Basic Query 8.4

PeopleSoft 8.4 Training Manual

REVISION CONTROL

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SECTION 1

Introduction

OVERVIEW

The intent of this course is to demonstrate the features of PeopleSoft Query Release 8.4. This course is designed to teach users how to create queries using PeopleSoft's Query tool.

OBJECTIVES

By the end of this course, you will be able to:

- Open existing queries
- Create new queries using the Component and Designer Views
- Specify selection criteria and sorts
- Generate run-time prompts
- Send query results to Excel
- Perform a simple join between two tables

SECTION 2

Query Overview

OVERVIEW

This lesson reviews how to access Query, as well as how to run an existing query. You will also learn about the various components of the query definition. In later lessons, we will use this acquired knowledge to build and execute queries.

OBJECTIVES

By the end of this section, you will be able to:

- Access Query
- Understand new Query terminology
- Open an existing query
- Run an existing query
- View query results
- Set preferences

2.1 Accessing Query Manager

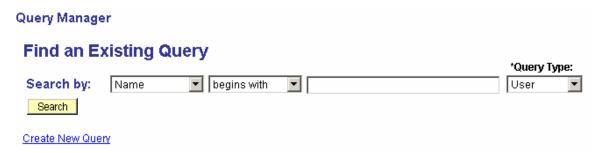
To provide a quick introduction to Query, you will access and run an existing query. Once you execute the query, the results will be displayed on the screen within a grid control. Once you are logged on to PeopleSoft, perform the following steps to access Query Manager.

Navigation:

- Reporting Tools
- Query
- Query Manager



The **Query Manager** page displays:



From the **Query Manager** page you can open a query, modify an existing query, run an existing query, or create a new query.

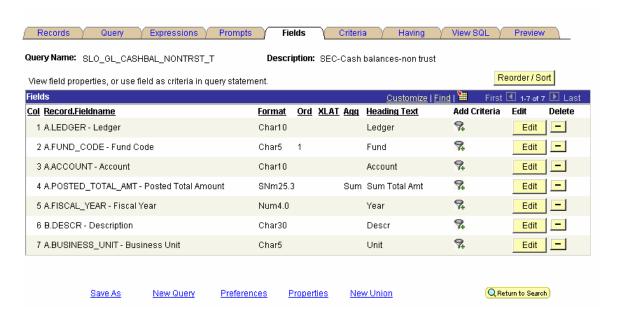
2.2 Opening an Existing Query

If you have predefined queries, you can open and/or execute them easily. As new queries are defined they can be saved and executed as well.

- Enter a part or all of the guery name
 - For this example, type SLO_GL
 - o Press the Search button
 - o The list of available queries displays
 - Click the hyperlink for the SLO_GL_CASHBAL_NONTRST_T query



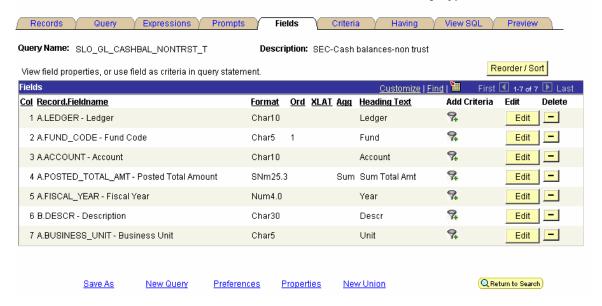
NOTE: Only queries that have been saved as public, as indicated in the third column of the search results above, are available to all users. If this column contains "Private", only the person who created that query has access to it.



When the query opens, the **Fields** page is initially displayed. This page lists the fields to be selected by this query as well as a number of each field's properties as pertains to the query.

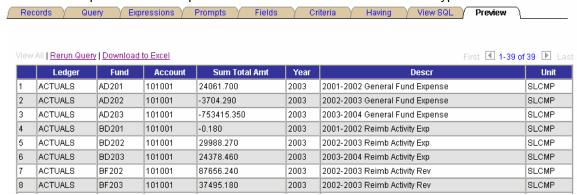
2.3 Running a Query

To run a query, click the Preview folder tab on the far right. Note that this method will work when you first open a query or create a new query. In order to rerun a query that you have open you will need to click on the Preview tab and then click on the **Rerun Query** hyperlink.



When the query has finished running, the results are displayed in a grid format.

To run the output to an Excel spreadsheet click the **Download to Excel** hyperlink.



2.4 Setting Preferences

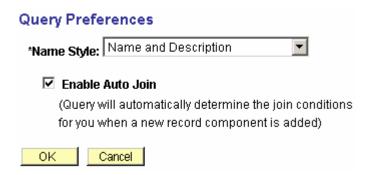
You are able to modify your Query Manager by setting preferences.

Click the **Preferences** hyperlink found at the bottom of the Query Manager pages.



The **Query Preferences** page allows you to control the display of records by either <u>description</u> or <u>name and description</u>.

The "Enable Auto Join" checkbox is used to automatically determine the join conditions when a new record component is added.



2.5 Exiting a Query

In version 8.4, in order for changes made to a query to take effect, the query must be explicitly saved. As a result, you will be prompted to save changes to a modified query if you exit Query Manager. If you modify a query, you may run it before you save it.

SECTION 3

Creating a Query

OVERVIEW

This lesson illustrates how to create and execute a new query. In addition, we will save and modify the query. Building on these skills, we will then make the query more complex by adding such operations as sorts, and aggregate functions.

OBJECTIVES

By the end of this section, you will be able to:

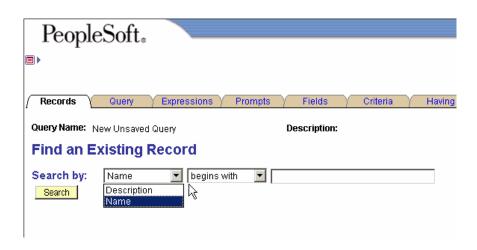
- Create queries
- Save queries
- Change headings
- Sort query output
- Use aggregate functions such as count and average

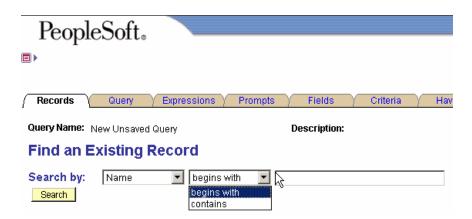
3.1 Selecting a Record

In order to create a new query, we will work with the LEDGER record to create a query that will gather information about account balances and funds. We will start with some very simple concepts and build on these skills to create a more complete and useful query.

The first step in creating a query is selecting a record. You want to choose the record that will be the primary focus of your query. For example, if you want information about account balances with certain funds you may want to select the LEDGER record.

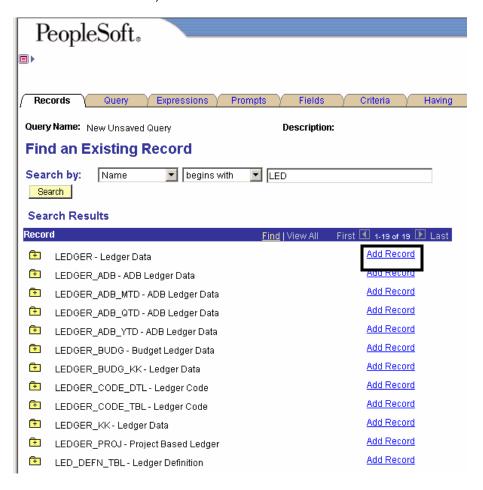
To create our new query, we must locate the LEDGER record. There are several different methods to select a record from this page. You can search by <u>Name</u> or <u>Description</u> and select either <u>begins with</u> (shown below) or <u>contains</u> certain letters.



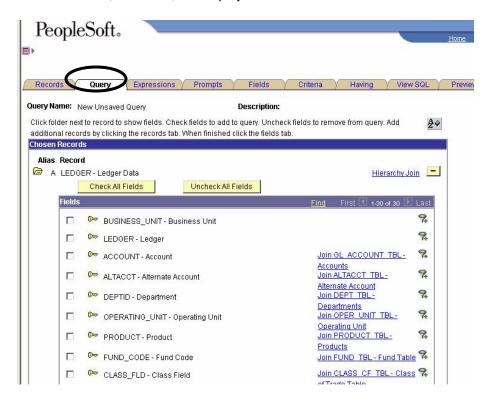


For our example, leave the drop-down values as they are and type the first few characters of the record name ("LED" in the example shown below), and then press the **Search** button.

Click the Add Record hyperlink for the record to add it to the query (in this case, select Add Record for the LEDGER record.)



