within the value columns in that data set, and they can group and display the data using any dimension columns in that data set.

When defining a data set, you should consider the following:

- What is a useful and distinct set of data that users may want to perform ad hoc analysis on? Data sets are most useful when they are focused on a particular area of interest to help users answer a specific set of questions. Including all of your data in a data set may make the Data Explorer difficult to use.
- Once you have decided on the data, which specific columns should be included in the data set? Generally speaking, you want to limit the data set to only the necessary columns so that users can quickly and easily identify what they want to see and how they want to see it, without sifting through endless lists of columns.
- What name should the data set have, so that the contents and purpose of the data set will be obvious to users? For example, instead of naming the data set "Budget Columns", you might want to name it something like "Analyze Budget Data".

To define data sets, you use the Data Set Manager. This tool is available from the **Tables > Table Administration** menu, and is only available to administrators or users with the **Administer Tables** permission.

# Data Sets for Data Explorer

Data sets are used by the Data Explorer to determine which columns are available for drag-and-drop analysis. In this context, the selected data set defines the data available to the Data Explorer at any one time.

When you define a Data Explorer data set, you select the columns to include and you define a name to describe that collection of columns.

Only administrators or users with the **Administer Tables** security permission can manage Data Explorer data sets.

**NOTE:** There is a second type of data set known as *product data sets*, used to define the columns that belong to a particular product. Product data sets can only be defined from within the **Edit Table** dialog, and do not display when working with Data Explorer data sets.

## Data set design considerations

Note the following design considerations for data sets:

- For dimension-classified columns with lookup relationships, the Data Explorer always uses the lookup column for the underlying database query, not the validated column. For example, if GL2013.Acct links to Acct.Acct, Acct.Acct will always be used. Therefore when selecting columns to include in the data set, you should include either the validated column *or* the lookup column (since using either will give you the same results)—but not both. Including both columns may cause confusion for users as to which column to use. If multiple data tables are included in the data set, you should always include the lookup column instead of the validated columns.
- It is recommended to limit the data set to only the specific columns that users will report and filter on. Keep the list of columns as streamlined and focused as possible, so that users can easily explore the data and find the columns they are looking for. Do not select all columns in a table unless you truly need all of those columns.

## Adding a data set

You can create as many data sets for Data Explorer as you want. Data sets can be created from scratch, or you can clone an existing data set.

**To create a new Data Explorer data set:**

1. On the **Axiom** tab, in the **Administration** group, click **Tables > Table Administration > Data Set Manager**.
2. In the **Data Set Manager** dialog, click **New** ✚.
3. At the top of the **Data Set Editor** dialog, define the following:
   - **Name**: The name should be brief and intuitive. Users will select these names when creating Data Explorer files, to define the set of data available in the Data Explorer.
   - **Description**: The description is for data set managers only, to explain the purpose of the data set. The description does not display to end users.
4. At the bottom of the **Data Set Editor** dialog, select the columns to include in the data set.

   You can select all of the columns in a particular table by selecting the check box next to the table name, or you can expand the table name and select individual columns in that table.

If a column has a defined **Hierarchy Display Name**, that name displays in parentheses after the column name. The display name will be used in the Data Explorer.

To make it easier to find specific columns that you want to select, you can filter the list of tables by using the table classification check boxes at the top of the list, or by typing filter text into the box above the list.

5. Click **OK** to save.

**To clone an existing Data Explorer data set:**

1. On the **Axiom** tab, in the **Administration** group, click **Tables > Table Administration > Data Set Manager**.
2. In the **Data Set Manager** dialog, select the data set that you want to copy, and then click **Clone**.

   The **Data Set Editor** dialog opens, populated with the settings from the cloned data set. The name of the data set is incremented by a number to prevent duplicate data set names.
3. Edit the data set properties as desired.
4. Click **OK** to save.

## Editing a data set

Data sets for Data Explorer can be edited at any time. Any changes made to a data set will not be reflected in any open Data Explorer files using that data set. Changes will take effect the next time a user opens that file.

If you remove a column from a data set, and a Data Explorer file has been saved that uses the column as part of its data query configuration, then the next time that Data Explorer is opened the column will be flagged as no longer part of the data set (which may result in the query no longer being useful).

**To edit a Data Explorer data set:**

1. On the **Axiom** tab, in the **Administration** group, click **Tables > Table Administration > Data Set Manager**.
2. In the **Data Set Manager** dialog, select the data set that you want to edit, and then click **Edit**.
3. In the **Data Set Editor** dialog, edit the data set properties as desired.
4. Click **OK** to save.

## Deleting a data set

Data sets can be deleted at any time. If any Data Explorer files use the deleted data set, those Data Explorer files can still be opened but will only show data for the columns that were configured in the query settings when the Data Explorer was last saved. In other words, the Data Explorer will still show data for the currently configured Rows, Values, and Columns, but any columns that were not part of the query when the Data Explorer was saved will no longer be available.

**To delete a Data Explorer data set:**

1. On the **Axiom** tab, in the **Administration** group, click **Tables > Table Administration > Data Set Manager**.
2. In the **Data Set Manager** dialog, select the data set that you want to delete, and then click **Delete** ✕.

   You are prompted to confirm that you want to delete the data set.
3. Click **OK** to delete.

# Creating a new Data Explorer

You can create a new Data Explorer using the Excel Client or the Windows Client, or using the Web Client. In either case, once the Data Explorer session has been created, it is opened in the Web Client and the interface from that point is the same.

You can choose whether to save the new session as a Data Explorer file, or you can use the Data Explorer session as a temporary tool for ad-hoc analysis and not save it.

**NOTE:** Your system must have at least one defined data set in order to create a Data Explorer.

**To create a new Data Explorer in the Excel Client or Windows Client:**

1. On the **Axiom** tab, in the **Reports** group, click **Reports > New Data Explorer**.

   If this menu item is not present, this means that no data sets have been defined in your system. An administrator must first define one or more data sets.
2. In the **New Data Explorer** dialog, select the data set that you want to use with the Data Explorer, and then click **OK**.

