BASIC QUERY FOR FMIS FINANCIALS

VERSION 9.1 DRAFT 1A
SELF-STUDY GUIDE

2010

CONTENTS

CHAPTER 1

QUERY OVERVIEW

Objectives

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

- Understand what is meant by basic database terms
- Understand the basics of the Query reporting tool
- Understand Query output options
- Understand uses for FMIS Financials queries

Overview

The purpose of this course is to provide you with the basic skills you need to run and build queries using PeopleSoft's Query reporting tool.

In this chapter you will be introduced to Query, including Query output options and uses for queries.

In Chapter 2, you will see how to build a simple query by selecting a record and specific fields. You will also modify column headings and reorder your output.

In Chapter 3 you will use selection criteria to obtain precisely the information you need for your ad hoc queries.

What Do We Mean By … ?

Database

A database is a bank of related data. Each unit, or record, is made up of one or more data fields. Each data field can hold one piece of data, or value.

Record

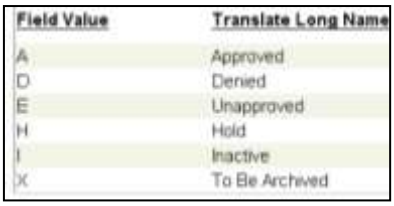
In a database, a record is a complete set of related information, like an electronic file folder. Each record contains one or more data fields. For example, in a vendor database, a record would store all of the data pertaining to one vendor. Data from an individual record is displayed as a row of data on a columnar report.

Data Field (Field)

A data field is the smallest element of a record. A field holds one piece of data, or value. There are a myriad of fields in the FMIS financials database. A field might be named **VENDOR_ID** or **BUDGET_YEAR**.

Value (Field Value)

A value is the *actual data* found in a field. In a field called **VENDOR_STATUS**, for example, the value might be **Approved**, **Denied**, **E** (**Unapproved**), **Hold**, **Inactive**, or **X** (**To Be Archived**), as shown to the right.



Field Value	Translate Long Name
A	Approved
D	Denied
E	Unapproved
H	Hold
I	Inactive
X	To Be Archived

Relational Database

In a relational database, data is organized in a system of rows and columns. The rows, which run horizontally across the page, are called records. The columns, which run up and down the page, are called fields. Records and fields are stored in a database table.

Often, data stored in two different tables can be related by their common field, such as **VENDOR_ID**. *In this course, you will learn to build queries based upon just one table.*

Table

Records and fields are stored in a database table. Records listed in a Query tree may represent either a *table* or a *view*.

- A **table** physically stores specific data. *There are many tables; examples are **VOUCHER** and **LEDGER**.*
- A **view** is a logical representation of data and may consist of data from multiple tables, depending on how the record was defined by systems analysts. Additionally, views may already have criteria associated with them. *Examples of* views *are **Y_XGLDT_VWC** and **VNDR_PYINQ_VW1**. (Notice the **VW** extension on views.)*

Query

A query is a request for information from a database. You can retrieve the precise data you want and direct the output to a grid using the Preview tab.

Report

A report is an organized presentation of data. Reports help an organization's management team make decisions.

Query Overview

This class will introduce you to Query, a menu-driven tool which enables you to create queries, or requests for information, from a database. You can extract the precise data you want from the FMIS Financials database.

Queries can assist City employees with all kinds of decisions and reporting requirements. They can be as simple or as complex as necessary, and they can be one-time queries or queries you will use repeatedly.

Query is read-only, meaning that you will not be able to change the actual data stored in the database.

Query Purposes

Query is a powerful tool used to create queries for a variety of purposes, among them, these:

Results Grid: To display data in a grid (from the **Run** tab).
Preview queries within **Query Manager** and **Query Viewer**, displaying the result set in a grid for review. This option is useful as you refine your queries.

Spreadsheet: To download query results to an Excel spreadsheet.
Choose to have the data downloaded and formatted as a Microsoft Excel spreadsheet. This option is available in your query search results or after you Preview or Schedule a query.

**HTML:* To download query results in an HTML format.
Choose to generate an HTML version of the query. *Available from the **Query Manager Search Results** page.

Selecting Records and Fields

You will learn the basic functions of Query and how to create a simple query by selecting a record and specific fields. You will learn how to modify column headings and how to retrieve the short or long description for a translate value, rather than the code.

Entering Selection Criteria

Once you know the basics, you will learn how to retrieve information based on criteria requirements such as equal to, greater than, in list, between, and like.

Creating Run-time Prompts

You will also be introduced to run-time prompts. Run-time prompts give you the ability to enter specific values for a designated field at the time that a report is run. These values are then used as criteria for retrieving the information for your report.

Ordering Output

Ordering output is very important to the readability of your reports. You will learn how to change your column headings and sort your output.

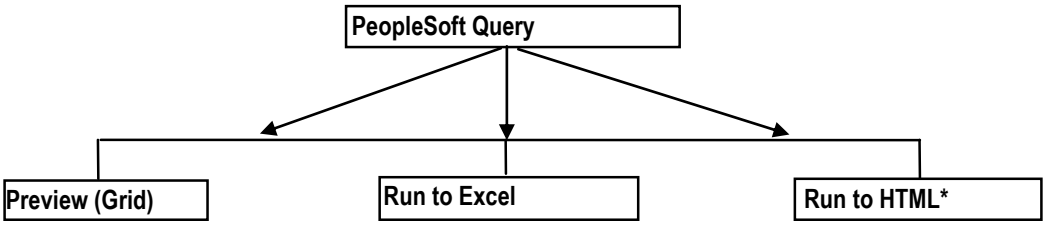
Using Simple Functions

What is a report without subtotals and grand totals? Implementing these functions as well as other summarized functions will be covered in Chapter 3.

Query is a powerful and useful tool!

Query Output Options

You may direct query output to a Grid, to Excel, or to HTML. You will use the Preview (Grid) output option throughout this course.



** From the **Query Manager Search Results** page.*

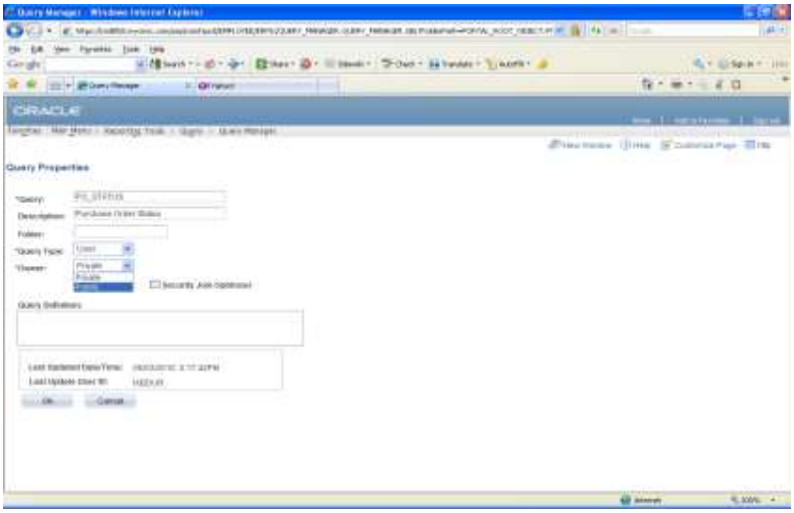
Spreadsheet

Use the **Run to Excel** option when you wish to carry out these tasks:

- Generate output for further analysis
- Create charts or graphs of the data
- Work with data in a spreadsheet format

Public vs. Private Queries

Queries can be saved as **Public** or **Private**. The ability to create public or private queries is controlled through the Query Security Profile.The "owner" of the query is designated at the time that you save a query.



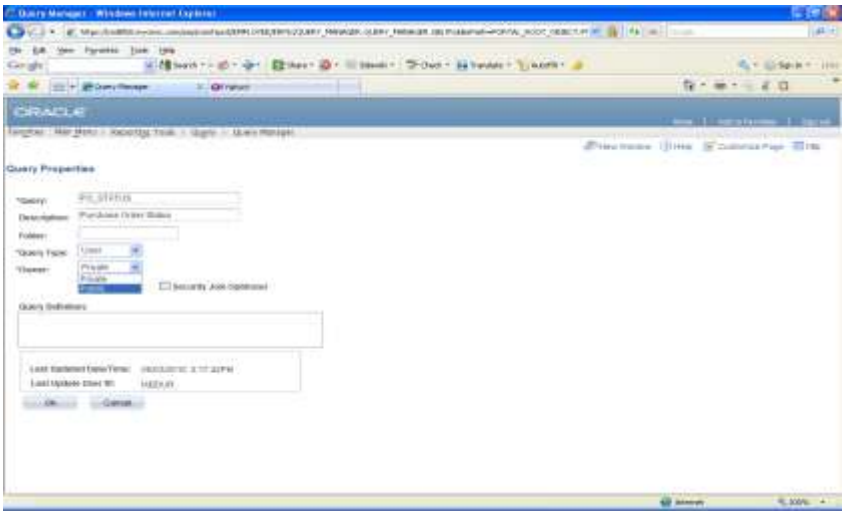
Public Queries

Any user with access to the records used by the query can run, modify, or delete the query (if he or she has access to public queries).

Private Queries

Private queries are attached to User IDs. When you log in with your own User ID, you are the only one who can open, run, modify, or delete your private queries.

If you wish to use a public query as the basis of a query of your own, first open the public query, then save it with a new name, using the **Save As** hyperlink. You can then make changes to your new private query.



About the File Structure

To effectively design reports, you need a fundamental understanding of the structure of the application for which you will be producing reports.

In this course, we will run and create queries based on the City of Milwaukee's FMIS Financials database.

The focus of this class is on the basic features and functions of the Query program. There are many, many tables in the FMIS Financials database, which you will learn about as you create new queries. Listed below a few of the tables and what each contains.

Here is a very brief description of the primary tables used in this class:

LEDGER – Ledger Data

The Ledger Data Table contains information stored in the City's general ledger.

DEPARTMENT_TBL – Departments

In the Department Table is stored information about the City's organizations, or departments.

VENDOR – Vendor Header Table

The Vendor Header Table is just one of many vendor tables. It contains information about the City's vendors.

To learn more about some of the key tables used in Query, visit the City of Milwaukee's MINT (Milwaukee Intranet).

- Click on **FMIS/HRMS**.
- Click on **Query Table Definitions**, found under **FAQs** (Frequently Asked Questions).
- Next click on **Financials**.

There you will find table definitions for these tables:

LEDGER
PO_HDR
VOUCHER
JRNL_LINE
PROJECT_HEADER
REQ_HDR
DISTRIB_LINE
VENDOR
Y_XGLDT
JRNL_HEADER

Chapter Key Points

- A database is a bank of related data. Each database record is made up of one or more data fields. In turn, a data field holds one value – the actual data.
- A query is a request for information from a database.
- You can retrieve the precise data you want and direct the output to a Grid (using the Preview tab), an Excel Spreadsheet, or an HTML display.
  - Use the Grid/Preview output option when you want a quick and easy display of your Query results.
  - Use an Excel spreadsheet when you wish to manipulate and analyze data.
- Most individuals in the City can save queries as private only.
  - However, if a query is public, all users who have security access to the records referenced by the query can go ahead and run it.
- Of the many, many tables in FMIS Financials, these are among those that will be used to create general queries in this course: LEDGER–Ledger Data, DEPARTMENT_TBL–Departments, and VENDOR–Vendor Header Table.

CHAPTER 2

RUNNING AND BUILDING QUERIES

Objectives

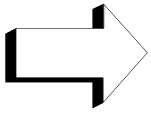
By the end of this chapter, you will be able to:

- Access Query and open an existing query
- Run pre-defined queries and view the results online
- Build queries, selecting records and fields for output
- View and modify headings
- Save and print queries
- Change column order
- Sort fields

Overview

In this chapter, you will learn some of the basic concepts and features of Query, such as how to access Query, run and create a query, display your Query field definitions using the nine buttons on the Query Definition page, and manipulate data in your query.

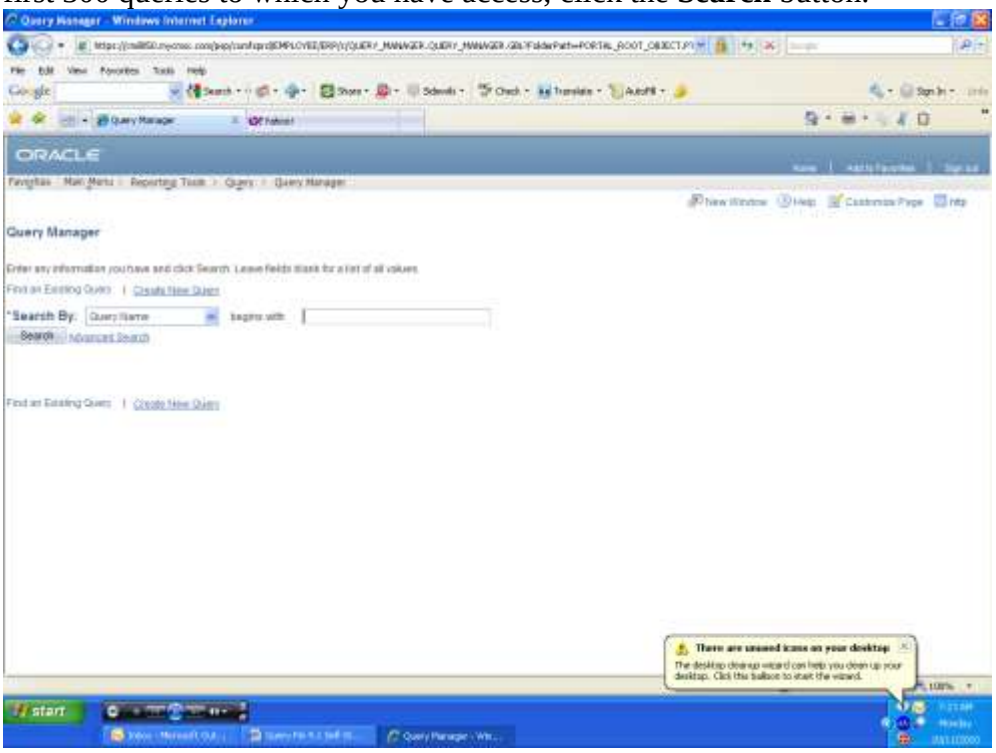
A Note About This Course Guide



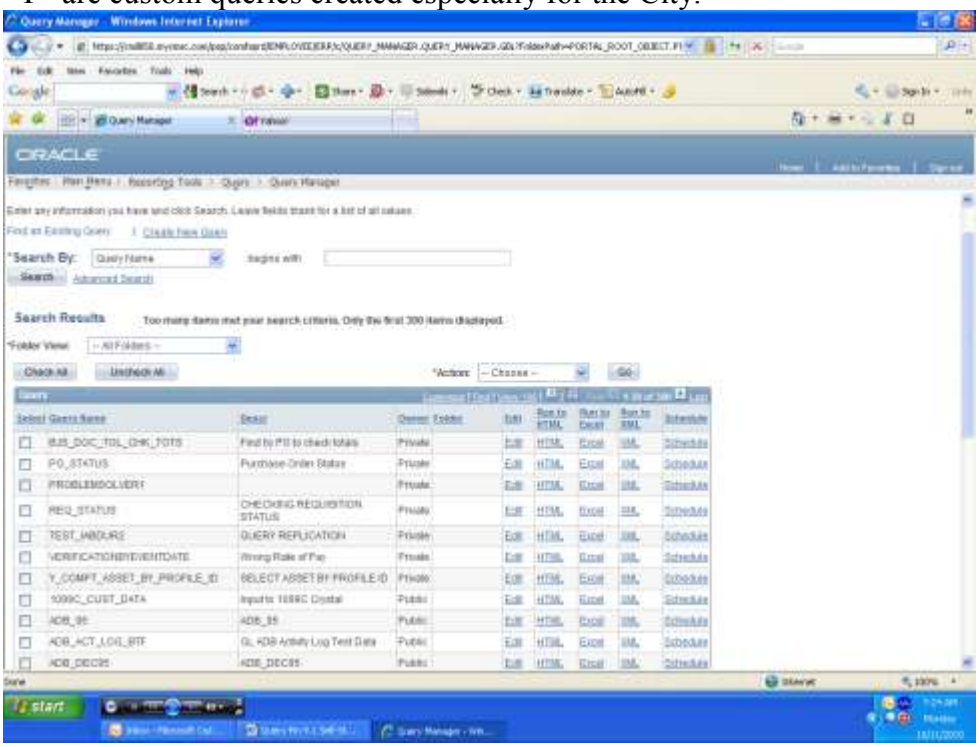
This arrow throughout the course guide indicates that you should carry out the task described in the text.

Running Pre-defined Queries

Use the navigation shown here – **Home ➢ Reporting Tools ➢ Query ➢ Query Manager** – to run a pre-defined query from FMIS Financials. You are presented with a search page that defaults to the **Find an Existing Value** view. To list the first 300 queries to which you have access, click the **Search** button.



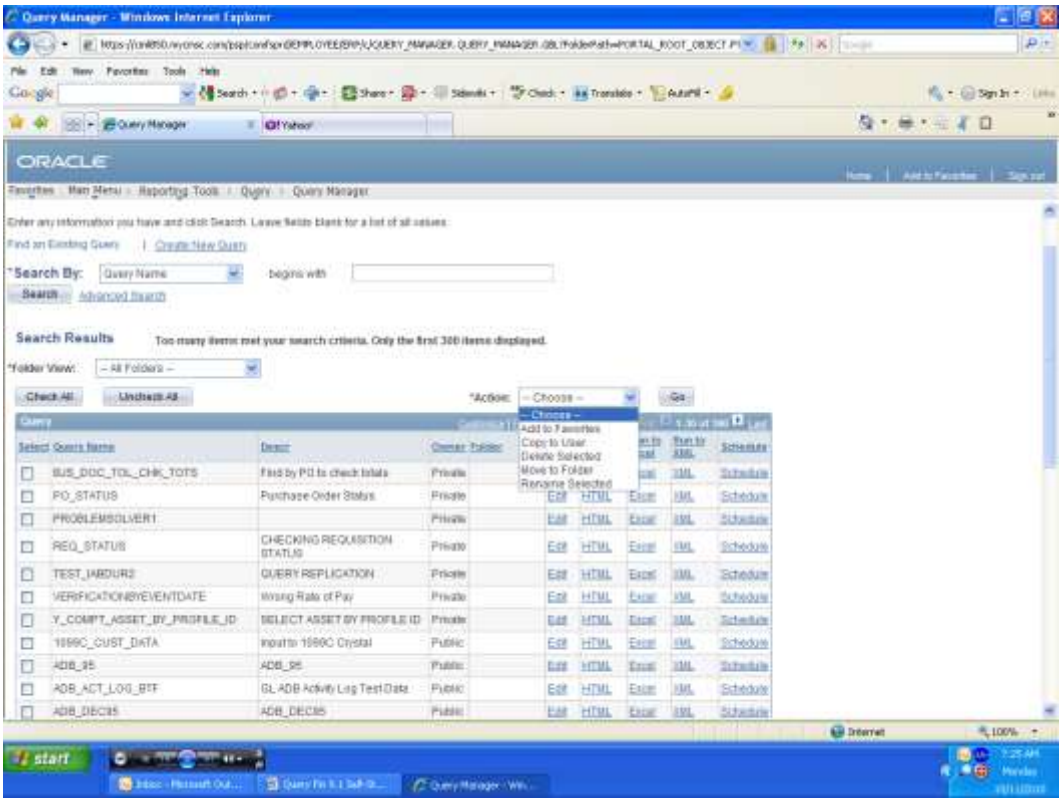
Private queries are listed first, in alphabetical order. **Note:** Queries beginning with "Y" are custom queries created especially for the City.



