PeopleSoft Query 201
Intermediate

Data Services

COMMUNITY AND
TECHNICAL COLLEGES
Washington State Board

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Course Goal

The goal of this course is to empower query Developers with the tools and skills needed to create and manage more complex queries.

Course Learning Objectives

At the end of this course users will:
- Be able to add criteria to a Left Outer Join.
- Be able to apply effective data logic to queries.
- Utilize queries of queries to effectively search for query data information.
- Efficiently find record and field information using the front end of PeopleSoft in conjunction with other tools.
- Gain the knowledge and skills to check your query results to be certain of query accuracy.
- Effectively apply Aggregate Functions to query results.
- Utilize the Having tab to add criteria to fields using Aggregate Functions.
- Be able to create Expressions to allow complex refining of query results.
- Understand BIND records and how they affect query development.
- Effectively use MetaLink to search and create query metadata.
- Understand how to run reports created with BI Publisher.

How to Use This Manual

The PS Query 201 Training Guide is comprised of 3 sections.

- Section 1 covers when and how criteria should be added to a join and how effective data can affect query results and how to use this functionality to achieve the desired output. We will also learn about how to use a query to search queries for specific information as well as how to find record and field information from the front end of PeopleSoft. Finally we will see how to best check the accuracy of query results.
- Section 2 is where we will learn how to apply Aggregate Functions and use the Having tab to add criteria to fields where Aggregate Functions have been applied. Finally, we will cover using Expressions in queries which will allow for complex refining of results.
- Section 3 details the effect of BIND records on queries and how to use Metalink for searching query, record and field, Report and Script metadata as well as how to run BI Publisher reports

Each section will include:

- Section Introduction
- Section Review
- Knowledge test
- Hands on exercises where appropriate

Section 1 Introduction

Welcome to PeopleSoft query 201 Intermediate Course!

At the end of this section you be able to overcome some common challenges in query development by learning how to:

- Be able to add criteria to a Left Outer Join.
- Be able to apply effective data logic to queries.
- Utilize queries of queries to effectively search for query data information.
- Efficiently find record and field information using the front end of PeopleSoft in conjunction with other tools.
- Gain the knowledge and skills to check your query results to be certain of query accuracy.

Adding Criteria to a Left Outer Join

When adding criteria to a query that contains a Left Outer Join you will notice that there will be the option of where to place the join in the SQL code; on the ON clause of the Left Outer Join or on the WHERE clause. The ON clause applies the criteria to the results of the Left Outer Join whereas the WHERE clause applies the criteria to the entire result set.

The basic rule of thumb is to always place the criteria on the clause of the record corresponding to the field used in Expression Type 1. In the example to the right, we are placing criteria on the Expression 1 Type field ACAD_CAREER from the B record. Thus, when indicating where to place the criteria we will select the corresponding ON clause of outer join B. If the field belongs to the A record, which is always the base record, then the criteria will belong to the WHERE clause.
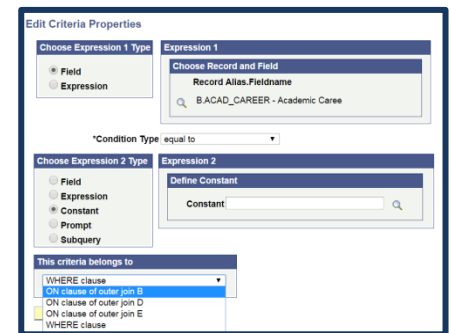
Say you want a complete list of students but only want to see their grade if they took Math. To do this you create a query from a student record and then create a Left Outer Join with a second record that will display the subject and grades received.

Since you only want to see students Math grade you will need to create criteria for this. Where you place that Criterion is KEY to how PS query will determine the result set. Basically, how PS query determines the results is entirely dependent on the placement of the criteria in the SQL code; either on the WHERE clause or the ON clause.

The reason for this is because there is a subtle but marked distinction in how PeopleSoft query displays the results of the query based on the position of the criteria clause. Again, The ON clause applies the criteria only to the results of the Left Outer Join whereas the WHERE clause applies the criteria to the entire query result set.

To see how this difference works, let's take a look at an example of how this placement of the code will affect the results. Let's look at a query where the Criterion has been placed on the ON clause of Outer Join B as it should be. The ON clause applies the criteria only to the Left Outer Join and is actually applied *before* the join is completed. What this means is that the ON clause will compile a list where either Math or NULL is the result and then the Left Outer Join will compare that list to record A to determine the match. So the end result is that the query will display all students from record A and then display either Math or NULL in the subject field along with the corresponding grade if they took Math exactly as we intended.

Criteria placed on the ON Clause.

Logical	Expression1	Condition Type	Expression 2	Edit	Delete	Belongs to
▼	B.SUBJECT - Subject Area	equal to	MATH	Edit	⊟	B

Results correctly display both MATH and NULL.

	ID	Name	Subject	Grade
1	000700002	Smith0002, Pat		
2	101000000	Smith0000, Pat		
3	101000001	Smith0001, Pat		
4	101000002	Smith0002, Pat	MATH	0.0
5	101000002	Smith0002, Pat	MATH	4.0
6	101000002	Smith0002, Pat	MATH	W
7	101000003	Smith0003, Pat		
8	101000004	Smith0004, Pat		
9	101000005	Smith0005, Pat	MATH	2.5
10	101000005	Smith0005, Pat	MATH	2.7

Now let's look at a query where the criteria has been placed on the WHERE clause. In the initial calculations done by PeopleSoft query, the Left Outer Join returns all students, even if they didn't take Math. However, if they didn't take Math, then the joined row that is returned by the Left Outer Join will have NULLs in all the columns from the grades table. So as PeopleSoft query continues the calculations and the WHERE clause comes along, it displays only those rows where Math is the subject since we put the condition of Math on the Where clause. So, since NULL isn't Math, students who didn't take Math disappear from the final calculated result set.

So, in essence by placing the criteria on the WHERE clause we are negating the Left Outer Join and asking PeopleSoft query to only return results where the student took Math which is not what we wanted to happen.

Criteria placed on the WHERE Clause.

Logical	Expression1	Condition Type	Expression 2	Edit	Delete	Belongs to
▼	B.SUBJECT - Subject Area	equal to	MATH	Edit	⊟	

Results incorrectly display only MATH.

	ID	Name	Subject	Grade
1	101000002	Smith0002, Pat	MATH	0.0
2	101000002	Smith0002, Pat	MATH	4.0
3	101000002	Smith0002, Pat	MATH	W
4	101000005	Smith0005, Pat	MATH	2.5
5	101000005	Smith0005, Pat	MATH	2.7
6	101000005	Smith0005, Pat	MATH	3.2
7	101000005	Smith0005, Pat	MATH	W
8	101000010	Smith0010, Pat	MATH	1.4

Here is a chart that details how PeopleSoft query processes a request to place criteria on the ON Clause as well as how it deals with a request to place criteria on the WHERE Clause when using a Left Outer Join in query creation.

Criteria applied to the ON Clause:

Criteria applied before the Outer Join ⇒ Outer Join Compiles a list of NULL and MATH ⇒ The List is Outer Joined to Record A ⇒ Results display NULL and MATH

Criteria applied to the WHERE Clause:

Outer Join Compiles a list of NULL and MATH ⇒ The List is Outer Joined to Record A ⇒ Criteria applied after the Outer Join ⇒ Results only will display MATH

Effective Data

There is frequently a need to keep track of historical changes to information within the database. The student status will change as he or she enrolls or graduates, etc. Name, addresses, service indicators, or amounts are also often kept as historical references. There may also be a need to store something that will be effective in the future.

Effective Date, Effective Sequence, and Effective Status

PeopleSoft uses three different fields in many records to enable having data be effective only at certain times – Effective Date (EFFDT), Status as of Effective Date (EFF_STATUS) and Effective Sequence (EFFSEQ).

Effective-dated records/tables contain the field EFFDT. This is the most commonly used of the three fields and is used throughout PeopleSoft applications to give data a historical perspective and allows for viewing data changes over time. Whenever users add a row of data to the table, they specify the date on which that data becomes effective.   PeopleSoft will keep the new date as the current effective date and the previous row as a historical effective date.

Effective status indicates which row is currently active and which rows were previously active (inactive) for configuration history. This field is generally used in configuration tables.

Effective sequence tracks the sequence of changes in rows for transactional history. Generally used in transactional tables, this field is used when same day changes are expected.

Effective Date and Query

With Effective dated records, rows of data are classified in one of three categories:

1. **Current** – The latest effective date that is less than or equal to today's date. Only the current row will display in the query results.
2. **History** – The effective date is less than the current effective date.
3. **Future** – The effective date is greater than the current date.

The EFFDT field allows users to display the following in their query results based on the criteria selected for the EFFDT field:

- All rows, regardless of their effective dates.
- Rows which are currently effective.
- Rows which were effective in the past.
- Rows which will be effective in the future.

EFFECTIVE DATE BASE DATE

You may notice some records displaying an effective date of 01/01/1901. This is the default effective date added by PeopleSoft when there is no other effective date available and indicates the first instance of the effective dated item.

EFFECTIVE DATE CRITERIA

When you select an effective dated record for your query a pop up widow will appear letting you know that an Effective Date criteria has been automatically added for this record.

Message

An effective date criteria has been automatically added for this effective dated record. (139,60)

OK
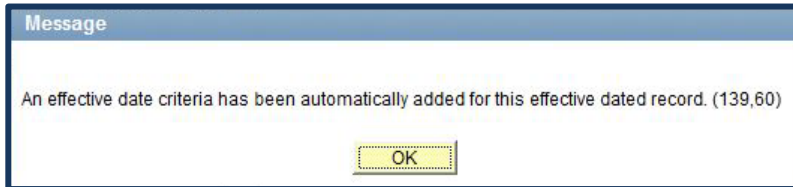
This message is telling you that the database will automatically give you the very latest dated row for the criteria. It is equal to or less than the current date (today) and will display only results which meet this Criterion. To return results that differ from the default, you may remove or alter the Criterion that has been automatically created.

EFFECTIVE DATE OPERATORS

As previously stated automatically added Effective Date criteria will return one effective dated row of information per item which will be the latest dated row. You can then select different options to compare the effective date against such as a date in the future or the past. While all of the standard operators are available for use with criteria, you will find that there are some special Effective Date Condition Types also available. Each of these operators will return the last effective dated result equal to or less than today by default.

Special Effective Date Condition Types (operators) are:

Eff Date <=	Returns the one row that is closest or equal to the Expression 2 date value without exceeding it. If Expression 2 is "Current Date", then query will retrieve the most current row from the table.
Eff Date <	Returns the one row that is closest to the Expression 2 date value without exceeding it.
Eff Date >=	Returns the one row that is the nearest to being equal to or greater than the Expression 2 date.
Eff Date >	Returns the one row that is nearest to and greater than the Expression 2 date.
First Effective Date	Returns the row with the oldest effective date, usually the first row that is entered for an item.
Last Effective Date	Returns the row with the latest effective date, even if that date is still in the future.
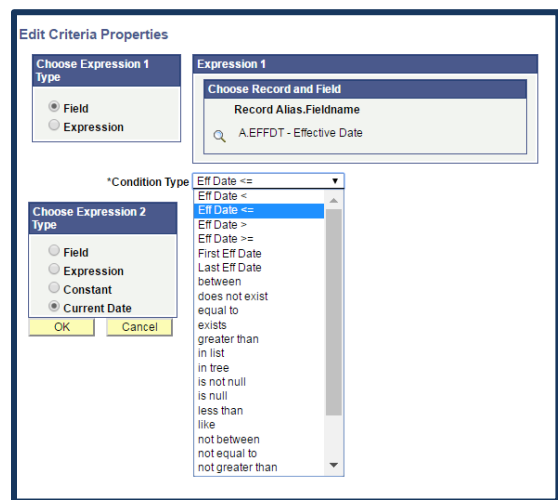
Note that when using the special Effective Date Condition Types there are only 4 options for Expression 2 Type in the Edit criteria Properties Page:

Edit Criteria Properties

Choose Expression 1 Type
- ● Field
- ○ Expression

Expression 1
Choose Record and Field
Record Alias.Fieldname
🔍 A.EFFDT - Effective Date

*Condition Type Eff Date <= ▼

Choose Expression 2 Type
- ○ Field
- ○ Expression
- ○ Constant
- ● Current Date

[OK] [Cancel]
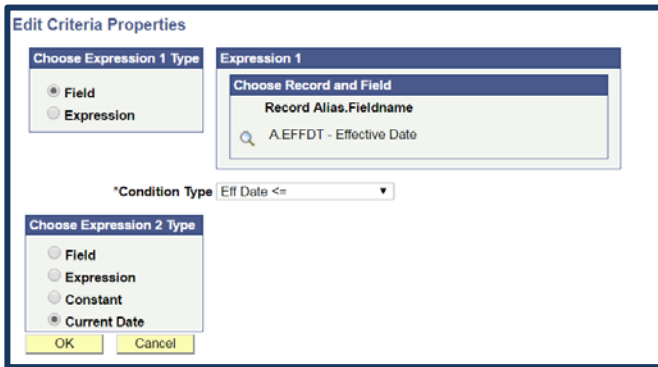
Field – Will pull up a list of available date fields in the records that can be used as the comparison value.
Expression – Allows for the creation of an Expression as the comparison value.
Constant – Displays a date field where the date to be used as the comparison value is entered.
Current Date – Defaults to the current date as the comparison value.