Once a record has been selected, the **Query** page is activated. All fields contained in the selected record, LEDGER, are displayed:



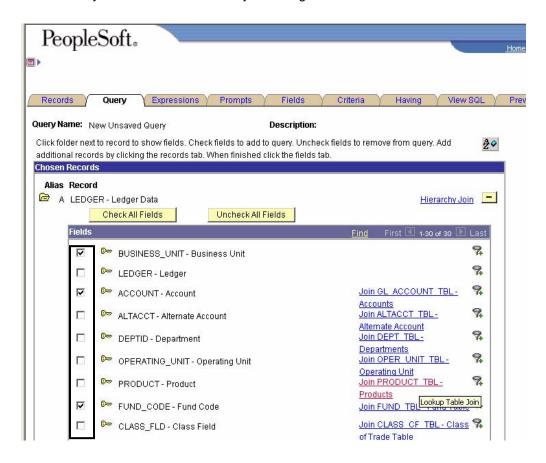
Activity #1 - To create a list of account balances by period within a fund, select the LEDGER record using one of the navigation options defined. Follow the above example as a guideline.

3.2 Selecting Fields

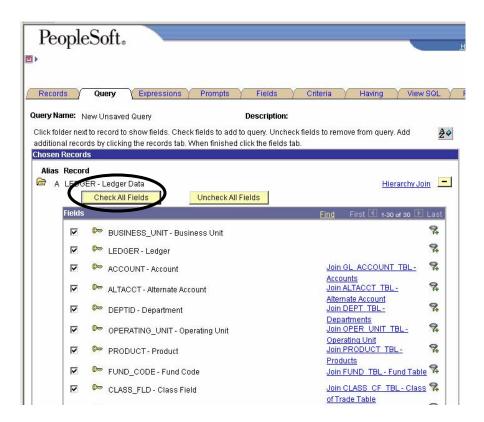
The next step in defining a query is to select the fields that will comprise the output columns.

Navigation options for selecting fields:

Manually select individual fields by checking the "field" check boxes to the left:



• Or, select all fields by pressing **Check All Fields** button:



Activity #2 - Create a list of account balances by period within a fund: select the BUSINESS_UNIT, LEDGER, ACCOUNT, FUND_CODE, FISCAL_YEAR, ACCOUNTING_PERIOD, AND POSTED_TOTAL_AMT fields using one of the navigation options defined. Follow the example as a guideline.

Select the **Fields** page to view the selected fields and their properties.

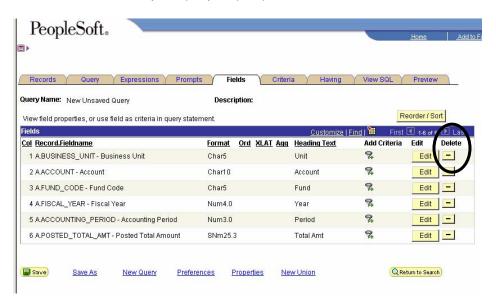
The column order is indicated in the column titled "Col".

When a field is selected for output its column sequence number is displayed in the Col column. The sequence number represents the left to right order of the displayed fields in the query output:



3.3 Removing Fields

To remove a field from your query output, press the "Delete" button on the field's line.

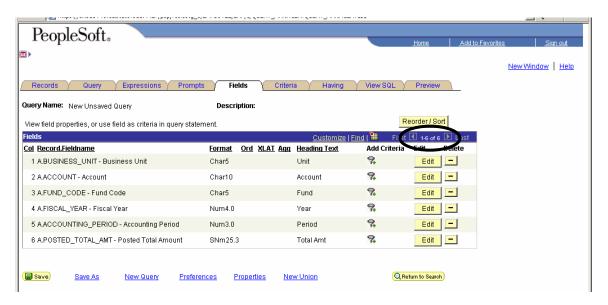


Activity #3 - Modify the query field list by removing the LEDGER field so that the remaining query fields are as shown above.

3.4 Running Queries

As mentioned in section 2.7, in version 8.4, a new or modified query does not have to be saved before you can run it.

You may run the query before saving (by clicking on the **Preview** tab); however, you may wish to save the query first by using the standard SLO naming convention. You should save your query as a Private Query. Public Queries may only be saved in compliance with SLO Public Query Request Process Guide.

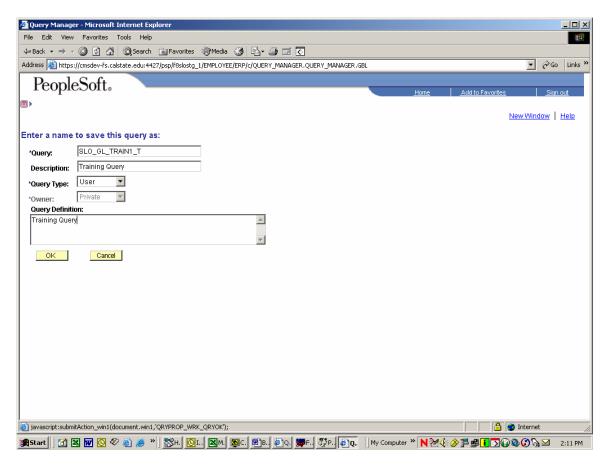


Click the Save As link at the bottom of the page to save the new query.

Enter the query name (use a prefix of "SLO_", to indicate a San Luis Obispo custom query, followed by Office/Function code "XXX_", then the query name, followed by T for Template or P for Prompt). Note that this is the standard naming convention for Public queries (as outlined in the Public Query Request Process Guide); for Private queries you may use any structure that you choose.



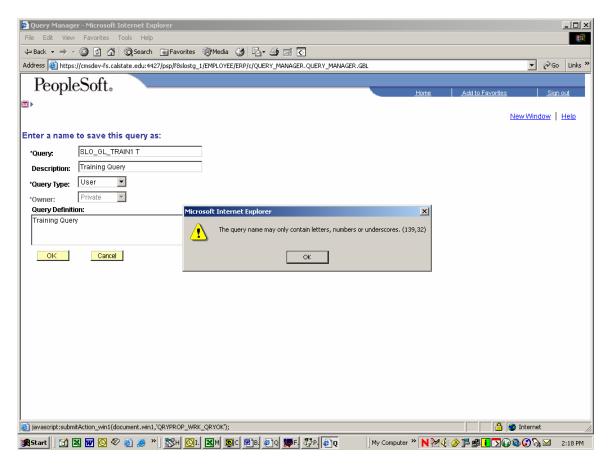
Add a short description, the query type (in this case "User"), and the owner (in this case "Private"). The Query Definition section allows you to enter a much more detailed description of the query if desired:



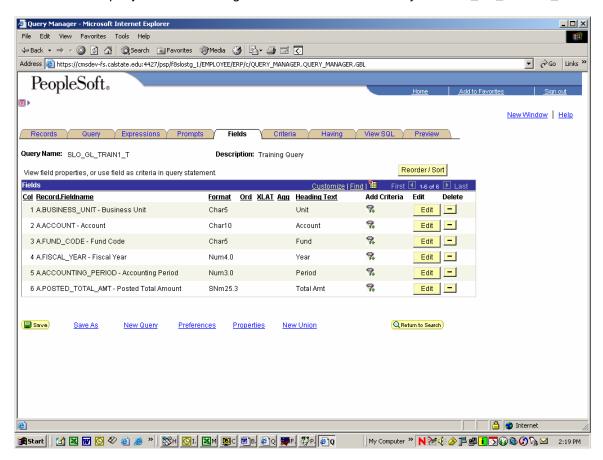
Users are only allowed to make or change private queries unless they follow the correct process below is a link to the public query request form.



Be sure to avoid using spaces in the query name or you will receive the following error:

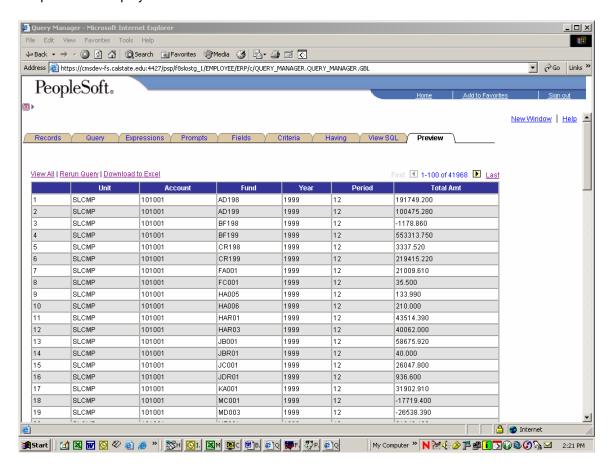


Notice that the query name has changed from "New Unsaved Query" to "SLO_GL_TRAIN1_T":



Click the **Preview** tab to execute the query.