Running Pre-Defined Queries, continued

Note: For future reference, from the **Query Manager** page you may also perform the following actions by accessing the **Actions** drop-down list box:

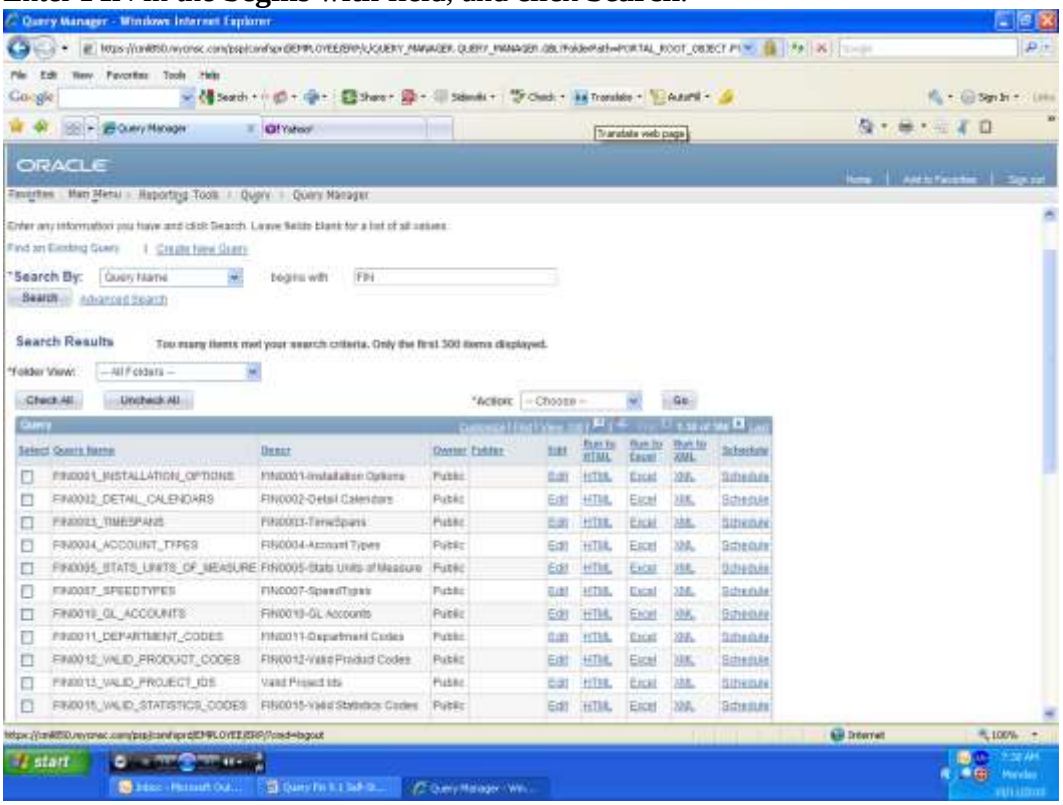
- Add a query to your **Favorites**
- Copy a query to another user
- Delete a query
- Move a query to a folder
- Rename a query



The first example that you will look at is called **FIN0011_DEPARTMENT_CODES**, a public query.

Running Pre-Defined Queries, continued

Enter **FIN** in the **begins with** field, and click **Search**.



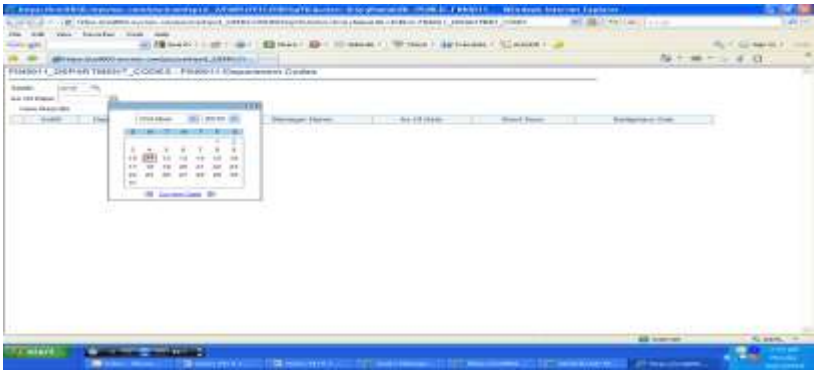
Scroll down the list of queries. You have several options pertaining to queries:

- **Edit**
- **Run to HTML**
- **Run to Excel**, or
- **Schedule**

Locate **FIN0011_DEPARTMENT_CODES**. Choose **HTML**. A new window will open, and you will see the dialog box shown here. Enter a valid **Set ID** (CIMIL) and **As of Date** (10/11/10). Click the **View Results** button.

Running Pre-Defined Queries, continued

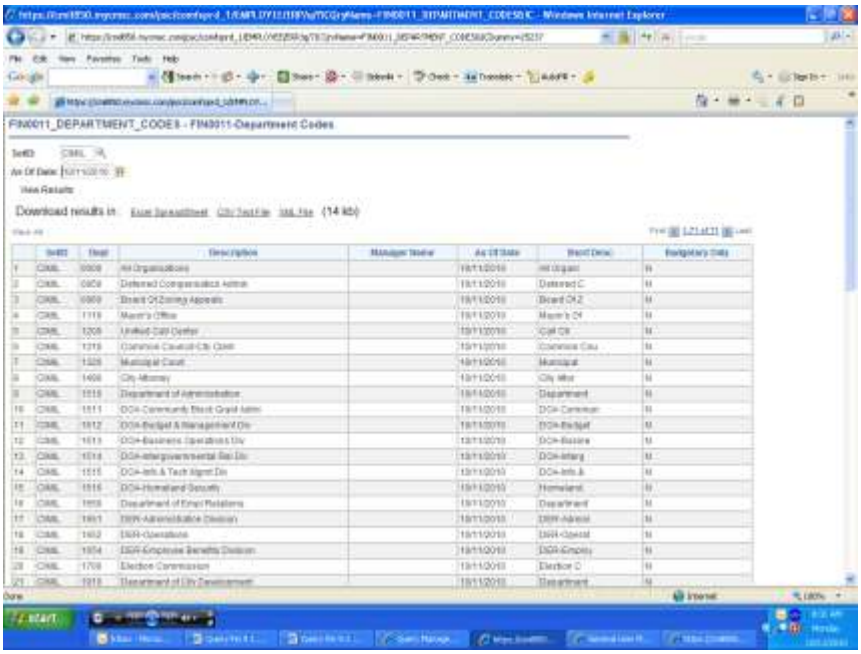
Note: To use a pop-up calendar instead of typing in the date, follow the instructions below.



Note: If you click on the **Choose a date** button to the right of the **As of Date** field, you will see the calendar shown to the right. Click on **October 11, 2010**, and **10/10/2010** will display in the field.

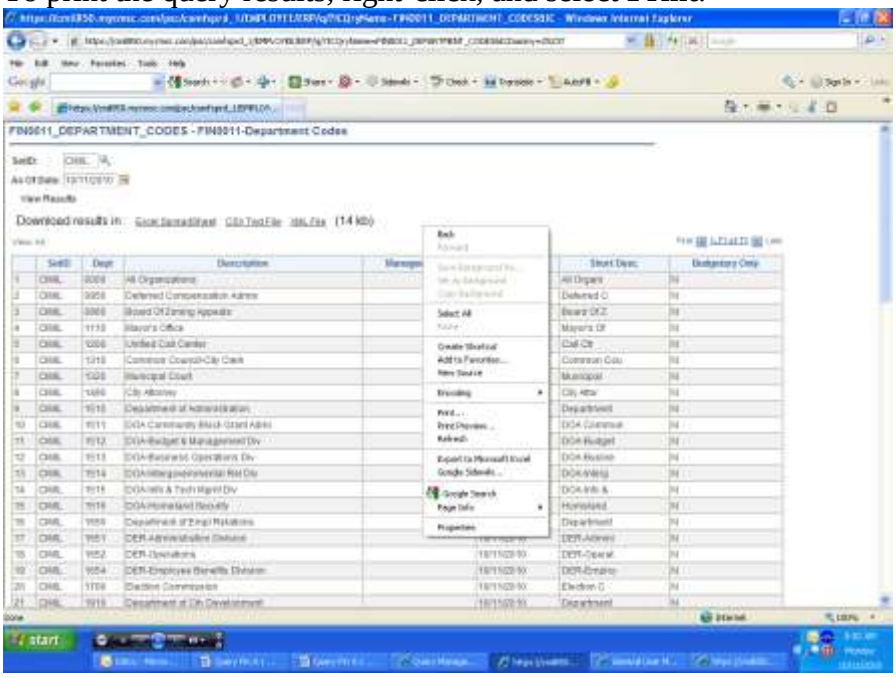
Click the yellow **View Results** button.

Query will "fetch" the appropriate rows and display them.

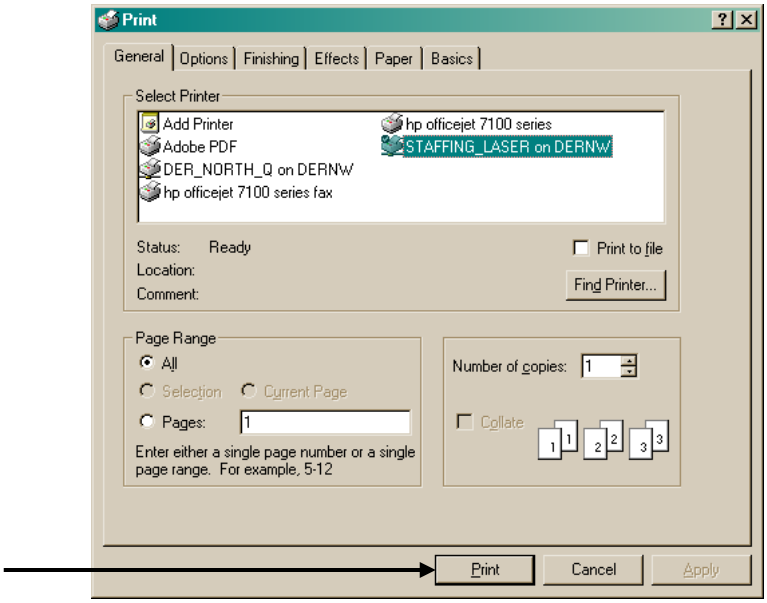


Running Pre-Defined Queries, continued

To print the query results, right-click, and select **Print**.



Then select **Print** from the **Print** menu.



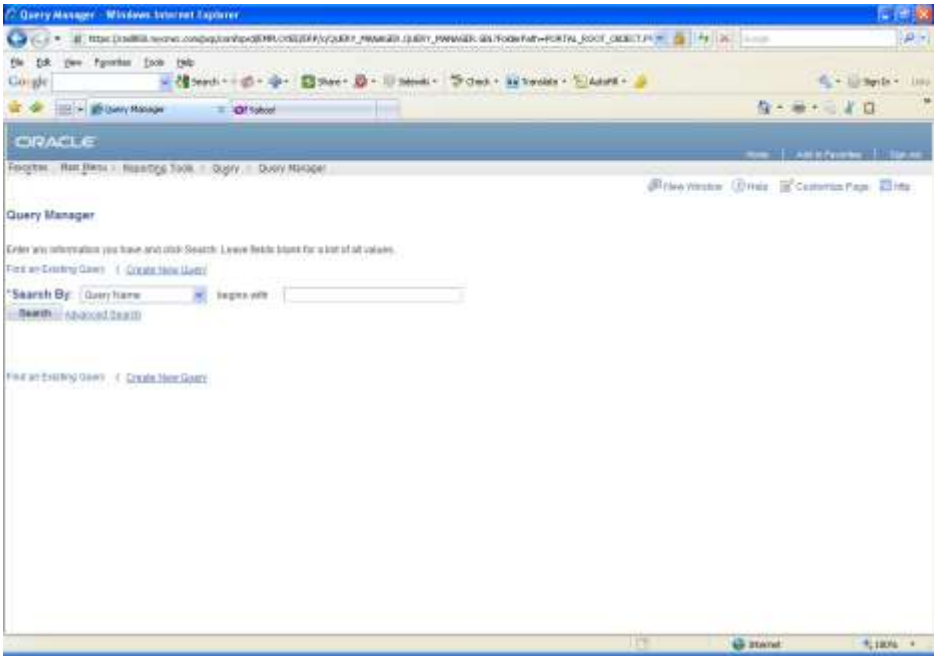
You may close the window displaying your query results.

Accessing Query

Once again, to access the Query tool, you will navigate accordingly: **Home ➢ Reporting Tools ➢ Query ➢ Query Manager**.

From this page, you can carry out these tasks:

- Find an existing query to view, modify, or run it.
- Create a new query.



Go ahead and navigate to the **Query Manager** search page (shown above).

Searching for an Existing Query

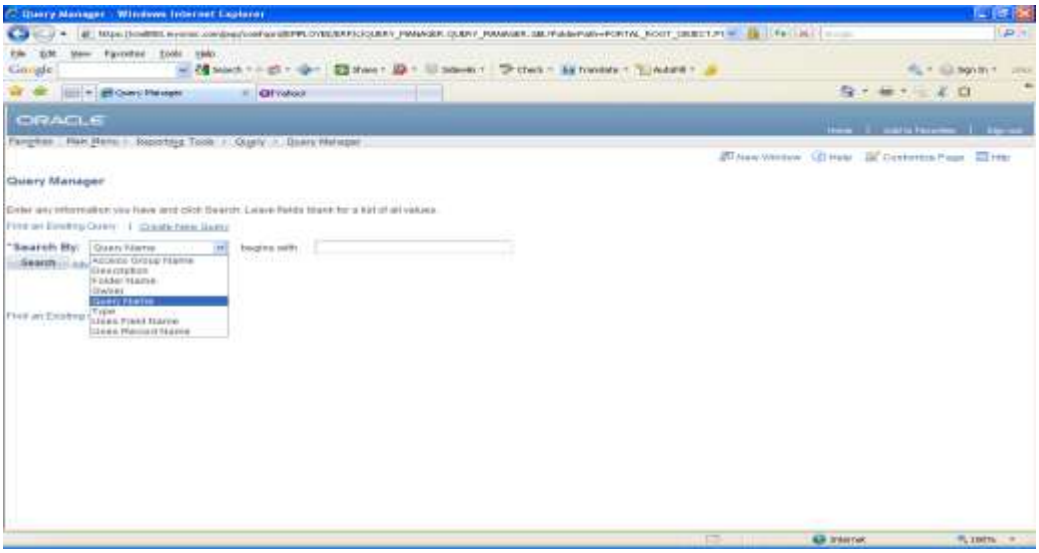
Search for a query using the the **Basic Search** (default) or the **Advanced Search**. Both search types allow you to use the following "search by" criteria: access group name, description, folder name, owner, query name, type, uses field name, and uses record name.

- The **Basic Search** allows you to search using the **begins with** condition.

- The **Advanced Search** allows you to perform a progressively narrower search by using one or more search by criteria and selecting from a broad choice of conditions.

Accessing Query, continued

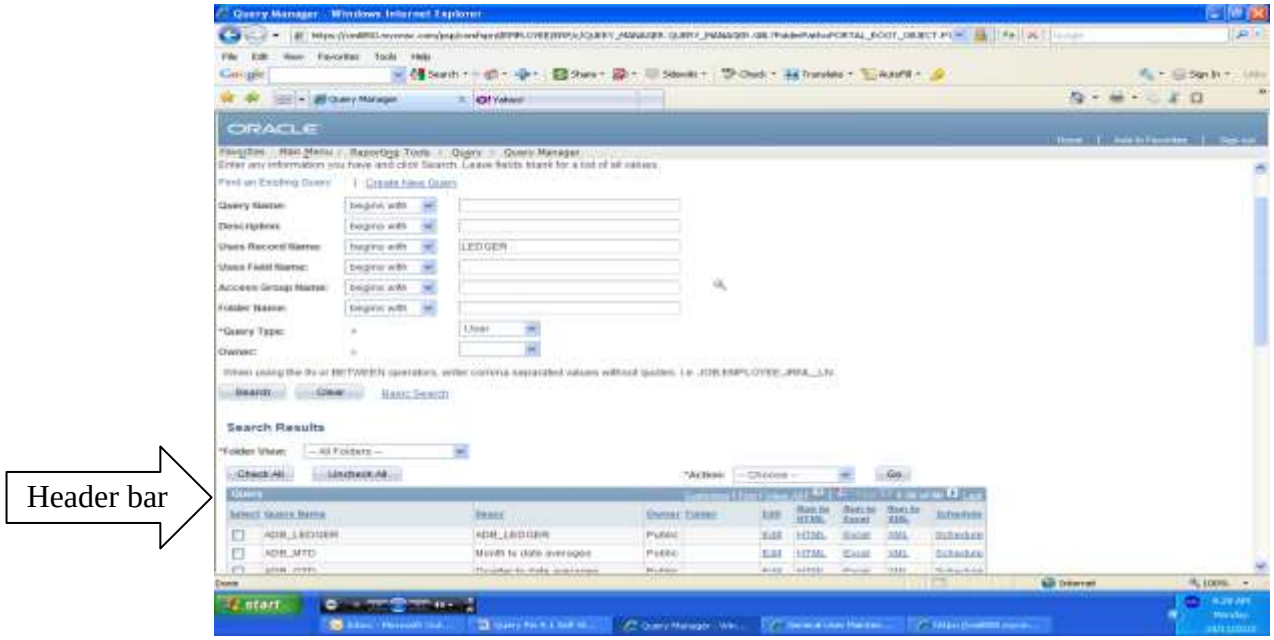
- If you know the name of the query you want to run (full or partial), select **Query Name** from the **Search By** drop-down list box. Then enter the query name (full or partial) in the field to the right of **begins with**.



- If you do not know the name of the query and want to search through a list of queries, leave the field to the right of **begins with** blank, and click the **Search** button to display the first 300 queries. ***Note:*** To search using any other "search by" criteria, select the appropriate item from the **Search By** drop-down list box, and then enter the search string in the field.

- To perform an advanced search, click the **Advanced Search** link on the **Query Manager** search page. On the **Advanced Search** page, select the appropriate search by criteria and conditions, then enter a search string in each of the corresponding fields. Click the **Search** button to display a list of queries matching your search criteria.

Accessing Query, continued



The **Search Results** page appears. The results list all the queries that match the search criteria. The following information appears: query name, query description, and owner (public or private).

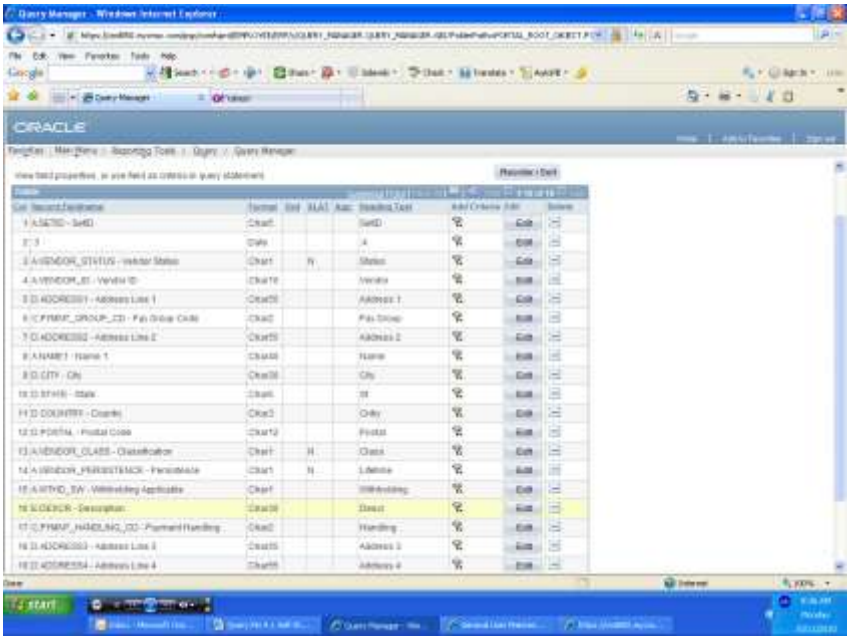
You will scroll to the name of the query that you want to open or run.

