Data Access Studio User Guide 8.0 - General

2026 - ReportsNow Inc.

Data Access Studio 8.0.16

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Running Reports

User level	JDE Knowledge	Can Design Reports	Technical Knowledge
Subscriber	Not needed	No	None required
Quick Report Designer	Minimal	Yes	Minimal
Ad Hoc Designer	Yes	Yes	Some
Advanced Designer	Yes	Yes	High

Data Access Studio lets Report Designers publish reports to Subscribers. Once a report is published to you, you are a Subscriber to that report. As a Subscriber:

- You see the list of reports published to you
- You can run the reports as you need
- You can change the report data selection if the Publisher of the report allowed it
- You *cannot* modify and save the report
- You *cannot* show columns that were hidden

Subscriber-only users

If you are a subscriber-only user, then you:

- Need no JDE knowledge
- Choose from reports that were published to you
- Change report parameters (if applicable)
- Run reports
- Export or print the results

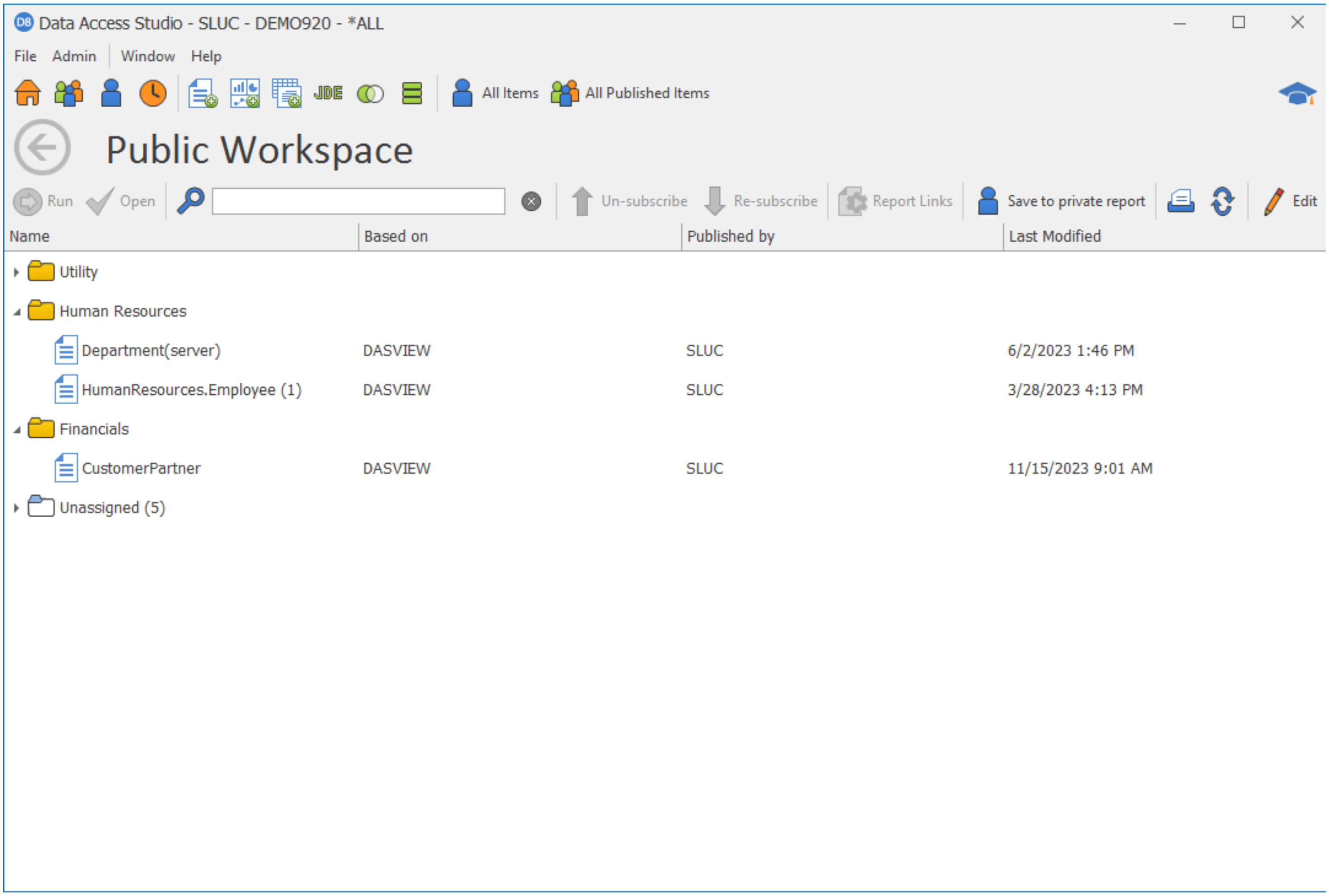
This section shows you how to run reports that are published to you in the following topics:

- Run reports published to you
- Change parameters and data selection
- Run the report
- Export and print

Run Reports Published to You

Once you have signed in to Data Access Studio:

- If you are a subscriber only user, you will see the report selection screen below:
- If you are a designer, click **File | Open | Reports Published to me...** to see the report selection screen:



You will see one line for each report that is published to you. This form presents the report folder, report name, and date the report was published to you.

To	Do this
Open a report without running it	Left-click the report and click **Open.**, you may double-click the row.
Close the **Select Reports** window	Click **Close** or click the **X** in the upper right-hand corner of the window.

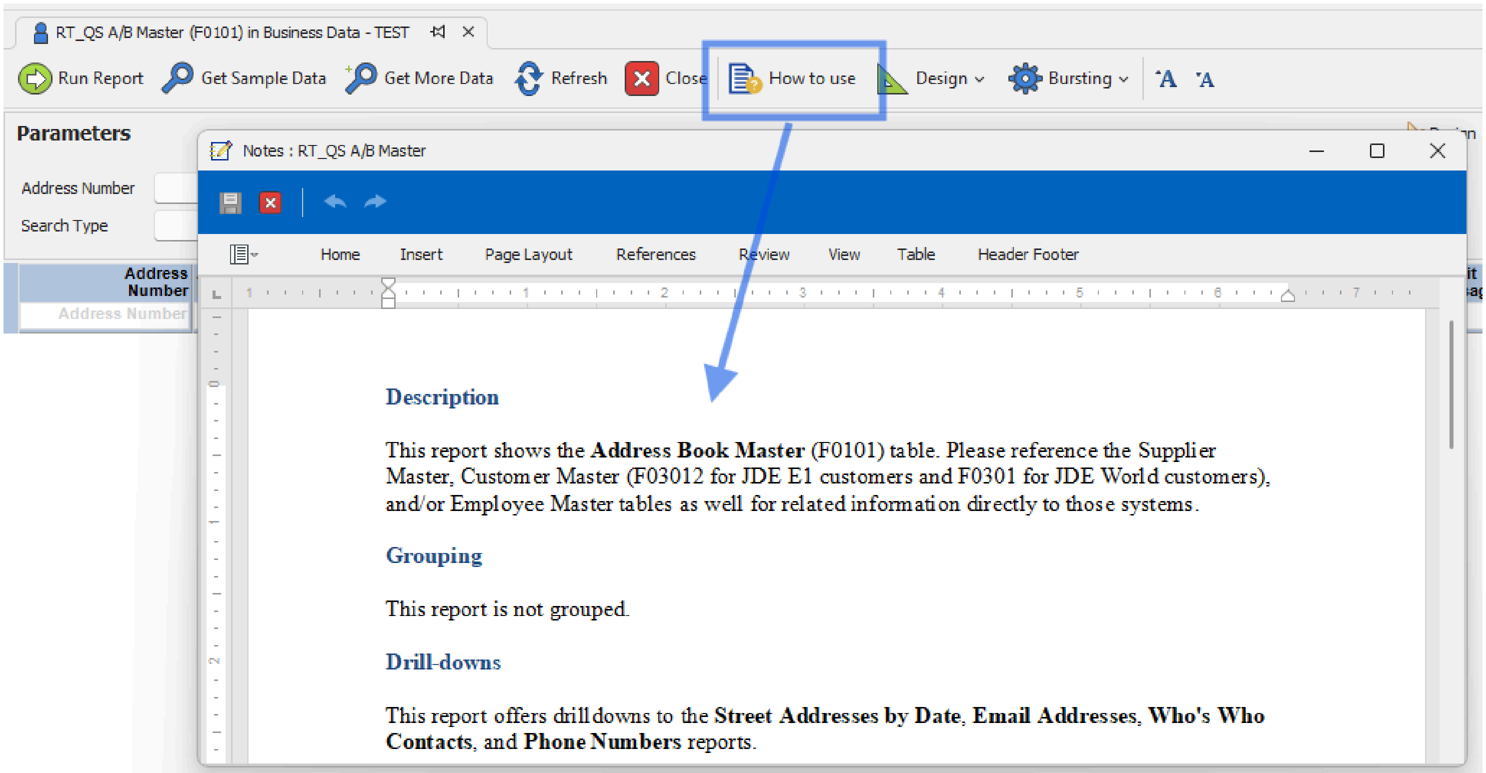
To	Do this
Refresh the list of reports published to you	Click **Find.**
Un-publish a report	If you have this permission, left-click the report and click **Delete**. **Note:** if you are not authorized to do this operation, this button will not appear on this screen.
Change the subscribers for reports	If you have this permission, click the **Manage Subscribers** button.
Run a report	Left-click the report and click **Run**. The report will run with the default data selection and parameters and present you with the final result.
Save the published report to a private report which you can modify	Left-click the report and click **Save To Layout**. Once saved, Data Access Studio will notify you that the save was completed. You will now have a private report named the same thing as the report you copied.**Note:** if you are not authorized to do this operation, this button will not appear on this screen.

Opening a Report

Here are some of the features of a report that are useful after opening a report and prior to running it.

Inspecting How to use Notes

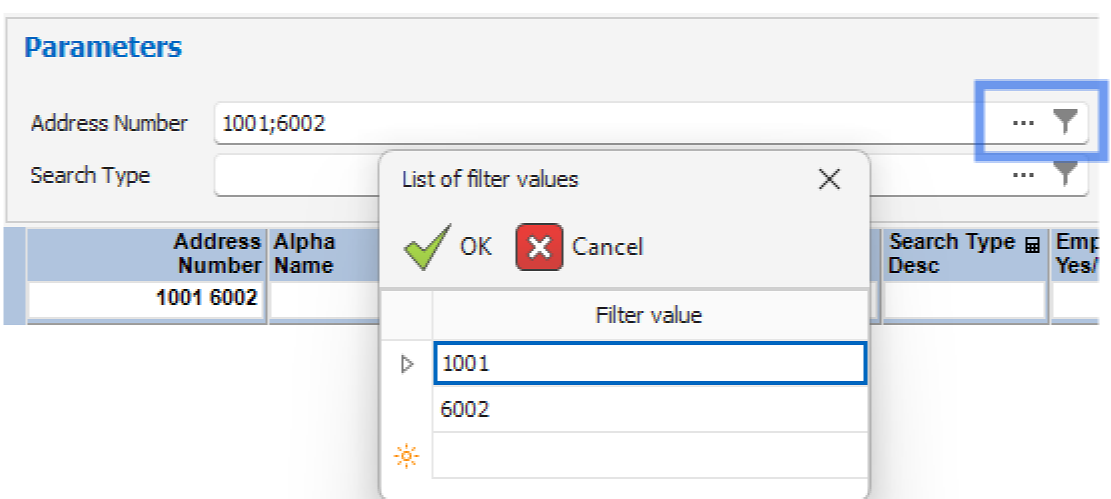
If the report was published with instructions, the 'How to use' icon will be enabled.



Change Parameters and Data Selection

If you chose to open a report, you will have the opportunity to change the data selection (if allowed) and report parameters for that report before you run it. You can then run the report and see the result.

Here is a sample report:

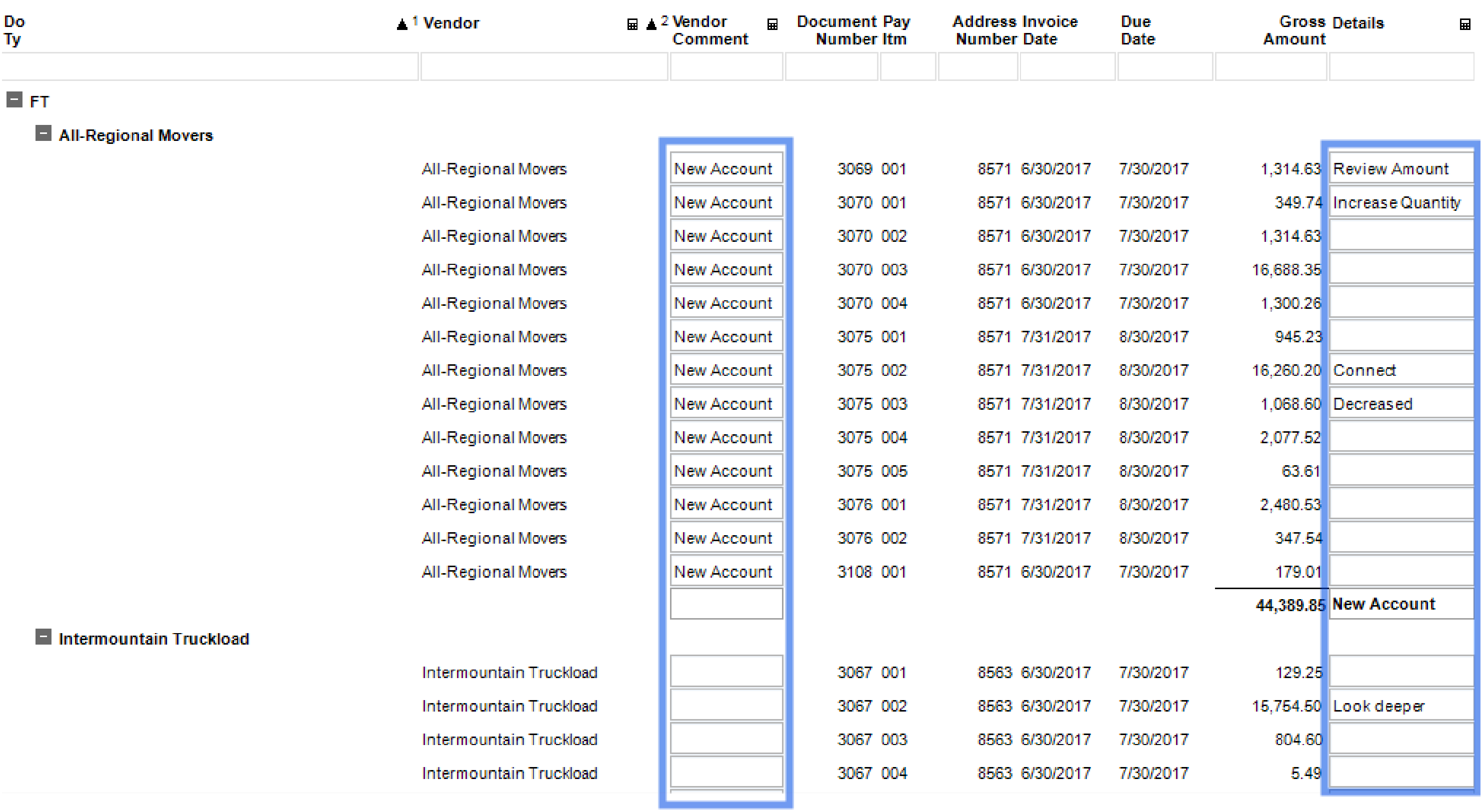


To	Do this
Enter a parameter	Click on the box next to the parameter. Use the visual assist button to help you to select valid values. User the filter button for advanced selections such as lists, not in list, ranges, etc.
Change the filter value of a column	You may want to restrict the values you see in a certain column. If the column is visible and the **Change filter criteria** permission is allowed, you can click the gray box below the column label to enter filter criteria. See Filter Your Data for more information. **Note:** If the publisher has disallowed filter changing, you will not be able to modify the column filter.

Enter and Edit Comments

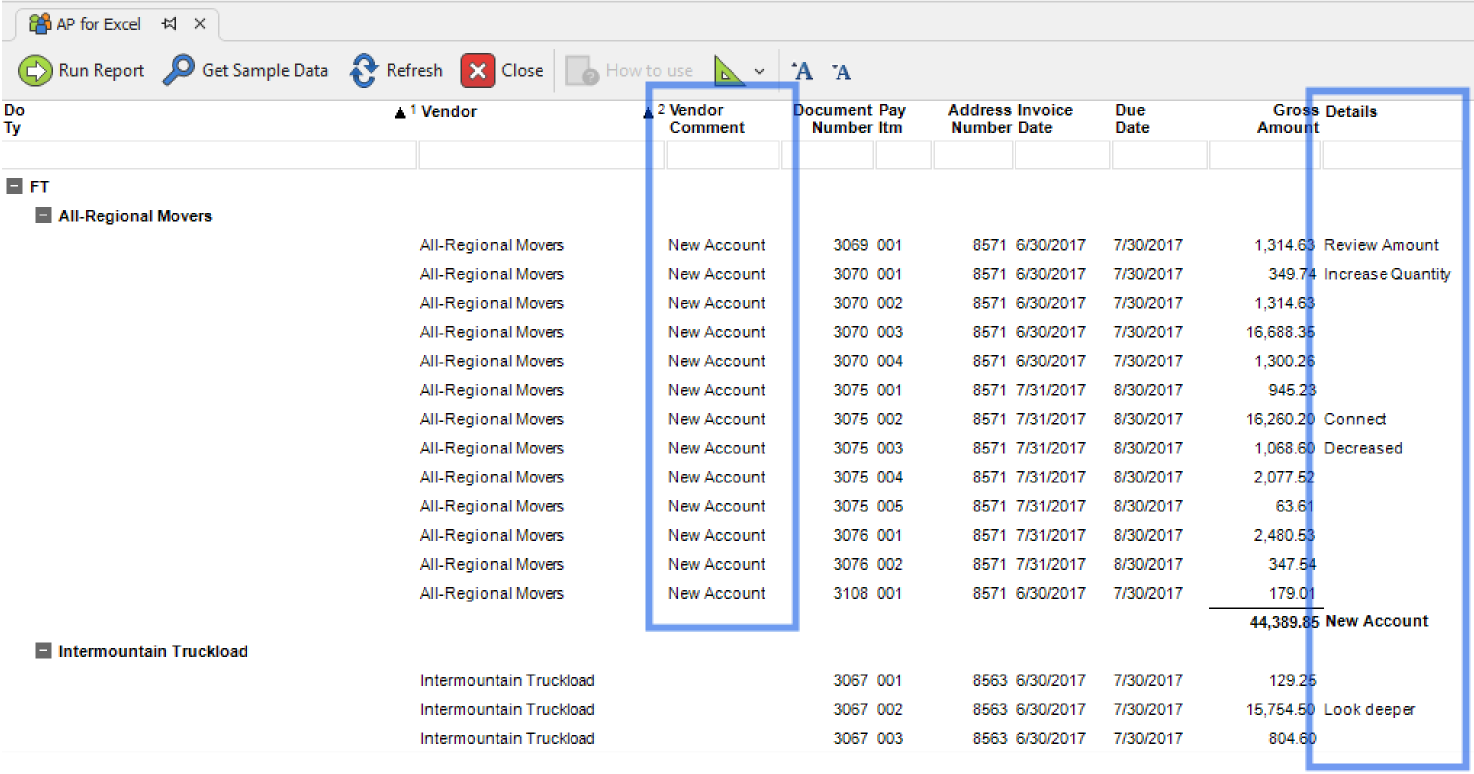
If a report includes any Comment calculations, users many have access to edit comments in published reports.

If a user has access to edit comments, they will see cells in that column outlined as seen below.



Do Ty	Vendor	Vendor Comment	Document Number	Pay Itm	Address Number	Invoice Date	Due Date	Gross Amount	Details
FT									
All-Regional Movers									
	All-Regional Movers	New Account	3069	001	8571	6/30/2017	7/30/2017	1,314.63	Review Amount
	All-Regional Movers	New Account	3070	001	8571	6/30/2017	7/30/2017	349.74	Increase Quantity
	All-Regional Movers	New Account	3070	002	8571	6/30/2017	7/30/2017	1,314.63	
	All-Regional Movers	New Account	3070	003	8571	6/30/2017	7/30/2017	16,688.35	
	All-Regional Movers	New Account	3070	004	8571	6/30/2017	7/30/2017	1,300.26	
	All-Regional Movers	New Account	3075	001	8571	7/31/2017	8/30/2017	945.23	
	All-Regional Movers	New Account	3075	002	8571	7/31/2017	8/30/2017	16,260.20	Connect
	All-Regional Movers	New Account	3075	003	8571	7/31/2017	8/30/2017	1,068.60	Decreased
	All-Regional Movers	New Account	3075	004	8571	7/31/2017	8/30/2017	2,077.52	
	All-Regional Movers	New Account	3075	005	8571	7/31/2017	8/30/2017	63.61	
	All-Regional Movers	New Account	3076	001	8571	7/31/2017	8/30/2017	2,480.53	
	All-Regional Movers	New Account	3076	002	8571	7/31/2017	8/30/2017	347.54	
	All-Regional Movers	New Account	3108	001	8571	6/30/2017	7/30/2017	179.01	
								44,389.85	**New Account**
Intermountain Truckload									
	Intermountain Truckload		3067	001	8563	6/30/2017	7/30/2017	129.25	
	Intermountain Truckload		3067	002	8563	6/30/2017	7/30/2017	15,754.50	Look deeper
	Intermountain Truckload		3067	003	8563	6/30/2017	7/30/2017	804.60	
	Intermountain Truckload		3067	004	8563	6/30/2017	7/30/2017	5.49	

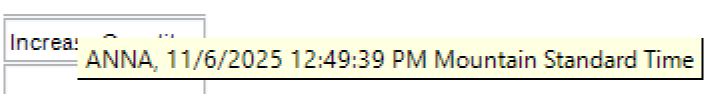
If a user cannot edit comments that exist, they will still see comment content written by others.



Entering Comments as a Subscriber

To update a comment, simply type into a comment cell and hit enter or click off. The comment will immediately be saved for all viewers of that published report.

Audit information is available for all comment cells by hovering over a cell. The tooltip will display the user who entered the comment and at what time.



> **NOTE**
>
> Be aware that updating an existing comment cell with new text will immediately remove previous text.

Comment Refreshing in Published Reports

Comments are refreshed in a public report to ensure the latest comments are visible in the following scenarios:

- When a report is opened
- When Run Report, Get Sample Data or Refresh is selected
- When a user selects Right Click > Refresh Calculations
- When a comment is saved (Clicking off a typed comment, selecting tab or selecting enter)

NOTE

If it has been more than 5 minutes since one of the above actions was performed, the comments will refresh upon entering a comment cell.

Run the Report

Once you have entered report parameters and filters, you can get sample data or run the full report. As the report runs you will see the progress bar fill.

To	Do this
See a small preview of the data without actually running the entire report	Click the **Get Sample Data** button.
Run the report over all the data	Once you have entered the necessary parameters and are ready to run the report, click **Run Report**.
Stop an in progress report	Click the **Cancel** button. **Note:** you may only the click the **Cancel** button if it is enabled.

Export and Print

Once your run completes, you will see the progress bar completely filled. You will also see the results of your report. From here you can print or export your data.

To	Do this
Print your report	Click **File > Print**. Data Access Studio will format your output to PDF and show you a preview. You can then print from the resulting PDF document.
Export your report data to Excel	Click on the main toolbar. Once you export, Data Access Studio will export, format, and save the report data to your default export directory. Data Access Studio will then, by default, open the result of the export for you to review, save, etc.

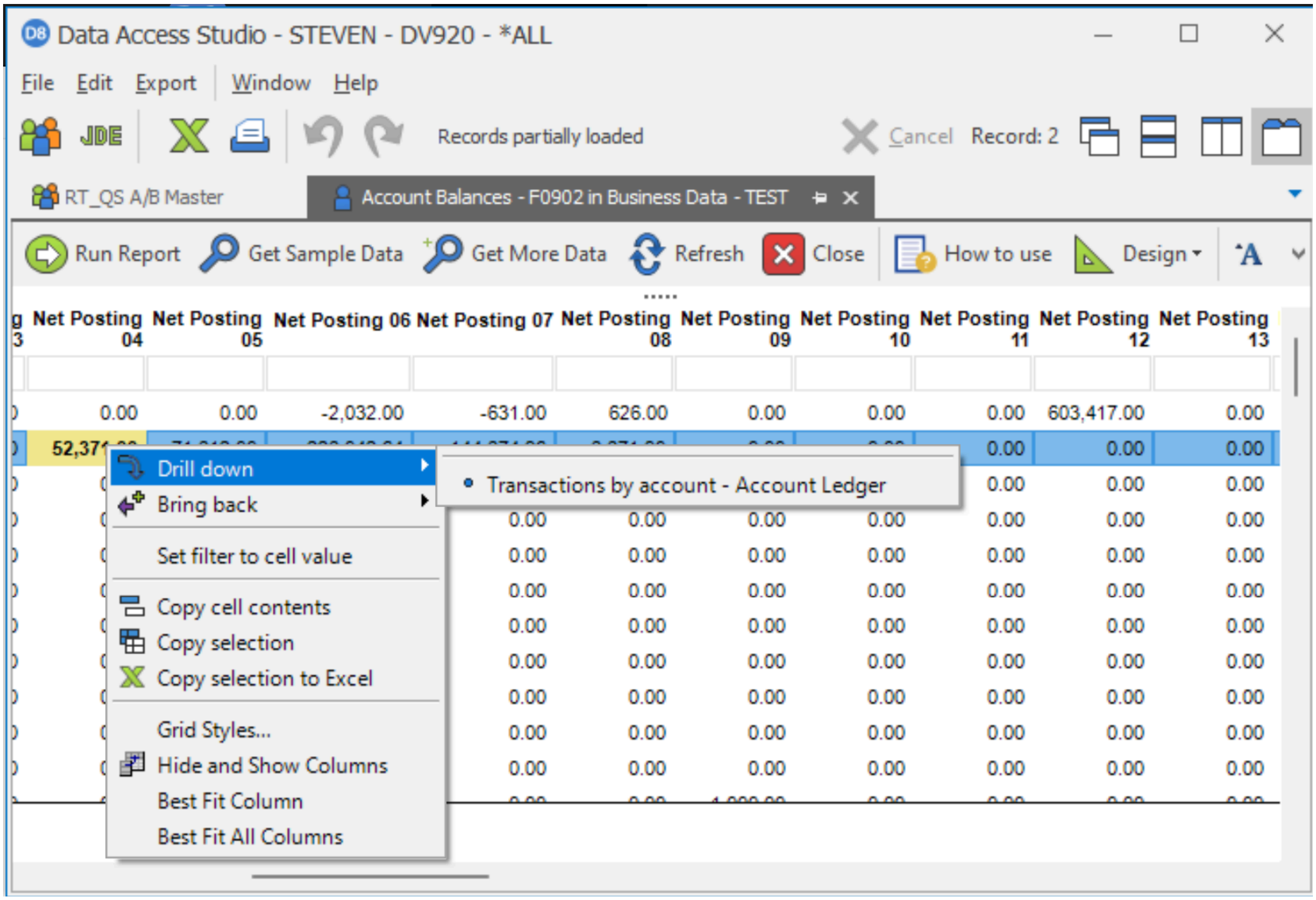
If you have the **Export** menu on the main menu bar for the report you are running, then you may export the data in the report as follows:

To	Do this
Export your report data to Excel	Click **Export** > **All Grid Data** > To Excel...
Export your report data to a web page format	Click **Export** > **All Grid Data** > HTML...
Export your report data to a PDF (Adobe acrobat) format	Click **Export** > **All Grid Data** > PDF...
Export your report data to Access or other similar third party software	Click **Export** > **All Grid Data** > To Tab Separated Values...
Export your report data to Oracle BI Publisher or a similar third party software	Click **Export** > **All Grid Data** > XML...
Export your report data to Access or another similar third party software requiring CSV format	Click **Export** > **All Grid Data** > To CSV...
Export only selected rows or columns	Select the columns or rows you want to export. Click **Export** > **Selected Grid Data** and select your output format.

Drill Down

Drill downs are links between cells in one table to another table. For instance, the account balance can drill down into a set of General Ledger entries. Data Access Studio supports drill downs as follows:

- Master file drill downs
- General Ledger drill downs
- User-defined drill downs



Drills downs support multiple rows and drill down on summary values as well. E.g. if you want to drill into a rollup summary value on a Balance Sheet, right-click the summary value and select **Drill Down > Transactions by account - Account Ledger** DAS will show all the transactions that rolled up into that summary value automatically.

Master file drill downs

For any cell that has a master file behind it (for instance, address book number, item number, etc.), you can right-click the cell. On the popup menu, you will see **Drill Down.** When you click the drill down selection, DAS will open the master file and show you the details for the item you selected. If you select multiple rows in the source table, when you click the drill down option, DAS will show you master file records for all the items you selected.

General Ledger drill downs

See Account Ledger Drill Down.

Account Ledger Drill Downs

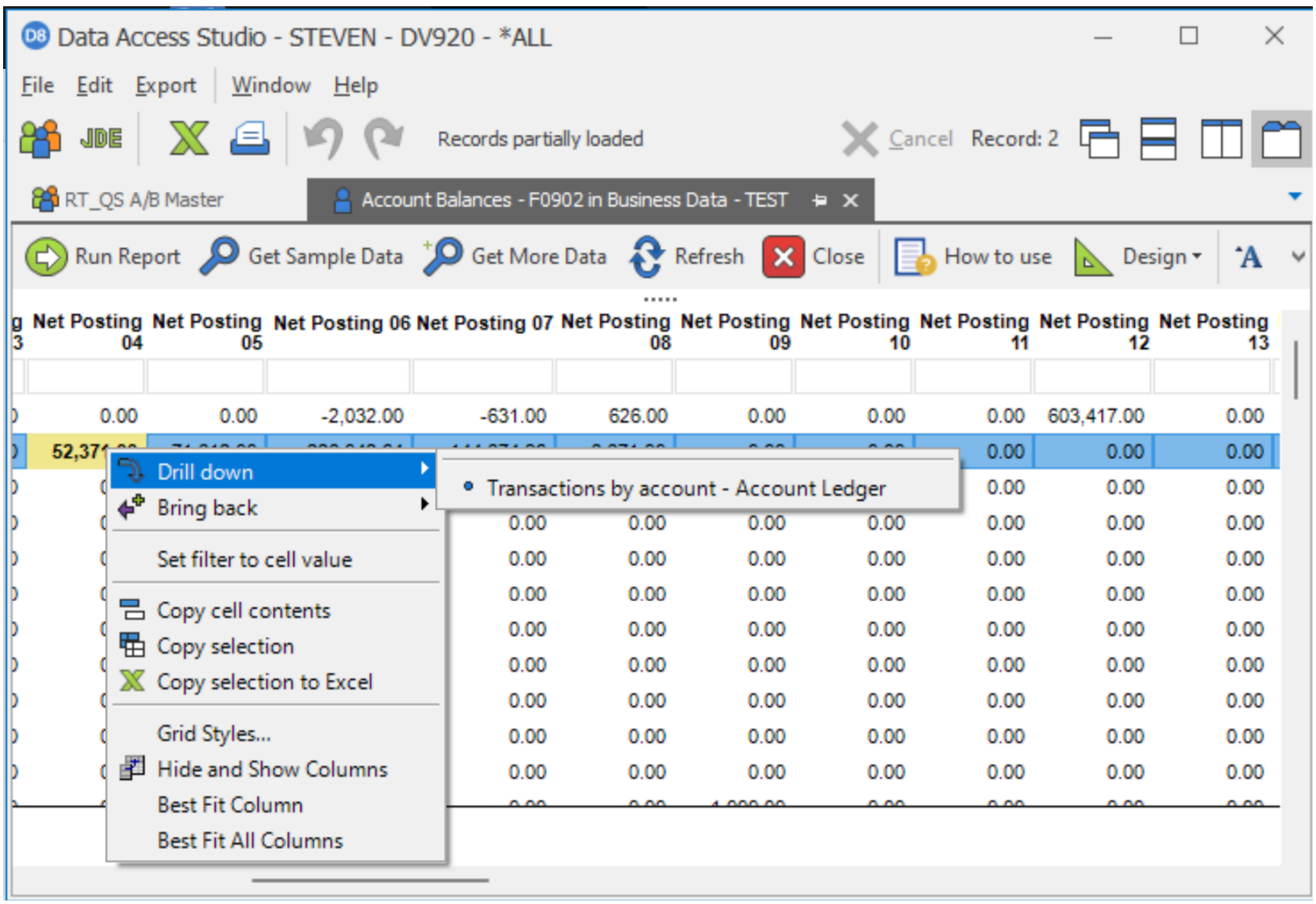
These drill downs are automatically available on any new or pre-existing report over the above tables.

DAS provides many pre-defined General Ledger drill downs including the following:

- Account Balances (F0902): GL over any Net Posting column, Relative Period, or Period Amount column
- Asset Balances (F1201): GL over any Net Posting column, Relative Period, or Period Amount column
- Purchase Orders (F4311): GL over Order Number and Amount Received columns

Account Balances (F0902)

For any report that runs over the Account Balances table (F0902)--which includes Financial Quick Reports, you can drill into amounts. To drill down into an amount, right-click the amount and select **Drill down > Transactions by account - Account Ledger**:



DAS will open the account ledger and show you the transactions and transaction totals for the item you drilled into. Note that you can drill into a summary as shown above or into a detail cell.

NOTE

For these pre-built drilldowns, filters such as Account ID, Century, Fiscal Year, Period Number, Ledger Type, Posting Code, Sub-ledger and Sub Type will be included to help outline the proper transactions to return. One reason an account might not tie out when you drilldown is if the Posting Edit code (F0901.PEC) from the Account master table for that account is set to "S" or "Subledger & type required-blnk".

The reason is because these 'S' accounts will pass down a blank filter in the SBL and SBLT columns. This will filter out some or all of the transaction records for these accounts.

To resolve this issue, create a custom drilldown instead to ensure these subledger columns are not filtered out of the drilldown transaction results.

Asset Balances (F1202)

For any report that runs over the Asset Balances table (F1202)--which includes Fixed Asset Quick Reports, you can drill into amounts. To drill down into an amount, right-click the amount and select **Drill down > Transactions by account - Account Ledger**.

Purchase Order (F4311)

For any report that runs over the Purchase Order Detail (F4311), you can drill into amounts. To drill down into a purchase order, right-click the **Order Number** and select **Drill down > Inventory transactions - Account Ledger**. DAS will show you the two balancing entries for the order in the Account Ledger (F0911). The amounts shown in the Account Ledger should match up to the *Amount Received* column in the *Purchase Order* header.

Quick Reports

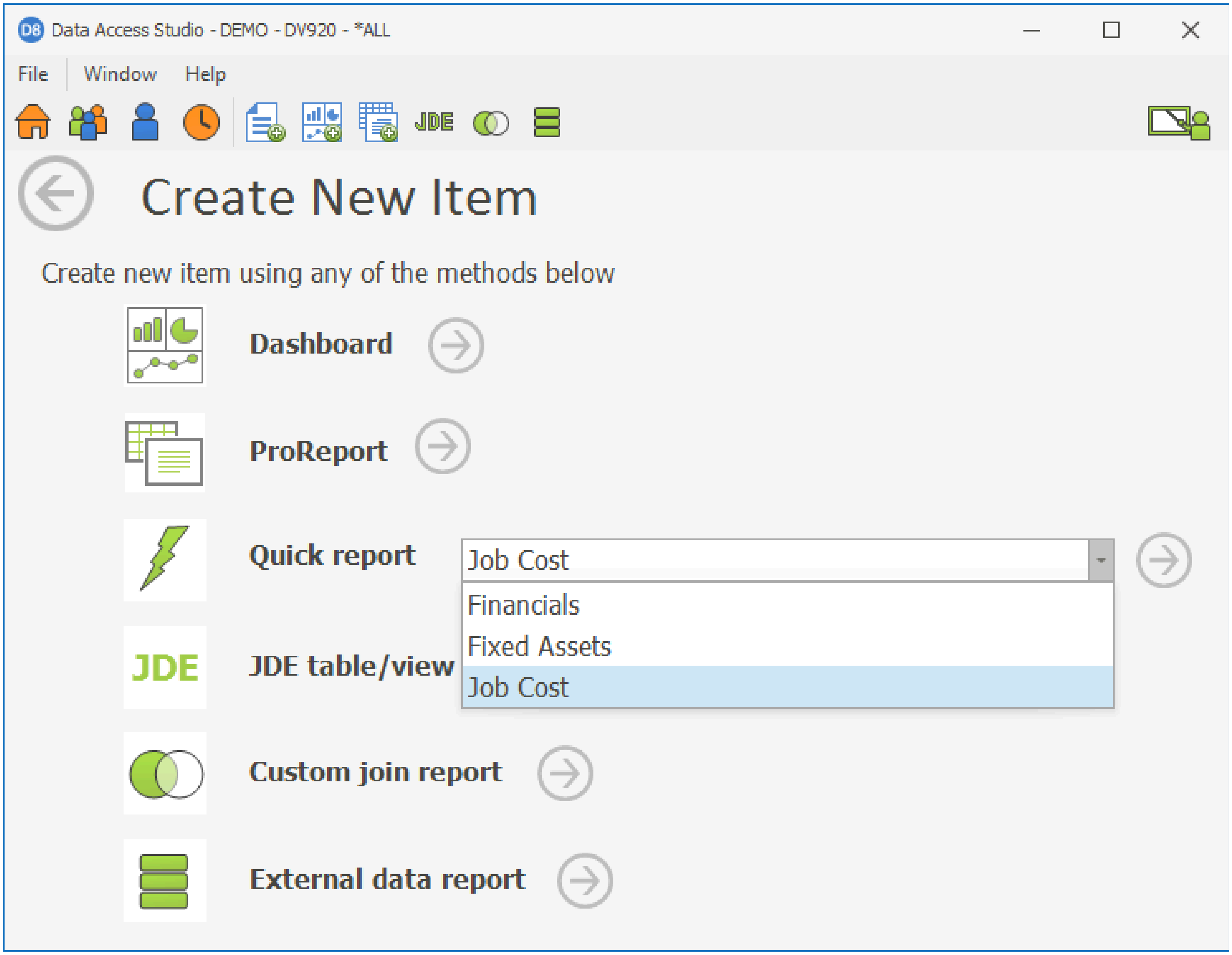
User level	JDE Knowledge	Can Design Reports	Technical Knowledge
Subscriber	Not needed	No	Minimal
Quick Report Designer	Minimal	Yes	Minimal
Ad Hoc Designer	Yes	Yes	Some
Advanced Designer	Yes	Yes	High

Data Access Studio empowers users with limited JDE knowledge to create a wide variety of practical business reports. The Quick Report user typically possesses finance, payroll, sales, etc. knowledge, but does not necessarily know where JDE stores this information.

The Quick Report system guides you through business language and options so that you can create the reports you need.

You can access the **Quick Report** menu as follows:

1. Select **File** > **New** > **Wizard** from the menu or the report wizard button on the tool bar.
2. Select the desired Quick report from the dropdown.


Data Access Studio - DEMO - DV920 - *ALL
File
Window
Help
Create New Item
Create new item using any of the methods below
Dashboard
ProReport
Quick report
Job Cost
Financials
Fixed Assets
Job Cost
JDE table/view
Custom join report
External data report

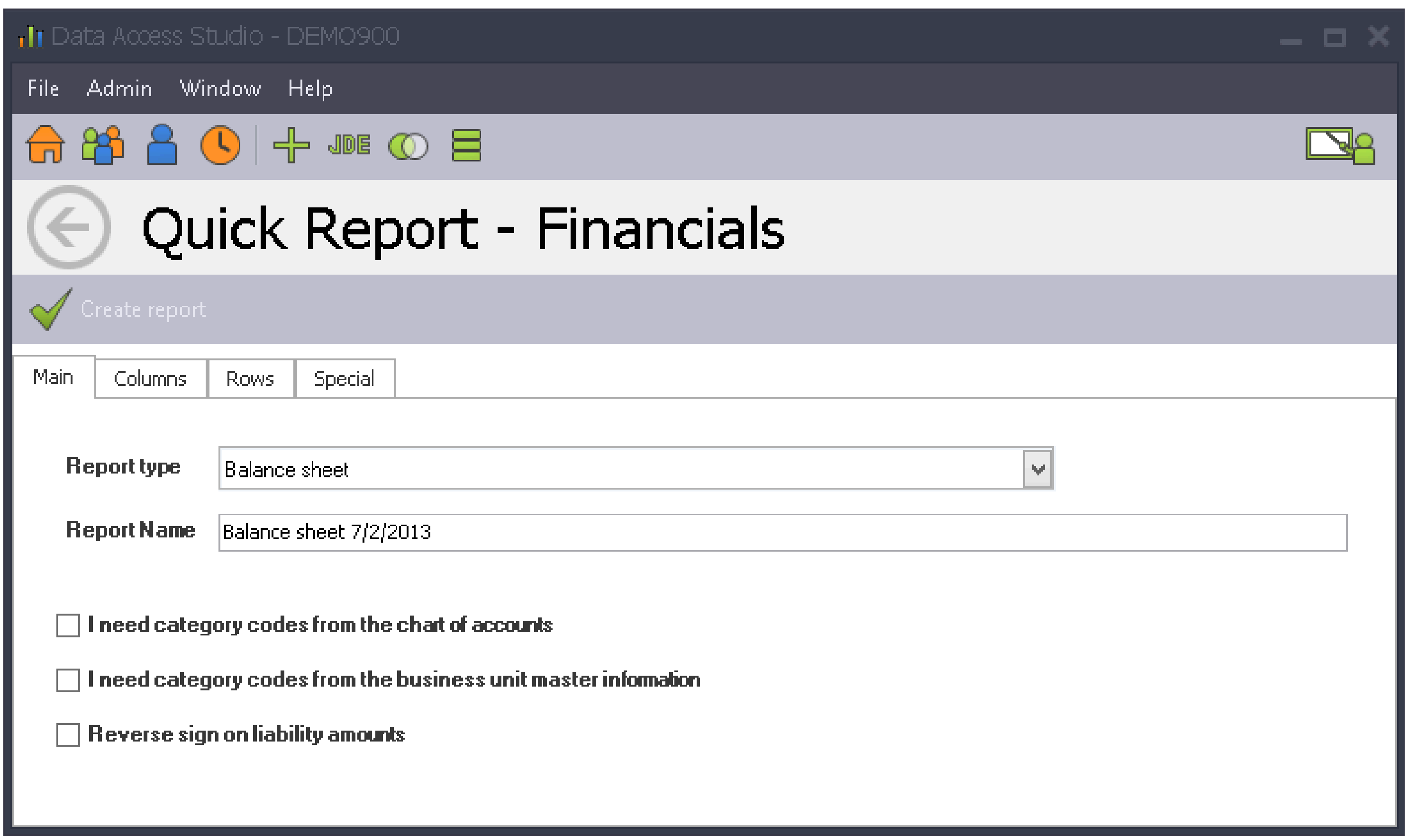
Financials

The Financials Quick Report allows a finance user to create reports such as:

- Balance Sheet
- Income Statement
- Trial Balance
- Budget vs. Actual
- Business Unit comparison
- Period, quarter, yearly comparison
- and more

To get started, sign in then:

- Click **File | Quick Report | Financials**

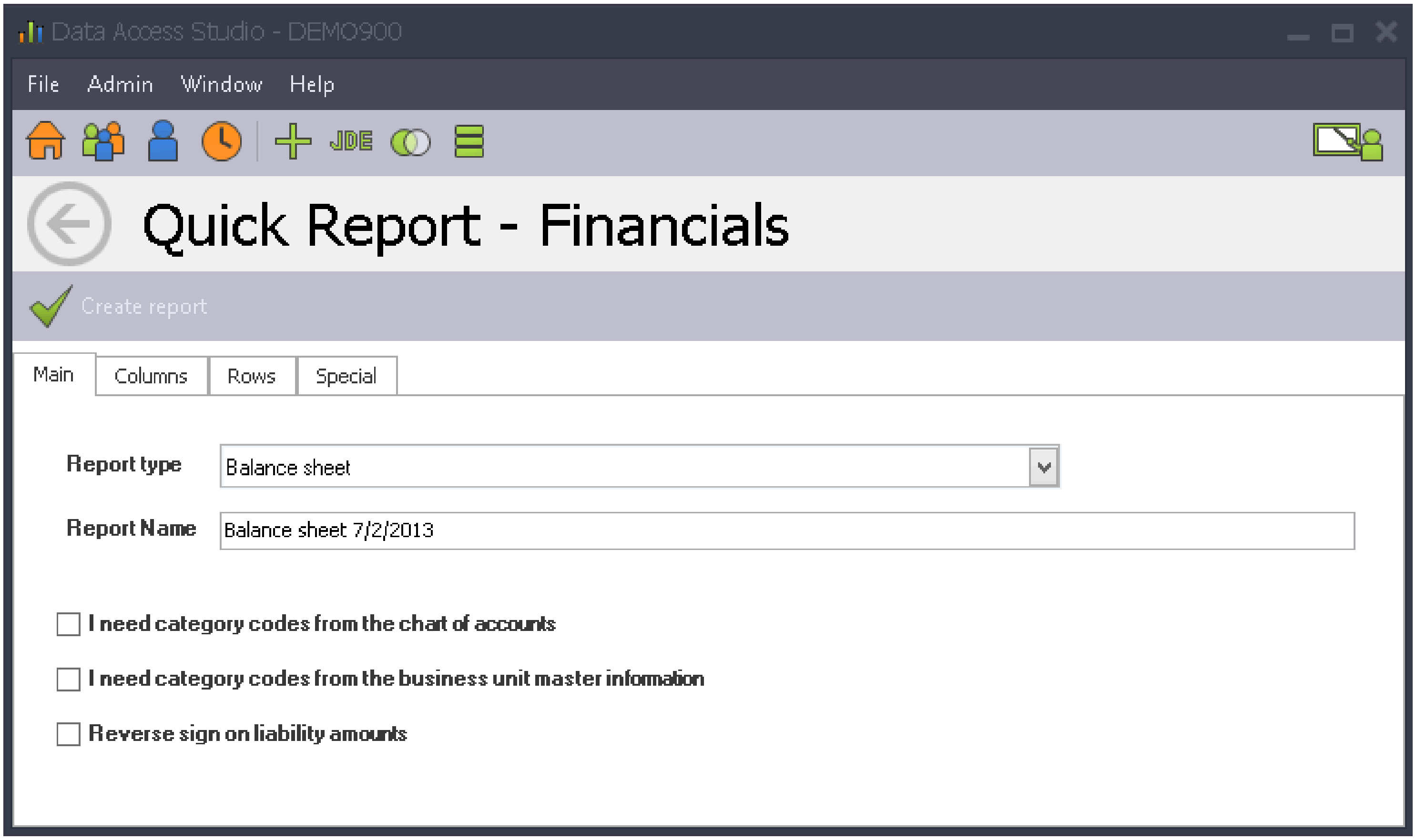


The **Quick Report** lets you specify what kind of report you want and how you want to create it.

To	Do this
Enter information on a particular tab	Click the desired tab. See topics that follow.
Create the **Financial Balances** report with the parameters you specified	Click **Create report**.
To exit the designer	Click the back button.

Specify Type of Financial Report

The first step in defining your report is to select what type financial report you want. Enter this information on the **Main** tab:



In this version, all reports are based on the Posted balances file in JDE.

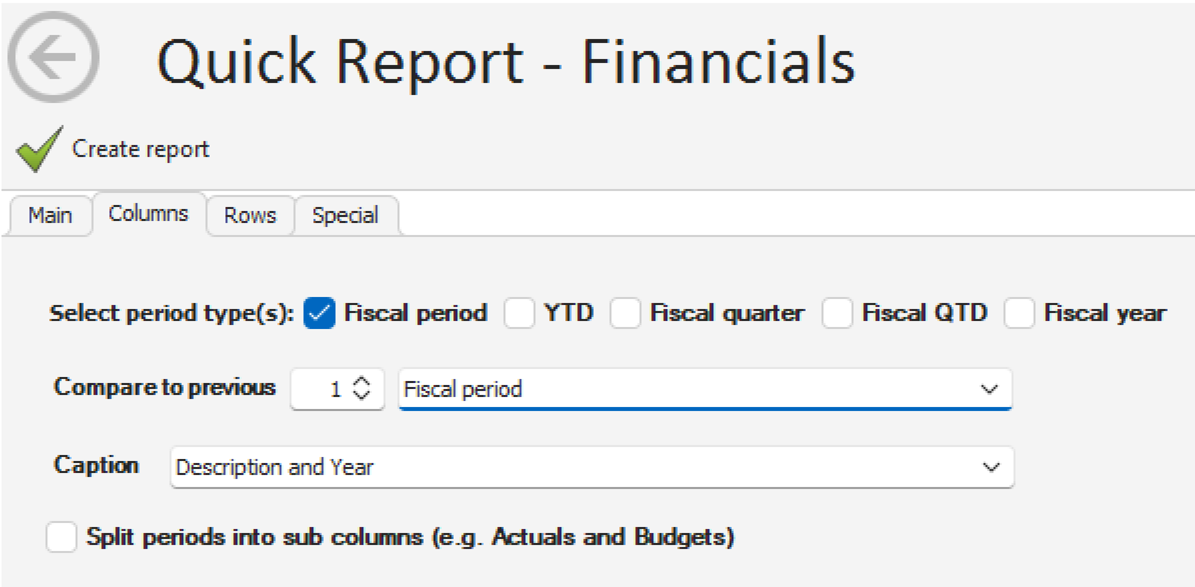
To	Do this
Type of your report (Required)	Select the type of financial report that you want to create. After selecting the basic types, you can use the rest of the wizard to customize it further (for example, you can split an Income Statement into multiple periods or compare actuals vs. budget).
Name your report (Required)	Click on the edit box next to **Report name** and type a descriptive name for your report. This is a mandatory step.
If your business organizes accounts with the category code information in the JDE Chart of Accounts	Click the check box labeled: **I need category codes from the chart of accounts**.

To	Do this
If you need to access category codes in the JDE Business Unit table	Click the check box labeled: **I need category codes from the business unit master information**.
Reverse sign on revenue accounts	Depending on your JD Edwards setup, for an Income Statement or Trial Balance, you usually will check the **Reverse sign on revenue accounts**
Reverse sign on liability accounts	Depending on your JD Edwards setup, for a Balance Sheet or Trial Balance, you may need to reverse the sign on liability accounts by check **Reverse sign on liability accounts**.

Once you are finished, click the **Periods** tab.

Specify Financial Periods

You can show amounts by period, quarter, year, or Year-To-Date period. You can also compare period amounts to amounts in previous periods or years.



To	Do this
Select how to organize the periods in your report	Pick from any of the checkboxes: **Fiscal period**, **YTD**, **Fiscal quarter**, **Fiscal QTD**, and/or **Fiscal year**.
Compare a period to previous periods	Change the **Compare to previous** number to the number of periods you want to compare against. Set the option box next to the number to **Fiscal period**.
Compare a period to the same period in previous years	Change the **Compare to previous** number to the number of years you want to compare against. Set the option box next to the number to **Fiscal year**.
Compare a quarter to previous quarters	Click the **Organize by** option box. Select **Fiscal quarter**. Change the **Compare to previous** number to the number of quarters you want to compare against. Set the option box next to the number to **Fiscal Quarter**.
Compare a quarter to the same quarter in previous years	Click the **Organize by** option box. Select **Fiscal Quarter**. Change the **Compare to previous** number to the number of years you want to compare against. Set the option box next to the number to **Fiscal year**.
Compare a year to previous years	Click the **Organize by** option box. Select **Fiscal year**. Change the **Compare to previous** number to the number of years you want to

To	Do this
	compare against. Set the option box next to the number to **Fiscal year**.
Compare a Year-To-Date amount to previous Year-To-Date amounts	Click the **Organize by** option box. Select **YTD**. Change the **Compare to previous** number to the number of years you want to compare against. Set the option box next to the number to **Fiscal year**.
Split period values (such as Budget vs. Actuals)	Check the Split column values by criteria. Once checked, see Financial Column Rollup to specify how to split the period values.
Change the Caption for the period columns	Select the desired caption setting from the **Caption** drop down.

Caption Options

The table below provides the caption types available when creating a Quick Report and examples of how they will be generated.

Caption Type	**Organize by: Period Period: 8 Fiscal Year Start: 1/1/2024**	**Organize by: Quarter Period: 8 Fiscal Year Start: 1/1/2024**	**Organize by: QTD Period: 8 Fiscal Year Start: 1/1/2024**	**Organize by: Year Period: 8 Fiscal Year Start: 1/1/2024**	**Organize by: YTD Fiscal Period Period: 8 Fiscal Year Start: 4/1/2024**
Description and Year	<Description> <Year> August 2024	<Description> <Year> Quarter 3 2024	<Description> <Year> QTD 3 2024	<Year> 2024	<Description> <Year> YTD November 2024
Description and Fiscal Year	<Description> <FiscalYear> August 2024	<Description> <FiscalYear> Quarter 3 2024	<Description> <FiscalYear> QTD 3 2024	<FiscalYear> 2024	<Description> <FiscalYear> YTD November 2024
Period Number and Fiscal Year	<Period> <FiscalYear> 8 2024	<Description> <FiscalYear> Quarter 3 2024	<Description> <FiscalYear> QTD 3 2024	<FiscalYear> 2024	<Period> <FiscalYear> 8 2024

Caption Type	Organize by: Period Period: 8 Fiscal Year Start: 1/1/2024	Organize by: Quarter Period: 8 Fiscal Year Start: 1/1/2024	Organize by: QTD Period: 8 Fiscal Year Start: 1/1/2024	Organize by: Year Period: 8 Fiscal Year Start: 1/1/2024	Organize by: YTD Fiscal Period Period: 8 Fiscal Year Start: 4/1/2024
Period Month Description and Year	<PeriodMonth> <Year> August 2024	<Description> <Year> Quarter 3 2024	<Description> <Year> QTD 3 2024	<Year> 2024	<PeriodMonth: <Year> YTD August 2024
Date Range	<StartDate> - <EndDate> 8/1/2024 - 8/31/2024	<StartDate> - <EndDate> 7/1/2024 - 9/30/2024	<StartDate> - <EndDate> 7/1/2024 - 8/31/2024	<StartDate> - <EndDate> 1/1/2024 - 12/31/2024	<StartDate> - <EndDate> 4/1/2024 - 11/30/2024
Start Date	<StartDate> 8/1/2024	<StartDate> 7/1/2024	<StartDate> 7/1/2024	<StartDate> 1/1/2024	<StartDate> 4/1/2024
End Date	<EndDate> 8/31/2024	<EndDate> 9/30/2024	<EndDate> 8/31/2024	<EndDate> 12/31/2024	<EndDate> 11/30/2024
Description, Year, Days in Period	<Description> <Year> <DaysInRange> August 2024 31	<Description> <Year> <DaysInRange> Quarter 3 2024 92	<Description> <Year> <DaysInRange> QTD 3 2024 62	<Year> <DaysInRange> 2024 365	<Description> <Year> <DaysInRange: YTD November 2024 244

NOTE

The <Description>, <Period>, and <PeriodMonth> variables will be omitted from the column caption when organizing by **Year**.
The <Description> variable will be used instead of <Period> and <PeriodMonth> in the column caption when organizing by **Quarter** or **Quarter-To-Date**.

Variable Definitions for Quick Reports

Variable Name	Definition
Description	Returns either the month (ex: Period 2 = September if fiscal year starts in August), period to date selection with the month (ex: YTD September), quarter number or blank for year columns.
Period	Returns the period number. If organizing by Quarter or QTD this returns the first period in the quarter (ex. Quarter 2 = 4).
PeriodMonth	Returns the calendar month linked to that period number (ex: Period 4 = April even when fiscal year starts on months other than January) and includes any prefix the same way the Description variable does.
PeriodMonthShort	Returns the same as PeriodMonth except that months are shortened to 3 characters.
FiscalYear	Returns the fiscal year.
Year	Returns the calendar year.
StartDate	Returns the start date of the selected range.
EndDate	Returns the end date of the selected range.
DaysInRange	Returns the difference in days between the start date and end date for the selected range.

NOTE

The <Description> and <PeriodMonth> variables will return blank when organizing by **Year** or **Year + Adjustment Periods** (available only from the Relative Period calculation).
The <PeriodMonth> and <PeriodMonthShort> variables will return the same value as <Description> when organizing by **Quarter** or **Quarter-To-Date**.

Specify Financial Row Rollup

The next step is to define how you want to organize your row information. You have three choices depending on your needs:

- User Defined List - Manually define each account rollup
- Chart of Accounts - Use the JDE Chart of Accounts to define the account hierarchy
- Account Group - Rollup accounts by the object accounts

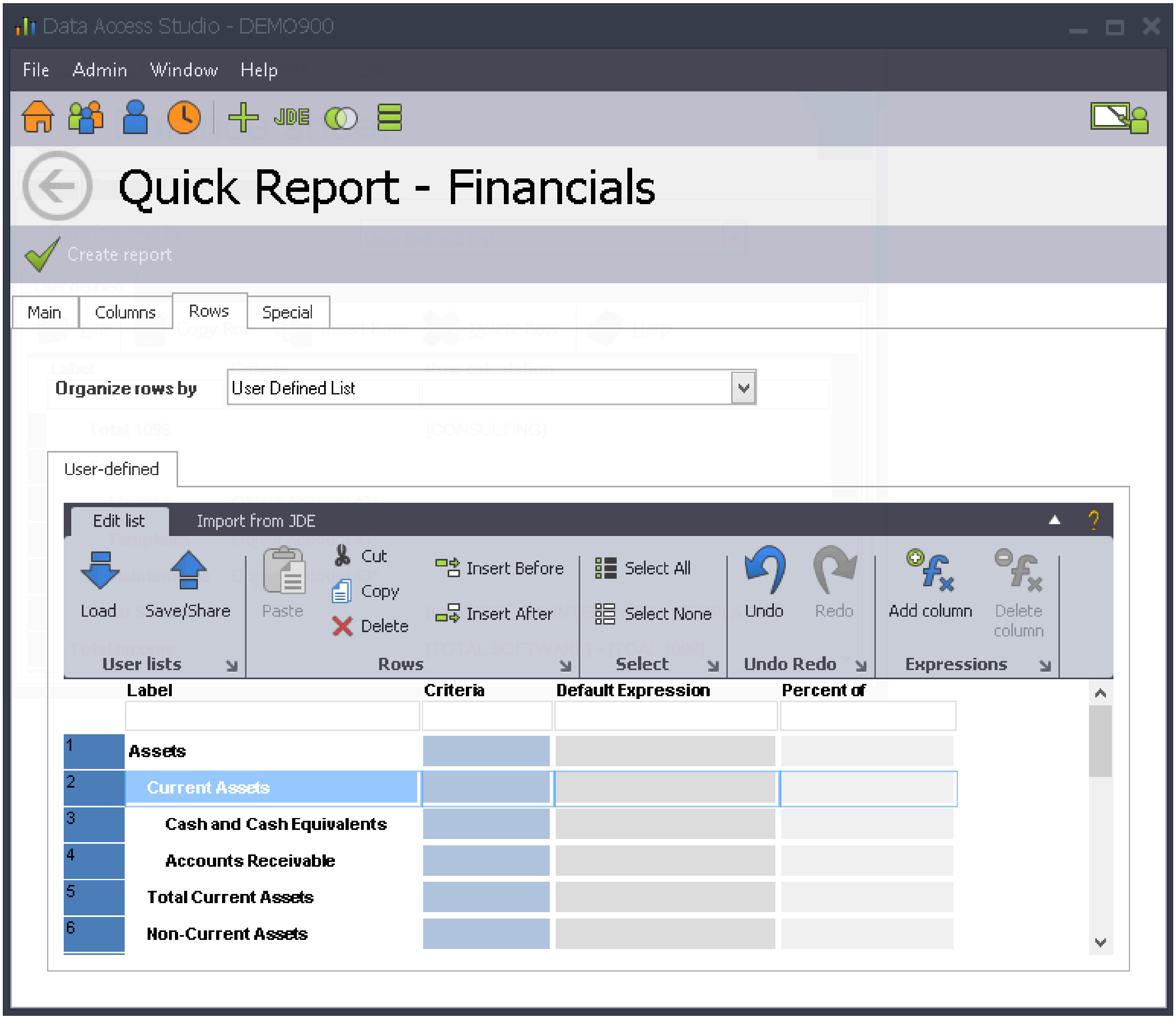
User Defined List

The User Defined List option gives you a flexible way to define manually how you want your financial information displayed. Each row in the grid below represents how to rollup detail information into one line. Initially, you must add each row you need. Once you are finished, you can save your list so that you and others may re-use the work you did.

The editor in this grid lets you:

- Define as many rows as you want
- Define the criteria you need for each row

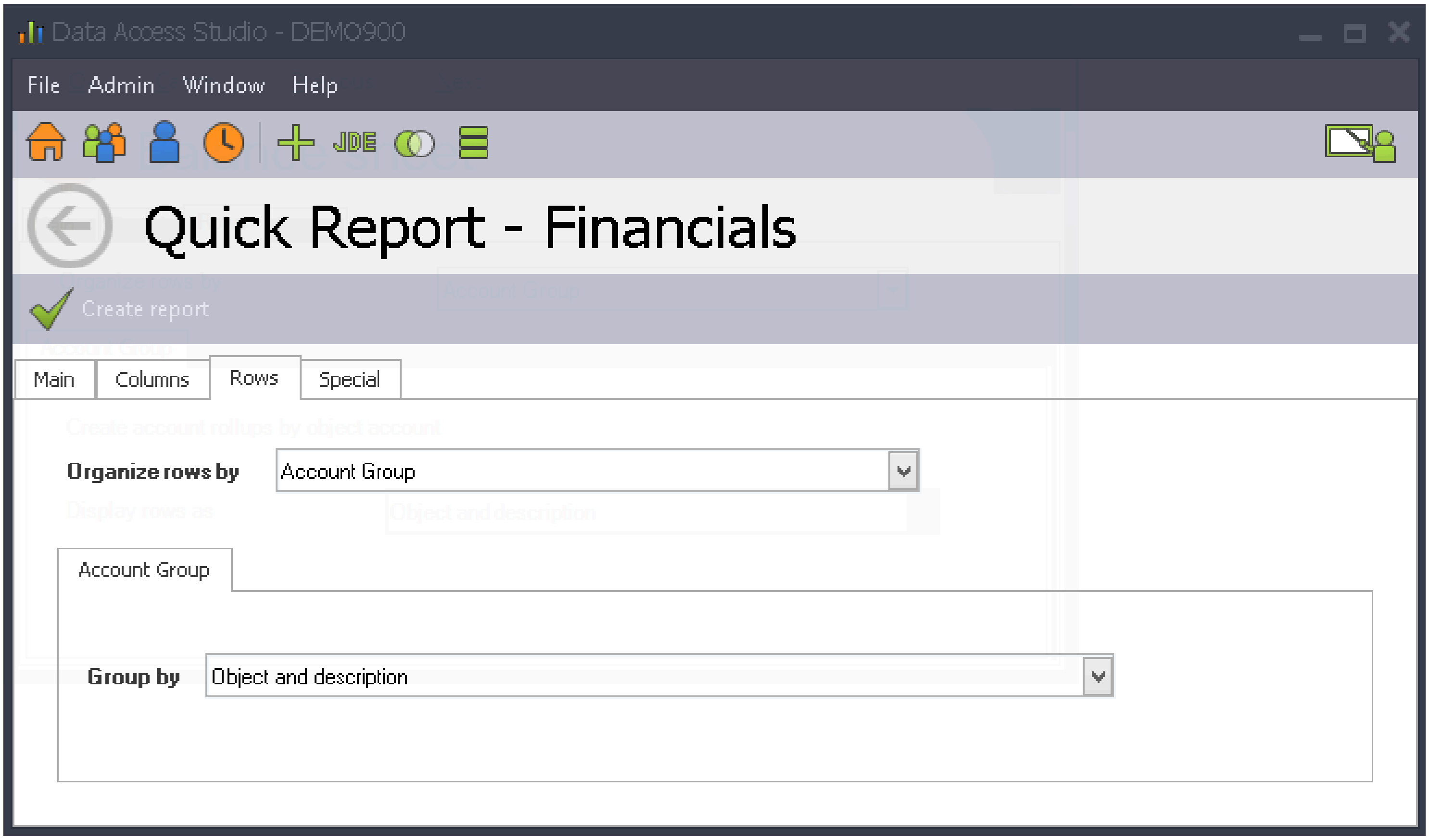
Sample screen shot showing a user-defined list



See the topic Make a List for directions on how to define the rows you want to rollup.

Account Group

Use this option if you want to roll up simply by the object account. Select how you want to see the roll-ups labeled (**Display rows as**).

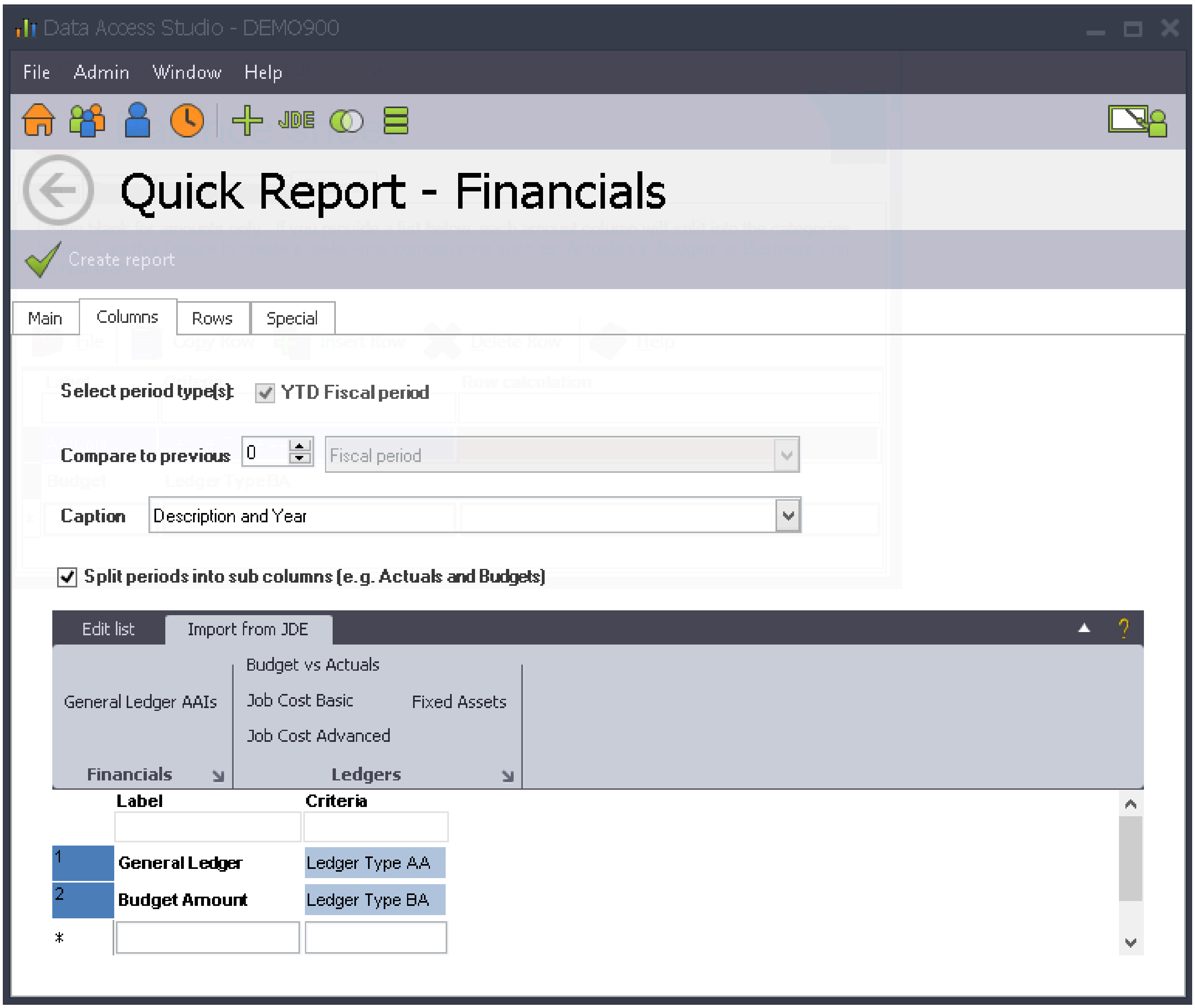

Data Access Studio - DEMO900
File
Admin
Window
Help
JDE
Quick Report - Financials
Create report
Main
Columns
Rows
Special
Organize rows by
Account Group
Account Group
Group by
Object and description

Financial Column Rollup - Optional

The **Columns** tab lets you show side-by-side comparisons of financial information. For instance, suppose you wanted to show a side-by-side comparison of Actual amounts and Budget amounts. In this example, you would enter two lines in the grid: one for Actual and one for Budget.

The editor lets you:

- Define as many side-by-side categories as you want
- Define the criteria you need for each category



To show side-by-side comparisons of	Do this
Business units	Add a line for each business unit you want to compare.

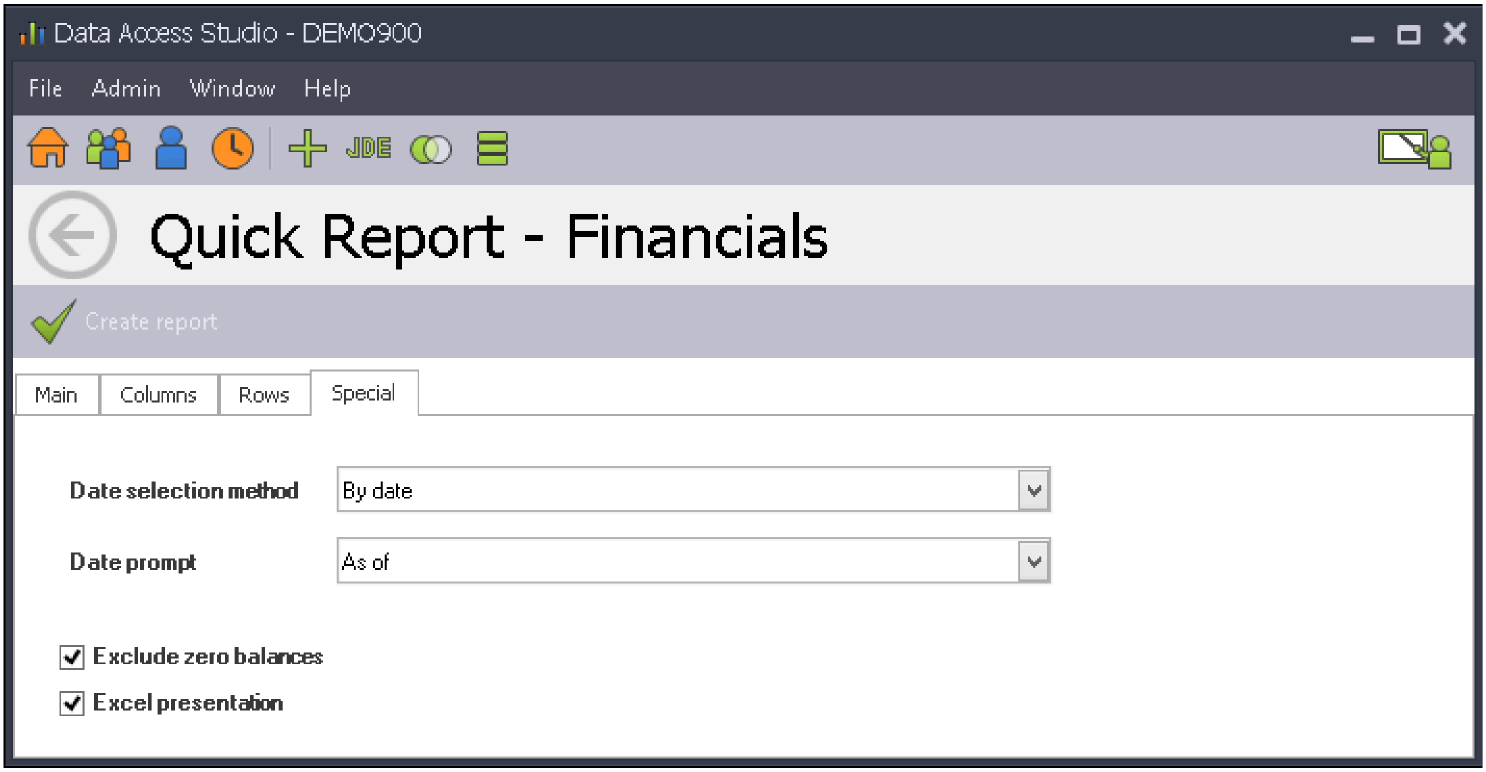
To show side-by-side comparisons of	Do this
Companies	Add a line for each company.
Ledger types	Add a line for each ledger type.
Category code	Add a line for each category code criteria.
etc...	

See the topic Make a List for directions on how to define the rows that specify your side-by-side comparison.

Financial Excel Embedding

Special Settings

The **Special Settings** tab lets you set preferences for your financial report.



To	Do this
Change how you want to prompt for date	Select **By date** or **By period** from the pull down box.
Change the text for prompting date information	Either select one of the pre-defined prompts: **As of** or **For the period ending** from the pull down box. Or you may type in your own date prompt text.
Define the accounts to reverse sign	For financial statements to balance in JDE, you must negate the values of the Revenue accounts. Define the revenue accounts in your system here by any criteria you choose (object range, category code, etc.). Once set, DAS will remember the setting as you create new financial reports.
Define the balance sheet accounts	For balance sheet accounts, you must add the beginning balance to get the cumulative actual amount of the account. Define the balance sheet accounts in your system here by any criteria you choose (object range, category code,

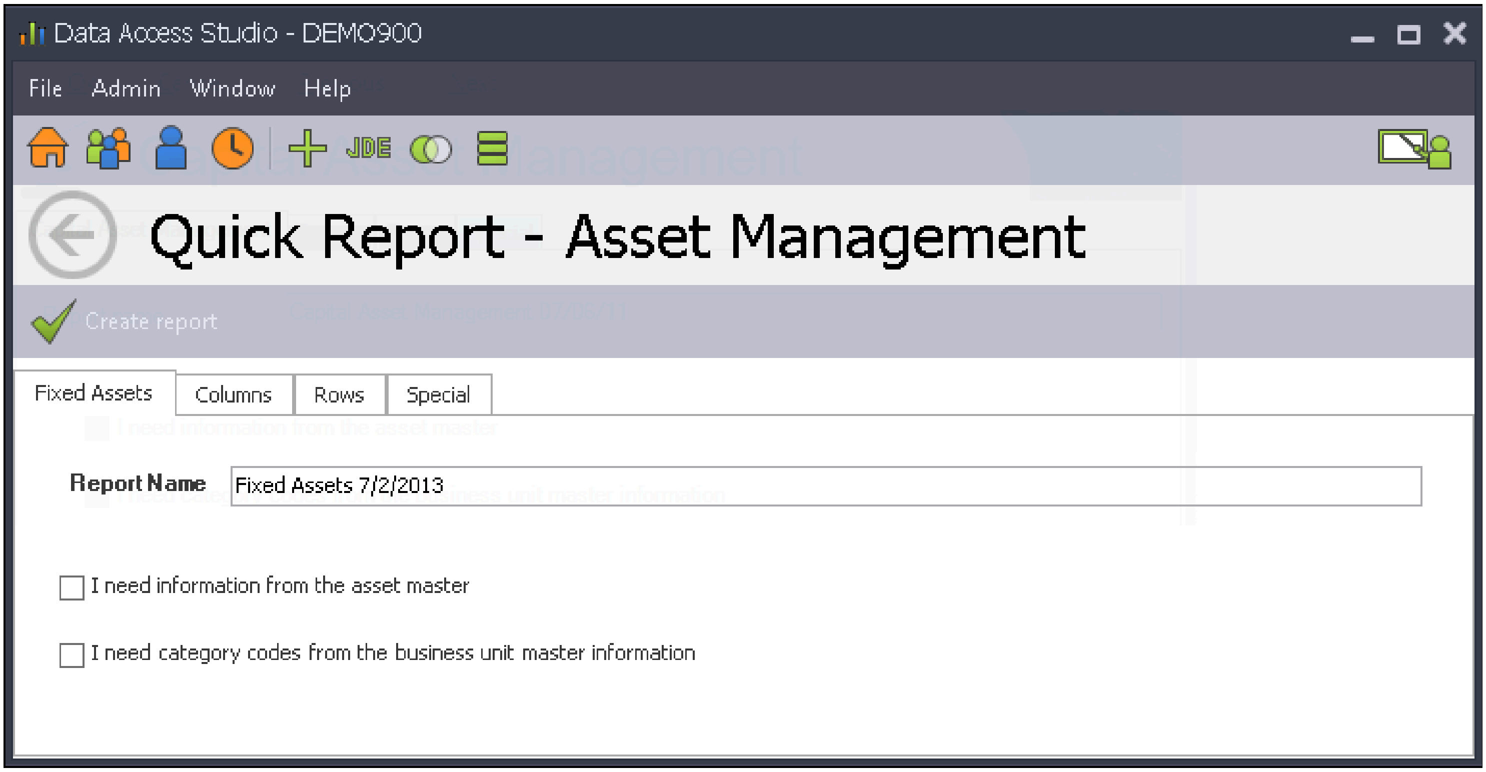
To	Do this
	etc.). Once set, DAS will remember the setting as you create new financial reports.
Limit which object accounts your financial report shows	Enter a begin object account (OBJ) value and an end object account value that define the inclusive range that you want to display in your report.
Exclude zero balances from the report	Check to exclude 0 balances. Uncheck to include zero balances.
Present your financial report with Excel capabilities	Check **Excel presentation**.

Create a Fixed Assets Report

The Capital Asset Management Quick Report allows a user to create reports over fixed assets.

To get started, sign in then:

- Click | **Quick Report | Fixed Assets**

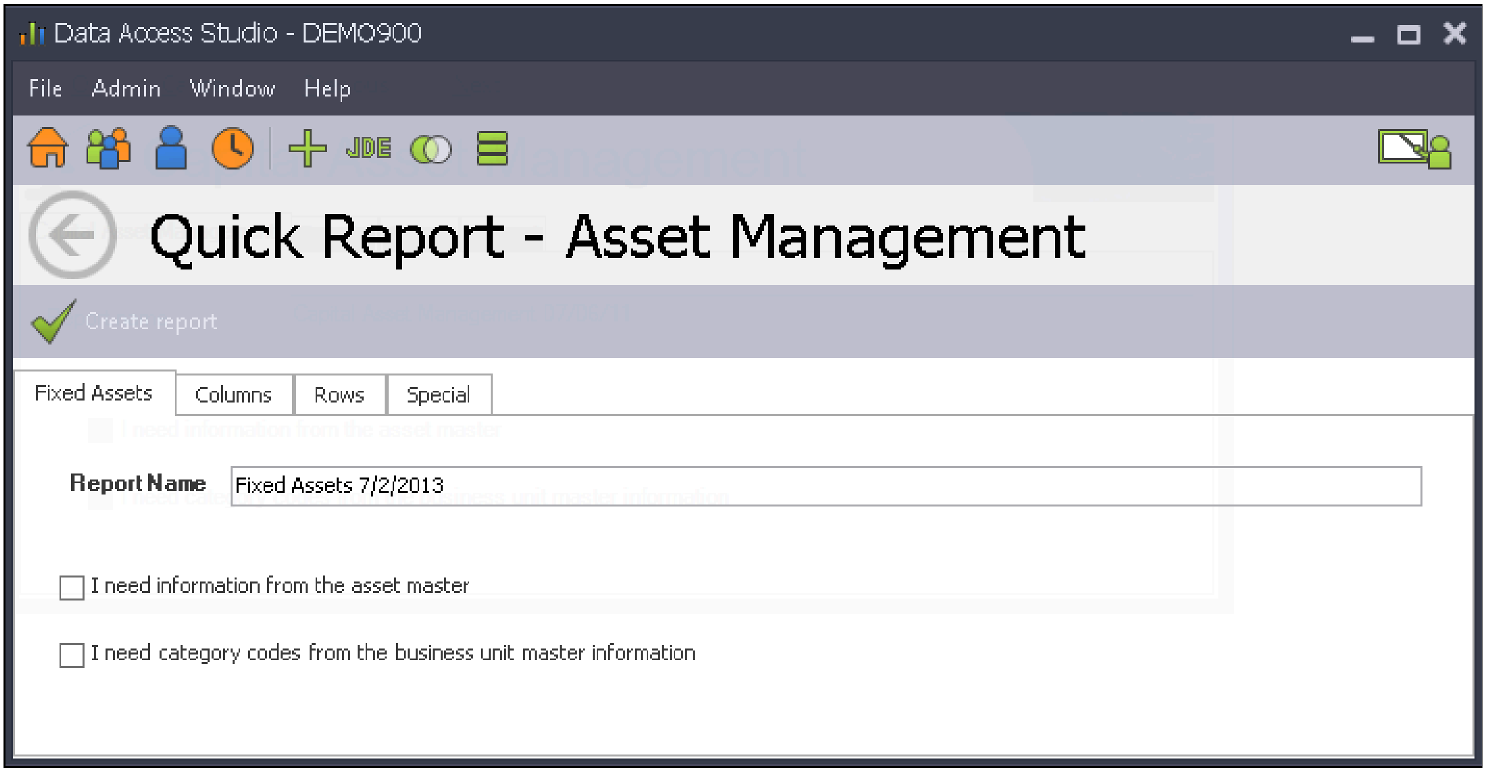


The **Quick Report** lets you specify what kind of report you want and how you want to create it.

To	Do this
Enter information on a particular tab	Click the tab. See topics that follow.
Create the **Fixed Assets** report with the parameters you specified	Click **Create Report**.
To exit the designer	Click the back button.

Specify What Data You Require

The first step of defining your report is to name your report and choose to include/exclude asset master information or business unit information. Enter this information on the **Main** tab:



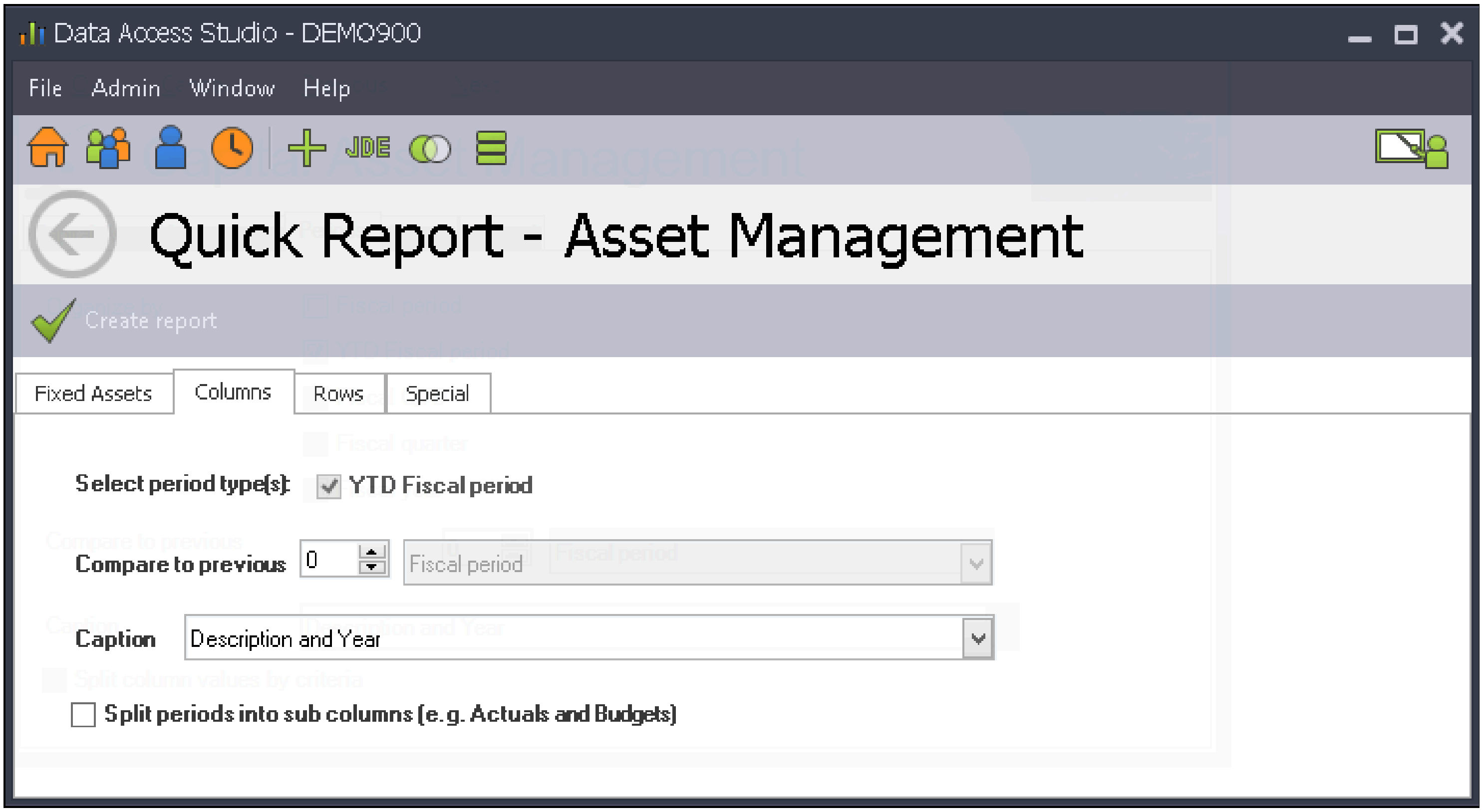
In this version, all reports are based on the Posted balances file in JDE.

To	Do this
Name your report (Required)	Click on the edit box next to **Report name** and type a descriptive name for your report. This is a mandatory step.
If you need asset master information in your report	Click the check box labeled: **I need information from the asset master**.
If you need to access category codes in the JDE Business Unit table	Click the check box labeled: **I need category codes from the business unit master information**.

Once you are finished, click the **Columns** tab.

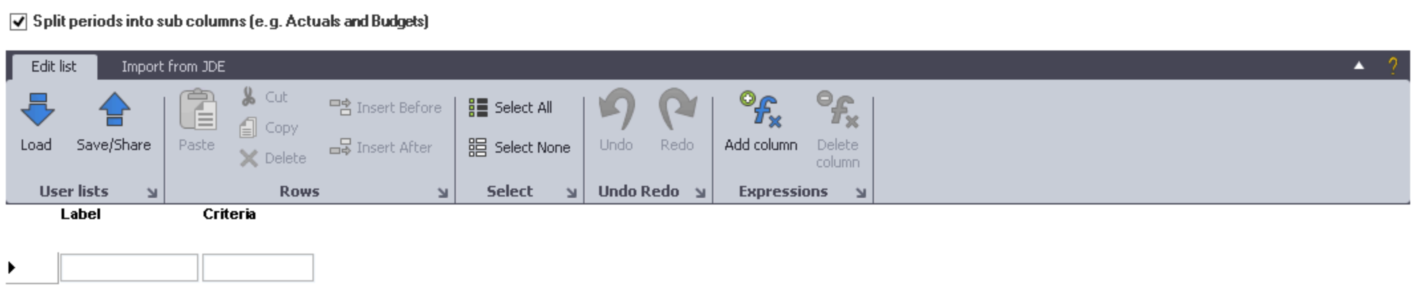
Specify Financial Periods

You show amounts by Year-To-Date period. You can also compare period amounts to amounts in previous periods or years.



To	Do this
Compare to previous **Fiscal periods**	Change the **Compare to previous** number to the number of periods you want to compare against. Set the option box next to the number to **Fiscal period**.
Compare to previous **Fiscal quarters**	Change the **Compare to previous** number to the number of quarters you want to compare against. Set the option box next to the number to **Fiscal quarter**.
Compare to previous **Fiscal years**	Change the **Compare to previous** number to the number of years you want to compare against. Set the option box next to the number to **Fiscal year**.
Compare to previous **YTD Fiscal periods**	Change the **Compare to previous** number to the number of periods you want to compare against. Set the option box next to the number to **YTD Fiscal period**.

To	Do this
Compare to previous **Fiscal QTDs**	Change the **Compare to previous** number to the number of quarters you want to compare against. Set the option box next to the number to **Fiscal QTD**.
Change the **Caption** for the period columns	Select the desired caption setting from the **Caption** drop down: **Description and Year, Period Number and Year,** or **Period Month Description and Year**.
Split period values (such as Actuals and Budgets)	Check the Split column values by criteria. Once checked, see Financial Column Rollup to specify how to split the period values.



Specify Fixed Asset Row Rollup

The next step is to define how you want to organize your row information. You have two choices depending on your needs:

- User Defined List - Manually define each asset rollup
- Asset Group - Rollup accounts by the object accounts

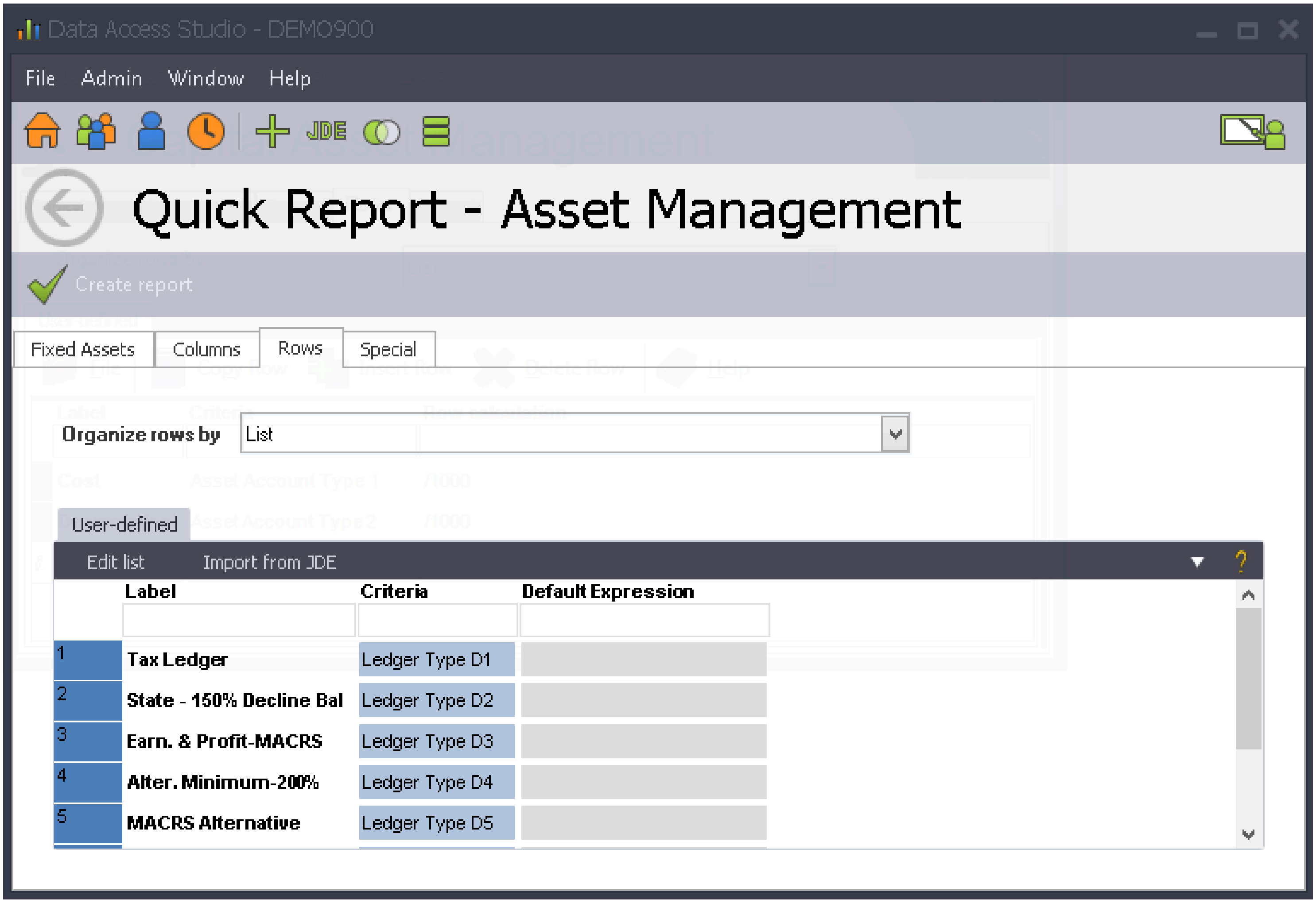
User Defined List

The User Defined List option gives you a flexible way to define manually how you want your information displayed. Each row in the grid below represents how to rollup detail information into one line. Initially, you must add each row you need. Once you are finished, you can save your list so that you and others may re-use the work you did.

The editor in this grid lets you:

- Define as many rows as you want
- Define the criteria and formulas you need for each row

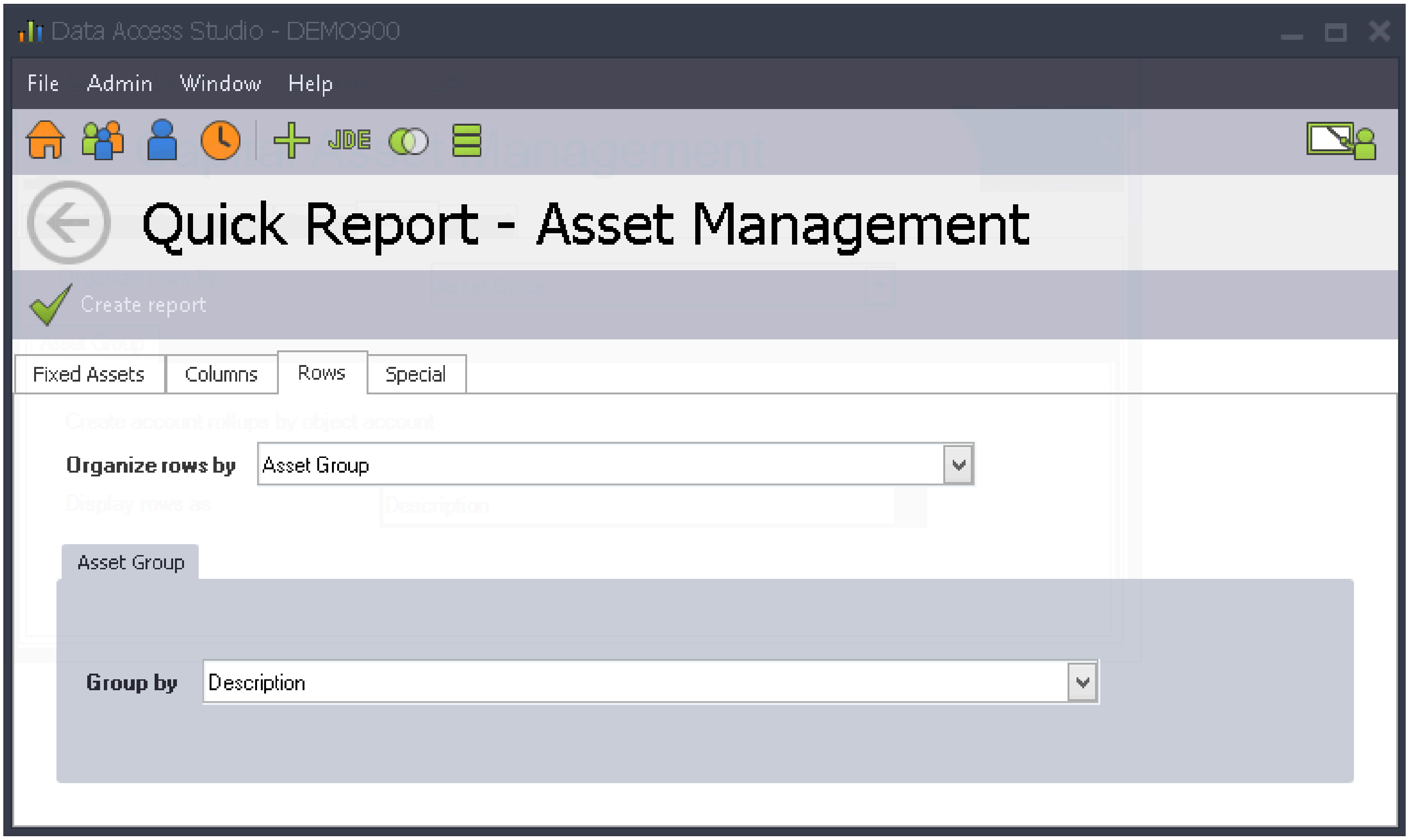
Sample screen shot showing a user-defined list



See the topic Make a List for directions on how to define the rows you want to rollup.

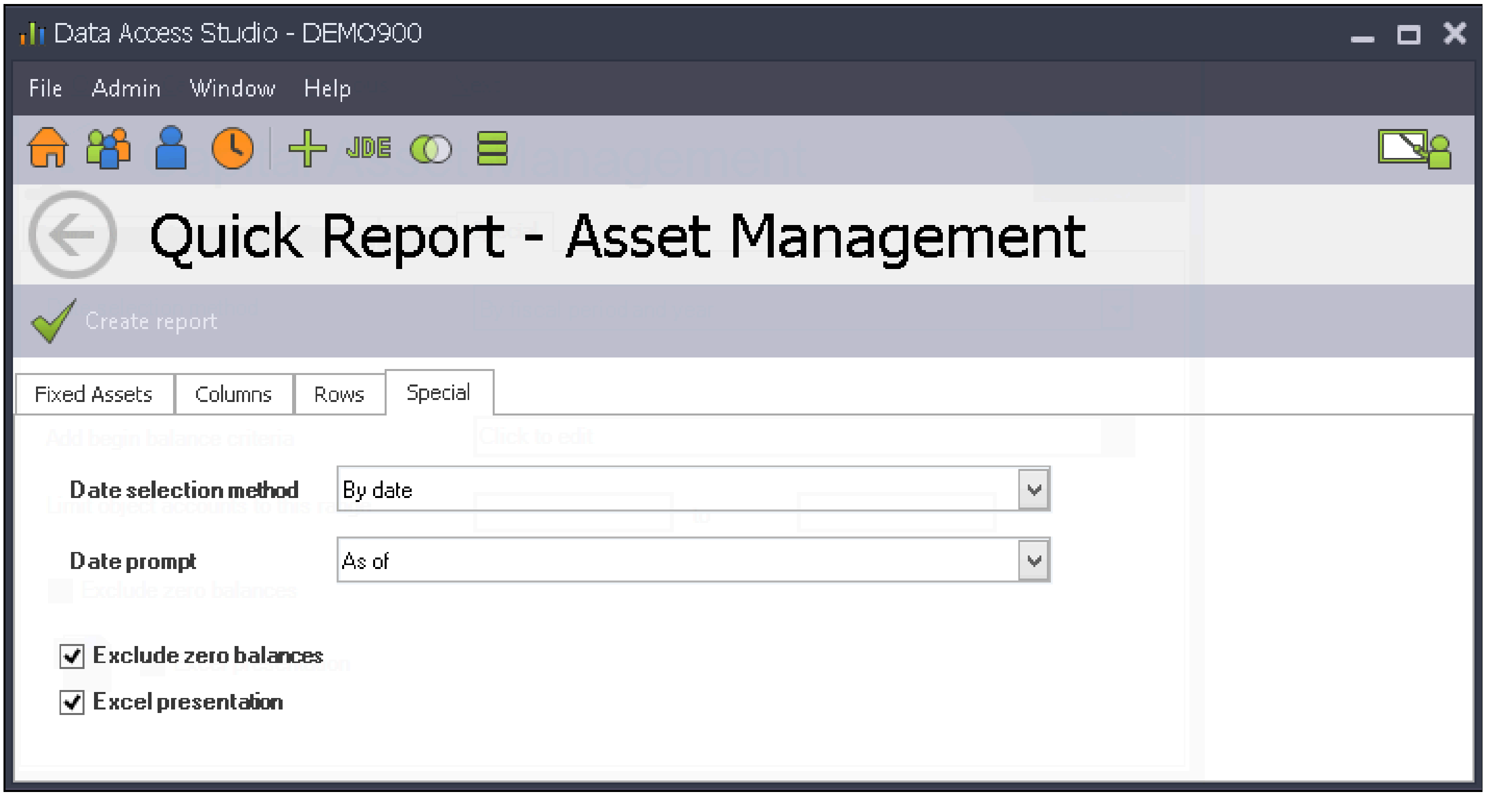
Asset Group

Use this option if you want to roll up simply by the asset class. Select how you want to see the roll-ups labeled (**Group by**).


Data Access Studio - DEMO900
File
Admin
Window
Help
JDE
Quick Report - Asset Management
Create report
Fixed Assets
Columns
Rows
Special
Organize rows by
Asset Group
Asset Group
Group by
Description

Special Special Asset Settings

The **Special Settings** tab lets you set preferences for your financial report.



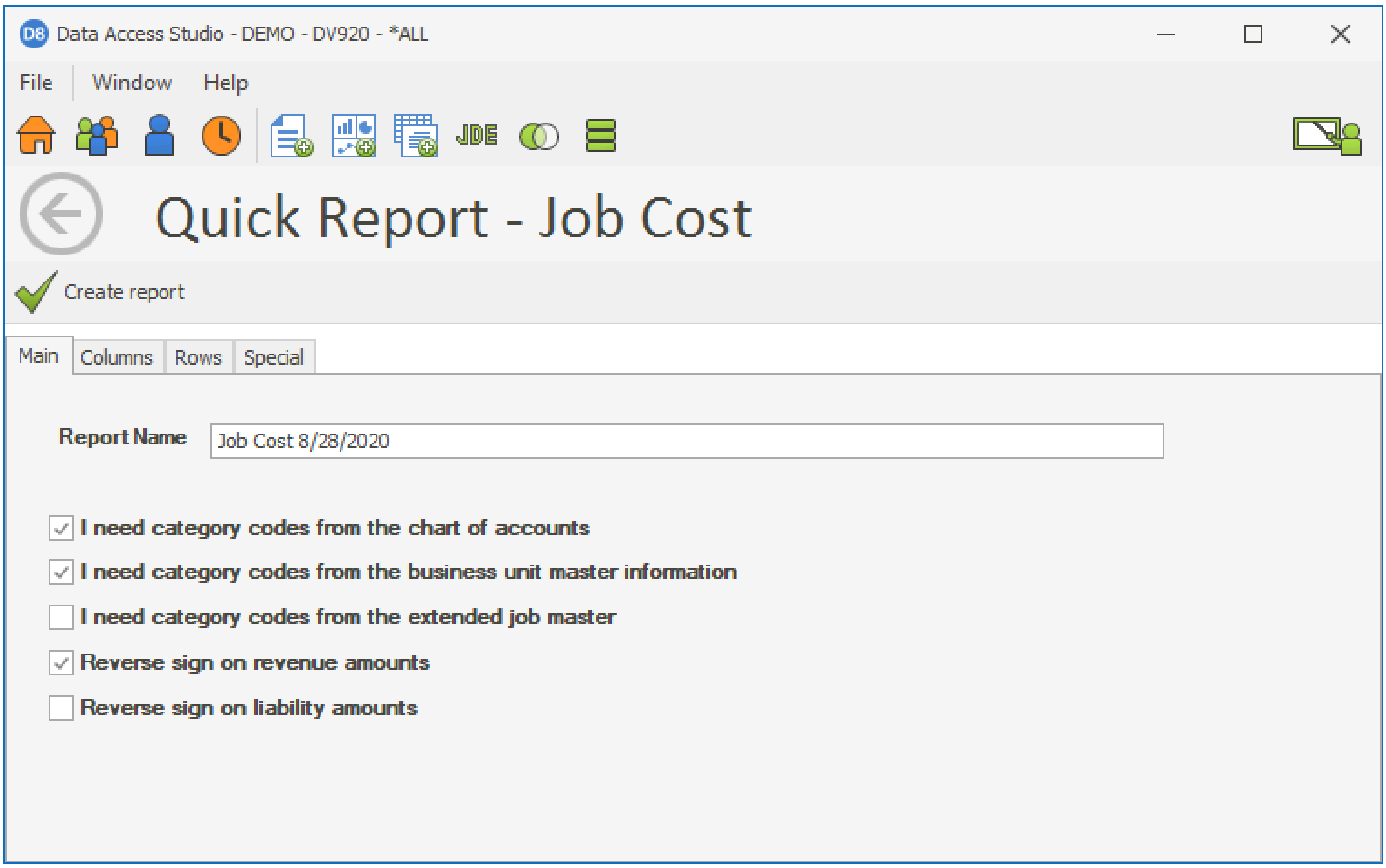
To	Do this
Change how you want to prompt for date	Select **By date** or **By fiscal period and year** from the pull down box.
Change the text for prompting date information	Either select one of the pre-defined prompts: **As of** or **For the period ending** from the pull down box. Or you may type in your own date prompt text.
Exclude zero balances from the report	Check to exclude 0 balances. Uncheck to include zero balances.
Present your financial report with Excel capabilities	Check **Excel presentation**.

Create a Job Cost Report

A Job Cost Report setup is similar to what is found in other Financial quick reports, but line item setup is done for jobs and by selecting specific ledger types. A key difference for a Job Cost report is that it is primarily focused on showing the job/project inception to date performance instead of a standard financial account inception to date or year to date outlook.

Specify What Data You Require

The first step of defining your report is to name your report and choose to include/exclude asset master information or business unit information. Enter this information on the **Main** tab:



To	Do this
Name your report (Required)	Click on the edit box next to **Report name** and type a descriptive name for your report. This is a mandatory step.
If you need chart of account information in your report	Click the check box labeled: **I need category codes from the chart of accounts**.
If you need to access category codes in the JDE Business Unit table (F0006)	Click the check box labeled: **I need category codes from the business unit master information**.

To	Do this
If you need to reverse signs on your revenue or liability accounts	Click the check box labeled: **Reverse sign on revenue accounts** or **Reverse sign on liability accounts**.
If you need access to the JDE Extended Job Master (F5108)	Click the check box labeled : **I need category codes from the extended job master**.

The following columns are added from the Account Master:

DL01, LDA, PEC, BILL, CRCD, UM, ANS, BPC, CO, MCU, OBJ, SUB, R001, R002, R003, R004, R005, R006, R007, R008, R009, R010, R011, R012, R013, R014, R015, R016, R017, R018, R019, R020, R021, R022, R023

The following columns are added from the Business Unit Master:

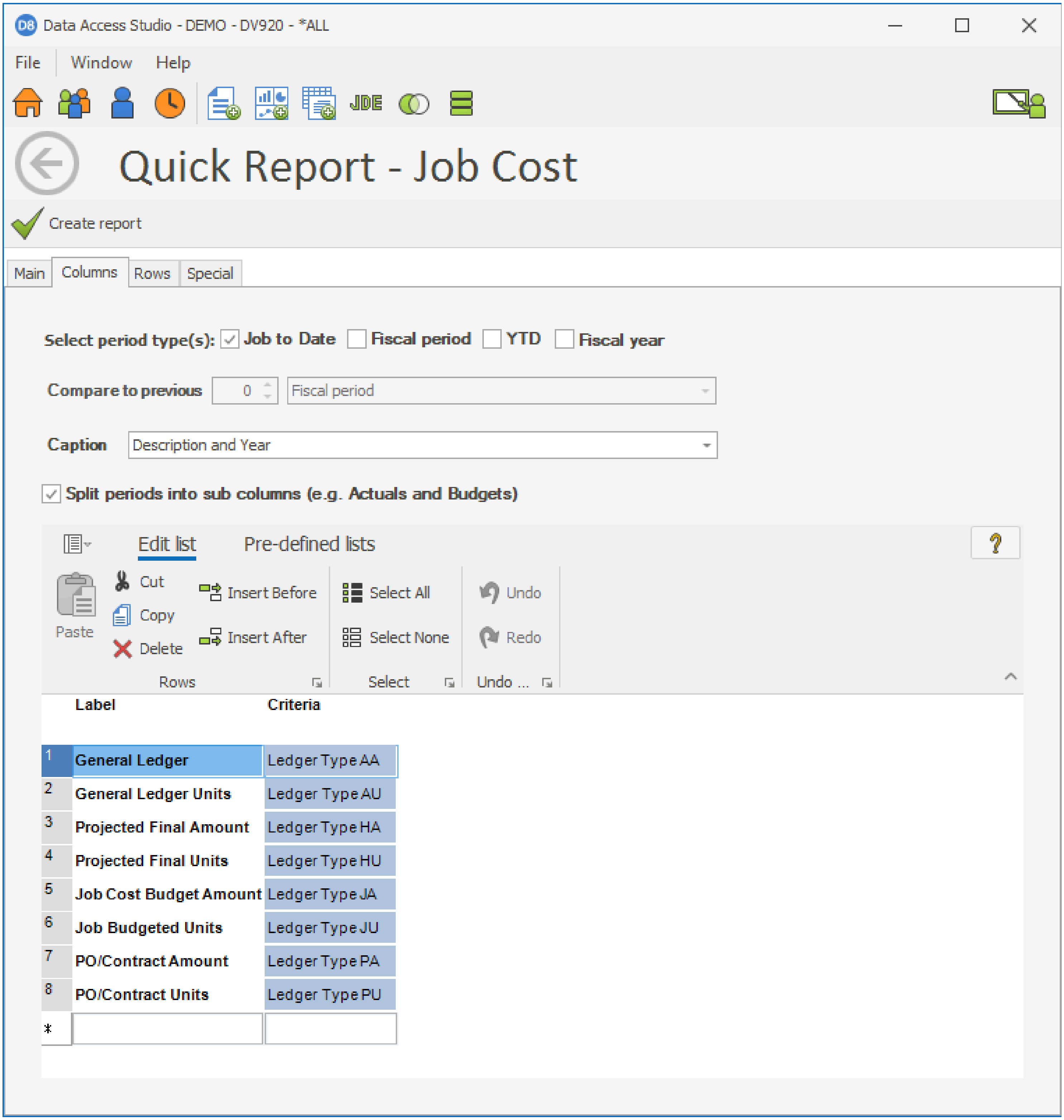
STYL, DL01, AN8, MCU, CO, RP01, RP02, RP03, RP04, RP05, RP06, RP07, RP08, RP09, RP10, RP11, RP12, RP13, RP14, RP15, RP16, RP17, RP18, RP19, RP20, RP21, RP22, RP23, RP24, RP25, RP26, RP27, RP28, RP29, RP30, PECC, CT, MCUS, BTYP, PC, AN8O, D1J, D2J, D3J, D4J, D5J, D6J

The following columns are added from the Extended Job Master:

BSCT, BSFY, BTCT, BTFY, RCS1, RCS2, RCS3, JCF6, JCF7, JCF8, JCF9, JCF0

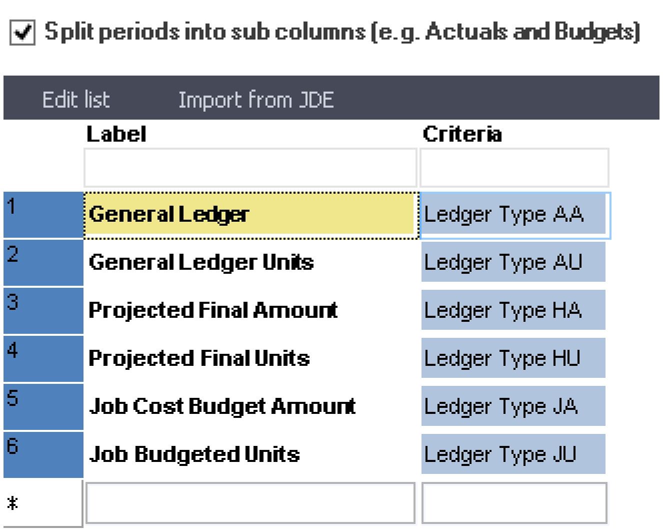
Specify Job Cost Columns

You can show amounts by fiscal year and Year-To-Date. You can also compare period amounts to amounts in previous periods or years.



To	Do this
Select period type(s)	Click the **Select period type(s)** option box. Select **Job to Date Fiscal Period**, and/or **Fiscal Year**.
Compare to previous **Fiscal**	Change the **Compare to previous** number to the number of periods you want to compare against. Set the option box next to the number to **Fiscal Period**.

To	Do this
periods	
Compare to previous **Fiscal quarters**	Change the **Compare to previous** number to the number of quarters you want to compare against. Set the option box next to the number to **Fiscal quarter**.
Compare to previous **Fiscal years**	Change the **Compare to previous** number to the number of years you want to compare against. Set the option box next to the number to **Fiscal Year**.
Change the Caption for the period columns	Select the desired caption setting from the **Caption** drop down: • Description and Year • Period Number and Year • Period Month Description and Year • Date Range • Start Date • End Date • Description, Year, Days in Period
Split periods into sub columns (e.g. Actuals and Budgets)	Check the option box labeled: **Split periods into sub columns (e.g. Actuals and Budgets)**. This option is selected by default. It gives you the opportunity to create a list of Actuals and Budgets, allowing you to change the criteria of your ledger types. Once checked, see [Financial Column Rollup]() to specify how to split the period values. Uncheck the option box if you do not wish to split periods into sub columns.



Specify Job Cost Row Rollup

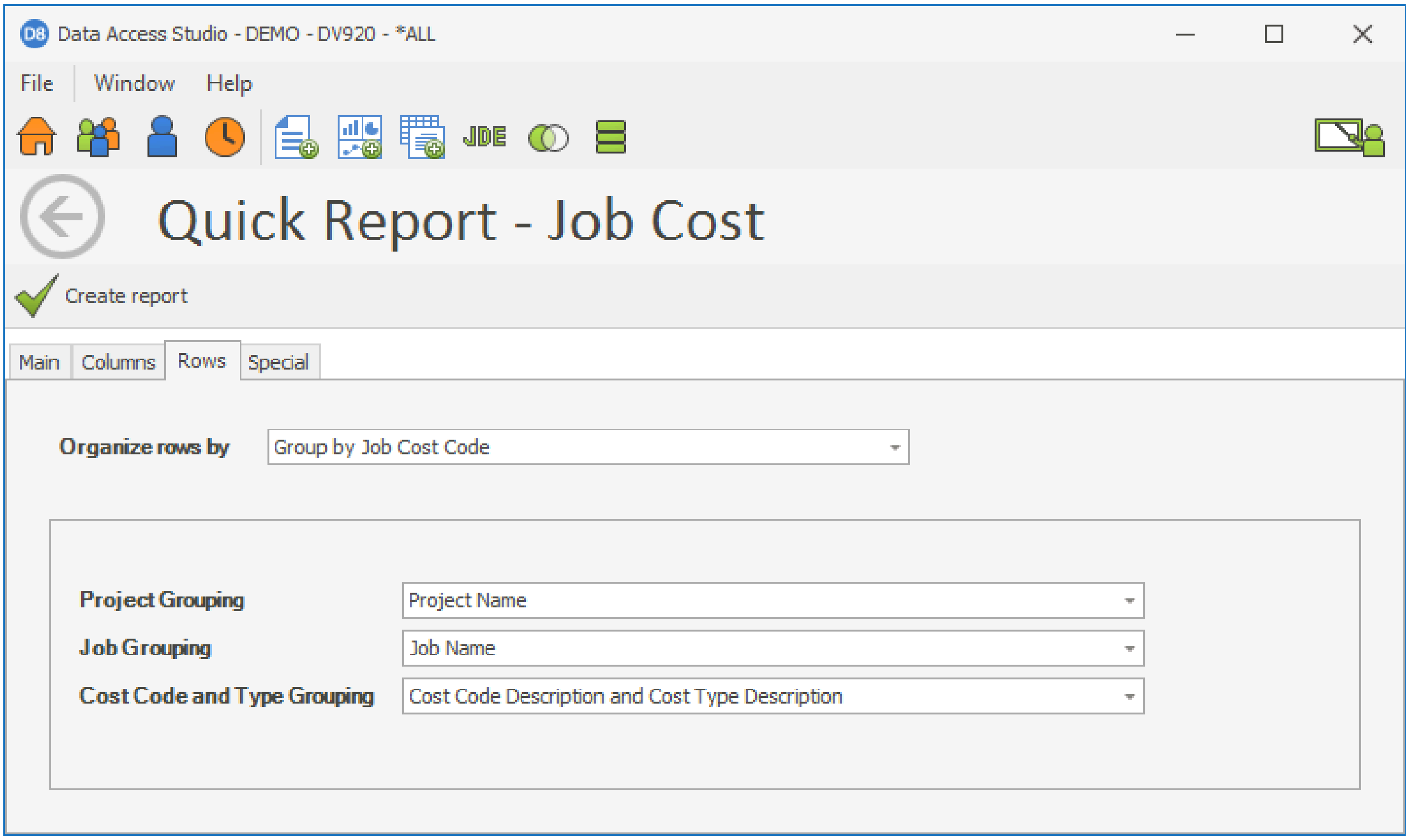
The next step is to define how you want to organize your row information. You have three choices depending on your needs:

- User Defined List - Manually define each account rollup
- Chart of Accounts - Use the JDE Chart of Accounts to define the account hierarchy
- Job Cost Code - Rollup values by the job cost code

Group by Job Cost Code

Use this option if you want to roll up simply by the object account. Select how you want to see the roll-ups labeled (**Group By**).

This is the default selection for Job Cost reports and allows for filtering of Jobs (F0006.MCU) and Projects (F0006.MCUS).



