

Finance Activity Hub Training
Advanced Level

UC San Diego

IBM Cognos Analytics 11.1 R7

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Chapter 1—Parameters and Prompts

Parameters and Prompts

In this chapter we learn how to turn hard-coded filters into parameters and prompts to add interactivity and flexibility to reports. Prompts are filters that allow the report user to select the value for a condition.

The first step in creating a Prompt is to create a *parameter*.

[Entity] in ?p_Entity?




We return to the Advanced Filters report from Intermediate training and learn how to modify the advanced filter expressions to create parameters. We also learn how to take the parameters and create our own Prompt pages. Today we learn about:

- Text box prompts
- Value prompts
- Select & search prompts
- Cascading prompts
- Putting prompts on the report page to add interactivity to the report



Parameters on Advanced filters



Parameters on Advanced filters

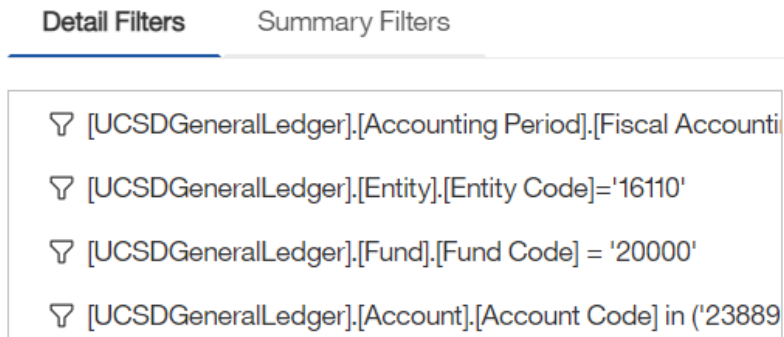
1. From the **Welcome Portal** click **Team content** , open the **Business User Development** folder > **Training Samples - FINAH** folder > **Day 3: Advanced** folder.
2. Mouse over the **Advanced Filters** report click **More** , and click **Edit Report** .

The report opens.

3. In the Application toolbar click the **Save** dropdown and click **Save as**.
4. Click **My content** , open the **Cognos Training-FINAH** folder and save the report specification as **Parameters**. Click OK.
5. Click inside any column in the **List** report and in the OnDemand toolbar click **Filters**  and **Edit Filters**.

Chapter 1—Parameters and Prompts


For this example, we create Parameters on all the filters currently on the report—and though we are on the Report page (Page1) now we could also make these same filter edits in the Query!



6. Double-click the **Fiscal Accounting Period** filter and edit the expression as follows to create a parameter:

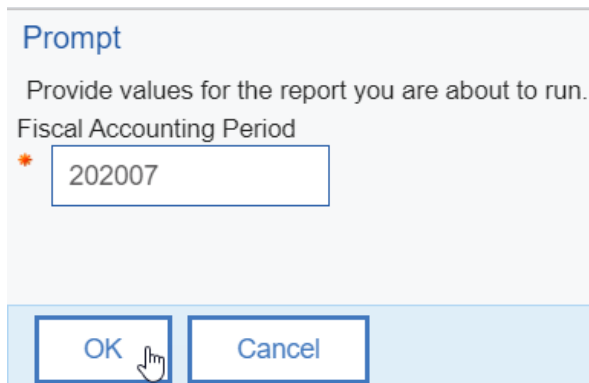
Expression Definition:

```
[UCSDGeneralLedger].[Accounting Period].[Fiscal Accounting Period]  
= ?p_FiscalAcctPer?
```

7. Click **Validate** .
8. If asked to select a connection select **HANA-PROD**. Click OK.

A “stock” Prompt window appears to validate the expression and we must provide values for the Prompt.

9. Type: **202007**. Click OK twice to close the prompt and filter windows.



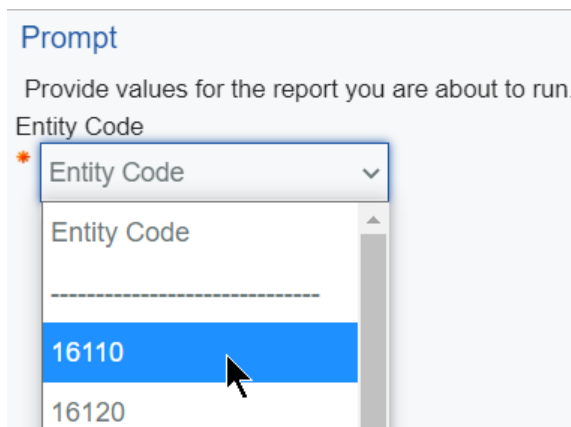
10. Double-click the **Entity Code** filter and edit the expression as follows:

Expression Definition:

```
[UCSDGeneralLedger].[Entity].[Entity Code] = ?p_Entity?
```

11. Click **Validate** .

12. In the “stock” Prompt select **16110**. Click OK twice.



13. Double-click the **Fund Code** filter and edit the expression as follows:

Expression Definition:

```
[UCSDGeneralLedger].[Fund].[Fund Code] = ?p_Fund?
```

14. Click **Validate** .

15. In the “stock” Prompt select **20000**. Click OK twice.

16. Double-click the **Account Code** filter and edit the expression as follows:

Expression Definition:

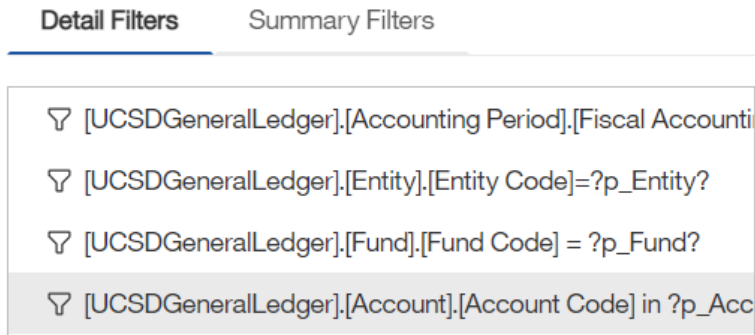
```
[UCSDGeneralLedger].[Account].[Account Code] in ?p_Account?
```


17. Click **Validate** .

18. In the “stock” Prompt select **238899**. Click OK twice.

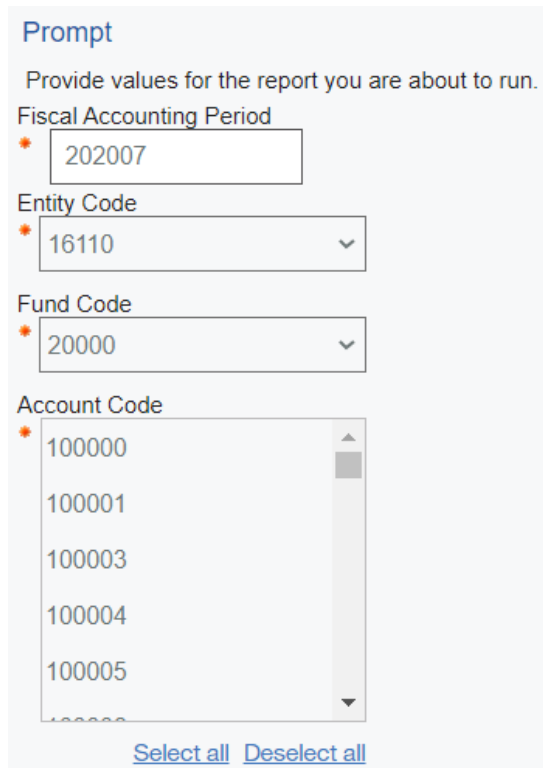
Chapter 1—Parameters and Prompts

The filters window looks like this:



19. Click OK close the filter window.
20. In the Application toolbar click **Save** (Parameters).
21. In the Application toolbar click **Run options**  and select **Run HTML**.

Cognos sees the parameters on the report and displays a “stock” Prompt page. In the next lesson we develop our own Prompt page!



22. Close the New report browser tab.



Prompt Page

In the following lesson we learn how to create and customize a Prompt page.

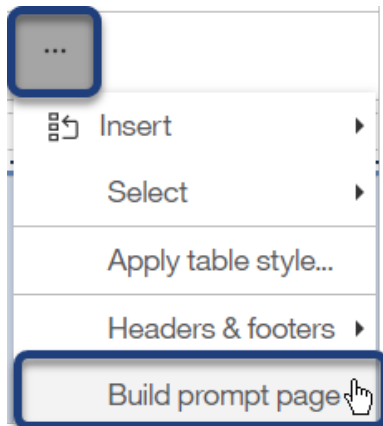


Prompt Page

1. Continue in the **Parameters** report.
2. In the Application toolbar click the **Save** dropdown and click **Save as**. Save the report specification as **Prompt page**. Click OK.

Cognos provides a shortcut to Build a prompt page.

3. Click somewhere inside the Page (in the white space between the List object and the footer).
4. In the OnDemand toolbar click **More** ******* and click **Build prompt page**:



A Prompt page appears!



As time allows your instructor demonstrates how many steps this shortcut saved us. (Click Report > click Prompt Pages > Drag a Page into the work area > Double-click to open the Prompt page).

- In the middle of the Prompt page click **Add**  and in the circle menu select **Table**.



- Specify a **2** columns x **5** rows Table and *uncheck* the box to **Maximize width**. Click **OK**.

Insert table ×

Table size _____

Number of columns:

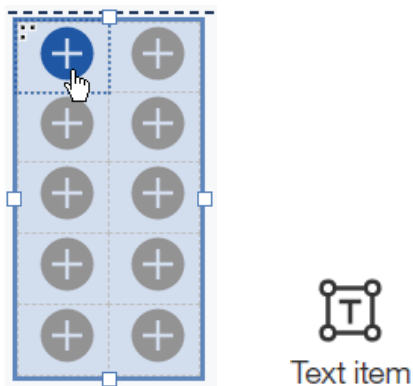
Number of rows:

Table style _____

Maximize width

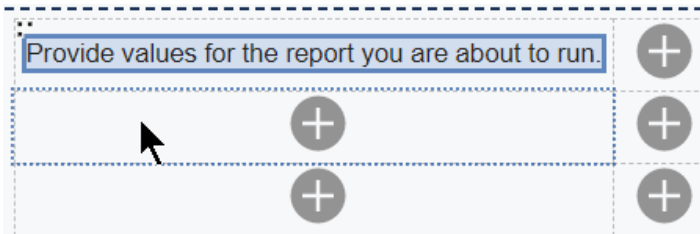
Show borders


- In the 1st row 1st column of the Table click **Add**  and select **Text item**

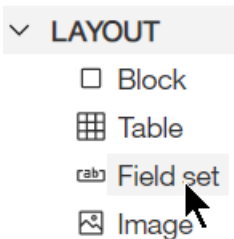


- In the Text field type: Provide values for the report you are about to run.
- Click **OK**.

10. Click inside the 2nd row of the Table.

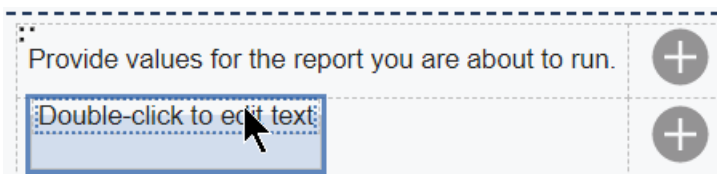


11. Under Insertable objects open the **Toolbox** , expand the LAYOUT section and double-click **Field set** to add it to the selected table cell.



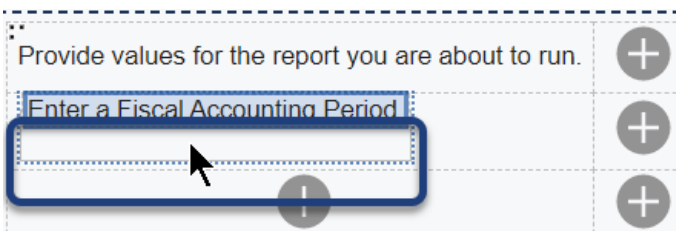
A Field set is a container object that includes a caption – a caption that we use to type instructions for the person who runs the report and encounters the prompt.


12. Double-click the **Text** on the Field Set.

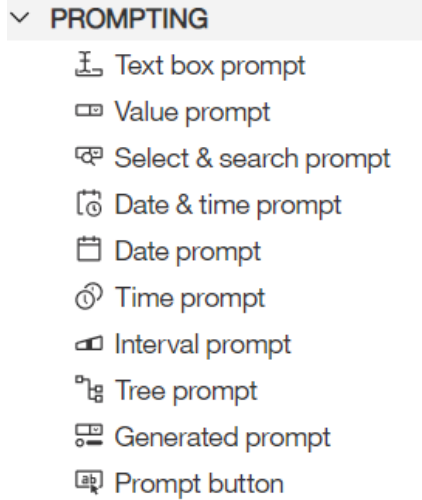


13. In the Field provided type: Enter a Fiscal Accounting Period. Click OK.

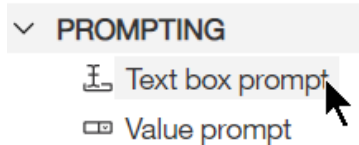
14. Click inside the **Field set**—just below the text:



15. Expand the **Toolbox**  PROMPTING section and notice the Prompting tools available:



16. Double-click **Text box prompt** to add it to the selected Field set:



A Text box prompt control allows users to type in values. It is the simplest of all the prompts and does not require a query.

There are limitations as it is a free form field and users can type whatever they want in the prompt which may not return any data.

17. In the Prompt wizard click the radio button to **Use existing parameter** and from the dropdown select the **p_FiscalAcctPer** parameter. Click **Finish**.

Prompt Wizard - Text box prompt

Choose Parameter
Create a new parameter or use an existing parameter from a previously authored expression.

Create a new parameter
Parameter1

Use existing parameter

(None)

p_FiscalAcctPer

p_Entity

p_Fund

p_Account

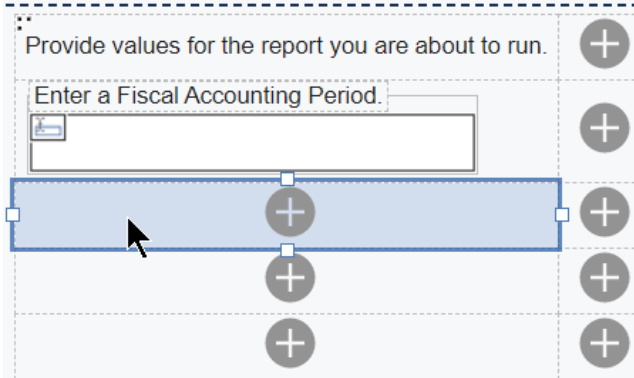
Cancel < Back Next > Finish



The Prompt appears inside the Field set:

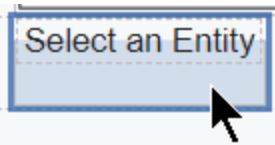
Provide values for the report you are about to run.


Enter a Fiscal Accounting Period

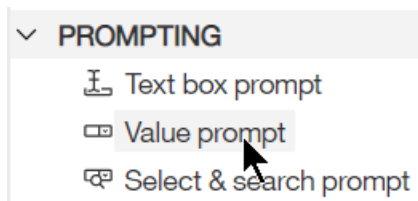
18. Click inside the 3rd row of the Table—directly under the Fiscal Accounting Period field set.



19. From the **Toolbox**  LAYOUT section double-click **Field set** .
20. Double-click the **Text** on the Field Set and in the Field type: Select an Entity.
21. Click inside the **Field set**.



22. From the **Toolbox**  PROMPTING section double-click **Value prompt** to add it to the selected Field set:



A Value prompt control allows users to select one or more values from a list. It is the most widely used of all the prompts. The value prompts we use today will also have a query.

23. In the Prompt wizard click the radio button to **Use existing parameter** and from the dropdown select the **p_Entity** parameter. Click **Next**.

Prompt Wizard - Value prompt ×

Choose Parameter
Create a new parameter or use an existing parameter from a previously authored expression.

Create a new parameter
Parameter1

Use existing parameter
p_Entity ▼

Use global parameter
▼

Cancel < Back Next > Finish

In the next step of the wizard we indicate to Cognos that we want a new query to support the Value prompt, and we name it similarly to the parameter.

24. On the Populate control step of the Wizard in the **Name** field type: q_Entity. Click **Finish**.

Prompt Wizard - Value prompt ×

Populate control
What values do you want to pick from? Use values are the retrieved data, and Display values are the selectable values that the user sees.



Create new query

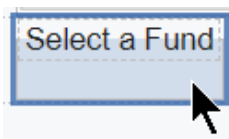
Name:


Values to use: ...

Values to display: ...

Cascading source:

25. Click inside the 4th row of the Table—directly under the Entity field set.
26. From the **Toolbox**  LAYOUT section double-click **Field set** .
27. Double-click the **Text** on the Field Set and in the Field type: Select a Fund.
28. Click inside the **Field set**.



29. From the **Toolbox**  PROMPTING section double-click **Value prompt** to add it to the selected Field set.

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30. In the Prompt wizard click the radio button to **Use existing parameter** and from the dropdown select the **p_Fund** parameter. Click **Next**.

Use existing parameter

p_Fund



31. On the Populate control step of the Wizard in the **Name** field type: q_Fund.

Values to display

32. Next to **Values to display** click **More**.

Prompt Wizard - Value prompt ×

Populate control
What values do you want to pick from? Use values are the retrieved data, and Display values are the selectable values that the user sees.

Create new query

Name:

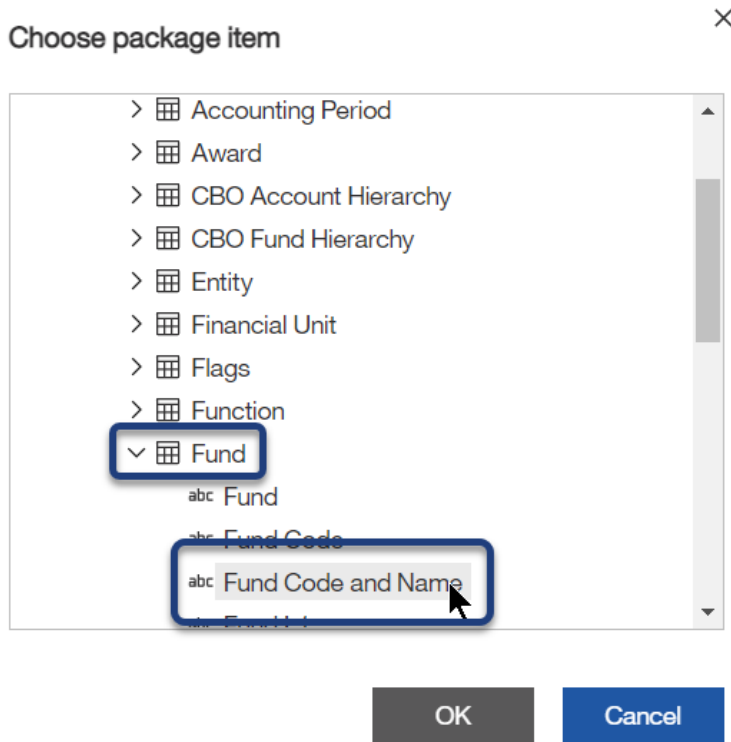
Values to use: ...

Values to display: ...

Cascading source: ▼

Chapter 1—Parameters and Prompts

33. In the Choose package item window expand the **UCSD General Ledger** namespace, the **Dimensions** folder, the **Fund** query subject and select **Fund Code and Name**. Click OK.



34. Click **Finish**:



Create new query

Name:

Values to use:

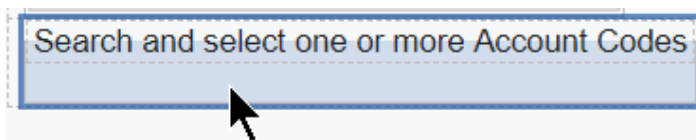
Values to display:


Cascading source:

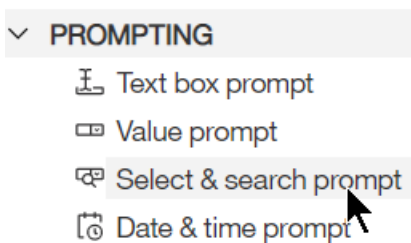
35. Click inside the 5th row of the Table and from the **Toolbox**  LAYOUT section double-click **Field set** .

36. Double-click the **Text** on the Field Set and in the Field type: Search and select one or more Account Codes.

37. Click inside the **Field set**.



38. From the **Toolbox**  PROMPTING section double-click **Select & search** prompt.



▼ PROMPTING

- Text box prompt
- Value prompt
- Select & search prompt
- Date & time prompt

Select & search is an advanced prompt control where users search for values.

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39. In the Prompt wizard click the radio button to **Use existing parameter** and from the dropdown select the **p_Account** parameter. Click **Next**.
40. On the Populate control step of the Wizard in the Name field type: q_Account. Click **Finish**.

The prompt page looks like this:

The screenshot displays a 'Prompt Wizard' interface with a title bar that says 'Double-click to edit text'. The main area is titled 'Provide values for the report you are about to run.' and contains several input fields:

- 'Enter a Fiscal Accounting Period.' with a calendar icon and a '+' button.
- 'Select an Entity.' with a dropdown menu and a '+' button.
- 'Select a Fund.' with a dropdown menu and a '+' button.
- 'Search and select one or more Account Codes.' with a search box, a list of account codes, and a '+' button.

At the bottom of the interface are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'.

41. In the Application toolbar click **Save** (Prompt page).

The only way to test the Prompt page is to Run the report.

Chapter 1—Parameters and Prompts

The values selected here match those we selected in the validation prompts when we set up the parameters. They are only stored here temporarily. As soon as we close the report the saved prompt values go away. The end user will see blank prompts on the page when they run the report, like this:

Provide values for the report you are about to run.

Enter a Fiscal Accounting Period.
*

Select an Entity.
* Entity Code

Select a Fund.
* Fund Code and Name

Search and select one or more Account Codes.

Keywords: →

← Select all

No Results

Starts with any of these ke

Case Insensitive

* Choices:

[Select all](#) [Deselect all](#)

43. Click around the Prompt page and take note of what you like about the prompts, and what you might like to change.

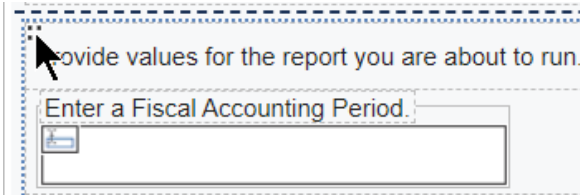
Leave the New report browser tab open—so we can come back to the Prompt page to review it again.

44. Click the **Prompt Page** browser tab to return to the report.



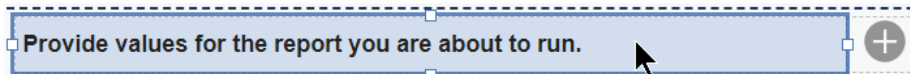
Chapter 1—Parameters and Prompts

45. In the upper left corner of the Table click the 3 dots to select the **Table**:

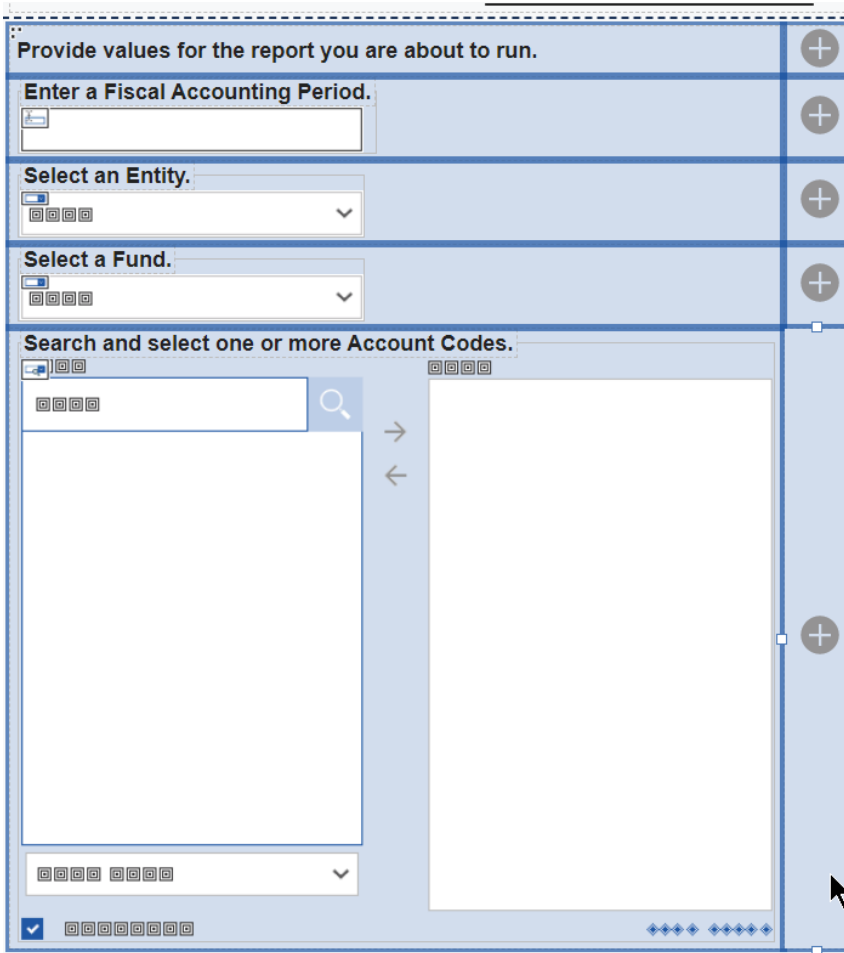


46. In the OnDemand toolbar click **Font T** and for Size select **12pt** and for Weight select **Bold**. Click OK.

47. Click inside the 1st row 1st column of the Table (outside the text):




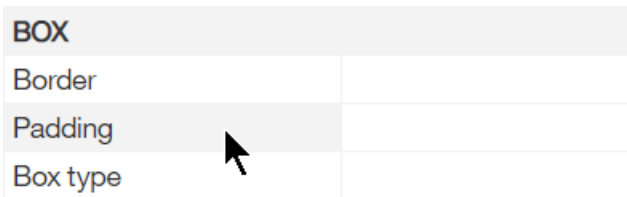
48. Hold the Shift-key on your keyboard and click inside the table cell in the lower right corner (5th row 2nd column) to select all the individual cells of the Table.