By default, only the first 30 queries appear on the page. To see more of the list, click the navigation buttons and links located on the **Header Bar**. If there are more than 100 queries listed, select **View 100** to view the first 100. Use the scrollbar to view the rest of the list. The **View All** option may also be available.

You will use a public query to become familiar with the Query pages. You can run it, but you will be unable to change the query definition.

Accessing Query, continued

Search for the query called **Y_VEND_SRA_DETAIL**, and click the **Edit** hyperlink. The query definition will be shown on your screen, as shown below.



From this page, you can study the query definition and also preview the results.

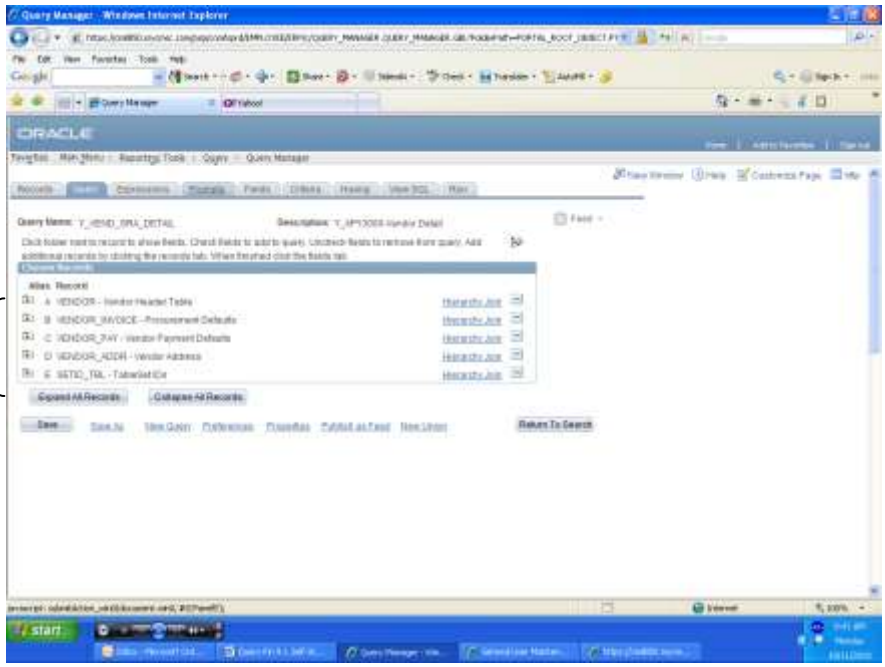
Viewing a Query

On this page is where you can select and view the fields, criteria, and other details associated with the current query. The tabs across the top of the page include **Records**, **Query**, **Expressions**, **Prompts**, **Fields**, **Criteria**, **Having**, **View SQL**, and **Run**. You will learn more about these as we proceed.

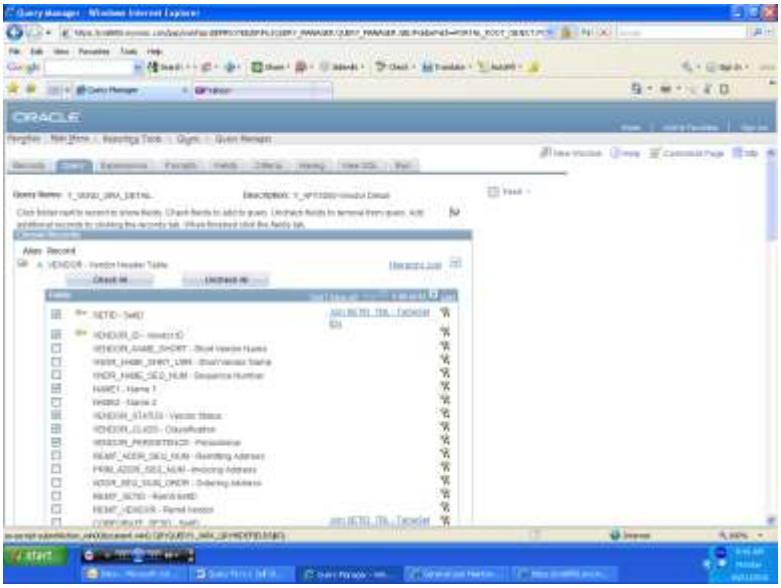
Understanding Records and Fields

Click on the **Query** tab. This public query is comprised of five records (tables). In this course, you will be generating queries based upon a single record.

Records



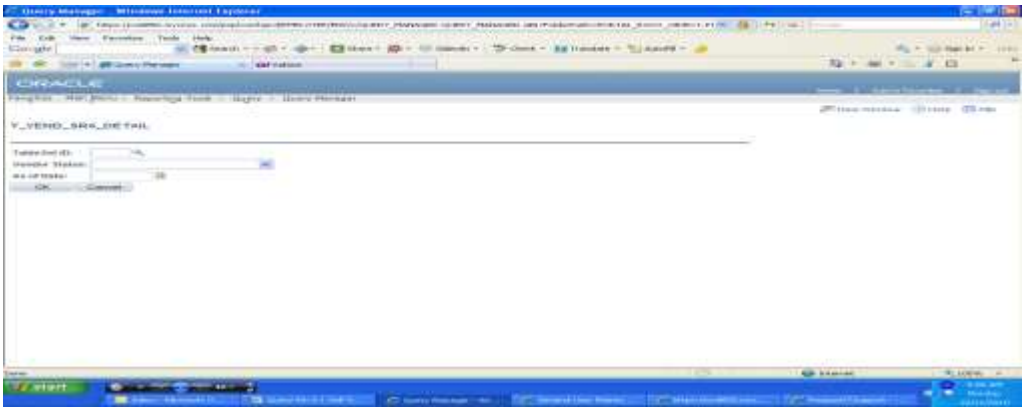
Click on the **Expand All Records** button. Then press **Ctrl-Home** to go to the top of the page. The little key icons denote key fields. Key fields make database searching faster and more efficient.



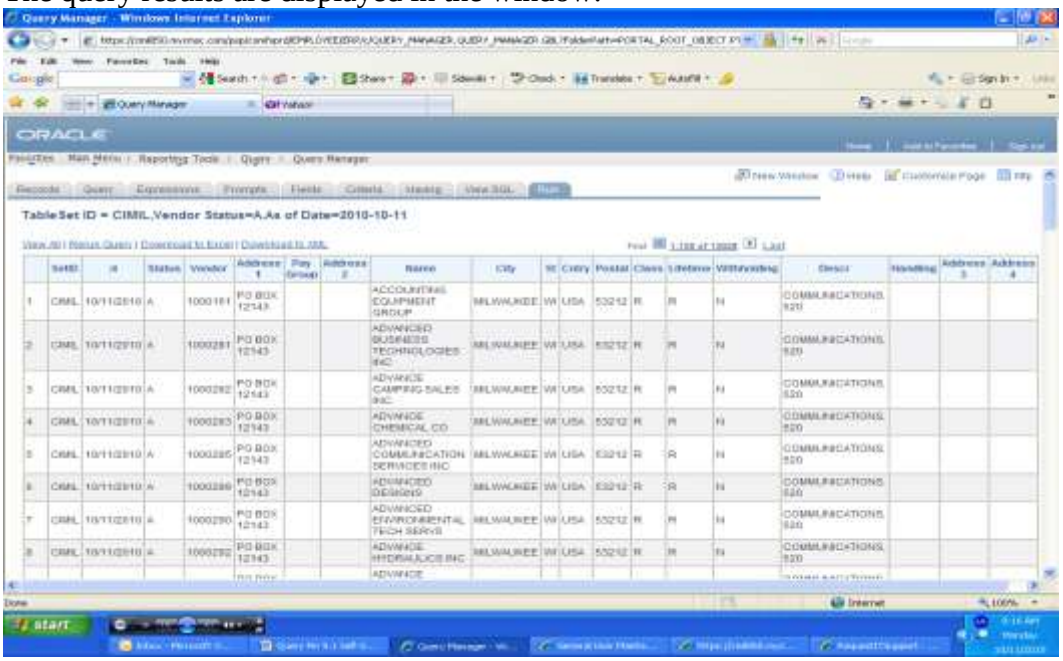
Previewing ("Running") a Query

Next you will learn how to preview a query.

Click the **Run** tab. This query has three run-time prompts, so you will be prompted to enter data in the three prompt fields. Enter the data as shown on the screen print below, and then click **OK**.



The query results are displayed in the window.



Notice that under the folder tabs the number of rows that meets the criteria is displayed. Also notice that there are scroll bars along the bottom and the side of the screen to allow you to page up and down and side to side.

Now that you are somewhat acquainted with running a query, you will build a new query from start to finish.

Building a Query "At a Glance"

To give you a frame of reference, the steps for building a query are outlined below. Each step is explained in detail throughout the rest of this course guide.

To create a query:

1. SELECT RECORD DEFINITIONS

Your first step in creating a query is to select the database table (record) that contains the data you want. In the FMIS Financials database, tables are represented as record definitions.

2. SELECT FIELDS

Upon selecting the record definition(s) that contain the data you want, you will specify which fields you want to display in your query.

3. FORMAT THE QUERY OUTPUT

Query offers a number of different options for formatting the query output. You can change the column headings and column order, specify a sort order for the result rows, and display Translate Table values in place of codes.

4. SPECIFY SELECTION CRITERIA

In most cases, you do not want all the rows of data from the table, just the rows that meet certain conditions. To limit the returned rows, you define selection criteria.

To add a criterion, you will **1)** select the field you will use in your selection criterion, **2)** choose a comparison **Condition Type**, and **3)** enter a value (or values) in the dialog box.

5. SAVE YOUR QUERY DEFINITION

Save and name your query so that you can use it again when you want to run a similar report.

6. CHOOSE AN OUTPUT OPTION AND PREVIEW THE QUERY

Choose the Preview (Grid) option while you are refining your query to ensure that you get the desired results. Query will retrieve the requested data from the database and display the results in the preview window.

If you find that the results are not exactly what you want, you can go back to the **Fields** and **Criteria** tabs to add additional criteria or make any other changes.

When you have finalized your query, you can choose to download the output to Excel.

Building a Query, Step By Step

Now that you have seen an overview of the steps for creating a query, you will build your own query, one step at a time.

Note: One quick way to create a new query is to open a public query that is *close* to what you want to create, and save it as a private query. Once that is done, you can modify it freely. To do so, open the public query, and select the **Save As** hyperlink. Then complete the dialog box as shown, being sure to change the owner to **PRIVATE** as well as the query name and description. Click **OK**. You're now able to modify the query definition as you wish.

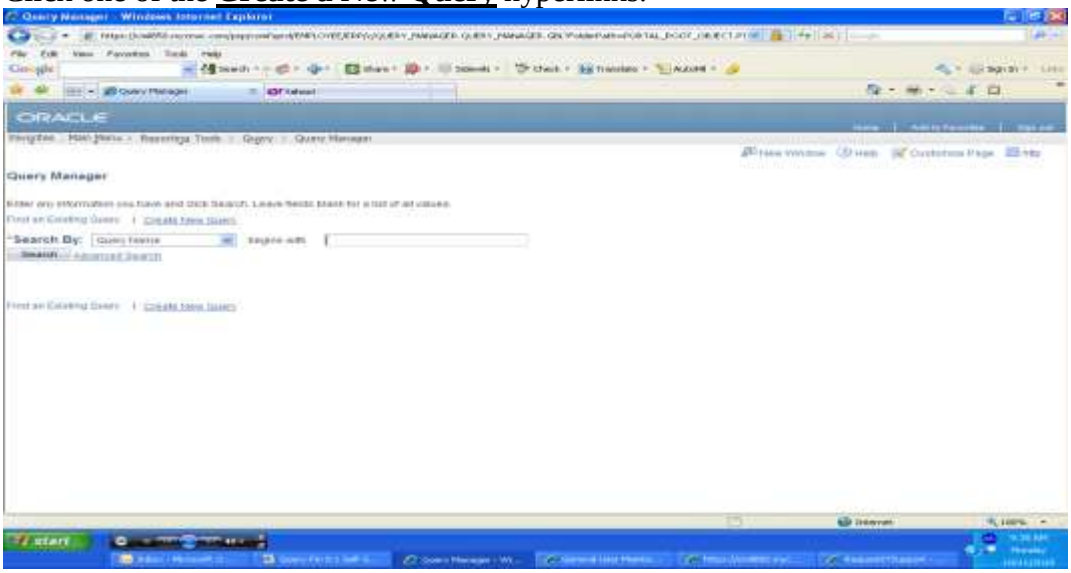
To build a new query, follow the steps outlined below.

Viewing Records

To create a new query, navigate accordingly:

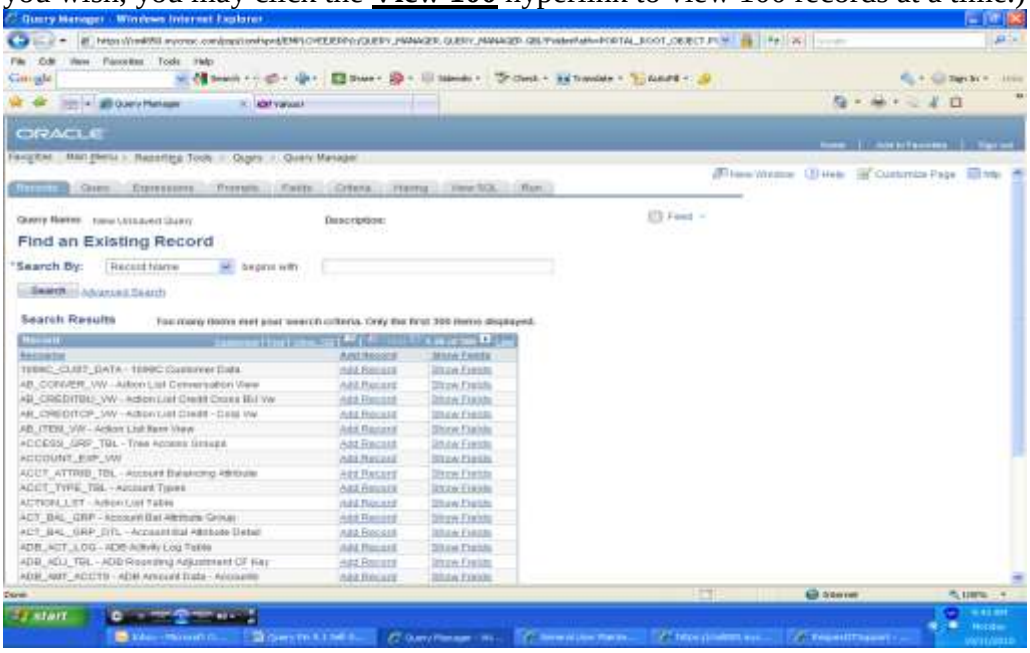
Home ➢ Reporting Tools ➢ Query ➢ Query Manager

Click one of the **Create a New Query** hyperlinks.

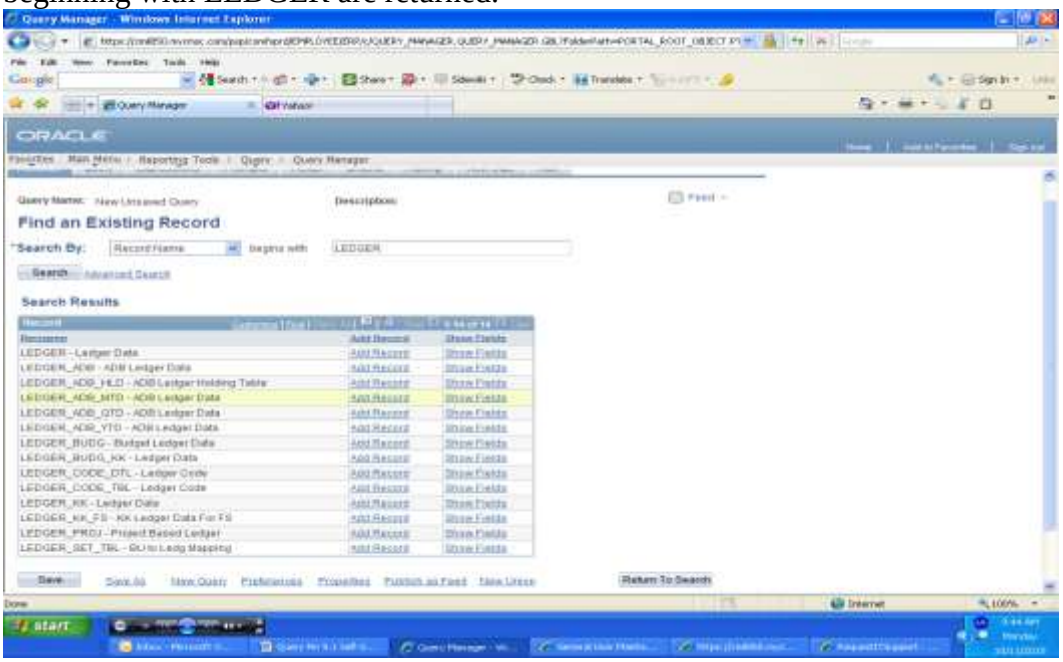


Building a Query, Step By Step, continued

To view the first 300 records, press **Enter** or click the **Search** button. (Then, if you wish, you may click the **View 100** hyperlink to view 100 records at a time.)



To search for a specific record, enter a partial value, as shown below. Enter **LEDGER**, and then click the **Search** button (or press **Enter**). All records beginning with LEDGER are returned.



Building a Query, Step By Step, continued

Selecting a Record

You select a record here that contains the data that is needed for your report.

The **LEDGER** record is the first on the list.

Click the **Show Records** hyperlink to see the fields for that record. (See the **Fields for record…** display shown to the right.)

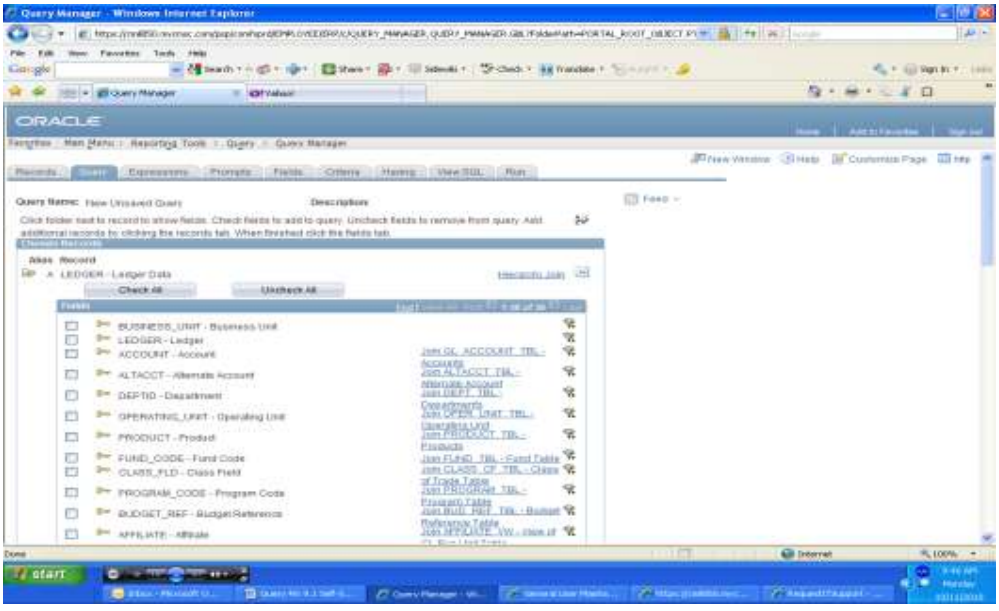
Then click the **Return** button to go back.

The record you select establishes the primary focus of your query.