   Data sets are predefined collections of tables and columns. The data set determines the available data for the Data Explorer session.

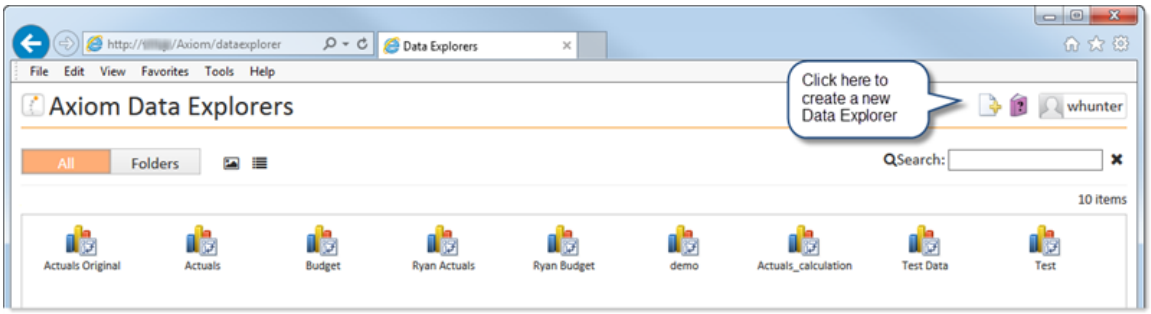
The new Data Explorer opens in the Web Client (in your browser). The available fields are the fields allowed by the selected data set. You can now work with this Data Explorer as desired.

**To create a new Data Explorer in the Web Client:**

1. Go to the Data Explorer area of the Web Client.

   | | |
   |---|---|
   | **Example On-Premise URL** | `http://ServerName/Axiom/DataExplorer`<br>Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory. |
   | **Example Cloud System URL** | `https://CustomerName.axiom.cloud/DataExplorer`<br>Where *CustomerName* is the name of your cloud service system. |

   Alternatively, you can go to the Axiom Software launch page and click the **Data Explorer** icon.
2. In the top right-hand corner of the Data Explorer page, click **New Data Explorer**.




3. In the **New Data Explorer** dialog, select the data set that you want to use with the Data Explorer, and then click **OK**.

   Data sets are user-defined collections of tables and columns. The data set determines the available data for the Data Explorer session.

   If no data sets are defined in your system, a message box informs you that one must be created before you can use the Data Explorer. If you have the appropriate permissions, you can log into the Excel Client or the Windows Client and create a new data set. Otherwise, contact your system administrator for assistance.

The new Data Explorer opens in the current tab. The available fields are the fields allowed by the selected data set. You can now work with this Data Explorer as desired.

# Opening a saved Data Explorer

Once a Data Explorer has been saved, you can access it from either the Excel Client or Windows Client, or directly from the Web Client. Regardless of which client you use to open the file, the Data Explorer will open in the Web Client.

When a saved Data Explorer is opened, it uses the query settings from when it was last saved. You can then modify the query settings as desired for the current session. When you are done, you can close the Data Explorer without saving (thereby leaving the saved settings intact), or you can save the Data Explorer with your revised settings, or you can save a copy of the Data Explorer with the new settings.

**To open a Data Explorer in the Excel Client or Windows Client:**

In the Excel Client and Windows Client, Data Explorer files are saved in the Reports Library and can be accessed like other reports—such as by using the Reports menu on the ribbon, or by using the Explorer task pane. Data Explorer files are differentiated from other report files by use of the Data Explorer icon .

If you are an administrator and you want to test a Data Explorer using different user permissions, you can open a Data Explorer as a different user from the Excel Client or the Windows Client. To do so, right-click the file in the Explorer task pane and then choose **Open (as other user)**.

**To open a Data Explorer in the Web Client:**

In the Web Client, you can open saved Data Explorer files from the following location:

| | |
|---|---|
| **Example On-Premise URL** | `http://`*`ServerName`*`/Axiom/DataExplorer`<br>Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory. |
| **Example Cloud System URL** | `https://`*`CustomerName`*`.axiom.cloud/DataExplorer`<br>Where *CustomerName* is the name of your cloud service system. |

Alternatively, you can go to the Axiom Software launch page and click the **Data Explorer** icon.

From this page you can:

- Use the **All** view to see all Data Explorer files that you have permission to access.
- Use the **Folders** view to browse Data Explorer files by folder in the Reports Library.
- Use the **Search** box to find Data Explorer files based on their name.

When viewing lists of Data Explorers, you can switch between Icon View and Detail View. To open a Data Explorer from this location, click it.

# Viewing data in the Data Explorer

Using the Data Explorer, you can perform drag-and-drop analysis on your Axiom Software data. To view data, you drag values and dimensions from the Available Fields to the query settings at the top of the screen.

See the topics in this section for full details on querying and viewing data in the Data Explorer.

## Data Explorer overview

The Data Explorer works by simplifying data into two categories, *values* and *dimensions*.

- *Values* are the data values that you want to report on, such as budget data for the first quarter, or actuals data for last year.
- *Dimensions* represent how you want that data grouped and displayed. For example, do you want to see budget data by account or department, or by groupings such as category, company, region, VP, etc.?

To query data, you can drag and drop values into the Values box, and a dimension into the Rows box. This will populate the data grid with the specified values, grouped by the row dimension. You can optionally make the query more sophisticated by placing a dimension in the columns, or by using multiple row dimensions, or by defining a filter.

**TIP:** You can also drag and drop values and dimensions directly into the appropriate zones of the grid. When you drag a field over the grid, shading will indicate whether you are dropping the field into the rows, columns, or values zone. The shading is green if the field is eligible to be placed there, and red if it is not. Once a field is dropped, the query is refreshed and the field is added to the appropriate query box.

To remove a field from one of the query boxes, click the X button for that field. You can also drag and drop a field from one query box to another (as long as the field is eligible to be placed in that box), such as dragging a dimension from Rows to Columns. If you drag a field from any query box to the Filter box, then a copy is placed in the Filter box so that you can filter based on that field (leaving the original field in place).

