SES Project
v 9.0

SES/CAESAR QUERY TOOL

Running and Editing Queries

PS Query

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I - Introduction to Query:

PeopleSoft Query Overview:

PeopleSoft Query is an end user reporting tool that allows you to extract the precise information that you are looking for by using visual representations of the SES/CAESAR database, without writing Structured Query Language (SQL) statements. The queries that you write can be as simple or as complex as necessary; they can be one-time queries or queries that you use repeatedly. The query tool allows you to display query results on the page, run the results to excel, or schedule your query for a future run time.

Query Terminology:

Relational Database: A database system in which the database is organized and accessed according to the relationships between data items without the need for any consideration of physical orientation and relationship. Relationships between data items are expressed by means of tables (records).

Record: (Also referred to as a "**Table**") Records/Tables are the foundation of the Query tool. A record stores data that is arranged by rows (entries) and columns (fields). For example, a record/table containing data about "people" would have a row for each individual person and columns (fields) for each piece of data stored for that individual (ex: name, address, phone). Records can be added to a query from the "Records" tab.

Field: In a database context, a field is the same as a column. For example, a record of people could contain separate fields such as name, address, phone, etc.

Query: A query is a SQL SELECT statement that reads data from tables and views within the database, and returns the result set to the requester. Queries cannot change data within the database.

SQL: Structured Query Language (SQL) is a language that provides an interface to relational database systems. It was developed by IBM in the 1970s for use in System R. SQL is a de facto standard, as well as an ISO and ANSI standard. Some people pronounce SQL "sequel".

Criteria: Specifying criteria in your query allows you to set conditions which limit the results returned by the query to only those data that you are interested in. Criteria are viewed and maintained on the "Criteria" tab. Example: You may want to set criteria to limit your query to retrieve a relevant subset of data such as active undergraduate students as opposed to returning results for all active students.

Join: The process of combining data from two or more tables using matching columns.

Public Query: Public queries are viewable and editable by any user with access to Query Manager and the proper table access. Public queries are available for use by many different users, so please **do not save** any changes that you make to a public query.

Private Query: Private queries are only viewable by the individual who created the query.

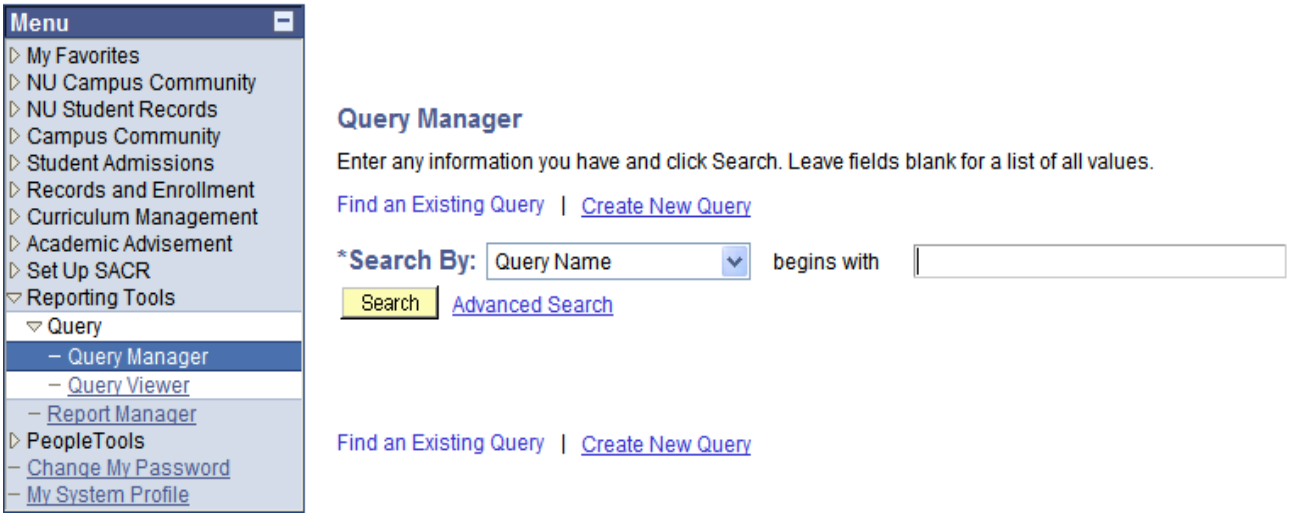
Primary Key: A column in a table whose values uniquely identify the rows in the table. A primary key value cannot be NULL.

Foreign Key: A column in a table that does NOT uniquely identify rows in that table, but is used as a link to matching columns in other tables to indicate a relationship.

Definitions courtesy of http://www.orafaq.com/

Navigation to Query Manager:

From the Menu, Navigate to Reporting Tools → Query → Query Manager



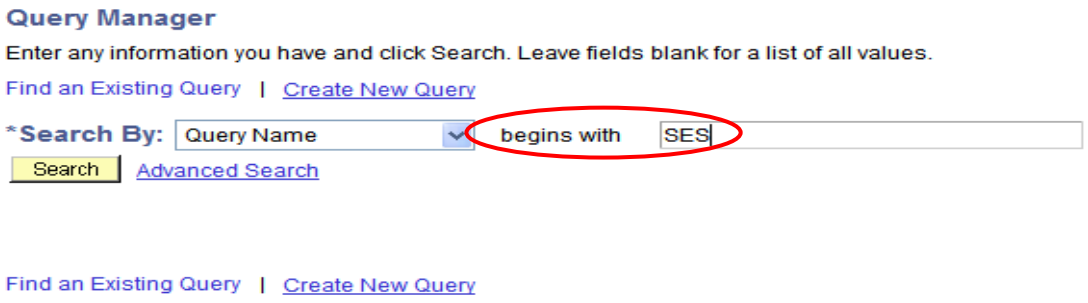
II – Using the Query Tool:

This section will cover:

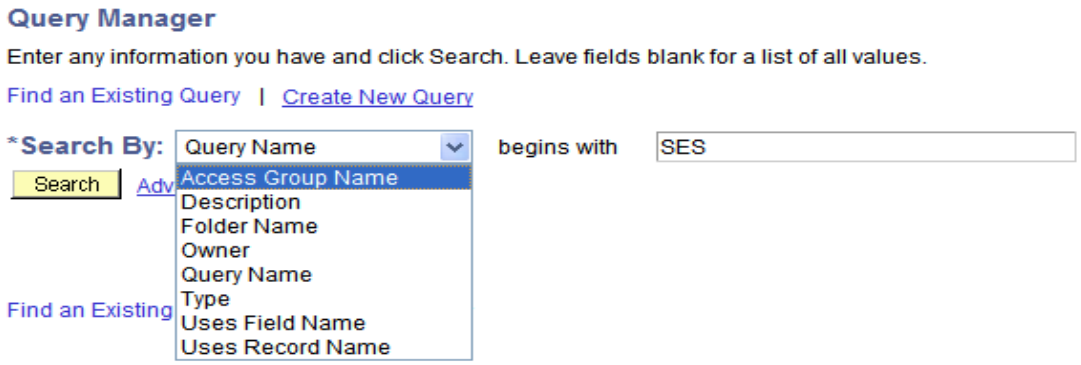
- Searching for queries
- Running queries
  - Exporting results to Microsoft Excel or CSV
- Viewing/Editing Existing Queries
  - Using existing queries to create your own queries

Searching for an Existing Query:

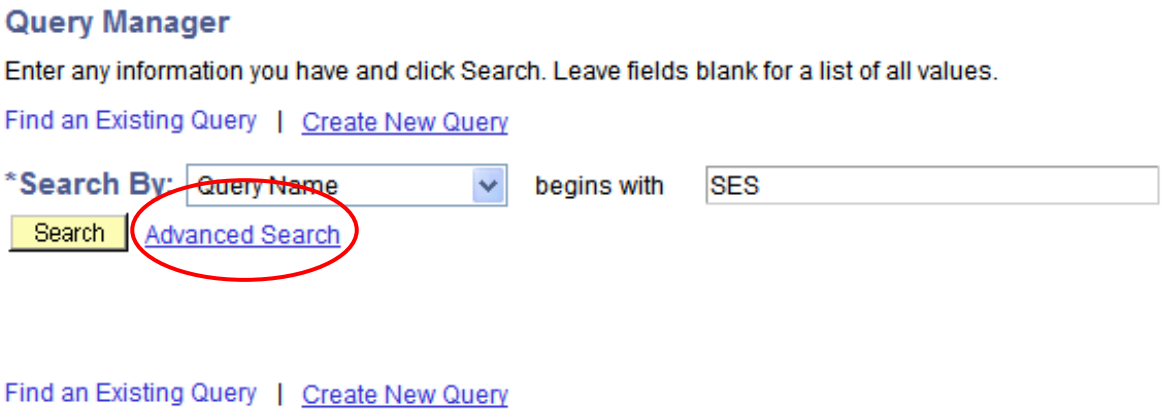
1. To view/find an existing query, type your search criteria in the text box, as shown below. In this **example**, we are trying to find queries in which the name **begins** with "SES".



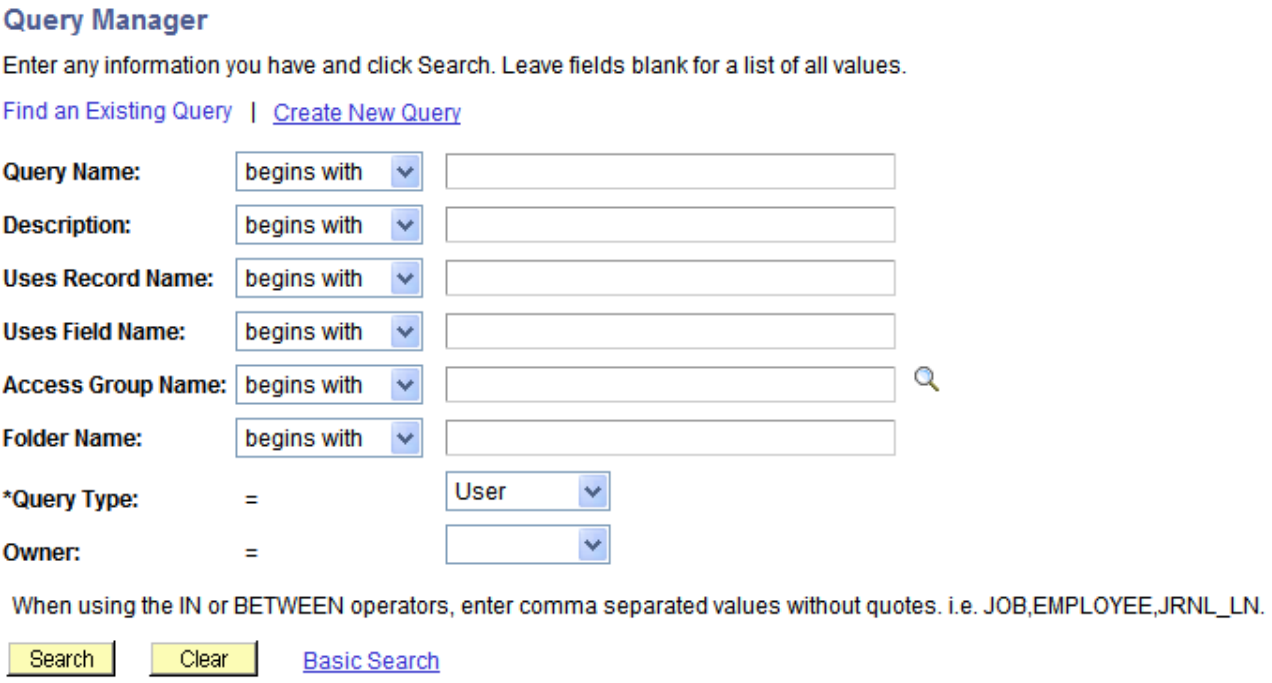
2. To change how you search for an existing query, you can change the **"Search By"** options by selecting a different value in the dropdown list as show below.