To select a record, you will click the **Add Record** hyperlink.

Select the **LEDGER** record.

The **Query** tab will be selected.

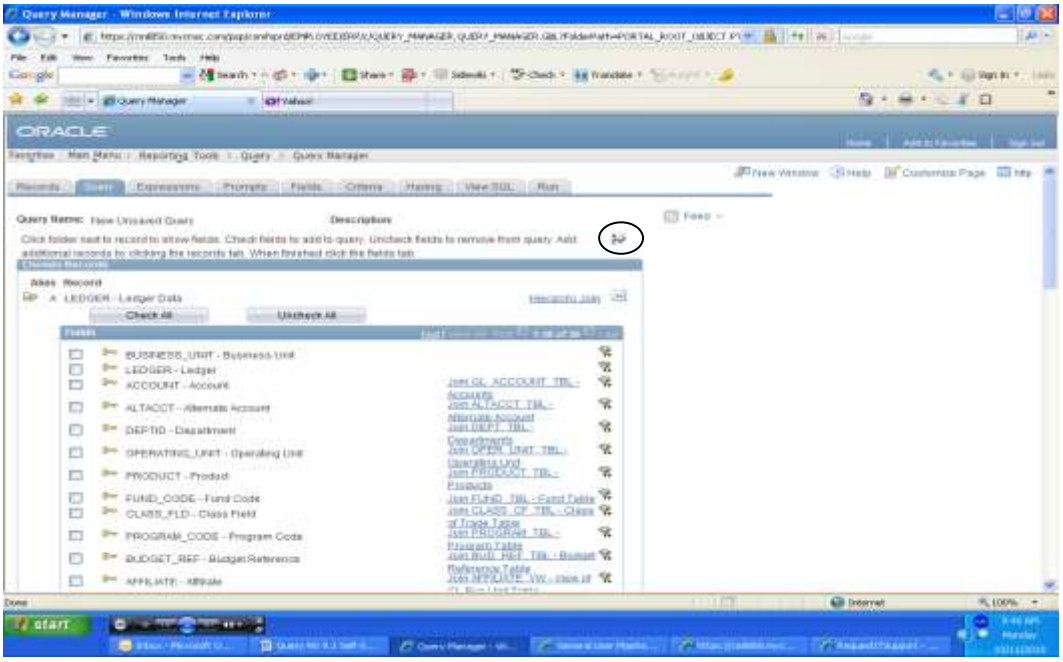


Building a Query, Step By Step, continued

Selecting Fields

Next, you will select the fields that will be used in your report.

If you wish, click on the **Sort fields alphabetically** tool button to see your fields listed in alphabetical order.



To select a field, click the check box to the left of the field name.

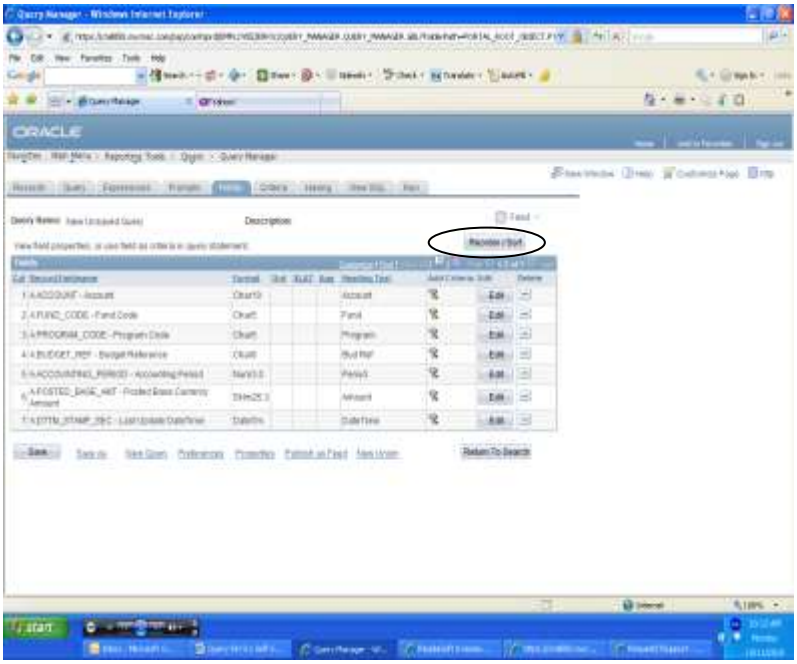
Select these fields for your report:

- **ACCOUNT** – Account
- **ACCOUNTING_PERIOD** – Accounting Period
- **BUDGET_REF** – Budget Reference
- **DTTM_STAMP_SEC** – Last Update DateTime
- **FUND_CODE** – Fund Code
- **POSTED BASE AMOUNT** – Posted Base Currency Amount
- **PROGRAM_CODE** – Program Code

Note: Should you encounter a field name that begins with "Y," you will know that it was custom-created for the City of Milwaukee.

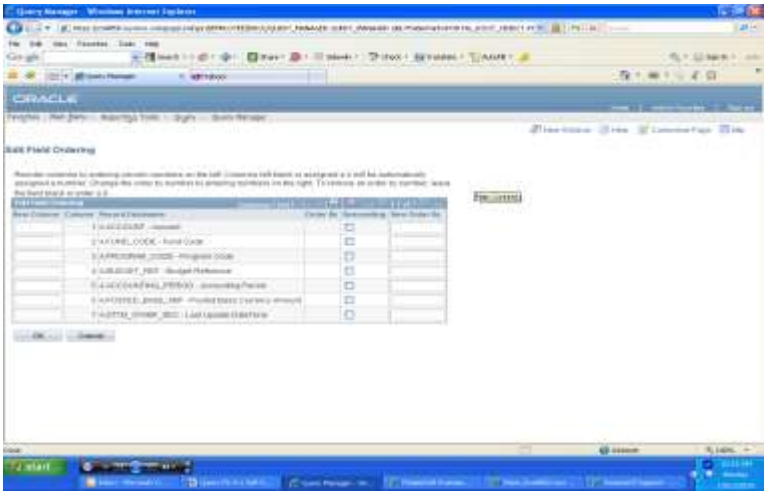
Building a Query, Step By Step, continued

Next, click on the **Fields** tab. Your screen should look like that shown below. Notice the **Format** field. While you cannot change the format of a field, you can learn about the field by looking in this column. For instance, **FUND_CODE** is a character field with five places. **DTTM_STAMP_SEC** is a date/time field (YYYY-MM-DD-SS.SS.SS.SSSSSS). **ACCOUNTING_PERIOD** is a numeric field with three spaces. You may also see other field types listed here.



The column order will display in the **Col** column. To reorder the fields for display in the query output, click the **Column Order** button.

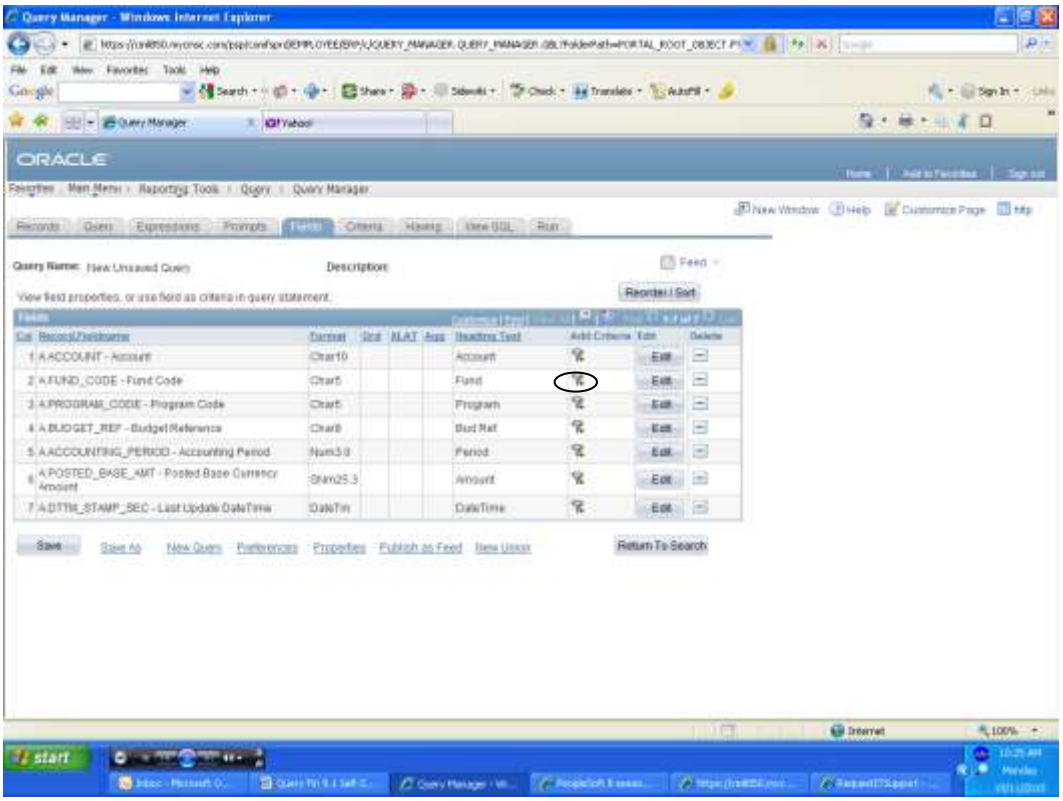
Go ahead and reorder the fields. Then click **OK**.



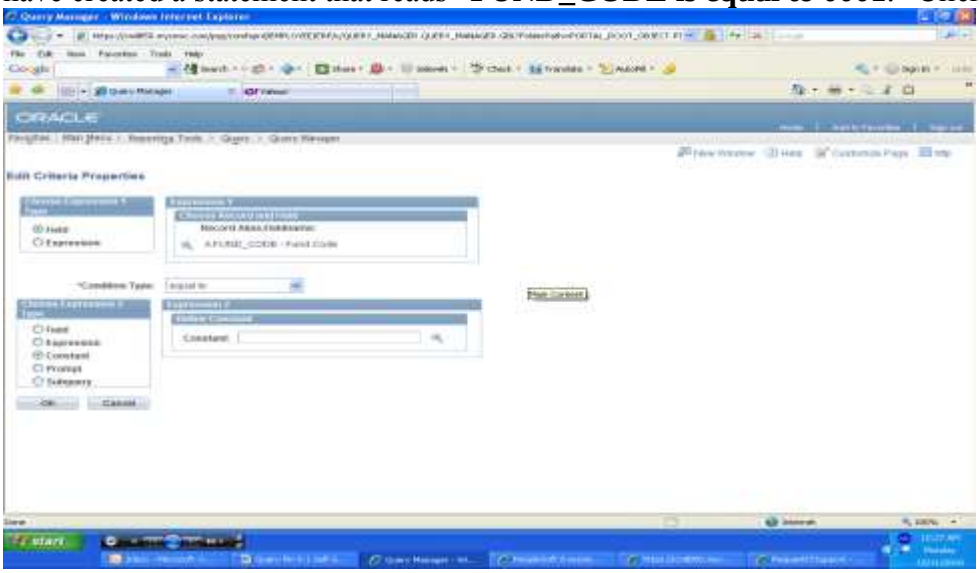
Building a Query, Step By Step, continued

Say you wanted to select only those rows pertaining to the **General Fund (0001)**.

Click the **Add Criteria** button to the right of the **FUND_CODE** field (on the **Fields** tab).



Enter **0001** in the **Constant** field (inside the **Expression 2** box). Essentially, you have created a statement that reads "**FUND_CODE is equal to 0001**." Click **OK**.



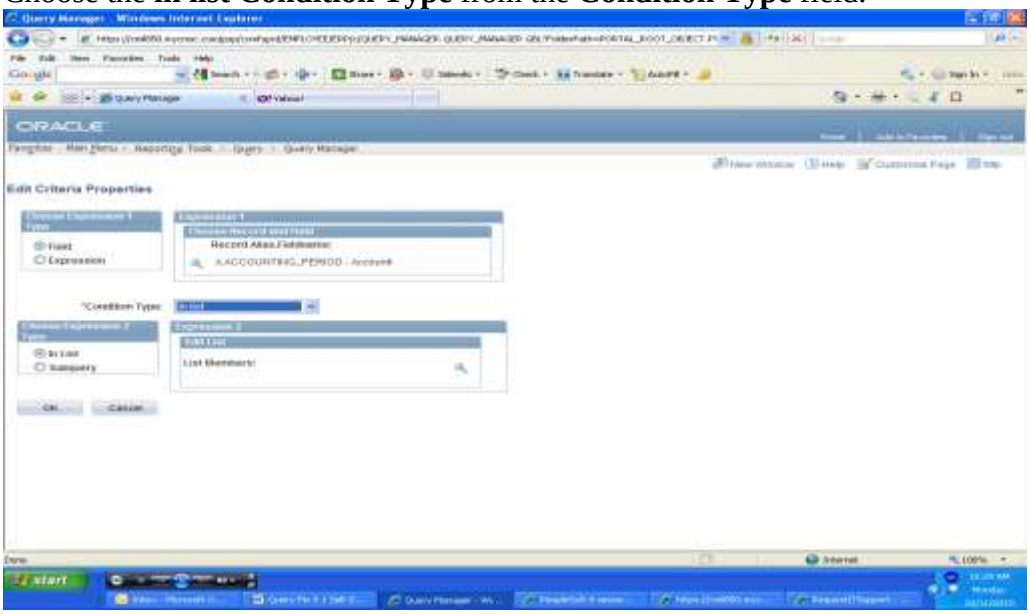
Next, you will add additional selection criteria to further refine your query.

Now say that you only want to look at **Budgeted Programs (Program 0001)**. Since you want to select only budgeted programs, click on the **Add Criteria** button to the right of the **PROGRAM_CODE** field (on the **Fields** tab). You should see a dialog box just like that shown above for **FUND_CODE**. Enter **0001**, and click **OK**.

Building a Query, Step By Step, continued

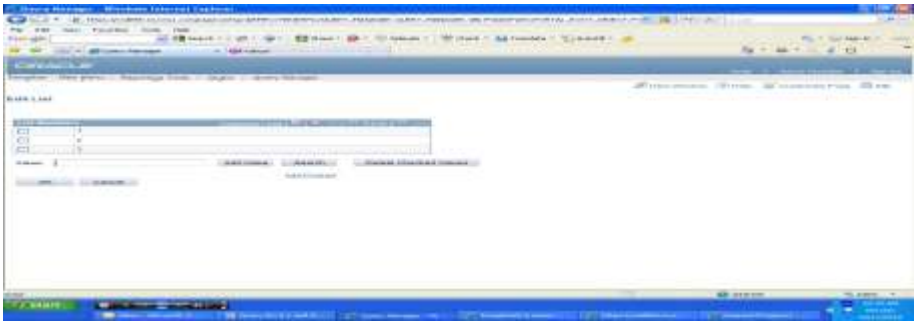
Let's say that you're interested in seeing just accounting periods **1**, **2**, and **3** for each year. To select those rows, click on the **Add Criteria** button to the right of the **ACCOUNTING_PERIOD** field (on the Fields tab).

Instead of using a single constant value, you will use the **in list Condition Type**. Choose the **in list Condition Type** from the **Condition Type** field.



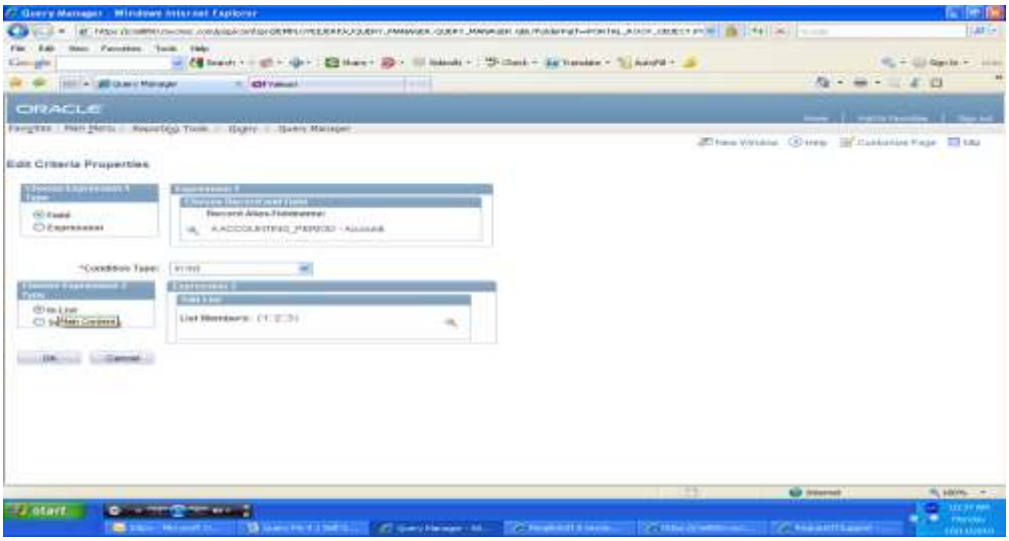
Next, click on the magnifying glass icon (**Select List Members**) to the right of **List Members**.

Enter **1**, then click **Add Value**. Enter **2**, then click **Add Value**. Enter **3**, then click **Add Value**. Click **OK**.



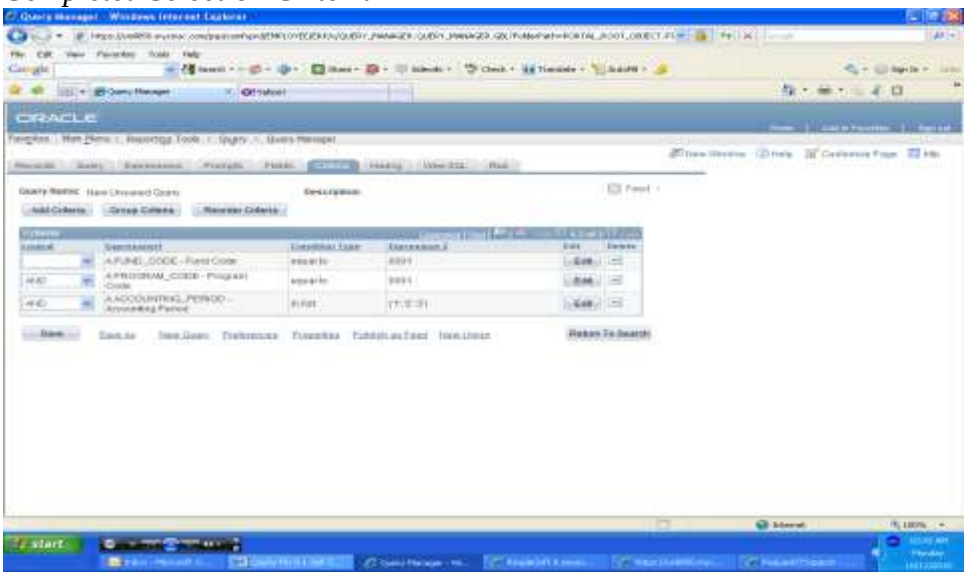
Building a Query, Step By Step, continued

Then click **OK** again.



Click on the **Criteria** tab. Take a look at the print screen shown below, and compare it to your own screen.