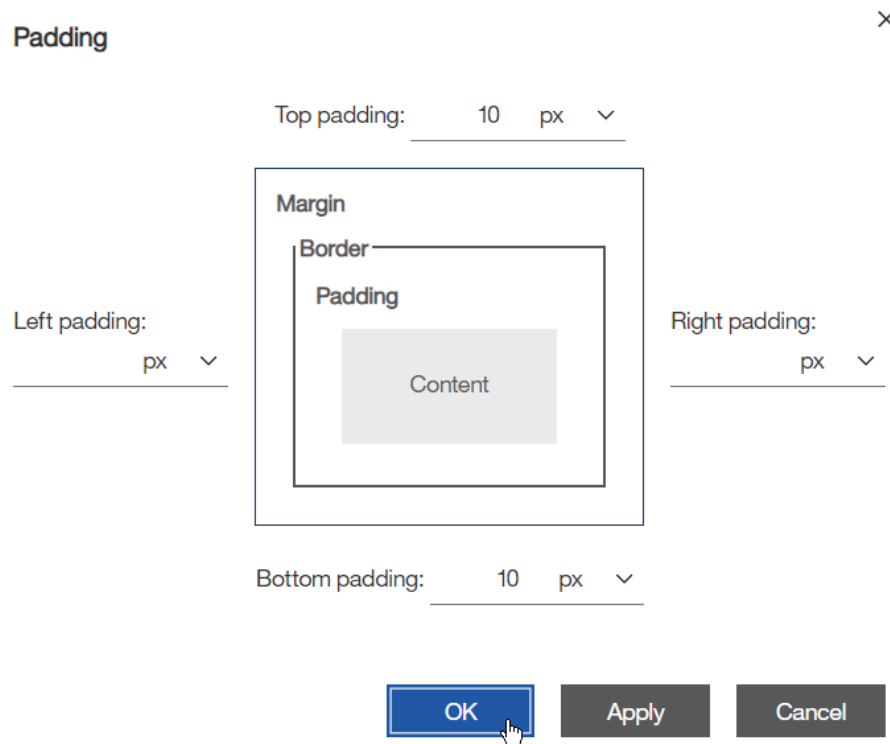
Chapter 1—Parameters and Prompts

Notice the difference between when we click the 3 red dots vs when we select the rows individually.

49. In Properties  under BOX double-click **Padding**.




50. Add **10px** of padding to the Top and Bottom. Click OK.





Prompt properties

51. Click inside the **Entity** prompt.



In the Properties  under GENERAL for **Select UI** notice the options to change the UI on the prompt. Do not make any changes here. This is a valuable property when building prompt pages, however for this example, we leave the setting on Drop down list as that is the best option for this prompt.

GENERAL	
Required	Yes
Multi-select	No
Select UI	Drop down list 
Auto-submit	List box
Cascade source	Drop down list 
Pre-populate	
Hide adornments	Radio button group

52. Double-click the text on the **Field set** for the **Fiscal Accounting Period** prompt.

53. Edit as follows: Enter a Fiscal Accounting Period in 6-digit format (YYYYMM).

54. In the Application toolbar click **Save** (Prompt page).

55. In the Application toolbar click **Run options**  and click **Run HTML**.

The prompt page opens—notice the changes we made in the Properties are reflected in the prompts.

For Search and select prompt on Account we experiment with copying and pasting a list of values into the prompt—but first we must remove the values that are stored from when we validated the parameter. These preselected values only appear until we close the report! When the consumer runs the report, the prompts will be empty.

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56. In the **Account Codes** prompt under Choices click the value and click **Remove**:

Search and select one or more Account Codes

Keywords: Input keywords here

Choices: 522401

Select all

522401

57. In the Keywords box type the following Account Codes: 238899 522201 522400. Click **Search**.

Search and select one or more Account Codes

Keywords: 238899 522201 522400

Choices:

The values appear below the Search field.

58. Click **Select all** and **Add**:

Search and select one or more Account Codes.

Keywords: 238899 522201 522400

Choices:

Select all

238899

522201

522400

59. Click **Finish**.

The report runs in the Viewer.

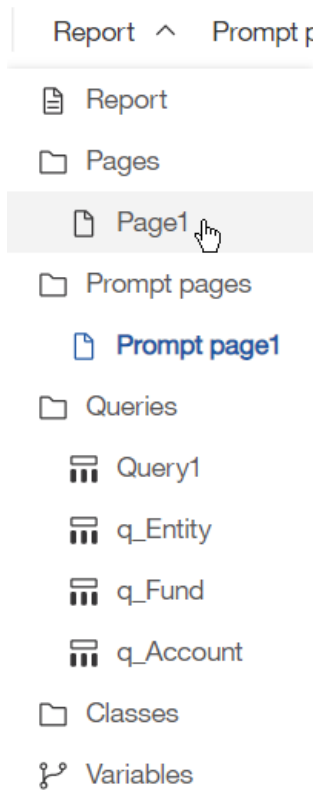
Fiscal Accounting Period	Entity	Fund	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Transaction Entry (C/D)	Transaction Amount
202007	Academic Affairs	Federal Contracts and Grants	Encumbrance Reserve	Purchasing	Purchase Order	31-01-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	C	1,229.76

60. Close the New report browser tab to return to the Prompt page.

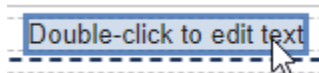
Layout calculations

Next, we add a Layout Calculation to the report to indicate the selected prompt values.

61. In the Navigation menu click **Report** (notice all the new queries for the prompts we created) and click **Page1**.




62. In the Report Header click once on “Double-click to edit text” text item to select it and on your keyboard hit **Delete**.

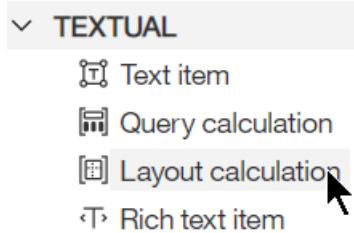


63. In the Report Header click inside the empty Block.




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64. From the **Toolbox**  TEXTUAL section double-click **Layout Calculation** to add it to the Report header:



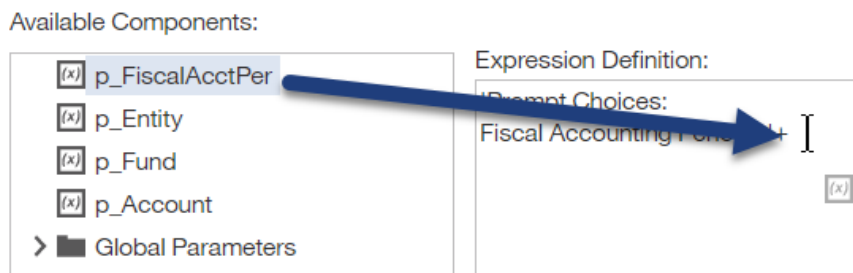
65. In the Report expression window we learn how to concatenate text with param display values—begin typing as follows. Your instructor explains the logic used.

Expression Definition:
'Prompt Choices:
Fiscal Accounting Period: '+'

66. Under Available components click the **Parameters**  tab.





67. Drag the **p_FiscalAcctPer** parameter into the expression after the +:



68. Continue typing and bringing in paramdisplay values for all the parameters as follows:

Expression Definition:

```
'Prompt Choices:
Fiscal Accounting Period: '+ ParamDisplayValue('p_FiscalAcctPer') + '
Entity: '+ ParamDisplayValue('p_Entity') + '
Fund: '+ ParamDisplayValue('p_Fund') + '
Accounts: '+ ParamDisplayValue('p_Account')
```

69. Click **Validate** . Click OK.
70. In the Application toolbar click **Save** (Prompt Page).
71. In the Application toolbar click **Run options**  and **Run HTML**.
72. On the Prompt page for Fiscal Accounting Period type: **202007**; for Entity select **16110**; for Fund select **20000-Federal Contracts**; for **Account Codes** search and select **238899**.
73. Click **Finish**.

The report runs in the Viewer. Notice the layout calculation in the Report header!

```
Prompt Choices:
Fiscal Accounting Period: 202007
Entity: 16110
Fund: 20000-Federal Contracts and Grants
Accounts: 238899
```

In this example we put all the parameters into one layout calculation, however for formatting and other reasons, they don't have to be.

Rerun a report from the viewer

74. In the Application toolbar click **Run options** .

This action brings us back to the Prompt page. Cognos remembers the previous prompt values we selected allowing us to make a small change to the prompt selections and run the report again without leaving the Viewer window.

75. Close the New report browser window.

Cascading Prompts

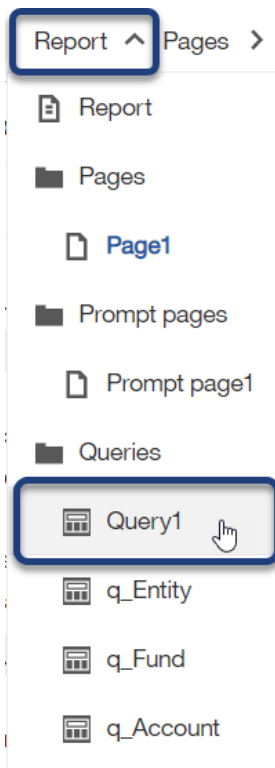
In the next lesson we learn how to create a prompting hierarchy using Cascading prompts.

For this example, we modify the prompt on Fund and add a prompt on Financial Unit. We so that when we select a Fund Cognos auto submits that value and filters the Financial Unit prompt to only display Units that are applicable to the selected Fund.



Cascading Prompts

1. Continue in the **Prompt page** report.
2. In the Application toolbar click the **Save** dropdown and click **Save as**. Save the report specification as **Cascading prompt**. Click OK.
3. In the Navigation menu click **Report** and click **Query1**.



Query1 opens. The first step in adding a new prompt to the report is to add a parameterized filter to the query—in this example on Financial Unit Code.

4. At the top of the Detail Filters pane click **Add** .



5. In the Detail filter expression window navigate to the **Financial Unit** query subject and double-click **Financial Unit Code** to add it to the filter expression and edit as follows to create a parameter:

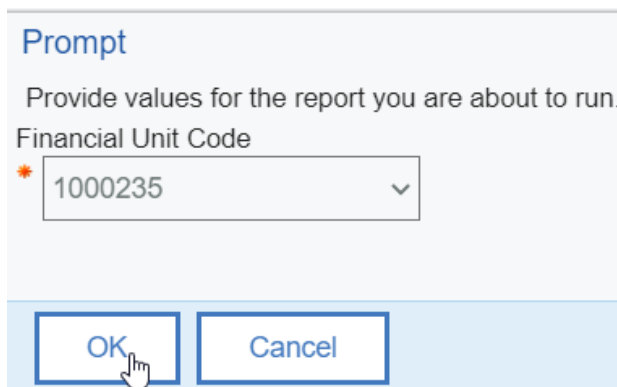
Expression Definition:

```
[UCSDGeneralLedger].[Financial Unit].[Financial Unit Code] = ?p_FinUnit?
```

6. Click **Validate** .

In the stock prompt—you may or may not be prompted for all the values listed here.

7. For Fiscal Accounting Period type: **202007**; for Entity select **16110**; for Fund select **20000**; for Account Codes select **522401**.
8. For Financial Unit Code select **1000235**. Click OK.


A screenshot of a 'Prompt' dialog box. The title bar says 'Prompt'. Below the title, it says 'Provide values for the report you are about to run.' There is a label 'Financial Unit Code' followed by a dropdown menu. The dropdown menu is open and shows the value '1000235'. There is a red asterisk to the left of the dropdown. At the bottom of the dialog, there are two buttons: 'OK' and 'Cancel'. A mouse cursor is hovering over the 'OK' button.

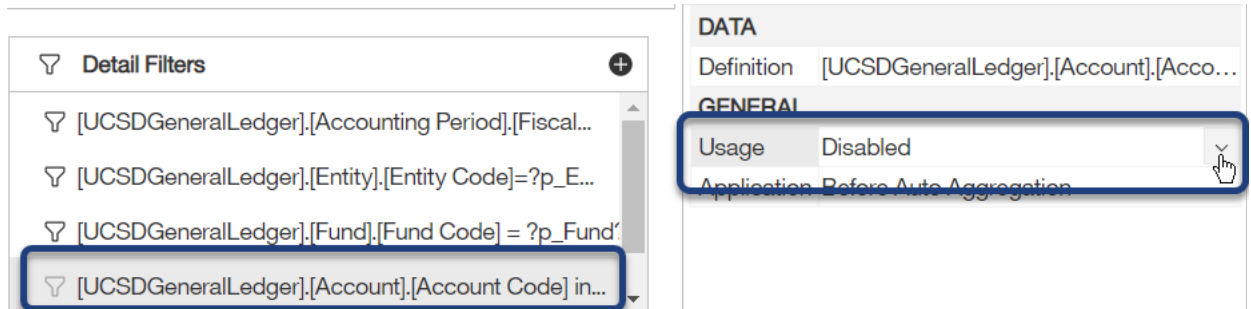
9. Click OK to close the filter window.


In the next steps we disable the Account Code filter—we don't need the filter nor the associated prompt for this example.

Disabling the filter allows us to leave the filter expression available if we want to use it again but it will not be applied to the data returned in the report. This is helpful for testing queries.

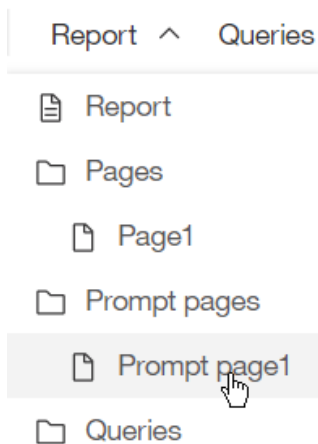
Chapter 1—Parameters and Prompts

- Click the **Account Code** filter and in Properties  under GENERAL for **Usage** select **Disabled** (we discuss the Optional property a little later in this chapter).

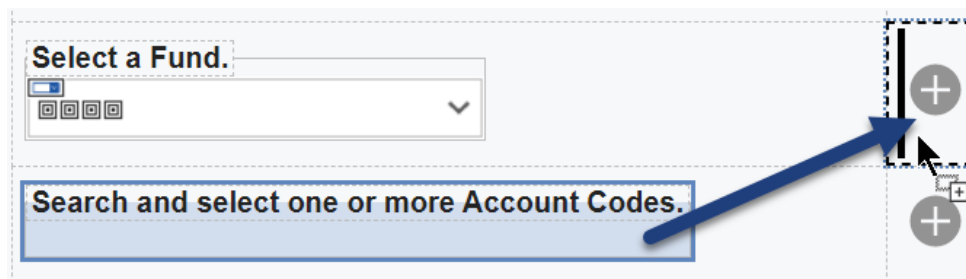


Notice the filter icon is faded indicating it is disabled .

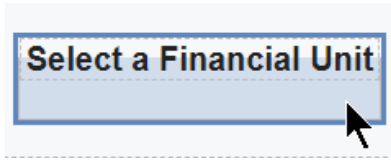
- In the Navigation menu click **Report** and **PromptPage1**:




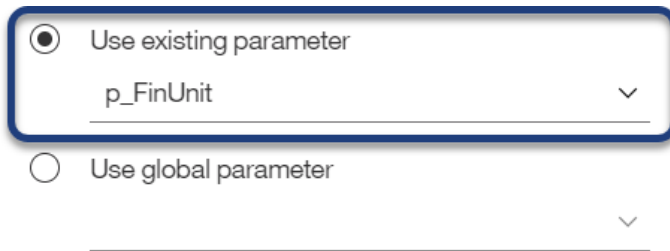
- Click inside the **Account Codes** prompt (the big select and search prompt) and on your keyboard hit **Delete**.
- Click inside the **Account Codes Field set** and drag it up and into the table cell to the right of the Fund prompt:



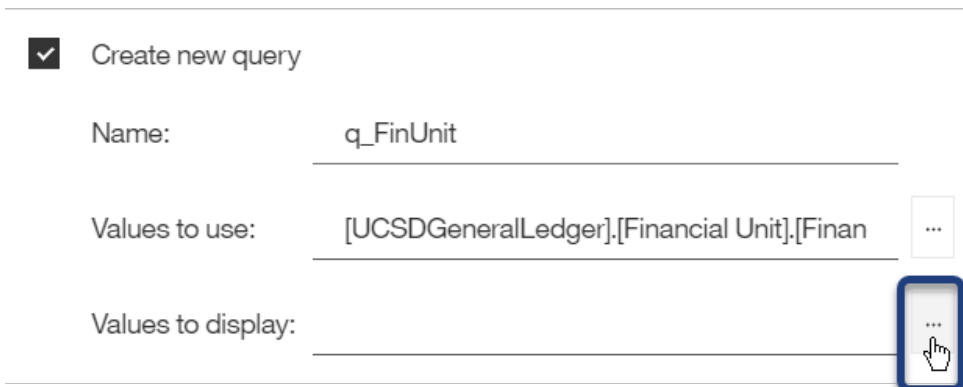
14. Double-click to edit the text on the old Account Codes field set and type: Select a Financial Unit.
15. Click inside the **Financial Unit** Field set:



16. From the **Toolbox**  PROMPTING section double-click **Value prompt**.
17. In the Prompt Wizard click the radio button to **Use existing parameter** and select **p_FinUnit**. Click **Next**.

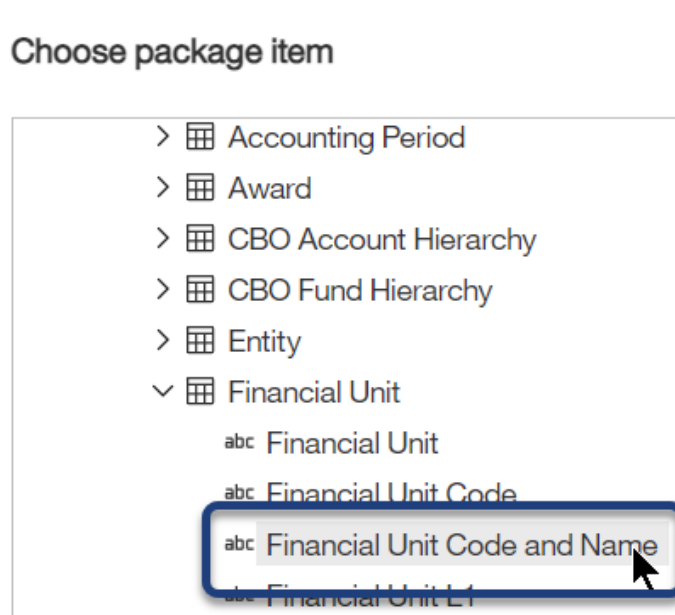


18. On the Populate control screen, for Name type: q_FinUnit.
19. Next to **Values to display** click **More**.

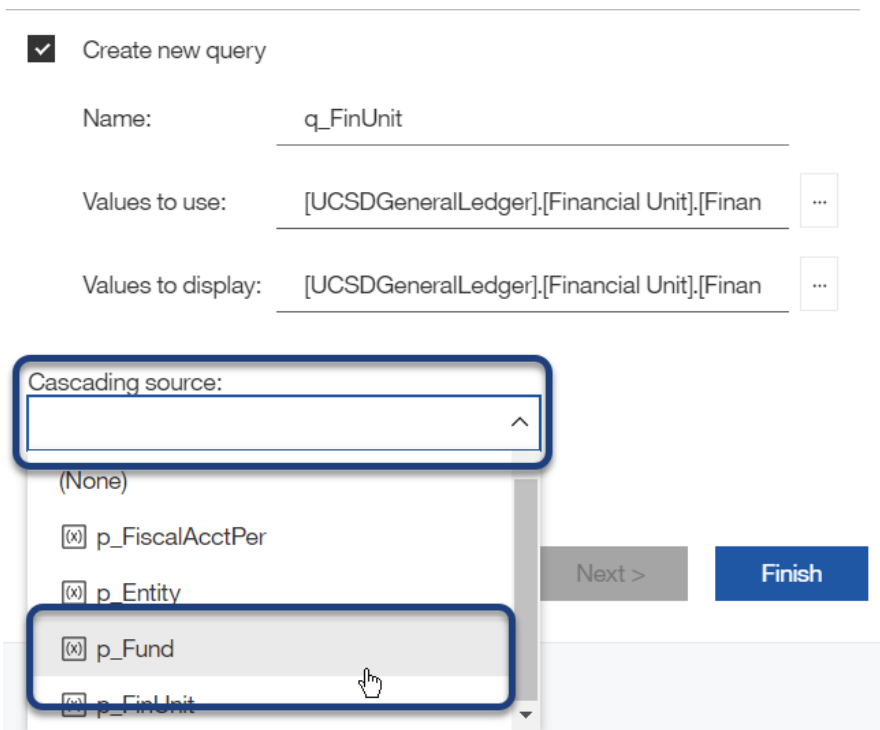


Chapter 1—Parameters and Prompts

20. In the Choose package item window navigate to the **Financial Unit** query subject and select **Financial Unit Code and Name**. Click OK.



21. For **Cascading source** select **p_Fund**.




22. Click **Finish**.

Auto-submit

23. Click inside the **Fund** prompt:



24. In the Properties  under GENERAL for **Auto-submit** select **Yes**.

GENERAL	
Required	Yes
Multi-select	No
Select UI	Drop down list
Auto-submit	Yes 
Cascade source	

This property indicates that as soon as a user selects a value from the prompt Cognos is to pass that value to the cascading prompt on Financial Unit.

25. In the Application toolbar click **Save** (Cascading prompt).

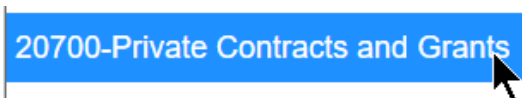
26. In the Application toolbar click **Run options**  and **Run HTML**.

This time we make a few changes to the prompt selections.

27. For Fiscal Accounting Period type: **202007**.

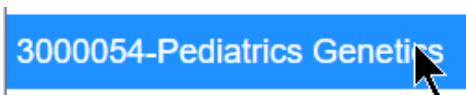
28. For Entity select **16130** (for Health Science).

29. For Fund select **20700 – Private Contracts and Grants**.



It's subtle but the Financial Unit prompt refreshes to display only those Units that apply to the selected Fund.

30. For Financial Unit Code select **3000054 – Pediatrics Genetics**. Click Finish.



31. Click **Finish**.

Chapter 1—Parameters and Prompts

The report runs in the viewer.


Fiscal Accounting Period	Entity	Fund	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Transaction Entry (CID)	Transaction Amount
202007	Health Science	Private Contracts and Grants	Lab - Test and Diagnostic Services	Purchasing	Purchase Order	14-01-2020 Purchase Order 30000000242232	Journal Import Created	07/14/2020	D	2,400
202007	Health Science	Private Contracts and Grants	Lab Supplies	Purchasing	Purchase Order	14-01-2020 Purchase Order 30000000242232	Journal Import Created	07/14/2020	D	244.49
202007	Health Science	Private Contracts and Grants	Equipment <\$5K	Purchasing	Purchase Order	14-01-2020 Purchase Order 30000000242232	Journal Import Created	07/14/2020	D	381
202007	Health Science	Private Contracts and Grants	Chemicals	Purchasing	Purchase Order	14-01-2020 Purchase Order 30000000242232	Journal Import Created	07/14/2020	D	340.56

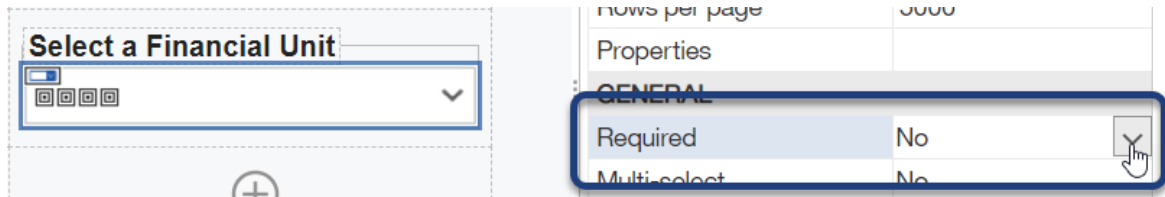
32. Close the New report browser tab.

Understanding the Required property on the prompt vs. the Usage property on the filter

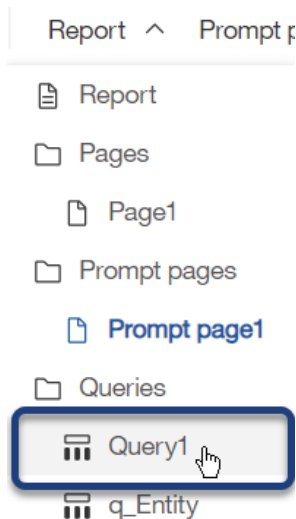
In some cases, we want to provide prompts that are optional to the user. To ensure the prompt does not require a value to run the report we adjust both the Required Property on the prompt and the Usage Property on the filter.

Assume we want to make the Financial Unit prompt optional.


33. On the Prompt page click inside the **Financial Unit** prompt and in the Properties  under GENERAL for **Required** select **No**.