Again, the standard Condition Types are available so you are able to select between certain dates, NULL, etc. Two operators of note are "not less than" and "not greater than". These operators function the same as "equal to or less than" or "equal to or greater than". The "not less than" operator will return all rows equal to or higher than the *Expression 2* date (future dated rows) and "not greater than" will return all rows equal to or less than the *Expression 2* date (historical rows).

between
does not exist
equal to
exists
greater than
in list
in tree
is not null
is null
less than
like
not between
not equal to
not greater than
not in list
not in tree
not less than
not like
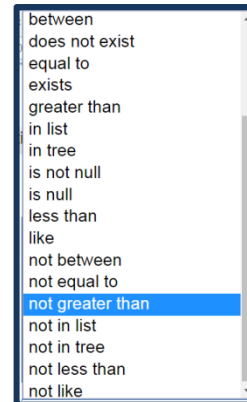
Effective Status and Query

The EFF_STATUS works in conjunction with the EFFDT field and provides a status as of the effective date. The EFF_STATUS field has two values: Active and Inactive. You are able to specify if you would like to see only rows that are active or inactive by using criteria on your EFF_STATUS field. No automatic criteria are added for this field and the default is to show all available statuses, both active and inactive.

ID	Addr Type	Eff Date	Status
48	BUSN	12/27/2016	A
38	BUSN	12/27/2016	A
60	BUSN	12/23/2016	A
37	BUSN	12/22/2016	A
36	BUSN	12/22/2016	A
35	BUSN	12/22/2016	A
34	BUSN	12/22/2016	A
31	BUSN	12/20/2016	A
30	BUSN	12/19/2016	A
85	BUSN	12/16/2016	A
96	BUSN	12/14/2016	A
60	BUSN	12/14/2016	I

Statuses can also be entered into the database before they will become effective or after the date for the status change has already passed. For example, the academic plan below was set to change to inactive as of 6/29/16.

Acad Plan	Eff Date	Status	Descr	Plan Type	Acad Prog
HEMIMAPT	06/29/2016	I	Industrial Mechanics AAS	MAJ	PRFTC
HEMIMAPT	01/01/1901	A	Industrial Mechanics AAS	MAJ	PRFTC

Effective Sequence and Query

Effective Sequence (EFFSEQ) also works in conjunction with EFFDT and enables the entry of more than one row with the same effective date. The system assigns a unique sequence number to each row that has the same effective date. So if more than one event occurs for a given key on the same date, the EFFSEQ is used as a key to uniquely identify each row. The earliest event is numbered 0 and the highest number in this key is the most current for the given date. By default when using EFFSEQ only the *last* action will display. The criteria that is automatically added will display as Eff Date <= Current Date (EffSeq = Last) as shown below.

Criteria			Personalize	Find			First	1-3 of 3	Last		
Logical	Expression1	Condition Type	Expression 2	Edit	Delete
▼	A.EFFDT - Effective Date	Eff Date <=	Current Date (EffSeq = Last)	Edit	—

With the effective sequence set to last the results will only display one row with the last entry for the effective sequence.

	ID	Career	Career Nbr	Eff Date	Sequence	Acad Plan	Decl Date	Plan Seq	Req Term	Compl Term	Degree Nbr	ChkoutStat	Status	Instance	Year of Program	Created By	Created	By	Updated
1	101000089	Academic Career	4	09/03/2015	1	LPNPNC45	09/03/2015	10	2137	2155	01	Degree Awarded	Include	0	01 - First Year	101001568	09/03/2015 3:32:16PM	101001568	09/03/2015 3:32:16PM

In order to display a different sequencing, select to edit the criteria and then choose to change the default of *Last* and select either *First* for the first sequenced entry or *All* for all sequenced rows.

Choose Expression 2 Type	Expression 2
○ Field ○ Expression ○ Constant ● Current Date	**Effective Sequence Options** ○ First ○ Last ● All

The criteria will then display as shown below:

Criteria			Personalize	Find			First	1-3 of 3	Last		
Logical	Expression1	Condition Type	Expression 2	Edit	Delete
▼	A.EFFDT - Effective Date	Eff Date <=	Current Date (EffSeq = All)	Edit	—

Now the results for the query will display all available sequencing information for the entry.

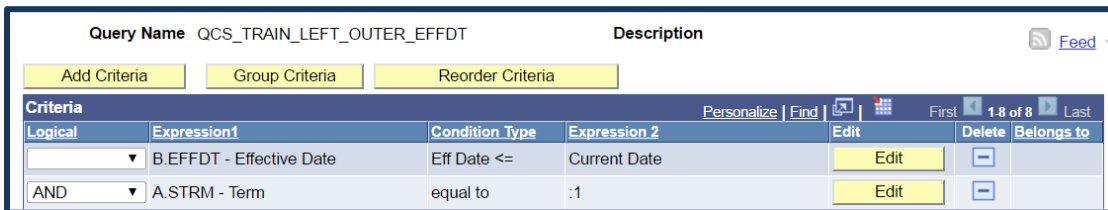| | ID | Career | Career Nbr | Eff Date | Sequence | Acad Plan | Decl Date | Plan Seq | Req Term | Compl Term | Degree Nbr | ChkoutStat | Status | Instance | Year of Program | Created By | Created | By | Updated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 101000089 | Academic Career | 4 | 09/03/2015 | 0 | LPNPNC45 | 09/03/2015 | 10 | 2137 | | | | Include | 0 | 01 - First Year | 101001568 | 09/03/2015 3:31:03PM | 101001568 | 09/03/2015 3:31:03PM |
| 2 | 101000089 | Academic Career | 4 | 09/03/2015 | 1 | LPNPNC45 | 09/03/2015 | 10 | 2137 | 2155 | 01 | Degree Awarded | Include | 0 | 01 - First Year | 101001568 | 09/03/2015 3:32:16PM | 101001568 | 09/03/2015 3:32:16PM |

Effective Dates and Left Outer Joins

The criteria for effective dating will always be placed on the WHERE clause which is a notable exception to the rule for where to place criteria in the SQL code that we learned in the Adding criteria to a Left Outer Join module of this manual.

When using a Standard join there is no need to add any special criteria to your query, however, if using a Left Outer Join, you must provide an option for the effective date to be NULL in order for the Left Outer Join to function as desired. This is because the result of any Left Outer Join will either contain data or be NULL and all EFFDT criteria is automatically added to the WHERE clause thus there *must* be an option for the EFFDT to be NULL as well or only records that meet the EFFDT criteria will display – negating the Left Outer Join.

As an example, take record STDNT_CAR_TERM as record A and STDNT_GRPS_HIST Left Outer Joined as record B. The desired result is to see all students regardless if the student belongs to a particular student group. For the Left Outer Join to function correctly and display blanks if there is not a match between records, we must add the additional EFFDT can be NULL criteria *and* group it with the existing EFFDT criteria with a logical operator of OR. If this step is skipped, the Left Outer Join will be negated and the join will behave as a standard join.

Let's take a closer look at this. In the example below, effective dated criteria has been automatically added by PeopleSoft to effective dated record B, STDNT_GRPS_HIST, which has been Left Outer Joined to record A STDNT_CAR_TERM.

		Query Name	QCS_TRAIN_LEFT_OUTER_EFFDT		Description				Feed

Add Criteria		Group Criteria		Reorder Criteria					
Criteria					Personalize | Find |		First	1-8 of 8	Last
Logical		**Expression1**	**Condition Type**	**Expression 2**			**Edit**	**Delete**	**Belongs to**
	▼	B.EFFDT - Effective Date	Eff Date <=	Current Date			Edit	−	
AND	▼	A.STRM - Term	equal to	:1			Edit	−	

Even though record B has been Left Outer Joined to record A, there is no option for the EFFDT to also be NULL. So if the query is ran it will only return results where there is an effective dated match between both records. In essence, it will behave as a standard join. Remember EFFDT criteria is added to the WHERE clause so the EFFDT criteria is being applied to the entire result set.

Term = 2167,Career=UGRD,Take Prgrs=20,Group Name=SRSR,Institution=WA220								
View All | Rerun Query | Download to Excel | Download to XML						First	1-8 of 8	Last
	ID	**Career**	**Institution**	**Term**	**Take Prgrs**	**Group Name**	**Eff Date**	**Status**
1	201270083	UGRD	WA220	2167	20.000	SRSR	09/11/2015	A
2	201267840	UGRD	WA220	2167	20.000	SRSR	09/11/2015	A
3	201273829	UGRD	WA220	2167	20.000	SRSR	11/09/2015	A
4	201273471	UGRD	WA220	2167	20.000	SRSR	09/15/2015	A
5	201273465	UGRD	WA220	2167	20.000	SRSR	09/15/2015	A
6	201270168	UGRD	WA220	2167	20.000	SRSR	06/17/2016	I
7	201270685	UGRD	WA220	2167	20.000	SRSR	09/01/2016	A
8	201269537	UGRD	WA220	2167	21.000	SRSR	09/01/2016	A

However, if we add the option for the effective date to be NULL and group the two Effective Date criteria together with an OR logical operator then the Left Outer Join functionality will be restored and the results returned will show blank for any rows where there is not an effective dated match between records.

Once the Criterion has been added in the correct manner the results will now display as a Left Outer Join.

	ID	Career	Institution	Term	Take Prgrs	Group Name	Eff Date	Status
1	201269537	UGRD	WA220	2167	21.000	SRSR	09/01/2016	A
2	201270685	UGRD	WA220	2167	20.000	SRSR	09/01/2016	A
3	201270083	UGRD	WA220	2167	20.000	SRSR	09/11/2015	A
4	201267840	UGRD	WA220	2167	20.000	SRSR	09/11/2015	A
5	201273471	UGRD	WA220	2167	20.000	SRSR	09/15/2015	A
6	201270168	UGRD	WA220	2167	20.000	SRSR	06/17/2016	I
7	201273829	UGRD	WA220	2167	20.000	SRSR	11/09/2015	A
8	201273465	UGRD	WA220	2167	20.000	SRSR	09/15/2015	A
9	201200549	UGRD	WA220	2167	22.000			
10	201285699	UGRD	WA220	2167	22.000			
11	201285733	UGRD	WA220	2167	22.000			
12	201288476	UGRD	WA220	2167	22.000			
13	201283648	UGRD	WA220	2167	22.000			
14	201183775	UGRD	WA220	2167	22.000			
15	201193275	UGRD	WA220	2167	22.000			
16	201299167	UGRD	WA220	2167	24.000			
17	201219238	UGRD	WA220	2167	22.000			
18	201266901	UGRD	WA220	2167	20.000			
19	201269593	UGRD	WA220	2167	20.000			

Term = 2167,Career=UGRD,Take Prgrs=20,Group Name=SRSR,Institution=WA220

View All | Rerun Query | Download to Excel | Download to XML   First 1-89 of 89 Last

Multiple Effective Dated Records

When joining two effective dated records together it is very important to understand how PeopleSoft query reads effective dating logic as this will determine what data is returned by your query.

PeopleSoft query will read the Effective Date criteria used in EACH record and return results based on that criteria regardless of join type (both standard and Left Outer Joins allow this). Meaning that if, for example, record A is asking to return results that are equal to or less than today and record B is asking to return results from a specific time period, query is able to handle this request easily even though the Effective Date criteria is not the same for each record. In the example below record A (JOB) is pulling employees who have an active employee effective date of equal to or less the current date. Record B (LIFE_ADD_BEN) is pulling employees whose effective date of a benefit enrollment is between 1/1/16 and 12/31/16. The join is a standard join type so there is no need to add NULL as an effective date option for record B. Any and all subsequent effective dated records Left Outer Joined <u>must</u> allow the effective date to be NULL.

Criteria				Personalize | Find | 🗗 | 🖩	First ◄ 1-11 of 11 ► Last	
Logical	Expression1	Condition Type	Expression 2	Edit	Delete	Belongs to
▼	A.EFFDT - Effective Date	Eff Date <=	Current Date (EffSeq = Last)	Edit	⊟	
AND ▼	B.EFFDT - Effective Date	between	2016-01-01 AND 2016-12-31	Edit	⊟	
AND ▼	A.HR_STATUS - HR Status	equal to	A	Edit	⊟	
AND ▼	A.SETID_LOCATION - Location Set ID	equal to	:1	Edit	⊟	

When the query is ran it returns results for active employees who added life or accidental death insurance in the year 2016.