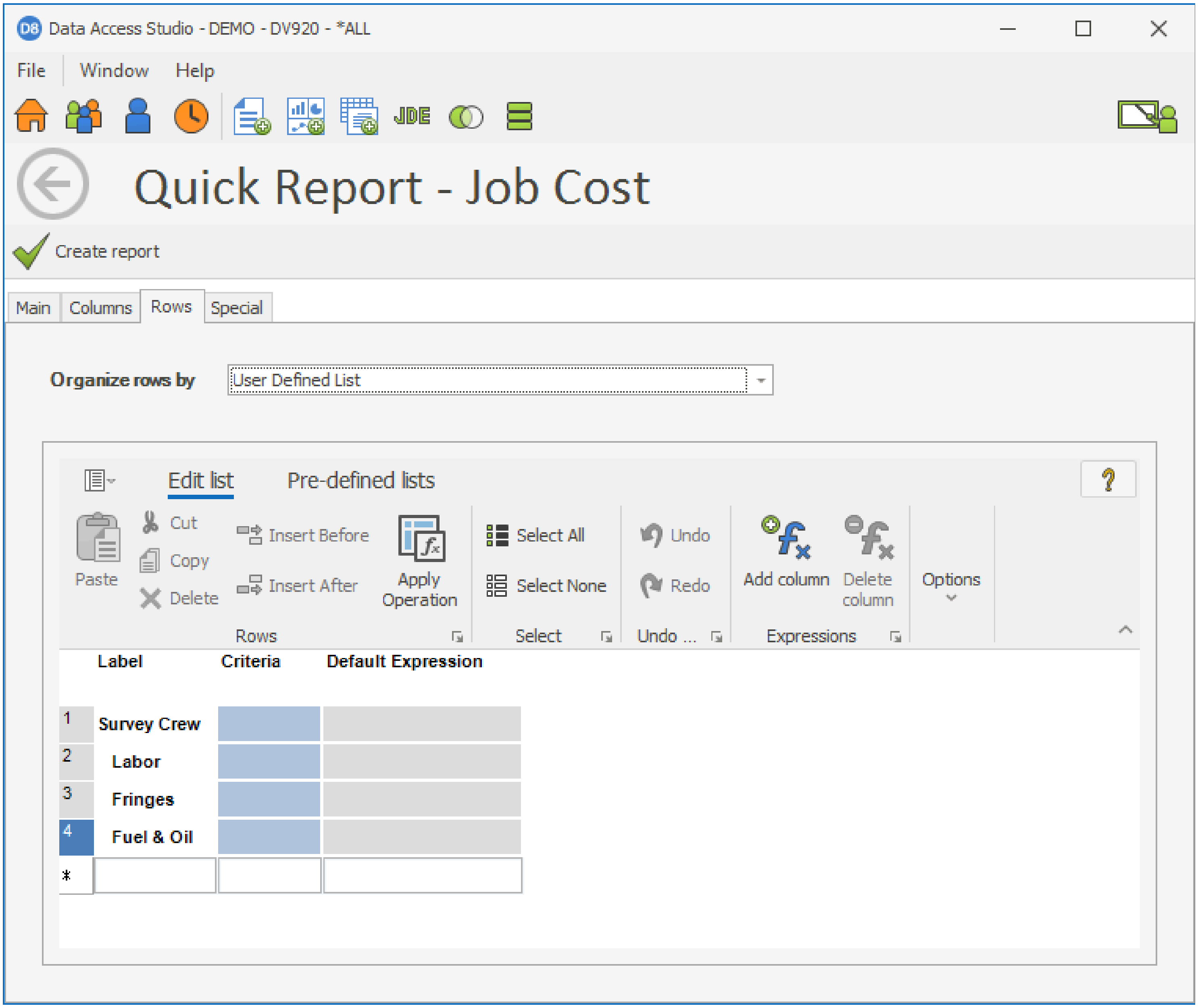
User Defined List

The User Defined List option gives you a flexible way to define manually how you want your financial information displayed. Each row in the grid below represents how to rollup detail information into one line. Initially, you must add each row you need. Once you are finished, you can save your list so that you and others may re-use the work you did.

The editor in this grid lets you:

- Define as many rows as you want
- Define the criteria you need for each row

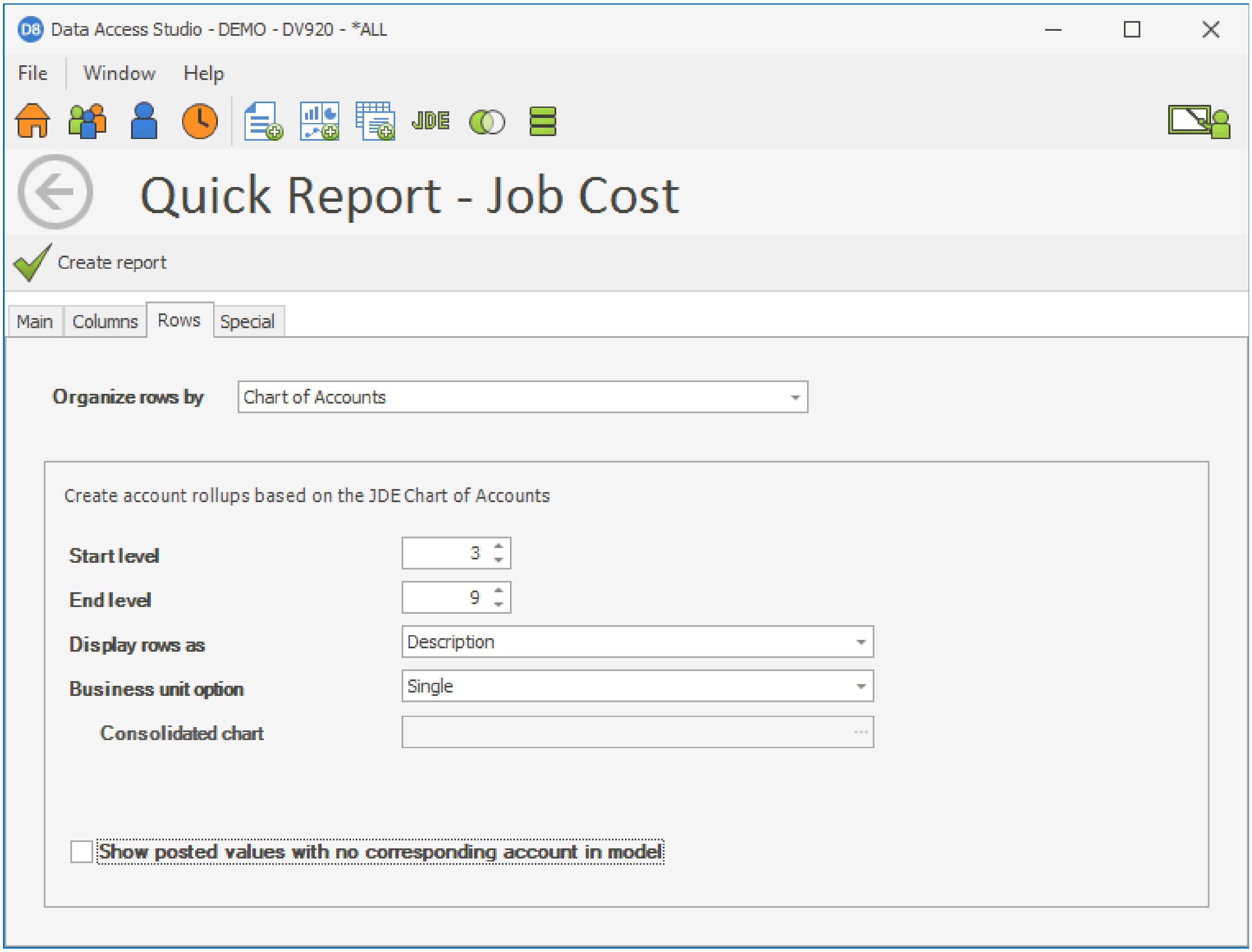
Sample screen shot showing a user-defined list



See the topic Make a List for directions on how to define the rows you want to rollup.

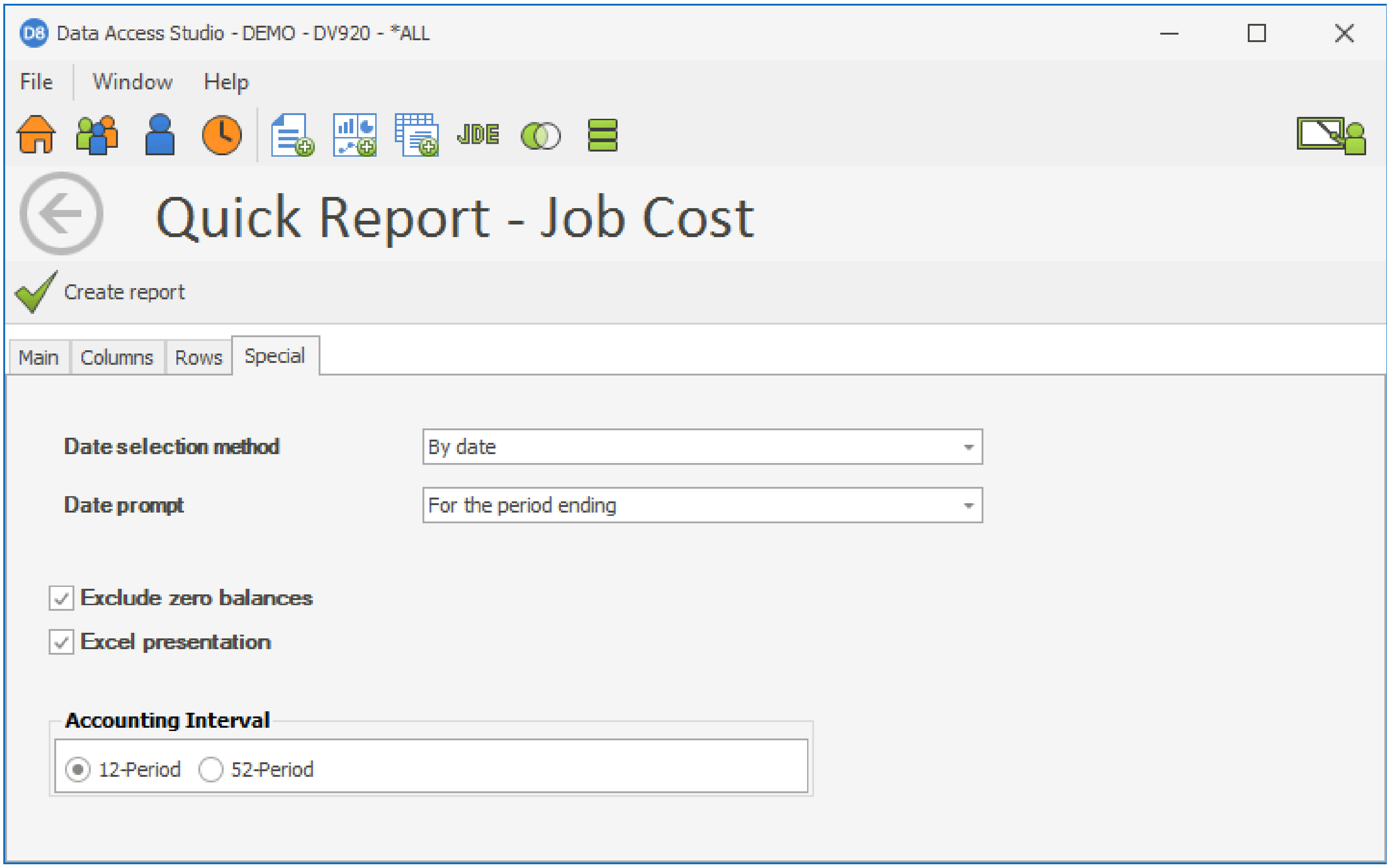
Chart of Accounts

Use the Chart of Accounts option to create a Job Cost report using the Chart of Accounts calculation column.



Special Settings

The **Special Settings** tab lets you set preferences for your financial report.



To	Do this
Change how you want to prompt for date	Select **By date** or **By fiscal period and year** from the pull down box.
Change the text for prompting date information	Either select one of the pre-defined prompts: **As of** or **For the period ending** from the pull down box. Or you may type in your own date prompt text.
Exclude zero balances from the report	Check to exclude 0 balances. Uncheck to include zero balances.
Present your financial report with Excel capabilities	Check **Excel presentation**.

Design Ad Hoc Reports

User level	JDE Knowledge	Can Design Reports	Technical Knowledge
Subscriber	Not needed	No	Minimal
Quick Report Designer	Minimal	Yes	Minimal
Report Designer	Yes	Yes	Some
Advanced Designer	Yes	Yes	High

Ad Hoc Report Design is one of the strengths of Data Access Studio. Data Access Studio empowers you to deliver a large variety of reports in a timely manner by:

- Allowing you to visually create your report with sample data
- Presenting real-time data exactly as you see it in JDE
- Applying automatic performance improvements
- Enforcing read-only queries so you can design with confidence

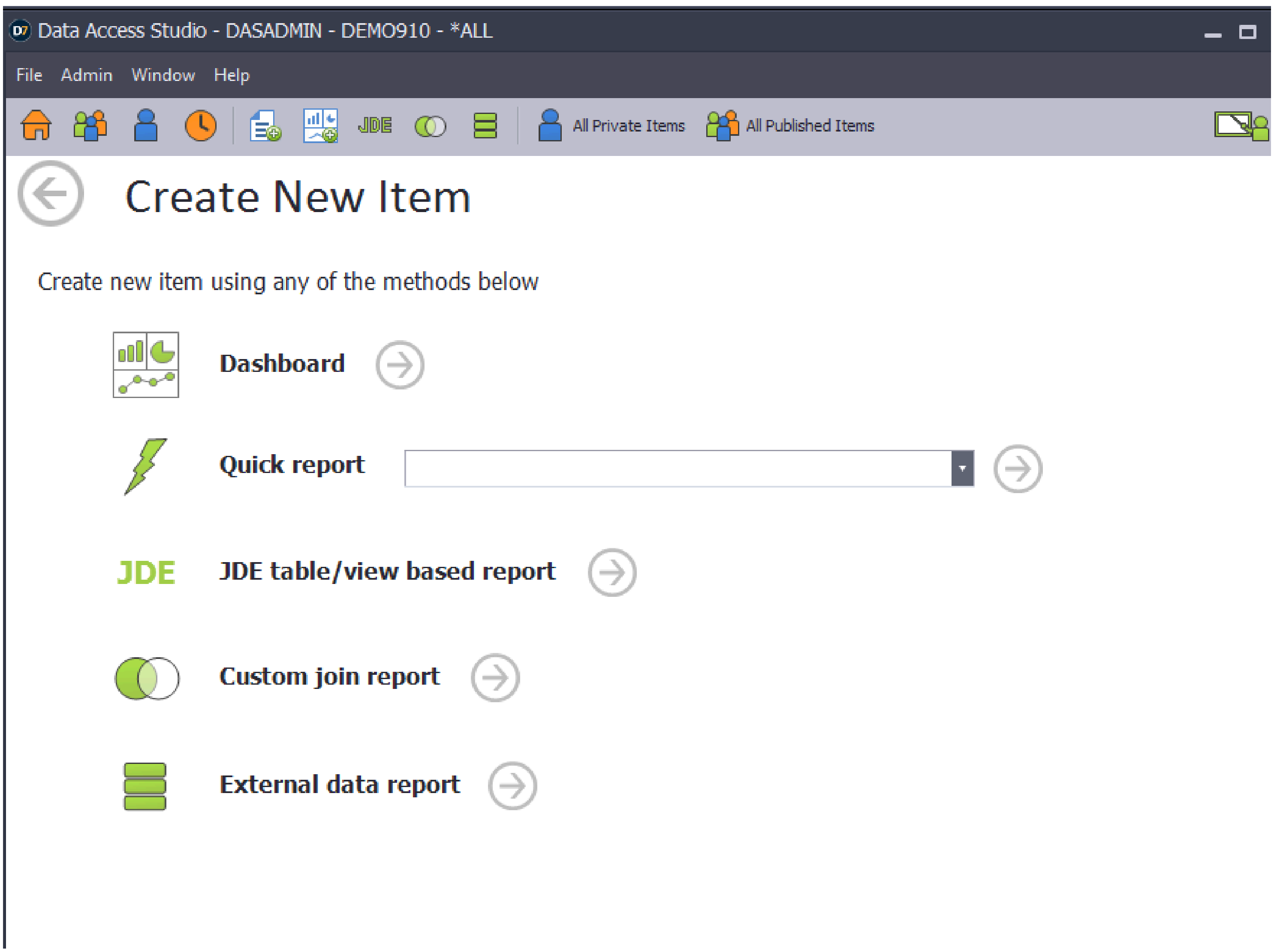
To create Ad Hoc Reports in Data Access Studio you need to know how to:

- Get the Data You Need
- Fetch and Filter Data
- Edit Your Report
- Format Your Layout
- Calculations
- Find Trends in Your Data
- Export and Print Results
- Publish Your Report to Others

Create a New Report

To create a new report, click the **New Report**button on the home page:

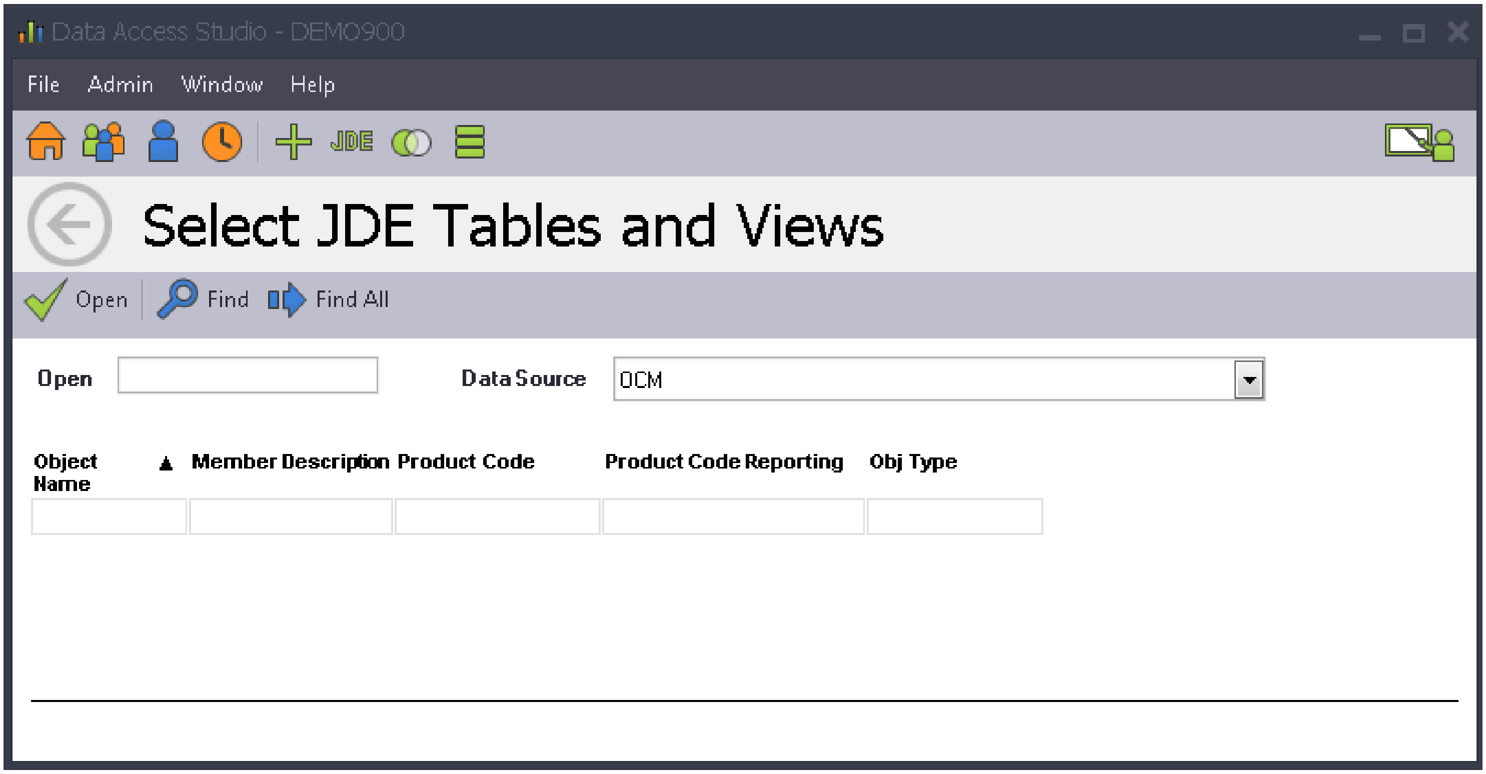
This will take you to the New Reports page. Create a new report using any of the methods below.



To	Do this
Create a new Dashboard	Select the button next to Dashboard. See the Dashboard Design Manual for more information on how to create a dashboard

To	Do this
Create a new Quick Report	Select a report from the drop down menu. See Financials, Create a Fixed Assets Report, or Create a Job Cost Report.
Create a new report from a JDE table or view	Select the Next button to choose a table and build a report.
Create a new report from a custom join	See Create a Table Join from Scratch.
Create a new report from external data	See External Data.

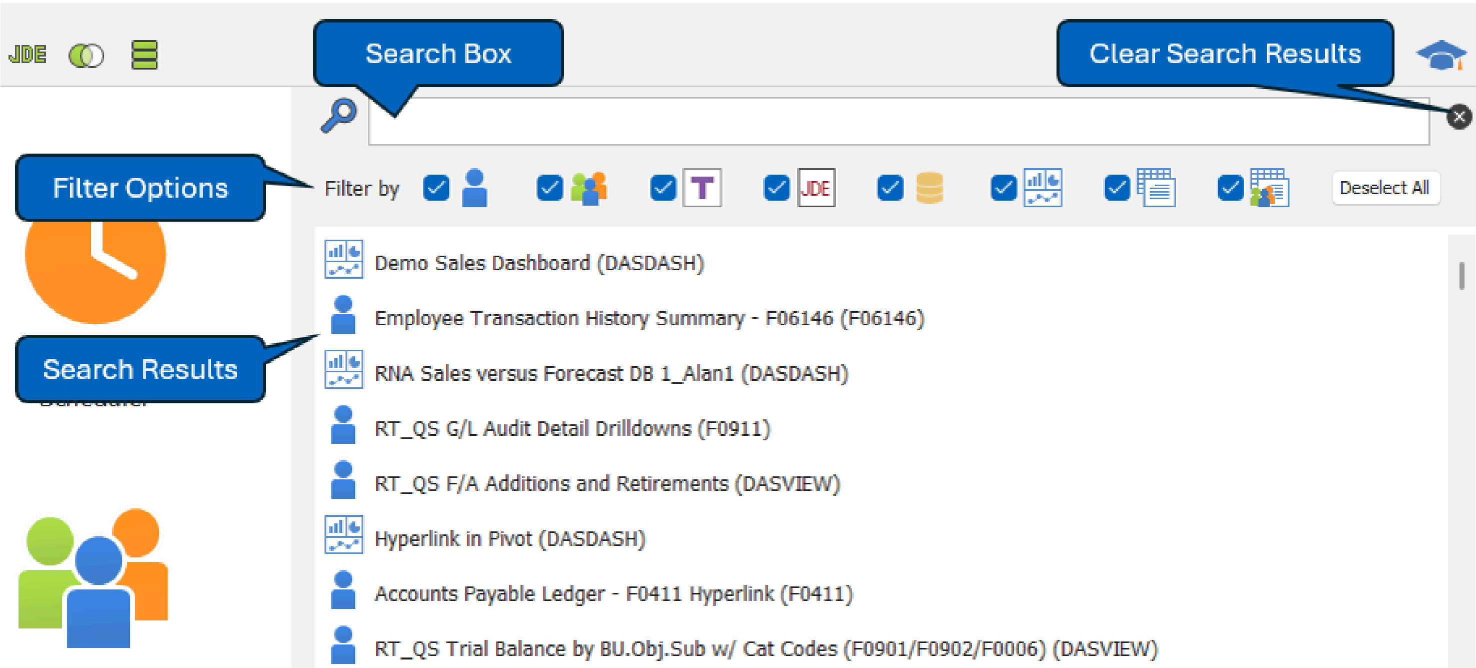
Create a new report from JDE table or view



To	Do this
Open a table	Type a table name (e.g. F0411) into the box. Click the **Open** icon.
Change the data source where you open the table (EnterpriseOne only)	Click the **Data Source** option box. Select from list of available data sources. **Note:** if the administrator revokes this permission, you will not see the Data Source option box.

Get the Data You Need

Data Access Studio can open any JDE table, business view, or logical for which you have access. From the home page, use the universal search to find what you need:

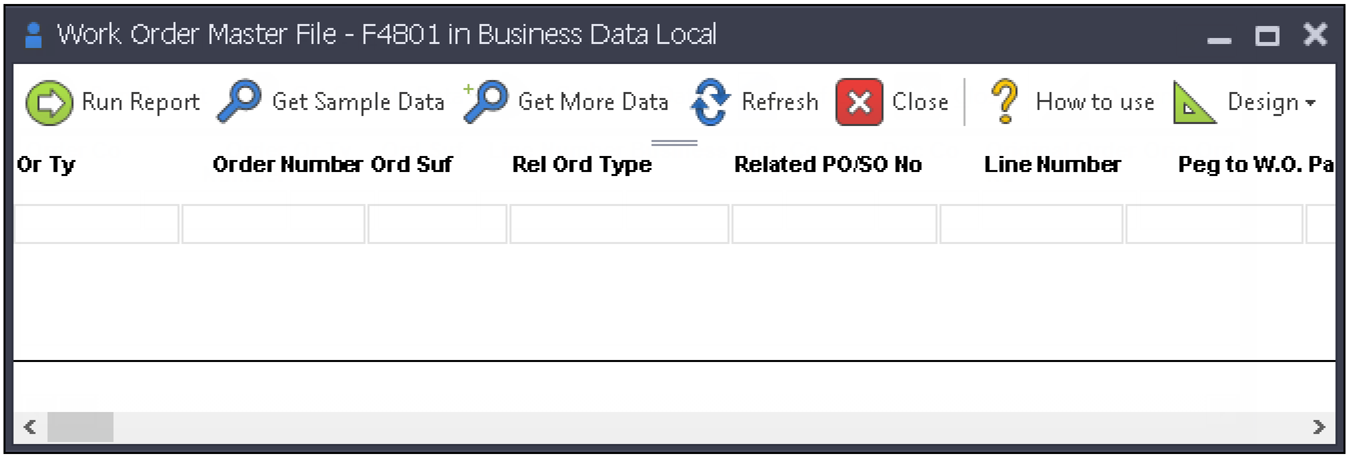


To	Do this
Search by Name	Click on the Search box and type in a JDE table or business view name. This automatically brings up all Search results related to the query. Browse the list of results in the grid. Click a result to open.
Search by Description	Click on the Each box and type in a keyword or phrase. This automatically brings up all search results related to the query. Browse the list of results in the grid. Click a result to open.
Narrow/Expand search options	Check the option boxes next to the Search options to show results for **My Workspace**, **Public Workspace**, **Templates**, **JDE Tables**, **Dashboards**. Uncheck to hide.
Open a recently opened table	When the Search box is not populated, the home page automatically displays **Recently Opened** reports, templates, and or tables. Click any item in the list to open.

Open a Table for First Time

When you open a table or business view, Data Access Studio will close the form above and open a new window for the item you want to query.

For example, let's say you opened the JDE **Work Order Master File (F4801)**. You would see a form that resembles the following:



When Data Access Studio opens a table for the first time, notice the following:

- The description, object, and data source appear in the title of the window.
- The quick menu with **Run Report**, **Get Sample Data**, etc. shows at the top of the grid.
- All columns are shown with the default Description style. The column descriptions come from the JDE data dictionary. E.g. you see the column header **Order Number** instead of the cryptic **DOCO**. See the Customize the Look and Colors of Your Report topic for more information on how to change the column caption and other styles.
- The grid in the form initially has no data in it. Add filter criteria and click **Get Sample Data**.

Supported JDE Data Formats

As of 8.0.10, DAS supports all JDE data types. Here is a list of the common JDE data types.

String Data

All JDE String data is supported including variable string data and single characters.

Numeric data

All JDE Numeric data types are supported. DAS automatically applies all JDE formatting functions including such things as currency conversions.

JDEDATE

DAS supports JDE's date-only JDEDATE datatype. This will be displayed as a Date/Time column set at midnight. The 'E1 time to DateTime' calculation can be used to convert a JDEDATE and an associated JDE time formatted numeric time column to a Date/Time column.

JDEUTIME

Many modules of JDE (especially the grower module) support the JDEUTIME column. The JDEUTIME column is a date/time column where the date/time is stored in the database as UTC (Coordinated Universal Time). This universal date/time can be displayed in the user's time zone (with an optional associated daylight savings rule) or any other time zone.

Please see the Report Time Zone topic for more information.

Blob

JDE Supports binary large object columns for the storage of non-relational data. DAS supports interpreting such columns as text, images, or as a file download.

External Data

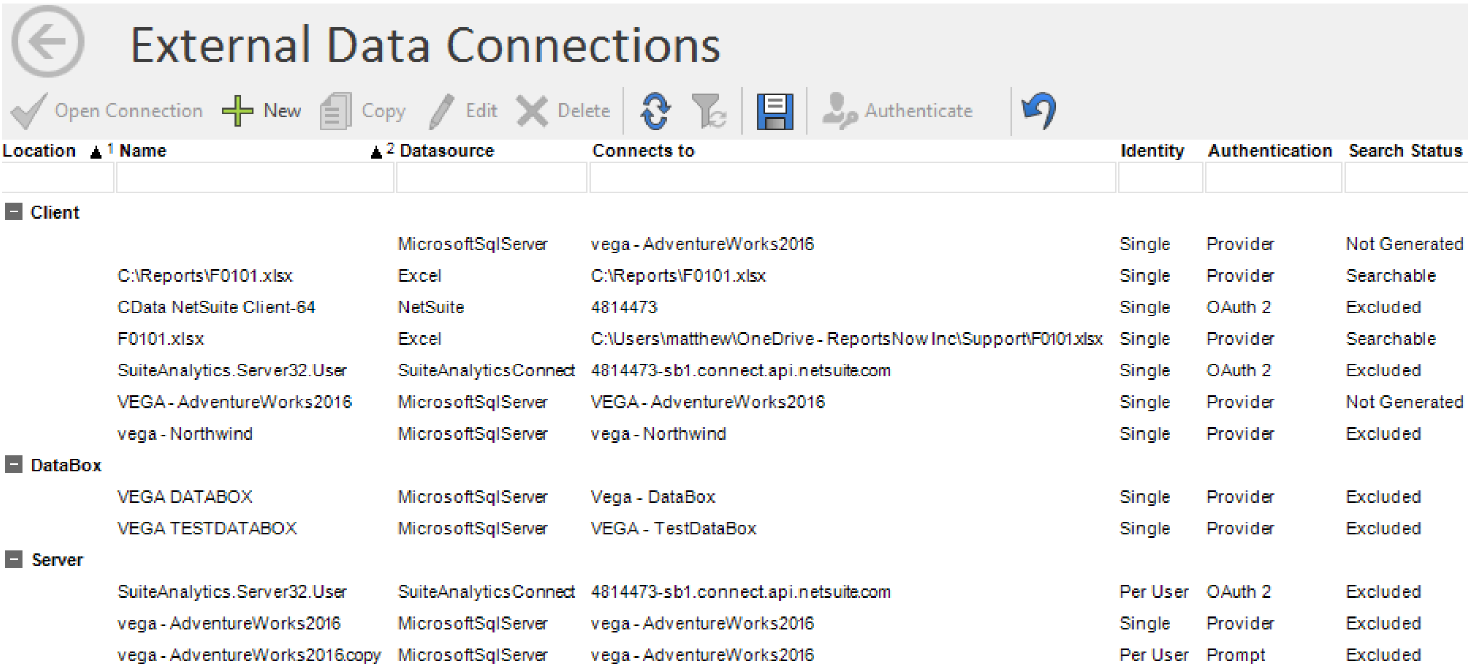
External Data provides a complete solution that allows you to combine data from different sources into one report, supporting the following features:

- Ability to create reusable connections to external data sources
- Security layer over external data access, including the use of Modern Authentication (OAuth 2)
- 32-bit and 64-bit connections
- Client-side and server-side (reusable) connections
- Additional data access drivers for performance and convenience
- Seamless integration into existing Folders, Publishing, and Scheduling functionality
- Ability to join within an External Data source
- Ability to perform a Table Lookup to External Data sources
- Allow reports to reference database tables by administrator maintained table aliases.
- Allow filtering by schema for tables seen by developers.

Manage External Connections

Data Access Studio lets you connect to any 32-bit or 64-bit data source. Furthermore, you can use your connection in any report to combine information from that connection with the rest of the data in your report.

To work with your external connections, click the button (External Data Connections) on the main toolbar. Alternatively, click **File > New > External Data**.



Location	Name	Datasource	Connects to	Identity	Authentication	Search Status
Client						
		MicrosoftSqlServer	vega - AdventureWorks2016	Single	Provider	Not Generated
	C:\Reports\F0101.xlsx	Excel	C:\Reports\F0101.xlsx	Single	Provider	Searchable
	CData NetSuite Client-64	NetSuite	4814473	Single	OAuth 2	Excluded
	F0101.xlsx	Excel	C:\Users\matthew\OneDrive - ReportsNow Inc\Support\F0101.xlsx	Single	Provider	Searchable
	SuiteAnalytics.Server32.User	SuiteAnalyticsConnect	4814473-sb1.connect.api.netsuite.com	Single	OAuth 2	Excluded
	VEGA - AdventureWorks2016	MicrosoftSqlServer	VEGA - AdventureWorks2016	Single	Provider	Not Generated
	vega - Northwind	MicrosoftSqlServer	vega - Northwind	Single	Provider	Excluded
DataBox						
	VEGA DATABOX	MicrosoftSqlServer	Vega - DataBox	Single	Provider	Excluded
	VEGA TESTDATABOX	MicrosoftSqlServer	VEGA - TestDataBox	Single	Provider	Excluded
Server						
	SuiteAnalytics.Server32.User	SuiteAnalyticsConnect	4814473-sb1.connect.api.netsuite.com	Per User	OAuth 2	Excluded
	vega - AdventureWorks2016	MicrosoftSqlServer	vega - AdventureWorks2016	Single	Provider	Excluded
	vega - AdventureWorks2016.copy	MicrosoftSqlServer	vega - AdventureWorks2016	Per User	Prompt	Excluded

The External Data Connection page shows all available connections. The default connections view contains connections grouped by the location of the connection (Client or Server). Each connection has a user-defined name, the data source type, the connection information, the Identity (Single or Per User), the Authentication type and the Search Status.

> **NOTE**
>
> Additional columns, such as bit-ness (32-bit or 64-bit), audit information (date, user, and version) and the updated date can all be viewed by right-clicking on a column header and choosing Hide and Show Columns from the context menu.

NOTE

Microsoft Excel and Access connections support both 32-bit and 64-bit regardless of the bit-ness used when creating the connection. These connections will work on any Office install (32-bit or 64-bit).

Search Status

DAS users can search for table names of selected External Connections on the home page of DAS. *See Create a new Connection for details*. For a connection to be searched, a search cache must be generated first. Each user has the option to generate or exclude search caches for client connections. DAS Administrators must be on the DAS Server to generate search caches for server connections. Unless excluded from search, a search cache for a connection will be automatically generated upon the connection being created or edited.

In the *Search Status* column of the grid, one of these statuses will be displayed: *Excluded*, *Searchable*, or *Not Generated*.

User Actions

To	Do this
Add new connection	Click the **New** button. In the properties form, choose whether the connection will be client or server-side, along with the bit-ness (32-bit or 64-bit) of the connection which must match the bit-ness of your data source.
Create a report over an existing connection	Highlight the connection and click **Open Connection** button. See Create Report Over External Data Connection.
Copy an existing connection	Highlight the desired connection and click **Copy**. Specify the new name and adjust any other property for the new connection. If running on the DAS server, it will be possible to copy a client connection to a server connection (or vice-versa).
Edit an existing connection	Highlight the desired connection. If the connection is a client-side connection, click **Edit** to edit it. Server-side connections can only be edited on the DAS server. See Editing a Connection.
Delete a connection	Highlight the desired connection or connections (multi-select with CTRL or SHIFT keys). Click **Delete**. **Note:** Server-side connections can only be

To	Do this
	deleted on the DAS server.
Refresh the connections list	Click the **Refresh** button.
Save customized grid	You can customize the External Data Grid (re-order columns, group by different columns, sort, etc.). To save your customized grid, click the **Save** button. To restore the grid to the default layout click the **Restore** button.
Update credentials	The **Authenticate** button will be enabled for connections that use modern authentication (OAuth 2.0) or per-user authenticated server-side connections. Clicking on this button will allow you to update the login credentials for your connection.
Regenerate Search Cache	Select one or more *Client* or *Server* connections, then click the **Regenerate** button. Only selected connections are regenerated. To generate *Server* connections you must be on the Server. Note: the search cache does not include *DataBox* connections.
Exit this page	Click the **Back** button.

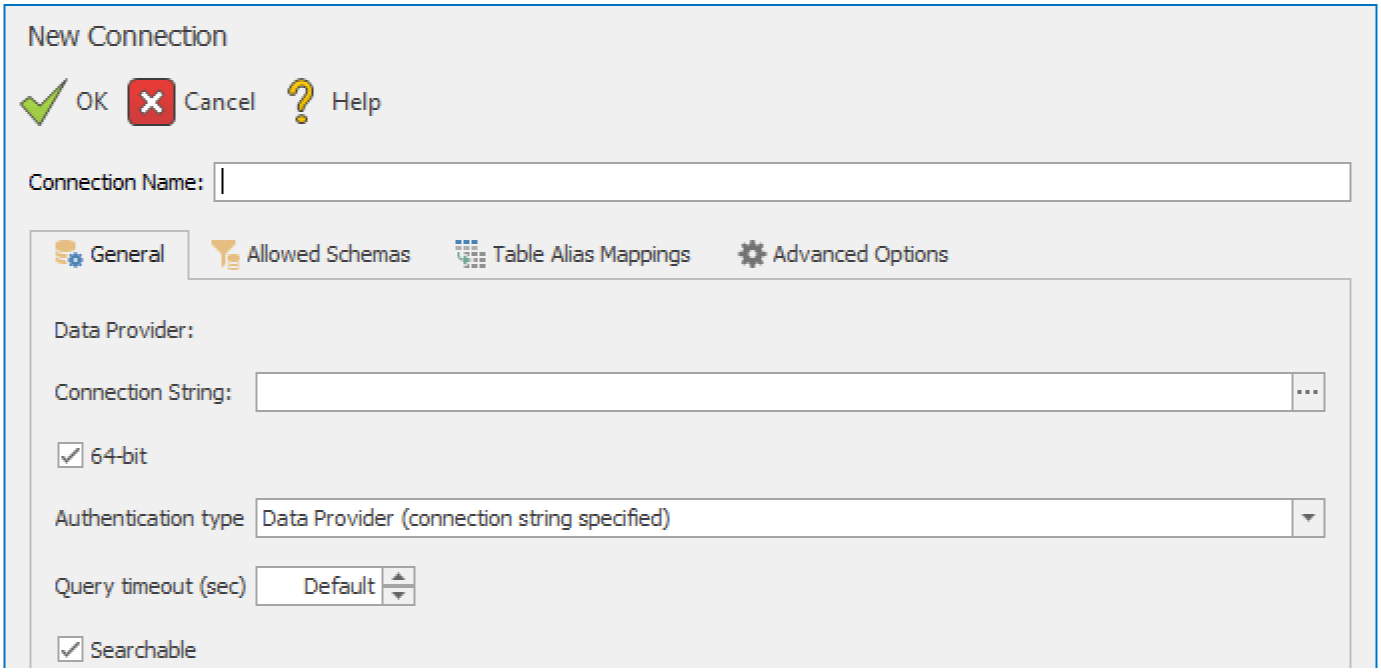
Administration

Some operations are restricted to DAS Administrators, such as copying Server connections since this requires updates to the DAS security policy. In addition, creating a Server connection must be done on the DAS server.

Creating a new External Data connection

When creating a new External Data connection, you'll need to know the provider you want to use to connect to your data and the type of authentication you want to use.

Additionally, there are advanced properties that can be used to limit table/schema access and simplify longer table/schema names.

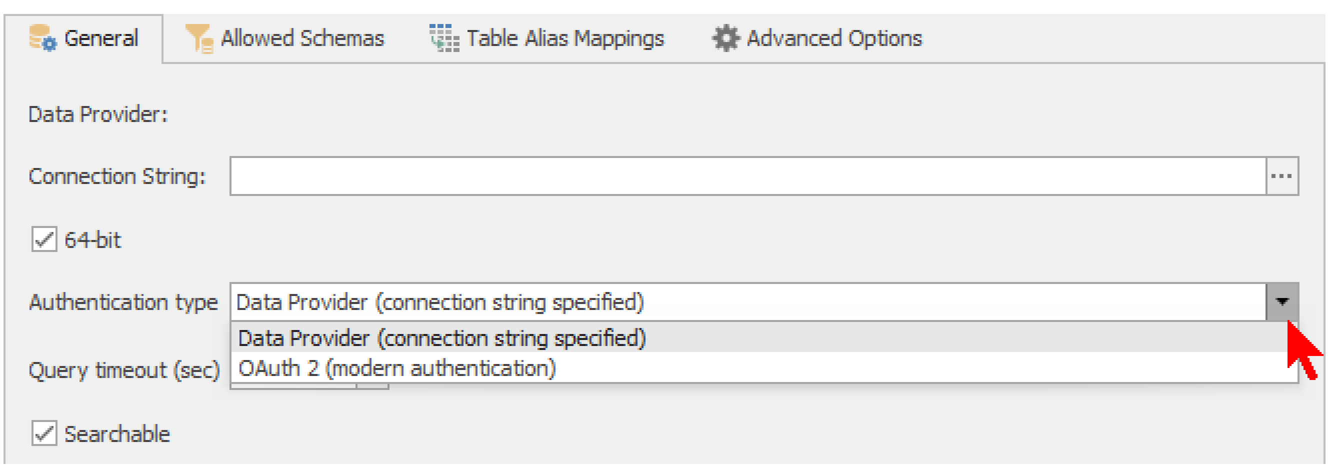


Client connections

Client connections are private connections that can only be used by the user who created the connection. Private reports that use this connection can be published to others, but the other users would need have a client connection with the same name for the report to work.

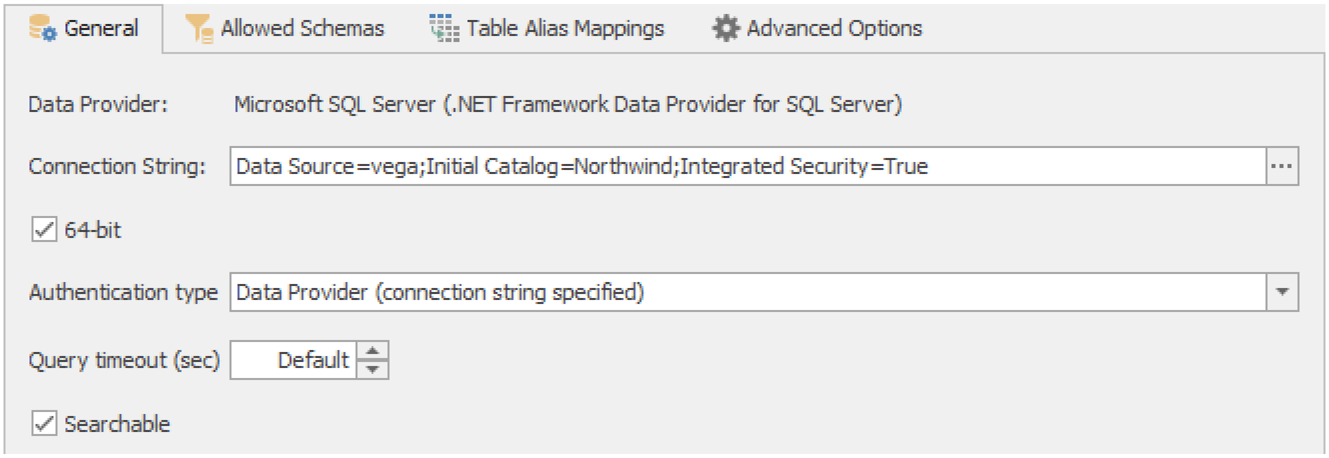
Authentication

DAS supports 2 different authentication types for client connections, **Provider** and **OAuth 2.0**.



Provider Authentication

This type of authentication uses the authentication method as defined by the configuration specified by the data provider.



OAuth 2.0 Authentication

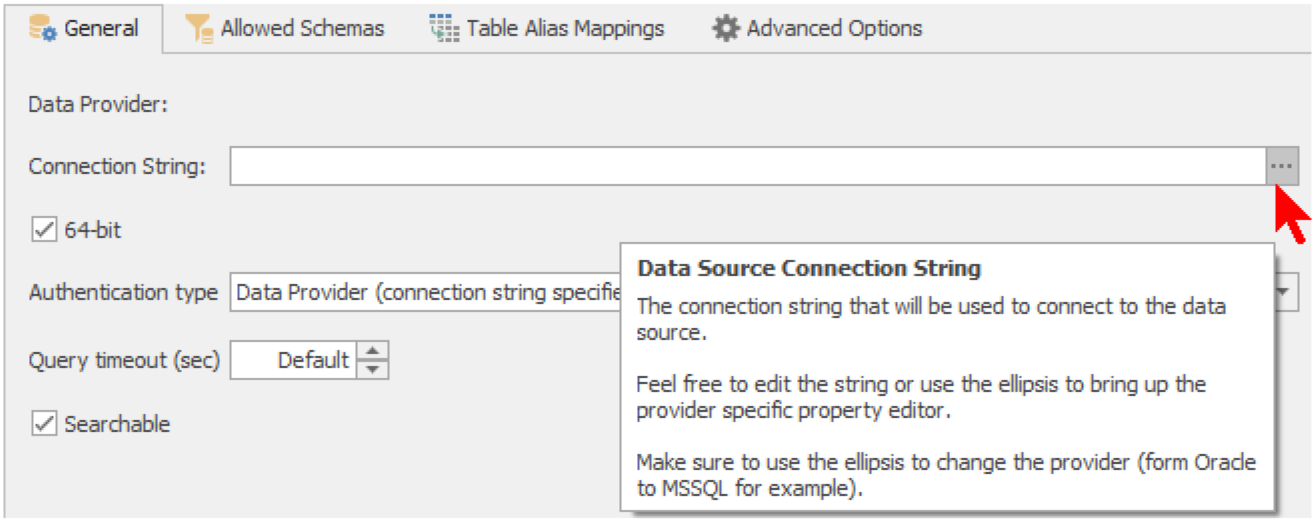
OAuth 2.0 uses modern authentication methodologies which can include multi-factor support. Additional configuration settings are required for this type of authentication. *See [Creating an External Data connection using modern authentication](#)*

Other connection options

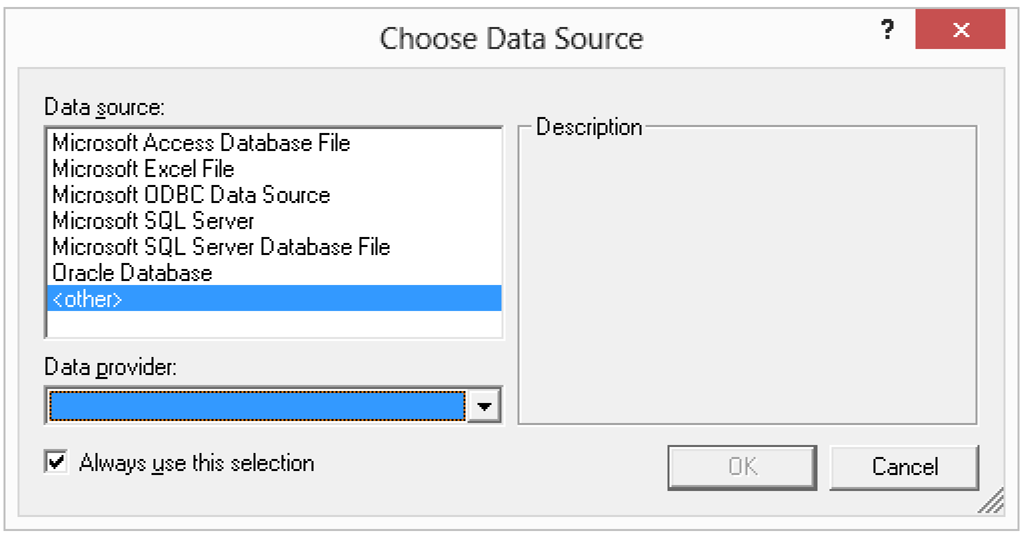
In addition to the options above, you can see other options such as Data Source selection, bit-ness and adding tables for home page searching. *([See Other External Data options](#))*

Other External Data options

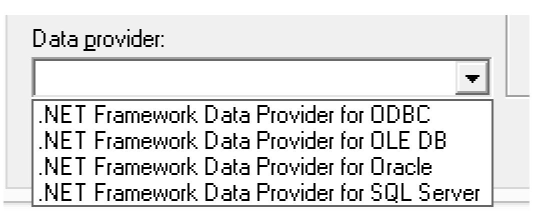
Choosing your Provider



A new connection will show an empty *Connection String*. Click on the ··· button to show the list of available providers. This form gives you many ways to connect to a data source.



First, select the **Data Provider**.



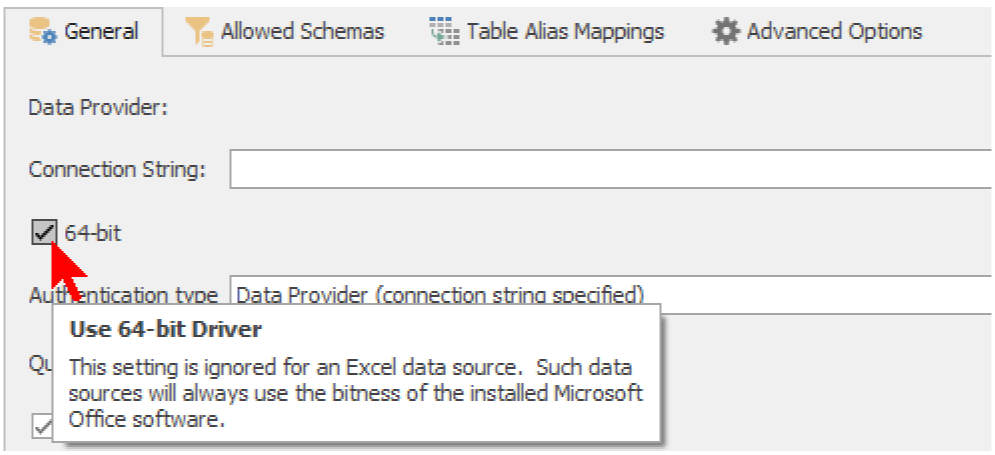
DAS supports ADO.NET, ODBC and OLE DB providers that have good SQL-like query support. DAS provides good support for Oracle, MS SQL Server, DB2, Microsoft-specific drivers (e.g. Excel), and several CData drivers. The list you see here will depend on which database drivers you have installed. The data provider you pick can also have performance advantages. In general, the native drivers will outperform the generic ODBC or OLE DB drivers.

Once you have selected the appropriate driver, you can select your data source.

32-bit and 64-bit connections

Any data source that you connect to (client-side or server-side) will be either 32-bit or 64-bit. This *bit-ness* of the connection must match the bit-ness of your data source driver.

> **IMPORTANT**
>
> If the property form does not show when clicking the ... button, try changing to a different bit-ness.

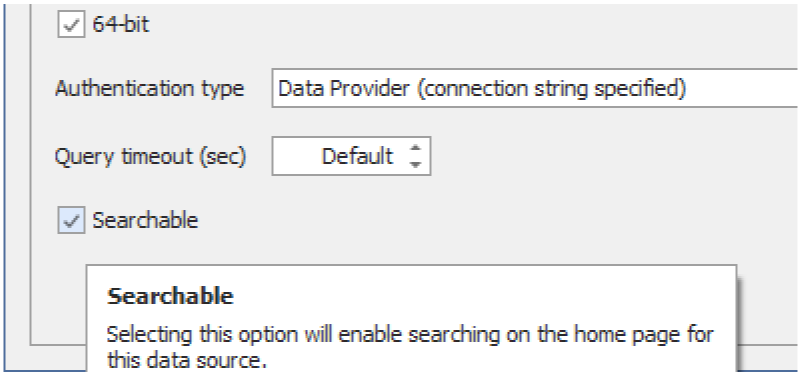


> **NOTE**
>
> Microsoft Excel and Access connections support both 32-bit and 64-bit regardless of the bit-ness used when creating the connection. These connections will work on any Office install (32-bit or 64-bit).

Searchable connections

DAS users can search for table names of External Connections on the home page of DAS. For a connection to be searched, the *Searchable* feature must be enabled.

To enable this feature, check the *Searchable* checkbox. Once enabled, the search cache will be automatically generated when the connection is saved.

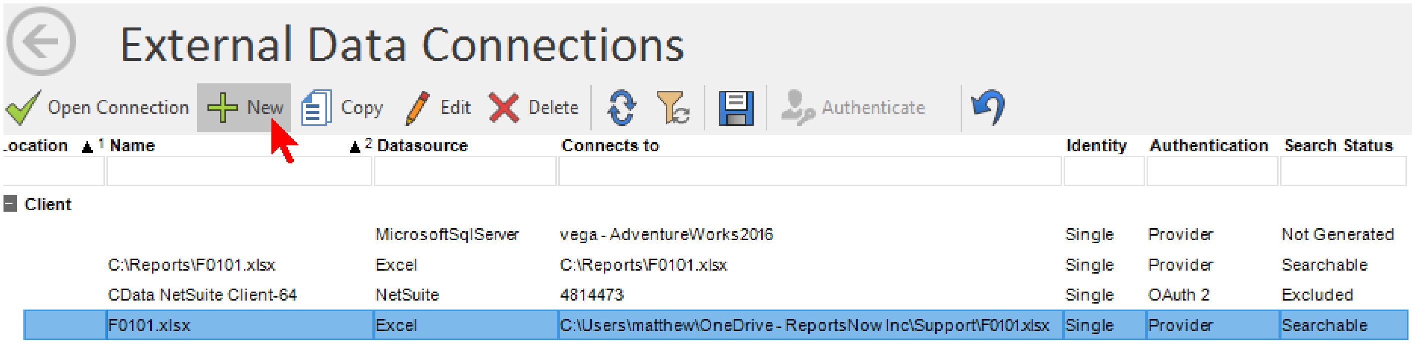

64-bit
Authentication type
Data Provider (connection string specified)
Query timeout (sec)
Default
Searchable
Searchable
Selecting this option will enable searching on the home page for this data source.

Connect to an Excel file

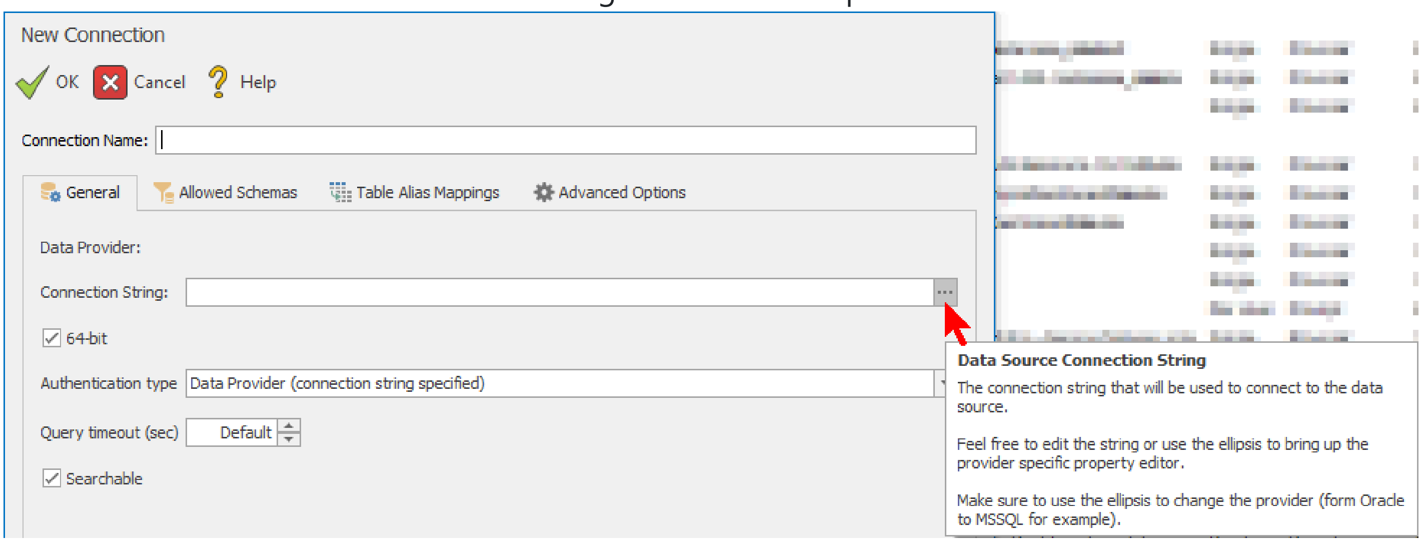
A common requirement is to report over an Excel file. DAS makes this easy.

Create a Connection

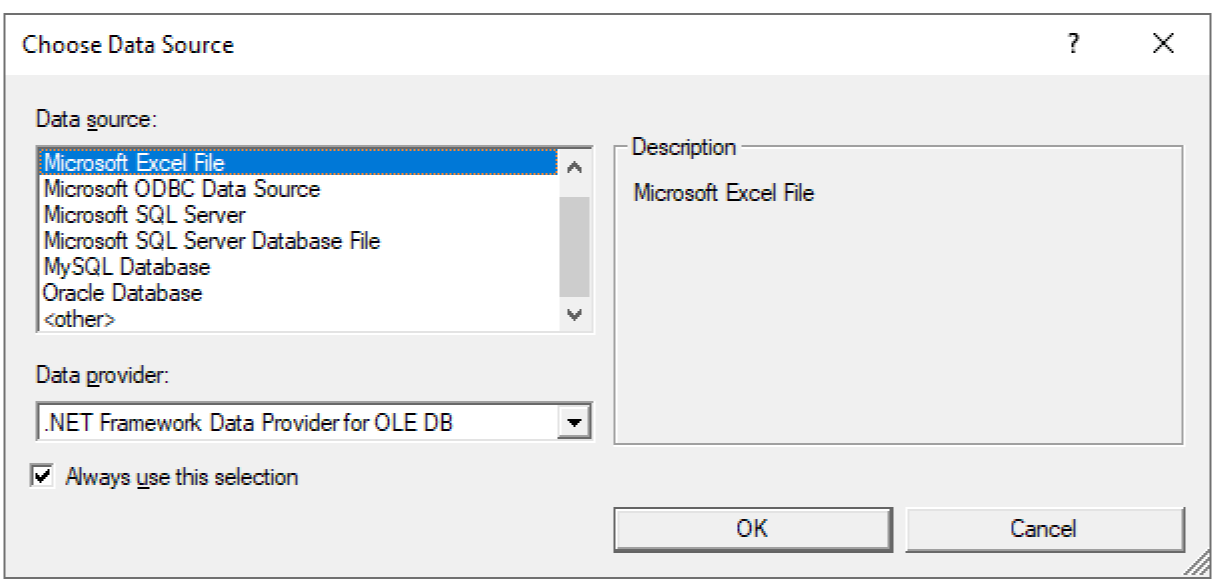
1. From the **External Data Connection** page, select **New Connection** See Create a New Connection.



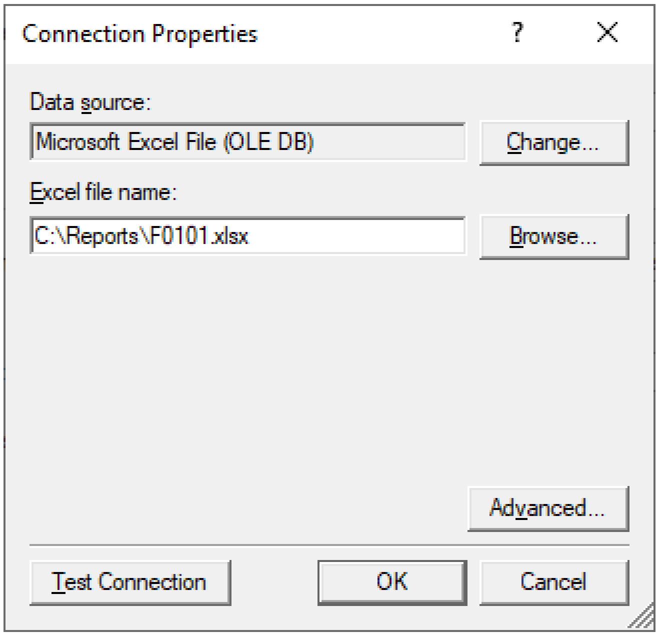
2. Click on the button in the connection string textbox to set up the connection.



3. Select **Microsoft Excel File** as the data source. Click **OK**.



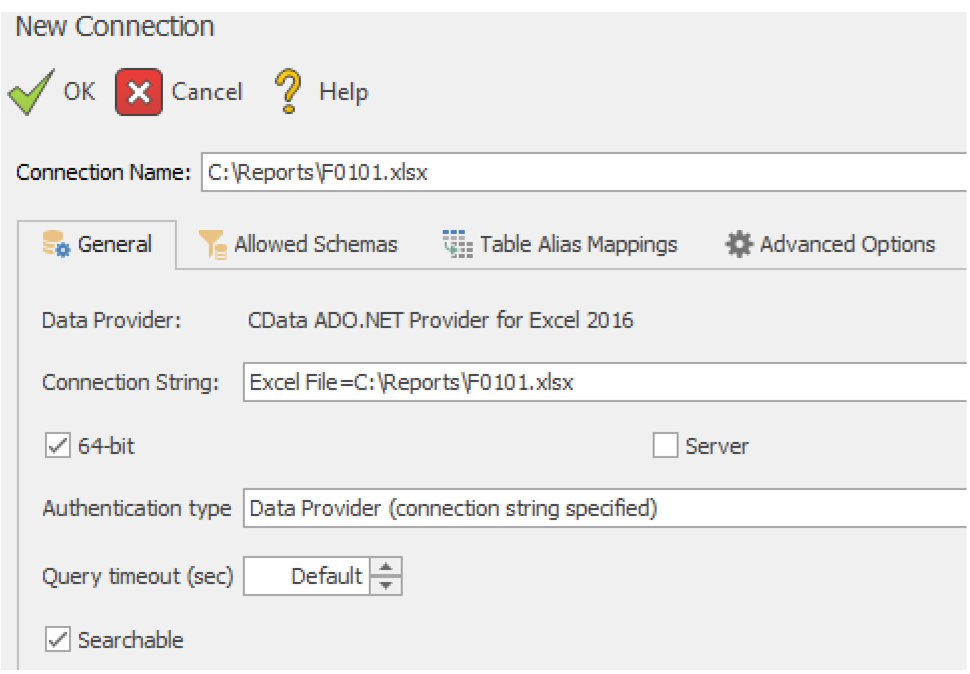
4. Enter the path to your Excel file in the **Excel file name** field. Test the connection to make sure it is valid by clicking **Test Connection**. Click **OK**.



5. You may keep the system-assigned name (i.e. the path) or provide your own name in the **Connection Name** textbox. Please note that once a connection is saved, you **cannot** change the connection name.

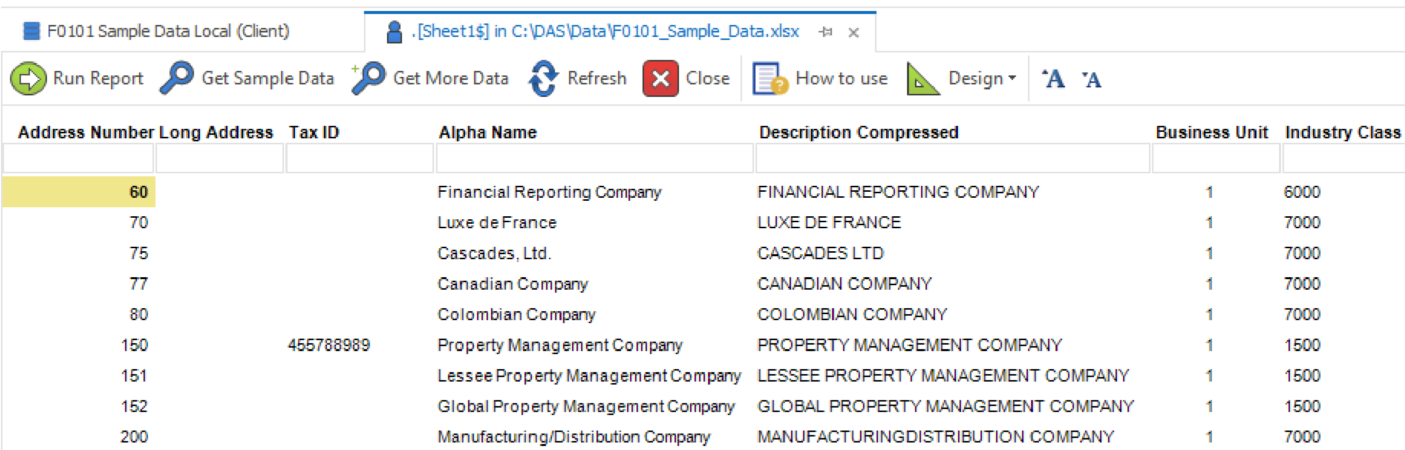
    - Specify a **Query timeout** (seconds) other than the provider connection default if desired.
    - External Data Connections are included in the home page search by default, so if you want to exclude this connection from search uncheck the **Searchable** option.

    Click **Ok**.



6. Select the sheet/table you want. When the sheet/table is selected, a preview of the data is shown to the right.

7. Click **Open** to create the new report. Once the new report opens, you can edit and save the report with a name of your choice.



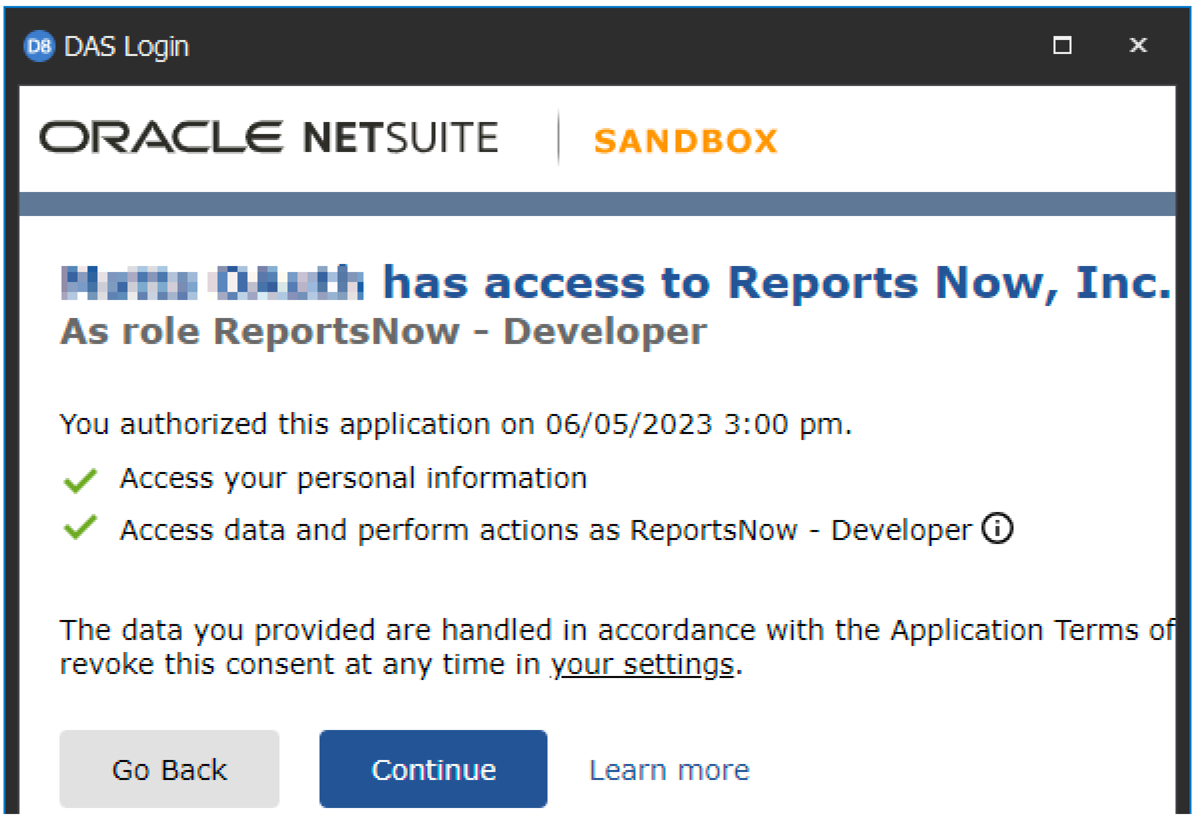
Creating a Connection using modern authentication (OAuth 2)

Understanding OAuth Requirements for your Provider

OAuth 2 is the industry-standard protocol for modern authorization. DAS supports this authentication standard by leveraging *Access Tokens* and *Scopes*. For more information on OAuth, see the [OAuth 2 standard].

When a user authenticates against a resource by providing their username, password and typically an MFA (multi-factor authentication) method, an *Access Token* is generated. Access Tokens are the result of a successful login challenge but contain no user or authorization information.

When configuring your OAuth 2 connection, you need to provide a list of applicable *Scopes*. These scopes limit an application's access to the user's account. During a login challenge, these scopes are presented to the user in the consent screen similar to the following:



Using Access Tokens and Scopes

We allow referencing the Access Tokens within your connection properties by using the pre-defined token **<OAUTH_TOKEN>** and Scopes by surrounding the scope's name by angle brackets (e.g. ***<name>***).

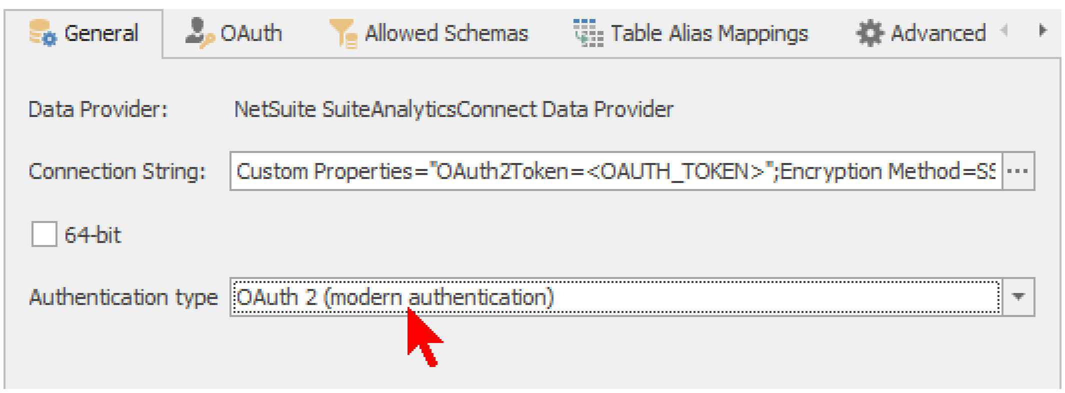
Different providers may require specific Scopes for access. DAS attempts to handle connections in a generic way by leveraging Scopes within the provider's connection string. Since each provider has different properties, you'll need to understand which Scopes are required for that provider.

For user-based connections, at the minimum, you'll need the **Access Token** and the **User Id** to be set in the connection string. For example, if the provider has an *Access Token* property (typically within their OAuth section), you would set the value of that property to the pre-defined token **<OAUTH_TOKEN>**.

To get the *User Id*, you'll need to request access to that information as a Scope. In many instances, you'll request the **email** scope. You will request this scope in the [Integration section](#) of your settings. You'll then use the name of the scope for the token (**<email>** in this case) in the provider's property for the User Id.

Creating the connection

You can create an external data connection using OAuth 2 on either the client or the server. First choose the OAuth 2 *Authentication Type*, then edit the *Connection String* by clicking the ... button.



> **NOTE**
>
> Server-side connections will have additional authentication features.

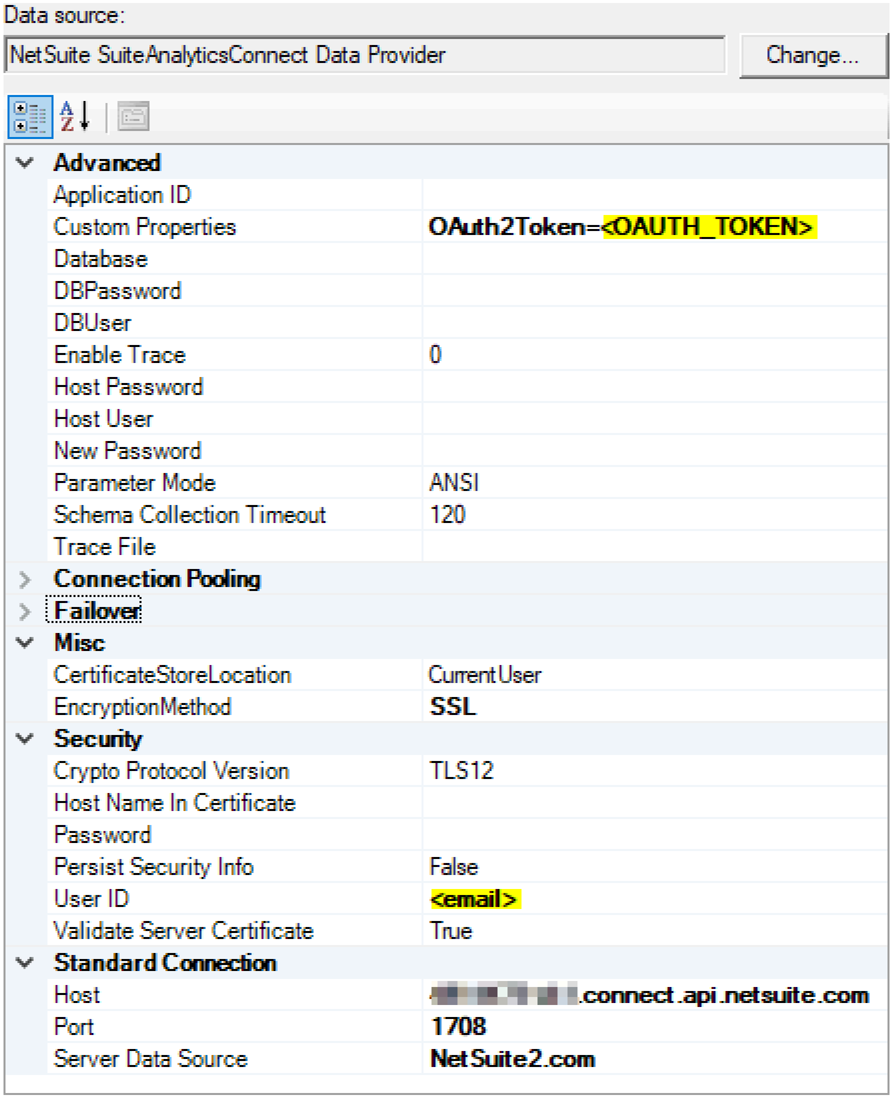
Configuring a Provider (NetSuite example)

Below is an example for configuring a NetSuite provider using the *SuiteAnalyticsConnect* driver.

Note the highlighted fields. These *tokens* will be replaced with the authenticated values returned from the login challenge. This provider uses the *OAuth2Token* property in the *Custom Properties* section, and also requires the *User ID* to be set for OAuth authentication.

Here we set the *OAuth2Token* property to the **<OAUTH_TOKEN>** token, and since the *User ID* must also be set, we use the value returned from the **email** scope.

These *tokens* are defined by the token name, surrounded by angle brackets (e.g. ***<name>***) and will be replaced within the connection string when the report is run or the data source is opened.

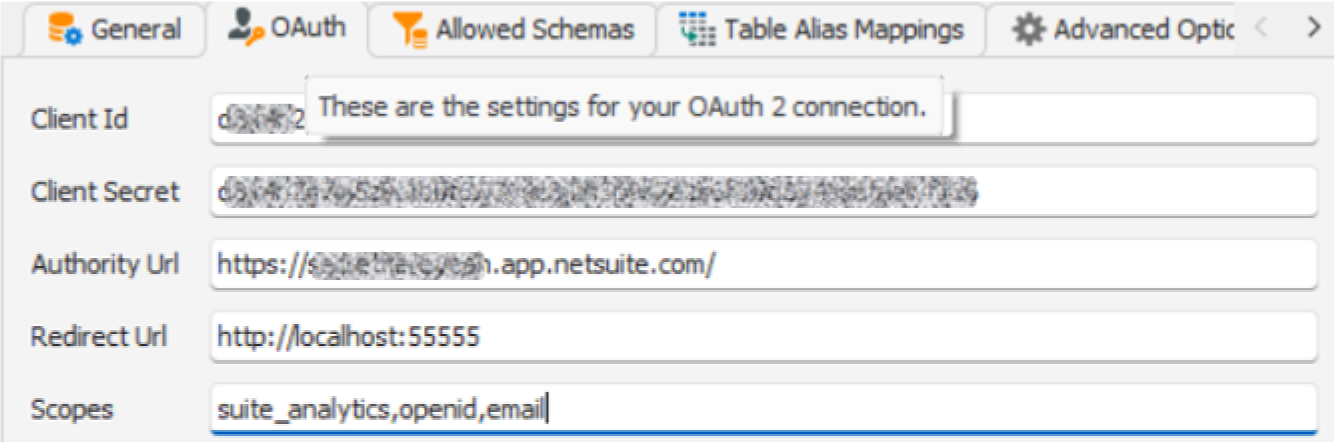


Integration settings

Once the OAuth 2 *Authentication Type* is selected, the **OAuth** tab will be shown. These settings are required for OAuth 2 authentication.

IMPORTANT

These settings will be given to you by the provider administrator.



NOTE

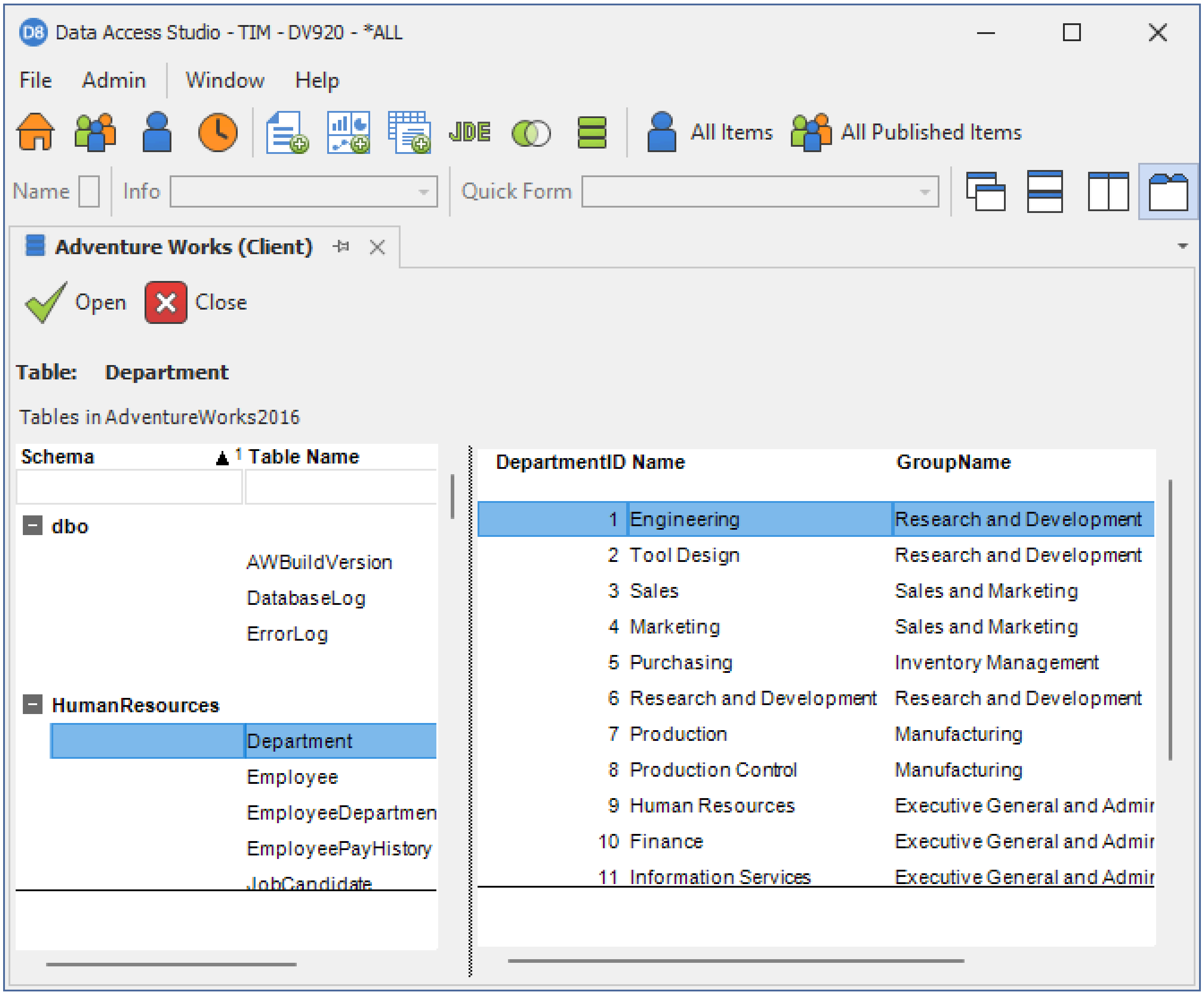
Scopes are a property of the OAuth 2 authentication settings. These scopes are defined by the provider and can be used within the *Connection String* of the External Data connection, such as in the example above.

Authenticating the connection

Once the connection is configured and saved, the **Authenticate** button will be enabled on the **External Data Connections** toolbar. You can click this button to begin the authentication challenge or open the connection. Once the challenge passes, you can use your connection until the Access Token expires. At this point, you will need to login again to continue using the connection.

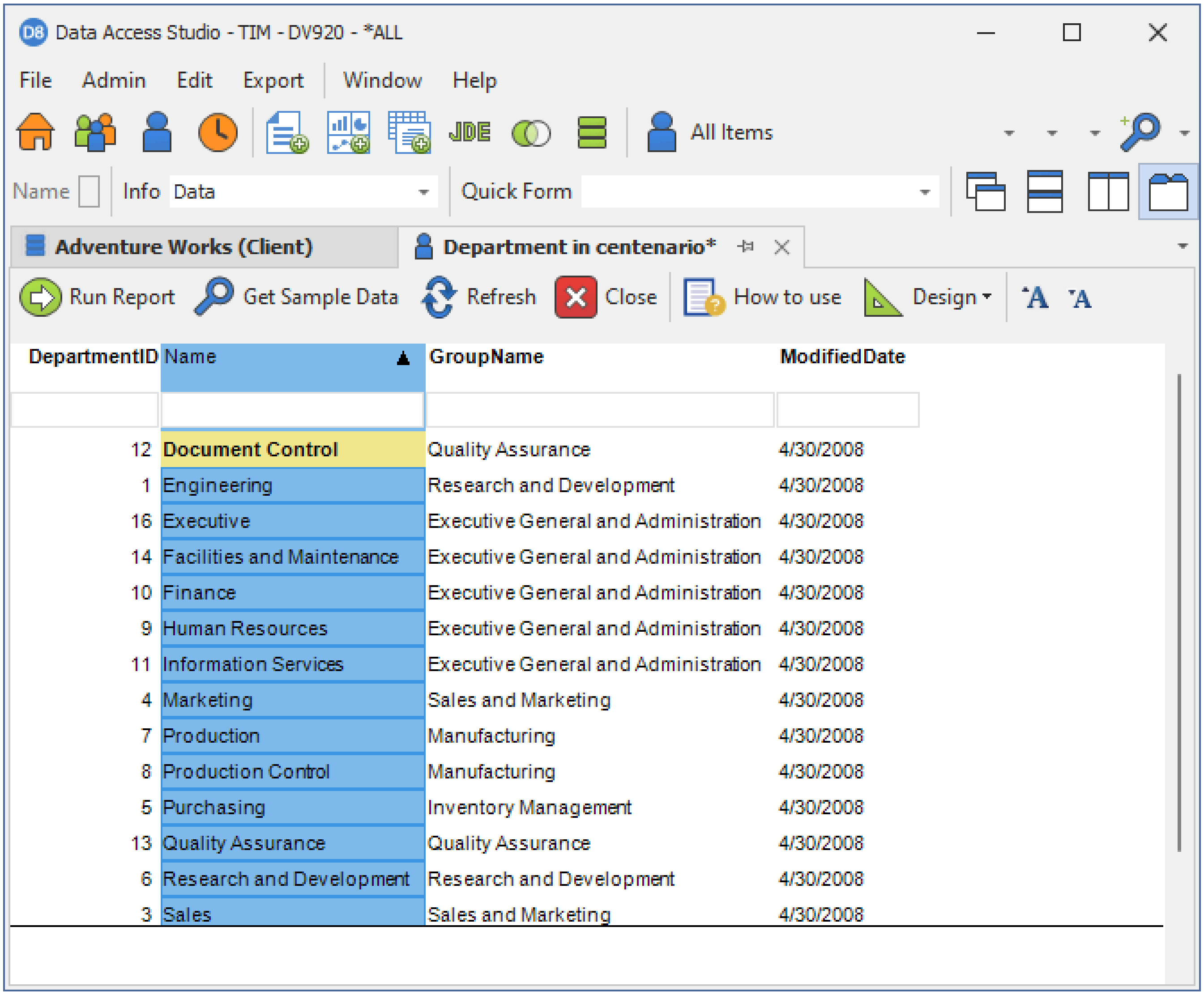
Create Report Over External Data Connection

Once you have defined a connection, double-click the connection to browse the contents of the data source.



When you select a connection, DAS shows tables in that data source. If available, DAS will group by schema. Selecting a table will preview the top 100 rows of data in that table.

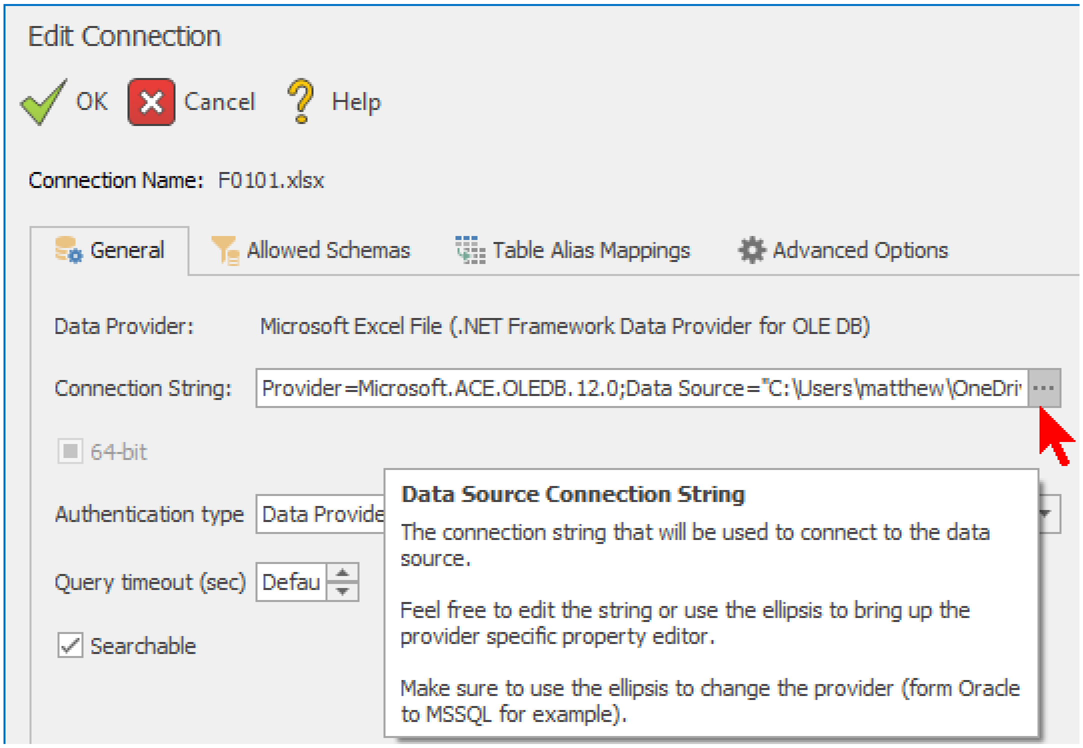
Clicking **Open** will open the data source in a new tab. This is where you can filter and sort the data, and ultimately create a report. Closing the tab without saving will return you back to the preview tab - allowing you to effectively browse data without creating report objects.


Data Access Studio - TIM - DV920 - *ALL
File Admin Edit Export Window Help
All Items
Name Info Data Quick Form
Adventure Works (Client)
Department in centenario*
Run Report Get Sample Data Refresh Close How to use Design
DepartmentID Name GroupName ModifiedDate
12 Document Control Quality Assurance 4/30/2008
1 Engineering Research and Development 4/30/2008
16 Executive Executive General and Administration 4/30/2008
14 Facilities and Maintenance Executive General and Administration 4/30/2008
10 Finance Executive General and Administration 4/30/2008
9 Human Resources Executive General and Administration 4/30/2008
11 Information Services Executive General and Administration 4/30/2008
4 Marketing Sales and Marketing 4/30/2008
7 Production Manufacturing 4/30/2008
8 Production Control Manufacturing 4/30/2008
5 Purchasing Inventory Management 4/30/2008
13 Quality Assurance Quality Assurance 4/30/2008
6 Research and Development Research and Development 4/30/2008
3 Sales Sales and Marketing 4/30/2008

Editing a Connection

You can change the connection properties by highlighting the connection and clicking the **Edit** button.

DAS will show the connection properties for the selected connection.

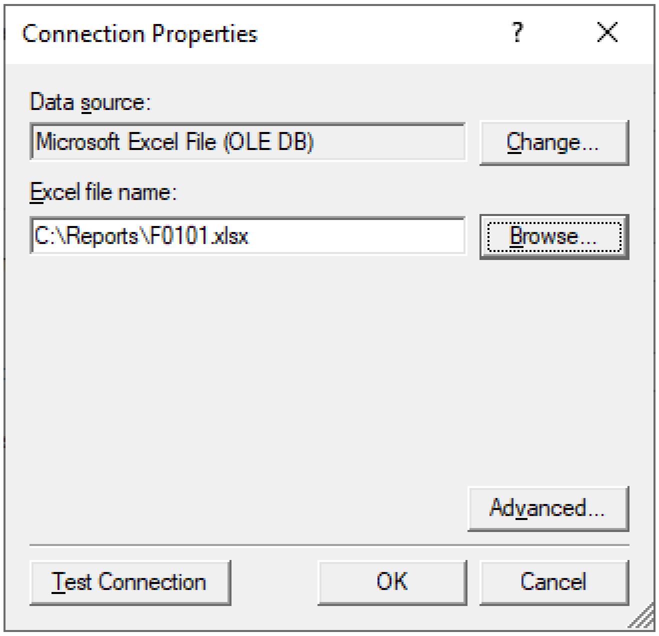


To change or update the provider settings, click on the ellipse button on the *Connection String*.

> ### ⓘ NOTE
> You can also edit the *Connection String* inside the text box for quick updates. However, changing the provider must be done by clicking the ... button.

You can change any field the Provider form allows for your connection. In the example below, we could change the Excel workbook or the location of the workbook by modifying the Excel file name field.

Most **Connection Properties** also have an **Advanced** button. Press this button to configure low-level parameters of the connection that may not otherwise appear on the main dialog.


Connection Properties
Data source:
Microsoft Excel File (OLE DB)
Change...
Excel file name:
C:\Reports\F0101.xlsx
Browse...
Advanced...
Test Connection
OK
Cancel

Bringing Back Data from an External Connection

External data connections can be used as the report data source or as a data source for a Table Lookup calculation. The basic query and retrieval methods used for JDE data sources will be the same for these connections. The data sources differ in terms of authentication and general reliability. This article will cover some of these considerations.

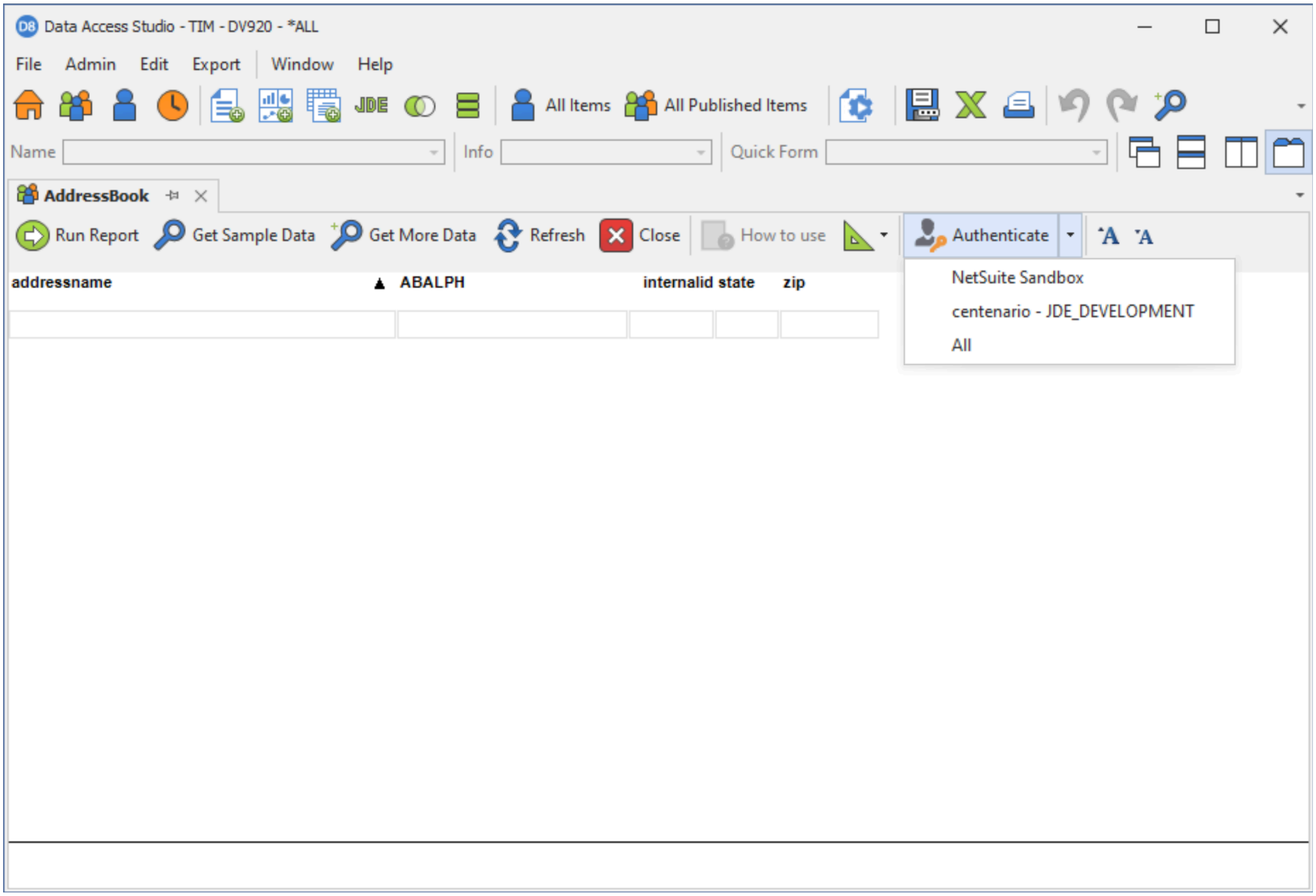
Excel File Locking

A very common data source for reports in Data Access Studio are Excel files using the Microsoft Access Runtime (ACE OLEDB) driver. One of the most common issues with this data source is that querying it will fail when the file is open in Excel. This is a limitation of the ACE OLEDB driver and is not something that can be changed by ReportsNow. To work around this limitation, make sure Excel files are closed or the files are marked in Windows as read-only before they are opened and before running a report that uses them as a data source.

Authentication Prompts for OAuth 2 and Per-User Server Connections

Certain external data connections require interactive authentication by end users. This includes any connection that has its authentication type set to OAuth 2 and server side connections that are configured to authenticate for each user (per-user server connections). For such connections, the user may be prompted to authenticate when the report is opened or when the connection is first used during a run of the report. The user only needs to successfully sign-in to a data source once and, after that, DAS will store these credentials until the credentials fail (either due to an OAuth token expiration or a password change).

The data sources that require authentication will be listed under the 'Authenticate' dropdown on the report's, ProReport's, or dashboard's tool bar. This will show for both private and published reports within Data Access Studio. If the dropdown does not exist, then the report does not use connections that require authentication.



> **NOTE**
>
> ProReports and dashboards published to mobie will not show the 'Authenticate' dropdown because mobie published objects only connect to the single mobie database. Instead, the authentication described here will occur when reports backing mobie-based ProReports and dashboards are run during the web publishing process.

Controlling When Authentication Prompts Occur

External data Connections used by the main report and the main report's variables must always be authenticated by the user when the report is opened. However, if the report uses a Table Lookup calculation, the user can choose to authenticate the connection when the report is opened or when the Table Lookup calculation is run. This can be controlled by the 'Authentication timing' option in the Table Lookup and Burst calculation settings.

The 'Authentication timing' setting has two options.

- **On report open** - Indicates to authenticate the connection when the report is opened. This is the default setting.

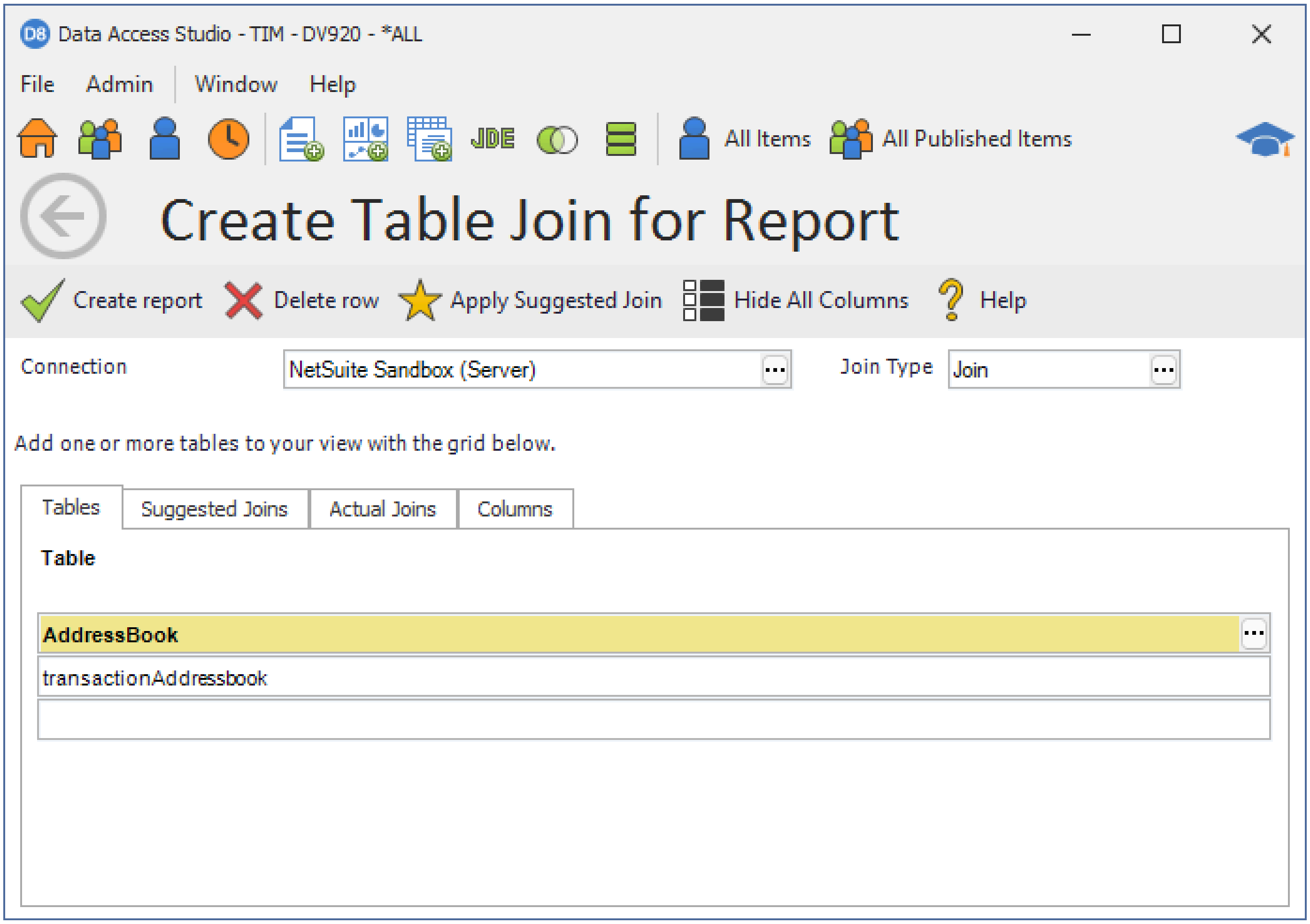
- **When first used** - Indicates to authenticate when the connection is first used.

Use the **When first used** option for report-level table lookups and bursts that are not always required when running. For example, there might be a drilldown to a report that uses an OAuth connection that only applies for certain business units. Such a burst would be a good candidate for the **When first used** option where only the users accessing those business units would need to authenticate.

Creating a Join in a non-JDE Data Source

DAS allows you to create join definitions for tables that are within an External Data source.

1. Click **File | New | Custom join**.



2. Click **Connection**. Select the External data connection.

3. Define the rest of the join as normal (See [Create a Table Join from Scratch](#)).

Table Alias Mappings

The Table Alias Mappings functionality in Data Access Studio (DAS) assigns aliases to database tables, enhancing the representation of tables in reports. This feature enables the presentation of data in a more user-friendly manner and promotes portability.

Automatic Mapping and Manual Intervention

The Table Alias Mappings functionality in Data Access Studio (DAS) assigns a simple, unambiguous table alias name to each database table referenced for an external data connection. The report is then built against these aliases. These table aliases are registered (usually automatically) with the connection and map to the actual table names. Then, in the future, if a table is moved to a new schema or database (or even if the name changes), then just the connection mapping is updated instead of changing the report.

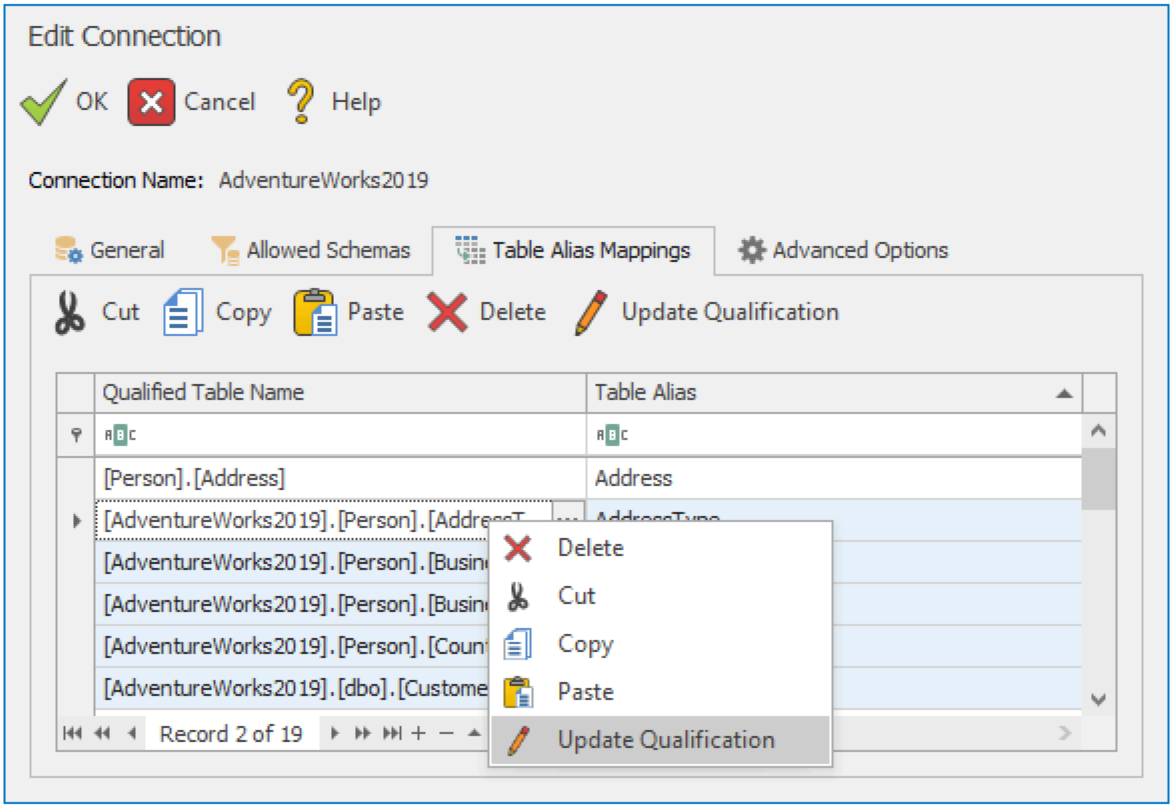
> **NOTE**
>
> The "administrator" of the connection is going to be the owner if it is a client connection (such as a report developer) or the DAS Administrator if it is a server connection.

When users open new tables for an external data connection, DAS will automatically attempt to create a table alias with a unique name. If it is unable to determine a unique name, the administrator of the connection can manually create an entry in the **Table Alias Mappings** tab to supply a unique alias name for users to use when referencing the desired table.

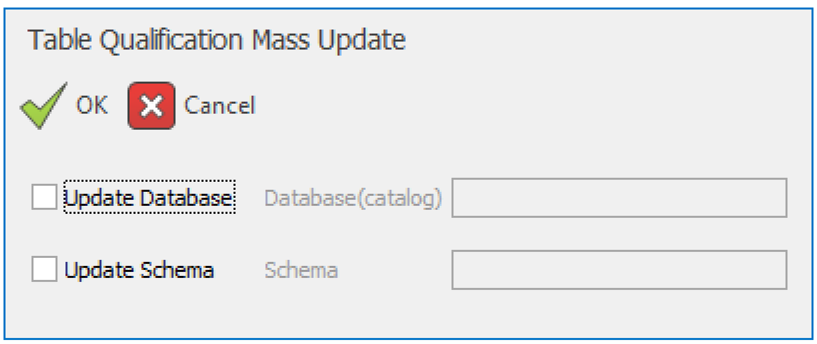
When DAS shows available tables for an external data connection, it uses an automatic discovery process to query the database for all known tables. If the data provider does not provide a catalog of tables to open, it is possible to leverage this mapping system to manually populate the catalog. In such cases, an administrator of the connection can create a table alias mapping for the desired table so that it becomes available to end users when they open the connection.

Mass Updating Table Qualifications

To mass update a set of table qualifications in table alias mappings, please select all the tables that you want updated. Then either right-click and select **Update Qualification** or click the same button on the toolbar.



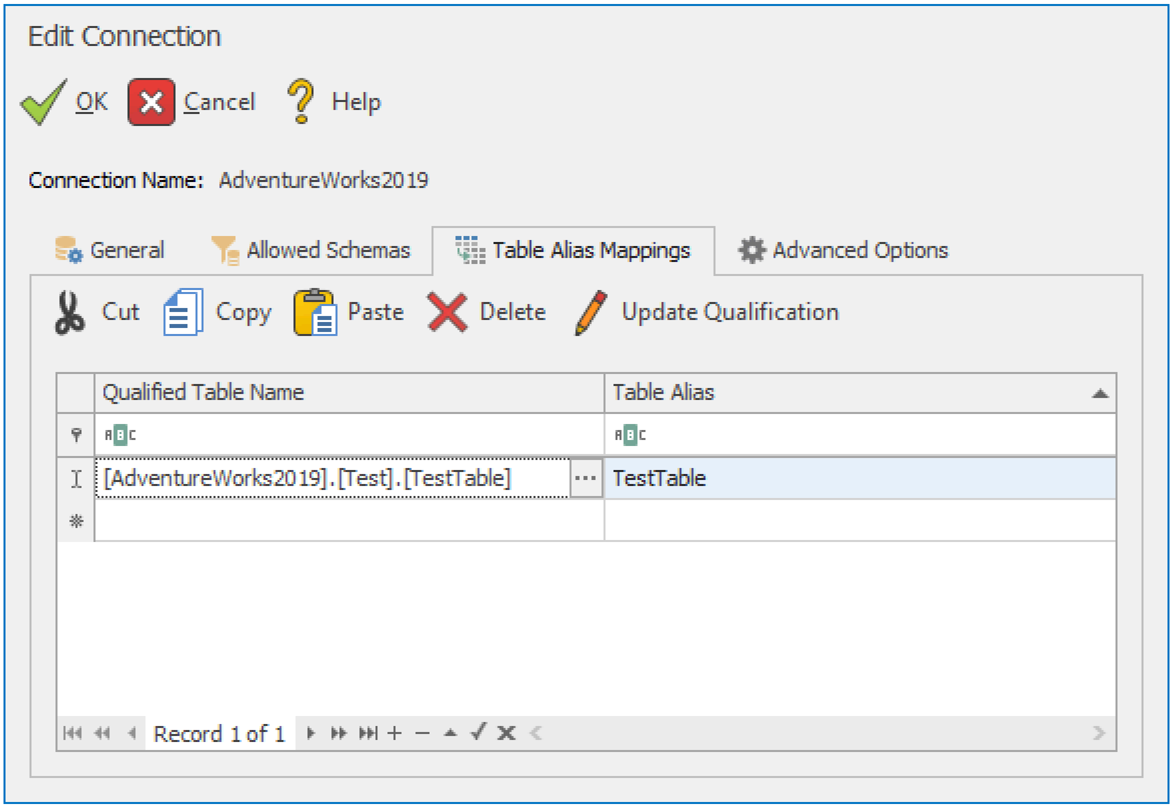
When the dialog pops up you are presented with two text boxes with checkboxes by each one. Please select the checkboxes for the value that you want updated.



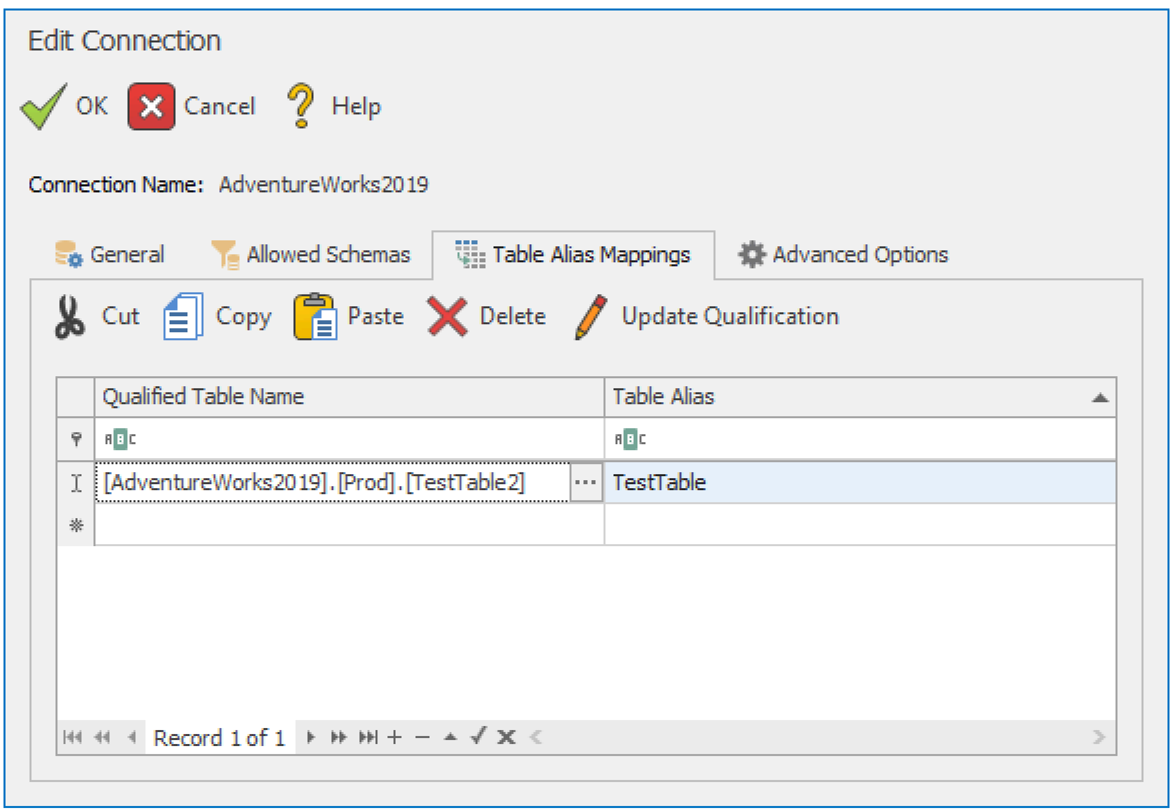
To eliminate the schema qualification, the database qualification, or both, simply check the box to update the selected part of the qualification and leave the textbox empty. Leaving the textbox empty while the update box is checked will remove that part of the qualification from the table name when the **OK** button is pressed. There's no need to manually include quotes for either value; they will be automatically applied when you click the **OK** button.

Example Usage

To illustrate the benefits of this functionality, consider the following scenario: a table named **TestTable** within the *Test* schema, residing in the *AdventureWorks2019* database.



In reports, the table will be referenced solely as **TestTable**, without explicitly mentioning the original table name or schema. However, if the user needs to switch to the production version of the table, they can conveniently access the connection edit dialog and modify the mapping to point to the desired *prod* table without affecting reports built off of the **TestTable** table.



Remarks

To incorporate table aliases into your existing reports/table lookups please refer to table alias conversion documentation for more info.

If table mappings are not automatically quoted or if the qualified schema needs to be changed, please refer to our advanced options documentation on how to set these options up.

Table Alias Conversion

Reports created prior to 8.0.14 did not use the Table Alias Mapping system but instead directly reference the actual qualified table names. Reports/table lookups generated from version 8.0.14 onwards will automatically incorporate table aliases. However, for reports created before this version, there is a straightforward method to convert them for table alias usage.

The conversion process will attempt to convert all of the report's table joins and table lookup calculations to use table aliases. For example, an old report might have a column reference **[Prod].[TestTable].[ColA]**. After conversion, this reference will instead be **[TestTable].[ColA]**. If the external connection did not already contain an alias mapping for **[Prod].[TestTable]**, a mapping will be created (e.g. **[Prod].[TestTable]** --> **[TestTable]**).

If the table name is already used by the connection but mapped to a different qualified table name (ex. **[Dev].[TestTable]** --> **[TestTable]**), a new unique alias will be added (ex. **[Prod].[TestTable]** --> **[Prod_TestTable]**). The updated column reference in this example would then be **[Prod_TestTable].[ColA]**.

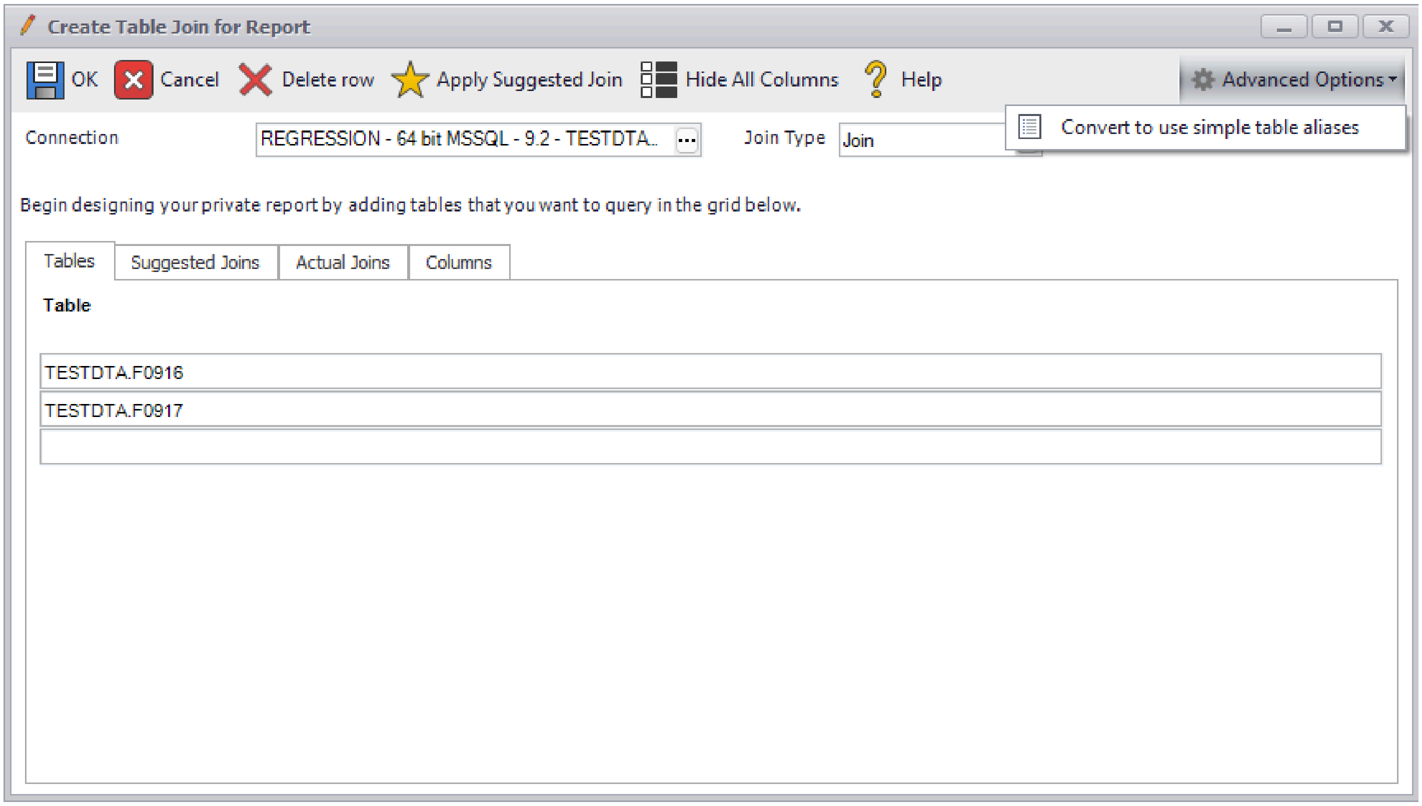
> **NOTE**
> Reports that are not converted will still continue to work and can be modified like normal. However, if the external table that the report relies on changes in the future it will require manual intervention to fix.

Converting Reports and Table Lookups

Upon conversion, the report will open in a new tab to provide users with the option to close it without saving, preserving the original report. To convert a report join or table lookup calculations, please follow the steps below:

1. Open desired report
2. Click on **Design** > **Table Join**
3. Click on **Advanced Options** in the top right corner
4. Click on **Convert to use simple table alias**

5. Verify that the report is still working as intended



Considerations Before Converting

While we recommend converting reports to utilize table aliases, it is essential to consider a few factors before proceeding. It is important to understand that the column references of a report are often used by other objects to connect or 'bind' to the report. For example, a dashboard may have a chart that is bound to a report's column. If the report's column reference changes, the dashboard will no longer be able to bind to the report. Therefore, it is crucial to understand the impact of converting a report before proceeding.

Systems that can bind to a report's column reference include:

- Dashboards
- ProReports
- Burst Calculations

In cases where the report has viewers (dashboards or ProReports) referencing the report being converted, users will receive a warning before initiating the conversion. The converted report will open in a new tab with a unique name to ensure that viewers remain unaffected. After testing the converted report, users should go into each viewer that is linked to the old report and then change it to the newly converted report. Since the report was opened with a new unique name, this will give users ample time to make necessary adjustments and address any potential issues.

There are no warning dialogs for burst dependencies. You will want to use the Burst/Drilldown Cross Reference report to identify any burst dependencies. If there are any burst dependencies, you will want to test and update the burst calculation after the conversion if the burst call referenced any of the changed columns.