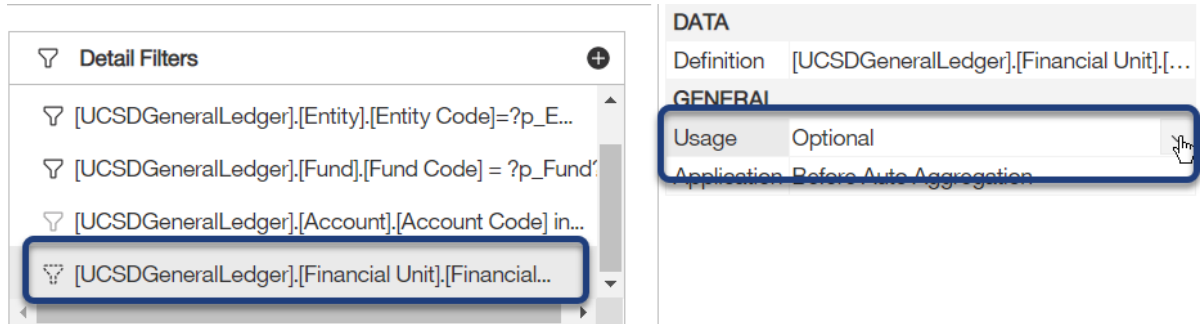



34. In the Navigation menu click **Report** and click **Query1**.



Chapter 1—Parameters and Prompts

35. In the Query in the Detail Filters pane click the **Financial Unit** filter and in the Properties  for **Usage** select **Optional**:



Notice the filter icon is outlined with a dotted line to indicate it is Optional .

36. In the Application toolbar click **Save** (Cascading Prompt).

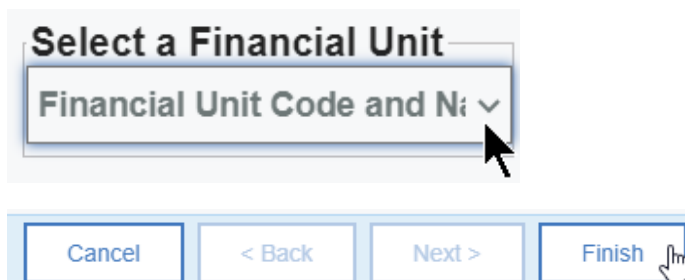
37. In the Application toolbar click **Run options**  and **Run HTML**.

38. For Fiscal Accounting Period type: **202007**.

39. For Entity select **16130** (for Health Science).

40. For Fund select **20700 – Private Contracts and Grants**.

Notice the Financial Unit filter no longer has an orange outline and asterisk that indicate required prompts—and the Finish button is active though we do not have a value selected for Financial Unit.



We do not run the report.

41. Close the New report browser window.

Prompts on the report page

We conclude this chapter with a lesson on how to put prompts on the report page to add interactivity. In this lesson we add the Fund and Financial Unit prompts to the report page.

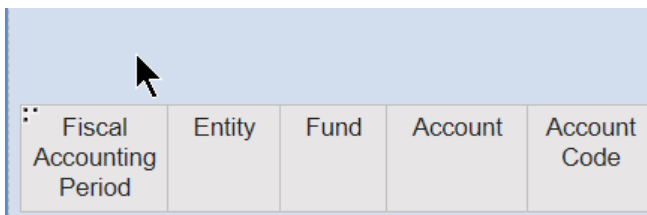


Prompts on the Report Page

1. Continue in the **Cascading Prompt** report.
2. In the Application toolbar click the **Save** dropdown and select Save as. Save the report specification as **Prompts on the Report Page**. Click Save.
3. In the Navigation menu click **Report** and select **Page1**.

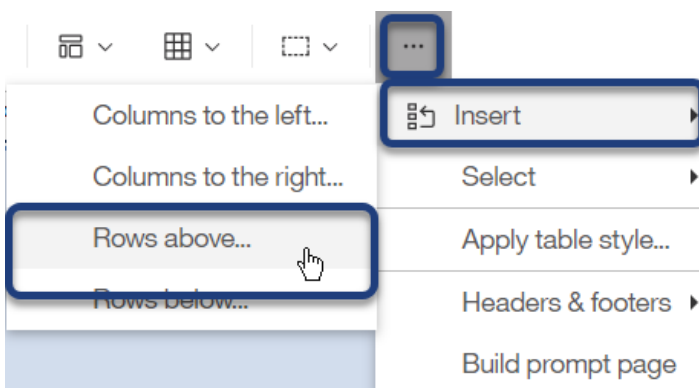
First, we need to make room for the prompts.

4. Click in the white space above the List:

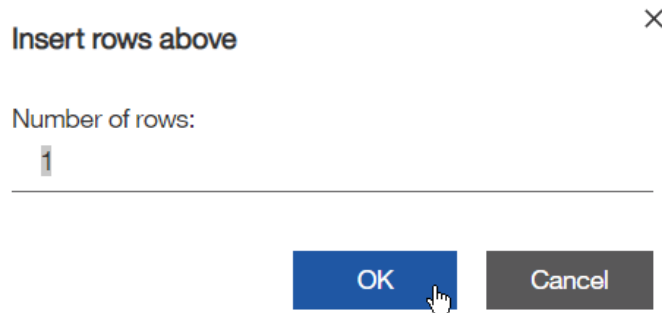


This action selects the Table cell that is part of the template we used to build this report. In the next steps we add another Row to the table to contain the Prompts on page.

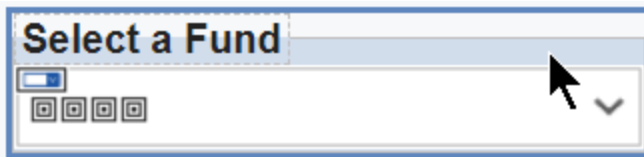
5. In the OnDemand toolbar click **More** **...** , mouse over **Insert** and click **Rows above**:



6. In the Insert rows above window type: 1. Click OK.

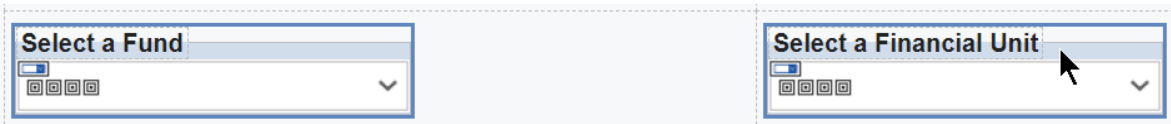



7. In the Navigation menu click **Report** and **Prompt Page1**.
8. On the Prompt page click inside the Field set that contains the **Fund** prompt.

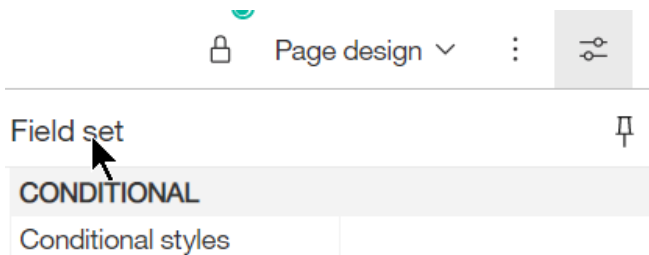


Notice where the cursor is in the image above to ensure you've selected the Field set.

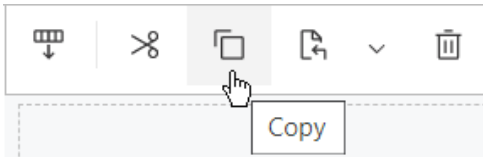
9. On your keyboard hold your Ctrl key and click inside the Field set that contains the **Financial Unit** prompt—again, where you click is important!



10. Look at the top of the Properties  in the **Select ancestor** button and ensure it says **Field set**.



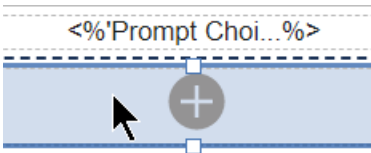
11. In the OnDemand toolbar click **Copy**.



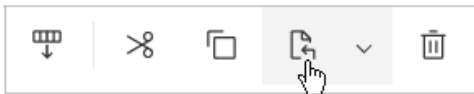
12. In the Navigation menu click **Go Back** ← to return to **Page1**.



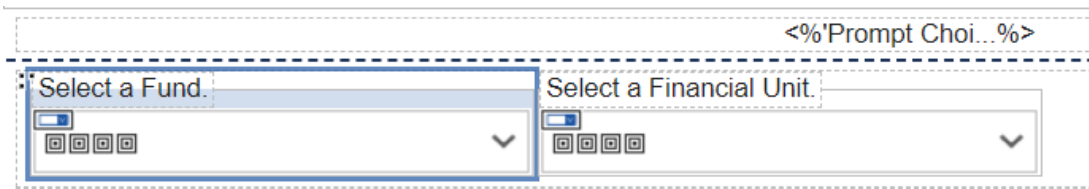
13. Click inside the empty Table row we added a few steps ago:



14. In the OnDemand toolbar click **Paste**.



Both Field sets and prompts are now in the report page.

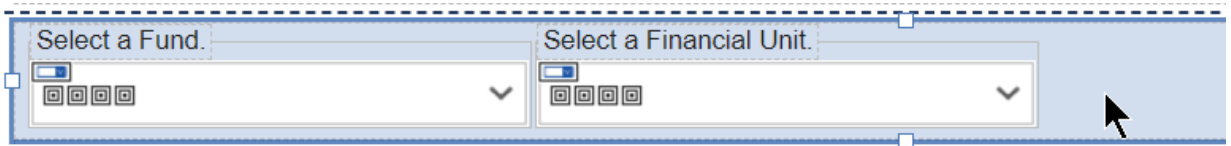



15. In the Application toolbar click **Save** (Prompts on the Report Page).

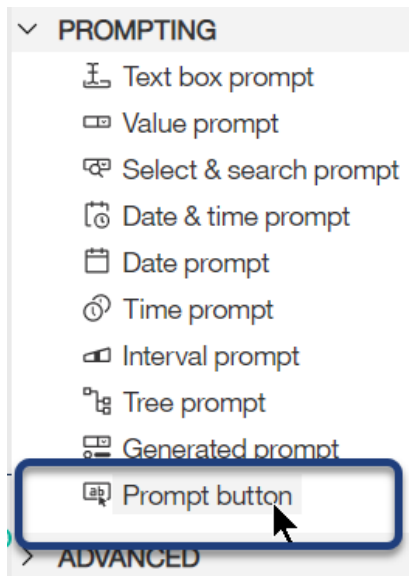
Next, we need to either add a button for the report user to rerun the report after selecting a Financial Unit or we can set the Prompt to Auto-submit.

Chapter 1—Parameters and Prompts

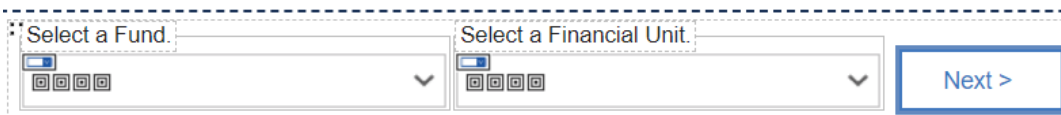
16. Click inside the white space to the right of the Financial Unit Field set to select the Table cell.




17. From the **Toolbox**  **PROMPTING** section double-click **Prompt button** to add it to the Table to the right of the Prompts:

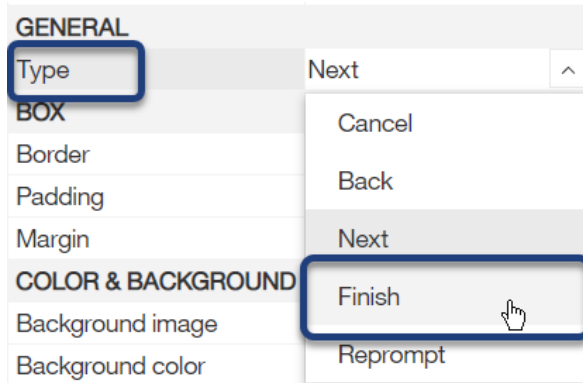


The button, which reads Next by default, appears in the Table to the right of the Field sets and prompts:





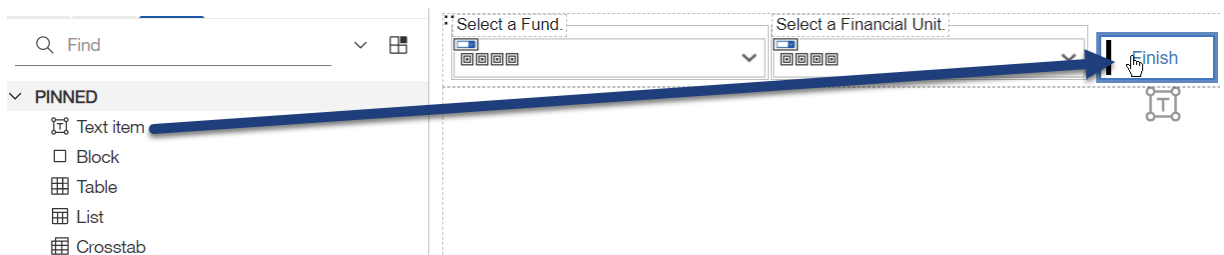
Chapter 1—Parameters and Prompts


18. Click on the button and in Properties  under GENERAL click the **Type** dropdown and select **Finish**.

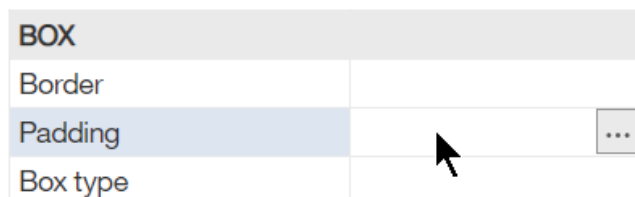


The Type property specifies the behavior of the button, but let's assume we want the button to say Run.

19. From the **Toolbox**  PINNED section drag a **Text item**  and drop it on top of the button:

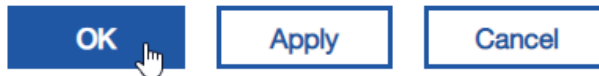


20. In the Text box type: Run. Click OK.
21. Click inside the 2nd row of the Table.
22. In the Properties  under BOX double-click **Padding**.



23. Specify **20px** of **Bottom** padding. Click OK.

Bottom padding:



24. In the Application toolbar click **Save** (Prompts on the Report Page).

25. In the Application toolbar click **Run options**  and **Run HTML**.

26. For Fiscal Accounting Period type: **202007**.

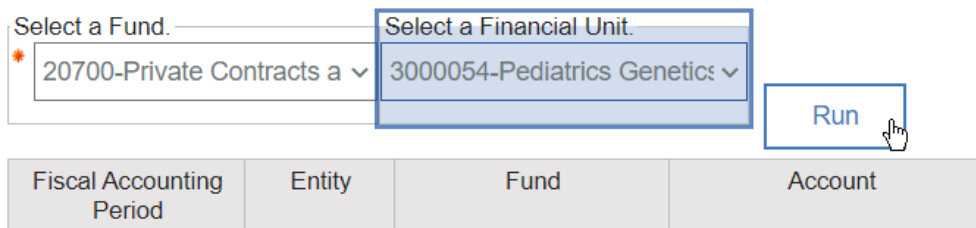
27. For Entity select **16130** (for Health Science).

28. For Fund select **20700 – Private Contracts and Grants**.

29. Click **Finish**.

The report runs—notice the prompts on the report page!

30. For Financial Unit Code select **3000054 – Pediatrics Genetics** and click **Run**.



Fiscal Accounting Period	Entity	Fund	Account
--------------------------	--------	------	---------

The report refreshes:

31. Close the New report browser tab.

Prompts on the report page can be used not only to allow the user to select values to filter the report but we can combine prompts with conditional formatting options such as variables to give the user many levels of controls over the report.

Chapter 2—Working with Multiple Queries

In this chapter we discuss various ways to work with multiple queries to add advanced reporting features to your report.

We learn about:

- Drill through reports
- How to upload Excel files and
- Create a data module
- Combining queries using Joins and Unions
- Subqueries

Drill through reports

A drill through report allows you to pass one or more parameters from one report to another. Drill through reports work best when starting in a summary report and drilling through to a more detailed report.



To save time we use a “starting point” report developed by your instructor as our Source report and then save a modified version of that report to use the Target report.



Drill through Reports

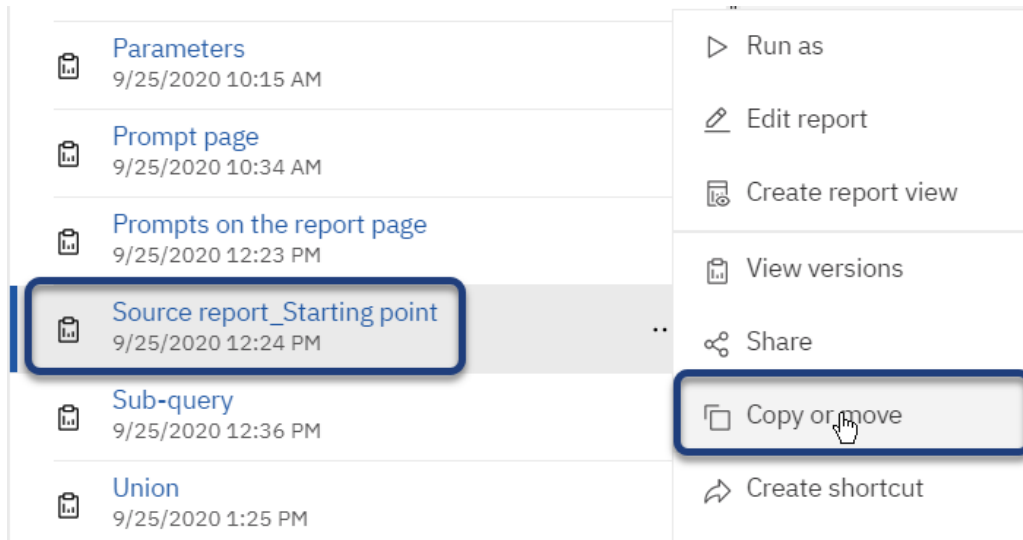
Source report

We begin by navigating to the Source report in Team content.

1. In the **Navigation panel** click **Home** .
2. In the **Navigation panel** click **Team content**  and open the **Business User Development** folder > **Training Samples – FINAH** folder > **Day 3: Advanced** folder.

Chapter 2—Working with Multiple Queries

3. Mouse over the **Source report_Starting point** report, click **More**  and **Copy or move**.



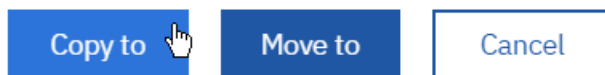
4. In the Copy or move window click **My content**  and open the **Cognos Training – FINAH** folder.

It is best practice to save your drill through reports in designated folders. This is especially helpful when it is time to migrate reports to Production.




5. In the **Cognos Training-FINAH** folder click **New folder** .



6. Name the folder **Drill through reports**.
7. Open the new folder.
8. Click **Copy to**.

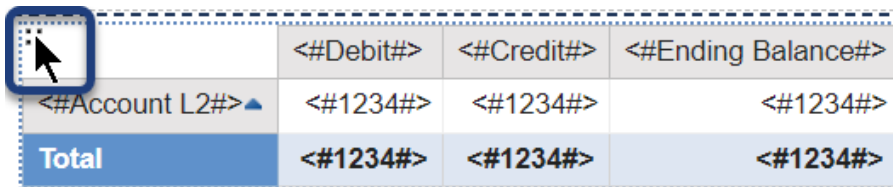


Tip! When drill through reports are migrated to different environments it is important to test the drill through.

- In the Navigation panel click **My content**  > the **Cognos Training – FINAH** folder > **Drill through reports** folder.
- Mouse over the **Source report_Starting point** report, click **More**  and  **Edit report**

In the next steps we save a Copy of this report and use it and the underlying query as the foundation of our Target report (to save time).

- In the Application toolbar click the **Save** dropdown and click **Save as**.
- Ensure you are in the **Drill through reports** folder and save as **Target report**.
- Click the 3 dots to select the **Crosstab**.




	<#Debit#>	<#Credit#>	<#Ending Balance#>
<#Account L2#>	<#1234#>	<#1234#>	<#1234#>
Total	<#1234#>	<#1234#>	<#1234#>

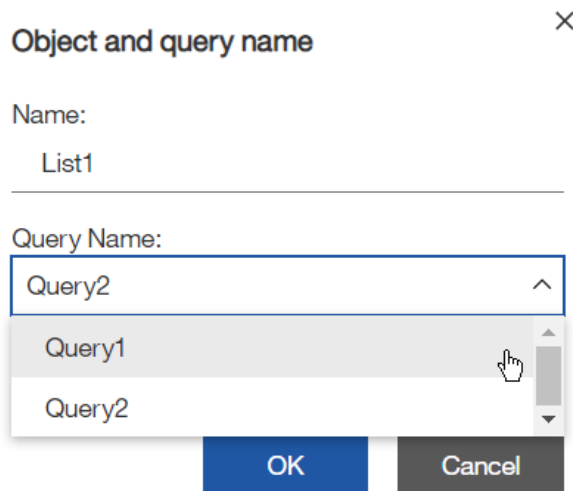
- In the OnDemand toolbar click **Cut**.



When we cut an object from the report the underlying query remains. If we delete an object the query is also deleted. We use the query from the Crosstab to build a List report to serve as our drill through Target.

- In the middle of the report click **Add**  and select **List**.

16. In the Object and query name window for query select **Query1**.




This indicates to Cognos that we do not need a new query (Query2) for the List and instead want to use Query1. Everything we need for this report is in the query.

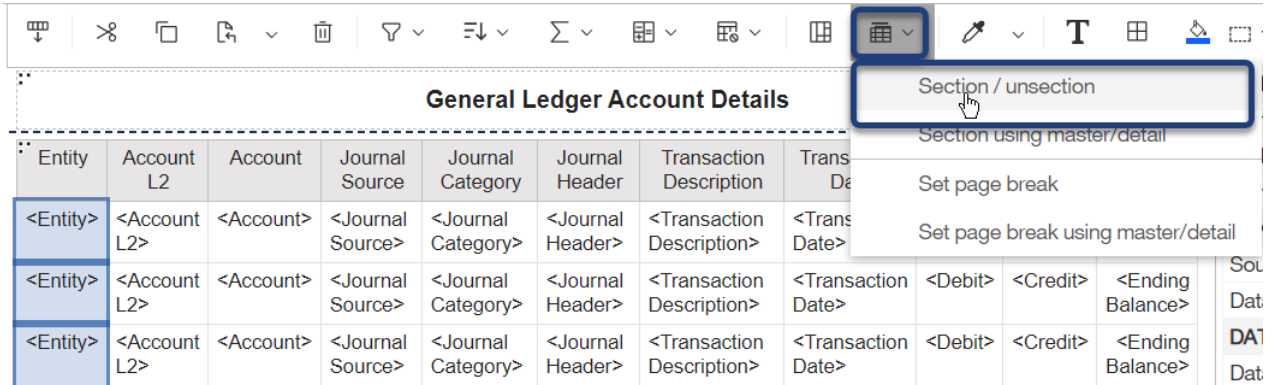
17. Click OK.

18. Under Insertable objects click **Data items**  and from **Query1** bring the columns into the List report in the following order:

Entity	Account L2	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Debit	Credit	Ending Balance
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>

Chapter 2—Working with Multiple Queries


19. Click inside the **Entity** column and in the OnDemand toolbar click **Section / Unsection**  and select **Section / Unsection**.




General Ledger Account Details

Entity	Account L2	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Debit	Credit	Ending Balance
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>			
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>
<Entity>	<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>

This is another way to make the report easier to read—and saves horizontal room in the report.

20. Click inside the **Account L2** column and in the OnDemand toolbar click **Sort**  and **Ascending**.

Entity:  Entity>

Account L2	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Debit	Credit	Ending Balance
<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>
<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>
<Account L2>	<Account>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Description>	<Transaction Date>	<Debit>	<Credit>	<Ending Balance>

21. In the Application toolbar click Save (**Target report**).

Parameter on the Target report

In the next step we add a parameterized filter to the Target report to accept the value we click in the Source report that is sent via the drill through.

22. Click inside the any column in the List report and in the OnDemand toolbar click

Filters  and **Edit filters**.

23. In the Filters window click **Add** .

24. In the Create filter window click **Advanced**. Click OK.

25. From the Source tab navigate to the **Account** query subject, double-click **Account L2** and define the following expression:

Expression Definition:

[UCSDGeneralLedger].[Account].[Account L2] = ?p_AccountL2?

26. Click **Validate** .

27. In the validation prompt select **Supplies and Materials**.

28. Click OK three times to close all the filters windows.

29. In the Application toolbar click **Save** (Target report).




30. In the Application toolbar click Page design and **Page preview**.

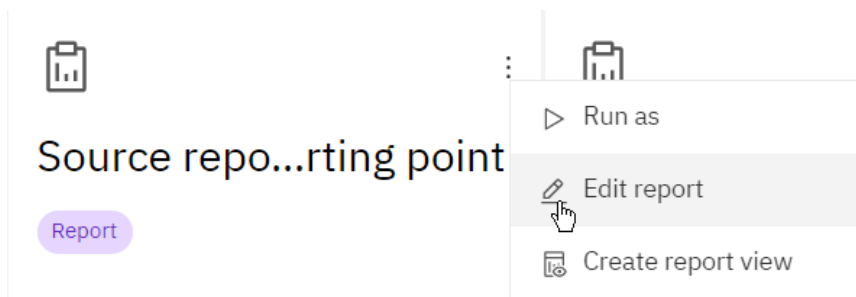
Entity: Academic Affairs									
Account L2	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Debit	Credit	Ending Balance
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	08-05-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	2,845.82	0	2,845.82
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	01-11-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	5,100	0	5,100
Supplies and Materials	Chemicals	Purchasing	Purchase Order	29-05-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	250	0	250
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	31-12-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	354.57	0	354.57
Supplies and Materials	Equipment <\$5K	Purchasing	Purchase Order	30-06-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	39.78	0	39.78
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	30-06-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	6,282.78	0	6,282.78
Supplies and Materials	Chemicals	Purchasing	Purchase Order	30-06-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	471.16	0	471.16
Supplies and Materials	Office Supplies	Purchasing	Purchase Order	13-03-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	230.39	0	230.39
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	30-04-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	690.96	0	690.96
Supplies and Materials	Chemicals	Purchasing	Purchase Order	30-04-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	864.14	0	864.14
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	28-02-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	881.1	0	881.1
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	14-04-2020 Purchase Order 300000000242233	Journal Import Created	09/14/2020	0	66.26	-66.26

31. In the Application toolbar click Page preview and **Page design**.

Chapter 2—Working with Multiple Queries

In the next steps we return to the Source report to setup the Drill through.