	Location Set ID	HR Status	Job Eff Date	Plan Type	Plan Eff Date	Covg Bgn	Covg End	Benefit Plan	Flat Amount	Coverage Level	Descr
1	WA170	Active	08/01/2016	Life and AD and D	07/01/2016	07/01/2016		LIF01	0	Plan Level	Basic Life and AD&D
2	WA170	Active	12/01/2016	Supplemental AD and D	12/01/2016	12/01/2016		LIF04	250000	Employee Level	Supplement EE & Dependent AD&D
3	WA170	Active	07/01/2016	Life and AD and D	05/02/2016	05/02/2016		LIF01	0	Plan Level	Basic Life and AD&D
4	WA170	Active	08/17/2016	Life and AD and D	05/01/2016	05/01/2016		LIF01	0	Plan Level	Basic Life and AD&D
5	WA170	Active	11/01/2016	Spousal Life	05/18/2016	05/18/2016		LIF06	50000	Employee Level	Spouse Life Insurance
6	WA170	Active	12/01/2016	Supplemental Life	06/01/2016	06/01/2016		LIF02	40000	Employee Level	Supplemental Employee Life
7	WA170	Active	11/01/2016	Life and AD and D	04/25/2016	04/25/2016		LIF01	0	Plan Level	Basic Life and AD&D
8	WA170	Active	01/04/2016	Life and AD and D	09/01/2016	09/01/2016		LIF01	0	Plan Level	Basic Life and AD&D
9	WA170	Active	09/01/2016	Life and AD and D	09/14/2016	09/14/2016		LIF01	0	Plan Level	Basic Life and AD&D
10	WA170	Active	09/14/2016	Life and AD and D	09/14/2016	09/14/2016		LIF01	0	Plan Level	Basic Life and AD&D
11	WA170	Active	09/06/2016	Life and AD and D	09/06/2016	09/06/2016		LIF01	0	Plan Level	Basic Life and AD&D
12	WA170	Active	08/01/2015	Life and AD and D	10/01/2016	10/01/2016		LIF01	0	Plan Level	Basic Life and AD&D
13	WA170	Active	08/01/2015	Life and AD and D	09/14/2016	09/14/2016		LIF01	0	Plan Level	Basic Life and AD&D
14	WA170	Active	09/19/2016	Life and AD and D	09/14/2016	09/14/2016		LIF01	0	Plan Level	Basic Life and AD&D
15	WA170	Active	06/30/2016	Life and AD and D	09/14/2016	09/14/2016		LIF01	0	Plan Level	Basic Life and AD&D

Queries of Queries

It can be very useful to have the ability to write queries that return results ABOUT a particular query or group of queries. Many people are interested in finding queries written by themselves or someone else in their institution. Or perhaps you would like to find when a particular query was last ran or who created the query. There are in fact records that contain information about queries themselves that we can use to write queries. For example, to search the Definition field for institution code you would write a query that searches the Definition field. What record does this information live in? There are actually many records that hold query data and they all start with PSQRY. As of 8.54 there are the following query records available in ctcLink.

- PSQRYBIND – Stores all run-time prompt data
- PSQRYBINDLANG - Related language record for PSQRYBIND
- PSQRYCRITERIA – Stores all criteria Expressions in code format
- PSQRYDEFN – Stores high-level query definitions with version numbers.
- PSQRYFIELD – Stores all fields used in all aspects of query operation
- PSQRYDEL – Stores operator ID, query name and version
- PSQRYEXECLOG – Stores information on the execution of queries
- PSQRYEXPR – Stores the text associated with each criteria Expression
- PSQRYFIELD – Stores all fields used in all aspects of query operation
- PSQRYFIELDLANG - Related language record for PSQRYFIELD
- PSQRYLINK – Stores the relationships to child queries
- PSQRYRECORD – Stores all records used in all aspects of query creation
- PSQRYSELECT – Stores all SELECT requirements by select type, i.e. union, subselect, join,….
- PSQRYSTATS – Stores run time statistics

In addition there are also records which store page or panel information.

- PSPNLDEFN - Panel Definition
- PSPNLDEFN_VW - Panel Definition View
- PSPNLFIELD - Panel field
- PSPNLFIELD_VW - Panel field View
- PSPNLGDEFNLANG - Panel Group Related Lang
- PSPNLGROUP - Panel Group
- PSPNLGROUPLANG - Panel Group Related Language
- PSPNLGRPDEFN - Panel Group Definition
- PSPNLHTMLAREA - Panel HTML Area
- PSPNLTREECTRL - Panel Tree Control

So as you can see there are quite a few tables available for use in creating a query of queries and all sorts of useful information we can extract. To create a query of queries using the PSQRYDEFN record, in Query Manager select to create a new query with PSQRYDEFN as the A record. Join PSQRYSTATS as record B. Make your field selections and execute the query.

The snapshot below shows the results of a query in FS created as in the example above.

User	Query Name	Descr	Last Upd DtTm	Last Upd User	Descr	Creation Dttm	Folder	QRYEXECCOUNT	AVGEXECTIME	AVGFETCHTIME	QRYAVGNUMROWS	Last Run	Number of Kills
	CA_BILL_PLAN_EVENTS_PVG	Contract Billing Plan Events	11/20/2016 10:29:35AM	PPLSOFT	Contract Billing Plan Events Status	06/27/2012 10:06:00PM		1	0.000	0.000	0.000	06/30/2016 7:39:53AM	0
	CS_SRCH_CWB_ADHOC	Workbench Adhoc Documents	11/20/2016 10:29:35AM	PPLSOFT		02/25/2015 9:39:59PM		1	0.000	0.320	0.000	11/20/2016 11:57:29PM	0
	CS_SRCH_CWB_CNTRCT	Workbench Contracts	11/20/2016 10:29:35AM	PPLSOFT		02/25/2015 9:52:17PM		1	0.000	0.450	1.000	11/21/2016 12:14:41AM	0
	CS_SRCH_CWB_SOURCING	Workbench Sourcing Documents	11/20/2016 10:29:36AM	PPLSOFT		02/25/2015 10:02:36PM		1	0.000	0.420	0.000	11/21/2016 12:05:03AM	0
CIBER_READ_ONLY	TS_INV_BILL_HDR_DST_4INV		07/29/2016 3:53:47PM	CIBER_READ_ONLY		07/29/2016 3:50:06PM		1	0.000	0.000	1.000	07/29/2016 3:49:47PM	0
101002998	TT_AR_PYMNT_PROC__STAT_ALL_170		08/03/2016 11:11:40AM	CTC_FUNCTIONAL	to review all incomplete payments	08/03/2016 11:11:40AM		1	0.000	0.000	81.000	08/03/2016 11:12:37AM	0

To make the query more valuable you can make the definition field searchable by adding a wildcard prompt on the DESCRLONG (Definition) field and you can then search for queries created by a certain college code, email address or name. (Step by Step found in this Manual in the Simplified Instructions Glossary).

It is also possible to use a query of queries when searching for record and field information as we will see in the next module.

Using the PSPNLFIELD record users are able to search out record and field information regarding a PeopleSoft front end page name. While, there are queries already created to use for this purpose we will still review the steps here.

Go to Query Manager in the Pillar where you would like to create the query and opt to "Create New Query".

Search for the record: PSPNLFIELD

Make your field selections

Create a prompt where end users will be able to enter in a specific page name found in the front end of PeopleSoft.

Save changes to your query and run it to test.

Page Name = STDNT_GROUPS

View All | Rerun Query | Download to Excel | Download to XML   First ◄ 1-15 of 15 ► Last

	Panel Name	Record	Field Name	Label Text
1	STDNT_GROUPS	DERIVED_AS_LBL	STUDENT_LBL	Student Groups
2	STDNT_GROUPS			
3	STDNT_GROUPS	STDNT_GRPS	INSTITUTION	Academic Institution
4	STDNT_GROUPS	INSTITUTION_TBL	DESCR	Description
5	STDNT_GROUPS	STDNT_GRPS	STDNT_GROUP	Student Group
6	STDNT_GROUPS	STDNT_GROUP_TBL	DESCR	Description
7	STDNT_GROUPS			
8	STDNT_GROUPS	STDNT_GRPS_HIST	EFFDT	Effective Date
9	STDNT_GROUPS	STDNT_GRPS_HIST	EFF_STATUS	Status
10	STDNT_GROUPS	STDNT_GRPS_HIST	COMMENTS	Comments
11	STDNT_GROUPS	SCC_PERS_SA_VW		SubPanel
12	STDNT_GROUPS	DERIVED_CS	DEL_CHECK	Delete Check Variable
13	STDNT_GROUPS	STDNT_GRPS_HIST	LASTUPDDTTM	Last Update Date/Time
14	STDNT_GROUPS	STDNT_GRPS_HIST	LASTUPDOPRID	Updated By
15	STDNT_GROUPS	STDNT_GRPS_HIST	SCC_LASTUPDTYPE	Type

Finding Record and Field Information

There may be times when you know a specific field is needed in a query but you don't know which record the field lives in or you may not know the exact field name used by the database. Perhaps you have a record in mind but want to find out more information about it first. There are a few ways to find information on records and fields from the front end and/or using other methods.
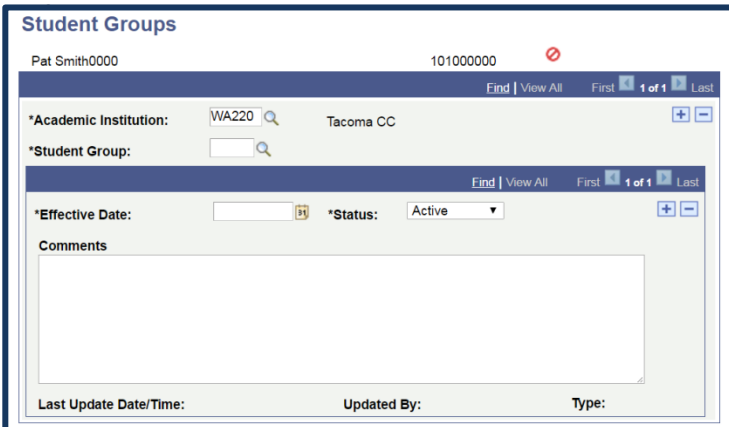
- CTRL+SHIFT+J shortcut keys
- CTRL +SHIFT+C shortcut keys
- PSChrome Extension
- Metalink

The idea is to find the page name that the field is found on and then search that page name in a PSPNLFIELD query for details regarding the name of the field and the record where the field can be found or to search out this record and field information directly from the front end, depending on the process.

CTRL+SHIFT+J shortcut keys

Note: this process is not available in the production environment.

CTRL+SHIFT+J allows users to find the page name that can then be looked up in a PSPNLFIELD query to find record and field information. This process requires the user to press the Control key simultaneously with the Shift key and the J key to bring up a data sheet that details information specific to the page requested. For example, if the user navigates to the Student Groups page (Main Menu → records and Enrollment → Career and Program Information → Student Groups). And there wants to see field and record information from that page to use in their query, the user could press CTRL+SHIFT+J to access the data sheet for that page. NOTE: in Chrome the user must input CTRL+SHIFT+J **TWICE** for the process to work.

The data sheet lists the name of the PeopleSoft page which can be used to find which fields can be found on that page. In this example the page name is STDNT_GRPS. Note or copy the page name and then navigate to PeopleSoft Query Manager or Query Viewer.

Each Pillar has a query already available where users are able to search information related to a particular page name. Those queries are:

- QCS_PSPNLFIELD
- QHC_PSPNLFIELD
- QFS_PSPNLFIELD

In our example we are in the CS Pillar so we would search for the query - QCS_ PSPNLFIELD in Query Manager or Query Viewer.

Run the QCS_PSPNLFIELD query to HTML and when prompted, enter the page name in the Prompt window then click View Results.

QCS_PSPNLFIELD - Find Records-Page Ctrl-Shft J

Enter Page Name: stdnt_groups

View Results

The results display the names of the fields found in the page and the record where each field lives. The column Label Text holds the field description while the Lavel ID column holds the field name as used in the database. The record where the field is found is in the record column.

