**Cognos Training – Level II - Advanced Topics**

**JOINS**

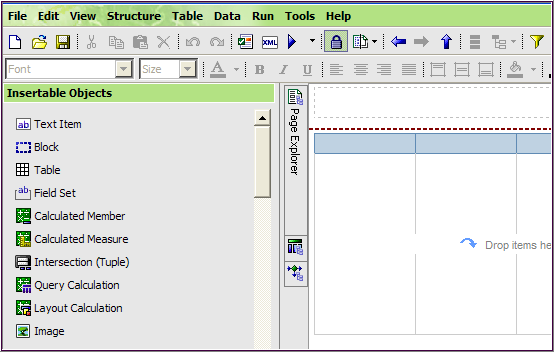
In Report Studio, data can be incorporated from multiple queries to create more complex reports. You will use **Query Explorer** to build/manage the queries and join them to create the relationship between the queries. Keep these items in mind when using joins:

* Joins can only be used *within the same package*
* A query must be created for the report layout (results) as well as for the data queries
* The report can be started with a List, Crosstab, Chart or Blank report type

**A. Simple example of a join, starting with a LIST**

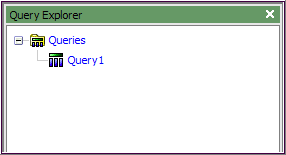
You will create a report using transaction data from two different fiscal years by creating two data queries and one report layout query.

1. Open Report Studio using **UD Financial Data Mart** (in FDM packages)
2. Click **Create a new report or template**
3. Double-click the **List** icon 
4. Click **Query Explorer** on the Explorer Bar (click **Yes** on the pop-up)

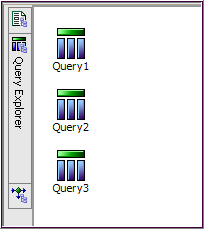


Query Explorer

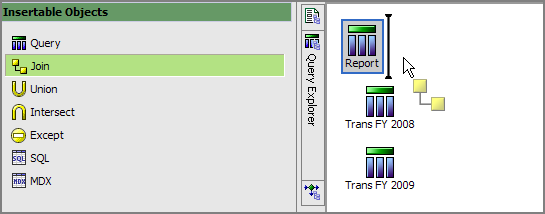
1. Click **Queries**



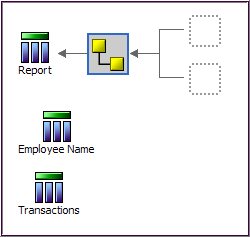
1. From the **Toolbox**, drag & drop two additional  **Queries** to the work area.



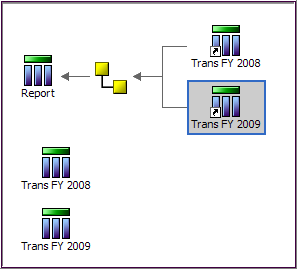
1. Rename the three Queries (this will make working with them easier)
   1. Click on **Query1**
      1. Go to **Properties**, scroll to **Miscellaneous/Name** (at the bottom)
      2. Change name to **Report**
   2. Click on **Query2**
      1. Change name to **Trans** **FY 2008**
   3. Click on **Query3**
      1. Change name to **Trans FY 2009**
2. From **Insertable Objects,** drag & droop a **Join** next to the **Report** query,



1. It will look like this:

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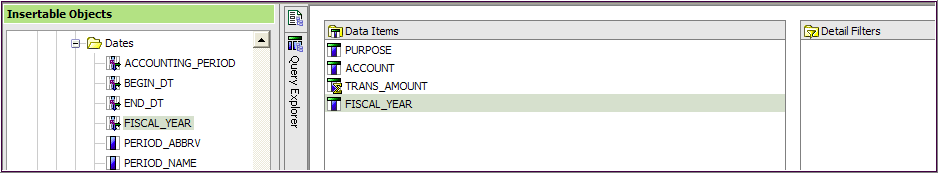
1. **Save** your report and name it ***Join Trans 2FY Totals***



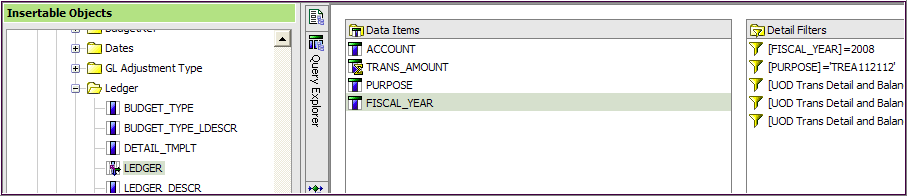
1. Drag the **Trans FY 2008** query to the top box
2. Drag the **Trans FY 2009** query to the bottom box.
3. Double-click the **Trans FY 2008** query, this will open the data window
4. Drag these 4 fields from  **UD Financial Data Mart/Insertable Objects**

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| PURPOSE | Chart of Accounts | Purpose |
| ACCOUNT | Chart of Accounts | Account |
| TRANS\_AMOUNT | Trans Detail |  |
| FISCAL\_YEAR | Trans Detail | Dates |

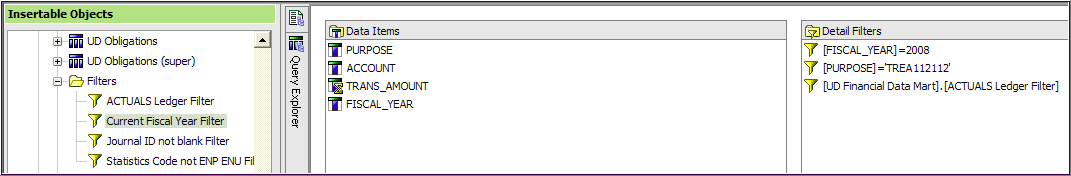
…to the **Data Items** pane:

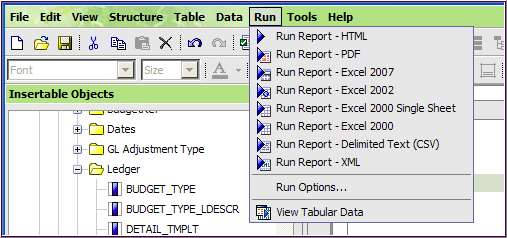


1. Add these two **Filters**  and validate each one:
   1. [FISCAL\_YEAR]=2008
   2. [PURPOSE]='TREA112112' - **use one of your own Purpose codes**



1. Add these three pre-written  **Filters**:
   1. **ACTUALS Ledger Filter**
   2. **Journal ID not blank Filter**
   3. **Statistics Code not ENP ENU Filter**

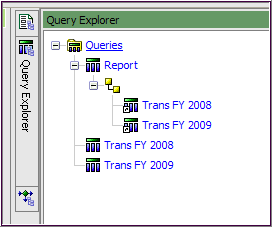


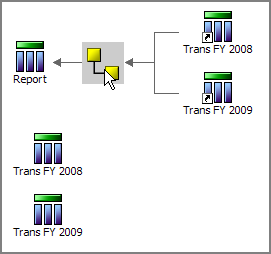


1. Click the **Run** *menu item* and choose
2. **View Tabular Data** to verify data is good
3. Jot down the number of Accounts
4. **Save** your work
5. Open **Query Explorer** and click **Trans FY 2009** query
6. Add the same 4 fields from  **UD Financial Data Mart** to **Data Items**:

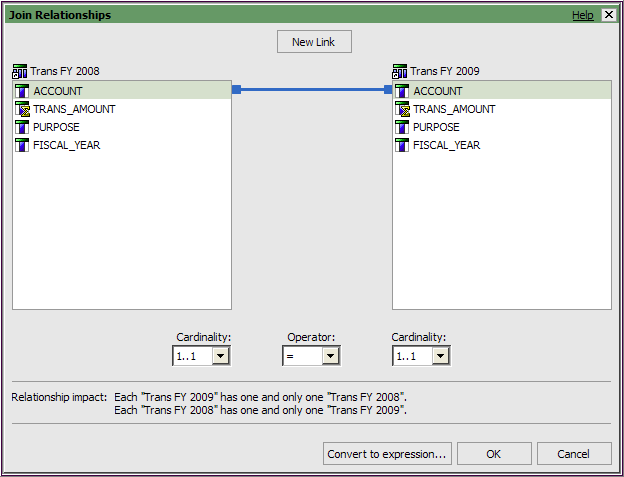
|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| PURPOSE | Chart of Accounts | Purpose |
| ACCOUNT | Chart of Accounts | Account |
| TRANS\_AMOUNT | Trans Detail |  |
| FISCAL\_YEAR | Trans Detail | Dates |

1. Add these two **Filters**  and validate each one
2. [FISCAL\_YEAR]=2009
3. [PURPOSE]='TREA112112' - **use one of your own Purposes codes**
4. Add these three pre-written  **Filters**:
5. **ACTUALS Ledger Filter**
6. **Journal ID not blank Filter**
7. **Statistics Code not ENP ENU Filter**
8. Click the **Run** *menu item* and **View Tabular Data** to verify data is good
   1. Again, jot down the number of Accounts
9. **Save** your work
10. Click **Query Explorer,** click **Queries**





1. Double-click the **Join**
2. In the **Join Relationship** window, click the **New Link** button



1. The join should be between **Account** and **Account**
2. Change the join by clicking on a field name on either side
3. Set the Cardinality to **1..1 = 1..1** and click **OK**

(There is one-to-one relationship between the two queries with regards to ACCOUNT and each ACCOUNT will be in each query only once.)

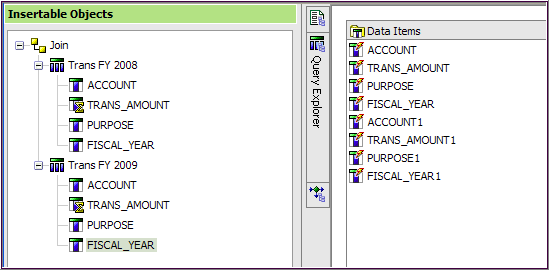
When setting the **Cardinality** for a join, consider the relationship between the fields:

* **1..n** – the relationship is one **to** many
* **1..1**- the relationship is a one **to** one
* **0..n** – the relationship is zero (or more) **to** many
* **0..1** – the relationship is zero (or one) **to** one
* Never use the Cardinality **1..n = 1..n** – it is illogical.