32. In the Navigation panel click **Home** .
33. In the Welcome Portal in the Recent area mouse over the **Source report_Starting point** report, click **More**  and  **Edit report**.



34. In the Application toolbar click Page design and **Page preview**.


	Debit	Credit	Ending Balance
Current Assets	16,806,465.68	22,805,033.8	-5,998,568.12000002
Current Liabilities	13,924.3	59,607.33	-45,683.03
Net Position/Fund Balance	1,128,906,470.56	1,122,916,347.92	5,990,122.6400001
Noncurrent Assets	21,166.6	0	21,166.6
Other Operating Expense	13,403.1	1,912.56	11,490.54
Supplies and Materials	21,537.63	66.26	21,471.37
Total	1,145,782,967.87	1,145,782,967.87	0.00000009

35. In the Application toolbar click Page preview and **Page design**.

Setting up the drill through

36. In the Crosstab click inside the **Account L2** row header.

	<#Debit#>	<#Credit#>	<#Ending Balance#>
<#Account L2#>	<#1234#>	<#1234#>	<#1234#>
Total	<#1234#>	<#1234#>	<#1234#>

37. In the Properties  under DATA double-click **Drill-through definitions**.


DATA	
Sorting	(Defined)
Data format	
Drill-through definitions	
Properties	

38. At the bottom of the Drill-through definitions window click **New Drill-Through Definition**:



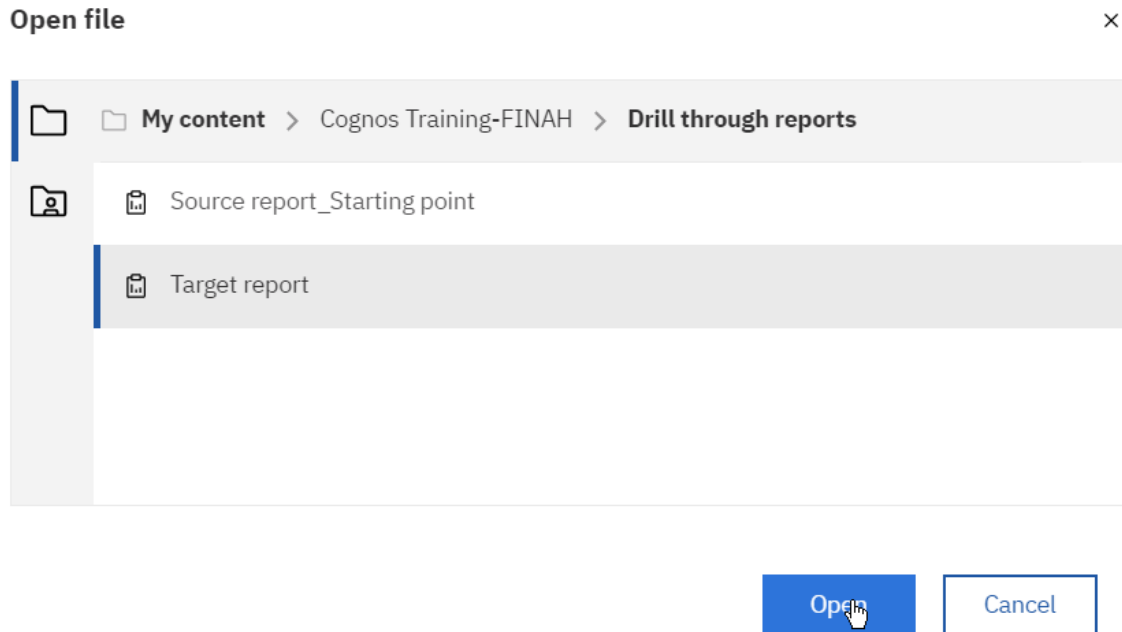
39. On the **Target report** tab.
a. Next to the **Report** field click **More**.

Target report Bookmark Label

Report: _____ 

Chapter 2—Working with Multiple Queries

- b. In the Open file window from **My content** > **Cognos Training - FINAH** > **Drill through reports** folders select the **Target report**. Click Open.



- c. In the **Action** field select **Run the report**.
d. For **Format** ensure **(Default)** is selected – the default format is HTML.
e. Under **Format** place a check in the box to **Open in new window**.

Target report	Bookmark	Label
Report:		
Target report		...
Action:		
Run the report		▼
Format:		
(Default)		▼
<input checked="" type="checkbox"/>	Open in new window	

Chapter 2—Working with Multiple Queries

f. Under the Parameters pane click **Edit**.

Open in new window

Parameters:



Display prompt pages:

- g. In the Parameters window:
- i. In the Method column select **Pass data item value**.
 - ii. In the Value column select **Account L2**.
Do not make any other changes.
 - iii. Click OK.

Parameters ×


Name	Type	Required	Multi-select	Method	Value	Property to pass
p_AccountL2	String	✓		Pass data item value	Account L2	(Default)

OK

Cancel

Chapter 2—Working with Multiple Queries


The Target report tab looks like this:

Target report	Bookmark	Label
Report:		
Target report		...
Action:		
Run the report		▼
Format:		
(Default)		▼
<input checked="" type="checkbox"/> Open in new window		
Parameters:		
<input checked="" type="checkbox"/> p_AccountL2		
		
Display prompt pages:		
Only when required parameter values are mis: ▼		

h. Click OK.

Notice the active hyperlink in the Account L2 row header:

	<#Debit#>	<#Credit#>	<#Ending Balance#>
+ <#Account L2#> ▲	<#1234#>	<#1234#>	<#1234#>
Total	<#1234#>	<#1234#>	<#1234#>

40. In the Application toolbar click the **Save** dropdown and click **Save as**.
41. Ensure you are in the **Drill through reports** folder and save as **Source report**.
42. In the Application toolbar click **Save** (Source report).
43. In the Application toolbar click **Run options**  and **Run HTML**.

Chapter 2—Working with Multiple Queries

44. In the report results click any link for any **Account L2**:

	Debit	Credit	Ending Balance
Current Assets	16,806,465.68	22,805,033.8	-5,998,568.12000001
Current Liabilities	13,924.3	59,607.33	-45,683.03
Net Position/Fund Balance	1,128,906,470.56	1,122,916,347.92	5,990,122.63999653
Noncurrent Assets	21,166.6	0	21,166.6
Other Operating Expense	13,403.1	1,912.56	11,490.54
Supplies and Materials	21,537.63	66.26	21,471.37
Total	1,145,782,967.87	1,145,782,967.87	-0.00000348

The Target report runs and only displays data for the Account L2 clicked in the Source report.

Entity: Academic Affairs

Account L2	Account	Journal Source	Journal Category	Journal Header	Transaction Description	Transaction Date	Debit	Credit	Ending Balance
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	14-04-2020 Purchase Order 300000000242233	Journal Import Created	09/14/2020	0	66.26	-66.26
Supplies and Materials	Chemicals	Purchasing	Purchase Order	29-05-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	250	0	250
Supplies and Materials	Laboratory/Research Animals	Purchasing	Purchase Order	31-03-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	20	0	20
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	30-04-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	690.96	0	690.96
Supplies and Materials	Oxygen Med Gas	Purchasing	Purchase Order	30-06-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	15	0	15
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	31-07-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	1,574.83	0	1,574.83
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	28-02-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	881.1	0	881.1
Supplies and Materials	Chemicals	Purchasing	Purchase Order	28-02-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	542.78	0	542.78
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	01-11-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	5,100	0	5,100
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	14-04-2020 Purchase Order 300000000242232	Journal Import Created	09/14/2020	66.26	0	66.26
Supplies and Materials	Lab Supplies	Purchasing	Requisition	14-04-2020 Requisition 300000000242233	Journal Import Created	09/14/2020	66.26	0	66.26
Supplies and Materials	Chemicals	Purchasing	Purchase Order	31-07-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	67.7	0	67.7
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	31-12-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	354.57	0	354.57
Supplies and Materials	Mail/Postage/Messenger Services	Purchasing	Purchase Order	31-07-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	245.85	0	245.85
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	08-05-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	2,845.82	0	2,845.82
Supplies and Materials	Chemicals	Purchasing	Purchase Order	30-04-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	864.14	0	864.14
Supplies and Materials	Lab Supplies	Purchasing	Purchase Order	31-01-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	29.76	0	29.76
Supplies and Materials	Office Supplies	Purchasing	Purchase Order	13-03-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	230.39	0	230.39
Supplies and Materials	Chemicals	Purchasing	Purchase Order	31-03-2020 Purchase Order 300000000242232	Journal Import Created	07/14/2020	453.35	0	453.35
Supplies and Materials	Medical Care Materials and Supplies	Purchasing	Purchase Order	31-07-2019 Purchase Order 300000000242232	Journal Import Created	07/14/2020	8.95	0	8.95

45. As time allows you can click on the New report browser tab to return to the Source report and drill through to a different Account L2.



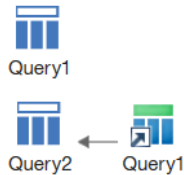
46. Close the Target report and the New report browser tabs.

Chapter 2—Working with Multiple Queries

Sub-queries

Subqueries allow you to create multiple levels of logic within your reports. Subqueries can be the equivalent of temp tables.

Scenario 1: Query1 creates a set of data, Query2 reduces that set of data.



Scenario 2: Query1 creates a set of data, Query2 provides you with all the details about the set.

In the next lesson we create a new report with two queries based on Scenario 2. We use the 1st query to return a list of new COA Account Strings based on a list of POETAF Codes. Then we filter the 2nd query based on the Account Strings returned in the 1st.

Here's a little detail about the POETAF:

POETAF

In addition to the Chart of Accounts structure, POETAF information is required for Projects in the Oracle Project Portfolio Management (PPM) module.

- POETAF is shorthand for the key fields in the Miscellaneous Cost Import file, which is used to send transactions to PPM.
- It represents a specific instance of an expense.
- POETAF is **not** "a Chartstring for a project"
- Sponsored Research Projects (and only these projects) have awards and funding sources associated with their projects- i.e., **AF** is only for Sponsored Research projects

Source: UC San Diego Chart of Accounts User Guide Effective 7/1/2020

A Note from your Instructor: I am not 100% certain that this is a valid use case for the POETAF. Please use the POETAF Code data item in your reports with caution until use is confirmed by a FINAH data owner.




It makes for a great sub-query use case, which is what we get into next! We built a new report for this lesson.

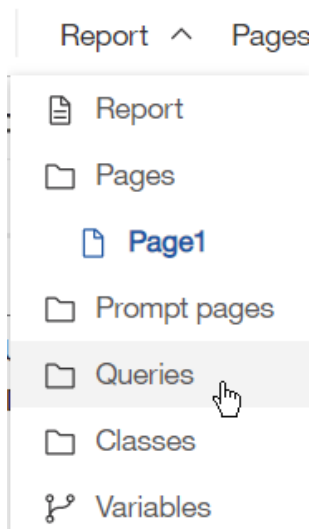


Sub-queries


1. In the **Navigation panel** click **New**  and **Report** .
2. Double-click to select the **1 column** template option.
3. In the Insertable objects pane click the blue **Select a source** button.

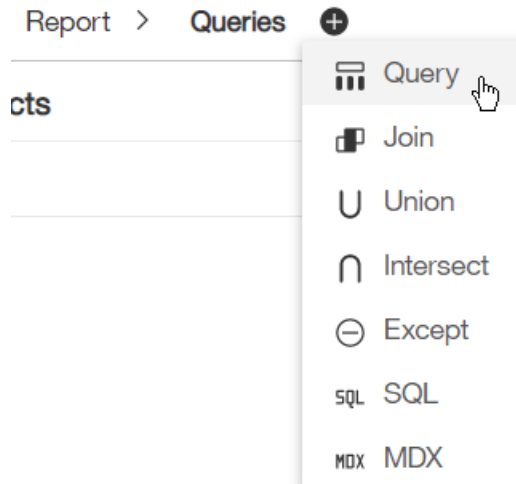
Select a source

4. Navigate to **Team content**  > **Financial Activity Hub** folder > **Financial Activity Hub Analytics Packages** folder > click the  **FINAH-UCSDGeneralLedger-View** package. Click Open.
5. In the Application toolbar click **Save**, click **My content** , open the **Cognos-Training-FINAH** folder and save as **Sub-query**. Click Save.
6. In the Navigation menu click **Report** and the **Queries** folder.




Chapter 2—Working with Multiple Queries

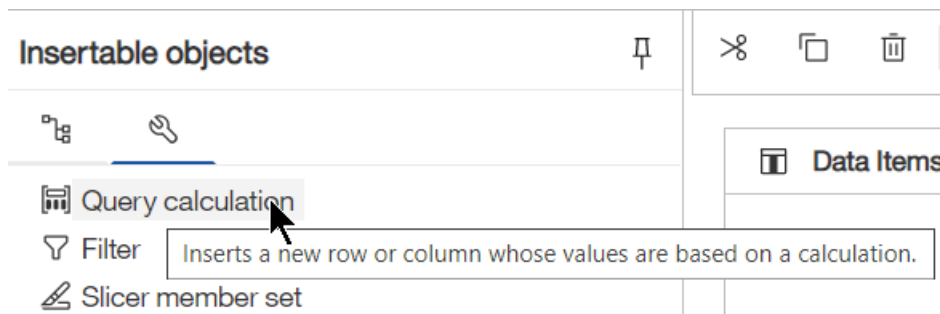
7. In the Navigation menu next to Queries click **Add**  and click **Query** .



8. Right-click **Query1** and click **Rename query**.
9. In the Name field type: POETAF Lookup sub-query.
10. Double-click the query to open it.

In the next steps we use an expression we learned about in our Singleton lesson in Intermediate training and create a Query calculation to return the COA Account “string”.

11. From the **Toolbox**  double-click **Query calculation**.





The Data item expression window opens.

12. In the Name field type: Account Chartstring.

13. In the Data item expression window use the skills you learned in training so far to define the following expression:


Expression Definition:

```
[UCSDGeneralLedger].[Entity].[Entity Code]+'.'+  
[UCSDGeneralLedger].[Fund].[Fund Code]+'.'+  
[UCSDGeneralLedger].[Financial Unit].[Financial Unit Code]+'.'+  
[UCSDGeneralLedger].[Account].[Account Code]+'.'+  
[UCSDGeneralLedger].[Function].[Function Code]+'.'+  
[UCSDGeneralLedger].[Program].[Program Code]+'.'+  
[UCSDGeneralLedger].[Project].[Project Code]
```

14. Click **Validate** . Click OK.
15. At the top of the Detail Filters pane click **Add** .



In the next steps we define a filter expression to look for the following list of POETAF Codes: 21109 21887 21579


16. From the **Source**  tab navigate to the **General Ledger** query subject, double-click **POETAF Code** and define the following expression:

Expression Definition:

```
[UCSDGeneralLedger].[General Ledger].[POETAF Code] in (21109, 21887, 21579)
```

17. Click **Validate** . Click OK.

The result of this query will be a list of Account chart strings for these POETAF Codes.

18. In the Application toolbar click **Save** (Sub query).
19. In the Query toolbar click **View tabular data** .




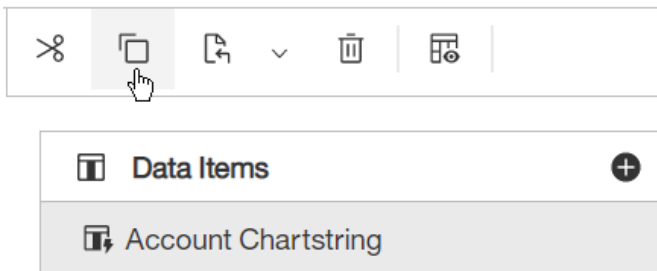
Chapter 2—Working with Multiple Queries

The query runs in a new browser tab. Recall we only have one Data Item in this query.

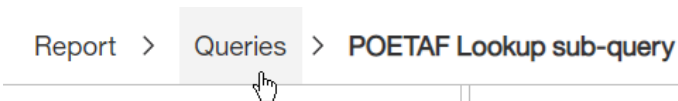
Account Chartstring
16130.20001.3000178.522401.440.000.1018628
16130.20001.3000064.522201.440.000.1018592
16130.20001.3000064.522201.440.000.1019290

20. Close the New report browser tab.

21. In the **Data items** pane click once to select the **Account Chartstring** data item and in the Query toolbar click **Copy** .



22. In the Navigation menu click **Queries**.




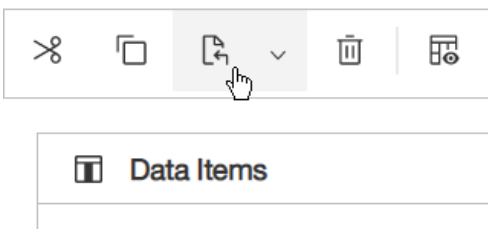
23. In the Navigation menu next to **Queries** click **Add**  and click **Query** .


24. Right-click **Query1** and click **Rename query**.

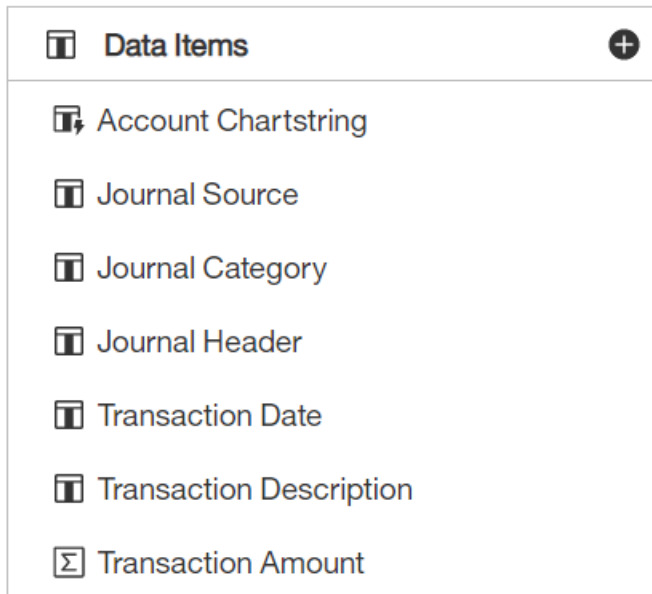
25. In the Name field type: GL Account Details.

26. Double-click the new query to open it.

27. Click inside the **Data Items** pane and in the Query toolbar click **Paste**  to paste the Account Chartstring data item copied from the previous query:




28. Under Insertable objects click **Sources**  and use the **Find** field to add the remaining Data Items—in this order. Tip: Click and drag the data items into the pane to put them in order.



29. At the top of the **Detail Filters** pane click **Add** .




30. In the Detail filter expression window, from the **Source**  tab navigate to the **Accounting Period** query subject, double-click **Fiscal Year (YYYY)** and define the following expression:

Expression Definition:

```
[UCSDGeneralLedger].[Accounting Period].[Fiscal Year (YYYY)] =  
2020
```



31. Click **Validate** . Click OK.
32. At the top of the Detail Filters pane click **Add** .

Chapter 2—Working with Multiple Queries

33. In the Detail filter expression window, click the **Data items**  tab and double-click **Account Chartstring** to add it to the expression:

Detail filter expression - GL Account Details

Available Components:

 Account Chartstring  Journal Source	Expression Definition: [Account Chartstring]
---	---

34. Type: in (




Expression Definition:
[Account Chartstring] in (

35. Click the **Queries**  tab:



The screenshot shows a horizontal tab bar with four icons: a key, a document, a list, and a refresh symbol. The 'Queries' tab, represented by the list icon, is highlighted with a blue underline and a mouse cursor is clicking on it. A label 'Queries' is positioned below the selected tab.

36. From the **POETAF Lookup sub-query** query double-click **Account Chartstring** to add it to the expression and type a closing parenthesis:

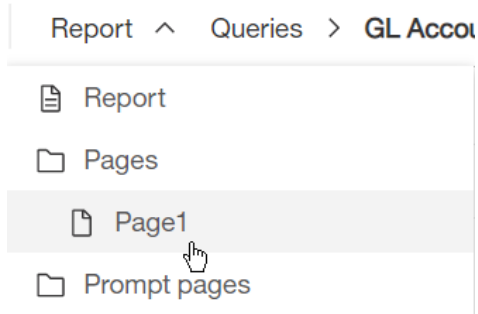
Available Components:	Expression Definition: 
 POETAF Lookup sub-query  Account Chartstring	[Account Chartstring] in ([POETAF Lookup sub-query],[Account Chartstring])


The final expression looks like this:

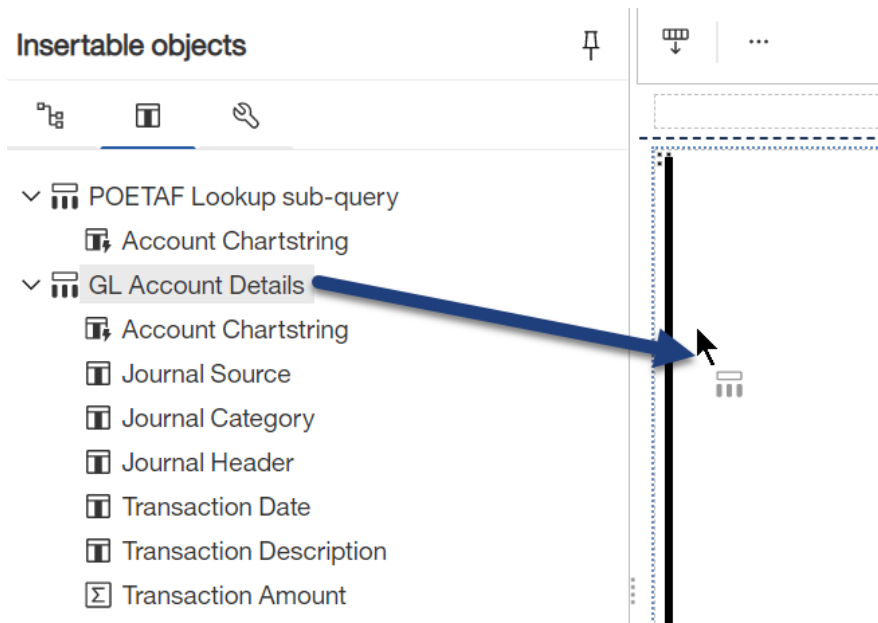
Expression Definition:
[Account Chartstring] in ([POETAF Lookup sub-query],[Account Chartstring])

37. Click **Validate** . Click OK.

38. In the Navigation menu click **Report** and **Page1**.



39. Under Insertable objects click **Data items**  and drag the entire **GL Account Details** query into the report page to create a List report:




Account Chartstring	Journal Source	Journal Category	Journal Header	Transaction Date	Transaction Description	Transaction Amount
<Account Chartstring>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Date>	<Transaction Description>	<Transaction Amount>
<Account Chartstring>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Date>	<Transaction Description>	<Transaction Amount>
<Account Chartstring>	<Journal Source>	<Journal Category>	<Journal Header>	<Transaction Date>	<Transaction Description>	<Transaction Amount>

Chapter 2—Working with Multiple Queries

40. In the Application toolbar click Page design and **Page preview**.

Account Chartstring	Journal Source	Journal Category	Journal Header	Transaction Date	Transaction Description	Transaction Amount
16130.20001.3000064.522201.440.000.1018592	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	4.41
16130.20001.3000178.522401.440.000.1018628	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	608.94
16130.20001.3000178.522401.440.000.1018628	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	724.28
16130.20001.3000064.522201.440.000.1019290	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	4.41

41. Click inside the **Account Chartstring** column and in the OnDemand toolbar click **Group** .

42. In the Application toolbar click **Save** (Sub query).

Account Chartstring	Journal Source	Journal Category	Journal Header	Transaction Date	Transaction Description	Transaction Amount
16130.20001.3000064.522201.440.000.1018592	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	4.41
16130.20001.3000064.522201.440.000.1019290	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	4.41
16130.20001.3000178.522401.440.000.1018628	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	608.94
	Purchasing	Purchase Order	26-06-2020 Purchase Order 300000000242232	07/01/2020	Journal Import Created	724.28

Notice the Account Chartstrings returned in this report exactly match those returned when we Viewed tabular data for the sub query.

Please note: the calculation for the Account chart string in this lesson does not include Location nor Activity, InterEntity, Future 1, and Future 2.

Though the Location data items are available in this General Ledger view package, at the time of training they were not returning data and adding the data item to the calculation (as it is written now) causes it to break.

The Activity, InterEntity, Future 1, and Future 2 data items are not available in this General Ledger view package.

Please contact the FINAH data owners for more information and clarification on the chart string.

Working with external data

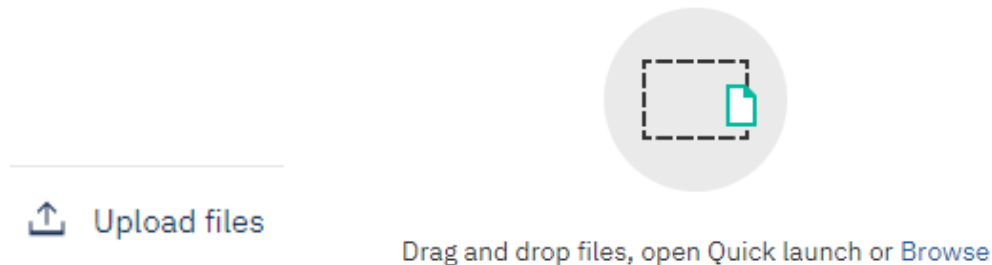
You can supplement your enterprise data with your own external data file.