Output will be displayed in a new window:

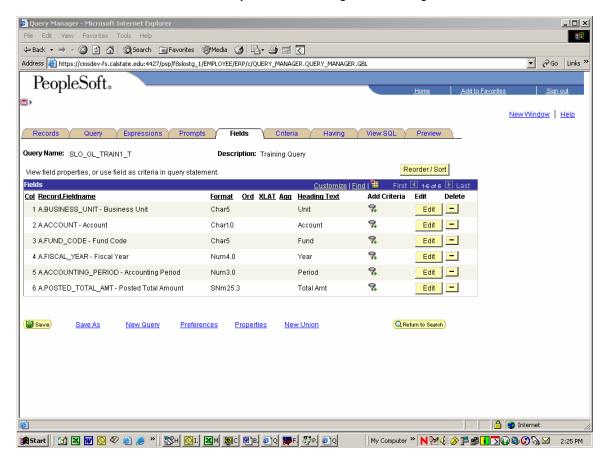


3.5 Modifying Headings

The text listed in the "Heading Text" column will be used for the headings in your query output to the grid control and Excel.

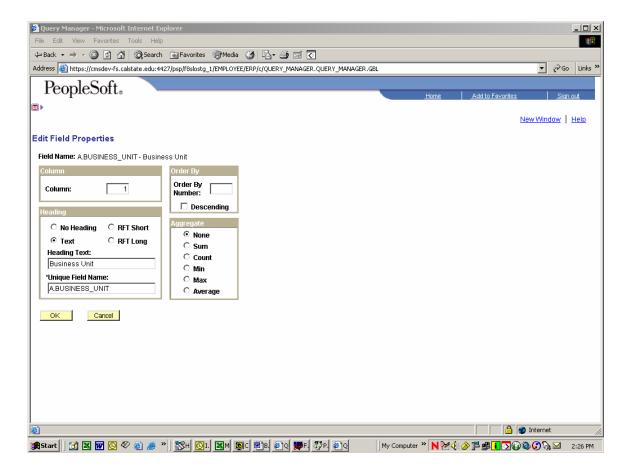
Let's change the heading for UNIT to "Business Unit" and the heading for YEAR to "Fiscal Year".

Press the **Edit** button on the field line you wish to change the heading for:



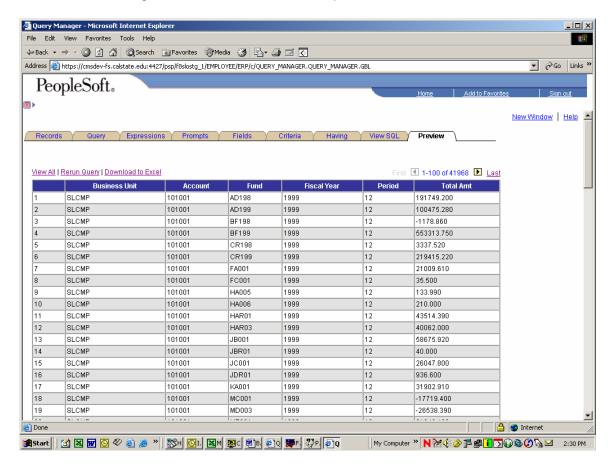
Navigation for modifying field headings:

- In the "Heading" group box, click on the "Text" radio button
- Select and click in the "Heading Text" field
- Type new heading text into the text box
- Press **OK** button



Save changes to query and rerun by selecting on the **Preview** tab, and then clicking on the **Rerun Query** hyperlink.

The modified headings are shown in the resultant output:

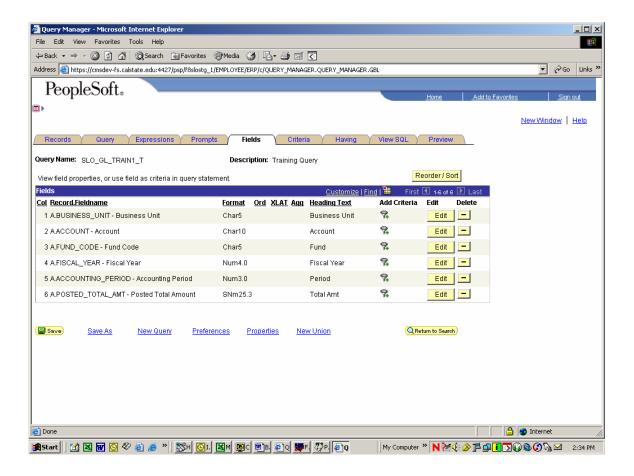


Activity #6 - Change the headings for UNIT and YEAR as indicated above.

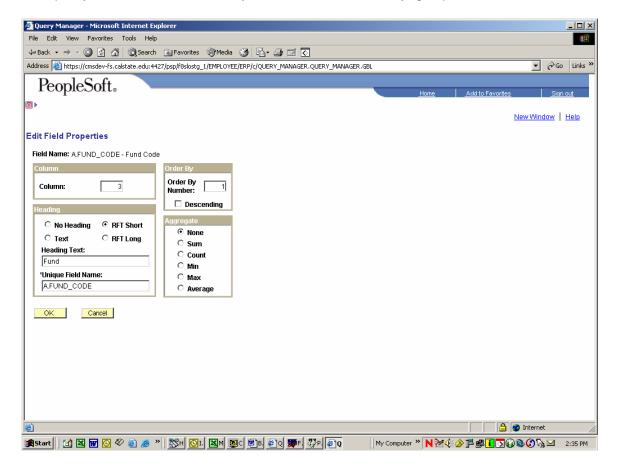
3.6 Sorting Query Output

The numbers in the "Ord" column represent which fields your query is using to sort the output. Unless you specify a specific sort order, the query will list the results in the order that the data is retrieved from the database.

Let's sort the output by the FUND_CODE field. From the **Fields** page press the **Edit** button for the field to change sort order.



Specify sort order in the "Order By Number" field in "Order By" group box:

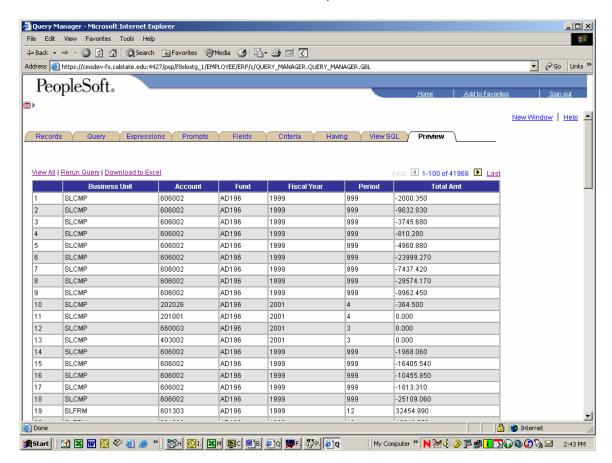


A "1" now displays in the "Ord" column for FUND_CODE. More than one field may be selected for sort criteria. For example, you could sort the query by ACCOUNT within FUND_CODE. When you select more than one field to sort by, the number displayed in the "Ord" column indicates the sequence in which the fields are used to sort the output. For now, we are putting this query in FUND_CODE sequence only.

NOTE: As the default, the system will sort the output in <u>ascending</u> order for the field. If you want to sort the output in <u>descending</u> order, from the Field Properties dialog box, click the "Descending" checkbox and it will sort the output in descending order (i.e. Z-A, 9-1, etc.) for that field. If you choose to sort the output in descending order, a 'D' will be displayed in the "Ord" column.

Save changes to query (optional) and rerun.

The modified sort order is shown in the resultant output:

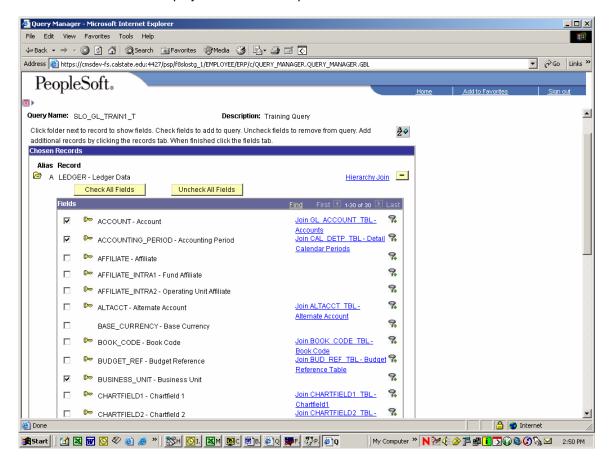


Activity #7 - Sort the query by FUND_CODE in ascending order. Follow the above example as a guideline.