	Panel Name	Field ID	Field Nbr	PnlField Name	Label ID	Label Text	Record	Field Name
1	STDNT_GROUPS	1	1		STDNT_GROUPS	Student Groups	DERIVED_AS_LBL	STUDENT_LBL
2	STDNT_GROUPS	5	4					
3	STDNT_GROUPS	6	5		INSTITUTION	Academic Institution	STDNT_GRPS	INSTITUTION
4	STDNT_GROUPS	7	6			Description	INSTITUTION_TBL	DESCR
5	STDNT_GROUPS	8	7		STDNT_GROUP	Student Group	STDNT_GRPS	STDNT_GROUP
6	STDNT_GROUPS	9	8		DESCR	Description	STDNT_GROUP_TBL	DESCR
7	STDNT_GROUPS	10	9					
8	STDNT_GROUPS	11	10		EFFDT	Effective Date	STDNT_GRPS_HIST	EFFDT
9	STDNT_GROUPS	12	11		EFF_STATUS	Status	STDNT_GRPS_HIST	EFF_STATUS
10	STDNT_GROUPS	13	12		COMMENTS1	Comments	STDNT_GRPS_HIST	COMMENTS
11	STDNT_GROUPS	14	3			SubPanel	SCC_PERS_SA_VW	
12	STDNT_GROUPS	15	2		DEL_CHECK	Delete Check Variable	DERIVED_CS	DEL_CHECK
13	STDNT_GROUPS	17	13		LASTUPDDTTM	Last Update Date/Time	STDNT_GRPS_HIST	LASTUPDDTTM
14	STDNT_GROUPS	18	14		EOPPB_UPD_OPRID	Updated By	STDNT_GRPS_HIST	LASTUPDOPRID
15	STDNT_GROUPS	20	15		SCC_LASTUPDTYPE	Type	STDNT_GRPS_HIST	SCC_LASTUPDTYPE

Note: some records displayed are derived and cannot be used in this process. A "derived table" is essentially a statement-local temporary table created by means of a subquery in the FROM clause of a SQL SELECT statement. It exists only in memory and behaves like a standard view or table but cannot be used as a data source in PeopleSoft query. WRK tables behave in a similar fashion and can also not be used as a data source for PeopleSoft query.

CTRL+SHIFT+C shortcut keys

The CTRL+SHIFT+C option will only work in Chrome and Firefox. This tool is not available in Internet Explorer.

The shortcut keys work in a similar fashion to the CTRL+SHIFT+J shortcut, however instead of displaying the Panel Page, they display the name of the record where a field on the front end will store its data when the mouse is hovered over the field. The example below shows that the field Reason on the Enrollment page will write to the record STDNT_ENRL and the field name is ENRL_ACTN_RSN
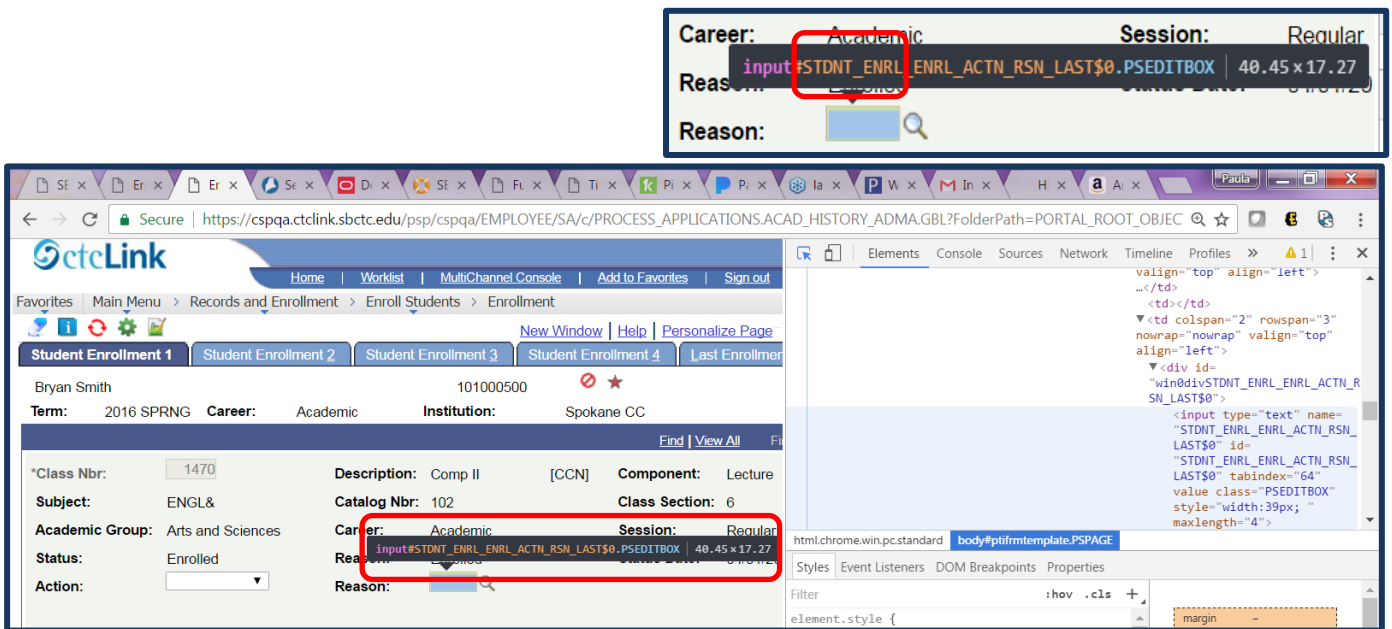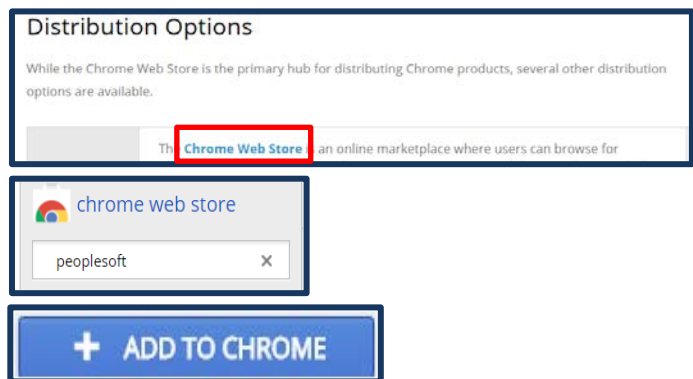

PS Chrome Extension

Install this extension and use it anywhere in the front end to get record and field information. Go to https://google.com/chrome/webstore from within the Chrome browser.

Click on The Chrome Webstore hyperlink under Distribution Options.

Search for "PeopleSoft" in the search bar.

Click on "Add to Chrome" next to the PSChrome Extension.

Now you are ready to start using the PSChrome Chrome Extension in PeopleSoft. You will see the following group of icons now available for use when working in PeopleSoft.

To use the icons, navigate to the page where the field you want to query on is found in the front end of PeopleSoft. For example, for Student Groups go to Main Menu → records and Enrollment →Career and Program Information →Student Groups.

Field Information Icon

The field Information Icon will return the name of the field as it appears in the database. To use the field click on it and the screen will change to display red dotted line boxes around the names of the field as the record where it lives as well as any current values will display

Click inside the red dotted line box then scroll to the bottom of your screen to see the resulting information. The name of the field and the value currently entered will display.
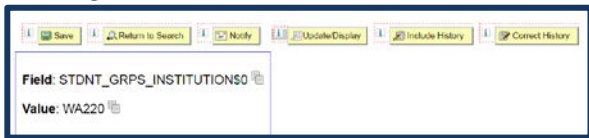
Page Information Icon

The Page Information Icon will display the page information when clicked, including the Page Name which can be used in the PSPNLFIELD queries.

Using the same example of Student Groups used before, let's see how to retrieve the page name using the Page Information Icon. After navigating to the Student Groups Page (Main Menu → records and Enrollment →Career and Program Information →Student Groups) click on the Page Information Icon.
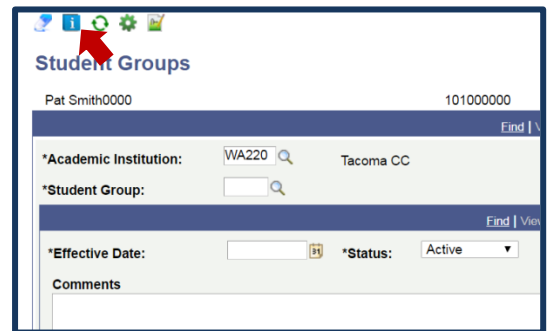
The Page Information will display, including the Page Name which can be used in the PSPNLFIELD queries.
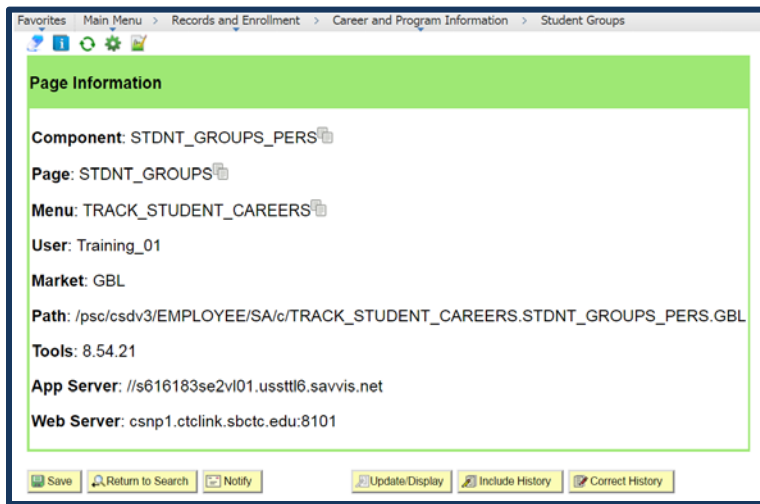
Here, you would again simply navigate to Query Manager or Query Viewer to use the PSPNFIELD query.

Run the QCS_PSPNLFIELD query to HTML and when prompted, enter the page name in the Prompt window then click View Results.

The results display the names of the fields found in the page and the record where each field lives.

Note: some records displayed are derived and cannot be used in this process. A "derived table" is essentially a statement-local temporary table created by means of a subquery in the FROM clause of a SQL SELECT statement. It exists only in memory and behaves like a standard view or table but cannot be used in PeopleSoft query.

Using the metaLink Data Dictionary

With any PeopleSoft implementation one of the most difficult thing for users responsible for Query and Report development is to determine what data lives where and/or to understand the meaning and usage of each record and field. The sheer number of available tables and fields can be overwhelming for anyone attempting to learn the data structure. In addition end users reading reports may have questions about the exact nature of the data they are looking at. What each particular date field means, for example.

The obvious answer to this challenge is, of course, a Data Dictionary. A Data Dictionary is a repository of detailed information about the data itself such as relationships to other data, definitions, usage, format, etc. Oracle defines it as a collection of tables with metadata. What is metadata? It is data about data. An example would be the field EMPLID. What type of field is it? Is it a character field, a numeric field? How many characters can it contain? What are valid entries into the field? The Data Dictionary gives users a place to search all of that information and more regarding the data that they use daily. In addition, the Data Dictionary also provides a place for information regarding data relationships.

To meet the need for a Data Dictionary for our Query Developers and end users to have access to the information they need regarding PeopleSoft data structure and metadata, Greg Gamble, of the Application Development team at the State Board developed a web application called metaLink. It is a .Net site on Framework 4.0, using C sharp on code pages. SQL Server is the Database. Having the web app developed in house allows us amazing flexibility.

The MetaLink app will support the college system by providing key information about the data stored within the tables and columns in Golden Gate, which are replicated from the ctcLink production database. The key information is critical to the accurate use of PeopleSoft data for reporting and/or analysis.

The key features of MetaLink allows designated users to:

- Document structures and properties for a given record or field.
- View completed data dictionary reports.
- View the ctcLink reporting catalog.
- Search for available PeopleSoft data queries.

Logging into the metaLink Data Dictionary

The Data Dictionary does require a login as it details PeopleSoft data structure which is proprietary. The Data Dictionary provides the ability to search records by pillar or to search our State Board Master Data which is used for our data warehouse.

In order to gain access to MetaLink you must first request a password. Please submit all requests for MetaLink passwords to: Carmen McKenzie or Paula McDaniel.
cmckenzie@sbctc.edu or pmcdaniel@sbctc.edu.

Navigate to http://dataservicesmetalink.sbctc.edu

Click on Login in the upper right hand corner of the screen and enter in your login credentials.

You will now be able to view metadata, edit metadata or edit your account information. Click on Meta Data to go to the Reporting Library.