You can create a report that uses an external file that contains data that is not part of your IBM Cognos Analytics enterprise data. You import your own data file and start reporting on it right away.

After you import the file, it is protected by the same Cognos Analytics security as your enterprise data. As a result, you can report on your data in a secure and private environment.

You can import your external data in different tools:

Upload files tool

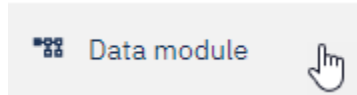


You can import the following types of files:

- Microsoft Excel (.xls and .xlsx) spreadsheet software files
- Delimited text files, such as .csv files. You can compress multiple .csv files into a .zip file for a quick upload.
- You select the file to import from your own computer, or from your local area network.
- You select which columns to import.
- You then specify a namespace to use. The namespace: provides a unique name to associate with the data items that you import; appears in the data tree in the Source tab and is used to organize the data items;
- After you import your data, it is saved in a database. You then publish a package that contains your data and you can then report on your data.
- You can grant other users access to your personal data by sharing the corresponding packages.

Data modules

To report off the data we import we create a data module.



Cognos Analytics provides web-based, self-service data modeling capabilities, allowing you to fuse together many sources of data, including traditional databases, Microsoft Excel spreadsheets and text files.

Using these sources, a data module is created that can then be used in reports, dashboards, and explorations. Star schemas are the ideal database structure for data modules, but transactional schemas are equally supported.

You can enhance a data module by creating calculations, defining filters and navigation paths, and more. After you save a data module, other users can access it. Save the data module in a folder that users, groups, and roles have appropriate permissions to access. This process is the same as saving a report or dashboard.

In the next lesson we learn how to:

- Upload files
- Create a data module

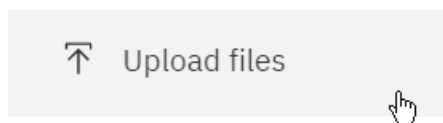


Work with External Data

Your instructor first demonstrates the steps to upload the files, and then shares the data file with you to complete the remainder of the lesson.

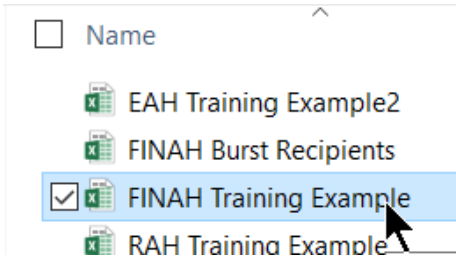
Upload files – Instructor demo

1. In the **Navigation panel** click **New**  and **Upload files**.

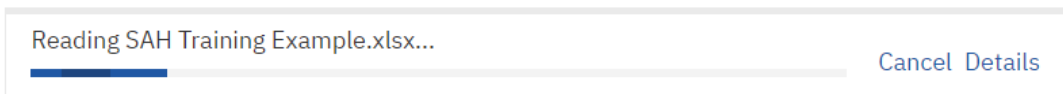


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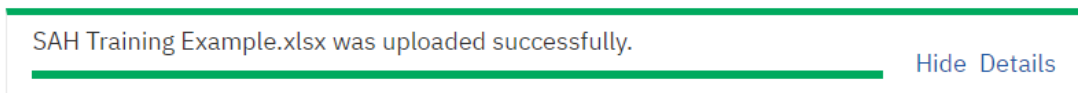
2. In the Open file window navigate to the location of the file on your computer, select it, and click **Open**.



Cognos initializes, reads and analyzes the file . . .

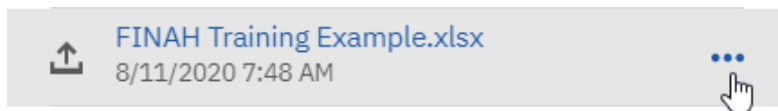


And then confirms the upload success:



Tip! These messages may come and go very quickly at the top of the screen.

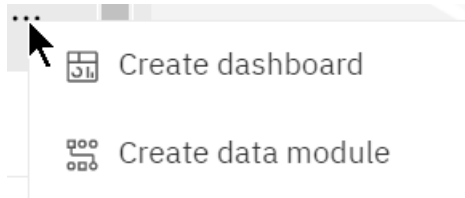
3. In the **Navigation panel** click **My content** to see the file:



All External data uploads are automatically saved to My content. From there you can Copy/Move to share the files with other users.

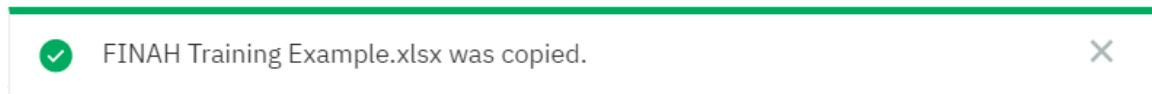
Chapter 2—Working with Multiple Queries

4. Click **More** **...**—notice I can immediately create a Dashboard or Data module from this file—but don't have the option to create a Report.




Before we move on to the next step your instructor Copies the external file to Team content so everyone in class can access it.

5. In the More menu click **Copy or move**.
6. Click **Team content** and navigate to the Business User Development > **Training Samples-FINAH** folder > **Day 3: Advanced** folder.
7. Click **Copy to**.



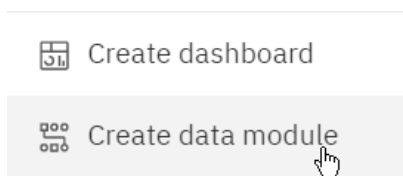
Create data module

Please again follow along step-by-step with your instructor.

8. In the Welcome Portal click **Team content** > **Business User Development** folder > **Training Samples-FINAH** folder > **Day 3: Advanced** folder.
9. Mouse over the **FINAH Training Example.xlsx** entry, click **More** **...** and **Copy or move** .
10. Navigate to **My content** > **Cognos Training-FINAH** folder and click **Copy to**.


It's important that we each have our own copy of the file so that we can each create our own data modules—at the same time.

11. Navigate to **My content** > **Cognos Training-FINAH**, mouse over the **FINAH Training Example.xlsx** entry, click **More** **...** and click **Create data module**:

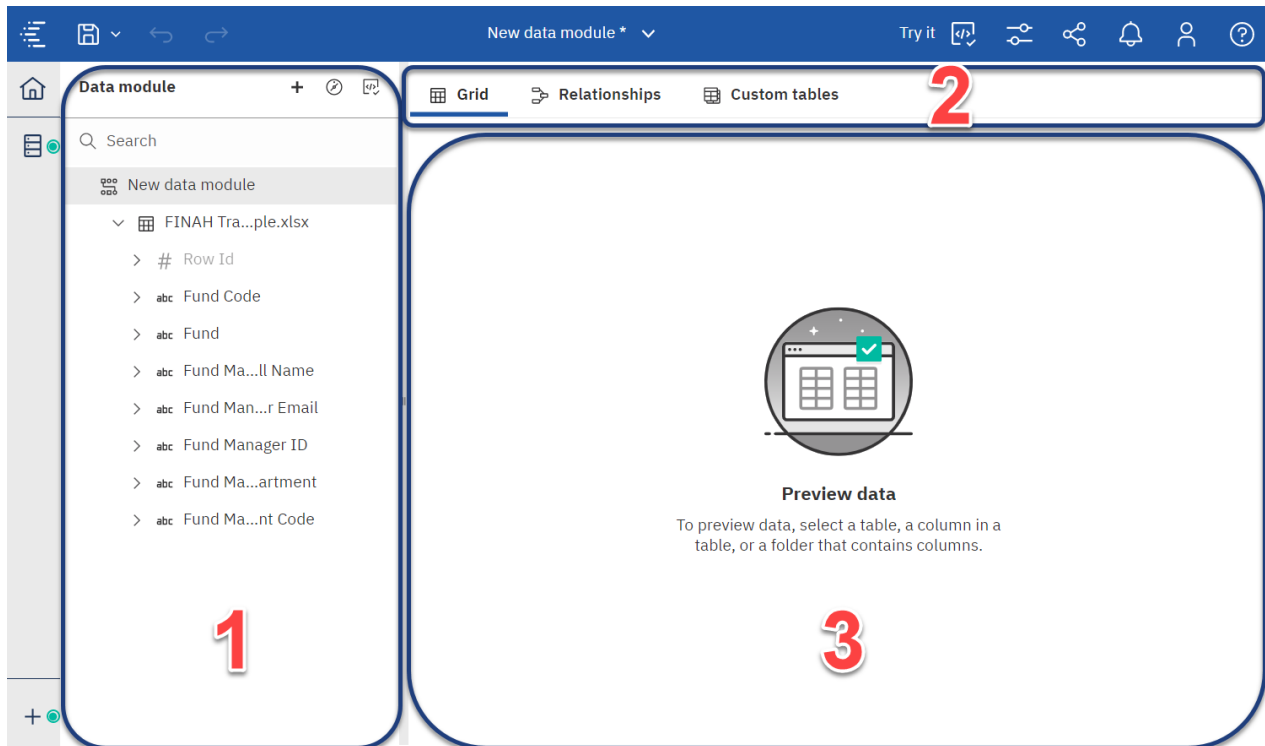


Chapter 2—Working with Multiple Queries

The Data module interface opens:

Source view  **pane** (on the far left) – shows the sources of data that the data module contains. The sources can be data servers, uploaded files, data sets, packages, and other data modules. Except for packages, you can expand the specific source to view its tables and columns. Drag tables onto the data module panel or onto the diagram to add them to the data module.

- 1) **Data module panel/tree** (in the Source view pane)– shows the tables and columns of data that are included in the data module. This is the main space for editing the data module.
- 2) **Views** (across the top) – **Grid (Data)**, **Relationships** or **Custom tables**
- 3) **Canvas** – drag data from the source into the Canvas to Preview data

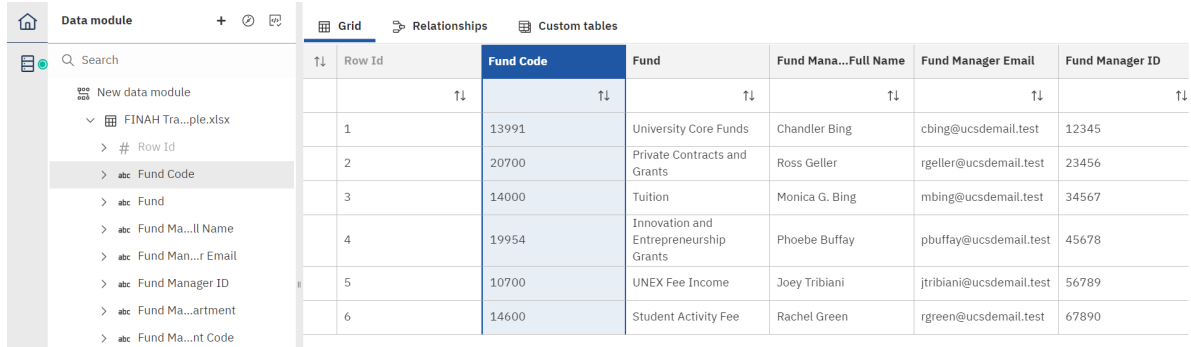


The sample external data uploaded for training is a very small dataset and does not require additional manipulation in the data module.

However, this is not always the case and there are more advanced features of the Data module tool that we do not have time to cover today.

Chapter 2—Working with Multiple Queries

12. From the Data Module source pane on the left drag the **Fund Code** data item into the canvas to Preview the data (it looks like it might not let you, but it will!).

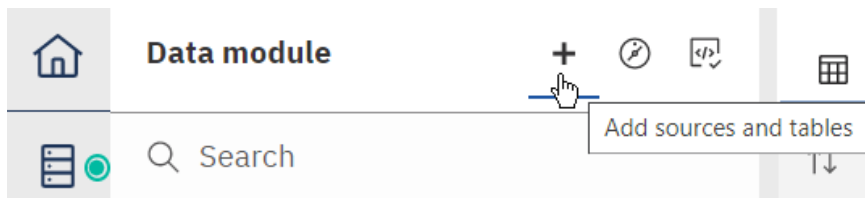


Row Id	Fund Code	Fund	Fund Mana...Full Name	Fund Manager Email	Fund Manager ID
1	13991	University Core Funds	Chandler Bing	cbing@ucsdemail.test	12345
2	20700	Private Contracts and Grants	Ross Geller	rgeller@ucsdemail.test	23456
3	14000	Tuition	Monica G. Bing	mbing@ucsdemail.test	34567
4	19954	Innovation and Entrepreneurship Grants	Phoebe Buffay	pbuffay@ucsdemail.test	45678
5	10700	UNEX Fee Income	Joey Tribiani	jtribiani@ucsdemail.test	56789
6	14600	Student Activity Fee	Rachel Green	rgreen@ucsdemail.test	67890

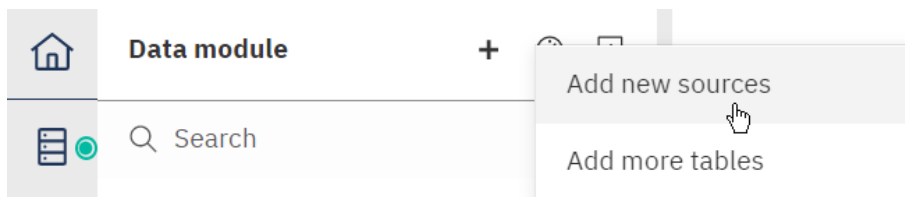
PLEASE NOTE: the data contained in the Excel file and resulting data module is not real. It was created for training purposes. It is only to be used for training purposes.

Next, we bring the **FINAH-UCSDGeneralLedger-View** package into the data module and in the next lesson we use the data module to write a report that Joins the Excel data with the Cognos data.

13. At the top of the Data Module source pane click **Add sources and tables**.



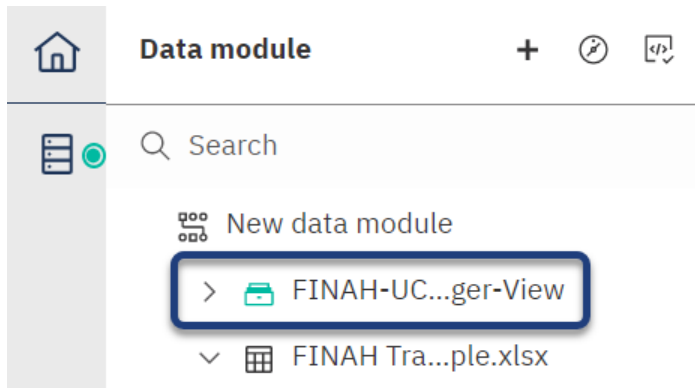
14. Click **Add new sources**




15. In the Select sources window navigate to **Team content** > **Financial Activity Hub** folder > **Financial Activity Hub Analytics Packages** folder > click the **FINAH-UCSDGeneralLedger-View** package. Click OK.

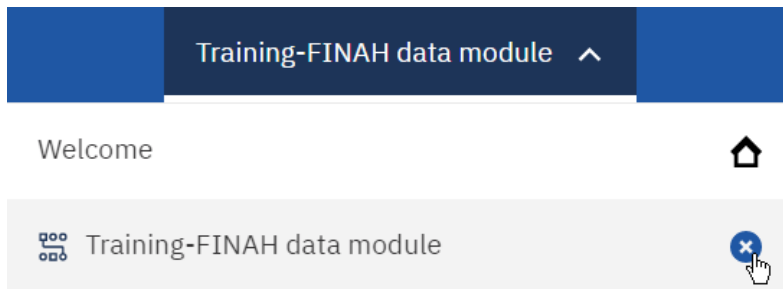
Chapter 2—Working with Multiple Queries

The package appears in the list of Data sources.



16. In the Application toolbar click **Save**, click **My content** , open the **Cognos Training-FINAH** folder, and save the Data module as **Training-FINAH data module**. Click Save.

17. At the top of the window click the Switcher menu and click the x to close the Data module:



This action also brings us back to the Welcome Portal.

Combining queries

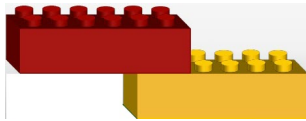
In the next lesson we learn about Joins and Unions. We begin with a lesson on Joins and then learn about Unions. Before we begin let's review some basic concepts of Joins:

Joins

A **JOIN** combines columns from two tables while the **UNION** combines rows from two queries.

In other words, **JOIN** appends the result sets horizontally while **UNION** appends result set vertically.

JOIN must have at least 1 field in common. There are multiple types of **JOIN**.



Granularity vs Cardinality

Selecting the correct join requires knowledge of the data and of the data granularity.

Granularity refers to the level of detail of the data stored fact tables in a data warehouse.

High granularity refers to data that is at or near the transaction level. Data that is at the transaction level is usually referred to as atomic level data.

- What is the lowest level of your data?
- What is the lowest level of your query?

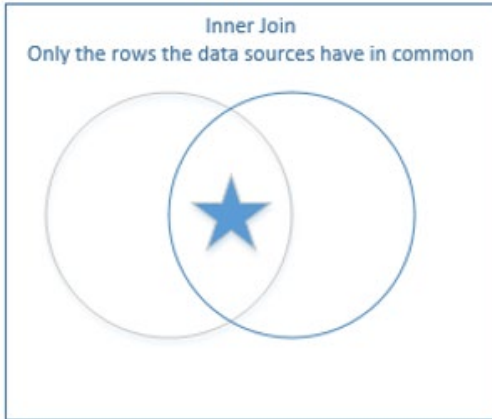
Cardinality refers to the uniqueness of data values contained in a particular column (attribute) of a database table.

The lower the cardinality, the more duplicated elements in a column.

- How many unique rows do you have?

Types of Joins

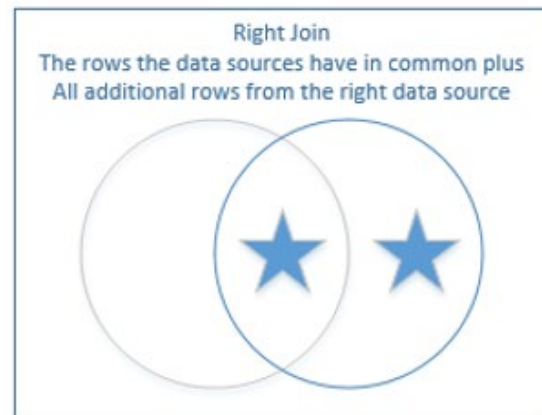
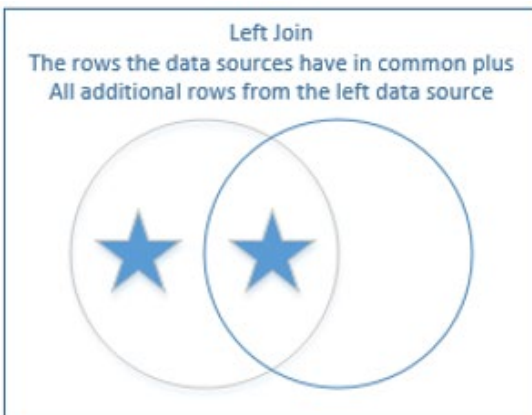
- **Inner** returns least amount of results, will run in the least amount of time



- **Outer** returns all data from both data sets, will run the longest



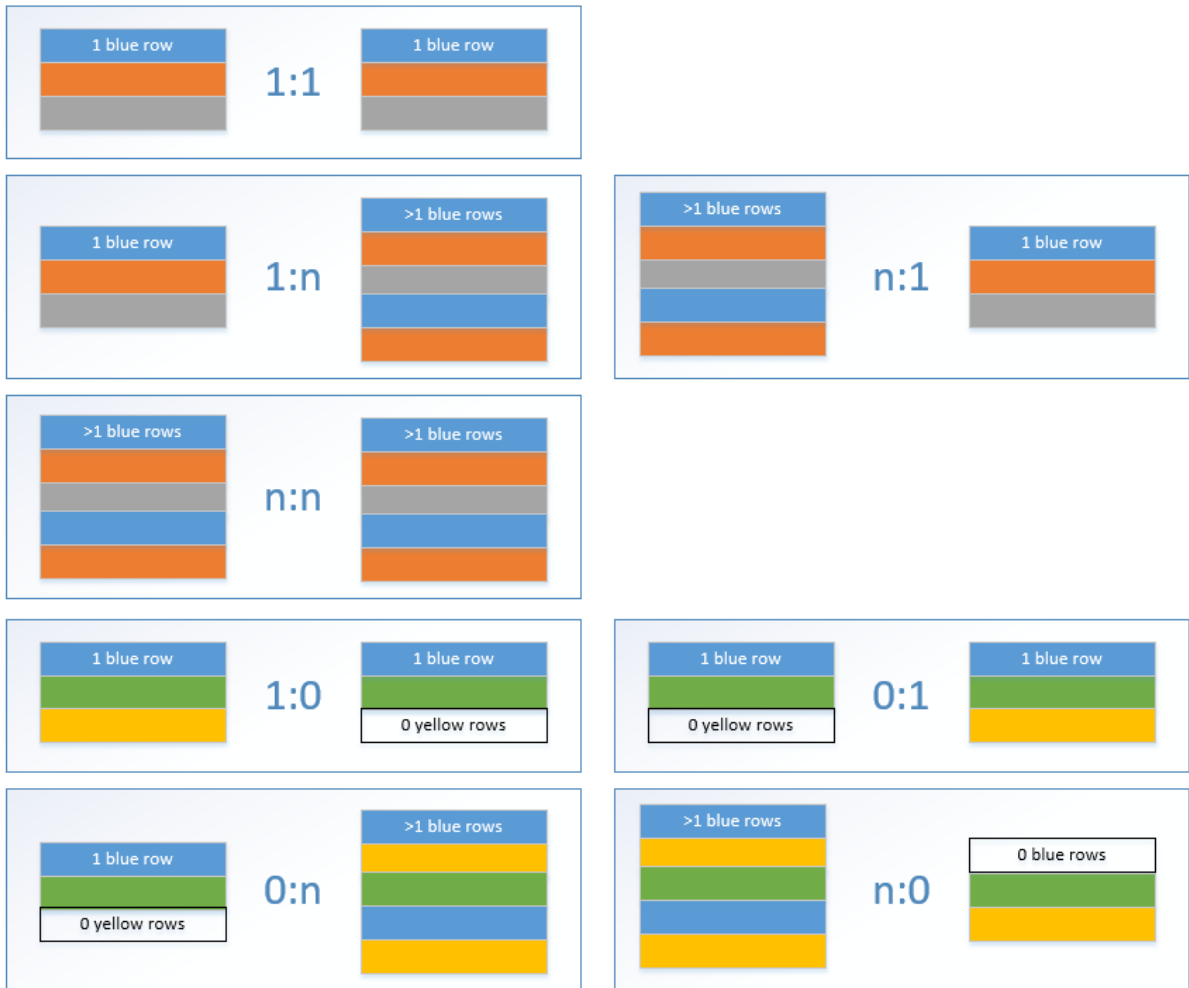
- **Left/Right**—Left = query listed first & Right = query listed second



Creating the correct join

Creating the correct join requires you to choose the join type and the relationship type.

- 1) What field are you joining on?
- 2) How many rows are coming from the left?
- 3) How many rows are coming from the right?
- 4) Do you want all of the rows?



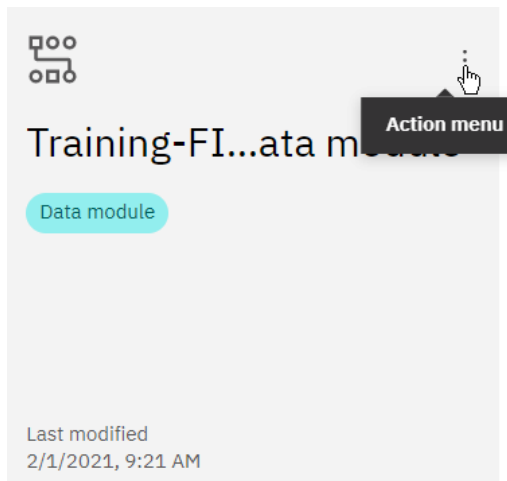
Chapter 2—Working with Multiple Queries

In the next lesson we learn how to use the Data module we created in the previous lesson and build a report that brings two queries together—one from each data source in the module—using a Join query.

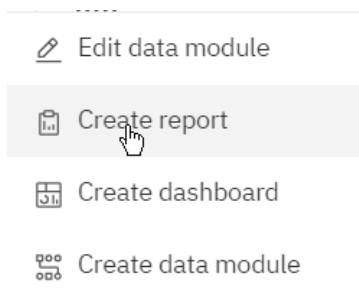


Joins

1. In the Welcome Portal in the **Recent** area mouse over the **Training-FINAH** data module “card” and click the **Action menu** (More button):



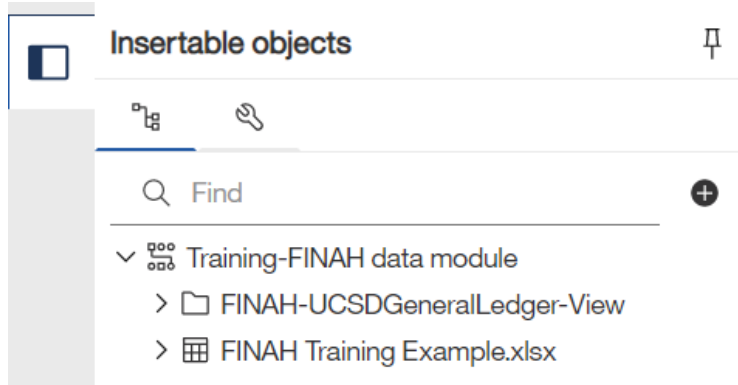
2. Click **Create report**.