3. For even more search options you may click on the blue **Advanced Search** link shown below.



4. The search options shown below will allow you to specify more exact search parameters.



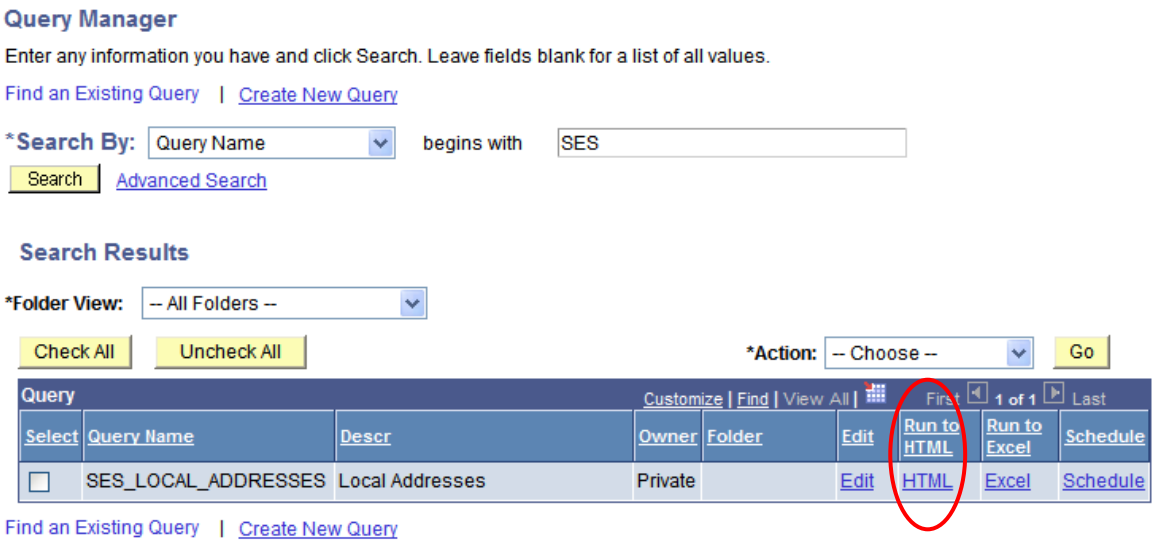
Running an Existing Query:

There are two ways to run a query:

- From the Query Search Results
- From Query Manager

Query Search Results

After you have successfully searched and found the query you are interested in, you can run the query by clicking on the blue **HTML** link under the "**Run to HTML**" heading. (See below) This will open up a new window and allow you view the query results in your web browser. Note: If there are run-time prompts associated with the query, they will be shown in the top-left corner of the new window. Prompts will be covered later on in this document.

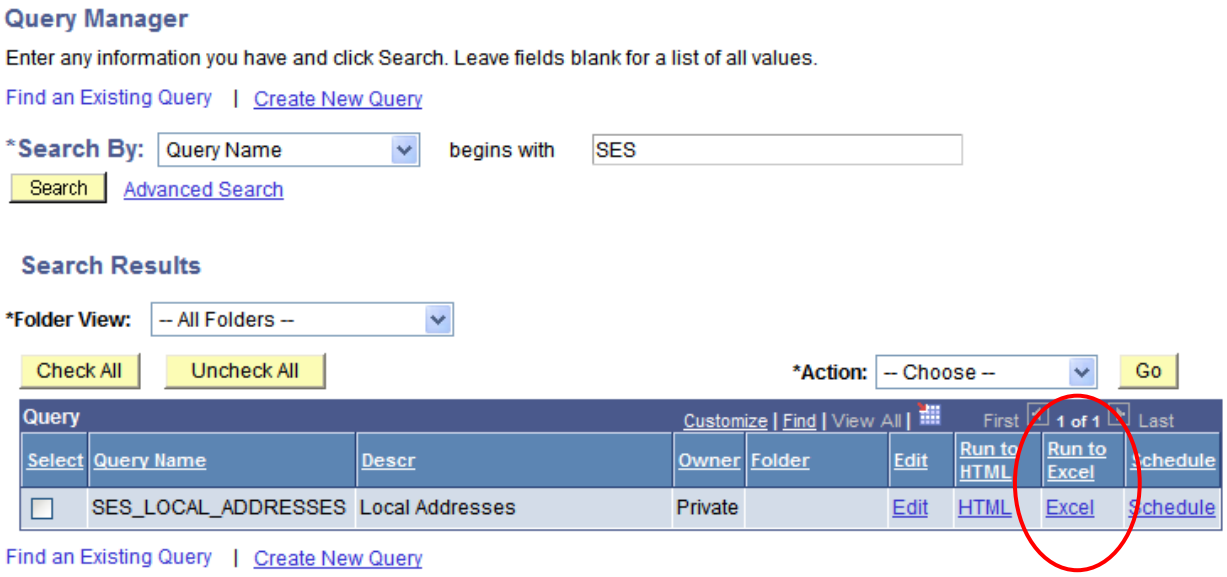


a) To download the results to a Microsoft **Excel** spreadsheet, left-click on the **Excel Spreadsheet** link shown below. You will be prompted to open or save the file. You can also create a **comma-separated** file (or CSV) by clicking on the **CSV Text File** link.

View All First 1-19 of 19 Last

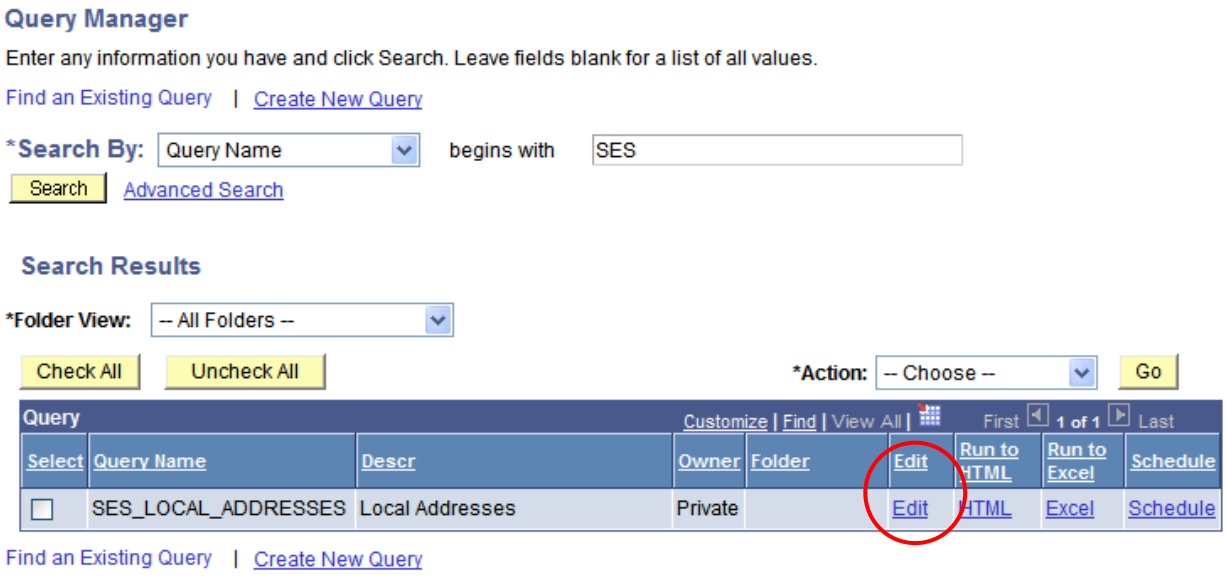
	ID	Term	Wdraw Code	Career	Prim Prog	Strt Level	Acad Load	Name	Address 1	Address 2	City	State	Postal	Acad Plan	Exp Grad
1	XXXXXXX	4290	NWD	UGRD	06SPC	30	F	Wilson,Courtney Amanda	1234 Anywhere St	Residence Hall #1	Evanston	IL	602012980	04L12-MAJ2	
2	XXXXXXX	4290	NWD	UGRD	06SPC	30	F	Wilson,Courtney Amanda	1111 Wildcat Ave	Residence Hall #2	Evanston	IL	602012980	06C40-BSSP	
3	XXXXXXX	4290	NWD	UGRD	06SPC	20	F	Wilson,Daniel Alexander	2222 Purple Lane	Residence Hall #2	Evanston	IL	602015093	06P05-BSSP	

b) A query can also be run to Microsoft **Excel** spreadsheet directly from the search results screen as shown below. Left-click on the blue **Excel** link under the "**Run to Excel**" heading. (See below) You will be prompted to open or save the file.