Completed Selection Criteria –



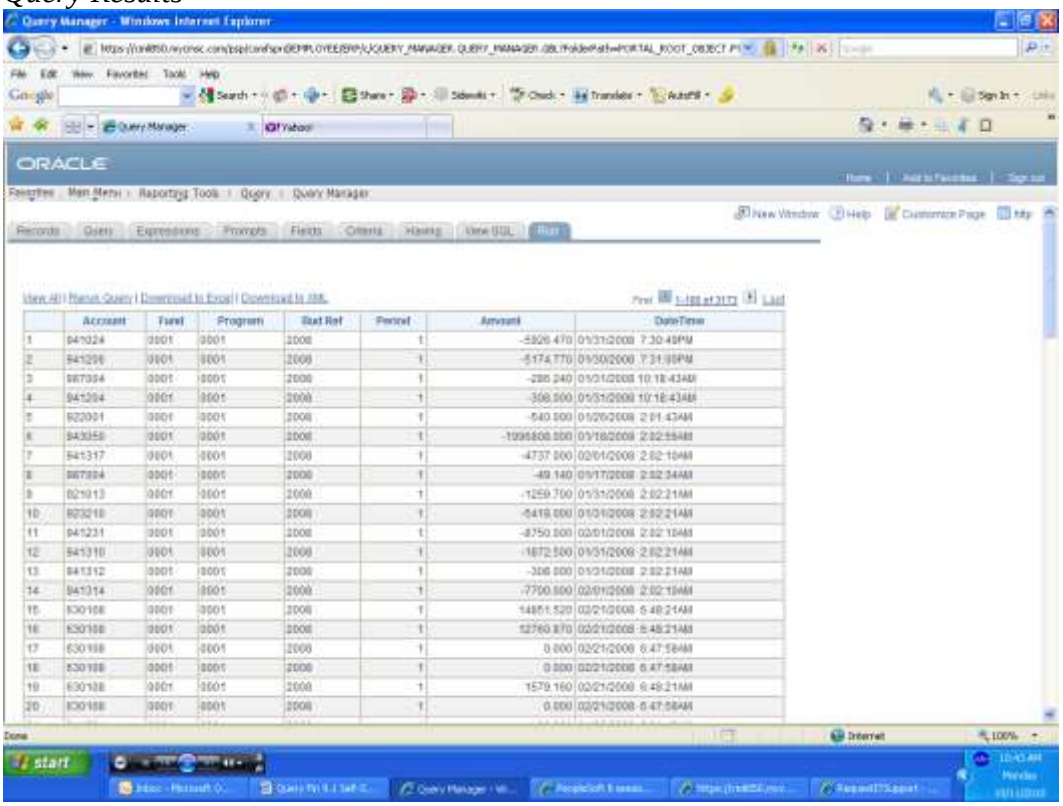
You will learn much more about selection criteria in Chapter 3.

Previewing ("Running") a Query

Click on the **Run** tab.

You will notice, when you compare your results to the print screen depicted below, that the results are shown in database order.

Query Results –



Now that you have written a query, you can begin to tweak it so that it meets your needs. You will learn shortly how to change not only how data is sorted, but also how columns are ordered and labeled.

But first, it's a good idea to save what you have built so far. Learn about saving queries next.

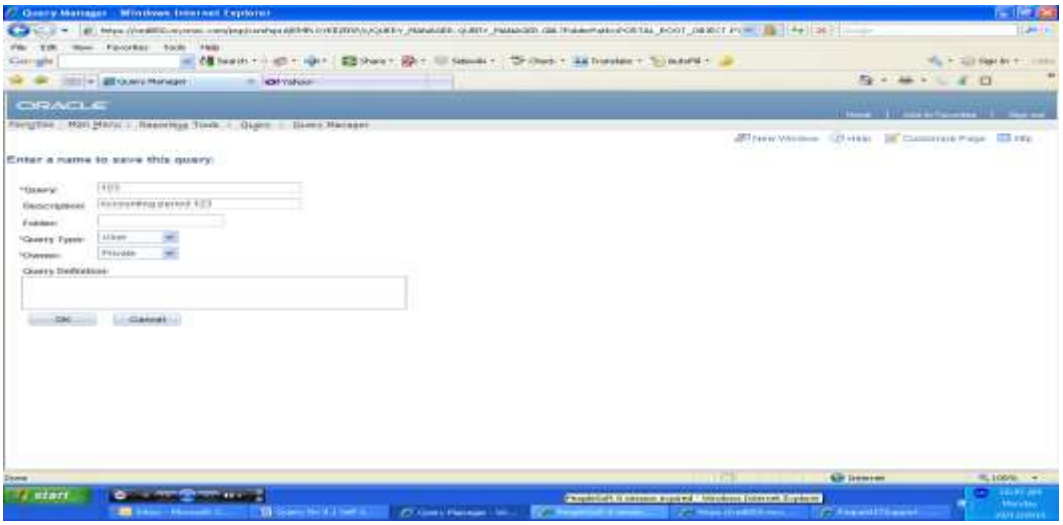
Building a Query, Step By Step, continued

Saving Your Query

Once you have generated a query, often you will want to save it so you can execute it again at a later time without having to re-create it.

Return to the **Fields** tab.

Click the **Save** button to view the **Save** screen.



Save this query as **123**. Click **OK**.

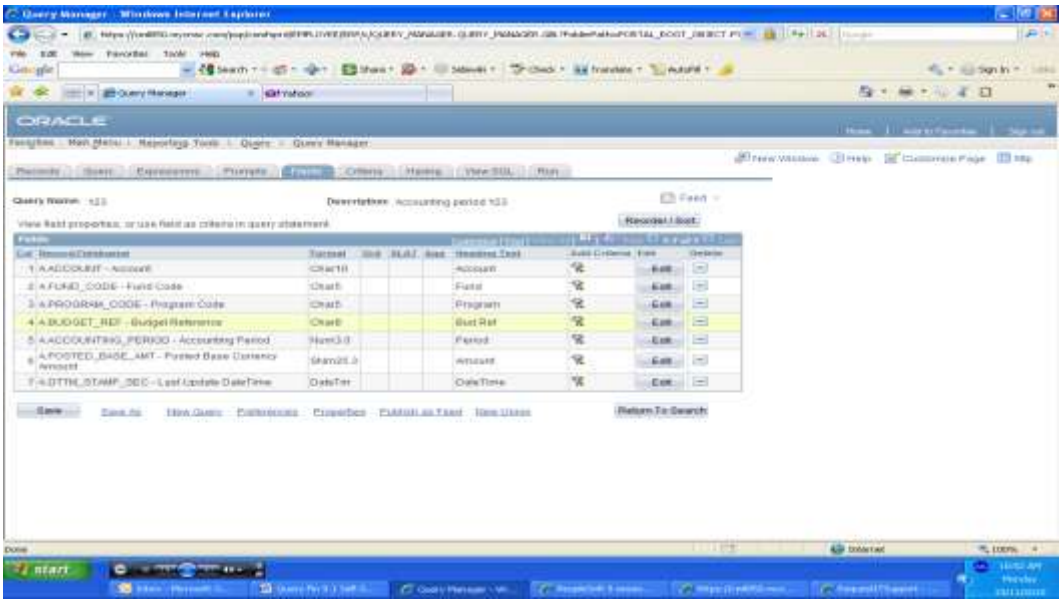
This query will automatically be saved as a private query, since most City of Milwaukee Query users will not be able to save queries as public. The reason for this is that any user who can create a public query can modify any other public query. Only you, the person who created the query, will be able to open and execute this query.

Next you will learn how to edit field properties.

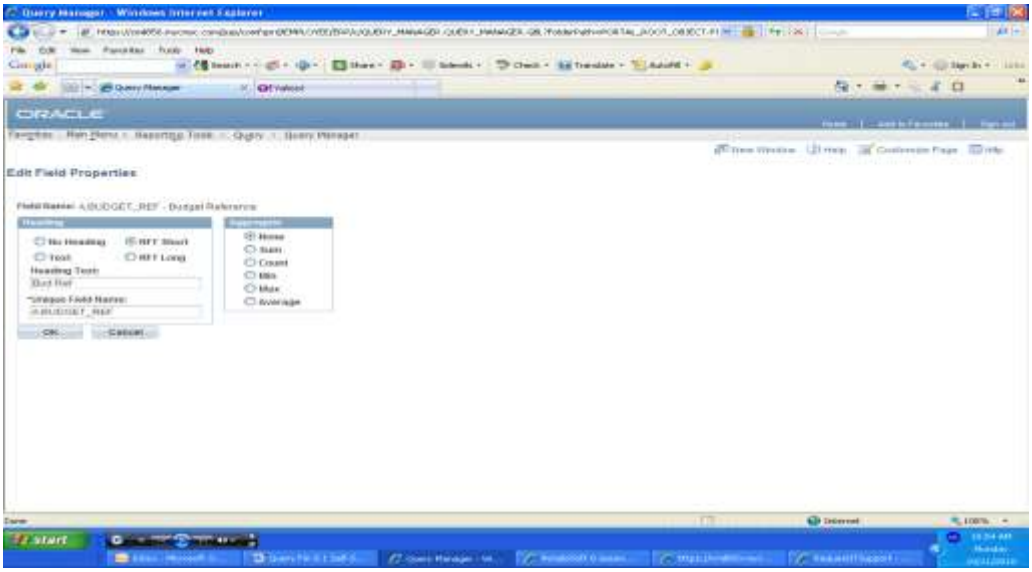
Building a Query, Step By Step, continued

Editing Field Properties: Heading Text

If you wish to modify a heading or an aggregate function for a field, click the **Edit** button to the right of the field.

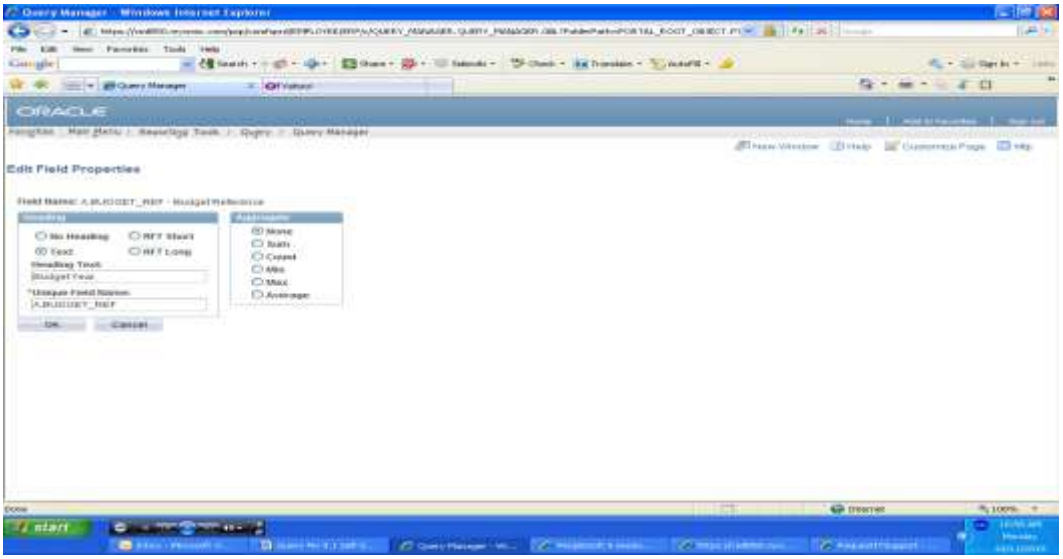


Go ahead and edit the **BUDGET_REF** field.



Building a Query, Step By Step, continued

If you wish to enter a heading of your own, such as **Budget Year**, click the radio button next to **Text**, and enter the new heading in the **Heading Text** field. ***Note:*** RFT means "Record Field Title." The default heading is **RFT Short**.



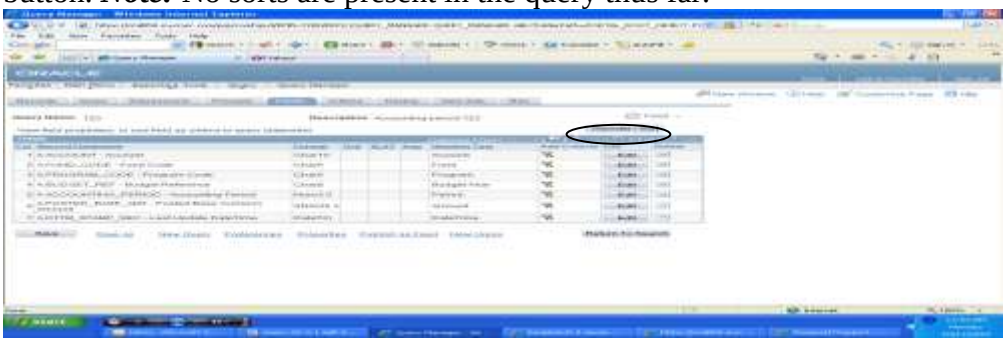
Click **OK** to save the new **Heading** setting.

Preview the modified query, if you wish, by clicking the **Run** tab. Notice the changes that you made to the **BUDGET_REF** field. Then click the **Fields** tab once again.

Building a Query, Step By Step, continued

Changing Sort Order

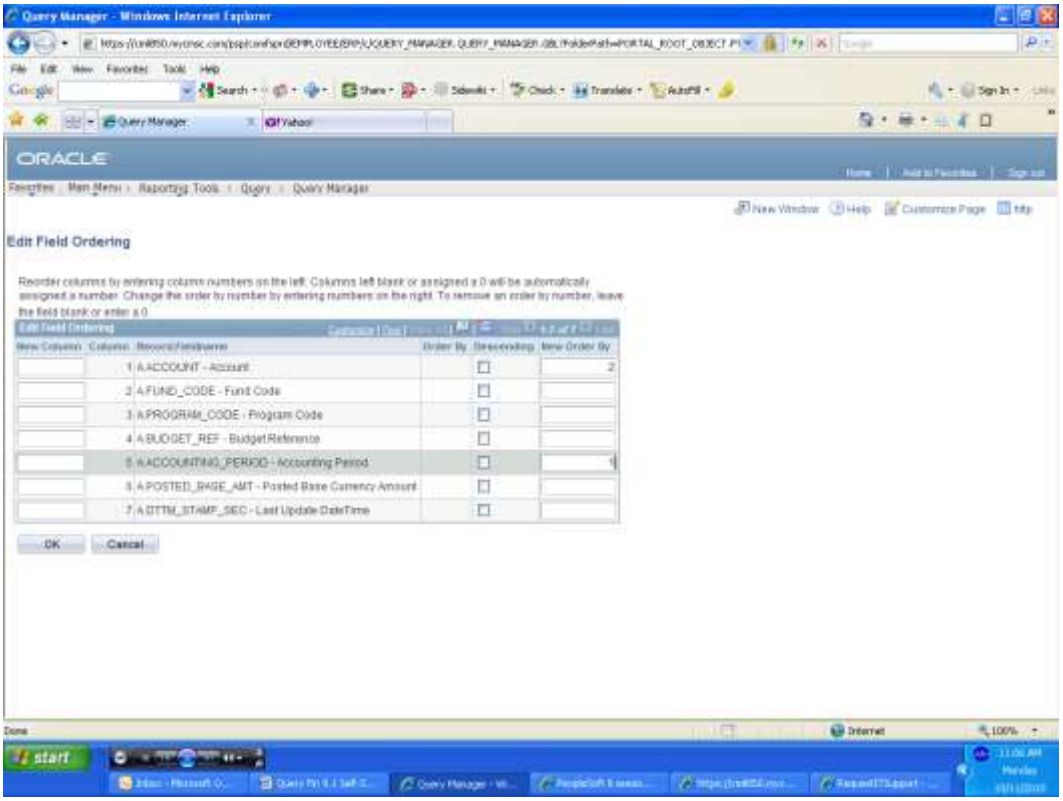
Your output can be sorted by Query. The numbers in the **Ord** column indicate on which fields your query is sorted and in what order. The number **1** represents the highest order of sort. Sort order is specified for all fields using the **Sort Order** button. ***Note:*** No sorts are present in the query thus far.



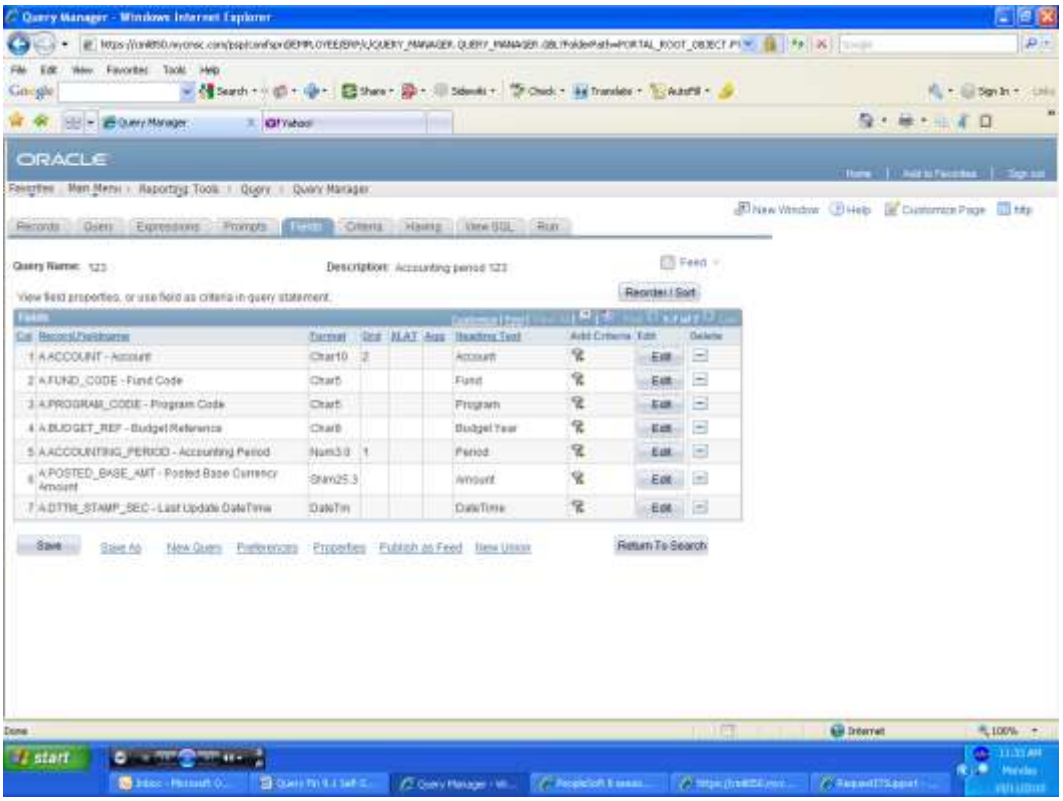
To control the order of your output, first determine on which fields you want to sort. Then, click the **Sort Order** button to specify the order in which you want the fields to be sorted.

Click the **Sort Order** button.

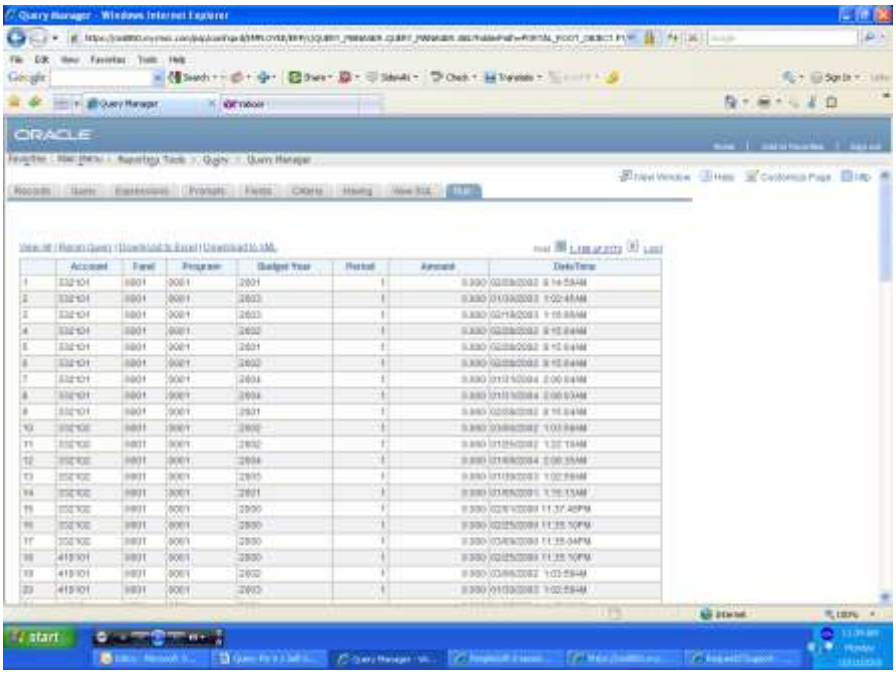
- Sort by **ACCOUNTING_PERIOD (1)**, and select **Ascending**.
- Then sort by **ACCOUNT (2)**, and select **Ascending**.
- Click **OK**.