3. Double-click to select the **1 column** template option.




Chapter 2—Working with Multiple Queries

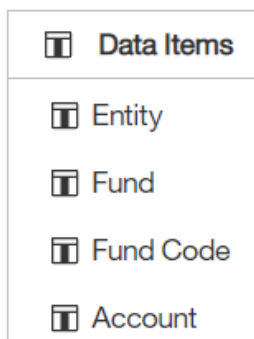
The report interface opens—notice the data module is available under Insertable objects and includes both the FINAH Training Example data as well as the Package:



4. In the Application toolbar click **Save**, ensure you are in **My content** , and in the **Cognos Training-FINAH** folder and save the report specification as **Join**. Click Save.
5. In the Navigation menu click **Report** and the **Queries** folder.

There are no queries on the report yet.


6. From the **Toolbox**  drag a **Query**  into the white space.
7. Right-click the Query click **Rename query** and type: Package data.
8. Double-click the **Package data** query to open it.
9. Under Insertable objects click **Sources** .
10. Expand the **FINAH-UCSDGeneralLedger-View** folder > **HANA** folder > **UCSDGeneralLedger** folder > **Dimensions** folder add the following data items to the query:



11. From the **Measures** folder and the **General Ledger Measures** query subject add **Transaction Amount** to the query.

Chapter 2—Working with Multiple Queries

12. On the Detail Filters pane click **Add** .

For all the filter examples below, bring the data items from the **Source**  tab and the **FINAH-UCSDGeneralLedger-View** folder > **HANA** folder > **UCSDGeneralLedger** folder > **Dimensions** folder

13. Define the following expression:

Expression Definition:

```
[M2].[UCSDGeneralLedger].[Accounting Period].[Fiscal Year (YYYY)] = 2020
```

14. Click **Validate** . Click OK.

15. On the Detail Filters pane click **Add** .

16. Define the following expression:

Expression Definition:

```
[M2].[UCSDGeneralLedger].[Entity].[Entity Code] = '16110'
```

17. Click **Validate** . Click OK.

18. On the Detail Filters pane click **Add** .

19. Define the following expression:

Expression Definition:

```
[M2].[UCSDGeneralLedger].[Account].[Account L1 Code] = '5000AA'
```

20. Click **Validate** . Click OK.

21. On the Detail Filters pane click **Add** .

22. Define the following expression:

Expression Definition:

```
[M2].[UCSDGeneralLedger].[Fund].[Fund Code] in ('13991','20700','14000','19954','10700','14600')
```

Tip! Here's a list of these Fund Codes you can copy and paste into the Select multiple values option in the Filter window:

13991 20700 14000 19954 10700 14600

23. Click **Validate** . Click OK.

24. In the Application toolbar click **Save** (Join).

Chapter 2—Working with Multiple Queries

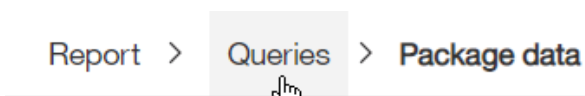
25. In the Query toolbar click **View tabular data**  to test the query.



The query runs in a new browser tab.

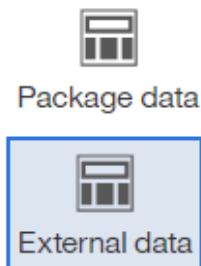
Entity	Fund	Fund Code	Account	Transaction Amount
Academic Affairs	Private Contracts and Grants	20700	Lab Supplies	8,463.61
Academic Affairs	Private Contracts and Grants	20700	Office Supplies	1.75
Academic Affairs	Private Contracts and Grants	20700	Computer Supplies and Equipment less than 5k	4,754.2
Academic Affairs	Private Contracts and Grants	20700	Safety and Fire and Environmental Supply	71.35
Academic Affairs	Private Contracts and Grants	20700	Maintenance and Cleaning Supplies	53.71
Academic Affairs	Private Contracts and Grants	20700	Equipment <\$5K	1,224.19
Academic Affairs	Private Contracts and Grants	20700	Medical Care Materials and Supplies	135.87
Academic Affairs	University Core Funds	13991	Management Services	200
Academic Affairs	University Core Funds	13991	Professional Services	130,259.87
Academic Affairs	University Core Funds	13991	Printed Items and Other Classroom Aids	45.65
Academic Affairs	Private Contracts and Grants	20700	Professional Services	18,807.87
Academic Affairs	University Core Funds	13991	Office Supplies	2,360.64
Academic Affairs	University Core Funds	13991	Maintenance and Cleaning Supplies	145.25
Academic Affairs	UNEX Fee Income	10700	Office Supplies	21.45
Academic Affairs	UNEX Fee Income	10700	Maintenance and Cleaning Supplies	83.62
Academic Affairs	UNEX Fee Income	10700	Professional Services	44,127.15
Academic Affairs	UNEX Fee Income	10700	Printing and Reproduction Services	29,162.17
Academic Affairs	University Core Funds	13991	Lab Supplies	7,054.89
Academic Affairs	Tuition	14000	Office Supplies	57.86
Academic Affairs	University Core Funds	13991	Repair Materials and Parts	116.5

26. Close the New report browser tab.


27. In the Navigation menu click **Queries**.

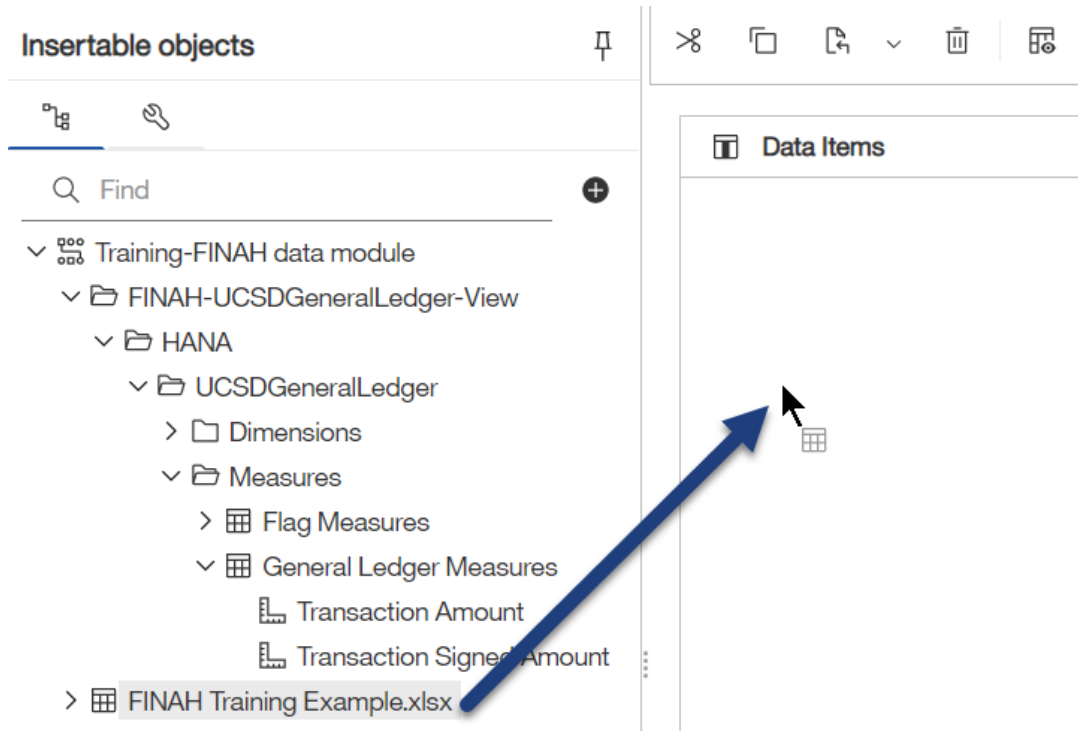


28. From the **Toolbox**  add a second **Query**  and rename it: External data.

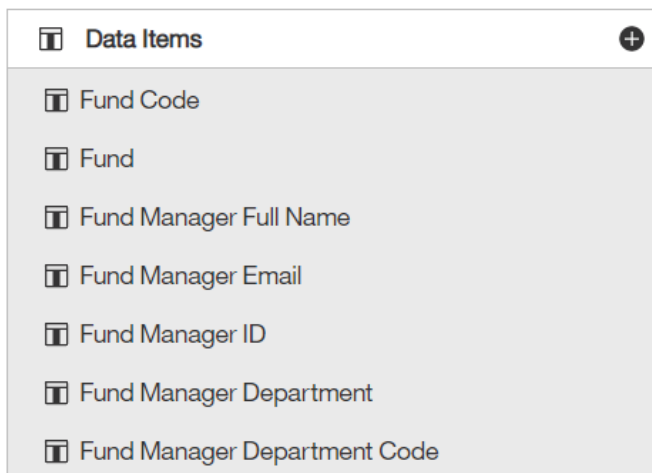


Chapter 2—Working with Multiple Queries

29. Open the **External data** query.
30. Under Insertable objects click **Sources**  and drag the entire **FINAH Training Example.xlsx** query subject (table) into the Data Items pane:



The Data items pane looks like this:



31. In the Application toolbar click **Save** (Join).

Chapter 2—Working with Multiple Queries

32. In the Query toolbar click **View tabular data**  to test the query.

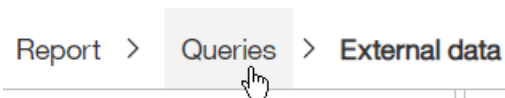
Tip! You may need to click somewhere in the Data items pane (to deselect the data items you just brought in) to see the View tabular data button.

The query runs in a new browser tab.

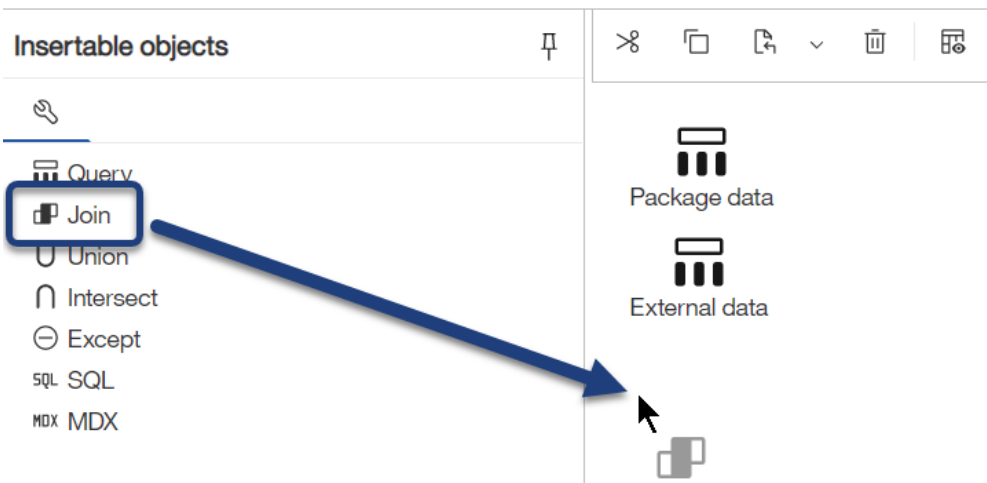
Fund Code	Fund	Fund Manager Full Name	Fund Manager Email	Fund Manager ID	Fund Manager Department	Fund Manager Department Code
20700	Private Contracts and Grants	Ross Geller	rgeller@ucsdemail.test	23456	Academic Senate	000150
19954	Innovation and Entrepreneurship Grants	Phoebe Buffay	pbuffay@ucsdemail.test	45678	Alumni & Community Engagement	000403
13991	University Core Funds	Chandler Bing	cbing@ucsdemail.test	12345	Advancement Services	000400
14600	Student Activity Fee	Rachel Green	rgreen@ucsdemail.test	67890	Admissions	003506
14000	Tuition	Monica G. Bing	mbing@ucsdemail.test	34567	Academic Senate	000150
10700	UNEX Fee Income	Joey Tribiani	jtribiani@ucsdemail.test	56789	Advancement Services	000400

33. Close the New report browser tab.

34. In the Navigation menu click **Queries**.

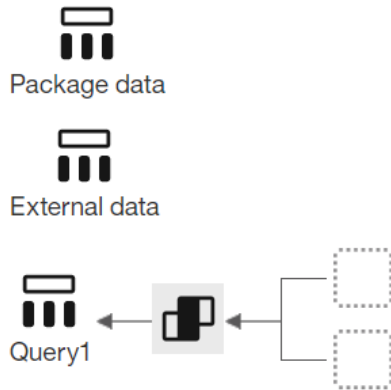


35. From the **Toolbox**  drag a **Join**  into the white space below the queries:

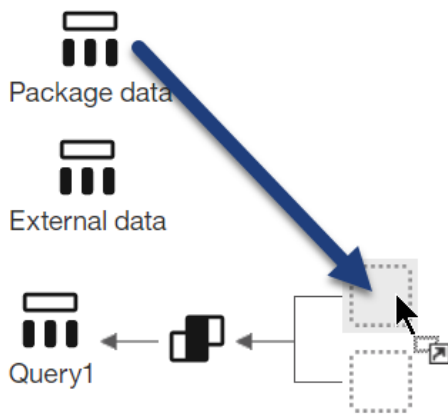


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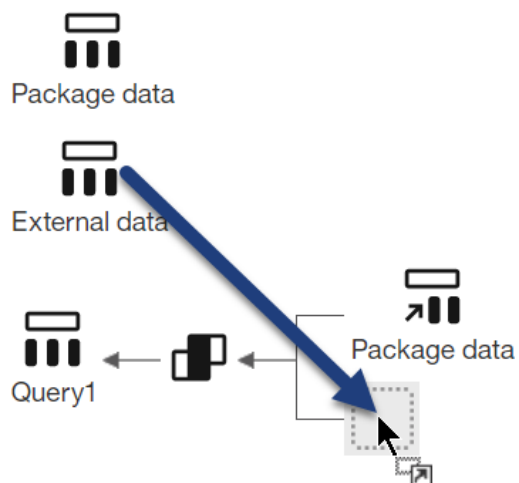
The Join is added along with a new query and two drop boxes:



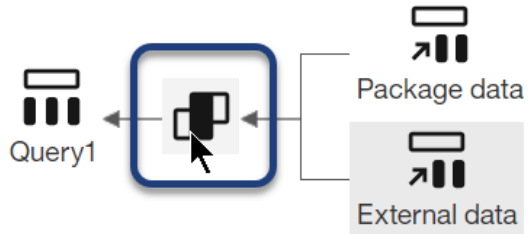
36. Drag the **Package data** query into the 1st drop box.



37. Drag the **External data** query into the 2nd box.

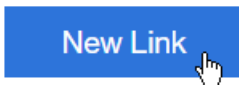


38. Double-click the **Join** object.

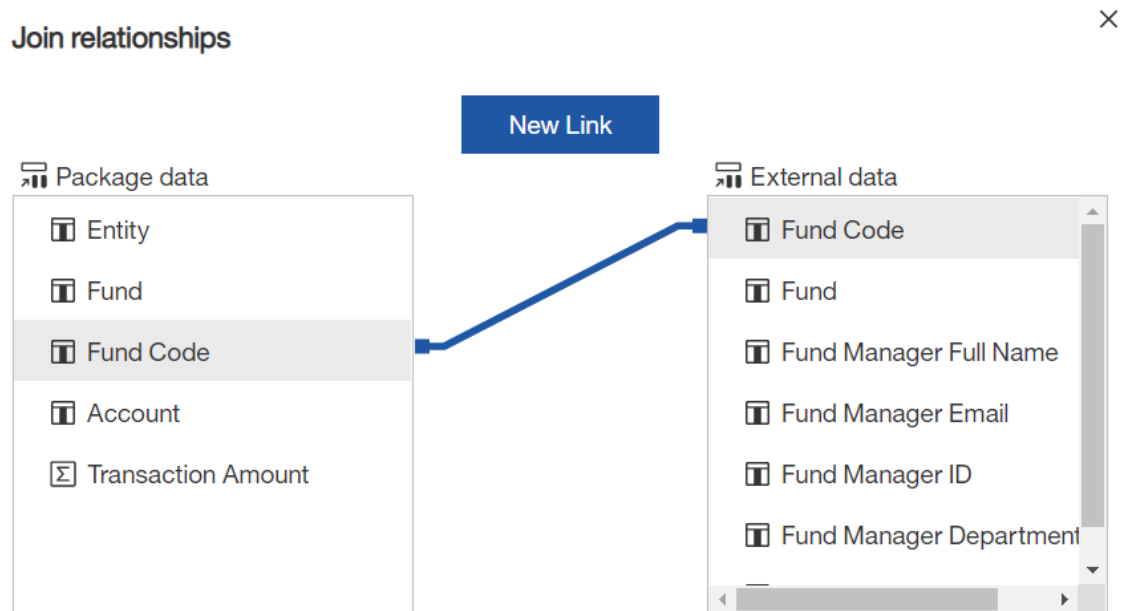


The Join relationships window opens.

39. Click **New link**:

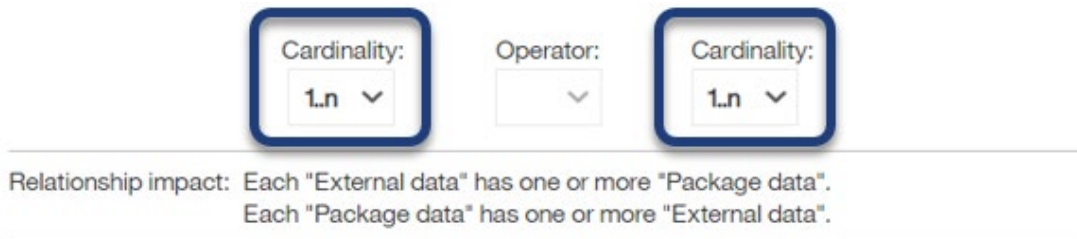


40. Click **Fund Code** in both queries to create a Link between them.



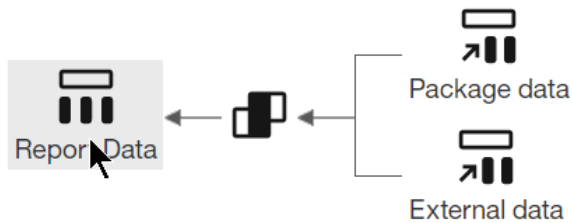
Chapter 2—Working with Multiple Queries

41. For Cardinality make the following selections. Click OK.



42. Right-click **Query1** and rename it: Report Data.

43. Double-click the **Report Data** query to open it.

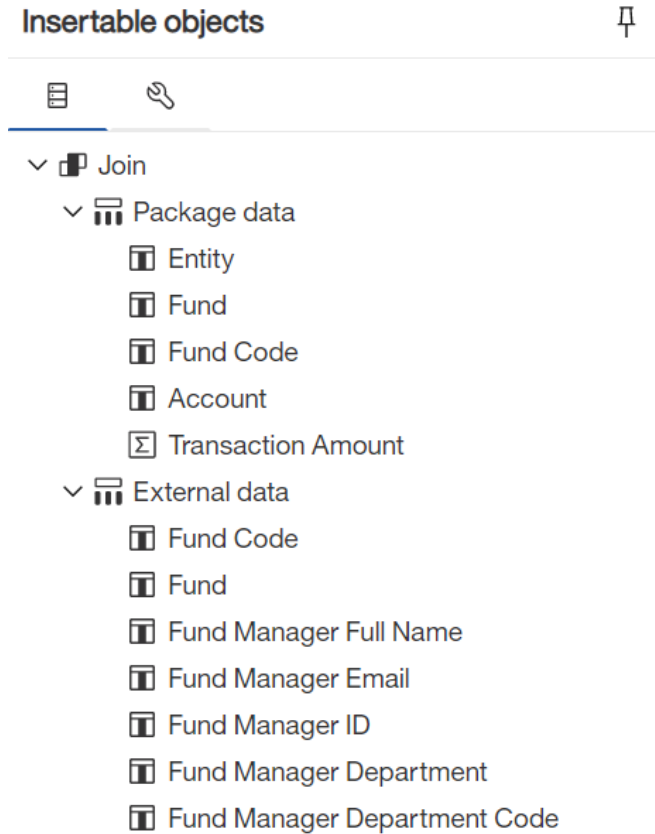


44. Under Insertable objects click **Source**  -- notice the button is different indicating we are using a Join as the Source:



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Notice we do not have access to the whole package and can only bring items from the two queries in the Join.

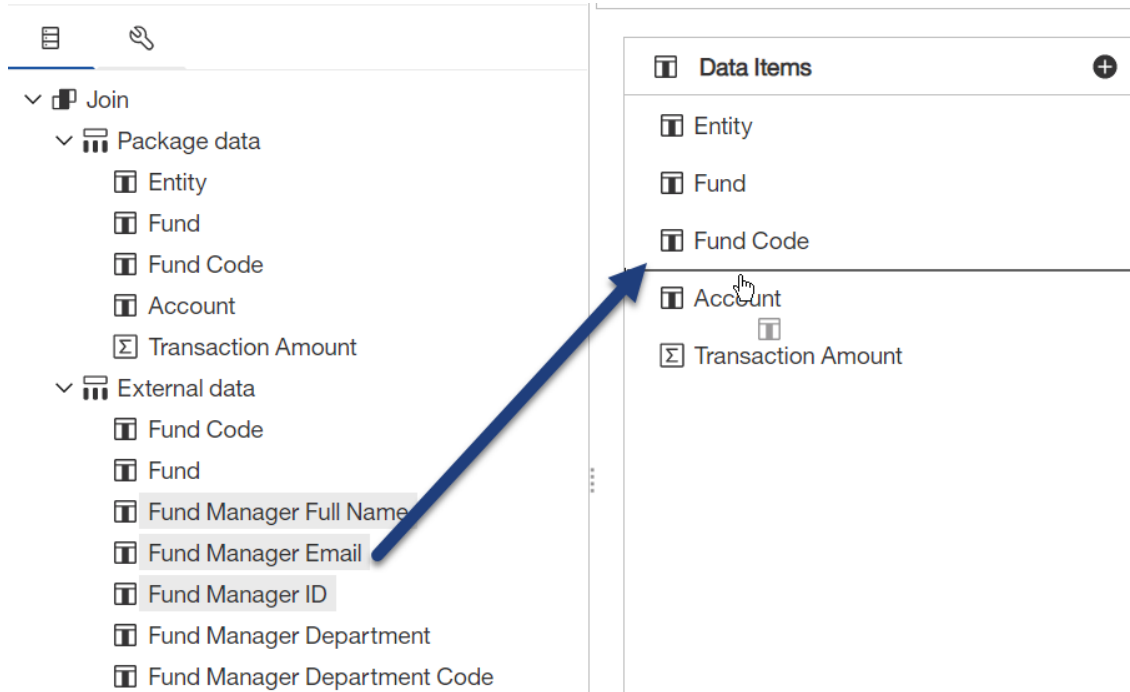


45. Drag the entire **Package data** query into the Data Items pane:

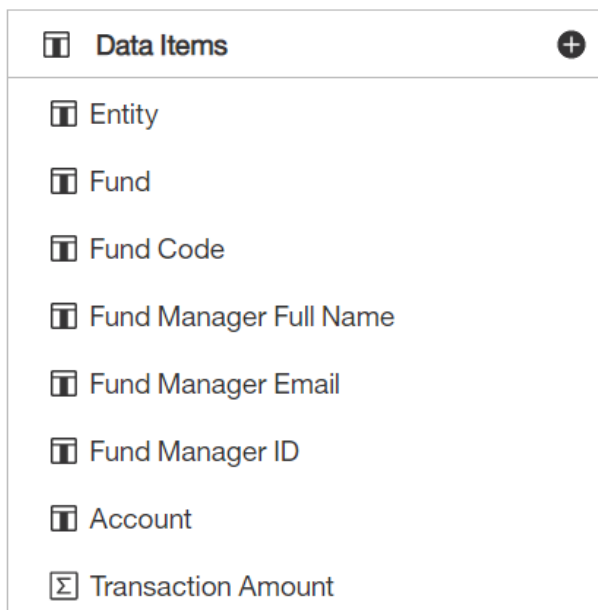


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46. From the **External data** query Ctrl-click the **Fund Manager Full Name**, **Fund Manager Email** and **Fund Manager ID** data items and drag them into the Data items pane dropping them *between* Fund Code and Account:



47. Rearrange the Data Items until they are in this order:



48. In the Application toolbar click **Save** (Join).

Chapter 2—Working with Multiple Queries

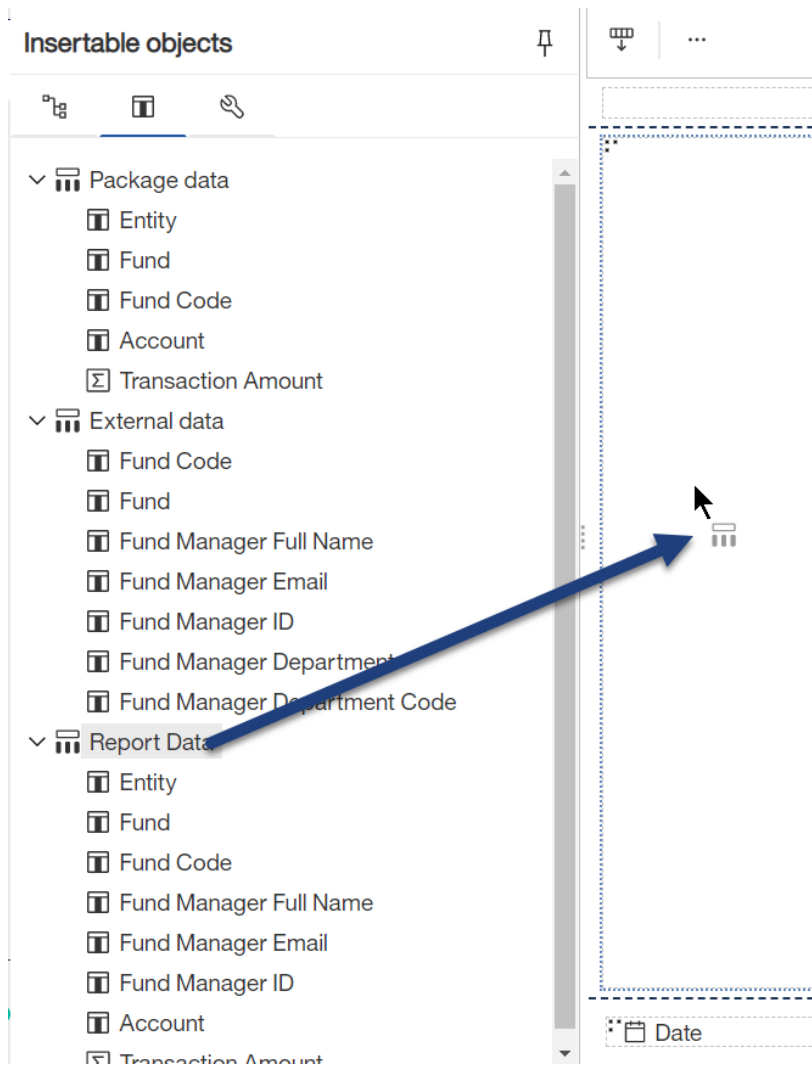
Now it's time to build the report on the page.