The **Relationship impact** explanation changes based on your selections and can guide you when deciding how to set the Cardinality.

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1. **Save** your work
2. While still in Query Explorer, double-click the **Report** query
   1. You must first add fields to the **Report** query before the fields will be available for the report’s layout (the List in this case).
3. From **Trans FY 2008**, drag all the fields to the **Data Items** pane
4. And drag all the fields from **Trans FY 2009**

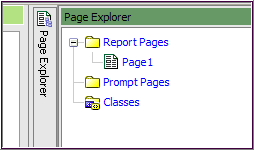


FY08

FY09

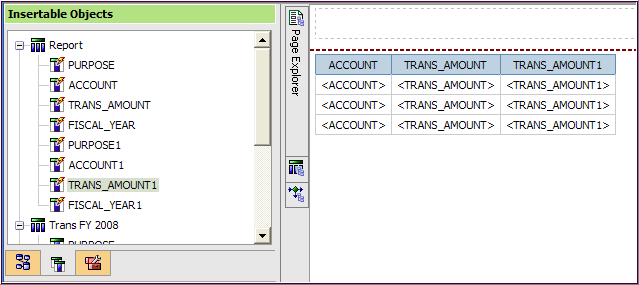
Notice the data item icons all have “lightening bolts” to indicate they are derived from other queries.

1. Click **Page Explorer,** and then **Page 1**



**The List is empty; you must add the fields you want.**

1. Click **Data Items** tab and double-click these 3 fields from the **Report** query:



FY09

FY08

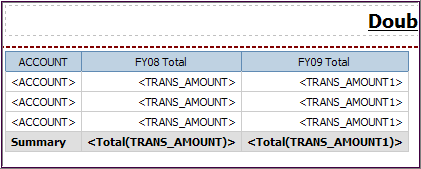
You can only use “lightening bolts” data fields in your report layout!

**Change the Trans Amount column headings to something more meaningful.**

1. Click column heading called **TRANS\_AMOUNT**
2. Go to **Properties**
3. **Data Item/Label** – change to **FY08 Total**
4. Click column heading called **TRANS\_AMOUNT1**
5. Go to **Properties**
6. **Data Item/Label** – change to **FY09 Total**

**Add totals to the renamed TRANS\_AMOUNT columns**

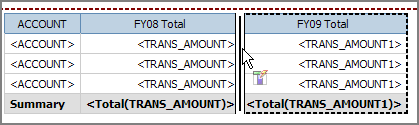
1. Click the **FY08 Total** column heading and click **Aggregate**  and **Total**
2. Click the **FY09 Total** column heading and click **Aggregate**  and **Total**
3. The **List** should look like this:



1. **Save** your work
2. **Run**  the report

**Fix the report to include the Accounts not included in BOTH queries!**

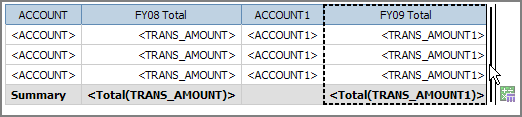
1. Click **Query Explorer, Queries** and click **Join**
2. Change the **Cardinality** to **0..1 = 0..1**
3. Click **OK**
4. Click **Page Explorer** and click **Page 1**
5. Click the tab
6. Click and drag **ACCOUNT1** to the work area as shown below:



1. **Save** your work
2. **Run** the report (it *could* take up to 5-7 minutes)

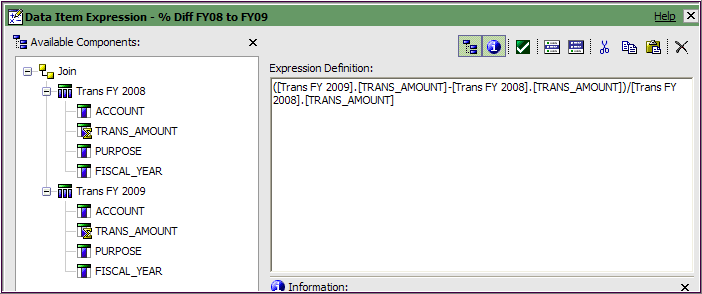
**Add a column to show the percentage difference between FY2008 and FY 2009, this is the math: (FY09 – FY08) / FY08 (Query Calculation)**

1. Click the **Toolbox** tab
2. Click and drag a **Query Calculation**  to right of the last column (look for the *thin*, blinking line)



1. Name it **% Diff FY08 to FY09** and click **OK**
2. Add this expression using the fields in the **Available Components**

([Trans FY 2009].[TRANS\_AMOUNT]-[Trans FY 008].[TRANS\_AMOUNT])/[Trans FY 2008].[TRANS\_AMOUNT]



(2), (3)

(1)

You must add:

**(**

**-**

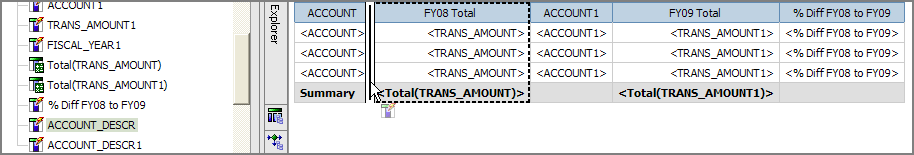
**)/**

1. **Validate**  the expression
2. Click **OK**
3. Click the column body where it says **<%Diff FY08 to FY09>** and **Properties**
4. Click **Data**/**Data Format** – click the ellipses 
5. **Format type** – select **Percent**
6. **Properties**/**No. of Decimal Places** – select **1**
7. Click **OK**
8. **Save** your work
9. **Run** the report

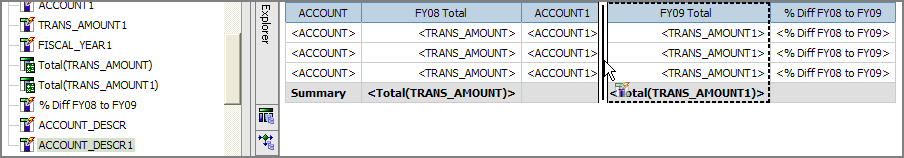
**Other Possible Enhancements to Join A** (Join Trans 2FY Totals)

**Add Account Description to the report**

1. **Query Explorer**, click on **Trans FY 2008** query
2. From Insertable Objects, open **Chart of Accounts**  and **Account** 
3. Drag **ACCOUNT\_DESCR** to the **Data Items** pane (under FISCAL\_YEAR)
4. **Query Explorer**, click on **Trans FY 2009** query
5. From Insertable Objects (Account  should already be open)
6. Drag **ACCOUNT\_DESCR** to the **Data Items** pane (under FISCAL\_YEAR)
7. **Query Explorer**, click on **Report** query
8. Drag **ACCOUNT\_DESCR** (from FY08)to the **Data Items** (to bottom of list)
9. Drag **ACCOUNT\_DESCR** (from FY09)to the **Data Items** (to bottom of list)
10. **Page Explorer**, click **Page1**
11. Click **Data Items** tab
12. Drag **ACCOUNT\_DESCR** (from FY08) to work area between **ACCOUNT** and **FY08 Total**

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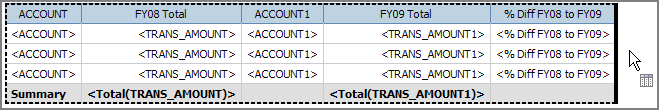
1. Drag **ACCOUNT\_DESCR1** (from FY09) to work area between **ACCOUNT** and **FY09 Total**



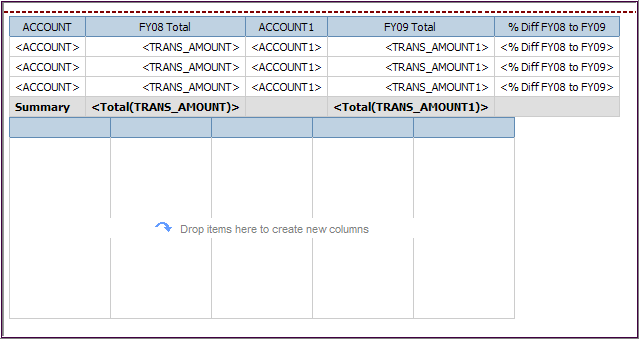
1. **Save**
2. **Run** the report

**Add a separate List report to verify your data**

1. Click the **Toolbox** tab
   1. Click a **List**
   2. Drag it under the existing list (look for thick, black line)



1. Your work area should look like this:

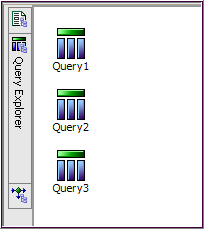


1. Click **Source** tab
2. Add these fields: **PURPOSE, ACCOUNT**, and **TRANS\_AMOUNT**
3. Add this Filter and Validate it:
   1. [PURPOSE]='TREA112112' - **use the same Purposes code as above**
4. Add these three pre-written  **Filters**:
5. **ACTUALS Ledger Filter**
6. **Journal ID not blank Filter**
7. **Statistics Code not ENP ENU Filter**
8. Click TRANS\_AMOUNT column heading
   1. Click **Aggregate ** and click **Total**
9. Add pre-written prompt  **Fiscal Year Prompt**
10. Click the **Toolbox** tab to add a dynamic field for the FY value
    1. Drag a **Layout Calculation** to the new list
    2. Make it the 4th column
11. In the **Report Expression**, click the **Parameters** tab
    1. Drag the **fiscal year** prompt to the expression box and
    2. **Validate** and click **OK**
12. **Save**
13. **Run** the report

**B. Another join with *different* data queries**

You will create a report that returns chartfield and row security (viewers/approvers) information for a specific Speedtype. (Based on EZQ\_DV\_SPEEDTPYE)

1. Open Report Studio using **UD Financial Data Mart**
2. Click **Create a new report or template**
3. Double-click the **List** icon 
4. Click **Query Explorer** on the Explorer Bar
5. Click **Queries**
6. From **Insertable Objects**, drag two additional  **Queries** to the work area.