Building a Query, Step By Step, continued



Preview the query by clicking the **Run** tab. Notice how the output is sorted, first, by **ACCOUNTING_PERIOD**, and second, by **ACCOUNT**.



Once again, click on the **Fields** tab.

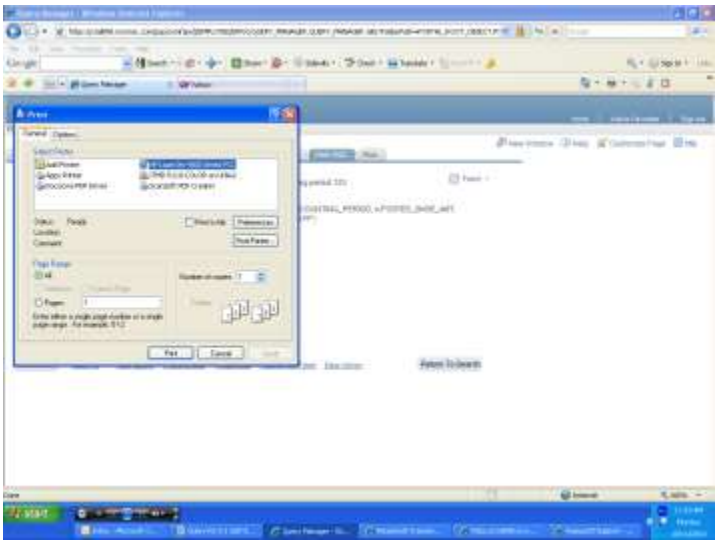
Viewing SQL

You can view and print your query definition, which documents the fields used in your query as well as other important information such as the selection criteria. SQL stands for "Structured Query Language."

Click the **View SQL** tab.

To print the SQL, right-click on the page, and select **Print**.

Then click the **Print** button.



Chapter Key Points

- From the **Query Manager** page you may perform the following actions by accessing the **Actions** drop-down list box:
    - Add a query to your **Favorites**
    - Copy a query to another user
    - Delete a query
    - Move a query to a folder
    - Rename a query
- Also from the **Query Manager** page, you can open an existing query, run output to HTML or Excel, or schedule a query to run at another time.
- The primary record for a query is selected from the **Find an Existing Record** page, which can be found by navigating accordingly: **Home ➢ Reporting Tools ➢ Query ➢ Query Manager** and then clicking on the **Create a New Query** hyperlink.
- Three output options when executing a query include previewing the results, sending the output to an Excel spreadsheet, and displaying results in HTML format.
- When editing field properties, the text listed in the **Headings** column will be used for the column heading in the output to the Preview page.
- To change column order for a field, click the **Column Order** button, and enter new column numbers to re-order the columns. Then click **OK**.
- Likewise, you can sort and re-sort your Query output, depending on your wishes, using the **Sort Order** button.

- You can view and print your query definition, which documents the fields used in your query as well as other important information such as the selection criteria, by clicking the **View SQL** tab.

CHAPTER 3

SPECIFYING QUERY OUTPUT

Objectives

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

- Understand Translate Table Values
- Specify criteria for retrieving data by entering selection criteria and selecting **Condition Type**s
- Use special operators in your selection criteria: **AND**, **AND NOT**, **OR**, and **OR NOT**
- Generate Query run-time prompts, both single and multiple
- Use pre-defined aggregate functions in a query
- Delete queries

Overview

Next, you will explore the options for displaying the Translate Table fields: long descriptions, short descriptions, and the code values.

You will also build upon your understanding of a key function: adding criteria clauses to a query to return specific rows of data. Within these criteria clauses you will compare fields to find data of equal values, values greater or less than the field, values in a list, values in a range, and more. You will also use the special operators **AND**, **AND NOT**, **OR**, **OR NOT** and parentheses (group criteria).

You will learn another powerful function: setting up run-time prompts, which allow you to enter values for a specific field at the time the query is executed and to see how these values are then used as criteria for retrieving information.

You will be shown how to use aggregate functions in a query. Instead of returning many rows of data, perhaps you are only interested in a count of rows or a sum of a numeric field. You can produce these results using Query. Finally, you will discover how to delete queries.

Displaying Translate Values

You may come across records, such as **VENDOR**, that contain translate values, which you can use in your queries. A table called the **Translate Table** stores the values for fields that contain a short list of codes that do not change.

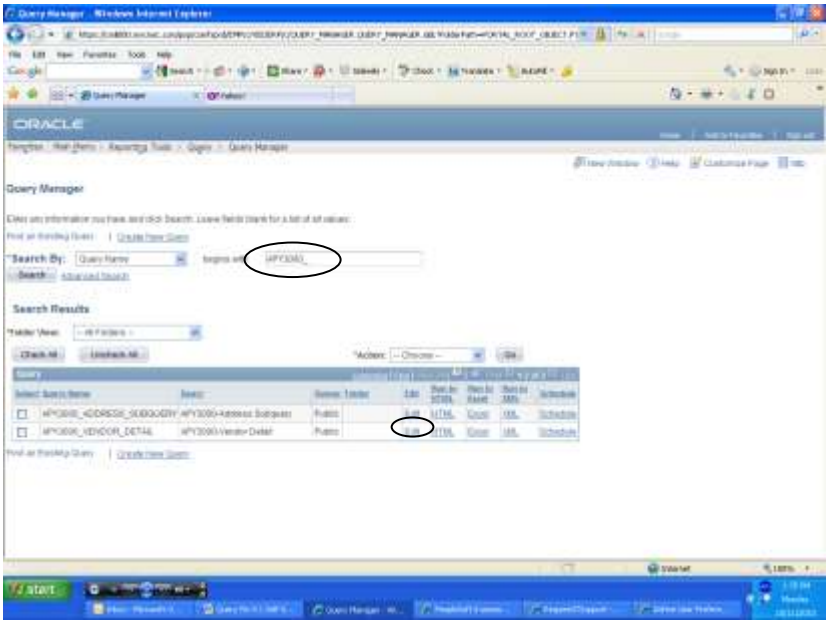
To illustrate, take a look at the charts below. ***Note:*** As you can see, often the value of the short and long translate value is the same.

Field = **VENDOR_CLASS**		
Translate Code:	**Short Translate Value:**	**Long Translate Value:**
A	Attorney	Attorney
E	Employee	Employee
L	Lienholder	Lienholder
R	Supplier	Outside Party
H	HRMS	HRMS

Field = **VENDOR_STATUS**		
Translate Code:	**Short Translate Value:**	**Long Translate Value:**
A	Approved	Approved
D	Deny	Denied
E	Unapproved	Unapproved
H	Hold	Hold
I	Inactive	Inactive
X	To Archive	To Be Archived

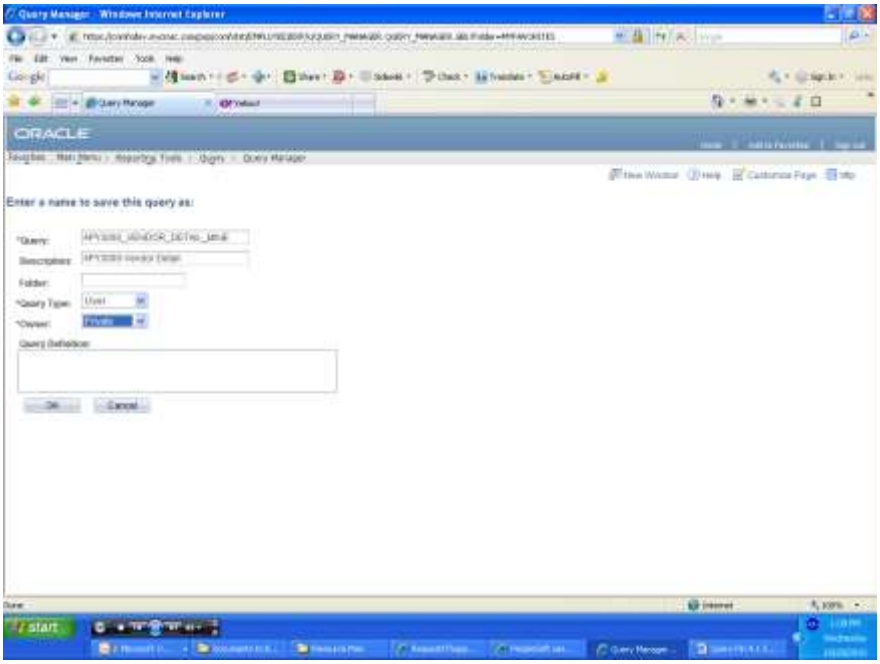
You can direct Query to display the translate code, the short translate value, or the long translate value.

First of all, open the public query **APY3000_VENDOR_DETAIL**.



Displaying Translate Values

Click the **Save As** hyperlink. Complete the dialog box as shown, making sure to change the owner to **PRIVATE** and naming the query **VENDOR_DETAIL_MINE**. Click **OK**.



Make sure that the **Fields** tab is activated.

The three options for displaying translate values are these:

None	Translate code. Assumes Current Date logic.
Short	10 char Xlatshortname. You specify effective date logic.
Long	30 char Xlatlongname. You specify effective date logic.

You will always know that a field is associated with a translate value if one of these characters appears in the **XLAT** column: **N** (None), **S** (Short), or **L** (Long).

Notice that an **S** appears under the **XLAT** column for **VENDOR_STATUS**, **VENDOR_CLASS** and **VENDOR_PERSISTENCE**. That means that the short translate value will display when this query is run.

Click the **Edit** button to the right of the **VENDOR_STATUS** field. The **Edit Field Properties** dialog box will appear. Now you see additional options in the **Translate Value** section of the box.

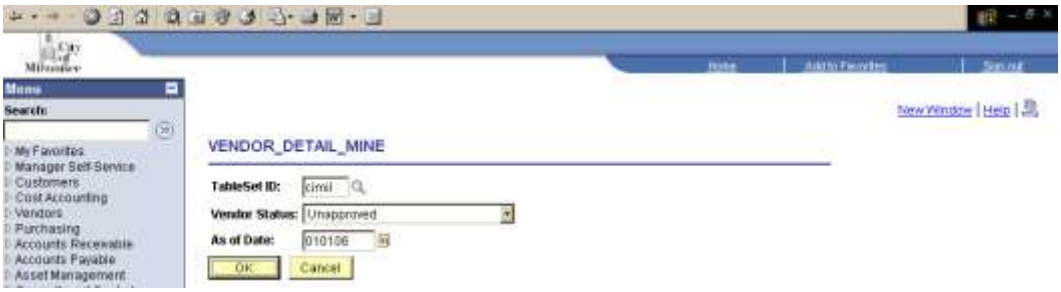
Displaying Translate Values

To modify a translate value, simply click on the radio button next to **None**, **Short**, or **Long**.

Click on the **None** radio button now.

Note: When choosing **Short** or **Long**, always remember to select **Current Date** for the **Effective Date for Short/Long** option.

Click **OK**. Preview the query results by clicking the **Run** tab. You will see the run-time prompts built into the query shown below. Complete the dialog box as shown:



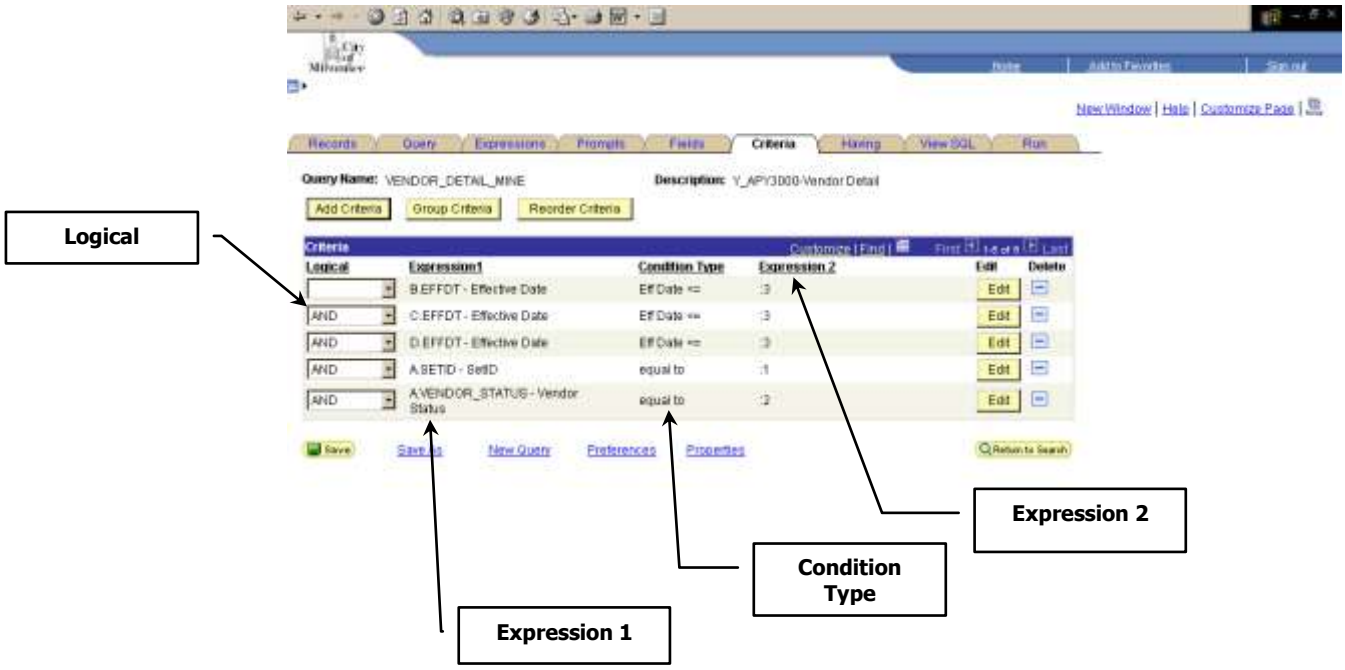
Click **OK**. Here is a display of the results:

Notice that the **Status** column contains the letter **E** (the "**None**" value) for each vendor, not the word **Unapproved**, as would be shown if the short translate value had been used. When you run across translate values in a table, you now have an idea of how they can be used.

Entering Selection Criteria

Very often, you do not want to retrieve every row of data from the record you are accessing. By defining criteria expressions, you can selectively retrieve the desired information. To specify criteria expressions, select the **Criteria** tab.

Provided **VENDOR_DETAIL_MINE** is still open, click the **Criteria** tab. You should see the page shown here.



Note: This query contains fields from several records: the "A," "B," "C," and "D" records. The ability to create queries using multiple records (in other words, the ability to "join records") is limited to a small number of advanced users. However, all Query users have the ability to perform a "related record" join, discussed in the Query for FMIS Financials Version 8.8 Beyond the Basics class.

Based on the type of field for which you are adding criteria, you will have different options available. Here are the options:

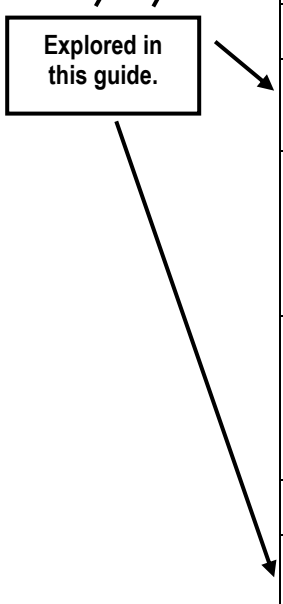
Logical	Represents **how** criteria rows will be compared with each other. The first logical is blank, while each subsequent criterion defaults to **AND**. The other choices are **AND NOT**, **OR**, and **OR NOT**.
Expression 1	Used to specify **what** you are comparing (**Field** or **Expression**). In this class, you will use **Field** only.
Condition Type	States how **Expression 1** is to be compared with **Expression 2**.
Expression 2	The comparison value, which can be a constant, a field from another record, an expression, a subquery, or a value (or values) entered in a run-time prompt.

Entering Selection Criteria, continued

Summary of Combinations

The **Condition Type** determines how **Query Manager** compares the values of **Expression 1** to **Expression 2**.

Note: For each of the **Condition Type**s listed below, **Query Manager** offers a "not" option that reverses its effect. For example, **not equal to** returns all rows that **equal to** would not return.



Condition Type:	When it returns a row…
between	The value in the selected record field falls between two comparison values. The range is inclusive.
equal to	The value in the selected record field exactly matches the comparison value (*one*).
exists	This **Condition Type** is different from the others, in that it does not compare a record field to the comparison value. The comparison value is a subquery. If the subquery returns any data, PeopleSoft Query returns the corresponding row.
greater than	The value in the record field is greater than the comparison value.
in list	The values in the selected record field match the comparison values in a list (*more than one*).
is null	The selected record field does not have a value in it. You do not specify a comparison value for this **Condition Type**. ***Note:*** Key fields, required fields, character fields, and numeric fields do not allow null values.
in tree	The value in the selected record field appears as a node in a tree created with PeopleSoft Tree Manager. The comparison value for this **Condition Type** is a tree or branch of a tree that you want PeopleSoft Query to search.
less than	The value in the record field is less than the comparison value.
like	The value in the selected field matches a specified string pattern. The comparison value may be a string that contains wildcard characters. The wildcard characters that PeopleSoft Query recognizes are **%** and _.

You will learn to use several of these as you progress through this guide.

Entering Selection Criteria, continued

Equal To

The **equal to Condition Type** finds fields having a value that *exactly matches* the value specified. The **equal to Condition Type** limits you to one value.

Back to the **VENDOR_DETAIL_MINE** query. Make sure that the **Criteria** tab is selected.

Earlier you learned to add criteria by clicking the **Add Criteria** button from the **Fields** tab. Now you will learn to add criteria from the **Criteria** tab.

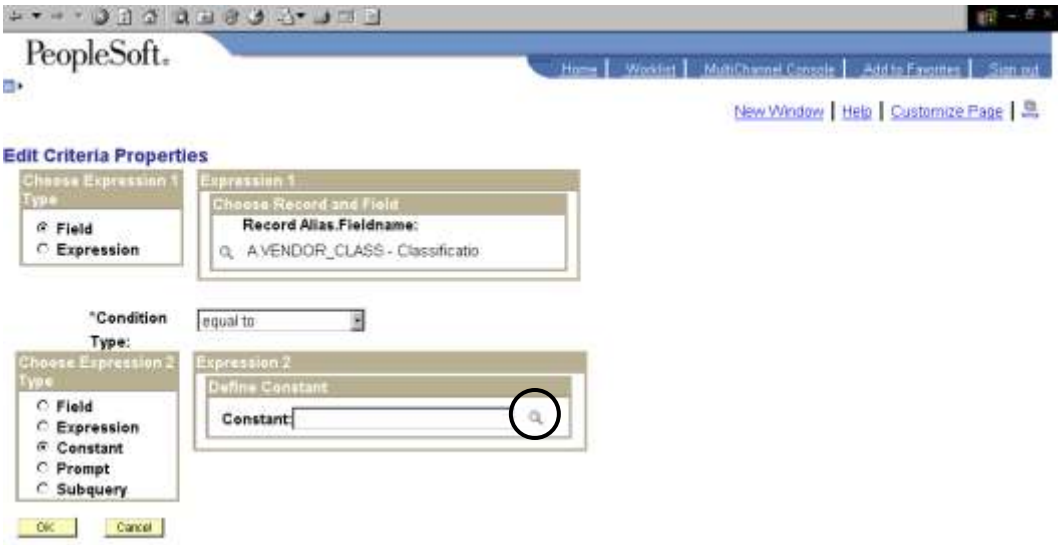
Click the **Add Criteria** button.