The following is a summary of each section of the Data Explorer:

| Item | Description |
|---|---|
| Available Fields | Displays the available values and dimensions that can be queried in this Data Explorer.<br><br>The available fields are determined by the selected data set for the Data Explorer. The data set is assigned when the Data Explorer is created, and cannot be subsequently changed (although the data set itself can be edited to include or exclude fields, which will be reflected in Data Explorers that use that data set).<br><br>Each field in this section displays with the following:<br><br>• An icon that indicates whether the field is a key column or a non-key column (key columns have a key icon).<br>• The name of the field (using either the actual column name or the display name if defined).<br>• The table name that the field belongs to, in parentheses. |
| Values | Defines the data values that you want to display in the Data Explorer. You can place one or more value fields in this box.<br><br>Users who are familiar with Axiom query construction can think of this as the data columns that you would place in the field definition for the query.<br><br>Dimension fields cannot be placed in the Values box. |
| Rows | Defines the grouping level for the rows. The most common use case is to place a single dimension field in this box, which results in one row per item in the specified dimension. However, it is possible to group the rows by multiple dimensions.<br><br>Users who are familiar with Axiom query construction can think of this as the "sum by" level for the query.<br><br>Value fields cannot be placed in the Row box. |

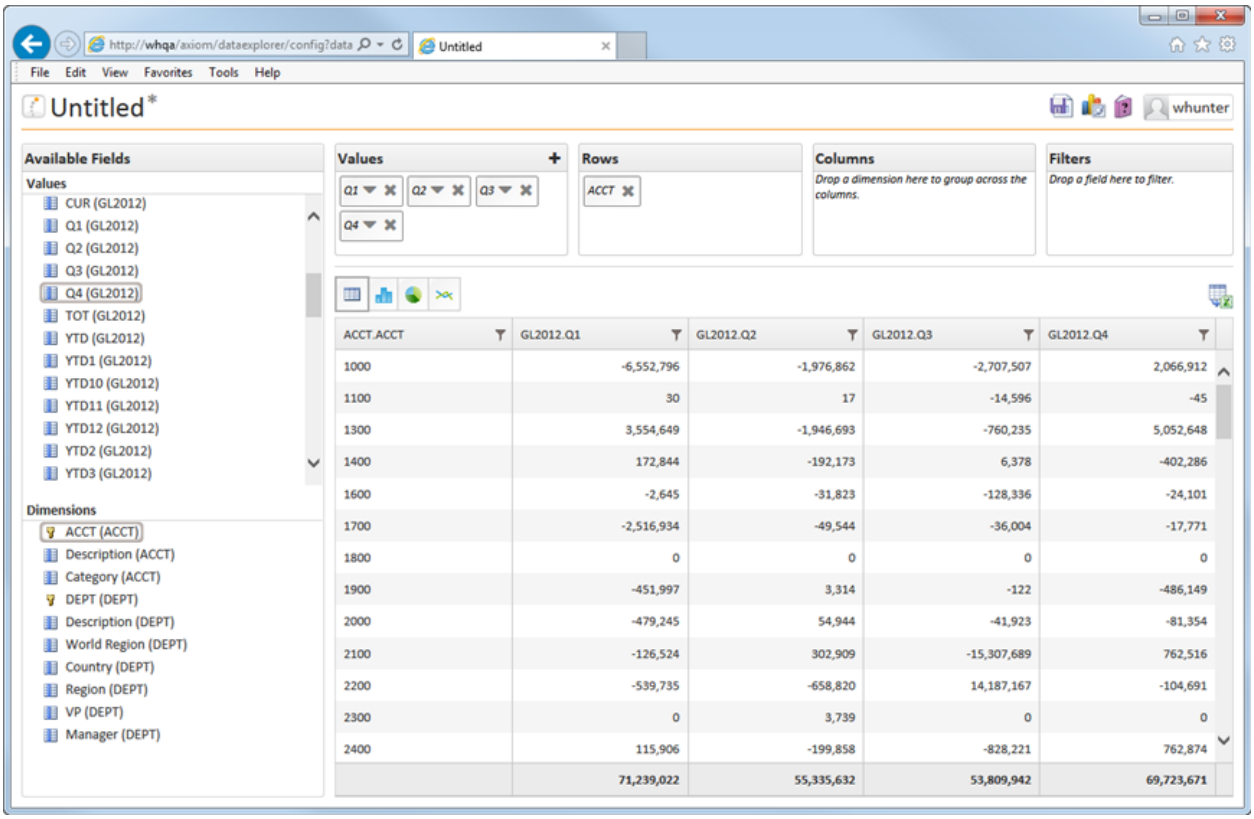
| Item | Description |
| --- | --- |
| Columns | Optional. Defines the grouping level for the columns. You can place a single dimension field in this box, which results in one column per item in the specified dimension, showing the values from the specified value field.<br><br>Users who are familiar with Axiom query construction can think of this as placing column filters in the field definition.<br><br>Value fields cannot be placed in the Columns box. |
| Filters | Optional. Filters the data returned by the query. You can place one or more value fields and/or dimension fields in this box to filter by those fields.<br><br>Users who are familiar with Axiom query construction can think of this as defining a data filter for the query. |

# Defining the data query for the Data Explorer

The data query for the Data Explorer is defined by doing the following:

- Place one or more Value fields in the **Values** box to define the columns of data for the query. You can also define custom value fields for calculations.
- Place one or more Dimension fields in the **Rows** box to define the grouping level for the rows.
- Optional. Place a single Dimension field in the **Columns** box if you want the column data to be grouped by a dimension.

For example, if you want to view Q4 data by account, you would place the Q4 value field in the Values box and the Acct dimension field in the Rows box. If instead you want to view all four quarters of data, you would place the value fields Q1, Q2, Q3, and Q4 in the Values box.




*Example Data Explorer with values and rows defined (click to view full size)*

You can also filter the data for the query using the **Filter** box. For more information, see Filtering data in the Data Explorer.