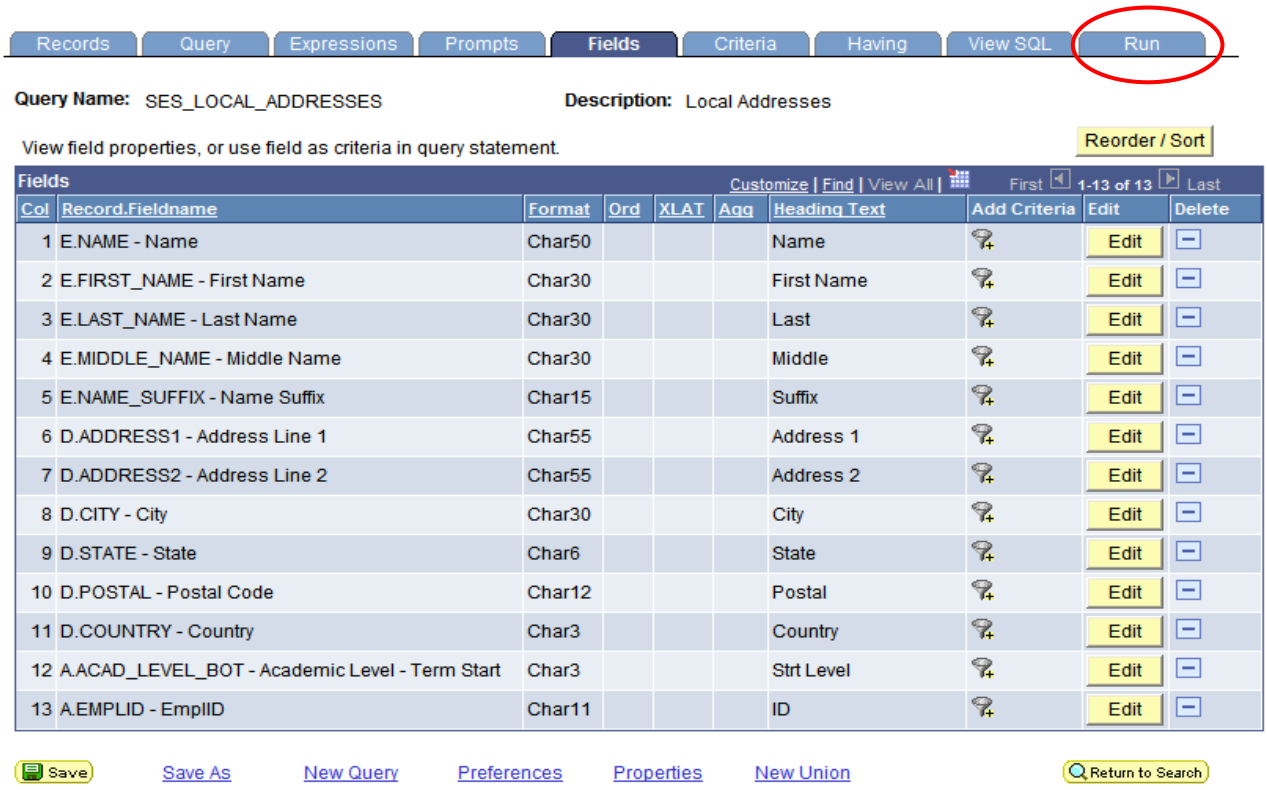


Query Manager

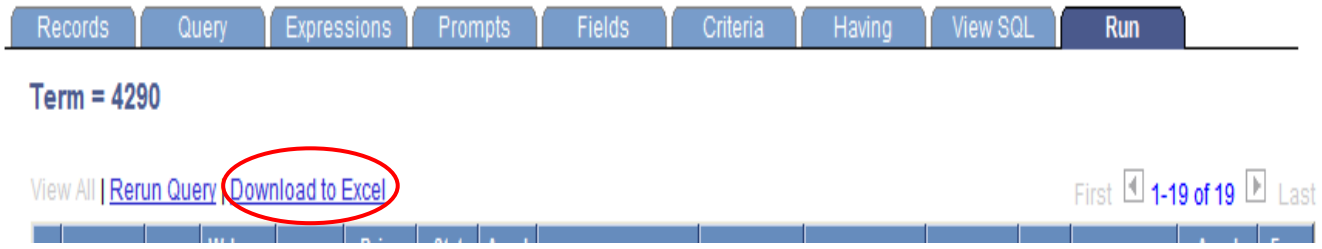
The query can also be run from inside Query Manager. Select the blue **Edit** link as shown below



Select the **Run** tab as shown below. If there are prompts, they will display on the top left-hand corner. The results of the query will be displayed in the same window.



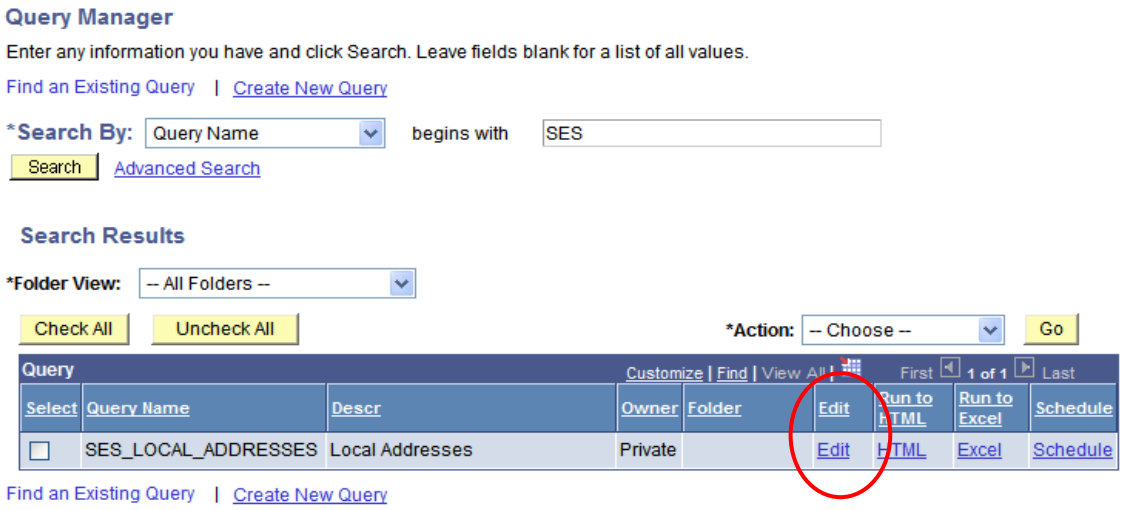
To Export the query results to Excel while in Query Manager, you will need to **left-click on the blue "Download to Excel" link below, while holding down the CTRL button on your keyboard. Continue to hold the CTRL button as you choose to either open or save your file.**



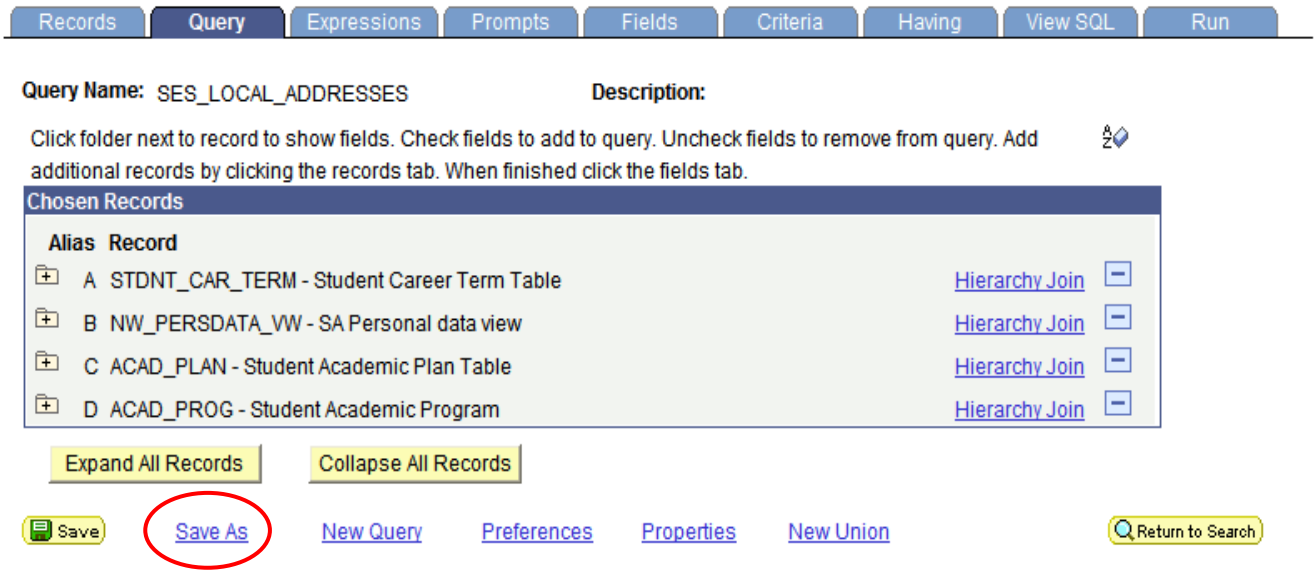
Note: To return to the Query Manager Search page, click on the Return to Search button or use your left-hand menu to navigate to Reporting Tools → Query → Query Manager.

Viewing/Editing an Existing Query:

After you have successfully searched and found the query you are interested in viewing, you can see the records, fields, and criteria used by selecting the blue **Edit** link as shown below. The query will open up in Query Manager and you will be able to view all of the tabs that contain data relating to the setup of the query.



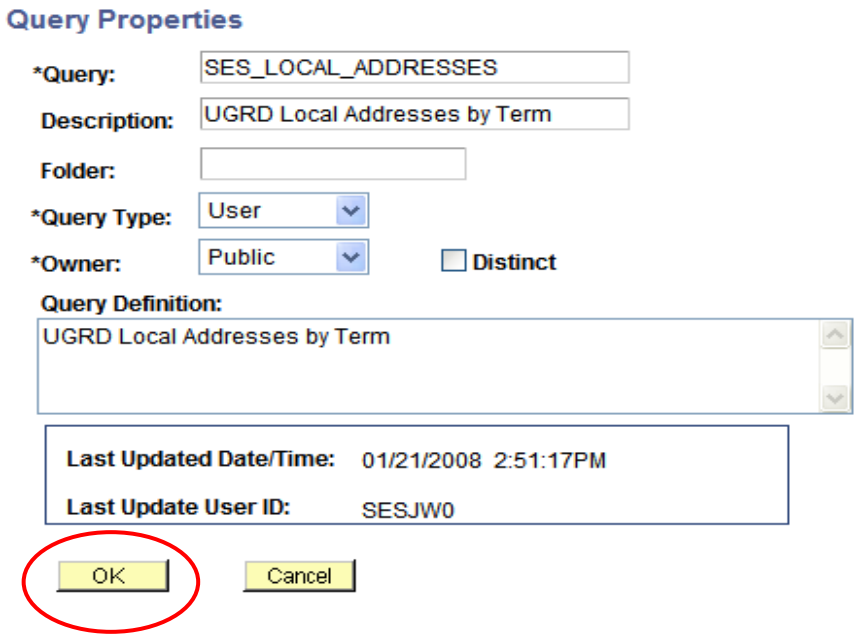
If you would like to modify a public query, create a copy of the query by clicking on the Save As link shown below. Reasons for editing a public query may include, but are not limited to, adding/removing a field, changing criteria, etc.



Saving Queries

Queries can be saved from any Query Manager page (except for the Run page) by clicking either the Save button or the Save As link.

You must enter some basic information about the query before the system allows you to save it. A query can be saved at any time after you have selected one record and at least one field for it.