Remarks

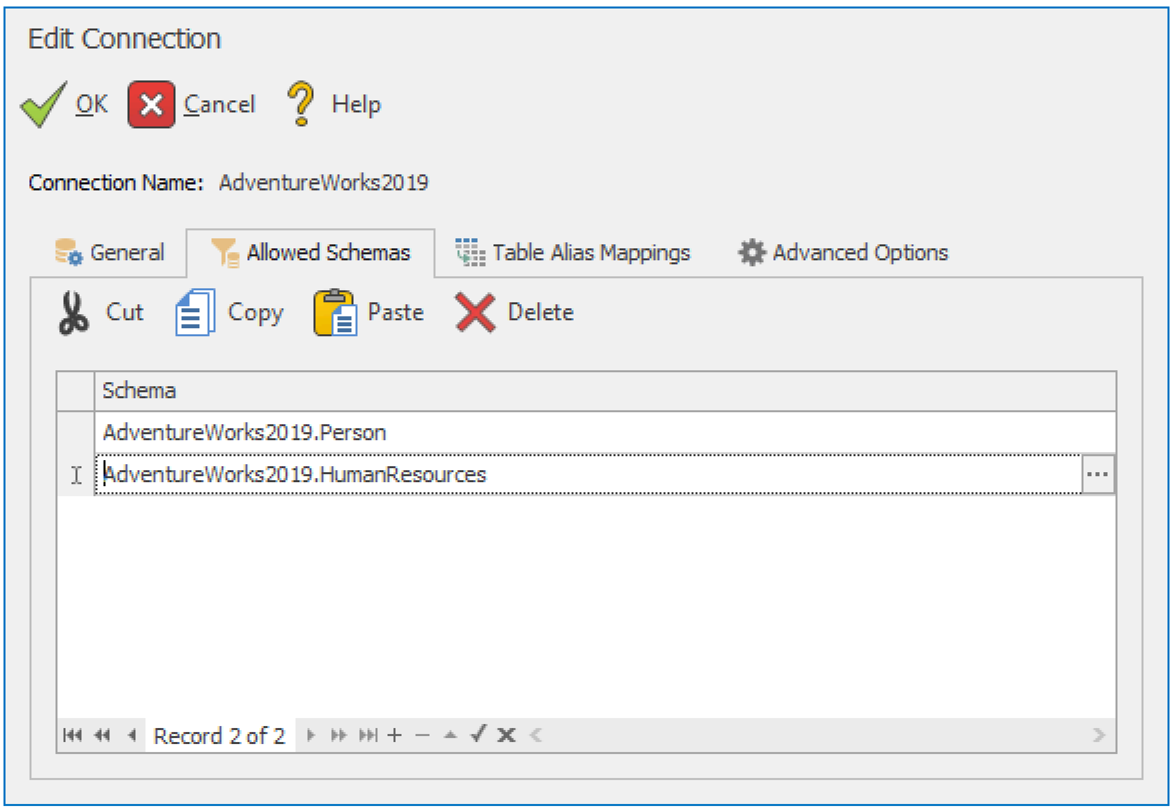
While the report/table lookup may already be using table aliases, if it is not using the most simplified version for that table then the option to convert to use simple table alias will show up under the advanced options.

Allowed Schemas

Allowed Schemas secure your external data connections by implementing access restrictions to a specific set of schemas. By defining which schemas are accessible, you can effectively control access to sensitive data.

Usages

To illustrate this feature, let's consider an example using the SQL sample database known as AdventureWorks. Within this database exist various schemas such as *Person*, *HumanResources*, *Sales*, and more. By leveraging the **Allowed Schemas** feature, you can restrict the connection to only grant access to the *Person* and *HumanResources* schemas. Consequently, users utilizing this connection will be unable to access other schemas, such as *Sales*. This security measure not only enhances data protection but also streamlines the exploration of table contents, as irrelevant tables are excluded from view.



Showing Table from a Restricted Schemas

If there is a table that is in not in one of the allowed schemas, but users still need access to it.Then simply by creating a [table alias mappings]() to the restricted table, this will allow users of the connection to access the restricted table.

Microsoft SQL Server

This section pertains to **Microsoft SQL Server connections** that do not explicitly specify database (also known as a catalog). In this case, when the visual assist button is clicked to display all available schemas, it will present schemas from all databases that are available to the user. By selecting only a desired set of schemas, users can avoid seeing all schemas. This is particularly crucial when performing joins, as joins can only be executed within a single connection. Using a connection with no default database allows users to perform joins between different databases through a single connection, since joins must always be performed on a single database connection.

To illustrate, consider the following practical example: users can easily create joins between tables in **[ProductionDB].[HumanResources]** and **[TestDB].[HumanResources]**.

Remarks

Despite the connection being locked to a predefined set of schemas, administrators of a connection retain the ability to introduce a table alias mapping to a table within a restricted schema. By doing so, the associated table can now be utilized within the connection.

External Data Connections Advanced Options

WARNING

The following options impact how DAS finds and queries tables in a database. Misconfiguration here can cause reports that use the connection to fail.

Custom Schema Discovery

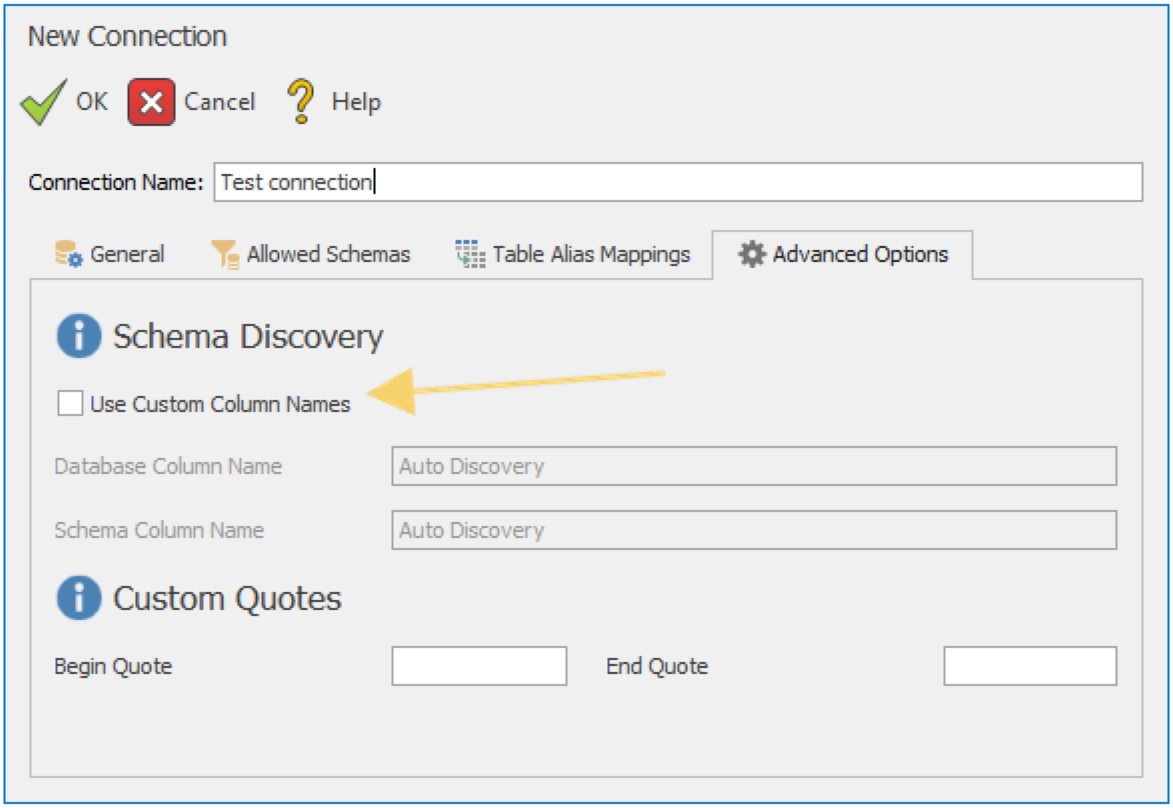
NOTE

This option will not need to be utilized for most external connections.

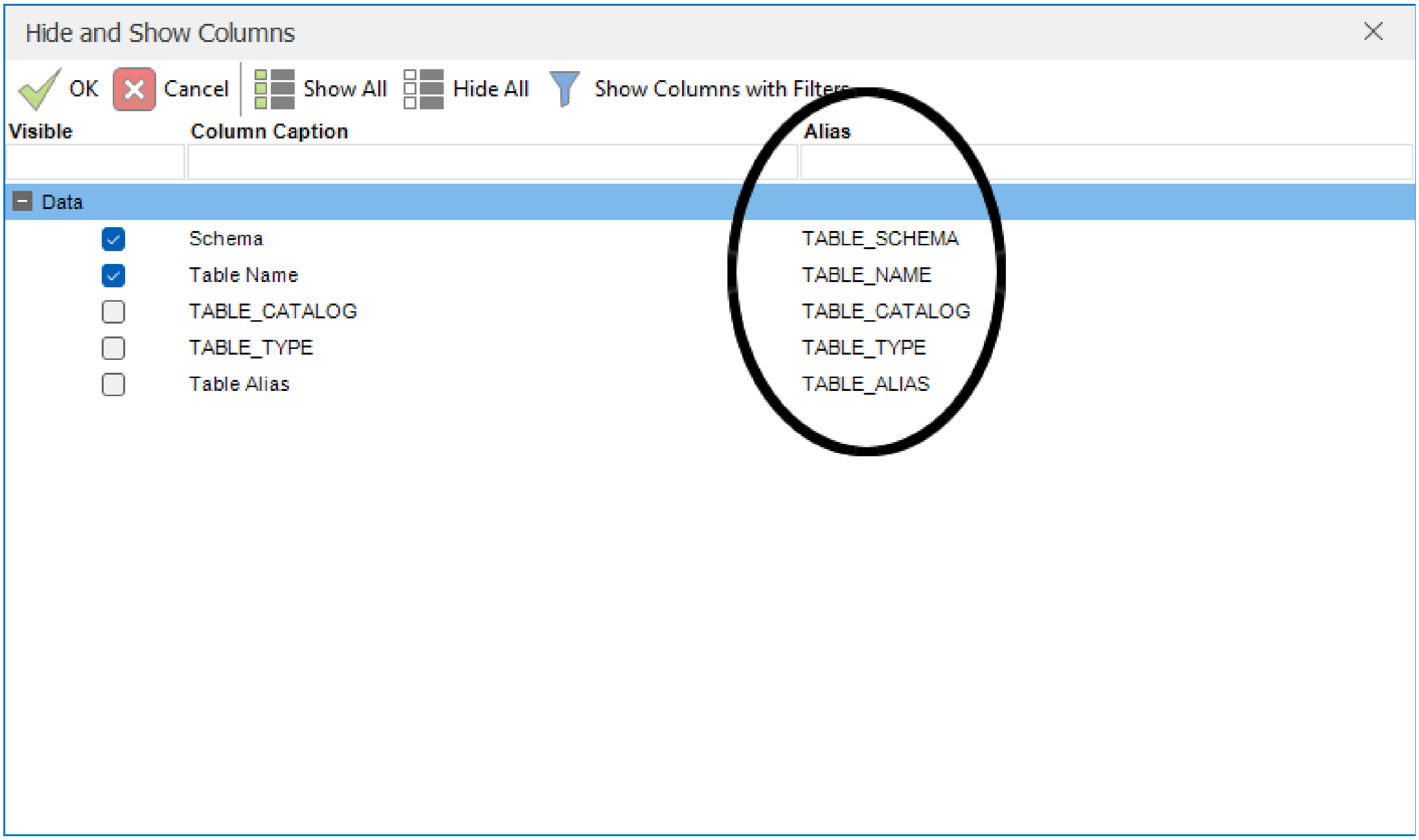
DAS queries databases metadata tables to discover the tables that can be opened. These settings allow advanced configuration of this process. This will also effect how qualified table names are created for table alias mappings. The following are a few of the known scenarios where the **Schema Discovery** option should be utilized:

- If the table alias mappings should not be added on certain parts to the qualified table name.
    - An example of this is when a database provider adds the current user's role name as the schema. This means a user running in another role could not use the report. Assuming the provider supports running without this qualification (like Oracle NetSuite®), use this configuration to not allow the schema to be added.
- If DAS does not recognize what the schema or catalog name should be.
    - An example illustrating this situation occurs when reviewing the automatically generated table alias mappings, which may lack proper qualification. This could manifest in various ways, ranging from the absence of qualification to instances where the database column is used as the schema, and vice versa.

To utilize this feature select the **Use Custom Column Names** to turn it on.



The columns that correctly identifies what should be used for these comes from the database's metadata. To identify the correct column name for the text box, navigate to **External Data Connections** and open the connection to access all the tables. Then right click on a column and select **Hide and Show Columns**. A dialog should pop up similar to what is shown below; the example is from a Microsoft SQL Server connection.



Then from this screen you can see what the column alias is to use for these text boxes. In this case, for the schema column it would be *TABLE_SCHEMA* and for the database it would be *TABLE_CATALOG*.

Any textbox that is left empty, that part of the table qualification will not be used by DAS to query data. The database textbox cannot be filled out if the schema textbox is left empty, since qualification goes *[DATABASE].[SCHEMA].[TABLE]*. However, the database textbox can be empty while schema is filled out.

Oracle NetSuite® Connections

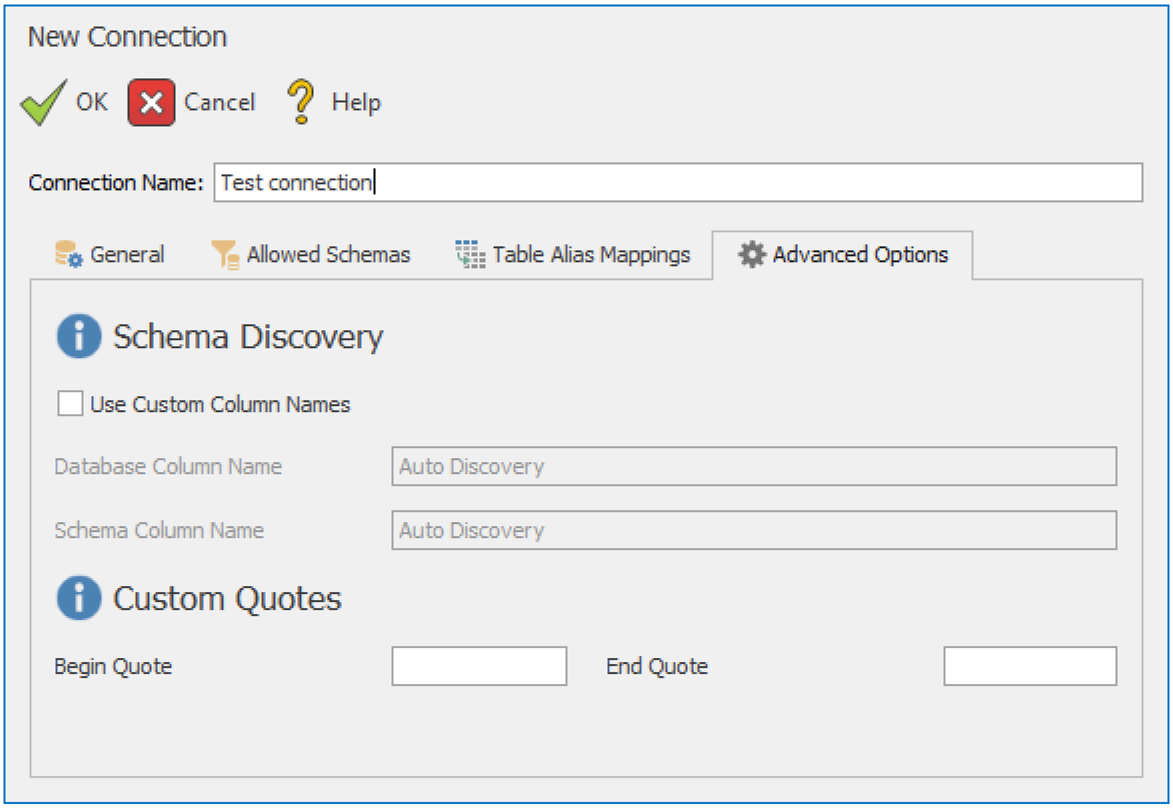
NetSuite is a known example of the first scenario that was listed above in Custom Schema Discovery of when to use the **Custom Column Names** option and to not qualify the generated table aliases. Because it is known, DAS will configure this options automatically upon creation.

Custom Quotes

> **NOTE**
>
> This option will not show up for most external connections. If visible, any input provided in the custom quotes text boxes will be used to automatically quote all tables generated for table alias mappings and will be used on column names during database queries.

This option will show if we do not know what default quoting to use for the external connection. The known quotes for external connections are the following:

1. Microsoft SQL Server
2. Microsoft Access
3. Oracle
4. DB2
5. MySQL
6. Oracle NetSuite®
7. Any CData provider



Drill Downs and Bring Backs

Frequently, the data you will need for your report will reside in different (yet related) tables. To simplify navigating and combining data into your report, DAS provides two related features: **Drill downs** and **Bring Backs**.

Drill Downs

Drill Downs are the ability to open a related data in a different table as a new query. To execute a Drill Down, hover over a grid cell. If the grid cell turns to an underlined hyperlink, then a drilldown is available. Left-click or right-click the cell. Select the desired drill down from the available list by clicking it. The Drill Down, by its nature, is an interactive activity (as opposed to an automated activity).

For instance, if you were looking in the Account Ledger (F0911) and wanted to see all transactions for a batch in a new window, you would right-click the batch number and select the **Drill down -> Transactions by Batch - Account Ledger**. DAS will then open and tile a new window that shows the transactions for the batch you selected. For each batch you want to check, you must interactively right-click and follow the Drill Down.

Bring Backs

Bring backs are the cousin of the Drill Down. If a cell has a Drill Down, then the cell also has a Bring Back. Instead of opening a new window, the Bring Back literally brings back the data into your existing report. This has the advantage of effectively doing all the drill downs in one shot rather than individually for each row -- which is ultimately better for reporting purposes. The Bring Back will arrange your existing report automatically to handle the new data. You can always click **Undo** to undo the effects of a Bring Back.

For instance, if you were looking in the Account Ledger (F0911) and wanted to see all transactions for a batch in your report, you would right-click the batch number and select the **Bring back -> Transactions by Batch - Account Ledger**. DAS will then group your report by unique batches and return the transactions for the batches back to your report. Your report now has all the batch transactions in it for you to query.

Types of Drill Downs and Bring Backs

DAS has two types of Drill Downs and Bring Backs:

- Standard
- Specialized

Each of these is described below.

Standard Bring Backs

Standard bring backs include all master tables, UDCs, and anything that has an associated description. There are thousands of data items that fall into this class such as Address Book Number, Business Unit, Company, etc.

For this class of Bring Backs, the bring back brings back additional information about the item.

Example 1 - Address Book Master Information

If you right-click any address book number cell in your grid you will see: **Drill Down / Bring Back -> Address Book Master.** When you select this option, the description for the address book number will be returned to your grid. Simply double-click the new calculation (which is a **Table Lookup** calculation - see Get Related Data from Another Table) and edit the columns to bring back - add **Search Type** for instance. In this manner, you can effectively bring back any master table data you need very quickly.

Example 2 - second UDC description

Sometimes you want the second UDC description for a UDC item. Use Bring Backs to get this. Right-click a UDC value your grid: **Drill Down / Bring Back -> User Defined Code Values.** When you select this option, the description *and* second description for the UDC will be returned to your grid. You can also double-click the new calculation (which is a **Table Lookup** calculation - see Get Related Data from Another Table) and edit the columns to bring back.

Specialized Drill Downs and Bring Backs

Data Access Studio provides the following JDE-specific Drill Downs and Bring backs:

Drill Down / Bring back	Description
Account balance -> Account ledger	Gets Account ledger (F0911) transactions for a period balance. Right-click amount cell on Quick Report (Relative Period) reports or Account Balances table (F0902).
Asset account balances -> Account ledger	Gets Account ledger (F0911) transactions for a period balance. Right-click amount cell on Quick Report (Relative Period) reports or Account Balances table (F1202).
Purchase order -> Account ledger	Gets Account ledger (F0911) transactions for a purchase order. Right-click Purchase Order Detail file (F4311) document number cell.
GL Document -> Transactions for document	Gets all transactions for a given GL Document. Right-click Account ledger (F0911) document number cell.
Batch Number -> Transactions for batch	Gets all transactions for a given GL Batch number. Right-click Account ledger (F0911) batch number cell.
Account ledger -> Accounts Payable	Gets the de-duplicated AP records for the corresponding GL records. Right-click Account ledger (F0911) document number or amount cell.
Account ledger -> Accounts Receivable	Gets the de-duplicated AR records for the corresponding GL records.Right-click Account ledger (F0911) document number or amount cell.
Account ledger -> Account balances	Gets the period posting values for a set of Account ledger transactions. Right-click Account ledger (F0911) amount cell.
Account ledger -> Work Order	Gets the work order data for the Account ledger sub-ledger. Right-click Account ledger (F0911) sub-ledger cell (where row is sub ledger type W).
Account ledger -> Address Book	Gets address book master data for the Account ledger sub-ledger. Right-click Account ledger (F0911) sub-ledger cell (where row is sub ledger type A).
Work Order -> Parent Work Order	Gets the parent work order for given Work Order. Right-click Work Order Master file (F4801) parent work order number cell.

Fetch and Filter Data

Once you open the JDE table, the second step is to get some sample data. Data Access Studio is a visual report writing system. Getting sample data helps users visualize the report as they design it. Refer to the following Data Access Studio main tool bars:

Find and Find Progress toolbar: 

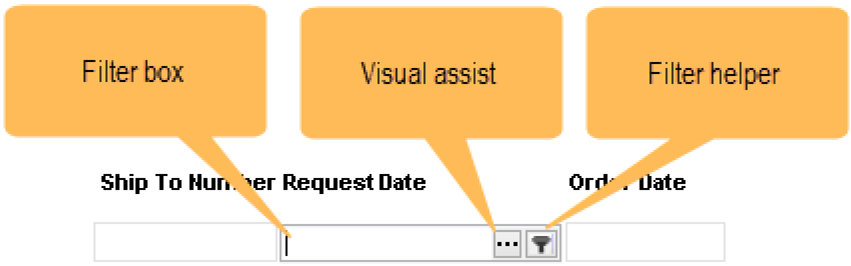
Quick menu toolbar:

To	Do this
See sample data with no filter	Click the **Get Sample Data** button.
See sample data with a filter	Enter filter information in the [Filter Boxes]() underneath each Column Header. Click the **Get Sample Data** button.
See sample data with count of total records	Enter filter information in the [Filter Boxes]() underneath each Column Header. Click the **Find with Count** button. Note that if the administrator restricts this capability, you will not see the **Find with Count** button. Note that if you do not specify filter information prior to pressing the **Find with Count** button, Data Access Studio will issue a performance warning.
Load another page of records	Click the **Get More Data** button.
Go to previous page of records in grid	Scroll to the top using the vertical scroll bar.
Load all records for query	Click the **Run Report** button. As the report runs, you will see **Counting Records**, **Selecting Records**, and then the progress bar loading the records. When the load is done the Progress Indicator will show a full progress bar.
Go to the first row	Scroll to the top using the vertical scroll bar or click **CTRL-Home** on your keyboard.

To	Do this
Cancel a large row load	When you load records, the **Cancel** button on the toolbar will be enabled. When enabled, you may click the **Cancel** button to stop the record load. The status bar will indicate that the grid is partially loaded.
Refresh calculations without re-fetching data	Select Refresh **Refresh** button on the toolbar. This will re-evaluate all calculations except Table Lookup, Chart of Accounts, and/or Burst without re-fetching report data from the server.

Filter Your Data

Data Access Studio provides a robust and simple way to get the data you need. When you open a table, each column has a Filter Box directly beneath the column caption:



When you click on the filter box, you will see the Filter Helper button. If the column has a Visual Assist, you will also see the Visual Assist button.

To filter for	Do this
Direct text	Click the Filter Box and type in the number, string, or date you need to find.
Values in the Visual Assist	Click the Visual Assist button. Select from the valid values. Click **Ok**.
A list of values	Click and select **List**. In the list form, type the values you need on each line and click **Ok**.
Values you want to exclude from your query	Click and select **Not in list**. In the list form, type the values you want to exclude on each line and click **Ok**.
Items that begin with specific text	Click and select **Begins with**. In the list form, type the "begins with" text on each line and click **Ok**.
Items that contain specific text	Click and select **Contains**. In the list form, type the "contains" text on each line and click **Ok**.
Items that end with specific text	Click and select **Ends with**. In the list form, type the "ends with" text on each line and click **Ok**.
Items that fall into a range	Click and select **Range**. See Filter a Range topic.

To filter for	Do this
Items that fall into a range relative to today	Click and select **Today**. See Filter a Range Relative to Today's Date topic.
Items that fall into a range relative to now	Click and select **Now**. See Filter a Range Relative to Now topic.
Items that are blank	Click and select **Blank**.
Items that are not blank	Click and select **Not Blank**.
Items that match a **Report Parameter** value	If your report has **Report Parameters**, you can filter using these values. Click , expand **Variables** and select the parameter you want to apply.
Items that match information about the signed-on user	For World and Enterprise One users, Click and select one of the following under the 'Variables' sub-menu.

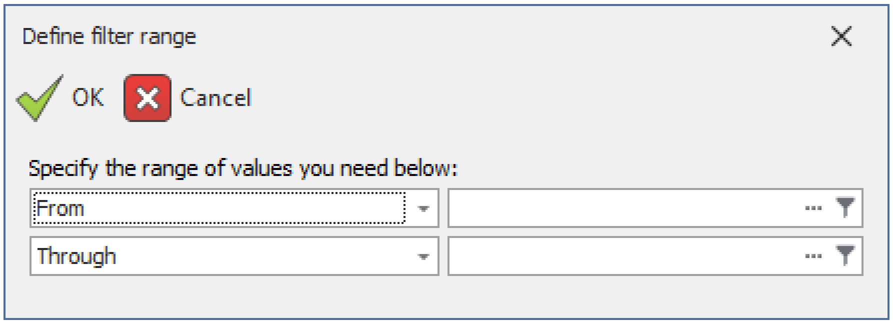
Filter Operators and Special Tokens

Syntax	Meaning
*	ALL
!	NOT
;	OR
:	AND
>=	Greather Than or Equal
<=	Less Than or Equal
>	Greater Than
<	Less Than
<BLANK>	Blank Values
<TODAY>	Today's Date
<NOW>	Today's Date including the Current Time

Syntax	Meaning
<UTCNOW>	Today's Date including Universal Coordinated Time
<DATE MM/dd/yyyy HH:mm:ss>	Specific Date that includes time. While the specification uses MM/dd/yyyy, the display will be according to the user's preferences.

Filter a Range

When you select the **Range** filter option, Data Access Studio will prompt you with the following form:

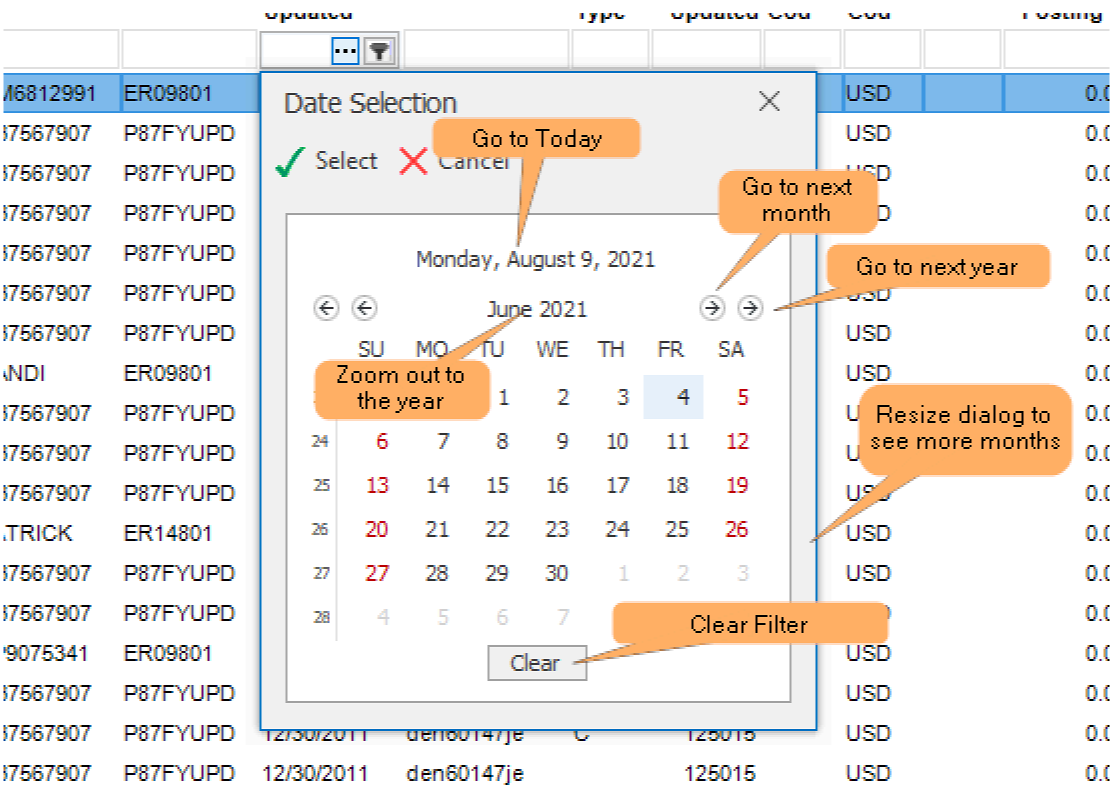


To filter	Do this
From a specific value	Check the box next to **From**. Uncheck the box next to **Through**. Select the **From** option. Type in the value in the edit box. Click **Ok**.
From and excluding a specific value	Check the box next to **From**. Uncheck the box next to **Through**. Select the **From and excluding** option. Type in the value in the edit box. Click **Ok**.
Through a specific value	Check the box next to **Through**. Uncheck the box next to **From**. Select **Through** option. Type in the value in the edit box. Click **Ok**.
Through and excluding a specific value	Check the box next to **Through**. Uncheck the box next to **From**. Select **Through and excluding** option. Type in the value in the edit box. Click **Ok**.
Between two values	Check the box next to **From**. Check the box next to **Through**. Select **From** option. Select **Through** option. Type values in both edit boxes. Click **Ok**.

Filtering using the Calendar

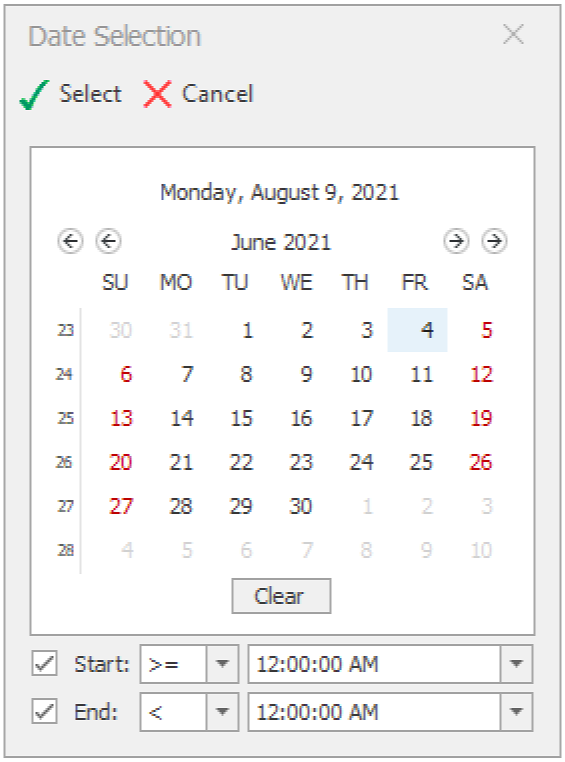
Overview

The calendar filter visual assist allows for easy filtering of date only and date/time data.



Date/Time Filtering

If the column being filtered is displaying time, the calendar visual assist will show a start/end time element as well. To filter a single date/time, uncheck the 'end' time filter and select the '=' or 'Not' filter operator for the desired time.


Date Selection
Select
Cancel
Monday, August 9, 2021
June 2021
SU MO TU WE TH FR SA
Clear
Start:
>=
12:00:00 AM
End:
<
12:00:00 AM

Filter a Range Relative to Today's Date

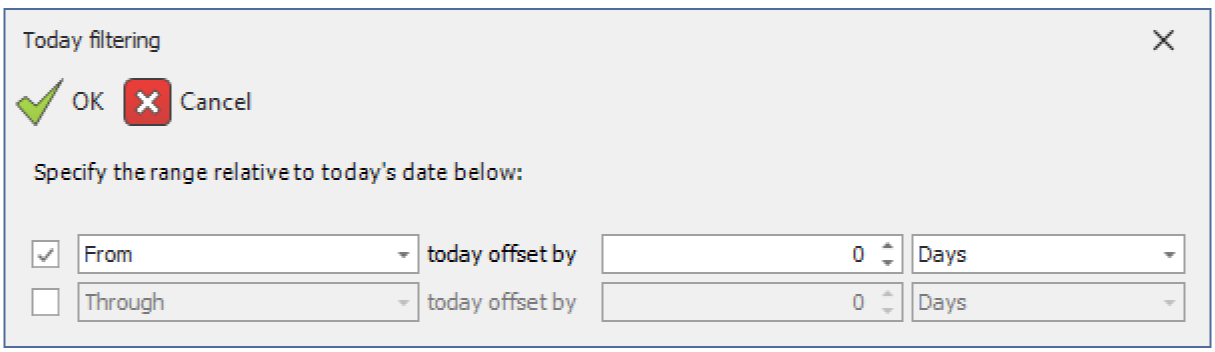
Overview

The Today Range Filter lets you specify date ranges relative to today's date. This is very useful if you want your report to always run on a set time window relative to today's date. For example, you can set up a range that runs between today and three months ago. Every time you run the report, the report will always show only the dates that fall into the window relative to the time the report was run.

TODAY is resolved relative to the time zone of the user running the report. This time zone can also be overridden by the report. This might mean that this filter will show yesterday or tomorrow relative to your local time zone if the report's resolved time zone is different.

> **NOTE**
>
> See NOW/UTCNOW for filtering related to now.

When you select the **Today** filter option on a date column, Data Access Studio will prompt you with the following form:



To filter	Do this
From a specific offset	Check the box next to **From**. Uncheck the box next to **Through**. Select **From** option. Enter a positive or negative offset. Select **Days**, **Months**, or **Years** option. Click **Ok**.
From and excluding a specific offset	Check the box next to **From**. Uncheck the box next to **Through**. Select **From and excluding** option. Enter a positive or negative offset. Select **Days**, **Months**, or **Years** option. Click **Ok**.
Through a specific offset	Check the box next to **Through**. Uncheck the box next to **From**. Select **Through** option. Enter a positive or negative offset. Select **Days**, **Months**, or **Years** option. Click **Ok**.

To filter	Do this
Through and excluding a specific offset	Check the box next to **Through**. Uncheck the box next to **From**. Select **Through and excluding** option. Enter a positive or negative offset. Select **Days**, **Months**, or **Years** option. Click **Ok**.
Between two offsets	Check the box next to **From**. Check the box next to **Through**. Select **From** option. Select **Through** option. Enter a positive or negative offset. Select **Days**, **Months**, or **Years** option. Click **Ok**.

<TODAY> filtering on a JDEUTIME Column

DAS automatically transforms a <TODAY> variable to a range filter for the day.

- **<TODAY>** becomes ‘Greater than today at midnight AND less than tomorrow at midnight’
- **!<TODAY>** becomes ‘Less than today at midnight OR greater than or equal to tomorrow at midnight’
- **><TODAY>** becomes ‘Greater than or equal to tomorrow at midnight’

Filter a Range Relative to Now

Overview

NOW and **UTCNOW** become point-in-time values. NOW and UTCNOW are computed once for the entire report right before the report runs. NOW and UTCNOW refer to the same point in time. NOW and UTCNOW support offsets by day, hour, minute, or second.

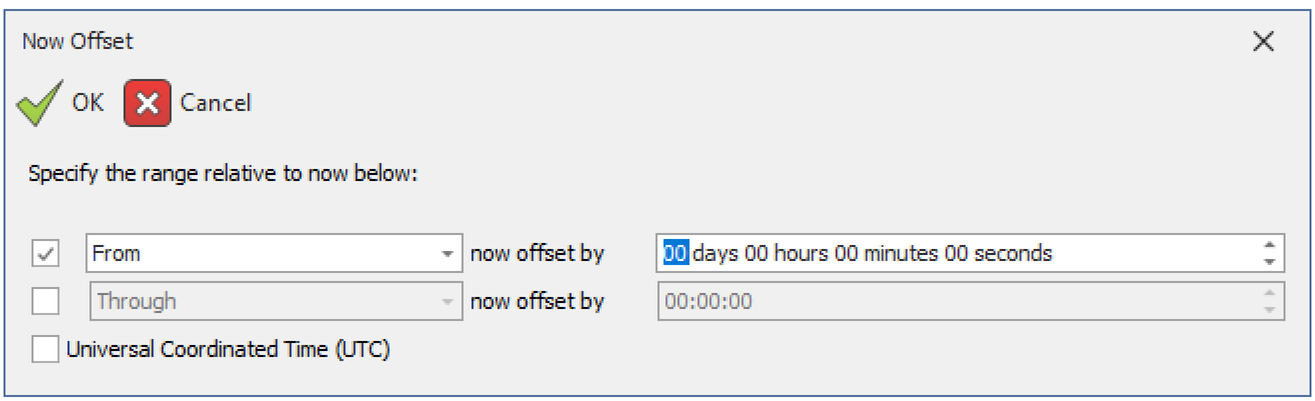
NOW is resolved relative to the time zone of the user running the report. This time zone can also be overridden by the report.

> **NOTE**
>
> See TODAY for filtering related to today.

For example:

- <NOW 4.12:00:00> is current time in the report's local time zone offset by four days, 12 hours.
- <UTCNOW -6:00> is current time in UTC offset by negative six hours.

When you select the **Now** filter option on a date column, Data Access Studio will prompt you with the following form:



Filtering with Time on Date/Time Columns

Since DAS filtering uses the common time separator (**:**) as the **AND** operator, we must include date ranges that include time inside a DATE token.

```
<DATE mm/dd/yyyy hh:mm:ss>
```

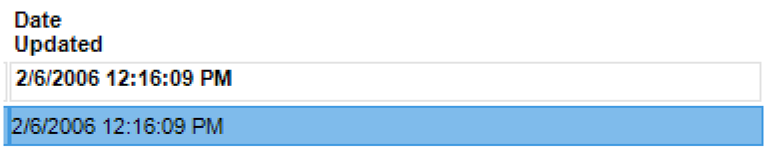
This DATE token takes a Date/Time string in **Culture Invariant** format (that is, U.S.-biased **month/day/year hour:minute:second** format).

Operands such as **>, >=, <, <=** can be used with the DATE token to indicate greater than, greater than or equal to, less than, less than or equal to.

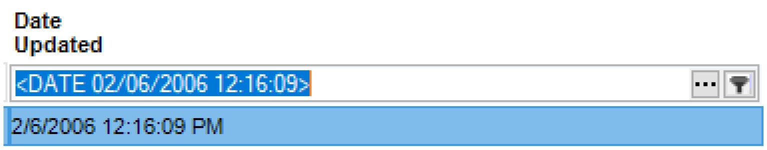
Filtering a Single Date/Time

```
<DATE 02/06/2006 12:16:09>
```

Normal:



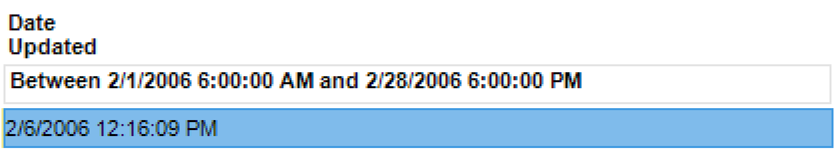
Editing:



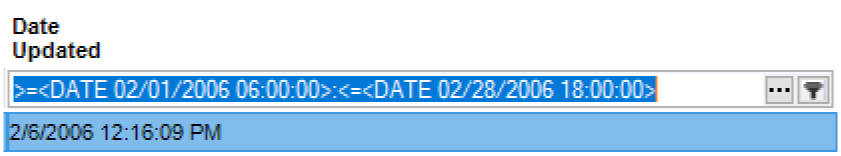
Filtering a Date/Time by Range

```
>=<DATE 02/01/2006 06:00:00>:<=<DATE 02/28/2006 18:00:00>
```

Normal:



Editing:

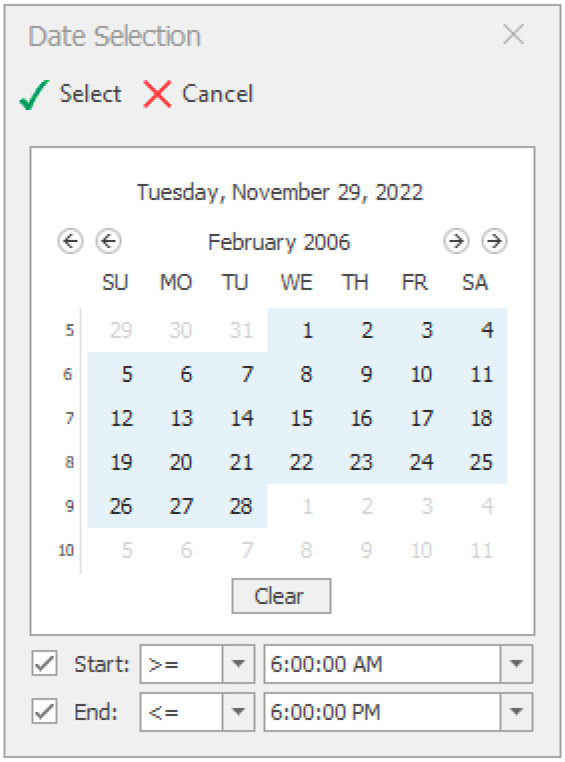


> **NOTE**
>
> The DATE token is only visible while editing. After exiting the field, the format of the filter will match the user's preferences.
>
> Date Ranges can *only* be applied to single columns.

Editing a Date Filter

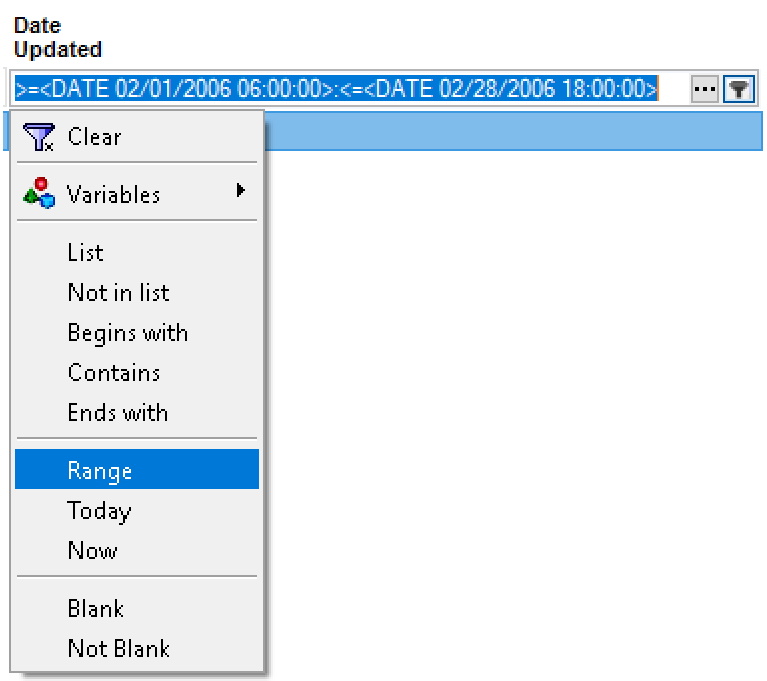
If the ellipsis button is clicked inside a Date/Time field, a date visual assist will be displayed and allow for a date or date range to be selected. You can click a start date and drag the mouse to an end date in order to select a range of dates.

Set the start time and end time for a particular date or date range below the calendar.



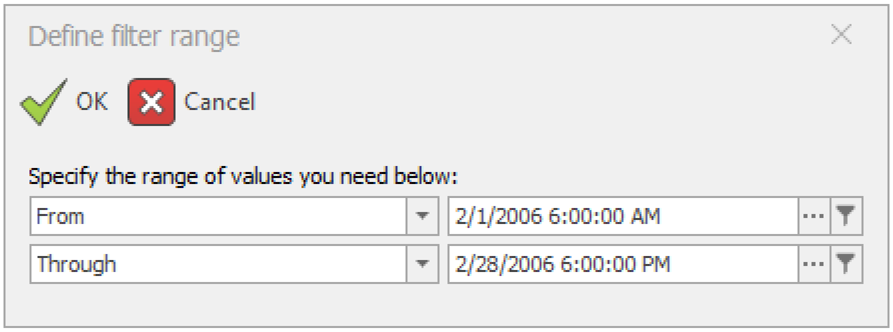
Editing a Date Range Filter

Select the funnel icon in a Date/Time column to display the popup menu.



Select the *Range* option to open the *Define filter range* dialog.

Selecting values from the calendar visual assist and the range visual assist will generate the DATE token syntax automatically after OK is pressed.



Selecting the *From and excluding* or the *Through and excluding* options, excludes the selected date from the range.

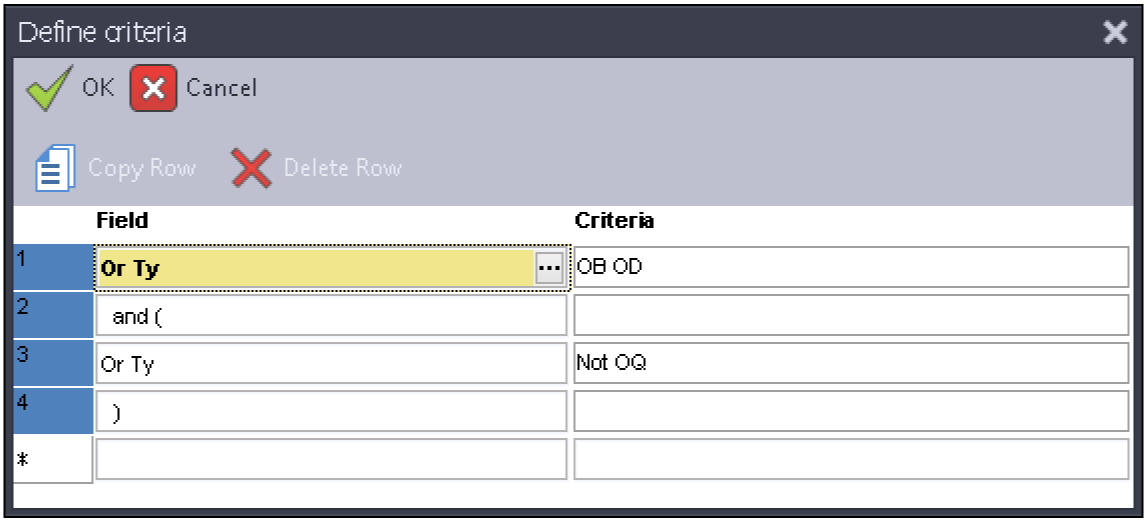
Convert E1 Time to Standard Time Format

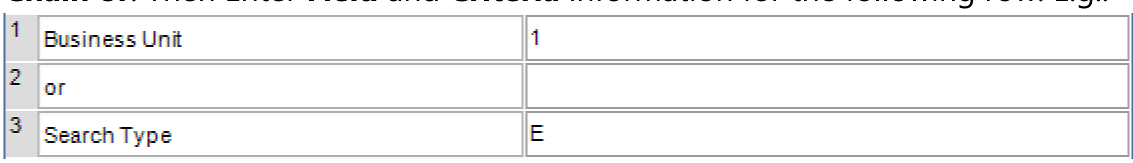
If an E1 time needs to be converted to a standard time format refer to the following article:

Convert E1 Time to Standard Time Format

Additional Criteria Form (Advanced)

On occasion, you will need more advanced filtering than can be specified by the column filters. In these rare cases, you can define filter criteria using the **Additional Criteria** form. On the main menu, click **Design > Additional Criteria...**



To	Do this
Enter OR logic	Enter **Field** and **Criteria** information for one row. On the next row, under **Field**, select **Chain or**. Then Enter **Field** and **Criteria** information for the following row. E.g.: 
Move a criteria row	Click the row header 2 and drag row to new position.
Copy a criteria row	Highlight the row. Click **Copy Row**.
Delete a criteria row	Highlight the row. Click **Delete Row**.
Accept changes	Click **OK**.
Reject changes	Click **Cancel**.

Manage Your Report

Now that you have opened a table or business view, you can edit it to create the report you need.

Data Access Studio provides a wide array of ways to format, rearrange, calculate, and group information into the format you need. As you edit your report, you will be the only one who sees your changes--hence the term **Private Report**. Once you are done with your report, you may elect to publish it to others so they may benefit from your work.

To	Do this
Save your private report	Click **File** > **Save**. If this is the first time you are saving your report, Data Access Studio will prompt you for the report name. Enter the name and click **Ok**. If a report already exists with the name you chose, then DAS will prompt you with a Dialog with options to rename, overwrite, or cancel.
Copy your report	If the report is open, click **File > Save As**. Data Access Studio will prompt you to enter a new name. Once you click Ok, Data Access Studio will copy your report to the new name.
Delete a report	Option 1: Click **File > Delete**, prompting you to confirm deleting your report before clicking Ok to delete. Option 2: Go to **My Workspace**, right-click the report and select **Delete**. To permanently delete, delete the report from the **Recycle bin** as well.
Restore your Report from the last time you saved it	Click **File > Restore**. Data Access Studio will prompt you to restore the report from the last time you saved it. There is no ability to restore reports prior to the last save.
Undo the last change you made	Click **Undo**.
Redo the last thing you undid	Click **Redo**.

Once you are finished editing your **Report**, you can:

- Run it privately
- Publish it to other users

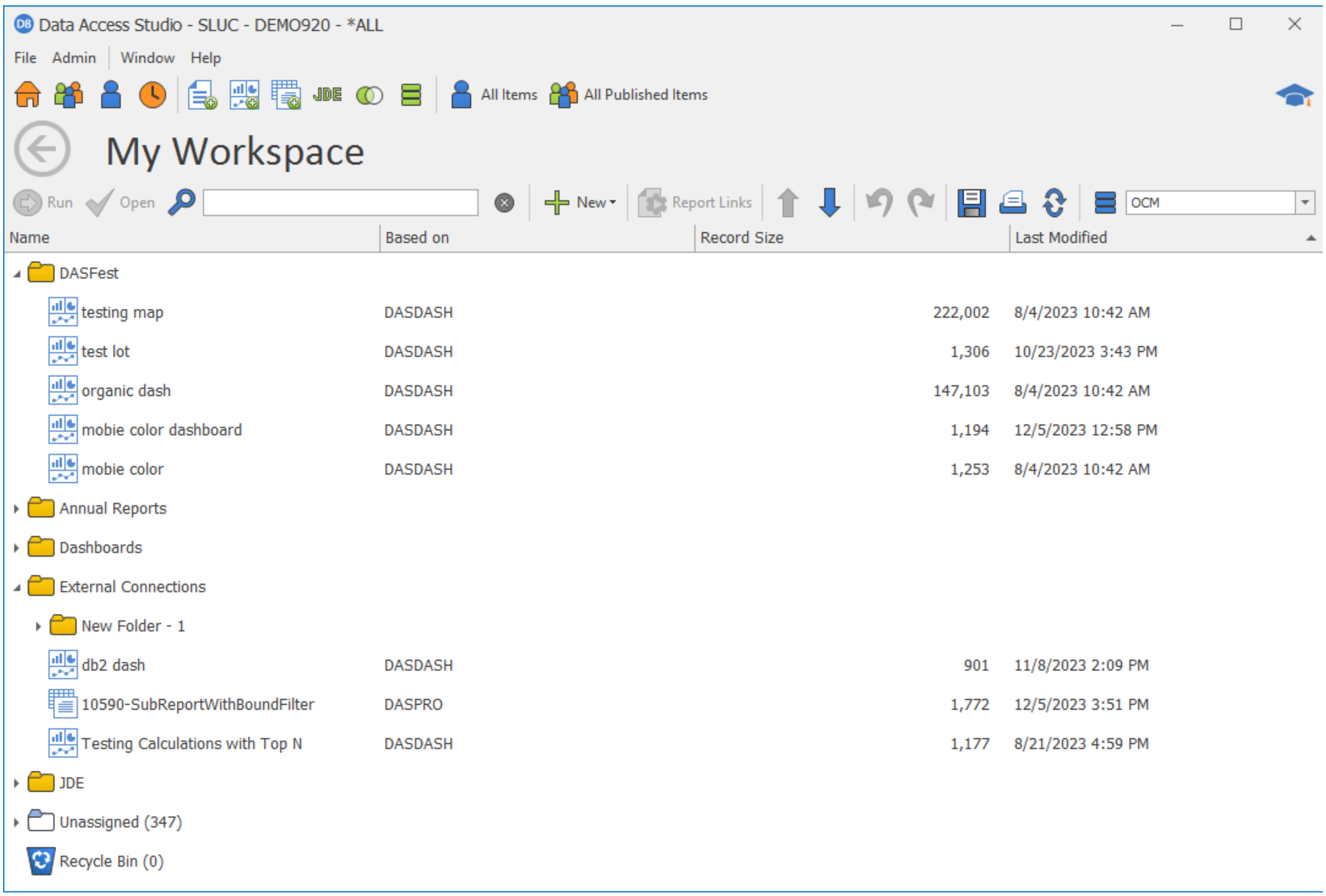
NOTE

If you try a delete a report that is used for a ProReport or Dashboard, there will be a warning notifying the user of what Viewer Object will be broken.

Access Your Reports

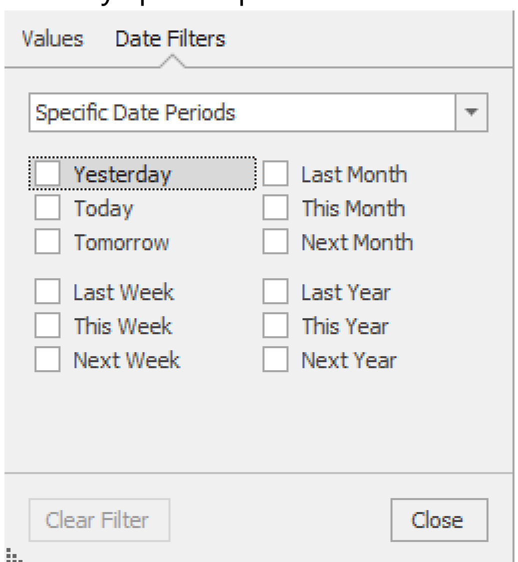
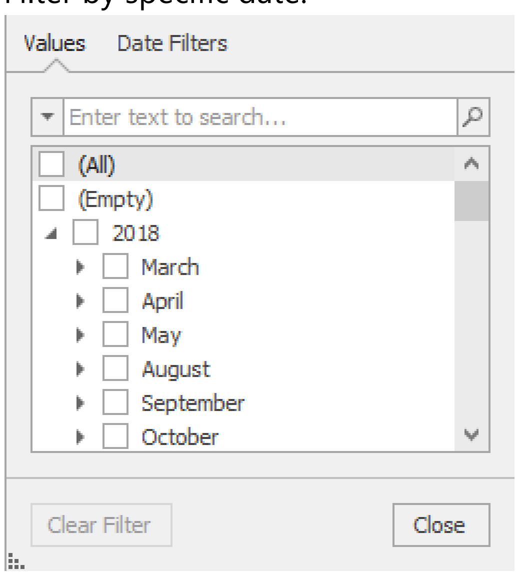
Once you build your collection of Reports, you can access them at any time from the home page by clicking **My Workspace** (or alternatively **File | Open | My Workspace...**).

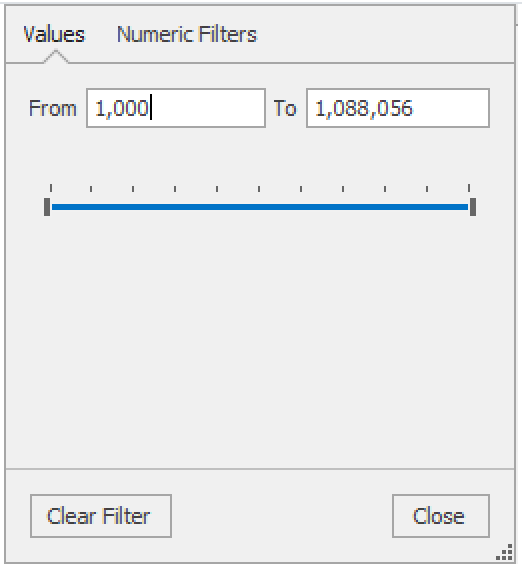
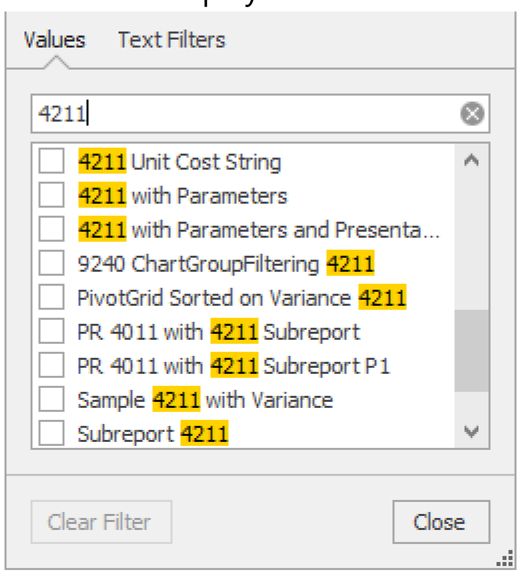
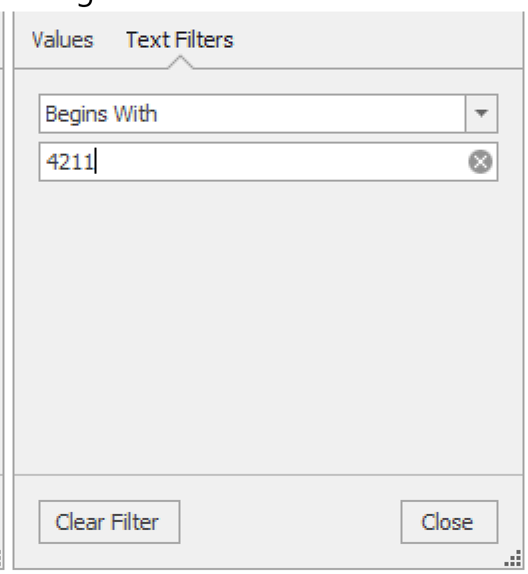
Once clicked, Data Access Studio will show you all of your Reports as follows:

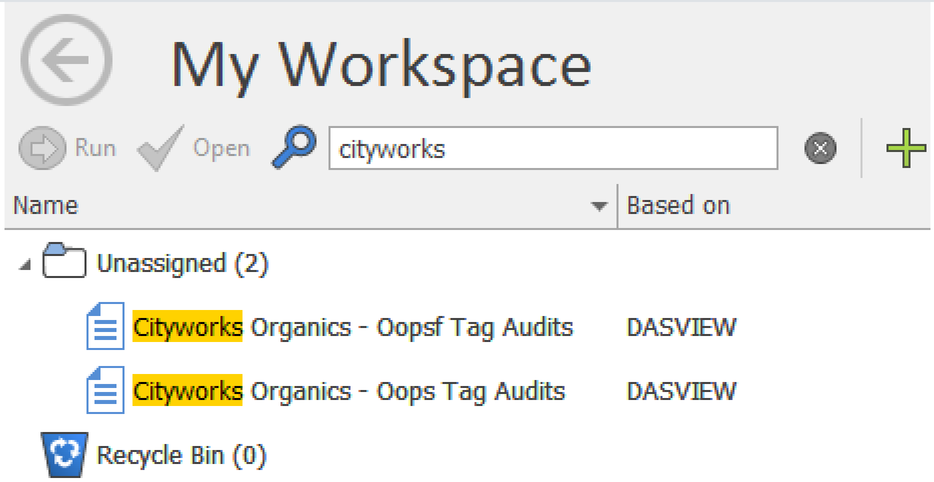
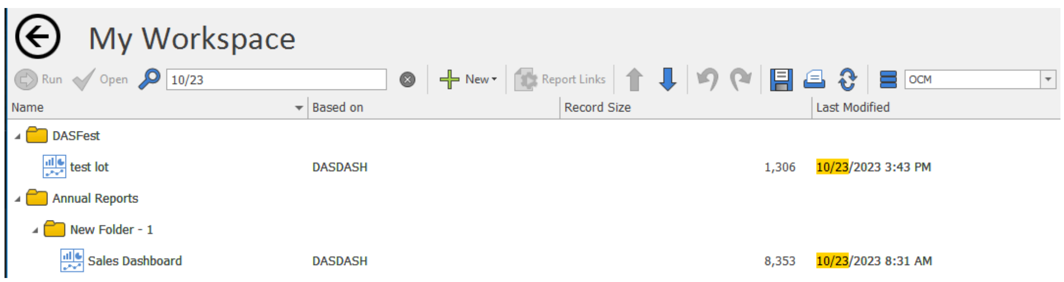
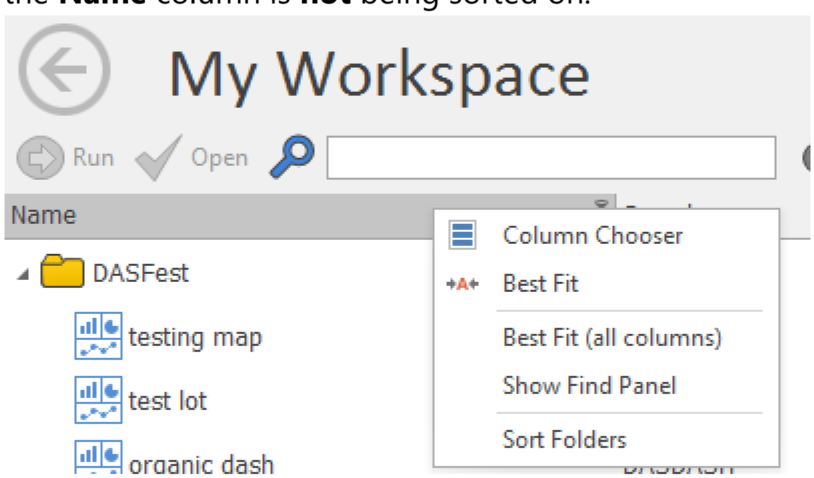


Designers can create personal folders by simply clicking on the **New Folder** button. You can also create folders within folders. The user interface also allows you to undo or redo changes you have made. DAS will migrate your existing folder configuration under **My Workspace**.

To	Do this
Search for a report	Type search terms in the **Search** box. As you type, the tree will filter results matching your search. To clear search results, either delete the contents of the search box or click the **Clear Search Filter** ![](../images/ClearFilter2.png button.
Open a report by name	Click the **Search** box . Type in a report name or wildcard (*). Double-click the row you want to open.
Run a report	Browse the list of results in the grid. Highlight the row you want to open and click **Run**. DAS will open and run the report.
Open a report	Browse the list of results in the grid. Highlight the row you want to open and click **Open**.
Sort by most recently created reports	Right-click **Date**. Select **Sort Descending**.
Change the data source where you want to open the report (EnterpriseOne only)	Click the **Data Source** option box. Select from the list of available data sources. ***Note***: If the administrator revokes this permission, you will not see the Data Source option box.
Open by selecting a report that you recently opened	Click the **Recently Opened** option box. Click any item in the list to open the report on which you previously worked.
Create a new report	Click the **New** button. See Create a New Report.
Close this form	Click **Close**.
Create a new folder	Click **New Folder** .
Rename a folder	Right-click a folder. Click **Rename**. Enter the new folder name.
Undo/Redo Last Change	Click the **Undo** or **Redo** button.
Delete a Report	Refer to Deleting Report Content
Save changes to the tree structure immediately	Click the **Save** button.

To	Do this
Sort Columns	Click a column header to switch the sort state from Ascending, Descending, and None. A triangle icon will appear indicating the direction of sort. **Ctrl + Click** a column header to apply multiple column sorting. Single click of a different column header will undo any previous column sorts and apply the new column sort on the clicked column. 
Last Modified Filter	Click the **funnel icon** on the Last Modified column header to display the ***Filter Search*** dialog. Use the Date Filter section to filter by common date periods. Use the Values Filter section to choose a specific date period. Filter by specific period:  Filter by specific date: 
Record Size Filter	Click the **funnel icon** on the Record Size column header to display the ***Filter Search*** dialog.

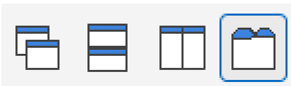
To	Do this
	
Report Name and Based On Filter	Click the **funnel icon** on the Report Name or the Based On column headers to display the ***Filter Search*** dialog. 
Workspace Search Highlighting	Type in the search field to highlight matches in the Report Name, Based on, or Last Modified Date columns.

To	Do this
	
Save the Folder Layout	The folder layout is saved per user when Data Access Studio is closed.
Sort Folders By Name	To sort folders by name make sure the **Name** column is sorted on and open up the context menu by right clicking on the column. Then click on **Sort Folders** to turn it on. Please note that this option will not appear if the **Name** column is **not** being sorted on. 

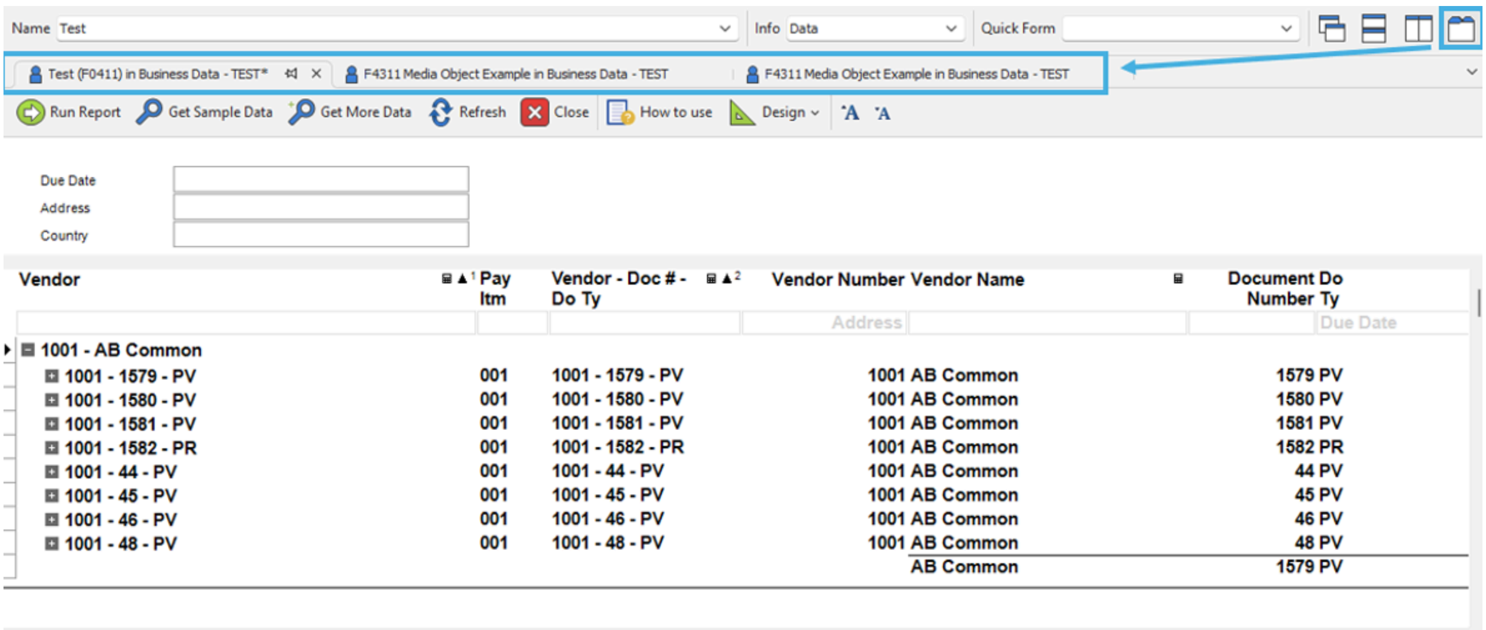
Switch Between Opened Reports

When multiple reports are open at once inside of DAS, there are a couple different ways to switch between reports or change the tab layout to see multiple reports at once.

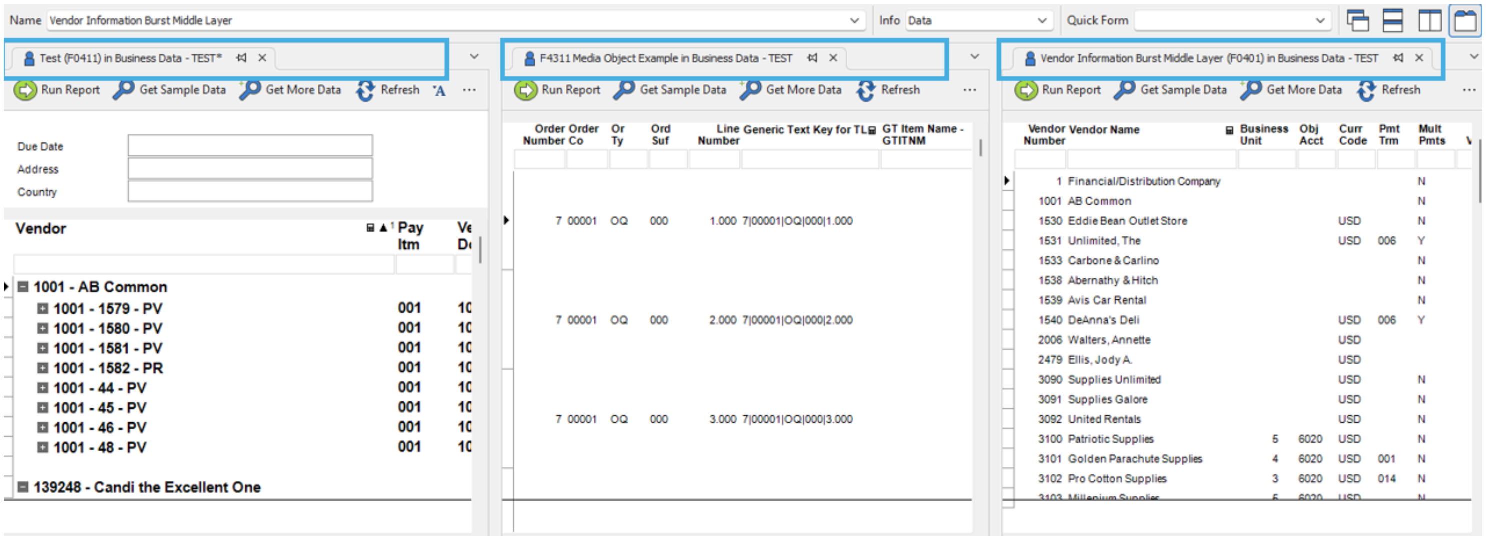
In addition to setting a default workspace mode under **Default Preferences**, the Workspace mode buttons are also available to switch your view of reports.



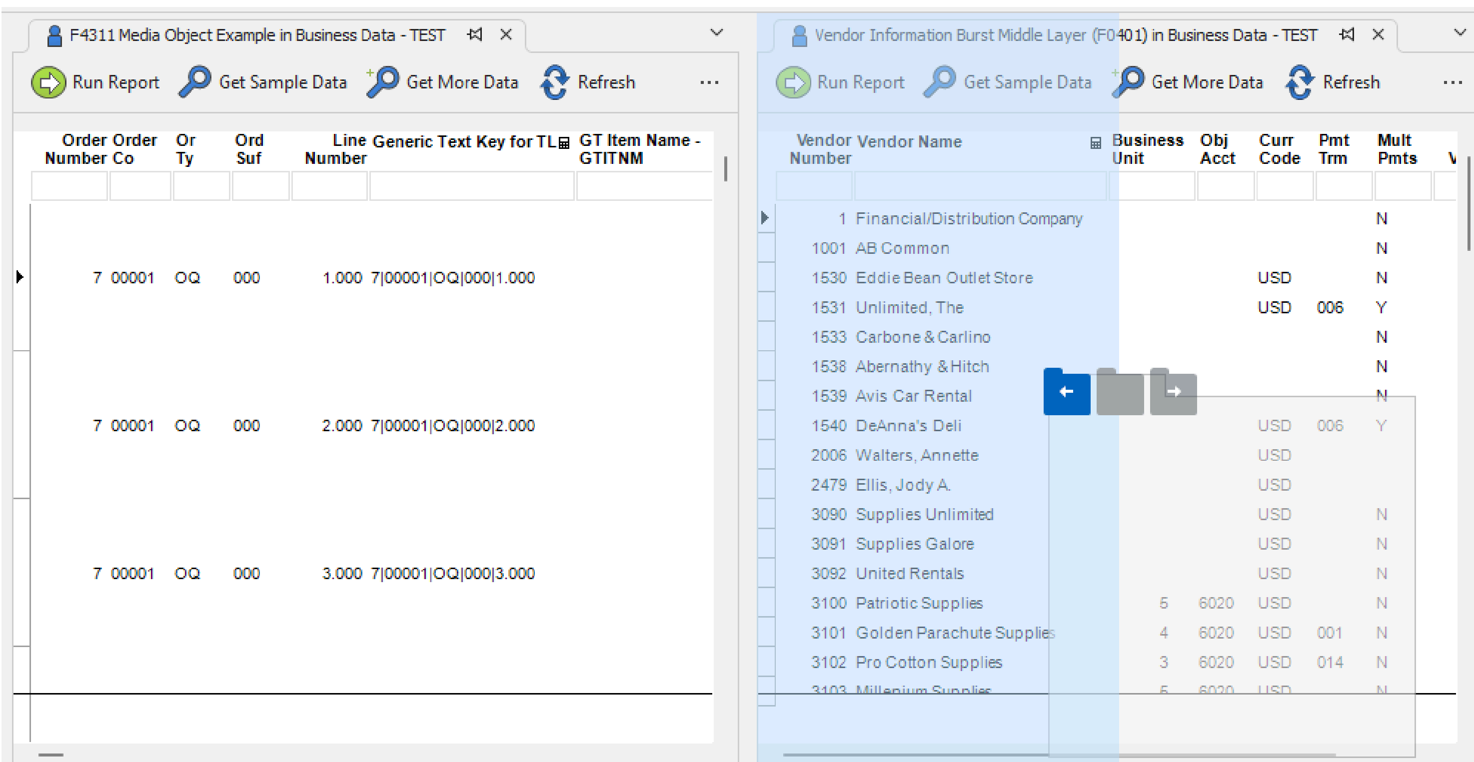
When tabbed workspace mode, tile horizontally, or tile vertically are selected, **Tab Groups** are created in your DAS environment. For example, when tabbed workspace mode is enabled, there is a single tab group that displays multiple reports as tabs to easily switch between.



If a user selects tile horizontally instead, a **Tab Group** is created for each separate report that's currently open. Three tab groups are created in the example below.

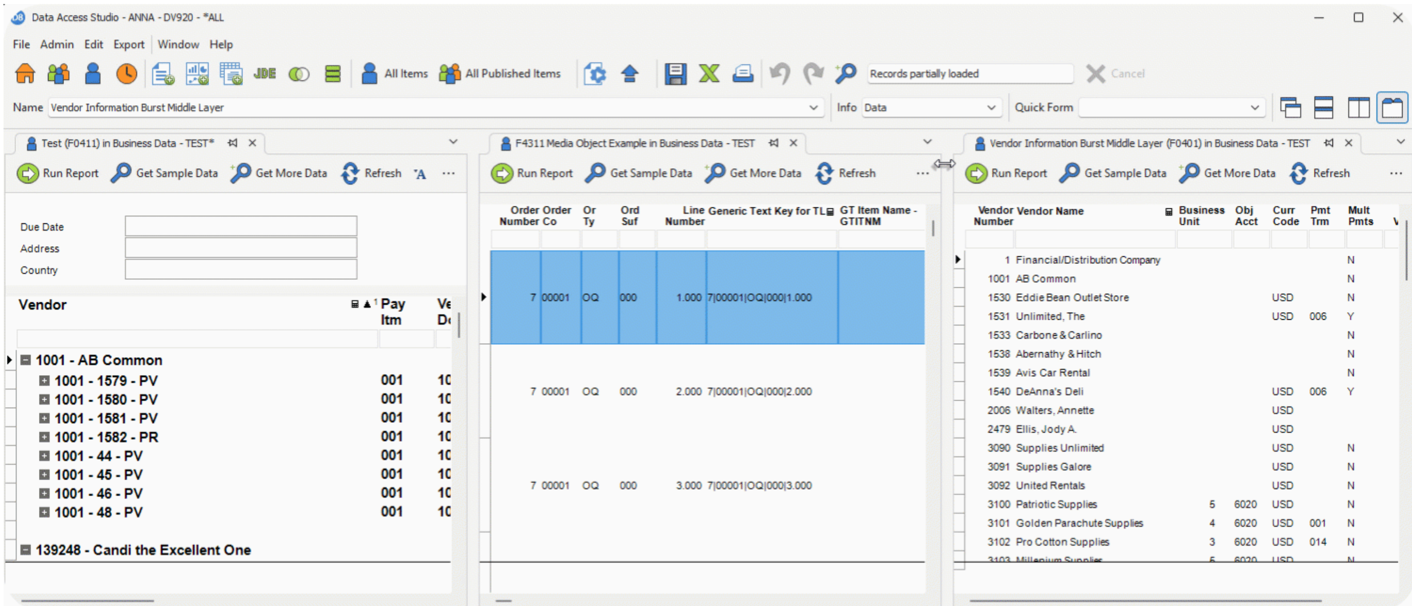


When in tab mode, a user has the ability to drag reports by their tab to rearrange tab group ordering or place a report within an existing tab group.



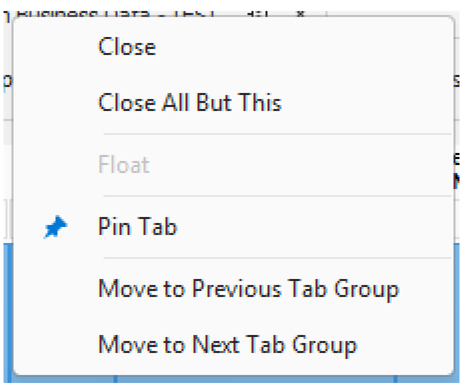
NOTE

Easily navigate between many opened reports or viewers by utilizing the CTRL + tab keys on your keyboard.

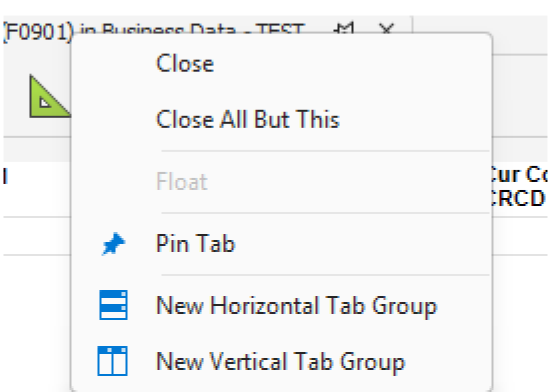


Interact with Tab Groups

By right clicking on a tab in a report that contains multiple tab groups, this context menu will appear:



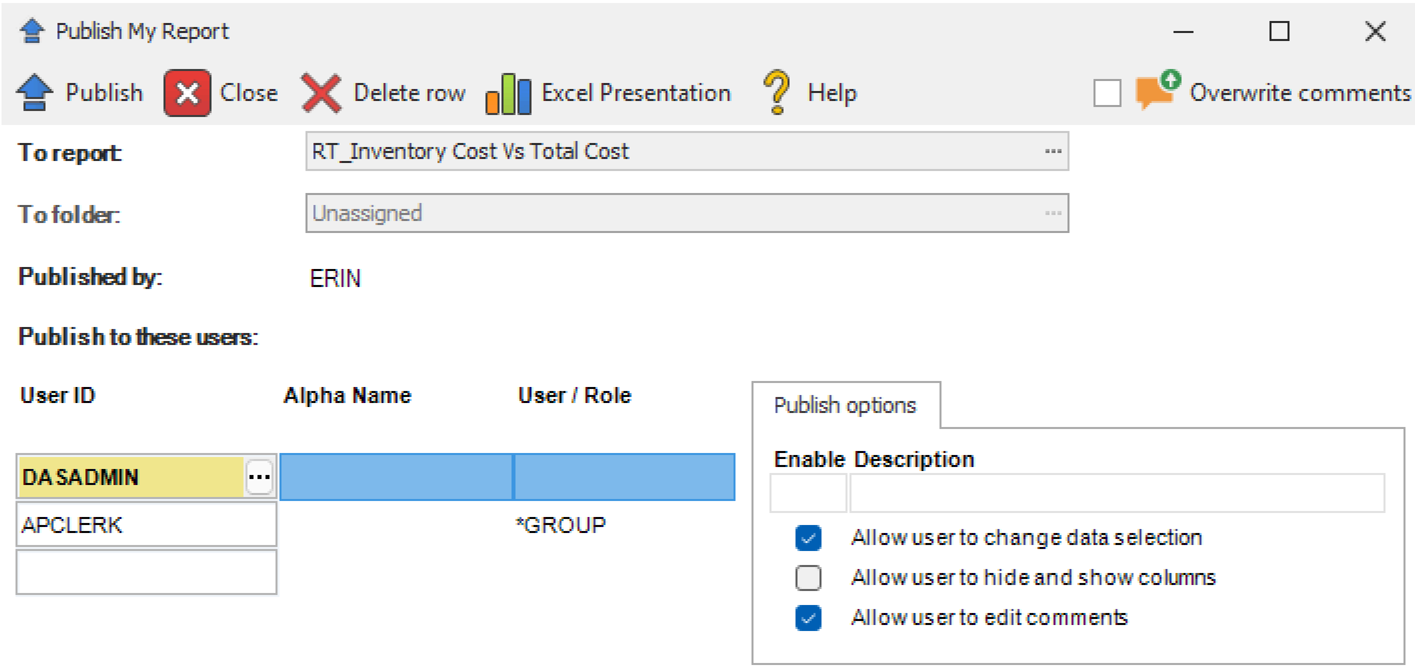
Alternatively, if there is only one tab group on a report, this is the context menu:



To	Do This
Close all reports, but the existing tab	Select **Close All But This**
Keep a report at the front of a series of opened reports	Select **Pin Tab** or the Pin icon
Create a new tab group below the existing one	Select **New Horizontal Tab Group**
Create a new tab group to the right of the existing one	Select **New Vertical Tab Group**
Drag a report to a different or new tab group	Click and drag a tab to see tab drop locations

Publish Your Report to Others

To publish your report, open your private report and click: **File |** **Publish...** Once clicked, you will see the following form:

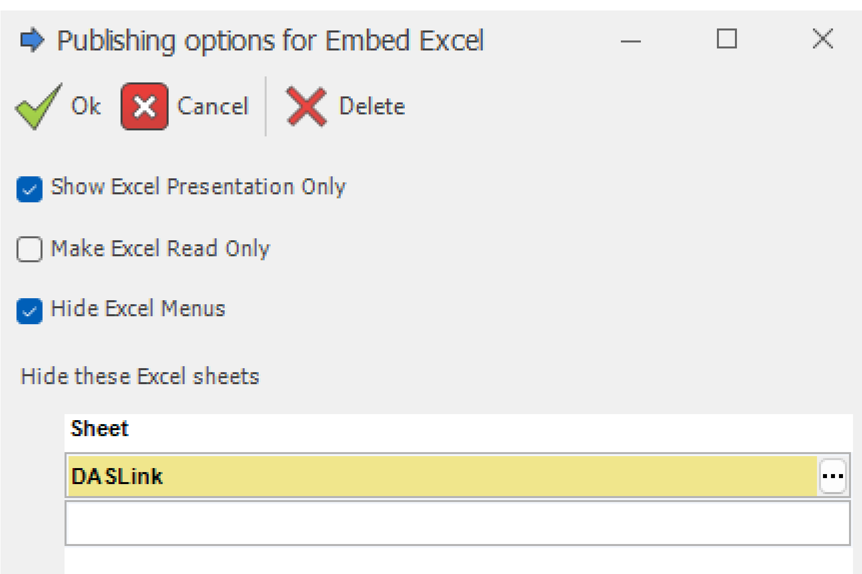


If the report was not previously published, the **Published by** value will be blank. If the report was previously published, **Published by** will show who published the report. By default security, only the person who published the report last can re-publish it. This prevents users from inadvertently overwriting each other's published reports.

To	Do this
Change the name of a published Report	Click the edit box next to **report** and type in a new name.
Select target folder	If you are granted the permission, you may select the public folder where you want your report to reside. Click the ellipses to see the control of available folders. Select the desired folder and click OK.
Select Subscribers for your published Report	Click on the selection box under the **User ID** column. Pick Subscribers by their JDE User ID, Role, or Group. Add as many users, roles or groups as you need. If you select **DASUSERS** then your report will be published to everyone who uses Data Access Studio.
Disallow Subscribers from filtering in the QBE fields for columns	For each subscriber row, uncheck the **Allow user to change data selection** check box. The subscriber will still be able to filter using parameters, just not on columns directly.

To	Do this
Allow Subscriber to hide and show columns	By default, the Subscriber cannot hide and show columns in a published report. Check the **Allow user to hide and show columns** button to let the Subscriber hide and show columns in the published report.
Disallow Subscribers from inputing and editing comments in the published report	For each subscriber row, uncheck the **Allow user to edit comments** check box. If unchecked, the Subscriber will be able to see comments, but not modify them.
Publisher the report with the settings you added	Click **Publish**. Once published, your subscribers will be able to see and run your Report.
Delete a published Report	Refer to Deleting Report Content
Close this form	Click **Close**.
Control your data if you present it in Excel	Click **Excel Presentation**. See the section below.

Excel Presentation Options

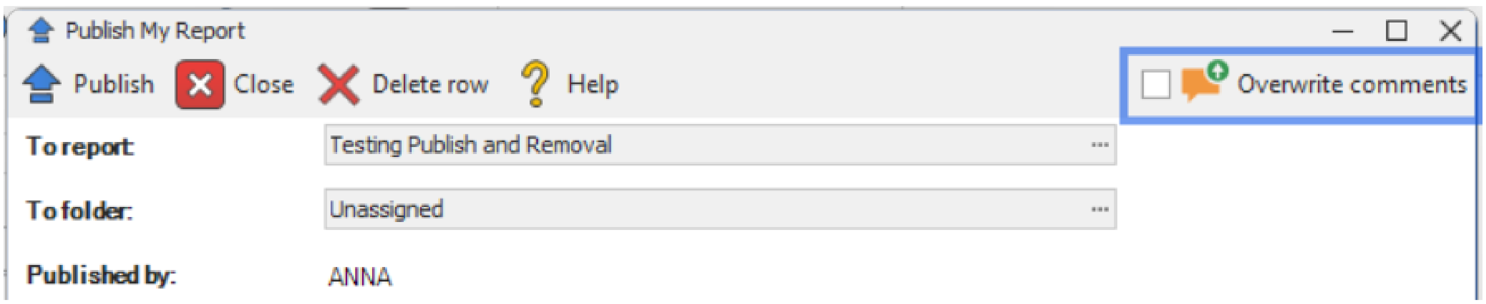


To	Do this
Show the Excel presentation Only (and hide the **Data** behind it)	Check the **Show Excel Presentation Only**.

To	Do this
To make the Excel presentation unmodifiable by the subscriber	Check the **Make Excel Read Only** box.
Hide Excel Menus	Check the **Hide Excel Menus** box.
Hide designated worksheets	Add the names of the worksheets that you do not want to show to the subscriber under the **Sheet**grid.

Overwrite Comments

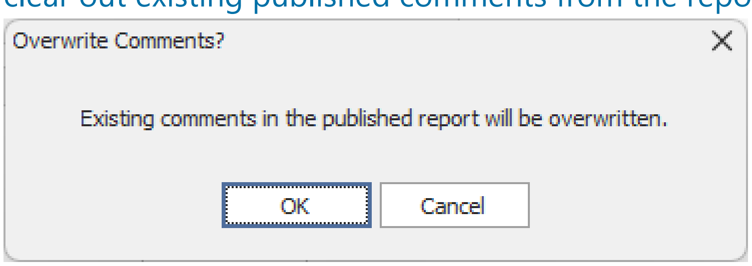
This checkbox will be visible if both the report being published and the existing published report have comments.



To	Do this
Ensure comments in the current version of the published report remain	Keep **Overwrite Comments** unchecked (Default)
Ensure comments in the private report overwrite existing comments in the published report	Check **Overwrite Comments**

NOTE

If **Overwrite Comments** is checked, the user will get a secondary message to confirm they want to clear out existing published comments from the report.



Deleting Report Content

Inside of DAS, there are a couple of different ways to delete content such as Reports, ProReports and Dashboards as well as published content.

Deleting a Private Report, Dashboard, ProReport

From Open Report

Click **File > Delete**, prompting you to confirm deleting your report before clicking Ok to delete.

From My Workspace

Highlight the report(s) you want to delete in the grid. Right Click and select **Delete**. Data Access Studio will move your deleted reports to the **Recycle Bin**. Any report in the Recycle Bin can be recovered simply by moving it to another folder. When you delete your report from the Recycle Bin, you will be prompted to confirm the deletion. Upon confirmation, the report will be permanently deleted.

> **NOTE**
>
> Deleting a report that is used in a ProReport or Dashboard will result in a warning notifying the user of what Viewer (ProReport or Dashboard) will break in the report is deleted.

Deleting a Published Report or ProReport in DAS

There are five different methods of deleting content from the Public Workspace.

Option 1: Inside of the Public Workspace, Folder Admins will have the ability to delete published reports. This places them in the recycle bin. The report can then be deleted permanently from that location. This does not affect the private version of the report.

Option 2: For non-folder admin, as the designer, you can open the private version of the report, select the publish dialog again, and choose "Un-publish" making sure to include all subscribers that have access to the public report. By un-publishing to everyone the report was initially published to, the report is now no longer a public report and can be deleted the same way as a private report.

Option 3: Folder Administrators can remove all subscribers from a report using "Manage Subscribers". Removing all subscribers deletes the published version of that report.

Option 4: DAS Administrators can delete the DAS_PUBLIC version of a report in the 'All Items' dialog.

Option 5: DAS Administrators can remove all subscribers from a report in the 'All Published Items' dialog.

NOTE

Because private reports that are published don't have to remain the same as the published report, once a published report is deleted either by a folder admin or administrator removing the subscribers, it is possible there is no version of that report available.

Recommendation: As an administrator, if you aren't 100% sure about deleting published content, you can save as a private report to ensure access to that report content in the future remains.

Deleting a Published Dashboard or ProReport in Mobie

To delete a dashboard (or ProReport) from mobie, the original publisher of the dashboard needs to go into the designer and select the publish dialog again. In this dialog, they will see a button to "Un-Publish". As long as all mobie users who originally received the dashboard are listed before selecting Un-Publish, the dashboard will no longer be accessible in mobie.

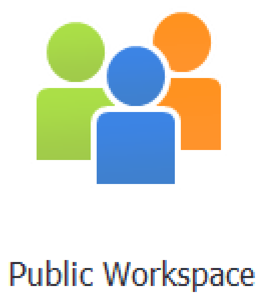
Once the dashboard is removed from the mobie web portal, deleting a private dashboard follows the same process as deleting a standard private report.

Alternatively, mobie admins are able to remove mobie objects from the admin screen for mobie inside of Data Access Studio.

Public Workspace

Public Folders are available to everyone using Data Access Studio. Public folders organize all published reports into a hierarchy of folders. Each user will only see the portions of the Public Tree based on the reports that are published to him/her. Any report that is not assigned to a specific folder, by default, will be placed in a special folder called the **Unassigned Folder**.

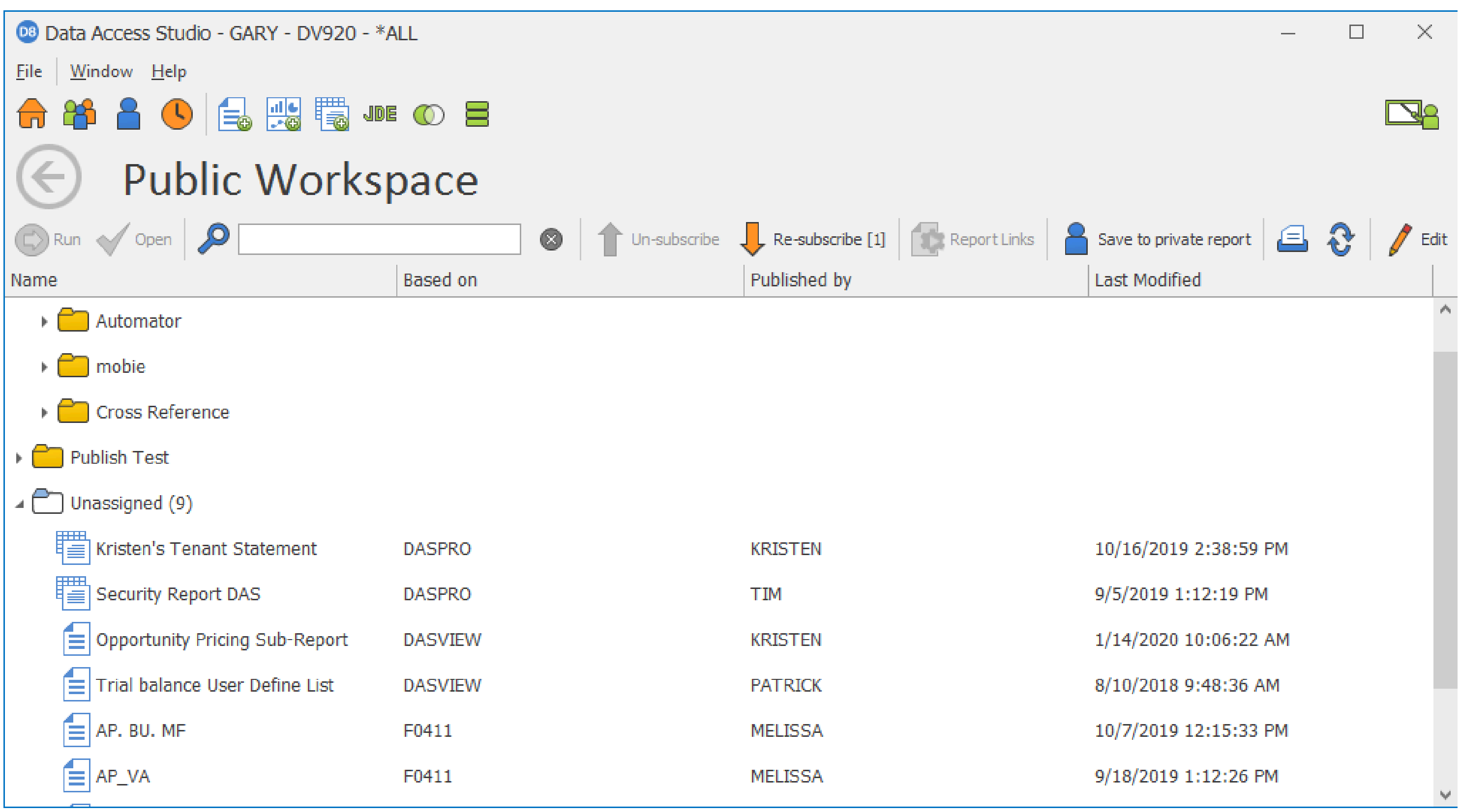
To access public folders, from the home page, click the **Public Workspace** button(alternatively click **File | Open | Public Workspace**).



There are two types of Public Folder users: Normal and Folder Admin.

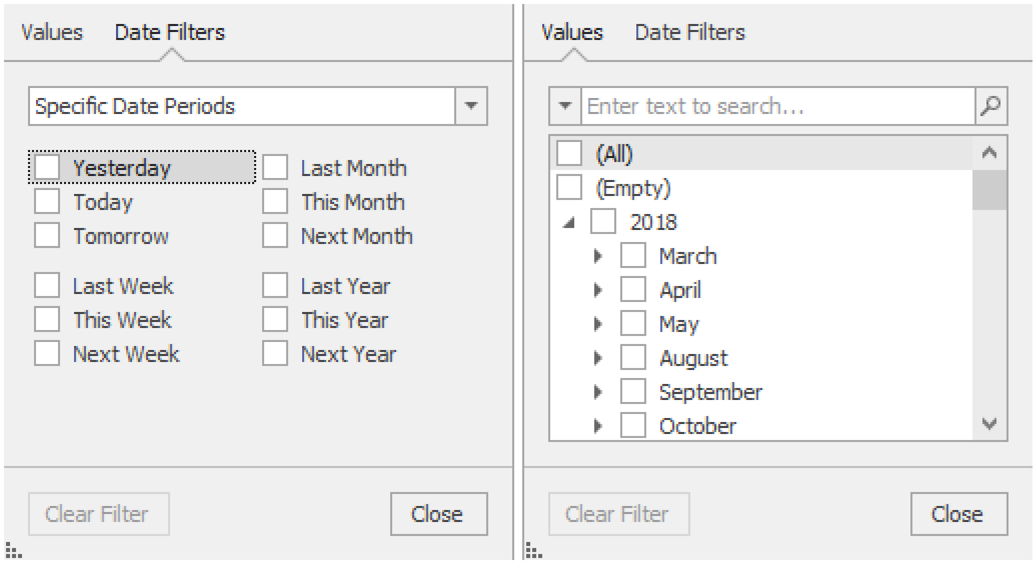
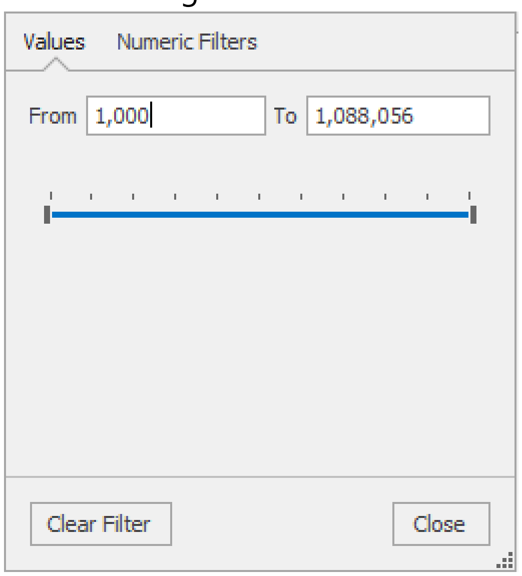
Normal User

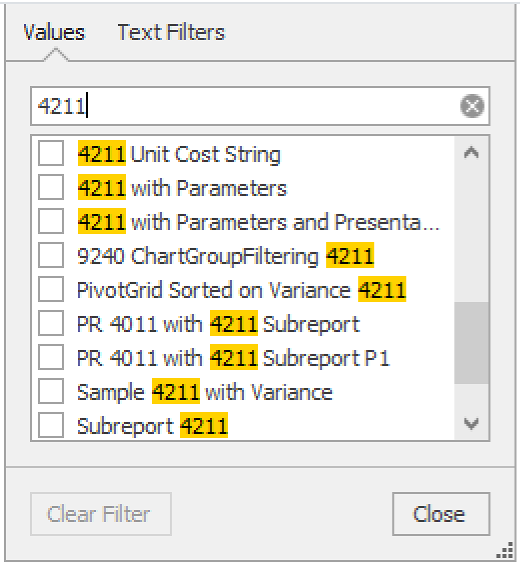
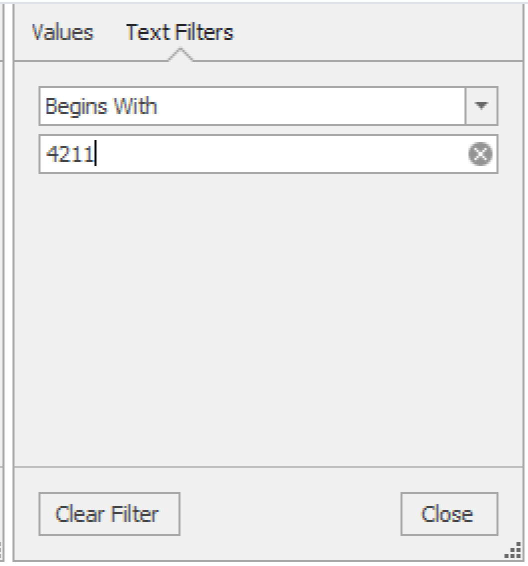
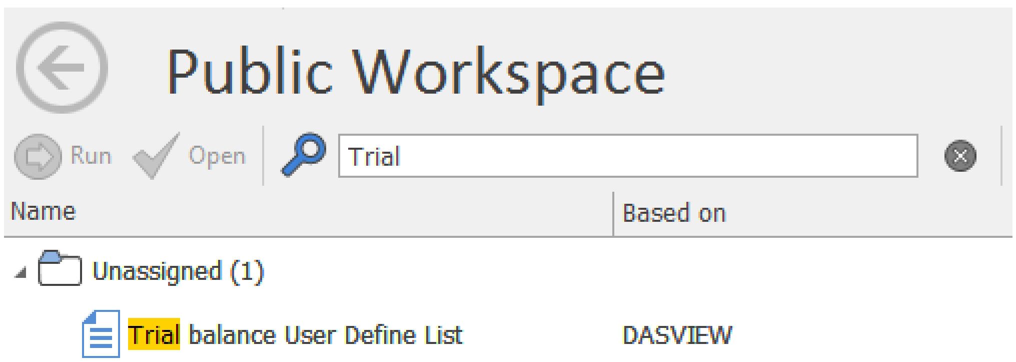
Most users will fall into Normal User category and will see a screen which resembles the following (your folders, of course, will be different than the ones shown below):

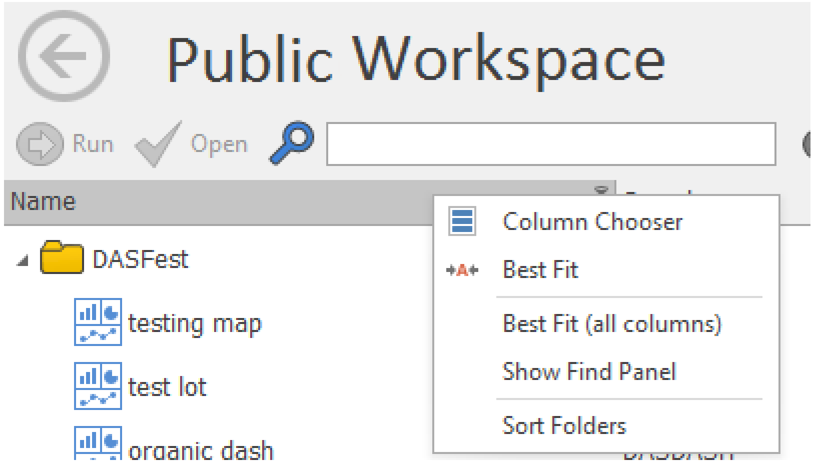


The Normal user is the user who uses the tree to find and run reports. The Normal user will not have an **Edit** button on the toolbar (and hence no **Folder Admin** section of the toolbar as shown above).

To	Do this
Search for a report	Type search terms in the search box . As you type the tree will filter results matching your search. To clear search results either delete the contents of the search box or click the **Clear Search** Filter button.
Run a report	Browse the list of results in the grid. Highlight the row you want to open and click **Run**. DAS will open and run the report.
Open a report	Browse the list of results in the grid. Highlight the row you want to open and click **Open**.
Sort by most recently created reports	Click **Last Modified**. Each click will toggle between descending, ascending, and no sort.
Exit this form	Click the **Back** button .
Create a new folder	Click **New Folder**.
Un-subscribe from a report	If you would like to remove a report from your view, click the **Un-subscribe** button.
Re-subscribe to an un-subscribed report	If you would like to re-subscribe to a report that you previously un-subscribed, click the **Re-subscribe** button. DAS will show you a list of reports to which you un-subscribed. Simply click any number of reports that you want back and click **Ok**.
Edit a public report	To "edit" a public report, click **Save to private report**. DAS will copy the public report into your private reports and open it so that you can change your private copy. **Note:** editing your private copy will not alter the public report unless you republish the report.
Refresh tree	To reload the tree from the database click the **Refresh** button .
Create shortcuts to run reports	Select a report. Click [Report Links] and select the type of hyperlink you would like to export.
Last Modified Filter	Click the **funnel icon** on the Last Modified column header to display the ***Filter Search*** dialog. Use the Date Filter section to filter by common date

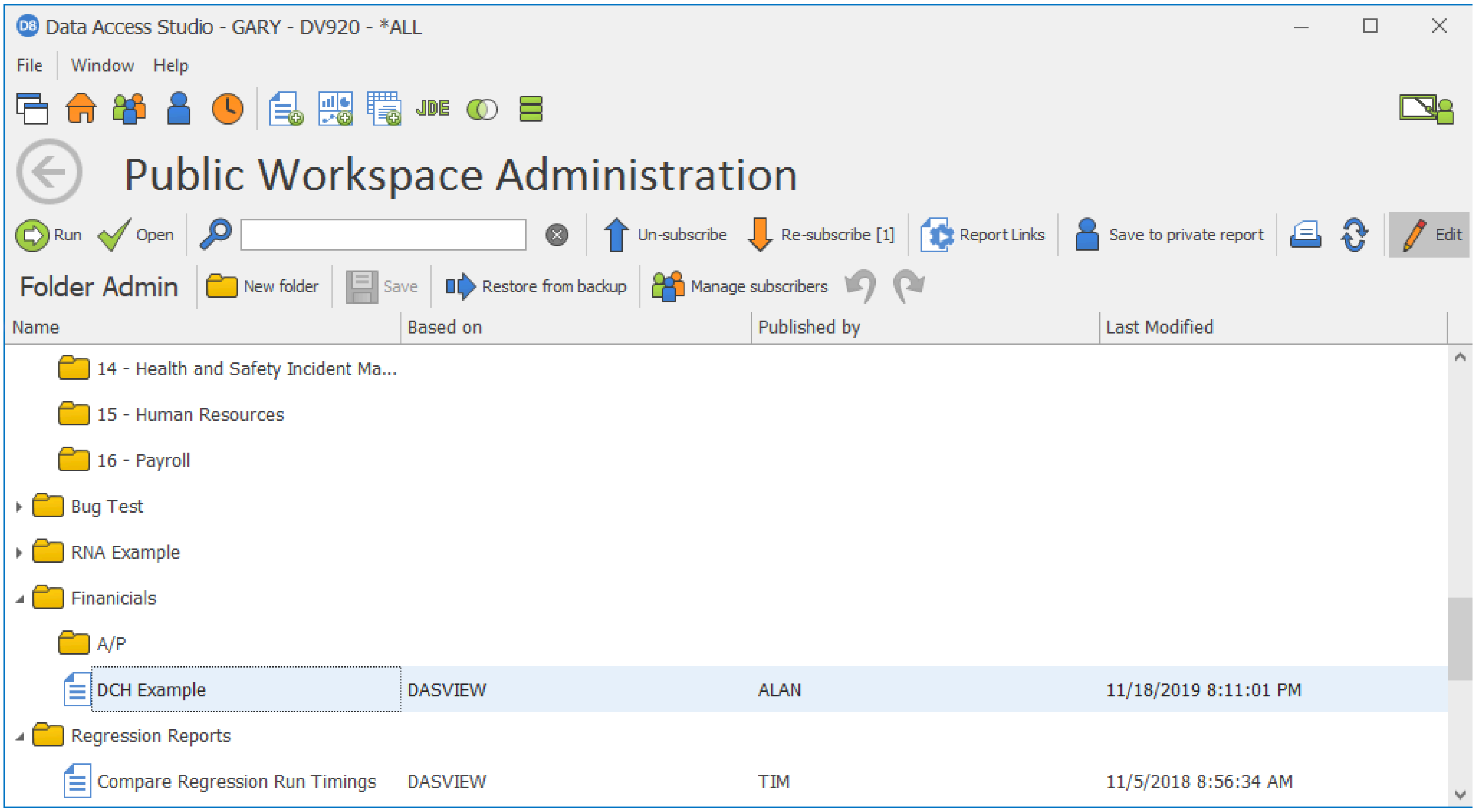
To	Do this
	periods. Use the Values Filter section to choose a specific date period. 
Record Size Filter	Click the **funnel icon** on the Record Size column header to display the ***Filter Search*** dialog. 
Report Name and Based On Filter	Click the **funnel icon** on the Report Name or the Based On column headers to display the ***Filter Search*** dialog.

To	Do this
	 
Workspace Search Highlighting	Type in the search field to highlight matches in the Report Name, Based on, or Last Modified Date columns. 
Save the Folder Layout	The folder layout is saved per user when Data Access Studio is closed.
Sort Folders By Name	To sort folders by name make sure the **Name** column is sorted on and open up the context menu by right clicking on the column. Then click on **Sort Folders** to turn it on. Please note that this option will not appear if the **Name** column is

To	Do this
	not being sorted on. 

Folder Admins

Folder Admins are the only users that can modify the public tree. A DAS Administrator can designate one or more users to be Folder Admins (see the DAS Administrator's guide for instructions). Only one folder admin may modify the public tree at one time. Take care editing the tree as all users of DAS will be affected by these changes.



To	Do this
Put public folders into Edit mode	Click the **Edit** button. You will only see the **Edit** button if you are a Folder Admin. DAS will make sure no other Folder Admin is currently editing the public folders. If someone else is, then DAS will show you who is currently editing the public folders. Once DAS grants you the right to edit the public folders, you will see the **Folder Admin** toolbar.
Put public folders into non-edit mode	When you are editing the public folders and see the **Folder Admin** toolbar, either click the **Edit** button again or click the **Back** button. If necessary, DAS will ask you to save any unsaved changes.
Save your changes	Click the **Save** button. DAS will save any changes you made to the public tree.

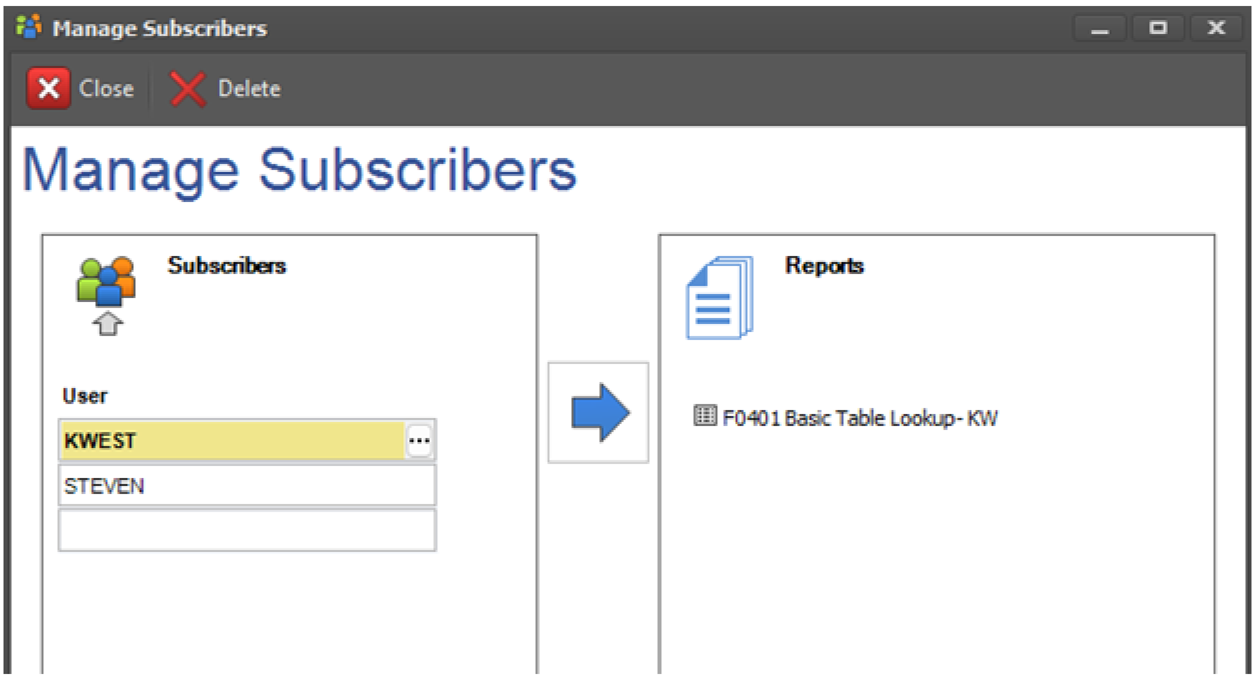
To	Do this
Create a new folder	Click the **New folder**button. Once created you can drag and drop the folder to any location you desire.
Rename a folder	Right-click a folder and select **Rename**. Enter the new name for the folder. **Note:** within a parent folder, folder names must be unique.
Delete a report or folder	Highlight the reports and folders you want to delete in the grid. Right-click and select **Delete**. Data Access Studio will move your deleted reports to the **Recycle Bin**. Any report in the **Recycle Bin** can be recovered simply by moving it to another folder. When you delete your report from the **Recycle Bin**, you will be prompted to confirm the delete. Upon confirmation, the report will be permanently deleted.
Exit this form	Click the **Back** button.
Create a new folder	Click **New Folder**.
Undo/Redo last change	Click the **Undo** or **Redo** button.
Restore from backup	Given that changes to the public tree affect all users, DAS automatically backs up versions of the public tree. To restore to a previously saved backup, click **Restore from backup**.
Manage who is subscribed to reports	See Manage Report Subscribers.
Place reports on E1 menus or web pages	Select a report. Click Report Links and select the type of hyperlink you would like to export.

Manage Report Subscribers

If you are a DAS Administrator or Folder Administrator, you can add or remove subscribers of one or multiple published reports. If you are a DAS Administrator, you can access this from the All Published Items screen. If you are a Folder Administrator, you can access this from the Folder Administration screen.

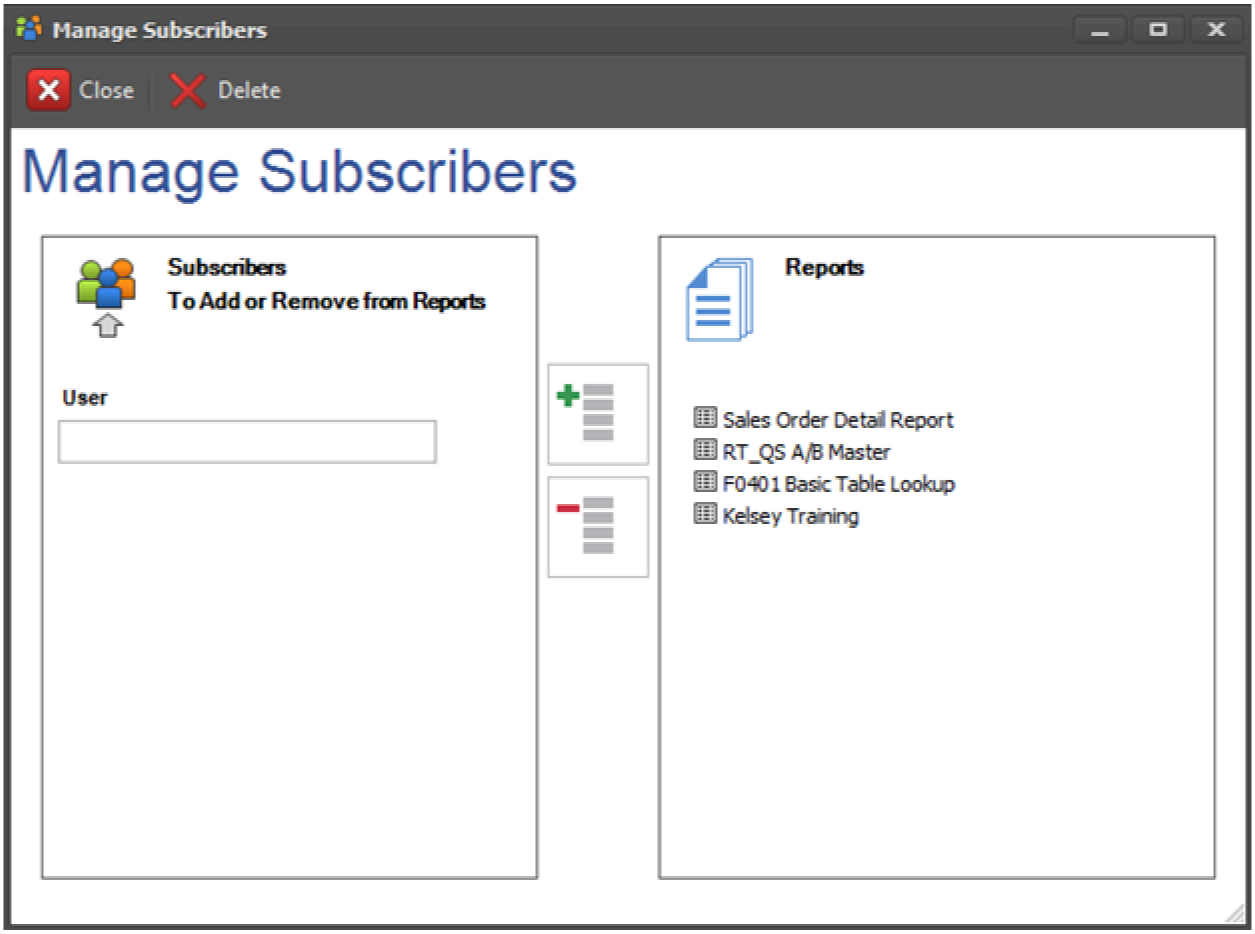
Manage Subscribers for a Report

If you are only highlighted on one report, your navigation will appear like the below screenshot. This will allow you to manage exactly the set of users you want subscribed to that report by either adding or deleting subscribers. To do that, use the visual assist or highlight and delete users. From there, selecting "Assign" (the blue arrow) will ensure that report only is published to those subscribers.



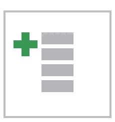
Manage Subscribers for Multiple Reports

If multiple reports are selected the form will appear like below and the subscriber list on the left will be blank. This form will allow you to add or remove subscribers from any selected reports by choosing the visual assist under User and searching for your users.



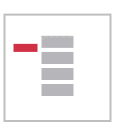
Add Subscribers

If you are highlighting multiple reports, clicking the top button in the middle with the plus sign will add users to each report if not already subscribed. Existing users' subscriptions will remain untouched.

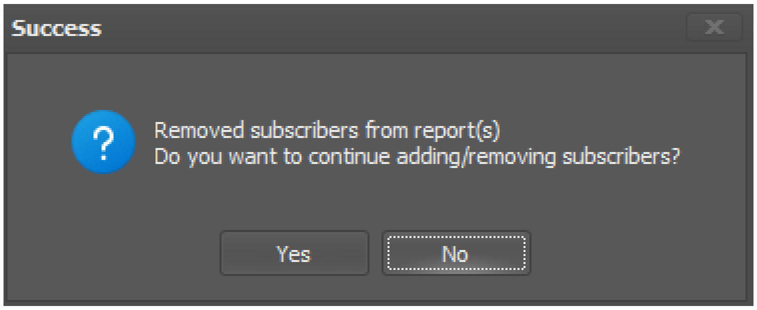


Remove Subscribers

Clicking the bottom button in the middle with the minus sign will remove the subscribers from each of the listed reports.