**NOTE:** If the available fields for the Data Explorer come from multiple tables, then fields may dynamically become hidden in the Available Fields area depending on whether they are compatible with what you have already placed in the query settings. If placing a field in the query settings would result in an invalid query, then that field is hidden and will not become available until the query settings are changed to a state that would allow that field.

## Defining values

The Values box defines the columns of data for the query. You can drag and drop one or more value field into this box.

Typically, the minimum query will have at least one value field and at least one row dimension. Although it is possible to define only values, this will return the entire summarized value for the value field, which is of limited use. For example, if you place a Q4 value field in the Values box and do not define a row dimension, the Data Explorer will display the sum of all values for Q4, for all departments and all accounts (or for whichever dimensions are being used by your system). You must define a row dimension in order to summarize the data at a meaningful level, such as per department or per account, or by a grouping such as category, region, VP, etc.

If desired, you can also define custom value fields for calculations, such as a variance field. For more information, see Defining calculations in the Data Explorer.

**NOTE:** The order of fields in the Values box defines the order of columns displayed in the Data Explorer. Currently, you cannot drag and drop fields within a box to change the order. If you want to change the order, you will need to delete and then re-add the fields in the desired order.

## Defining rows

The Rows box defines the grouping level for the rows of the query. You can drag and drop one or more dimension fields into this box. For example, if you want each row to display data for a particular department, then the row dimension should be DEPT.

Most queries will have just one row dimension. If desired, you can place multiple row dimensions to group the data by both dimensions. For example, if you define Dept and Acct as your row dimensions, then you will have one row for each unique account/department combination.

When using multiple row dimensions, you also have the option to subtotal the data by dimension. For more information, see Subtotaling data by a dimension in the Data Explorer

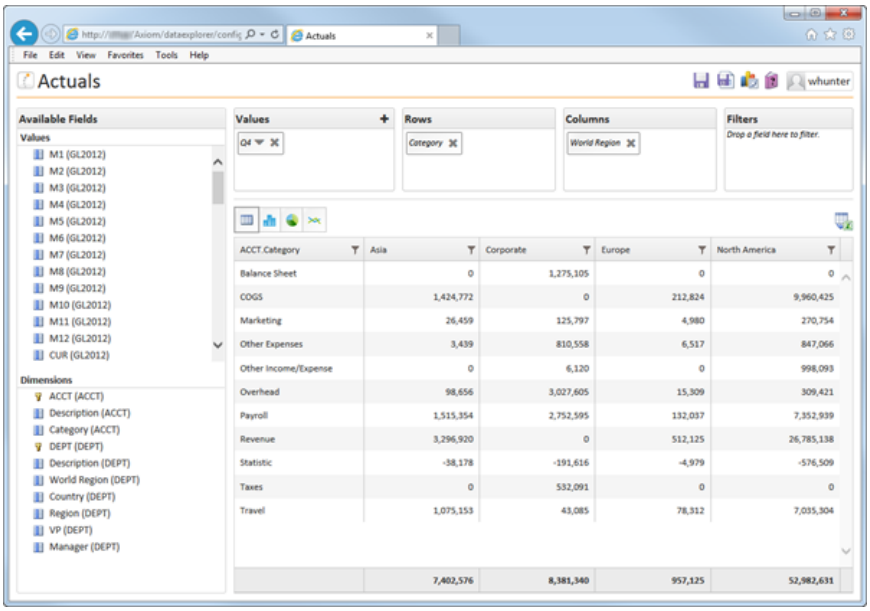
**NOTES:**

- Only 5000 rows can be displayed in the Data Explorer (grid view). If your row dimension settings result in more than 5000 rows, a warning displays at the top of the Data Explorer to let you know that not all of your data is being displayed. If this occurs, you should define a filter to limit the data to a smaller number of rows.
- The order of fields in the Rows box (if using multiple row dimensions) defines the order of the dimension columns displayed in the Data Explorer. Currently, you cannot drag and drop fields within a box to change the order. If you want to change the order, you will need to delete and then re-add the fields in the desired order.

## Defining columns

The Columns box is only used if you want the columns in the Data Explorer to show the Values data by a dimension. You can drag and drop a single dimension value into this box. This causes the value field in the Values box to be "split" so that you now have one column of data per dimension item.

For example, imagine you have Q4 as the Values and Acct as the Rows. This means you have one row per account, and one column of data showing the Q4 values for each account. Now imagine that you place the Region dimension in the Columns box. The rows remain the same, but now you could have six columns of data, each one showing the Q4 data for a particular region.




*Example Data Explorer with columns defined*

Typically, the Columns box is used along with both the Values and Rows boxes. However, it is possible to use just the Values and Columns boxes, to "flip" the presentation of a simple query. For example, if you put Q4 in the Values box and Regions in the Columns box (with no row dimension defined), then this is effectively the same as putting Regions in the Row box, except that now you will have the regions data going across the columns instead of down the rows.

**NOTES:**

- Only one column dimension can be defined at a time. If you have defined a column dimension and now you want to change that dimension, you must delete the current dimension first and then drag and drop a new dimension into the Columns box.
- Only 100 columns can be displayed in the Data Explorer (grid view). If your column dimension and values settings exceed 100 columns, a warning displays at the top of the Data Explorer to let you know that not all of your data is being displayed. If this occurs, you should either decrease the number of value fields or define a filter to limit the number of dimension columns (or both).
- Typically, if you define a column dimension then you only use one field in the Values box. Although you can use column dimensions with multiple value fields, the number of columns in the Data Explorer will start increasing rapidly because you will have one column per dimension for each value field. For example, if you have six regions and three value fields, that is 18 columns of data.

# Filtering data in the Data Explorer

You can define a filter to limit the data shown in the Data Explorer. Filters can be based on Values or Dimensions from the list of Available Fields.

The filter is applied as part of the overall query to the database, similar to a data filter defined for an Axiom query. If you want to filter values *after* the query is made, you can do this on the individual display columns (when in grid view).

To apply a filter, drag and drop one or more fields into the Filter box. Then click the down arrow button to define the parameters of the filter. The available parameters depend on whether the field is a dimension or a value. See the sections below for more details.