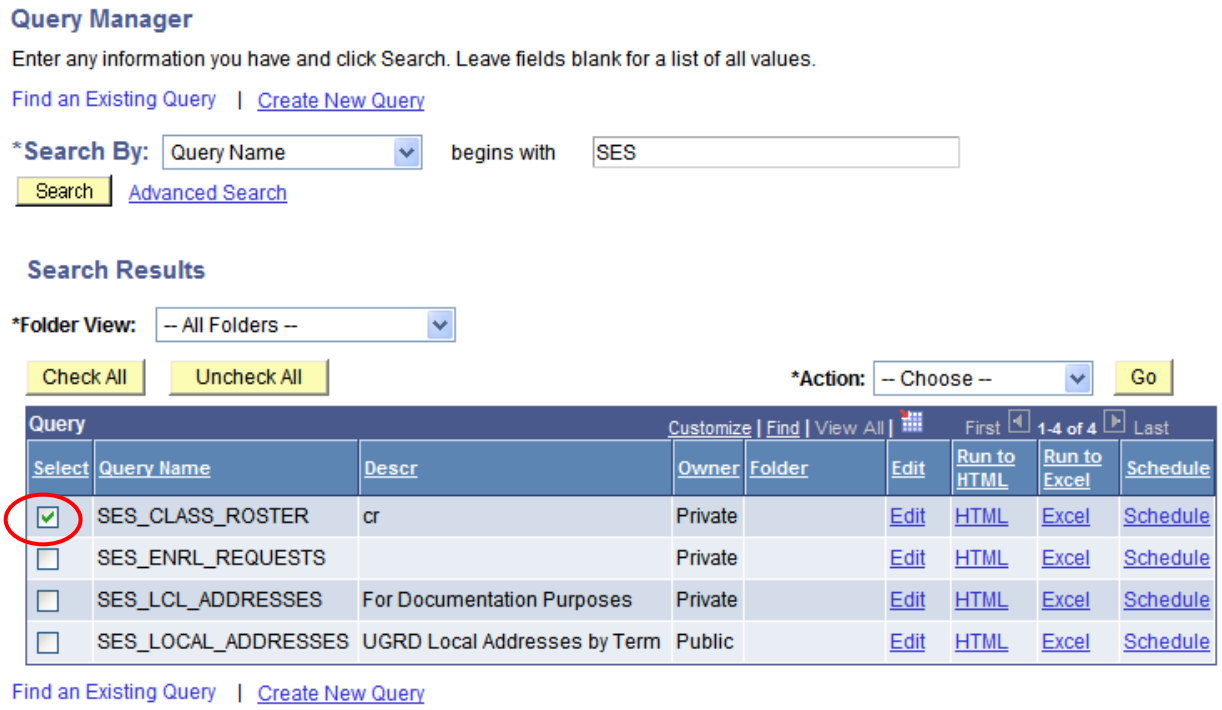


Query: This field is for the query name. If public, please append your SES ID or your department abbreviation as a prefix. No spaces or special characters are allowed except an underscore (30 Character Limit)
Description: Provide a short meaningful description (30 Character Limit)
Folder: N/A
Query Type: Please select "User" in this field
Owner: Choose Public or Private Ownership depending on whether you want others to access your query. (See definitions on page 2)
Query Definition: Provide a detailed description of the query and its purpose.

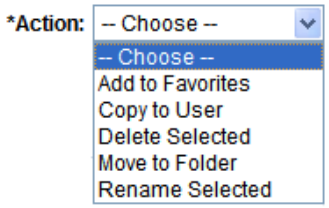
Click on "OK" to save the query.

Deleting Queries

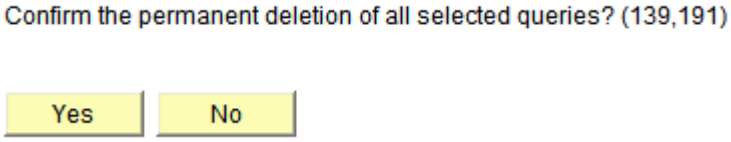
To delete a query or queries, search for the appropriate query using the page shown below. (Please only delete queries that you have created)



Once you have found the query you wish to delete, place a check in the box to the left of the query name and choose **Delete Selected** from the **Action** drop down list. (Shown below)



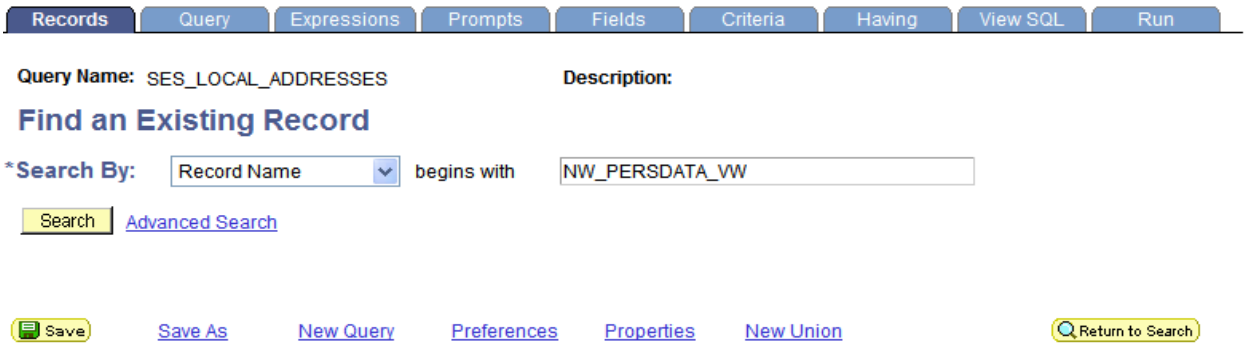
Once you have done this, select the Go button. The following page will appear.



Select **"Yes"**

Records Tab

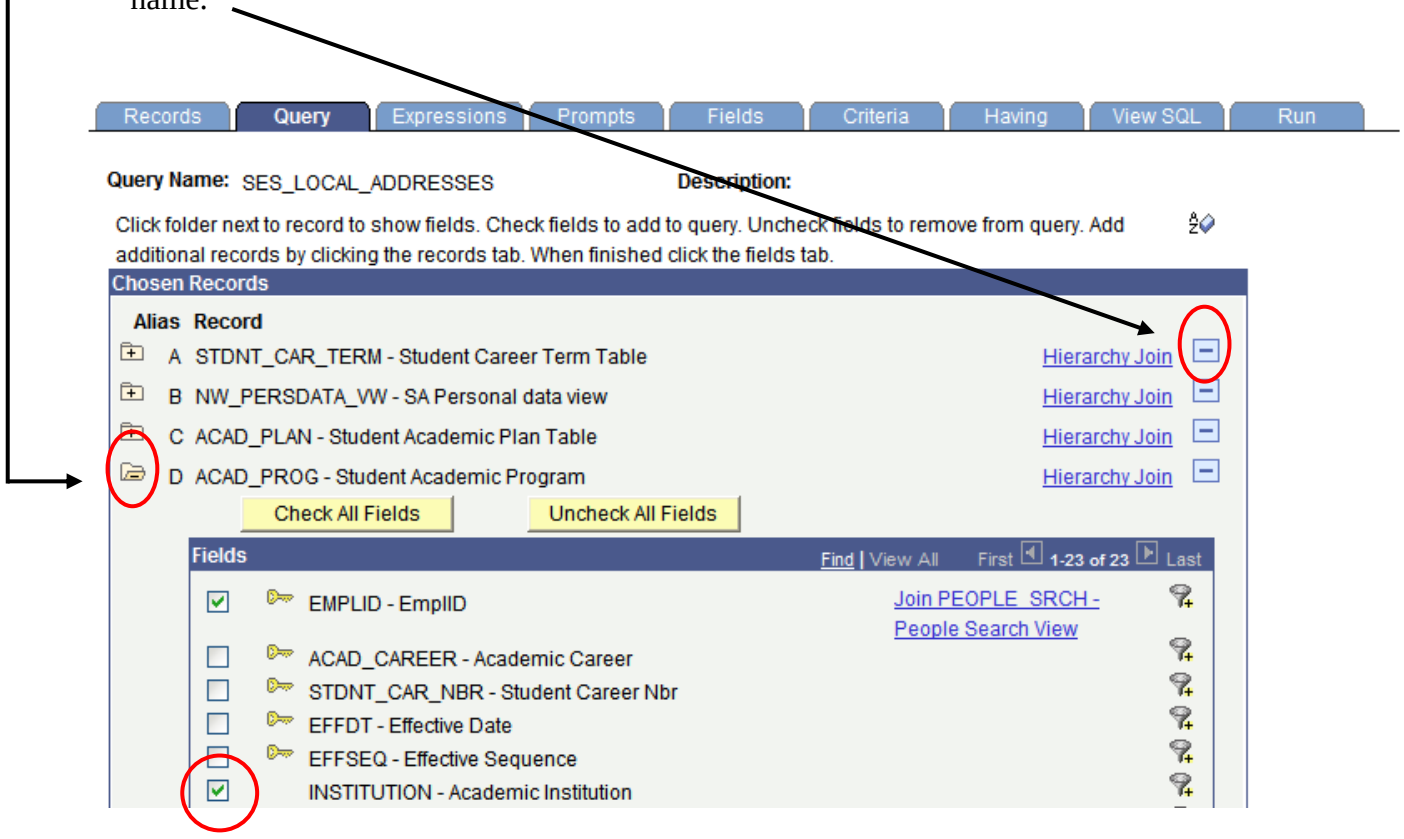
The records tab allows you to add records (tables) to a query. To add a record, search for it using the criteria below. The advanced search option allows you to specify additional criterion.



Query Tab

The query tab displays the records (tables) that are being used in the query.

- By clicking on a folder icon (below) to the left of the record name, you can select fields to add or remove from the output of the query. (Use the checkboxes underneath the expanded record)
- To remove a record (table) from the query, select the minus symbol to the right of the record name.

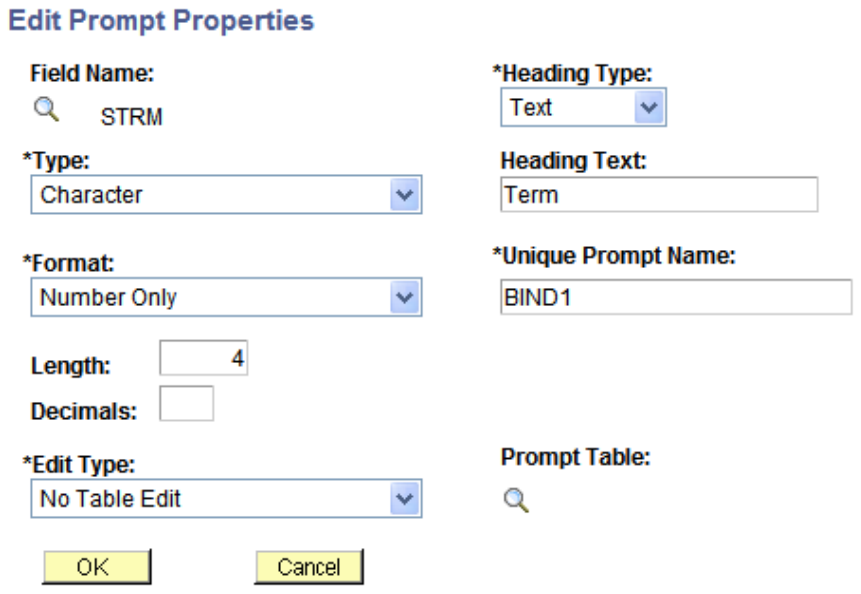


Prompts Tab

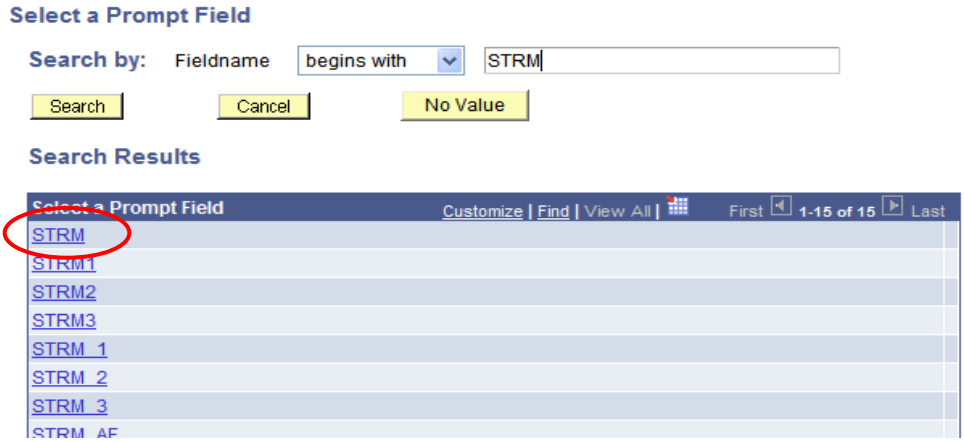
From the **Prompts Tab**, you can create or edit prompts that are executed when the query is run. The Prompt or Run-Time Prompt, as it is sometimes called, allows you to select a specific value each time you run your query. For instance, in the following example, we can create a prompt that will allow us to change the term we want to use each time the query is run.