Using the metaLink Data Dictionary

To view record information, click on View Current Data Dictionary. Note: at this point in the training we are focusing on finding record and field information. The other areas of metaLink will be explained later in this class.
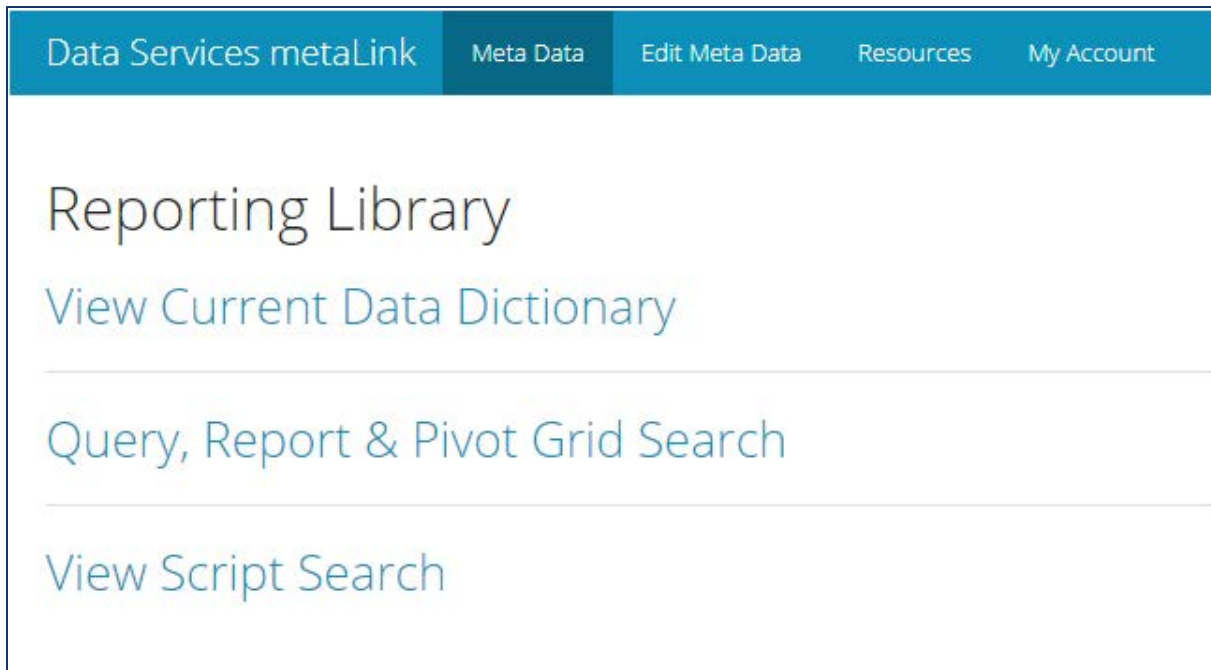
Select a pillar then choose to either display only common tables or only prompt tables and then select the table and click View Report. Note that record names in MetaLink are slightly different than the record names in PeopleSoft query as all record names in MetaLink begin with PS_.
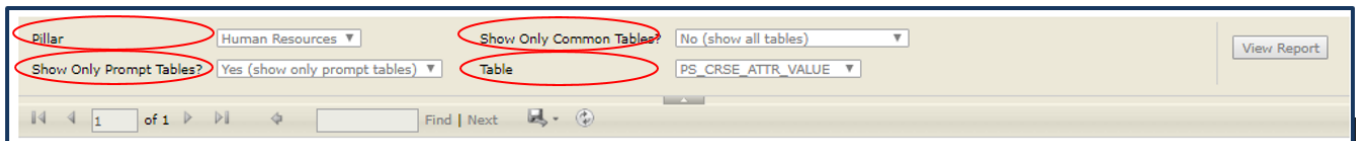
There are two main sections: Table Information and column Information. Table Information holds details regarding the record while column Information holds details regarding the fields of the table.

Record Information

Record details are found under the header TABLE INFORMATION. The available fields are:
- Table Name – Name of the record.
- Alternative Table Name - The laymen name for the record. For example, the record STDNT_ENRL is commonly referred to as the Student Enrollment table.
- Table Description – Description of the record and what it is used for. Any pertinent information regarding the record.
- Business Use Description – Description of the business use of the record.
- Parent Child Business Rules - A parent-child hierarchy is a hierarchy in a standard dimension that contains a parent attribute. A parent attribute describes a self-referencing relationship, or self-join, within a dimension main table. Parent-child hierarchies are constructed from a single parent attribute.

- Pillar – the Pillar the record belongs to.
- Module – the Module the record pertains to.
- Prompt Table - indicates if the record is used as a prompt table.
- Effective Dated Table - indicates if the record contains the EFFDT field.
- Commonly Used Table - indicates if the record has been flagged as commonly used.

TABLE INFORMATION	
Table Name	PS_BEN_HEALTH_SRCH
Alternative Table Name	
Table Description	HEALTH_BENEFIT is a record that identifies all health-related benefit elections for an employee. These benefits are related to the plan types in the '1x' series such as Medical, Dental, and Vision. Warning! For technical reasons, this record's schema shows that it is keyed by EMPL_RCD. This is not logically or functionally accurate. Throughout all of Base Benefits, when in the context of benefit enrollment, EMPL_RCD must be interpreted as an alias for BENEFIT_RCD_NBR. All benefit enrollment-related records are logically keyed by BENEFIT_RCD_NBR, so here EMPL_RCD actually contains the value of the appropriate BENEFIT_RCD_NBR. It is CRITICAL that all joins, comparisons, and updates to this record be against BENEFIT_RCD_NBR. Thus a typical driving join for benefit participation is PS_PER_ORG_ASGN.BENEFIT_RCD_NBR = PS_BEN_PROG_PARTIC.EMPL_RCD, and a typical join for benefit enrollment is PS_PER_ORG_ASGN.BENEFIT_RCD_NBR = PS_HEALTH_BENEFIT.EMPL_RCD. The security and search views used in Base Benefits perform this "mapping" internally.
Business Use Description	
Parent Child Business Rules	
Pillar	SYSADM_HCM
Module	BA - Benefits Administration
Prompt Table	No
Effective Dated Table	No
Commonly Used Table	No

Many of the tables only contain information on the Table Name and Pillar which is why it is so important to add information if you have it. If we look at the table BEN_HEALTH_SRCH in the HCM pillar we can see some of the great information that has been added to metaLink about the record.

The information in the Table Description field of this record provides users with vital knowledge about which fields to use to create a join with another record. Without this information a user could inadvertently join on the wrong field and thus create a query with incorrect or misleading results.

Field Information

Field details are found under the header COLUMN INFORMATION. The available fields are:
- Alternative column Name - The laymen name for the column. For example, the column name STRM is commonly referred to as Session/Term.
- Description - The description of the field and what it is used for. Any pertinent information regarding the field should be included.
- Primary Key - Indicates if this field is part of the primary key for the record (table). The combination of primary key fields represent the uniqueness of the row in the record.
- Data Type - A classification identifying one of various types of data, such as integer, text or decimal, that determines the possible values for that type.
- Size - The length or scale of the field value. Size is directly related to the Data Type.
- Nullable - Indicates of the field can contain null or blank values.

- Data Classification - The WA State Office of the Chief Information Officer (OCIO) data classification. Category 1 thru 4 are used with Category 1 being public information and category 4 being confidential information requiring special handling.
- For a detailed description of each category, see the Data Classification Brief here: http://www.sbctc.edu/resources/documents/colleges-staff/data-services/data-warehouse/DataClassificationBrief.pdfLinks to an external site.
- History: Includes any historical changes to the field such as inclusions or exclusions of values.
- Accountable Commission: Designated by the Data Governance Committee and indicates which system commission is ultimately accountable for this specific data element.
- Examples of Use: Provides examples of how/when to use the field. Information about auto-joins and how they might affect the query, etc.
- Converted: The table and field name of the legacy source record if converted during implementation.
- Common column: Used only by SBCTC.
- Notes – Any other notes, pertinent information regarding the field.
- Valid Values – field values and their meanings.

EMPL_RCD	Alternative Column Name	Employed Record Number			
	Description	Employment record numbers (ERNs), in combination with a person's ID, uniquely identify a person's job data records. The system distinguishes between a person's organizational instances by using a new ERN when you create a new instance.			
	Primary Key	no			
	Data Type	NUMBER			
	Size	22			
	Nullable	no			
	Data Classification				
	History				
	Accountable Commission				
	Examples of Use	When joining this record to JOB PS Query will add the join criteria of EMPL_RCD on both records. The JOB			

EMPL_TYPE	Alternative Column Name				
	Description				
	Primary Key	no			
	Data Type	VARCHAR2			
	Size	4			
	Nullable	no			
	Data Classification				
	History				
	Accountable Commission				
	Examples of Use				
	Converted				
	Common Column	no			
	Notes				
	Valid Values	Valid Values	Valid As Of	Retirement Date	Notes
		E	1/1/1901	1/1/1901	Exception Hourly
		H	1/1/1901	1/1/1901	Hourly
		N	1/1/1901	1/1/1901	Not Applicable
		S	1/1/1901	1/1/1901	Salaried

You will see how the information presented could be useful. For example, when studying the tables, we see that the STDNT_GRPS table does not have an Effective Status yet the STDNT_GRPS_HIST does have Effective Status. This means that whenever you need a query to display students in an inactive status you must use the STDN'T_GRPS_HIST table. Also, note the STDNT_GROUP_TBL defines student group codes making it an excellent choice for a prompt table.

We will cover the other options available in MetaLink in Section 3 of this manual.

Verifying your Query Results

With all of the time and effort that goes into creating a query one of the most important aspects of query creation comes at the very end; verifying your results. Below is a list of ways that you can ensure your query results are correct.

- Check the Front End
  - Select a unique identifier (EMPLID, Account Number, etc.) and go to the front end of PeopleSoft and check the information available there against the information retrieved in your query results.
- Compare
  - Compare your results with known reports that are up-to-date and accurate.
- Perform a "sanity check"
  - Ask yourself if the information you are presenting is reasonable. For example, if there are generally no classes at your institution that enroll more than 100 students per class, then a query returning a class enrollment of 250 students is probably not correct.
- Estimate
  - Try to estimate likely results before executing the query.
- Break it down
  - Break down large amounts of data to its components, and then add them to be sure that the entire amount is accounted for. For example, if searching for undergraduate Hispanic female students, look at: all Hispanic students, male Hispanic students, etc. to check the accuracy of your query.
- Ask a SME (Subject Matter Expert)
  - Ask someone who knows the data to check your results.
- Get Detailed Information from the Report Requester
  - Ask the requestor of the report what results to expect. Ask if they can suggest an existing report that you can use against which to check your results. If your query is getting results that are not anywhere near what was expected then your query may be in error.
- Become an Expert
  - Become as familiar and knowledgeable as you can about your data records. Participate in the Data Services WebEx's and trainings. Also, consider using MetaLink as a source to learn as much as you can about the records you use.
- Review the Output
  - Reviewing the query results is always a good idea and sometimes it will help you to spot mistakes.
- Select a single Account or EMPLID
  - Check the data in the query against the front end of the system.

Section 1 Review

In this section we learned about the WHERE clause and ON clause and how to place criteria appropriately to a Left Outer Join and to apply effective date logic to queries and Left Outer Joins allowing understanding of how this logic can affect the results from your queries.

We also discussed important information on how to find information about where a field found in the front end of the system lives in the backend and how you can use this information in your query development.

Finally we learned how to create and use queries which search existing queries for specified information and how to check the results of your queries to ensure accurate reporting.

Notes:

_____

_____

_____

_____

_____

_____

_____

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_____

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_____

_____

_____

Section 1 Knowledge Test

1. The ON clause of a Left Outer Join applies the criteria to the: _____

2. The WHERE clause applies the criteria to the: _____

3. Why is it important where the SQL code for criteria is placed on a Left Outer Join?

   _____

   _____

4. What three fields are used in determining effective logic in PeopleSoft query?

   _____   _____   _____

5. What does EFFSEQ track?

   A. Effective Date
   B. Effective Status
   C. Changes to an effective dated row that take place on the same EFFDT

6. With Effective dated queries, rows of data are classified in one of three categories. These are:

   1. _____

   2. _____

   3. _____

7. If creating a Left Outer Join using an Effective dated record, users must provide an option for the effective date to be _____ in order for the Left Outer Join to function as desired.

8. If one effective dated record in a query has the effective dated criteria set a certain way, all of the other effective dated records in the query must have their effective dated criteria set up in the same way.

             True   False

9. What are 4 ways to find information about records and fields?

   1. _____

   2. _____

   3. _____

4. _____

10. records that begin with PSQRY all contain data about _____ .

11. What are three ways to verify your query results? Choose the three that you think you will find the most beneficial.

1. _____

2. _____

3. _____

Section 1 Exercises Campus Solutions

1. Create a query using the effective dated record STDNT_GRPS_HIST and update the EFFDT criteria to only see results which have an EFFDT of between the two dates – 1/1/2016 and 1/1/2017. Save your changes. Write the name of your query here:

2. Create a new query and use the record STDNT_ATTR_TBL as your base record then add FA_APP_SRC_TBL as a Left Outer Join. Arrange the Effective Date criteria for record B to have the option for the effective date to be NULL for the second record. Save your changes. Write the name of your query here:

3. Go to the Student Enrollment page by following the menu path Main Menu → records and Enrollment → Enroll Students → Enrollment. Enter the EMPLID 101000242. Using CNTL+SHIFT+J find the page name to use in the QCS_PSPNLFIELD query to determine the database name of the field "Reason" and what record it lives in. Write the database field name and record here:

4. Navigate back to the Student Enrollment page by following the menu path Main Menu → records and Enrollment → Enroll Students → Enrollment. Enter the EMPLID 101000242. This time use CTRL+SHIFT+C to find out the name of the "Program" field in the database and the record where it lives. Write the database field name and record name here:

5. Go to Query Manager and create a new query using the record PSQRYSTATS. Select all of the fields and then run the query to determine how many times query CTC_SR_PS_ID_LOOKUP has been ran and its last update date/time. Discard your changes. Write the number of times ran and last update date/time.