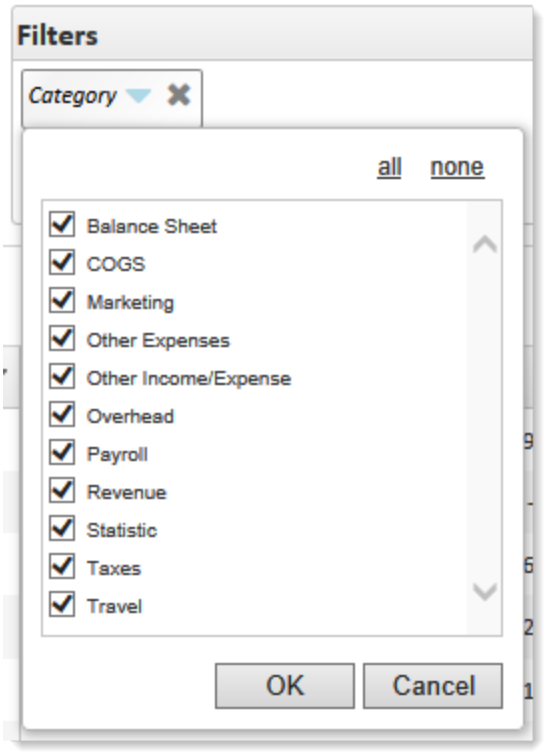
**NOTES:**

- If you define a multi-field filter, then the filter for each field is concatenated using AND (meaning a value must meet all filters in order to be included). Currently there is no option to specify OR behavior instead.
- Your data query settings impact which fields are currently valid to be used in the Filter box. If a field is not currently valid, you will not be able to drag and drop it into the Filter box.

## Dimension filters

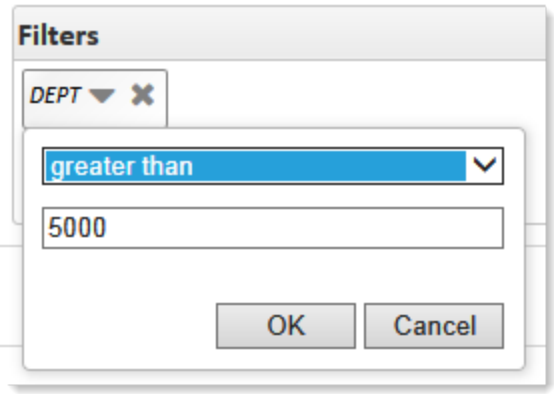
The available options for dimension filters depend on the number of elements in the dimension.

If the dimension has 100 elements or less, then you can define a filter using check boxes to indicate which dimension elements to include in the data query. Any dimension element that is left unchecked will be filtered out. By default, all elements are selected.

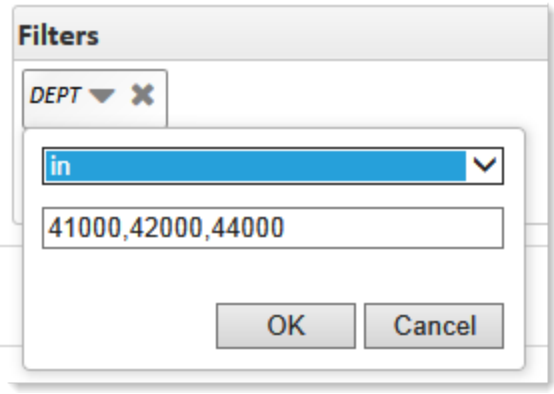


If the dimension has more than 100 elements, then you can set the filter by typing a value and then using operators such as equals / not equals, or greater than / less than. For example, you might specify that you want to see all departments greater than 5000.

**NOTE:** The number of dimension elements listed in the filter is limited to the dimensions used by the inferred primary table for the query. For example, you might be filtering by Company and there are 10 unique company values. But if your value fields are from the GL2018 table and only 6 companies are represented in that table, then only 6 companies will be available to the filter.




This option offers the operators **In** and **Not In**. You can use this to enter multiple dimension elements to include or exclude. For example, imagine that you want to see the data for three specific departments in the Data Explorer. You can define a filter using In and then enter a comma-separated list of the departments to include.




## Value filters

For value fields, you can set the filter by typing a value and then using operators such as equals / not equals, or greater than / less than. This uses the same options as described above for dimension filters with more than 100 elements.

**NOTES:**

- Calculations added to the Values box cannot be used to filter data.
- If you are querying data from multiple data tables, value fields from those individual tables cannot be used to filter data.

# Defining calculations in the Data Explorer

In addition to displaying one or more value fields, you may also want the Data Explorer to display the result of a calculation. For example, you may be displaying YTD budget data and YTD actuals data, and you also want to display the difference between the two and/or the variance percentage. You can create user-defined calculations which will display as additional columns in the Data Explorer grid.

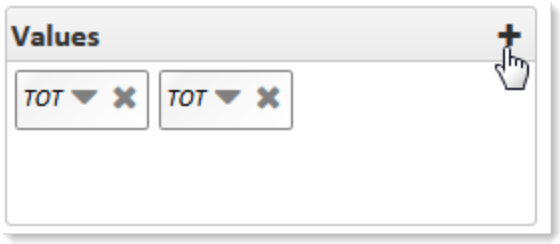
Calculations support addition, subtraction, multiplication, and division. You can create compound statements with multiple operators, for example to create a variance percentage calculation.

**NOTE:** If a calculation results in a "divide by zero" error, the result of that calculation is displayed as zero. No error displays in the Data Explorer, but an error is logged to the Web Client log.

In order to create or edit a calculation, the value fields that you want to use in the calculation must already be placed in the Values box. If you want to use a field in a calculation but not display the field in the Data Explorer, you can adjust the display properties of that field so that it is hidden (see Formatting values in the Data Explorer).