- To create a new prompt, select the Add Prompt button below
- To edit a Prompt, select the Edit button below
- To delete a prompt click on the symbol below, to the right of the Edit button

After you have selected the Edit button, the following page will open.



You will need to click on the magnifying glass under the **Field Name** heading to search for the field you want to use in the prompt. Once you have found the field, select it by clicking on the field name, which is shown as a blue hyperlink. (Below)



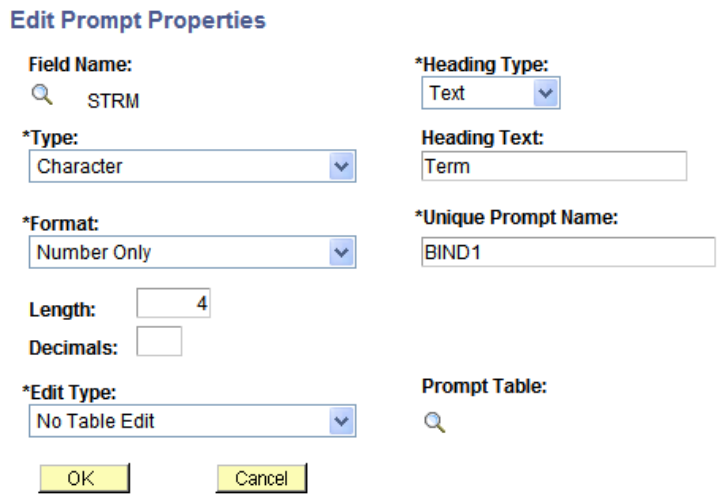
Once you have selected the field you want to use, PS Query will look to the Record (table) definition for information about this field and will automatically fill out the rest of the dialog box based on its (the field) properties.

Type - Indicates the type of the field.
Format - Specifies the field format. Several formats are available, including Name, Phone, Social Security Number, and Zip Code
Length - Indicates the field length
Decimals - Defines the number of decimals that are allowed.
Edit Type - Defines the type of field edit for the specified field. **No Table Edit** is the default. In general, you should use the same edit type that is used in the field record definition.
Heading Type - Select a heading type for the prompt from the following values:

- Text: The prompt heading is the free text that you have entered in the text box.
- RFT Short: The prompt heading is the short name from the record definition.
- RFT Long: The prompt heading is the long name from the record definition.

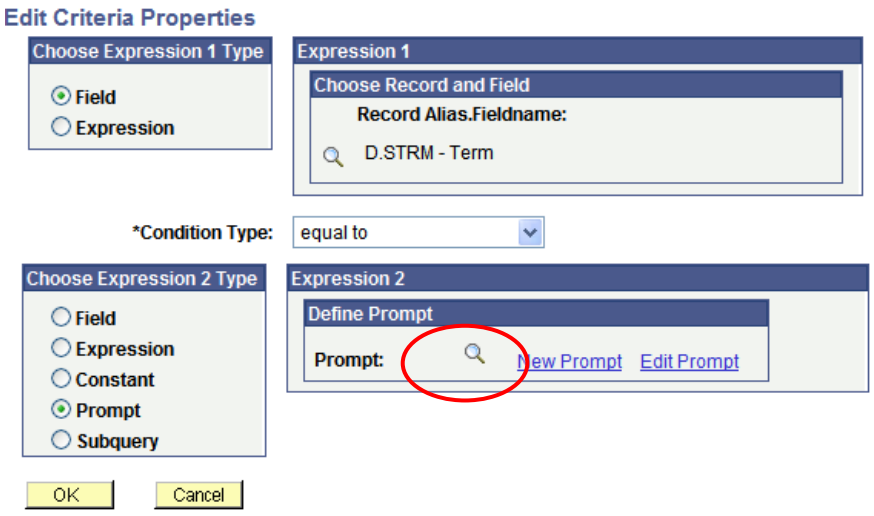
Heading Text - Displays the label for the text box where you enter the comparison value. To change the text, select *Text* from the Heading Type list box, and then enter the new label in the Heading Text text box
Unique Prompt Name – This is a default value generated by Query Manager.
Prompt Table - If the edit type is *Prompt Table*, you can select a prompt table to use. If the edit type is *Translate Table*, the value in the drop-down list box determines the values used. PeopleSoft Query assumes that the specified field has translate table values associated with it, and that the field is identified as a translate table field in its record definition

Note. When using a prompt table on a field from a record (table) with multiple keys, you must prompt for all higher-level keys before lower-level keys. PS Query needs values for the higher-level keys to generate the correct prompt list. Because of this complication, you should not use multikey prompt tables.



To make the Prompt usable in the query, you will need to link it to a criterion.

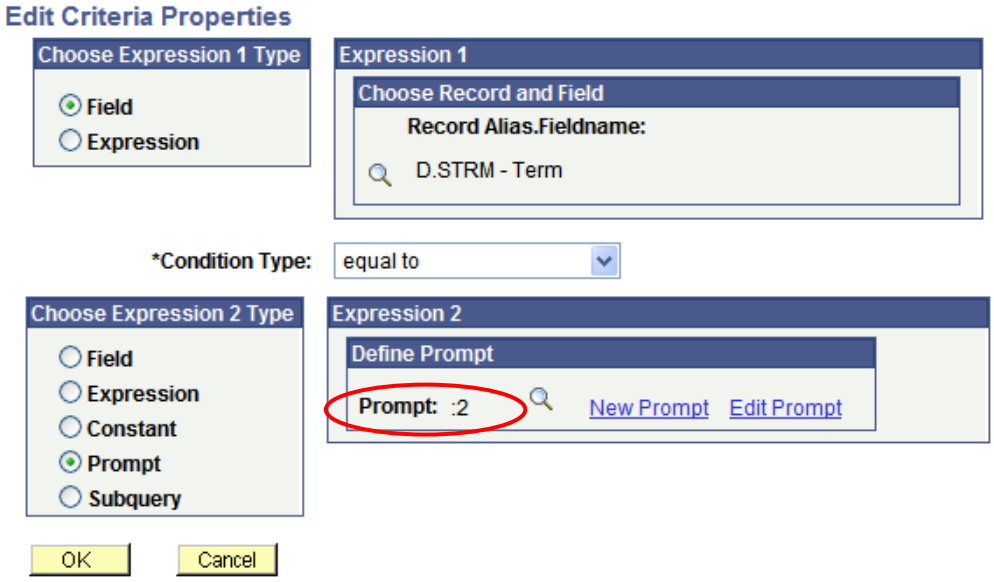
Click on the Add Criteria button on the **Criteria Tab** and the following page will open. In our example we are prompting for the **STRM** (Term) value.



Choose the **STRM** (Term) field for Expression 1 by using the lookup. Next you will want to choose the appropriate **Condition Type**. Finally, you will want to add the prompt that you created by using the lookup shown above. (For more detail on Editing Criteria Properties, see the Criteria section of this document)

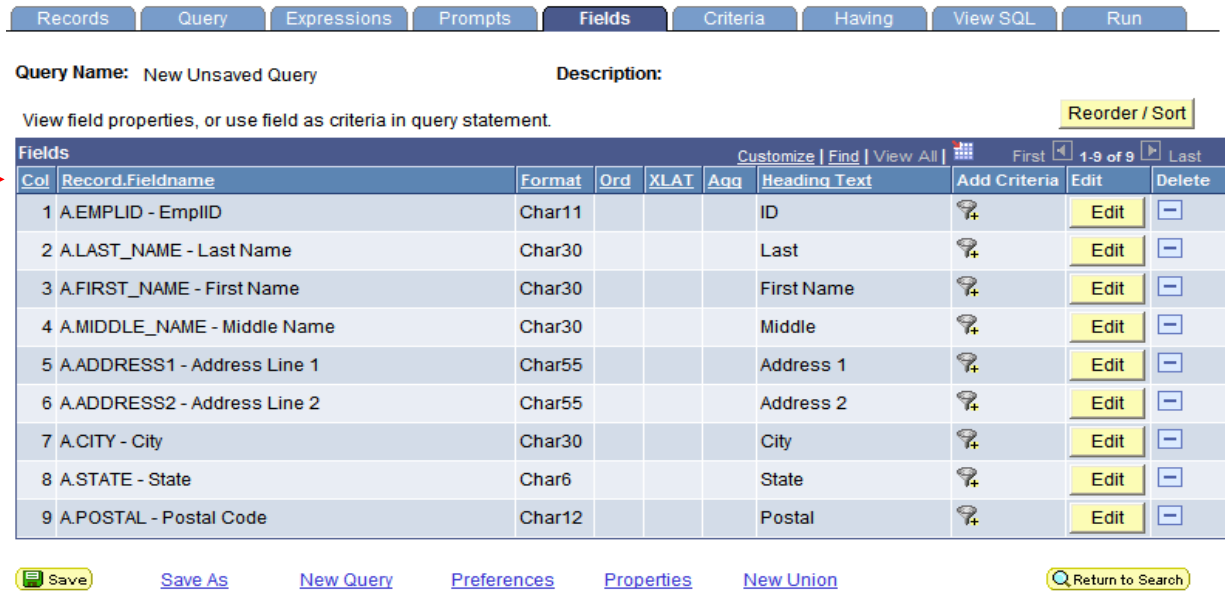
Once you have edited the Criteria to incorporate your prompt, it should look like the screenshot below. The number displayed in the Expression 2 text box (below) is the unique number given to your prompt in the case that your query utilizes multiple prompts.

Once satisfied, click OK to return to the Criteria page.



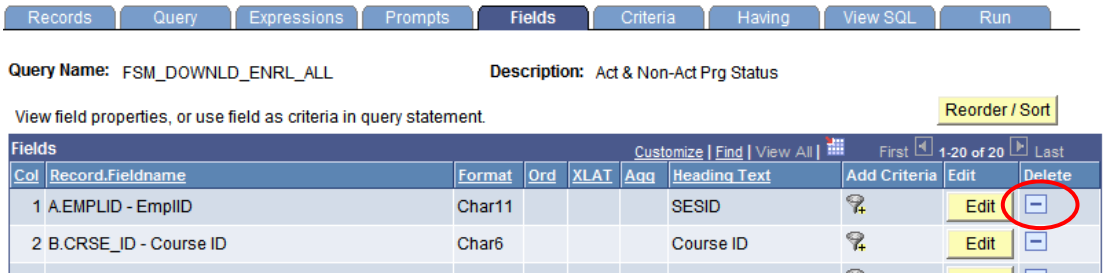
Fields Tab

The **Fields Tab** allows the user to view, edit, and format the fields (columns) that are used in the query.