49. In the Navigation menu click **Report** and **Page1**.

Recall the report page is blank as we skipped right to building the queries.

50. Under Insertable objects click **Data items** .


51. Drag the entire **Report Data** query (at the bottom of the list of queries) into the report page.

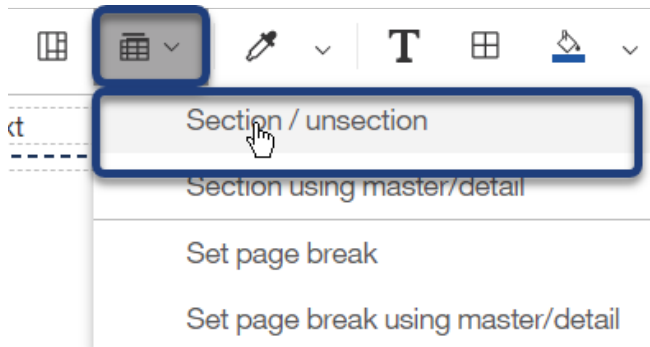



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This action creates a List!

Entity	Fund	Fund Code	Fund Manager Full Name	Fund Manager Email	Fund Manager ID	Account	Transaction Amount
<Entity>	<Fund>	<Fund Code>	<Fund Manager Full Name>	<Fund Manager Email>	<Fund Manager ID>	<Account>	<Transaction Amount>
<Entity>	<Fund>	<Fund Code>	<Fund Manager Full Name>	<Fund Manager Email>	<Fund Manager ID>	<Account>	<Transaction Amount>
<Entity>	<Fund>	<Fund Code>	<Fund Manager Full Name>	<Fund Manager Email>	<Fund Manager ID>	<Account>	<Transaction Amount>

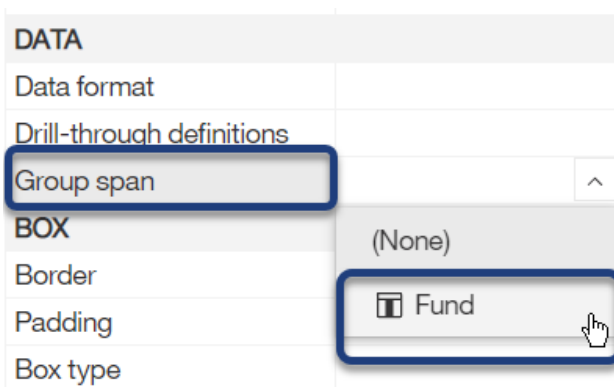
52. Click inside the **Entity** column and in the OnDemand Toolbar click **Section / Unsection**  and **Section / Unsection**.



53. Click inside the **Fund** column and in the OnDemand Toolbar click **Group** .


54. Click inside the **Fund Code** column.

55. In Properties  under DATA click **Group Span** and select **Fund**.





Group span property specifies the group that this cell should visually span.

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56. Repeat the previous step and one-at-a-time select the **Fund Manager Full Name**, **Fund Manager Email** and **Fund Manager ID** columns and for **Group Span** select **Fund**. Shift-click or Ctrl-click will not work in this example.
57. Click inside the **Account** column and in the OnDemand toolbar click **Sort**  and **Ascending**.

Notice there is no indicator of Group Span being applied to the report.

Fund	Fund Code	Fund Manager Full Name	Fund Manager Email	Fund Manager ID	Account	Transaction Amount
<Fund>	<Fund Code>	<Fund Manager Full Name>	<Fund Manager Email>	<Fund Manager ID>	<Account>	<Transaction Amount>
<Fund>	<Fund Code>	<Fund Manager Full Name>	<Fund Manager Email>	<Fund Manager ID>	<Account>	<Transaction Amount>

58. Click inside the **Transaction Amount** column and in the OnDemand toolbar click **Data Format** .
59. In the Data format window for **Format type** select **Number** and under Properties:
 - a. For Number of decimal places select **2**
 - b. For Use thousands separator select **Yes**.
 - c. Click OK.
60. With the **Transaction Amount** column still selected, in the OnDemand toolbar click **Summarize**  and select **Total**.
61. In the Application toolbar click **Save** (Join).

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62. In the Application toolbar click **Run options**  and **Run HTML**.

Entity: Academic Affairs

Fund	Fund Code	Fund Manager Full Name	Fund Manager Email	Fund Manager ID	Account	Transaction Amount
Innovation and Entrepreneurship Grants	19954	Phoebe Buffay	pbuffay@ucsdemail.test	45678	Lab Supplies	698.00
Innovation and Entrepreneurship Grants - Total						698.00
Private Contracts and Grants	20700	Ross Geller	rgeller@ucsdemail.test	23456	Chemicals	1,613.90
					Computer Supplies and Equipment less than 5k	4,754.20
					Equipment <\$K	1,224.19
					Lab - Test and Diagnostic Services	940.32
					Lab Supplies	8,463.61
					Maintenance and Cleaning Supplies	53.71
					Medical Care Materials and Supplies	135.87
					Office Supplies	1.75
					Oxygen Med Gas	163.78
					Professional Services	18,807.87
Repair Materials and Parts	799.00					
Safety and Fire and Environmental Supply	71.35					
Private Contracts and Grants - Total						37,029.55
Student Activity Fee	14600	Rachel Green	rgreen@ucsdemail.test	67890	Printed Items and Other Classroom Aids	1,492.86
Student Activity Fee - Total						1,492.86
Tuition	14000	Monica G. Bing	mbing@ucsdemail.test	34567	Office Supplies	57.86
					Printed Items and Other Classroom Aids	19.16
Tuition - Total						77.02
UNEX Fee Income	10700	Joey Tribiani	jtribiani@ucsdemail.test	56789	Comp Software Purchases and Licenses	15,000.00
					Maintenance and Cleaning Supplies	83.62
					Office Supplies	21.45
					Printing and Reproduction Services	29,162.17

By applying the Group Span property, rather than Grouping on each column, the report summaries are much easier to read. As time allows your instructor demonstrates what this report might look like if we Grouped on all the columns that we applied the Group Span property to instead.

63. Click **Page down** to see 2nd page of results.

64. Close the New report browser tab.

Unions

A **UNION** must have the exact same columns with the same data types in the exact same order.

A **UNION** will run more efficiently than **JOIN** but cannot be used to meet all business needs.



Most common example of **UNION** is duplicate data sets that are separated by:

- One flat file per month, or
- Old data source (or server) to New data source (or server)

You can **UNION** more than 2 queries.

You can **UNION** queries that use different data sources.

To combine two queries, the following conditions must be met:

- 1) The two queries must have the same number of data items.
- 2) The data items must have compatible types and appear in the same order.

For numeric data types, integer, float, double, and decimal are compatible.

For string data types, char, varChar, and longVarChar are compatible.

For binary data types, binary and varBinary are compatible.

Date data types must match exactly.

Union queries

In this example we use a Union to create a 2-column list report for 3-data items. The Union creates one data item or column in the report that contains data for both the Account Effective Start and End Date data items.




This technique may be useful to save horizontal space in a report or for specific reporting requirements.






Union

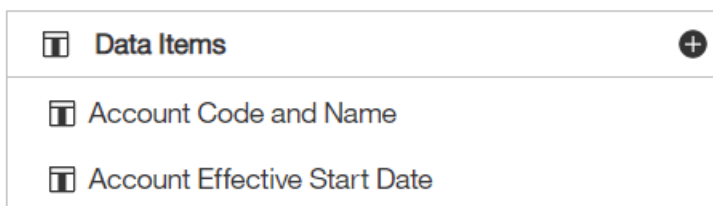
1. In the **Navigation panel** click **New**  and **Report**.
2. Double-click to select the **1 column** template option.
3. In the Insertable objects pane click the blue **Select a Source** button.

Select a source



4. Navigate to **Team content**  > **Financial Activity Hub** folder > **Financial Activity Hub Analytics Packages** folder > click the  **FINAH-UCSDGeneralLedger-View** package. Click Open.
5. In the Application toolbar click **Save**, click **My content** , open the **Cognos-Training-FINAH** folder, and save as **Union**. Click Save.
6. In the Navigation menu click **Report** and the **Queries** folder.

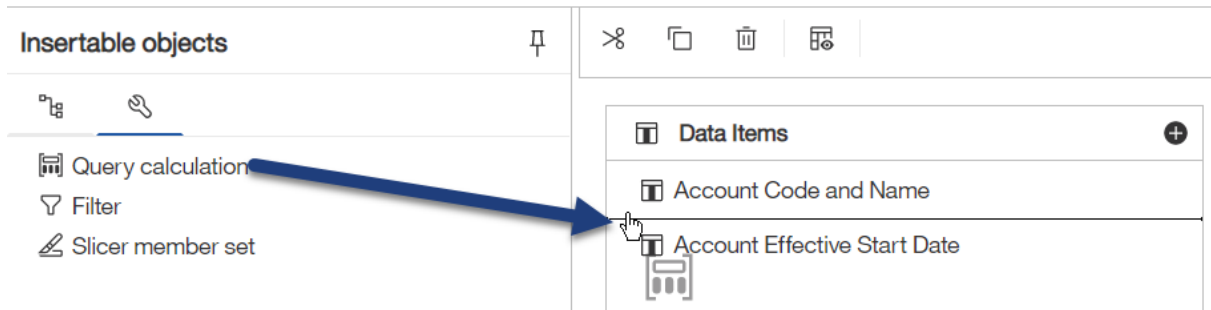
There are no queries on the report yet.

7. From the **Toolbox**  drag a **Query**  into the white space.
8. Right-click the query and rename it: Effective Begin Date.
9. Double-click the query to open it.
10. Under Insertable objects click **Sources**  and use the Find field to add the following data items to the query—in *this specific order*:



Chapter 2—Working with Multiple Queries

11. From the **Toolbox**  drag a **Query calculation**  into the Data Items pane and insert it *between* Account Code and Name and Account Effective Start Date:



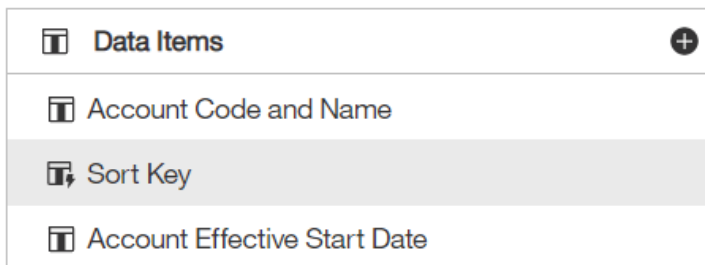
12. In the Data item expression window, in the Name field type: Sort Key.
13. Define the following expression:


Expression Definition:

1

14. Click **Validate** . Click OK.

Ensure the data items are in this specific and exact order! You can click and drag them into place if needed.



15. On the Detail Filters pane click **Add** .
16. Define the following expression:

Expression Definition:

[UCSDGeneralLedger].[Accounting Period].[Fiscal Year (YYYY)] = 2020



17. Click **Validate** . Click OK.

Chapter 2—Working with Multiple Queries

18. On the Detail Filters pane click **Add** .
19. Define the following expression:



Expression Definition:

```
[UCSDGeneralLedger].[Entity].[Entity Code] = '16110'
```

20. Click **Validate** . Click OK.
21. On the Detail Filters pane click **Add** .
22. Define the following expression:

Expression Definition:

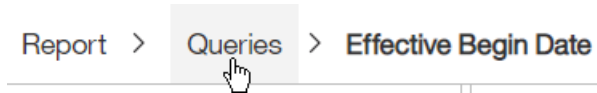
```
[UCSDGeneralLedger].[Fund].[Fund Code] = '20000'
```

23. Click **Validate** . Click OK.
24. In the Application toolbar click **Save** (Union).
25. In the Query toolbar click **View tabular data**  to test the query.

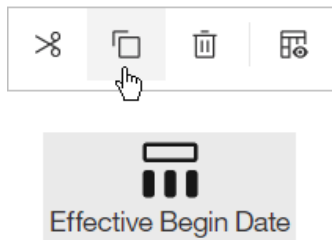
The query runs in a new browser tab—don't worry if your rows are not in the same order as those shown here.

Account Code and Name	Sort Key	Account Effective Start Date
525908-Capital Exp - Fabr Cost Excluded From O'Head-Tax	1	01/01/1951
522303-Furniture <\$5K	1	01/01/1951
522201-Office Supplies	1	01/01/1951
200004-Accounts Payable Payauth	1	01/01/1951
163001-Equipment In Process	1	01/01/1951
121700-CA-A/R Pell Grants	1	01/01/1951
530106-Lab - Test and Diagnostic Services	1	01/01/1951
530101-Professional Services	1	01/01/1951
501000-Non Academic Salary and Wages	1	01/01/1951
539511-PPM Cost Conversion	1	01/01/1951
538000-F&A (IDC) - Expense	1	01/01/1951
534100-Computer Supplies and Equipment less than 5k	1	01/01/1951
238899-Encumbrance Reserve	1	01/01/1951
522301-Equipment <\$5K	1	01/01/1951
500000-Academic Salary and Wages	1	01/01/1951
504002-Non Academic Comp Time Accrual	1	01/01/1951
536300-Gifts-Flowers, Tickets, Contributions	1	01/01/1951
532300-Repairs, Alterations, Maintenance	1	01/01/1951
530110-Installation of Equipment	1	01/01/1951
481400-Pell Revenue - Non Operating	1	01/01/1951

26. Close the New report browser tab.
27. In the Navigation menu click **Queries**.



28. Click the **Effective Begin Date** query and in the Query tools click **Copy**.



29. Click in the white space and click **Paste**.

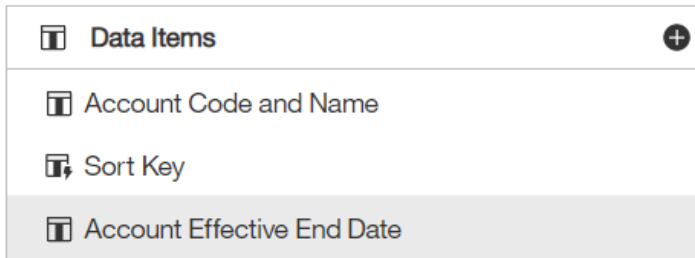


30. Right-click **Effective Begin Date1** query, click **Rename query** and rename it: Effective End Date.



31. Double-click the **Effective End Date** query to open it.
32. In the Data Items pane click the **Account Effective Start Date** data item and, on your keyboard, hit **Delete**.

33. Under Insertable objects click **Sources**  and from the **Start End Dates** query subject drag **Account Effective End Date** into the Data Items pane and drop it at the very bottom of the list.




When working with Unions it is critical the data items in each query be in the same exact order.

34. Double-click the **Sort Key** data item and edit the expression as follows:

Expression Definition:

2

35. Click **Validate** . Click OK.
36. In the Application toolbar click **Save** (Union).

Chapter 2—Working with Multiple Queries

37. In the Query toolbar click **View tabular data**  to test the query.

The query runs in a new browser tab.

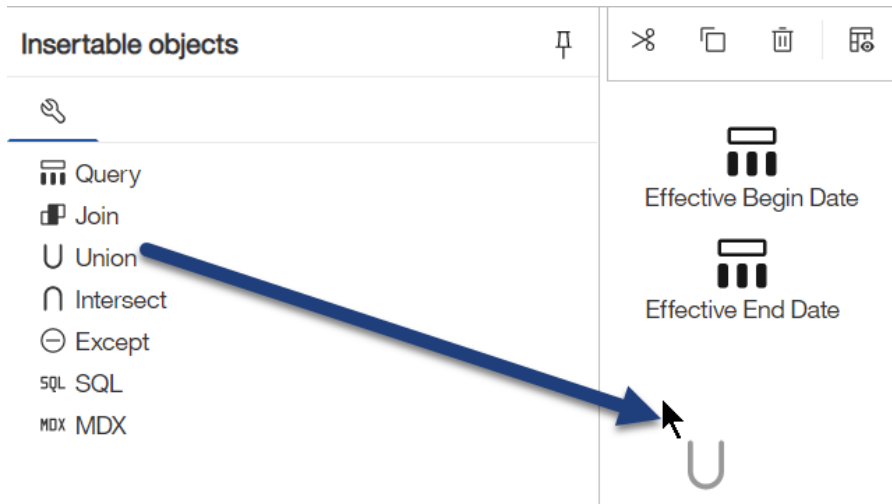
Account Code and Name	Sort Key	Account Effective End Date
525908-Capital Exp - Fabr Cost Excluded From O'Head-Tax	2	12/31/9999
522303-Furniture <\$5K	2	12/31/9999
522201-Office Supplies	2	12/31/9999
200004-Accounts Payable Payauth	2	12/31/9999
163001-Equipment In Process	2	12/31/9999
121700-CA-A/R Pell Grants	2	12/31/9999
530106-Lab - Test and Diagnostic Services	2	12/31/9999
530101-Professional Services	2	12/31/9999
501000-Non Academic Salary and Wages	2	12/31/9999
539511-PPM Cost Conversion	2	12/31/9999
538000-F&A (IDC) - Expense	2	12/31/9999
534100-Computer Supplies and Equipment less than 5k	2	12/31/9999
238899-Encumbrance Reserve	2	12/31/9999
522301-Equipment <\$5K	2	12/31/9999
500000-Academic Salary and Wages	2	12/31/9999
504002-Non Academic Comp Time Accrual	2	12/31/9999
536300-Gifts-Flowers, Tickets, Contributions	2	12/31/9999
532300-Repairs, Alterations, Maintenance	2	12/31/9999
530110-Installation of Equipment	2	12/31/9999
481400-Pell Revenue - Non Operating	2	12/31/9999

38. Close the New report browser tab.

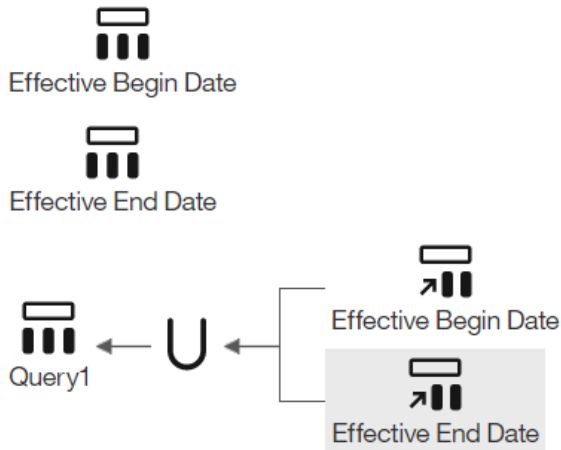
39. In the Navigation menu click **Queries**.

Chapter 2—Working with Multiple Queries

40. From the **Toolbox**  drag a **Union** \cup into the white space below the queries:



41. Drag the **Effective Begin Date** query into the 1st drop box and drag the **Effective End Date** query into the 2nd drop box.



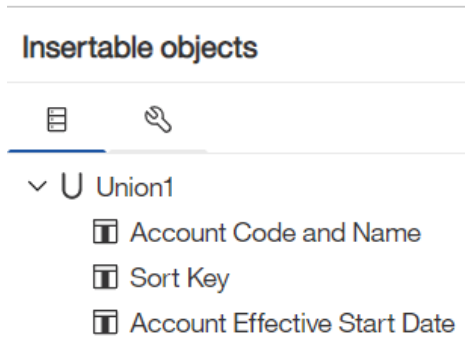
42. Right-click **Query1** and rename it: Report Data.

43. Double-click the **Report Data** query to open it.

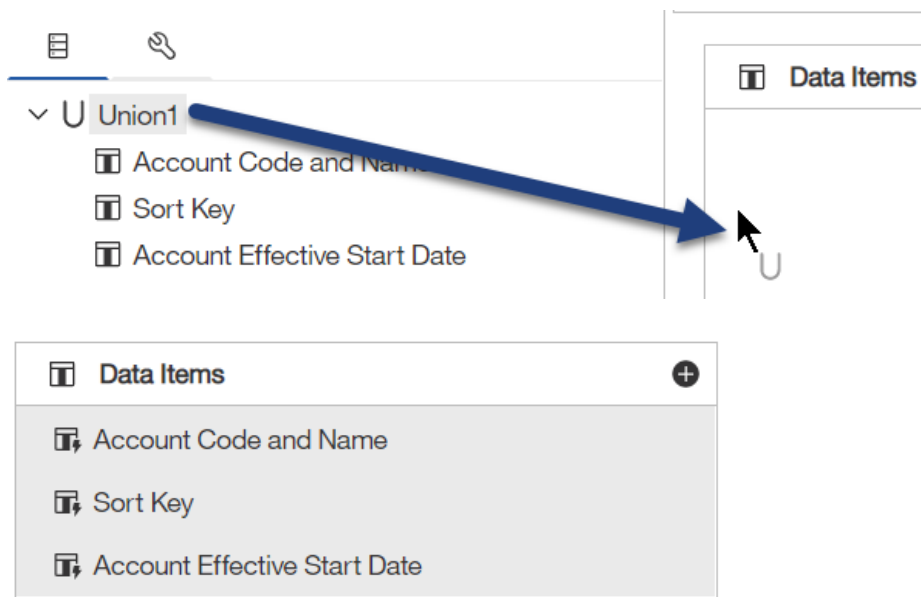
44. Under Insertable objects click **Source**  .

Chapter 2—Working with Multiple Queries

Notice there is one query and the last data item is labeled Account Effective Start Date. Also notice we do not have access to the package and can only bring items from the Union into the query:




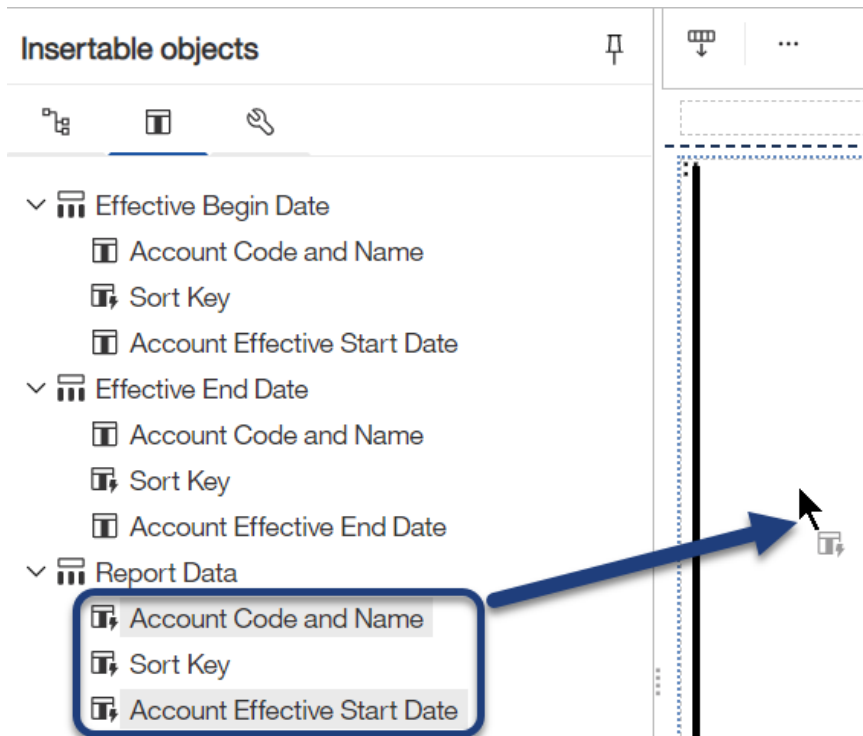
45. Drag the entire **Union1** into the Data items pane.



46. In the Navigation menu click **Report** and **Page1**.

Chapter 2—Working with Multiple Queries

47. Under Insertable objects click **Data items** , from the **Report Data** query, Ctrl-click **Account Code and Name** and **Account Effective Start Date**—in that order—and drag the selections into the report page to create a List.