3.7 Adding Fields

In order to expand our account and fund query, let's add the Posted Base Currency Amount. By sorting the display of field names listed on the **Query** page in alphabetical order, it will be easy to find the new field for the query.

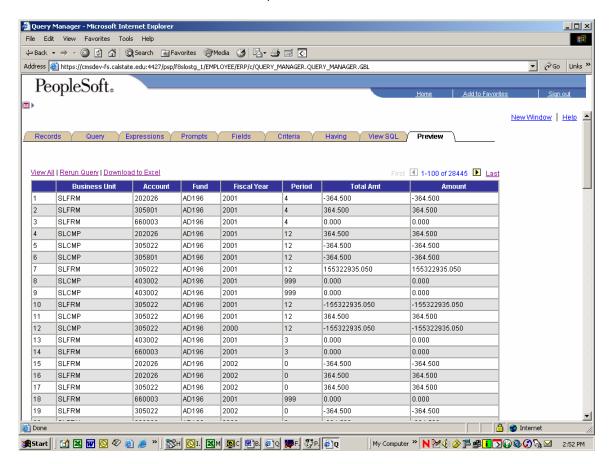
Press the **AZ** button to display field names in alphabetical order:



Now that the fields are sorted alphabetically, find the POSTED_BASE_AMT field and click the checkbox to select it.

Save changes to query (optional) and rerun.

The new field is shown in the resultant output:



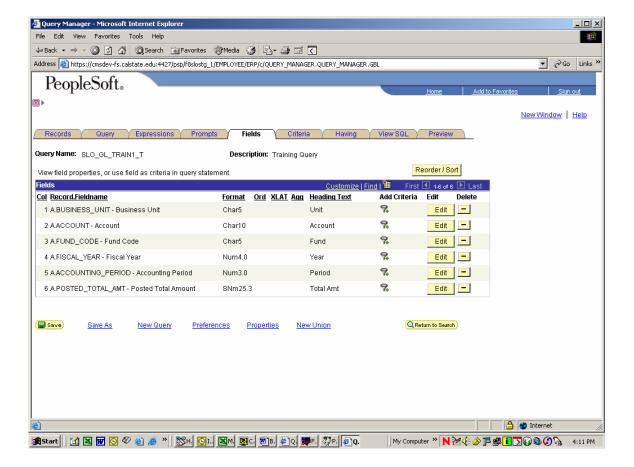
Activity #8 - Add the field POSTED_BASE_AMT to your query. Follow the above example as a guideline.

3.8 Changing Column Order

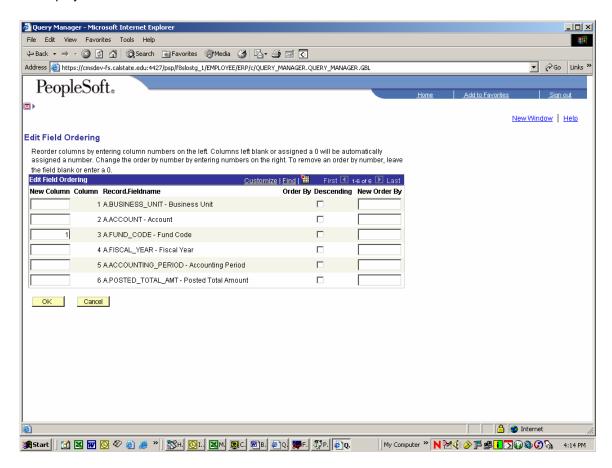
Often it is necessary to rearrange the order in which the columns display to achieve the desired output. To change the column order, follow the steps below.

Navigation options for changing the column order:

- Press the Edit button to go to the Edit Field Properties page
- Specify new column number in "Column" group box OR
- Press the Reorder/Sort button



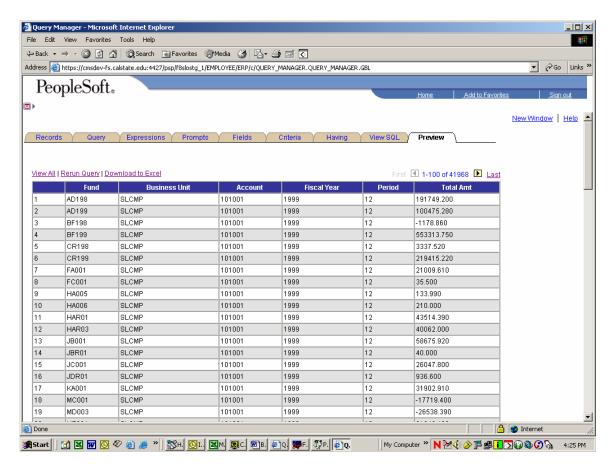
Specify new column sequence numbers in the "New Column" fields, and specify FUND_CODE to be displayed in column 1:



Click "OK" to save the new column order and return to the Field page.

Save changes to query (optional) and rerun.

Notice that the "Fund" is now located in column 1:



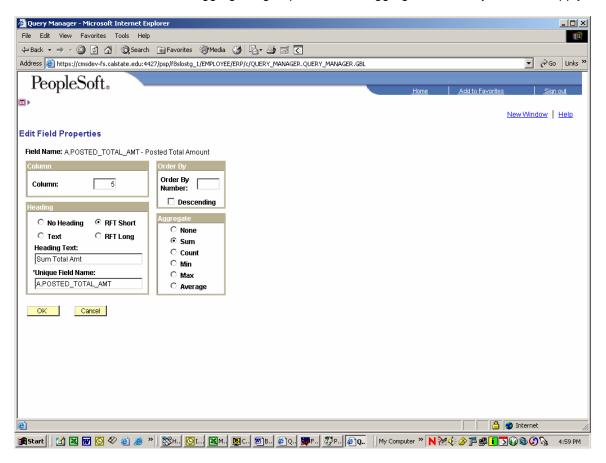
Activity #9 - Change the column order of the account/fund list, so that the fields are displayed in the following order: Fund, Business Unit, Account, Fiscal Year, Period, Total Amount. Follow the above example as a guideline.

3.9 Aggregate Functions

An aggregate function allows the user to perform various predefined summary options such as counting and averaging.

To establish an aggregate function, press the **Edit** button next to the field to which you are going to apply the aggregate. This will take you to the **Edit Field Properties** page.

Select the radio button in the "Aggregate" group box for the aggregate function you wish to apply:



NOTE: In order to undo an aggregate function, follow the instructions above and choose the radio button labeled "None".

Additional information for using the Aggregate Functions will be provided in later sections of this guide.

SECTION 4

Using Selection Criteria

OVERVIEW

In this lesson you will learn how to specify selection criteria in a query. Selection criteria is used to restrict the rows selected from the database when the query is executed. In addition, you will learn how to create run-time prompts.

OBJECTIVES

By the end of this section, you will be able to:

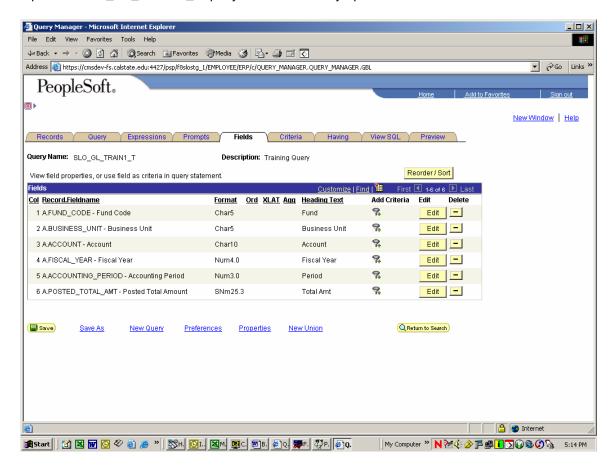
- Create selection criteria
- Create run-time prompts

4.1 Adding Selection Criteria

Criteria are used to select only specific rows of data from the database. Criteria can be established from both the **Fields** and the **Criteria** pages.

Using our account/fund list as an example, you may want to create a listing of the accounts and funds only for the current fiscal year. The query we created in the previous section gives us all fiscal years. Let's now add selection criteria to the query.

Open the SLO_GL_TRAIN1_T query if it is not already open:



Then navigate to the Criteria page by selecting the tab.

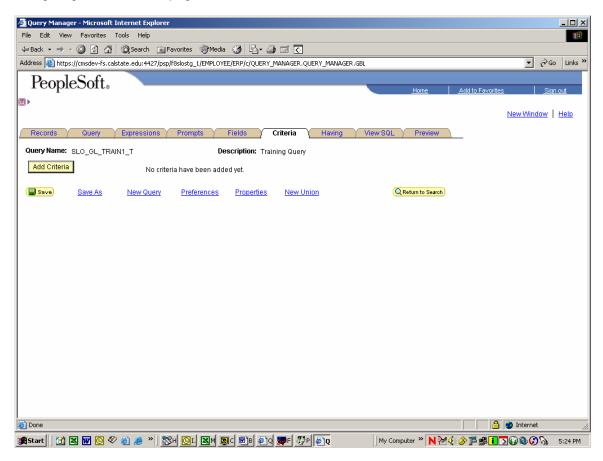
There are a couple of different ways to add criteria to a query.