Select Record and Field button

Add a selection criterion for the **VENDOR_CLASS** field so that your report is retrieving only vendors with the vendor class of **R** (Outside Party). To do so, click the **Select Record and Field** button in the **Expression 1** box.

Entering Selection Criteria, continued

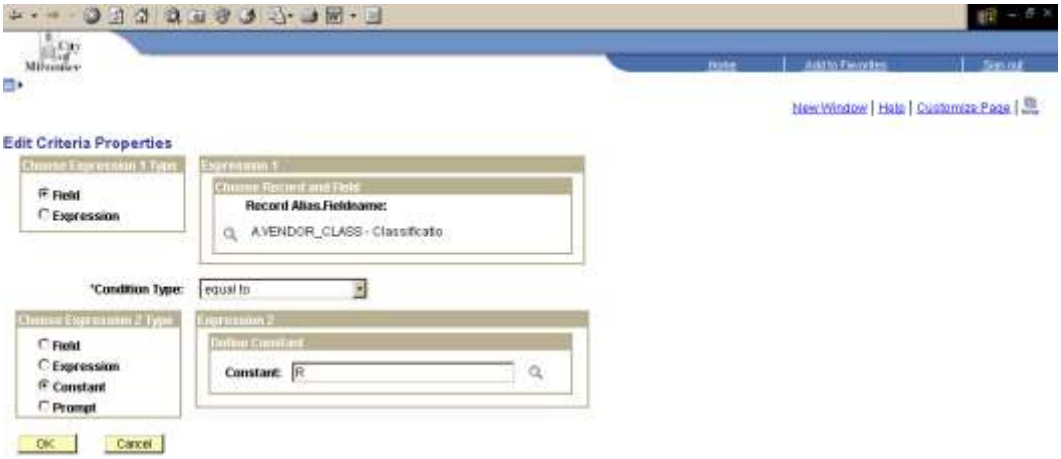
From this screen, choose **A.VENDOR_CLASS – Classification**.



Then leave **equal to** as the **Condition Type**, and click on the magnifying glass icon in the **Expression 2** box to select a constant. You will see the dialog box shown on the next page.

Entering Selection Criteria, continued

Click on **Select Constant** for **R** (Outside Party).



Your selection criterion is complete. Click **OK**. As noted, an **AND** operator is automatically added each time you add a new criteria expression.

Click the **Save** button to re-save your query.

Entering Selection Criteria, continued

To see the output, click the **Run** tab. Enter these values when prompted: **TableSet ID** = CIMIL, **Vendor Status** = Unapproved, and **As of Date** = 010106.

Take a look at the results:

	SetID	:4	Status	Vendor ID	Address Line 1	Pay Group	Address Line 2	Name 1	City	St	Cntry	Postal	Class	Lifetime	Withholding
1	CIML	01/01/2006	E	0000000363				BATTERY PRODUCTS INC			USA		Supplier	Regular	N
2	CIML	01/01/2006	E	0001040285	520 S. MAIN ST.		SUITE 2441	ROACH REID	AKRON	OH	USA	44311	Supplier	Regular	N
3	CIML	01/01/2006	E	0001040519	1580 N NORTHWEST HWY, ROOM 216			INDUSTRIAL APPRAISAL COMPANY	PARK RIDGE	IL	USA	60068	Supplier	Regular	N
4	CIML	01/01/2006	E	0001040521	188 W RANDOLPH, SUITE 800			VALUATION MANAGEMENT CONSULTANT'S INC	CHICAGO	IL	USA	60601	Supplier	Regular	N
5	CIML	01/01/2006	E	0001041696	6378 COPPS AV			HY-TECH COMPUTER SYSTEMS INC	MONONA	WI	USA	53716	Supplier	Regular	N
6	CIML	01/01/2006	E	0001041734	2333 PONCE DE LEON BLVD STE 300			FOUR S GROUP TELECOM DIVISION	CORAL GABLES	FL	USA	33134	Supplier	Regular	N
7	CIML	01/01/2006	E	0001041735	4758 N CUMBERLAND BLVD			MUNGER TECHNICAL SERVICES	WHITEFISH BAY	WI	USA	53211	Supplier	Regular	N
8	CIML	01/01/2006	E	0001041736	700 PLEASANT VALLEY DR		PO BOX 848	OPTICA TECHNOLOGIES INC	SPRINGBORO	OH	USA	45066-0848	Supplier	Regular	N
9	CIML	01/01/2006	E	0001041737	1422 AIRPORT RHODHISS RD			SPLI-CON LLC	HICKORY	NC	USA	28601	Supplier	Regular	N
10	CIML	01/01/2006	E	0001041842	PO BOX 646			KC INDUSTRIES LLC	MULBERRY	FL	USA	33860	Supplier	Regular	N
11	CIML	01/01/2006	E	0001042012	Drawer #64376			compuware	Detroit	MI	USA	48264-0376	Supplier	Regular	N

Notice that only suppliers are listed: no attorneys, employees, or lienholders.

Adding selection criteria limits the number of rows that are retrieved.

Entering Selection Criteria, continued

Like

"**Like**" retrieves data containing fields that match specified portions of a character string. The **like Condition Type** is case sensitive and uses wildcard characters to search for data.

Wildcard A wildcard is a character that represents any character or any group of characters in a search string.

If you take a look below, the example illustrates using **US** plus the wildcard **%**.

- The field **NAME 1** was added as a selection criterion.
- The **like Condition Type** was selected.
- The run-time prompts were completed as follows: **TableSet ID** = CIMIL, **Vendor Status** = Approved, and **As of Date** = 01/01/2006.

The query returned any rows where the **NAME 1** contained **US**, including **USA PATCH**, **US POSTMASTER**, **US DEPARTMENT OF EDUCATION**, and so on.

Entering Selection Criteria, continued

Wildcard Character	Definition
% (percent)	Any string of zero or more characters. For example, **C%** finds any string beginning with the letter **C**.
_ (underscore)	Any single character. For example, **Hans_n** will find **Hansen** or **Hanson**.

You can even "mix" wildcards, such as entering **HANS_N%** to look for rows such as HANSEN,JULIA M and HANSON,LARS.

So, use the **like Condition Type** when you want to use wildcards to pull data from a record. Next, we'll take a look at the **between Condition Type**.

Between

"**Between**" selects fields having a value that is between two specified values. This is an *inclusive* range where the upper and lower values are included in the search.

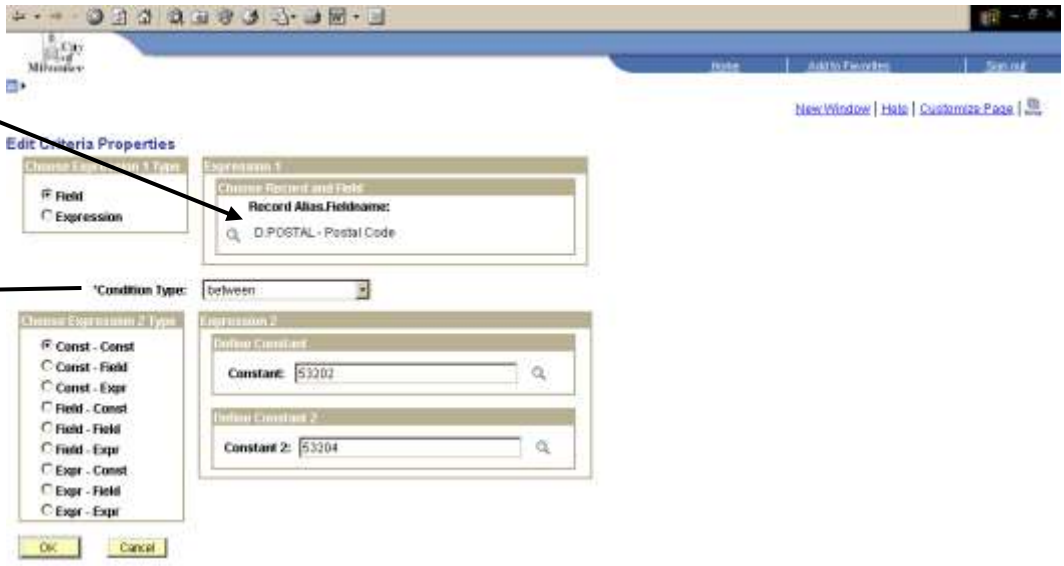
Say you have a need to mail some information to approved vendors only in zip codes **53202**, **53203**, and **53204**. You can use the **between Condition Type** to select those vendors meeting that criteria.

The field **POSTAL** is from the "**D**" record – **VENDOR_ADDR**. Click on the **Fields** tab to find the **POSTAL** field. Then click on the **Add Criteria** button.

Entering Selection Criteria, continued

Notice that this is a shortcut to using the **Add Criteria** button from the **Criteria** tab. Your selection statement is already half-completed.

Next, select the **between Condition Type**. Then complete the **Expression 2** field as shown below, typing in **53202** zip code and the **53204** zip code. ***Note:*** There are no lookup values for this field.



Select the **between Condition Type**

Click **OK**. Your **between** criterion is now complete. Re-save your query using the **Save** button. Then preview the query, using these values for the run-time prompts:

TableSet ID = CIMIL, **Vendor Status** = Approved, and **As of Date** = 01/01/06.

Entering Selection Criteria, continued

Selection Criteria Order

You can re-order your selection criteria for a query so that the system first selects rows based on one field, next another, and so on. Re-ordering criteria can increase system efficiency.

Re-ordering your criteria is simple. Click on the **Criteria** tab. Then click on the **Reorder Criteria** button. Type the numbers for the new order in the **New Position** column. Then click **OK**.

You may wish to re-save your query.

Entering Selection Criteria, continued

Since you have just saved the query that you have been building throughout this course, **VENDOR_DETAIL_MINE**, why not pause for a moment and take a break! In a moment, you will create a brand-new query to review and practice some of the features you have learned so far as well as learn about a few nuances of Query.

In List

"**In list**" finds fields having values that match any one of the values in a list of values. With this option, you are prompted to create a list with the **Edit List** dialog box. You had an opportunity to use **in list** in Chapter 2.

Key point to remember:

- From the **Edit List** dialog box, peruse the list of values, and click the **Add Value** button to add a value to the list.

- When you have completed your list, click **OK**.

- Note that on occasion, if there is no list of values provided, you will enter values by typing them.

Entering Selection Criteria, continued

AND, AND NOT, OR, and OR NOT Operators

Take a moment now to read about additional operators. Additional operators are used to further define your criteria expressions. These include **AND**, **AND NOT**, **OR**, and **OR NOT**, and parentheses. When you add a criteria bar, the default logical is **AND**, meaning that both (or all) criteria must be true for a data row to be returned.

Note: Given the choice, it is always better to use the **not** version of a **Condition Type** rather than the **NOT** operator on the entire criterion. When you use **NOT**, Query cannot use SQL indexes to speed up the data search. When you use the **not** version of a **Condition Type**, Query can translate it into an SQL expression that enables it to use the indexes.

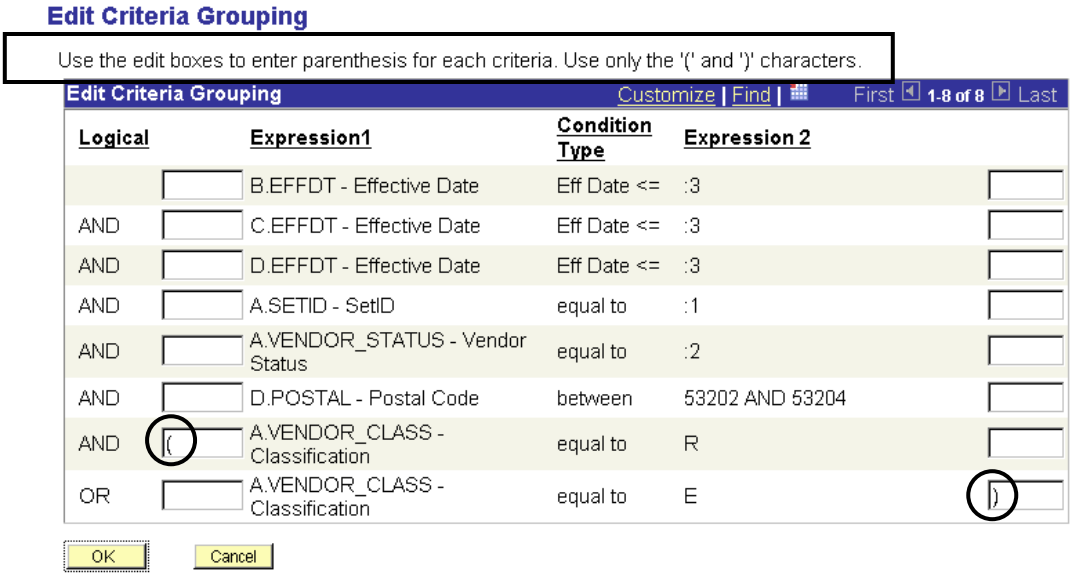
You can change the value the logical operator to **AND NOT**, **OR**, or **OR NOT** by clicking in the drop-down list in the **Logical** column for a field.

Say you had added a row of selection criteria to ask for records where the vendor classification for a vendor is either **R** (Outside Party) or **E** (Employee). (Notice how the first **VENDOR_CLASS** criterion was reordered to the seventh position, then a second **VENDOR_CLASS** criterion was added, and the logical operator was changed to **OR**.)

You can group rows of criteria to ask for very specific information from the database. You will use the **Group Criteria** button, explained on the next page.

AND, OR, and NOT Operators, continued

Parentheses are used to group and ungroup rows of selection criteria, and they control the order in which Query executes the criteria. To select several rows of criteria for grouping (or ungrouping), use the **Group Criteria** button. After typing the parentheses in the appropriate fields, click **OK**.



In the example above, your output would list only those rows that meet these criteria:

- rows with an effective date less than or equal to a date entered at run time
- *and* a SETID entered at run time (such as **CIMIL**)
- *and* a vendor status entered at run time (such as **Approved**)
- *and* a vendor class of *either* **Outside Party** (R) or **Employee** (E)

It's time to write a new query from beginning to end.

EXERCISE – Create a New Query, Specifying Selection Criteria

You have been asked to create a query that displays all vendor records that are inactive for one reason or another.

STEPS …	USING …
1. Create a new query	• **Home ➢ Reporting Tools ➢ Query ➢ Query Manager** • Click the **Create a New Query** hyperlink.
2. Select the record	**VENDOR**
3. Select fields for display, and place them in this column order	▪ **VENDOR_ID** ▪ **NAME1** ▪ **VENDOR_STATUS**
4. Change the sort order for this field in ascending order	▪ **NAME1**
5. Change the heading for this field **Reminder: Use the **Edit** button.*	**NAME1 ➔ Vendor Name**
6. Display the **Long Description** translate value for this field **Reminder: Use the **Edit** button.*	▪ **VENDOR_STATUS**
7. Enter selection criteria for this field	Expression 1 / Condition type / Expression 2 **VENDOR_STATUS** **equal to** **Inactive** Select A Constant Values Field Value / Translate Long Name / Translate Short Name / Select Constant A Approved Approved D Denied Deny E Unapproved Unapproved H Hold Hold I Inactive Inactive X To Be Archived To Archive Cancel
8. Preview your query results	**Your results should be similar to the screen shown on the next page.**

Create a New Query, Specifying Selection Criteria, continued

Preview

	Vendor	Vendor Name	Status
1	2000001	1-2-3 HEALTH CARE CONNECT	Inactive
2	0001044701	1435 CORPORATION	Inactive
3	2002509	16TH STREET COMMUNITY HEALTH CENTER	Inactive
4	0001051941	1847 N PROSPECT AV	Inactive
5	0001024048	1999 ADVISORY PANEL MEETING	Inactive
6	1005445	1ST AYD CORPORATION	Inactive
7	0001044966	2002 GREAT CONFERENCE	Inactive
8	0001048532	2123 WEST MICHIGAN LLP	Inactive
9	0001023190	3230 11TH LLC	Inactive
10	1000037	3M PMQ4462	Inactive
11	1000030	3M MAP8794 (RS)	Inactive
12	1000027	3M MBQ2224 (WY)	Inactive
13	1000029	3M MCN4346	Inactive
14	1000032	3M PMQ1344	Inactive
15	1000035	3M PMQ4462 (RL)	Inactive
16	1000041	3M PMT8652	Inactive
17	0001051244	4 ARUBA PROPERTIES, LLC	Inactive
18	0001050844	4C MILWAUKEE	Inactive
19	0001054235	60TH & CAPITOL JOINT VENTURES	Inactive
20	0001051732	7TH & MICHIGAN ASSOC LLC	Inactive
21	1004011	A DAIGGER & CO	Inactive
22	1000056	A DAIGGER & COMPANY INC	Inactive

Perhaps instead of retrieving *all* inactive vendors, you are interested in looking at only those which are **associations**. You can modify your query to get a "short" list of inactive associations by adding selection criteria.

STEPS …	USING …
9. Save the query	**INACTIVE**
10. Click on the **Criteria** tab to add selection criteria	**Criteria**
11. Use the like Condition Type to search for vendors with the word ASSOCIATION in them	Expression 1: **NAME1** Condition type: **like%** Expression 2: **ASSOCIATION%** 
12. Preview your query results	**Your results should be similar to the screen shown on the next page.**

Create a New Query, Specifying Selection Criteria, continued

Preview

	Vendor	Vendor Name	Status
1	0001020387	AMERICAN LIBRARY ASSOCIATION	Inactive
2	1000804	AMERICAN LIBRARY ASSOCIATION	Inactive
3	1000825	AMERICAN MEDICAL ASSOCIATION	Inactive
4	1001291	ASSOCIATION OF WOMEN IN THE	Inactive
5	0001051114	EAST MILWAUKEE OPERATING ASSOCIATION	Inactive
6	0001042838	HMONG AMERICAN WOMEN'S ASSOCIATION INC	Inactive
7	1010280	METRO MUNICIPAL CLERKS ASSOCIATION	Inactive
8	0001050080	NORTHWEST NEIGHBORHOOD ASSOCIATION	Inactive
9	0001054254	PARNELL WOODS CONDOMINIUM ASSOCIATION	Inactive
10	0001024524	PRINCE ASSOCIATION INC	Inactive
11	0001042521	WISCONSIN ASSOCIATION FOR PERINATAL CARE	Inactive
12	0001053808	WISCONSIN ASSOCIATION FOR PERINATAL CARE	Inactive

Now say that you wish to further refine your query to select rows with *either* **ASSOCIATION** *or* **ASSN** in the vendor name. Add a row of selection criteria and group two of them using parentheses, as described in the steps below.

STEPS …	USING …
13. Re-save the query	**INACTIVE**
14. Make sure that you have the **Criteria** tab selected	**Criteria**
15. Add a row of selection criteria using the **like Condition Type**	Expression 1 **NAME1** Condition type **like** Expression 2 **%ASSN%** 
16. Then use the **OR** logical between each of these rows of selection criteria	Logical Expression 1 Condition type Expression 2 **NAME1 like %ASSOCIATION%** **OR NAME1 like %ASSN%**
17. Add parentheses around these two rows ***Hint**: Use the **Group Criteria** button.*	Logical Expression 1 Condition type Expression 2 **(NAME1, like %ASSOCIATION%** **OR NAME1 like %ASSN%)**

Create a New Query, Specifying Selection Criteria, continued

Your criteria should look similar to that shown below.