- **Col –** The order in which the fields are displayed when the query is run. (left to right)
- **Record.Fieldname –** Record Alias (A, B, C, etc.) & Field Name separated by a period. The Record Alias refers to the records as they appear on the Records tab.
- **Format –** Field type and length
- **Ord –** Shows if the query results will be sorted and in what order (1, 2, etc.)
- **XLAT –** Specifies the translate value that you want to appear in the query results: N (none), S (short), or L (long). The table you are querying may include fields that use the translate table. If so, the field itself contains a short code of some kind, for which the Translate table provides a set of corresponding values.
- **Agg –** Will display if field is an aggregate (Sum, Count, Min, Max, Avg)
- **Heading Text** - The column name displayed in the query output.

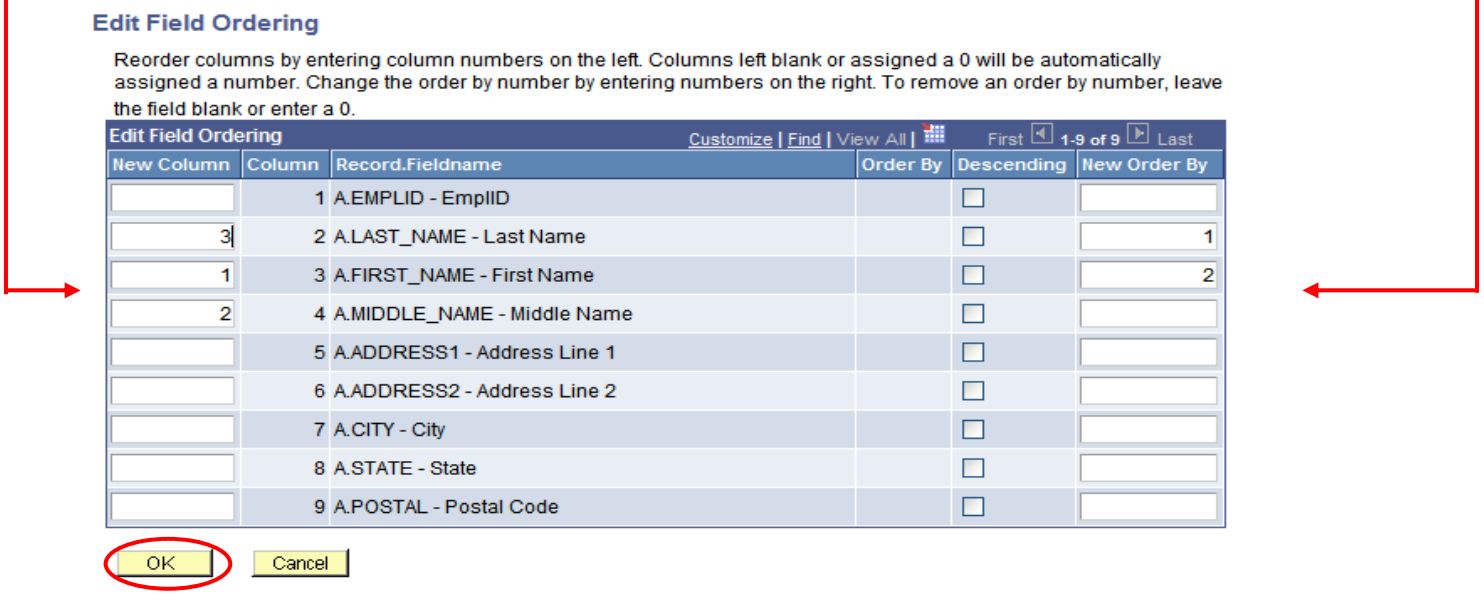
To remove a field from the output of the query, simply select the **Minus** button under the **Delete** heading as shown below.



Sorting & Reordering Columns

To **Sort** and/or **Order** the fields in a particular format, click on the Reorder / Sort button on the main Fields Tab page and the following page will open.

- To change the column (field) order (left to right); simply enter the new numbers on the left under the **New Column** heading. (In the example below the columns will change in order accordingly – First Name, Middle Name, Last Name)
- To change or create a new pattern for how the data is sorted; simply enter the numbers on the right under the **New Order By** column. Ascending (A-Z) order is the default. (In the screen shot below, the results will be sorted by Last Name then by First Name)
- When you are finished, click on the OK button.



Edit Field Ordering

Reorder columns by entering column numbers on the left. Columns left blank or assigned a 0 will be automatically assigned a number. Change the order by number by entering numbers on the right. To remove an order by number, leave the field blank or enter a 0.

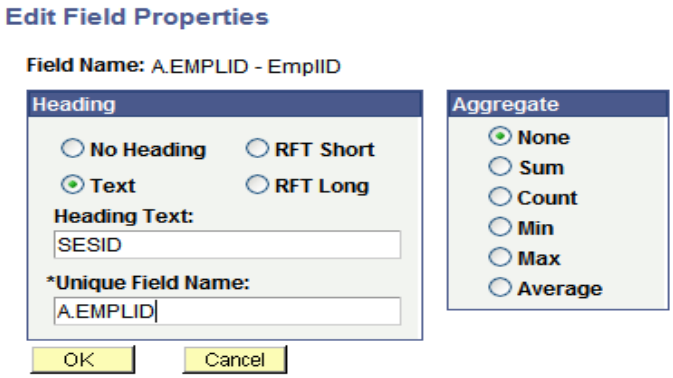
Edit Field Ordering — Customize | Find | View All | First 1-9 of 9 Last

New Column	Column	Record.Fieldname	Order By	Descending	New Order By
	1	A.EMPLID - EmplID		☐	
3	2	A.LAST_NAME - Last Name		☐	1
1	3	A.FIRST_NAME - First Name		☐	2
2	4	A.MIDDLE_NAME - Middle Name		☐	
	5	A.ADDRESS1 - Address Line 1		☐	
	6	A.ADDRESS2 - Address Line 2		☐	
	7	A.CITY - City		☐	
	8	A.STATE - State		☐	
	9	A.POSTAL - Postal Code		☐	

OK Cancel

Field Headings

To change the **field heading text** in the output, click on the Edit button to the right of the field on the main Fields Tab page and the following page will open. Enter your new field name in the **Heading Text** box and choose **Text** radio button as shown below. It is recommended that you <u>do not change</u> the **Unique Field Name**.



Edit Field Properties

Field Name: A.EMPLID - EmplID

Heading

○ No Heading ○ RFT Short
◉ Text ○ RFT Long

Heading Text: SESID

*Unique Field Name: A.EMPLID

OK Cancel

Aggregate

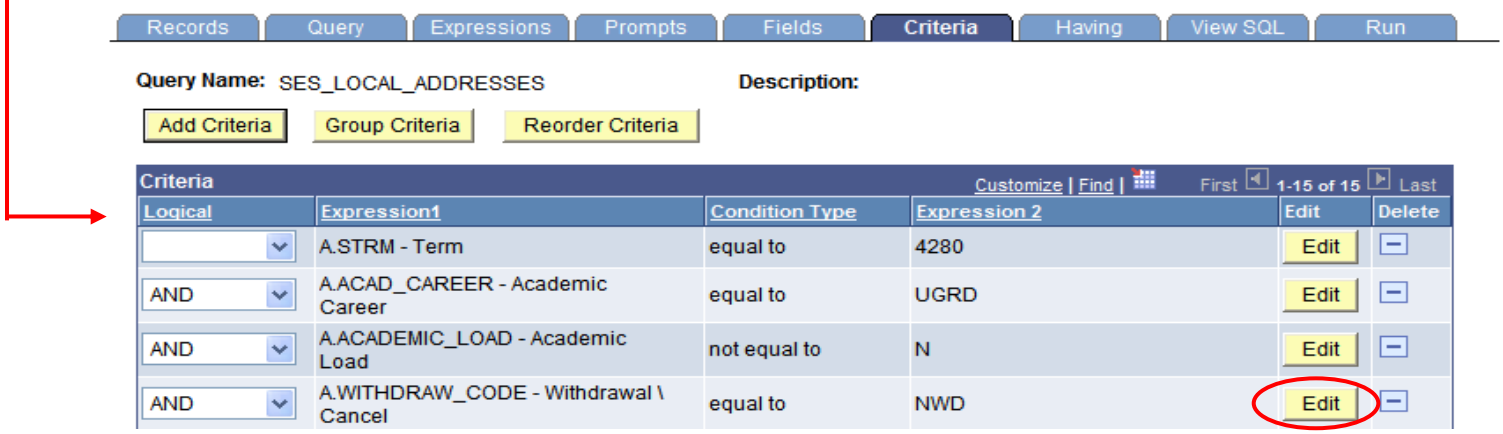
◉ None
○ Sum
○ Count
○ Min
○ Max
○ Average

Criteria Tab

The criteria tab allows you to view the filtering logic used in the query. (See Page 2 for Criteria Definition)

The column headings with the Criteria Page can be described as follows:

- **Logical** – Represents how the criteria rows will be compared with each other, **AND** or **OR**, **Blank** for the first Criterion; defaults to **AND** for subsequent rows. The **AND** operator indicates that the resulting data must meet two criteria simultaneously, the **OR** operator indicates that the resulting data must match one or the other criteria.
- **Expression 1** – Used to specify the field you are comparing
- **Condition Type** – States how **Expression 1** is to be compared with **Expression 2**. Click on Edit and then drop down arrow by **Condition Type** to see a listing of Condition Types (Operators)
- **Expression 2** – Expression 1 can be compared to a Constant, a field from another Record, or values entered in a Prompt.

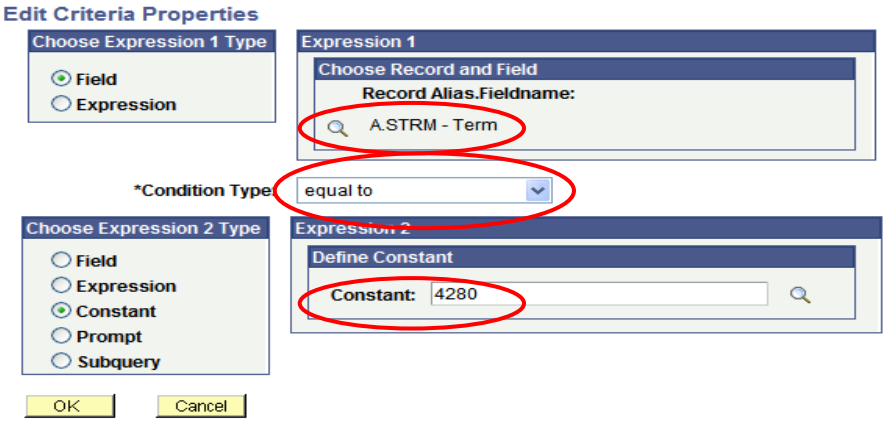


In the screen shot above, you will see the criterion limiting the query results (Top to Bottom):

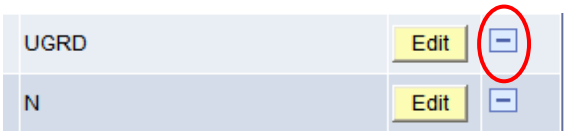
- **Fall 2007 Term (4280)**
- **Undergraduates**
- **Academic Load not equal to "No Unit Load"**
- **Not in "Withdrawn" status**

You will notice that this query is limited to show enrolled Undergraduates and their addresses for the Fall 2007 term (4280).

a) **Edit Criteria –** Select the Edit button to the right of the Criteria window (above), and it will open the following page. This criterion is telling the query to only return records where the field **Term** (Expression 1) is **equal** to **4280** (Expression 2).