Section 1 Exercises Human Capital

1. Create a query using the effective dated record ADDRESSES and update the EFFDT criteria to only see results which have an EFFDT of between the two dates – 1/1/2013 and 1/1/2014. Save your changes. Write the name of your query here:

   _____

2. Create a new query and use the record JOBCODE_TBL as your base record then add PRIMARY_JOBS_VW as a Left Outer Join. Select any fields based on your preference. Arrange the Effective Date criteria to add the option for the effective date to be NULL for the B record. Save your changes. Write the name of your query here:

   _____

3. Go to the Phone Numbers page by following the menu path Main Menu → Self Service → Personal Information → Phone Numbers. Enter the EMPLID 101004733. Using CNTL+SHIFT+J find the page name to use in the QHC_PSPNLFIELD query to determine the database name of the field "Telephone" and what record it lives in. Write the database field name and record here:

   _____

4. Go to the Phone Numbers page by following the menu path Main Menu → Self Service → Personal Information → Phone Numbers. Enter the EMPLID 101004733. This time use CTRL+SHIFT+C to find out the name of the "Benefit Plan" field in the database and the record where it lives. Write the database field name and record here:

   _____

5. Go to Query Manager and create a new query using the record PSQRYSTATS. Select all of the fields and then run the query to determine how many times query QHC_PY_PAY_EARNINGS has been ran and its last update date/time. Discard your changes. Write the number of times ran and last update date/time.

   _____

Section 1 Exercises Financials

1. Create a query using the effective dated record ASSET_CLASS_TBL and update the EFFDT criteria to only see results which have an EFFDT of between the two dates – 1/1/2013 and 1/1/2014. Save your changes. Write the name of your query here:

2. Create a new query and use the record PO_HDR as your base record then add VENDOR_ADDR as a Left Outer Join. Arrange the Effective Date criteria to add the option for the effective date to be NULL for the second record. Save your changes. Write the name of your query here:

3. Go to the Items page by following the menu path Main Menu → Items → Review Item Information → Items. Search using a SETID of WACTC.   Select Item 005-70 Pumice Stone. Using CNTL+SHIFT+J find the page name to use in the QFS_PSPNLFIELD query to determine the database name of the field "Item ID" and what record it lives in. Write the database field name and record here:

4. Navigate back to the Items page by following the menu path Main Menu → Items → Review Item Information → Items. Search using a SETID of WACTC.   Select Item 005-70 Pumice Stone. This time use CTRL+SHIFT+C to find out the name of the "Item Group" field in the database and the record where it lives. Write the database field name and record here:

5. Go to Query Manager and create a new query using the record PSQRYSTATS. Select all of the fields and then run the query to determine how many times query   CTC_WA220_KK_PRJ_DTL_EXP_REV has been ran and its last update date/time. Discard your changes. Write the number of times ran and last update date/time.

Section 2 Introduction

At the end of this section you will be able to:

- Effectively apply Aggregate Functions to query results.
- Utilize the Having tab to add criteria to fields using Aggregate Functions.
- Be able to create Expressions to allow complex refining of query results.

Aggregate Functions

An Aggregate Function is a type of operator that returns a single value based on multiple rows of data. When your query includes one or more Aggregate Functions, PeopleSoft query collects related rows and displays a single row that summarizes their contents. If, for example, you were to create a query that would include General Ledger Account and Amount Posted. You might want to see all posted activity to the account over a given amount of time. Without any Aggregate Functions, this query would return one row for every account and amount combination over the given time frame.

	Unit	Ledger	Account	Currency	Year	Total Amt	Base Curr
1	WA170	LOCAL	101110	USD	2014	-665.810	USD
2	WA170	LOCAL	101110	USD	2014	502.210	USD
3	WA170	LOCAL	101110	USD	2014	310.910	USD
4	WA170	LOCAL	101110	USD	2014	-1311.220	USD
5	WA170	LOCAL	101110	USD	2014	1745.550	USD
6	WA170	LOCAL	101110	USD	2014	-1004.870	USD
7	WA170	LOCAL	101110	USD	2014	267.010	USD
8	WA170	LOCAL	101110	USD	2014	737.860	USD
9	WA170	LOCAL	101110	USD	2014	105.950	USD
10	WA170	LOCAL	101110	USD	2015	-312.300	USD
11	WA170	LOCAL	101110	USD	2015	312.300	USD
12	WA170	LOCAL	101110	USD	2015	23.870	USD
13	WA170	LOCAL	101110	USD	2015	63.150	USD
14	WA170	LOCAL	101110	USD	2015	-68.640	USD
15	WA170	LOCAL	101110	USD	2013	-309.570	USD
16	WA170	LOCAL	101110	USD	2014	961.740	USD

If you apply the Aggregate Function Sum to the Amount field, the query can be narrowed down to display one row that summarizes the amount for each account over the given time frame.

	Unit	Ledger	Account	Currency	Year	Sum Total Amt	Base Curr
1	WA170	LOCAL	101110	USD	2013	48778576.320	USD
2	WA170	LOCAL	101110	USD	2014	-12406059.840	USD
3	WA170	LOCAL	101110	USD	2015	5830548.110	USD
4	WA170	LOCAL	101110	USD	2016	34659659.960	USD
5	WA170	LOCAL	101120	USD	2013	25080.430	USD
6	WA170	LOCAL	101120	USD	2014	233865.460	USD
7	WA170	LOCAL	101120	USD	2015	-144044.820	USD
8	WA170	LOCAL	101120	USD	2016	14029.750	USD

Note: If you do not want PeopleSoft query to redefine the field in this way—for example, if you want to display both the individual row values *and* the results of the Aggregate Function—create an Expression that includes the Aggregate Function rather than applying the function directly to the field.

In the same way, if you wanted to total the amount by Fund Code/Account/Year simply add in the Fund code to the query to find the results with the Aggregate Function Sum still on the Amount field.

	Unit	Ledger	Account	Fund	Currency	Year	Sum Total Amt	Base Curr
1	WA170	LOCAL	101110	057	USD	2016	0.000	USD
2	WA170	LOCAL	101110	145	USD	2013	0.000	USD
3	WA170	LOCAL	101110	145	USD	2014	-13008.000	USD
4	WA170	LOCAL	101110	145	USD	2015	10.000	USD
5	WA170	LOCAL	101110	145	USD	2016	0.000	USD
6	WA170	LOCAL	101110	147	USD	2013	0.000	USD
7	WA170	LOCAL	101110	147	USD	2014	7244340.850	USD
8	WA170	LOCAL	101110	147	USD	2015	915251.100	USD
9	WA170	LOCAL	101110	147	USD	2016	0.000	USD

When you apply an Aggregate Function to a field, you are redefining how PeopleSoft query uses the field throughout the query. Essentially, the query replaces the field, wherever it occurs, with the results of the function. If you select the field as a display column, PeopleSoft query displays the aggregate values. If you use the field as an order by column, the application organizes the results in an order that is based on the aggregate values.

Aggregates cannot be used to count or sum in every type of query. If you are selecting multiple fields that will generate unique results the count/sum may not produce the results you are expecting. If the data requested is unique there is no way for the system to present the unique data and provide a count.

Applying Aggregate Functions

You can apply the following Aggregate Functions to a field:

• Sum: Adds the values from each row and displays the total.
• Count: Counts the number of rows.
• Min: Checks the value from each row and returns the lowest one.
• Max: Checks the value from each row and returns the highest one.
• Average: Adds the values from each row and divides the result by the number of rows.

To apply an Aggregate Function, navigate to the fields Tab in your query and select the field where you would like to apply the function. Click on the Edit button to the right of the field. The Edit field Properties box will appear where you can select the Aggregate Function. Click on Ok and then run your query.

Now the query will display one row that summarizes the aggregate request.

	Unit	Ledger	Account	Currency	Year	Sum Total Amt	Base Curr
1	WA170	LOCAL	101110	USD	2013	48778576.320 USD	
2	WA170	LOCAL	101110	USD	2014	-12406059.840 USD	
3	WA170	LOCAL	101110	USD	2015	5830548.110 USD	
4	WA170	LOCAL	101110	USD	2016	34659659.960 USD	
5	WA170	LOCAL	101120	USD	2013	25080.430 USD	
6	WA170	LOCAL	101120	USD	2014	233865.460 USD	
7	WA170	LOCAL	101120	USD	2015	-144044.820 USD	
8	WA170	LOCAL	101120	USD	2016	14029.750 USD	

Having criteria

SQL does not support the use of Aggregate Functions in WHERE clauses. Because the WHERE clause is where standard criteria is automatically added by PeopleSoft query this means that once you have added an Aggregate Function to a field you can no longer use that field for standard criteria. Hence, the need for Having criteria. The Having tab creates a HAVING clause where criteria are placed in the SQL code for results based on an Aggregate Function.

In SQL, a HAVING clause is similar to a WHERE clause for rows of data that have been aggregated into a single row of output. The system evaluates WHERE clauses by looking at the individual table rows *before* they are grouped by the Aggregate Function, and then it evaluates HAVING clauses *after* applying the function. So if you want to add criteria the value that is returned by the function, you must define a HAVING criterion.

When you click the Add criteria icon from the fields or query pages for an aggregate field, you will be taken directly to the Having tab instead of the criteria Tab. If you try to add criteria to the aggregated field through the Add criteria tab, the aggregated field will not display as an option from the field selection screen. You will add your criteria filters using the Having tab in the same way that you add criteria using the criteria Tab.
Keep in mind that PeopleSoft query compares th   ``````e result of applying the Aggregate Function to the comparison value.
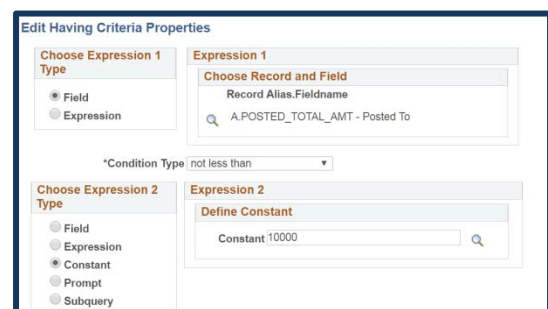
Using the Having tab

Continuing with the example from the Aggregate module of this manual, we will walk through how to display only GL Accounts that have posted more than $10,000.

To add Having criteria to your query, click on the Add Criteria Icon to the right of the field with the aggregate value. You will be directed to the Having tab. Enter the values as you would normally in the criteria Tab. All options available on the criteria Tab remain available on the Having tab.

In the example to the right we are looking for values equal to or greater than 10,000 by using the "not less than" operator.

Run your query to test the results.

	Unit	Ledger	Account	Currency	Year	Sum Total Amt	Base Curr
1	WA220	LOCAL	603200	USD	2014	10009.000 USD	
2	WA170	LOCAL	101316	USD	2016	10493.170 USD	
3	WA170	LOCAL	603090	USD	2014	10686.610 USD	
4	WA170	LOCAL	606030	USD	2016	10865.630 USD	
5	WA170	LOCAL	603100	USD	2015	11270.000 USD	
6	WA170	LOCAL	603100	USD	2014	11271.000 USD	
7	WA170	LOCAL	525000	USD	2015	11764.480 USD	
8	WA170	LOCAL	606020	USD	2016	12016.340 USD	
9	WA170	LOCAL	601160	USD	2016	12444.260 USD	
10	WA170	LOCAL	606010	USD	2016	12955.120 USD	
11	WA220	LOCAL	602800	USD	2016	13249.000 USD	
12	WA220	LOCAL	603090	USD	2016	13467.920 USD	

Expressions

Expressions are calculations that PeopleSoft query performs as part of a query. Use them when you must calculate a value that PeopleSoft query does not provide by default—for example, to add the values from two fields together or to multiply a field value by a constant. In essence, an Expression is some form of operation involving numbers, character strings, or dates and times. It can use values taken from specific fields in a table, constant values or a combination. Expressions can define constants or can derive calculations. Character string can be concatenated (linked together) into a new field. Numerical or date columns can have mathematical operations applied.

The functions in query Expressions are special types of command words written in SQL. They are usually one-word commands which manipulate data items and return a single value which can be determined by various input parameters. A typical Expression appears as in the example to the right.

Edit Expression Properties

*Expression Type

| Signed Number ▼ | Length | 16 |

☑ Aggregate Function   Decimals   2

Expression Text

CASE WHEN SUM(B.XREF_AMT) IS NULL THEN
A.ITEM_AMT ELSE (A.ITEM_AMT - SUM(B.XREF_AMT))
END

Add Prompt   Add Field

OK   Cancel

You work with an Expression as if it were a field in the query, meaning you can select it to display in the output, change its column heading, or choose it as an "order by" column.

In Query Manager, you can use Expressions in two ways:
- As comparison values in selection criteria.
- As columns (fields) in the query output.

How to Write Expressions

Before learning about all the different Expression types, let's take a look at some formatting basics on how to write Expressions. As we have already discussed, Expressions are calculations using functions. Functions are special types of command words written in SQL. You will be learning many of these command words

(functions) later in this module but we must first learn the formatting basics of SQL Expressions before we will be able to effectively use Expressions in our queries.