**To create a calculation:**

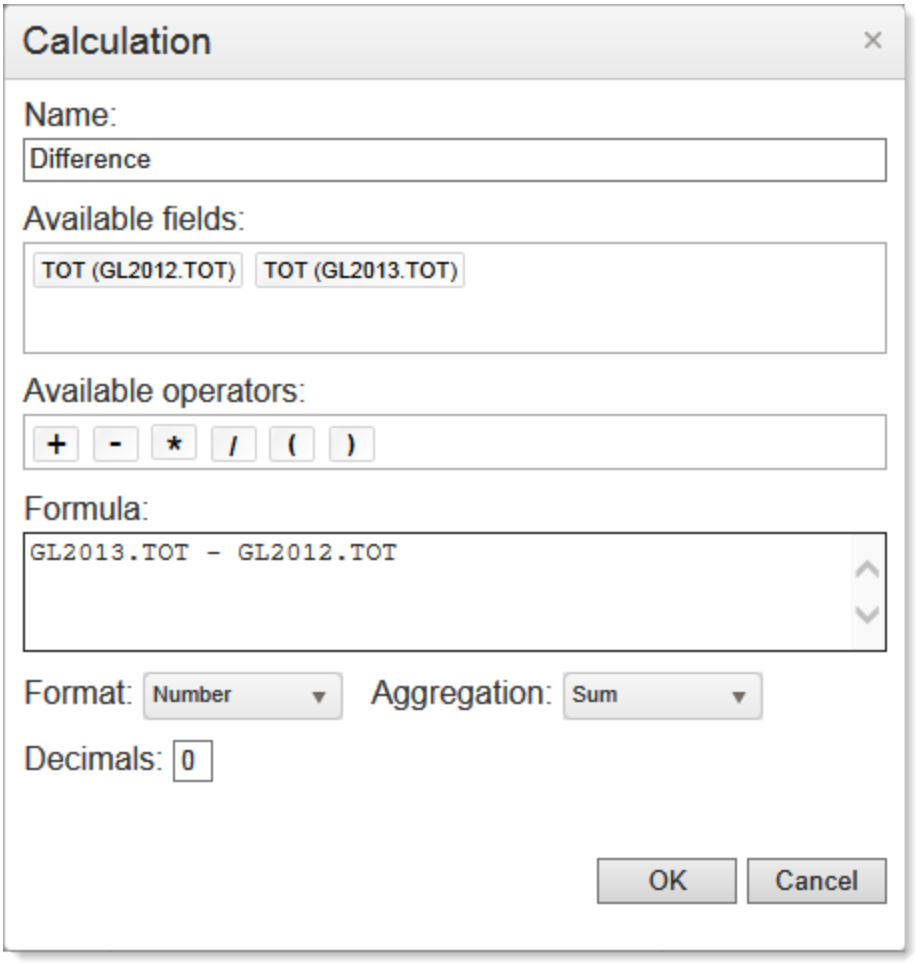
1. Click the plus icon in the header of the **Values** box.




   The **Calculation** dialog opens.

2. In the **Name** box, define a name for the calculation. This name will display as the column title for the calculation.
3. Use the **Available fields** and **Available operators** to construct a calculation within the **Formula** box.
   - To add a field or an operator to the Formula box, click the desired item.
   - You can also manually type the calculation in the Formula box. However, any value field that you manually type into the box must be present in the Available fields.
   - You can use parentheses to construct compound calculations.

The following example shows a simple difference calculation, where one field is subtracted from the other field.




4. Set the formatting options as desired for the calculation. For more information on these options, see Formatting values in the Data Explorer.

   Calculations support an additional aggregation option of **Apply Formula**. This means that the "total" value of the calculation column will be calculated by applying the formula to the total row (as opposed to summing all the values in the column, for example).

   For some basic calculations, using the default aggregation of Sum will return the same result as Apply Formula. However for other calculations, such as those involving division and multiplication, you will want to change the aggregation to Apply Formula.

5. Click **OK** to create the calculation.

The calculation now displays in the Values box, and in the Data Explorer grid (assuming that is the current view). It will also display in chart views if the query data is valid for that chart type.

Calculations are only saved within the Data Explorer file; they are not part of the data set. If you want the calculation to be available the next time you use the Data Explorer, you must save the file.

### Editing and deleting calculations

You can edit calculations like any other value field, by clicking the down arrow next to the field name in the Values box. You can then edit any of the settings in the Calculation dialog.

You can delete a calculation by clicking the **X** next to the field name in the Values box. Keep in mind that if a calculation is deleted, there is no way to get it back other than exiting out of the current file and opening a saved version of the file that contains the calculation.

## Formatting values in the Data Explorer

You can format the display of values in Value fields. The following properties can be controlled:

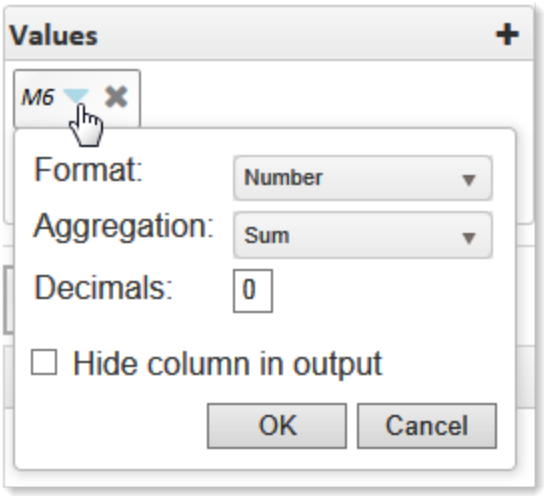
- The format of the value, either number or percent
- The aggregation method for the automatically generated total and subtotal rows, for this field
- The number of decimal places to display
- Whether the field should be hidden in the data view (does not apply to user-defined calculations which are always displayed)

By default, values are displayed as numbers with zero decimal places. The default aggregation method for the total is sum.

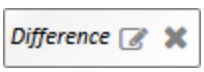
The formatting options do not apply to any non-decimal fields, such as string fields, except for the option to hide the field.