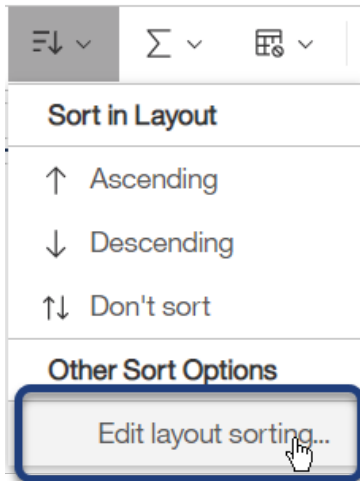


Account Code and Name	Account Effective Start Date
<Account Code and Name>	<Account Effective Start Date>
<Account Code and Name>	<Account Effective Start Date>
<Account Code and Name>	<Account Effective Start Date>

48. Click inside the **Account Code and Name** column and in the OnDemand toolbar click **Group** .

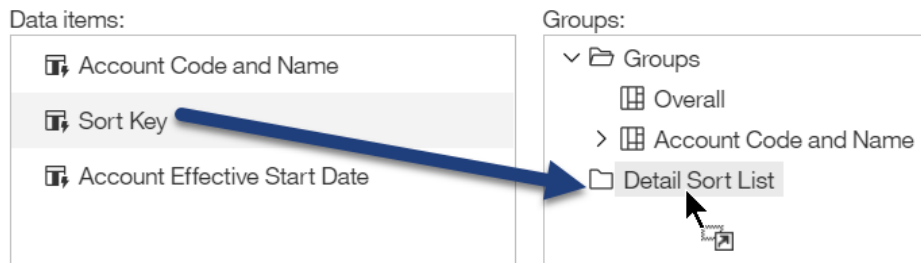
Edit layout sorting

49. Click inside the **Account Effective Start Date** column and in the OnDemand toolbar click **Sort**  and **Edit layout sorting**:



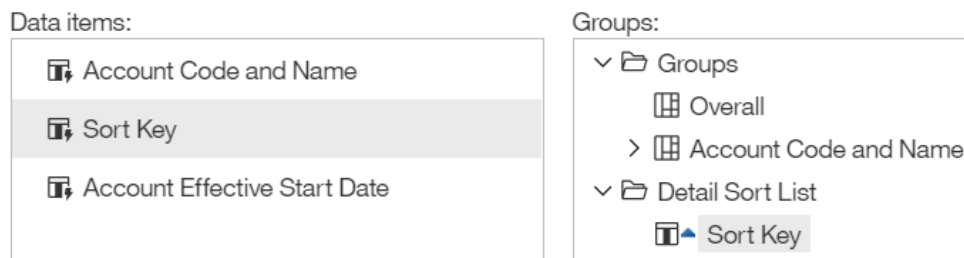
50. In the Grouping & sorting window from the Data items pane drag **Sort Key** under the Detail Sort List folder. Click OK.


Grouping & sorting - Report Data



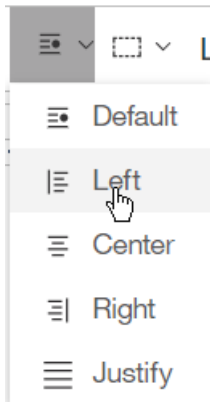
It looks like this:

Grouping & sorting - Report Data



51. In Properties  under DATA ITEM for **Label** type: Account Effective Start and End Dates.

52. In the OnDemand toolbar click **Horizontal alignment**  and select **Left**.



53. In the Application toolbar click **Save** (Union).

Chapter 2—Working with Multiple Queries

54. In the Application toolbar click Page design and **Page preview**.

Account Code and Name	Account Effective Start and End Dates
100000-Interfund Cash Account	01/01/1951
	12/31/9999
121210-A/R Federal Contracts Unbilled	01/01/1951
	12/31/9999
121213-A/R All FED Letter of Credit	01/01/1951
	12/31/9999
121233-A/R Federal Grants Billed	01/01/1951
	12/31/9999
121700-CA-A/R Pell Grants	01/01/1951
	12/31/9999
163001-Equipment In Process	01/01/1951
	12/31/9999
163003-Equipment Clearing	01/01/1951
	12/31/9999
200010-Accounts Payable-Marketplace	01/01/1951
	12/31/9999
210023-Salaries and Wages Payable	01/01/1951
	12/31/9999
213001-Withholding Tax Non Res Aliens	01/01/1951
	12/31/9999

This is a simple example of a Union allowing us to combine two columns into one.

Chapter 3—Bursting

Bursting is a capability of IBM Cognos that allows the author to create a large report which is divided, typically with a page break, and sent or delivered to different recipients.

The most common bursting scenario is a report that contains a page break on some key value, and which is emailed to the individuals who are interested in that section of the report. You are not able to burst a Crosstab or Visualization report.

The prerequisites for bursting a report are:








- The report must have a **Burst Key**, which usually corresponds to the data item on which a page break is set.
- The report must define a **Burst Recipient**, which can be an email address, or a directory address to which that section of the report is sent. (“Burst” reports can also be sent to folders in Team content.)
- The report must be scheduled to run or can be run immediately.

In this example we go to Team content and find the **Bursting_starting point** report created by your instructor before class. It contains two queries—one with our Burst Groups and the report data we want to Burst and a second query with Burst Recipients (emails).

Your instructor created a data module to use for this example as the current version of the FINAH-UCSD General Ledger–View package does not contain emails.

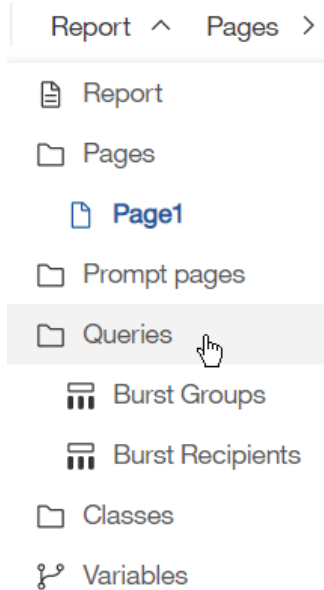


Bursting a Report for eMail

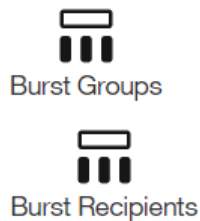
1. In the **Navigation panel** click **Home**  to return to the Welcome Portal.
2. In the Navigation panel click **Team content**  > **Business User Development** folder > **Training Samples – FINAH** folder > **Day 3: Advanced** folder > **Bursting report** folder.
3. Mouse over the **Bursting report_starting point** report, click **More**  and click  **Copy or move**.
4. In the Copy or move window navigate to **My content** > **Cognos Training-FINAH** and click **Copy to**.
5. In the Navigation panel click **My content**  > **Cognos Training-FINAH** folder, mouse over the **Bursting report_starting point** report, click **More**  and click  **Edit report**.

The report opens.

6. In the Navigation menu click **Report** and the **Queries** folder.



Notice there are already two queries on the report:



7. Double-click the **Burst Recipients** query to open it.

This query holds details about the Burst Recipients for the report—as well as the Fund Name and Fund Code that we use to link the two queries (like in the Join example).

Notice there are no filters on this query as it contains just six rows for this example. Please note the Names, Emails and IDs have been made up for this example!

8. In the Query toolbar click **View Tabular Data** .

Chapter 3—Bursting

The query runs in a new window.

Fund Code	Fund	Fund Manager Full Name	Fund Manager Email	Fund Manager ID
16000	General Reserves	Joey Tribiani	jtribiani@ucsdemail.test	56789
20700	Private Contracts and Grants	Rachel Green	rgreen@ucsdemail.test	67890
E2143	Bio Sciences Excellence Fund	Ross Geller	rgeller@ucsdemail.test	23456
20001	Federal - DHHS	Chandler Bing	cbing@ucsdemail.test	12345
E2609	Center for Wearable Sensors	Monica G. Bing	mbing@ucsdemail.test	34567
20000	Federal Contracts and Grants	Phoebe Buffay	pbuffay@ucsdemail.test	45678

9. Close the New report browser tab.

Rather than View Tabular Data for the Burst Groups query let's go ahead and create the List report that we burst in this lesson.


10. In the Navigation menu click **Report** and **Page1**.


11. Under Insertable objects click **Data items** .


12. Drag the entire **Burst Groups** query into the report.

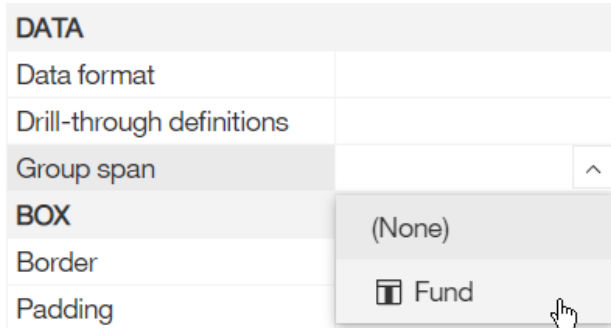
This action creates a List report.



Entity	Fund	Fund Code	Account	Transaction Amount
<Entity>	<Fund>	<Fund Code>	<Account>	<Transaction Amount>
<Entity>	<Fund>	<Fund Code>	<Account>	<Transaction Amount>
<Entity>	<Fund>	<Fund Code>	<Account>	<Transaction Amount>

13. Click inside the **Entity** column and in the OnDemand Toolbar click **Section / Unsection**  and **Section / Unsection**.

14. Click inside the **Fund** column and in the OnDemand Toolbar click **Group** .

15. Click inside the **Fund Code** column and in Properties  under DATA click **Group Span** and select **Fund**.



16. Click inside the **Transaction Amount** column and in the OnDemand toolbar click **Data Format** .
17. In the Data format window for **Format type** select **Number** and under Properties:
- For Number of decimal places select **2**
 - For Use thousands separator select **Yes**.
 - Click OK.
18. With the **Transaction Amount** column still selected, in the OnDemand toolbar click **Summarize**  and select **Total**.
19. In the Application toolbar click **Save** (Bursting_starting point).

Chapter 3—Bursting

20. In the Application toolbar click Page design and **Page preview**:

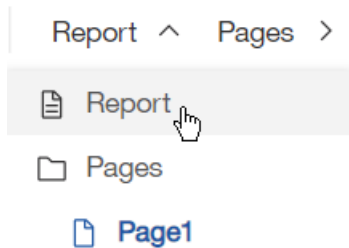
Entity: Academic Affairs			
Fund	Fund Code	Account	Transaction Amount
Biological Sciences Excellence Fund	E2143	Lab Supplies	413.11
		Repair Materials and Parts	315.87
Biological Sciences Excellence Fund - Total			728.98
Center for Wearable Sensors	E2609	Chemicals	65.16
Center for Wearable Sensors - Total			65.16
Federal Contracts and Grants	20000	Professional Services	11,987.68
		Lab Supplies	18,175.47
		Chemicals	2,649.13
		Laboratory/Research Animals	20
		Oxygen Med Gas	15
		Computer Supplies and Equipment less than 5k	1,205.99
		Lab - Test and Diagnostic Services	150
		Comp Software Purchases and Licenses	771.93
		Mail/Postage/Messenger Services	245.85
		Office Supplies	230.39
		Medical Care Materials and Supplies	8.95
		Equipment <\$5K	39.78
		Printing and Reproduction Services	1,200.06
		Safety and Fire and Environmental Supply	219.32
Federal Contracts and Grants - Total			36,919.55
General Reserves	16000	Food	33.87
		Professional Services	16,000
General Reserves - Total			16,033.87
Private Contracts and Grants	20700	Professional Services	18,807.87


When we Burst the report each Fund grouping will be in its own report—the Fund Managers in the Burst Recipients query only see the data that pertains to their Fund.

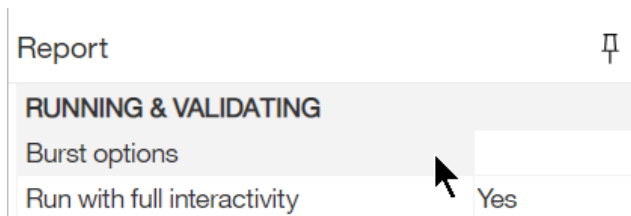
21. In the Application toolbar click Page preview and **Page design**:

Making the Report Available for Bursting

22. In the Navigation menu click **Report** and click  **Report**.



23. In Properties  double-click **Burst Options**.




24. Place a check in the box to **Make report available for bursting**.

Burst options

Make report available for bursting

Burst Groups


The **Burst Groups** properties indicate to Cognos how the report should be broken apart (on which query, which data item in the query, and how the break point should be labeled).


25. For **Query** select **Burst Groups**.
26. For **Label** select **Fund Code**.
27. Under Groups click **Edit** .


Burst options


- Make report available for bursting

Burst Groups

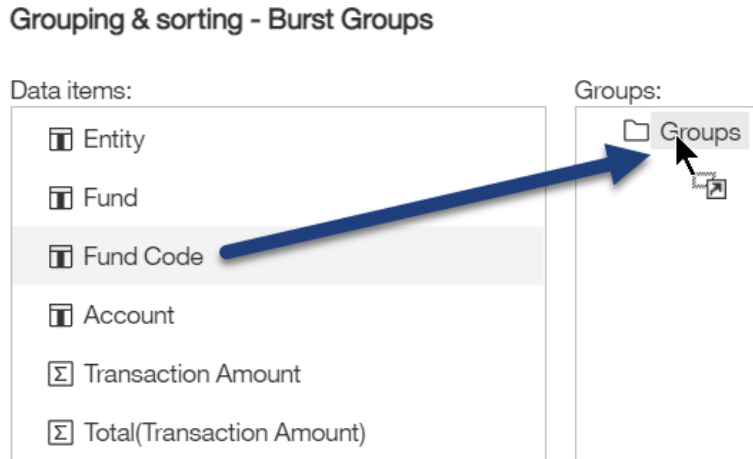
Query:
Burst Groups 

Label:
Fund Code 

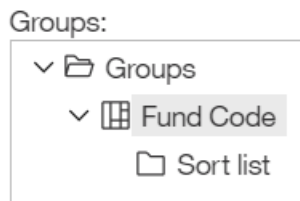
Groups:




28. In the Grouping & sorting window drag **Fund Code** into the Groups folder. Click OK.



The Groups pane looks like this:



The **Burst Recipient** properties indicate how and to whom each section of the burst report should be delivered.

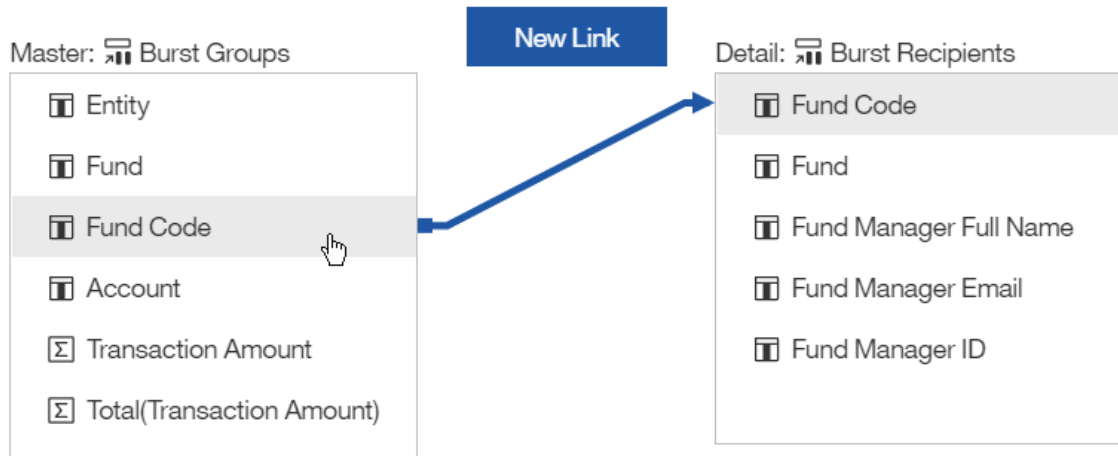
29. Under Burst Recipient:
- For **Query** select **Burst Recipients**
 - For **Data Item** select **Fund Manager Email**
 - For **Type** select **Automatic**.
 - For **Master detail relationships** click **More**.

Master detail relationships:



- e. In the Master detail relationships window click **New Link** and “link” on **Fund Code** in both the Master and Detail panes:

Master detail relationships



This creates a relationship—or link—between the two queries.

- f. Click OK.

Chapter 3—Bursting

We now have both a **Burst Key** and a **Burst Recipient** defined.

Burst options ×

Make report available for bursting



Burst Groups	Burst Recipient
Query: Burst Groups ▼	Query: Burst Recipients ▼
Label: Fund Code ▼	Data Item: Fund Manager Email ▼
Groups: <div style="border: 1px solid gray; padding: 5px; display: flex; align-items: center;">☰ Fund Code</div> ✎	Type: Automatic ▼
	Master detail relationships: (Defined) ⋮

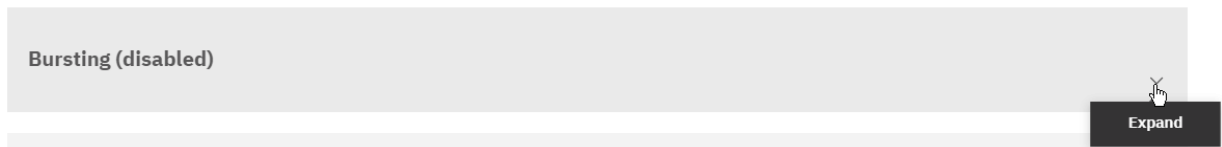
30. Click OK.

31. In the Application toolbar click **Save** (Bursting-starting point).

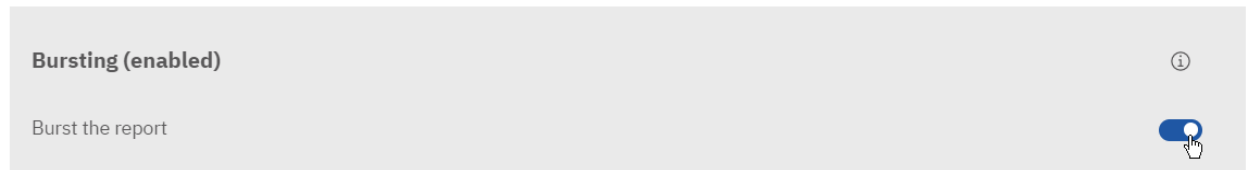
The report is “enabled” for bursting but won’t be delivered until the report is run with the Burst option from the Welcome Portal.

Distributing Reports from the Welcome Portal

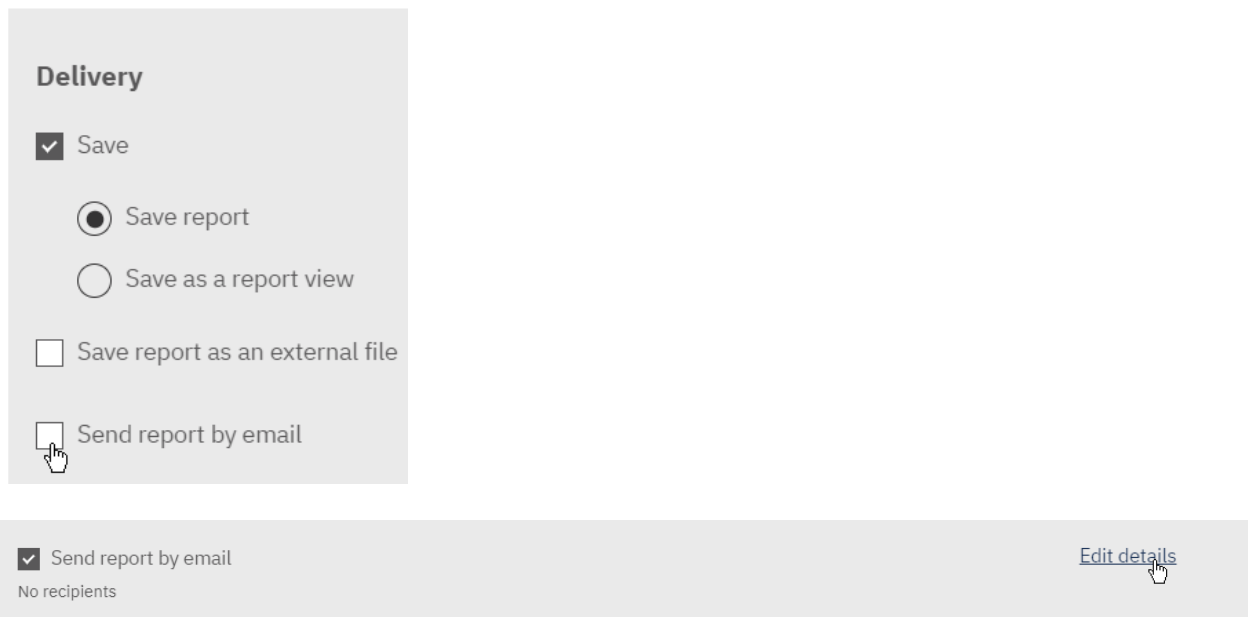
32. In the Application toolbar click the **Switcher** menu and click **Welcome**.
33. In the Recent area mouse over the **Bursting-starting point** report “card”, click **More**  and click **Run as** .
34. In the Run as pane toggle the switch to **Run in background** and for **Formats** select **HTML** and **PDF**.
35. Scroll down and click the arrow to expand the Bursting section:



36. Toggle the switch to enable “Burst the report”.



37. Scroll down and notice the **Delivery** options, specifically the option to send the report by email and click **Edit details**:



Chapter 3—Bursting

Note that even though we setup the Burst Recipients to include email addresses you still must choose the option to “Send report by email” in this window.

A reminder that the emails in this report are not real and so no emails will be sent in training regardless of how we set up the Bursting.

The Bursting Recipients query takes care of the emails for those you are Bursting to!

Run as

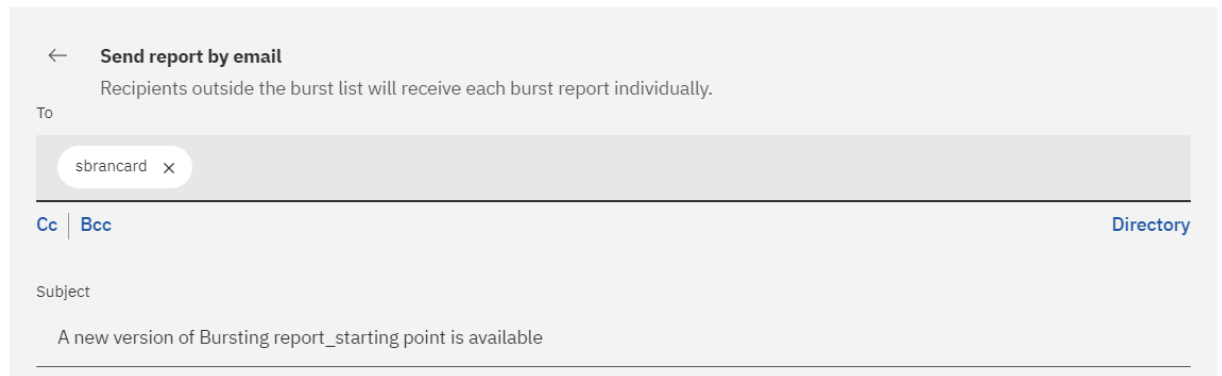
Run in background

Now

Later

Prompt me

You will be prompted for input before the report runs.



← **Send report by email**
Recipients outside the burst list will receive each burst report individually.

To

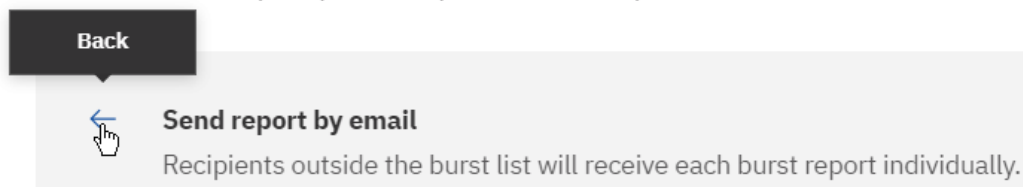
sbrancard x

Cc | Bcc Directory

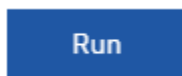
Subject

A new version of Bursting report_starting point is available

38. Click **Back**—we do not send any emails today:



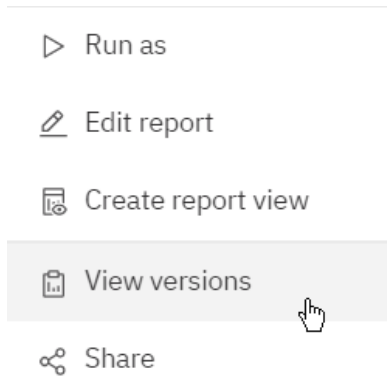
39. Click **Run**.



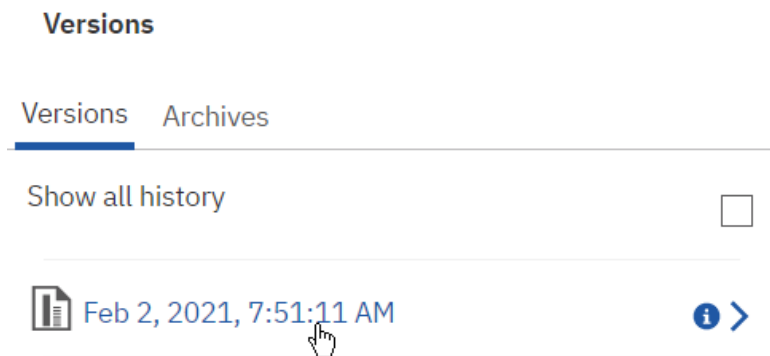
Chapter 3—Bursting

There are no additional messages indicating the report is running. It may take a few minutes for the report to run and “burst” . . . and we can see it in View versions.

40. In the Recent area mouse over the **Bursting_starting point** report “card” click **More** **⋮** and click **View versions**.



41. In the Versions pane (on the right) click the report output link:






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There is a PDF version of the report for each Fund Code encountered in the report.











Versions

Versions Archives

Show all history

 Feb 2, 2021, 7:51:11 AM  

Delete report version

16000		
EN-US		
20000		
EN-US		
20700		
EN-US		
E2143		
EN-US		
E2609		
EN-US		



Sending a report link to a burst recipient is a secure mechanism because in order to view the report contents the recipient must click the link and be validated into the reporting environment before they can view the contents.

Sending the report as an attachment allows the recipient to view (and forward) the report without any security enforcement and therefore does not require a Cognos license.