- Click on the "funnel-plus" button in the "Add Criteria" column for the individual field for which
 you want to add a criterion
- Go to the Criteria page and press the Add Criteria button

Both of these approaches will take you to the Edit Criteria Properties page.

Using the first method will auto-populate some fields for you (such as the Record and Field), and is generally easier to follow. But, since the second method is more comprehensive we will show that route here:

Navigating to the Criteria page we see:



At this point, no criteria have been specified yet. Occasionally you will notice that some criteria have been automatically specified for you—this is often the case when you are using a table that is effective dated.

4.2 Criteria Components

The **Criteria** page together with the **Edit Criteria Properties** page, allow you to define criteria expressions to selectively retrieve information.

The following columns are present on the **Criteria** page (**Expression 1, Condition Type, and Expression 2** are also present on the **Edit Criteria Properties** page):

Component	Definition	
Logical	Contains the Boolean operator that represents how the criteria rows are evaluated. Blank for the first criteria, subsequent rows default to AND but car be changed to OR.	
Expression 1	Used to specify what you are comparing.	
Condition Type	State how your Expression 1 is to be compared with your Expression 2.	
Expression 2	You can compare the Expression 1 to a constant, a field from another record, an expression, a subquery, or values entered using a run-time prompt.	

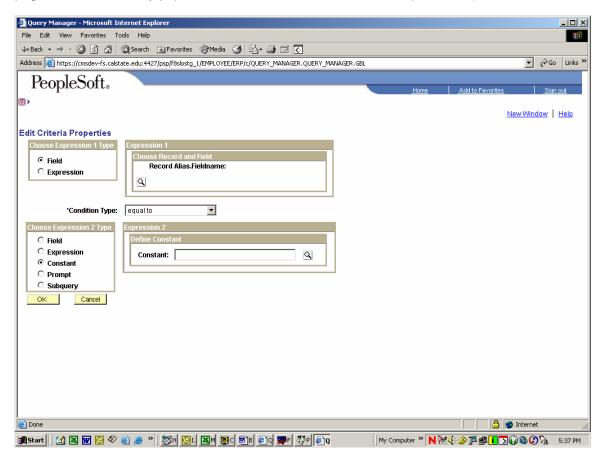
The buttons on the page are used to manipulate query criteria.

Button	Definition
Add Criteria	Add Criteria
Delete	Remove existing criteria
Edit	Edit existing criteria
Group Criteria	Add or remove parentheses

4.3 Entering Criteria

To enter criteria for the FISCAL_YEAR field, perform the following steps:

Press the **Add Criteria** button. This will take you to the **Edit Criteria Properties** page (you could also click on the Funnel+ symbol on the FISCAL_YEAR line which would take you to the same page, and automatically populate the Record Alias.Fieldname in Expression 1):

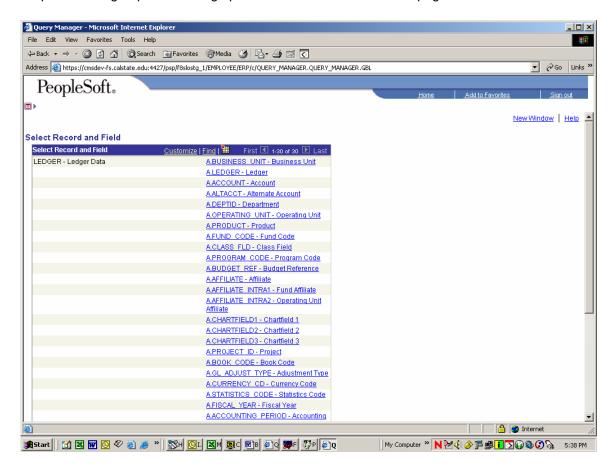


Let's add criteria to our guery to select the current fiscal year.

Confirm the following:

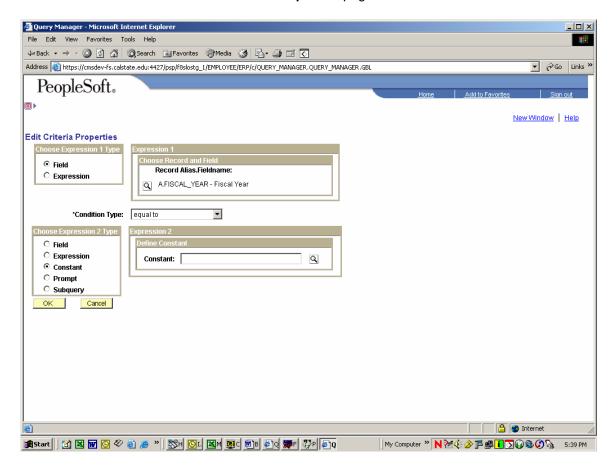
- The "Field" radio button is selected in the "Choose Expression 1 Type" group box
- The Condition Type is set to "equal to"
- The "Constant" radio button is selected in the "Choose Expression 2 Type" group box

Press the magnifying glass icon in the "Choose Record and Field" group box within the "Expression 1" group box to bring up the **Select Record and Field** page:



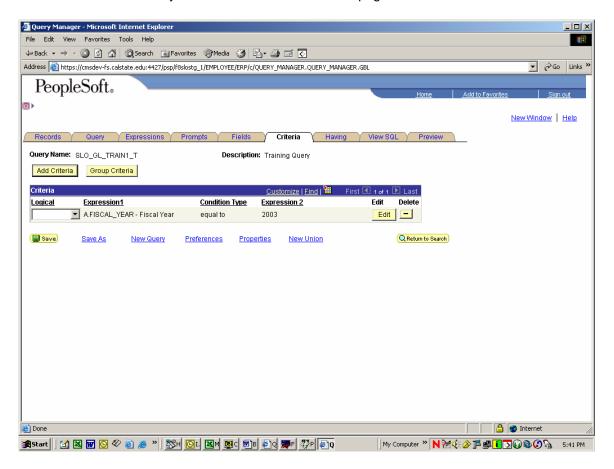
Scroll down and click on the A.FISCAL_YEAR - Fiscal Year hyperlink

You will be taken back to the Edit Criteria Properties page:

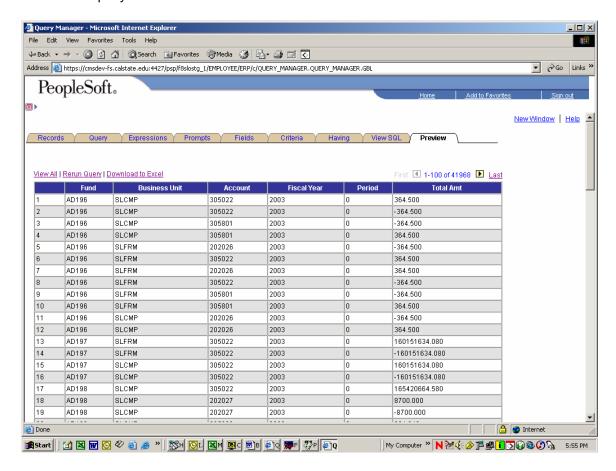


Enter the fiscal year you want to restrict the information to (for example, 2003) in the "Constant field" within the "Define Constant" group box within the "Expression 2" group box.

Press the **OK** button and you will be back on the **Criteria** page:



Resave the query and run:



NOTE: Notice that the output displays only rows with a Fiscal Year equal to 2003. In addition, the output is sorted by Fund in ascending order.

Wildcards are also available in queries. The wildcard within PeopleSoft is %. For example, F% will find any records beginning with a F, %F will find any records that end in an F.

Activity #10 - Add the criteria for FISCAL_YEAR 2003 in your query. Follow the above example as a guideline.

4.4 Condition Type/Expression Combinations

Each Condition Type uses specific expressions for the "Expression 2" group box.

Condition Type	Expression 2
equal to	constant
not equal to	field
greater than	expression
not greater than	subquery
less than	prompt
not less than	
in list	list
not in list	subquery
between	constant-constant
not between	constant-field
	constant-expression
	field-constant
	field-field
	field-expression
	expression- constant
	expression-field
	expression-expression
like	constant
not like	prompt
exists	subquery
not exists	
is null	
is not null	
in tree	tree option
not in tree	-

NOTE: If you forget which expressions are associated with each condition type, after you select which condition type you are using to define the criteria, the available options for that condition type will appear in the "Choose Expression 2 Type" group box.