With any action performed in this Manage Subscribers window, you will receive a dialog indicating or confirming your action. For example, you can see the dialog below indicates that you are attempting to remove a subscriber from your reports.



WARNING

If a report loses all of its subscribers, the published report itself is deleted. The developer owning the private report will have to re-publish the report to recover. You will be prompted to confirm before each report deletion.

Report Link Tool

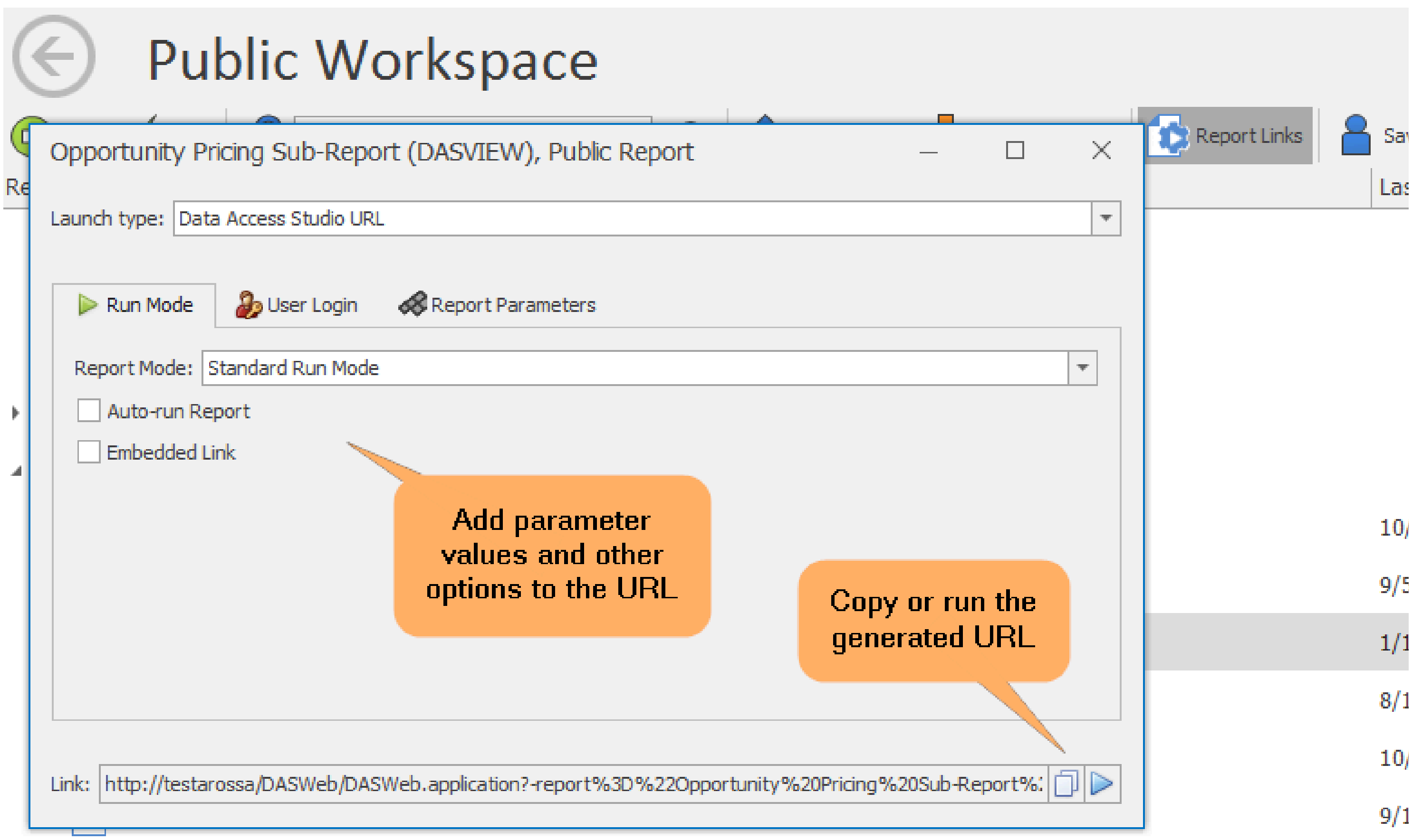
The **Report Link** tool generates URL or command-line text to launch and run a standard report, Dashboard or ProReport. Links can be created for both published and private reports, but private links are only usable by the user who creates them.

You can also use this tool to create links for integrations such as E1 menus and E1 pages and also to embed dashboards in JDE via Café One.

The Launch type will usually be 'Data Access Studio URL' when running against a DAS web server.

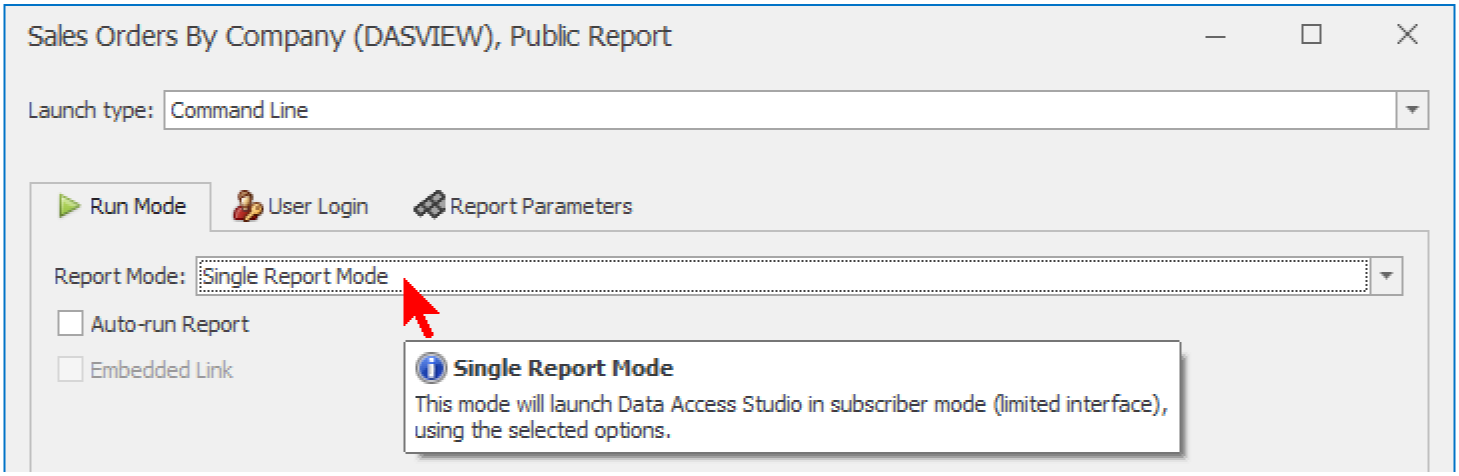
If running on the server, there will also be an option to create a command line text string. This advanced option would be used if an administrator wants to integrate with a third party scheduler for example.

> **NOTE**
> You will need to be on the DAS web server in order to see the command line text string option.

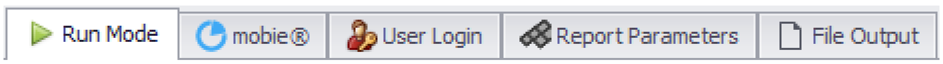


Hover Helps

Most options in the Report Links tool have hover text to help explain each selection.



Option tabs



Run Mode

This tab defines how the report will run once Data Access Studio or the browser is launched.

Name	Description
Report Mode	This option defines how the chosen report will run. Options are: • Single Instance Mode (-si) : Starts DAS and opens the specified report. However, the second or later times DAS is started with the -si, it will use this already opened instance of DAS to run. Useful when launching many reports from a menu. • Standard Run Mode : Starts DAS and opens the specified report as if running DAS normally. • Single Report Mode (-srm) : Open DAS for a single report. Available only for Published Reports. Shows only the one report. All other options are hidden. • File (-file) : Runs DAS non-interactively and produces output defined by the -file parameter. Additional information is available via hover help when a mode has been chosen.
Auto-run Report	If this option is available, checking it will ensure that the report is run without any user prompting.
Embedded Link	Choose this option to create a url that can be embedded within a web page, such as E1 pages or Café One integration.

mobie®

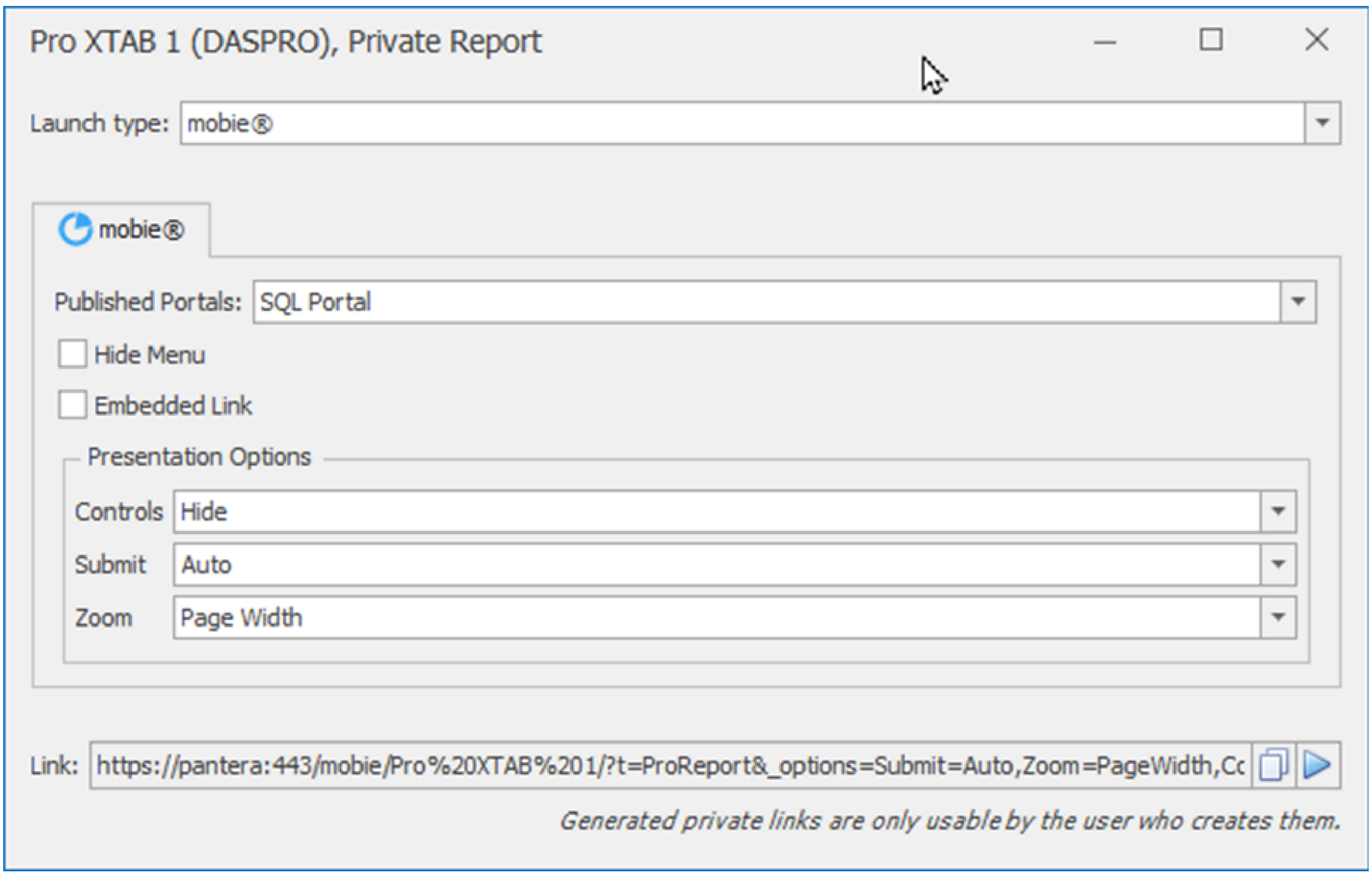
For Dashboards and ProReports, this tab will be available if the report has been published to mobie. This will allow you to create a url to this report.

Name	Description
Hide Menu	Choose this option to create a url that hides any menu buttons, creating a simple and clean look for a Dashboard or ProReport.
Embedded Link	Choose this option to create a url that can be embedded within a web page, such as E1 pages or Café One integration.

IMPORTANT

mobie® is the only option for Dashboard and Url generation.

Creating links specifically for mobie® ProReports



These options are used to affect details about presentation and behavior of your web-based ProReport. You can usually use just the special option Controls=Embed for most CAFÉ One integrations, but we also provide these specific options.

Controls

- **Show**: (Default) - This will present the normal ProReports controls for pagination, search, and setting parameters
- **Hide**: Hide the ProReport controls for pagination, search, and setting parameters. Clicking on the report will show the hidden controls.
- **None**: Present no controls for pagination, search, and setting parameters. This will still show initial parameter dialog if parameters are insufficient to run report.
- **Embed**: This is special mode suitable for embedding a single, control-less, page-width report with no menus. Choosing this one option is the equivalent of choosing all of the following options: Controls=None, Submit=Auto, Zoom=PageWidth, and HideMenu=true.

Submit

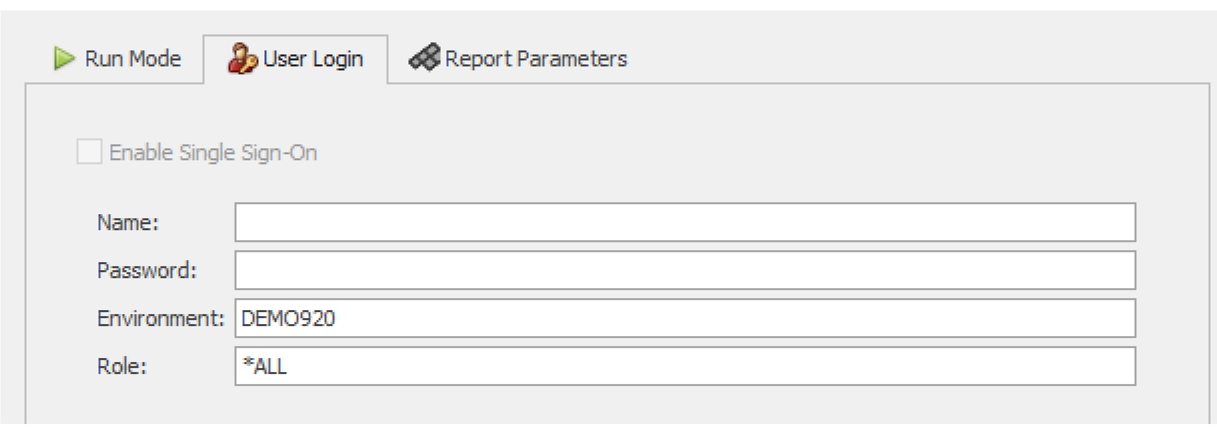
- **Manual**: The user must manually press the parameter submit button.
- **Auto**: Automatically submit whenever all URL parameters combined with any defaults parameters satisfies all required parameters.
- **Explicit**: (Default) Automatically submit ONLY if every required parameter is provided as a URL parameter.

Zoom

- **Page Width**: Zoom to the extents of the width of the report.
- **Whole Page**: (Default) Fit the whole report on page if possible.

User Login

Optionally add user credentials or enable SSO.



WARNING

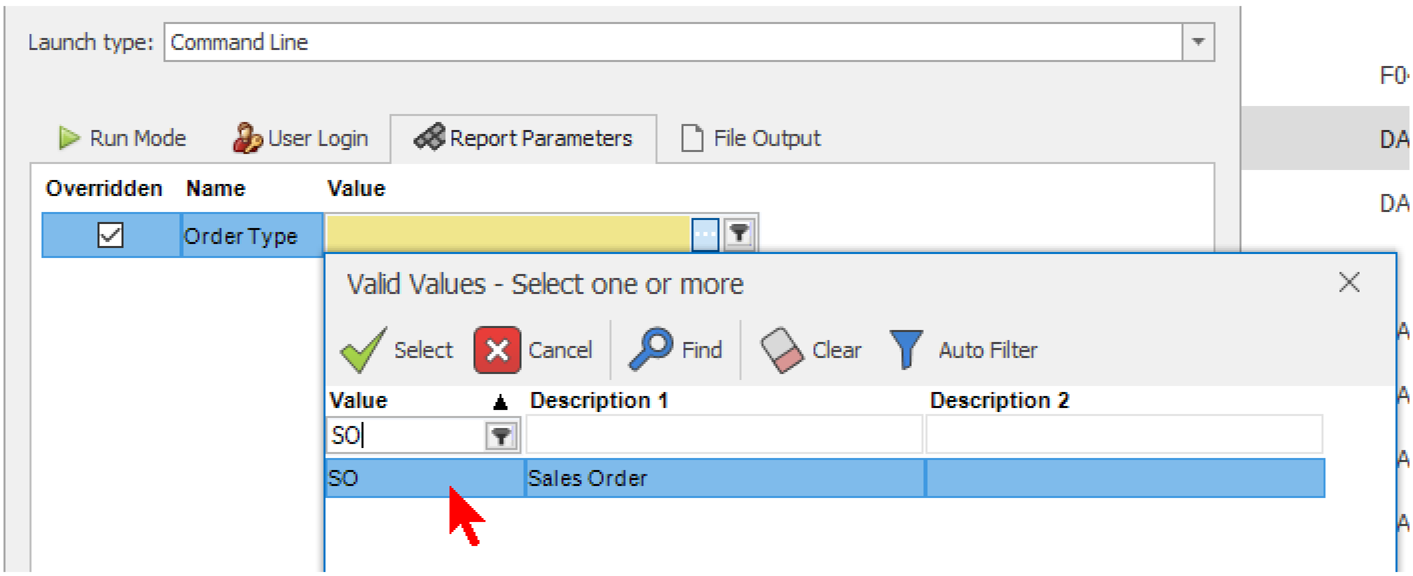
If using *user credentials*, the password will be shown in **plain text**. FOR SECURITY REASONS, DO NOT USE THIS ON A WEB PAGE.

> **NOTE**
>
> If you are logged in with a Windows or Okta single sign-on configuration, the dialog will indicate that you are logged in with single sign-on and user name and password may not be specified.

Report Parameters

If the report has parameters, this tab will be visible to allow the user to set these parameters.

Standard reports and DAS deployed ProReports

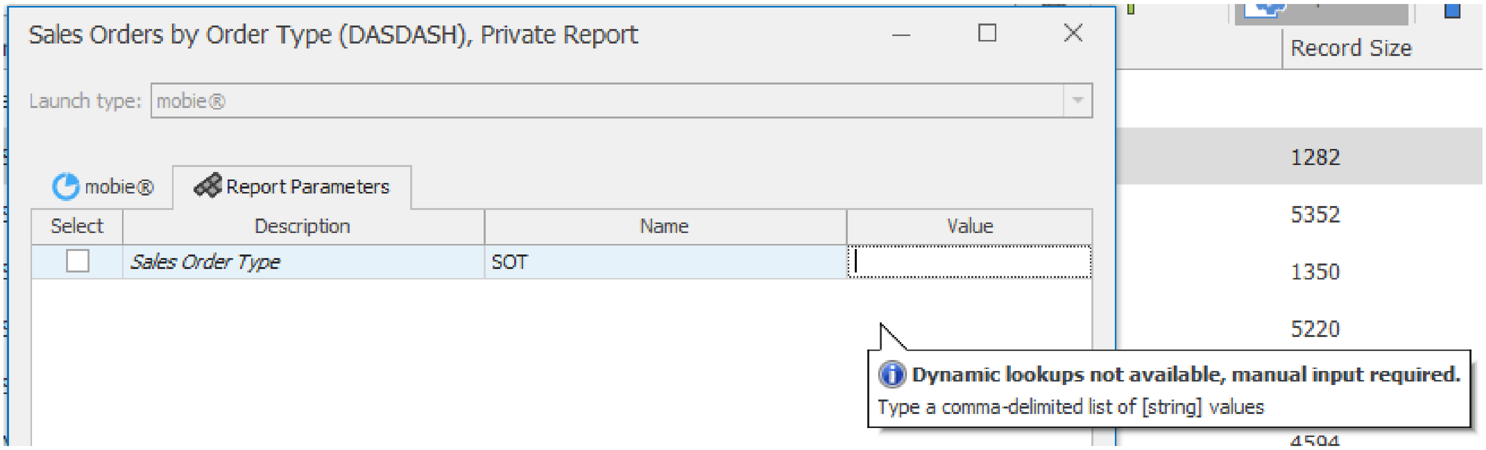


> **NOTE**
>
> Standard reports and ProReports use the standard DAS expressions that are common when editing the report and setting parameters within Automator.

Dashboards and mobie deployed ProReports

Dashboards and mobie deployed ProReports with parameter values will also show the parameters tab and will have an experience similar to, but not the same, as standard reports.

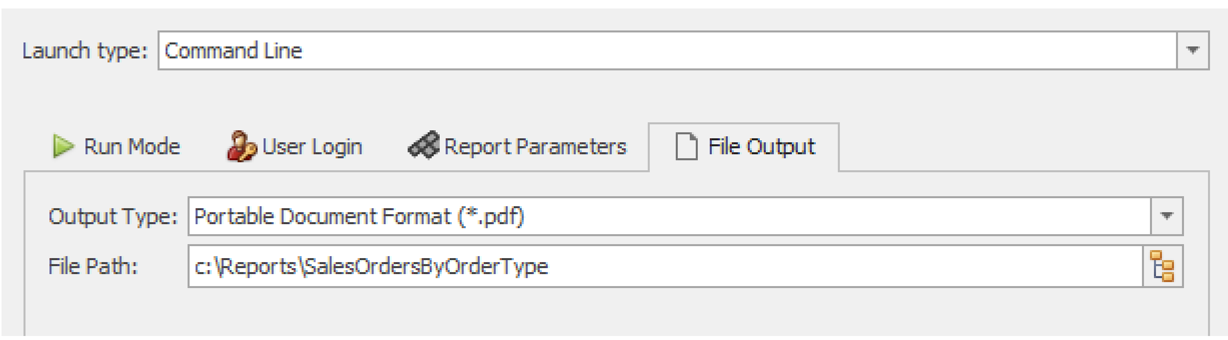
You can select single or multi-value parameter values, but parameters that use dynamic lookup settings are not fully supported. However, you can manually type the list of comma-separated values to generate the Url as shown below:



File Output

If the run mode is 'File', this tab will be visible to allow selecting a folder and file name for the output. The primary use for File Output is to allow third-party scheduling on a server via the command line.

Name	Description
Output Type	This allows you to choose supported output types for the chosen report. The proper extension will also be set on the file name when the Output Type changes.
File Path	Choose the folder and file name for the output.

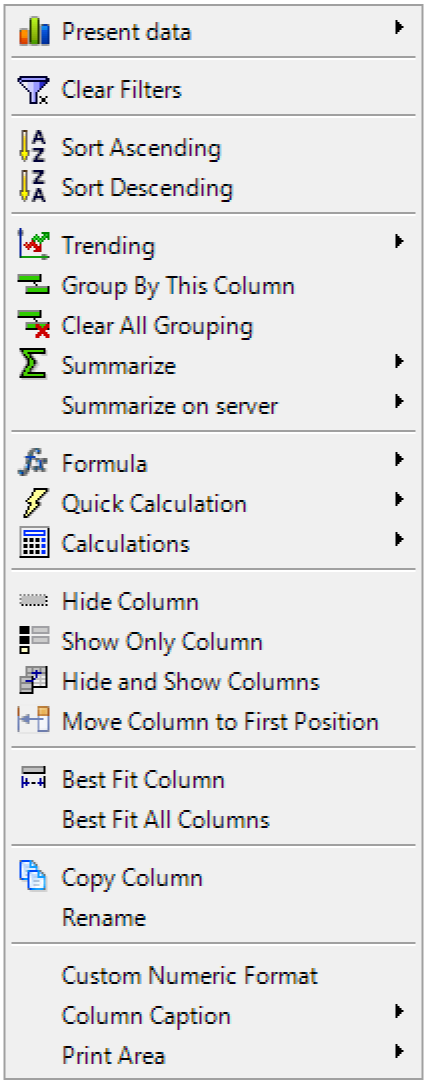


Format Your Report

Now that you understand how to save, restore, publish your report, we can address modifying your report. When you modify a report you will be transforming your data closer and closer to the final form that you need it. These transformations are the Building Blocks for creating any report.

TIP

The majority of formatting operations are found on the Column Menu. To access the Column Menu on any grid:



See the following sections to see how to use each of the options on this Column Menu and more.

Show Only the Columns You Need

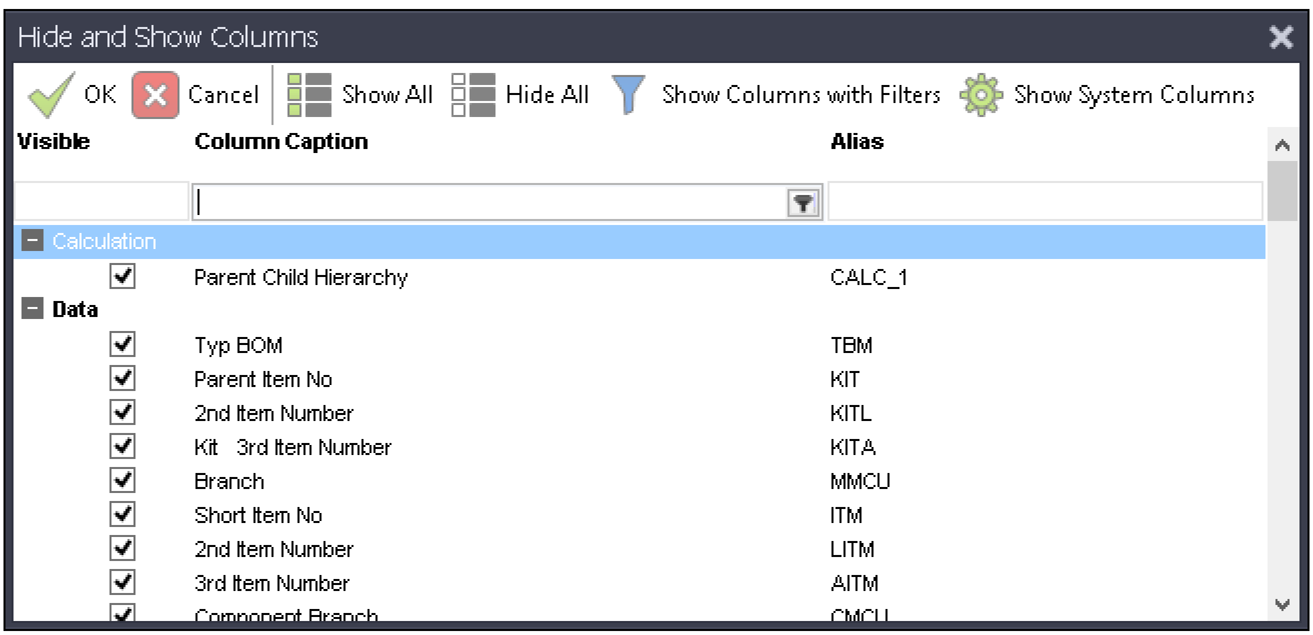
JDE tables have many columns. In most cases, too many columns for a readable report. That's why Data Access Studio lets you easily hide and show columns as you need. Furthermore, as a performance benefit, the more columns you hide, the faster your query will run over large data sets (for a single table report only). To understand additional performance benefits, review how to make your report run faster.

You can hide and show columns the following ways:

- Click **Design | Columns** in the Quick Menu above the grid


- Right-click the column header(s) (Column Menu). To multi-select columns hold CTRL and click the column headers. Select:
  - Hide Column(s)
  - Show Only Column(s)
  - **Hide and Show Columns**

When you click **Design | Columns** in the Quick Menu or right-click and select **Hide and Show Columns**, DAS will display the following form:



To	Do this
Search for a column by name	Type in the name of the column in the Filter Box under **Column Caption** or the Alias under **Alias**.

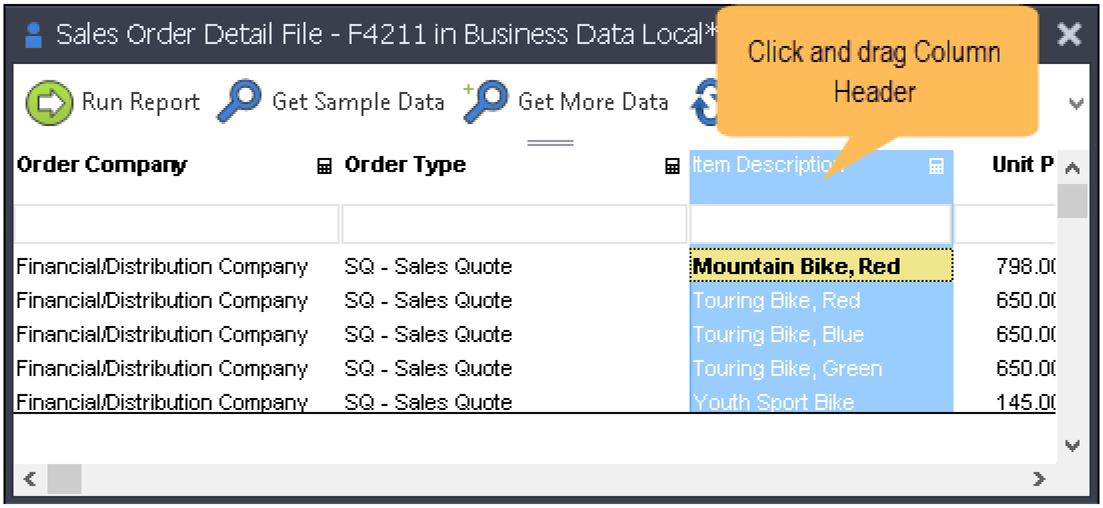
To	Do this
Hide or show a column	Check to Show. Uncheck to hide.
Hide or show multiple columns	Hold the CTRL key down and click the columns you need. Then right-click your selection and select **Uncheck highlighted items** to hide. Select **Check highlighted Items** to show.
Show columns with filters	Click the **Show Columns with Filters** button in the Quick Menu at the top of the form.
Show system columns	If your report has hidden system columns, the **Show System Columns** button will show them. If you click this button, the column list will include system columns that you can show.
Edit available columns in a business view	If your report is based on a DASVIEW (joined tables), then you will see an additional button **Show Table Join**. When you click this button, you can add and remove columns from you join definitions directly.
To accept your changes	Click **OK**.
To cancel your changes	Click **Cancel**.

Place Columns in the Positions You Need

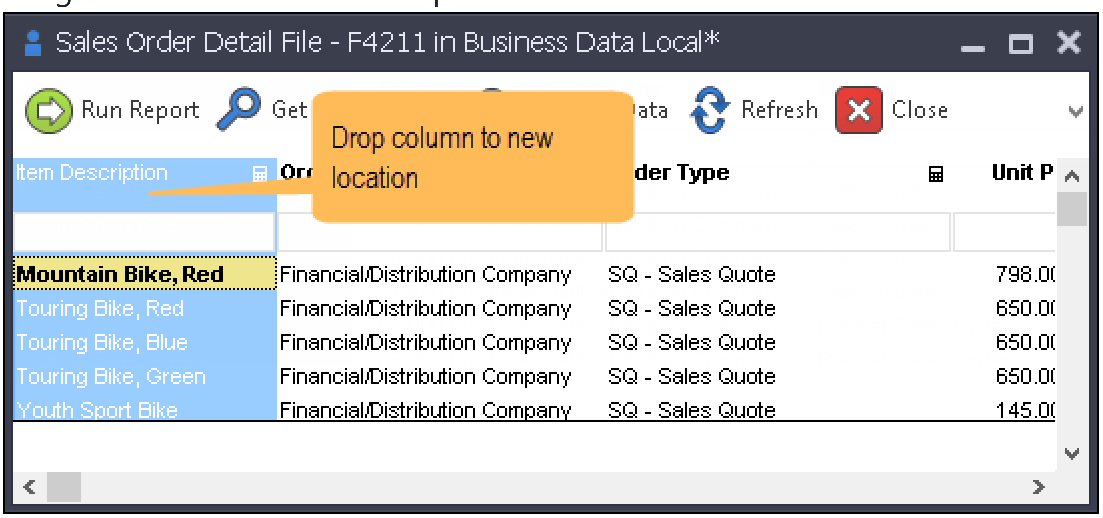
Data Access Studio makes moving columns easy. Simply click the column header and drag it to where you want it. You may also multi-select columns with the CTRL or SHIFT keys and drag-and-drop columns as a whole.

To move the **Item** column below:

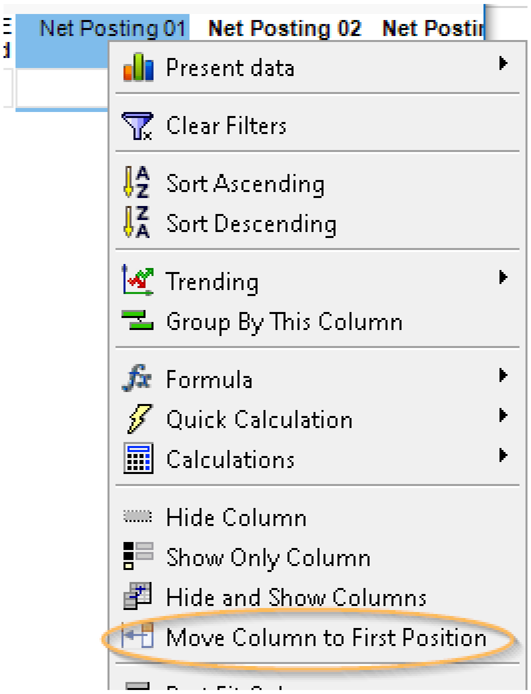
1. Click the Column Header:



2. Hold the mouse key down and move the column to the desired position.
3. Let go of mouse button to drop:



You can also use the 'Move Column to First Position' command to move any selected column to the left-most position.

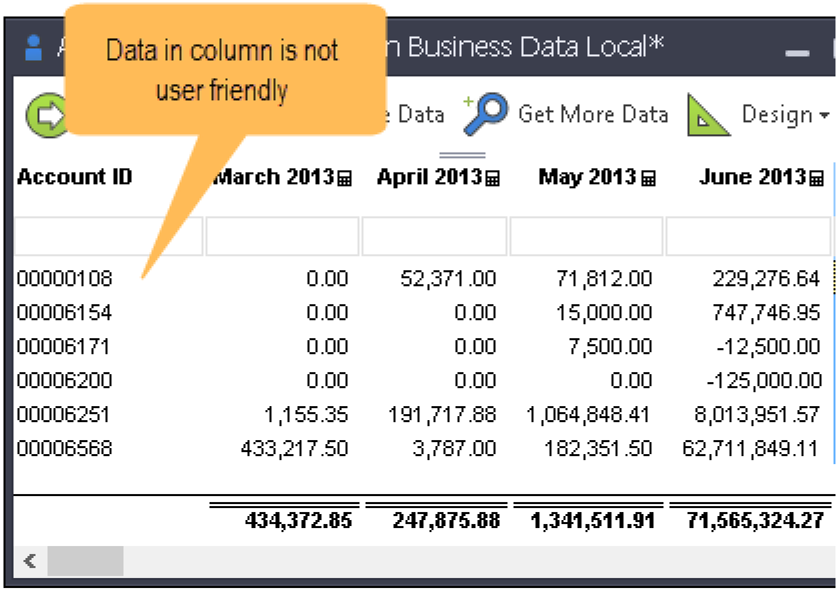


TIP

If you click on the column caption and begin typing, the grid will search for the column name that you typed. Use this feature to find any column in the grid.

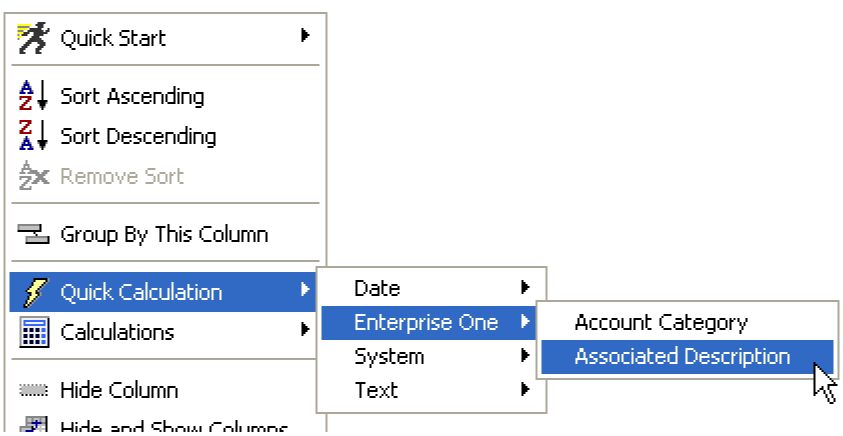
Get Description for Cryptic JDE Data

JDE Data contains many codes and numbers that are not readable in plain English. Data Access Studio solves this problem with instant Associated Descriptions. For instance, consider the data in **Account ID**:



Clearly the data in **Account ID** is not understandable in plain English. JDE, however, has an Associated Description for **Account ID** that provides its English description.

For any column that has a JDE Associated Description, **simply double-click the [Column Header]**. Alternatively, you can click the [Column Header] and select **Quick Calculation | Enterprise One (or World) | Associated Description**:



Example result

> The Associated Description calculation creates a new column next to the coded column. The new column shows the English-readable description, which makes your report more understandable.
>
> You may hide the original column once you get its associated description.

If a column does not have an associated description, such as the **Amount** column, then you will not see the Associated Description on the Column Menu.

Get Totals by Column

With most reports you write, you will need to rollup information into a summary value. Data Access Studio provides this capability with Grouping and Summarizing.

Let's say we have the account balance details, as shown below. We want to create a summary total for each account. Having this summary will let us know if an account is in balance or not.

Account ID	Amount
Accounts	
Intercompany Accounts Receiv.	-1,184.87
Intercompany Accounts Receiv.	1,184.87
Intercompany Accounts Receiv.	-1,370.11
Intercompany Accounts Receiv.	1,370.11
Intercompany Accounts Receiv.	-1,351.58
Intercompany Accounts Receiv.	1,351.58
Intercompany Accounts Receiv.	-1,393.13
Intercompany Accounts Receiv.	1,393.13

The first step is to group the things we want to summarize by. To group by any column, right-click the column header to get the Column Menu. Select **Group By This Column**.

When we group by **Account ID**, notice below that Data Access Studio collects all accounts with the same name and puts them together! Also, because Amount is a numeric field, DAS automatically sums the values and shows you the result. Also notice that the summary operation puts a Grand Total at the bottom.

Account ID	Amount
Accounts	
+ **Intercompany Accounts Receiv.**	**0.00**
+ **Trade Accounts Receivable**	**-12,470.90**
	-12,470.90

To change a summary, right-click the column header to get the Column Menu and select **Summarize | Sum**.

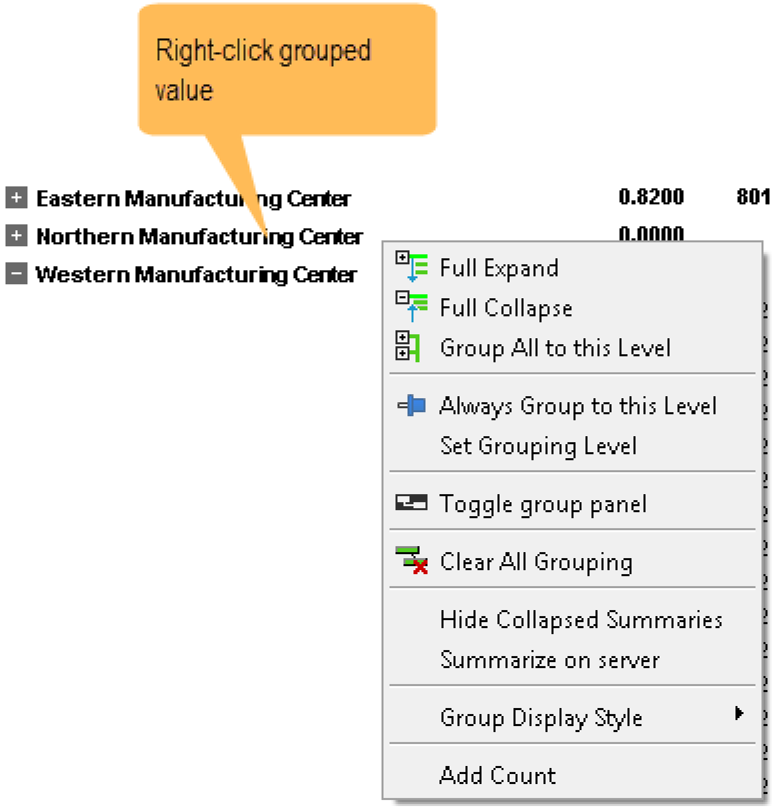
Once you group a column, you can click the **Group Expand** button to see the detail lines. This can be a great way to double-check your information.

Also, you may group more than one column. For each column you group, Data Access Studio will create a subtotal automatically. You can control how you want to roll up your groups. For more information see Fine tune Grouping and Summarization.

You can do other summaries as well: **Count**, **Minimum**, **Maximum**, **Average** and **None**. You can right-click any summary on the grid and either **Suppress** or **Un-Suppress** it.

Set Grouping and Summarization

Once you Group and Summarize your Layout, you can fine tune how you want the grouping to look. For this topic, you will right-click the group row as follows:



To	Do this
Show all details	Click **Full expand**.
Collapse all details to the top group level	Click **Full collapse**.
Collapse all details to a given group level	Click **Group all to this level**.
Always collapse details to a given group level	Right-click the desired group node. Click **Always Group to this level**. All groups will be collapsed and set to the same level as the group node that you right-clicked.
Set the collapsing of details to a specific level	Click **Set grouping level**. On the resulting dialog, enter the group level to collapse to. If you use the up/down arrows, the grid will show you a preview of the rollup.

To	Do this
Set page break at a specific level	Click **Set grouping level**. On the resulting dialog, check **Page Break** and select the level. When you export your report (to pdf or Excel) or do an **Automatic Presentation**, your report will page break at the group level you selected.
Clear all grouping	Click **Clear grouping**.
Hide/Show summaries on the collapsed group row	Click **Hide** to hide. Click **Show** to show the summaries.
Show the value only for the group row label	Default. Click **Group Display Style > Value only**.
Show the category and value for the group row label	Click **Group Display Style > Category and value**.
Show only the text portion of a label in the form number.text or number~text	Click **Group Display Style > Indexed value**. For instance, if your group text is 01.My Account, then selecting this option will display it as My Account. The indexed style lets you use the number portion to sort the group labels as you wish. For number.text, the number portion has a upper limit of 2,147,483,647 (number~text has no such limit).
Show the group row at the top or bottom of the details	Click **Group Display Style > Group rows on top** to show at the top. Click **Group Display Style > Group rows on bottom** to show at the bottom.
Add a quick count to the group row	Click **Add Count**. To remove the count, click **Remove Count**.
Automatically suppress rows that summarize to zero at the lowest grouping level	From the **Design** menu, select **Suppress Zeroes**. If checked, then the grid will hide any row where all visible summary values of regular and calculated columns for the lowest grouping level are zero. Note: When this feature is enabled, it will be shown in the *Filter* section of Design Notes.

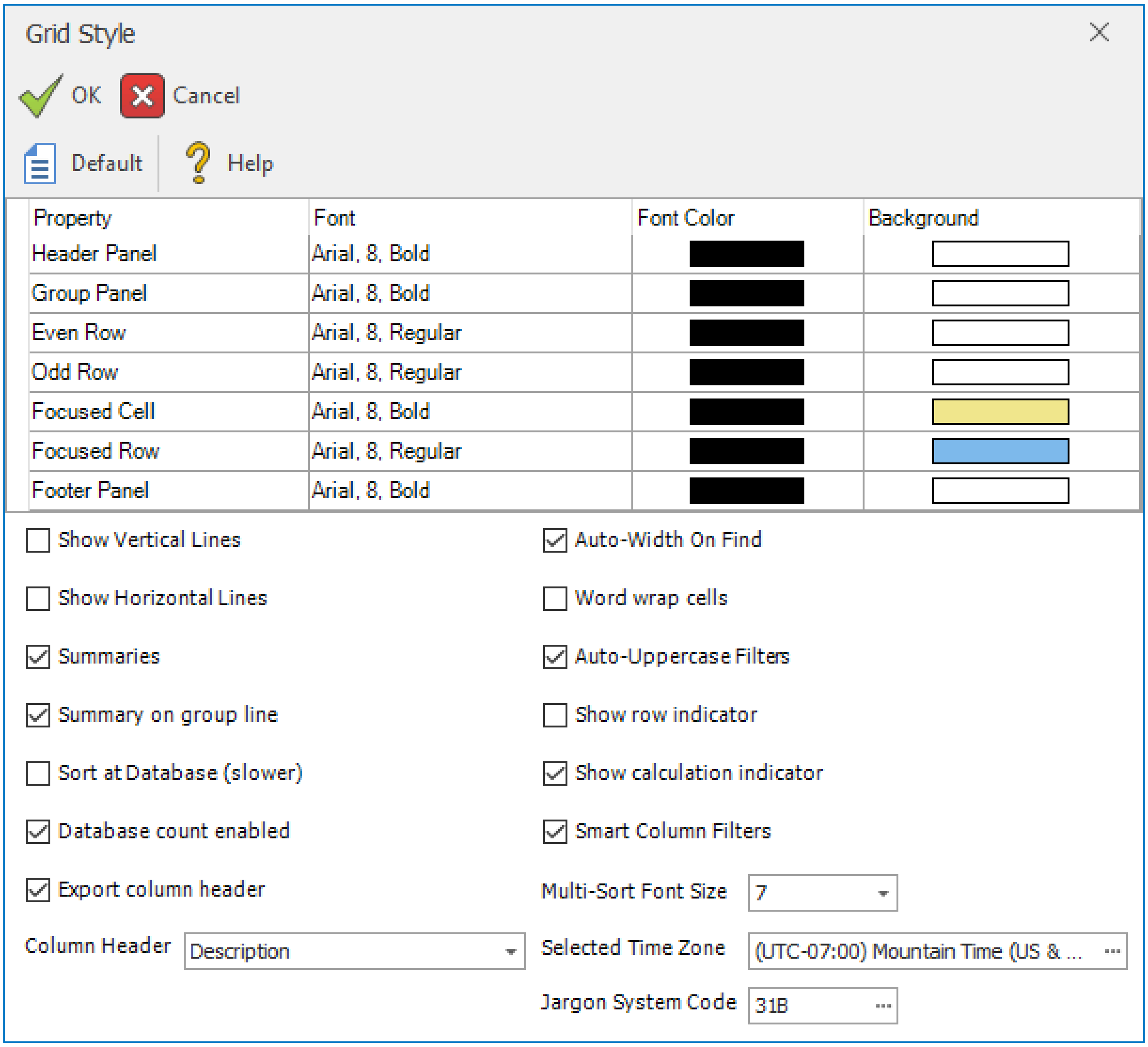
Sort Data in Any Order

Data Access Studio lets you sort any column or set of columns.

To	Do this
Sort a column from smallest to largest	Right-click the Column Header. Click **Sort Ascending**.
Sort a column fromlargest to smallest	Right-click the Column Header. Click **Sort Descending**.
Sort many columns from smallest to largest	Hold the CTRL key down and multi-select the columns you want. The order in which you click the columns will determine which column is sorted first. Right-click the Column Header. Click **Sort Ascending**.
Sort many columns from largest to smallest	Hold the CTRL key down and multi-select the columns you want. The order in which you click the columns will determine which column is sorted first. Right-click the Column Header. Click **Sort Descending**.
Sort by both smallest to largest andlargest to smallest for multiple columns	Hold the CTRL key down. Right-click the Column Header. Pick a different sort than the one it shows.

Customize the Look, Colors, and Behaviors of Your Report

You can change the look of your layout by clicking **Design > Grid Styles...**



To	Do this
Change the Font, Font Color or Background of the available styles	Click on the **Font**, **Font Color**, or **Background** of any cell to modify the property.
Hide/show vertical lines in your grid	Uncheck/check **Show Vertical Lines**.
Hide/show horizontal lines in your grid	Uncheck/check **Show Horizontal Lines**.
Hide/show summaries in your grid	Uncheck/check **Summaries**.

To	Do this
Place summaries on the same line as your group label (default)	Check **Summary on group line**.
Force report to sort data at the database	Check **Sort at Database**. This option is for advanced users only. If the Administrator denies this privilege to you, this check box will have no effect.
Hide column headers when exporting a report to CSV, XLS, or other format	Uncheck **Export Column Headers**
Fit column widths automatically after each Find	Check **Auto-Width On Find**.
Keep your manual column widths intact	Uncheck **Auto-Width On Find**.
Let Data Access Studio automatically control the character casing for filters	Check **Auto-Uppercase Filters**.
Hide/show the row indicator column at the left	Uncheck/check **Show row indicator**.
Hide/show the calculation indicator ▦ in the column header	Uncheck/check **Show calculation indicator**
Enable/disable Smart Column Filters	Uncheck/check **Smart Column Filters**
Select a different Column Header type	Click the **Column Header** options box and select the option you want to see.
Hide the sort order numbers in the column headers of the sorted columns.	Uncommon. Set the **Multi-Sort Font Size** setting to zero.
Set the report's time zone to something different from the user's time zone or display the report's time zone in the title bar	Select the ellipsis on the **Selected Time Zone** setting.
Change the JDE module specific naming of columns	Select a different system code (i.e. module identification) for the 'Jargon System Code' setting. Clearing this setting will use the default column headings as defined by the data dictionary.

Smart Column Filters

Several calculation will automatically add filters to the report to improve performance. Sometimes this performance optimization can interfere with report development and debugging. Following is a list of calculations that leverage Smart Column Filtering.

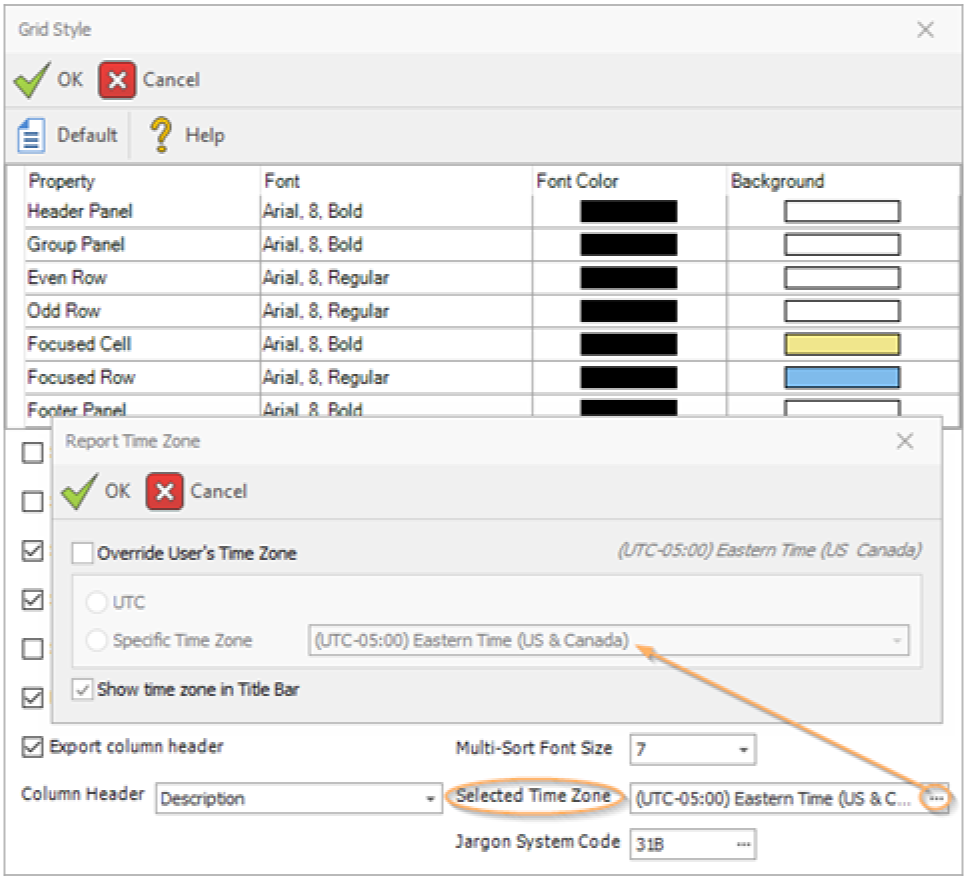
> ⓘ **TIP**
> Disabling Smart Column Filters can help diagnose issues in complex reports.

Calculation	Effect of Smart Column Filtering
Relative Period	Automatically add fiscal year and period to the query
Relative Date	Automatically add known date range to the query
List	Automatically add Rollup Criteria to the query
Parent/Child	Automatically filter data based on configured root node
Model Account	Ensures that the F0901 inclusion in the report is considered a LEFT OUTER join. In other words, non-primary F0901 columns have 'OR <BLANK>' added to their filters.

The Smart Column Filter setting also controls adding the general 'OR <BLANK>' filter to the columns of the secondary table of all standard LEFT OUTER joins. JDE also uses 'OR <BLANK>' filtering of secondary table columns as well in the query sent to the database that this setting will *not* control. This setting - if disabled - might then filter records out of the final set of records seen in the report.

Report Time Zone

By default, JDEUTIME columns display time using the time zone and optional daylight savings rule using the user's settings from User Preferences. Normally, this is fine but there are times when a special report is required to view time data from a specific time zone.



To override the user's default time zone, check the **Override User's Time Zone** checkbox and select either **UTC** or the **Specific Time Zone**. For convenience, the current user's default time zone is displayed to the right of the **Override User's Time Zone** checkbox in italics.

This time zone will be considered the **Report's Time Zone**. This time zone will be used for:

- Displaying the date/time data in JDEUTIME columns
- Used by the Convert Time calculation
- Used to resolve the TODAY and NOW variables.

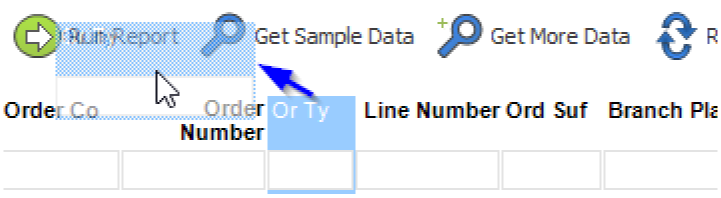
Report Parameters

Report parameters provide the way for your user to input valid values to the report prior to retrieving the results. The DAS Report Parameter system supports the following input scenarios:

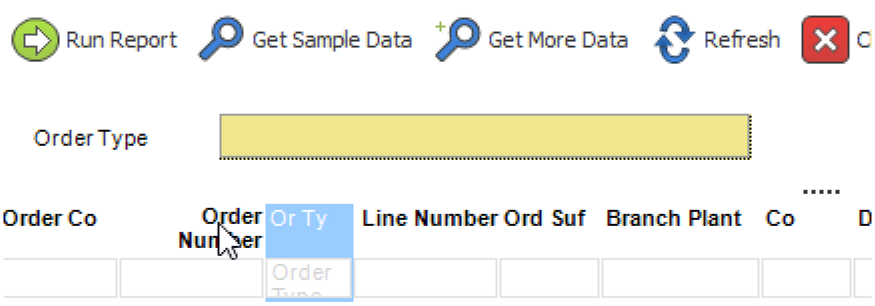
1. Enter a filter value (single value, lists of values, range, etc.)
2. Single value only entry
3. Selection by automatic valid values
4. Selection by customized list of valid values
5. Select by a calendar for dates
6. Allow or disallow blank entry
7. Selection by data type: string, date, number etc.

Report Parameter Creation

Method 1: Drag a column to the report parameter space



In the example above, we drag the Or Ty column above the grid columns and drop for this result:



Now we have an **Order Type** parameter above the grid columns that is linked to the **Or Ty** column. In this case, any value the user enters in the "Order Type" parameter will be reflected in the **Or Ty** column filter. You can see that this link is present by clicking the **Or Ty** filter box (QBE). You will see the text **<Order Type>**. Angle brackets wrap the name of the parameter and is how the parameter is referenced in places like grid column filters or calculation inputs. If you try to clear the **Or Ty** column filter, DAS will issue a warning that says you're about to break the link between the filter and the parameter -- the default recommended course is to maintain the link.

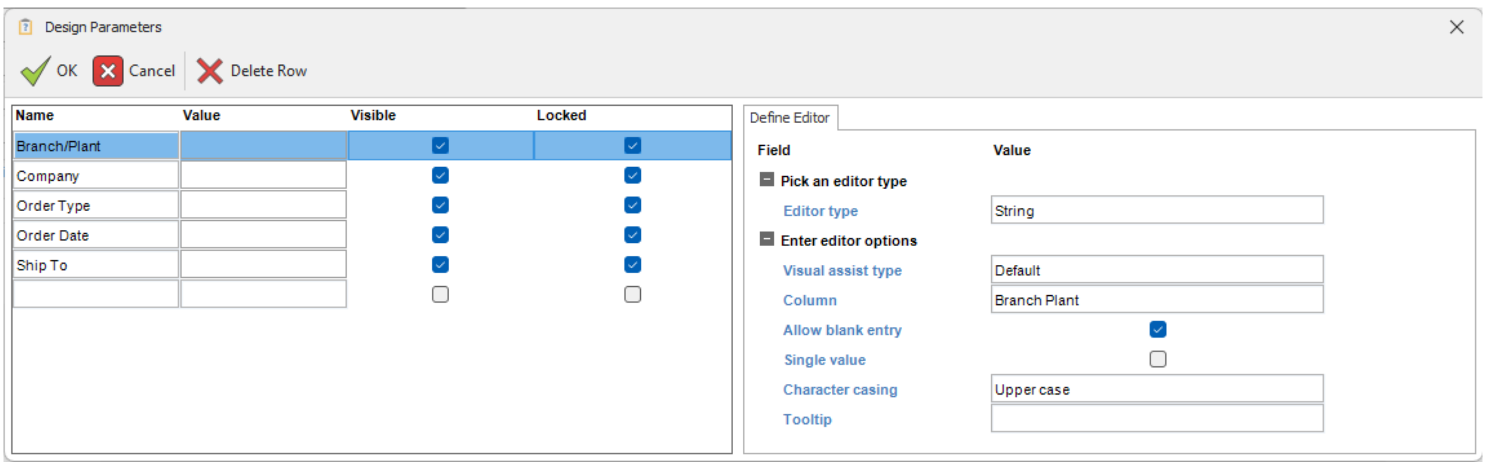
Another feature of the **Order Type** parameter is that it has the same visual assist as the Grid Column **Or Ty**. This means that when the user clicks the **Order Type** entry box, DAS will present a visual assist button that shows the valid Order Type values when clicked.

Remarks on Parameter Dragging

- When a parameter is added to a report, an **Empty Space Item** is also created and placed automatically on the right. This allows designers to enter **Arrange** mode and adjust the parameter's width more easily. Review **Report Parameter Arrangement** to understand how to arrange the parameter panel.
- If a user drags a column into the panel quickly, the created parameter will be placed at the bottom of the existing parameter panel. If a user drags a column and drops it in between or to the right or left of existing parameters, it can be placed directly into a desired location instead (such as between two existing parameters).

Method 2: Manually add a parameter using the parameter editor

To manually add/edit/delete the report parameter fields in your report, click **Design > Parameters** or the 'Design' button on the parameter panel. Once clicked, DAS will open the Report Parameter Designer as follows:

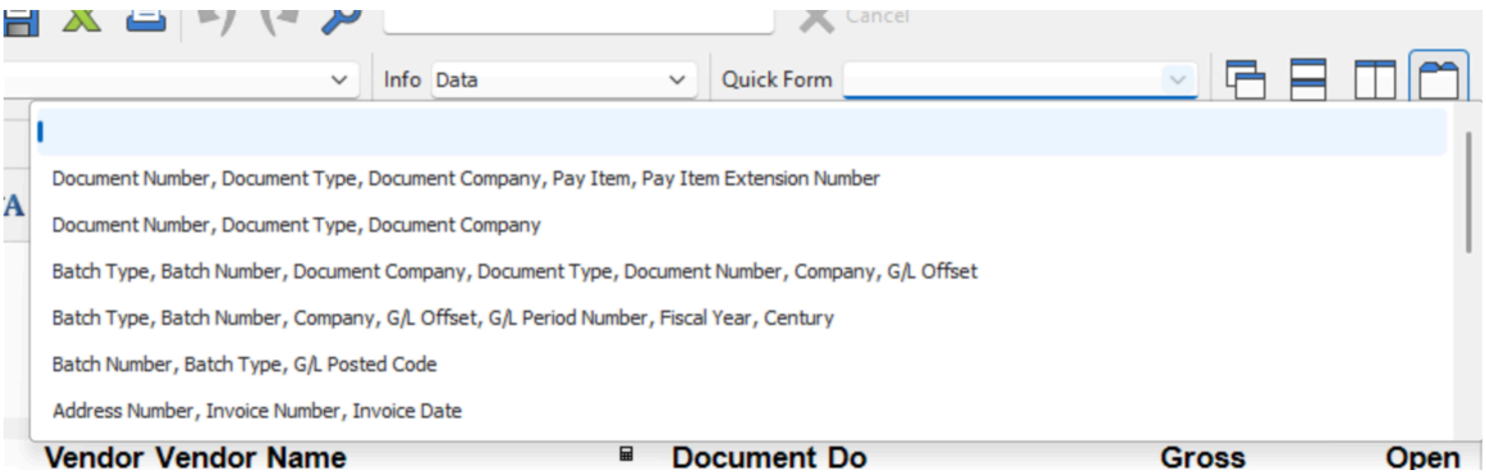


To	Do this
Add a parameter manually	Click an empty cell beneath the **Name** column. Enter the name for your parameter. Tab out of the **Name** column. Select an editor type that is appropriate for your parameter. If you have a Date parameter, select a Date editor, etc. For each editor type you select, modify the properties of the editor to best match your parameter's needs.
Delete a parameter	Highlight one or more parameters. Click **Delete Row**.
Make a parameter visible/invisible	Check **Visible** (default) to make the parameter visible. Uncheck **Visible** to hide the parameter from the user.

To	Do this
Lock a parameter	Check **Lock** to ensure the parameter isn't removed if a **Quick Form Index** is selected. By default, any parameters created from an index do not have the **Lock** option checked and any parameter created manually or by dragging up a column from the grid will have the **Lock** option checked.
Rename a parameter	Click on the parameter name in the **Name** column. Type in the new name. DAS will automatically update all parameter name references in your report to the new name.
Close the Designer and return to your report	Click **OK** to save your changes or **Cancel** to discard your changes.

Method 3: Utilize Indexes from the Quick Form Dropdown Menu

In addition to the two methods for including parameters listed above, users can also utilize Index values for their parameters by selecting options from the Quick Form dropdown that shows up in the top right corner of DAS when reports are open.



Selecting an option from this list will pull each field value in as a parameter in the opened report.

These indexes are set up in your JD Edwards database either by default or additional entry as a mechanism to easily identify what filtered fields will result in a faster data return.

Remarks on Indexes as Parameters

- Indexes selected will default to having the **Lock** option unchecked. This is to ensure that if a user wants to quickly switch their parameters from one list of index values to another, it replaces existing parameters rather than adding to them.

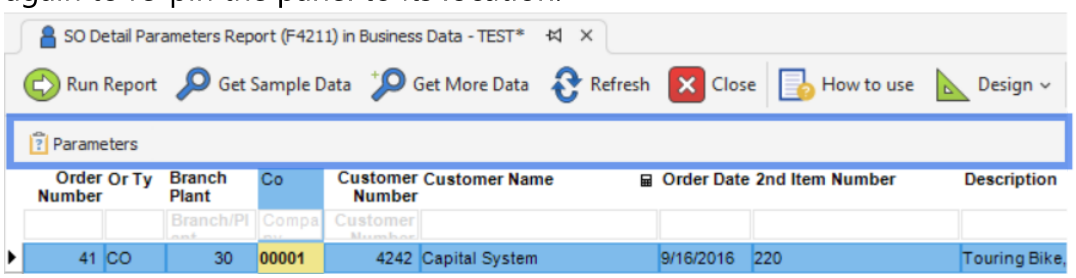
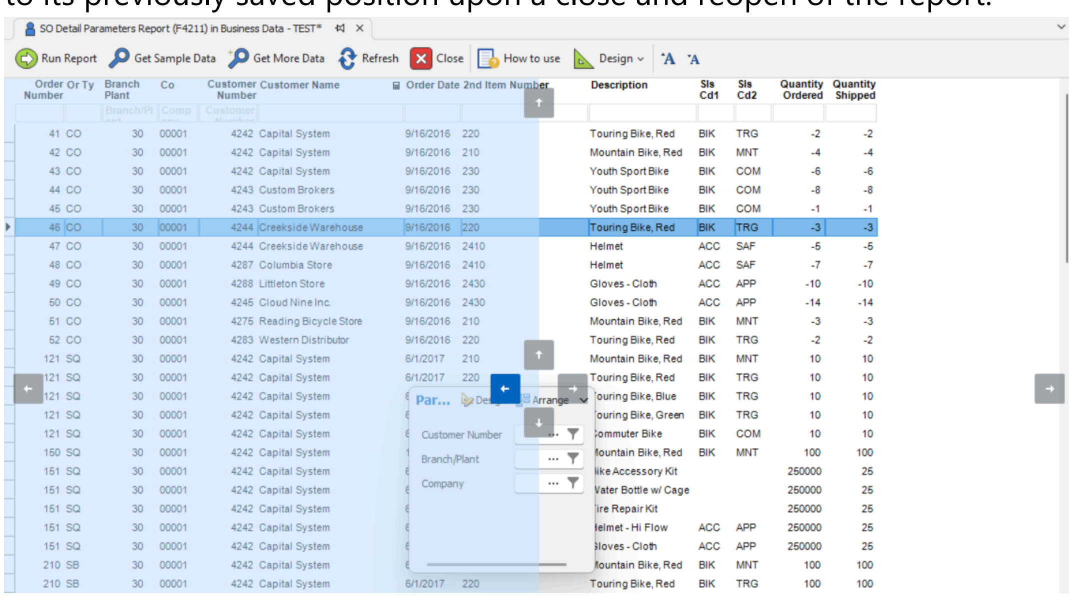
- There is an administrator setting to require index filtering called **Index Use** to ensure users aren't running reports without first filtering down results by a certain percentage for performance.
- If the report is a DASVIEW that joins multiple tables together, index values will only appear if all field values are pulled into the report from the Table Join wizard.

Report Parameter Arrangement

Once parameters have been created, there are a series of options to help arrange the parameters on the parameter panel to best fit the needs of any report.

Parameter Panel Positioning

When a parameter panel is created, a user has the ability to dock or position the panel to any side of the report as well as to pin or unpin the panel from view.

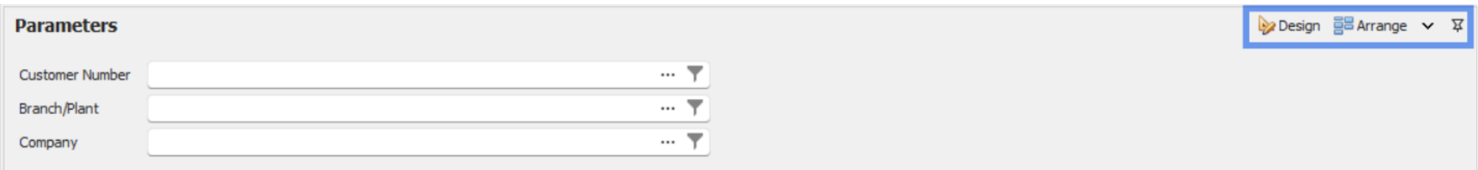
<table>
<tr><th>To</th><th>Do This</th></tr>
<tr><td>Hide the parameter panel unless it's highlighted over</td><td>Select the Pin icon in the top right corner of the panel. The parameter will then hide itself unless a user scrolls over the Parameters header. Select Pin again to re-pin the panel to its location.

</td></tr>
<tr><td>Move the parameter panel to any side of your report</td><td>Click anywhere in the header of the panel and drag to drop it in a different location using the arrows that appear. If the panel is floating, it will go back to its previously saved position upon a close and reopen of the report.

</td></tr>
</table>

ⓘ **NOTE**

The location and pin state of the parameter panel will save with the report.

Parameter Arrangement

When a parameter panel is created, there are a couple options seen in the top right to help designers control the placement and design of those parameters.



Design

Mentioned in Method 2 above, **Design** is available either from the **Design > Parameters** menu or by selecting **Design** from the panel itself.

Arrange

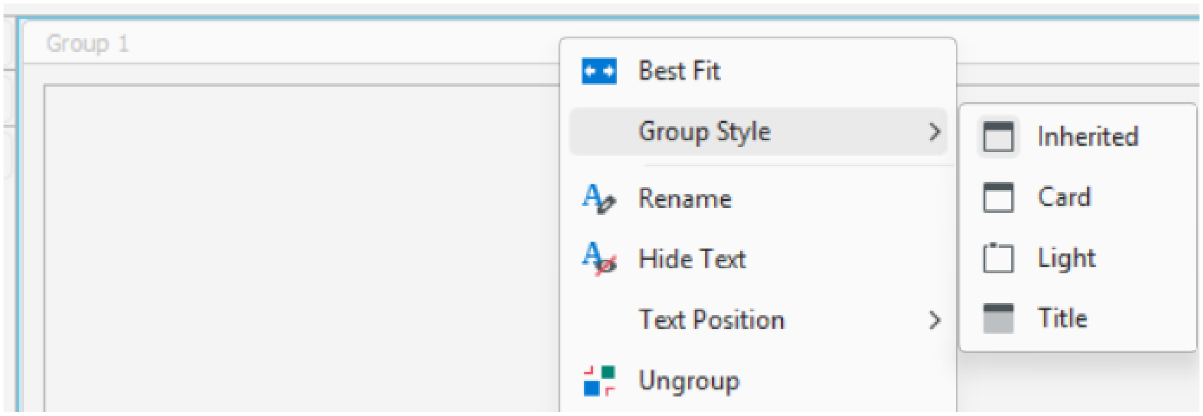
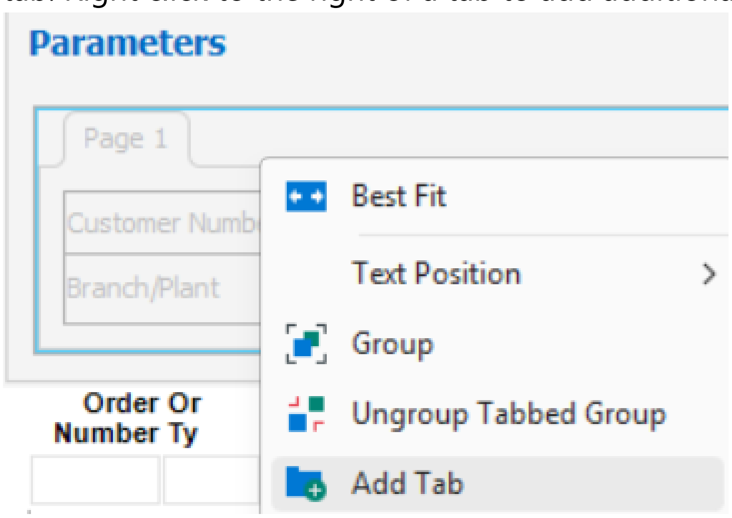
Selecting **Arrange** in the parameter panel will enter **Arrange Mode**. This mode makes it easy for designers to rearrange parameters, align parameters horizontally, add groups or tabs and more.

To leave arrange mode, either select **Arrange** again or click anywhere outside of the parameter panel.

Review Items Available to Arrange

An item in the parameter panel is an element that can be used to display and organize parameter elements. While parameters can be added by dragging or going into Design, parameter-based items are added by right clicking while in the **Arrange** mode or in **Advanced Arrange**. Review the full list of available items below.

Item	Function
Empty Space Item	Helps create space, increase or decrease width of a parameter. Included in the parameter panel by default to easily control width of any included parameters.
Label	Adds a label item where text can be entered. Right click and choose Rename to enter text. This option can text wrap if its height allows.
Separator	Adds a horizontal or vertical line.

Item	Function
Splitter	Adds a small splitter item to create space between items. This item can be used to adjust spacing horizontally or vertically outside of arrange mode as well.
Group	Selecting **Group** will place all currently highlighted items within a group. Right click on a group header to see additional options like Rename, Group Style, and Ungroup. 
Create Tabbed Group	Selecting **Create Tabbed Group** will place all currently highlighted items within a tab. Right click to the right of a tab to add additional tabs or remove the group. 

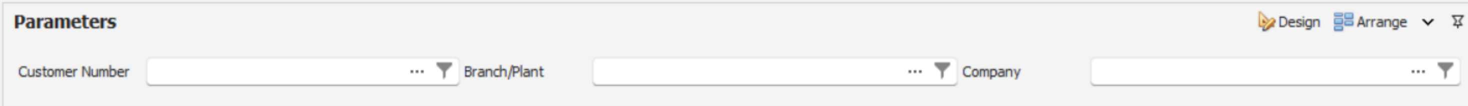
> **NOTE**
>
> Deleting a Group or Tabbed Group will result in everything inside of the group being deleted as well. Select Undo if you did not mean to do this. Choose **Ungroup** instead to remove a group without deleting the items inside of a group.

Navigating the Arrange Mode

When in arrange mode, any item that is dragged will display a blue highlight as it moves. Be aware of the blue highlight's placement as this will indicate where a item is dropped.

Example

Starting position of the parameters

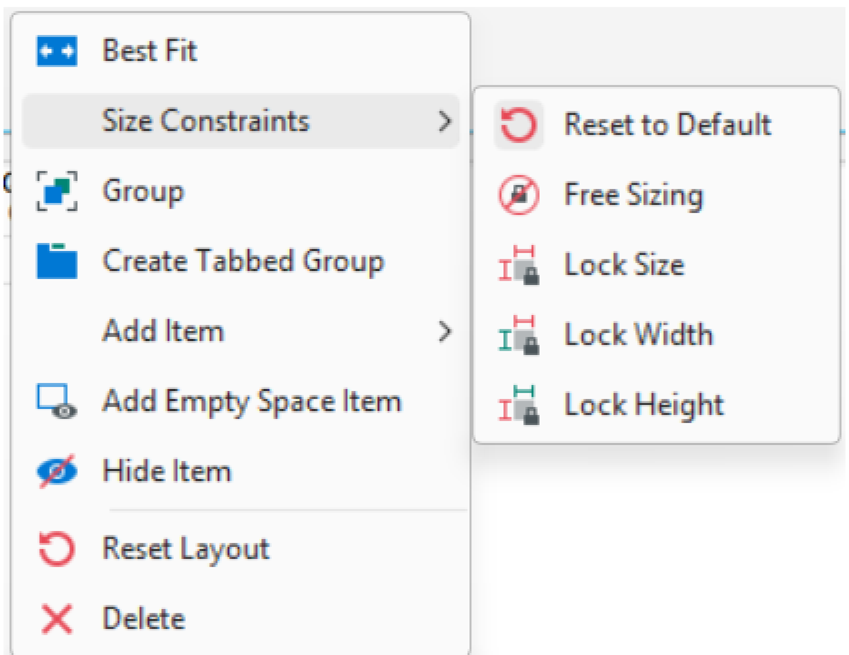


Drag Company from the right, down below Customer Number only

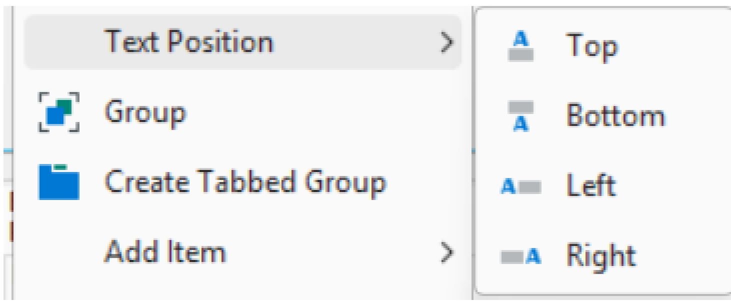
See new arrangement of parameters

Arrange Mode Right Click Menu Options

In addition to being able to select items outlined above, when in arrange mode, the right click menu has a few additional options.

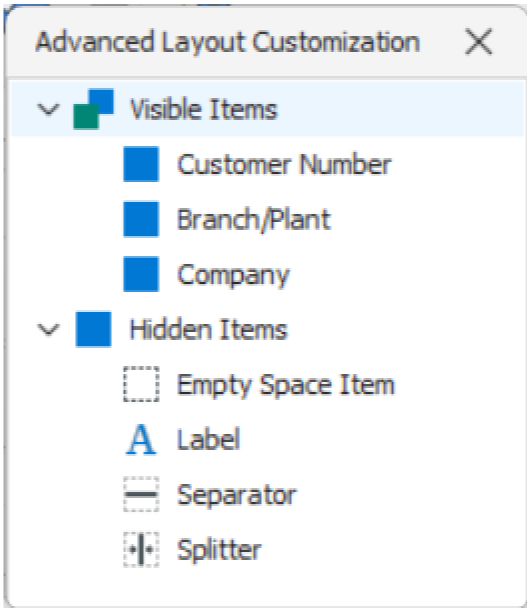


Option	Definition
Best Fit	Attempts to evenly distribute the items within the panel.
Size Constraints	A series of options to allow different aspects of items to be locked or freed from allowed default size adjustments.
Reset to Default	Removes any size constraint options selected and resets an item to its default behavior.

Option	Definition
Free Sizing	Removes any default size constraint lock on an item. For example, without Free Sizing selected on a parameter, a user cannot expand its height manually.
Lock Size	Lock an item's height and width.
Lock Width	Lock an item's width only. This option may be particularly helpful if a parameter will require a large input string.
Lock Height	Lock an item's height only. If there is no other control below, even with locked height, the item will extend the entire height of the parameter panel.
Text Options	When right clicking on a parameter in arrange mode, there are also four **Text Options** available.  Selecting a text position will move the title of a parameter relative to the parameter's edit control.
Reset Layout	Removes all non-parameter items and places the parameters in a single column on the left-hand side of the panel. An Empty Space Item will be added to the right-hand side of the panel to allow a designer to easily adjust the width of the parameters.

Advanced Arrange

In addition to arranging parameters in arrange mode, there is also an **Advanced Arrange** popup menu available by selecting the dropdown by **Arrange** and choosing **Advanced**.

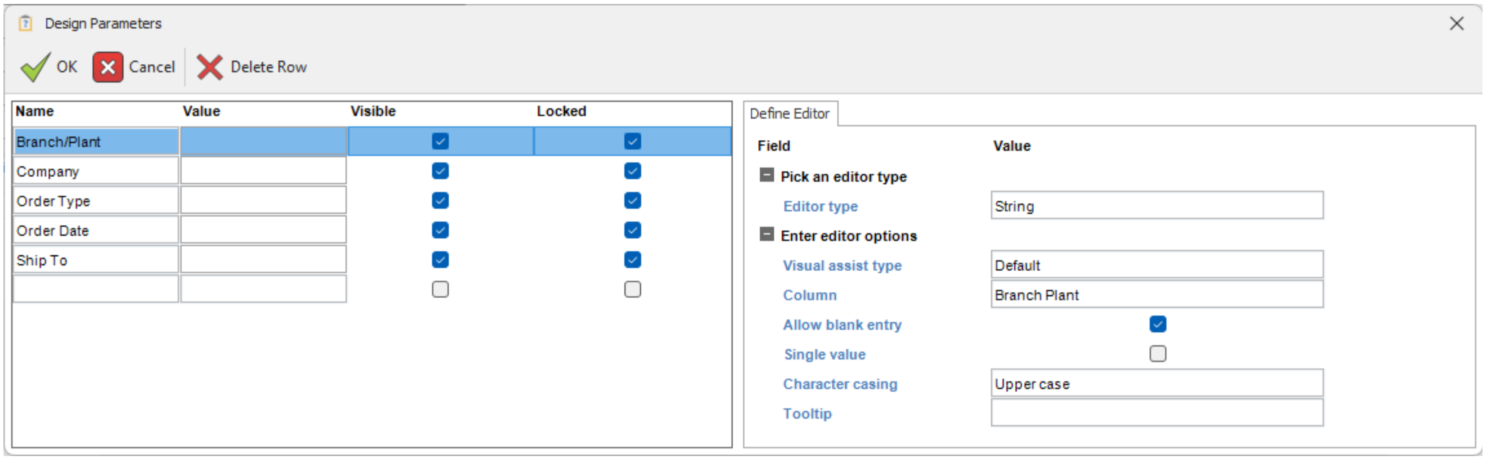


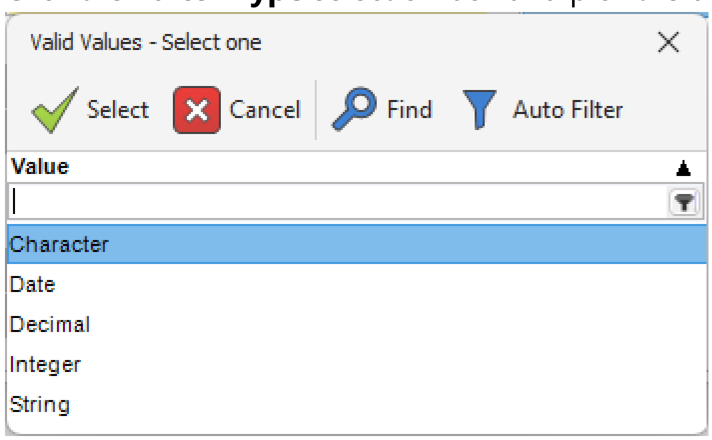
This more structured view of the parameter panel is recommended when the report has many parameters grouped in subgroups and/or tab pages. Designers can navigate and adjust their parameter panel items through this advanced menu instead of dragging the items around directly.

The **Hidden Items** in this popup (Empty Space Item, Label, Separator, and Splitter) can be dragged up into **Visible Items** or dragged directly into the panel for placement.

Parameter Definitions

Once you have parameters defined, you can change the properties of those parameters in the parameter editor. Click on the parameter you want to customize and view the **Define Editor** tab:



To	Do this
Specify editor type	Click the **Editor Type** selection box and pick the desired editor type:  When you select an editor type, the editor option settings below will update to reflect options for that editor type. To enter filter values like ><=! in the parameter input, use the editor type String.
Allow a parameter editor to access a report column's visual assist	Include a column from your report in the Column field. This does not automatically link this parameter to the filter on a column.
Allow/disallow blank entry	To allow blank entry (default), check the **Allow blank entry** check box. To force entry of a value, uncheck this checkbox.
Add a tooltip for hover help on a parameter	Select ... for **Tooltip** to type in a title and text that will act as a tooltip for your parameter. To see the tooltip, hover your mouse over the parameter title or input box once you exit design mode.

Editor Type Options

The Editor Type will determine what type of data is allowed to be entered by the user and will also affect the type of visual assist available to a user. Depending on the editor type selected, the following additional options will be available.

Editor type	Editor option	Definition
String, Character	Character Casing	Choose **Normal** for mixed case. Choose **Upper case** to force entry in uppercase. Choose **Lower case** to force entry in lower case.
Date	Time Support	When enabled, start and end time options are included. When disabled, time inclusion for date ranges is ignored. When hidden, time support entry is allowed, but start and end time visual assist options are not displayed.
String, Date	Single value only	Check **Single value** to enforce a single value input for the parameter. Default is unchecked.
Integer	Minimum	Smallest allowed integer value
Integer	Maximum	Largest allowed integer value

Visual Assist Types

The visual assist type will determine what a user sees when they select the visual assist on a parameter in a report.

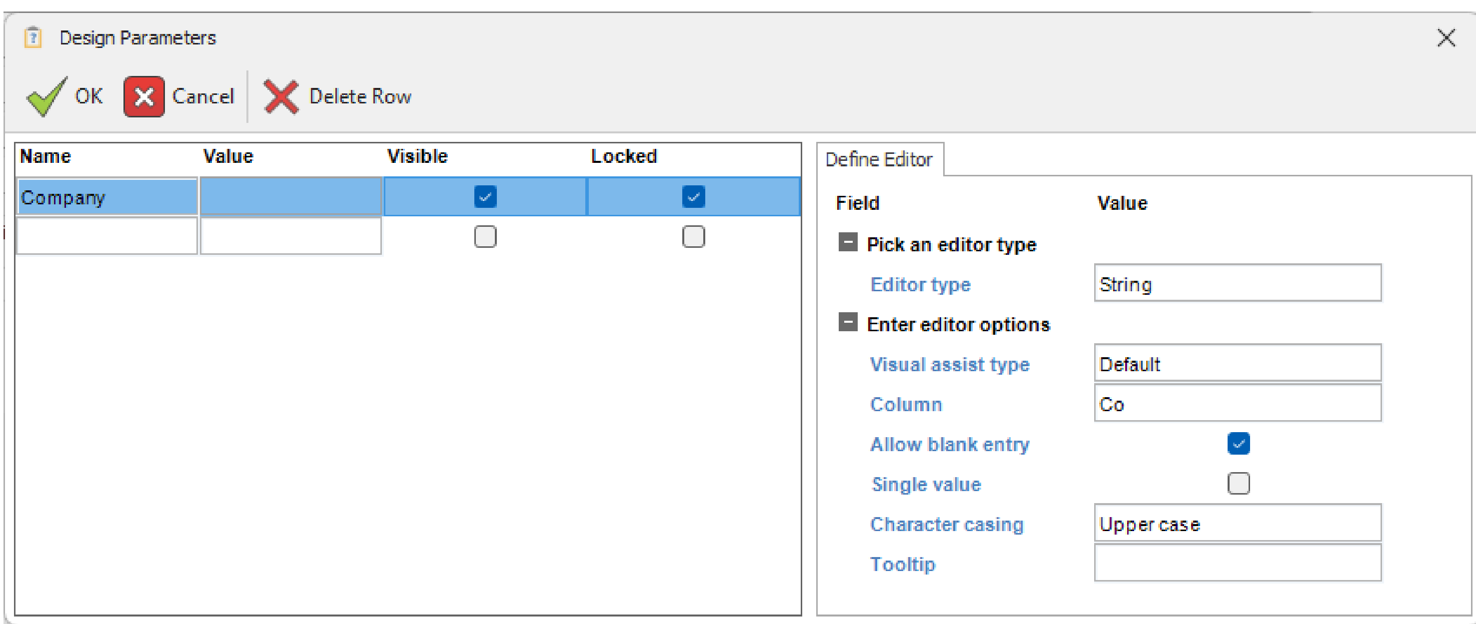
Visual Assist Type	Definition
Default	Default will reference the editor type to identify what text is allowed to be entered in the parameter. Default, when paired with a Column will default to display that column's visual assist options (Address Numbers shows Address Book Master, Due Date shows Dates, Doc Type shows the UDC table, etc.). This option provides a filter button on the entry field that assists the user with the various filter options (list, not in list, range, etc.). See Example.

Visual Assist Type	Definition
Custom value from list	Parameter designer specifies a list of valid values manually. If the valid values also have associated descriptions, then these will be shown to the users as well (although the report designer may override even this description in the list). Use this option to limit the valid choices to a user. See Example.
Custom description from list	Like custom value from list, but rather than selecting by value, the user is presented with the descriptions of those values only. This mode is handy to show the user a more friendly (and customizable) list of options which get resolved to the description's values automatically. See Example.
Report	Link to a report to use it as the visual assist for a parameter making it easy to dynamically return only the results needed or utilize cascading parameter functionality where one parameter filters the options available in the next. See Example for Standard Report Visual Assist and Cascading Parameters.

Example: Default Parameter

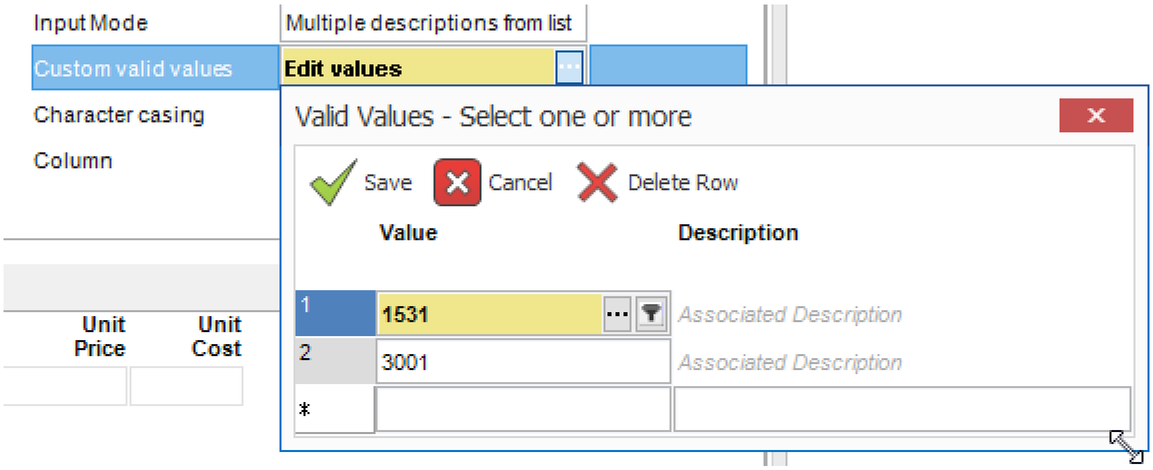
Create a Company parameter linked to the Company field in a report.

1. Drag up the Company column from the report to create a report parameter.
2. Check the visual assist ellipses (...) to confirm that the Company visual assist appears.
3. Select a **Company ID** and select Get Sample Data or Run Report to see the results change as this parameter is automatically linked into the filter field for Company.
4. Select Design on the parameter panel to view the editor settings for the Company parameter.



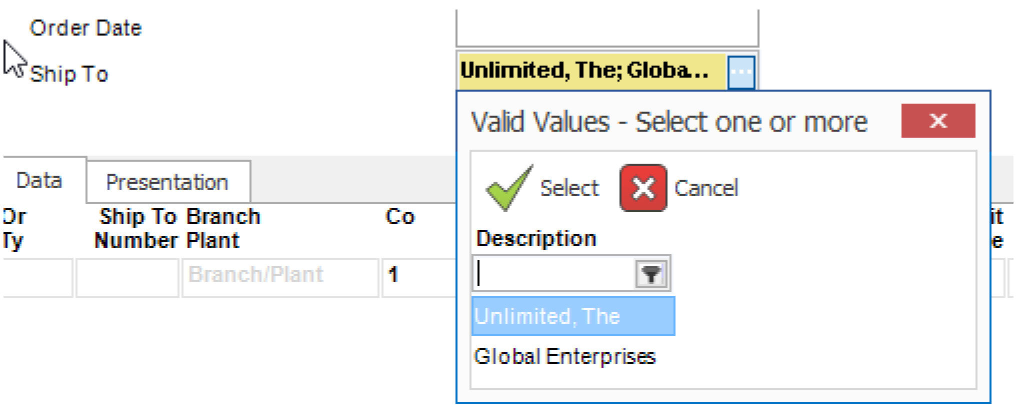
Example: Custom Description from List Parameter

Suppose we wanted to allow the user to pick from two Ship To address numbers. The address number in this case is the "backer value" - it is that which we want to use to query. However, the user doesn't recognize address numbers as easily as the Ship To name. By using **Custom description from list**, we setup the **Custom valid values** as follows:



Here we enter the valid address numbers. Notice that the **Description** value automatically defaults to **Associated Description** which means DAS will automatically get the description for the number. You may override the description with any text.

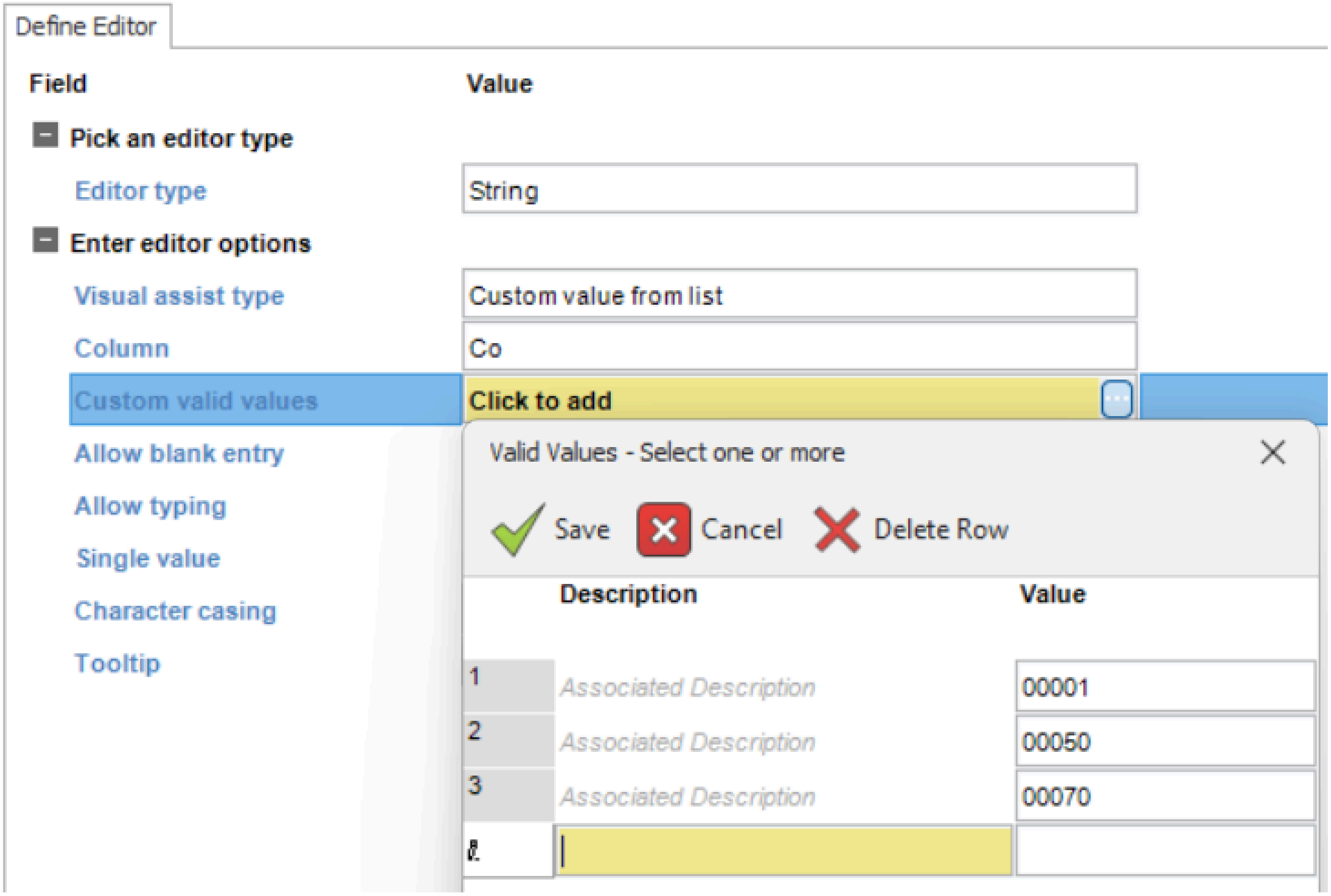
Once set up, the user simply selects by description:



Once the user makes the selection, the Ship To token is set to the corresponding address number for that selection.

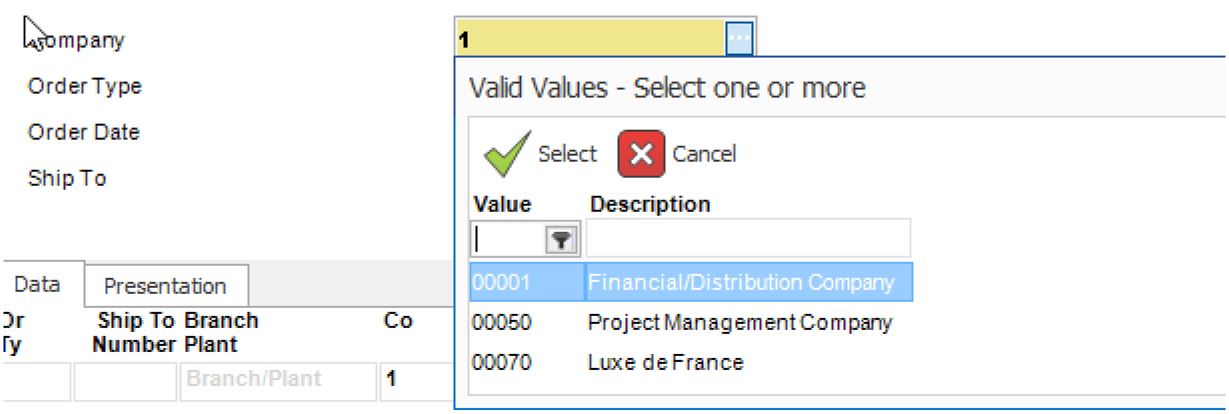
Example: Custom Value from List Parameter

Suppose we wanted to allow the user to pick from three Company numbers. In this case, the user may prefer to select by company number rather than description as it is short and recognizable to the user. By using **Custom value from list**, we set up the **Custom valid values** as follows:



Here we simply enter each valid Company number on each line. If the column has an associated description, this will be the default description per line. You may override the description with any text.

Once setup this way, the user selects by Company number:



Here the user selects by number and the selection is shown as the number that's selected. The description only shows up in the Valid Values selection.

Example: Report Visual Assist Parameter

Suppose you are designing an AP Detail Report using the F0411 table with one parameter, "Vendor Number," built by dragging up the Address Number/AN8 field. As a designer, you want to ensure that your subscribers only see Vendors when they view the visual assist of the Vendor Number parameter, but, by default, it displays the full list of address numbers which includes customers, vendors, employees and more.

We can create a report visual assist for this parameter to limit these options. These instructions assume an AP Detail Report report has already been created.

Step 1: Create your report for the visual assist

1. Open a new F0101 table.
2. Limit the column results to just the Address Number (AN8), Alpha Name (ALPH) and Sch Typ (AT1).
3. Filter Sch Typ = V (for Vendor).
4. Save the report as "Vendors Visual Assist"

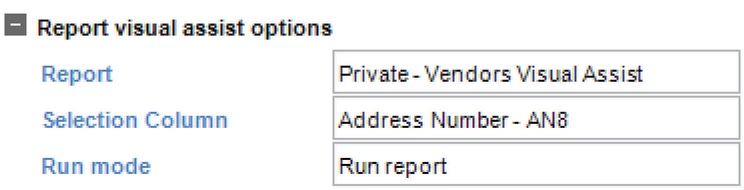
Step 2: Edit the parameter in design mode to use the report visual assist for Vendor Number

1. Return to your "AP Detail Report".

2. Select **Design** in the top right corner of the parameter panel.

3. While selected on your "Vendor Number" parameter, change the Visual Assist Type to **Report**.

4. Go to the **Report visual assist options** section and fill in the following...

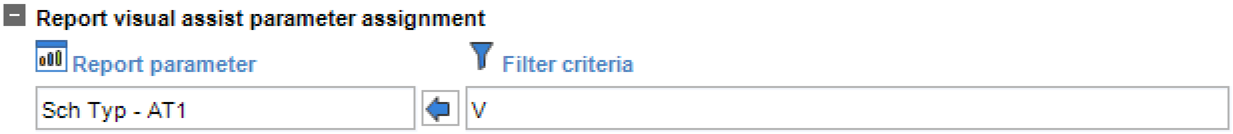


> **NOTE**
> The **Run Mode** option determines if the visual assist will Get Sample Data or Run in full. If a visual assist report may run more slowly when fully executed, the recommendation would be to utilize **Get Sample Data** as the Run Mode option which still allows a user to select **Find** and return all results once in the visual assist.

5. Select **OK** to save.

6. Review visual assist. See that only Vendors are being returned because of the filter on Sch Typ.

Alternatively, you could apply the Sch Typ filter for Vendor directly into the parameter editor in the **Report visual assist parameter assignment** section as seen below.



Example: Cascading Parameter

Suppose you're in the same AP Detail Report, but you now want to add Company and Business Unit parameters. Rather than having the default visual assist for both, you'd like the Company parameter to be required and filter the Business Unit visual assist results to only show Business Units under the selected Company filter.

We can create another report visual assist for these requirements.

Step 1: Add Co and BU parameters to your AP Detail Report

1. In your existing "AP Detail Report" ensure Business Unit (MCU) and Company (Co) are visible columns in your report. If not, select Design > Columns and add them.
2. Drag up both Company (CO) and Business Unit (MCU) to create two additional parameters.
3. Review existing visual assists for both parameters.

Step 2: Create your report for the BU Visual Assist

1. Open a new F0006 table.
2. Limit the column results to just the Business Unit (MCU), Description (DL01) and Company (CO) fields.
3. Save the report as "Business Unit Visual Assist".

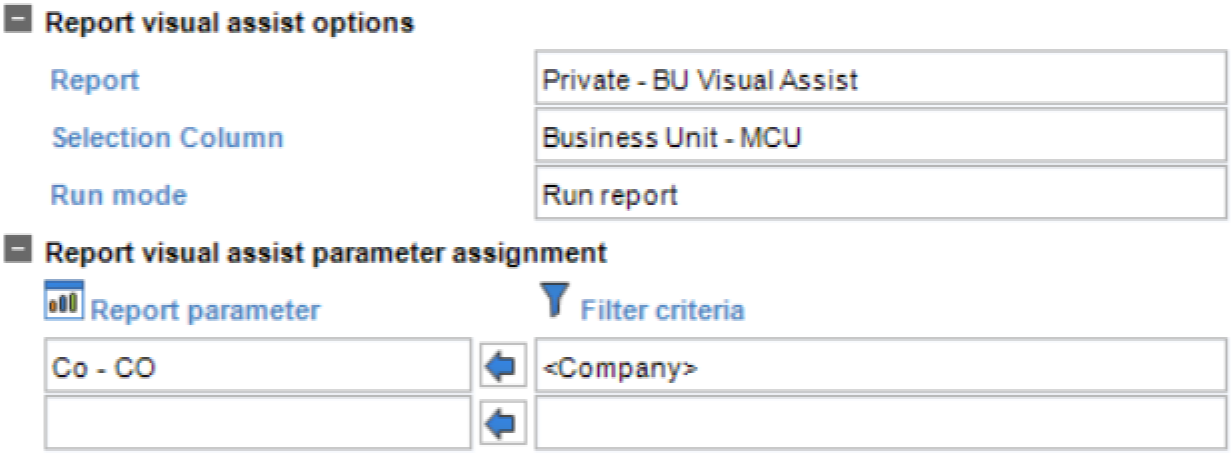
Step 3: Edit the parameter in design to use the Report Visual Assist for Business Unit

1. Return to the "AP Detail Report".

2. Select "Design" in the top right corner of the parameter panel.

3. While selected on your "Business Unit" parameter, change the Visual Assist Type to "Report".

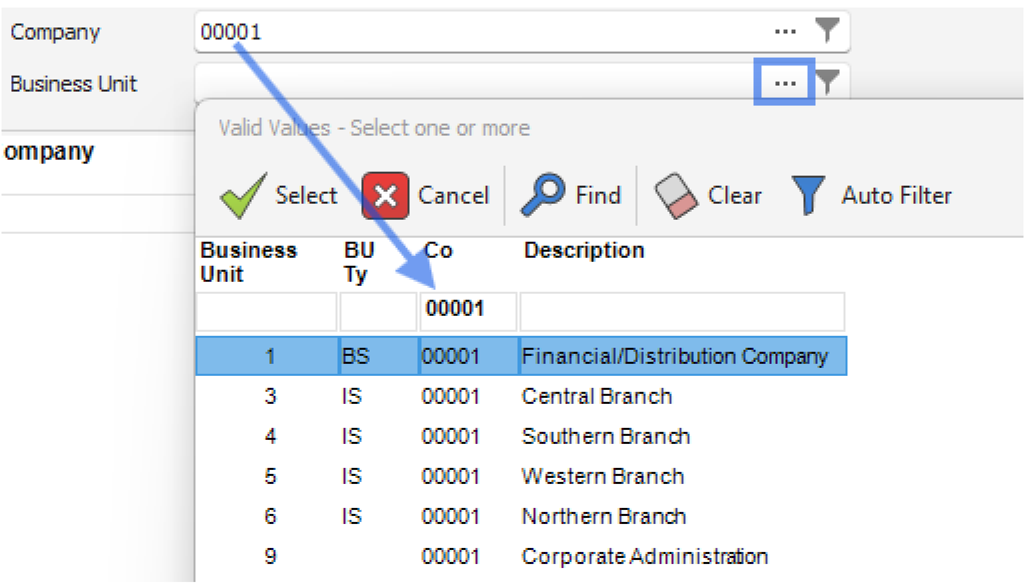
4. Fill in the following fields as seen in the image below: Report, Selection Column, and Report visual assist parameter assignment.



5. Select **OK**.

6. Fill in a Company and then select the ... on Business Unit in your parameter panel to see the custom visual assist you've just created.

7. Adjust the Company filter and select the ... on Business Unit again to see it change.



Additional Remarks for Cascading Parameters

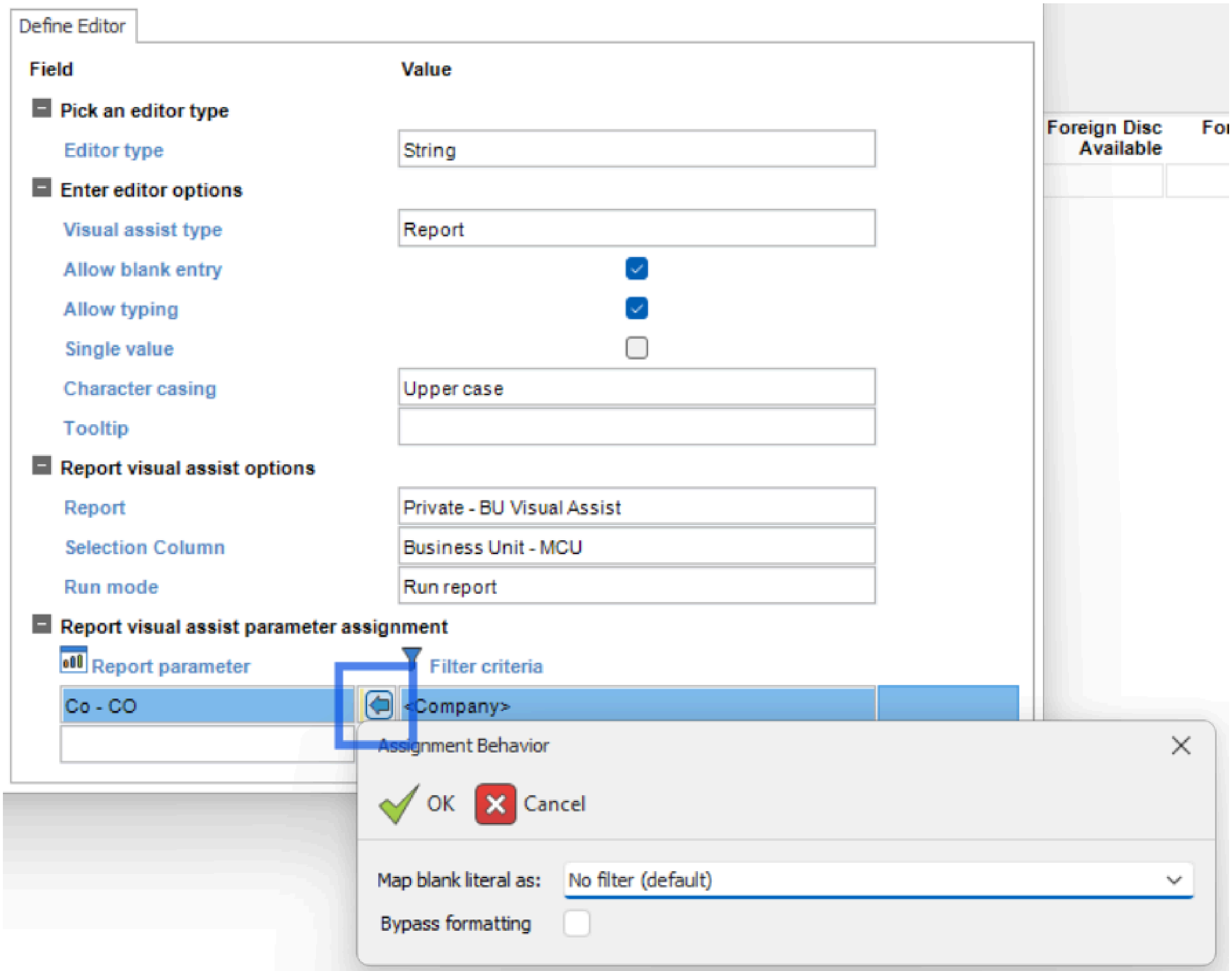
Adjusting Cascading Parent Parameters Impacts Children

Suppose that parameters are filled in on your report: Company 00001 and Business Unit 1;3;4 from that cascading parameter list. Adjusting the Company filter will result in a clearing out of the Business Unit parameter values as those are no longer valid values for that Company.

Default Assignment Behavior

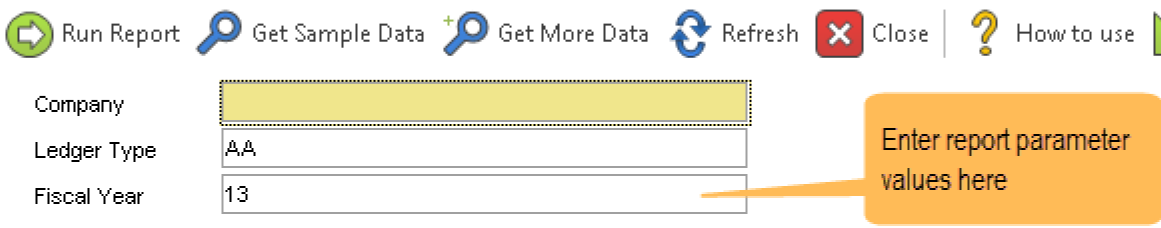
By default, any cascading parameters where the parent parameter is left blank will result in the child parameter's visual assist returning all results (no filter applied). This is because the default assignment behavior is set to "No Filter".

If you would like to make it so the parent parameter being blank results in the child's visual assist filtering on <BLANK> for that link, you can adjust the assignment behavior by selecting the blue arrow on your parameter editor (see screenshot below).



Prompt for Values

Once you have designed your Report Parameters and clicked **OK** or **Cancel** (which closes the designer), Data Access Studio will show the user prompt that you designed. For example:



To	Do this
Enter a parameter	Click on the edit box next to the parameter you want to modify and enter a value if the **Allow typing** was set for the parameter.
Run the Report with the parameters you entered	Click
See some sample rows for the parameters you entered	Click **Get Sample Data**.
Edit and design your parameters (Designer user only)	Select **Design** in the top right of the parameter panel or click and select Parameters.
Resize the width or adjust parameter placement in your panel.	Review the Report Parameter Arrangement documentation.

If the parameters that the user entered violate a entry rule, DAS will pop up the error message below the offending parameter value. The popup will instruct the user how to correct the data entry issue.

Once you design your parameters, you can also connect the parameters to certain calculations. See Connect a Report Parameter to a Calculation for more information.

Copy Column(s)

You can copy multiple columns. To copy one or more columns:

1. Multi-select the column headers you want
2. Right-click on the **Column Header** for any column in your selection
3. On the popup menu, select **Copy**

DAS will create new copies for the selected columns and highlight the new columns when the copy is complete. You can proceed to edit the new copies by double-clicking the column header.

System Variables

Use System Variables to get information about the signed-on user. You can use this information to filter data, name reports, or set column captions.

List of Available System Variables

Variable	Description
SYS_USER_ID	Login ID of the user.
SYS_USER_Description	User name from the address book.
SYS_USER_BusinessUnit	Business unit for the user.
SYS_USER_Company	Company for the user.
SYS_USER_Type	Address book type of the user (e.g. 'E' for Employee).
SYS_USER_Environment	Login environment of the user.
SYS_USER_SignedOnRole	Login role of the user.

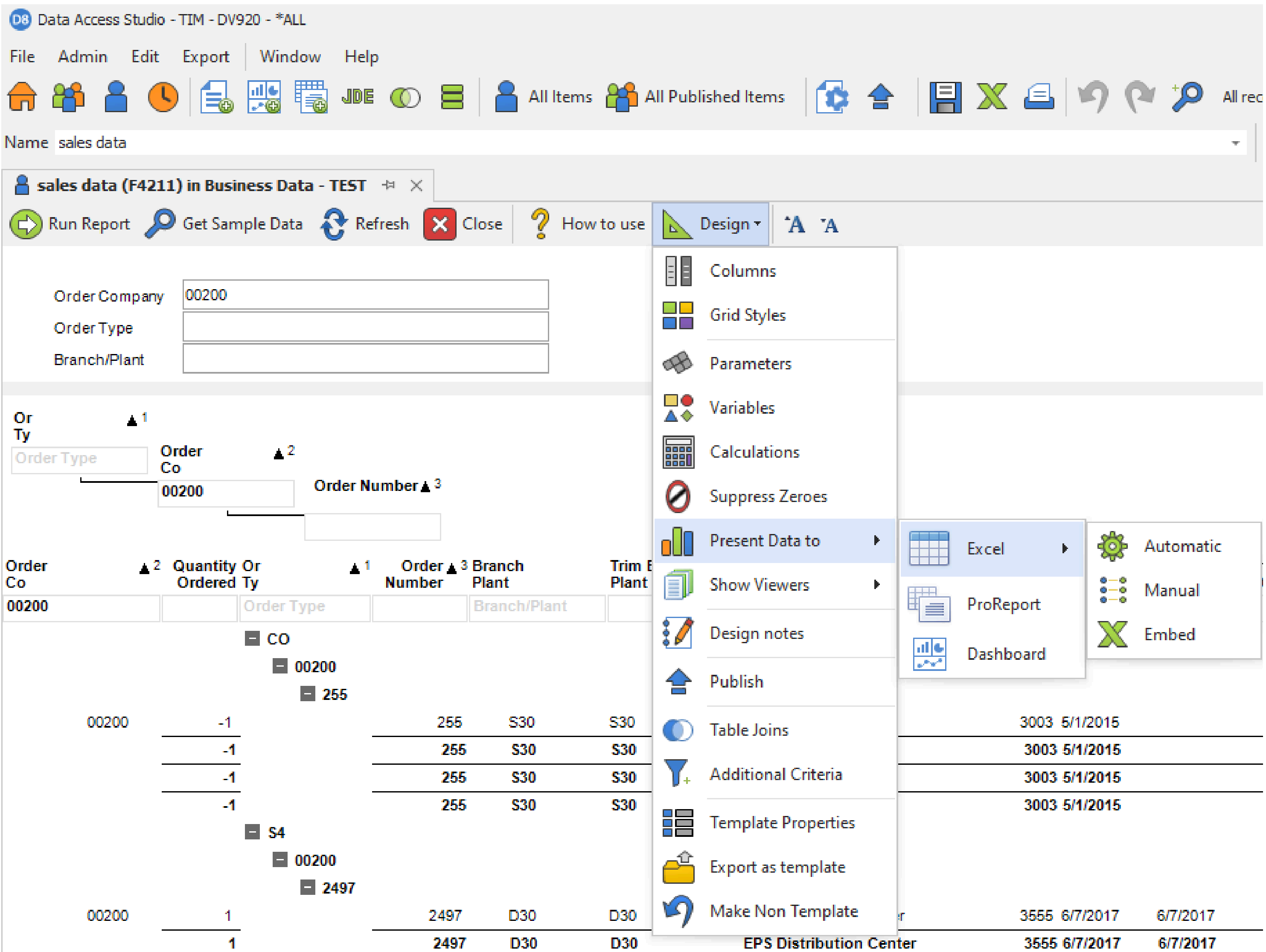
Rename a Column

By default, Data Access Studio names columns based on their JDE Data Dictionary description. You can, however, override this caption and change it to whatever you wish.

To	Do this
Rename a column	Right-click the Column Header. Select **Rename**. Type a new name and click **OK**. You can press the button to see parameters and variables that you can also use in your column header. For instance, let's say you had a column that shows period amounts and the user can enter different period amounts via a parameter. Then, if you select the period amount parameter tag in the Column name, as the period numbers changes, the column header will change too! Parameter tags are in the form of: **<tag>**. You can place the tag anywhere in your column header. For instance: **Current Period <Period>**.
Change the column caption to pre-set value	See Column Caption in the Customize the Look and Colors of Your Layout topic.

Presentations

After gathering and transforming data into a logical report, this data will often need to be presented in some way. From presenting in Excel, to being hosted using a BI dashboard, Data Access Studio provides many different methods of presentation. These methods can be access from the Design menu of a report:



You can also present to a ProReport or a dashboard from your 'My Workspace' or 'Public Workspace' areas.

Summary of presentation methods:

- ProReport will bring up our ProReport New Report Wizard to guide you through constructing an enterprise-grade report.
- Dashboard will bring up our dashboard designer for this report so you can create an interactive BI dashboard.
- Excel Presentation will embed Excel into this report allowing for tight integration with this very useful tool.

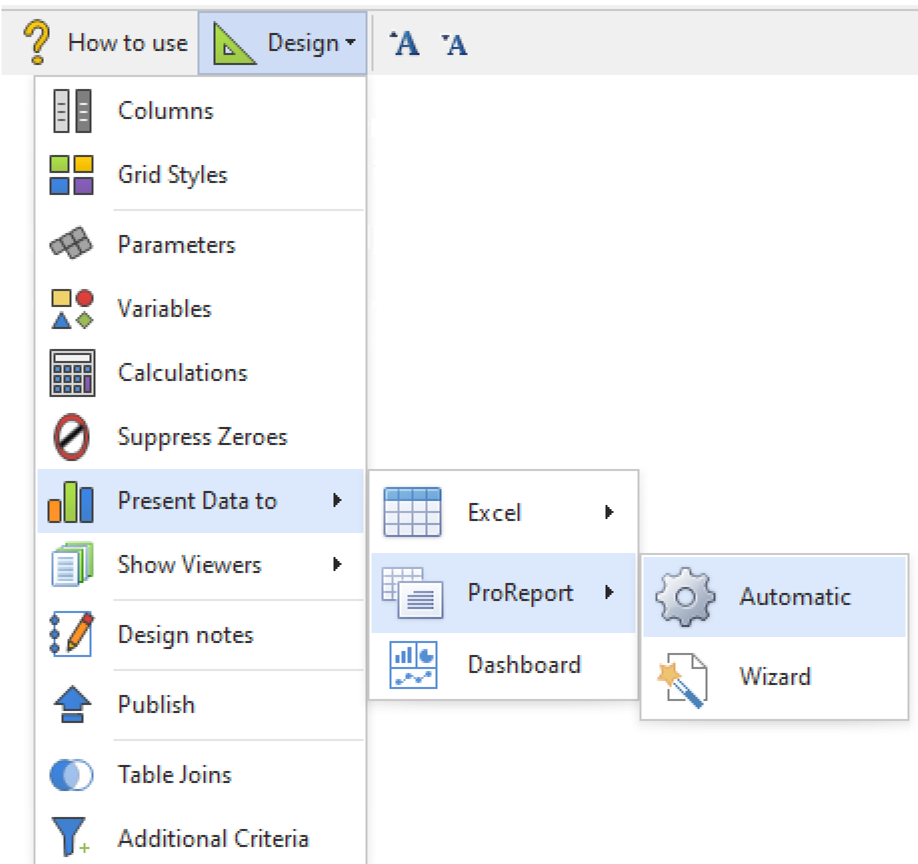
Presenting from a Report

Toolbar Menu

The Report toolbar contains a menu option for presenting to Excel, ProReport and Dashboard.