STEPS …	USING …
18. Preview your query results	**Your results should be similar to the screen shown below.**

	Vendor	Vendor Name	Status
1	0001020397	AMERICAN LIBRARY ASSOCIATION	Inactive
2	1000804	AMERICAN LIBRARY ASSOCIATION	Inactive
3	1000819	AMERICAN MANAGEMENT ASSN	Inactive
4	1000825	AMERICAN MEDICAL ASSOCIATION	Inactive
5	1001291	ASSOCIATION OF WOMEN IN THE	Inactive
6	0001043798	DAVID W GLASSNER	Inactive
7	0001051114	EAST MILWAUKEE OPERATING ASSOCIATION	Inactive
8	0001042838	HMONG AMERICAN WOMEN'S ASSOCIATION INC	Inactive
9	1010290	METRO MUNICIPAL CLERKS ASSOCIATION	Inactive
10	1011351	NATIONAL FIRE PROTECTION ASSN	Inactive
11	0001050090	NORTHWEST NEIGHBORHOOD ASSOCIATION	Inactive
12	0001054254	PARNELL WOODS CONDOMINIUM ASSOCIATION	Inactive
13	0001024524	PRINCE ASSOCIATION INC	Inactive
14	0001042521	WISCONSIN ASSOCIATION FOR PERINATAL CARE	Inactive
15	0001053808	WISCONSIN ASSOCIATION FOR PERINATAL CARE	Inactive

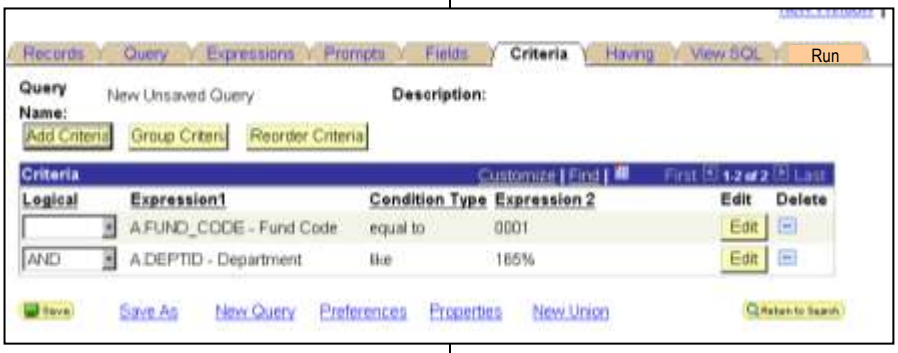
STEPS …	USING …
19. Re-save the query	**Save**

Run-Time Prompts

A run-time prompt allows you to enter values for a specific field at the time the query is executed, giving you more flexibility. The report will display only those rows of information that match the value entered at the prompt. The report will be different each time you run it, depending on what value(s) you enter at run time. Thus you can use the same basic report repeatedly to retrieve different data.

Build a new query so that you can practice with creating and using run-time prompts. You will be using the **LEDGER** table again, seeking to find out how much your department has spent "so far this year" on various items such as computers, consulting services, or travel.

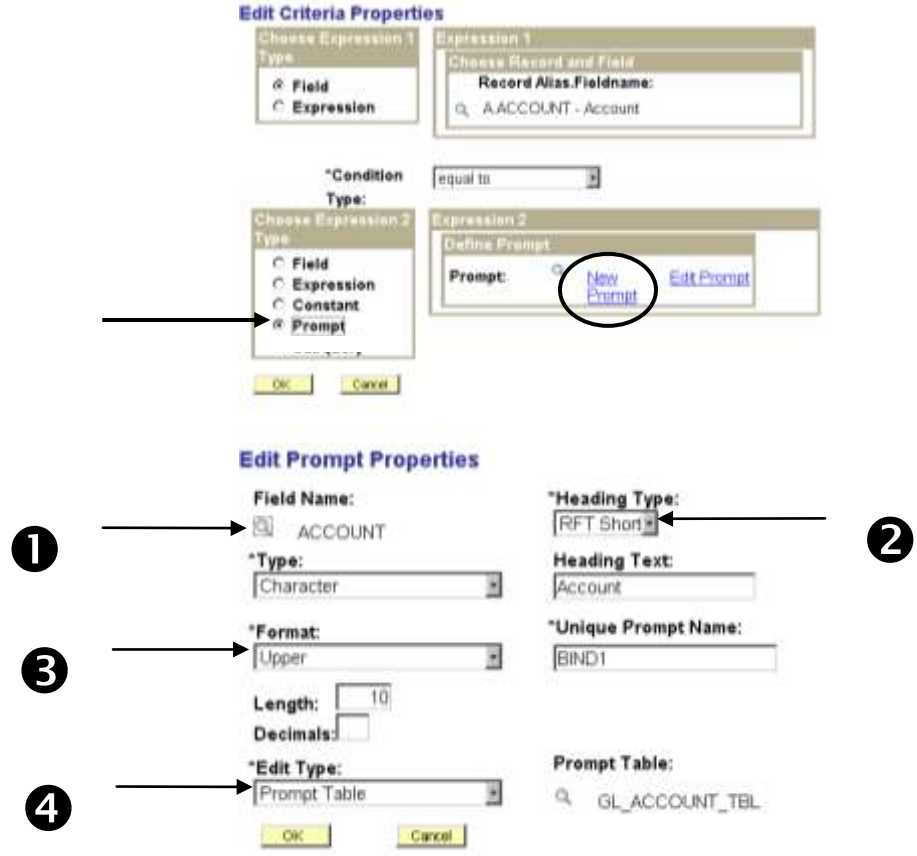
STEPS …	USING …
1. Create a new query	• **Home ➢ Reporting Tools ➢ Query ➢ Query Manager** • Click the **Create a New Query** hyperlink.
2. Select the record	**LEDGER**
3. Select fields for display, and place them in this column order	▪ **DEPTID** ▪ **POSTED_BASE_AMT**
4. Change the sort order for this field in ascending order	▪ **DEPTID**
5. Change the heading; using Text (***Hint:*** Use the Edit button.)	**DEPTID ➔ Organization**
6. Enter the first two selection criteria	Expression 1 / Condition type / Expression 2 **FUND_CODE** **equal to** **0001** **DEPTID** **like** **165%**
7. Save the query	**EXPENDITURES**
8. Add a third selection criterion	Expression 1 / Condition type / Expression 2 **ACCOUNT** **equal to** **Prompt**



Continue with instructions on the next page.

Run-Time Prompts, continued

9. Define prompt (**Expression 2**)	**New Prompt** *(see below)*



Verify that the fields on the **Edit Prompt Properties** definition box are completed with the parameters you desire. Each field is described in more detail below.

❶ Field: Field value defaults from the selection criteria bar.

❷ Heading Type:

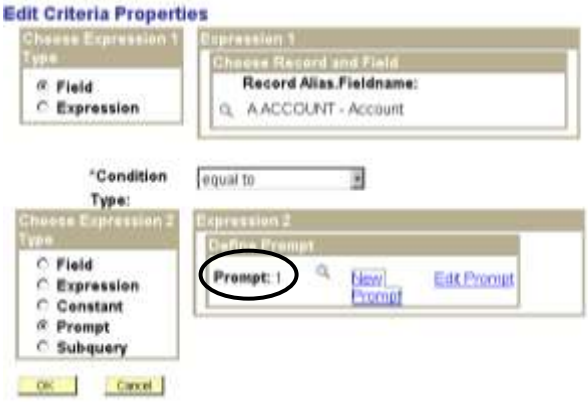
Rft Long	The long field name from the record definition.
Rft Short	The short field name from the record definition.
Text	Free-form text – enables you to assign your own label.

❸ Type, Length, and Format: Type, length, and format default from the field definition in the database.

❹ Edit Type: The value in this field will default to *No Table Edit, Prompt Table, Translate Table*, or *Yes/No Table*, depending on which field value is shown in **Field**.

Run-Time Prompts, continued

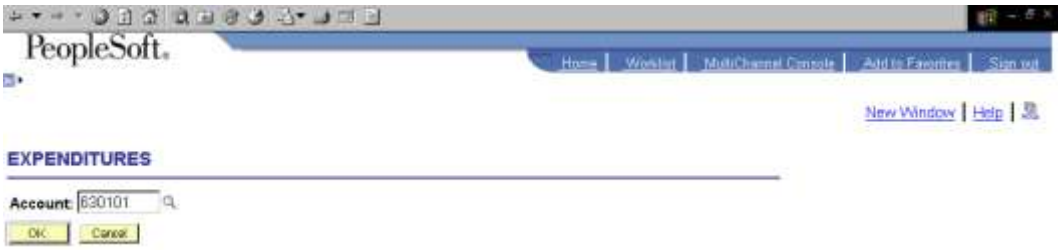
Click **OK** to confirm your **Edit Prompt Properties** definition. Notice in the screen print shown below that it is represented on the criteria page as **:1**.



Click **OK** again to return to the **Criteria** screen.

Re-save your query: **EXPENDITURES**.

Preview your query. When you do so, this dialog box pops up. This is where you enter the account desired, such as **630101** (office supplies). Then click **OK**.



You will then see the results of your query. Remember, should you get 0 results, it does not necessarily mean that you made a mistake in building your query! It may simply mean that there are no rows that meet your selection criteria.

Run-Time Prompts, continued

The next time you run this query, you may wish to view expenditures for professional services, computers, books, trucks, or travel. Run-time prompts give you that flexibility.

Click on the **Criteria** tab.

Multiple Prompts

If you wish to have more than one prompt in a query, you simply define additional prompts.

Say you want to add **PROGRAM_CODE** to the selection criteria as a run-time prompt. By modifying this query, you can have the system ask you for *two* values at run time.

Add a prompt for **PROGRAM_CODE**. To do so, add a criterion for the field. Use the **Condition Type equal to**, and click on the radio button next to **Prompt** under **Choose Expression 2 Type**. Once again, click on **New Prompt**. Then click on **OK** to accept the defaults. Click **OK** again to return to the **Criteria** tab. Your criteria should look like this:

Preview **EXPENDITURES**. Enter **630101** (Office Supplies) for **Account**, and **0200** (Management and Administration) for the **Program**. Click **OK**.

You will then see the results of your query. Then return to the **Criteria** tab. Re-save your query, **EXPENDITURES**, by clicking the **Save** button.

Simple Aggregate Functions in Query

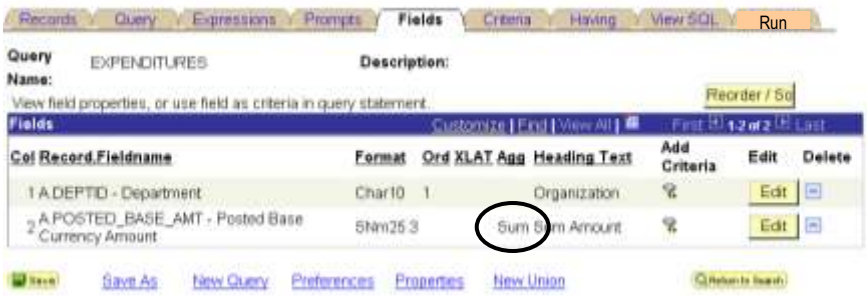
Using aggregate functions in Query gives you the ability to capture *summary* data in the Grid Control instead of *detailed* data rows.

Aggregate Function An aggregate function is a pre-defined summary calculation in Query. It returns a single value for multiple rows of output. Operations that summarize data are these:

- **Avg** (Average)
- **Count**
- **Max** (Maximum)
- **Min** (Minimum)
- **Sum**

EXPENDITURES should still be open. Click on the **Fields** tab. To calculate a sum for each organization in your department (such as 1651, 1652, and 1654), click on the **Edit** button to the right of the **POSTED_BASE_AMT** field. You will see the familiar **Edit Field Properties** dialog box shown below. Under the **Aggregate** section, choose the type of calculation you want to perform, which in this case is **Sum**. Click **OK**.

Notice the word **Sum** under the **Agg** column on the **Fields** tab.



Simple Aggregate Functions in Query, continued

Once again, preview your query using the **Run** tab. When the two run-time prompts pop up, complete the dialog box as shown, entering **630101** (Office Supplies) for **Account**, and **0200** (Management and Administration) for the **Program**. Click **OK**.

You will then see the results of your query. Notice how the results look different from your earlier results. Fewer rows are returned, and in the **Amount** column, a *sum* is displayed rather than the amounts in individual rows. Also notice that the heading has been changed.

The **POSTED_BASE_AMT** field has actually been *redefined* within the query as a summary field.

Return to the **Criteria** tab.

Click the **Save** tool button to save your query.

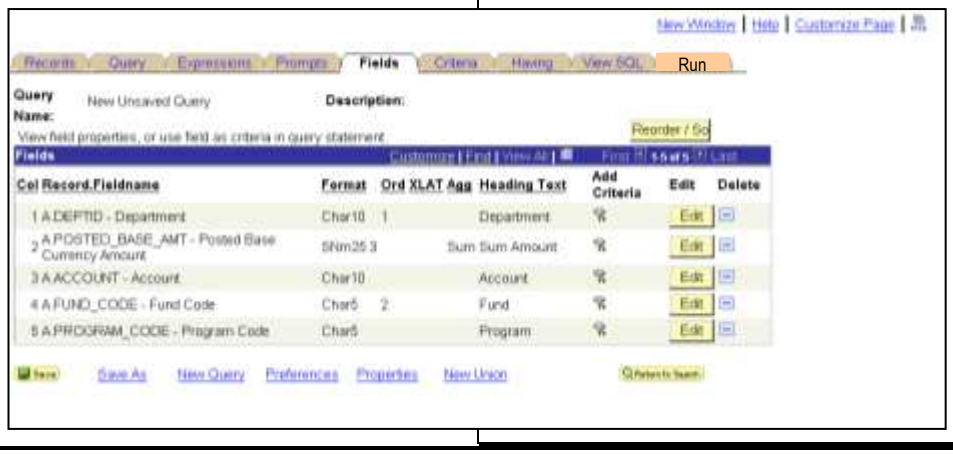
As mentioned, aggregate functions return a single value based on multiple rows of data. If only the field with the aggregate function is displayed in the output, Query will look at all the rows of data and perform the function based on every row. The output will be a single value.

Note: Some functions are unavailable for particular fields. ***For example:*** You cannot **Sum** on a character field. You will get the error message shown below if you attempt to perform an aggregate function on a field for which it is unavailable.

EXERCISE – Create a Query, Using an Aggregate Function

You have been asked to create a query to calculate a *sum* of salary expenditures for each of your organization codes for the 2004 budget year.

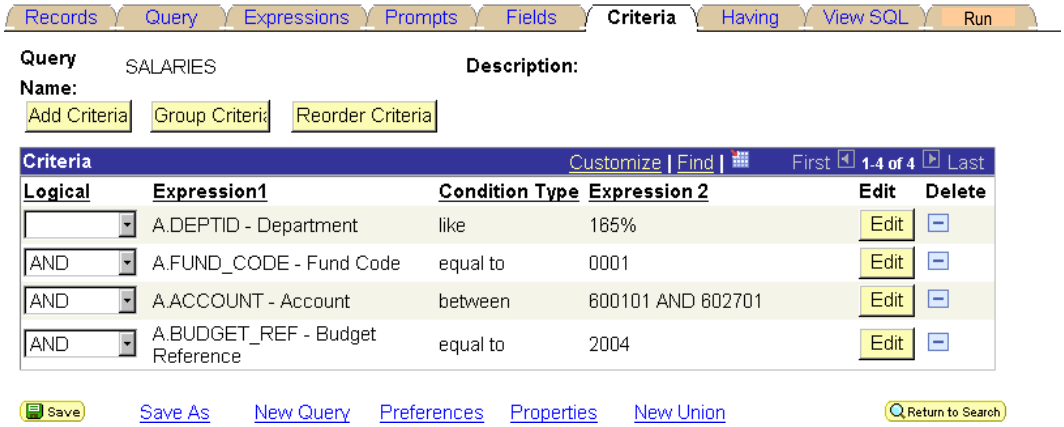
STEPS …	USING …
1. Create a new query	• **Home ➢ Reporting Tools ➢ Query ➢ Query Manager** • Click the **Create a New Query** hyperlink.
2. Select the record	**LEDGER**
3. Select fields for display, and place them in this column order	▪ **DEPTID** ▪ **POSTED_BASE_AMT** ▪ **ACCOUNT** ▪ **FUND_CODE** ▪ **PROGRAM_CODE**
4. Change the sort order for these fields in ascending order	▪ **DEPTID (1st)** ▪ **FUND (2nd)**
5. Change the heading; select the value for **RFT Long**	**DEPTID ➔ Department**
6. Using the **Agg** column (on the **Fields** tab), define your aggregate function (**Sum**) for the **POSTED_BASE_AMT** field.	**POSTED_BASE_AMT ➔ Sum Amount** *The field **POSTED_BASE_AMT** has now been re-defined within the query, and for each unique combination of fields selected for display, you see a sum.*



Create a Query, Using an Aggregate Function

7. Enter the selection criteria	Expression 1 / Condition type / Expression 2 **DEPTID** **like** **165%** **FUND_CODE** **equal to** **0001** **ACCOUNT** **between** **600101** and **602701** **BUDGET_REF** **equal to** **2004**
8. Preview your query results	**Run**
9. Save the query.	Query Name = **SALARIES**

Criteria:



Results:

	Department	Sum Amount	Account	Fund	Program
1	1651	138919.640	600101	0001	0200
2	1651	10366.380	600101	0001	0412
3	1651	80.720	600101	0001	0425
4	1651	27174.680	600101	0001	0503
5	1651	5930.190	600101	0001	1300
6	1651	35199.600	600101	0001	1310
7	1651	9232.490	600101	0001	1320
8	1651	11781.320	600101	0001	1330
9	1651	10201.770	600101	0001	1500
10	1651	2985.140	600101	0001	1600
11	1651	9240.090	600101	0001	1611
12	1651	37493.260	600101	0001	1612
13	1651	0.010	600101	0001	1614
14	1651	8260.750	600101	0001	1616
15	1651	8293.260	600101	0001	1617
16	1651	17790.680	600101	0001	1700
17	1651	142565.400	600101	0001	1712
18	1651	26075.510	600101	0001	1713
19	1651	106527.790	600101	0001	1714
20	1651	240.450	600101	0001	1720
21	1651	194.720	600101	0001	1730
22	1651	42921.180	600101	0001	1750

Printing Query Output

You can print by right-clicking on the results and selecting **Print** from the pop-up menu. The click the **Print** button on the **Print** menu.

You can also print query results by sending your query output to an Excel spreadsheet and using the print features available within that program.

Deleting Queries

Remember that from the **Query Manager** page, you can perform the following actions by accessing the **Actions** drop-down list box:

- Add a query to your **Favorites**
- Copy a query to another user
- Delete a query
- Move a query to a folder
- Rename a query

Go ahead and access the **Query Manager** page.

Click the checkbox next to the name of the query you wish to delete. Select **Delete Selected** from the **Action** menu, and then click the **Go** button. You will get a message asking if you wish to confirm the delete. Click the **Yes** button to delete the query.

Chapter Key Points

- For translate fields, you can display the **short** or **long** description rather than the code.
- Specify selection criteria using the **Criteria** tab. To add a selection criterion, click the **Add Criteria** button.
- **Condition Type**s allow you to compare fields of equal values, find values that are greater or less than the field, values in a list, values that are null, values like other values, values in a range, or values that exist in another query. With the **like Condition Type**, you can use the wildcards **%** and **_**.
- You can compare a field to a constant, a field from another record, an expression, a subquery, or values entered in a run-time prompt.
- To re-order your selection criteria, you can simply use the **Reorder Criteria** button.
- You can further define criteria expressions by the use of logical operators such as **AND**, **AND NOT**, **OR**, **OR NOT** and **parentheses** (using the **Group Criteria** button).
- You create run-time prompts to build flexibility into your queries. Each time you execute a query, the output data will be different based on the values you enter at the prompt(s).
- You can return a summarized value such as a **Sum**, **Count**, **Average**, **Max**, or **Min** using the aggregate function option.
- Deleting a query is a simple matter of accessing the **Query Manager** page, checking the checkbox next to the query (or queries) you wish to delete, selecting **Delete Selected** from the **Action** menu, and clicking the **Go** button.