4.5 Compound Selection Criteria

Often you will have to create a query that requires multiple selection criteria against one or more fields. When you have multiple conditions, you must use one of the Boolean operators to relate one criterion to another.

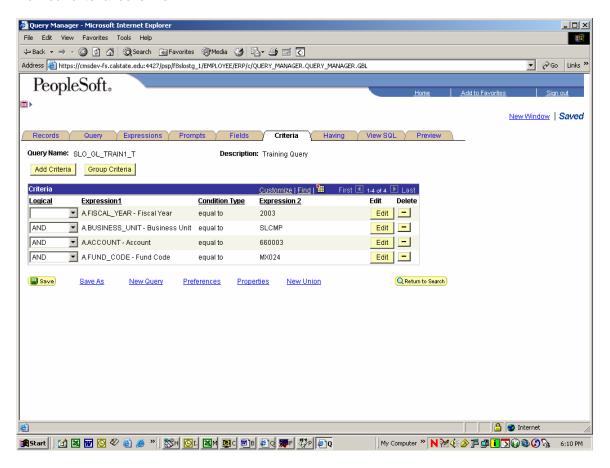
The operators available on the **Criteria** page are AND, OR, NOT, and parentheses. The operators AND, OR, and NOT are used to show the relationship of one criteria row to another. Parentheses are used to further define the relationship and define the order in which the criteria is evaluated. If you do not use parentheses, the criteria is evaluated in the order listed.

Let's add criteria to qualify on BUSINESS-UNIT, ACCOUNT, and FUND CODE in our query.

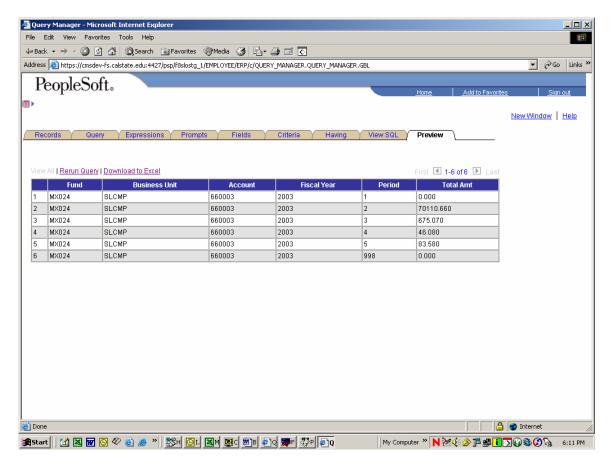
- From the Fields page, press the "Add Criteria" icon on the BUSINESS_UNIT line.
- Enter "SLCMP" into the "Constant" field within the "Define Constant" group box within the "Expression 2" group box.
- Press the **OK** button.

Repeat the same steps for the ACCOUNT field and the FUND_CODE field using the constants of "660003" and "MX024", respectively. Remember that when defining constants you can use the look-up function (magnifying glass) to see the available constant fields.

Now our criteria looks like:



Resave the query and rerun:



NOTE: Notice that the output now only displays information for Fund MX024 in Business Unit SLCMP for Account 660003 in the 2003 Fiscal Year.

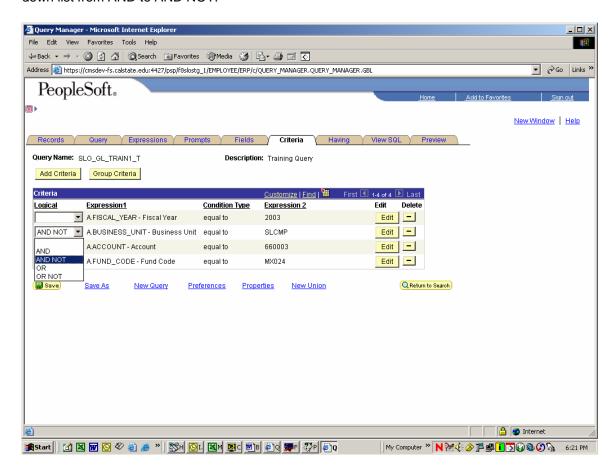
Activity #11 - Add the criteria for BUSINESS-UNIT, ACCOUNT, and FUND_CODE to your query. Follow the above example as a guideline.

4.6 Boolean Operators

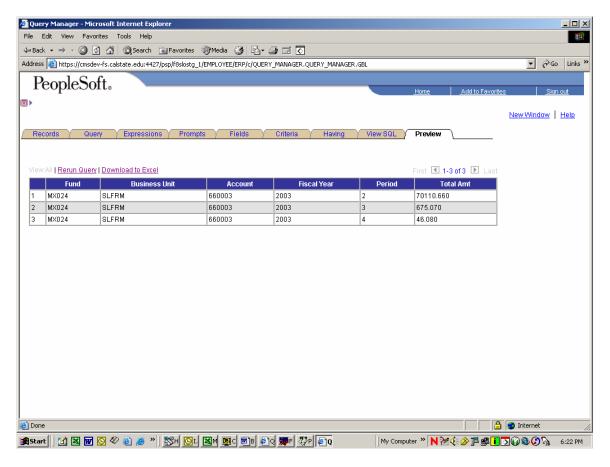
When you need to use multiple fields or the same field more than once for selection criteria, the operators of OR, NOT or parentheses may also have to be selected.

If you wanted to see the same information presented above for fund MX024, but did not want to include any information related to BUSINESS_UNIT "SLCMP", then follow these steps:

From the **Criteria** page, on the BUSINESS_UNIT line, change the value in the "Logical" drop-down list from AND to AND NOT:



Rerun the query (don't save this time):

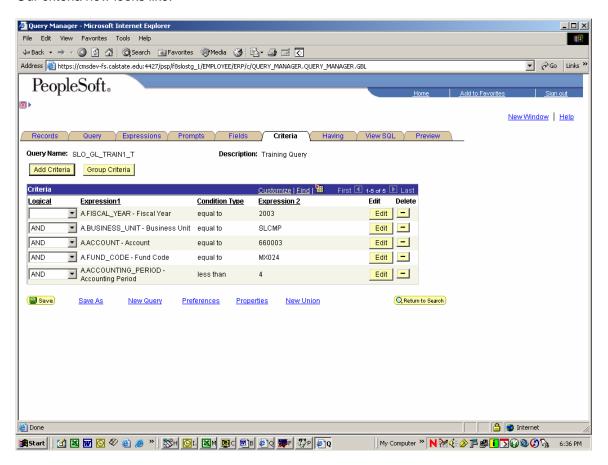


NOTE: Notice that the output now only displays the information related to Business Unit SLFRM (which is the only other unit besides SLCMP in this case).

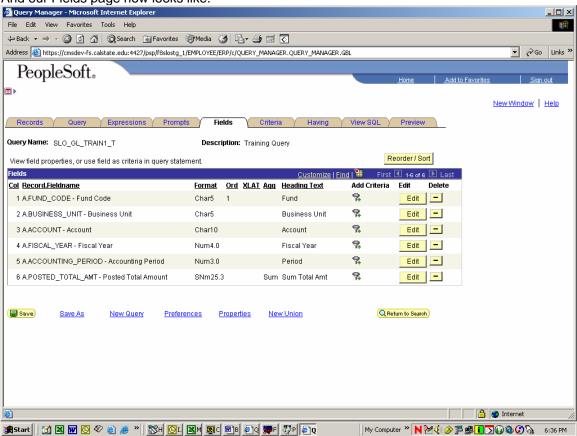
Now let's modify the query to total the amounts in this account/fund for Business Unit SLCMP up through the end of period 3.