Present to ProReport from Toolbar

From the menu select *Design* > *Present Data to* > *ProReport* and select the option for [Automatic](#) or [Wizard](#).

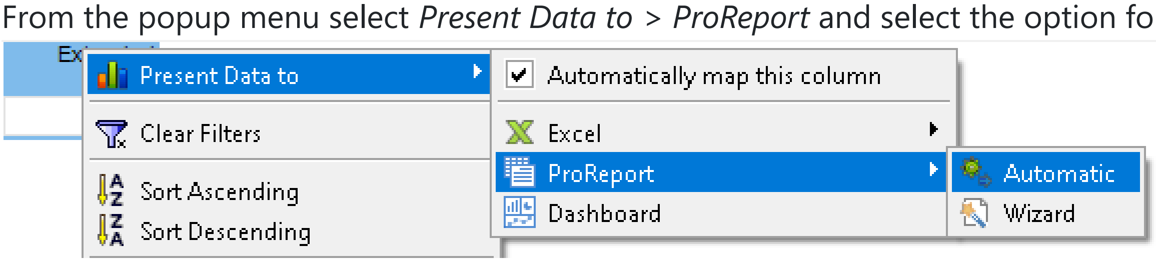


Grid Popup Menu

The Report grid column headers display a context menu when right-clicked. Options are available to present to Excel, ProReport and Dashboard.

Present to ProReport from Grid

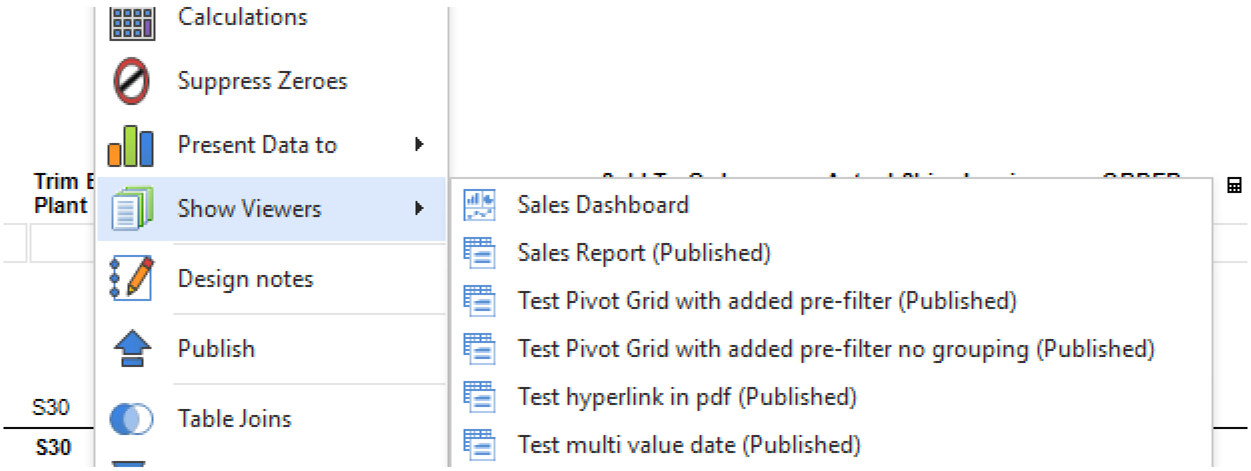
From the popup menu select *Present Data to* > *ProReport* and select the option for [Automatic](#) or [Wizard](#).



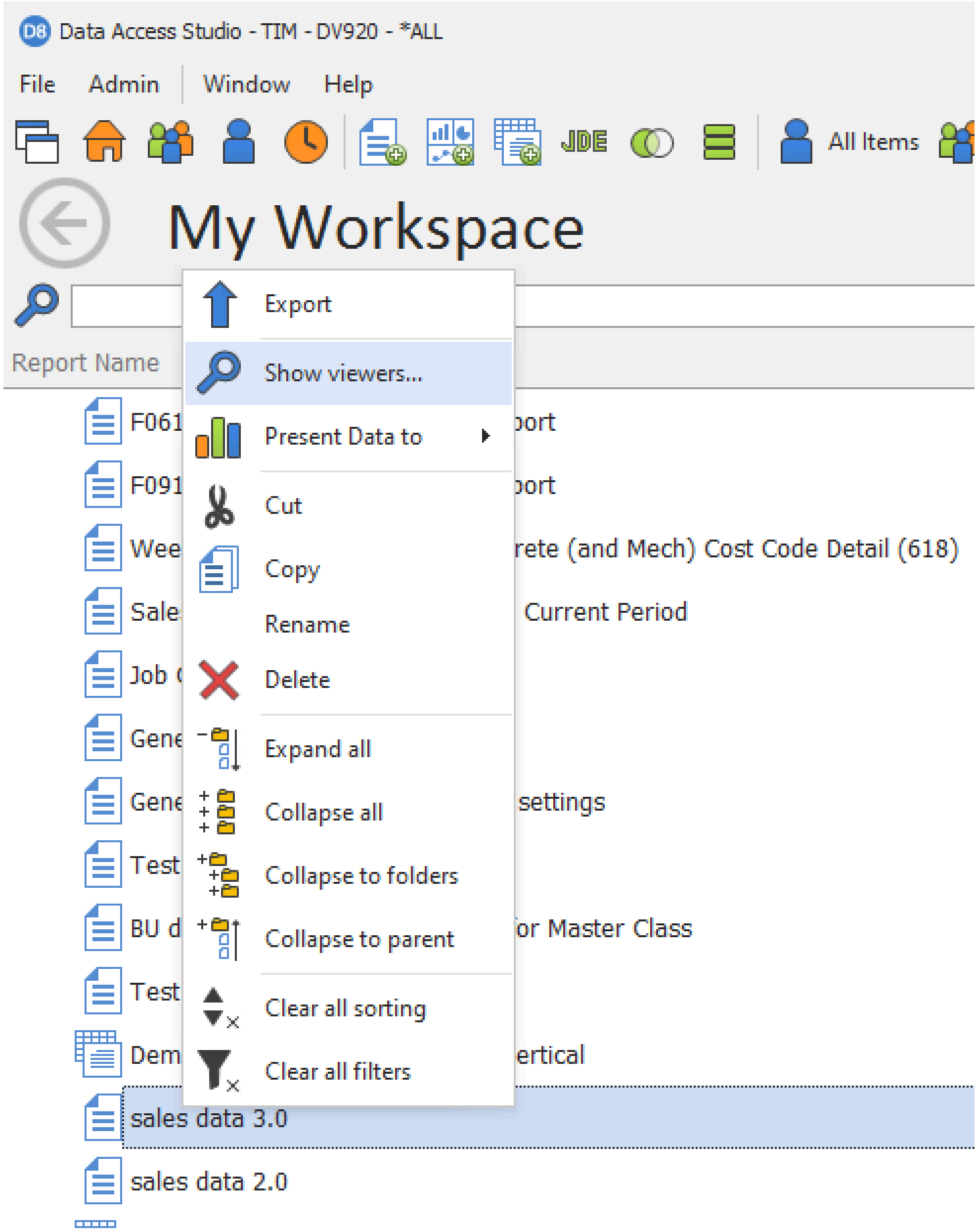
> **NOTE**
>
> The selected grid column can be unmapped by un-checking the *Automatically map this column* option, meaning it will not show up in the columns for the ProReport.

Showing Viewers

A ProReport or a dashboard that is presenting your data is called a viewer. To manage your development, you will want to be able to see what ProReports and dashboards use your reports. You can see this list from the 'Show Viewers' sub-menu of the design menu of a report. The notation '(Published)' indicates that this viewer is published to mobie.

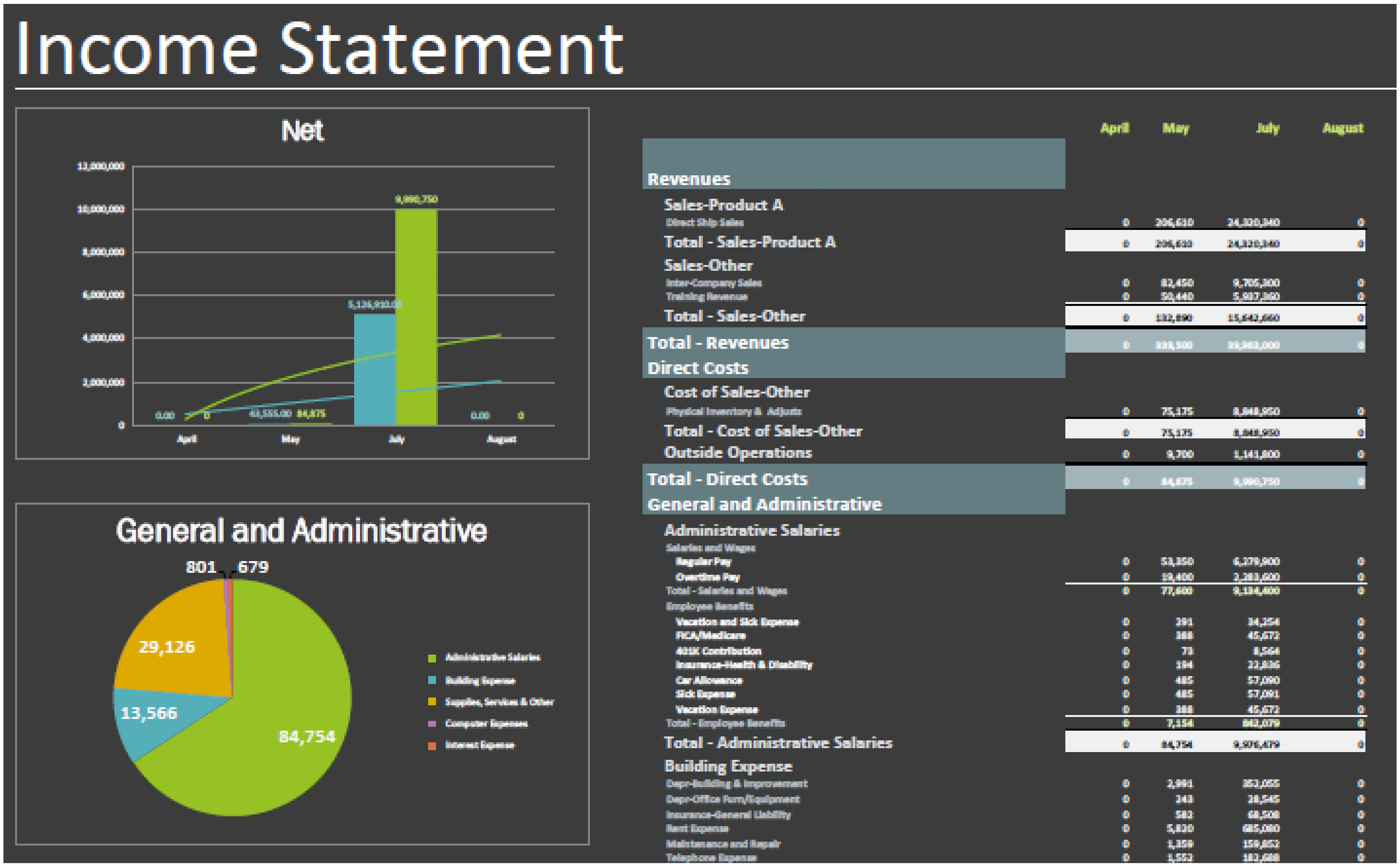


You can also view this same list from the 'My Workspace' area.


Data Access Studio - TIM - DV920 - *ALL
File
Admin
Window
Help
All Items
My Workspace
Report Name
Export
Show viewers...
Present Data to
Cut
Copy
Rename
Delete
Expand all
Collapse all
Collapse to folders
Collapse to parent
Clear all sorting
Clear all filters
sales data 3.0
sales data 2.0

Add Charts and Excel formatting to your report

You can present your report with all the features of Excel. With Excel Presentation, your query comes alive with graphs, dashboards, and pixel-perfect formatting:



Data Access Studio provides two ways to format your report in this manner:

- Automatic presentation
- Manual presentation

In general, use the Automatic presentation for new reports. The Manual presentation method (which uses row padding for nested groups), is there for legacy reports.

Automatic Presentations

The Automatic presentation mode supersedes the old way of presenting your data in Excel. Automatic presentations automatically track changes you make on the data tab. For instance, if you add new columns or change the grouping, the change automatically appears on the presentation tab.

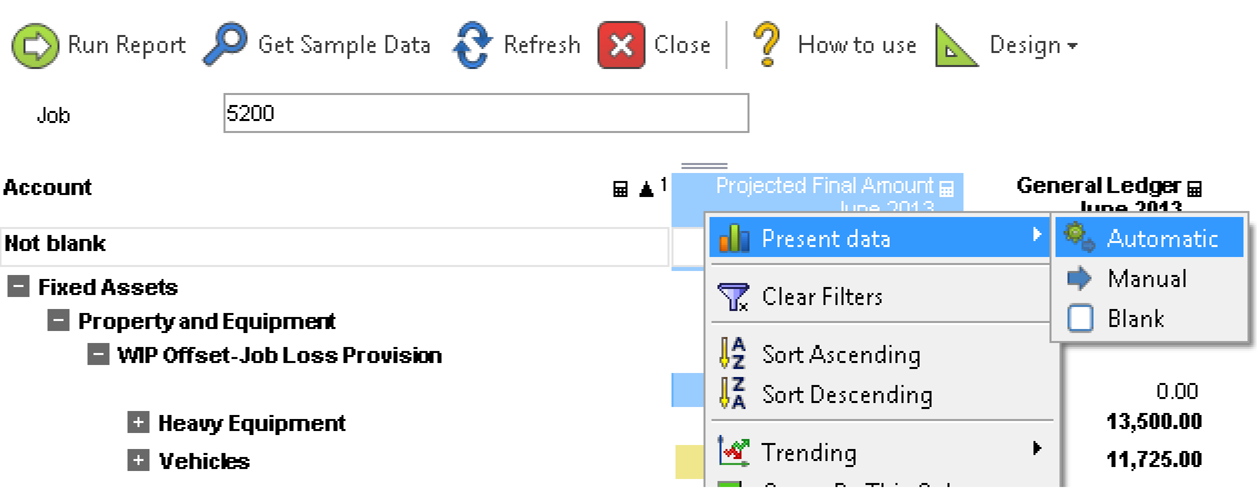
Automatic presentations also do away with row padding. This means you may have as many grouping levels as you want (formerly had a limit of 3 group levels). Also, the new mechanism is more efficient with memory – so the size of your resulting report will be smaller as well.

Automatic presentations work seamlessly with downstream Excel formulas and charts. Automatic presentations keep formulas and charts intact as your incoming query data changes. Also, the formulas track changes to the List calculation. For example, if you add a row to a List, all formulas based on other amounts will remain unaffected.

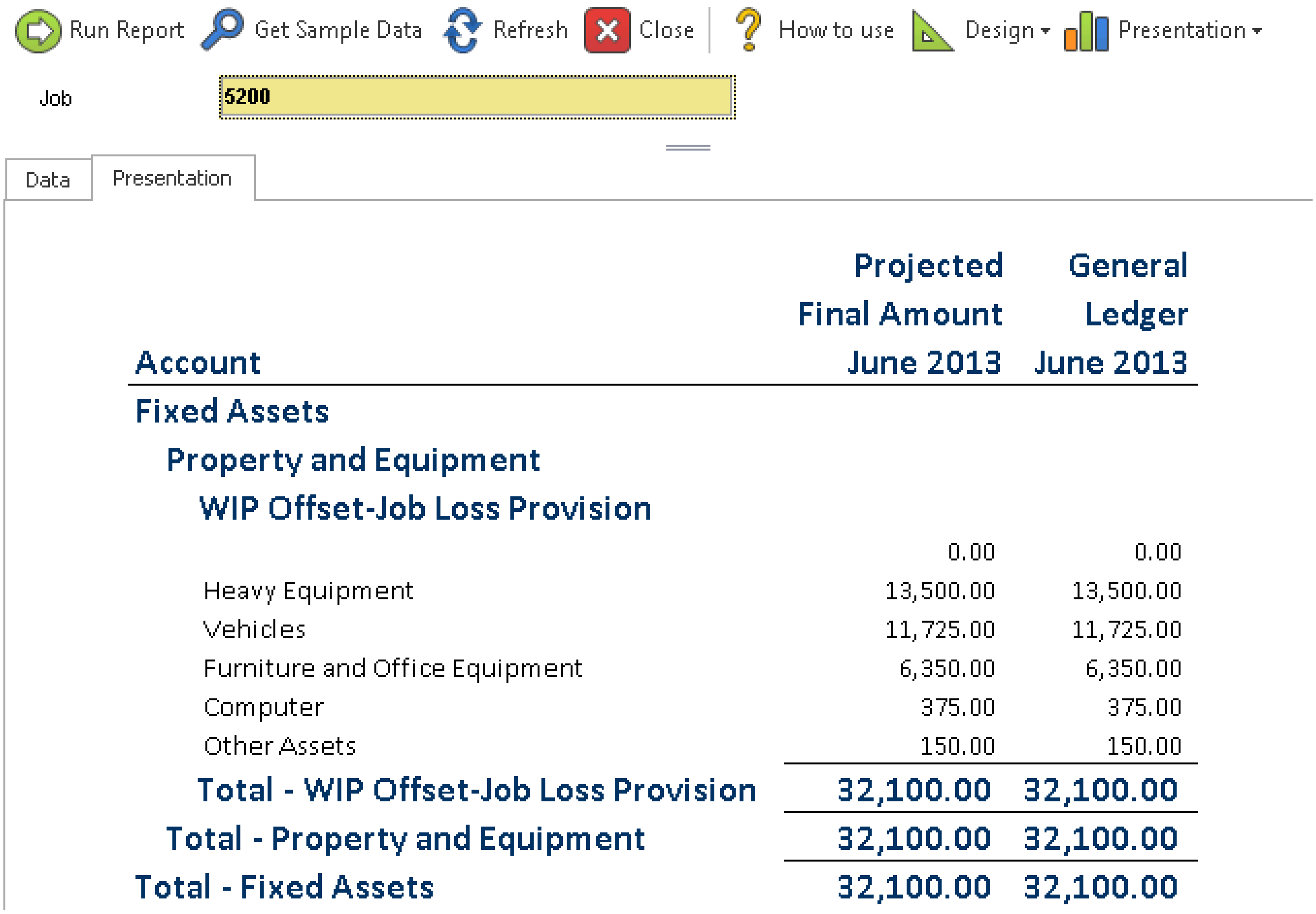
Finally, Automatic presentations let you quickly create beautifully formatted report elements. To get you started, we've provided over 30 different customized styles that you can quickly apply and customize.

Creating an Automatic Presentation

To automatically present your data in Excel, right-click a column to get the **Column Menu**. Select **Present data** > **Automatic**.



DAS will embed Excel under the **Presentation** tab and map all visible columns automatically with the default style (more on that later). Note also the appearance of the **Presentation** menu item in the toolbar (see **Control the Excel Presentation**).



Account	Projected Final Amount June 2013	General Ledger June 2013
Fixed Assets		
Property and Equipment		
WIP Offset-Job Loss Provision		
	0.00	0.00
Heavy Equipment	13,500.00	13,500.00
Vehicles	11,725.00	11,725.00
Furniture and Office Equipment	6,350.00	6,350.00
Computer	375.00	375.00
Other Assets	150.00	150.00
Total - WIP Offset-Job Loss Provision	**32,100.00**	**32,100.00**
Total - Property and Equipment	**32,100.00**	**32,100.00**
Total - Fixed Assets	**32,100.00**	**32,100.00**

Once you create your automatic presentation, you can control it in many ways.

Controlling the Automatic Presentation

Once you've added an automatic presentation to your report, you can control it as follows:

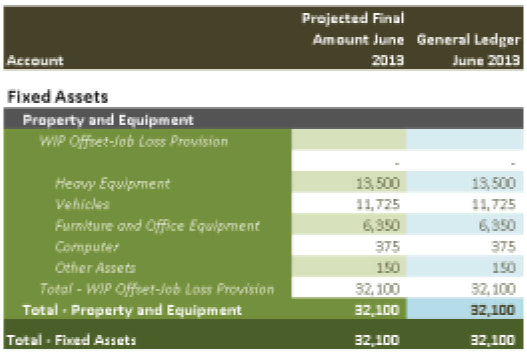
To	Do this		
Exclude a column from being presented	Either: 1) hide the column or 2) Right-click the Column Header. Uncheck **Presentation**	Automatically map this column.	
Include a column in presentation	By default, all visible columns are automatically presented. So if you add a calculation column it will automatically show in the automatic presentation. If you previously unchecked **Presentation**	Automatically map this column, then right-click the Column Header. Check **Presentation**	Automatically map this column.
Change the column style mapping	Each column is automatically mapped to a default style. For instance, the grouped column is mapped to the style GROUP. You can change the default style as follows: Right-click the Column Header. Select **Map to style ->** and select the desired styles from the available styles. See Automatic Presentation Styles for more information.		
Change how the presentation looks	SeeAutomatic Presentation Styles.		
Change the report grouping level	Just change the grouping level in the data tab, the Automatic presentation automatically updates itself. Also, if you move the grouped column, the		

To	Do this		
	automatic presentation will track the movement.		
Add a chart or formula	Click **Refresh** . Then add any chart or formula you want using Excel notation. DAS will automatically track the formula and chart as the data in the data tab changes (e.g. with different queries).		
Add row above the presentation area	Click **Refresh** . In Excel, insert a row. Also, you can click **Presentation**	Advanced Edit and enter a value for **Excel row** explicitly. You can also change the target sheet and column for the Automatic presentation by changing the **Excel sheet** and **Excel column** values.	
Remove/Edit text for Totals row	By default, the automatic presentation prefixes the total lines with the word "Total -" and the label of the group. E.g. Total - Bank account. To change this behavior, click **Presentation**	Advanced Edit. Edit the field value for **Totals label**. You can type any text you want or remove the text altogether. The special tag [GROUPLABEL] means the text value of the current group label (which will change depending on the row).	
Toggle Excel outlining	By default, when you add an Automatic presentation, DAS does not add Excel outlining to the presentation. To add Excel outlining (i.e. +/- group collapsing in Excel), click **Presentation**	Advanced Edit. Modify the field value for **Excel Outlining**. **Note:** adding Excel outlining can slow your report down.	
Remove the Automatic Presentation	Right-click the Column Header. Select **Presentation**	Remove Presentation. Alternatively, from the report tool bar, select **Presentation**	Un-embed Excel.

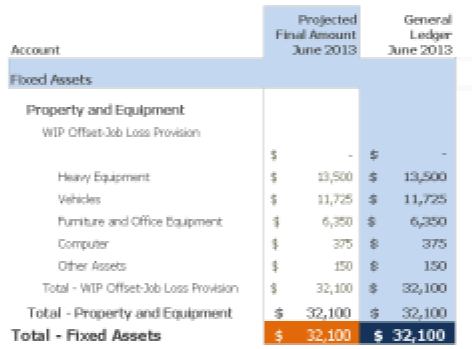
To	Do this		
from your report			

Automatic Presentation Styles

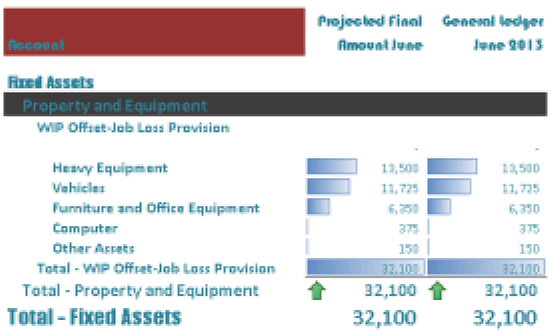
The automatic presentation feature provides a rapid way to style your presentation. Consider the following four screen shots:



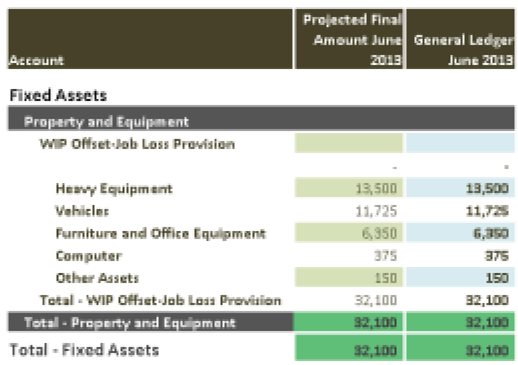
Account	Projected Final Amount June 2013	General Ledger June 2013
Fixed Assets		
Property and Equipment		
WIP Offset-Job Loss Provision		
	-	-
Heavy Equipment	13,500	13,500
Vehicles	11,725	11,725
Furniture and Office Equipment	6,350	6,350
Computer	375	375
Other Assets	150	150
Total - WIP Offset-Job Loss Provision	32,100	32,100
Total - Property and Equipment	32,100	32,100
Total - Fixed Assets	32,100	32,100



Account	Projected Final Amount June 2013	General Ledger June 2013
Fixed Assets		
Property and Equipment		
WIP Offset-Job Loss Provision		
	$ -	$ -
Heavy Equipment	$ 13,500	$ 13,500
Vehicles	$ 11,725	$ 11,725
Furniture and Office Equipment	$ 6,350	$ 6,350
Computer	$ 375	$ 375
Other Assets	$ 150	$ 150
Total - WIP Offset-Job Loss Provision	$ 32,100	$ 32,100
Total - Property and Equipment	$ 32,100	$ 32,100
Total - Fixed Assets	$ 32,100	$ 32,100



Account	Projected Final Amount June	General ledger June 2013
Fixed Assets		
Property and Equipment		
WIP Offset-Job Loss Provision		
	-	-
Heavy Equipment	13,500	13,500
Vehicles	11,725	11,725
Furniture and Office Equipment	6,350	6,350
Computer	375	375
Other Assets	150	150
Total - WIP Offset-Job Loss Provision	32,100	32,100
Total - Property and Equipment	32,100	32,100
Total - Fixed Assets	32,100	32,100



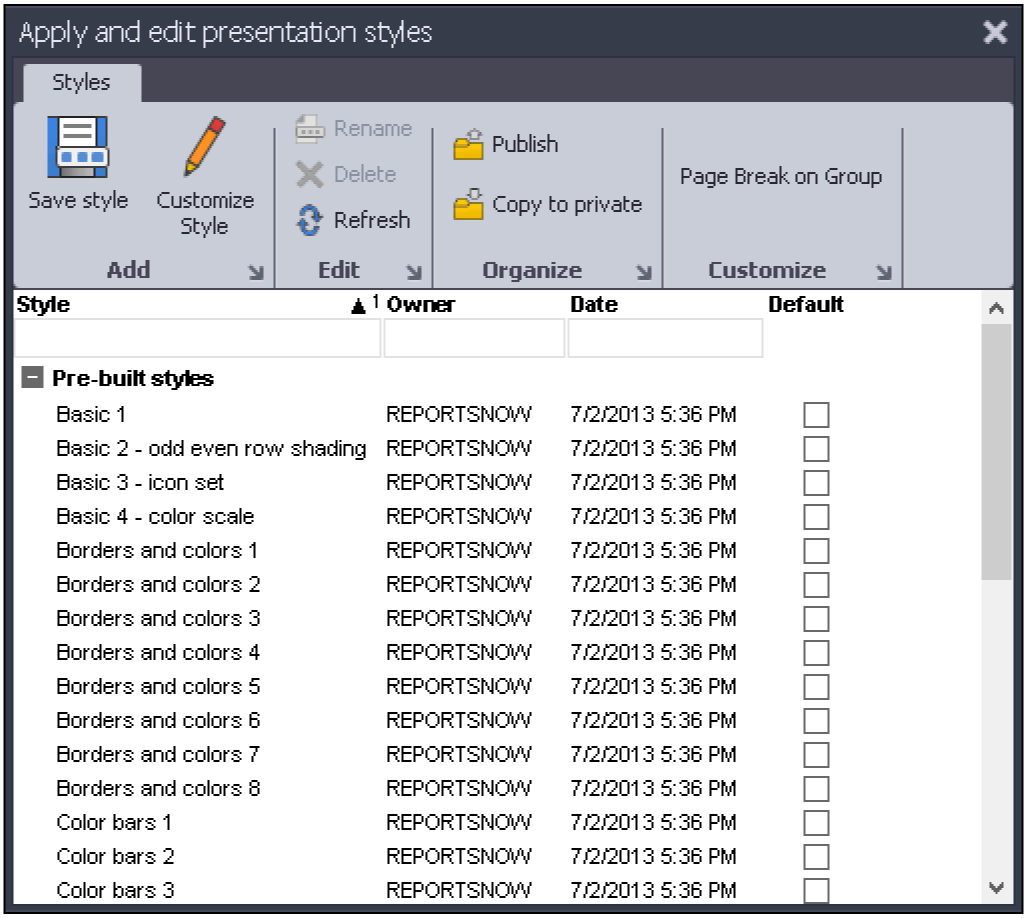
Account	Projected Final Amount June 2013	General Ledger June 2013
Fixed Assets		
Property and Equipment		
WIP Offset-Job Loss Provision		
	-	-
Heavy Equipment	13,500	13,500
Vehicles	11,725	11,725
Furniture and Office Equipment	6,350	6,350
Computer	375	375
Other Assets	150	150
Total - WIP Offset-Job Loss Provision	32,100	32,100
Total - Property and Equipment	32,100	32,100
Total - Fixed Assets	32,100	32,100

Each is a different style for the same report. With one click, the user can transition between each of the above styles.

A style is any Excel format (color, font, size, numeric precision, conditional format, border, etc.) that you specify for a specific element. You can see that it is possible, for instance, to do odd-even row shading and conditional formatting.

Pre-built DAS Styles

To get you started with styles, DAS ships with about 30 pre-defined styles. To try out a predefined style on a report with an Automatic presentation, click **Presentation** > **Styles**.



Click any row and your automatic presentation will apply the style you selected. See **Managing Styles** for more information.

How Do DAS Styles Work?

Now that you've had a chance to play with the pre-built DAS styles, let's consider how styles work. Once you understand this, you can create and save your own custom styles.

First, why do we need DAS styles? Without DAS styles, you would be forced to format your Excel presentation cell by cell. The problem with this approach, other than tedium, is that as soon as your data changes, all of your formatting is incorrect. So this approach clearly cannot work for reports in general.

As opposed to styling cell by cell, DAS Styles format by a cell's type. A cell has two components to its type: the Row Type and the Column Type.

Row Types

Row Type	Description
CAPTION	The text in the header part of the grid column
GROUP	The text for the group by each group level

Row Type	Description
DETAIL	The text and amounts at the detail lines
TOTAL	The text and amounts for a group's total at each level
GRANDTOTAL	The data for the column grand total
DEFAULT	The default formatting
SPACER	The spacing between a total and the next group

So given this simple set of types you can, for instance, define that you want the Group caption to be Arial, font size 14, and blue. No matter what the input data (whether it's 100 rows or 100,000 rows), the group styling will always be correct. Note that row types are referenced by the literal labels in the table above. Also, GROUP, TOTAL, and SPACER support appending a number to specify "at which level". For example, GROUP1 means the styling for group level 1.

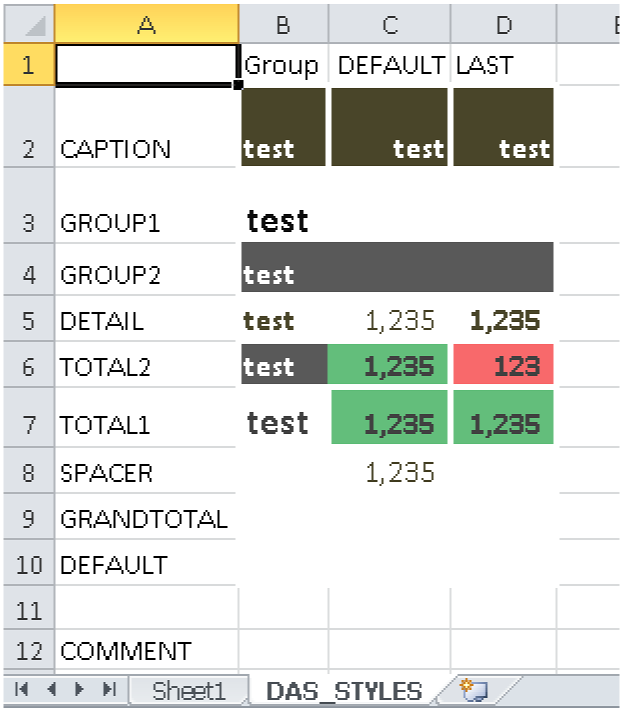
Column Types

Column Type	Description
GROUP	The group column
FIRST	The first column
LAST	The last column
DEFAULT	Any column by default
USER_DEFINED	Any user-defined style to be applied by column (note that the Type in this case can be any name - it does not have to be USER_DEFINED). You may also specify as many user-defined column types as you need.

The column types let you specify column-specific styling in conjunction with the row type.

The DAS_STYLES sheet

When you combine **Row Types** and **Column Types** you get the **DAS_STYLES** sheet. All automatic presentations have a DAS_STYLES sheet. This sheet is the matrix of the row types and columns types that define the style for your presentation. When you select a style, this is the sheet that gets updated with the style's data.

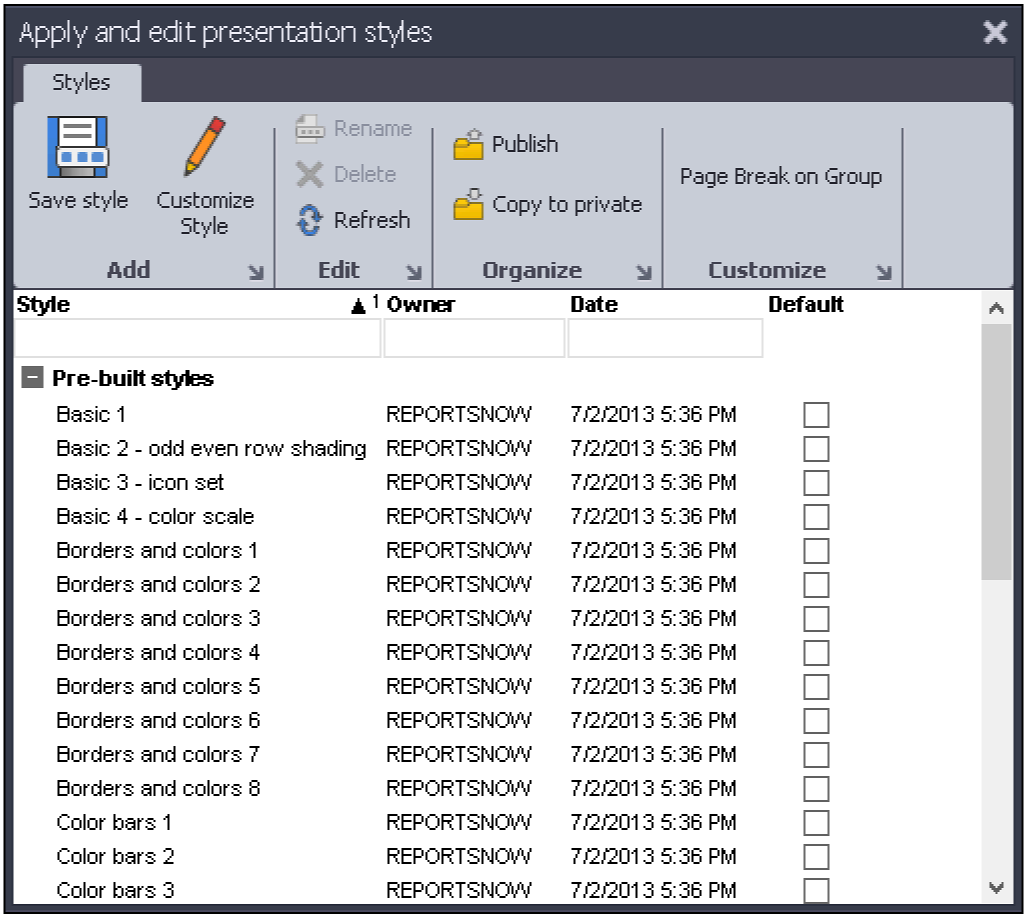


The image above shows the DAS_STYLES for the template "Color Tiles 3". You can see it is simply a spreadsheet of formats for each row and column type. The **COMMENT** tag means ignore any text below the COMMENT tag.

If you modify any of the formats in the DAS_STYLES sheet, then you customized the style. For instance, in the screenshot above, you could change the **GROUP1** text to be blue (Cell B3). Once changed, all your Group level 1 text will be blue. See **Managing Styles** for more information about saving and publishing custom styles.

Managing Styles

To control the DAS presentation styles on a report with an automatic presentation, click **Presentation | Styles**.



This dialog lets you control the styles in your reports.

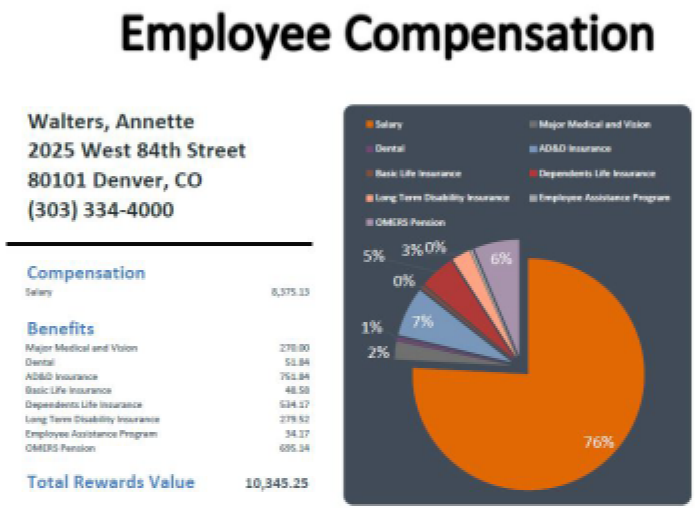
To	Do this	
Apply a style to your report	Click any style row. DAS will apply the selected style to your report.	
To set a style as the default	Check the **Default** check box for the style. Once checked, the next time you create an automatic presentation, this is the style that will be applied. If no style is checked, then DAS uses the internal bootstrap style for new automatic presentations.	
Customize a style	Click any style row and select **Customize Style** from the toolbar. DAS will display the styles DAS_STYLES sheet for you to edit. Once you are done editing, click **Save style** to save your style to either a new name or overwrite an existing name. **Note:** you cannot rename pre-existing styles; but you can	Spreadsheet Look and then selecting the DAS_STYLES worksheet.

To	Do this	
	copy these styles to your private styles with the same name. You may also customize a style from the Report tool bar by clicking **Presentation**	
Rename a style	Click on a style row and click **Rename** in the tool bar. Enter the new name for the style. If you select an existing name, DAS will warn you of overwriting if necessary.	
Delete a style	Click on a style row and click **Delete** in the tool bar. **Note:** a DAS Administrator must grant you delete rights to delete public styles.	
Publish a style to others	Click on a private style and click **Publish**. The style will be copied to the public space. **Note:** a DAS Administrator must grant publishing rights for your to publish styles.	
Copy a pre-built or public style to your private styles	Click a public or pre-built style. Click **Copy to private** in the toolbar.	
Add page breaks for top group	Click **Page Break on Group**. DAS will add Excel page breaks for all Group level 1 level breaks. **Note:** Excel 2010 and earlier can only insert up to 1024 page breaks. If your report exceeds this limit, consider using Bursting instead.	
Create a new folder	Click **New Folder**.	
Rename a folder	Right-click a folder. Click **Rename**. Enter the new folder name.	
Undo/Redo last change	Click the **Undo** or **Redo** button.	

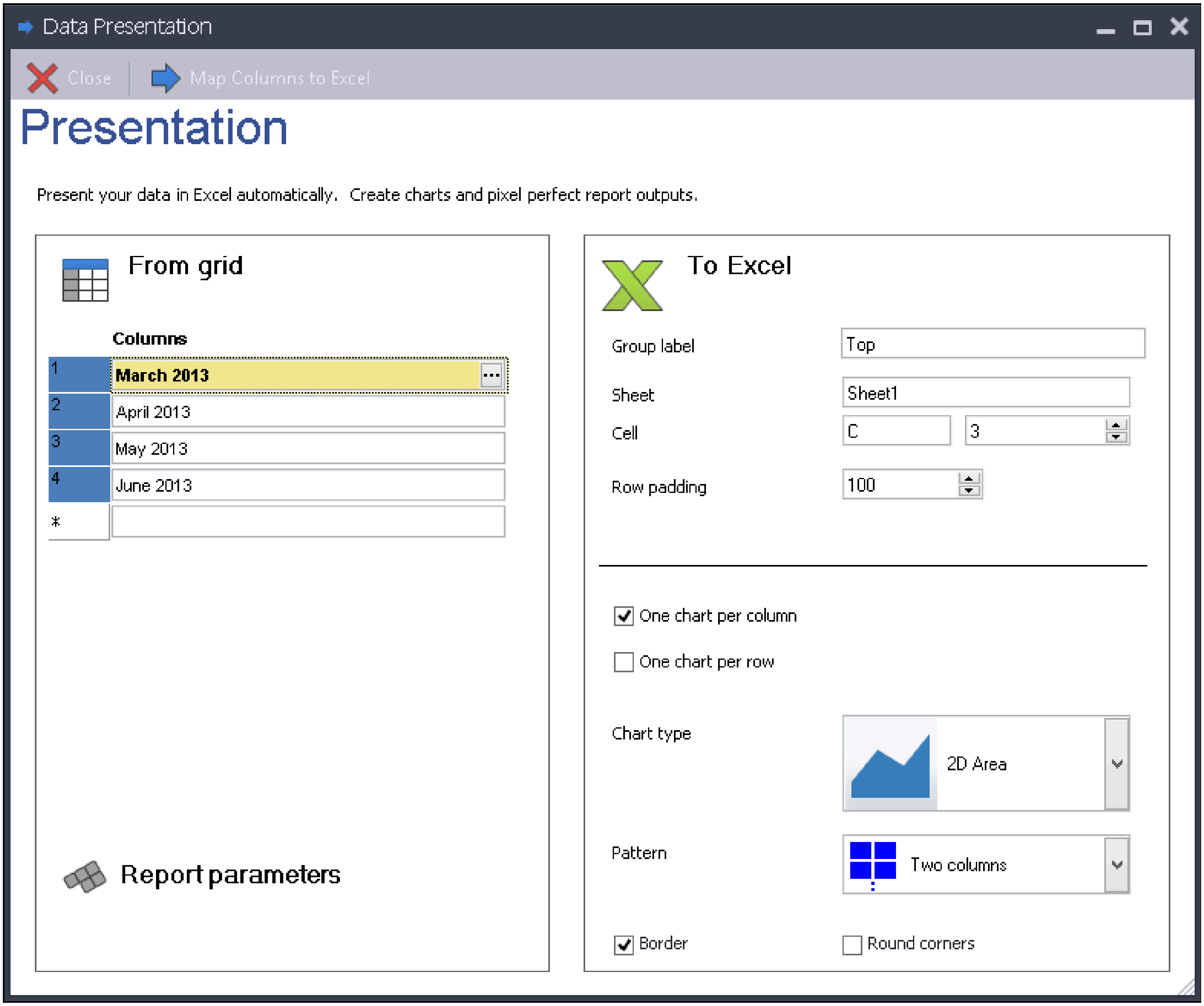
Manual Presentation

You can choose to present your report with the Manual presentation option. The Manual presentation provides the most flexibility for simple reports. If your report is complex (for example, you need more than three group levels or have hundreds of thousands of rows of data), you should opt for the Automatic presentation approach (see Automatic Presentation).

With Manual Presentations, your query comes alive with graphs, dashboards, and pixel-perfect formatting:



To present your data in Excel, right-click a column to get the Column Menu. Select **Presentation**. Data Access Studio will display the following screen:



To	Do this
Add columns to present	Click on the visual assist in the **From grid** list. Select the columns you want.
Re-order the sequence of columns	Click on the grip bar 2 and drag the column name to the position you want.
Map data to Embed Excel but do not graphically present it (old style Embed Excel)	Set **Sheet** to blank or **DASLink**.
Change the target sheet where you want	Change the **Sheet** text box to the name of the Excel sheet you want.

To	Do this
to present the grid data	
Change the target cell where you want to present the grid data	Change the **Cell** column and row values.
Change upper limit on the number of rows for the presented data	Change the **Row Padding** value. The **Row Padding** value sets the upper limit on the number of rows Excel will present. Pick the smallest number that you know will be bigger than the number of rows you expect from your query and grouping. For instance, if your grid groups business unit and you know that the maximum number of business units for any given query will not exceed 500, then set the **Row Padding** to 500. If you make this number smaller, it will be easier to format your Excel presentation later.
Map data only (and hence do not graph the values)	Select **None** for **Chart Type**.
Create a chart for each column. X axis = rows and values of the chart are the values in the grid.	Check **One chart per column**. Select the visual assist for **Chart Type** and select the type of chart you want. DAS will create an array of that chart type in the Excel presentation.
Create a chart for each row. X axis = columns and values of the chart are the values in the grid.	Check **One chart per row**. Select the visual assist for **Chart Type** and select the type of chart you want. DAS will create an array of that chart type in the Excel presentation.
Specify how you want the graphs to be laid out in the presentation	Click the **Pattern** option and select how many columns to use when laying out the resulting graphs.
Specify borders for your graphs	Check the **Border** box for borders. Un-check the **Border** box to create graphs with no borders.
Specify round corners for your graphs	Check the **Round Corners** for round corners. Un-check for square corners.

Once you have configured the options you want, click the **Map Columns to Excel** to complete the presentation. Whenever you **Map Columns to Excel**, DAS overwrites the previous mapping. Usually, it is a good idea to clear the target sheet before re-mapping graphs to it.

Control the Excel Presentation

Once you present your data in Excel, DAS displays the **Presentation** menu option on the Quick menu above the grid. You can use this menu to control how DAS presents your data in Excel. To access these options, click on the **Presentation** menu:

To	Do this
Adjust the Excel width automatically after each query	Check the **Best fit after query** button. Uncheck this button to keep Excel column widths intact.
Best fit the current visible sheet now	Click **Best fit sheet**.
Auto fit the sheet width to the width of the printer	Check the **Auto-fit to printer**. Note: If you want to add page breaks to your presentation, make sure to uncheck **Auto-fit to printer**.
Hide/show spacer rows used in Manual Presentation groups	Check the **Filter sheet** to hide the spacer rows (as defined by the **Presentation** > **Advanced edit** > **Map group values to Excel** > **Row padding**). Uncheck to show the spacer rows. **Note:** Show the spacer rows if you want to apply Excel Format Cells.
Format the cells of Manual Presentation	Uncheck the **Filter sheet** button, to make all spacer rows visible. Select the cells and spacer cells and apply the desired Excel Cell Formatting to the cells (E.g. numeric format, bolding, etc.). Re-check the **Filter sheet** button when you are done to once again hide spacer rows.
Show a "clean" look for your report	Click **Report look**.
Show a "spreadsheet" look so you can edit your report	Click **Spreadsheet look**.
Hide/show Excel menus	Click **Toggle > Menus**.
Hide/show grid column and row headings	Click **Toggle > Headings**.
Hide/show grid lines	Click **Toggle > Lines**.

To	Do this
Hide/show worksheet tabs	Click **Toggle > Worksheet tabs**.
Hide/show status bar	Click **Toggle > Status bar**.
Wipe out the visible sheet (i.e. start with a "clean slate")	Click **Clear active sheet**.
Present visible grid columns in Excel	Click **Map visible columns to Excel**. Once you click, DAS will present the dialog to present columns in Excel [Add Charts and Advanced Formatting]().
Manually edit and refine previous mappings	Click **Advanced Edit**. With this option, you can append new maps at the end. Use this option if it is important to maintain the order and columns of a previous mapping. You may also add additional mapping such as Report Parameter mapping with this editor.
Remove the Excel Presentation	Click **Un-embed Excel**. DAS will remove the Excel presentation and show the grid showing your query data.

Utilize DAS Variables in the Excel Presentation

The presentation layer provides a dynamic set of referenceable variables within your reports, including report metadata such as report name and last select time, along with any report parameters and system variables. These variables can be referenced directly within the presentation layer by typing in =DAS with the name of the variable.

Variable	Definition	Example
=DAS_ReportName	Returns the full name of the report.	=DAS_ReportName resolves to **Supplier Metrics by Business Unit**.
=DAS_ReportType	Returns either Private or Public based on the report.	=DAS_ReportType resolves to **Private**.
=DAS_LastFetchTime	Returns the date and time when all records run for the report have been loaded.	=DAS_LastSelectTime resolves to 46073.66 OR **3/2/26 3:46 PM** (after formatting adjustments)
=DAS_LastModifiedTime	Returns the date and time of the last **save** of the opened	=DAS_LastModifiedTime resolves to 46083.63 OR **3/2/26 3:03 PM** (after

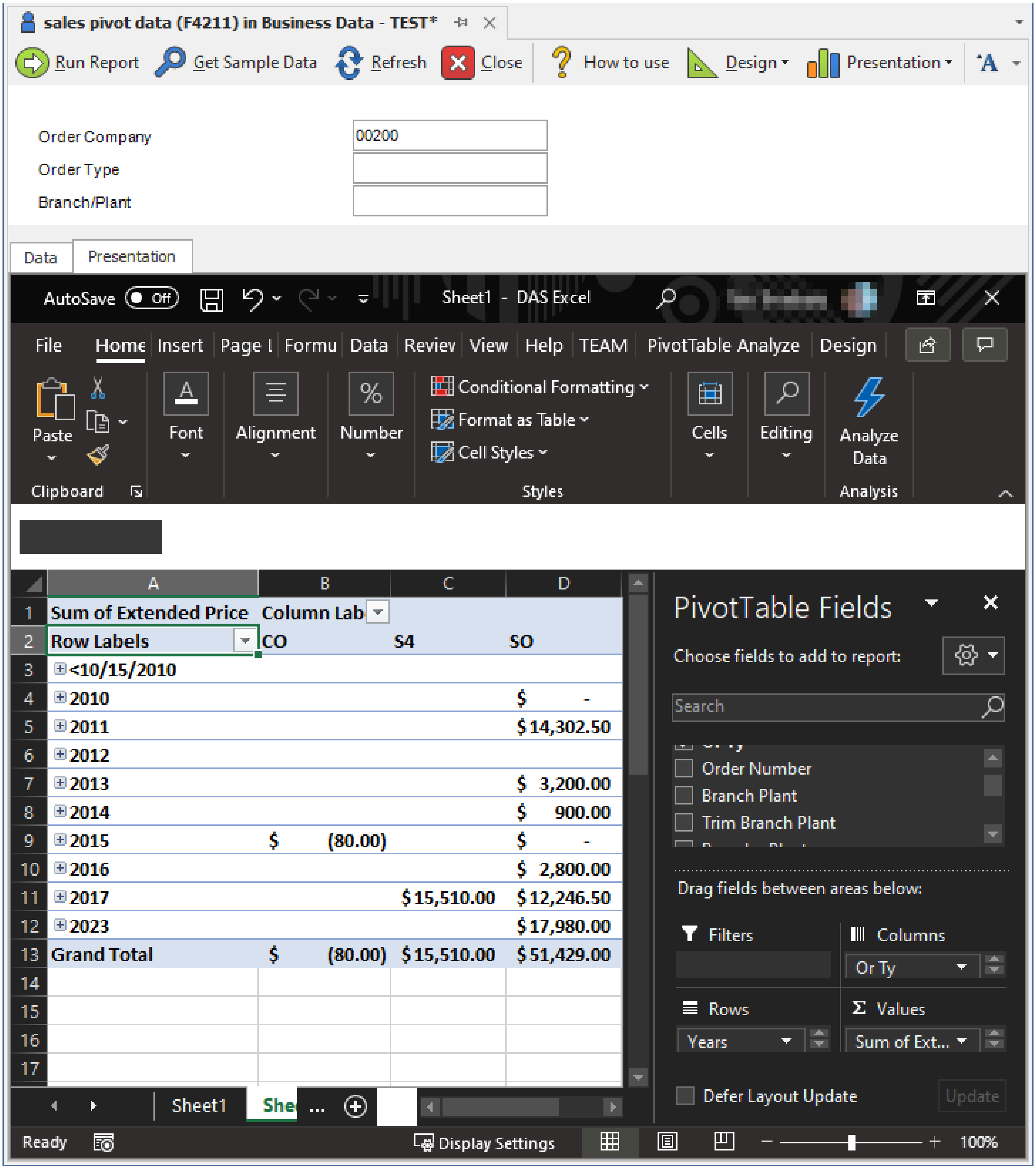
Variable	Definition	Example
	report.	formatting adjustment)
=DAS_LastSelectTime	Returns the date and time of the last time data was pulled from the database (or external data source) for the report.	=DAS_LastSelectTime resolves to 46073.66 OR **3/2/26 3:44 PM** (after formatting adjustments)
=DAS_[ParameterName]	Any parameter created in this report will be available to return in the presentation layer.	=DAS_Business_Unit resolves to **10;20;30;30M**.
=DAS_[SystemVariableName]	Review the list of available [system variables]().	=DAS_SYS_USER_ID resolves to the logged in user.

NOTE

Any time-based DAS variables will display in the general Excel format by default. Adjust the number format to return the variable in a date, time, or date and time format instead.

Excel Pivot Tables and Charts

Both manual and automatic presentations support embedding pivot tables and charts. This allows advanced Excel users to leverage a powerful feature of Excel with DAS. The data in DAS is mapped to Excel without grouping or expanded groups, and then a pivot table or chart is linked to the mapped data.



Important Limitations

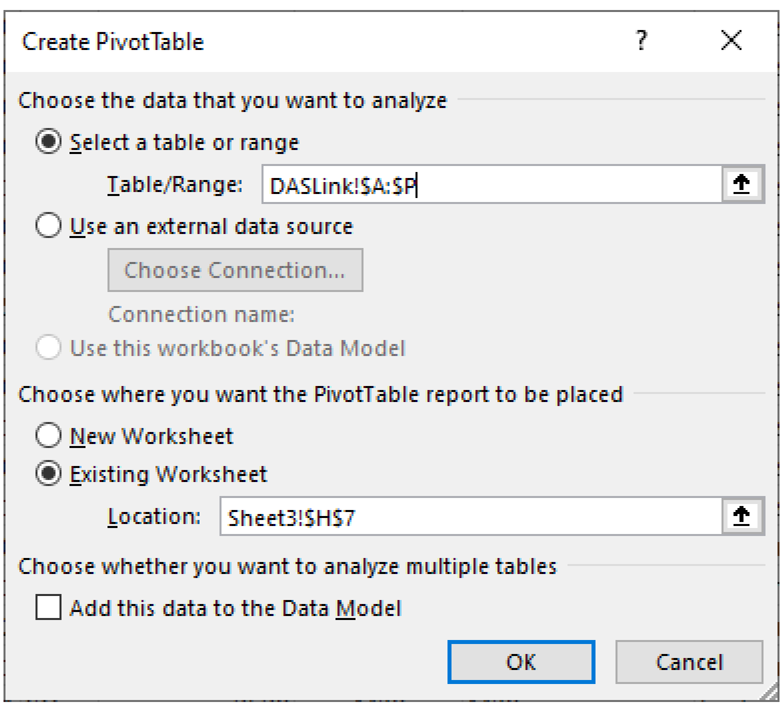
> **NOTE**
>
> Columns that use variables in caption names (such as conditionals ('<within>') or relative periods calculations) should have those variables removed before being used by a pivot table or chart. Excel pivot tables and charts cannot reliably handle changing column caption names and will silently remove these columns from the pivot when the caption name changes.

> **NOTE**
>
> Excel slicers are not supported.

Pivots in Manual Presentations

If you do not have to display the source data brought in by DAS, it is recommended that you use a manual presentation to back your pivot table or chart. A manual presentation performs better since it only brings in data and does minimal styling processing in Excel. This feature is ideal when the report only shows a pivot table or chart.

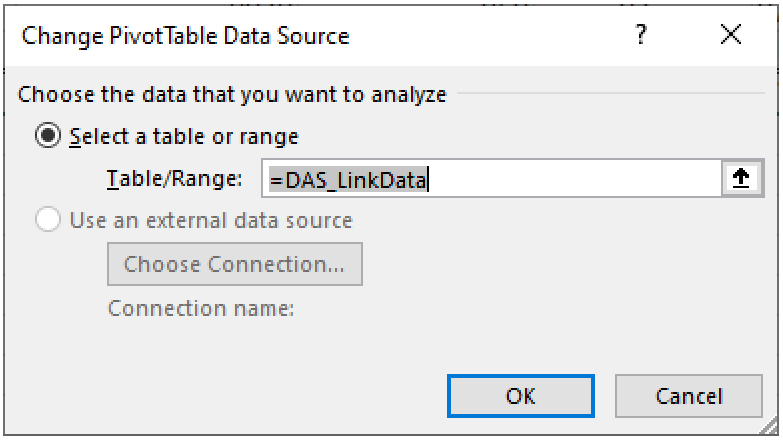
When creating the pivot table or chart, make sure to select just the columns in the DASLink page to ensure that the pivot datasource works with varied row counts coming in from DAS.



Pivots in Automatic Presentations

If you need to display the data in addition to your pivot table, the automatic presentation is recommended.

When creating the pivot table or chart, use the 'DAS_LinkData' named range to ensure that the pivot datasource works with varied row counts coming in from DAS.



Calculations

Data Access Studio provides two calculation methods to transform data:

1. Calculation Columns
2. Global Variables

Calculation Columns

Calculation Columns give you the power to create information derived from your grid. Calculation Columns differ from Excel cell calculations in that Calculation Columns work for any number of rows. This row-independence means you can design reports that are more useful and re-usable on JDE data than is possible with Excel.

Quick Facts:

- Each Calculation Column lets you transform your data visually.
- Many calculations support **Quick Calculation**. With Quick Calculation, you can select multiple columns, right-click any column header in your selection, and select **Quick Calculation** > **...** to complete the calculation you need. See Associated Descriptions for an example.
- Once you add a calculation, you will see the results of the calculation in your grid immediately.
- You can edit a calculation by double-clicking its column header. (Edit Calculations with the Editor)
- You can edit all calculations. (Edit Calculations with the Editor)
- You can delete a Calculation Column by right-clicking the column header and selecting: **Delete Column**.
- You can filter Calculation Columns just like any other column. **Note:** If you have a slow-running query, Calculation Column filtering won't improve database query performance.
- Data Access Studio re-calculates when you find new data or when it detects a change that forces a recalculation.
- Data Access Studio automatically determines dependencies, calculation order, and circular dependencies.

Formula

The formula calculation is a special Calculation Column that allows you write an expression combining many different calculations.

Only Rollup If

Most calculations will have a parameter named **Only Rollup If**. You can edit this parameter to have any condition you need that specifies whether you want the calculation value to apply. For instance, let's say you had a calculation that calculates the total price. You could edit the **Only Rollup If** parameter to specify that you only want the total price to apply if the customer has paid on time. Once you set the condition, then the total price will only have a value if the condition is met.

Layout

Each calculation will be on its own page with a description of the calculation, remarks, an example and a layout of what information is needed for the calculation editor.

1. Date
2. Math
3. Database
4. System
5. Text
6. Trig
7. Enterprise One / World

Global Variables

Global variables are calculated values that can use parameters (See: Prompt for Values), system values (See: SystemVariables), or constants to create derived information *prior to* running a report.

Primary uses:

- Create filters which derive from input parameters to filter grid column data. For example, if you have an input date parameter, you could make a global variable to create a filter selecting the first day and last day of the month relative to that input date. Then you can use the global variable as the filter to a grid column so your report shows only the range for the first day to the last day of the month for your grid data.
- Create static information to use in Calculation Columns (see below).
- Create static information.

Edit Calculations with the Editor

Data Access Studio provides the following ways to edit calculations.

To	Do this	
Edit a single calculation	Double-click the Column Header. Or right-click the Column Header, and select **Calculations**	Edit... Either of these actions will take you to the calculation flow view (see below)
Edit all calculations	Click **Design**	Calculations.... This option will take you to the calculation list view

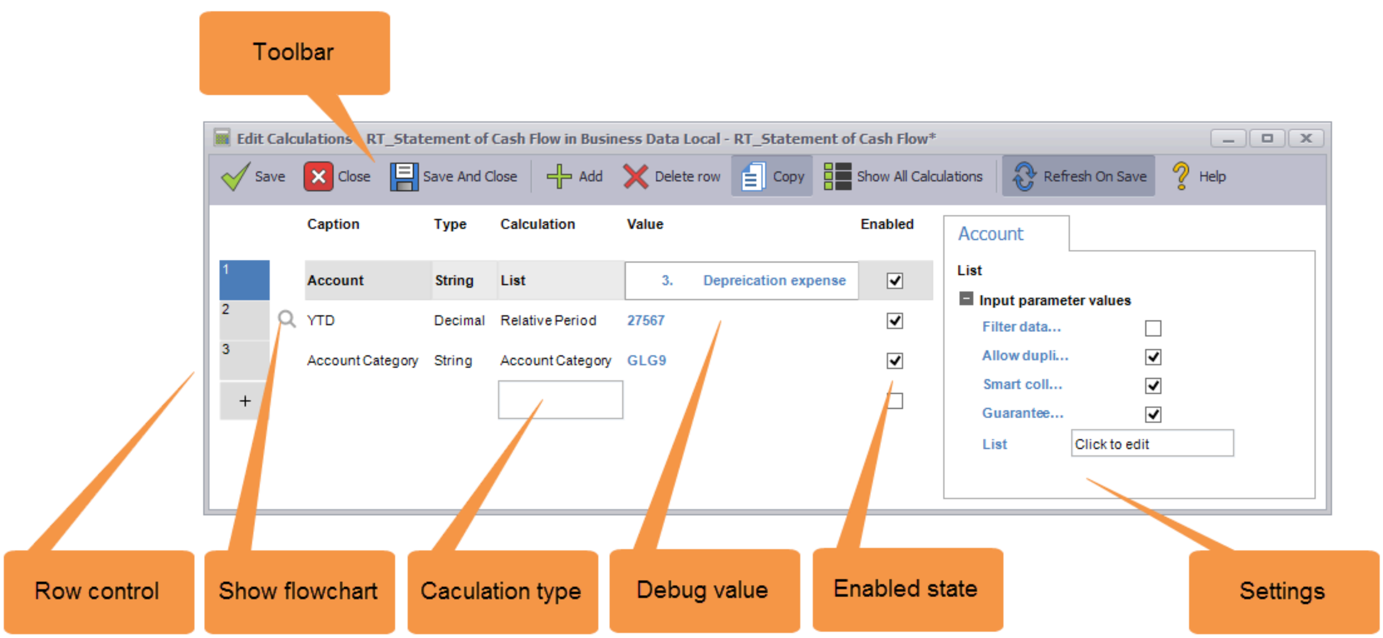
DAS has two ways to view calculations.

1) The calculation list view, where all the calculations are shown.

2) The calculation flow view, where the flows into a selected calculation are shown (see Calculation flow view below)

Calculation list view

The calculation list view allows you to add, delete, edit, and copy calculations. You can rearrange the display order of the calculations by drag and drop.



To	Do this

Add a calculation	Click on an empty box under **Calculation type**. Click on the Visual Assist to select from a list of available calculations. Or type in the name of the calculation directly. Click TAB to apply. Once applied, the calculation-specific parameters will show under the **Parameters** tab.
Delete a calculation	Highlight one or more calculations on the left-hand side. Click **Delete**.
Edit a calculation	Highlight the calculation row on the left. Edit the values under the **Parameters** tab. You may also change the **Column Caption** and **Output Type** (if the particular calculation allows it).
Copy a calculation	Highlight the calculation and click **Copy**. The copied calculation will appear at the bottom.
Disable a calculation	If you want to keep a calculation from running, but you don't want to delete it, you can uncheck the **Enabled** checkbox for the calculation. When a calculation is disabled, it will emit the default value for the calculation and skip running the calculation itself.
Re-arrange the calculation display order	When viewing the list of calculations, it can be handy to re-arrange the row display order of the calculations. To re-arrange calculations, click on the **Row Control** area. Drag and drop the calculation row to the desired location and drop. You may rearrange multiple calculation rows at a time (user standard Ctrl-click and Shift-click) to select multiple rows
See the value of a calculation for a row	If your grid has rows loaded, the **Value** column will show the calculated values for that row. To select another row to evaluate: Right-Click the **Value** column.

	Select **Evaluate Previous Row** to see all calculation values for the previous row Select **Evaluate Row (nnnn)** to re-evaluate the values for the current row Select **Evaluate Next Row** to see all calculation values for the next row Check/Uncheck **Auto-evaluate** to turn calculation evaluation on or off respectively (default is on) You may also evaluate the calculations directly from the report. If you are on the **Data** tab of your DAS report, you can right-click a detail row and select the **Debug** option. Once selected, DAS will show the calculation editor and evaluate the calculations for the row you selected.
See calculation dependencies	If your calculation row shows a magnifying glass in the row (**Show flowchart),** then this means the calculation depends on the results of other calculations. You may click the magnifying glass to see the flow chart.

Typing shortcuts:

Key	Effect
TAB/SHIFT+TAB	Tab to the next/previous editable field. Tab from the last editable field of the header row will activate the first editable field in the **Parameters** grid.
F4	Open any active visual assist. If the visual assist is not active, you can press ENTER and then F4 to open the visual assist. When selecting from the list of valid values, you may type in the value you need in the filter box, and then press Alt+S to select the value.

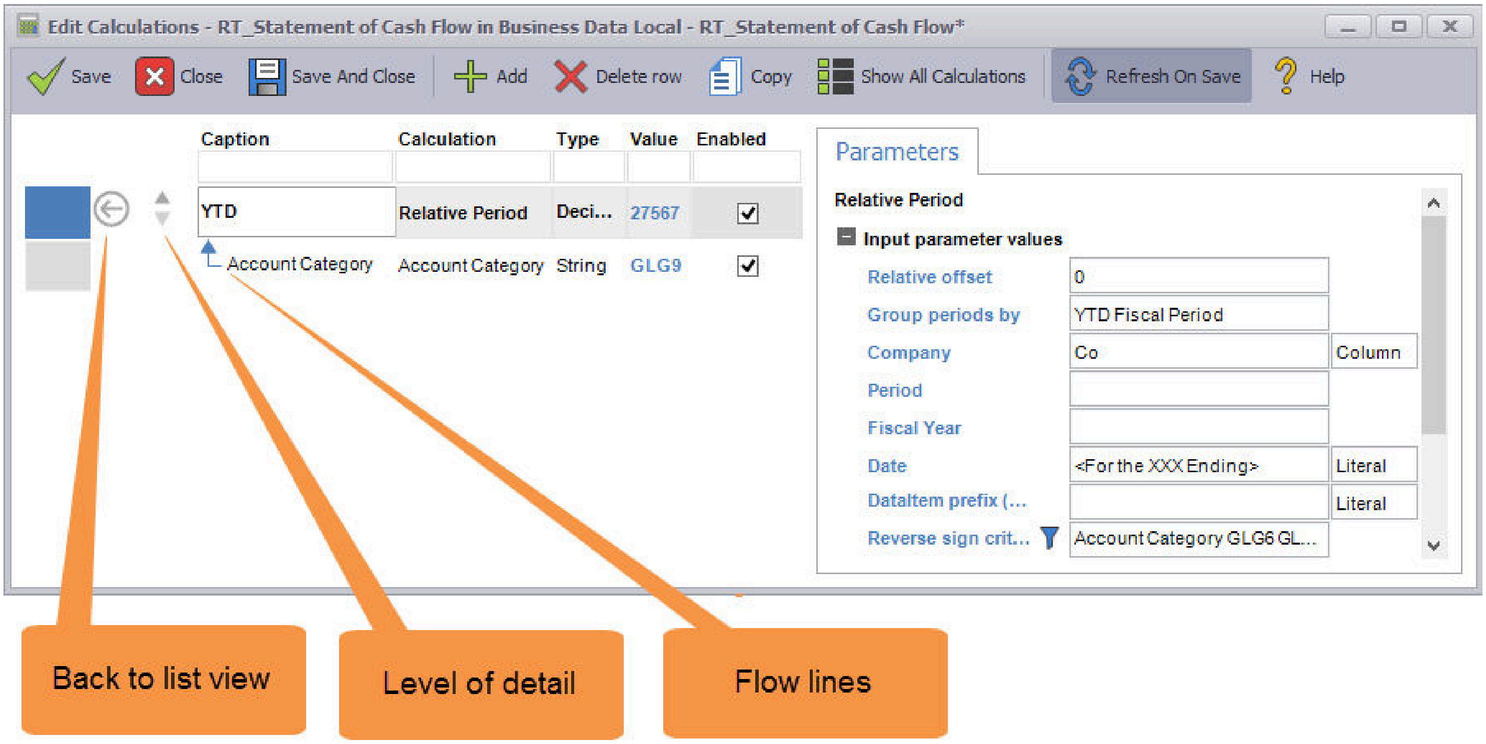
Calculation flow view

The purpose of the flow chart view is to show you how your calculations inter-relate. This view is useful for visualizing complicated calculation logic. The flow lines show which calculations flow into which (flow direction indicated by the arrow). Also, the **Value** column shows the evaluated values (if available) for each stage of the flow. In the example below we see that the Account category calculation feeds in the YTD calculation (for this row, the value it passed the value GLG9)

You can see calculations in flow chart view as follows:

1) If you double-click a calculation column header in your DAS report.

2) If you are in the calculation editor in list view and you click the magnifying glass next to the calculation editor



To	Do this
Go back to the calculation list view	Click the **Back to list view** button at the top of the flow chart
Expand and collapse levels of detail	Click the top **Level of detail** arrow to collapse to higher levels of the flow chart. Click the bottom **Level of detail** arrow to expand to more detailed levels of the chart

Connect a Report Parameter or System Variable to a Calculation

When you create Report Parameters for your layout or want to access information about the signed-on user, you may want to connect these variables to a calculation input:

1. Click on the **Parameters** tab for the calculation you want to connect to a Report Parameter.
2. Click the **Filter** button.
3. Select **Variables** > select the name of the parameter you want to connect.

Once a Report Parameter is connected, when the user changes the value of the parameter, the calculation parameter will change as well. This is useful, for example, in the **Period Amounts**. You could hook up a Parameter called "Period" to the "End Period" of that calculation.

Once a System Variable is connected, when a different user signs in, the calculation parameter will also change as well. This is useful when creating self-service reports that a user might access from a web portal.

Troubleshoot Calculation Errors

If your calculation has an error, DAS will red-out the cell values that have an error in the grid.

To identify and resolve errors:

1. Run your calculation.
2. Right-click on calculation cells that are red.
3. Read the message box instructions and optional resolution.
4. Press "Edit Calculation" to correct the error.

Common errors include:

- Invalid type conversion
- Missing inputs
- Blank inputs
- Missing options
- Circularly dependent calculations

Performance considerations

The calculation architecture is designed to provide maximum performance. This includes:

1. Only re-calculating necessary columns.
2. Caching results when appropriate (associated descriptions and table lookups).
3. Taking minimum steps in repetitive calculations.

Overall, the result should be that adding new columns has little performance impact on your layout. Calculations can, however, impact performance if they are used improperly. The section that follows outlines best practices for using calculations:

- Delete any calculation that you are not using.
- Limit the number of Table Lookup calculations. A table lookup will query data from other tables. If this is done excessively, the overall performance of your report may suffer.
- If you are querying against a large table (>1,000,000 rows), make sure that your report filters on at least one database column. You may filter calculation column results; however, the database itself

cannot recognize these filters. Because calculations are derived data, filtering calculations will not result in a smaller set of rows retrieved from the database.

Global Variables

Global variables are values you define that can be used in your report for:

- Filters
- Inputs to grid calculations
- Display values in headers and presentations.

To create one or more global variables for your report:

1. Click **Design**.
2. Click **Variables**
3. DAS will present the Calculation Editor (See Edit Calculations with the Editor) for variables

Editing variables is similar to editing calculation with these important differences:

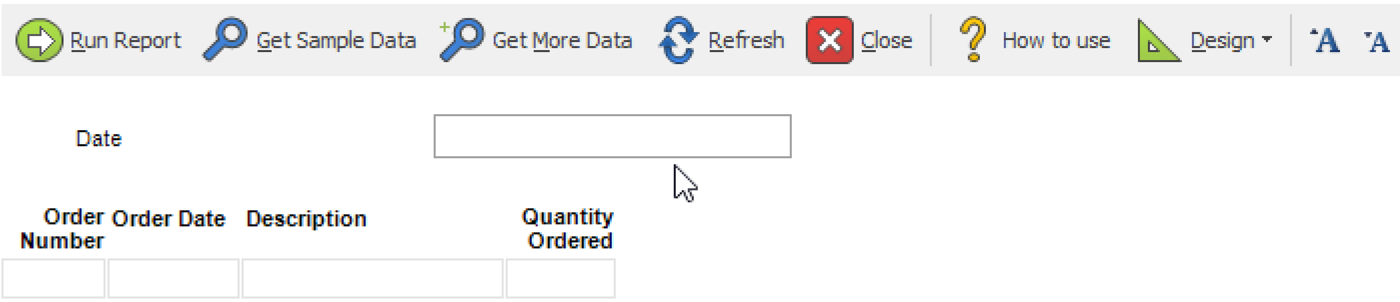
- Variables can only use input Parameters, System Variables, Constant values, and other variables as inputs
- Most, but not all, calculations are supported in variables mode. The editor will show which calculations are available
- Variables can feed the report filters before the report is run (i.e. the variable values can shape the data set of your report query if desired)
- As you edit variable values, the evaluated value will show in the calculation editor immediately

Variables as Filters

One of the primary applications of Global Variables is to create dynamic filters.

Example

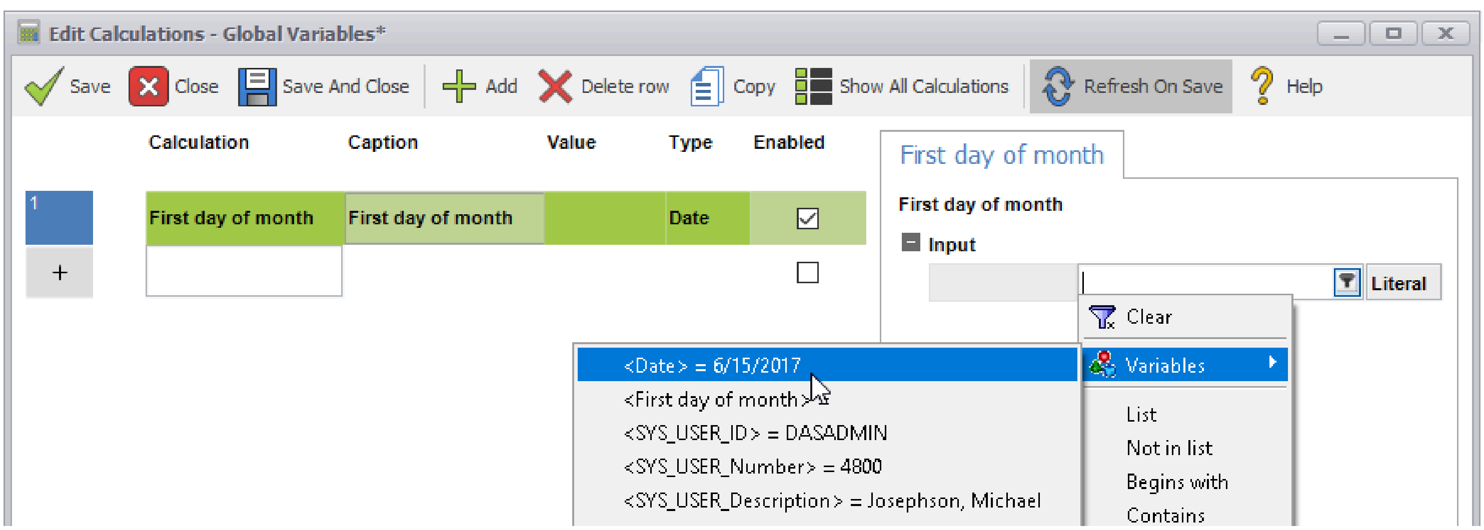
Suppose you have a report with an input parameter named **Date**



Now suppose you want to filter the **Order Date** column with the range of the first day of the month through the last day of the month based on the **Date** entered.

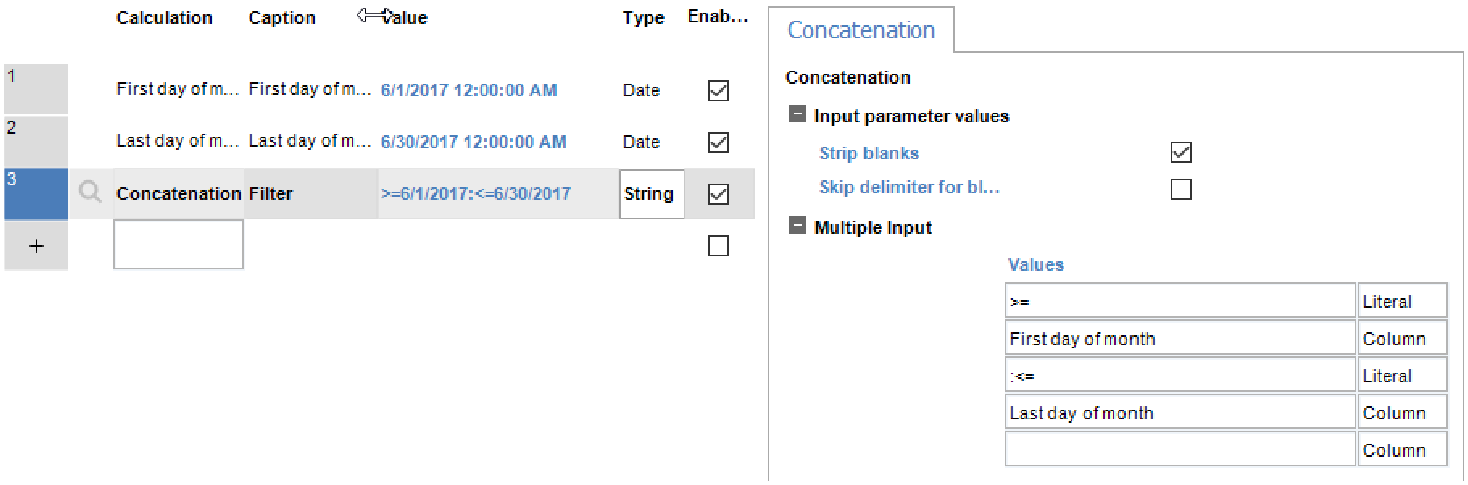
To accomplish this:

1. Open the variables editor
2. Add a new calculation: **First Day of Month**
3. For the input, change to **Literal,** use the filter visual assist button and select the **Date** parameter (in general, Parameters and variables are reference by their name enclosed in angle brackets: e.g. <Date>)



4. Do the same steps, this time add a new calculation **Last Day of Month**

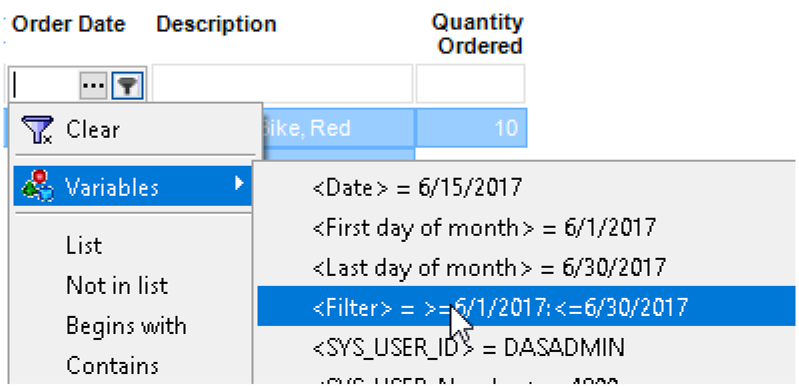
5. Now add a **Concatenation** calculation to create the filter string for the range filter (See Filter a Range)



Rename the **Caption** to Filter. The **Concatentation** example above shows how you can combine the other variables into a new variable that will server as the filter string. Note the **Value** column shows that the filter evaluation is what we want.

6. Click **Save and Close** to save your changes

7. Click the visual assist on the **Order Date** filter column. Select **Variables -> <Filter>**



Now the Order Date filter tracks the first and last day of the month of whatever date you enter in the **Date** parameter of the report

List Calculation

A List is like a mini spreadsheet where all formulas are referenced by name (as opposed to Excel where formulas are usually referenced by cell position e.g. A47). Named formulas are an advantage when you need to modify your spreadsheet formulas. For instance, if you have a label named [Sales], the label means the same thing regardless of where it appears in the List.

A list can be anything: a list of accounts, business units, ledger types, customers, etc. Data Access Studio lets you define the lists you need and assign the list a label for quick reference. For instance, you can define your list of P&L account and label the list as "P&L Standard". You can then define cell and row calculations over any label in your list. For instance, you can sum up several items or take a percent of one label to another.

To create a List

You can setup a **List** with the Calculation Editor or **Quick Report** Wizards. In the Calculation editor, select the List calculation and click **Edit List**. Once created, you will almost always Group by the list column. You can group by more than one list. A list may be grouped at any level as well.

A List consists of the following:

1. **Label** - unique text that identifies the item. **IMPORTANT:Labels need to be unique for the thing they represent.** If you need duplicate labels, you can append as many spaces after your label to make a unique name for it. In your formulas, the spaces will be represented as an underscore so: SALES and SALES_ will be different labels in your formulas (the first has no spaces after it the second has one space).

2. **Criteria**

   - (optional). If present, the criteria says what values to roll up for the label. For instance, if the criteria is Obj Acct 1* that means any row where Obj Acct starts with 1 will be rolled up into the total amount for the label.

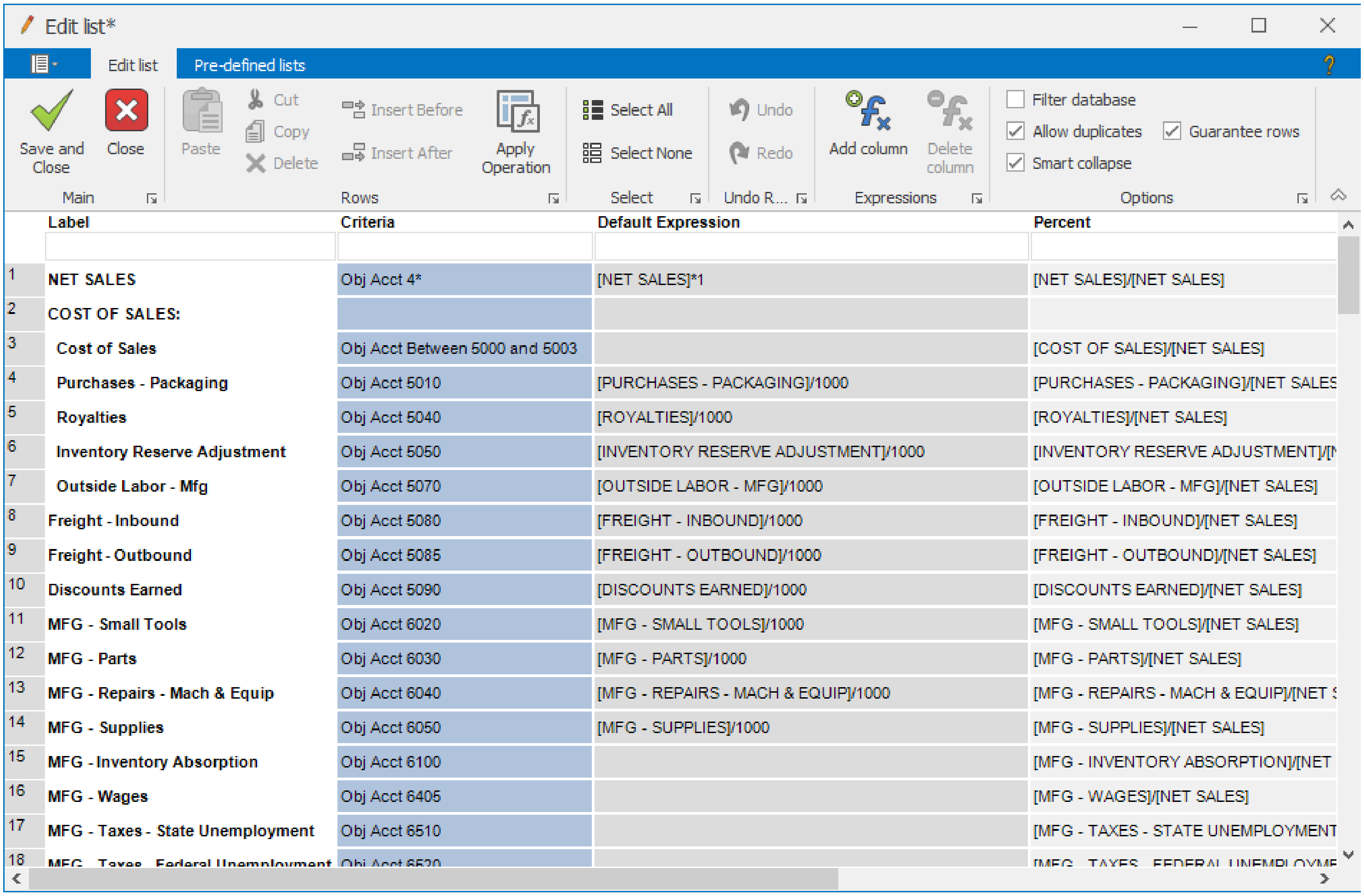
3. **Default Expression** (optional). The expression evaluates slightly differently based on two cases.

   - **Case 1. Label has criteria**. In this case the expression operates on the elements that make up the label. Use the Apply Operation command to easily apply operations to multiple rows of the list.

   - **Case 2. Label has no criteria**. This is the row totals case. In this case the expression defines what the label is. e.g. [Bank 1] + [Bank 2] + [Bank 3] is the formula for the label Bank Total.

4. **Additional Expression** (optional). This is an extra set of formulas that can use any of the symbols in the list or default expression. Use this to create secondary calculations such as percent of row values.

5. **[Override Style](#)** (optional with Automatic Presentation only)



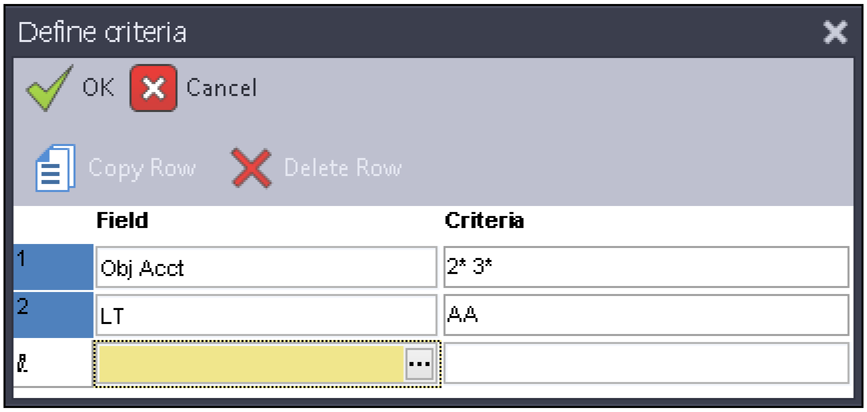
To	Do this
Add a new row	Click **Insert Row Before** or **Insert Row After**. The editor will create a new row above/below the row you have highlighted. Alternatively, you may enter text in the new empty row at the bottom in the **Description** column.
Define how the label is rolled up	Click the box under the **Pattern** column and click the **...** visual assist. See [Define Criteria for the List Item](#) for instructions on defining the "pattern".
Define a row calculation	Click the box under the **Row Calculation** column. See [Define row calculations for the List item](#) for further instructions.

Delete list items	Hold CTRL key down as you left-click multiple rows. Then click the **Delete Row** button.
Copy and Paste	Hold CTRL key down as you left-click multiple rows. Then click the **Copy** button. Highlight the row where you would like to paste the rows. Click **Paste**.
Move multiple list items	Hold CTRL key down as you left-click multiple rows. Highlight the row you want to move. Then click the "Drag and drop grip bar" and drag row above or below current position. Release mouse button to drop to new position. Grid will automatically scroll as you drag near the top or bottom.
Save your list	Click **File | Save List**. See Save a List and Share a list
Load a previously saved list	Click **File | Load List**.
Delete a previously save list	Click **File | Load List**. See Work with Your Lists.
Export your list to XML	To export your list to XML, click **File | Export**. Exporting to XML can be useful if you want to do mass search and replace or other options in an XML editor.
Import your list from XML	Once you have modified an XML export, you can import it back using **File | Import**.
Create a secondary expression	Click **Add Column**. This creates a new expression column. Create formulas in this column that combine symbols from the list and default expressions. See Define secondary expressions.
Delete secondary expression	Highlight a secondary expression column. Click **Delete Column**.

Apply an expression to a grid column	Back on your report grid, right-click the Column Header. Select **Apply this list expression ->** and select a valid list expression.
Load a pre-defined list	Click the **Import from JDE** tab. Select the list that you would like to import.

Define Criteria for the List Item

Once you click the **...** visual assist, you will see the **Define criteria** form below:



This form allows you to specify what criteria the data has to meet to apply to the label you entered. For instance, let's say our label was US customers, then the Criteria may be "Country = US". In this example, "Country" is the value we would select under the **Field** column of this form. "US" is the text we would enter in the empty box under the **Criteria** column. You may add as many **Field-Criteria** lines as you need. See Filter Your Data for more details.

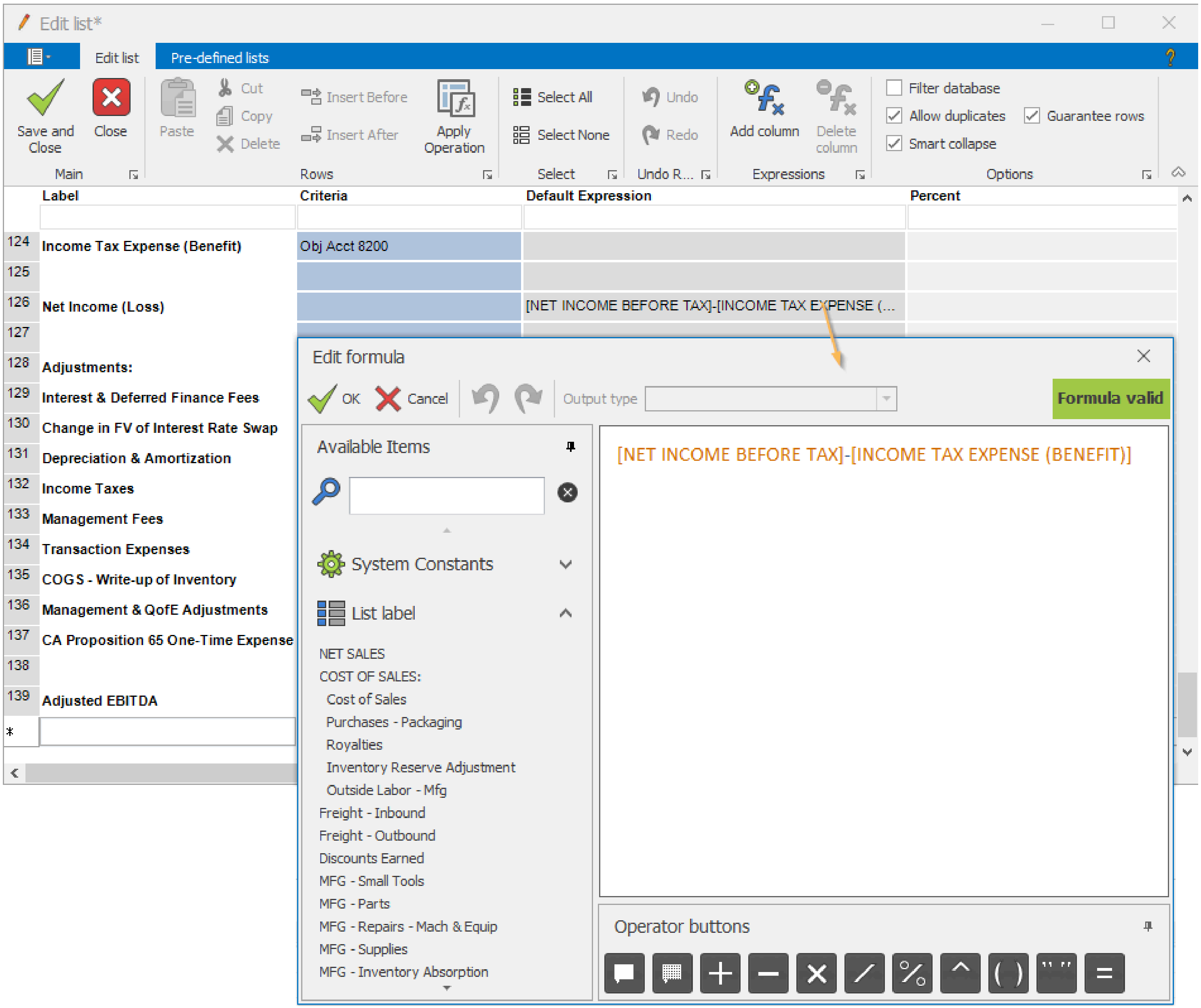
To	Do this
Add a new criteria row	Select from the list of fields in the **Field** edit box. Enter the criteria for the field in the **Criteria** edit box. In the Criteria edit box, you may use the Filter Helper visual assist to define things such as lists and ranges. Also, each line you enter implicitly means apply this line AND any previous lines before it.
Add an OR condition	Sometimes you may have complicated criteria that requires AND-OR logic. To add an OR condition, click the empty box under the **Field** column and select **or**. You should have at least one line defined before the **or** and one line defined after the **or**.
Delete a criteria row	Highlight the row you want to delete. Then click the **Delete Row** button.

Delete multiple rows	Hold CTRL key down as you left-click multiple rows. Then click the **Delete Row** button.
Copy a criteria row	Highlight the row you want to copy. Then click the **Copy Row** button.
Copy multiple rows	Hold CTRL key down as you left-click multiple rows. Then click the **Copy Row** button.
Move a criteria row	Highlight the row you want to move. Then click the "Drag and drop grip bar" and drag row above or below current position. Release mouse button to drop to new position.
Move multiple rows	Hold CTRL key down as you left-click multiple rows. Highlight the row you want to move. Then click the "Drag and drop grip bar" and drag row above or below current position. Release mouse button to drop to new position.
Save your criteria definition	Click **OK**.
Cancel your criteria edits	Click **Cancel**.

Define List Calculations

You can perform two types of calculations on any list row:

1. Modify the results of the rollup on the row (applies if the rollup **Criteria** is defined for the row)
2. Calculate values from other rows (applies if the rollup **Criteria** is not defined for the row)



Case 1: Label has Criteria defined

If you place a calculation in the **Row Calculation** column, the value of the rollup will be modified directly. Use the Apply Operation command to easily apply operations to multiple rows of the list.

Case 2: Label has no Criteria defined

In this case, the **Row Calculation** is any supported calculation of the labels. The most common scenarios are:

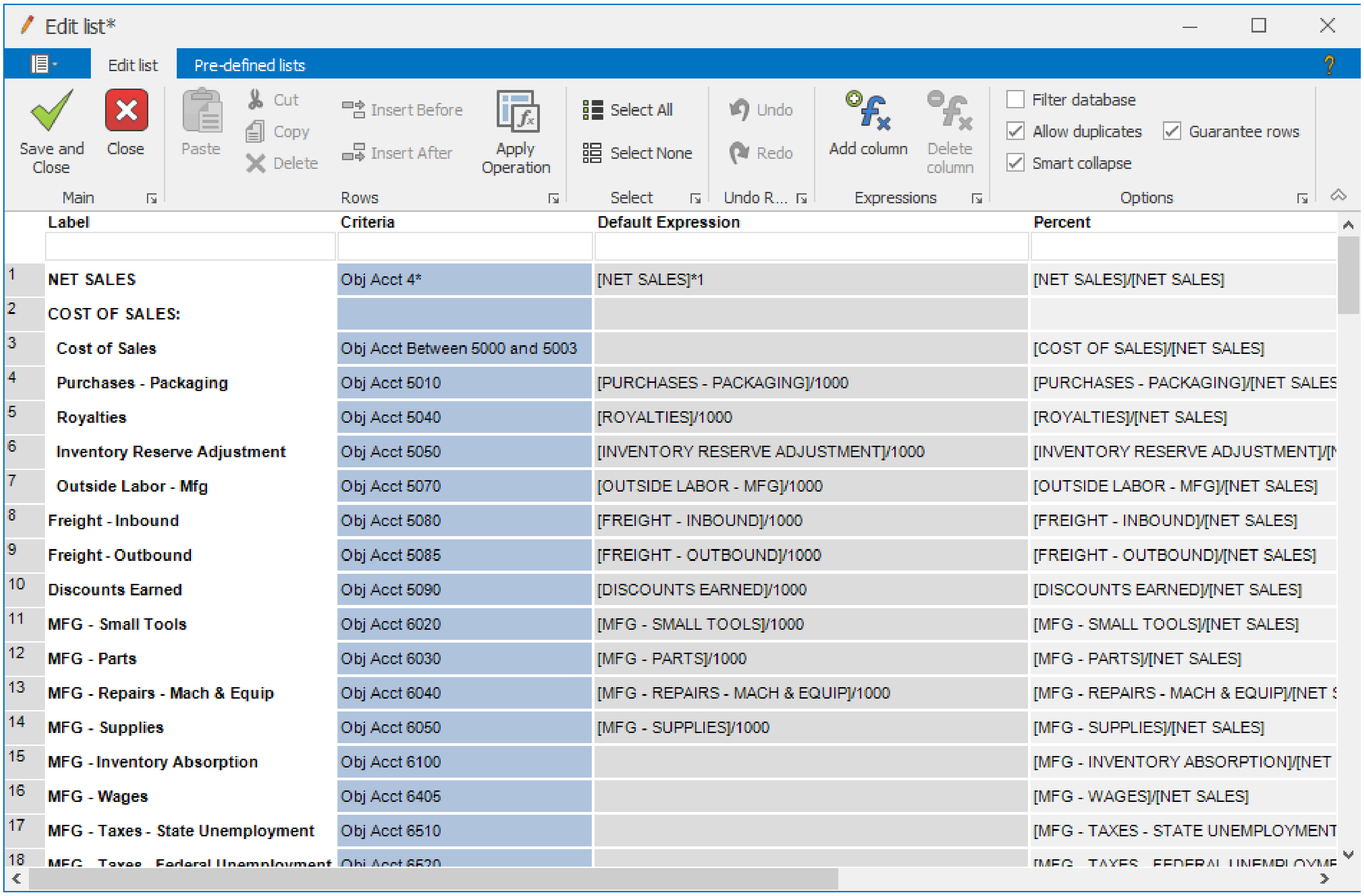
1. Summing other labels. In this case, hold down the shift key while selecting labels in the 'List label' control in the formula editor. The result will be the syntax for summing the labels. For example: [LABEL A] + [LABEL B].
2. Subtracting. In this case, change the sign of the operation in the calculation: [LABEL A] - [LABEL B].
3. Percent: [LABEL A]/([LABEL A] + [LABEL B]).

In general, you can enter any expression using +, -, *, /, (,). The row calculation also supports built-in functions (as listed in the visual assist for the **Row Calculation** column in the **Math Calculations** category). These row expressions are referred to as the **Default Expression**. You may apply these expressions to numeric columns in your report or derive **Secondary expressions** to do more sophisticated calculations as well (See Define secondary expressions)

Define Secondary Expressions

In addition to the **Default Expression** for the list, you may also define additional **Secondary Expressions. Secondary expressions** always follow the **Default Expression** to do additional calculations. For instance the default expression could be calculating a total and a secondary expression could calculation the percent of that total.

To create a Secondary Expression



1. Edit your list
2. Click **Add column.** This will create a new expression column in the list editor (e.g. Expression 2)
3. To rename the expression column, right-click the new column, click **Rename**. Enter the new name for the expression.

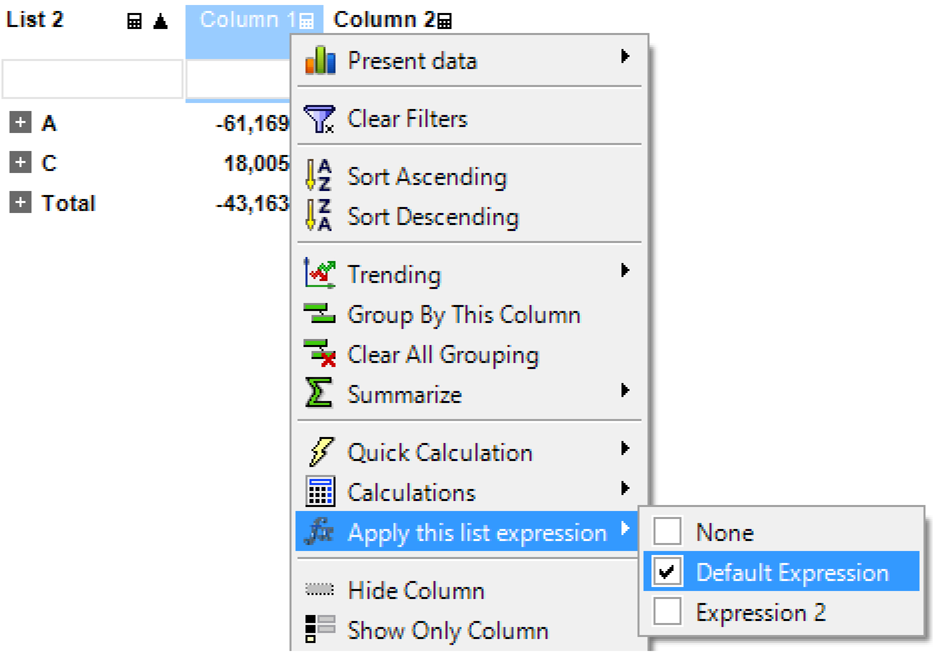
In the screenshot above, the **Default Expression** defines **Total** as **[A] + [B] + [C]**. The **Percent** column is the secondary expression. You may add more than one secondary expression to your list definition. Remember, in all cases, the **Default Expression** is always evaluated prior to the secondary expression.

Note that most secondary expression will apply the same operation to all rows to determine such things as percent of total. Use the [Apply Operation](#) command to easily apply such operation to multiple rows of the list.

Remember that symbols in brackets are case insensitive -- so **[Total]** means the same thing as **[TOTAL]**

To apply an expression to your report

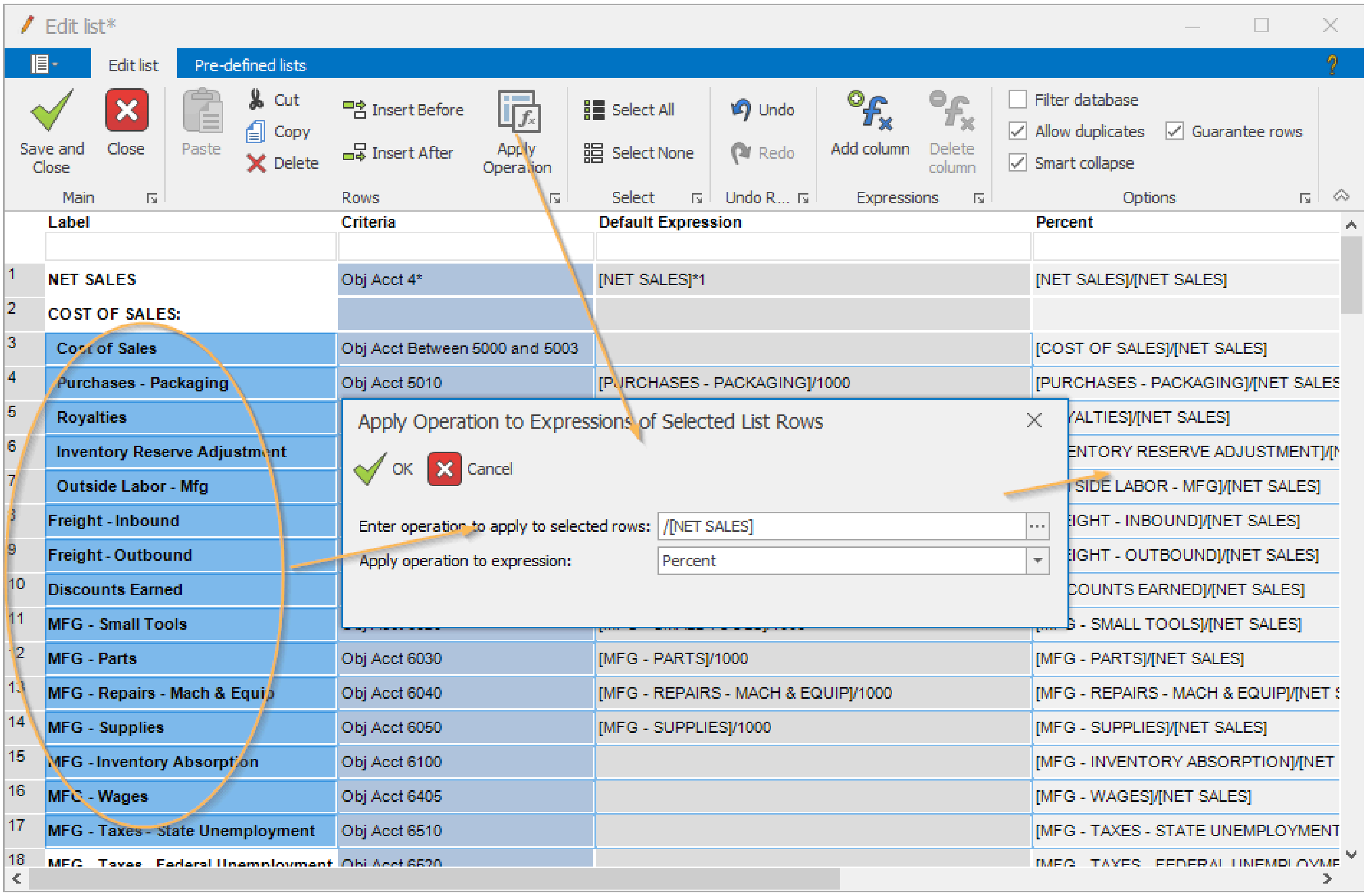
Once you have defined a **Default Expression** and optionally **Secondary expressions**, you may selectively apply these transforms to your report as follows:



1. On your report with a list, right-click a numeric column
2. Click **Apply this list expression**
3. Select **None** for no expression, **Default Expression** for the default expression, or any other secondary expression you have defined
4. Once selected, DAS will calculated each list row and column intersection with the expression selection you pick

Apply an Expression to Multiple Rows

Use the **Apply Operation** command from the tool bar to apply such an expression to the expression columns. In this example, the constant right-hand of the expression, **/[NET SALES]**, is applied to all the selected rows.

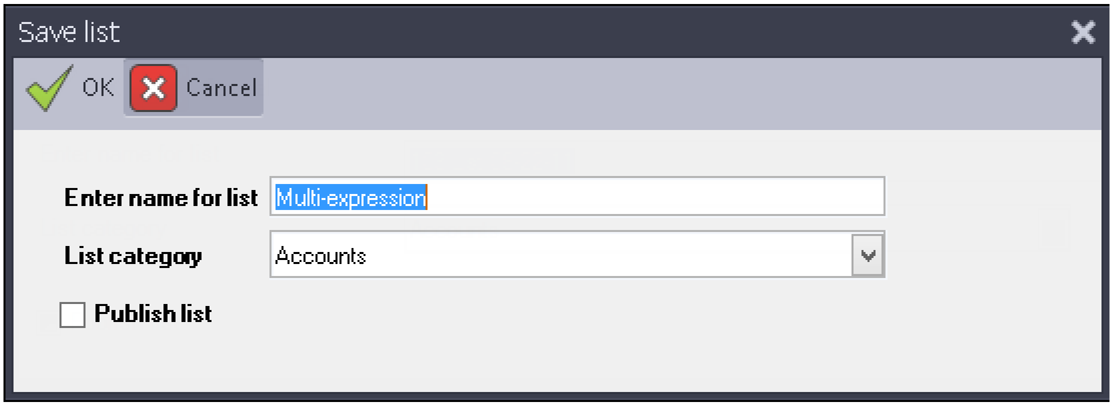


This feature is useful in the following scenarios:

1. Reversing the sign of the rollup. In this case, simply type a minus sign: **-** in the **Enter operation to apply** field.
2. Scaling the value of the rollup. For instance, suppose you want to divide a set of rows by 1000, simply enter: **/1000** in the **Enter operation to apply** field.

Save a List

When you click **Save List**, you will see the dialog below:



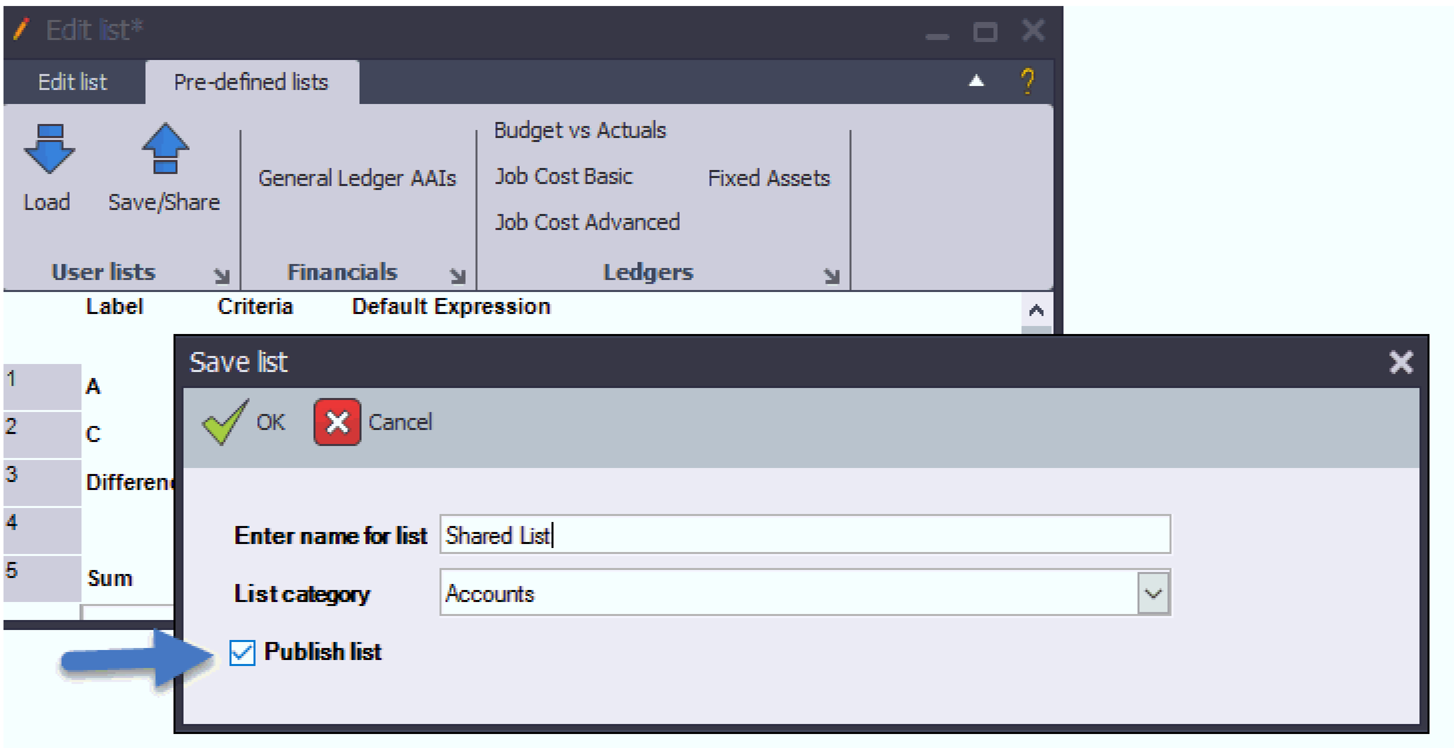
To	Do this
Provide a name for your list	Click on the edit box next to **Enter name for list**. Enter the name of your list.
Organize your list into a category	Click the down arrow on the **List category** edit box. Select the category that best matches how you want to categorize your list.
Make your list available to other reports and people	Click **Publish list**. See Share a list
Save the list	Click **OK**. **Note:** if there is a list with the same name, Data Access Studio will prompt if you want to overwrite the existing list.
Don't save the list	Click **Cancel**.

Publish/Share a List

When you publish a list you make the master version of the list available to more than one report. When any report uses a published list, then any change to the master list automatically gets applied. This technique is a great way to synchronize many reports the reflect the change made to one list.

To share a list

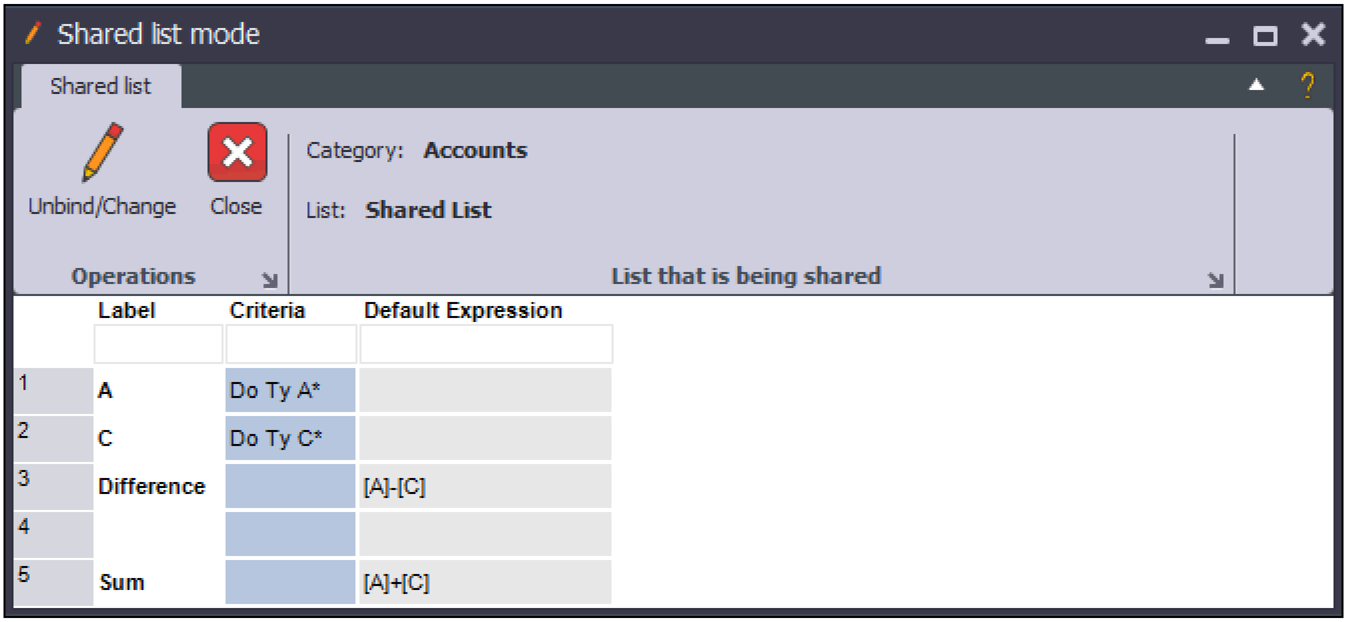
1. Make a list. See (Lists)
2. Click **Pre-defined lists** tab. Click **Save/Share**
3. Name you list and click **Publish list**
4. Click **OK**



In the above example we created a new list called: **Shared List**. We can now re-use this list in other reports such that any changes to the master list is automatically reflected in all reports that reference it.

To reference a published/shared list in another report

1. Open/Create another DAS report
2. Add and edit a List calculation
3. Click **Pre-defined lists** tab. Click **Load**
4. Select a list under the **Published/shared** list category (See Work with Your Lists)



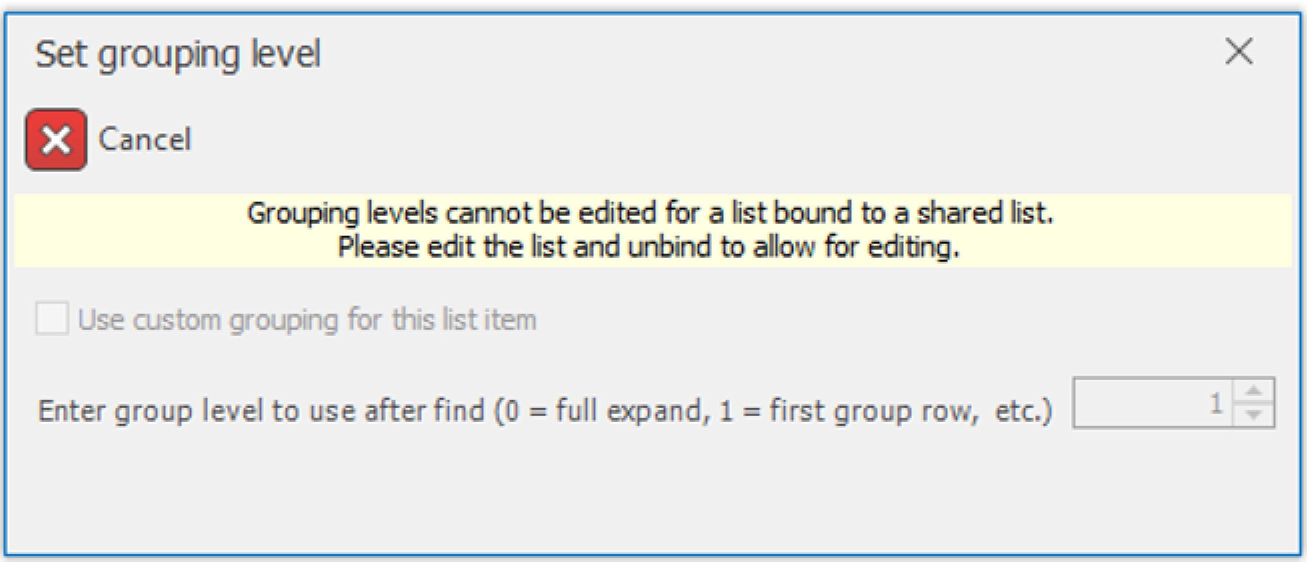
Notice differences in using a shared list:

1. List Editor title shows: **Shared list mode**
2. The list by default is read-only.
3. The list menu is sparse: **Unbind/Change**, **Close**, and information about the Shared list

The shared list is read-only because any change to the list could have wide-reaching impact - i.e. any saved change to the published list will automatically apply to all reports bound to the list.