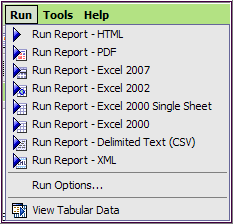


1. Rename the three Queries (this will make working with them easier)
2. Go to **Properties**, scroll to **Miscellaneous/Name** (at the bottom)
   * 1. Click on **Query1**; change name to **Joined** **Data**
     2. Click on **Query2**; change name to **Speedtype**
     3. Click on **Query3**; change name to **Row Security**
3. From **Insertable Objects,** drag a **Join** next to the **Joined Data** query
4. **Save** your report and name it ***Join Speedtype and Row Security***
5. Drag the **Speedtype** query to the top box
6. Drag the **Row Security** query to the bottom box.
7. Double-click the **Speedtype** query, this will open the data window
8. Drag the following 11 fields from  **UD Financial Data Mart** to the **Data Items** pane:

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| SPEEDTYPE\_KEY | Chart of Accounts | Speedtype |
| DESCR | Chart of Accounts | Speedtype |
| Speedtype CHARTFIELD1 (Purpose) | Chart of Accounts | Speedtype |
| PURPOSE\_DESCR | Chart of Accounts | Purpose |
| PURPOSE\_EFF\_STATUS | Chart of Accounts | Purpose |
| DEPTID1 | Chart of Accounts | Speedtype |
| PROGRAM\_CODE1 | Chart of Accounts | Speedtype |
| FUND\_CODE1 | Chart of Accounts | Speedtype |
| Speedtype CHARTFIELD2 | Chart of Accounts | Speedtype |
| PROJECT\_ID1 | Chart of Accounts | Speedtype |
| PROJECT\_DESCR | Chart of Accounts | Project |

1. Add one **Filter**  and validate it
   1. This is a temporary filter to test the query:
   2. [SPEEDTYPE\_KEY]='CHEM322239' (you may use your own Speedtype or this one)

1. Click the **Run** *menu item* and choose **View Tabular Data** to verify data is good



Note - If you get a pop-message saying it can’t be run, click any field in **Data Items** and try again.

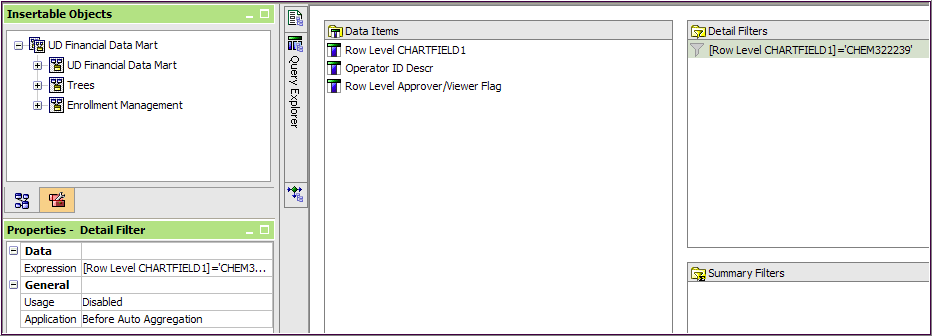
1. **Save** your work
2. Open **Query Explorer** and click **Row Security** query
3. Add these three fields from  **UD Financial Data Mart** to the **Data Items** pane:

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| Row Level CHARTFIELD1 | FIN Row Security |  |
| Operator ID Descr (name of person) | FIN Row Security |  |
| Row Level Approver/Viewer Flag | FIN Row Security |  |

1. Add one **Filter**  and validate it
   1. This is a temporary filter to test the query:
   2. [Row Level CHARTFIELD1]='CHEM322239' (use the same Speedtype as above)
2. Click the **Run** *menu item* and **View Tabular Data** to verify data is good

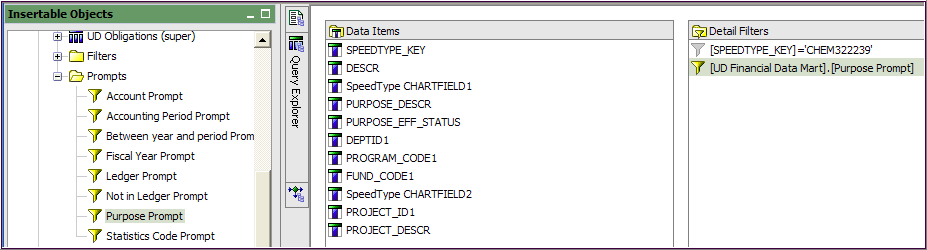
(The values in **Row Level Approver/Viewer Flag** are **Y** and **N –** we’ll improve this later.)

1. Disable the temporary filters for CHEM322239 on both queries
   1. **Row Security** query is open, click on the filter in the **Detail Filters** pane
      * Go to **Properties**
      * Click **General/Usage** and change **Required** to **Disabled**

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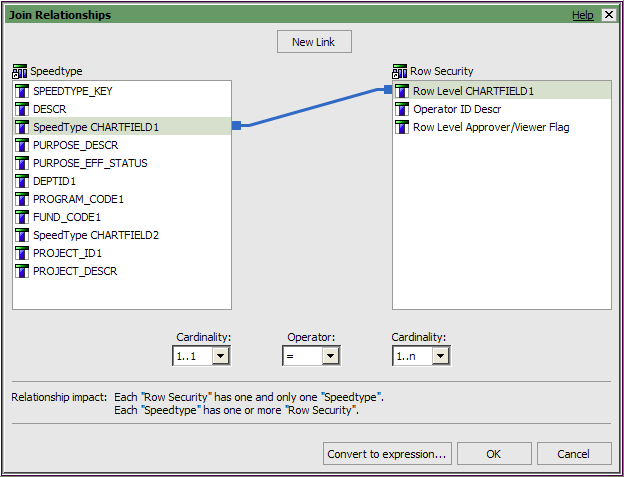
* 1. Open **Query Explorer** andclick the **Speedtype** query
     + Click on the filter in the **Detail Filters** pane
     + Go to **Properties**
     + Click **General/Usage** and change **Required** to **Disabled**

1. Add the pre-written **Purpose Prompt** to both queries
   1. With **Speedtype** query open, click the **Source** tab in **Insertable Objects**
      * Open the **Prompts** folder
      * Drag & drop the **Purpose Prompt** to the **Detail Filters** pane



* 1. Open **Query Explorer** andclick the **Row Security**  query
     + Drag & drop the **Purpose Prompt** to the **Detail Filters** pane

1. Click **Query Explorer,** click **Queries**
2. Double-click the **Join**
3. In the **Join Relationship** window, click the **New Link** button



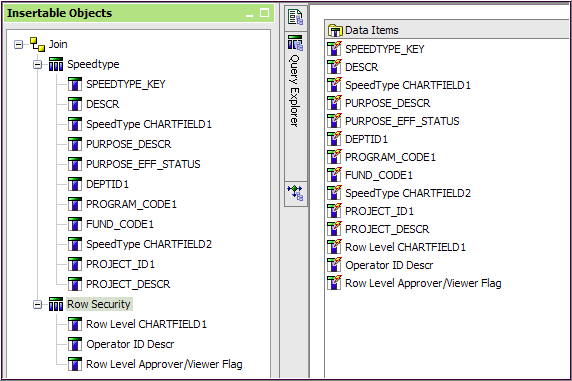
There is one Speedtype for each Chartfield1 (Purpose)

There are potentially many approvers/viewers for every Chartfield1 (Purpose)

a. The join is between: S**peedtype CHARTFIELD1** and **Row Level** **CHARTFIELD1**

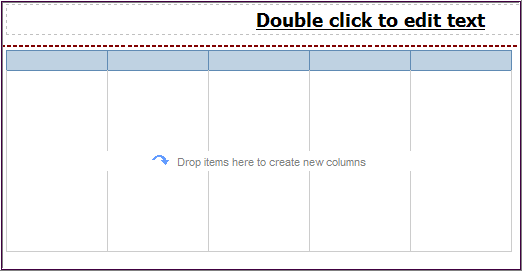
b. Set the Cardinality to **1..1 = 1..n** and click **OK**

1. **Save** your work
2. Open **Query Explorer**, double-click the **Joined Data** query
3. You must first add fields to the **Joined** **Data** query before the fields will be available for the report’s layout (the List in this case).
4. From **Speedtype**, drag all the fields to the **Data Items** pane
5. And from **Row Security,** drag all the fields to the **Data Items** pane



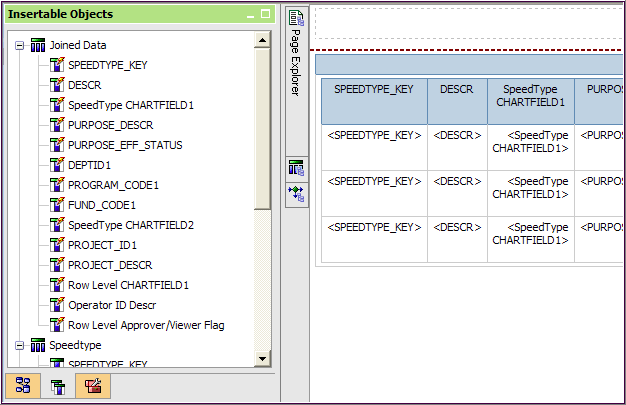
1. Click **Page Explorer,** and then click **Page 1**

**The List is empty; you must add the fields you want.**

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1. Click the **Data Items** tab and add all the fields from the **Joined Data** query (except **Row Level CHARTFIELD1** near the bottom – it’s redundant):

Suggestion: click and drag **Joined Data** to the work area to add all fields and then click the column header for **Row Level CHARTFIELD1** and **Cut ** it from the list.



Remember: You can only use “lightening bolts” data fields in your report layout!