**To define the format of a value field:**

1. Click the down arrow next to the field name in the Value box. For example:




For user-defined calculations, click the Edit icon next to the field name to define formatting options for the calculation. For example:



2. Modify the formatting options as desired:

| Item | Description |
|---|---|
| Format | Select **Number** (default) or **Percent**. |
| Aggregation | Select the desired aggregation method to use for this field in the automatically generated total row (and subtotal rows, if applicable). You can choose:<br>• **Sum** (default): Displays the sum of all values in the column.<br>• **Count**: Displays the count of all values in the column.<br>• **Min**: Displays the minimum value in the column.<br>• **Max**: Displays the maximum value in the column.<br>• **Average**: Displays the average of all values in the column.<br>• **Apply Formula**: Uses the defined calculation on the total/subtotal row instead of aggregating the values. This option is only available for user-defined calculations. See Defining calculations in the Data Explorer.<br>Total and subtotal rows are only generated for decimal-type columns. Calculations are treated as decimal type. |
| Decimals | Enter the number of decimal places to display for the values in the column. |
| Hide column in output | Select this check box if you do not want to display the field in the data view.<br>You might use this if you want to use the field in a user-defined calculation, but you do not need to see the field in the data view.<br>This option is not available for user-defined calculations. |

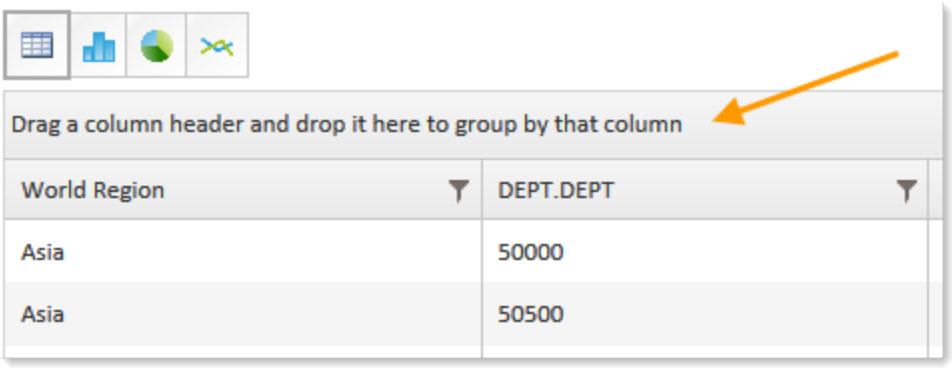
3. Click **OK** to apply your changes.

Format settings can only be saved per Data Explorer file. If you want to retain your format changes for this Data Explorer instance, you must save the file.

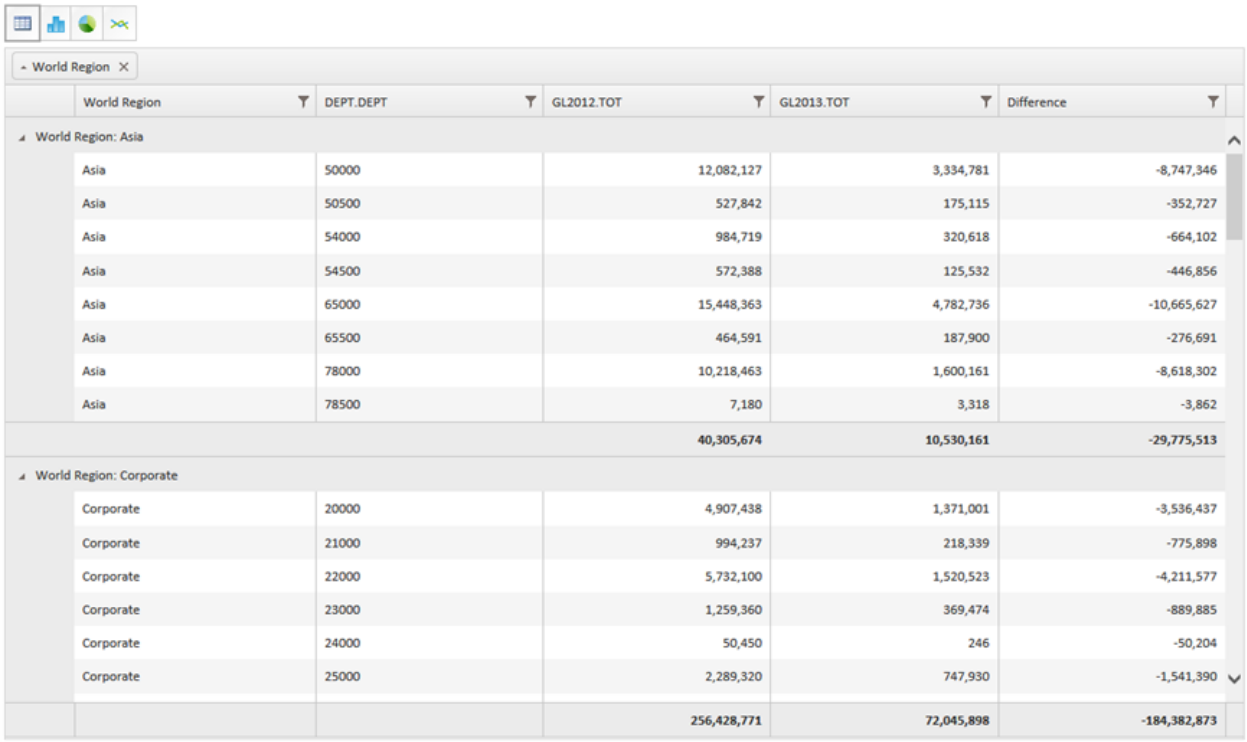
# Subtotaling data by a dimension in the Data Explorer

You can place more than one dimension field in the Rows box, to display the data using multiple dimensions. By default, each row in the Data Explorer will be grouped by all dimension fields (similar to using two or more fields in the "sum by" of an Axiom query). For example, if you define Dept and Acct as your row dimensions, then you will have one row for each unique account/department combination.

If desired, you can define subtotal groupings using one or more of your defined row dimensions, by dragging and dropping a column header to the top of the data grid. This additional grouping area is only available when the Rows box contains at least two dimension fields.