NOTE

This also means that any adjustments made to the grouping level for the list will not be allowed in bound lists. This is what you would see after selecting the 'Set Grouping Level for List Item' command from the group column context menu.



To edit a shared list

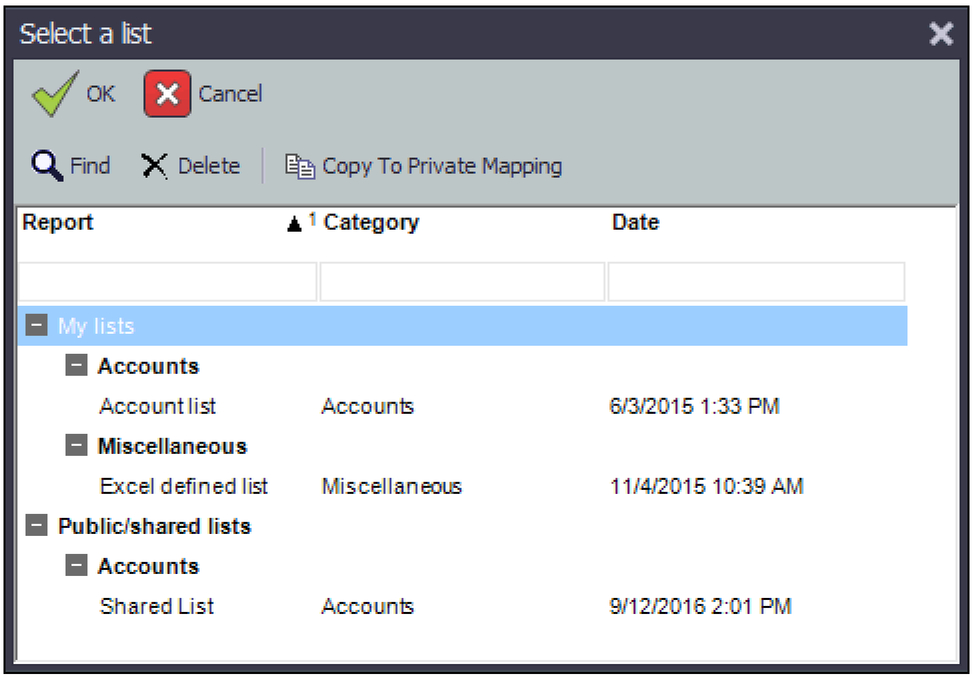
1. Double-click/Edit the list
2. Click **Unbind/Change**. This places the list into an editable mode
3. Edit the list
4. To apply changes for everyone, click **Pre-defined lists** tab. Click **Save/Share** (leave the name of the list the same and leave **Publish list** checked)
5. Click **OK**

Work with Your Lists

When you select a list to load, you may also do other operations with your lists. The select list form organizes all lists in the system as:

- My Lists
- Public Lists

Furthermore, the form organizes lists by the categories people selected when saving the list.

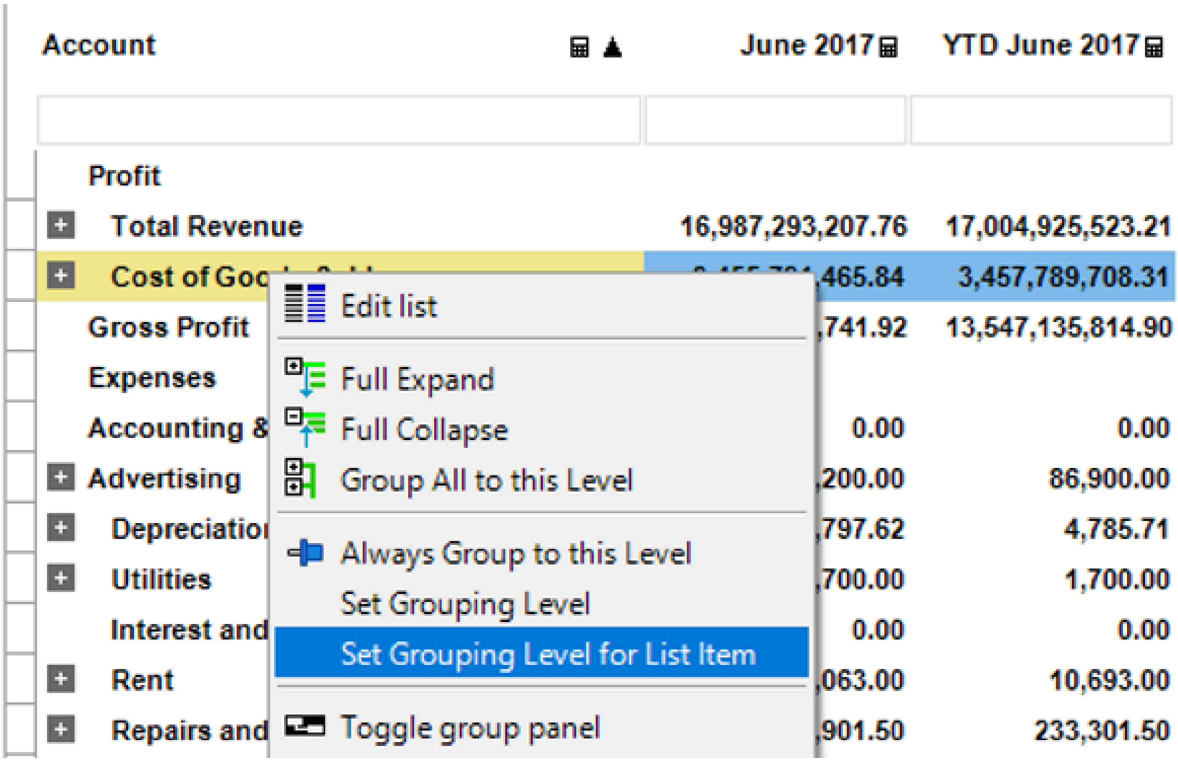


To	Do this
Select a list to load	Highlight the list in the grid. Click **OK**.
Delete a list	Highlight the list in the grid. Click **Delete**.
Copy a public list to your private list	Highlight the public list in the grid. Click **Copy To Private Mapping**.
Use a shared list in your report	Select any list under **Public/shared lists** (See Share a list)

Additional List Properties

You can edit additional list properties by opening the **Calculation Editor** and highlighting your list item:

Option	Effect
Filter database	Default is False. If True, the calculation will apply the list criteria to your data selection. This can improve performance in some cases.
Allow duplicate maps	Default is True. If checked, your list can have rows that map to multiple list labels. For instance, if your label A has range 1000 - 2000 and label B has range 1500-3000, then the overlap of 1500-2000 will be handled automatically. If this option is not checked, then overlapping ranges are not allowed and the first occurrence of the range wins.
Smart collapse	Default is True. If checked and a group has only one row, then the list will not allow a drill down as it is not necessary. In this case the **+/-** group button will be hidden and only the result of the row is shown. This usually makes for a cleaner look. If unchecked, then the **+/-** group button always allows a drill down.
Guarantee Row	Default is True. If checked, the list will guarantee that the row label appears in the order of the list whether or not there are data rows for that label. If unchecked, then the label will only show if there are rows for that label.
Set Group Levels for List Items	When a list is used as the grouping structure on a report, a user has the ability to right click specific list elements and select "Set Grouping Level for List Item". This will then allow a user to apply a specific grouping level (ex: Full Expand) on only that

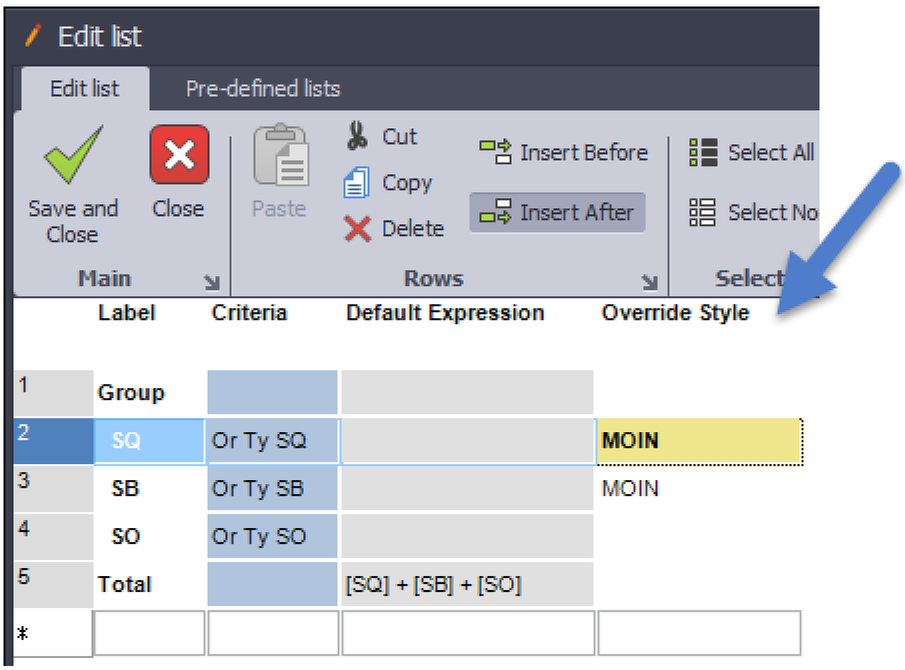
<table>
<tr><th>Option</th><th>Effect</th></tr>
<tr><td></td><td>selected list value. This option will not be available to adjust when using a shared list.


</td></tr>
</table>

List override styles

If your report has an Automatic Presentation (See Automatic Presentation), then you can optionally define cell style overrides in your list. This feature is handy when you want to apply cell-specific formatting to one part of your list (but not necessarily the whole column)

1. Open a report with a list and an automatic presentation
2. Edit your list
3. You will see a column on the far right named **Override Style**



The **Override Style** allows you to select an available presentation style (See Automatic Presentation Styles) for any cell. If the **Override Style** is left blank, then the default presentation styling will be used when formatting the row and column. However, if you specify an override style, then this style will always be used. For example let's say you always wanted to format a certain cell in your list as a percent with an orange background. Define a style label See Automatic Presentation Styles) and select this style for the cell in your list.

Import a list definition from Excel

If you need to create a very large list, it may be easier to create the structure of the list in Excel and import it into DAS. DAS provides a rudimentary way to define a list in Excel that can be import into DAS:

1. Create an Excel workbook formatted as follows:

	A	*B*	
1	**Label**	**FieldName**	**FieldName2**
2	Label1	Value1	Value2
3	Label2	Value3	Value3

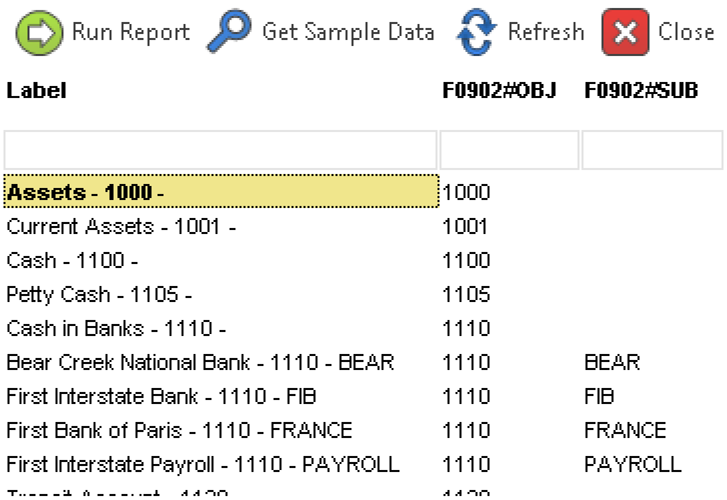
A,B,C are Excel columns A, B, C. Each FieldName is the name of the field for your criteria: e.g. LT or MCU

Here’s an example with literal values:

	A	*B*	
1	**Label**	**MCU**	**OBJ**
2	Misc	1	1000
3	Assets	1	2000
4	Liabilities	1	3000

What this means is Column A is the list label. Columns B and C are the Criteria for that label. In this example, the criteria is interpreted to mean: MCU=1 AND OBJ=1000. So you can see, you can leverage the copy/paste features of Excel to quickly define hundreds of rows this way.

2. Getting the Excel definition into DAS: First, create an external client-side data link in DAS to the workbook above (See Example - Connect to an Excel file). Once you save the connection and Create Report you will see the workbook in DAS. Click Run Report to load the workbook data into DAS. For example, with the attached workbook:

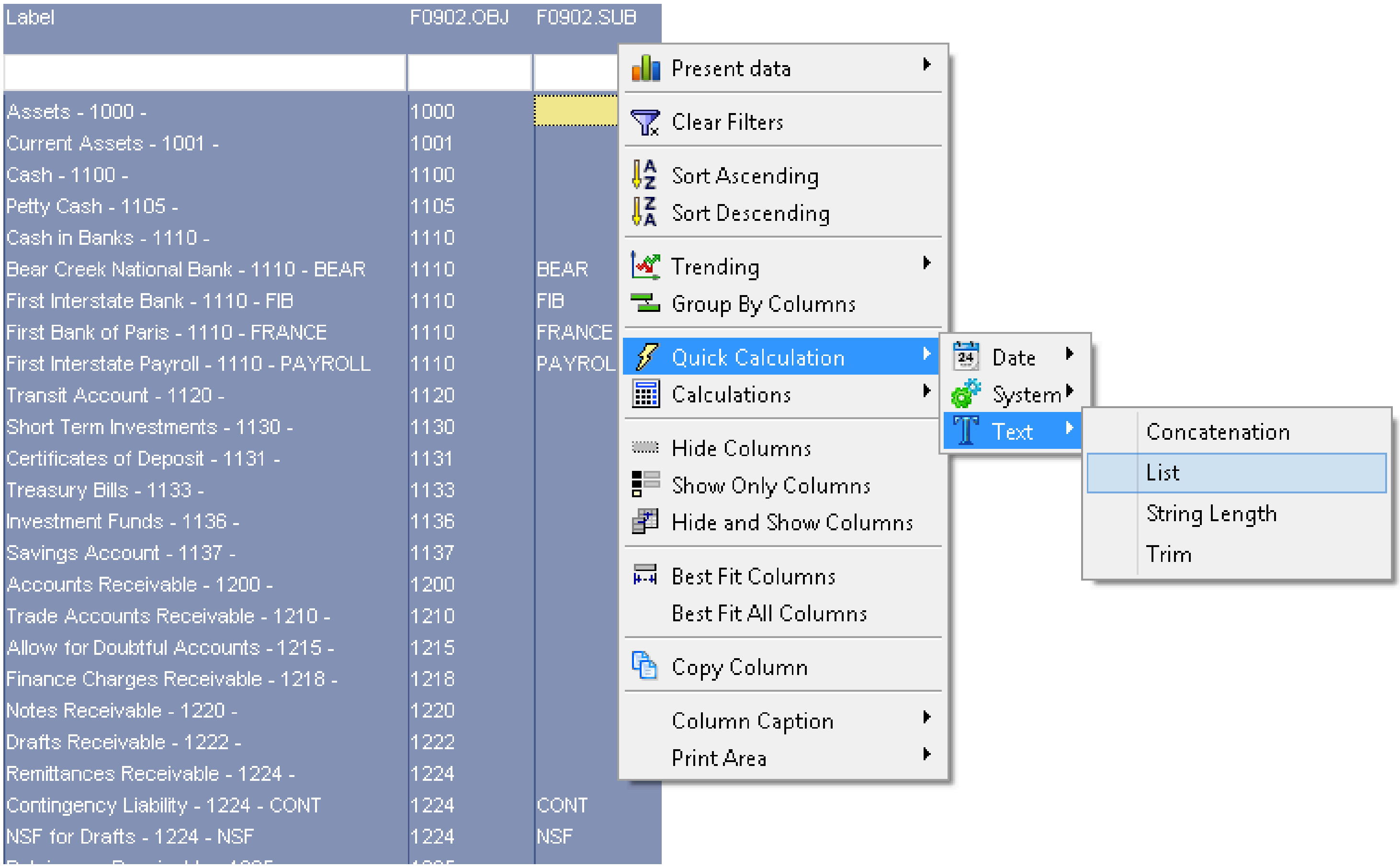


Label	F0902#OBJ	F0902#SUB
Assets - 1000 -	1000	
Current Assets - 1001 -	1001	
Cash - 1100 -	1100	
Petty Cash - 1105 -	1105	
Cash in Banks - 1110 -	1110	
Bear Creek National Bank - 1110 - BEAR	1110	BEAR
First Interstate Bank - 1110 - FIB	1110	FIB
First Bank of Paris - 1110 - FRANCE	1110	FRANCE
First Interstate Payroll - 1110 - PAYROLL	1110	PAYROLL

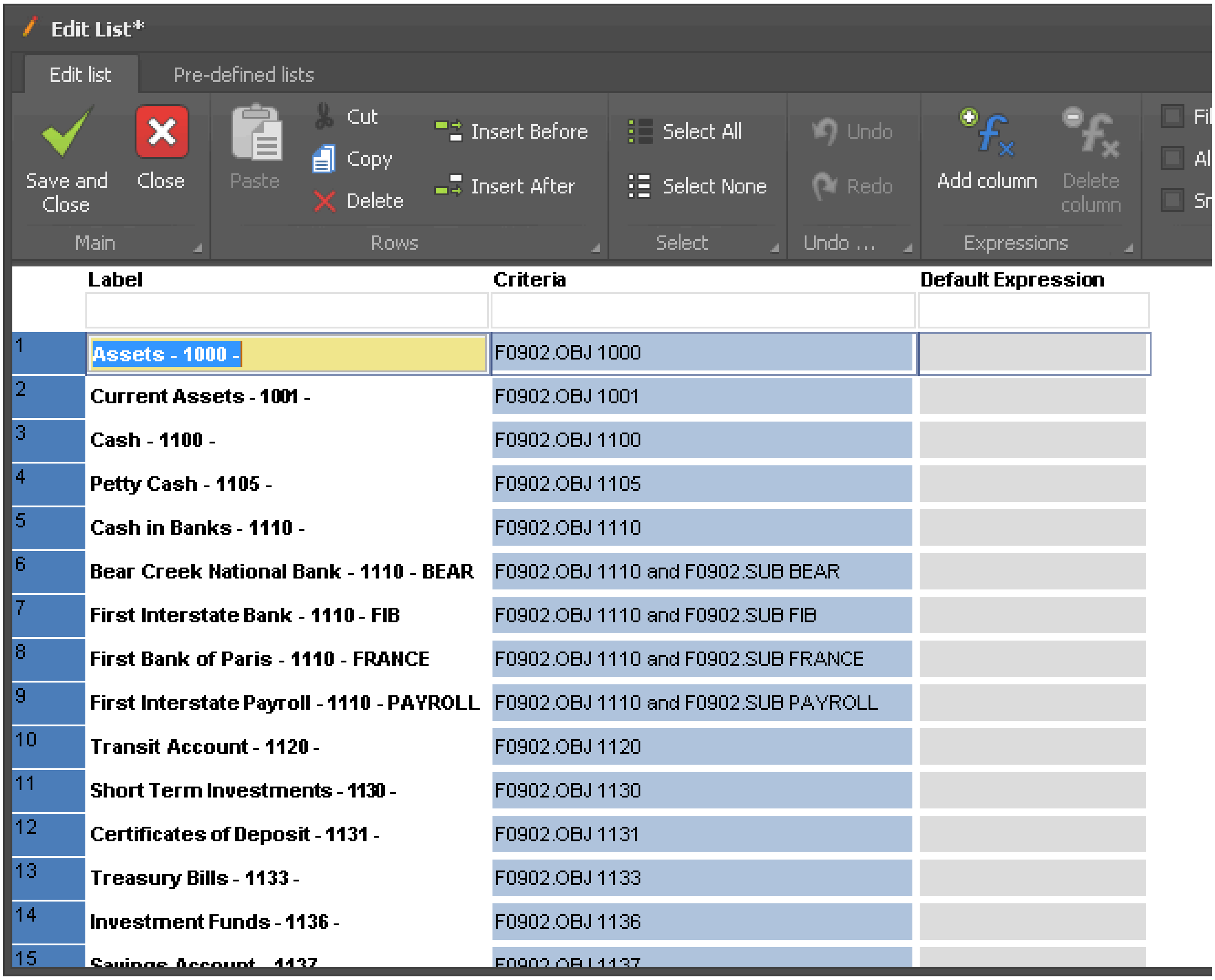
IMPORTANT: Notice that is you named the column in your Excel file as F0902.OBJ, then when you open that Excel file in DAS, it gets renamed to F0902#OBJ (this is because Excel has an issue with periods in the column name. if you avoid periods in the column name you will not have this issue). You need to right-click and rename F0902#OBJ and F0902#SUB to F0902.OBJ and F0902.SUB

Label	F0902.OBJ	F0902.SUB
Assets - 1000 -	1000	
Current Assets - 1001 -	1001	
Cash - 1100 -	1100	
Petty Cash - 1105 -	1105	
Cash in Banks - 1110 -	1110	
Bear Creek National Bank - 1110 - BEAR	1110	BEAR
First Interstate Bank - 1110 - FIB	1110	FIB

in the report designer, click **CTRL-A** to select everything. Right-click and grid Column Header and select: Q**uick Calculation -> Text -> List:**



DAS open and load the list editor with the definition from the Excel file. The editor will highlight any detected errors.



So you can see the significance of the Field name: F0902.OBJ and F0902.SUB are the field names in your report. If for instance you report was over the just the F0902 table only (i.e. not a DASVIEW), then these fieldnames would have been OBJ and SUB. Make sense?

Click Pre-defined list tab and Click Save/Share to save this list.

See the follow support page article for more information on importing list definitions from Excel:

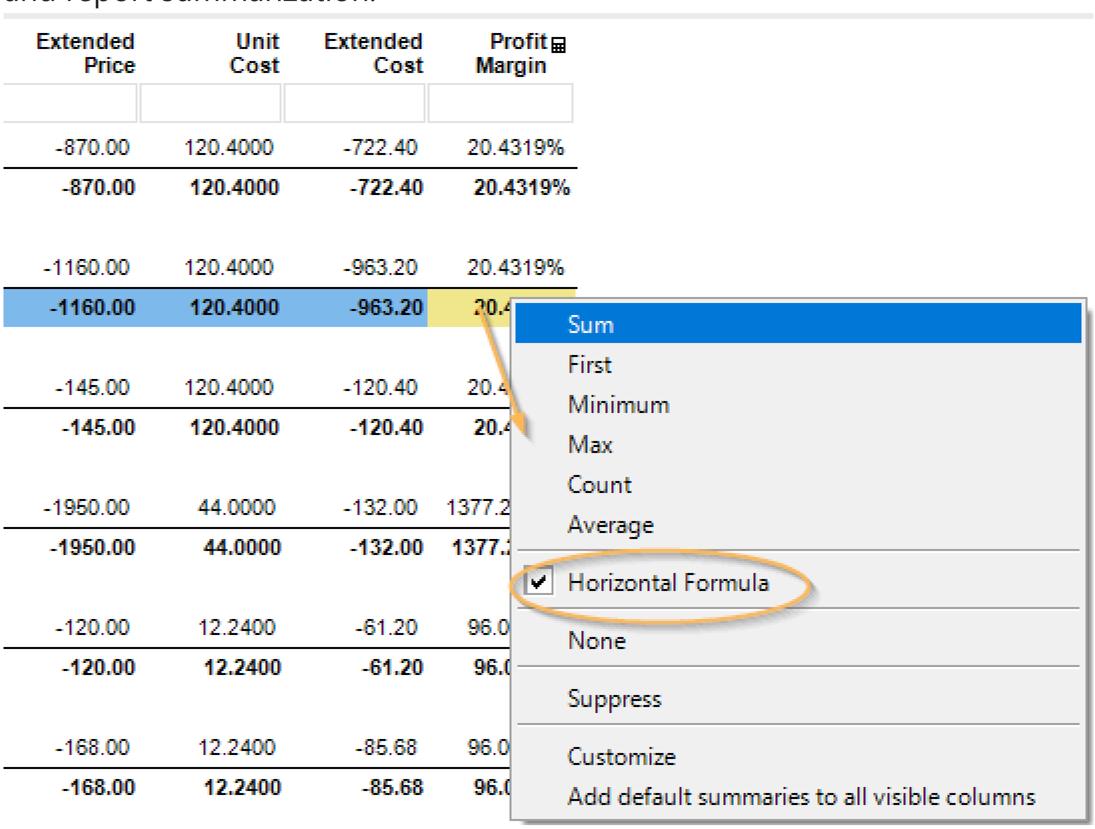
https://support.reportsnow.com/hc/en-us/articles/202666223-How-to-Import-a-list-from-an-Excel-file-into-a-DAS-List-calculation

Formula

A key concept in Data Access Studio is to provide a relevant set of point-and-click calculation columns that are easy to use and understand. This allows us to present a powerful enterprise-grade reporting tool to a larger audience. While it is possible to chain together these simple calculations to solve ever more complex problems, it becomes burdensome to manage such complex chains of calculation columns. Therefore, especially for complex and large reports, it is suggested to use the formula calculation.

Key Features

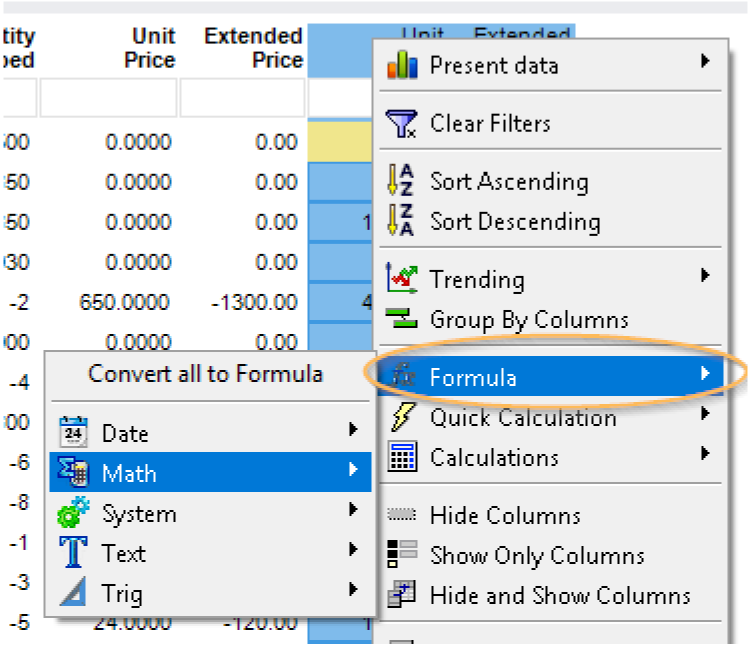
- Allow combining many calculations into one column. This reduces the number of total columns thereby reducing both the complexity to understand the report but also reduces the memory footprint of such a report at runtime.
- Multi-line text with line-specific comments. The comments can be embedded within the expression as needed.
- Nested IF Statements. The non-formula conditional calculation could only express one expression. Nesting Ifs allows for an easy expression of a decision tree of expressions - making complex reports easier to manage.
- Horizontal Summaries. By default, formulas will calculate using the summaries of its inputs in group and report summarization.



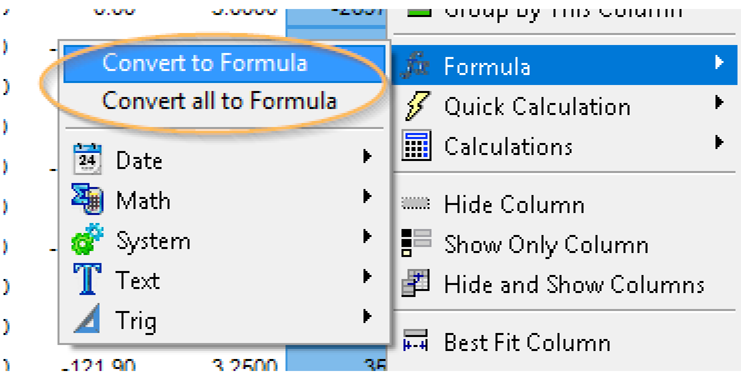
How to Create a Formula

A formula calculation can be created in many different ways:

1. By selecting the 'Formula' calculation in the Calculations editor like other calculations.
2. By using the 'Formula' menu item.



3. By converting an existing non-formula calculation to a formula using the 'Convert to Formula' command.
4. By converting *all* non-formula calculations in a report to formulas using the 'Convert all to Formula' command.



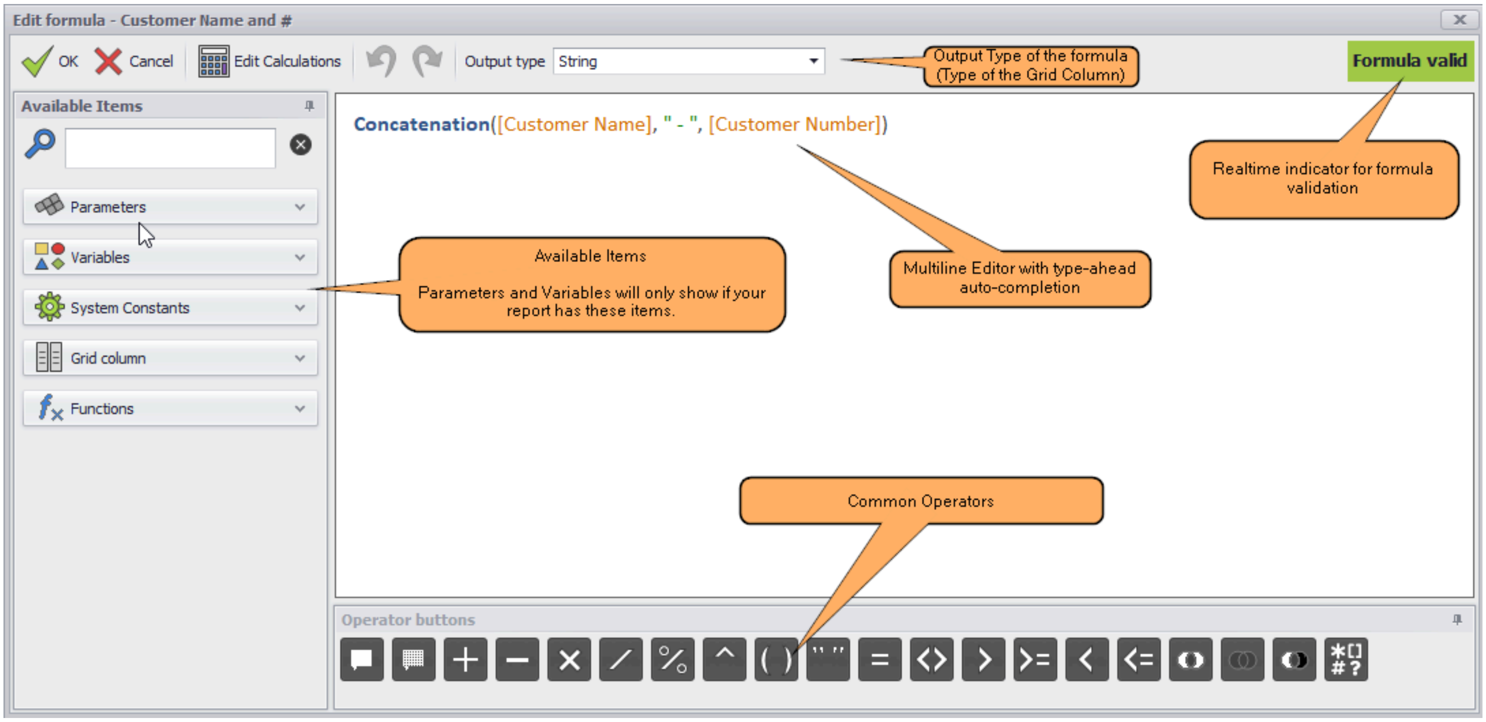
NOTE

Converting all non-formula calculations to formulas in a report will combine simple calculations into more complex formulas automatically. Please see Formula Conversion for more information.

NOTE

Not all non-formula calculations can be converted to formulas. Please see Formula Conversion for a list of calculations that cannot be converted.

Working with the Formula Editor



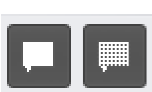
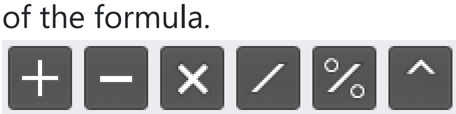
Available Items

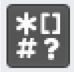
The Available Items section contains the items that can be used in the formula editor:

- Parameters - visible if the report has parameters. Parameters will always read as string values in formulas. If a non-string value is desired (such as an integer), consider first wrapping the parameter in a Global Variable leveraging the Type Converter calculation.
- Variables - visible if the report has variables.
- System Constants - always visible and contains such things as the current date, current user, etc.
- Grid Columns - all columns from the report
- Functions - all functions that can be used in a formula. Note that there are calculations (such as table lookup) that cannot be used in a formula.

Operators

Below the editor are the list of operators to use to create expressions for assignments and conditions.

-  - Comment and uncomment lines in the formula. Useful to temporarily disable a section of the formula.
-  - Basic math operator including modulus and power.
-  - Wrap the selected text in parenthesis to control the order of a boolean expression
-  - Wrap the selected text in quotes to make a string literal.

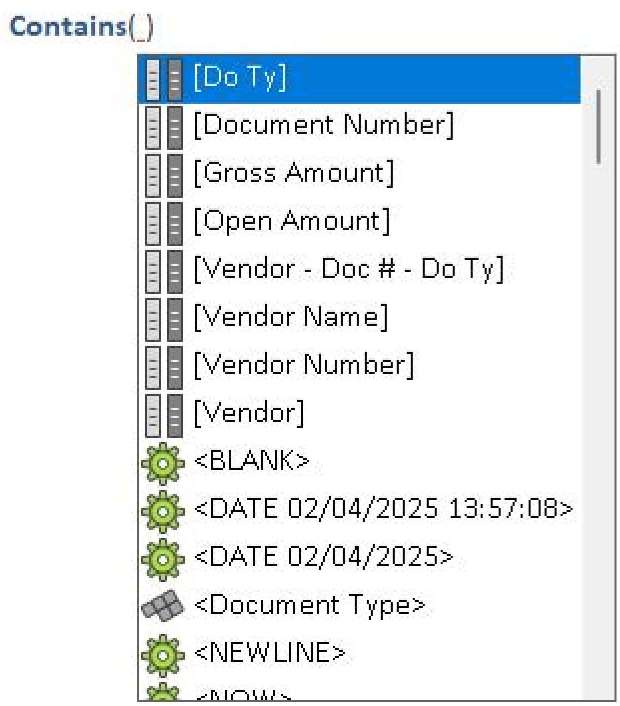
-  - Basic operators to compare values when used int he If function.
-  - Basic boolean operator (AND or &, OR or |, NOT or !) to help construct boolean expressions.
-  - Like operator that follows the syntax of the [Visual Basic Like Operator](). This operator supports matching a single character (?), zero to many characters (*), a digit (#), and ranges ([-list of chars-] or [!-not in list of chars-]).

Understanding Formula Syntax

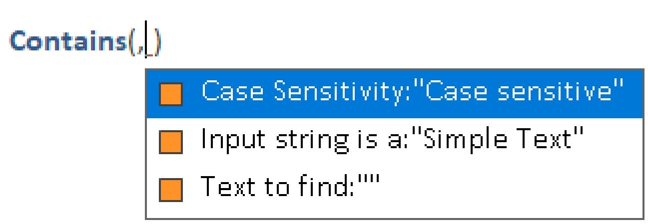
The formula editor supports prompting with type ahead auto-completion to make it easier to build the formulas properly. When creating a formula, inputs will come first followed by options as defined in the individual [calculations' documentation pages]().

This includes...

- Typing a column or variable name while in a formula allows that field to be selected through a tab or double click of the value.



- Typing a comma after the required inputs have been entered in a formula will sometimes bring up the additional options to be included.



> **NOTE**
> A great way to learn the formatting of formulas can be to utilize the Formula Conversion on a standard calculation, thus seeing the syntax used for a formula that might be created again in the future.

If Function (Conditional)

The If function is a three part function: If (expression, true value, false value). If the expression is true, the true value is returned, otherwise the false value. Another If statement can be embedded in either true or false positions to construct a decision tree. The function can be formatted across multiple lines with embedded comments to make the statement easier to manage.

```
If([Or Ty] = 'SO',

# This is a comment
        If([Ln Ty] <> 'IS',
                [Unit Price] + [Unit Price] * .02,
                [Unit Price]),
[Unit Price] + [Unit Price] * .05)
```

Filter Function

Syntax: Filter(Value, Filter condition)
Return: Boolean
Parameters:

- Value: a literal value, a reference to a column, parameter, or variable
- Filter condition: Filter field syntax

The Filter function is a special function that is used to evaluate a conditional filter on a value. For example,

```
Filter([Order Date], <Period Range>)

Where
<Period Range> = >1/15/19:<2/14/19
```

will return **true** if the order date for the given row is within the specified user provided date range. Such a function would usually be used in the following if function:

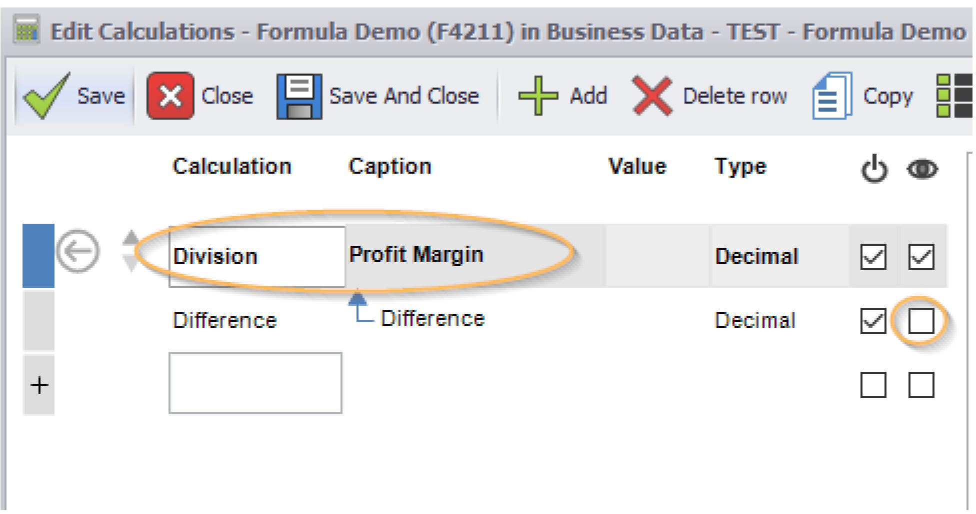
```
If(Filter([Order Date], <Period Range>), "Order in Range", "Order out of Range")
```

Non-Formula Calculation to Formula Calculation Conversion

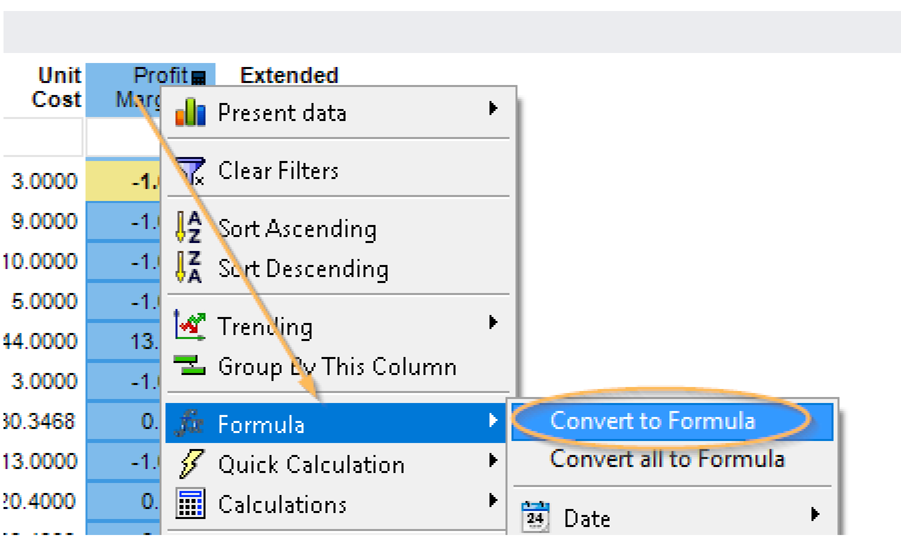
Often it is desired to convert a non-formula calculation to a DAS Formula Calculation or it might be desired to convert all non-formula calculation in a report.

Single Calculation Conversion

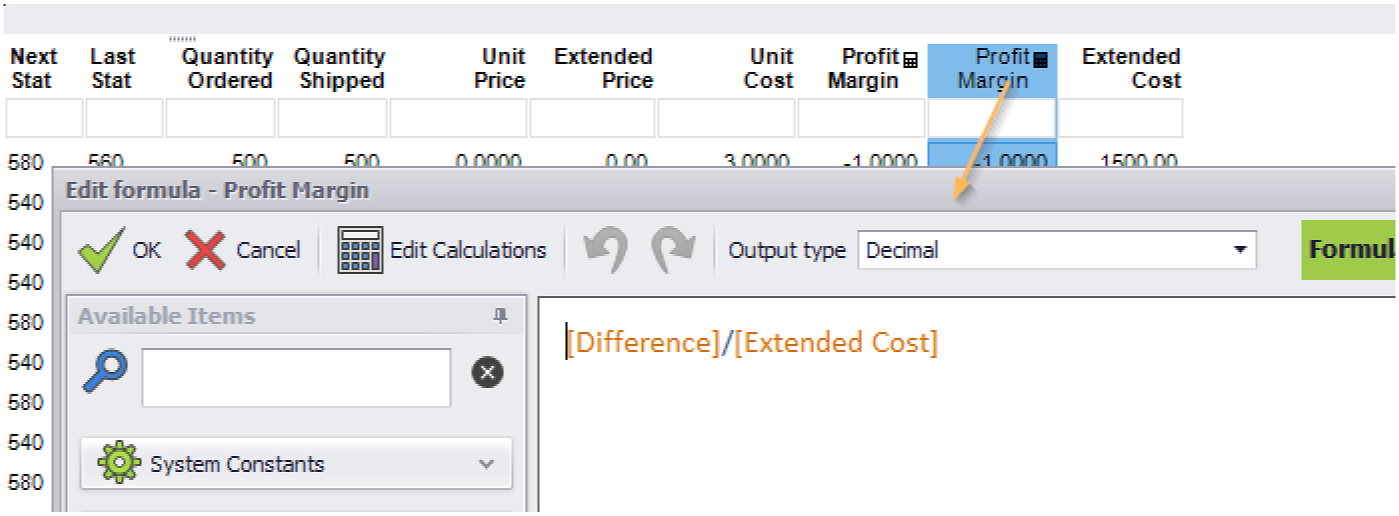
Converting a single non-formulation calculation will convert just the selected calculation to its formula equivalent. Any column references will become column references in the formula. Consider a 'Division' calculation that depends on a 'Difference' calculation. The 'Difference' calculation is hidden and is only used by the 'Division' calculation.



Converting just this 'Division' calculation...



will result in a new column with this formula:



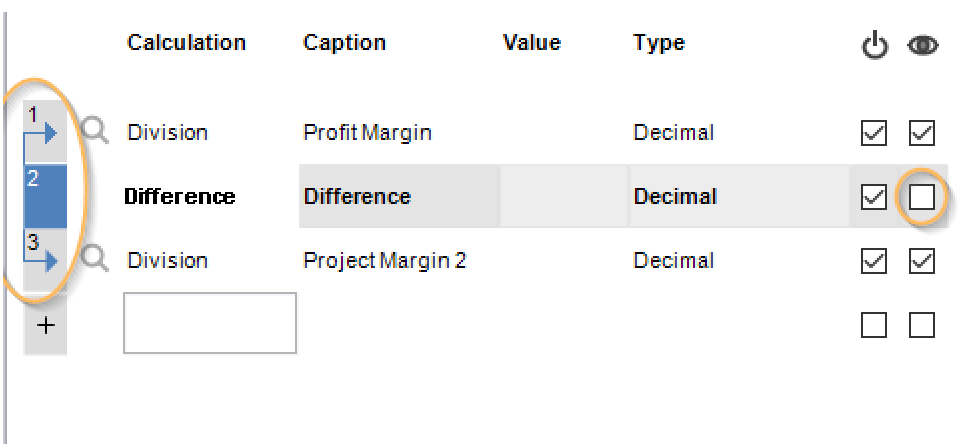
The old column would need to be deleted and any columns dependent on the old column should be re-hooked to the newly converted column.

Whole Report Conversion

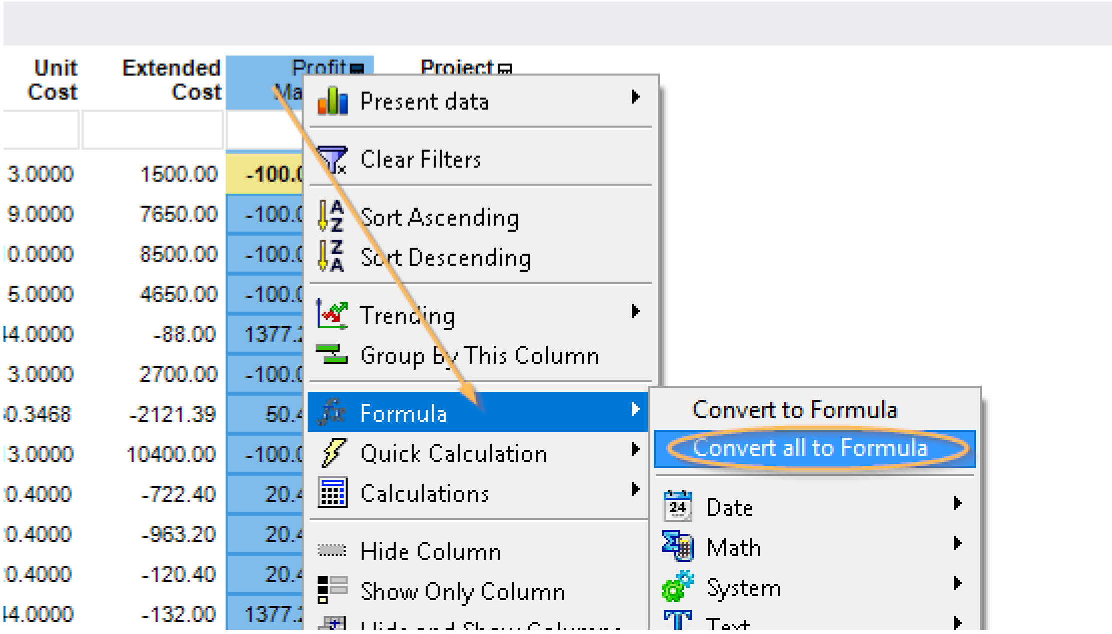
Converting a single calculation makes sense while developing. However, there are two main reasons to convert *all* the non-formula calculations to formulas:

- In-place conversion. Unlike a single calculation conversion, a new calculation object is not created but instead the existing one is converted to a formula preserving existing dependencies.
- Column Optimization. Whole report conversion will eliminate unnecessary calculations that are only used to hold temporary results.

Consider a simple report with two 'Division' calculations dependent on a single 'Difference' calculation:

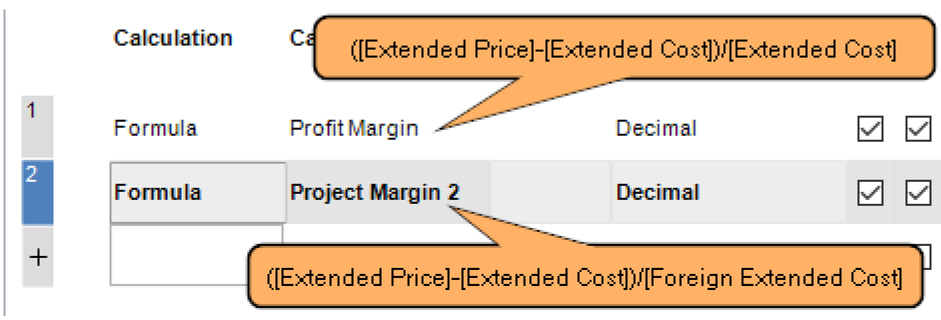


Converting all calculations...



results in two formula calculations with the old 'Difference' calculation ([Extended Price]-[Extended Cost]) embedded in each one. The old Difference calculation has been removed as it is no longer necessary.

> **NOTE**
>
> An embedded transformed calculation will be embedded in all formulas that depended on it before.



> **NOTE**
>
> The conversion process will not convert variables. Variable calculations must be converted manually.

Criteria for a Converted Calculation to be Embedded in Other Formulas

A calculation will be embedded into other converted calculations if the following conditions are met:

1. Calculation can be converted to a formula
2. Calculation is only referenced by other calculations that can be converted to a formula

3. Column is hidden, unsorted, un-grouped, and unfiltered
4. Column is not referenced by a parameter or additional criteria

Limitations on Conversion

Not all calculations can be converted. Any calculation that operates over multiple input rows, either for functional or performance reasons, is not eligible for conversion.

As such, these calculations cannot be converted to a formula:

- Database
  - Table Lookup
- Enterprise One
  - Account Category
  - Associated Description
  - Chart of Accounts
  - Current mailing address
  - JDE email address
  - JDE phone number
  - JDE user name
  - Media Objects
  - Model Account
  - Period Amounts
  - Relative Period
  - Unit Conversion
  - Work Days
- Math
  - Running Total
- System
  - Burst
  - De-duplicate
  - Group Rank
  - Group Row Index
  - Group Summary
  - Parent Child Hierarchy
  - Random Row Index
  - Row Index
  - Spacer
  - Type Converter
  - XPath Query
- Text
  - List

  - Replace
  - Split

Database Calculations

- Table Lookup : Will perform a table fetch off another table and that table's fields, returning that data to an existing report.

TABLE LOOKUP

Description

Will perform a table fetch off another table and that table's fields, returning that data to an existing report. A table lookup is similar to a left outer Table Join, but offers much more flexibility such as joining columns with differing data types. For example, this calculation is the only method to join in data from external data sources such as SalesForce or NetSuite.

Calculation Editor

Options

Input Parameter Values	Input Values
Datasource (optional)	Name of the data source to use when retrieving data. If left blank, DAS will use the JDE default data source and tables. **Note:** If you defined External data sources (see External Data), you can select that data source here. Once selected, DAS will load the valid **Target Table/ View** list (see below) for that data source.
Target table/view	Name of the table or business view from JDE or a defined data source or external connection to query. You also have the ability to define a join by clicking the special DASVIEW object name listed first in the visual assist.
Index	(Optional) Name of the index to use for the query. When you select an index, the calculation editor populates the key fields from that index in the **Specify how to query target table/view**.
Sort Order (optional)	Select how you want to sort the target data set. Use this option when the target data set has many values for what you want to query and you need a specific value based on the sort. Can be sorted ascending or descending.
Row to Fetch	(Optional) Default value is set to 1. This defines the relative row that you want. 1=First, 2=Second, etc. This is useful when you need to select rows other than the first row from the target table, or when specifying a **Sort Order**.
SummaryType	(Optional) If you query a target table with multiple rows, you can elect to summarize the values into one value. *Average* - the average value of all the records returned by the query. Works for numeric data types only. *Count* - count of the records returned by the query

Input Parameter Values	Input Values
	Count distinct - count the distinct number of records returned by the query (NULL counts as 1) *Filter: list of values* - creates a list of distinct values in a filter format (separated by a semicolon) *Filter: not in list* - creates a list of distinct values to be excluded in a filter format (separated by a colon and uses an exclamation to signify "not") *First* - returns the first result fetched from the query *Maximum* - returns the largest element of the query. Works for numeric data types only. *Minimum* - returns the smallest element of the query. Works for numeric data types only. *Multi-row* - returns all detail rows of the query *None* - returns the **Row to Fetch** number of the query (default is the first row) *Sum* - returns the sum of the query. Works for numeric data types only.
Bulk Fetch Keys	This is the number of unique queries to batch together before actually querying the database. This reduces the number of network requests and usually speeds up reporting. We generally recommend leaving this setting blank to use defaults. Occasionally design notes will recommend a change to the bulk keys setting. Administrators may influence the default for all users in Preferences for all Users. When using Column as Filter or Sort Order in Table Lookups, default is 50.
De-duplication	Default is no de-duplication. The Table Lookup automatically de-duplicates lookup values if you select the **Fetch unique target row only once**. This only works in conjunction with the the multi-row summary type.
Authentication timing	(Only applies for certain External Data Connections) **On Report open** - Indicates to authenticate the connection when the report is opened. This is the default option. **When first used** - Indicates to authenticate when the connection is first used.
Only Rollup If	Just like any other calculation, this criteria determines if the table lookup should even query the target table or view for a given row. Use this mainly to optimize report performance by skipping unnecessary queries to the database.

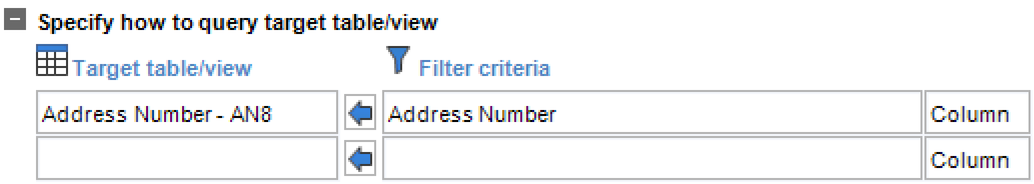
Input

Specify how to query target table/view

This is how you build the relationship between the data on your report and the target table/view. You can use a combination of data columns, calculated columns, and literal values (including parameters and variables) from your report to build the relationship. Depending on your target table/view, you may only need to use one column to build the relationship or you may need more than one. See samples below.

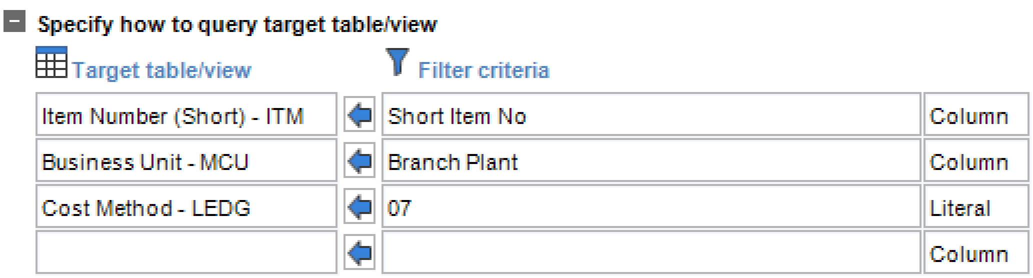
Column to column

Address Number to Address Number



Column to literal

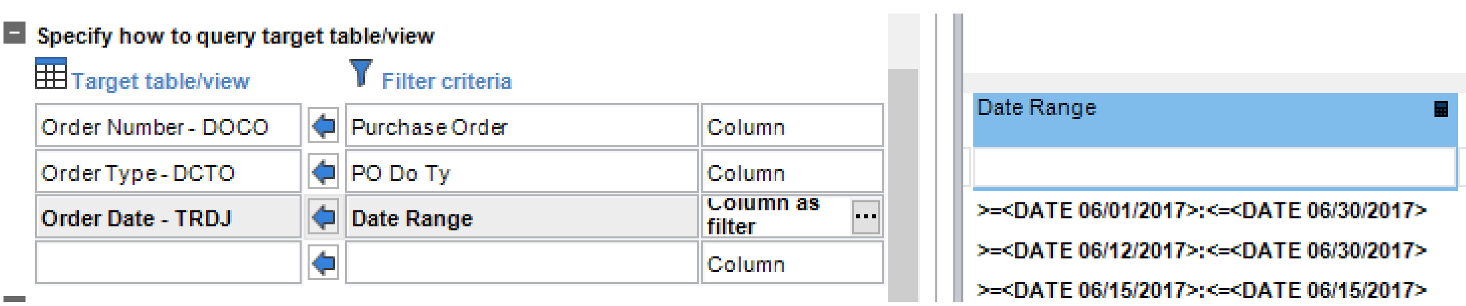
In this example, the Target Table/View has multiple Cost Methods (LEDG), and we only want to bring back 07. This is the method that will be used to filter on any fields in the Target Table/View.



Column as filter

Column as filter will interpret the contents of an input column as a filter expression.

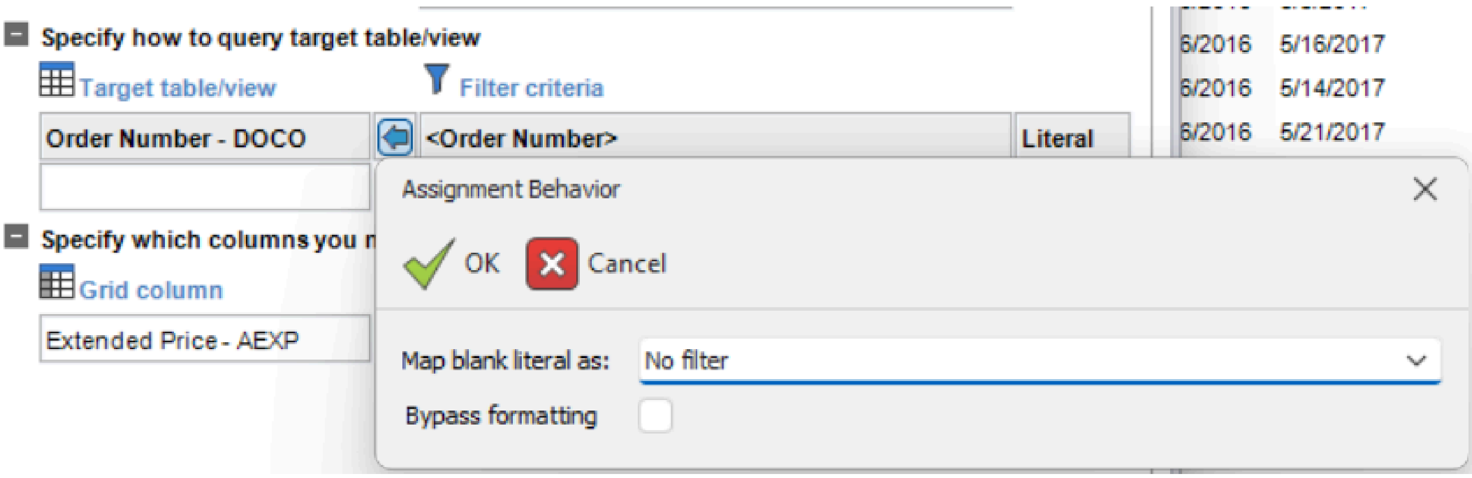
In this example, the Range Filter calculation is used to construct a date range filter to be used when filtering the order date column of the table lookup.



Assignment Behavior

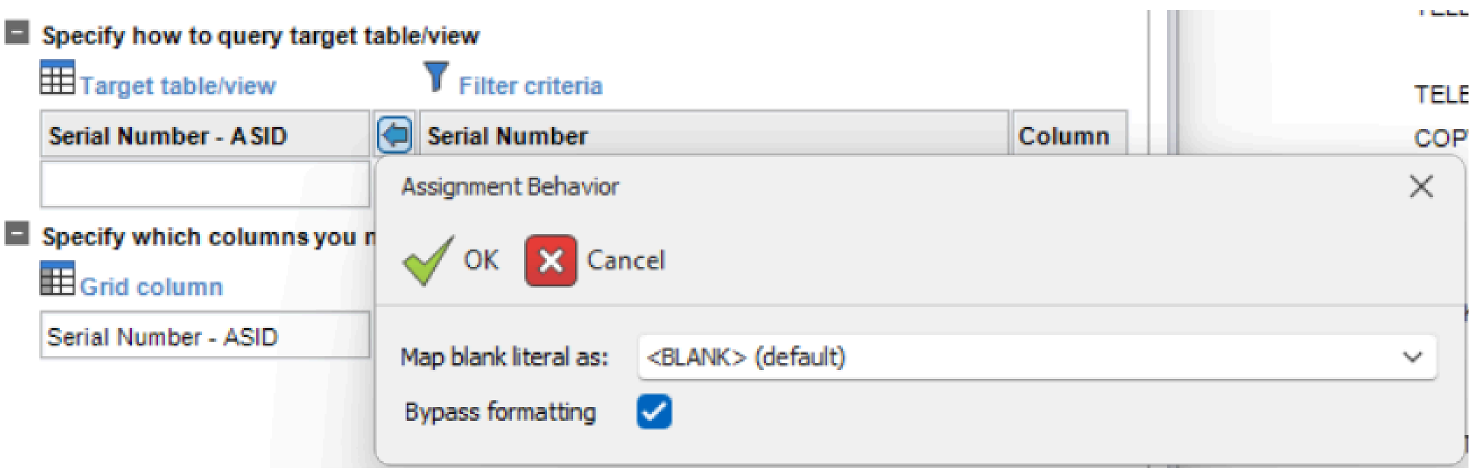
Use the Assignment Behavior input option to ignore a filter on a column if the incoming value is blank. Normally, a blank value from a incoming parameter or column will be interpreted as a literal blank by a table lookup input. In other words, the table lookup will only return rows where the filtered column is blank.

In this example, the order number will be used as filter on the table lookup only if the user entered a value in the parameter.



Check the **Bypass formatting** option to use an unformatted value from your filter criteria to match against the target table.

By default, Data Access Studio automatically applies formatting including zero or blank padding to certain JD Edwards data dictionary aliases. For example, the ASID alias used to store serial numbers is zero padded to 8 characters by default, though not all tables use such padding for the ASID alias. Selecting the **Bypass formatting** option ensures that exact matches can be found without automatic formatting and padding.



Output

Specify which columns you need back from the target table/view	Input Values
Define column caption	Columns you want to bring back

Result Columns Under *Specify which columns you need back from the target table/view*, select columns from the target table that you want to return to your report. If you selected a **Summary Type**, above, then the output columns will show the summary values for all the selected rows. The system will attempt to convert numeric strings to numbers before attempting a summary function.

Remarks

A Table Lookup requires three design elements:

- Table name – The database source and table where data will be retrieved.
- The matching criteria – The matching filtering criteria between the target table and the original table to retrieve correct data based off “like” index/ key fields.
- The columns that will be returned – Selecting the column(s) to return from the lookup table.

If you are only fetching the first record of a sorted set of records (most recent sales order of a customer for example) you will want to set **Bulk Fetch Keys** to one. A value of one and a Summary Type of 'First' will alter the query to the database and improve performance in this case.

> **WARNING**
> Make sure to include the main JDE address book column alias (AN8) (if the table includes such a column) if your company has implemented address book security. If this column is not included with this type of security enabled, any columns designated to be masked will be completely masked even for address book numbers the user is allowed to view.

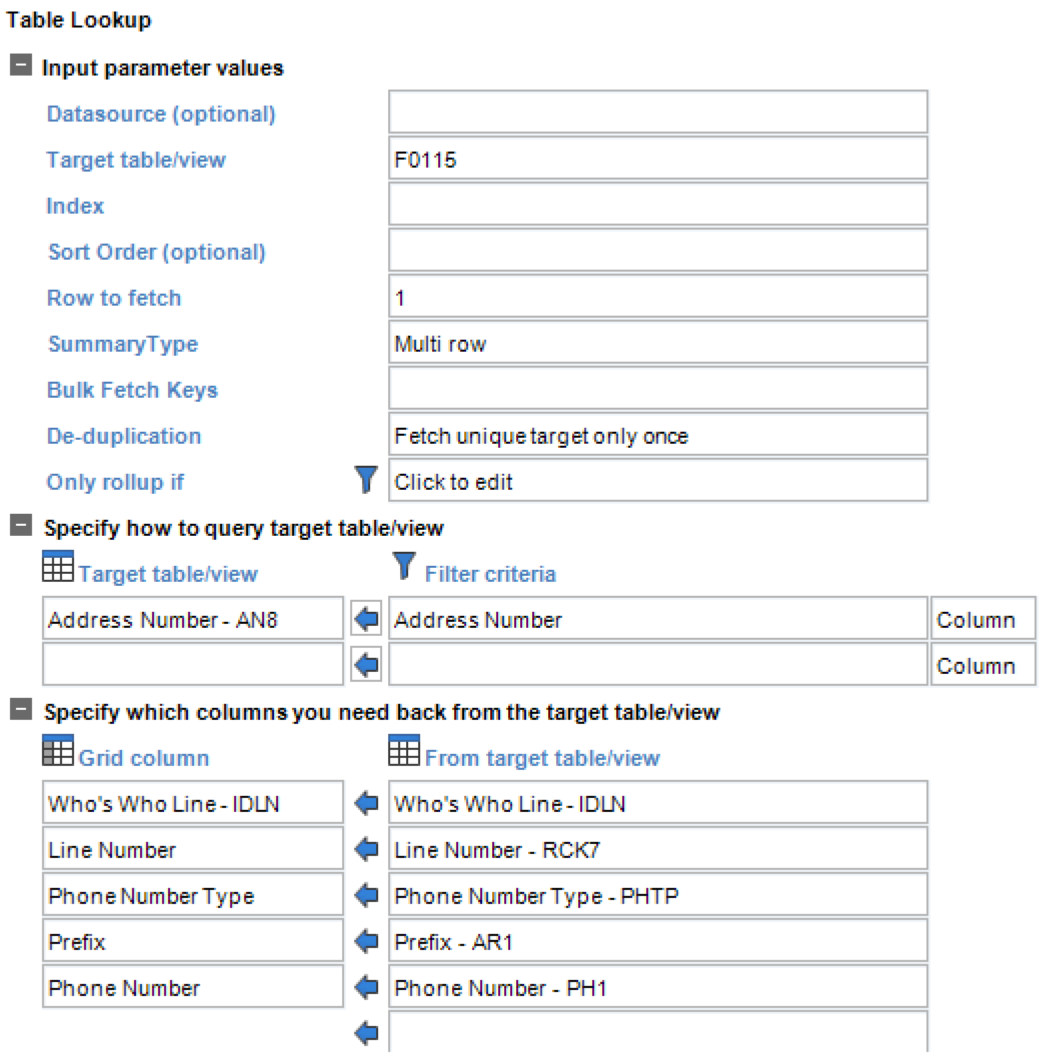
Examples

Example 1: Adding a Table Lookup to a Table Join

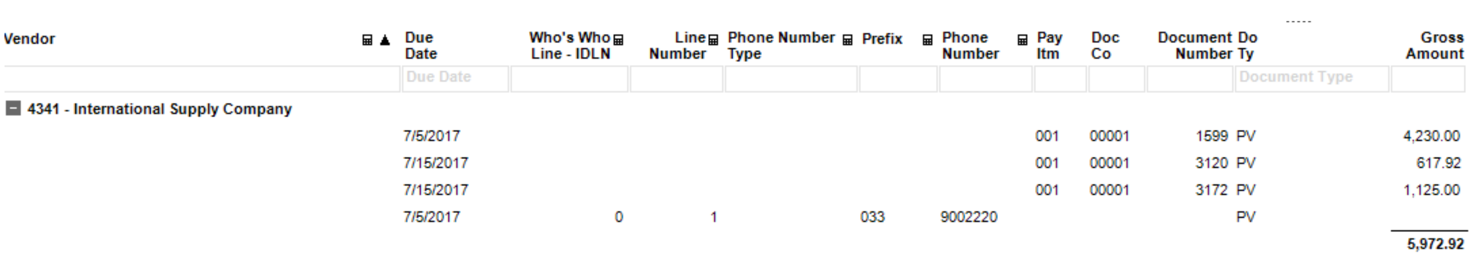
Current Table Join: Accounts Payable Ledger (F0411) *simple join via Address Number* to Supplier Master (F0401)
This is a Table Lookup to the Address Book - Phone Numbers (F0115) where we could have multiple phone numbers for the same address number. We can also have multiple voucher records for the same address number. With traditional joins, this could lead to duplication. Using the Table Lookup as shown below will allow you to avoid that.

Go into the Design Menu → Calculations → add a new calculation → Table Lookup.

After building the relationship between the two tables (Address Number to Address Number), we're going to change *SummaryType* to "Multi row" and *De-duplication* to "Fetch unique targets only once". Doing this will ensure that you are not getting duplication like you would if you did a Table Join to the F0115, with no additional calculations. The calculation editor should look as follows:



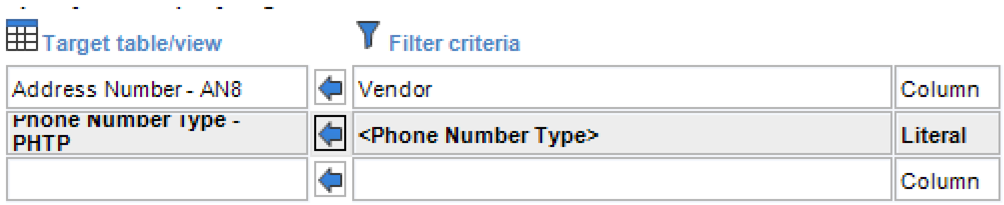
The columns you chose to bring back from the F0115 will show up on the report. You now have the option to use them in calculations and move them around as needed. Because they are from the Table Lookup calculation, they will also have the calculator icon in the top right of each column caption. The calculation will only show data from the target table in new rows beneath the information from the initial report. The report will look as follows, assuming you have hidden columns from the previous Table Join:

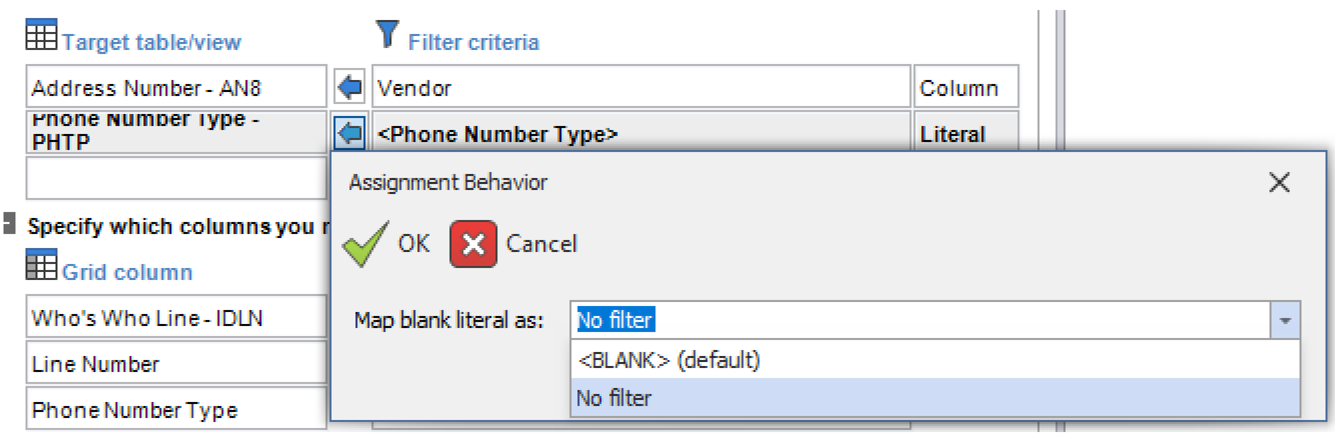


Vendor	Due Date	Who's Who Line - IDLN	Line Number	Phone Number Type	Prefix	Phone Number	Pay Itm	Doc Co	Document Number	Do Ty	Gross Amount
4341 - International Supply Company											
	7/5/2017						001	00001	1599	PV	4,230.00
	7/15/2017						001	00001	3120	PV	617.92
	7/15/2017						001	00001	3172	PV	1,125.00
	7/5/2017	0	1		033	9002220				PV	
											5,972.92

Example 2: Ignore a Blank Value in a Parameter used by a Table Lookup

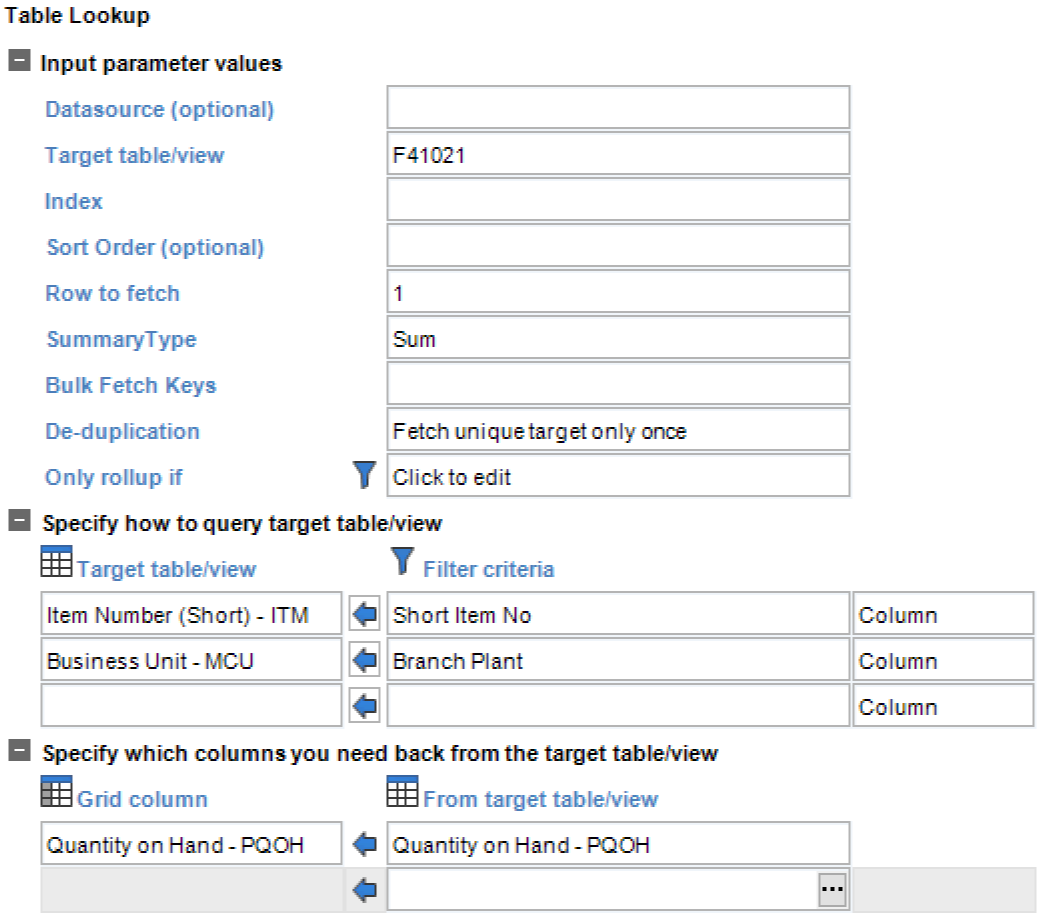
Using the same report and Table Lookup from Example 1, we're going to add the Phone Number Type as a parameter.
In the Table Lookup, we're going to add an additional "Specify how to query" field between Phone Number Type and this new parameter. Because Table Lookups will always query with blank values when fetching, we need to take an extra step and tell the Table Lookup to ignore the value. We do this by clicking on the blue arrow square between the target table/view and filter criteria columns and changing it from the default to "no filter".





Example 3: Adding a Table Lookup to bring back a sum

Starting with the Item Branch File (F4102) we're going to do a Table Lookup to the Item Location File (F41021). When we do this Table Lookup, we want to join by more than one field and return the sum. We will be connecting the tables via Short Item Number (ITM) and the Business Unit/Branch Plant (MCU).
The key to this one is changing the *SummaryType* to "Sum".
We're going to bring back the Quantity on Hand (PQOH) column. The calculation editor should look as follows:



You will see the sums for the Quantity on Hand being returned from the F41021. The output for this looks as follows:

Branch Plant	Item Number	Product No	Short Item No	Quantity on Hand - PQOH
10	1001	Bike Rack - Trunk Mount	60003	1000
10	210	Mountain Bike, Red	60011	1000
10	220	Touring Bike, Red	60038	1000
10	#2 PENCIL	#2 Pencil	739876	1000
20	210	Mountain Bike, Red	60011	5000
20	230	Youth Sport Bike	60020	5000
20	220	Touring Bike, Red	60038	5000
20	221	Touring Bike, Blue	60046	0
20	222	Touring Bike, Green	60054	0
20	2410	Helmet	60441	5000
20	2415	Helmet - Hi Flow	60450	0
20	2430	Gloves - Cloth	60476	5000
20	5200	Graphite Lubricant 4oz	60804	300
20	MEKEYBOARD	Mechanical Key board	740148	1850
20	ELKEYBOARD	Electrical Key board	740156	1642

Date Calculations

- Convert Time : Converts a date/time from the report’s time to UTC or vice versa
- Date Difference : Will give mathematical difference of the span between two date columns, e.g. Due Date - Invoice Date
- Date Offset : Will take a date parameter and offset it based on an input date, an offset unit type like Day or Week, and the offset value, e.g. 1 for one day and 2 for two days, etc.
- DateTime to Numeric : Will take a date format and convert it to Excel Numeric, HHmmss, Hours, Minutes, Seconds, or yyyyMMddHHmmss formats
- Day of Month : Will take a date and extract the day of the month
- Day of Week : Will take a date and extract the day of the week
- Day of Year : Will take a date and determine the day of the year off the calendar date
- First Day of Month : Will take a date and convert the value to the first day of the month
- First Day of Year : Will take a date and convert the value to the first day of the year
- Indexed Month Description : Will take a date and display it as period number and month description
- Julian Date : Will convert date format to a Julian date used as a standard time measure to calculate computer data by a scientific numeric date in lieu of Gregorian Date Formats
- Julian to Date : Will convert Julian date format to a Gregorian Date format
- Last Day of Month : Will take a date and convert the value to the last day of a month
- Last Day of Year : Will take a date and convert the value to the last day of a year
- Month : Will take a date and display it as period number
- Month Description : Will take a date and display it as period description
- Relative Date : Conditionally returns a value if a date falls within a specified date range. This uses Smart Filtering to select records by date. This feature is used by the Organized Date Trend wizard and is an Advanced Calculation
- Today's Date : Will use chose the variable for "today's date" and return today's date in the system. Used in Quick Calculations for corresponding data field type and to create date offsets
- Week Number : Will take a date and provide the week number for the date
- Year : Will take a date and display it as year

Convert Time

Description

Converts a date/time from the report’s time to UTC or vice versa.

Calculation Editor

Options

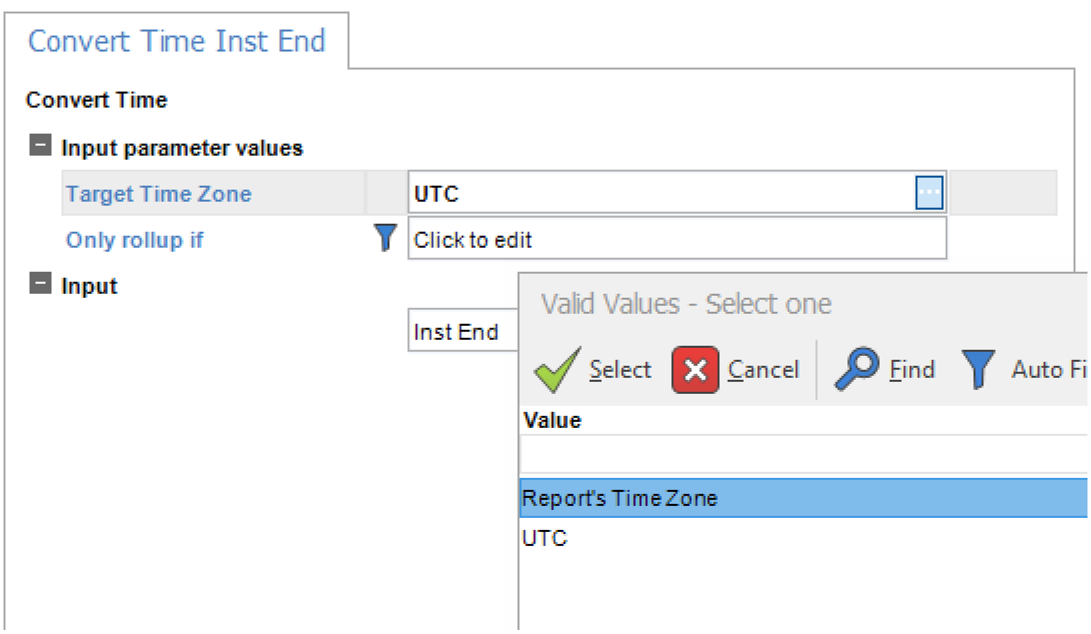
Input Parameter Values	Input Values
Target TimeZone	Reports TimeZone or UTC

Input

Input	Input Values	Required
Date/Time to be converted	Column or Literal	✔

Remarks

Data Access Studio classifies columns as being either in the report's time zone or in UTC. Using UTC is best to ensure that daylight savings changes do not result in incorrect time based calculations, but using the report's time zone is often preferable for user display purposes. Using this calculation allows the report designer to convert between the two time classifications and apply the necessary time offset.

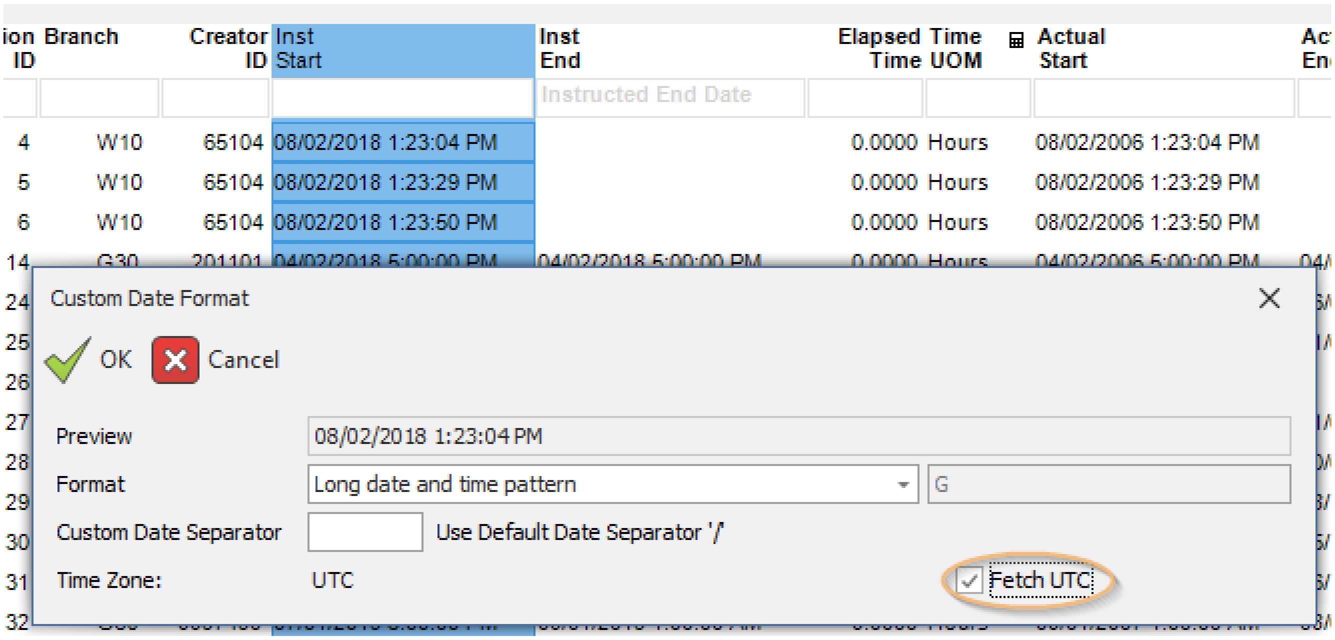


The output of this calculation will be classified with its time zone.

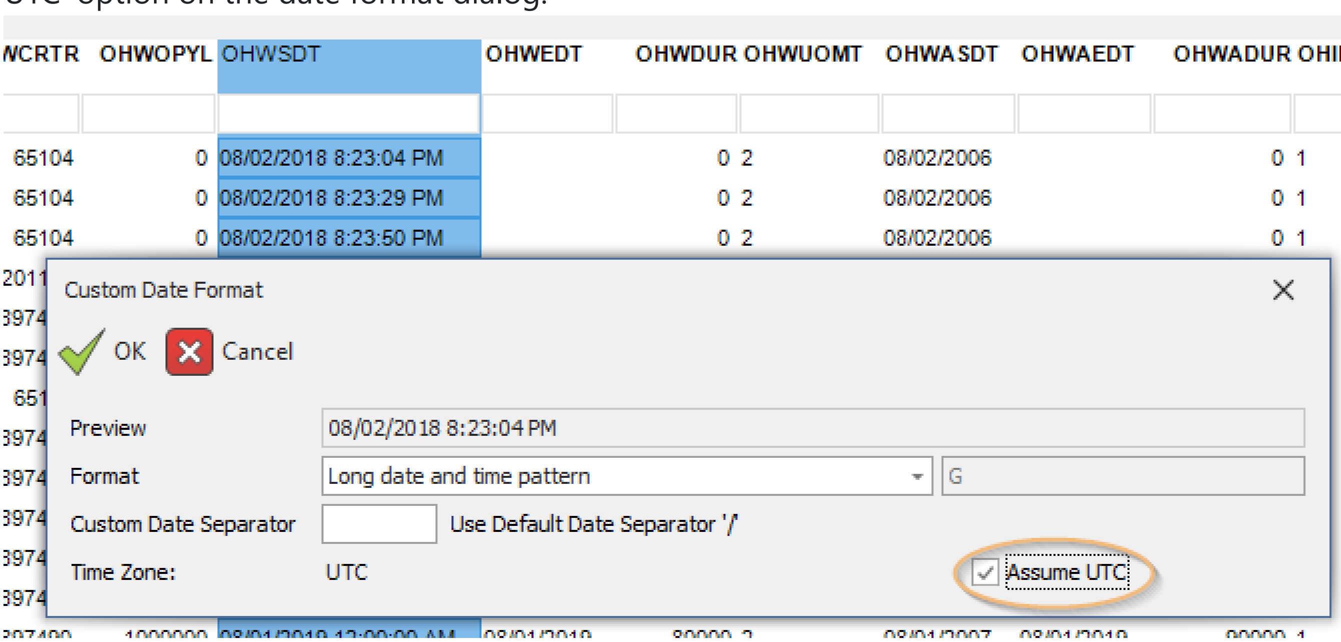
Example

For example, once a date/time is converted to UTC, a conversion to UTC will not undergo an additional transformation.

If the input column is JDEUTIME, it is possible to retrieve the raw UTC time of a JDEUTIME column instead of starting with the report's time zone. Go to the date format dialog of that JDEUTIME column and select the 'Fetch UTC' option. This is useful if you need to perform time calculations such as adding up hours and you need to avoid daylight savings adjustment errors that would be caused if the date/time column starts in the report's time zone/daylight savings rule.



If the input column is external data, DAS will assume the time zone of the data is the report's time zone. If it is known that the column data is in UTC, you can indicate this fact to DAS by setting the 'Assume UTC' option on the date format dialog.



DATE DIFFERENCE

Description

Will give the mathematical difference of the span between two date columns

Parameters

Options

Input Parameter Values	Values
Time Span Units	Days, Hours, Minutes, Months, Seconds, Years (Required)
Only Rollup If	Generic Criteria

Input

Date Input	Values	Required
Input 1	Date Column or Literal	✔
Input 2	Date Column or Literal	✔

The system knows to take the date format value from days and extract only that field.

Remarks

The default data type of this calculation is integer. When measuring days between columns that contain time, you will want to use a decimal type to capture the fraction of days.

Example

To see the Date/Time difference between two dates:

1. Multi-select two date columns
2. Right-click either column header
3. Select **Quick Calculation** > **Date** > **Date Difference**

Date Offset

Description

The **Date Offset** calculation offsets a date or a date/time by seconds, hours, days, weeks, months, quarters, or years.

Parameters

Options

Input Parameter Values	Input Values
Relative Offset	Numeric Value
Offset Unit	Year, Second, Quarter, Month, Week, Day, Hour, Minute (Required)
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type. A common use of this calculation is when creating Variables, where you want to take Today's Date and go back one month. The end result of the variable is then used as a filter for setting dynamically scheduled reports based on less than or equal to last month.

Example

User chooses to offset the invoice date by offset unit 'Weeks' and offset value of -2. The calculation will offset the invoice date by two weeks (prior).

DateTime to Numeric

Description

The **DATETIME TO NUMERIC** will take a date with an optional JDE time added to it and format it to several numeric formats.

Parameters

Options

Input	Input Values
Output Format	Excel Numeric Date, HHmmss, Hours, Minutes, Seconds, yyyyMMddHHmmss
Date	Column or Date Literal
JDE Time	Column or Date Literal
Only Rollup If	Column or Date Literal

Remarks

Format of the 'Excel Numeric Date'. From Excel doc : Excel stores dates as sequential serial numbers so that they can be used in calculations. By default, January 1, 1900 is serial number 1, and January 1, 2008 is serial number 39448 because it is 39,447 days after January 1, 1900

JDE Time format. Its format is HHmmss. Note that is used often in JDE ERP tables.

Example

1. **Input**:
   - Date: 06/01/2017
   - Time: 152705
2. **Design** > **Calculations** > **DateTime to Numeric**
   - Output Format: yyyyMMddHHmmss
   - Fill in Date and Time as seen above
3. **Output**: 20170601152705

DAY OF MONTH

Description

Will take a date and extract the day of the month. Used in Quick Calculations for corresponding data field type.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The system knows to take the date format value from days and extract only that field.

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **Day of Month**
3. **Output**: 31

DAY OF WEEK

Description

Will take a date and extract the day of the week. Used in Quick Calculations for corresponding data field type.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

- The system knows to take the date format value from days and extract only that field.
- Returned text is in English only.

Example

1. **Input**: 03/31/2016
2. **Quick Calculations** > **Date** > **Day of Week**
3. **Output**: Thursday

DAY OF YEAR

Description

Will take a date and determine the day of the year off the calendar date. Used in Quick Calculations for corresponding data field type.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The system knows to take the date format value from days and extract only that field.

Example

1. **Input**: 04/30/2016
2. **Quick Calculations** > **Date** > **Day of Year**
3. **Output**: 121

FIRST DAY OF MONTH

Description

Will take a date and convert the value to the first day of the month. Used in Quick Calculations for corresponding data field type.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The system takes the date value for a given month back to day 1 of the month. This calculation is often used to make it easier to construct the lower bounds of a month-to-date filter.

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **First Day of Month**
3. **Output**: 12/1/2017

FIRST DAY OF YEAR

Description

Will take a date and convert the value to the first day of the year. Used in Quick Calculations for corresponding data field type.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The system takes the date value for a given month back to day 1 of the year. This calculation is often used to make it easier to construct the lower bounds of a year-to-date filter

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **First Day of Year**
3. **Output**: 01/01/2017

INDEXED MONTH DESCRIPTION

Description

Will take a date and display it as month number and month description.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The month number will be padded with a zero. Note that this calculation often is used to make it easier to sort by month.

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **Indexed Month Description**
3. **Output**: 12.December

JULIAN DATE

Description

Converts a standard Gregorian formatted date to JDE's custom CYYDDD Julian-like date number.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The returned Julian date format includes leap years. This is JDE's own special Julian Date Format

Example

1. **Input**: 12/31/2016
2. **Quick Calculations** > **Date Julian Date**
3. **Output**: 116366

JULIAN TO DATE

Description

Will convert a JDE formatted Julian date format (CYYDDD) to a Gregorian Date format.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

The returned Julian date format includes leap years. This is JDE's own special Julian Date Format

Example

1. **Input**: 116366
2. **Quick Calculations** > **Date** > **Julian to Date**
3. **Output**: 12/31/2016

LAST DAY OF MONTH

Description

Will take a date and convert the value to the last day of a month.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type. This calculation is often used to make it easier to construct the upper bounds of a full month filter.

Example

1. **Input**: 04/15/2016
2. **Quick Calculations** > **Date** > **Last Day of Month**
3. **Output**: 04/30/2016

LAST DAY OF YEAR

Description

Will take a date and convert the value to the last day of a year.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type. This calculation is often used to make it easier to construct the upper bounds of a full year filter

Example

1. **Input**: 04/15/2016
2. **Quick Calculations** > **Date** > **Last Day of Month**
3. **Output**: 12/31/2016

MONTH

Description

Will extract the calendar month number from the date field

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type.

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **Month**
3. **Output**: 12

MONTH DESCRIPTION

Description

Will provide you with the name of the month based off a date column

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type.

Example

1. **Input**: 12/31/2017
2. **Quick Calculations** > **Date** > **Month Description**
3. **Output**: December

RELATIVE DATE

Description

Conditionally returns a value if a date falls within a specified date range. This uses Smart Filtering to select records by date.

Parameters

Options

Input Parameter Values	Input Values
Date	Column or Date Literal (Required)
Compare to Date	Column or Date Literal
Relative Offset	Numeric Value
Offset Measure	Inception to Date, Inception to End of Month, Month, Quarter, Week, Year, Year to End of Month, or YTD
Value to Roll Up	Column or Literal
Only Rollup If	Generic Criteria

Remarks

This feature is used by the Organized Date Trend wizard and is an Advanced Calculation.

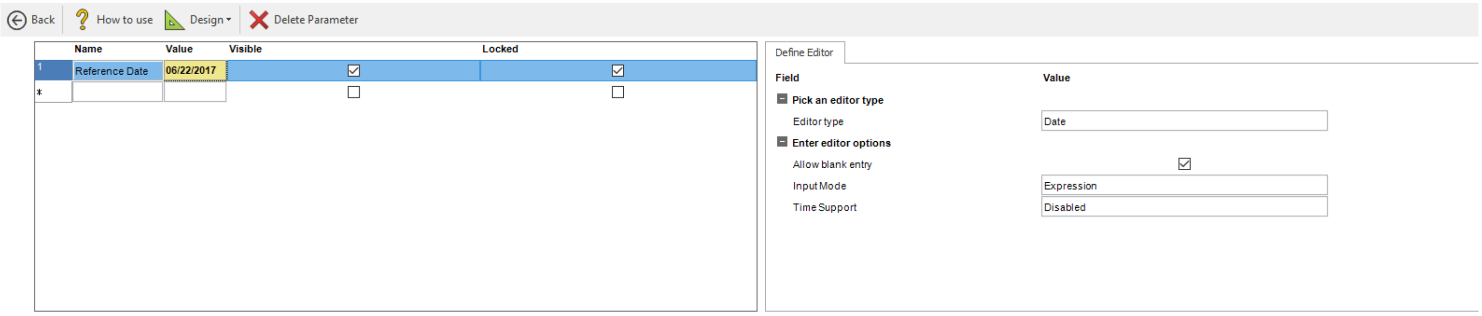
The Relative Date calculation and Organized Dates Trend are only relevant for calendar year reporting, not non-calendar or 445 fiscal year reporting. The Relative Date calculation is not typically used without using the trend first.

Note: for those users who want to clear out the default smart column value created by a Trend Wizard, ""show"" the selected date column in the grid, e.g. Invoice Date, and clear the filter default <> associated to the QBE filter.

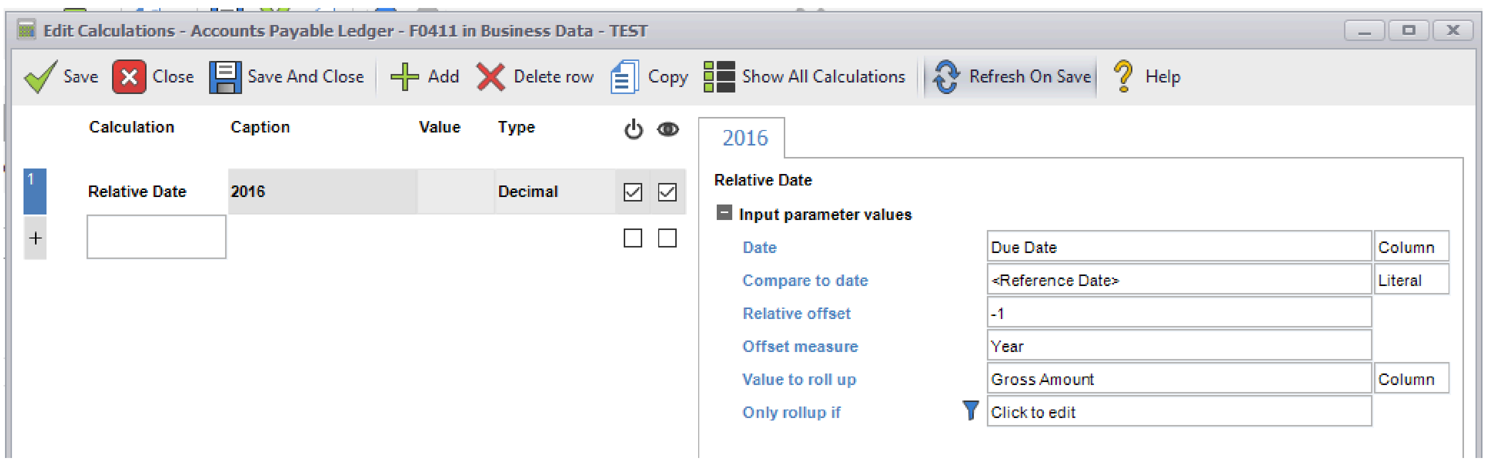
Will control the selection of the report to optimally return just the records required by the calculation.

Example

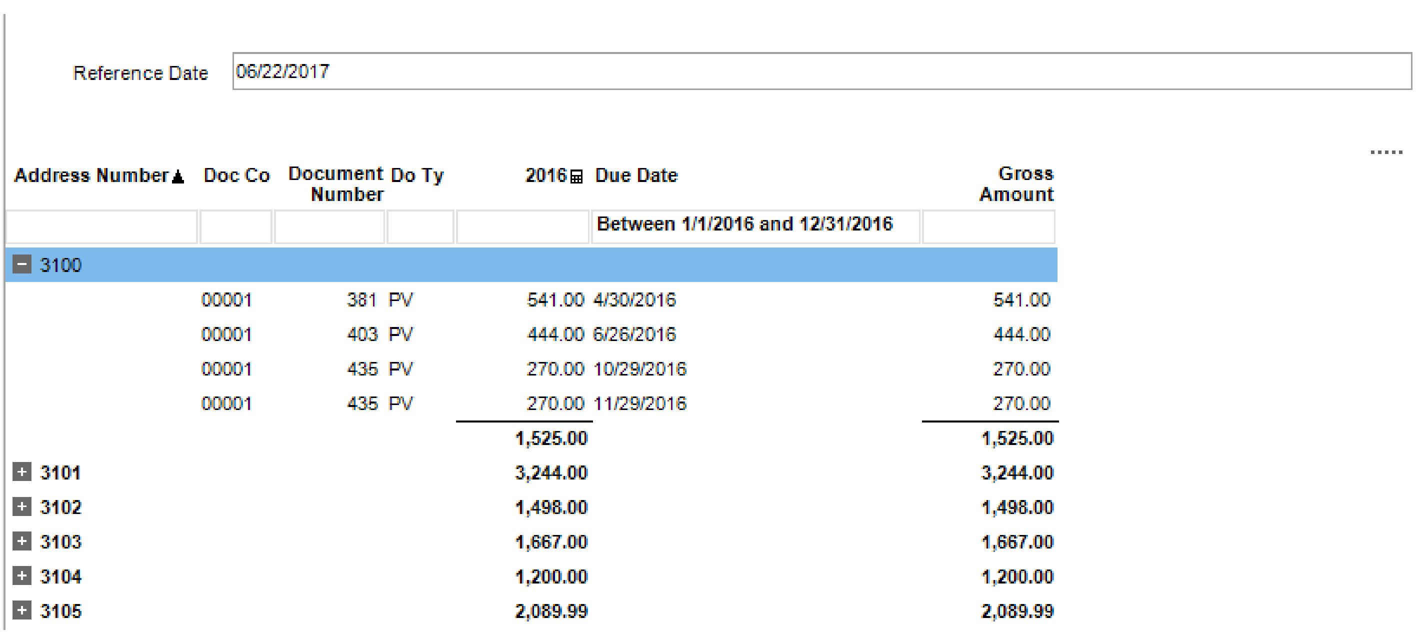
You want to see the Gross Amount for the past year, depending on a specific date, 06/22/2017. Create a Reference Date parameter, then link it to a Relative Date calculation. The Reference Date parameter should look like the image below.



Once you have created the parameter, enter the date you want to see the Gross Amount for, in this case 06/22/2017. Go into the calculation editor and create a Relative Date calculation link the "Compare to Date" to the Reference Date parameter/ variable, along with inputting the other required values. If you want to bring back the Gross Amount for the past year from the date you input into the Reference Date parameter, according to the Due Date, your values should be as follows in the Calculation Editor.



You should now be seeing the QBE of the Due date filtered on the past calendar year (Between 01/01/2016 and 12/31/2016) for the date you've input into the Reference Date Parameter(06/22/2017).



TODAY'S DATE

Description

Will use chose the variable for "today's date" and return today's date in the system.

> **NOTE**
>
> This calculation differs from the TODAY variable that is used in filter expressions in that this calculation will return the current date in the system's time zone, while the TODAY variable will return the current date in the user's time zone.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Remarks

Used in Quick Calculations for corresponding data field type and to create date offsets.

Returns it in the current time zone of the client machine.

Example

The system retrieves today's calendar date

WEEK NUMBER

Description

Will take a date and provide the week number for the date.

Parameters

Options

Input Parameter Values	Input Values
Calendar Week Rule	First Day of Year, First Four-Day Week, or First Full Week (Required)
Week Count Start Index	Column or Literal (Required)
First Day of the Week	Day of the Week Selections (Required)
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type.

We do not support ISO 8601 Week of Year.

To create an ISO 8601 Week of Year, create a formula calculation with the logic similar to this:

```
If (Day of Week([Order Date] ) = 'Monday'
    OR Day of Week([Order Date] ) = 'Tuesday'
    OR Day of Week([Order Date] ) = 'Wednesday',
Week Number(Date Offset([Order Date], Offset unit:"Day", Relative offset:3) ),
Week Number([Order Date]))
```

NOTE

Review [Microsoft information] regarding week of year formatting for additional information

Calendar week rule. This option indicates what will be designated the first 'week' of the year.

Is it...

- the week containing January 1st for current year
- the first week with at least 4 days in it for current year
- the first full week of the year

Example

1. **Input**: 01/23/2015
2. **Quick Calculations** > **Date** > **Week Number**
3. **Output**: 4

YEAR

Description

Will take a date and display it as year.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal	✔

Remarks

Used in Quick Calculations for corresponding data field type.

Example

The system takes the value of date like 6/28/05 and pulls the year value which is 2005.

Enterprise One / World Calculations

The calculations below apply specifically to the JD Edwards system. As you know, the JDE system has internal logic that can be difficult to calculate. These calculations hide the complexity of the internal logic and allow you to focus on the business requirements.

- Account Category: This calculation, on its own, does not have any direct use by a customer in a report. It is, however, important when creating Financial, Job Cost, and Fixed Asset reports that leverage the JD Edwards Automatic Accounting Instructions (AAI).
- Associated Description: Derives meaningful descriptions for many JD Edwards data columns and can be accomplished through a simple double-click of the column caption.
- Chart of Accounts: Used by DAS for Quick Reports using rows by "Chart of Account" rollup. In the context of creating Quick Reports for Financials, Job Cost, or Fixed Assets, this calculation is created through the wizard. This calculation utilizes the Level of Detail Rollup that can be created inside of the JD Edwards F0901 Account Master table to create grouping levels that roll up in a tree structure based on the designer's settings.
- Current Mailing Address: Retrieve either the current or as-of-a-date mailing address for an Address Book Number.
- Date to Period: Take a date and extract the Period Number or Fiscal Year as an output. The date is compared against the F0008 Fiscal Date Patterns and F0010 Company Names & Numbers tables to establish the output based on each data row record.
- E1 Time to DateTime: Converts JD Edwards Date Updated and Time Updated columns into a single DateTime column.
- Get Short Item Number: Efficiently retrieve the Short Item Number given the 2nd Item Number. This negates the need to join the Item Master table to your report.
- JDE Email Address: Return a selected email address for an Address Number.
- JDE Phone Number: Return a selected phone number for an Address Number.
- JDE User Name: Leverages JD Edwards' F0092 Library Lists table to retrieve the JDE User Name. This calculation is for administrators of DAS only.
- Media Objects: Displays text media object information for a media object enabled JDE table. These calculations are usually created for you using the 'Quick Media Object' command.
- Model Account: This calculation is used by Quick Reports for Financials, Job Cost, and Fixed Assets to compare to the F0901 Account Master for use as a filter, obtaining a business unit's Chart of Accounts as the model account Level of Detail (LD) roll-up structure.
- Offset Between Two Periods: Allows a user to identify the number of periods between two periods.
- Period Amounts: Allows a user to make multiple period amounts appear as one period amount column for the use case of the JD Edwards balances table like the F0902 GL Account Balances and the F1202 Fixed Asset Balances.
- Period to Date Range: Allows you to take a Period, Fiscal Year, and Century and create a Date or Date Range span for desired output and use - mainly used in variables to set filter ranges.

- Relative Period: Take the calculation's parameter criteria and return balances from a balance table, most often the F0902 GL Account Balances table.
- Unit Conversion: Returns the conversion factor between two units of measure for a given item number.
- Work Day Offset: Offsets a date input by a certain amount of work days based on the F0007 Calendar Information table in JD Edwards.
- Work Days: Allows you to identify if a date is a work day based on the F0007 Calendar Information table in JD Edwards with a 1 or 0 output. This calculation also allows a user to identify the number of work days in a date range.

Account Category

Description

This calculation, on its own, does not have any direct use by a customer in a report. It is, however, important when creating Financial, Job Cost, and Fixed Asset reports that leverage the JD Edwards Automatic Accounting Instructions (AAI).

Calculation Editor

Options

Input Parameter Values	**Input Values**
Display Option	Description, GLG Code
Only Rollup If	Generic Criteria

Input

Input	**Input Values**	**Required**
Company	Column or Literal	✔

Remarks

Utilize "Display Option" to determine which criteria will be selected within the Relative Period Calculations in your Financial Reports when the Reverse Sign Criteria, Add Begin Balance Criteria, or Add Original Budget Criteria options are in use. The default option will be "GLG Code" that results in filtering of the signs on certain general ledger guidelines and filtering on beginning balance criteria when applicable. If you adjust the Display option to "Description", be sure to adjust the filtering in your relative period calculations as well.

Associated Description

Description

Derives meaningful descriptions for many JD Edwards data columns and can be accomplished through a simple double-click of the column caption.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

- While this calculation is accessible inside of Design > Calculations and by right-clicking to go to Quick Calculations > JDE > Associated Description, the easiest way to apply an associated description is a simple double-click of the column caption.
- Enable the default preferences setting called "Double-click concatenates associated description" to automatically use this calculation to bring together a code column and its associated description when double-clicking the code column. This type of 'code - description' column format is common for many report writers.
- Additional associated description relationships can be added by a DAS Administrator, but many associations are already mapped.

Example

1. **Input**: Address Number (1001)
2. Double-click the Column Caption
3. **Output**: Address Number Description (AB Common)

Chart of Accounts

Description

Used by DAS for Quick Reports using rows by "Chart of Account" rollup. In the context of creating Quick Reports for Financials, Job Cost, or Fixed Assets, this calculation is created through the wizard. This calculation utilizes the Level of Detail Rollup that can be created inside of the JD Edwards F0901 Account Master table to create grouping levels that roll up in a tree structure based on the designer's settings.

Calculation Editor

Options

Input Parameter Values	**Input Values**
Grouping Mode	Financial: OBJ, SUB or Job Cost: SUB, OBJ
Start Level of Detail	Integer between 3 and 9
End Level of Detail	Integer between 3 and 9
Consolidate	Check Box that removes duplication of grouped fields with the same names by consolidating all similar fields under one bucket (ex: one instance of Petty Cash rather than 5 visible)
Group by Description	Check Box that sets up the grouping structure to be alphabetical by level and description name rather than the default structure order
Strip Blanks	Check Box that removes the blank characters in a field description before making the groups visible.
Group Outputs	Check Box ensures all levels of grouping for your Chart of Accounts are displayed in a tree structure
Only Rollup If	Generic Criteria

Multiple Input

Input	Input Values	Required
Input 1	Column or Literal with Default of the Model Account Column	✔

Remarks

- Adjust the Start and End Level of Detail inputs to determine which parts of the chart of accounts structure will be displayed and how many grouping levels there are.
- When utilizing the Chart of Accounts calculation and grouping structure, no other column groupings can be added before or after.
- The Chart of Accounts grouping automatically collapses the lowest level of grouping with no method of keeping that expanded due to the nature of the Chart of Accounts logic in JD Edwards.
- This calculation constructs hidden grouping columns to create the visible account hierarchy. Use the "Show System Columns" option from the Hide/Show Columns dialog to view these columns. At that time, the additional Account calculations will appear with the level of grouping number attached at the end of their alias (ex: CALC_3_7 for group level 7 of your chart of accounts).

Current Mailing Address

Description

Retrieve either the current or as-of-a-date mailing address for an Address Book Number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Address Number	Column or Literal	✔
As of Date	Column or Literal - Default set to Today's Date	✔
Add name	Check Box	
Add Country	Check Box	

Remarks

- This calculation will always use the mailing name for line ID zero in the F0111.
- Mailing address (stored in the F0116) is formatted in a region-specific format using values from the CTR column in the F0116 (UDC 00/CN). Current specified formats: US, EU, UK, ZH (China), RU, CA, GB, CN, TW, SG, UZ. The US format will be used for undefined formats.
- Language specific addresses will attempt to be retrieved from the F0116D and F0111D tables matching the signed-on user's language preference (specified in user preferences). This is supported starting with JDE Applications 9.2 Update 7.

Example

1. **Input**: 1001

2. **Quick Calculations** > **JDE** > **Current Mailing Address**

3. **Output**: (Format using the US format with line breaks)

   J.D. Edwards & Company (<NAME> skipped if Name is unchecked)

8055 Tufts Avenue (<ADDR>)

Suite 1331 Denver, CO 80237 (<CITY>, <STATE> <ZIP>)

(<COUNTRY> skipped if Country is unchecked)

Date to Period

Description

Take a date and extract the Period Number or Fiscal Year as an output. The date is compared against the F0008 Fiscal Date Patterns and F0010 Company Names & Numbers tables to establish the output based on each data row record.

Parameters

Options

Input Parameter Values	Input Values
Company	Column or Literal
Result As	Century, Fiscal Year, Period, Two-Digit Fiscal Year
Accounting Interval	12-Period or 52-Period
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Date	Column or Date Literal	✔

Remarks

- Leaving the calculation's Company field blank will imply to use the default company's fiscal date pattern for Company 00000. Specifying a literal value number in the company field will force all rows to use that company's date pattern, ex. 00010. And using a table's Company field will then choose the fiscal date pattern per data row record for that company as it relates to that record's fiscal date pattern. If a table does not have a Company field, you will have to create a table lookup or table join to the F0010 table linked by business unit (branch plant).
- In the case of 52-period date patterns, the F0008B table is used.

Example

Let's say you are on a non-calendar fiscal year starting October 1st and following the monthly cadence for periods.

If you want to identify what period a specific date falls in, you can utilize the Date to Period calculation.

1. Select Design > Calculations > Date to Period
2. Input: G/L Date (let's say this specific example looks at the date 4/1/2023)
3. Output: 7

The reason that the output is 7 rather than 4 fo the period is because period 1 for the example above is actually October of 2022.

E1 Time to DateTime

Description

Converts JD Edwards Date Updated and Time Updated columns into a single DateTime column.

Parameters

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Date Literal (Date Input)	✔
Input 2	Column or Date Literal (6 Digit Number)	✔

Remark

The JDE time format is an integer in the form of hhmmss.

Example

1. **Input**: 12/31/2017 for Date Input and 230021 for Time Input
2. **Quick Calculations** > **JDE** > **E1 Time to DateTime**
3. **Output**: 12/31/2017 11:00:21 PM

Get Short Item Number

Description

Efficiently retrieve the Short Item Number given the 2nd Item Number. This negates the need to join the Item Master table to your report.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
2nd Item Number	Column or Literal	✔

Remarks

This method will retrieve the Short Item Number (ITM) from the Item Master (F4101) using the value of the 2nd Item Number (LITM).

Example

1. **Input**: 2nd Item Number (2001)
2. **Quick Calculations** > **JDE** > **Get Short Item Number**
3. **Output**: Returns Primary Short Item Number (60062)

JDE Email Address

Description

Return a selected email address for an Address Number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Address Number	Column or Literal	✔
Who's who line ID	Column or Literal with default of 0	
Email Type (E, I, W)	Column or Literal	

Remarks

- Gets the email address for the given Address Number from the F01151 table.
- If Email Type is not specified, the order of search for an email address for a given line ID is E > W > I.
- If multiple email addresses exist that meet the settings criteria, the calculation will prefer an email address that is marked as primary with a value of 1 in the 'Messaging Indicator' column (EHIER) of the F01151 table. After checking the 'Messaging Indicator' column, the calculation will also prefer email entries with a lower line number (RCK7) field.
- This calculation will only operate for EnterpriseOne users - World is not supported. (World uses a different table, F01018, for email address information.)

Example

1. **Input**: 3333
2. **Quick Calculations** > **JDE** > **JDE Email Address**
3. **Output**: ContinentalInquiries@CICorp.com

JDE Phone Number

Description

Return a selected phone number for an Address Number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Address Number	Column or Literal	✔
Who's who line ID	Column or Literal with default of 0	
Related person ID	Column or Literal with default of 0	
Phone type	Column or Literal	

Remarks

- Phone number information is stored in the F0115 table.
- Phone types are listed in the 01/PH UDC. It is common for the JD Edwards phone type to be blank. To find phones where the phone type is blank, use the <BLANK> token. If no value is specified for the phone type setting, the first entry by line number (RCK7 field) will be returned.
- Who's who line ID comes from the IDLN field in the F0115 Address Book - Phone Numbers table.
- Related person ID comes from the CNLN field in the F0115 Address Book - Phone Numbers table. 'Related Person ID' only works for E1. For World users, this field will be ignored.
- Related persons of an Address Book entry are defined in the F01112 Related Person table. A common example of this is a dependent of an employee.

Example

1. **Input**: 4242
2. **Quick Calculations** > **JDE** > **JDE Phone Number**
3. **Output**: (404) 555 - 6389

JDE User Name

Description

Leverages JD Edwards' F0092 Library Lists table to retrieve the JDE User Name.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Address Number	Column or Literal	✔

Example

1. **Input**: 4242
2. **Quick Calculations** > **JDE** > **JDE User Name**
3. **Output**: ANNA

Media Objects

Description

Displays text media object information for a media object enabled JDE table. These calculations are usually created for you using the 'Quick Media Object' command.

Calculation Editor

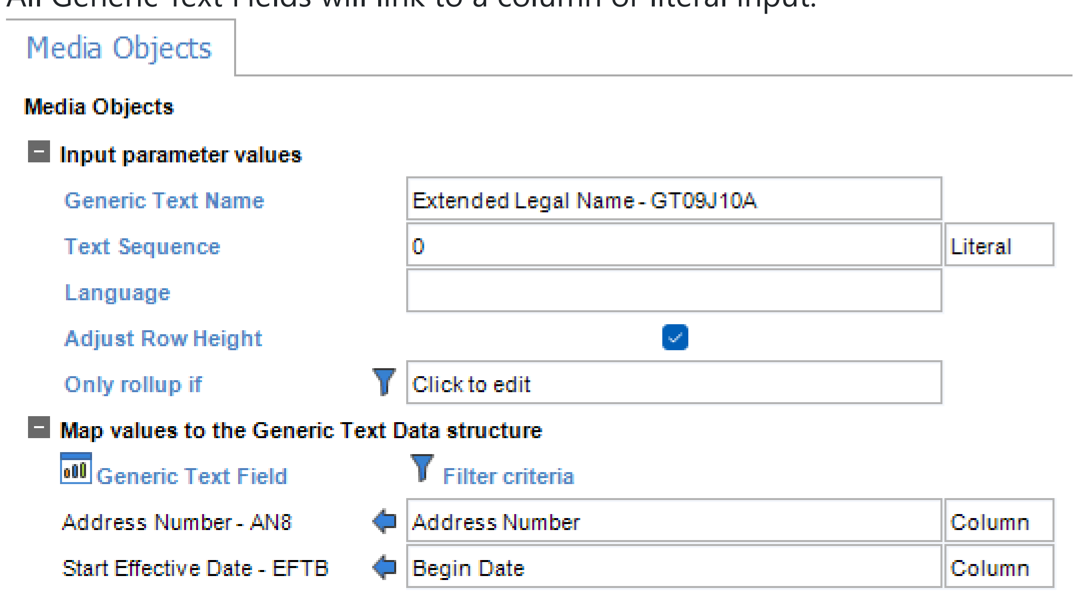
Options

Input Parameter Values	Input Values
Generic Text Name	Generic Text Record in the Object Librarian Master Table F9860
Text Sequence	Column or Literal
Language	Language Code from User Defined Code Values Table F0005
Adjust Row Height	Check Box
Only Rollup If	Generic Criteria

Map values to the Generic Text Data structure

Generic Text Field	Filter Criteria	Required
Selected Media Object	Column or Literal	✓

- The Generic Text Field will be an input for each member of the specific media object data structure.
- All Generic Text Fields will link to a column or literal input.