1. **Run** the report
2. Change **Row Level Approver/Viewer Flag** values (**Y/N**) to the words “Approver” and “Viewer”
   1. We’ll add a **“case when”** statement by adding a **Data Item Expression** (*not a* ***Filter!!***)
   2. In the work area, scroll all the way to the right
   3. Double-click the **Row Level Approver/Viewer Flag** heading
   4. A *Data Item* Expression window pops-up
   5. In the expression box enter:

**case when [Row Security].[Row Level Approver/Viewer Flag] = 'Y' then 'Approver' when [Row Security].[Row Level Approver/Viewer Flag] = 'N' then 'Viewer'  
else ' '  
end**

Type:

**Else**  single-quote [space bar] single-quote, [return]

**end**

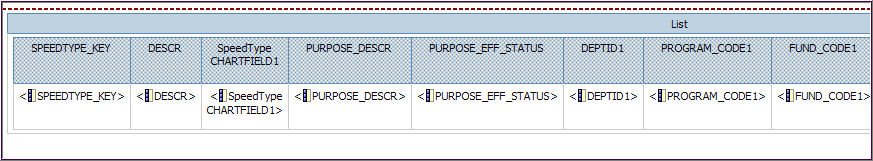
* 1. **Validate** the expression
  2. Click **OK**

1. **Save** your work
2. **Run** the report

**Enhancements to the *Join Speedtype and Row Security* report**

►Group the columns to make the report easier to read

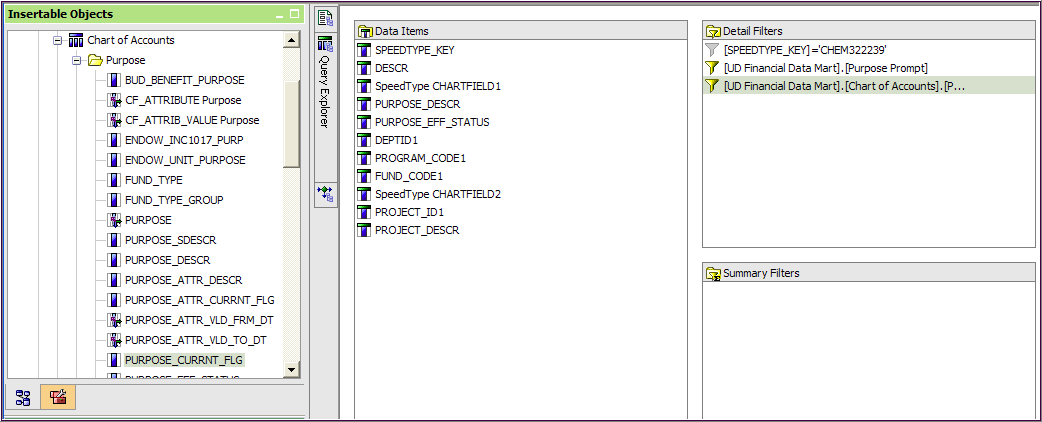
1. Click **SPEEDTYPE\_KEY** heading, scroll to the right and [Shift]-click **PROJECT\_DESCR** heading to include all the headings in between
2. Click the **Group/Ungroup**  button
   * The work area will look like this (partial view):



1. **Save** your work
2. **Run** the report

►Display only the most recent Purpose description

1. Open **Query Explorer** and click the **Speedtype** query
2. From the **Source** tab, open **UD Financial Data Mart**, then **Chart of Accounts** and the **Purpose** folder
3. Drag & drop **PURPOSE\_CURRNT\_FLAG** to the **Detail Filters** pane



This is all you need to type

1. In the expression window, create this expression:

**[UD Financial Data Mart].[Chart of Accounts].[PURPOSE\_CURRNT\_FLG] = 'C'**

1. **Validate** and click **OK** twice
2. **Save** your work
3. **Run** the report

**Master-Detail Reports**

A Master-Detail report enables you to display information from two data sources in one report that would normally require two reports. This is accomplished by setting up a master detail relationship between two data containers (such as a list and list, or a list and a crosstab). FYI – the two data sources must be from the same package.

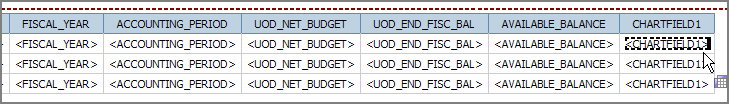
In the following exercise, you will create a Master-Detail report with the UD Financial Data package. The master will be a list report created from the Balances query subject and include the Available Balance for one or more Purpose codes as of a certain period in the current fiscal year. And the detail report will be a crosstab with data from the Trans Detail query subject for the same fiscal year.

Create the MASTER report

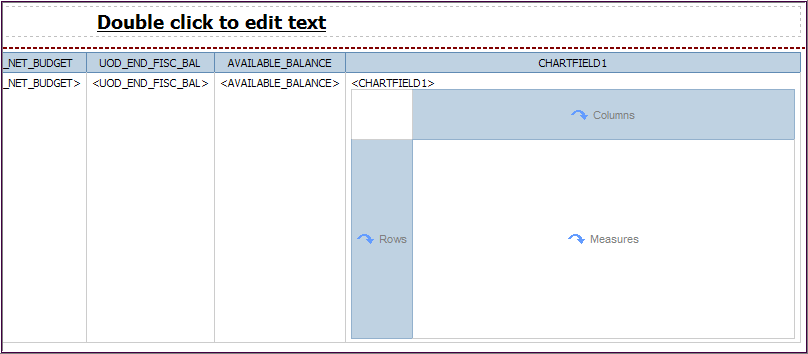
1. Open Report Studio using **UD Financial Data Mart** (in FDM packages)
2. Click **Create a new report or template**
3. Double-click the **List** icon  - this will be the Master for the *Balances* information
4. Open  **UD Financial Data Mart** in Insertable Objects
5. Add the following “Balance” fields to the list in this order:

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| PURPOSE\_DESCR | Chart of Accounts | Purpose |
| FISCAL\_YEAR | Balances | Dates |
| ACCOUNTING\_PERIOD | Balances | Dates |
| UOD\_BEG\_FISC\_BAL | Balances |  |
| UOD\_NET\_BUDGET | Balances |  |
| UOD\_END\_FISCAL\_BAL | Balances |  |
| AVAILABLE\_BALANCE | Balances |  |
| CHARTFIELD1 | Balances |  |

1. **Sort**  CHARTFIELD1 ascending
2. Change the label of two column headings so they will take up less room:
   1. Click the *heading* for **FISCAL\_YEAR** and go to **Properties**
      * Under **Data Item/Label** - type **FY**
   2. Click the *heading* for **ACCOUNTING\_PERIOD** and go to **Properties**
      * Under **Data Item/Label** - type **Period**
3. **Save** the report in My Folders and name it ***Master Detail***
4. Set the decimal points to 2 for **UOD\_NET\_BUDGET**
   1. Click the column body for UOD\_NET\_BUDGET
   2. Go to **Properties**, under **Data/Data Format**, click the ellipses 
   3. **Format type** – choose **Number**
   4. **Properties/No. of Decimal Places** – select 2
5. Add the following two pre-written prompts:
   1. **Purpose Prompt**
   2. **Accounting Period Prompt**
6. Add the following pre-written filter:
   1. **Current Fiscal Year Filter**
7. **Save** and **Run ** the report with multiple Purpose codes
8. On the toolbar, click the **Unlock** button 
   1. It will look like this 
   2. Unlocking allows another data container (crosstab) to be embedded into the list
9. Next we’ll create the Detail report for the *Transaction* information
   1. On the **Toolbox** tab, drag a **Crosstab**  into the first data cell in the CHARTFIELD1 column (look for the small, blinking black line)



1. Scroll to the right and your work area should look like this:

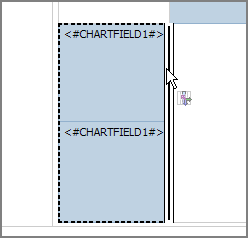


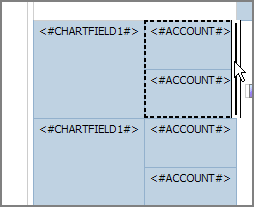
1. IMPORTANT - On the toolbar, click the **Lock** button 
2. Click the **Source** tab and add the following “Transaction” fields to the crosstab:
   1. **Rows:**

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| CHARTFIELD1 | Trans Detail |  |
| ACCOUNT | Chart of Accounts | Account |
| ACCOUNT\_DESCR | Chart of Accounts | Account |

Drop **ACCOUNT** when it looks like this:

Drop **ACCOUNT\_DESCR** when it looks like this:





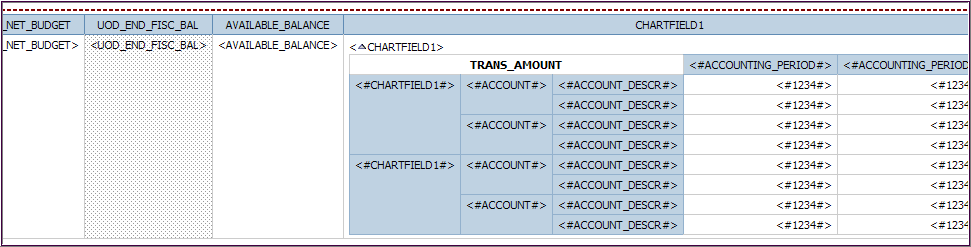
* 1. **Measures:**

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| TRANS\_AMOUNT | Trans Detail |  |

* 1. **Columns:**

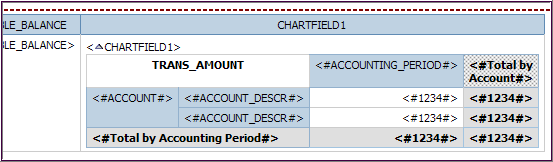
|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| ACCOUNTING\_PERIOD | Trans Detail | Dates |

Your work area should look like this (partial view):

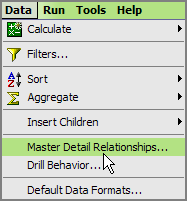


1. Click on **CHARTFIELD1** in the crosstab and **Cut**  it (*do not* ***delete*** *it*)
2. **Save**
3. Click on the crosstab (anywhere) and add the following pre-written filters:
   1. **ACTUALS Ledger Filter**
   2. **Current Fiscal Year Filter**
   3. **Journal ID not blank Filter**
   4. **Statistics Code not ENP ENU**
   5. Note: the pop-up messages should say filters have been added to Query2
4. **Sort**  ACCOUNT ascending
5. **Sort**  ACCOUNTING\_PERIOD ascending
6. Click **<ACCOUNT#>** and then **Aggregate ** ,choose **Total**
7. Click **<ACCOUNTING\_PERIOD#>** and then **Aggregate ** ,choose **Total**
8. Change the Names for the totals:
   1. Click on **<#Total(ACCOUNT)#>** and go to **Properties**
   2. Under **Data Item/Name** – type **Total by Accounting Period**
   3. Click on **<#Total(ACCOUNTING\_PERIOD)#>** and go to **Properties**
   4. Under **Data Item/Name** – type **Total by Account**

Your crosstab work area should look like this:

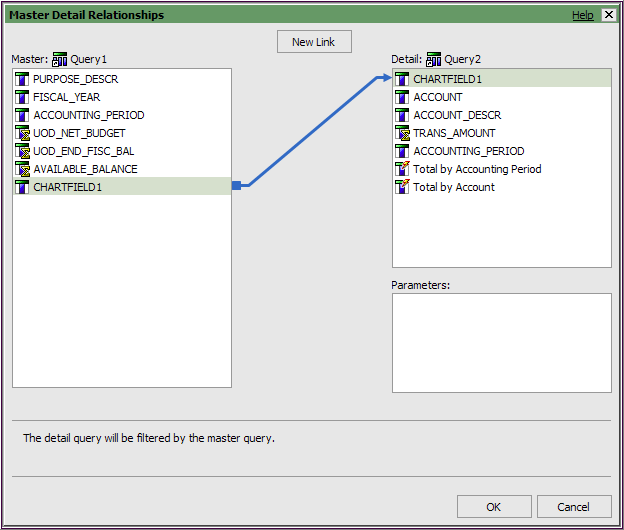


1. **Save**
2. You will now create the Master-Detail relationship:
   1. Click one of the fields in the crosstab\*, such as ACCOUNT
   2. On the menu toolbar, click **Data** and **Master Detail Relationships**



\* Note - in a List you would click one of the column headings

* 1. Click the **New Link** button
  2. Click **CHARTFIELD1** in both the **Master** and the **Detail** panes
  3. Click **OK**



1. **Save**
2. **Run**  the report
   1. First time, choose these prompt values:
      * Accounting period from current FY (e.g. **10** for April)
      * One Purpose code
   2. Second time, choose these prompt values:
      * Accounting period from current FY (e.g. **10** for April)
      * Multiple Purpose codes

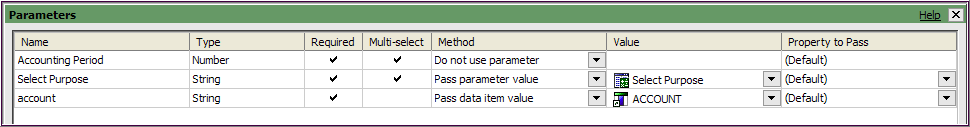
**BONUS MATERIAL: Master-Detail Report with Drill Through!**

In this exercise you will add drill-through capabilities to the report you just created.

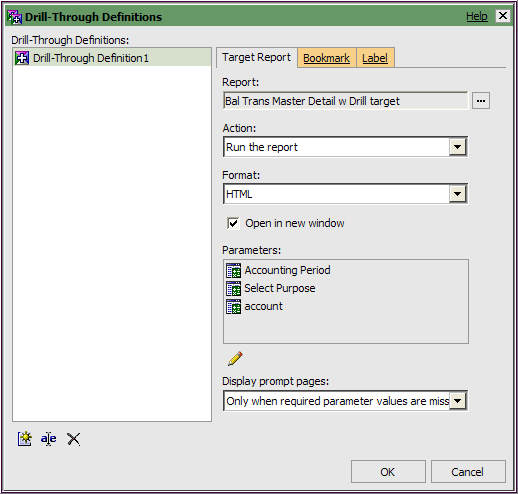
1. Rename the report created above to be the “Source” for the drill
   1. Go to **File/Save as** and call it ***AA*** ***Master Detail w Drill*** ***SOURCE***
2. Click on **New** report 
3. Select **List** 
4. Add these fields to the work area:

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| CHARTFIELD1 | Trans Detail |  |
| FISCAL\_YEAR | Trans Detail | Dates |
| ACCOUNTING\_PERIOD | Trans Detail | Dates |
| ACCOUNTING\_DT | Trans Detail |  |
| ACCOUNT | Chart of Accounts | Account |
| ACCOUNT\_DESCR | Chart of Accounts | Account |
| JOURNAL\_ID | Trans Detail |  |
| JRNL\_LN\_REF | Trans Detail |  |
| TRANS\_DESCRIPTION | Trans Detail |  |
| TRANS\_AMOUNT | Trans Detail |  |

1. **Save** the report in MY FOLDERS, name it ***AA*** ***Master Detail w Drill*** ***TARGET***
2. Add these four pre-written filters:
   1. **ACTUALS Ledger Filter**
   2. **Current Fiscal Year Filter**
   3. **Journal ID not blank Filter**
   4. **Statistics Code not ENP ENU**
3. Add these two pre-written prompts:
   1. **Purpose Prompt**
   2. **Accounting Period Prompt**
4. Add a prompt for the drill-through field (Account)
   1. Click the **Filter**  button
   2. Click **New **
   3. From **Data Items**, add the expression: **[ACCOUNT] = ?account?**
   4. **Validate **
   5. Click **OK** twice
5. **Sort**  ACCOUNTING\_PERIOD **Ascending**
6. Group the first three fields:
   1. Ctrl-click CHARTFIELD1, FISCAL\_YEAR and ACCOUNTING\_PERIOD
   2. Click the **Group**  button
7. Add totals to the report:
   1. Click the TRANS\_AMOUNT heading
   2. Click the **Aggregate**  button and select **Total**
   3. **Delete**  the section called **< FISCAL\_YEAR>** (it’s light gray)
8. **Save**
9. Go back to the “Source” report to complete the drill-through
   1. Open  ***AA*** ***Master Detail w Drill*** ***SOURCE*** from My Folders
   2. In the crosstab, click **<#ACCOUNT>**
   3. Click **Drill-Through Definitions** 
10. Create the Drill-Through:
    1. Click **New Drill-Through Definition** 
    2. **Report** – click ellipses  & choose ***AA Master Detail w Drill*** ***TARGET***
    3. **Action –** choose **Run the report**
    4. **Format** – choose **HTML**
    5. Click the box for **Open in new window**
    6. Click **Edit** 
    7. **Parameters** window should be setup as shown below:



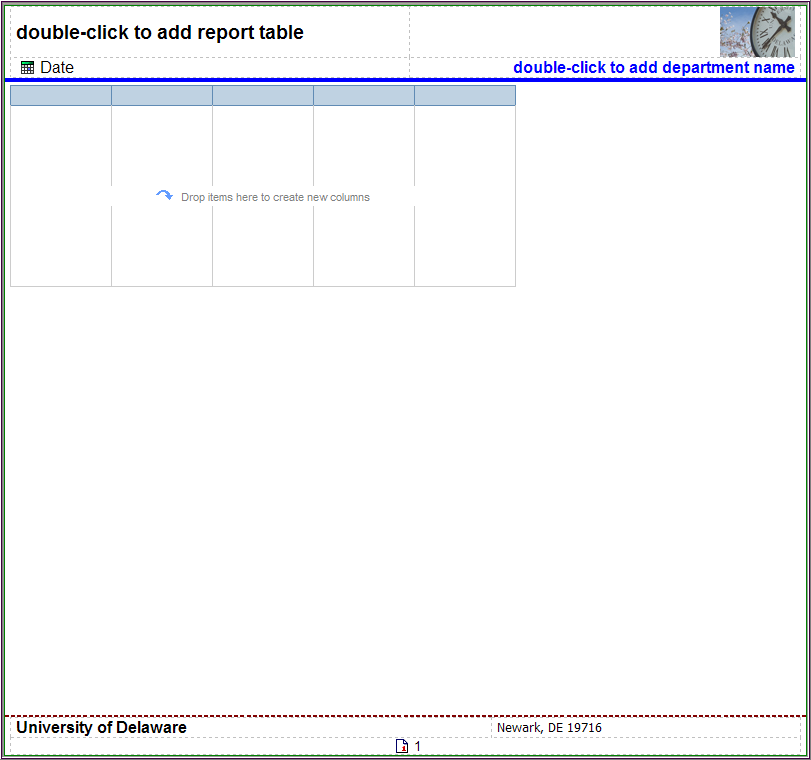
* 1. Click **OK**
  2. The **Drill-Through Definitions** window should look like this:



1. Click **OK**
2. **Save** and **Run**  the report
   1. Select prompt values for the balance data you want
3. In **Cognos Viewer**, click a “drill” link on one of the Accounts
   1. Select your Accounting Period(s) to see the transaction details

Create a Template

You can create a report template to be used for reports specific to your department. To do this, start with a blank report and add the components you want every report to have. Save the report. When you want to use the template, open it, select **Save As** from the **File** menu, and re-name the new report.

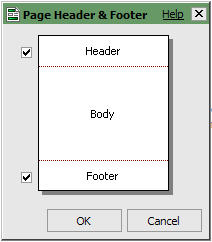
In this exercise, you will create a report template. When it’s finished it will look like the one below:  
  
 

1. Open Report Studio using **UD** **Financial Data Mart** (in FDM packages)
2. Click **Create a new report or template**
3. Select **Blank ** and click **OK**.
4. In the toolbar, click to the **Headers & Footers**  button



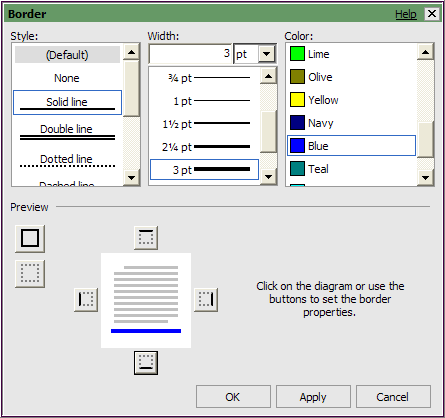
* + 1. Select **Page Header & Footer**

1. Click the boxes next to **Header** and **Footer** and click **OK**.



First, we’ll setup the **Page Header**

1. Add a blue line under the header
2. Click inside the **Page Header** area
3. In **Properties**, go to **Box/Border** and click the ellipses 
4. **Style -**  select **Solid Line**
5. **Width -** select **3 pt**
6. **Color -** select **Blue**
7. **Preview** - click the bottom border on the diagram
8. Click **OK**

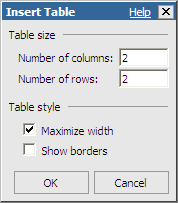


Don’t forget

1. Add a table to the header to hold four different elements
2. Click the **Toolbox** tab
3. Drag and drop a **Table**  into the **Page Header** area



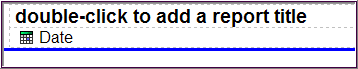
1. In the **Insert Table** box:



1. Type **2** for **columns** and **2** for **rows**
2. **Maximize width** box should be checked
3. Click **OK**
4. Save this report in **My Folders**
   * 1. First create a new folder  called **Templates** and *open it*
     2. Name the report ***Template Example*** and save it
5. Create a placeholder for the report title
   1. On the **Toolbox** tab, drag and drop a **Text** **Item** into the top-left table cell
   2. In the **Text** box, type **double-click to add a report title**
6. Click **OK**
7. Change the format of the title placeholder
   1. Highlight the text you just added and go to **Properties**
   2. Under the **Font & Text/Font**,click the ellipses 
   3. Set the **Family** to **Arial,** the **Size** to **14pt** and the **Weight** to **Bold**
   4. Click **OK**

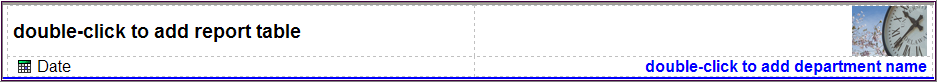


1. Add the date to the header and format it
   1. From the **Toolbox** tab, drag and drop **Date**  into the bottom left table cell
   2. In the header, highlight the  **Date** and use the Formatting toolbar:
   3. Change **Font** to **Arial**
   4. Change **Size** to **12pt**



1. **Save** your work
2. Create a placeholder for the department name
   1. Click the **Toolbox** tab (if not there already)
   2. Drag and drop a **Text** **Item ** into the bottom-right table cell
   3. In the **Text** box, type **double-click to add department name**
   4. Click **OK**
3. Format the department name placeholder
   1. Highlight the text you just added and use the Formatting toolbar:
4. Change **Font** to **Arial**
5. Change **Size** to **12pt**
6. Change **Foreground Color** to **Blue**
7. Click **Bold**
8. Click the *background* of the bottom-right table cell
   1. Use the Formatting toolbar to select **Right** 
9. Add an image to the header
   1. Open another browser session
   2. Go to *UD home page* ([www.udel.edu](http://www.udel.edu))
   3. Click the  button
   4. Right-click on one of the thumbnail photos
   5. Select **Properties**
   6. Highlight the **Address (URL)**, right-click it and choose **Copy**
   7. Go back to your **Cognos** report
      1. From the **Toolbox** tab, drag an **Image**  to the upper right cell
      2. Click on the **Image** in the header and go to **Properties**
      3. Under the **URL Source/URL**,click the ellipses 
      4. In the **Image URL box**, right-click and choose **Paste**
      5. Click **OK**
   8. In the header, click the cell around the image and click **Right** 

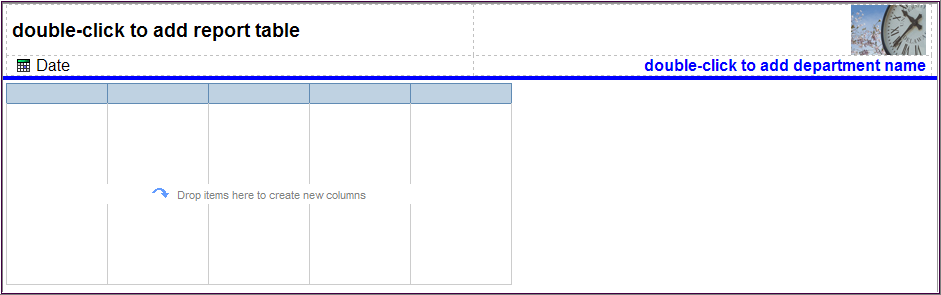
This completes the **Page Header**. Your header should look like this:



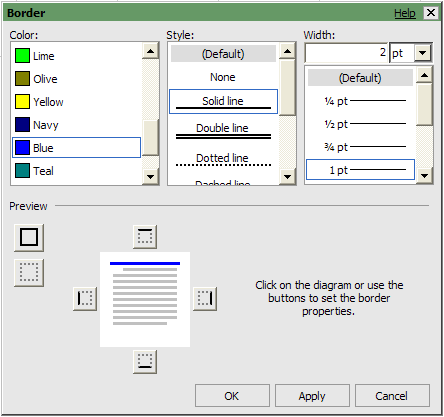
1. **Save** your work

Now, we’ll add a report “container” to the **Page Body**

1. We’ll add a List to the work area
2. Click on the **Toolbox** tab (if not already there)
3. Click **List ** and drag & drop it into the page body
4. You will see the familiar **List** box



Next, we’ll create the **Page Footer**

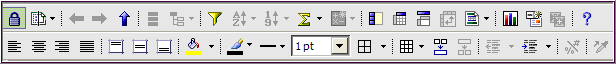
1. Add a blue line above the footer area
2. In **Properties,** go to **Box**/**Border**, and click the ellipses 
3. **Color** - select **Blue**
4. **Style** - select **Solid Line**
5. **Width** - select **2pt**
6. **Preview** - click the top border on the diagram
7. Click **OK**  
     
    

Don’t forget

1. Add a table to hold three elements in the footer
2. On the **Toolbox** tab, drag and drop a **Table ** in the Page Footer area



1. In the **Insert Table** box, type **2** for **columns** and **2** for **rows**
2. Make sure the **Maximize width** box is checked
3. Click **OK**
4. Add text and other fields to the footer:
   1. Drag and drop a **Text** **Item**  into the top-left table cell
   2. In the **Text** box, type **University of Delaware**
   3. Click **OK**
5. Highlight the text you just added and use the Formatting Toolbar:
   1. Change **Font** to **Arial**,
   2. Change **Size** to **12pt**
   3. Click **Bold**
6. Drag and drop a **Text** **Item**  into the top-right table cell
   1. In the **Text** box, type **Newark, DE 19716**
   2. Click **OK**
7. Highlight the text you just added and use the Formatting Toolbar:
   1. Change **Font** to **Arial**
   2. Change **Size** to **12pt**
   3. Click Click the *background* of the same table cell and select **Right** 
8. Merge the two bottom table cells to hold the page number
9. Click the bottom-left cell, then SHIFT-click the bottom-right cell
10. In the **toolbar**, select **Merge Cells**  



1. From the **Toolbox** tab, click the **Page Number**  and drag it into the bottom table cell
2. Highlight the **Page Number** and use the Formatting Toolbar:
3. Change **Font** to **Arial**
4. Change **Size** to **10pt**
5. Click the *background* of the bottom table cell, select **Center **

1. **Save** your work
2. This completes the **Page Footer**. Your footer should look like the one below:

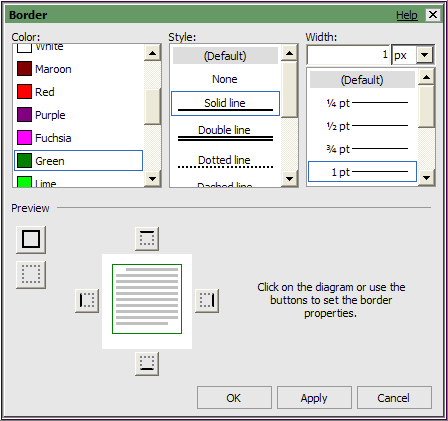


Finally, add a color border around the main report area.

1. Click the work area and go to **Properties**
   1. Click the **Ancestor** ancestor button and click **Page**
   2. Under **Box/Border**, click the ellipses 
   3. **Style** - select **Solid Line**
   4. **Width** – select **1px**



* 1. **Color** - select **Green** (or any other color)
  2. **Preview** - click all 4 borders of the diagram with this button
  3. Click **OK**



Don’t forget

1. **Save** your work

You have now created a template that can be used to create other reports. When you want to use the template, open it and choose **Save As** from the **File** menu. Give the report a new name to preserve the template.

Let’s try it out the new template…

1. Save the template with a new name (**File/Save As…**)
   1. Name it ***Template Example – Trans List***
2. On the **Source** tab, open **UD Financial Data Mart** and add these 10 fields:

|  |  |  |
| --- | --- | --- |
| Field Name | Query Subject | Folder |
| CHARTFIELD1 | Trans Detail |  |
| FISCAL\_YEAR | Trans Detail | Dates |
| ACCOUNTING\_PERIOD | Trans Detail | Dates |
| ACCOUNT | Chart of Accounts | Account |
| ACCOUNT\_DESCR | Chart of Accounts | Account |
| ACCOUNTING\_DT | Trans Detail |  |
| JOURNAL\_ID | Trans Detail |  |
| JRNL\_LN\_REF | Trans Detail |  |
| TRANS\_DESCRIPTION | Trans Detail |  |
| TRANS\_AMOUNT | Trans Detail |  |

1. Add these two pre-written prompts:
   1. **Purpose Prompt**
   2. **Accounting Period Prompt**
2. Add these four pre-written filters:
   1. **ACTUALS Ledger Filter**
   2. **Current Fiscal Year Filter**
   3. **Journal ID not blank Filter**
   4. **Statistics Code not ENP ENU**
3. Change the header to display your department name
   1. Double click the place holder: **double-click to add department name**
   2. Type in your department name and click **OK**
4. Give your report a title
   1. Double click the place holder: **double-click to add a report title**
   2. Type - **Transactions for** [space]
   3. Go to the **Toolbox** tab
   4. Drag & drop a **Text Item**  next to the new title



* 1. Type [space] [space] and click **OK**
  2. Drag & drop a **Layout Calculation**  next to the **Text Item**



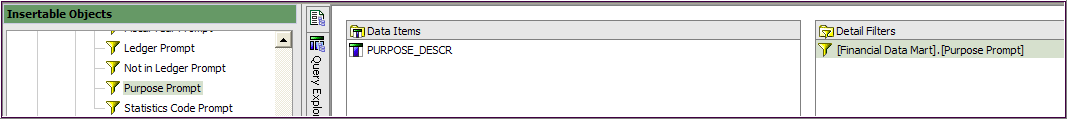
* 1. In the Report Expression window, click the **Parameters**  tab
  2. Double-click  **Select Purpose** and click **OK**
  3. In the header, click on **<%PARAMDisplay…%>**
     1. Change the **Font** to **Arial, 14pt** and **Bold** (on the toolbar)
  4. Add the Purpose Description to the title
     1. Drag & drop a **Text Item**  next to **<%PARAMDisplay…%>**



* + 1. Type [space] [space] and click **OK**
    2. Go to the **Source**  tab and find **PURPOSE\_DESCR**
    3. Drag & drop it next to the **Text Item**



* + 1. You will get a message telling you a **Singleton** has been created – this is fine – click **OK**
    2. Click on **<PURPOSE\_DESCR>**
       1. Change the **Font** to **Arial, 14pt** and **Bold** (on the toolbar)
    3. Open **Query Explorer**  from the Explorer Bar; click on **Query2**
    4. From the **Source** tab, drag & drop the pre-written **Purpose Prompt** to the **Detail Filters** pane (upper right)



1. **Save** your work
2. **Run** the report

NOTE - We added the filter, **Current Fiscal Year**, so choose an *appropriate* Accounting Period on the 2nd prompt page

**Conditional Formatting and Highlighting**

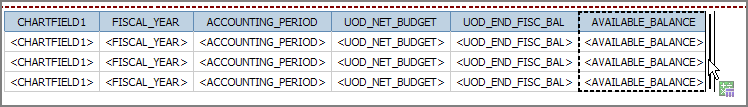
You can customize your reports to change how the data is displayed based on conditions you specify. This is done with *conditional formatting or highlighting*, which allows you to do a number of useful things:

* Show exceptional data within your report based on your criteria
* Emphasize areas of special interest within your report
* Highlight alternate rows in a List report

**A. Show exceptional data based on percentage thresholds**

You will use an existing report that is based on Balance data and developed for Purposes *with budgets*. You will add three new calculated fields. The report will compare the percentage of the elapsed fiscal year to the percentage of actual expense to the Purpose budget. Conditional formatting will be added to highlight those Purposes that are over or under budget.