Below are some of the most common delimiters used and their meanings. Understanding these delimiters and their meanings will help in comprehending Expressions.

Delimiter	Meaning
+	Addition operator
'	Character string delimiter
||	Concatenation operator
/	Division operator
(	Expression or list delimiter (begin)
)	Expression or list delimiter (end)
,	Item separator
*	Multiplication operator
=	Relational operator (equal)
<>	Relational operator (not equal)
<	Relational operator (less than)
>	Relational operator (greater than)
<=	Relational operator (less than or equal)
>=	Relational operator (greater than or equal)
;	Statement terminator
–	Subtraction operator

Using Expressions as Comparison Values for criteria

You may use an Expression as the Expression 1 or Expression 2 Type on both the criteria Properties or Having criteria Properties pages.

- The value in the selected Expression 1 is compared to an Expression 2 you enter
- When you've selected Expression as the Expression 2 comparison type, as shown to the right, the Define Expression dialog box appears. In the text box, enter a valid SQL Expression.
- To use a field or Prompt in the Expression, click the Add field link or the Add Prompt link.
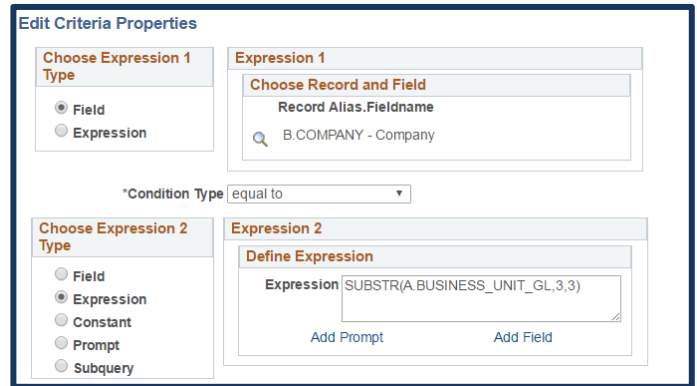
Note: while it is important to understand the concept of using an Expression as a Comparison Value it is not often used in query development at SBCTC.

Using Expressions as columns in query Output

Expressions can also be (and are much more commonly) used as columns in your query through the Expressions Tab.

Note: if using an existing field from your query as part of the function, the Expression Type MUST match the Format of the selected field. It is best to review the field Format of the *before* creating the Expression.

To see the field Format, click on the fields tab and look in the Format column. In the record ANTC_AID_TERM, note the field A. NEW_AWARD_AMT is SNm11.2 (Signed Number, 11 characters, 2 decimals) so any Expression that uses that field must have an Expression Type of Signed Number.

To add an Expression to your query, navigate to the Expressions Tab and click on "Add Expression". Here you will select the Expression Type.

Available options are:

- Character
- Datetime
- Drilling URL
- Long Character
- Date
- Number
- Signed Number
- Time
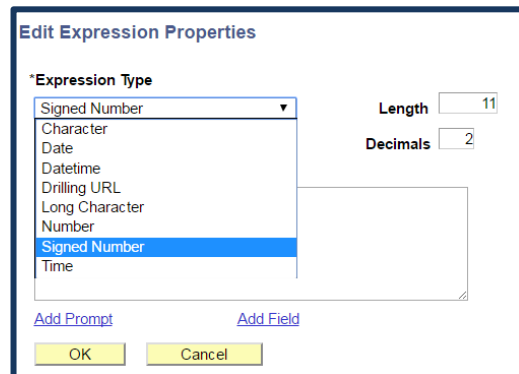
Next, select the length and, if applicable, the decimal points for the Expression and enter in the Expression function in the Expression Text field. If the Expression contains an aggregate value such as SUM, AVG, or COUNT then select the Aggregate Function check box. Once done, click OK.

Edit Expression Properties

*Expression Type

Signed Number ▼   Length   11

☐ Aggregate Function   Decimals   2

Expression Text

A.NET_AWARD_AMT/4

Add Prompt   Add Field

OK   Cancel

Note: The Aggregate Checkbox has some exceptions to the rule of selecting it if using an aggregate value. Be prepared to search for other ways to make your query return the expected results.

Click on the hyperlink "Use as field" to use this Expression in your query as a field. Note: as this calculated data is now considered a field by PeopleSoft query you are also able to add additional criteria to the field through the criteria tab (or Add criteria Icon) and edit the field properties in the fields tab.

Query Name QCS_TRAIN_SIMPLE_EXPRESSION   **Description** Simple Expression Example   Feed ▾

Add Expression

Expressions List   Personalize | Find | 🖾 | 🎞   First ◀ 1 of 1 ▶ Last

Expression Text	Use as Field	Add Criteria	Edit	Delete
A.NET_AWARD_AMT/4	Use as Field	🔧	Edit	⊟

Once you have clicked "Use as field" you will be taken directly to the fields tab where you will be able to edit the field properties as usual. The field name will default to the actual Expression function entered in the Expression Text field. It is recommended to change this to a more user friendly field name. In this case it has been changed it to "Monthly Award". The Record.Fieldname will remain as the Expression Text.

Fields   Personalize | Find | View All | 🖾 | 🎞   First ◀ 1-5 of 5 ▶ Last

Col	Record.Fieldname	Format	Ord	XLAT	Agg	Heading Text	Add Criteria	Edit	Delete
1	A.EMPLID - Empl ID	Char11				ID	🔧	Edit	⊟
2	A.INSTITUTION - Academic Institution	Char5				Institution	🔧	Edit	⊟
3	A.STRM - Term	Char4				Term	🔧	Edit	⊟
4	A.NET_AWARD_AMT - Net Award Amount	SNm11.2				Net Award	🔧	Edit	⊟
5	A.NET_AWARD_AMT/4	SNm9.2				Monthly Award	🔧	Edit	⊟

Expression Types

There are five general types of Expressions used in PeopleSoft query.

- Conversion
- String/Character
- Numeric
- Date and Time
- Advanced

Conversion Expressions

Conversion: Change or convert values from one data type to another (character to numeric, numeric to character, character to date or date to character)

Function	Usage	Expression Example	Result
TO_CHAR	Converts a number or date to a string.	TO_CHAR((SYSDATE),'mm-dd-yyyy')	01-11-2017
TO_CHAR	Converts a number or date to a string.	TO_CHAR((A.ACTION_DT),'mm-dd-yyyy')	June 05, 2016
TO_NUMBER	Converts a string to a number.	TO_NUMBER('12345.67','99999.99')	12345.67

String Functions

String (also referred to as Character): perform operations on a string (char/varchar) input value and return a string or numeric value.

Function	Usage	Example	Result
CONCATENATION	Concatenate two or more strings together into a single string.	CONCAT('Data Services', ' Rocks!')	Data Services Rocks!
CONCATENATION	Concatenate two or more strings together into a single string.	'Data Services' || ' Rocks!'	Data Services Rocks!
INITCAP	Sets the first character in each word to uppercase and the rest to lowercase.	INITCAP(A.ACAD_PROG)	Acadm
LOWER	Converts a string to all lowercase characters.	LOWER(A.ACAD_PROG)	acadm
UPPER	Converts a string to all uppercase characters.	UPPER(A.CITY)	SEATTLE
SUBSTR	Extracts a portion of a string or field.	SUBSTR(A.VENDOR_ID, 7,4)	4116
LENGTH	Returns the number of characters in a string or field.	LENGTH(A A.VENDOR_ID)	10
TRIM	Removes all specified characters either from the beginning of a string, the end of a string or both.	TRIM(' Tech ' TRIM(LEADING '000' FROM '000123') TRIM(TRAILING '1' FROM 'Tech1')	Tech 123 Tech

Numeric and Date Functions

Numeric: performs operations on numeric values and returns numeric values, accurate to 38 decimal points

Function	Usage	Example	Result
ROUND	Function returns a number rounded to a certain number of decimal places.	ROUND(A.CUM_GPA,1) – starting field is 3.6689	3.7
TRUNC	Returns a number truncated to certain number of decimal places.	TRUNC(A.CUM_GPA,1) – starting field is 3.6689	3.6
SYSDATE	Returns the current system date and time on your local database.	SYSDATE - where today's date is 01/11/2017	2017-01-11
ADD_MONTHS	Returns a date with a specified number of months added.	ADD_MONTHS(SYSDATE,3) - where today's date is 01/11/2017	2017-04-11
MONTHS_BETWEEN	Returns number of months between date1 and date2.	MONTHS_BETWEEN(SYSDATE,A.ACTION_DT) - where today's date is 01/11/2017 and ACTION_DT is 06/05/2012	55
GREATEST	Returns the greatest from a list of one or more Expressions.	GREATEST(A.UNT_TAKEN_PRGRSS,A.UNT_INPROG_GPA,A.TOT_INPROG_NOGPA) – where UNT_TAKEN_PRGRSS = 5.500 and UNT_INPROG_GPA = 4.500 and TOT_INPROG_NOGPA = 1.000	5.500
LEAST	Returns the least (the smallest) from a list of Expressions. This function is used for multiple values in the same row. See the MIN function if you want the smallest value from a group of rows.	LEAST(A.UNT_TAKEN_PRGRSS,A.UNT_INPROG_GPA,A.TOT_INPROG_NOGPA) – where UNT_TAKEN_PRGRSS = 5.500 and UNT_INPROG_GPA = 4.500 and TOT_INPROG_NOGPA = 1.000	1.000

Advanced Functions

Like the name implies, advanced functions are used for more advanced functionality. Advanced functions can achieve results such as returning the least or the greatest or they can be used to define if/then statements or limit the number of rows returned, to name just a few.

Function	Usage	Example	Result
NVL	Allows you to substitute a value when a NULL value is encountered.	Example 1: NVL(SUPPLIER_CITY, 'n/a')	If Supplier City is populated this will return the city name, if NULL it will return 'n/a'.
NVL2	Extends the functionality found in the NVL function. It lets you substitute a value when a NULL value is encountered as well as when a non-NULL value is encountered.	Example 1: NVL2(SUPPLIER_CITY, 'Completed', 'n/a')	If Supplier City is populated this will return 'Completed', if NULL it will return 'n/a'.
ROWNUM	Assigns a number indicating the order in which each row is returned by a query.	ROWNUM	2931
ROWNUM	Limits the number of rows returned in a result set.	ROWNUM < 10	Returns 9 rows of results.
CASE	Performs the functionality of an "IF-THEN-ELSE" statement CASE WHEN condition_1 THEN result_1 WHEN condition_2 THEN result_2 WHEN condition_3 THEN result_3 ELSE result END	CASE WHEN A.ACAD_CAREER = 'UGRD' THEN 'Undergraduate Student' WHEN A.ACAD_CAREER = 'GRAD' THEN 'Graduate Student' WHEN A.ACAD_CAREER = 'SRSR' THEN 'Running Start Student' ELSE 'Check Career' END	Undergraduate Student

Section 2 Review

In this section we learned how to effectively apply Aggregate Functions to query results as well as use the Having tab to add criteria to fields using Aggregate Functions.

Finally, we learned basic Expression formatting and how to create Expressions to allow complex refining of query results.

Section 2 Knowledge Test

1. If an Aggregate Function is applied to a field then query will replace the field, wherever it occurs, with the results of the function. (circle one)

                                            True   False

2. To apply an Aggregate Function, navigate to the _____ tab and select the edit button next to the selected field.

3. SQL does not support adding criteria to a field with an Aggregate Function. (circle one)

                                              True   False

4. In order to place criteria on the results of the Aggregate Function users should create the criteria on

    the _____ tab.

5. Expressions are _____ that PeopleSoft query performs as part of a query.

6. In Query Manager, you can use Expressions in two ways:

    - As _____ in selection criteria.

    - As _____ in the query output.

7. What are the four Expression types?

    1. _____

    2. _____

    3. _____

    4. _____

Section 2 Exercises Campus Solutions

→ Create a new query using the record STDNT_ENRL joined with ITEM_DUE_SF via a standard join type. Select the following fields in your query.

- A.INSTITUTION - Academic Institution
- A.STDNT_ENRL_STATUS - Student Enrollment Status
- A.STATUS_DT - Status Date
- A.ENRL_ADD_DT - Enrollment Add Date
- B.SA_ID_TYPE - ID Type
- B.ITEM_NBR - Item Nbr
- B.DUE_DT - Due Date
- B.DUE_AMT - Due Amount

→ Go to the fields tab and edit the properties of the DUE_AMT field to apply the Aggregate Function SUM to this field.

→ Add criteria to the DUE_AMT Aggregate Function results to display only amounts equal to or greater $200,000 using the Add criteria icon. Note that this will take you directly to the Having tab. Hint: to create criteria of equal to or greater than use the operator "not less than".

→ Add a prompt to your query to allow the end user to select the institution. Add in a default institution of WA220. Make sure to label the prompt accordingly.

→ Review the View SQL tab and note that there is now a WHERE clause as well as a HAVING clause.