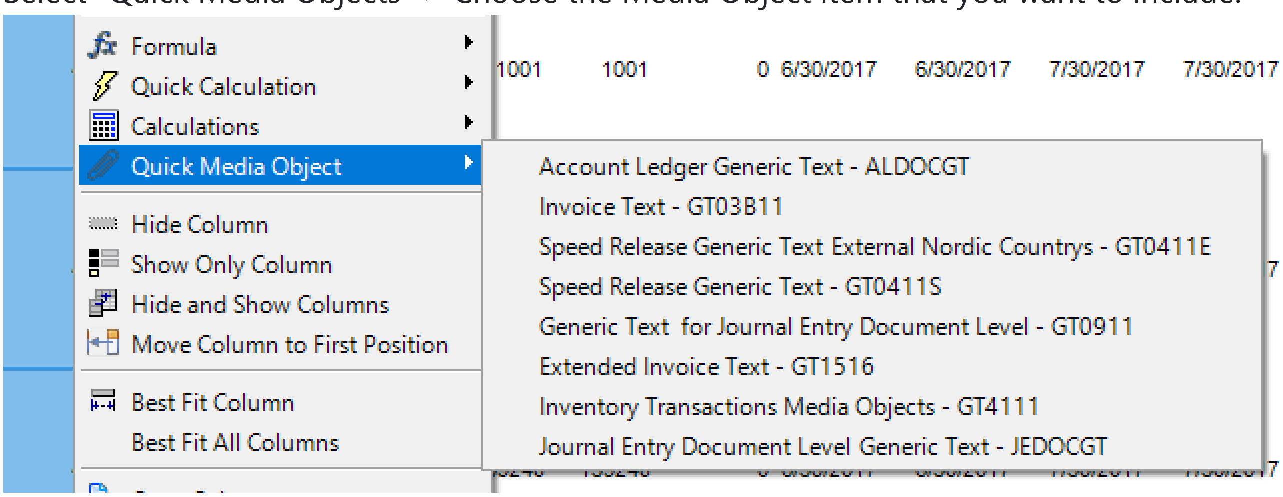


Remarks

- This is a calculation only accessible for JD Edwards E1.
- Only text Media Objects are supported by this calculation.
- It is recommended that instead of utilizing the Media Objects calculation as the first course of action for including this type of information in DAS Reports, a user should right-click their designated columns that have Media Object information (like the Document Number in the A/P Voucher Detail F0411 Table for example) to view the Media Objects quickly under the **Quick Media Object** section.
- The options listed under the Generic Text Name are found inside of the F9860 using a filter to only review Object Types of GT which is the Media Object Data Structure records. By utilizing the Quick Media Objects section in a report (right-clicking a column), the Generic Text Name and additional information in the Media Objects calculation will be auto-generated.
- To review all Media Objects inside of DAS that come from JD Edwards, utilize the F00165 Media Objects Storage table.
- The F98MODAT Media Object File Data Storage table was introduced in JDE Tools Release 9.2.1.
- A blank language indicates the use of language as specified in your user preferences in DAS. The list of Language options available from the ellipses on that input option comes from the User Defined Code Values Table F0005 with the filters of Product Code 01 and Us Cd LP.
- Media Objects are created and managed in JD EDwards. For more information, the JD Edwards Oracle Guide has a section on Media Objects.

Example

1. Open the F4211 Sales Order Detail Table
2. Right-click on the column caption for Order Number
3. Select "Quick Media Objects" > Choose the Media Object item that you want to include.



NOTE

If a user manually creates a Media Objects calculation, then the corresponding media type input and pass-through parameters would need to be created.

For a more in-depth example of how to utilize Media Objects effectively in Data Access Studio, refer to the ReportsNow Academy free webinar starting at 21:07.

Model Account

Description

This calculation is used by Quick Reports for Financials, Job Cost, and Fixed Assets to compare to the F0901 Account Master for use as a filter, obtaining a business unit's Chart of Accounts as the model account Level of Detail (LD) roll-up structure.

Calculation Editor

Options

Input Parameter Values	Input Values
Model Business Unit	Literal Value of a Business Unit - Default is linking Model Business Unit parameter into this calculation
Only Rollup If	Generic Criteria

Remarks

The Chart of Accounts in JD Edwards is typically tied to the specific account information (MCU, OBJ, SUB) rather than a "Model" account (just OBJ and SUB). Sometimes it can be handy to view balance information, for instance, with a different chart of accounts. So, for instance, you may want to compare different business units or consolidations of business units to one "master" chart of accounts. The **Model Account** calculation solves this issue.

The Model Account calculation is going to be automatically created when you select the Chart of Accounts option with a Consolidated Business unit in the Quick Reports wizard.

After your report is created, the Model Business Unit parameter is linked automatically into the model account calculation that then produces the input for your Chart of Accounts calculation.

Chart of Accounts Model Account	Beg Balance/ PYE Forward
Assets	
Current Assets	5,317,467.00
Fixed Assets	1,121,761.90
	6,439,228.90
Liabilities and Equity	
Current Liabilities	-2,649,934.00
Long-Term Liabilities	-1,690,000.00
Stockholder's Equity	-2,137,694.90
Revenues	
Direct Costs	
General and Administrative	
Other Income and Expense	
	-6,477,628.90

Offset Between Two Periods

Description

Allows a user to identify the number of periods between two periods.

Calculation Editor

Options

Input Parameter Values	Input Values
Company	Column or Literal
Period 1	Column or Literal
Century 1	Column or Literal
Fiscal Year 1	Column or Literal
Period 2	Column or Literal
Century 2	Column or Literal
Fiscal Year 2	Column or Literal
Accounting Interval	12-Period or 52-Period
Only Rollup If	Generic Criteria

Examples

Example 1

1. Design > Calculations > Offset Between Two Periods
2. Inputs:
    1. Company: Co
    2. Period 1: 6
    3. Century 1: 20
    4. Fiscal Year 1: 17
    5. Period 2: 7
    6. Century 2: 20
    7. Fiscal Year 2: 17
    8. Accounting Interval: 12-Period
3. Output: 1 (Period 6 of 2017 to Period 7 of 2017 is only a 1 period offset)

Example 2

Imagine the case in a balance table where you may want to show an actual amount if the period meets a certain threshold or a budget amount otherwise. Or let's say that if the period is in a period threshold range you want to show an amount, otherwise you want to show 0.

To solve this problem, you will need a reliable way to count the number of periods between two points:

(century + fiscal year + period)B - (century + fiscal year + period)A

For instance, point A could be the reference period and point B could be the current period.

To perform the **Offset Between Two Periods** calculation:

1. Open a table with period information (e.g. Account Balances (F0902))
2. Click **Design | Calculations**
3. Enter **Offset Between Two Periods**
4. In the **Parameters**, enter a static **Company**, grid column company or blank (for default JDE company)
5. Enter values for the reference period: **Period 1, Century 1, Fiscal Year 1**
6. Enter values for the other period: **Period 2, Century 2, Fiscal Year 2**

When you run your report, the **Offset Between Two Periods** column will contain the number of periods between 2 and 1.

Period Amounts

Description

Allows a user to make multiple period amounts appear as one period amount column for the use case of the JD Edwards balances table like the F0902 GL Account Balances and the F1202 Fixed Asset Balances.

Options

Input Parameter Values	Input Values
Period	Column or Literal
End Period	Column or Literal
DateItem Prefix (Advanced)	Column or Literal two-digit code
Accounting Interval	12-Period or 52-Period
Only Rollup If	Generic Criteria

Remarks

The DateItem Prefix option is utilized when there are multiple period balance columns available in the JD Edwards table being used and you want to specify the Alias prefix that will result in those periods being looked at. For example, in the F06136, there are four different period bin segments. By right-clicking on one of the column captions and going down to the Column Caption section, a user can see that the segments of columns start with aliases of BW, BX, BE, BY. These two-digit alias codes would be what goes into the DateItem Prefix section of the calculation input to determine which period columns are being looked at.

In the case of the F0902 or the F1202 which are the two most common balance tables, there is only one set of period columns and therefore nothing needs to be set in the DateItem Prefix section.

> **NOTE**
>
> You may consider utilizing the Relative Period Calculation instead as it has more features.

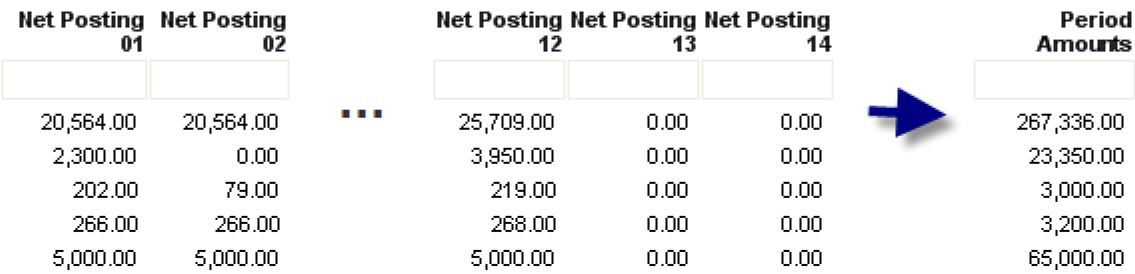
Example 1

1. While on an F0902 Accounts Balances table, Select Design > Calculations > Period Amounts
2. Inputs:
    1. Period: 1

   2. End Period: 6
3. Summarizes Period 1 - Period 6 on the F0902 into a single "Period Amounts" calculated column

Example 2

When working with balances tables such as the Account Balances (F0902) or Asset Account Balances (F1202), it can be a challenge to work with the amount fields (AN01 through AN14). Rather than deal with 14 amount columns, it would be much simpler if you could combine all the columns into one column. This is what the **Period Amounts** calculations does.



Net Posting 01	Net Posting 02	...	Net Posting 12	Net Posting 13	Net Posting 14		Period Amounts
20,564.00	20,564.00		25,709.00	0.00	0.00		267,336.00
2,300.00	0.00		3,950.00	0.00	0.00		23,350.00
202.00	79.00		219.00	0.00	0.00		3,000.00
266.00	266.00		268.00	0.00	0.00		3,200.00
5,000.00	5,000.00		5,000.00	0.00	0.00		65,000.00

So what are the advantages of using **Period Amounts** over say summing the amount columns manually? Plenty:

1. **Easier to change the period value**: Any time you want to change which period or which through period, just change the value of the **Period Amount** calculation. If you manually summed the columns, then every time you needed a different period, you would have to delete the old sum, re-select the columns you wanted to add, and add the new sum calculation.

2. **Easier to build a report foundation**: With **Period Amounts** you only have to create one calculation. This means that any calculation you need to do off the period value can reference the one calculation. This makes maintaining and building your amount-based report much more simple.

3. **Hook up to Report Parameters**: You can hook up the **Period Amount** parameters to your Report Parameters. This lets you prompt the user for the period number when they run the report.

To add a **Period Amounts** column:

1. Open a table or view with AN01-AN14 (such as the Account Balances or Asset Account Balances tables).

2. Click the **Calculation Editor** button on the main toolbar.

3. Type in **Period Amounts** under the **Type of Calculation**.

4. On the **Parameters**, enter **1** for **Begin Period**. Enter any number from 1 through 14 for **End Period**.

5. (Optional) Specify **Ledger Type** to only rollup values for a specific ledger type (e.g. AA).

6. (Optional) Specify a **DateItem prefix**. By default, the calculation will rollup AN01-AN14 (or though AN12 if AN13 and AN14 do not exist). Some tables, however, have other arrays of balance amounts that can be rolled up similarly. For example, the Tax History (F016136) table defines BW01-BW12. To use **Relative Period** on this table, enter BW for this parameter. If this parameter is blank, the calculation will default to the AN prefix.

> **NOTE**
>
> If **Begin Period** and **End Period** are the same number, then the calculation represents the amount for that period. If **Begin Period** is **1** and **End Period** is another number, then the **Period Amount** is the "through" period amount (e.g. such as Year-to-Date depending on the year start period).

Period to Date Range

Description

Allows you to take a Period, Fiscal Year, and Century and create a Date or Date Range span for desired output and use - mainly used in variables to set filter ranges.

Calculation Editor

Options

Input Parameter Values	**Input Values**
Company	Column or Literal Integer
Period	Column or Literal Integer
Century	Column or Literal Integer
Fiscal Year	Column or Literal Integer
Side	Both, End, or Start
Accounting Interval	12-Period or 52-Period
Relative Offset	Column or Literal
Only Rollup If	Generic Criteria

Remarks

1. These period inputs utilize the F0008 Fiscal Date Patterns and F0010 Company Names & Numbers tables to establish the date outputs. In the case of a 52-period calendar, the F0008B table will be used rather than the F0008.
2. Leaving the calculation's Company field blank will imply to use the default company's fiscal date pattern for Company 00000. Specifying a literal value number in the company field will force all rows to use that company's date pattern, ex. 00010. Using a table's Company field will then choose the fiscal date pattern per data row record for that company as it relates to that record's fiscal date pattern. If a table does not have a Company field, you will have to create a table lookup or table join to the F0010 table linked by business unit (branch plant).
3. Side determines which part of the date range you want returned. Selecting End will return something like <=6/30/2023 while selecting Start would return >=6/1/2023 based on your other inputs. The example below shows what selecting Both would look like.

Example

1. Design > Calculations > Period to Date Range
2. **Input**: Period 6, Century 20, Fiscal Year 17, Side Both
3. **Output**: >=6/1/2017:<=6/30/2017

Relative Period

Description

Take the calculation's parameter criteria and return balances from a balance table, most often the F0902 GL Account Balances table.

Calculation Editor

Options

Input Parameter Values	Input Values
Relative Offset	Literal Integer
Organize By	Inception to Date, Job to Date, Period, QTD, Quarter, Year, Year + Adjustment Periods, or YTD Fiscal Period
Company	Column or Literal
Period	Literal
Fiscal Year	Literal
Date	Column or Literal
DateItem Prefix (advanced)	Column or Literal
Reverse Sign Criteria	Field and Criteria inputs
Add Begin Balance Criteria	Field and Criteria inputs
Add Original Budget Criteria	Field and Criteria inputs
Accounting Interval	12-Period or 52-Period
Only Rollup If	Generic Criteria

Remarks

- The relative period calculation will either take Period and Fiscal Year inputs or a Date input, but it does not need both options.
- The 'Add Begin Balance Criteria' setting is required to be set to properly evaluate an 'Inception to Date' total. Without it, The 'Organize By' settings 'Inception to Date' and 'YTD Fiscal Periods' options will return the same totals.

DateItem Prefix

The DateItem Prefix option is utilized when there are multiple period balance columns available in the JD Edwards table being used. Specify the Alias prefix (two-digit code) to tell the calculation which period balance columns to utilize.

For example, in the F06136, there are four different period bin segments. By right-clicking on one of the column captions and going down to the Column Caption section, a user can see that the segments of columns start with aliases of BW, BX, BE, BY. One of these two-digit alias codes would be what goes into the DateItem Prefix section of the calculation input to determine which period columns are being looked at.

In the case of the F0902 or the F1202 which are the two most common balance tables, there is only one set of period columns and therefore the DateItem Prefix section can be left blank.

General Ledger Guidelines used in Quick Reports

For the "Reverse Sign Criteria" and "Add Begin Balance Criteria", an Account Category calculation is created as a part of the Quick Report wizard. This calculation can then adjust necessary object account ranges based on the General Ledger Guidelines that have been set up in JD Edwards' Automatic Accounting Instructions.

If the GLGs have not been properly set up in JD Edwards, a user can adjust the field and criteria being used to determine which records will either reverse the signs or contain beginning balances.

Examples

How to utilize Relative Periods in Quick Reports (Financials)

Relative Period calculations are automatically created when you utilize Quick Reports to create financial statements, fixed asset reports, or job cost reports. This means that while there are still methods of manipulating the relative period calculations in the editor, this example will not include the physical creation of the relative period calculation.

Let's say you've created an income statement inside of Quick Reports that returns the current Fiscal Period based on the parameter inputs you select. You would now like to turn your report into a rolling 12-period income statement. You can do this utilizing the settings of a relative period calculation.

1. Start by selecting the existing relative period calculated column and copying it 11 times for a total of 12 relative period calculated columns.

2. Go into Design > Calculations to view all relative period calculations at once.

3. Start going down the list and adjust the "Relative Offset" of each calculation 1 forward. Example: if your first relative period calculation has a relative offset of 0, your second one will have a relative offset of 1, third will be 2, fourth will be 3 and so on up to 11.

4. Return to your report and enter in Fiscal Period of 1 and Fiscal Year of your choosing to see an Income Statement showing Periods 1 - 12.

   Note: Some users choose to set up their rolling 12-period income statement in the negative instead. This means that whatever Fiscal Period is put into the parameter, the 12 periods that show up are going backwards from the selection. To do the report that way, the Relative Offsets in the calculated columns will be 0 through -11 rather than 0 through 11.

If you wanted to add in a Fiscal Year column at the end that includes the entire current fiscal year based on the parameter inputs of your report viewer, copy a relative period calculation from what already exists and adjust the "Organize By" option to be "Year". The name will dynamically adjust as well, but feel free to right-click to select "Rename" as well if an adjustment is needed beyond the default.

How to utilize Relative Periods in HR Reports (F06136 - Tax History)

Let's say you want to create a report in your Tax History table that allows users to analyze employees for specific time frames (Current Fiscal Period and Year to Date for example) and review their Gross Pay, you can utilize relative period calculations to accomplish this.

1. In the F060136 table, start by selecting the columns that you want to be always visible in your report. This will not include any gross pay period bin columns. I have included Address Number (and its associated description of Employee name), Employee Tax ID, Work Tax Area, and Statutory Code in my example.
2. Because you would like these period and YTD relative period bins to adjust the returned column outputs based on user selection, create a parameter for Fiscal Period set to integer editor type and another for Fiscal Year set to integer editor type.
3. Select Back on the Parameter Editor and go to Design > Calculations
4. Create a Relative Period Calculation with the following inputs:
   1. Relative Offset: 0
   2. Organize By: Period
   3. Company: Co (Data Column)
   4. Period: <Fiscal Period> (This is your parameter)
   5. Fiscal Year: <Fiscal Year> (This is your parameter)

6. DateItem Prefix: Because we are looking to analyze Gross Pay rather than one of the option options available in this table, we will use the code "BW" which is visible when you go to Design > Columns and review the alias names for the Gross Pay columns.

5. Repeat the above step again, but in Organize By, select YTD Fiscal Period which summarizes the values of all periods from the period 1 to your Fiscal Period parameter selection for the given Fiscal Year.

Now, as you adjust your report parameters, you can watch as your two relative period calculations adjust as well.

Advanced Note: A designer could create a parameter for DateItem Prefix that links to the relative period calculations to allow the end user to adjust the period bin columns they are viewing without having to enter the calculation editor.

Note: The F41112 Item As Of table is another commonly used table for the Relative Period calculation outside of Quick Reports due to its period bins.

Unit Conversion

Description

Returns the conversion factor between two units of measure for a given item number.

Calculation Editor

Options

Input Parameter Values	Input Values
Short Item Number	Column or Literal
Business Unit	Column or Literal
Input Units	Column or Literal
Output Units	Column or Literal
Maximum Hops	Integer with default of 6
Only Rollup If	Generic Criteria

Remarks

- Allows you to take a value based on the Unit of Measure's User Defined Code value and convert the value using the F41003 Unit of Measure table to get a conversion rate into your desired new unit value.
- The calculation may include the F41002 table as well as it provides item and branch plant specific unit conversions.
- The system will attempt to chain together conversions (ex: KG > OZ would go through KG > LB > OZ). The 'Maximum Hops' setting provides a cut-off. If a conversion did not occur before 'Maximum Hops', then 0 is returned for the conversion.
- An item-specific conversion (F41002) is preferred over a general conversion (F41003).
- A mixture of item and branch plant specific and general conversions can be chained together.

Example

Imagine that you have transactions for various items in various units. What if you wanted to see those transactions in one unit? Let's say you wanted to see everything by kilograms or cases. This topic explains how to use the **Unit Conversion** calculation to solve this problem.

JD Edwards allows users to enter transactions for items in various units. Although JD Edwards provides unit conversions for items, it is fairly difficult to actually query this conversion information and provide the correct conversion. The **Unit Conversion** calculation lets you convert any unit to any other unit seamlessly. To convert the units of an item:

1. Right-click the item number in your grid.
2. Select **Quick Calculation | EnterpriseOne/World | Unit Conversion**.
3. Data Access Studio will create a new column called "Unit Conversion". Double-click this new column to edit.
4. You will see that the **Short item** is already populated with the Short Item Grid Column setting.
5. If business units affect your conversions, select a business unit column for the **Business unit** setting.
6. Select **Input units** if your table has transactional units (usually the **UM** field). If you leave **Input Units** blank, then the calculation will use the base unit of the item as the input unit.
7. Select the desired **Output unit**. This can be a parameter or hard-coded value.

Once you get data, you will see that the **Unit Conversion** column has the correct unit conversion for each item. Simply multiply your transaction quantity by this conversion to get the converted quantity.

Work Day Offset

Description

Offsets a date input by a certain amount of work days based on the F0007 Calendar Information table in JD Edwards.

Calculation Editor

Options

Input Parameter Values	Input Values
Day Offset	Number of work days to offset the input by.
Branch	Typically the grid column value for a business unit. This will be the branch that the calculation uses when looking up the work day information.
Default Branch	If no branch is specified or if it has a blank grid column value, then use this value.
Shift	Valid shift code (F0007.SHFT). Default is blank for no shift code.
WorkDay code	W=workday, E=weekend, H=holiday. Default is workday (W).
Calendar Type	Valid calendar type (F0007.WDCT). Default is blank for no specific type.
Calendar Key	Valid calendar name (F0007.WDCK). Default is blank for no name.
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

If the offset is set to 0, then the calculation will return the date if the date matches the work day code provided. However, if the date does not match then it will return the next available day that matches the code. This will also return blank if the work day calendar is not set up for the given branch/date combination.

Example

Offset an *Invoice Date* field by an offset value of -2. The calculation will offset the invoice date by two work days (prior).

Work days

Description

If you need to report how many days a resource has worked, then the **Work Days** calculation is for you. JD Edwards allows one to define various work day patterns. The problem is that this information can be difficult to utilize in a report. The **Work Days** calculation simplifies the information so that you can get relevant information into your report such as:

- Work days, holidays, or weekends per month
- Whether a given day is a weekend, holiday, or weekend
- Work days, holidays, or weekends per year
- Calculate by branch plant and default branch plan
- Calculate by shift

Calculation Editor

Options

Input Parameter Values	Input Values
Work date(s)	Input a single date or Any valid date range using the range notation. e.g. >=1/1/2017:<=12/13/2017 or <6/1/2016, etc. When this field has a valid range, it overrides any other date specification setting and the WorkDay calculation uses this date range to compute the workday count.
Branch	Typically the grid column value for a business unit. This will be the branch that the calculation uses when looking up the work day information.
Default Branch	If no branch is specified or if it has a blank grid column value, then use this value.
Year	Four-digit year that represents the year you are interested in getting the workday information for.
Month	0=all months, 1 = jan, 2 = feb ... 12= dec.
Day of the Month	0=all days in month, 1 = day one ... 31 = day 31.
Shift	Valid shift code (F0007.SHFT). Default is blank for no shift code.

Input Parameter Values	Input Values
WorkDay code	W=workday, E=weekend, H=holiday. Default is workday (W).
Calendar Type	Valid calendar type (F0007.WDCT). Default is blank for no specific type.
Calendar Key	Valid calendar name (F0007.WDCK). Default is blank for no name.
Only Rollup If	Generic Criteria

Examples

Example 1 - Identify Work Days

Let's say you want to identify if any of your invoice dates are non-work days which would be an anomaly to be called out.

To do this, you can utilize the work days calculation.

1. Start by going to Design > Calculations > Work Days
2. For the input Work Day(s), change Column as Filter to Column and link in Invoice Date
3. Link Branch to your Branch Plant or Business Unit column with MCU alias
4. Type *ALL into the Default branch literal input
5. Save and Close the calculation to see 1's returned anywhere the invoice date is a work day.

Any instance of 0 means that the date code for that specific date is not equal to "W" which means it could be an "E" for weekend, "H" for holiday or something else.

Example 2 - Determine the number of work days between two dates

Let's say you want to identify the number of work days between your due date and invoice date in order to understand the average amount of days between the two.

To do this, you can utilize the work days calculation.

1. Start by going to Design > Calculations > Concatenation
2. Create a concatenation that connects these four elements with the name "Date Range"
    1. Literal value of >=
    2. Column of Invoice Date
    3. Literal value of :<=

    4. Column of Due Date
3. Select Save on your Calculations Window
4. Create a Work Days calculation next
5. For the input Work Day(s), link the "Date Range" concatenation column you just created
6. Link Branch to your Branch Plant or Business Unit column with MCU alias
7. Type *ALL into the Default branch literal input
8. Save and Close the calculation to see the number of days between the two dates. For positive values, the earlier date will go first in your concatenation.

Math Calculations

- Absolute Value : Returns the distance of a number from zero, without considering its sign.
- Average : Finds the mean of a set of numbers. It is the sum of all the numbers divided by the total count of the numbers.
- Ceiling : Rounds up a number to the nearest whole number.
- Difference : The result of subtracting one number from another.
- Division : The result of dividing one number by another.
- Floor : Rounds down a number to the nearest whole number.
- Ln : A specific type of Logarithmic function that uses the mathematical constant e (approximately 2.71828) as its base. The natural logarithm is the inverse of the power (exponential) function with base e. This is solving for x in the equation y = b^x when y is your input and b is the mathematical constant e.
- Log : The inverse of the power (exponential) function where the base is 10. This is solving for x in the equation y = b^x when y is your input and b is 10.
- Margin : Difference between the cost price and the selling price of a product. Usually expressed as a percentage of the cost price.
- Maximum : Highest value in a set of numbers.
- Median : Middle value in a set of numbers. If there is an even number of values, it is the average of the two middle values.
- Minimum : Lowest value in a set of numbers.
- Multiplication : The result of multiplying one number by another.
- Power : Raising a number to a specific power resulting in the base number being multiplied by itself as many times as the power number states. Also known as the "exponential" function.
- Random Number : A number that is generated between a specified range by a random process.
- Remainder : The result of dividing one number by another and taking the remainder (leftover values that don't total the divisor).
- Round : Rounds a number to the nearest integer.
- Running Total : Sum of a set of numbers up to a certain point.
- Sign : Returns the sign of a number, either positive, negative or zero.
- Square : The result of multiplying a number by itself.
- Square Root : Calculates the square root of a number, which is the number that, when multiplied by itself, gives the original number. This is the opposite of squaring a number.
- Standard Deviation : Measure of the spread of a set of numbers. Square root of the variance, which is the average of the squared differences from the mean. High standard deviation indicates that the data points are spread out, while a low standard deviation indicates that the data points are close together. This helps outline the variability of a set of data.
- Sum : The result of adding a set of number together to get a total value.
- Truncate : Removes the decimal part of a number and returns the integer part.

- Uniform Buckets : Method of diving a range of values into a specific number of equally sized buckets. Each bucket contains a range of values that is the same size as the other buckets.

Absolute Value

Description

Returns the distance of a number from zero, without considering its sign.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Examples

Example 1

1. **Input**: -125.43
2. **Quick Calculations** > **Math** > **Absolute Value**
3. **Output**: 125.43

Example 2

1. **Input**: 24
2. **Quick Calculations** > **Math** > **Absolute Value**
3. **Output**: 24

Average

Description

Finds the mean of a set of numbers. It is the sum of all the numbers divided by the total count of the numbers.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Example

1. **Input**: January Gross Amount (125), February Gross Amount (100), March Gross Amount (180)
2. Highlight all columns: **Quick Calculations** > **Math** > **Average**
3. **Output**: 135

Ceiling

Description

Rounds up a number to the nearest whole number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

This calculation is the opposite to Floor.

Examples

Example 1

1. **Input**: 3.18
2. **Quick Calculations** > **Math** > **Ceiling**
3. **Output**: 4

Example 2

1. **Input**: 214.96
2. **Quick Calculations** > **Math** > **Ceiling**
3. **Output**: 215

Difference

Description

The result of subtracting one number from another.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Operation	Input Values	Required
+ or - sign toggles when selected	Column or Literal	✔
+ or - sign toggles when selected	Column or Literal	✔

Remarks

- If the difference calculation is used from the Design > Calculations window, you will need to manually the second operation to a - sign to ensure a difference calculation is being performed rather than a sum.
- The Difference and Sum calculations are identical in nature and can be used interchangeably.

Example

1. **Input**: Actual Amount (100), Budget Amount (90)
2. **Quick Calculations** > **Math** > **Difference**
3. **Output**: 10

Division

Description

The result of dividing one number by another.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Examples

Example 1

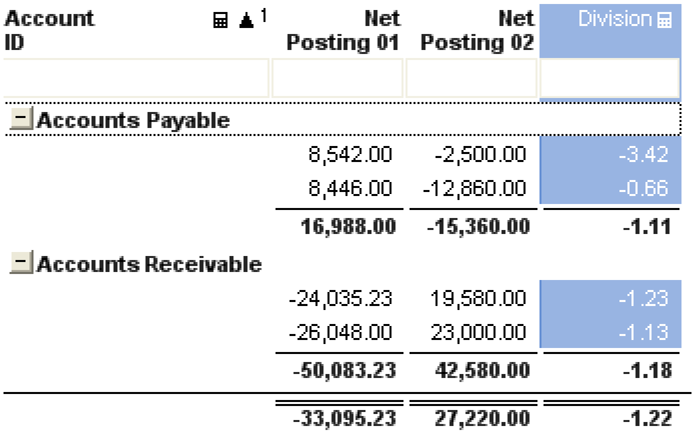
1. **Input**: Total Price (1000), Units Ordered (100)
2. **Quick Calculations** > **Math** > **Division**
3. **Output**: 10

Example 2

You can easily calculate the percentage between two columns. Select the columns you need by clicking the column headers while holding down the CTRL or SHIFT keys.

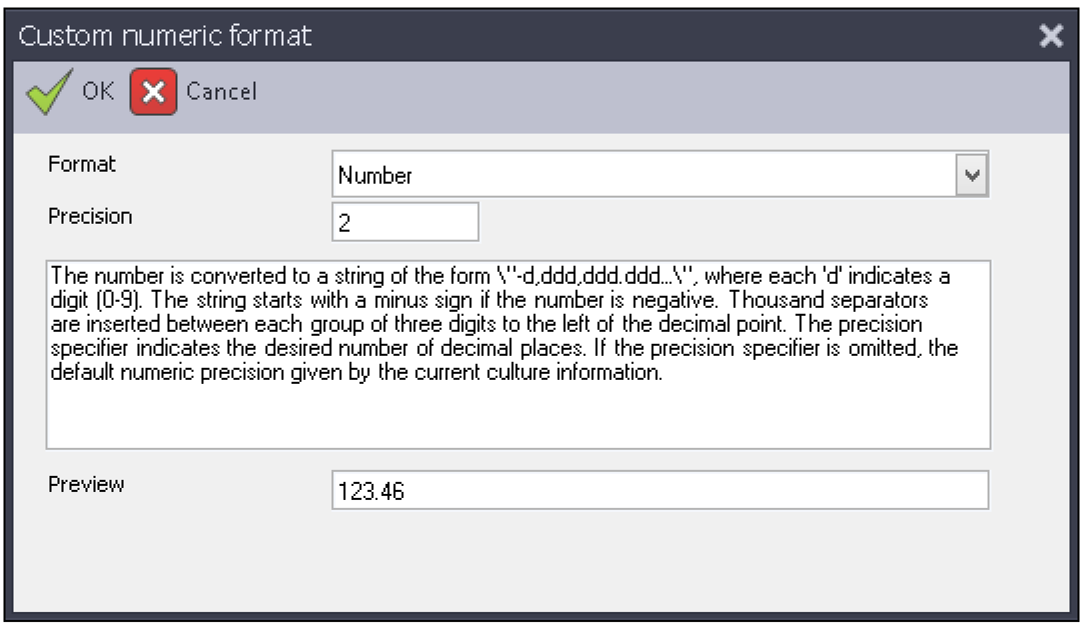
Account ID	Net Posting 01	Net Posting 02
Accounts Payable		
	8,542.00	-2,500.00
	8,446.00	-12,860.00
	16,988.00	**-15,360.00**
Accounts Receivable		
	-24,035.23	19,580.00
	-26,048.00	23,000.00
	-50,083.23	**42,580.00**
	-33,095.23	**27,220.00**

Right-click the column header on the selection and select **Quick Calculation > Math > Division**.



Notice that the division calculation shows divisions across Summaries and Grand Total automatically.

Right-click the new column header and select **Custom Numeric Format**.



Choose **Percent** and click **OK**.

Floor

Description

Rounds down a number to the nearest whole number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

This calculation is the opposite of Ceiling.

Examples

Example 1

1. **Input**: 3.18
2. **Quick Calculations** > **Math** > **Floor**
3. **Output**: 3

Example 2

1. **Input**: 214.96
2. **Quick Calculations** > **Math** > **Floor**
3. **Output**: 214

Ln

Description

A specific type of Logarithmic function that uses the mathematical constant e (approximately 2.71828) as its base. Good for displaying rapidly changing data.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Utilize Custom Numeric Formatting to adjust the number of visible decimal places.

Example

1. **Input**: 50
2. **Quick Calculations** > **Math** > **Ln**
3. **Output**: 3.91
    1. Reasoning: e^3.91202300543 = 50

Log

Description

The inverse of the power (exponential) function where the base is 10. Good for displaying rapidly changing data.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Utilize Custom Numeric Formatting to adjust the number of visible decimal places.

Example

1. **Input**: 50
2. **Quick Calculations** > **Math** > **Log**
3. **Output**: 1.70
    1. Reasoning: 10^1.69897000434 = 50

Margin

Description

Difference between the cost price and the selling price of a product divided by the selling price to return a decimal value that should then be analyzed as a percent.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Remarks

Default output is a decimal value, but you can utilize Custom Numeric Formatting to adjust the format to be percent.

Example

1. Equation: Gross Margin = (Revenue - Cost of Goods Sold) / Revenue
2. **Input**: Revenue ($25,000), Cost of Goods Sold ($12,500)
3. **Quick Calculations** > **Math** > **Margin**
4. **Output**: 1.70
    1. Reasoning: Gross Margin = ($25,000 - $12,500) / $25,000 = 0.5 > 50%
    2. Adjust the format of the output to percent using the Custom Numeric Format option

Maximum

Description

Highest value in a set of numbers.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Example

1. **Input**: Quantity Column 1 (400), Quantity Column 2 (750), Quantity Column 3 (114)
2. **Quick Calculations** > **Math** > **Maximum**
3. **Output**: 750

Median

Description

Middle value in a set of numbers. If there is an even number of values, it is the average of the two middle values.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Examples

Example 1

1. **Input**: Quantity 1 (400), Quantity 2 (750), Quantity 3 (114)
2. **Quick Calculations** > **Math** > **Median**
3. **Output**: 400

Example 2

1. **Input**: Amount 1 (15), Amount 2 (7), Amount 3 (19), Amount 4 (3)
2. **Quick Calculations** > **Math** > **Median**
3. **Output**: 11
    1. Reasoning: Even number of values result in the average of the two middle values : 15 and 7

Minimum

Description

Lowest value in a set of numbers.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Example

1. **Input**: Quantity 1 (400), Quantity 2 (750), Quantity 3 (114)
2. **Quick Calculations** > **Math** > **Minimum**
3. **Output**: 114

Multiplication

Description

The result of multiplying one number by another.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Example

1. **Input**: Unit Price (15), Units Ordered (100)
2. **Quick Calculations** > **Math** > **Multiplication**
3. **Output**: 1500

Power

Description

- Raising an number to a specific power resulting in the base number being multiplied by itself as many times as the power number states.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Remark

Exponential functions are useful for such problems like determining the total cost of a loan over time.

Example

1. **Input**: Input 1 (4), Input 2 (2)
2. **Quick Calculations** > **Math** > **Power**
3. **Output**: 16
    1. Reasoning 4^2 = 4*4 = 16

Random Number

Description

A number that is generated between a specified range by a random process.

Calculation Editor

Options

Input Parameter Values	Input Values
Minimum Value	Column or Literal (Required)
Maximum Value	Column or Literal (Required)
Only Rollup If	Generic Criteria

Remarks

- The behavior for the maximum value is "less than", not "less than or equal to" meaning that number won't be included in the options for random number.
- The default Random Number range is greater than or equal to 1 and less than 100.
- If improper values are inputted, the default range will be applied (Ex: Didn't give a maximum value OR returned a string as a minimum value).
- The random numbers generated will return different results every time the report returns new data (Get Sample Data or Run Report).

Remainder

Description

The result of dividing one number by another and taking the remainder (leftover values that don't total the divisor).

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Example

1. **Input**: Input 1 (10), Input 2 (3)
2. **Quick Calculations** > **Math** > **Remainder**
3. **Output**: 1
    1. Reasoning 10/3 = 3.33 where 3 * 3 = 9 and 10 - 9 = 1

Round

Description

Rounds a number to the nearest integer.

Calculation Editor

Options

Input Parameter Values	Input Values
Digits	Literal Whole Number (Required)
Divisor	Column or Literal (Required)
Midpoint Option	Round Up or To the nearest even (Banker's rounding)
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

- Default behavior is no decimal places (Digits), divisor of 1 and midpoint option of Round Up.
- Divisor: This will divide your value by whatever number the divisor states (default is 1)
- "To the nearest even" is only related to numbers that have .5, otherwise, rounding will work as usual.

Examples

Example 1

1. **Input**: 3.49
2. **Quick Calculations** > **Math** > **Round**
    1. Default Selections: Round Up
3. **Output**: 3

Example 2

1. **Input**: 3.50
2. **Quick Calculations** > **Math** > **Round**

   1. Default Selections: Round Up
3. **Output**: 4

Example 3

1. **Input**: 2.50
2. **Quick Calculations** > **Math** > **Round**
   1. Change Rounding Behavior: To the nearest even (Banker's Rounding)
3. **Output**: 2

Example 4

1. **Input**: Input 1 Column (3.51)
2. **Quick Calculations** > **Math** > **Round**
   1. Default Selections: Round Up
3. **Output**: 4

Running Total

Description

Sum of a set of numbers up to a certain point.

Calculation Editor

Options

Input Parameter Values	Input Values
Column to group by	Column (Optional)

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

- If **Column to group by** is left blank and the report has no groupings, the running total is calculated based on the report's current sort order, if one exists.
- If **Column to group by** is left blank and the report has groupings, the lowest grouping level is automatically used as the **Column to group by**.
- If a column is specified for **Column to group by**, the running total resets and recalculates within each distinct value of that column.
- Sort order affects all running total calculations, as it determines the sequence in which values are accumulated.

Example

1. **Input**: Gross Amount (Respective Records: 20, 15, 45)
2. **Quick Calculations** > **Math** > **Running Total**
3. **Output**: Running Total (Respective Records: 20, 35, 80)

Sign

Description

Returns the sign of a number, either positive or negative or zero.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Output options include 1, 0, -1 to indicate positive, zero or negative sign.

Example

1. **Input**: -250
2. **Quick Calculations** > **Math** > **Sign**
3. **Output**: -1

Square

Description

The result of multiplying a number by itself.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

This is the opposite of the Square Root calculation.

Example

1. **Input**: 25
2. **Quick Calculations** > **Math** > **Square**
3. **Output**: 625
    1. Reasoning: 25^2 or 25 * 25 = 625

Square Root

Description

Calculates the square root of a number, which is the number that, when multiplied by itself, gives the original number. This is the opposite of squaring a number.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

This is the opposite of the Square calculation.

Example

1. **Input**: 16
2. **Quick Calculations** > **Math** > **Square Root**
3. **Output**: 4
    1. Reasoning: 4 * 4 = 16

Standard Deviation

Description

Measure of the spread of a set of numbers. Square root of the variance, which is the average of the squared differences from the mean. High standard deviation indicates that the data points are spread out, while a low standard deviation indicates that the data points are close together. This helps outline the variability of a set of data.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Remarks

Inputting only one value will result in a blank output.

Example

1. **Input**: Literal Values - 10, 1, 7, 8, 9, 3
2. **Design** > **Calculations** > **Input based on above**
3. **Output**: 3.55902...

Sum

Description

The result of adding a set of numbers together to get a total value.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1 (+ or - sign toggles when selected)	Column or Literal	✔
Input 2 (+ or - sign toggles when selected)	Column or Literal	

Remarks

- Although this is a Sum calculation, the operations are able to be switched to - signs by selecting them.
- The Difference and Sum calculations are identical in nature and can be used interchangeably.

Examples

Example 1

1. **Input**: Actual Amount (100), Sales Tax (7)
2. **Quick Calculations** > **Math** > **Sum**
3. **Output**: 107

Example 2

Data Access Studio lets you easily sum up multiple columns into a new totals column.

To sum columns, multi-select the columns you need by clicking the column headers while holding down the CTRL or SHIFT keys.

Net Posting 01	Net Posting 02	Net Posting 03
-42,350.27	35,260.00	59,810.00
-24,035.23	19,580.00	83,254.00
-4,652.20	3,650.00	32,406.00
-1,548.32	950.00	13,230.00

Right-click any column header in your selection, and select **Quick Calculation** > **Math** > **Sum**.

Net Posting 01	Net Posting 02	Net Posting 03	Sum
-42,350.27	35,260.00	59,810.00	52,719.73
-24,035.23	19,580.00	83,254.00	78,798.77
-4,652.20	3,650.00	32,406.00	31,403.80
-1,548.32	950.00	13,230.00	12,631.68

Note: If your layout is **grouped**, the sum column will show totals for each summary line and grand totals as well.

If you want to add a grand total at the bottom of the sum:

Net Posting 01	Net Posting 02	Net Posting 03	Sum
-42,350.27	35,260.00	59,810.00	52,719.73
-24,035.23	19,580.00	83,254.00	78,798.77
-4,652.20	3,650.00	32,406.00	31,403.80
-1,548.32	950.00	13,230.00	12,631.68
-31,025.00	15,000.00	95,841.00	79,816.00
-3,015.00	-4,650.00	7,372.00	-293.00
8,542.00	-2,500.00	-19,621.00	-13,579.00

Truncate

Description

Removes the decimal part of a number and returns the integer part.

Calculation Editor

Input Parameter Values

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 3.86
2. **Quick Calculations** > **Math** > **Truncate**
3. **Output**: 3

Uniform Buckets

Description

Method of diving a range of values into a specific number of equally sized buckets. Each bucket contains a range of values that is the same size as the other buckets.

Calculation Editor

Options

Input Parameter Values	Input Values
Bucket Size	Literal Whole Number
Lower Limit (Optional)	Literal Number
Upper Limit (Optional)	Literal Number
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Make sure to change the Bucket Size from 0 as this will output only blank values.

Examples

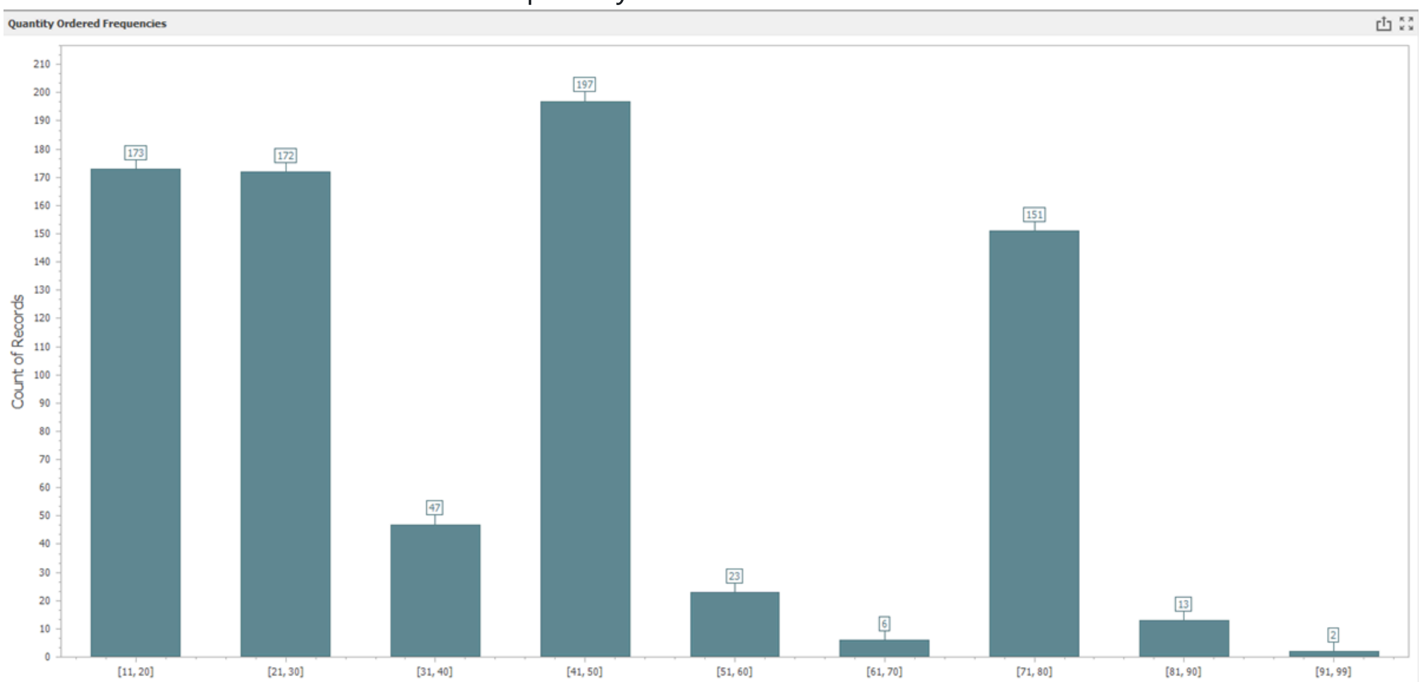
Example 1

1. **Input**:
   1. Bucket Size: 10
   2. Lower Limit: 0
   3. Upper Limit: 100
   4. Input: Gross Amount with values ranging from 1 to 100
2. **Output**: [0,10], [11,20],... [>=100]

Example 2

Let's say you want to create a histogram to evaluate the frequency that different quantities of product are ordered in your business. You can utilize the Uniform Buckets calculation to create a calculated column that can be used for your bar chart. This example will utilize a Sales Order Detail Table (F4211 and the quantity ordered field)

1. Start by going to **Design** > **Calculations** and creating a Uniform Buckets Calculation.
2. Set your bucket size to 100 (or whatever is appropriate for your quantity range). Feel free to set an upper and lower limit as needed.
3. Create a dashboard off of this report.
4. Create a Bar chart where your argument is the uniform bucket and your value is quantity ordered.
5. Format your dashboard as you see fit, but note that you can now analyze the frequency that different bins are selected based on quantity ordered.



System Calculations

- Burst: Used to build a burst report which can either allow distributions, sub-reports accessible as drill-downs, or the ability to return fields from other reports.
- Conditional: Allows for "If/Then/Else" logic to be used to produce a true or false result.
- De-Duplicate: Handle redundant information by clearing duplicate records in a column based on how data is grouped.
- Formula: A method of performing calculations that allows for typing of expressions to calculate new values from existing values.
- Group Rank: Returns the relative rank of a value within a numeric column.
- Group Row Index: An index or numbering applied to rows within a group to indicate their position or order.
- Group Summary: An aggregated result or computation that summarizes the data for a specific group, like a total or average.
- Hyperlink: A reference or navigation element that allows users to easily jump to a URL with a single click.
- Mask: Allows a user to determine which data is to be allowed or disallowed based on specific conditions. This calculation is only utilized for Administrators using masking security.
- Parent Child Hierarchy: Allows you to create a tree level grouping of records when a parent-child relationship exists leveraging two fields.
- Random Row Index: A random index assigned to each row, often used for random sampling or shuffling data.
- Range Filter: Allows date range filters to be more easily created with in between ranges or exclusion ranges.
- Row Index: A unique identifier assigned to each row in a table to indicate position or order.
- Spacer: An empty or blank column used to create space between columns for better readability, formatting or organization.
- Security Audit: Security Audit is used by ReportsNow to grab the User ID and Role from the JDE security table, F0092, and create the Security Audit Report Grouping on Identity.
- Type Converter: A function that changes a column's data from one data type to another, for example, converting a text string to a date type.
- URL Encoder: A process that converts characters into a format that can be transmitted over the Internet within a URL.
- XPath Query: Allows for querying data from XML documents using the XPath 1.0 specification.

Conditional

Description

Allows for "If/Then/Else" logic to be used to produce a true or false result.

Calculation Editor

If

Field	Criteria	Filter or Chain	Required
Column Value Input	Literal (utilize valid filter syntax)	Filter	✔

> **NOTE**
> The **Chain** option allows AND or OR criteria to be added if advanced condition logic needs to be met in the calculation. If two rows of filters are included in the IF section, they are assumed to be joined by an AND criteria automatically.

Then

Input	Input Field	Required
Value if true	Column or Literal	
Multiply by	Column or Literal	
Add	Column or Literal	
Value if false	Column or Literal	
Multiply by	Column or Literal	
Add	Column or Literal	
Treat empty as BLANK	Check Box	

Remarks

- The caption of the conditional will be the same as the grid column mapped to the 'Value if true' setting. If it is a literal, the caption will be the text of the literal.

- Treat empty as BLANK indicates that if the criteria is blank the condition is effectively ignored. If checked, the value must match blank for it to be true.
- Conditional calculations can be easily converted to Formulas, making it easier to implement more advanced logic like nested if statements.
- The Replace Calculation is a great use of conditional logic as well.
- There are certain Trend Wizards that utilize the conditional calculation to produce the desired output. See Turn Row Values into Column Values.

Example

Let's say you want to conditionally label a row as "High Priority Check" when the Gross Amount for a customer is above $10,000.

1. Select Design > Calculations > Conditional

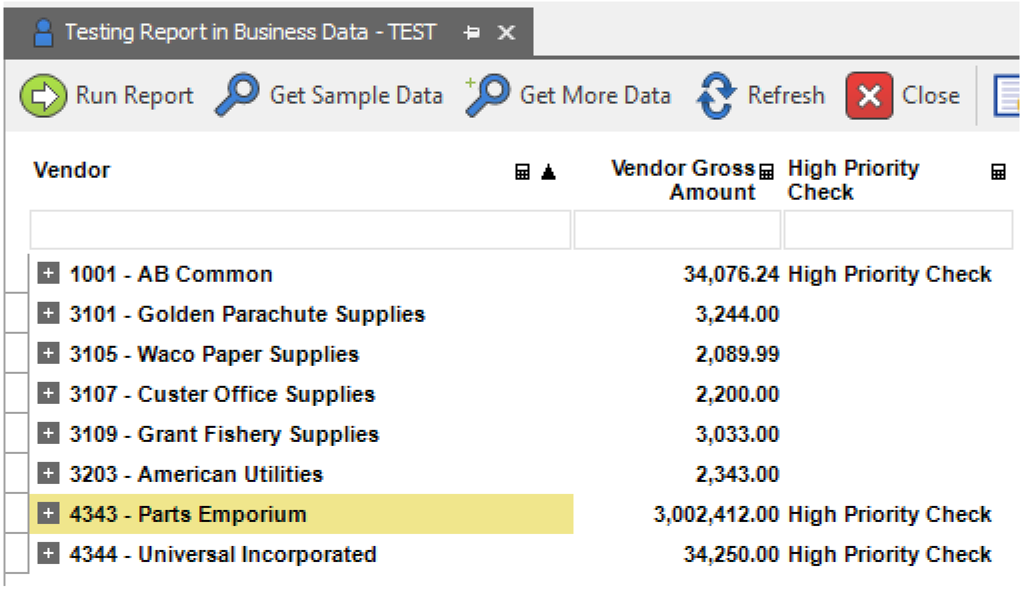
2. Fill in the criteria:

    1. If:
        1. Field = Gross Amount
        2. Criteria = > 10000
    2. Then:
        1. Value if true = High Priority Check (this is a literal value)
        2. Value if false = <BLANK> (there should be nothing here - a blank literal value)
3. Ensure the Type of calculation is set to String

> **NOTE**
>
> Default return type for a conditional is a decimal. While this is more frequently used, the example here demonstrates a need for the return type to be changed to string.

4. Select Save and Close

5. View output - Confirm that any gross amount records greater than $10,000 have a value of "High Priority Check"


Testing Report in Business Data - TEST
Run Report
Get Sample Data
Get More Data
Refresh
Close
Vendor
Vendor Gross Amount
High Priority Check
1001 - AB Common
34,076.24
High Priority Check
3101 - Golden Parachute Supplies
3,244.00
3105 - Waco Paper Supplies
2,089.99
3107 - Custer Office Supplies
2,200.00
3109 - Grant Fishery Supplies
3,033.00
3203 - American Utilities
2,343.00
4343 - Parts Emporium
3,002,412.00
High Priority Check
4344 - Universal Incorporated
34,250.00
High Priority Check

De-duplicate

Description

De-duplicate is a powerful System calculation that helps you manage data duplication. Data duplication is common with LEFT OUTER joins and RIGHT OUTER joins. Recall that you do a LEFT OUTER join when you have a 1-to-many or many-to-many relationship between one table (the left table) and another table (the right table).

Calculation Editor

Options

Input Parameter Values	Input Values	Required
Column to de-duplicate	Column or Literal	✔
Value if false	Column or Literal	✔
De-duplicate method	Distinct Values, First value in group, or Up to first level break	✔
Grouped column	Column	
Only Rollup If	Generic Criteria	

Remark

If you are using a **Table Lookup** calculation, there is an option to "Fetch Unique Targets Only Once" which simulates a de-duplicating of the output. See Table Lookup.

Example

Suppose you create a table join: F0411 left outer F0911 join. This is an example of a many-to-many relationship in JD Edwards:

Document	G/L Amount Dup	AP Amount Dup	Pay Itm	AP Amount	G/L Amount	Difference	G/L Dat
1577							
00001 - 1577 - PV							
001							
	100.00	100.00	001	100.00	100.00	0.00	6/3
	100.00	100.00	001		100.00	0.00	6/3
	300.00	100.00	001		300.00	0.00	6/3
	500.00	**300.00**		**100.00**	**500.00**	**0.00**	
002							
	100.00	100.00	002	100.00		0.00	6/3
	100.00	100.00	002			0.00	6/3
	300.00	100.00	002			0.00	6/3
	500.00	**300.00**		**100.00**	**0.00**	**0.00**	
003							
	100.00	300.00	003	300.00		0.00	6/3
	100.00	300.00	003			0.00	6/3
	300.00	300.00	003			0.00	6/3
	500.00	**900.00**		**300.00**	**0.00**	**0.00**	
	1,500.00	**1,500.00**		**500.00**	**500.00**	**0.00**	
	1,500.00	**1,500.00**		**500.00**	**500.00**	**0.00**	

Notice that when duplication is present in your query, you can usually see it immediately. Notice the **AP Amount Dup** duplicates within the Pay Items (**001, 002, 003**). Notice the **G/L Amount Dup** duplicates the pattern: **100.00, 100.00, 300.00** with each Pay Item.

Because of the many-to-many relationship, the highlighted amounts duplicate (and in two different ways). Although the 1,500 totals match, the value of 1,500 is in fact the wrong number. Now look at the AP Amount and G/L Amount columns. The AP amount de-duplicates its column (AP) to take just the first values in the group (which is correct for the LEFT table in the join). The G/L Amount de-duplicates its column by taking the values only up to the first level break (which is correct for the RIGHT table in the join).

De-duplicate is outlined on the following:

1. Column to de-duplicate (in the Example above **AP Amount Dup, G/L Amount Dup**).
2. Value if false: What value to use as a "filler" (e.g. blank or 0).
3. De-duplication method:
    1. **First value in group** - Applies the first value in group once and uses the "filler" value for the rest.
    2. **Up to first level break** - Applies all the values until the first group level break occurs. In the example above, the first level break occurs when the Pay Item goes from **001** to **002**.

   3. **Distinct values** - Applies a value if it is distinct within the group. Otherwise it applies the "filler".
4. Group column: If blank, the calculation uses the lowest level group when performing the de-duplication. If a grouped column is specified, the de-duplication will use that grouping as its reference for groups and level breaks.

Group Rank

Description

Returns the relative rank of a value within a numeric column. Often used in conjunction with a Group Summary calculation to perform Top-N rankings.

Calculation Editor

Options

Input Parameter Values	Input Values
Rank Largest to Smallest	Checkbox (Default Checked)
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

Let's say you want to quickly see all of your suppliers ranked by their Amount Vouchered YTD from largest to smallest.

1. Open the F0401 report with Address Number (or the associated description - Vendor Name field) grouped and Amount Vouchered YTD.
2. Right-click on the Amount Vouchered YTD column and select Quick Calculations > System > Group Rank (This will ensure the ranking is based on the Amount Vouchered YTD totals)
3. Once that calculation has completed, right-click on it and select "Sort Ascending" to see your Suppliers listed out from largest amount vouchered to smallest.

Now you are able to see the full list of suppliers ranked based on the unique Amount Vouchered YTD values.

For a more complete use case, please reference the Top N Trend as well, which also utilizes the Group Rank calculation.

Group Row Index

Description

An index or numbering applied to rows within a group to indicate their position or order.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input Column	Input Values	Required
Input 1	Column	✔

Example

Let's say you want to only return the first record found within each grouping of a column. You can do this using the Group Row Index calculation.

1. Create an F0411 report with Address Number (or the associated description - Vendor Name field) grouped.
2. Right-click on the Address Number column and select Quick Calculations > System > Group Row Index
3. Notice that in the expanded group state, you are able to easily view the row index only within that grouping. As soon as a new grouping starts, the row index resets to 1 as well.
4. To only return the first record from each grouping, you can then filter the Group Row Index field to 1. Once the filtering is complete, feel free to hide that field so it's not visible in your report.

Group Summary

Description

An aggregated result or computation that summarizes the data for a specific group, like a total or average.

Calculation Editor

Options

Input Parameter Values	Input Values
Column to group by	Column
Summary Type	Average, Count, First, Maximum, Minimum, None, or Sum
Column Total	Check Box
Only Rollup If	Generic Criteria

Input

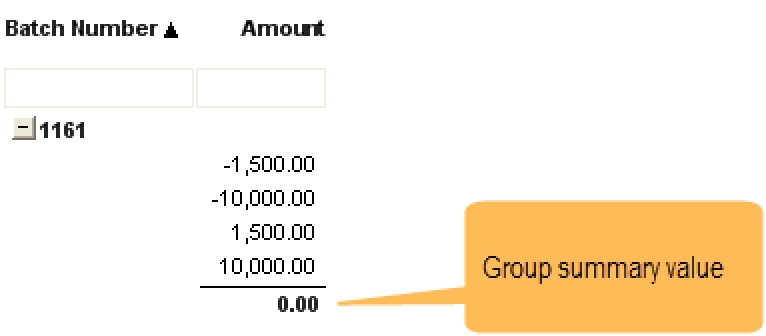
Input	Input Values	Required
Field Input	Column	✔

Remarks

The Top N Trend utilizes the Group Summary to rank fields based on grouped totals.

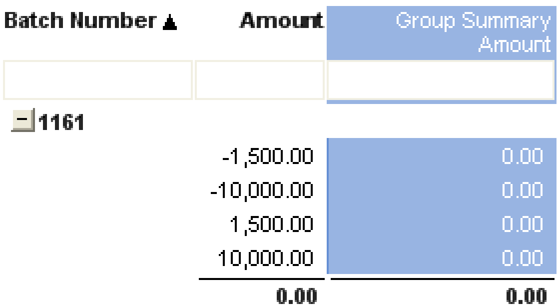
Example

When you Group and Summarize your report and you need to query on the summary values themselves, add the **Group Summary** calculation to your report.



In the example above, if we want to filter for **Amount** balancing to 0, we cannot filter on the Amount **summary** directly. We can only filter on the detail rows. We need to move the summary into detail rows to allow filtering. This is done by adding the **Group Summary** calculation:

1. Right-click the Column Header for the summary you need to filter (in this example right-click the **Amount** column)
2. Select **Quick Calculations > System > Group Summary**



You can now type 0 in the Group Summary Amount filter box to get only those groups whose summary is 0.

Hyperlink

Description

The **Hyperlink** calculation is a reference or navigation element that allows users to easily jump to a URL with a single click.

Calculation Editor

Options

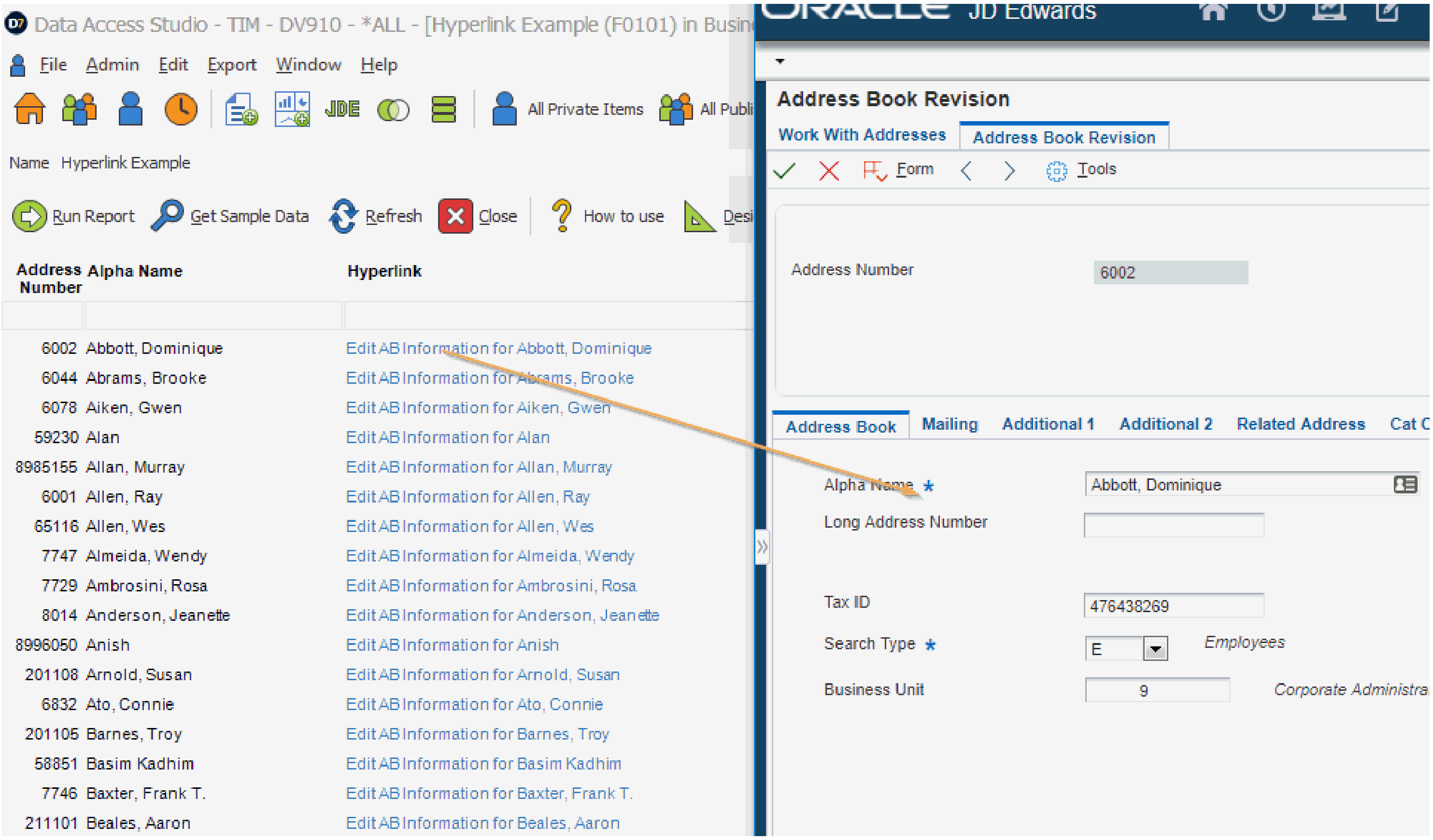
Input Parameter Values	**Input Values**
URL	Column or Literal
Displayed Text	Column or Literal
Only Rollup If	Generic Criteria

Remarks

- The Hyperlink calculation is maintained as an active link in the Embed Excel Presentation Layer, Excel Data Output, PDF Data Output, and HTML Data Output.
- The Hyperlink calculation cannot be utilized inside of Dashboards or ProReports directly from the underlying report. Instead, utilize functionality specific to those areas of the system.
    - For dashboarding, include the 'URL' and 'Displayed Text' settings as separate report columns to use as a Hyperlink in a grid. Review Hyperlinking in dashboards for more information.
    - For ProReports, review Add Cross References and Hyperlinks

Example

The example below defines a hyperlink such that for each user, clicking the link will bring up the Address Book Revision form for that user in JD Edwards.



To add a Hyperlink calculation to your report:

1. Open the calculation editor
2. Select the **Hyperlink** calculation.
3. Specify the **URL**. This input is typically a Concatenation calculation that combines the static part of the URL with the dynamic part (for example, the address number column as in the figure above). You will typically use the URL Encode calculation as well to ensure your URL string is always URL friendly.
4. Specify the **Displayed Text**. The displayed text can be the URL itself or a more user-friendly text representation of the hyperlink (which can also be the result of a calculation).

Once a hyperlink calculation is created for a report, the user will be able to export the functioning hyperlink to these formats: PDF, Excel, and HTML (See Export and Print Results). Also, the DAS Automatic Presentation feature preserves the hyperlink behavior (See Automatic Presentation).

Mask

Description

The Mask calculation allows a user to determine which data is to be allowed or disallowed based on specific conditions. This calculation is mainly utilized for Administrators using masking security.

Calculation Editor

If

Field	Criteria
Grid column	Filter or Chain (Filter: Literal Value; Chain: AND or OR)

Then

Input	Input Values	Required
Mask column	Grid column	✔
With value	Column or Literal	
Action	Mask if condition is met, Mask if condition is not met, Remove row if condition is met, Remove row if condition is not met	✔

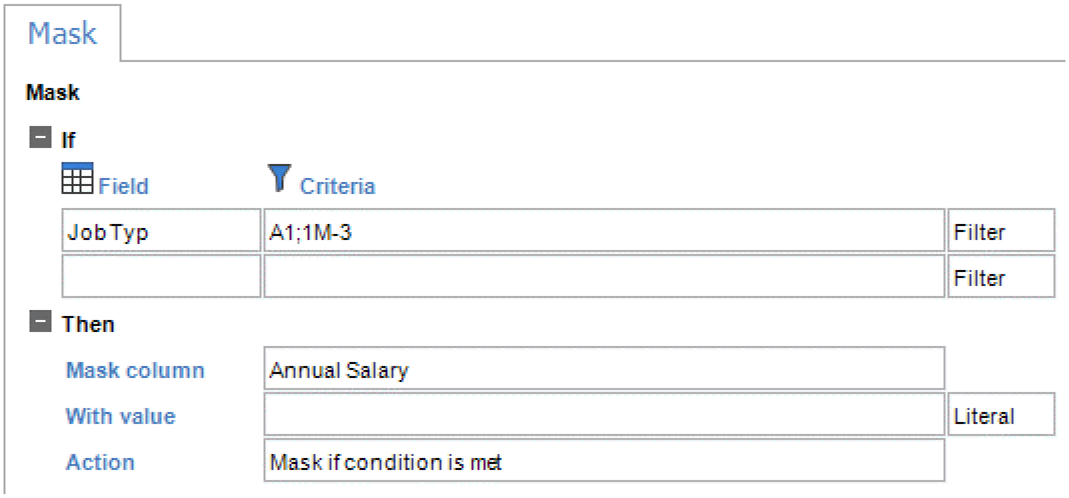
Remarks

- This calculation is regularly used to set up the Masking Security Report available for DAS Administrators.
- The column selected for "Mask Column" will be hidden or changed to the "With value" selection in accordance with the filter condition and the "Action".

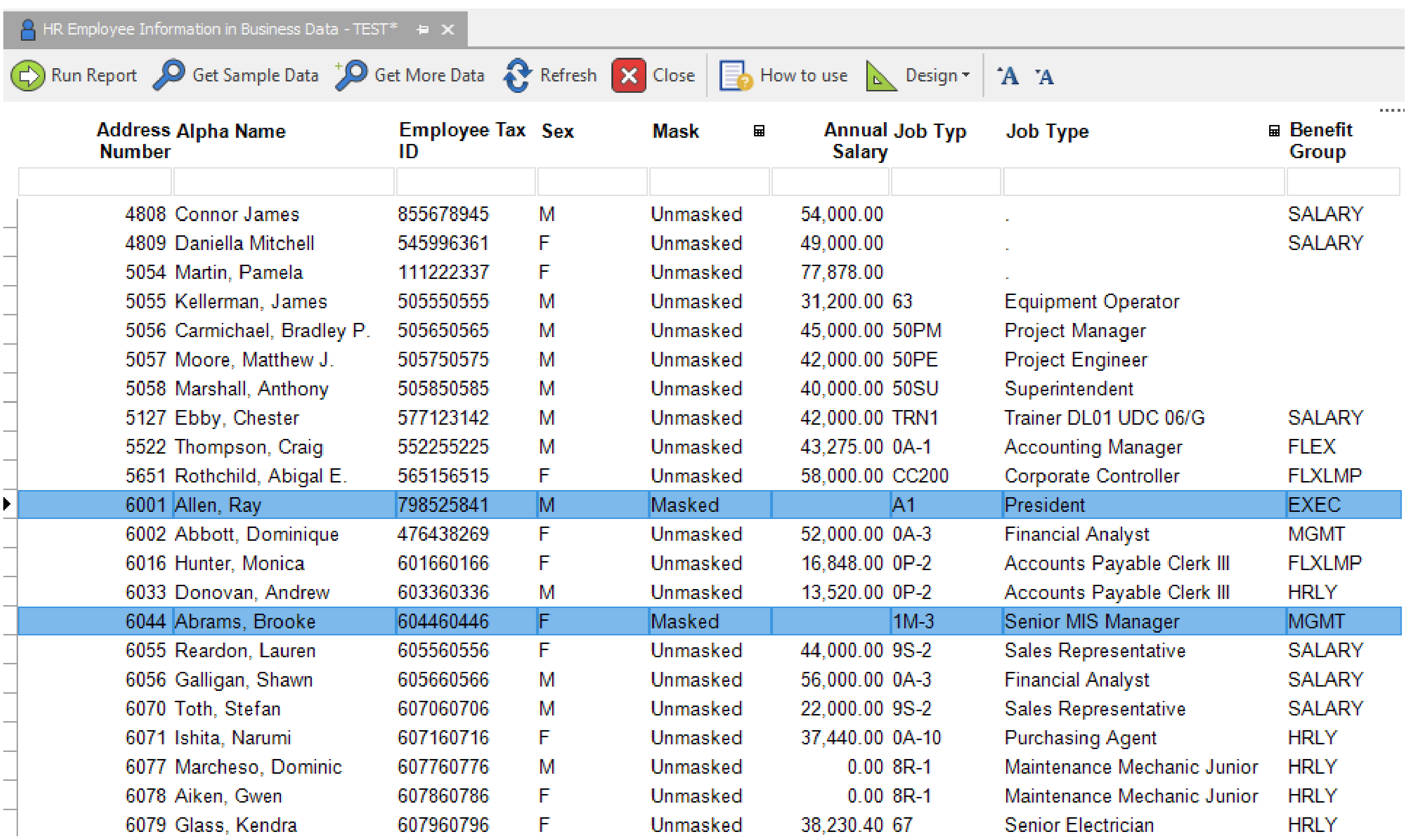
Example

While the mask calculation is most often used by Administrators, it can be used in other reports as well. The example below shows how a designer can utilize the mask calculation to hide information they don't want a subscriber to see. For this example, let's say a designer created a report off of the F060116 that they want to share with some fellow employees, but any employees labeled with Job Typ of A1 or 1M-3 (executives) should have their Annual Salary hidden.

1. Open your report (F060116 for this example)
2. Limit the columns in the report to only what is needed.

3. Select Design > Calculations > Mask
    1. Review this picture to see what options were selected and inputted
    2. 

4. Save and Close
5. Review report. Notice that there is a Mask column where each row is labeled as Masked or Unmasked. Additionally, notice that whenever the Job Type is A1 or 1M-3, the Annual Salary is blanked out due to the calculation criteria.



Address Number	Alpha Name	Employee Tax ID	Sex	Mask	Annual Salary	Job Typ	Job Type	Benefit Group
4808	Connor James	855678945	M	Unmasked	54,000.00		.	SALARY
4809	Daniella Mitchell	545996361	F	Unmasked	49,000.00		.	SALARY
5054	Martin, Pamela	111222337	F	Unmasked	77,878.00		.	
5055	Kellerman, James	505550555	M	Unmasked	31,200.00	63	Equipment Operator	
5056	Carmichael, Bradley P.	505650565	M	Unmasked	45,000.00	50PM	Project Manager	
5057	Moore, Matthew J.	505750575	M	Unmasked	42,000.00	50PE	Project Engineer	
5058	Marshall, Anthony	505850585	M	Unmasked	40,000.00	50SU	Superintendent	
5127	Ebby, Chester	577123142	M	Unmasked	42,000.00	TRN1	Trainer DL01 UDC 06/G	SALARY
5522	Thompson, Craig	552255225	M	Unmasked	43,275.00	0A-1	Accounting Manager	FLEX
5651	Rothchild, Abigal E.	565156515	F	Unmasked	58,000.00	CC200	Corporate Controller	FLXLMP
6001	Allen, Ray	798525841	M	Masked		A1	President	EXEC
6002	Abbott, Dominique	476438269	F	Unmasked	52,000.00	0A-3	Financial Analyst	MGMT
6016	Hunter, Monica	601660166	F	Unmasked	16,848.00	0P-2	Accounts Payable Clerk III	FLXLMP
6033	Donovan, Andrew	603360336	M	Unmasked	13,520.00	0P-2	Accounts Payable Clerk III	HRLY
6044	Abrams, Brooke	604460446	F	Masked		1M-3	Senior MIS Manager	MGMT
6055	Reardon, Lauren	605560556	F	Unmasked	44,000.00	9S-2	Sales Representative	SALARY
6056	Galligan, Shawn	605660566	M	Unmasked	56,000.00	0A-3	Financial Analyst	SALARY
6070	Toth, Stefan	607060706	M	Unmasked	22,000.00	9S-2	Sales Representative	SALARY
6071	Ishita, Narumi	607160716	F	Unmasked	37,440.00	0A-10	Purchasing Agent	HRLY
6077	Marcheso, Dominic	607760776	M	Unmasked	0.00	8R-1	Maintenance Mechanic Junior	HRLY
6078	Aiken, Gwen	607860786	F	Unmasked	0.00	8R-1	Maintenance Mechanic Junior	HRLY
6079	Glass, Kendra	607960796	F	Unmasked	38,230.40	67	Senior Electrician	HRLY

Parent Child Hierarchy

Description

Allows you to create a tree-level grouping of records when a parent-child relationship exists, leveraging two fields.

Calculation Editor

Options

Input Parameter Values	Input Values	Required
Parent Column	Column	✔
Child Column	Column	✔
Parent Label	Column	✔
Child Label	Column	✔
Max tree depth	Literal integer (Default is 10)	
Show Parent Detail	Check box	
Auto format	Check box	
Start point	Literal integer	
Running Factor	Column or Literal integer	

Remarks

- **Max tree depth**: Defaulting to 10, max tree depth determines the maximum number of grouped levels that will appear in the Parent Child Hierarchy grouping.
- **Show Parent Detail**: Default checked. When checked, the calculation will show the parent detail for each level. Sometimes you will want to show this detail line and other times not. To suppress the parent row, uncheck this option.
- **Auto format**: By leaving Auto format checked, the hierarchical structure for the parent and child relationships is created. If the Auto format is unchecked at the initial creation of the Parent Child Hierarchy calculation, there will be no grouping created and the outputted column information will include Parent Column and Parent Label (or Child Column and Child Label) concatenated into one record output.

WARNING

The Auto Format option does override any existing groupings in the report.

- **Start Point**: Enter any value, list of values, range, or valid filter to define which items to show at the top of the tree. If blank, the tree top will be all the items that have no parent.
- **Running Factor**: When parent items scale quantities of child items, then set the Running Factor to the quantity column.

Understand JDE Tree Structures

JD Edwards has many tree-formatted data tables: Organization Charts, Bill of Materials, Menu Structure, Company structure. The common pattern between each of these tables is that the table information has these two columns: a parent column and a child column. In this pattern, the parent column can have multiple children. Each child in turn can be a parent of even more children. Furthermore, in some cases such as the Bill Of Materials table, a child can belong to more than one parent. In general this pattern looks like:

A1

|

|---B1

| |

| |---C1

| |---C2

|

|---B2

etc.

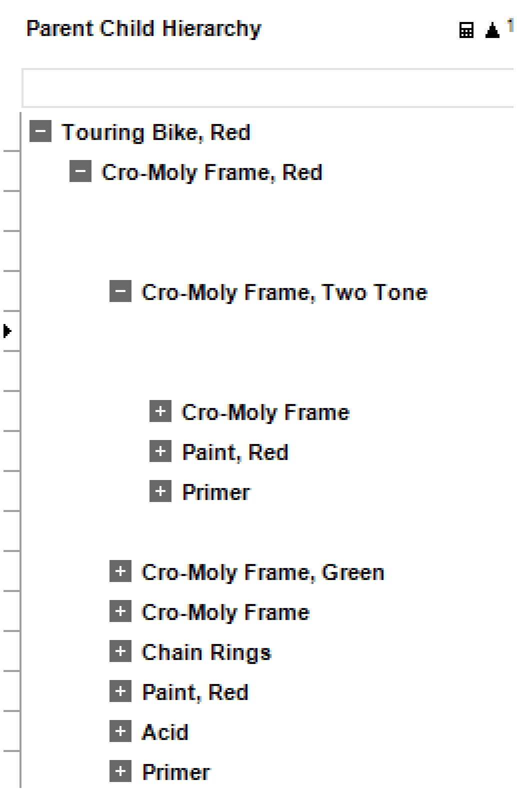
The Parent Child calculation in Data Access Studio transforms the linear data in the table to a dynamic tree structure like above. Once in the tree form, you will immediately see the structure of the information in your tables. Furthermore, you can create reports that roll up information per this structure. For example, you can do head count by supervisor.

Example

To use the Parent Child calculation:

1. Open a table with a parent column and a child column (e.g. the employee master F060116 (address number and supervisor)).
2. Optional, but recommended: get the Associated description for the child column and parent column.
3. Click **Design > Calculations**
4. Select **Parent Child Hierarchy**
5. In the **Parameters** tab, select the parent grid column in the **Parent column**
6. Select the child grid column in the **Child column**
7. Select the Associated Descriptions you created in step two for the **Parent label** and **Child label**
8. Click **Save and Close**

When you click **Run Report**, you will see the structure of the information in the table as seen below.



Random Row Index

Description

A random index assigned to each row, often used for random sampling or shuffling data.

Calculation Editor

Options

Input Parameter Values	Input Values
Mode	All, Threshold or less, Threshold percent or less
Threshold	Column or Literal (Default is 0)

Remarks

- Mode: Indicates the amount of records (rows) in the report that will receive a Random Row Index that's not zero.
- Threshold: Threshold is only relevant when Mode is not set to All.
  - When Mode is set to **Threshold or less** and Threshold is set to "20", only 20 randomly selected rows will receive a number (1 - 20) while the rest of the records will receive a 0.
  - When Mode is set to **Threshold Percent or less** and Threshold is set to "20", only 20% of the total number of records will receive a number while the rest of the records receive 0.

Range Filter

Description

Allows date range filters to be more easily created with in between ranges or exclusion ranges.

Calculation Editor

Input Parameter Values

Input Parameter Values	Input Values
Filter Type	Is between or Is not between
From option	From or From and excluding
Through option	Through or Through and excluding
Only Rollup If	Generic Criteria

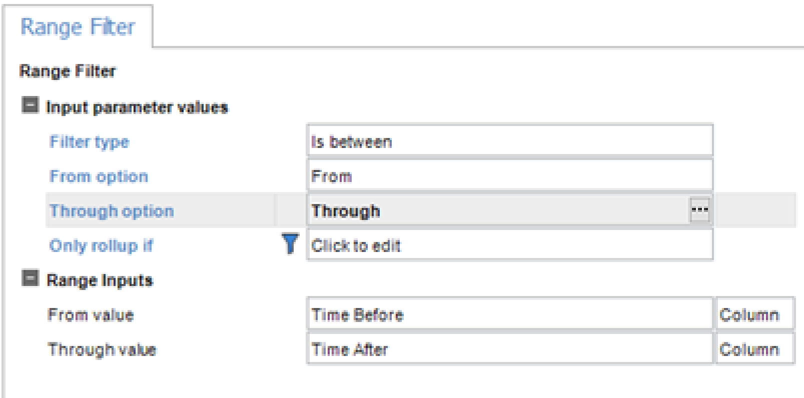
Range Inputs

Input	Input Values	Required
From Value	Column or Literal	✔
Through Value	Column or Literal	✔

Remarks

- From Value – lower bounds of the range filter
- Through Value – upper bound of the range filter
- Filter type:
    - Is Between – Construct an inclusive range filter. “>=A:<=B”
    - Is Not Between – Construct an exclusion range filter. “<=A;>=B”
- From option:
    - From – Indicates the ‘From Value’ in the range. (>=)
    - From and excluding – Indicates to not include the ‘From Value’ in the range. (>)
- Through option:
    - Through – Indicates the ‘Through Value’ in the range (<=)
    - Through and excluding – Indicates to not include the ‘Through Value’ in the range. (<)

This is an easy to use method for constructing range filters to be used for such things as Table Lookup calculations (make sure to use the **Column as filter** setting as opposed to just **Column** when specifying how to query the target table). Behaves like the Range Filter visual assist dialog with the added option of creating an exclusion range. If either option is blank, that part of the filter will be omitted.



Example

1. Design > Calculations > Range Filter
    1. Filter Type: Is between
    2. From option: From
    3. Through option: Through
    4. From Value: Invoice Date (ex: 06/30/2024)
    5. Through Value: Due Date (ex: 07/30/2024)
2. Output: **>=<DATE 06/30/2024>:<=<DATE 07/30/2024>**

Row Index

Description

A unique identifier assigned to each row in a table to indicate position or order.

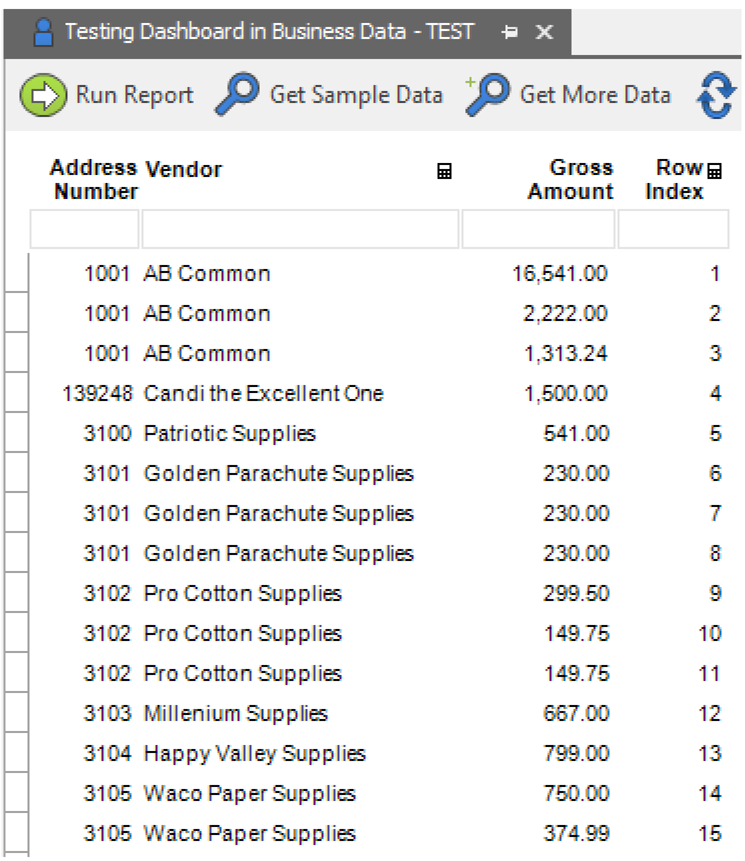
Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Example

1. Design > Calculations > Row Index
2. Save and Close
3. View Results: Each row will have a numbered index



Address Number	Vendor	Gross Amount	Row Index
1001	AB Common	16,541.00	1
1001	AB Common	2,222.00	2
1001	AB Common	1,313.24	3
139248	Candi the Excellent One	1,500.00	4
3100	Patriotic Supplies	541.00	5
3101	Golden Parachute Supplies	230.00	6
3101	Golden Parachute Supplies	230.00	7
3101	Golden Parachute Supplies	230.00	8
3102	Pro Cotton Supplies	299.50	9
3102	Pro Cotton Supplies	149.75	10
3102	Pro Cotton Supplies	149.75	11
3103	Millenium Supplies	667.00	12
3104	Happy Valley Supplies	799.00	13
3105	Waco Paper Supplies	750.00	14
3105	Waco Paper Supplies	374.99	15

Security Audit

Security Audit is used by ReportsNow to grab the User ID and Role from the JDE security table, F0092, and create the Security Audit Report Grouping on Identity. There is no typical use for this aside from ReportsNow internal use.

Spacer

Description

An empty or blank column used to create space between columns for better readability, formatting or organization.

Remarks

This calculation is most commonly used for formatting within Financial Statements to space out sections of columns.

Example

1. Design > Calculations > Spacer
2. Save and Close
3. View the column with no row fields

Type Converter

Description

A function that changes a column's data from one data type to another, for example, converting a text string to a date type.

Calculation Editor

Options

Input Parameter Values	Input Values
Use Input Column Format	Checkbox
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

> **NOTE**
> The output type of the column or literal input is based on the Type set on that calculation. This is on the left hand side of the calculation editor screen.

Remarks

- The Use Input Column Format check box is not checked by default. By checking this option, whatever format the input column is currently in (ex: changing date format appearance for "January 2024" instead of "1/1/2024") will be reflected in the output of this calculated column.
- The default Type is set to String.

Examples

Example 1

1. Right-click on Column > **Quick Calculations** > **System** > **Type Converter**
2. Double-click into the **Type Converter** Calculated Column to open the editor
3. See the default output type is set to "String". Change Output type to desired value.

Example 2

Let's say you would like to utilize a date field in a concatenation with another field for your grouping. You can use the type converter to get the date field into a string format before including that new calculated column in your concatenation.

1. Right-click on your date field > Select "Custom Date Format" > Choose a format that looks different than the default format.
2. Go to **Design** > **Calculations** > **Type Converter**
3. Input the Date field as the input and set the output type to String.
4. Save and Close > See that the date format is appearing in its original format rather than the custom date format.
5. Return to your **Type Converter** calculation editor > Select the "Use Input Column Format" checkbox
6. Save and Close > See that the date format now reflects the custom date format selected.

URL Encode

Definition

A process that converts characters into a format that can be transmitted over the Internet within a URL.

The **URL Encode** calculation (which typically works in conjunction with the Hyperlink calculation) formats an input string into an URL parameter friendly format.

Calculation Editor

Input Parameter Values

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Inputs

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

When creating links to your physical reports, check out the Report Links option.

Example

1. Right click your column > Select **Quick Calculations** > **System** > **URL Encode**
2. Review Output.

Original Text	URL-Friendly
Mountain Bike Red	Mountain+Bike+Red
Men's Suit Jacket	Men%27s+Suit+Jacket

> **NOTE**
> This URL encoded output is now ready to be used inside of a hyperlink. This is a great way to ensure your dynamic hyperlinks (based on differing row values) are going to function correctly.

XPath Query

Description

The **XPath Query** calculation allows for querying data from XML documents using the XPath 1.0 specification.

Parameters

Options

Input	Input Values
Root XPath Query	Common XPath root query to a subset XML document that allows for easier querying by the output columns. (Required)
XML	Column or Date Literal representing a valid XML document. (Required)
Only Rollup If	Column or Date Literal

Output Columns

One to many XPath queries of the XML data produced by the Root XPath Query.

Input	Input Values
XPath	XPath query of the XML data produced by the Root XPath Query. This query can produce a single or multiple values. (Required)
Summarization	None (Default), 'First value of the set', or 'Comma delimited string'
Output Processing	None (Default), 'unescape XML' - If an XML node contains xml-escaped XML data, output valid XML data.

Remarks

This calculation uses the .NET Framework XML library's XPath implementation that follows the XPath 1.0 specification.

This calculation will produce a row for each returned node of an XPath query if the 'None' summarization is selected.

Example

Example 1

Consider the following document:

```xml
<books>
    <book>
        <title>Title</title>
        <author>Author Name</author>
        <price>5.50</price>
    </book>
    <book>
        <title>Title 2</title>
        <author>Author Name 2</author>
        <price>10.50</price>
    </book>
</books>
```

- Input:
    - Root XPath Query: /books
    - XML: above document
- Output Grid Column1
    - Column 1
        - XPath: book/title/text()
        - Summarization: None
        - Output Processing: None

Output:

Column 1
Title
Title 2

Example 2

Consider the following document:

```xml
<books xmlns="http://www.contoso.com/books" xmlns:p="http://www.contoso.com/books/prices">
    <book>
        <title>Title</title>
        <author>Author Name</author>
        <p:price>5.50</p:price>
```

```
    </book>
    <book>
        <title>Title 2</title>
        <author>Author Name 2</author>
        <p:price>10.50</p:price>
    </book>
</books>
```

- Input:
  - Root XPath Query: /books
  - XML: above document
- Output Grid Column1
  - Column 1
    - XPath: book/title/text()
    - Summarization: 'Comma delimited string'
    - Output Processing: None
  - Column 2
    - XPath: book/p:price/text()
    - Summarization: 'First value of set'
    - Output Processing: None
  - Column 3
    - XPath: book/author/text()
    - Summarization: 'None'
    - Output Processing: None

Output:

Column 1	Column 2	Column 3
Title, Title 2	5.50	Author Name
Title, Title 2	5.50	Author Name 2

Text Calculations

- Comment : Allows the user to input and edit string values in a column's rows by typing directly into cells in the DAS grid. This comment capability is available for Private and Public reports and can apply to detail, subtotal, or grand total row levels.
- Compare Strings : Allows two columns to be compared as strings by returning a value of -1, 1, or 0 based on the outcome of the comparison.
- Concatenation : Allows two or more inputs to be concatenated and formatted into one output column.
- Contains : Allows for search of specific values or strings of text within a column's values.
- Pad : Allows for padding of characters before or after an input column's values.
- Replace : Acts as a simplified nested conditional or "true/false" calculation where multiple True conditions may be presented within one calculation.
- Split : Allows splitting of columns' details into segments based on delimiter(s) which present as new calculated columns.
- String Length : Determines a column's total string length per row.
- String Match : Allows for parsing by searching strings for explicitly things like emails, parts of filter expressions, or any other custom defined string. This calculation uses a textual searching language called Regular Expressions (regex). This language uses a small set of special characters --[^.|?*+() to allow for defining the criteria of the search.
- Substring : Select a specific portion of an input by choosing the beginning and end points for all characters in that column.
- To Lowercase : Allows any string input to be standardized to all lowercase values.
- To Uppercase : Allows any string input to be standardized to all uppercase values.
- Trim : Trim characters before or after a value.

Comment

Description

Allows for adding comments/annotations to a report that persist with the report itself. Including comments/annotations is possible for designers and subscribers in a published report. These string values can apply to detail, subtotal, or grand total row levels.

Calculation Editor

Associated Column(s)

Input	Input Values	Required
Input 1	Column	No

Remarks

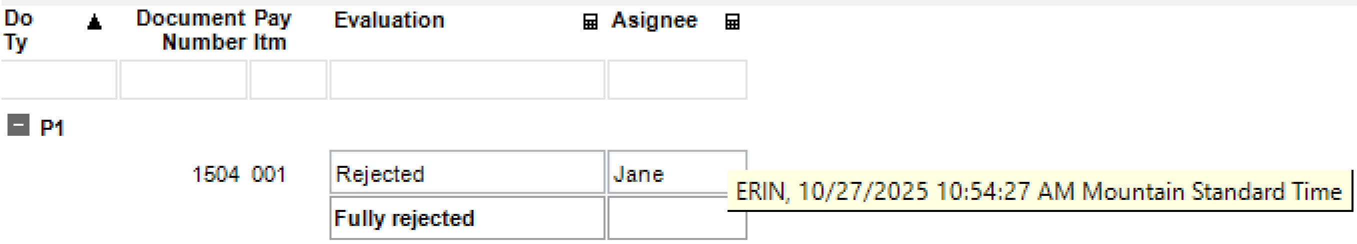
- The values of the calculation's associated columns in a row determine the uniqueness of the comment (see examples). To create a column where every row has a unique comment, the associated columns should be set to the primary key of the table the report is based on.
- If no associated columns are added, then the user will only be able to input and edit comments in subtotal and grand total rows.
- Once this calculation is saved, the associated columns cannot be changed.
- In a published report, subscribers with the **Edit Comments** permission can edit and save comments as well. Learn more about publishing comment behavior in the Publish Your Report to Others section.
- Unlike editing comments in a published report, comments edited in a private report are not saved immediately to the database. Instead, comments are saved when the report is saved.
- If comments are changed but need to be reverted, selecting **Undo** will return to the previous comment. At the time of saving a report, the **Undo** action is no longer available.

Limitations

- In ProReports and Dashboards, only detail row comments will be brought over.
- Master Burst Bring Backs do not support Comment calculations being used as return values.
- Comment columns cannot be grouped on.

Audit Information

Hovering over a comment will show the date, time, and user who last edited the comment.



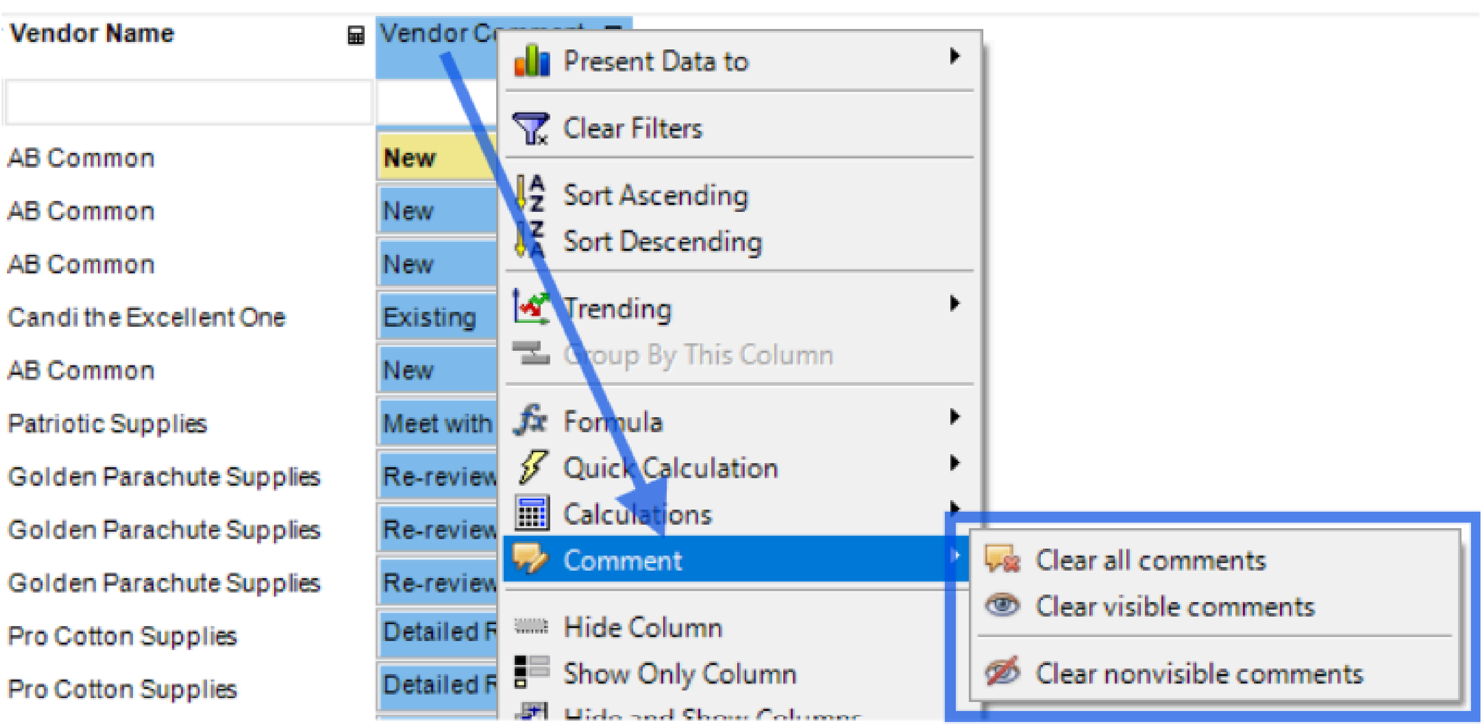
ⓘ **NOTE**

Entering into a comment cell and deleting an individual comment will save audit information for that deletion. To remove audit information when deleting comments, use one of the Clear Comment options.

Clearing Comments

It may be necessary to remove comments in a column as a whole rather than deleting them on a row-by-row basis. There are three options to clear comments in selected columns.

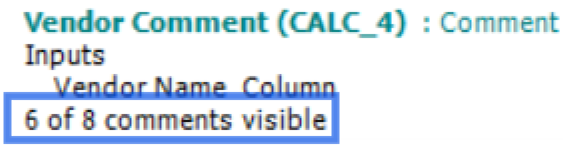
1. **Clear all comments**: Completely remove all comments in the selected column(s) regardless of filters.
2. **Clear visible comments**: Only removes visible comments in the selected column(s).
3. **Clear nonvisible comments**: Only removes comments not currently visible in the selected column(s). Be aware of what filtering is being done on a report's data before selecting this action.



ⓘ **NOTE**

These options only become available after a report is saved with the current groupings.

To identify the total number of comments and the number of comments currently visible in a column after a report run, go to **Design Notes** and scroll to the comment calculation. There, a Visible and Total Comments value can be seen.



Keyboard Navigation with a Comment Calculation

In addition to being able to click into any editable comment cells in a report, users may be able to utilize keyboard navigation to help type a series of comments faster.

1. Selecting **Enter** will place your cursor one row below the current row. This makes typing in comments one after another easy.
2. Selecting **Tab** will place your cursor one column to the right of the current cell.
3. Utilize the **Arrow** keys to navigate from cell to cell easily.
4. When in edit mode on a specific comment cell, right and left arrow keys are accessible to move the cursor between characters.

Examples

Create a Comment Calculation with Unique Row Comments

Let's say you want every row to have a unique comment.

1. Select **Design** > **Calculations** > **Comment**
2. Select all columns that compose the table's primary index as the associated columns
3. Select Save and Close

Or using a Quick Calculation:

1. Select all columns that compose the table's primary index
2. **Quick Calculations** > **Text** > **Comment**

If you then comment on a row, that comment will be unique to that row and will not show in any other rows.

Create a Comment Calculation based on two Associated Columns

Let's say you want to leave comments on rows based on the Document Type and Approver Number.

1. Select **Design** > **Calculations** > **Comment**
2. Select Document Type and Approver Number as the associated columns
3. Select Save and Close

Or using a Quick Calculation:

1. Select Document Type and Approver Number
2. **Quick Calculations** > **Text** > **Comment**

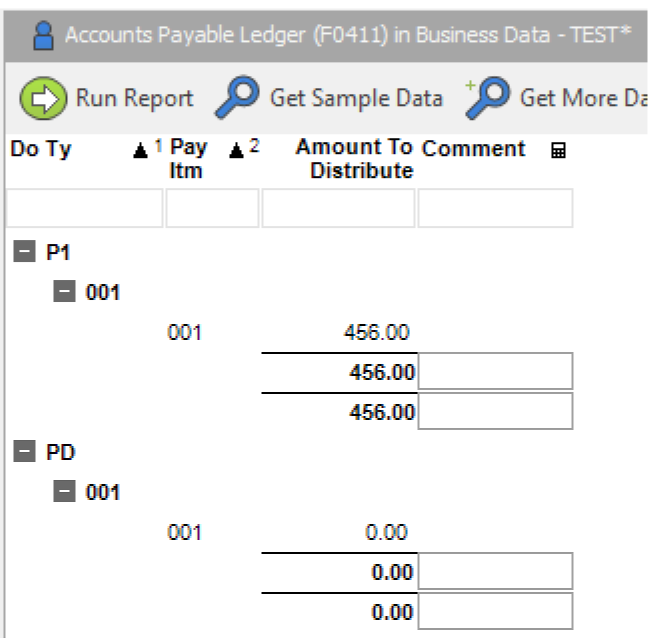
Now, if you comment "Needs reapproval" on a row where the Document Type is AA and Approver Number is 0, every row with those values in Document Type and Approver Number will show "Needs reapproval".

Create a Comment Calculation only for Total Rows

Let's say you want to leave comments only on subtotal and grand total rows.

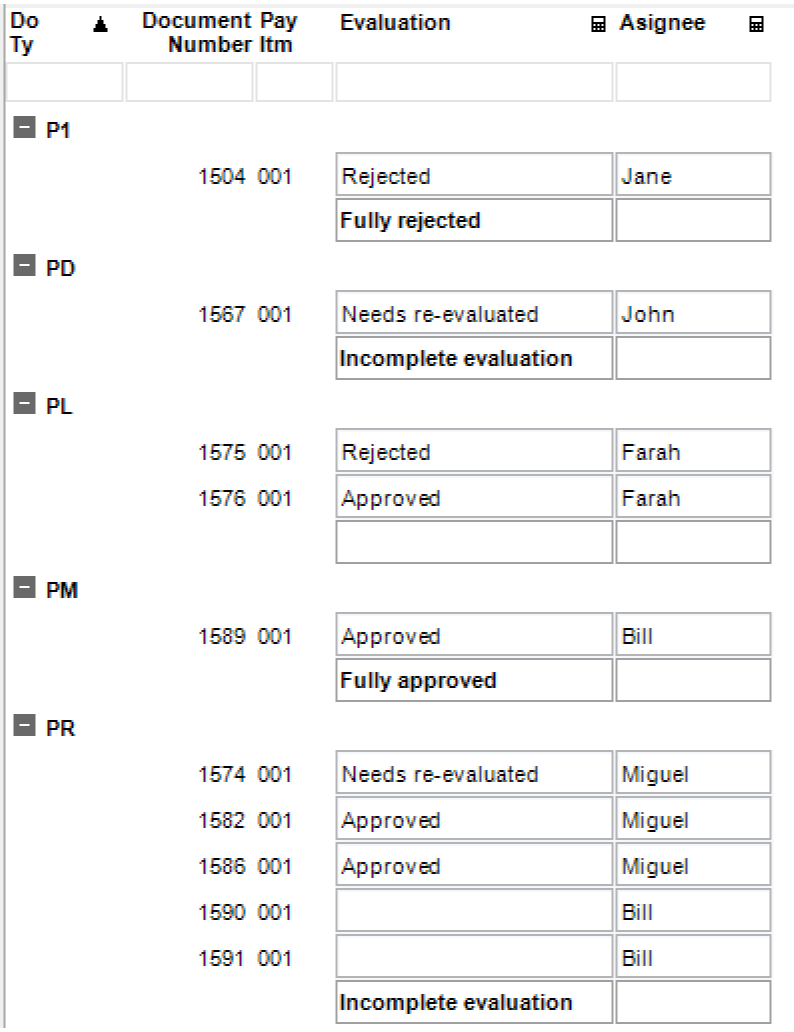
1. Select **Design** > **Calculations** > **Comment**
2. Select Save and Close without adding any associated columns

Now, only subtotal and grand total comments will be editable.

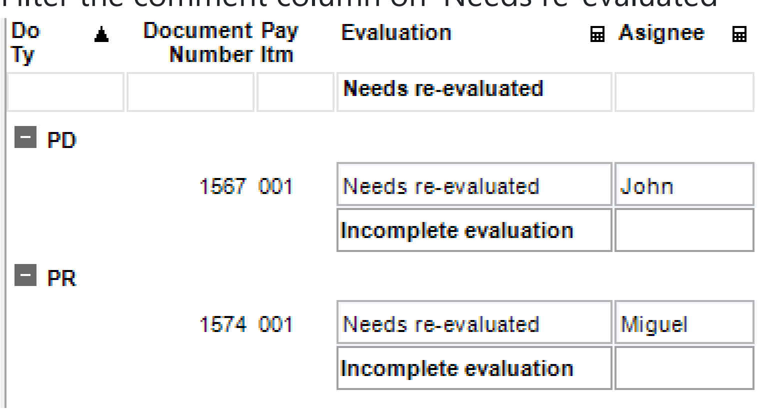


Clear Comments with Specific Text Only

Take this sample report below. Let's say you wanted to delete every comment that says 'Needs re-evaluated'.



1. Filter the comment column on 'Needs re-evaluated'



2. Right-click on the Evaluation column

3. **Comment** > **Clear visible comments**

4. Remove the filter on the Evaluation column

Do Ty	Document Number	Pay Itm	Evaluation	Asignee
P1				
	1504	001	Rejected	Jane
			Fully rejected	
PD				
	1567	001		John
PL				
	1575	001	Rejected	Farah
	1576	001	Approved	Farah
PM				
	1589	001	Approved	Bill
			Fully approved	
PR				
	1574	001		Miguel
	1582	001	Approved	Miguel
	1586	001	Approved	Miguel
	1590	001		Bill
	1591	001		Bill

Visible comments will have been cleared while comments hidden by the filter are preserved.

Compare Strings

Description

Allows two columns to be compared as strings by returning a value of -1, 1, or 0 based on the outcome of the comparison.

Calculation Editor

Options

Input Parameter Values	Input Values
Strip Blanks	Check Box
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	✔

Remarks

- This calculation performs a culture-sensitive and case-sensitive comparison based on your DAS (or JDE) language setting.
- Strip Blanks will remove the blank characters in a column before doing the calculation. For example, the business unit column frequently has leading spaces. If you want those spaces to be maintained in the comparison of values, uncheck the "Strip Blanks" check box.
- The result is a new calculated column where the result is:

Result	Meaning
-1	Input 1 precedes Input 2 in a sorted list based on culture rules
0	Input 1 equals Input 2
1	Input 2 precedes Input 1 in a sorted list based on culture rules

Culture Rules include Alphabetic order, uppercase before lower case, numbers before alpha, punctuation before numbers

Examples

Example 1 (Mismatched Text)

1. **Inputs**: Clothing Incorporated & Clothing Inc.
2. **Quick Calculations** > **Text** > **Compare Strings**
3. **Output**: 1

Example 2 (Mismatched Integers)

1. **Inputs**: 17 & 24
2. **Quick Calculations** > **Text** > **Compare Strings**
3. **Output**: -1

Example 3 (Matched Text)

1. **Inputs**: Bikers R Us & Bikers R Us
2. **Quick Calculations** > **Text** > **Compare Strings**
3. **Output**: 0

Concatenation

Description

Allows two or more inputs to be concatenated and formatted into one output column.

Calculation Editor

Options

Input Parameter Values	Input Values
Strip Blanks	Check Box
Skip Delimiter for Blank Values	Check Box
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔
Input 2	Column or Literal	

Remarks

- Strip Blanks will remove the blank characters in a column before doing the concatenation. For example, the business unit column frequently has leading spaces. If you want those spaces to be maintained in the concatenation, uncheck the "Strip Blanks" check box.
- Skip Delimiter for Blank Values: If this is selected, any field value that's a column with the cell value of BLANK will ensure that the following concatenated input of a literal will be skipped.
- Every concatenation created from Quick Calculations will default to having " - " delimiters in between each column value. You can edit the calculation after the fact in favor of a different delimiter.
- Enable the default preferences setting called "Double-click concatenates associated description" to automatically use this calculation to bring together a code column and its associated description when double-clicking the code column. This type of 'code - description' column format is common for many report writers.

Example

1. **Input**: Co, Business Unit, Subsidiary, Description (00001, 20, SUB, Liabilities)

2. **Quick Calculations** > **Text** > **Concatenation**
3. **Output**: Co - Business Unit - Subsidiary - Description (00001 - 20 - SUB - Liabilities)

Contains

Description

Allows for search of specific values or strings of text within a column's values.

Calculation Editor

Options

Input Parameter Values	Input Values
Text to Find	Column or Literal (Required)
Input String is a	Filter: List of Values or Simple Text
Case Sensitivity	Case Sensitive or Ignore Case
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

- Input String is a "Filter: List of Values" will search a filter list of values (a list of values separated by semicolons) for a specific "Text to Find" value and return 1 only if it finds an entire field in the list that matches. Review example below.
- Case Sensitivity indicates whether capital and lowercase characters will be taken into account as a match or not.

Examples

Example 1

- **Design** > **Calculations** > **Contains**
- **Inputs**:
  - Text to Find: Supplies
  - Input String is a: Simple Text
  - Case Sensitivity: Case Sensitive
  - Input: Vendor Name (ex: ABC Supplies, Alphabet Homes)

- **Output**: ABC Supplies = 1 and Alphabet Homes = 0

Example 2

- **Design** > **Calculations** > **Contains**
- **Inputs**:
  - Text to Find: 00004
  - Input String is a: Filter: List of Values
  - Case Sensitivity: Ignore Case
  - Input: Document Numbers (ex: 00001;00004, 00001;00002;00003)
- **Output**: 00001;00004 = 1 and 00001;00002;00003 = 0

NOTE

If the above example had "Text to find" set to '4' instead of '00004', all resulting contains outputs for the example would result in 0 records because it is only checking for whole one to one matches inside the filter: list of values.

Pad

Description

Allows for padding of characters before or after an input column's value.

Calculation Editor

Options

Input Parameter Values	Input Values
Left or Right Side	Left or Right
Strip Blanks	Check Box
Padding Character	Literal Value
Total Width	Literal (Integer Value)
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

- Pad will only evaluate the sides that you select. It will not pad characters in the middle of an input value.
- It is possible to pad columns with spaces as the padding character as well.
- Strip Blanks will remove the blank characters in a column before doing the pad. For example, the business unit column frequently has leading spaces. If you want those spaces to be maintained in the pad, uncheck the "Strip Blanks" check box.

Example

1. **Input**: 45032
2. **Design** > **Calculations** > **Pad**
    - Left or Right Side: Left
    - Padding Character: 0
    - Total Width: 8

3. **Output**: 00045032

Replace

Description

Acts as a simplified nested conditional or "true/false" calculation where multiple *True* conditions may be presented within one calculation.

Calculation Editor

Options

Input Parameter Values	Input Values
Source String	Column or Literal (Required)
Default Value	Column or Literal (Required)
Only Rollup If	Generic Criteria

Specify multiple patterns to replace

On the left-hand side, enter text or text patterns (you may use any valid filter to define what you want to replace). On the right-hand side, specify the value to replace with if the match occurs.

Replace This Pattern	With This Value	Required
Literal Value	Column or Literal	✔
Literal Value	Column or Literal	

Remarks

- Source String: Column to use as the input for the text replace.
- Default Value: Column value or literal value to use if none of the text replace criteria matches.
- Replace calculation inputs under the "Replace This Pattern" section of the calculation can include wildcards (*) or filter field operation syntax (> <:;).

Example (Substitute Text with Labels)

Let's say you have an Employee Jobs report to create that creates labels for employees based on various job types, but your job types right now are too specific and you need more general labels.

See example data below to start:

Address Number	Employee Name	Job Typ	Job Type	Annual Salary
2006	Walters, Annette	2H-2	Employment Representative	33,500.00
2049	McLind, Rod	2H-4	Benefits Specialist	36,000.00
2111	Ingram, Paul	8M-1	Maintenance Engineer	22,250.00
2129	Jackson, John	0A-10	Purchasing Agent	50,000.00
2275	Nguyen, Daniel	M200	Manager	33,175.00
2428	Escalante, George	0P-3	Lathe Operator - Apprentice 2	13,520.00
2479	Ellis, Jody A.	0P-2	Accounts Payable Clerk III	18,720.00
4800	Josephson, Michael	50PE	Project Engineer	65,000.00
4801	Breton, Josephine	50PM	Project Manager	31,200.00
4802	Fraser, Carol	50SU	Superintendent	37,440.00
4803	Beck, Jeremy	61	Foreman	45,000.80
4804	Guererra, Joe	63	Equipment Operator	26,000.00

1. **Design** > **Calculations** > **Replace**
   - Source String: Job Type Description
   - Default Value: Literal Value = Miscellaneous
   - Replace This Pattern with this value
     - *Engineer* = Engineering
     - *Manager* = Management
     - *Analyst* = Analytics
     - *Employment* = Human Resources
     - *Benefits* = Human Resources
     - *Purchasing* = Purchasing

This example utilizes wildcards as you can see in the screenshot below (*) to indicate any records that include those text values. Wildcards are not required for inputs in your replace calculation.

Employee Department Label

Replace

Input parameter values

Source string	JobType	Column
Default Value	Miscellaneous	Literal
Only rollup if	Click to edit	

Specify multiple patterns to replace

Replace this pattern	With this value	
Engineer	Engineering	Literal
Manager	Management	Literal
Analyst	Analytics	Literal
Employment	Human Resources	Literal
Benefits	Human Resources	Literal
Purchasing	Purchasing	Literal
		Literal

This would be a larger example, but the replace calculation can have as many or as few replaced patterns as you need for your use case. At any time, the designer can return to the replace calculation to add more in the future as well.

Output Shown Below:

Address Number	Employee Name	Job Typ	Job Type	Employee Department Label	Annual Salary
2006	Walters, Annette	2H-2	Employment Representative	Human Resources	33,500.00
2049	McLind, Rod	2H-4	Benefits Specialist	Human Resources	36,000.00
2111	Ingram, Paul	8M-1	Maintenance Engineer	Engineering	22,250.00
2129	Jackson, John	0A-10	Purchasing Agent	Purchasing	50,000.00
2275	Nguyen, Daniel	M200	Manager	Management	33,175.00
2428	Escalante, George	0P-3	Lathe Operator - Apprentice 2	**Miscellaneous**	13,520.00
2479	Ellis, Jody A.	0P-2	Accounts Payable Clerk III	Miscellaneous	18,720.00
4800	Josephson, Michael	50PE	Project Engineer	Engineering	65,000.00
4801	Breton, Josephine	50PM	Project Manager	Management	31,200.00
4802	Fraser, Carol	50SU	Superintendent	Miscellaneous	37,440.00
4803	Beck, Jeremy	61	Foreman	Miscellaneous	45,000.80
4804	Guererra, Joe	63	Equipment Operator	Miscellaneous	26,000.00

Split

Description

Allows splitting of column's details into segments based on delimiter(s) which present as new calculated columns.

Calculation Editor

Options

Input Parameter Values	Input Values
Delimiters	Literal or Column (Required)
Delimiters is one string	Check Box
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Specify 1 for first split, 2 for second, etc.

For the Split Number column, you need to enter a number for each piece of the splits that you want. For instance, if you want the first two parts of the split, enter 1 and 2 as respective split numbers.

Grid Column	Split Number	Required
String Value	Integer Value	✔
String Value	Integer Value	

Remarks

- The Caption for the Split calculation in the Calculation Designer Window is not linked to the names of the output columns. The outputted calculated column names come from the "Grid Column" section of the Split Calculation editor.
- Check "Delimiters is one string" if the whole delimiter setting represents a single delimiter instead of a set of single character delimiters.

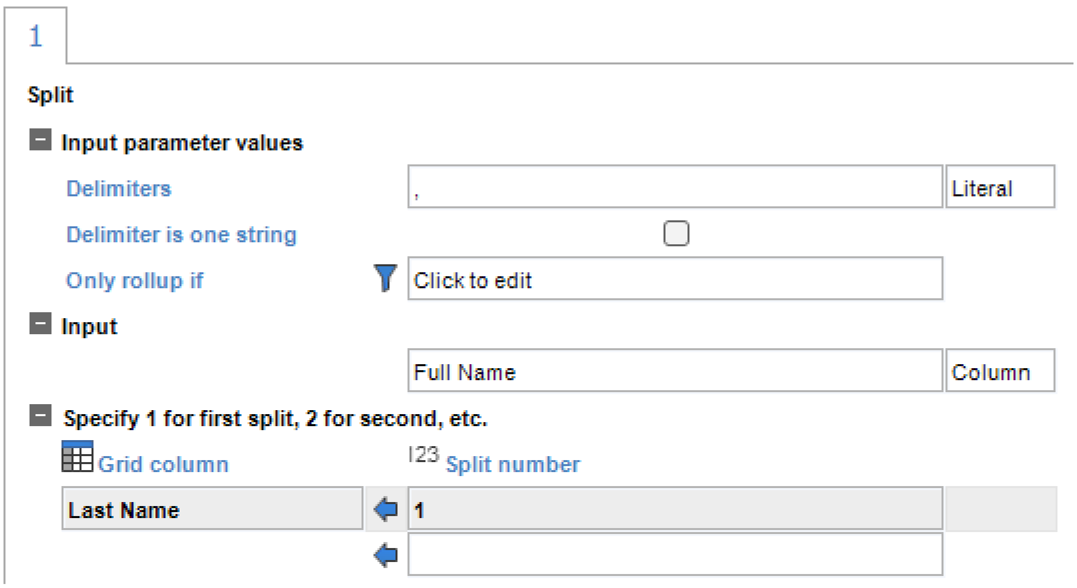
- You are not limited to a specific number of splits - the example below shows 2 splits, but a larger number of splits is possible with this calculation.

Example

Let's say you have a column that includes first and last names in this format: Last Name, First Name. If the user wants to just see the last name returned they can use the split calculation.

Design > **Calculations** > **Split**

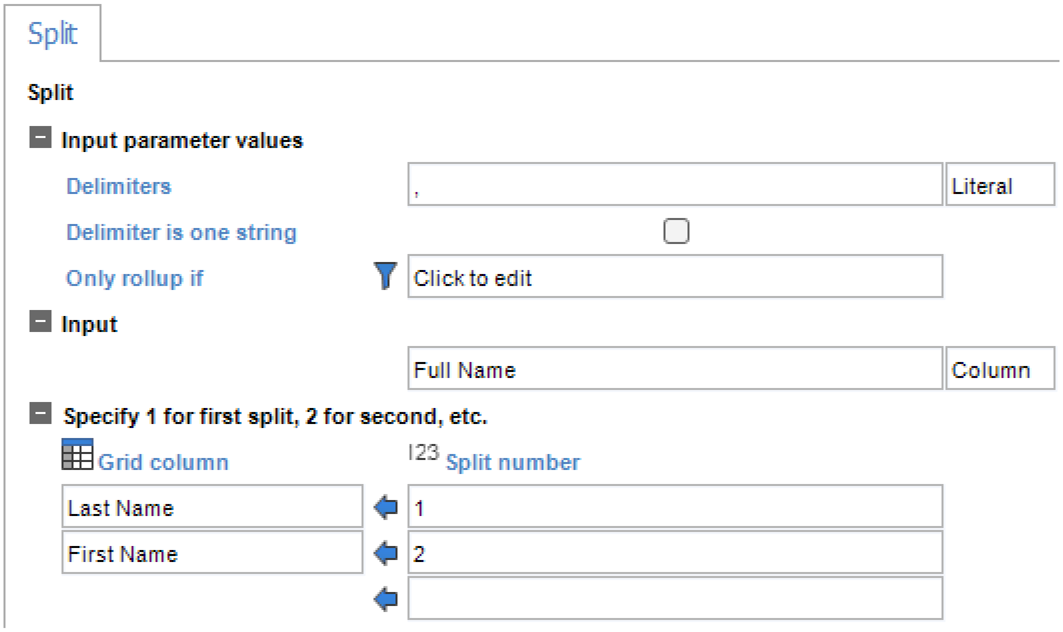
- Delimiters: ,
- Input: Full Name Column
- Split Number: 1 = Last Name



This will simply return the last name (everything before the comma) in a new column called "Last Name".

If you choose to return the first name as well, add the following...