- From the Criteria page, on the BUSINESS_UNIT line, change the value in the "Logical" dropdown list back to "AND" from "AND NOT"
- From the Fields page, press the "Add Criteria" icon on the ACCOUNTING_PERIOD line
- Change the **Condition Type** to "Less than" and enter "4" in the "Define Constant" group box within the "Expression 2" group box. In this way the query will only return information prior to period 4 (i.e. periods 0-3).
- Press the **OK** button
- You will be returned to the **Field** page. Click on the edit button for POSTED_TOTAL_AMT and choose the Aggregate function of "Sum".
- Press the **OK** button

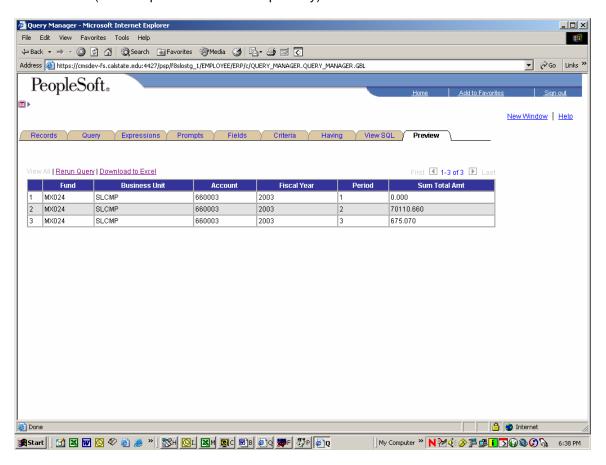
Our criteria now looks like:



And our Fields page now looks like:



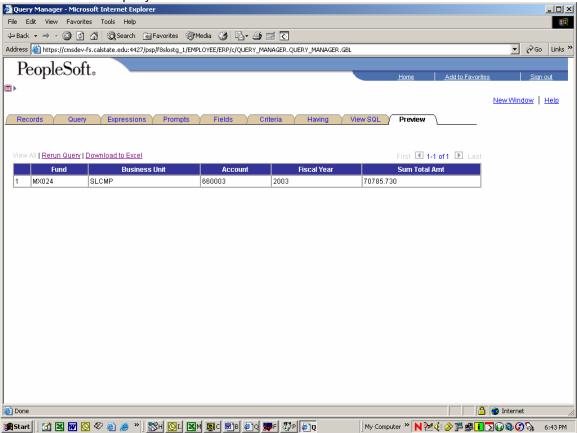
If we run the query at this point, you will notice that the aggregate function does not appear to have worked (all three periods are listed separately):



The reason for this is that the column labeled "Period" constrains the Aggregate Function to provide summary information only to the extent of each individual period listed here. In order to summarize all periods, the "Period" column must be removed.

On the Fields page, click the "-" button to remove the ACCOUNTING_PERIOD field so
that it does not show up in the results table. Note that this does NOT remove the criteria
which we have set up for the ACCOUNTING_PERIOD field.

Save and rerun the query. The results should look as follows:

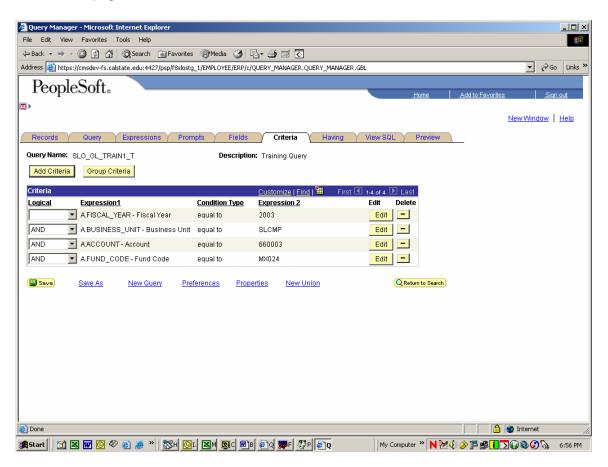


4.7 Removing Criteria

Let's remove the criteria row for the accounting period. In order to accomplish this, follow the steps listed below:

On the Criteria page, press the "Delete" button ("-") on the ACCOUNTING_PERIOD line

The Criteria page will now look as follows:



Activity #12 - Remove the criteria for ACCOUNTING_PERIOD. Follow the above example as a guideline.

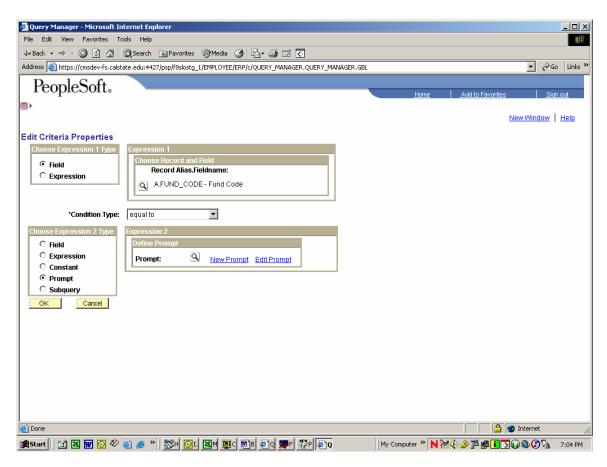
4.8 Run-time Prompts

There are times when you may want to use a different value for a field each time the query is run. An example of this might be a query where you have to specify different funds each time. A runtime prompt allows you to enter a value for a specific field at the time the query is executed. This eliminates the necessity of having many different queries that are virtually the same except for one or more variables.

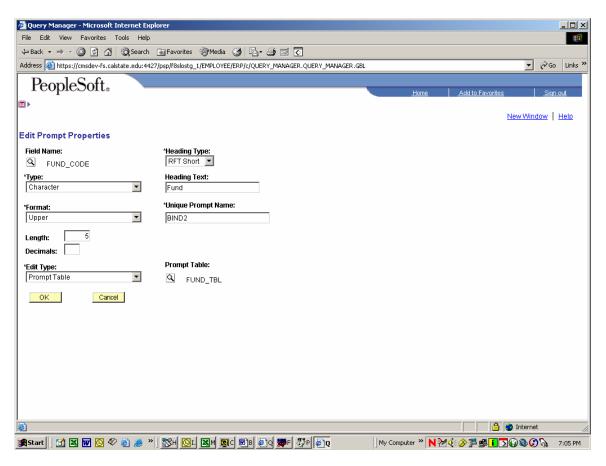
Run-time prompts are available for all expression types except *is null* and *in tree*, as well as their negative counterparts. You can have multiple prompts in a query.

Let's establish a run-time prompt on the FUND_CODE field.

- From the Criteria page
- Press the Edit button for FUND_CODE
- Select the "Prompt" radio button in the "Choose Expression 2" group box:

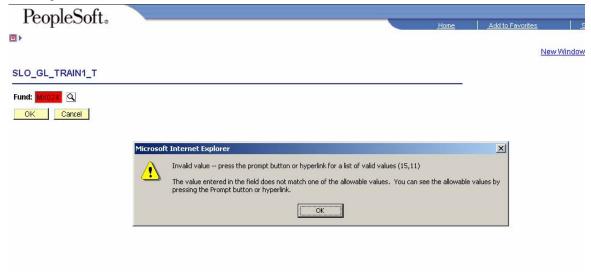


 Click on the New Prompt hyperlink in the "Define Prompt" group box within the "Expression 2" group box:

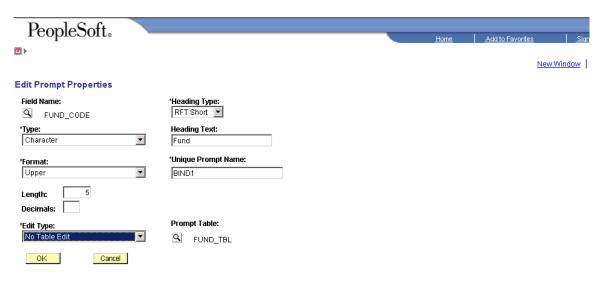


Notice that the **Edit Type** dialogue box defaults to Prompt Table. This selection will only work if your prompt field is a "key" in the table that you are querying. You may want to accept this default and try your prompt since it is a simple process to edit the prompt properties if the field is not a "key" and you receive a warning message.

If the prompt is not a "key" in the table you are querying, you will receive the following warning message:



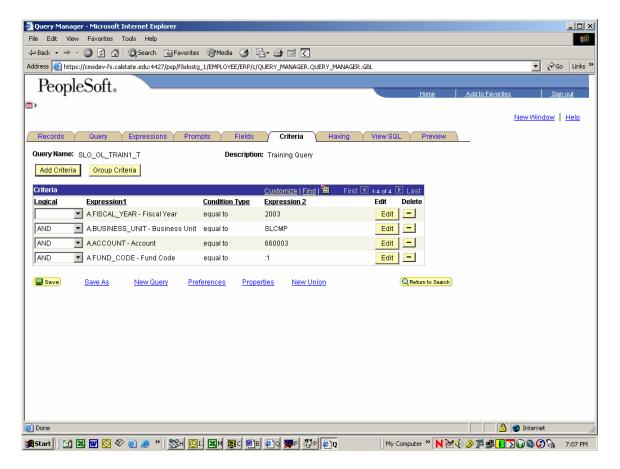
In order to correct the prompt, click **OK**, click on the **Cancel** button, click the criteria tab and edit the field you are prompting for. In the **Define Prompt** select the **Edit Prompt** hyperlink. Then in the **Edit Type** dropdown list, choose **No Table Edit**.



• Click the **OK** button.