1. Open this List report:
   1. Go to **Public Folder** called **Ellen Training**
   2. Open **Reports for Class** folder
   3. Open the report ***Conditional Exceptional Data***
   4. IMMEDIATELY **Save** in **My Folders** with the same name
2. Add a field for the *percentage of actual expense to the Purpose budget*
   1. Go to the **Toolbox** tab
   2. Click and drag a **Query Calculation ** to the right side of the List



* 1. Name it **Actual to Budget %**
  2. Create the following expression using two fields from **Data Items** tab:

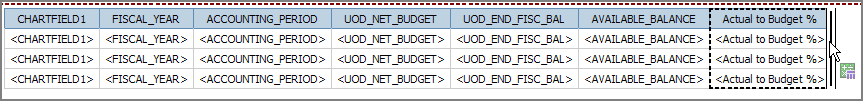


HINT: you will only type:

**( / )\*100**

* 1. **Validate**  and click **OK**

1. Add a field for the *percentage of the elapsed fiscal year*
   1. Stay in the **Toolbox** tab
   2. Click and drag another **Query Calculation ** to the right side of the List



* 1. Name it **Elapsed FY %**
  2. Create the following CASE WHEN expression:

**CASE WHEN ([ACCOUNTING\_PERIOD] = 1)**

**THEN (1/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 2)**

**THEN (2/12\*100)**

HINT: this expression can be copied from an existing report called **CASE WHEN** located in **Public Folders /Ellen Training/Reports for Class.** (Open another instance of Report Studio from the Cognos Welcome page to do this.)

Double-click on the column **Elapsed FY %** to bring up the Data Item Expression window. Highlight the expression and copy it. Then paste it into new expression box in the first report.

**WHEN ([ACCOUNTING\_PERIOD] = 3)**

**THEN (3/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 4)**

**THEN (4/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 5)**

**THEN (5/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 6)**

**THEN (6/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 7)**

**THEN (7/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 8)**

**THEN (8/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 9)**

**THEN (9/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 10)**

**THEN (10/12\*100)**

**WHEN ([ACCOUNTING\_PERIOD] = 11)**

**THEN (11/12\*100)**

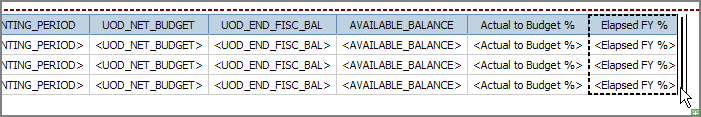
**ELSE**

**(100)**

**END**

* 1. **Validate**  and click **OK**

1. Add a field for the *difference between the two percentage amounts*
   1. Stay in the **Toolbox** tab
   2. Click and drag another **Query Calculation ** to the right side of the List



* 1. Name it **Over/Under % Diff**
  2. Create the following expression using two fields from **Data Items** tab:

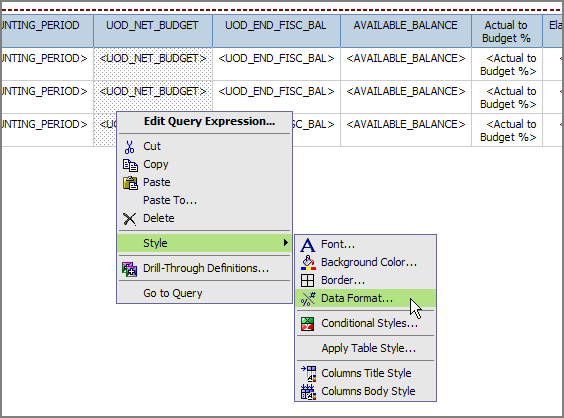


HINT: you will only type:

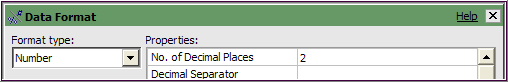
**-**

* 1. **Validate**  and click **OK**

1. **Save** your work
2. Format all the number columns to display 2 decimal points
   1. In the work area, *right-click* on column-body of **UOD\_NET\_BUDGET**
   2. Choose **Style** and then **Data Format…**

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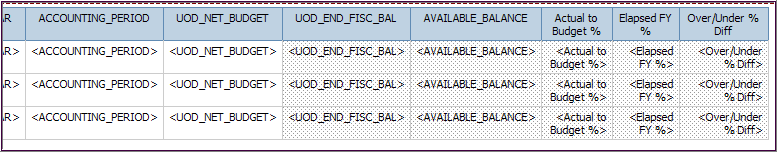
* 1. In the **Data Format** window:
     + **Format type** - select **Number** and **No. of Decimal Places – 2**
     + Click **OK**



* 1. With **UOD\_NET\_BUDGET** still highlighted, click **Pick-up Style** 



* 1. Click **UOD\_END\_FISCAL\_BAL** column-body, then shift-click **Over/Under % Diff** column-body to highlight all five columns



* 1. Click **Apply Style** 



1. **Save** your work

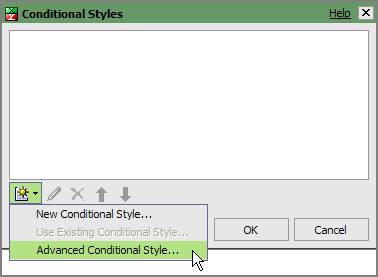
1. Create the conditional formatting

You will establish three **Styles** for three conditions:

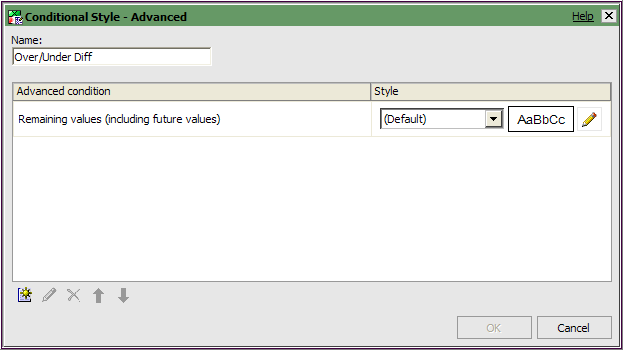
* **Very Good** – for differences over 2%
* **Average –** for differences between 0 and 2%
* **Poor –** for differences in the negative
  1. Click the **Over/Under % Diff** column body to highlight it
  2. Click the **Conditional Styles**  button on the toolbar



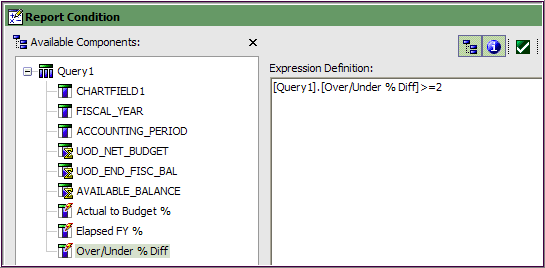
* 1. Click the **New Conditional Styles**  button
  2. Select **Advanced Conditional Style…**



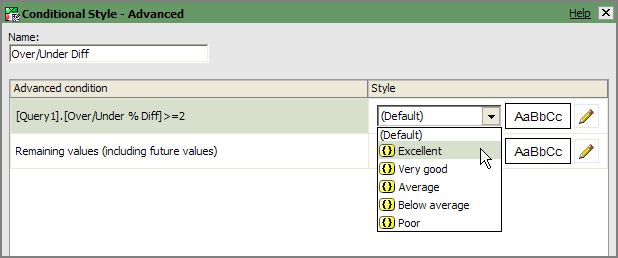
* 1. Notice there is already a condition **Style** called **(Default)**
  2. Change the **Name** to **Over/Under Diff**
  3. Click the **New Advanced Condition**  button” condition to set the **“Very good”** condition



* 1. Create the following expression that will display any ***difference over 2% as “very good”***
     + Double-click **Over/Under % Diff**
     + Then type **>=2**
  2. **Validate**  and click **OK**



* 1. **Style** – click the dropdown and select **Very Good** for the new condition



* 1. Notice the **Style** has changed to *green letters with a white background:*

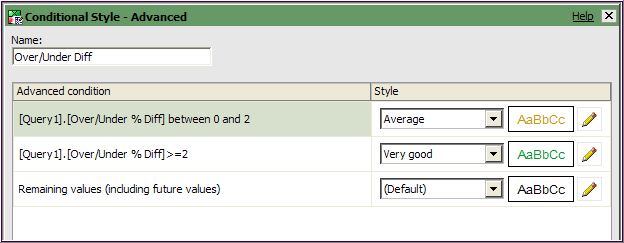


Note: The **Style** can be customized using the **Edit**  button

* 1. Click **New Advanced Condition**  to set the “Average” condition
  2. Create the following expression that will display any ***difference between 0 and 2% as “average”***
     + In Available Components, double-click **Over/Under % Diff**
     + Then type **between 0 and 2**