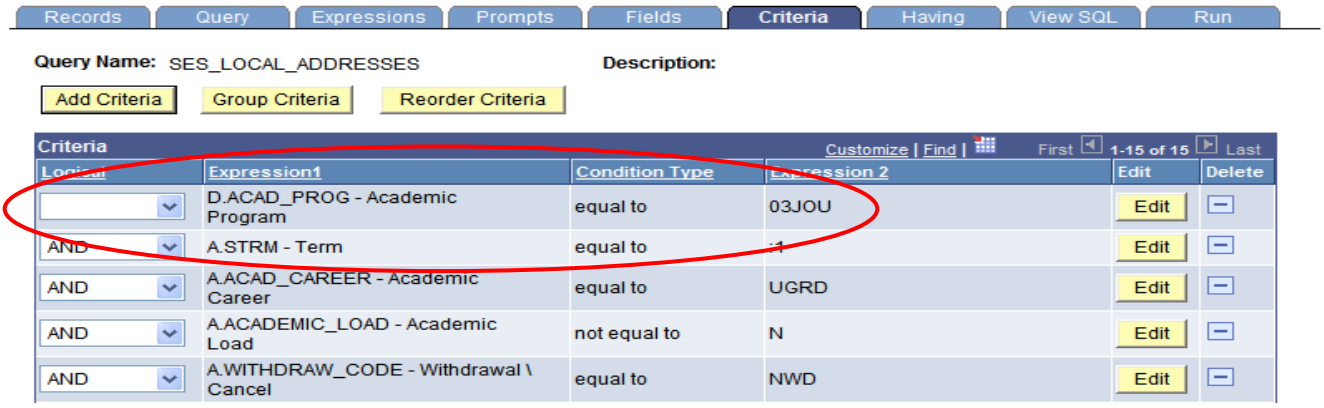


b) **To Remove Criteria -** On the main criteria page**,** simply click on the **minus** symbol as shown below.



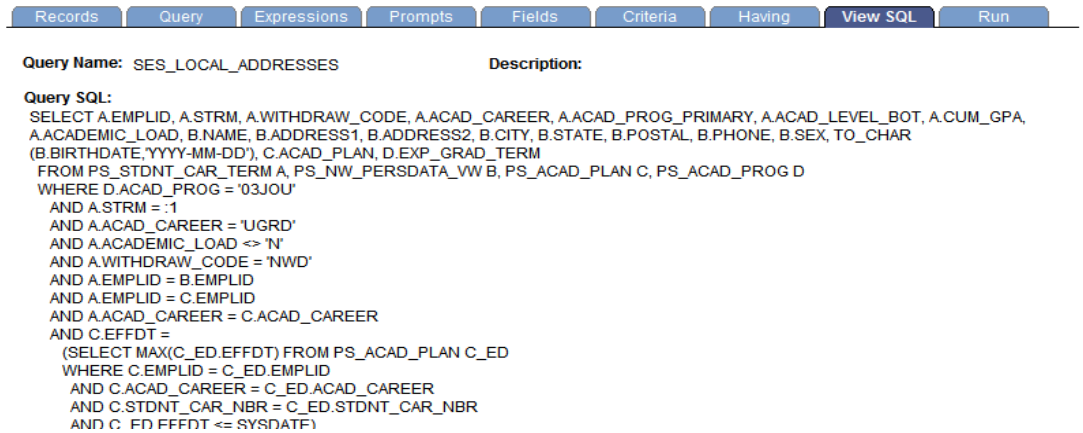
c) **Chunking** – Occasionally, a query may run too slowly, or even stop if it is trying to handle too much data at once. Chunking is an effective way of breaking a large query into smaller segments, by using Criteria.

In the example below, we are restricting the results to **Undergraduate** students who are part of the **Journalism** Program. You can now run this to an Excel or CSV file and compile all of your results in an off-line spreadsheet.



View SQL Tab

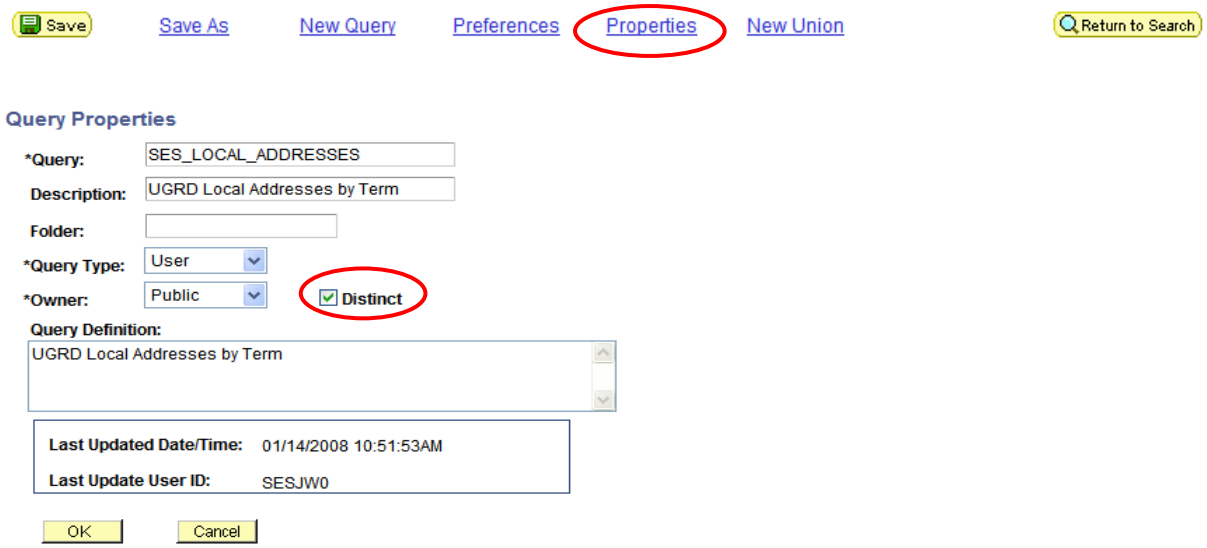
The View SQL tab displays the SQL statement created as you assemble your query. PS Query uses the SQL (Structured Query Language) syntax to generate the query. This tab is **view-only** and typically is not used by end-users. You may be asked to provide the SQL for your query if you need help troubleshooting a query. This tab is where you would find the SQL in order to copy and paste it into an email.



Making Query Results Distinct

By clicking on the **Distinct** checkbox, duplicate rows of output will be prevented from being created. Each row will have at least one unique feature.

Try to use this feature to eliminate duplicate rows only when you absolutely need to, as it may have a negative impact on the performance of your query and/or hide the fact that the query contains incorrect logic. Try not to use **Distinct** until you have looked at the results *without* using **Distinct** and (if necessary) pulled in enough key fields from all essential tables to try and identify exactly which key fields are different among the "duplicate" rows

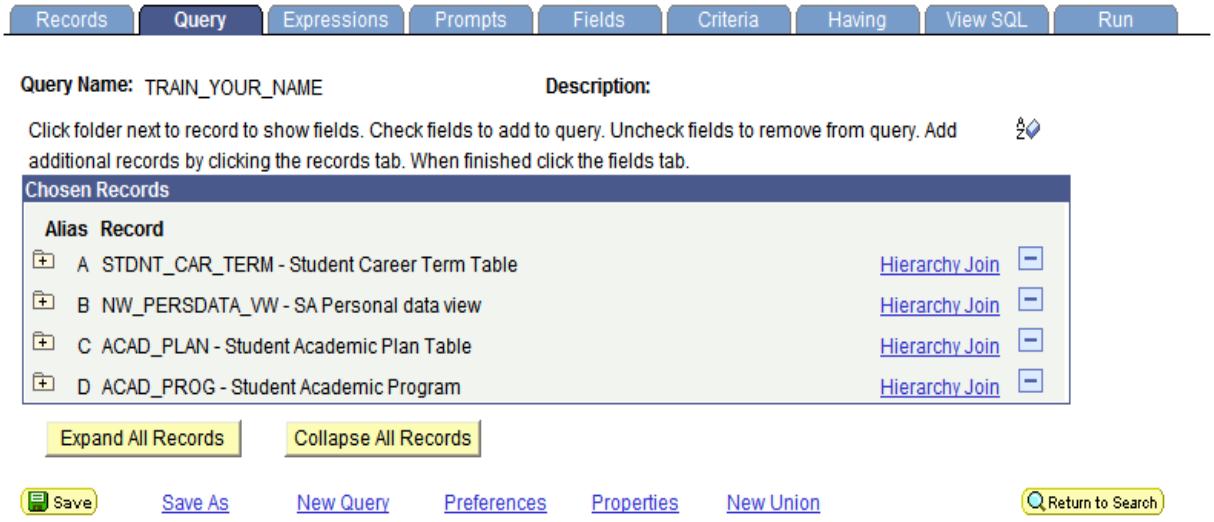


III – Exercise: Editing an Existing Query:

Editing an existing Query

Open the following Query:

TRAIN_YOUR_NAME (Where YOUR_NAME is actually your name)



Remove the following fields from the Query:
- Expected Grad Term (EXP_GRAD_TERM)
- Withdraw Code (WITHDRAW_CODE)

Add the following fields to the Query:
- Middle Name (MIDDLE_NAME)
- Admit Term (ADMIT_TERM)
- Campus (CAMPUS)

Change the heading text for the following fields:
- Emplid – Change from **ID** to **Emplid**
- Last Name – Change from **Last** to **Last Name**
- Middle Name – Change from **Middle** to **Middle Name**
- Postal – Change from **Postal** to **Zip Code.**

Reorder the following Fields/Columns:
- **Academic Plan** should be after Primary Academic Program
- **Middle name** should be between First and Last Name
- **Campus** should be after Academic Load

Sort the output fields in the following order:

- Last Name, First Name

Edit/Remove the following Criterion:

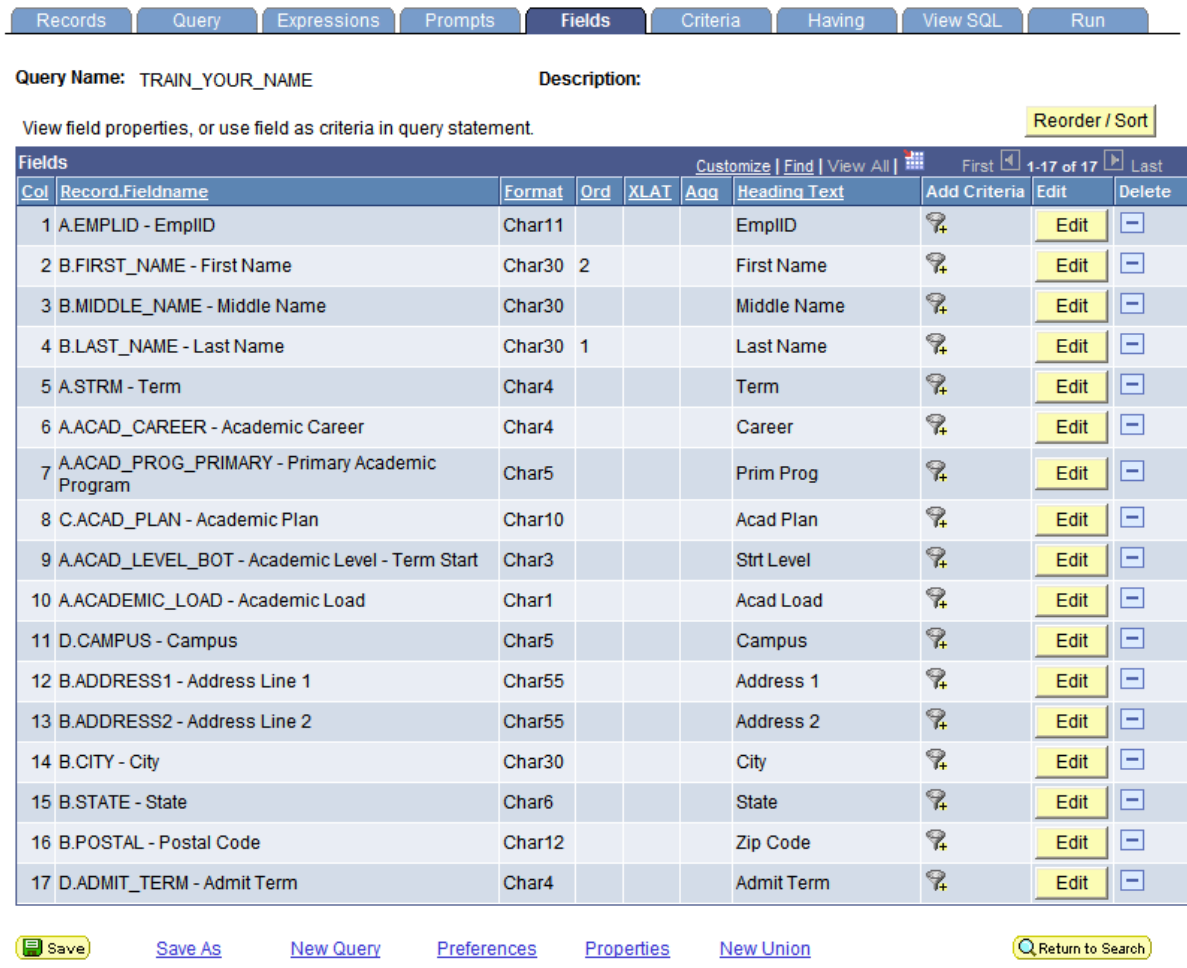
- **Last Name –** Change to "Jones"
- **Career –** Change to "TGS"
- **Academic Load –** Remove this criteria

Edit/Save Query Properties

- Make sure your query is Private
- Be sure to provide meaningful text in the Description and Query Definition fields

Run Your Query and see if it works!

After you have finished, your Fields and Criteria tabs should match the screen shots below.



Records | Query | Expressions | Prompts | **Fields** | Criteria | Having | View SQL | Run

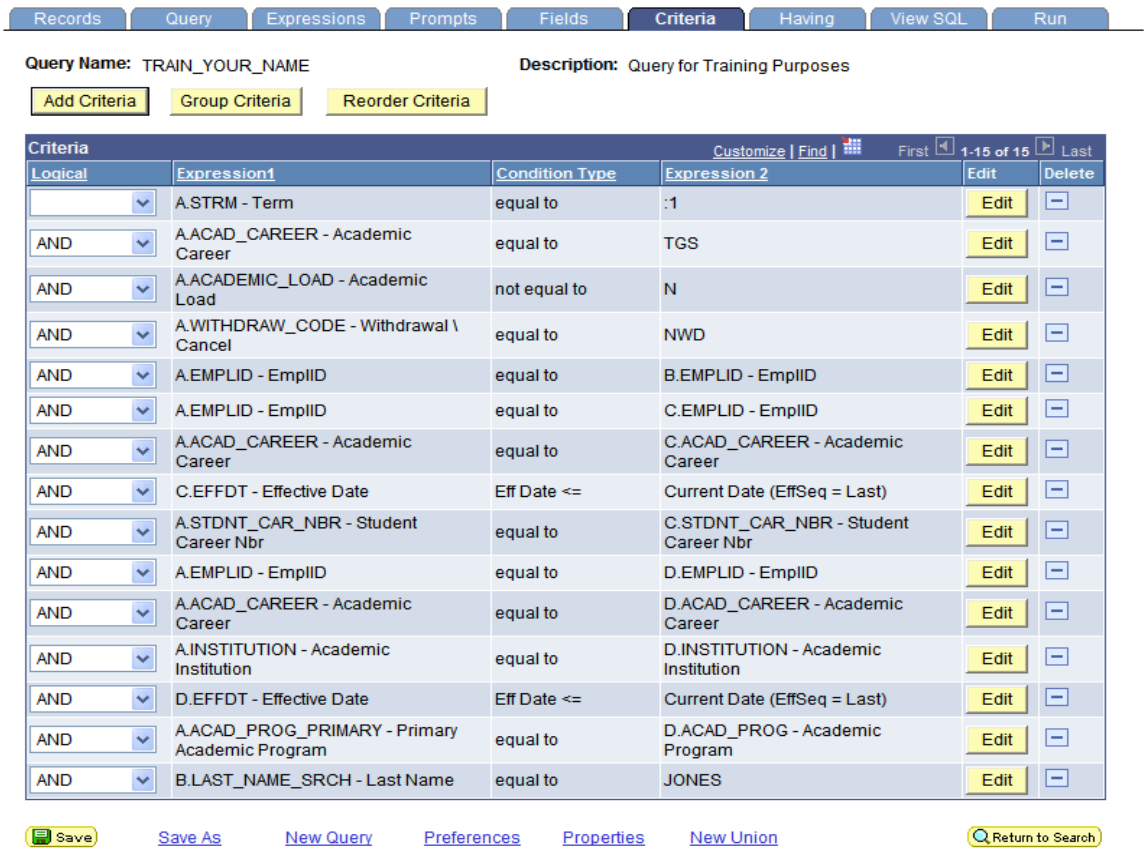
Query Name: TRAIN_YOUR_NAME **Description:**

View field properties, or use field as criteria in query statement. Reorder / Sort

Fields Customize | Find | View All | First 1-17 of 17 Last

Col	Record.Fieldname	Format	Ord	XLAT	Agg	Heading Text	Add Criteria	Edit	Delete
1	A.EMPLID - EmplID	Char11				EmplID		Edit	
2	B.FIRST_NAME - First Name	Char30	2			First Name		Edit	
3	B.MIDDLE_NAME - Middle Name	Char30				Middle Name		Edit	
4	B.LAST_NAME - Last Name	Char30	1			Last Name		Edit	
5	A.STRM - Term	Char4				Term		Edit	
6	A.ACAD_CAREER - Academic Career	Char4				Career		Edit	
7	A.ACAD_PROG_PRIMARY - Primary Academic Program	Char5				Prim Prog		Edit	
8	C.ACAD_PLAN - Academic Plan	Char10				Acad Plan		Edit	
9	A.ACAD_LEVEL_BOT - Academic Level - Term Start	Char3				Strt Level		Edit	
10	A.ACADEMIC_LOAD - Academic Load	Char1				Acad Load		Edit	
11	D.CAMPUS - Campus	Char5				Campus		Edit	
12	B.ADDRESS1 - Address Line 1	Char55				Address 1		Edit	
13	B.ADDRESS2 - Address Line 2	Char55				Address 2		Edit	
14	B.CITY - City	Char30				City		Edit	
15	B.STATE - State	Char6				State		Edit	
16	B.POSTAL - Postal Code	Char12				Zip Code		Edit	
17	D.ADMIT_TERM - Admit Term	Char4				Admit Term		Edit	

Save | Save As | New Query | Preferences | Properties | New Union | Return to Search


Records
Query
Expressions
Prompts
Fields
Criteria
Having
View SQL
Run
Query Name: TRAIN_YOUR_NAME
Description: Query for Training Purposes
Add Criteria
Group Criteria
Reorder Criteria
Criteria
Customize | Find |
First 1-15 of 15 Last
Logical
Expression1
Condition Type
Expression 2
Edit
Delete
A.STRM - Term
equal to
:1
AND
A.ACAD_CAREER - Academic Career
equal to
TGS
A.ACADEMIC_LOAD - Academic Load
not equal to
N
A.WITHDRAW_CODE - Withdrawal \ Cancel
NWD
A.EMPLID - EmplID
B.EMPLID - EmplID
C.EMPLID - EmplID
C.ACAD_CAREER - Academic Career
C.EFFDT - Effective Date
Eff Date <=
Current Date (EffSeq = Last)
A.STDNT_CAR_NBR - Student Career Nbr
C.STDNT_CAR_NBR - Student Career Nbr
D.EMPLID - EmplID
D.ACAD_CAREER - Academic Career
A.INSTITUTION - Academic Institution
D.INSTITUTION - Academic Institution
D.EFFDT - Effective Date
A.ACAD_PROG_PRIMARY - Primary Academic Program
D.ACAD_PROG - Academic Program
B.LAST_NAME_SRCH - Last Name
JONES
Edit
Save
Save As
New Query
Preferences
Properties
New Union
Return to Search

IV – Helpful Hints & Best Practices:

- **Build your queries piecemeal** - If you are building a query with multiple criteria, pull them in one at a time, and rerun the query after each criterion is added. Establish temporary criteria in order to limit your result set (Ex: Set Criteria for Emplid Range or a single Last Name). This allows you to control the output and identify whether the query is working correctly before you run it against your entire target population.

- **Don't re-invent the wheel –** Take advantage of what others have already done. There are several experienced query writers who have written queries that can be used by simply performing a "**Save As**" and renaming it for your own use.

- **Columns/Fields** - Only pull the columns into the query that you need. Having your query return and display unnecessary columns is wasting system resources. Also, not all tables and fields are populated.

- **Sorting** – If the query has a large result set, avoid sorts when running the query within the browser. If possible, do your sorting in Microsoft Excel. Sorting at run-time in PS Query can have a negative impact upon performance.

- **Functions** - Use functions in moderation, and try to only use the aggregate functions that are built into PS Query.

- **Security** - PS Query passes utilizes row-level security, which restricts which data you can see. If you don't normally have access to view data through the panels, you will be subject to the same restrictions in PS Query. Also, if you are searching for a record (table) you know is in the database and you do not see it; you probably do not have security access to it.

- **Calculated fields** - Avoid performing calculations on **key** fields.

- **Translate Values** - If you are trying to display a translate field in your query, you can manage this from within the field tab (XLAT Column) in Query Manager. Try and avoid joining a translate table just to display the translate value.

- **Expressions** - Use expressions only when necessary as they are not indexed and will take longer to process