For example, imagine that you want to display department data, grouped and subtotaled by World Region. You would place both World Region and Dept into the Rows box, and then you would drag and drop the World Region column header to the top of the grid. The data now displays as shown in the following screenshot, using collapsible groupings:

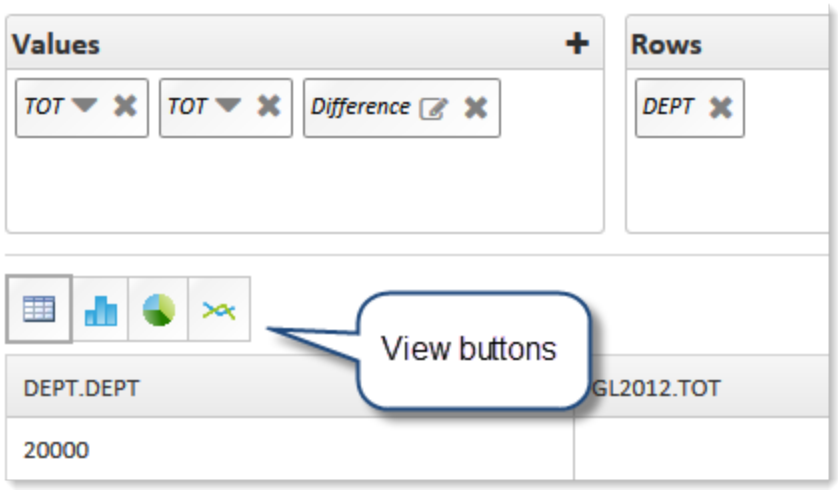



You can change the sort order of the grouping blocks by clicking the dimension field in the grouping header. To remove the grouping blocks, click the **X** to the right of the dimension name.

Data that is grouped and subtotaled in this way cannot be exported to a spreadsheet.

# Changing the data view for the Data Explorer

You can view the data in the Data Explorer using several different views. By default, the view is a grid-style view. To change the data view, click one of the view buttons above the data display area.




## Grid view

This view displays the requested data in a grid. This is the default view for the Data Explorer.

- Data is displayed in a column/row grid based on the data query settings. The first column(s) display the row dimension(s), followed by one or more value columns (optionally broken out by the column dimension). Value columns are displayed in the order they are listed in the Values box. Each value column has a subtotal.
- You can sort on a column in the grid by clicking the column header.
- You can filter on a column in the grid by clicking the down arrow in the column header. When filtering in this view, you can define up to two filter statements using equals / not equals or greater than / less than, and you can specify whether to use AND or OR to concatenate those filters. This filter simply changes what is displayed in the Data Explorer, it does not affect the query to the database.

The grid view is limited to displaying up to 5000 rows and up to 100 columns. If your data query exceeds this, a warning message displays at the top of the screen. You can define a filter to limit the data to the visible parameters.

## Column chart

This view displays the requested data in an automatically generated column chart. Currently the chart does not have any options to change its display or configuration.

- By default, the X-axis of the chart uses the row dimension. If no row dimension is defined but a column dimension is defined, then it will use the column dimension. If no row or column dimension is defined, then it will use the value field(s).

- The Y-axis of the chart is automatically generated based on the values in the data query. The columns will show either one or more value fields per row dimension, or all column dimensions per row element (if a column dimension is defined).
- The column chart is not available as a view option if multiple row dimensions are defined, or if a column dimension is used with multiple value fields.

The column chart view is limited to displaying up to 100 rows and up to 100 columns. If your data query exceeds this, no chart will display. You can define a filter to limit the data to the visible parameters.

### Pie chart

This view displays the requested data in an automatically generated pie chart. Currently the chart does not have any options to change its display or configuration.

- Each pie slice represents the value of an item in the row dimension (or the column dimension if no row dimension is defined).
- The pie chart is only available for configurations that consist of one defined dimension (either row or column) and one defined value field.

The pie chart view is limited to displaying up to 100 rows and up to 100 columns. If your data query exceeds this, no chart will display. You can define a filter to limit the data to the visible parameters.

### Line chart

This view displays the requested data in an automatically generated line chart. Currently the chart does not have any options to change its display or configuration.

The rules for the line chart are the same as the rules for the column chart.

The line chart view is limited to displaying up to 100 rows and up to 100 columns. If your data query exceeds this, no chart will display. You can define a filter to limit the data to the visible parameters.

## Exporting data to a spreadsheet from the Data Explorer

When you are in grid view, you have the option to export the current data to an Excel spreadsheet file. This exports the data shown in the grid, including column headers.

To export the data, click the **Export Grid to Excel** button located above the grid, on the right side. Follow the browser prompts to save the XLSX file to your desired location. By default, the name of the file is the name of the Data Explorer file (if saved as a file).

This exported data is static and disconnected from Axiom Software. It cannot be subsequently updated.

# Saving a Data Explorer

You can save a Data Explorer session for your future use, or to share with other Axiom Software users. Data Explorers are saved as a special file type within the Reports Library.

When you save a Data Explorer, the current query settings are saved as a starting point. The next time the file is opened, it will start with the saved settings for Value, Row, Column, and Filter. You can change these settings as desired to perform further analysis in the current session. You can then close the file without saving the setting changes, or you can save the file to set a different "starting point" for the file. You can also save a copy of the file with these new settings.

**NOTE:** The selected view is not saved; when a Data Explorer is opened the data is always shown in grid view.

Access to Data Explorer files is controlled just like any other file in the Reports Library, using the file permission settings defined for the folder or the file in security.

### Saving a new Data Explorer

Use the **Save As** button  in the top right-hand corner to save a new Data Explorer, or to save a copy of an existing Data Explorer.

In the **Save As** dialog, navigate to the folder where you want to save the file, and type a file name. Click **Save** to save the file.

### Saving an existing Data Explorer

Use the **Save** button  in the top right-hand corner to save the current Data Explorer. The file will be saved using the current Data Explorer settings.