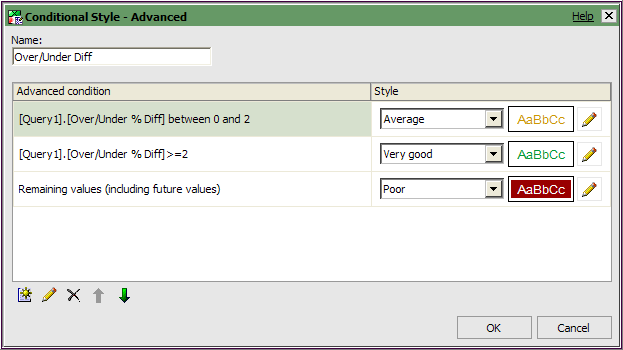


* 1. **Style** – click the dropdown and select **Average**
  2. Notice the **Style** has changed to *gold letters with a white background*

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* 1. The **Advanced condition** called **Remaining Values (including future values)** will be used for the last condition
     + Looking at the two new conditions, we can deduce the “Remaining values” means anything less than 0 or negative amounts
  2. **Style** – click the dropdown and select **“Poor”**
     + Note the **Style** is white lettering with a red background
  3. Click **OK** and click **OK** again

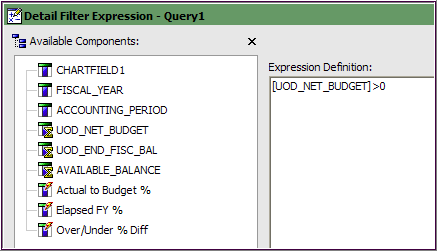


1. **Save** your work
2. **Run** the report with multiple “11” (Basic Budget) Purpose codes

Looking at your report results, you may notice that some of your Purpose codes do not have budgets and should not be included in your report. The next step will eliminate those Purposes.

1. Add a filter to restrict results to active Purposes with budgets
   1. Click **Filter**  on the toolbar
   2. Click **Add** 
   3. Create the Expression using the Data Items tab:

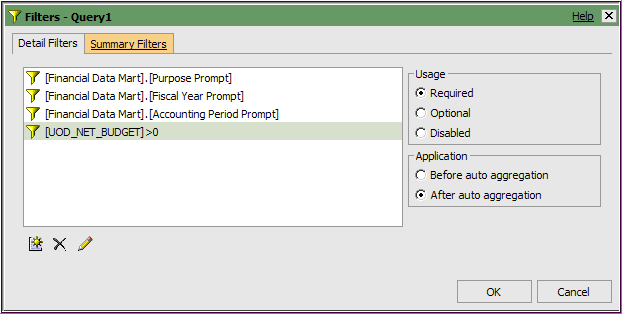
**[UOD\_NET\_BUDGET]>0**

****

* 1. **Validate**  and click **OK**

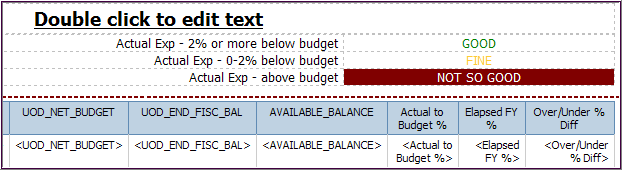
Hint – Fields with icons  like this have been auto-aggregated (summed). When using fields like this in a Filter, you will want to change the **Application** setting to **After auto aggregation.**

* 1. **VERY IMPORTANT –** With the new filter highlighted, click **After auto aggregation** in the **Application** settings



* 1. Click **OK**

1. **Save** your work
2. **Run** the report
3. **(\*Optional\*)** Add a key to the top of the report for the conditional formatting
   1. Go to the Toolbox
   2. Drag and drop a **Table**  under the title
   3. The **Table** will have **2 Columns** and **3 Rows**
   4. You will add **Text Items**  to all the cells to look like below:



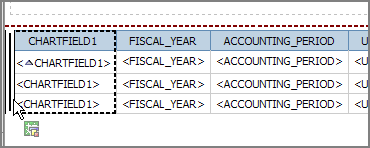
* 1. Use the **Foreground Color**  and Background Color  buttons on the toolbar to set the words GOOD, FINE and NOT SO GOOD to the correct colors

(Hint - Consider using the **Web Safe Colors** tab to find more accurate colors.)

* 1. **Save** your work and **Run** the report

**B. Add alternating colors for rows of a List using a conditional variable**

1. Open this report in the **Public Folder** called **Ellen Training**:
   1. ***Conditional Alternating Rows***
   2. IMMEDIATELY Save in **My Folders** with the same name
2. Add a calculated data item to give even rows the value of 0 and odd rows the value of 1
   1. Click the **Toolbox** tab
   2. Click and drop a **Query Calculation**  to be the first column on the left



* 1. Name it **EvenOdd**
  2. Create this expression:

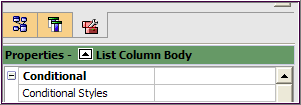
Note: This expression uses the **Mod** function to calculate a remainder to give each row in the report a value of either 1 or 0.

It takes the running count of CHARTFIELD1 (1,2,3,4...) and divides by 2. The result will be either 1 or 0.

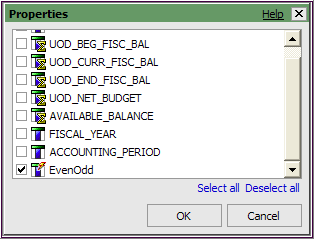
****

* 1. **Validate ** the expression and click **OK** twice

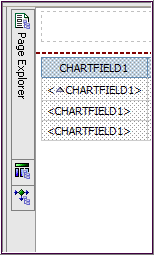
1. **Run** the report for multiple Purpose codes
   1. Notice that the even rows have the value of 0 and odd ones are 1
   2. These values will be used for the conditional formatting but do not belong in the report
   3. Close **Cognos Viewer**
2. **EvenOdd** needs to become a property of the list
   1. Click the **EvenOdd** column in the report and click **CUT**  (not delete)
   2. Click anywhere on the list and go to **Properties**
   3. Click the **Ancestor** button and select **List**

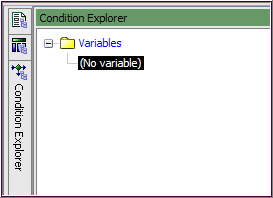


* 1. Double click **Data/Properties,** select **EvenOdd** checkbox and click **OK**

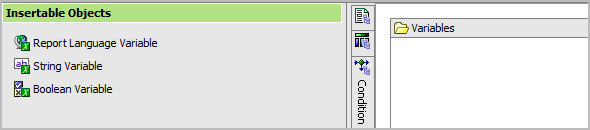


1. Create a **Boolean** variable based on the value of **EvenOdd**
   1. Open the **Condition Explorer** and click **Variables**

****



* 1. In the **Insertable Objects**, double-click **Boolean Variable**



* 1. In **Available Components**, double-click **EvenOdd** to add it to the Expression box
  2. Type **=0,** your expression should look like this

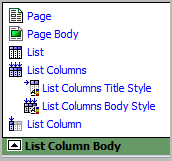


* 1. **Validate**  and click **OK**
  2. The **Condition Explorer** work area will look like this**:**

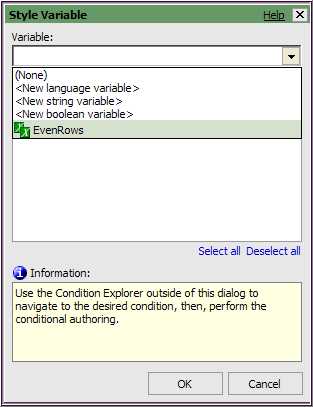


* 1. With the **Boolean1** variable still highlighted, go to **Properties**
     1. In **Miscellaneous/Name** - change the name to **EvenRows**

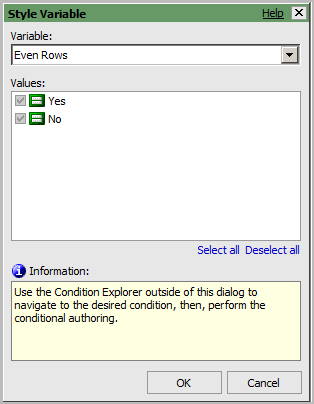
1. Apply the conditional formatting
   1. Open **Page Explorer** and click on **Page1**
   2. Click anywhere on the **List** and go to **Properties**
      1. Click the **Ancestor** button and select **List Columns Body Style**



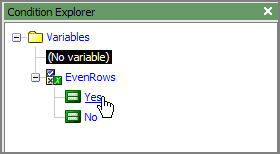
* + 1. Go to **Conditional/Style Variable,** click the **Ellipses **
    2. Choose **EvenRows** from the dropdown list

****

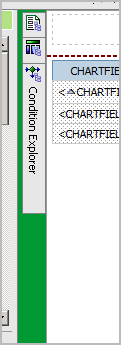
* + 1. The **Style Variable** window will change to look like below
    2. Click **OK**



* 1. Open **Conditional Explorer** and click **Yes**

****

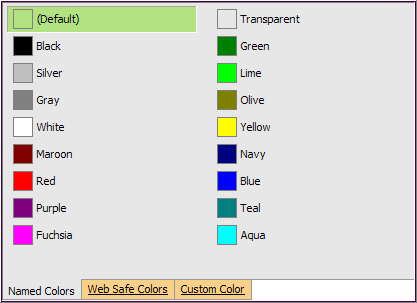
* + 1. The **Explorer Bar** turns *green* to indicate that conditional formatting is turned ON

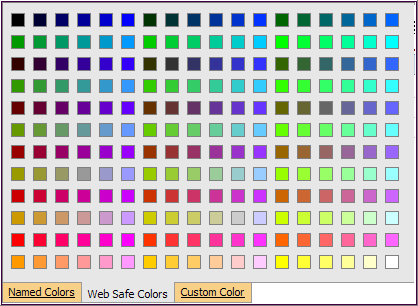


* 1. On the toolbar, click **Background Color** 



* + 1. Click the tab called **Web Safe Colors**

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* + 1. Click a suitable color such as a light blue, light green or lavender
    2. Click **OK**
  1. The list column are highlighted in blue (or green or *whatever you chose)*
  2. Double-click the **Explorer Bar** to turn OFF conditional formatting
     1. It should be green
     2. The Explorer Bar will change color from green to grey

1. **Save** your work
2. **Run** the report