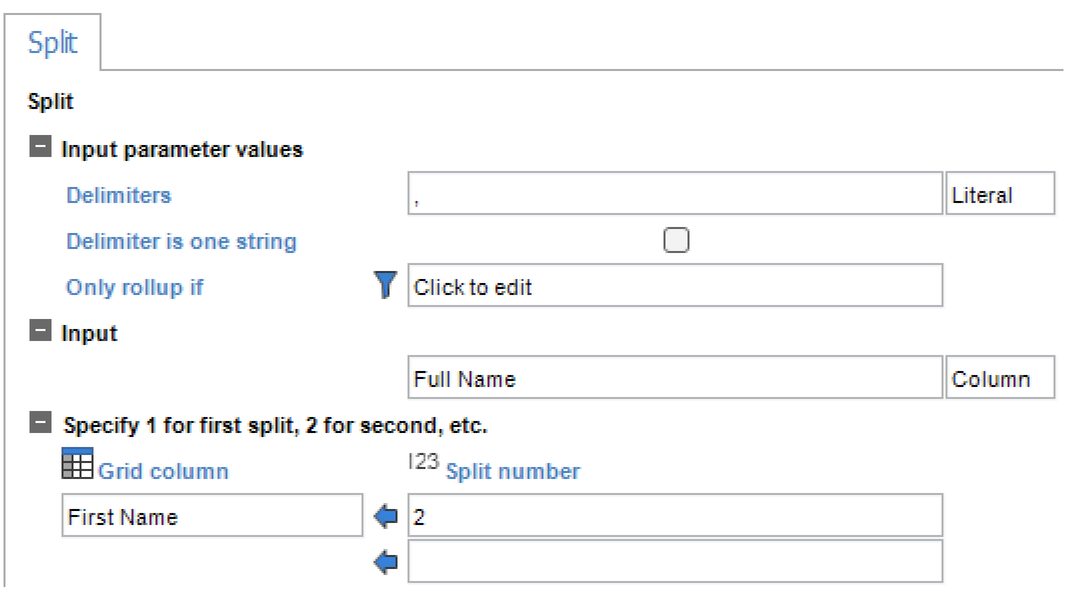
- Split Number: 2 = First Name



This will now return an additional calculated column called "First Name" (everything after the comma).

Full Name	Last Name	First Name
Benford, Bill	Benford	Bill
Smith, Joe	Smith	Joe
Smith, Joe	Smith	Joe
Smith, Joe	Smith	Joe
Armor, Anne	Armor	Anne
Armor, Anne	Armor	Anne
Armor, Anne	Armor	Anne

Lastly, let's say you only wanted to return first name from the start. You can simply have the Split Number = 2 without having any first value returned. The value will only show one column that's everything after the first comma.



String Length

Description

Determines a column's total string length per row.

Calculation Editor

Options

Input Parameter Values	Input Values
Strip Blanks	Check Box
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

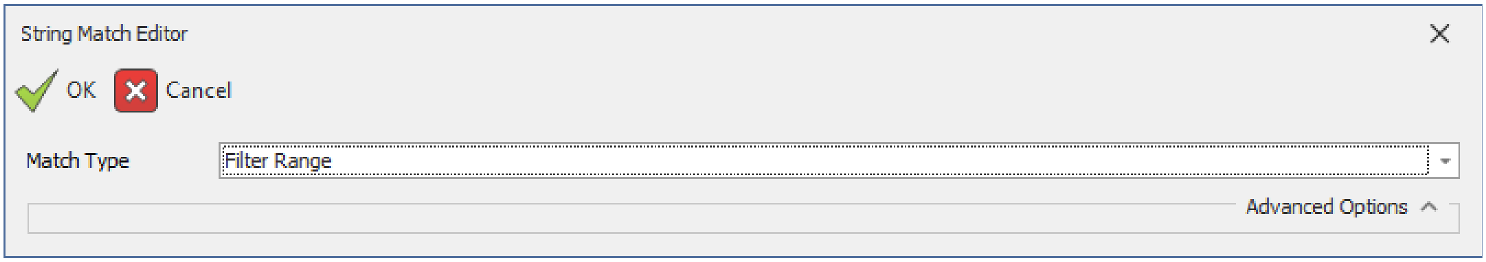
- Strip Blanks will remove the blank characters in a column before doing the String Length calculation. For example, the business unit column frequently has leading spaces. If you want those spaces to be maintained in the string length count, uncheck the "Strip Blanks" check box.

Example

1. **Input**: 48AC83
2. **Quick Calculations** > **Text** > **String Length**
3. **Output**: 6

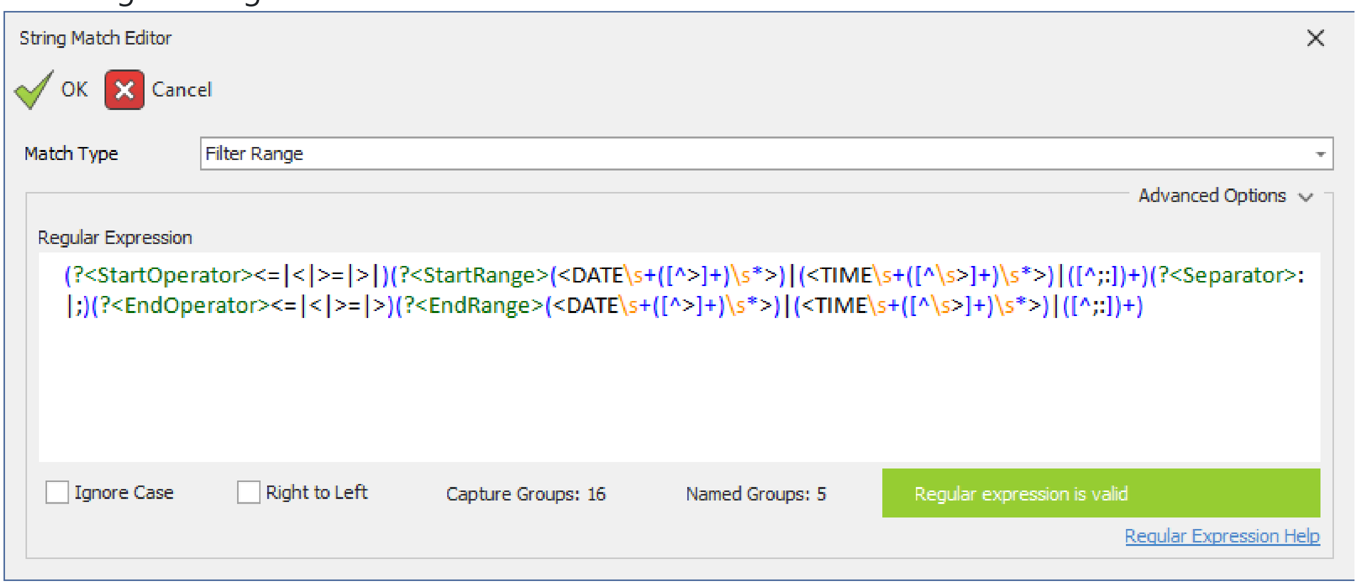
String Match

The String Match calculation searches strings for emails, parts of filter expressions, or any other custom defined item.



Input

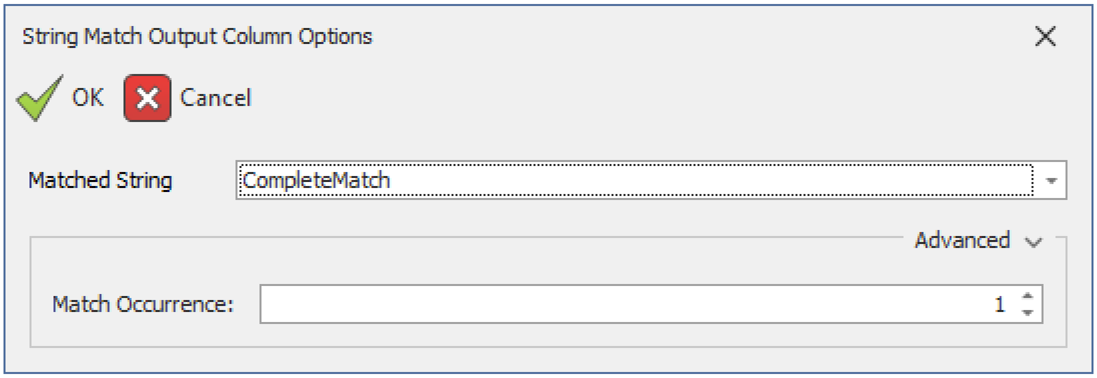
- **Match Type**
  - Filter Range: Parses a range expression (ex. >10:<50) into discrete elements (see below).
  - Email: Parses an email string (tom@acme.com) into 'name' and 'domain' elements.
  - Custom Regular Expression: Opens a regular expression editor that allows for regular expression matching of strings.



  - **Ignore Case** will ignore case matching for the entire search string
  - **Right-to-Left** will search from the end of the string to the beginning
  - For advanced users, see other supported in-line options that can be used.

The Match Type can also be passed in using Column Input to support dynamic regular expressions.

Output



- **Matched String**: Based on the match type.
  - *Filter Range*
    - CompleteMatch: The entire match (ex. '>10:<50')
    - StartOperator: The start range operator (ex. '>')
    - StartRange: The start range value (ex. '10')
    - Separator: The boolean separator value (';' for OR and ':' for AND)
    - EndOperator: The end range operator (ex. '<')
    - EndRange: The end range value (ex. '50')
  - *Email*
    - CompleteMatch: The entire match (ex. 'tom@acme.com')
    - Email: Same as 'CompleteMatch' (ex. 'tom@acme.com')
    - Name: (ex. 'tom')
    - Domain: (ex. 'acme.com')
  - *Custom Regular Expression*
    - CompleteMatch
    - The output is based on the number of capture groups defined in the regular expression.
- **Match Occurrence**: In the case the match criteria finds more than one match in the string, this option indicates what match to return. Setting this property to zero will return a single concatenated string of all matches (useful to globally scrub a string).

Summary

This string matching calculation uses a textual searching language called Regular Expressions (aka 'regex'). This language uses a small set of special characters -- `[\^.|?\*+()` to allow for defining the criteria of the search. Acquiring a basic understanding of these characters is key to effectively using regular expressions.

> **TIP**
>
> Using any of these characters `[\^$.|?\*+()` in your criteria requires escaping by prefixing the special character with the back slash character `\`.

The back slash `\` special character is the escape character of the language. In other words, it allows us to search for these special characters if we need to. For example, use `\?` to search for a question mark.

Wild Cards and Quantifiers - The Dot `.`, the Question Mark `?`, the Asterisk `*`, the Plus `+`, and the curly brackets `{}`

The most basic search technique is to search for any character.

The dot `.` matches any single character. For any string with one or more characters, a regex of `.` will always return the first character. The other characters: `?,*,+,{}` are for controlling how many characters to match.

- `?`: Matches zero or one character. While `.` will match any non-empty string, it won't match an empty string. `.?` will match an empty string too.
- `*`: matches zero to many characters. `.*` will match *any* string, empty or not.
- `+`: matches one to many characters. `.+` will match any non-empty string.
- `{min matches, max matches}`: controls how many matches. For example, `.{2}`, will match the first two characters of any string with at least two characters. `.{3,5}` will match the first three and up to five characters of any string with at least three characters. `.{5,}` will match the *entire* string of any string with at least five characters.

Character Ranges - The square bracket `[]`

Now that we know that a dot `.` can match anything, the square brackets allow us to define specific characters to search for. The definition inside the brackets define the different types of characters that can be matched. For example, `[ab]` will match an 'a' or a 'b' (but not 'ab'). Like the dot `.`, the question mark `?`, asterisk `*`, plus `+`, and curly brackets `{}` work exactly the same to match more than one (or no) character.

Key examples:

- `[1-9]`: Match any digit 1 - 9 (but not zero)
- `[^1-9]`: Match anything but 1 - 9. The hat `^` inside a square bracket means 'NOT'.
- `[A-Za-z]` - Match any upper or lower case character
- `[\s]`: Any whitespace character. This is an example of a 'character class'. Other common character classes:
  - `\w`: Any word character
  - `\d`: Any decimal character
  - For advanced users, please see these [supported character classes].
- `[\t]`: Any tab character. This is an example of a 'character escape'. Other common character escapes:
  - `\n`: New line
  - `\r`: Carriage return
  - For advanced users, please see these [supported character escapes]

TIP

The dot and the square brackets, along with the matching quantifiers `?,*,+,{}` make up the core of most all regular expressions.

Anchors - The hat `^` and dollar sign `$`

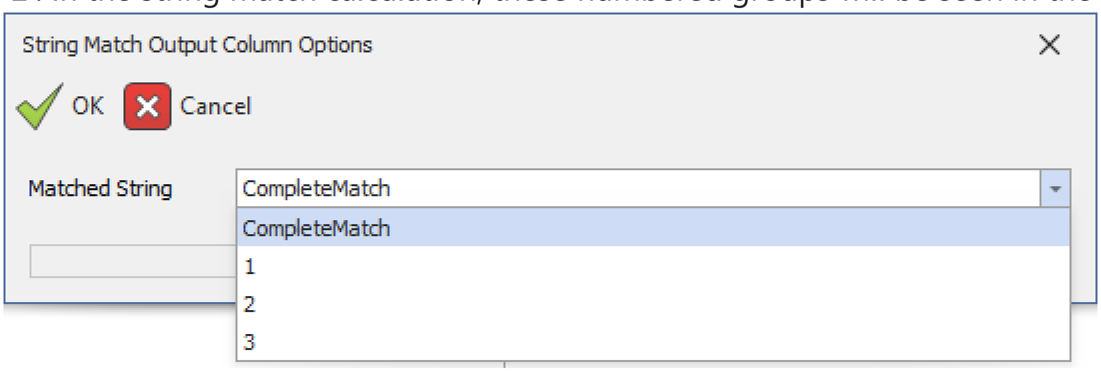
Anchors allow for controlling what part of the string the search criteria will focus on. The `^` anchors the criteria to the beginning of the string and the `$` anchors the criteria to the end of the string. For example, `^Bike` would match 'Bike Pump' but not 'A Bike Pump' while `Bike$` will match 'Bike' but not 'Bike Pump'.

For advanced users, there are [more advanced anchors](#) that can be used.

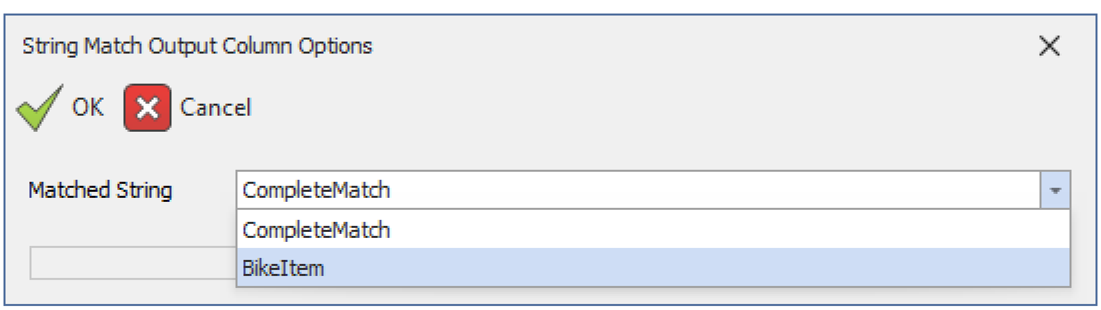
Groups - The parentheses `()` and Bar `|`

The above sections provide the techniques to be able to perform basic searches for a single string. The last set of special characters allow for searching for multiple strings within a string.

Surrounding a valid regular expression with parentheses creates a capture group. For example, the regular expression `Bike(.*)` with an input string of 'A Bike Pump' would have an overall match of 'Bike Pump' and a capture group of ' Pump' called '1'. Adding a second capture group would be referred to as '2'. In the string match calculation, these numbered groups will be seen in the output column dialog:



To make it easier to identify a matched group, the group can be named using a question mark and angle bracket. For example, `Bike (?<BikeItem>.*)` would change the capture group name from '1' to 'BikeItem'.



Grouping also supports the following useful techniques:

- Alternative searches: The `|` is an OR operator between different searches. For example `(Bike|Bicycle)` will find either 'Bike' or 'Bicycle'.
- Non-capturing groups: The `?:` syntax at the beginning of a group makes it a non-capturing group. In other words, this capture group will not be seen in the output dialog. This can be a useful performance or simplification solution.
- For advanced users, please see other supported grouping constructs.

References

- See the .NET Regex Language Overview for the full documentation on the regular expression engine we use.
- See our Knowledge Base Article for example usages of the calculation.

Substring

Description

Select a specific portion of an input by choosing the beginning and end points for all characters in that column.

Calculation Editor

Options

Input Parameter Values	Input Values
Start Index	Column or Literal (Required Integer)
Length	Column or Literal (Required Integer)
Handle Errors	Auto-correct, Blank resulting value, Report error
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Handle Errors Options: View examples below.

- Auto-correct: If your start index or length do not match the input value(s) that are being used, the auto-correct option will identify the needed fix and evaluate the substring calculation accordingly.
  - If the start index is greater than the length of the string, return a null string.
  - If the start index is less than one, the start index will be set to one automatically.
  - If the length is greater than the remaining characters in the string, just the remaining characters will be returned.
- Blank Resulting Value: If your start index or length do not match the input value(s) that are being used, the blank resulting value option will return blank values in those records.
- Report Error: If your start index or length do not match the input value(s) that are being used, the report error option will return a grey box in all cells that had errors. This grey box will explain the error if selected so the calculation can be edited.

Examples

Example 1

- **Input**: CAL87105SUB
- **Design** > **Calculations** > **Substring**
  - Start Index: 4
  - Length: 5
  - Handle Errors: Auto-correct
- **Output**: 87105

Example 2

- **Input**:
  - Row 1: 8502Vendors Incorporated
  - Row 2: 9133ABC Vending
- **Design** > **Calculations** > **Substring**
  - Start Index: 5
  - Length: 25
  - Handle Errors: Auto-correct
- **Output**:
  - Row 1: Vendors Incorporated
  - Row 2: ABC Vending

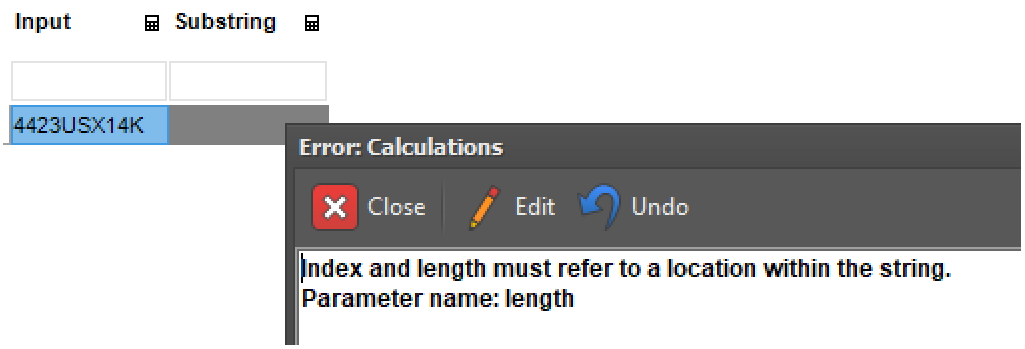
The auto-correct handled the length being 25 even though the values weren't 25 characters long by using the following logic: If the length is greater than the remaining characters in the string, just the remaining characters will be returned.

Example 3 (Utilizing alternative Handle Error methods)

- **Input**: 4423USX14K
- **Design** > **Calculations** > **Substring**
  - Start Index: 5
  - Length: 8
  - Handle Errors: Blank Resulting Value
- **Output**: *Shows as blank*
  - Reasoning: The number of total characters in the input string is shorter than 13 which is how much the start index and length requested.

Next, let's just change the "Handle Errors" setting to "Report Error".

- Output: See below.


Input
Substring
4423USX14K
Error: Calculations
Close
Edit
Undo
Index and length must refer to a location within the string.
Parameter name: length

To Lowercase

Description

Allows any string input to be standardized to all lowercase values.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

This calculation is culture sensitive and will use the culture identified by the user's Language setting in default settings.

Example

1. **Input**: Suppliers National Association
2. **Quick Calculations** > **Text** > **To Lowercase**
3. **Output**: suppliers national association

To Uppercase

Description

Allows any string input to be standardized to all uppercase values.

Calculation Editor

Options

Input Parameter Values	Input Values
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✓

Remarks

This calculation is culture sensitive and will use the culture identified by the user's Language setting in default settings.

Example

1. **Input**: smile
2. **Quick Calculations** > **Text** > **To Uppercase**
3. **Output**: SMILE

Trim

Description

Trim characters before or after a value.

Calculation Editor

Options

Input Parameter Values	Input Values
Trim Delimiters	Literal (Required)
Side	Both, End, Start
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Remarks

Trim will only evaluate the sides that you select. It will not trim characters in the middle of an input value.

Example

1. **Input**: 00045032000
2. **Design** > **Calculations** > **Trim**
   - Trim Delimiters: 0
   - Side: Both
3. **Output**: 45032

Trig Calculations

- Arccosine : The inverse trigonometric function that gives the angle whose cosine is a given number.
- Arcsine : The inverse trigonometric function that gives the angle whose sine is a given number.
- Arctangent : The inverse trigonometric function that gives the angle whose tangent is a given number.
- Cosecant : The reciprocal of the sine function; for an angle in a right triangle, it represents the ratio of the hypotenuse to the opposite side.
- Cosine : A trigonometric function representing the ratio of the adjacent side of a right triangle to the hypotenuse.
- Cotangent : The reciprocal of the tangent function; for an angle in a right triangle, it represents the ratio of the adjacent side to the opposite side.
- Secant : The reciprocal of the cosine function; for an angle in a right triangle, it represents the ratio of the hypotenuse to the adjacent side.
- Sine : A trigonometric function representing the ratio of the opposite side of a right triangle to the hypotenuse.
- Tangent : A trigonometric function representing the ratio of the opposite side to the adjacent side in a right triangle.

Arccosine

Description

The inverse trigonometric function that gives the angle whose cosine is a given number.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Arccosine**
3. **Output**: 38.46392

Arcsine

Description

The inverse trigonometric function that gives the angle whose sine is a given number.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Arcsine**
3. **Output**: 51.53607

Arctangent

Description

The inverse trigonometric function that gives the angle whose tangent is a given number.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Arctangent**
3. **Output**: 38.06094

Cosecant

Description

The inverse trigonometric function that gives the angle whose cosine is a given number.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Cosecant**
3. **Output**: 73.17696

Cosine

Description

The inverse trigonometric function that gives the angle whose cosine is a given number.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Cosine**
3. **Output**: 0.99990

Cotangent

Description

The reciprocal of the tangent function; for an angle in a right triangle, it represents the ratio of the adjacent side to the opposite side.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Cotangent**
3. **Output**: 73.17013

Secant

Description

The reciprocal of the cosine function; for an angle in a right triangle, it represents the ratio of the hypotenuse to the adjacent side.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Secant**
3. **Output**: 1.00009

Sine

Description

A trigonometric function representing the ratio of the opposite side of a right triangle to the hypotenuse.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Sine**
3. **Output**: 0.03666

Tangent

Description

A trigonometric function representing the ratio of the opposite side to the adjacent side in a right triangle.

Calculation Editor

Options

Input Parameter Values	Input Values
Units	Degrees or Radians
Only Rollup If	Generic Criteria

Input

Input	Input Values	Required
Input 1	Column or Literal	✔

Example

1. **Input**: 0.783
2. **Quick Calculations** > **Trig** > **Tangent**
3. **Output**: 0.01366

Find Trends in Your Data

Trending gives you the power to find hidden, yet important, patterns in your data.

Quick Facts

- You perform a trend by selecting a column, right-clicking it and selecting: **Trending | ...**
- You specify your Trend using business language
- Once you apply your Trend, you will see the results immediately
- You can undo your trend by pressing the Undo button
- You can modify the columns in the Trend by using **Quick Calculations** or Edit Calculations with the Editor
- Each trend has common options explained below
- This section discusses many of the Calculation Columns that let you transform your data into the format you need

Common Trend Options

The dialog box for each trend operation has the following options in common:

Option	**Effect**
Show summaries only	Default checked. When checked, the resulting trend will collapse all groupings to the summary level (thereby hiding the detail lines). When unchecked, the Trend will show summaries and details.
Hide unused columns	Default checked. When checked, the Trend will hide any column that does not have a filter and is not a part of the Trend. When unchecked, the Trend will not hide any columns.

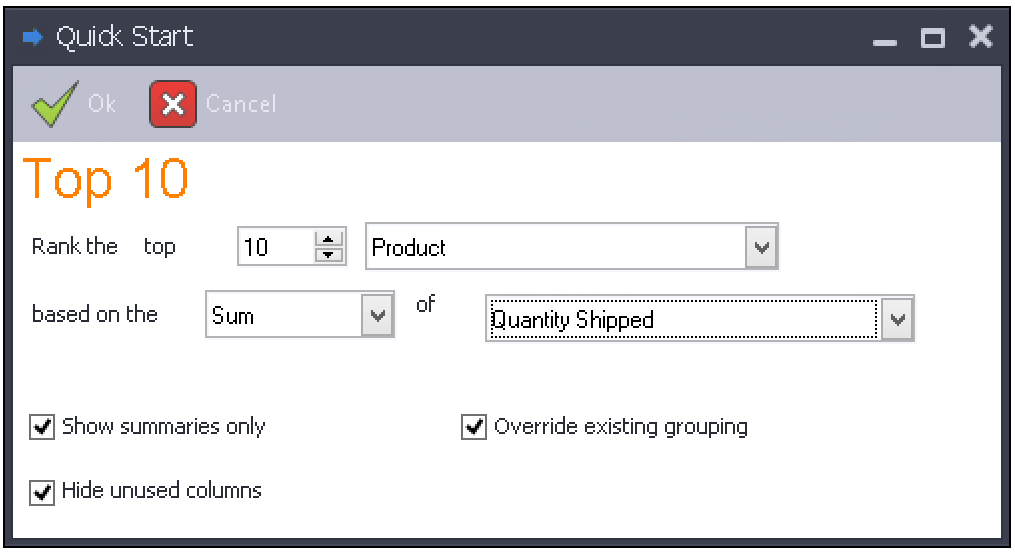
Show Your Top Ten and Bottom Ten Performers

Imagine you want to see your top ten customers or products. You can create this type of report with the **Rank Top Ten** Trend:

1. Right-click a column in your grid that you would like to rank.

2. Select **Trending | Rank Top Ten**.

Sample screen shot



3. Enter the number of rankings you want to see: e.g. top 10, 25, 100, etc.

4. Select the column you want to rank. Data Access Studio will automatically populate this field with the column you select in step 1.

5. Choose how you want to rank: Sum, Count, etc.

6. Choose the column you want to use as the ranking quantity. E.g. **Quantity Shipped**. If you selected **Count** in the previous step, then this field will be hidden.

7. Click **Ok**.

To show the Bottom Ten, repeat the same steps above, except select Trending | Rank Bottom Ten.

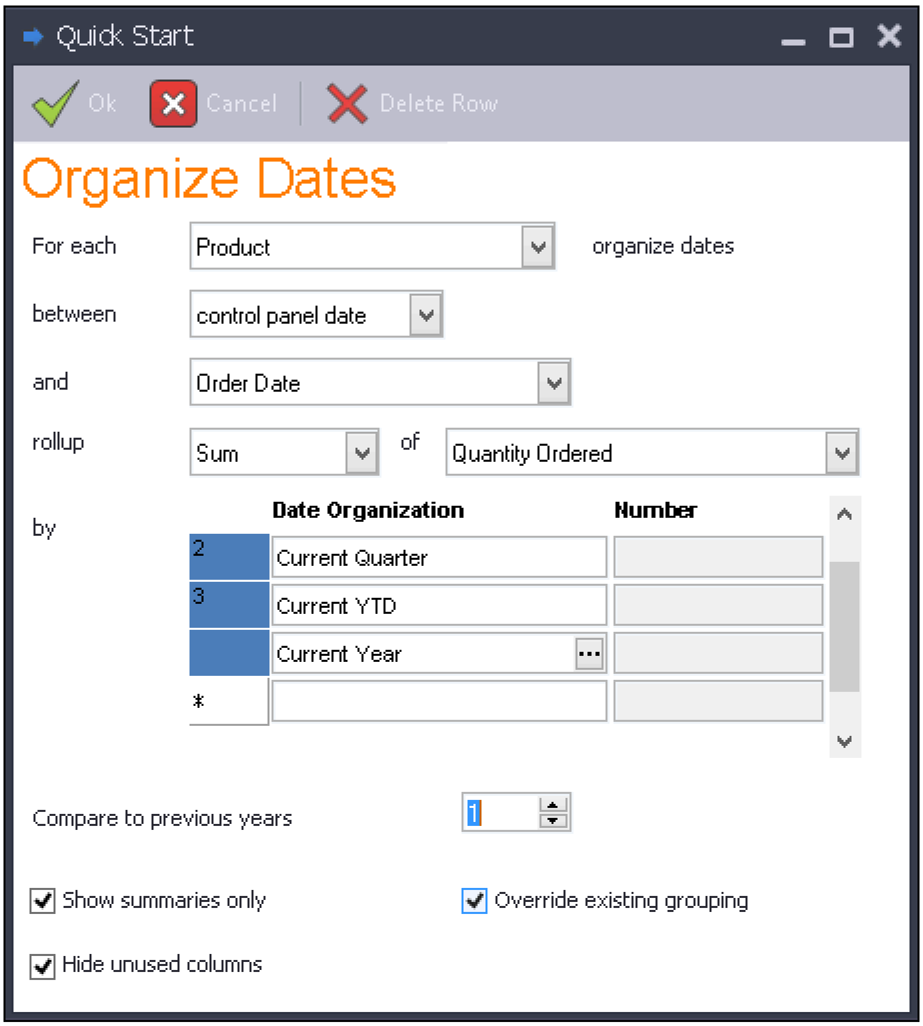
Organize Date Information

Imagine you want to see your items sold by last three months, current quarter, year-to-date, or year and compare to the previous year. **Organize Dates** lets you do this over any reference date as follows:

1. Right-click a column in your grid that you would like to organize.

2. Select **Trending | Organize Dates**.

Sample screen shot



3. 3. Select the column you want to rollup for the year trend. Data Access Studio will automatically populate this field with the column you select in step 1.

4. Select how you want to calculate the date difference:

    1. For the first date, select between a **control panel date** (recommended)**,** a date **grid column** or **today's date**.

    2. For the second date, select a **grid column**. **Note:** the second date will be *subtracted from* the first date.

5. Choose how you want to trend: **Sum, Count**, etc.
6. Choose the column you want to use as the ranking quantity. If you selected **Count** in the previous step, then this field will be hidden.
7. Select the date organization you want. All choices that begin with **Current** do not have a **Number** value. All other choices let you specify a **Number.** For instance, if you want the last three months, enter **Last Months** and **3**.
8. Enter a number in **Compare to previous years** to compare the defined organization for this year to past years.
9. Click **Ok**.

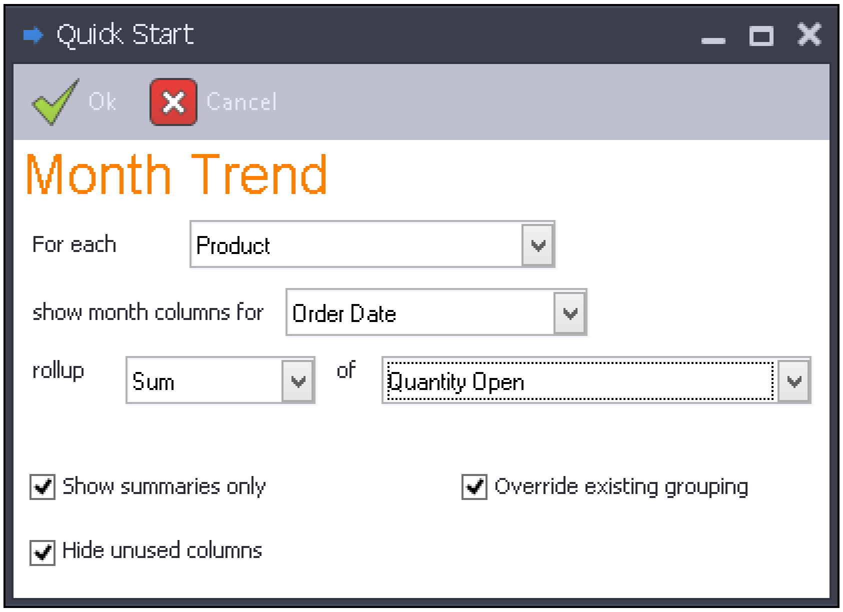
Show Month Trends

If your data contains date information, you may want to see how your data changes by month. To see month trends in your data:

1. Right-click a column in your grid that you would like to trend.

2. Select **Trending | Month Trend**.

Sample screen shot



3. Select the column you want to rollup for the month trend. Data Access Studio will automatically populate this field with the column you select in step 1.

4. Select the date column you want to use.

5. Choose how you want to trend: **Sum, Count**, etc.

6. Choose the column you want to use as the ranking quantity. E.g. **Sales Quantity**. If you selected **Count** in the previous step, then this field will be hidden.

7. Click  **Ok**.

Show Day Trends

If your data contains date information, you may want to see how your data changes by day. To see day trends in your data:

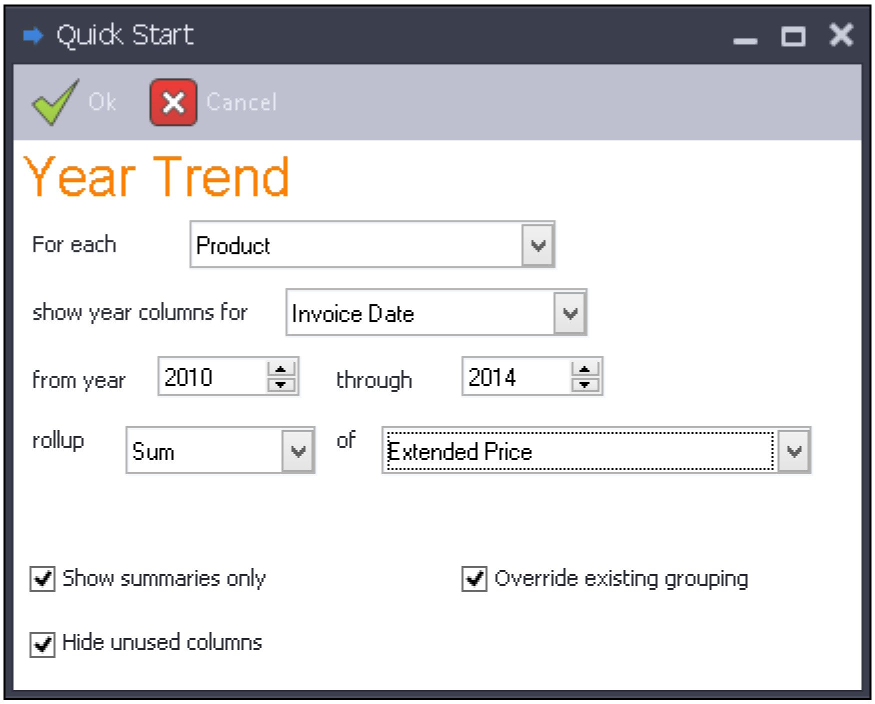
1. Right-click a column in your grid that you would like to trend.
2. Select **Trending | Day Trend**.
3. Select the column you want to rollup for the day trend. Data Access Studio will automatically populate this field with the column you select in step 1.
4. Select the date column you want to use.
5. Choose how you want to trend: **Sum, Count**, etc.
6. Choose the column you want to use as the ranking quantity. E.g. Sales Quantity. If you selected **Count** in the previous step, then this field will be hidden.
7. Click **Ok**.

Show Year Trends

If your data contains date information, you may want to see how your data changes by year. To see year trends in your data:

1. Right-click a column in your grid that you would like to trend.
2. Select **Trending | Year Trend**.

Sample screen shot



3. Select the column you want to rollup for the year trend. Data Access Studio will automatically populate this field with the column you select in step 1.
4. Select the date column you want to use.
5. Select the year range you would like to run.
6. Choose how you want to trend: **Sum, Count**, etc.
7. Choose the column you want to use as the ranking quantity. If you selected **Count** in the previous step, then this field will be hidden.
8. Click  **Ok**.

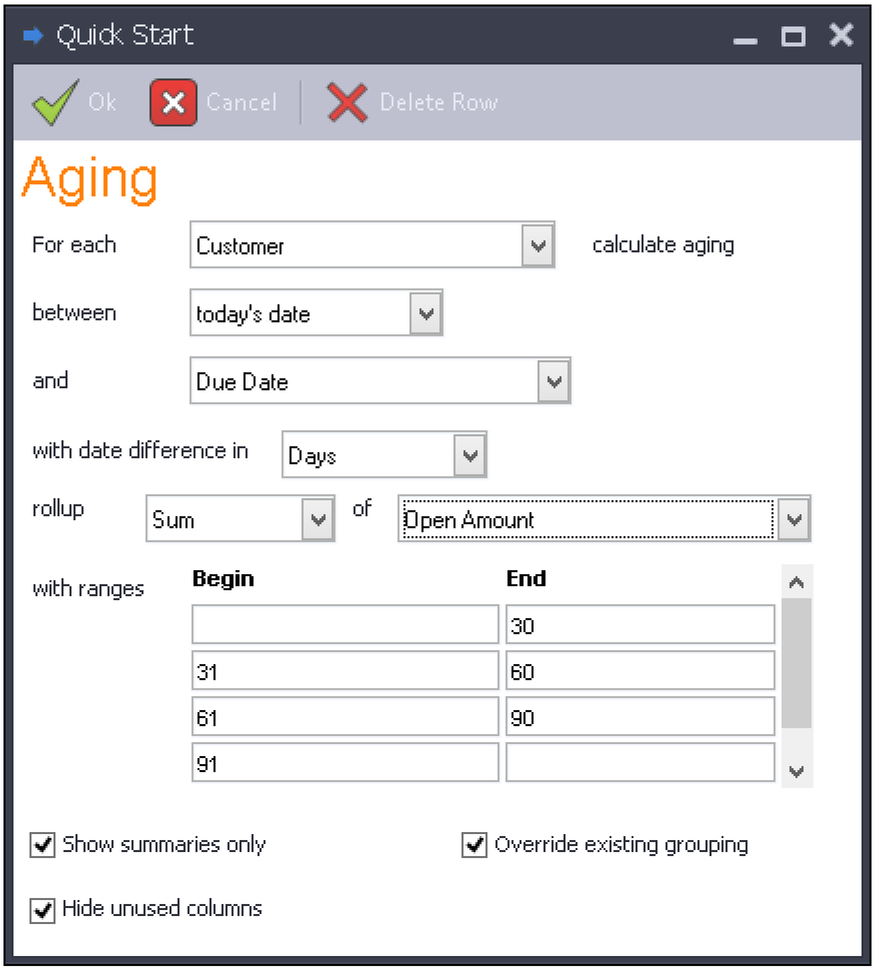
Organize Your Data into Aging Ranges

If your data contains date information, you may want to see how your data changes by a user-defined time interval. To see aging trends in your data:

1. Right-click a column in your grid that you would like to trend.

2. Select **Trending | Aging**.

Sample screen shot



3. Select the column you want to rollup for the year trend. Data Access Studio will automatically populate this field with the column you select in step 1.

4. Select how you want to calculate the date difference:

    1. For the first date, select between **today's date,** a date **grid column** or a **report parameter.**

    2. For the second date, select a **grid column**. **Note:** the second date will be *subtracted from* the first date.

    3. Select the units for the date difference: **Days, Months,** or **Years**.

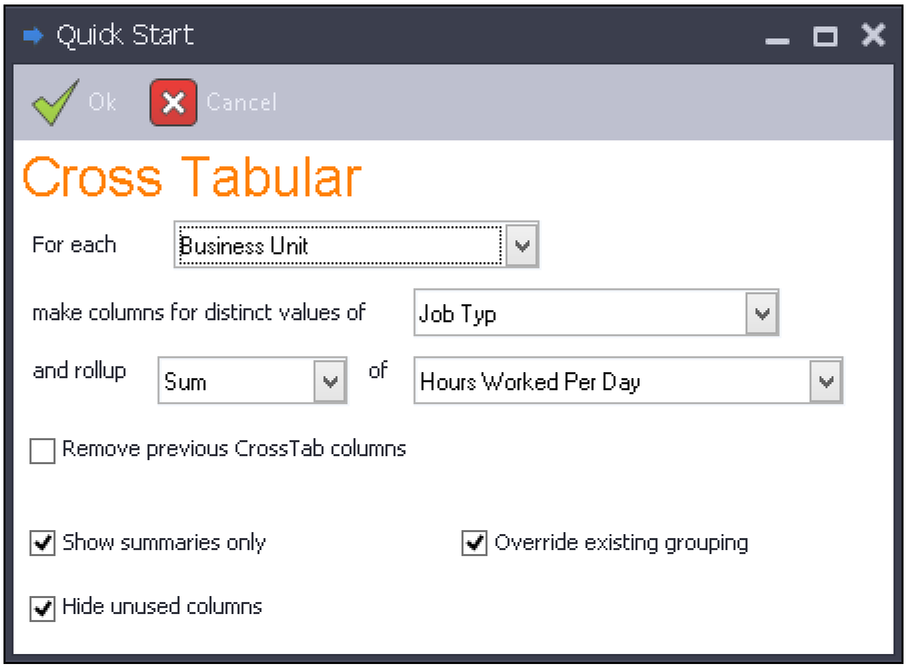
5. Choose how you want to trend: **Sum, Count**, etc.
6. Choose the column you want to use as the ranking quantity. If you selected **Count** in the previous step, then this field will be hidden.
7. Select the bucket ranges you want. You may edit the existing ones and add and delete ranges as you need.
8. Click **Ok**.

Turn Row Values into Column Values

When you need to do side-by-side comparisons, you can use the **Cross Tabular** Trend to convert row values into column values:

1. Right-click a column in your grid whose distinct rows you would like to convert into columns.
2. Select **Trending | Cross Tabular**.

Sample screen shot



3. Select the column you want to rollup for the year trend. Data Access Studio will automatically populate this field with the column you select in step 1.
4. Select the column whose distinct rows you want to convert to columns. E.g. if your rows had **Union Code** information, then the Trend will create a new column for each distinct **Union Code**.
5. Choose how you want to trend: **Sum, Count**, etc.
6. Choose the column you want to use as the ranking quantity. If you selected **Count** in the previous step, then this field will be hidden.
7. You can append multiple **Cross Tabular** Trends to create Dashboards. If you want to replace the previous **Cross Tabular** Trend, click **Remove previous CrossTab columns**.
8. Click **Ok**.

Only Rollup If

Most calculations will have a parameter named **Only Rollup If**. You can edit this parameter to have any condition you need that specifies whether you want the calculation value to apply. For instance, let's say you had a calculation that calculates the total price. You could edit the **Only Rollup If** parameter to specify that you only want the total price to apply if the customer has paid on time. Once you set the condition, then the total price will only have a value if the condition is met.

Export and Print Results

Data Access Studio provides quick and easy exporting and printing.

See Export and Print for instructions on how to export your grid data.

Set Default Printing Preferences

Data Access Studio provides the ability to specify printing preferences for each layout:

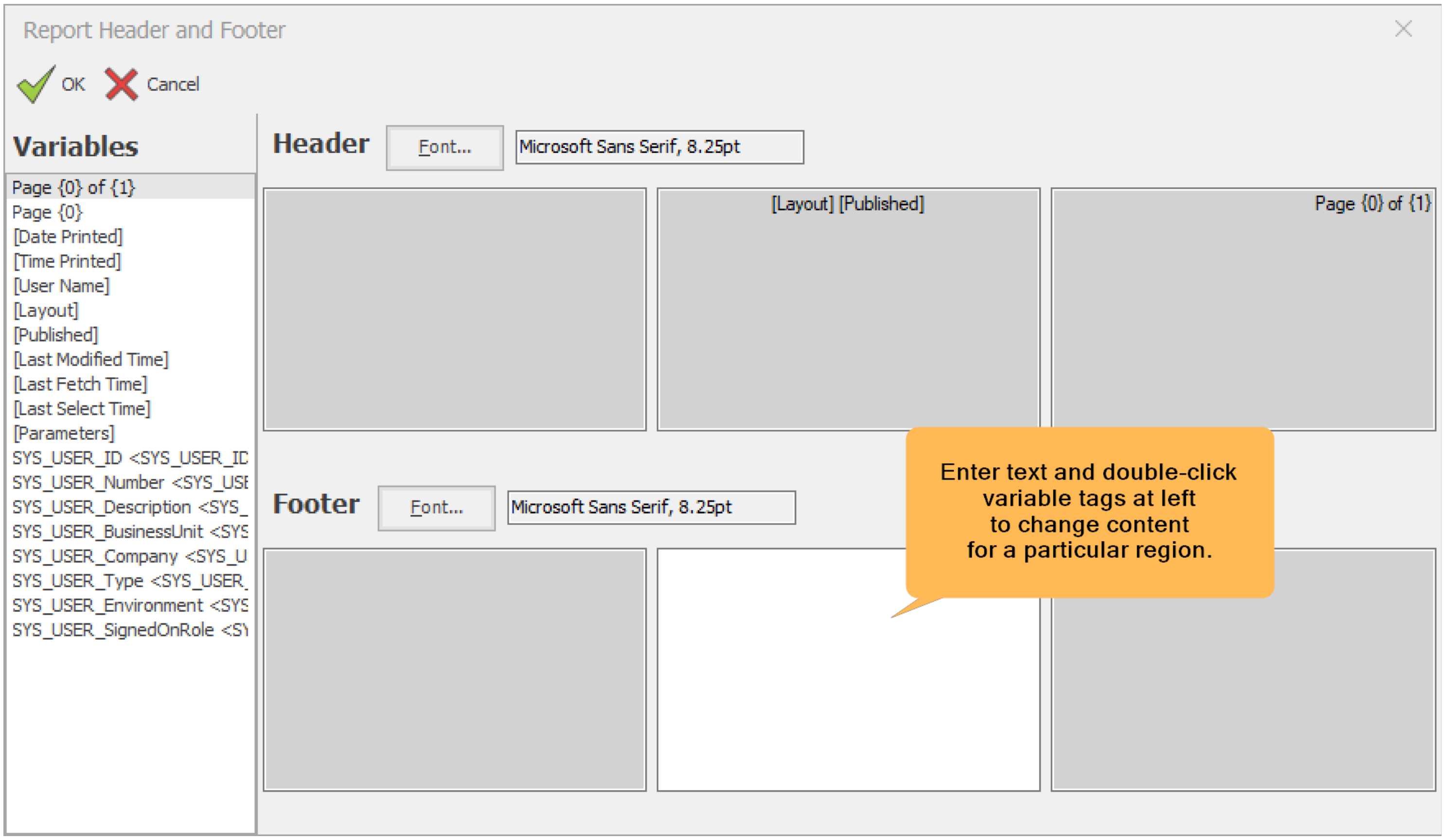
1. Open a Layout
2. Click **Design | Printing Preferences...**

To	Do this
Change margins	Enter values for **Left**, **Right**, **Top**, or **Bottom**.
Change the orientation of the printout	Click **Portrait** or **Landscape**.
Hide or show the filter row on the printout	Check **Show Filter Values** to show filters. Uncheck to hide filters.
Change the paper size	Click on the **Paper Size** options box. Select paper size from list.
Change the Embed Excel Print Driver	Use the visual assist to select a print driver on your workstation. If you are the administrator on your workstation (or if your administrator installed the ReportsNow PDF print driver) you can select this print driver to print to PDF. If you have another PDF print driver, you can select it here so that when you print from Embed Excel, the print automatically converts it to a PDF. You can also click the **Preferences...** button to change the settings of the print driver.

Define Basic Header and Footer

Data Access Studio provides the ability to specify a report header and footer to any Layout. Once defined, the header information such as page numbers and title will export to formatted types such as PDF, HTML and printer outputs. When you press save on the layout, the header/footer information will be saved with your layout.

To define a header and footer for your layout, click on **Export | Header and Footer...** on the main menu bar.



This form has six areas for you to add text: 3 areas in the header representing left, center, and right; and 3 areas in the footer for left, center, and right.

In addition to typing text into these areas, you may double-click the **Variables** listed in the window to the left to add dynamic information such as:

- Page number and total number of pages
- Page number
- Date printed
- Time printed

- User
- Layout name
- Published or private
- Date and time that the layout was last saved
- Date and time that the last fetch operation from the server began
- Date and time that the last select operation from the server began
- Report Parameters - shows all Report Parameters as a block of field/value pairs
- System level variables (See: SystemVariables)

By default, a layout will have the Layout Name in the center of the header and the page number in the right hand corner of the header.

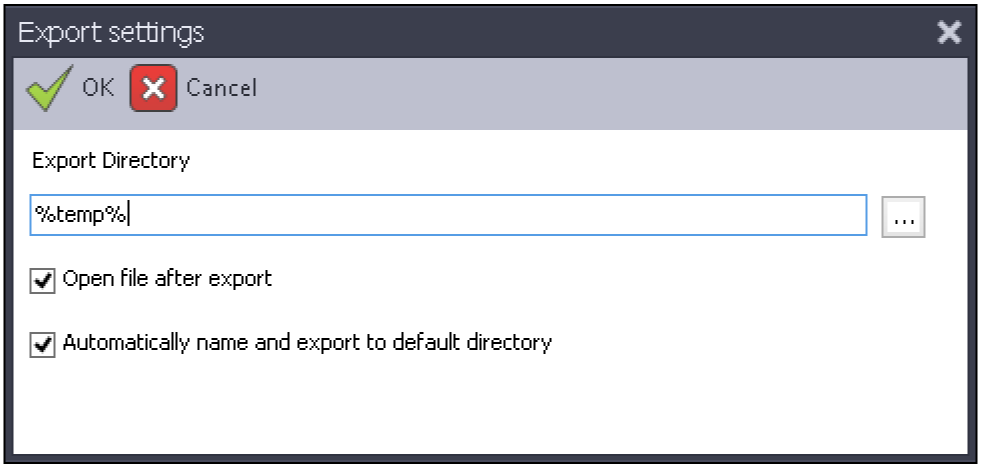
Specify an Area to Print

Data Access Studio allows you define a set of grid columns as the "Print Area" of the layout. This feature is useful if you need to see certain columns in the interactive grid but not in the printout.

To	Do this		
Define a Print Area	Highlight the grid columns that you want to print. Click each desired Column Header. SHIFT+click will select all columns between clicks. CTRL+click will add each column to the selection. Right-click on the selected column headers and choose: **Print Area**	Set To Selected Columns.	
Clear the Print Area	Select Design	Print Area	Clear.
Show the Print Area	Once the print area is defined for a layout, you may want to see which columns comprise the Print Area. To highlight these columns, select: **Design**	Print Area	Show.

Set export options

To set preferences for each export operation, select **Export | Export Settings...**



To	Do this
Change the default directory where Data Access Studio will store exports	Enter a path under **Export Directory**. You may use the Visual Assist to find the directory visually.
Open file after export	Check Open file after export. If unchecked, the export will write file to the export directory and only notify you that the export has finished.
Automatically name the export and export to default directory	Default checked. When checked, the export will name your exported file automatically and copy it do the default directory. When unchecked, the export will prompt you for the file name.

Document Your Report

You can place How to Use Notes and Design Notes in any report.

Additionally, DAS generates "at-a-glance" design information about any report including:

- Filters (hidden or shown)
- Grouping
- Parameters and variables
- Calculations
- Hidden columns
- Sorting
- Template information
- and more

How to Use Notes

How to Use Notes are available for all viewers of a report in DAS as a mechanism for viewing notes created by a designer.

These notes could include things like...

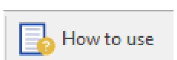
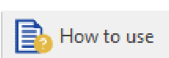
- The purpose of the report
- The meaning of the report's parameters/filters
- How to interpret results

To add or edit How to Use notes for a report:

1. Open a report
2. Click **How to Use** Notes button on main toolbar

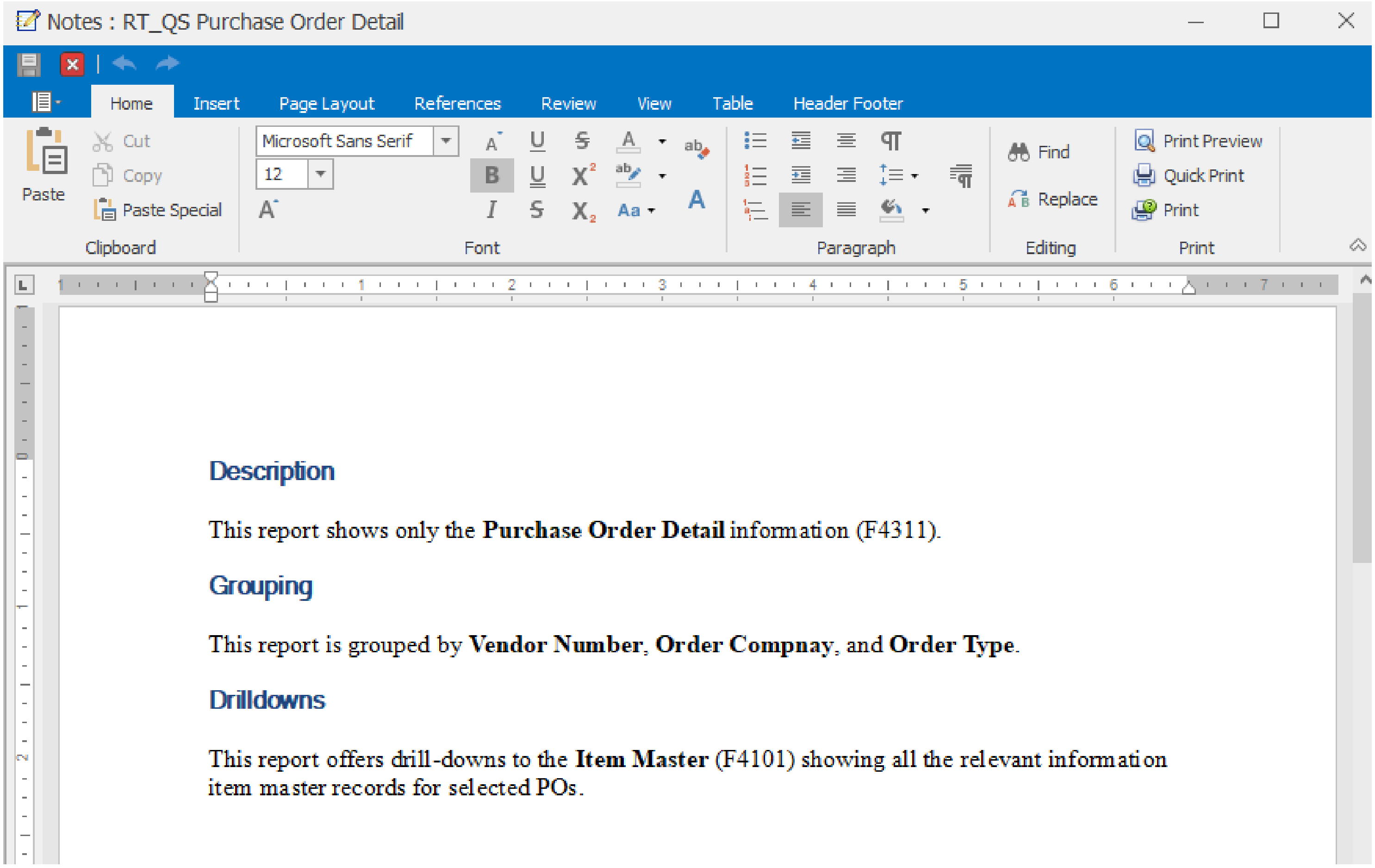
Understand How to Use Icon States

There are three different appearances the How to Use icon can take on based on what information is present in that report.

Icon	Description
	If the icon looks like this, it means the report is private and there is no text inside of the How to Use notes
	If the icon looks like this, it means there is text inside of the How to Use notes (this will show up for Private or Public reports)
	If the icon looks like this, it means the report is public and there is no text inside of the How to Use notes

How to Use Notes Options

Inside of How to Use Notes, the window will appear similar to Microsoft Word with tabs at the top to assist in formatting.


Notes : RT_QS Purchase Order Detail
Home
Insert
Page Layout
References
Review
View
Table
Header Footer
Paste
Cut
Copy
Paste Special
Clipboard
Microsoft Sans Serif
12
Font
Paragraph
Find
Replace
Editing
Print Preview
Quick Print
Print
Print
Description
This report shows only the Purchase Order Detail information (F4311).
Grouping
This report is grouped by Vendor Number, Order Compnay, and Order Type.
Drilldowns
This report offers drill-downs to the Item Master (F4101) showing all the relevant information item master records for selected POs.

Design Notes

Design Notes are available for Designers in DAS as a mechanism for viewing Generated Notes and User Notes related to the report.

View Design Notes

1. Open a private report
2. Click **Design** > **Design Notes**

Generated Notes

DAS automatically generates "at-a-glance" information about the report in the **Generated Notes** tab.

Important information included in the Generated Design Notes includes...

Table of Contents: Selecting any header in the table of contents will scroll the user to that location in the Generated Notes. Includes all sections listed.

Report Properties

Table of Contents

Grouped columns
Query table
DAS Report Performance: 00:00.343
Filters
Parameters
Sorted columns
Visible columns
Calculations : 1

Query Table & Last Select: This returns the specific tables utilized in the report (ex: F0411) as well as a list of the filters utilized in the Report Run process.

Last select *[Top]*

Description: Do Ty = PV & Gross Amount > 0

Alias: DCT = PV & AG > 0

DAS Report Performance: This critical section shares the processing time for the report. Once the Select and Load process occur, any calculations in a report are processed. As a default behavior, DAS generates processing times for each calculation. It then highlights the fastest third in green and slowest third in red.

DAS Report Performance: 00:00.468 *[Top]*

Select data= 00:00.121
Load data= 00:00.035
Calculate
Amount Vouchered YTD - AYPD (CALC_10)= 00:00.112
Records Retrieved = 27
Unique Keys Queried = 27
Audit Initialization= 00:00.068
Importance Level (CALC_7)= 00:00.000
Address Number (CALC_3)= 00:00.000
Amount Paid (CALC_1)= 00:00.000
Last Year (CALC_5)= 00:00.000
Multiplication (CALC_2)= 00:00.000
Vendor (CALC_4)= 00:00.000
Post calculate= 00:00.127
Calculate summaries= 00:00.000
Records Retrieved = 100

NOTE

Be sure to check the processing times rather than relying on the color coding, red calculations could still be extremely fast.

Calculations: To learn more about a calculation, go to Design > Calculations. This view simply gives the user an idea of what calculations are used and what inputs were provided to the calculations.

Amount Paid (CALC_1) : Difference
Options
Only rollup if Click to edit
Inputs
+ Gross Amount Column
- Open Amount Column

Compare Report Run Times Easily

Let's say a user wants to compare the processing speed of a report based on two different filters.

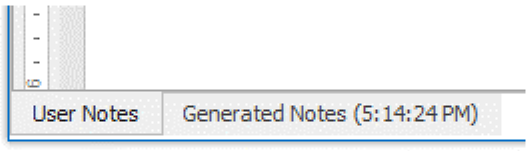
To compare multiple runs of the same report, do the following:

1. Run a report (Or Get Sample Data)
2. Select Design > Design Notes
3. See the Generated Notes tab
4. Minimize the Design Notes window or simply select back to your report without closing
5. Adjust the report as needed (Ex: Adjust a filter)
6. Run the report again (or Get Sample Data)
7. Select Design > Design Notes again to see the additional tab of Generated Notes with the time it was run

Generated Notes (5:14:24 PM)	Generated Notes (5:15:27 PM)

User Notes

The User Notes tab available at the bottom of your Design Notes dialog looks the same as the How to Use notes. The difference is because these User Notes are only accessible within the Design menu, they are a better place to type information about the creation and structure of the report rather than information good for the Subscriber to view to understand the report.



Make Your Report Run Faster

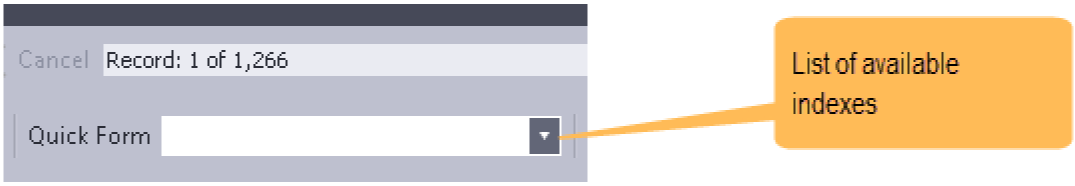
Data Access Studio uses many automatic performance techniques to make your report run fast. You can do the following additional techniques to make your report go faster as well:

Symptom	Do This
Report takes a long time to **Select** or **Count**	Use the **Quick Form Assistant** to create parameters for filtering that match database indexes. Additionally, analyze **Design Notes** to confirm what filters are being applied at the database and match those against known database indexes.
Reports take a long time to load large number (>100,000) of rows	1. Add more filtering. Try to reduce the number of rows by adding more filters. 2. In a single table report, hide any unused columns. The fewer columns you have, the faster a larger data set load will go. 3. A DASVIEW is automatically created for table joins, but one can be created on singular table reports by selecting Design > Table Joins. If you are using a DASVIEW, remove columns from the table join selector that are not used. The fewer columns in a report, the faster a larger dataset load will go.
Calculating takes a long time with **Table Lookup** calculations	Consider using a Table Join instead of a **Table Lookup**. When Table Lookups are required, users may consider adjusting the **Bulk Fetch Key** setting. This setting determines how many queries are bundled and sent to the database at one time. Learn more in the Table Lookup calculation documentation.
Report loads > 100,000 records over a WAN connection	If you are loading a large number of records over a slower network connection, consider scheduling the report to run on the DAS Web Server. Once the report runs there, the scheduler can email you the result. You must have the Automator license for this option.
An interactive report that summarizes a large amount of data but does not require the detail data	If allowed, leverage the Database and/or Server Summarization feature.

NOTE

To easily review performance metrics on your report, utilize Design Notes.

Quick Form Assistant



The **Quick Form Assistant** lets you create better running queries on large tables. The **Quick Form Assistant** option box shows a list of all valid indices for the currently active object. You should show all columns before using the **Quick Form Assistant**. Upon selecting an index from this list, Data Access Studio creates report parameters based on the index you choose (existing parameters will be left untouched at the top).

Once you apply the index:

- To take advantage of an index, select an index that most closely matches the query you require.
- Notice the index columns appear as report parameters.
- Fill in index values from top most to bottom most. Remember, the database will not use an index if you do not fill in values from the beginning of the index. For instance, if your index is "Doc Type", "Document Number", and "Doc Co", the index will not be used if you only specify values for only "Document Number" and "Doc Co". All left-most index columns must be specified first for the index to take effect.
- Depending on the database, even if you specify all fields of an index, the database will not always use that index. In this event, the database decides that another execution path will provide better performance. If you notice that a fully specified index does not result in a fast query, please notify your JD Edwards (EnterpriseOne/World) database administrator. Provide your Database Administrator (DBA) with the index columns you used and the time the query took to run.
- To undo the Quick Form Assistant, simply select the blank Index at the top of the combo box. DAS will remove any **Quick Form** indexes from your report.

Server and Database Summarization

Many reports display summaries of large amounts of data. For example, a report may show the total number of orders by customer or the average order amount by month. By default, DAS will download all the data to the client and then summarize it. This can take a long time and use a lot of bandwidth. But what if the recipients of this type of report only need the summary information? In this case, it is much faster to summarize the data on the server or database and then download only the summary information.

DAS provides the capability for different types of server-side summarization (via group-by SQL operations and/or DAS server summarization):

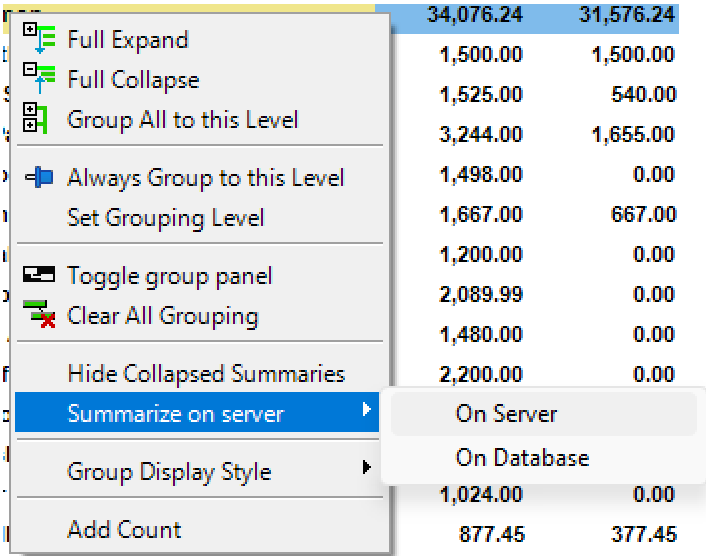
- **Summarize on Server**: This option summarizes the data retrieved from the database on the DAS server before sending it to the client. This may provide improved performance for allowed reports (see report restrictions below), but it may not be as fast as summarizing on the database.
- **Summarize on Database**: This option summarizes the data on the database server before sending it to the DAS server. This will usually provide the best performance, but it is only available for certain types of reports.

> **NOTE**
> The option to summarize on database or server is only shown on the group column right-click menu. Since only summarized records are included on the report, reports that need to display detail information cannot use this feature.

Key User Security Permissions

The following permissions are required to see the **Summarize on Server** and **Summarize on Database** options in the right-click menu of a grouped column:

1. User must have the **Can do grouping on server** permission to see any **Summarize on Server** options
2. User must have the **Can enable sort and grouping at database** permission to see the **On Database** option



IMPORTANT

The reason these permissions are required is that summarization will impact CPU and memory usage on the database and/or DAS server. Sending all detail data to the client and allowing it to summarize is much less resource-intensive for the shared server resources. Therefore, the DAS administrator may choose to limit these permissions to only certain users or groups of users. If you do not see the options in the right-click menu, please contact your DAS administrator for assistance.

Summarize on Server

Server-side summarization is different from database summarization in that this mode will query the database with SQL that does not include groupings or aggregation. The DAS server will then summarize the data before sending it to the client. This option is available for more report configurations, but it may not be as fast as summarizing on the database. After selecting this option and re-running the report, you should see fewer detail records under each group in the report. The report should also run much faster and use less bandwidth and memory.

This option will consume CPU and memory resources on the DAS server but will not consume additional resources on the database server.

Summarize On Server Requirements

Even with a grouped report and the appropriate permissions, the server summarization option is not allowed on reports with any of the following conditions:

1. Report uses Count or Average summaries on any column (hidden or visible).
2. Report uses any of these calculations (hidden or visible):
    1. De-duplication
    2. Parent/Child

3. Random Row Index
4. Conditional that uses the multiplication option
5. Math and Statistical Functions: Absolute Value, Average, Ceiling, Floor, Ln, Log, Median, Multiplication, Power, Sign, Square, Square Root, Remainder, Truncate, Uniform Buckets

> **NOTE**
> A report that has server or database summarization enabled will no longer summarize on the server or database if one of these calculations is added. Therefore, it is important to carefully design and maintain the report for summarization from the beginning.

Summarize on Database

This option will summarize the data on the database server using standard SQL Group By operations and Aggregation functions. If the report structure fits the requirements, this option will usually provide the best performance. After selecting this option and re-running the report, you should see far fewer detail records under each group in the report. The report should also run much faster and use less bandwidth and memory.

This option will consume CPU and memory resources on the database server but will not consume additional resources on the DAS server.

Summarize On Database Requirements

The database summarization option is not allowed on reports with any of the following conditions:

1. All restrictions listed in the **Summarize on Server** section above
2. Report uses First summary on any data column (hidden or visible)
3. Report is based on a union
4. Report has any non-numeric data columns with summaries (hidden or visible) (E1 limitation only. These columns are supported in World and with External Data)

Server and Database Summarization FAQ

1. **Why is there more than one record under each group after summarization? Shouldn't each group contain just a summary record?**
    - The additional records are the result of additional hidden groupings added to the summarization request. These additional groupings are from inputs into calculations or other report features. These additional groupings result in additional records under the visible main grouping of the report.
    - If there are a large number of dependencies in the report resulting in the detail rows not being much smaller than when Summarize on Server is off, this feature may not be a useful technique.

Instead, consider limiting dependencies before changing the summarization behavior.

2. **Why are the summarization options still disabled after removing unsupported calculations?**
   - Verify that only the needed columns have summaries. Even if a column is not visible, if it has a summary, it will be considered in the summarization process. If the column is not needed, remove the summary. Note that some calculations might auto-add summaries to the report in possibly hidden columns.
3. **Do subscribers need to have the same permissions as a designer to run a report with server or database summarization?**
   - No. A report leveraging server or database summarization will still execute on the server or database even if the subscriber does not have the permissions.
4. **Why are my report results different when I summarize on server than when I'm not summarizing on server?**
   - If you are performing computations on a summarized value whereas before the computation was done on a detail value (which is no longer returned due to summarization behavior), the results of the report may differ. Be sure to cross check any report results when switching to summarize on server.
5. **Why aren't Math or Statistical Functions allowed to be used for reports with summarize on server?**
   - Some math and statistical functions - like averages - require access to all the underlying data to calculate accurate results. When **Summarize on Server** is enabled, the server may group and total data early, before these functions are applied. This changes the order of operations and can lead to unexpected results.

Advanced Designers

User level	JDE Knowledge	Can Design Reports	Technical Knowledge
Subscriber	Not needed	No	Minimal
Quick Report Designer	Minimal	Yes	Minimal
Ad Hoc Designer	Yes	Yes	Some
Advanced Designer	Yes	Yes	High

This section is for technical users who have mastered the basic Ad Hoc report techniques. This section describes technical calculations and operations that you will need to create more challenging reports.

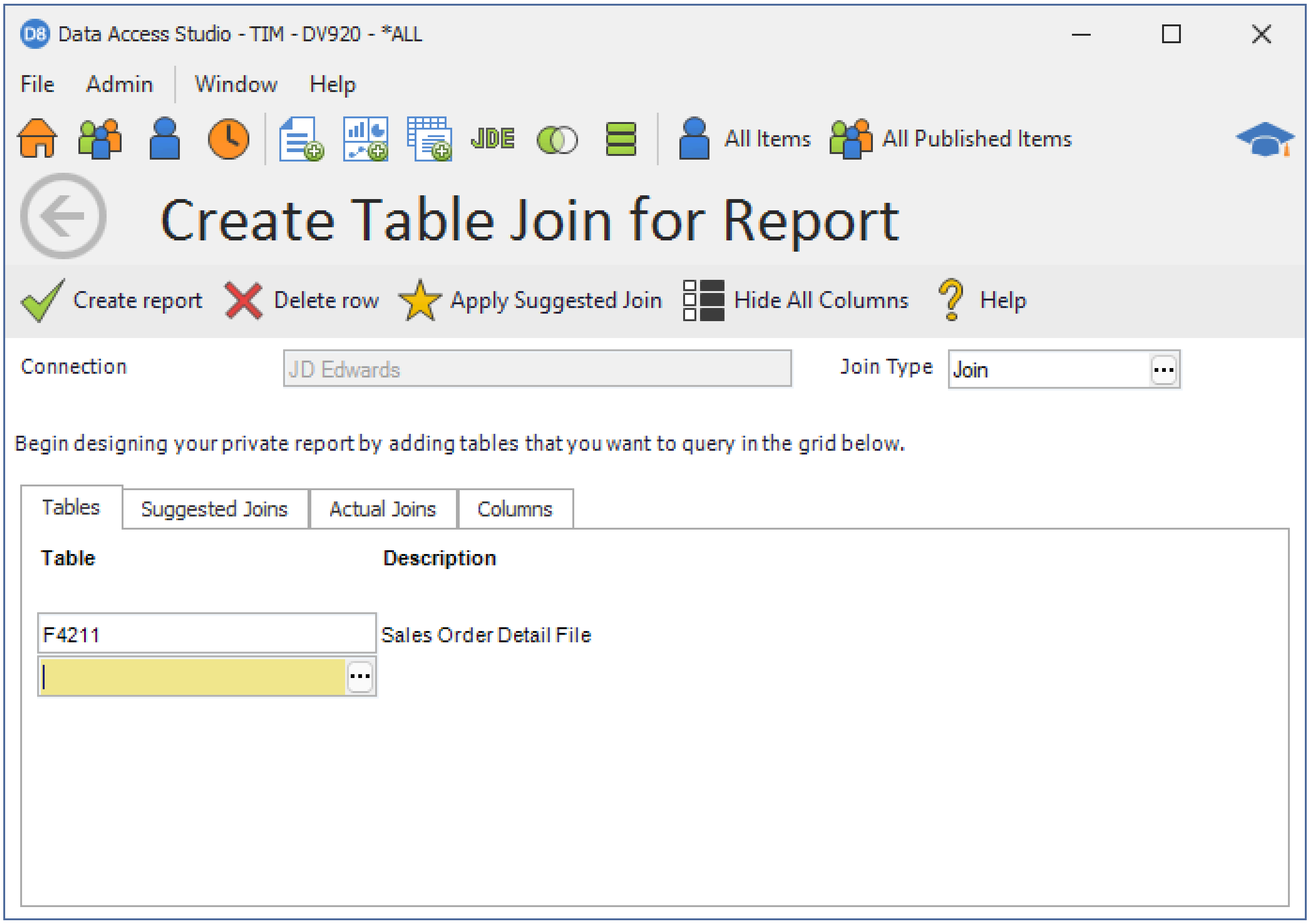
Topics in this section include how to:

- Fine Tune Grouping and Summarization
- Connect a Report Parameter to a Calculation
- Create a Table Join from Scratch
- Edit Calculations with the Editor
- Perform Calculations
- Show Additional Information About a Table

Create a Table Join from Scratch

Data Access Studio lets you combine information from multiple tables -- which is referred to as a Table Join:

1. On the Homepage click the **New** icon and click **Custom join report**. (Or click **File | New | Custom Join** from the main menu.)



Select a Join Type:

- **Join** - Joins combine columns from multiple tables together. You will use join operators to connect rows together in your join. There might be duplicate rows.
- **Distinct Join** - Same as a regular join except all duplicate rows are removed. This type will not perform as well as a regular join.
- **Union All** - Combines rows from multiple tables together. Because only rows are being combined, the selected columns from both tables need to be exact. There might be duplicate rows. When working with unions, the 'Suggested Joins' and 'Actual Joins' tabs are not needed and are hidden. For JDE, not only do the selected columns need to be the same but the column order must be the same. JDE Xe does not support Union All (but it does support Distinct Unions).

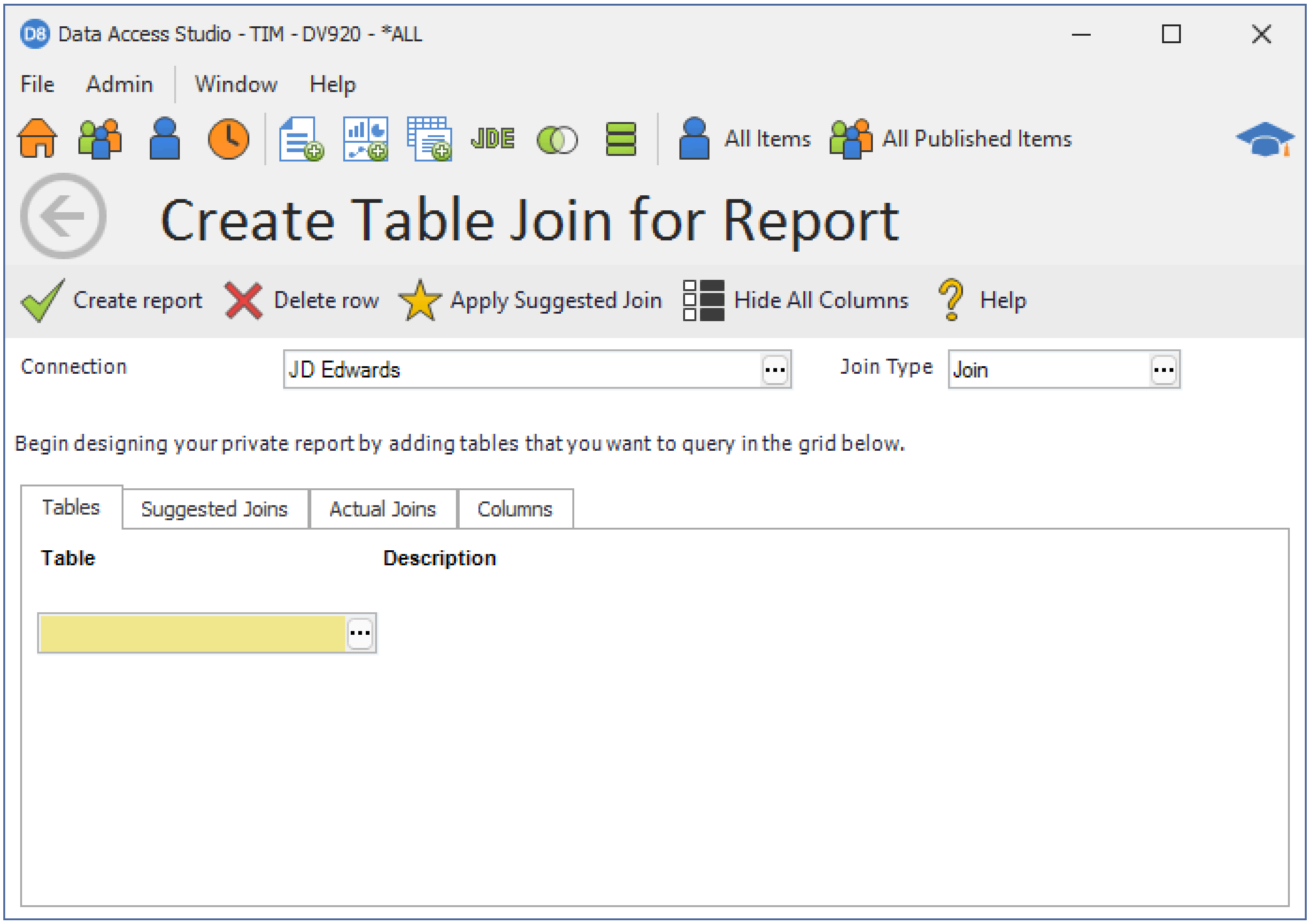
- **Distinct Union** - Same as a regular union except that duplicate rows are removed. This type will not perform as well as a regular union.

Proceed to define your join as follows:

1. Select Tables to Join
2. Select Join
3. Select Columns
4. Working with Your Custom Table Join

Select Tables to Join

The first step to combining multiple tables is to list the tables you want. Click the **Tables** tab:



To	Do this
Add a table by its description	Click on the Visual Assist in the **Table column**. From the resulting form, type the table description in the **Description** field.
Add a table by its object name	Directly type in the table name in the **Table column**.

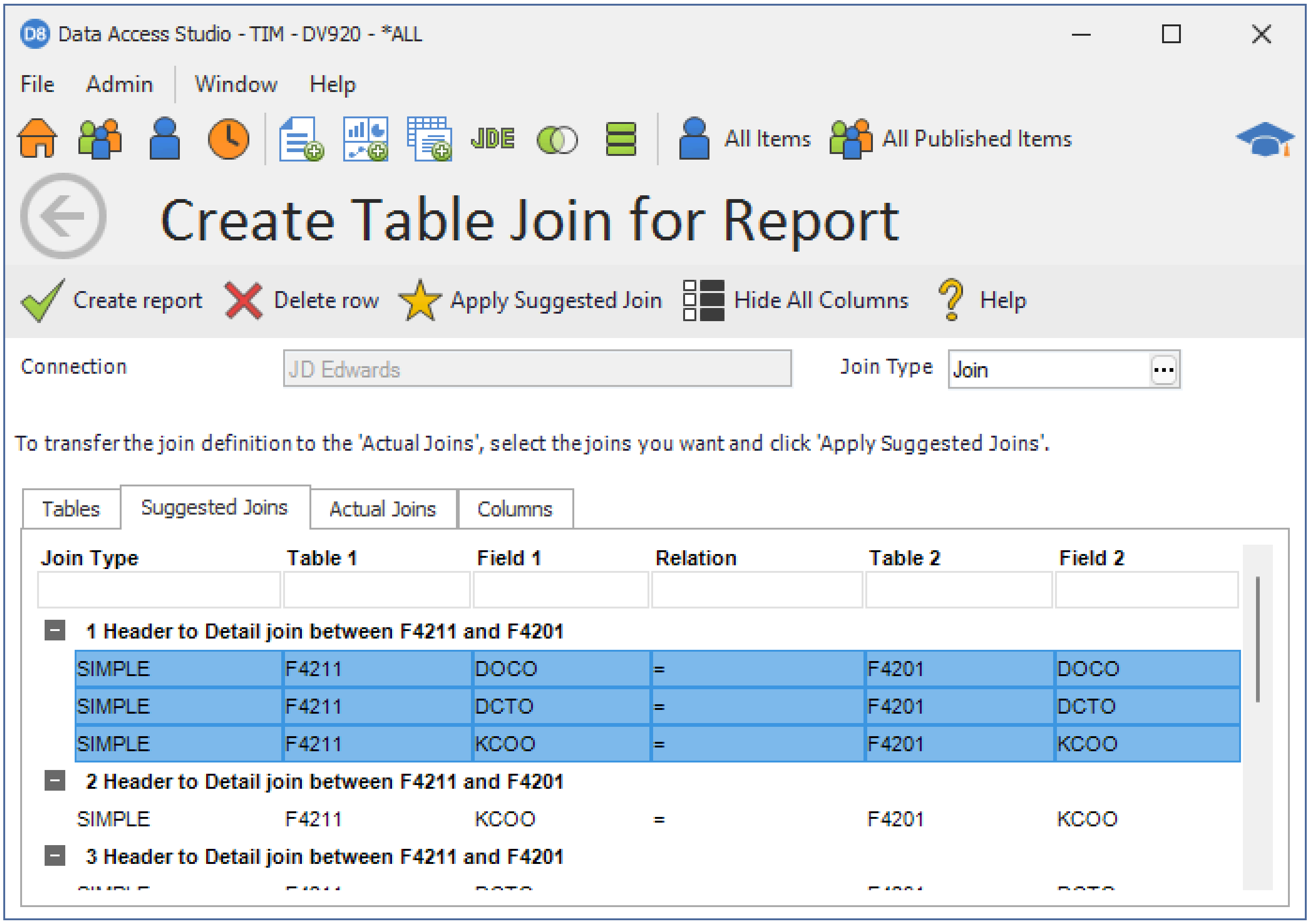
NOTE

As of JDE E1 Tools Release 9.1.5, you can join up to 15 tables in any type of join. Prior to that release, you could only join up to 3 tables if you use a one-to-many (OUTER) join. If you only use one-to-one (SIMPLE) joins, then you may only add up to 5 tables.

In JDE World and External Data, you join up to the maximum number of tables the database will allow.

Select Join

Once you have defined the tables you want to combine in the **Tables** tab, you can click the **Suggested Joins** tab:



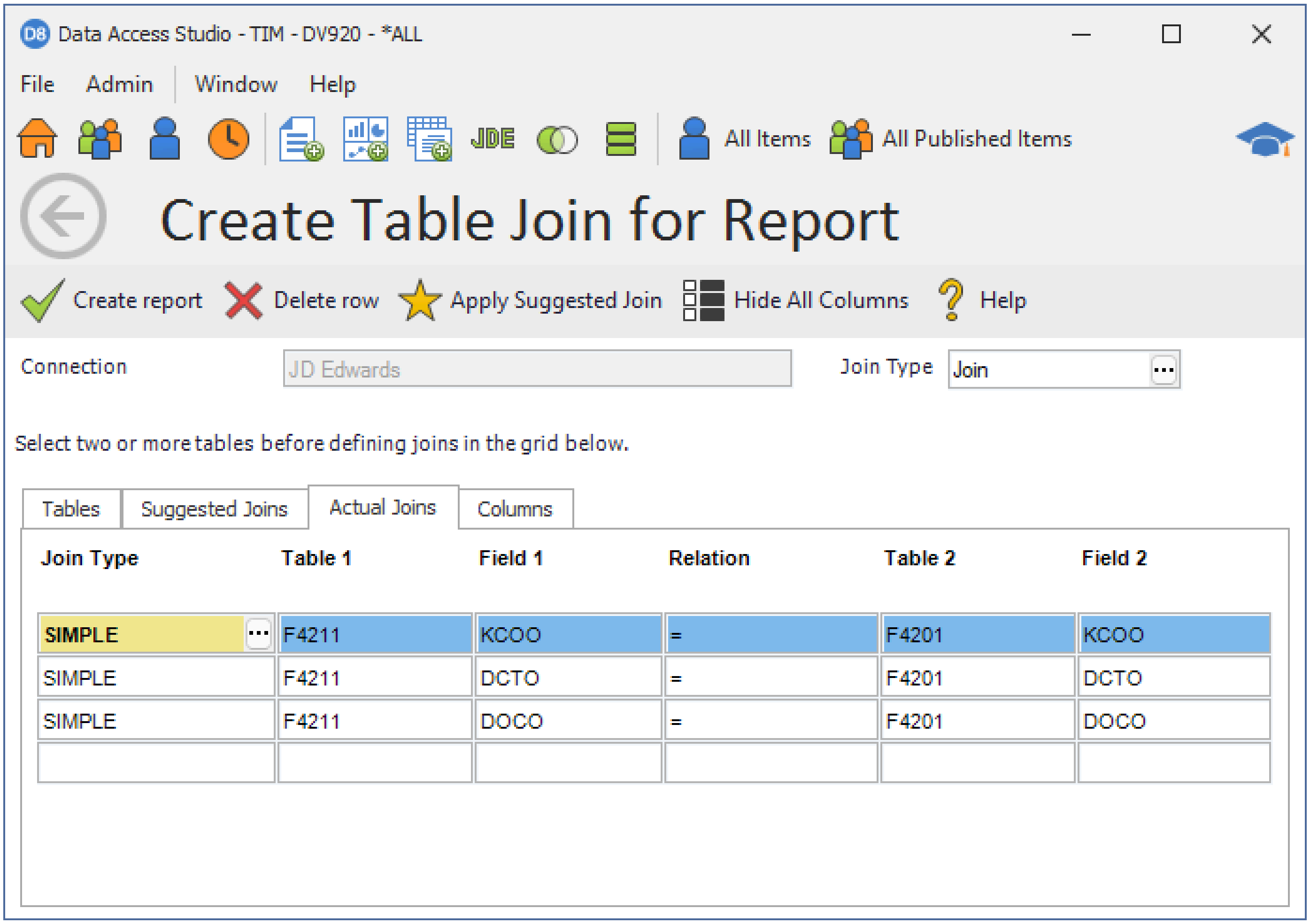
If Data Access Studio finds a relationship between your tables, it will list it on the **Suggested Joins** tab. To select a join, highlight the join you would like to use and click **Apply Suggested Joins**. Depending on the tables, sometimes information in the **Suggested Joins** may be blank. In this case, click the **Actual Joins** tab to Define the join manually.

Define a Join Manually

If you have more than one table, you must define at least one join condition for each table.

If there are no Suggested Joins or you need to edit your join:

1. Click the **Actual Joins** tab:



2. Select the type of join under the **Join Type** column
3. Enter the first table in **Table 1**
4. Enter the first field in **Field 1**
5. Enter the **Relation** (this is normally =)
6. Enter the second table in **Table 2**
7. Enter the second field in **Field 2**

Join concepts

There are four join types available: SIMPLE, LEFT OUTER, RIGHT OUTER, and SQL 92 LEFT OUTER.

SIMPLE JOIN

A SIMPLE join is a one-to-one relation: the value for **Table 1** and **Field 1** MUST match the value of **Table 2** and **Field 2** (these examples presume the Relation field is "="). When this match occurs the result is one row for that match. If the target table does not have a match for the source table row, then no row is returned to the grid.

LEFT OUTER JOIN

A LEFT OUTER join is a one-to-many relation: the value for **Table 1** and **Field 1** matches the value of **Table 2** and **Field 2**. Unlike the SIMPLE join, if the **Table 2** and **Field 2** value does not match, then the query still returns a row for **Table 1** and **Field 1**. The **Table 2** fields in this instance will all be null (you can search for null fields using the <BLANK> filter). Use a LEFT OUTER join for:

1. Drill down reports - If you do a LEFT OUTER join between a header table and a detail table, then your report will be able to drill down between the header (summary) records and the detail records.
2. Integrity reports - If you have a header table and want to know which headers have no child records, then use a LEFT OUTER join.

IMPORTANT

Any filter on the secondary table (right table) will have 'OR NULL' added to it. This is to ensure that unmatched primary (left table) records are also returned.
This also ensures that row or masking security filters do not unexpectedly cause unmatched primary table rows to be omitted.

RIGHT OUTER JOIN

A RIGHT OUTER join is the same thing as a LEFT OUTER join except Table 1 and Table 2 are swapped. Use a RIGHT OUTER join, for instance, to identify detail rows that do not have a header row.

IMPORTANT

Any filter on the secondary (left table) table will have 'OR NULL' added to it. This is to ensure that unmatched primary (right table) records are also returned.
This also ensures that row or masking security filters do not unexpectedly cause unmatched primary table rows to be omitted.

SQL 92 LEFT OUTER JOIN

The above outer joins are not SQL 92 compliant. Those joins will add an 'OR NULL' clause to all filtering on the secondary table. This is to ensure that unmatched primary records are also returned. However, in some cases, a SQL 92 compliant outer join is required. In such cases, use this join type but be aware that row or masking security filters will cause unmatched primary table rows to not appear in the results.

NOTE

This join type is only available for JDE E1 8.11 and later.

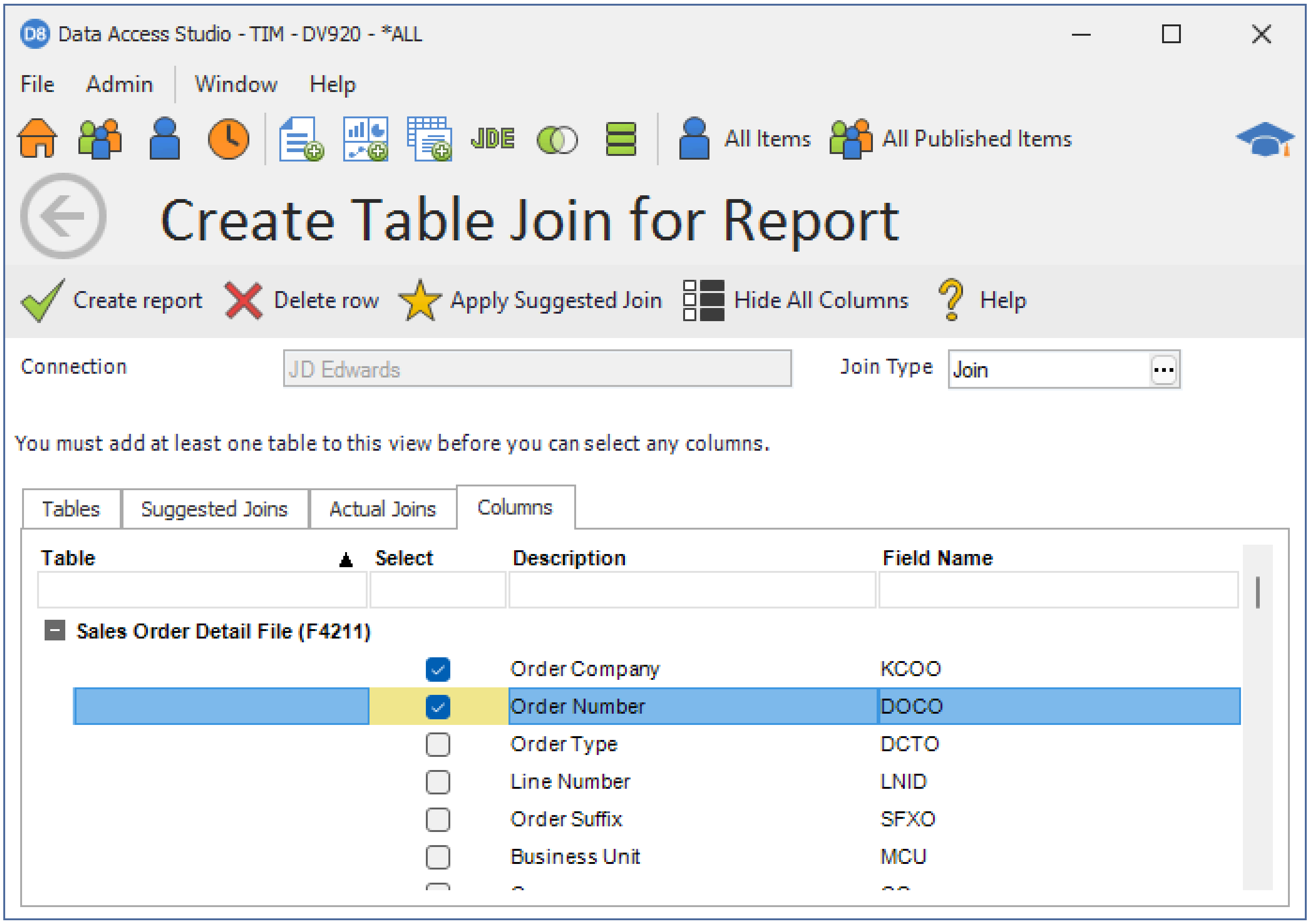
Special Considerations when Converting from a Native E1 Business View

Unmatched rows in non-string columns (such as numeric or date) will show blank instead of a default value (like zero) when converting a native E1 view to a DASVIEW. A SQL 92 LEFT OUTER JOIN will behave like native JDE views and continue to show default values for unmatched rows.

Select Columns

Perhaps the easiest part is the last part: selecting the columns you want.

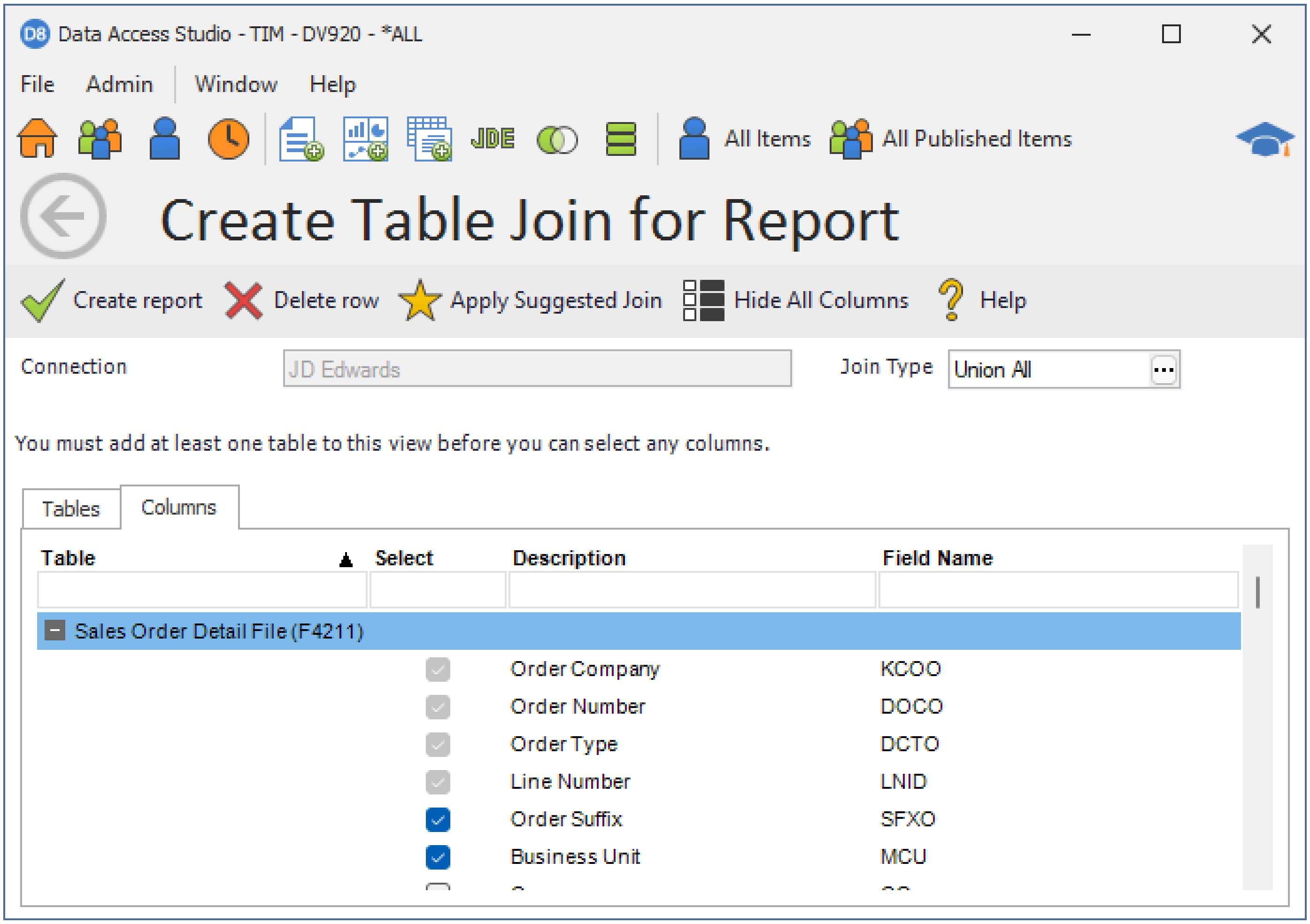
1. Click the **Columns** tab



This is where you select the columns that you want for your report.

To	Do this
Search for a column by name	Type in the name of the column in the Filter Box under **Description**
Select a column	Check the columns you want in your join. The fewer columns that you select for your report, the better your report will perform.
Hide all columns	Click **Hide All Columns**.
To create the join based on all information entered	Click **Create report**. Data Access Studio will attempt to create the join with the information provided. If there are errors, Data Access Studio will popup the errors and how to resolve each.

To	Do this
To cancel your changes	Click **Cancel**

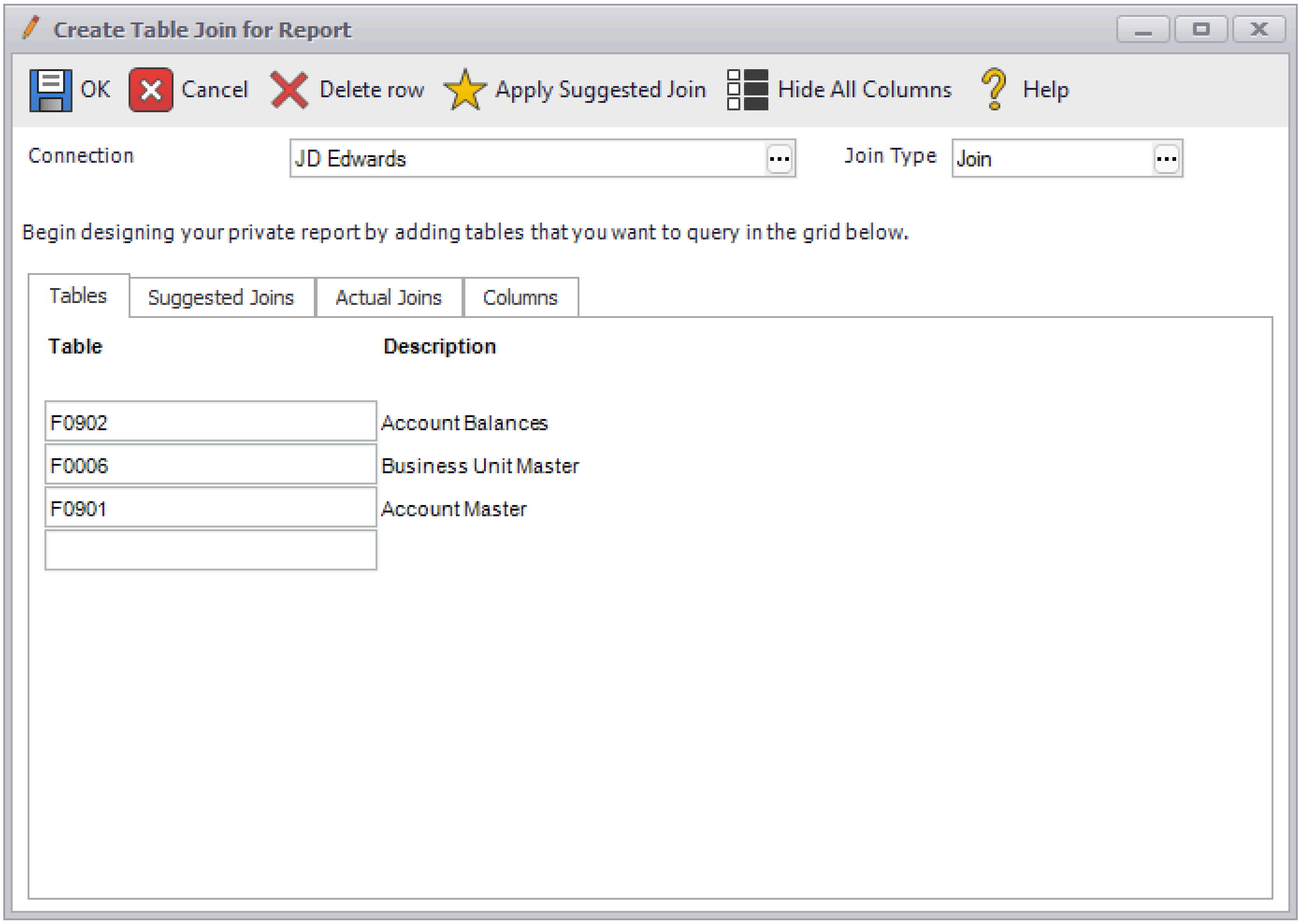


This is an example of selecting columns for a union. Only the columns of the primary table will be shown. All the selected columns of the primary table must exist in the other tables. For JDE E1 and Xe, the columns must also be in the same order as the primary table.

Working with Your Custom Table Join

After you create your join, you may edit it at any time:

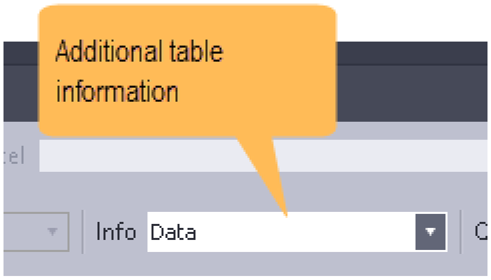
1. Click **Design | Table Joins**



2. Edit the join as you need
3. Click **OK** to save changes and submit queries with your view

Show Additional Table Information

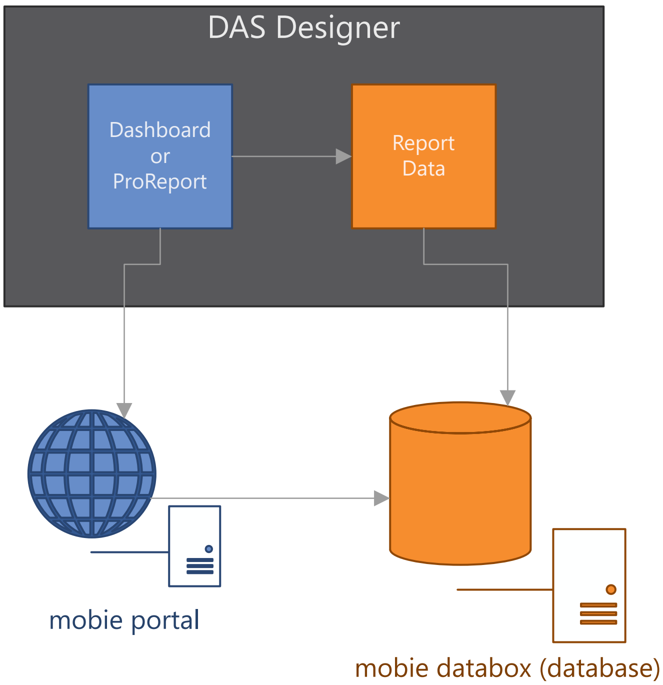
Data Access Studio provides developer-related information about Tables and Views. To access this information, click the **Additional Table Information** option box on the main toolbar:



To	Do This
See detailed table information	Select **Summary**.
See detailed column information	Select Columns.
See detailed index information	Select **Indices**.
See detailed join information (for business views)	Select **Joins**.

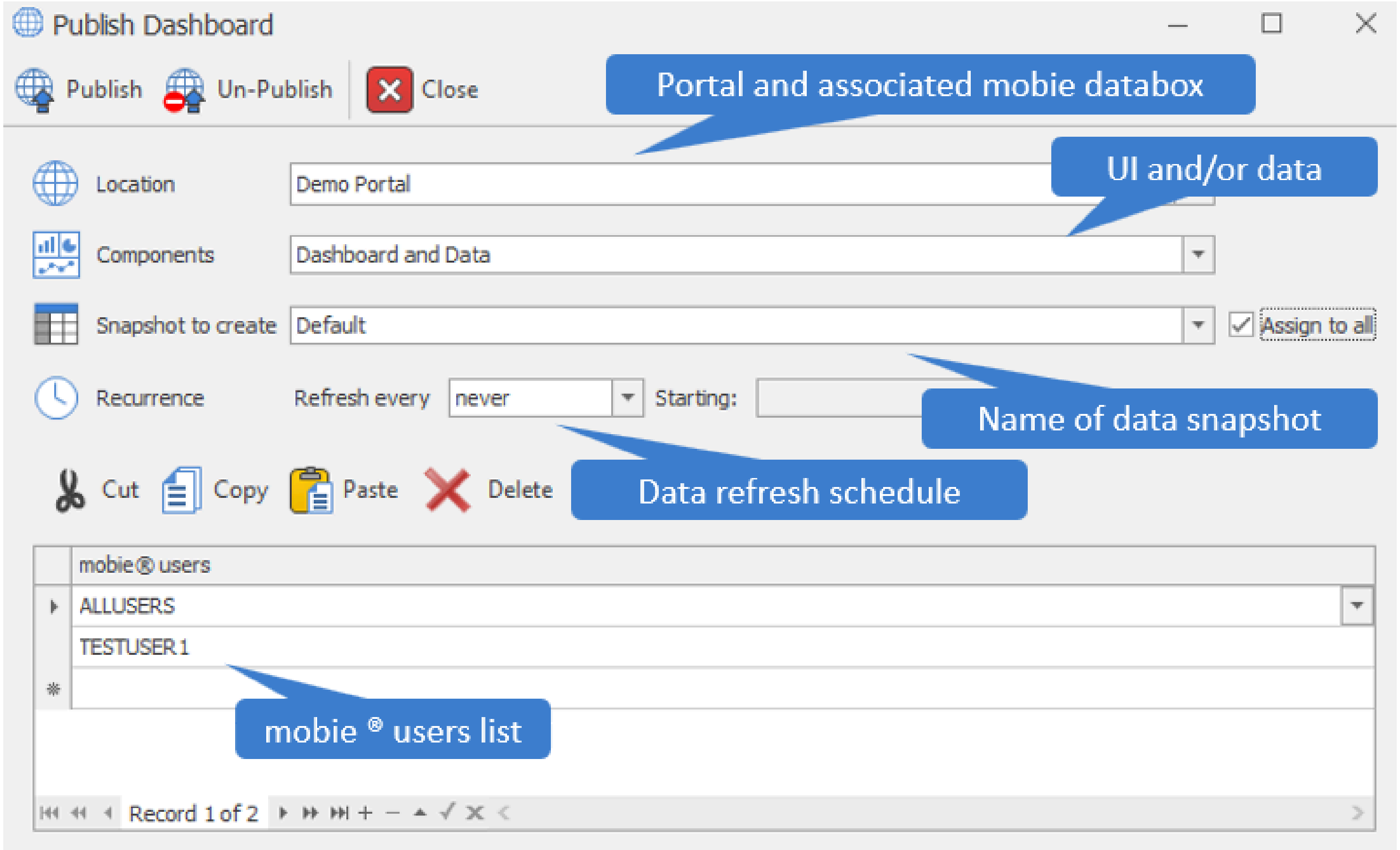
Web (mobie®) Publishing

Mobie (mobie®) is the ReportsNow data warehousing tool for dashboards and ProReports. When publishing to mobie...  is selected from the designer, you are given the options to publish the user interface (ProReport or dashboard), the data, or both.



The Portal provides internet access to view the Dashboard or ProReport in a URL. The mobie database stores that data from the report. This data can then be routinely refreshed.

Publishing UI and Data



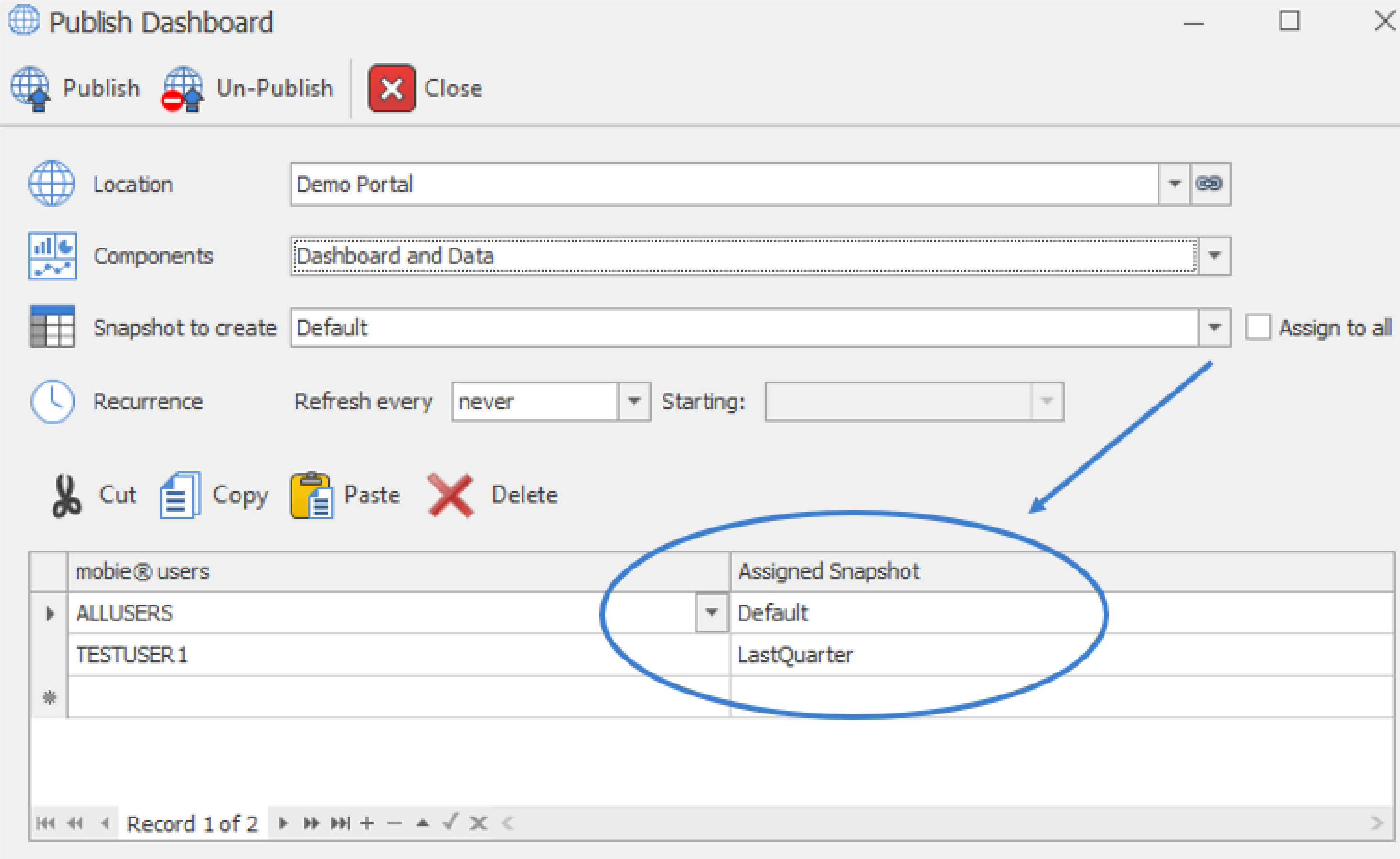
The default mode is to publish both the user interface (ProReport or dashboard) and the underlying data (regular DAS report). Most of the time, this is what you will want to use. Under Components, this is the "Dashboard and Data" option.

Setting the data refresh schedule (Recurrence) will create an Automator task in the Scheduler. After its creation, the schedule can be maintained here or in the Automator.

Considerations

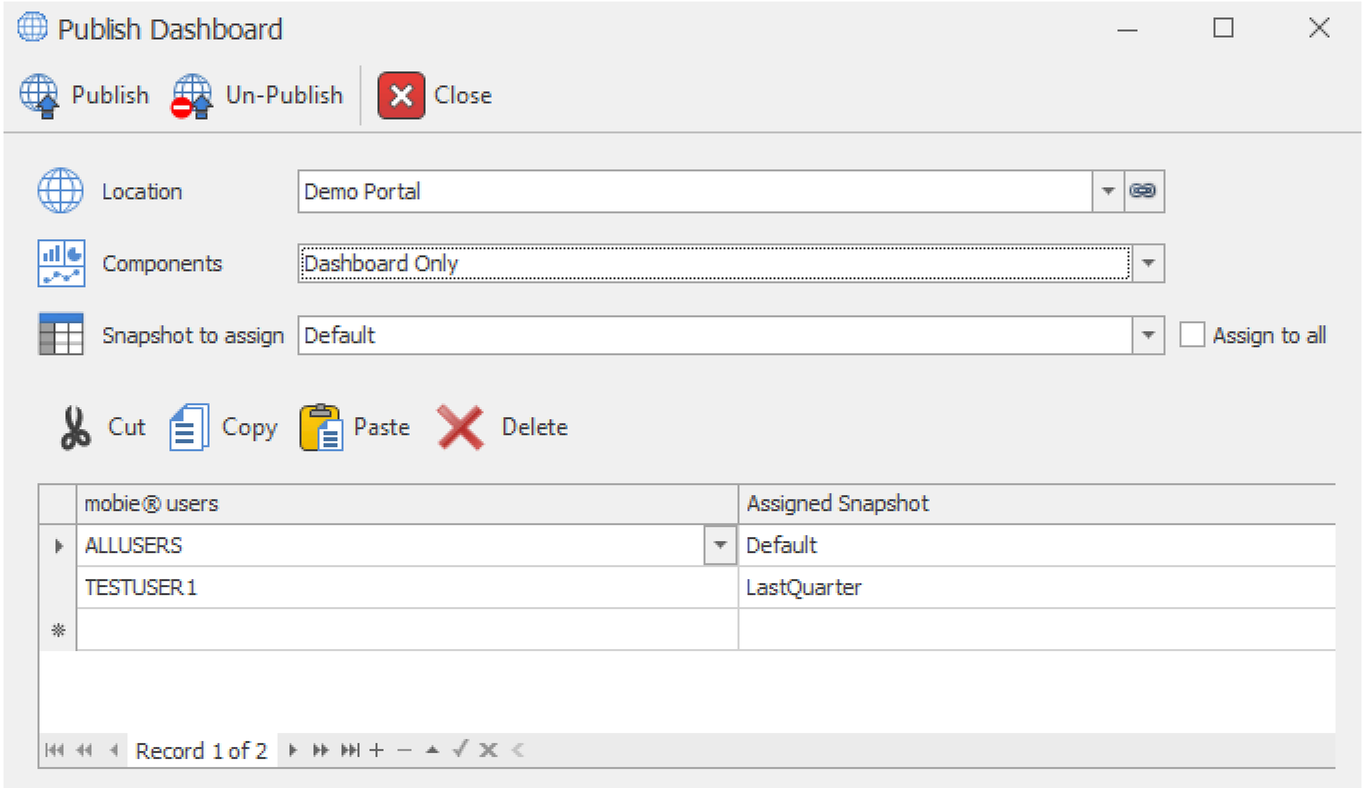
- The data refresh schedule (Recurrence) is tied to the underlying report (for a given snapshot name) and *not* the user interface (dashboard or ProReport component). To update the appearance of a dashboard or ProReport in mobie, the user must re-publish to mobie from DAS.
- If you have more than one dashboard or ProReport over the same underlying report and snapshot name's refresh schedule, all the viewers will be refreshed on that refresh schedule.
- If you want different viewers to share the same underlying report, but have different data refresh schedules and/or parameters, you must use different snapshot names when setting up the schedules. Each snapshot name will be associated with it's own Automator task that allows for parameter overrides as well as refreshing to apply only to viewers tied to that snapshot.

Data Snapshots



Individual data snapshots by default are assigned to all mobie users. Un-checking 'Assign to all' allows for individual assignment of snapshots. This is useful to assign snapshots to different groups for the purpose of providing different snapshots of data to a user (assuming the user is part of multiple groups). See prompting of snapshots for dashboards and/or ProReports for information on how you will select snapshots on the portal.

Publishing Only UI

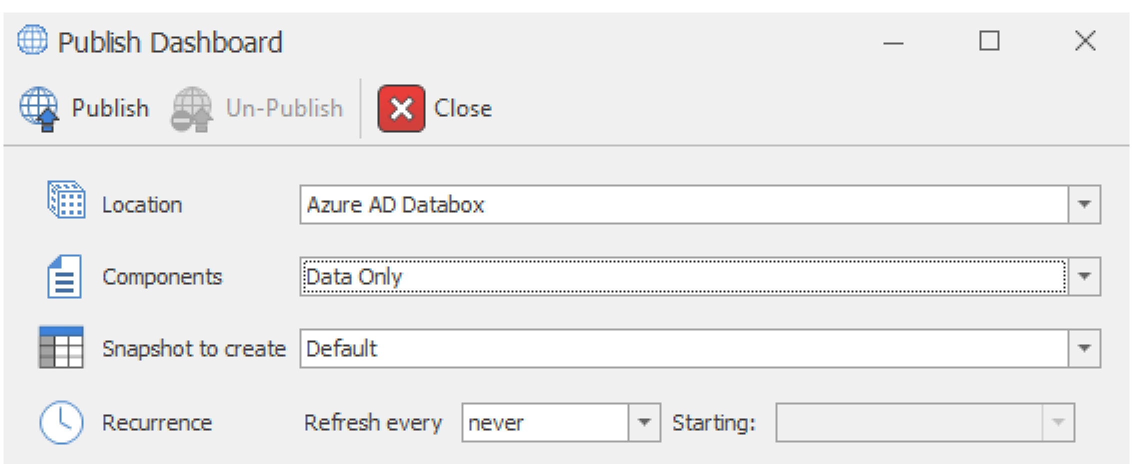


Changing 'Components' to 'ProReport Only' or 'Dashboard Only' allows you to publish just the UI component and not the underlying data. This is especially useful if it takes a long time to publish the data or changing the data could upset a production component.

NOTE

This mode is the default setting if the designer is set to databox mode ('Data Source' ribbon is set to something other than 'Reports'). Databox mode is very useful and efficient once the data has been mostly defined and there isn't a need to re-publish data.

Publishing Only Data



Changing 'Components' to 'Data Only' allows you to publish just the underlying data. You would do this if you have changed the filtering of the data but do not want to publish a UI change. You can also change the data refresh schedule in this mode.

> **NOTE**
>
> While you can publish to a new snapshot name, it is not possible to assign this new snapshot to any user from this dialog.