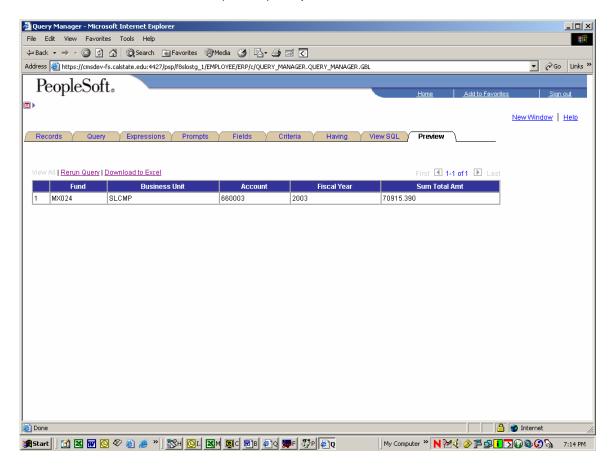
NOTE: If you would like to change the run-time prompt heading, then click on the "Heading Type" drop-down list and select "Text". Then enter the new heading in the "Heading Text" text box.

• Then click **OK** again to save at Edit Criteria Properties level and return to the criteria page. (Your prompt should now accept your input now when you run your query; but, keep in mind that it will not perform a validation of your input.)



Resave the query and rerun.

Enter FUND_CODE to search for (MX024) and press the **View Results** button:



Activity #13 – Build a run-time prompt on the FUND_CODE field. Follow the above example as a guideline.

SECTION 5

Creating a Simple Join

OVERVIEW

In this lesson you will learn how to create a query utilizing a simple join between two tables. This technique is used when a query requires data that is not all contained in one place.

OBJECTIVES

By the end of this section, you will be able to:

• Create a query in which two tables are joined on common keys

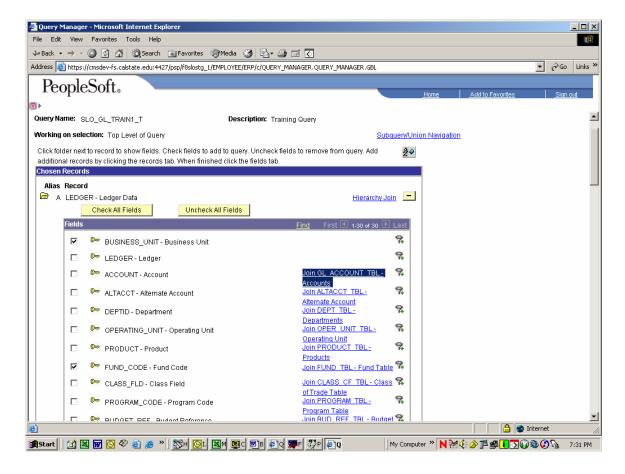
5.1 Joining Two Tables

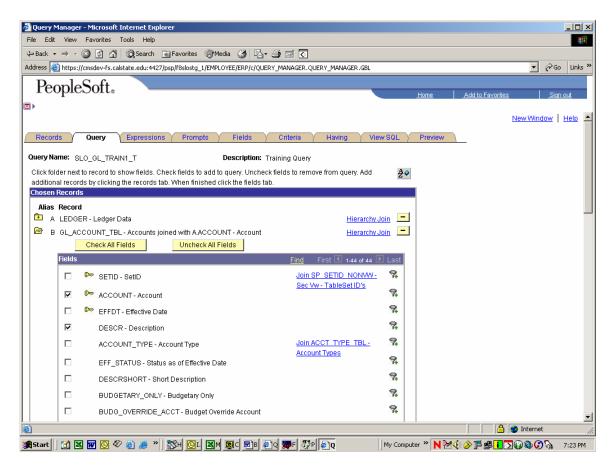
Joining tables greatly extends Query's reach by enabling the user to combine data from multiple tables into a single query. For example, in the previous query we have been displaying in the results table the account number that is being queried. However, we have no what of displaying the description of that account in the results table because Account Description is not one of the fields available in the Record that we are using. Therefore, we will need to join it with another record that DOES contain the Account Description.

It is important to join on all common keys to prevent unexpected results and performance problems.

Fortunately, Query does a lot of work for us. In the following example, the Query tool takes care of joining on common keys for us.

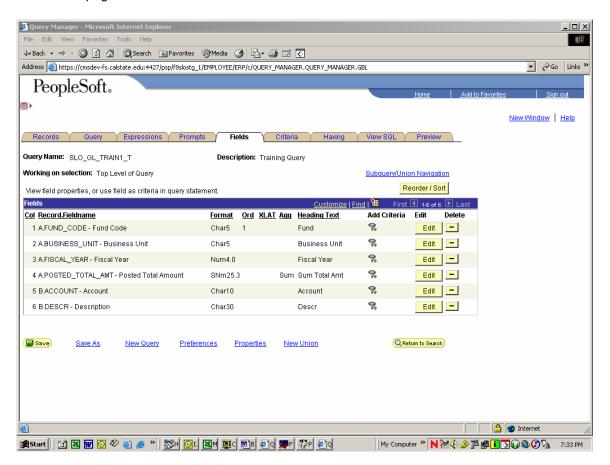
- Use the existing account/fund query SLO_GL_TRAIN1_T
- On the Query page, click the Subquery/Union Navigation hyperlink, and choose Top Level
- Next to the field for ACCOUNT (uncheck the ACCOUNT box), click on the hyperlink for <u>Join</u> GL_ACCOUNT_TBL - Accounts:



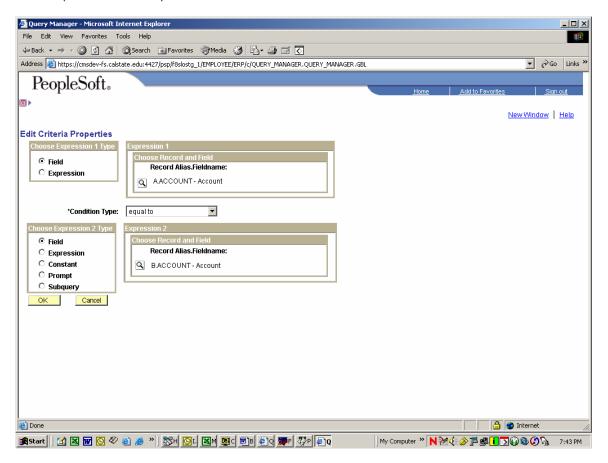


Select the ACCOUNT and DESCR fields

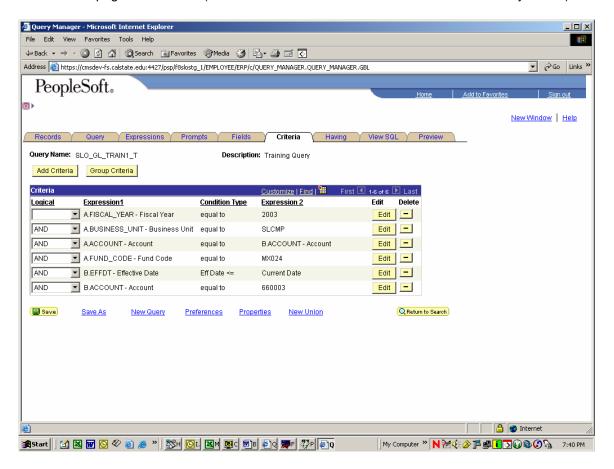
The Fields page will look like:



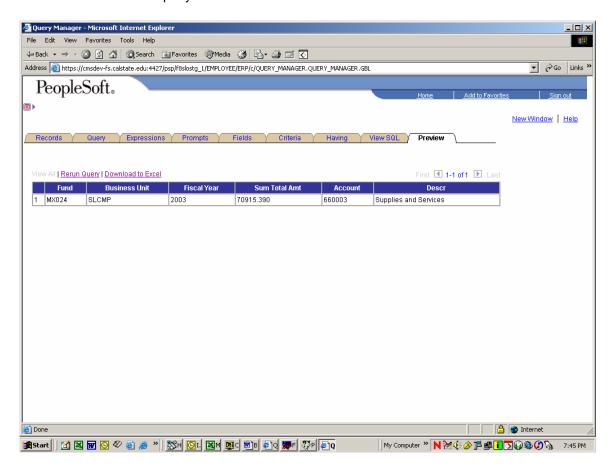
For the B.ACCOUNT field, set up a new criteria for the account number that you wish to query (660003). Edit the A.ACCOUNT field and set the Expression 2 Type equal to "field", then choose B.ACCOUNT for the Expression 2 field; this will link the Account from table A (Ledger Record) to table B (Account Record).



The Criteria page will look like (notice that B.EFFDT Effective Date was automatically added):



Save and Run the new query:



Notice that the proper description for account 660003 has been retrieved from the Accounting Table and is now displayed in the results table.