→ Go to the Expressions tab and create a CASE Expression to show how much over $100,000 the amount due is. Also make sure to check the Aggregate box as this field has an aggregate value associated with it. Remember to use the correct terminology.
- CASE
- WHEN
- THEN
- END

→ Select to use the Expression as a field and then go to the fields tab to change the Heading to say "Amount due over $100,000"

→ Save your changes

→ Run your query

Section 2 Exercises Human Capital

→ Create a new query using the record FED_TAX_DATA joined with DIVERSITY via a standard join type. Select the following fields in your query.

- A.SPECIAL_FWT_STATUS - Special FWT Status
- A.FWT_MAR_STATUS - FWT Marital Status
- A.FWT_ADDL_AMT - FWT Additional Amount
- B.CAN_VISBL_MINORITY - Visible Minority

→ Go to the fields tab and edit the properties of the FWT_ADDL_AMT field to apply the Aggregate Function SUM to this field.

→ Add criteria to the FWT_ADDL_AMT Aggregate Function results to display only amounts equal to or greater $100 using the Add criteria icon. Note that this will take you directly to the Having tab. Hint: to create criteria of equal to or greater than use the operator "not less than".

→ Add a prompt to your query to allow the end user to select the company. Add in a default company of 170. Make sure to label the prompt accordingly.

→ Review the View SQL tab and note that there is now a WHERE clause as well as a HAVING clause.

→ Go to the Expressions tab and create a CASE Expression to show how much over $5,000 the amount due is. Make sure to select the correct Expression Type (hint: go to the fields tab first and look in the Format column). Also make sure to check the Aggregate box as this field has an aggregate value associated with it. Remember to use the correct terminology.
- CASE
- WHEN
- THEN
- END

→ Select to use the Expression as a field and then go to the fields tab to change the Heading to say "FWT over $5000"

→ Save your changes

→ Run your query

Section 2 Exercises Financials

→ Create a new query using the record VR_BAL_AR_VW joined with VENDOR_LOC via a standard join type. Select the following fields in your query.
- A.VENDOR_ID - Supplier ID
- A.BUSINESS_UNIT - Business Unit
- A.GROSS_AMT - Gross Invoice Amount
- B.VNDR_LOC - Supplier Location
- A.VCHR_COUNT - Count of Vouchers
- B.EFF_STATUS - Status as of Effective Date

→ Go to the fields tab and edit the properties of the GROSS_AMT field to apply the Aggregate Function SUM to this field.

→ Add criteria to the GROSS_AMT Aggregate Function results to display only amounts equal to or greater $10000 using the Add criteria icon. Note that this will take you directly to the Having tab. Hint: to create criteria of equal to or greater than use the operator "not less than".

→ Add a prompt to your query to allow the end user to select the business unit. Add in a default business unit of WA220. Make sure to label the prompt accordingly.

→ Review the View SQL tab and note that there is now a WHERE clause as well as a HAVING clause.

→ Go to the Expressions tab and create a CASE Expression to show how much over $10,000 the amount due is. Make sure to select the correct Expression Type (hint: go to the fields tab first and look in the Format column). Also make sure to check the Aggregate box as this field has an aggregate value associated with it. Remember to use the correct terminology.
- CASE
- WHEN
- THEN
- END

→ Select to use the Expression as a field and then go to the fields tab to change the Heading to say "Gross Invoice > $10,000"

→ Save your changes

→ Run your query

Section 3 Introduction

At the end of this section you will be able to:

- Understand BIND records and how they affect query development.
- Effectively use Metalink to search query metadata.
- Have knowledge of how to run reports created with BI Publisher.

BIND records in Population Selection queries

Population selection (Pop Select) is a feature in PeopleSoft that allows for the selection of specific individuals or organization ID's to be selected through a query for a particular batch process based on specific parameters. For example, if an acceptance letter should be sent to all newly accepted students there is a batch process for this which uses a specific query that retrieves all new students flagged as application accepted. BIND records are used in conjunction with Pop Select processes. Each batch process will require certain fields be used in the query in order to properly execute and the corresponding BIND record contains these required fields.

What is a BIND record?

A BIND record is simply a database record that stores the required field/fields that are needed for a particular population select process to run successfully. Any and all key fields in a BIND record MUST be displayed in the query result set for the batch process associated with the query to properly execute.

Let's take a look at a BIND record to examine in more detail. If we pull up the query: CTC_SR_MIS_NATID_POPSEL we see that there are 5 records used in the query and one of them is a BIND record (SCC_PS_STRM_BND).

If we expand the SCC_PS_STRM_BND record we see that there are 4 key fields associated to it. We just learned that any and all key fields in a BIND record must be displayed in the query result set, however in the example below only two of the key fields have been selected for output.
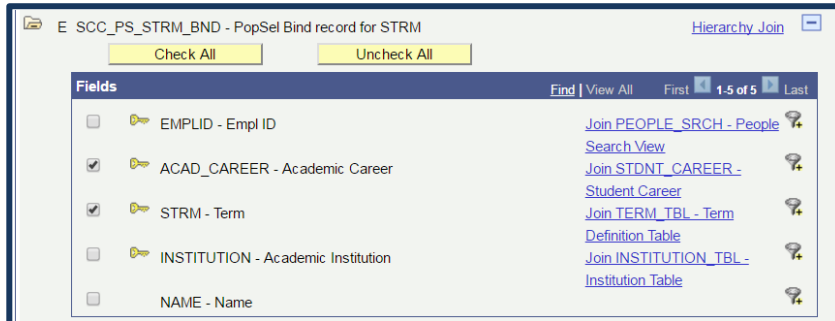
The reason for this is that as long as the fields are selected to be a part of the result set they can be selected from ANY record in the query. If we expand record A, STDN'T_CAR_TERM, we will see that EMPLID and INSTITUTION, the two missing key fields of the BIND record, have been selected here. Thus we have fulfilled the requirement of displaying each and every key field from the BIND record in the query result set.
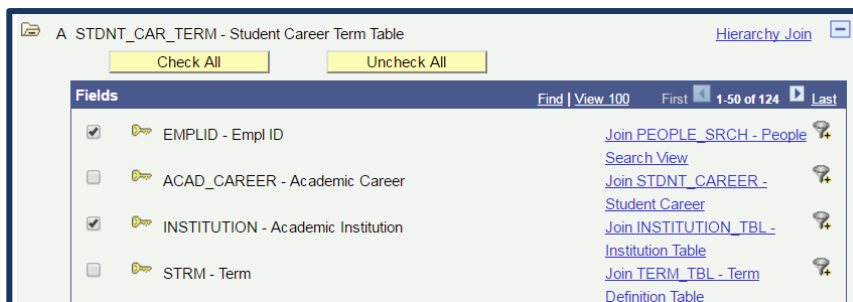
Pop Select Query Protocol

Pop Select queries have the following protocol:
1. Identify the query/Batch Process relationship. If unsure what the relationship is submit a ticket to ERP Support to ensure that the correct query is tied to the correct process.
2. All key fields in the BIND record must be displayed in the query results.
3. Only display the BIND record key fields in the query results.
   a. In some batch processes if any other column is displayed besides a BIND record key field it will cause the process to fail. If it is desired to use the Pop Select query for data values in addition to its use in the batch process it is recommended to create two separate queries.
4. Always include POP or POPSEL in the query name at the end of the query. For example, CTC_SR_MIS_NATID_POPSEL.
5. Describe the query as a Pop Select query in the description.
6. Provide a full Definition, including the batch process the query is tied to.

MetaLink Query, Report and Pivot Grid Search

One of the great things about MetaLink is that it allows users to search for queries, reports and pivot grids across a variety of fields from a single input source. Users are able to search across all pillars, by a single Folder or by all Folders, across Description, Definition and field name. The plethora of available options and the ease of searching is one of the best features of MetaLink. In PeopleSoft query for example, the only way to search by query definition is by creating a query to do so while MetaLink allows query definition searching with no additional effort required.

To search MetaLink for existing queries, reports and pivot grids in Production click on the Meta Data tab if you are logged into the system.

If you are not logged in as a logon is not required for this section simply click on Search Tools.

Next click on View Query, Report and Pivot Grid search hyperlink.
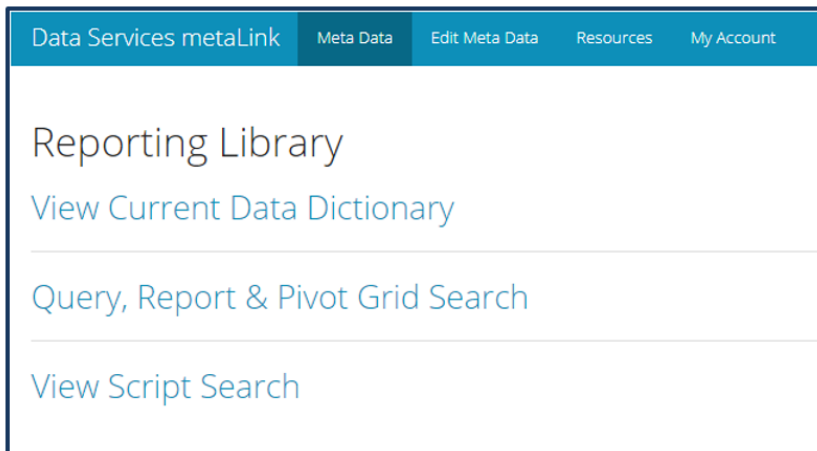
From here you will enter your search criteria.

It is important to note that users enter the search criteria in one page to search three different objects; queries, reports and pivot grids. However, each search criteria may not actually apply to all three objects. For

example, Modules will search reports only while Folders will only search queries. However, Pillars will search queries, reports and pivot grids. If the search criteria does not apply to a certain tab then an exhaustive list of complete inventory will display instead of a filtered list of search results. How will a user know which search criteria applies to which tabs? There is a Definitions box to the right of the search criteria which explains which search criteria affects which tab.

Definitions

- Pillar – Will search Queries, Reports and Pivot Grids.
- Module – Will search Reports.
    - Pivot Grid and Queries will display ALL current inventory.
- Folders – Will search Queries.
    - Pivot Grid and Reports will display ALL current inventory.
- Field Names – Will search Queries and Pivot Grids.
    - Reports will display ALL current inventory.
    - Use a comma (,) as an OR separator to search multiple fields.
    - AND separator searches are not available.
- Free Text – Will search Queries, Reports and Pivot Grids.
    - Free Text Search allows using up to four search terms.
        - Use a comma as an OR separator to search using multiple search terms.
        - Use a single space as an AND separator to search using multiple search terms.

* All search boxes are separated by *AND* conditional operator logic. *

Search Criteria Boxes

All Pillars

If you want to search a specific pillar you are able to select it in the "All Pillars" box. If you want to search across all three pillars simply leave "All Pillars" selected. Queries, reports and pivot grid results will be returned based on your selection.

Modules

Selecting a module will narrow the search to only return Reports based on the selected module. The search will produce results in the Queries and Pivot Grids tabs, however the results will simply be a list of all current queries and pivot grids, not a list of results based on Module. Instead, the only tab which will reflect a filtered list of results will be the Reports tab.

Folders

In the next box you are able to search for queries in either a specific folder or across all folders if 'All Folders" is selected. The search will produce results in the Reports and Pivot Grids tabs, however the results will simply be a list of all current reports and pivot grids, not a list of results based on Folder. Instead, the only tab which will reflect a filtered list of results will be the Queries tab.

Field Names

In the Fields box users are able to enter field names to find results. Commas act as an "OR" separator allowing for multiple fields to be searched, however it is not possible to search multiple fields based on an "AND" logic at this time. The search will produce results in the Queries and Pivot Grids tabs, results in the Reports tab will simply be a list of all current reports, not a list of results based on the Field/s entered.
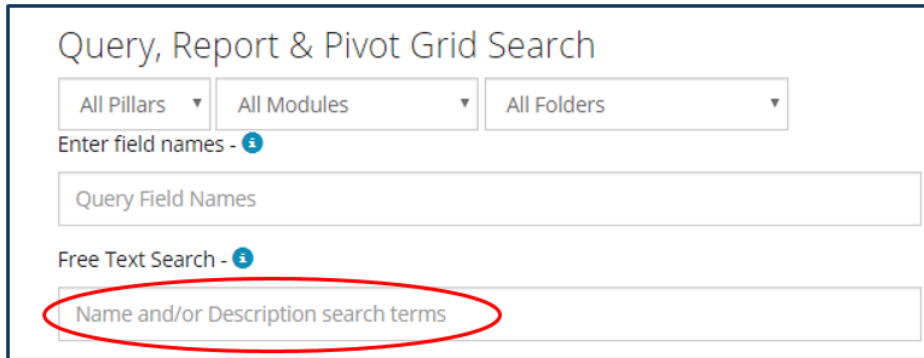
Free Text Search

The "Free Text Search" box will search across all columns in all three tabs returning any results which contains the word or words entered. Up to five terms can be separated by a comma for an "OR" logic separation or a space which acts as an "AND" separation logic.
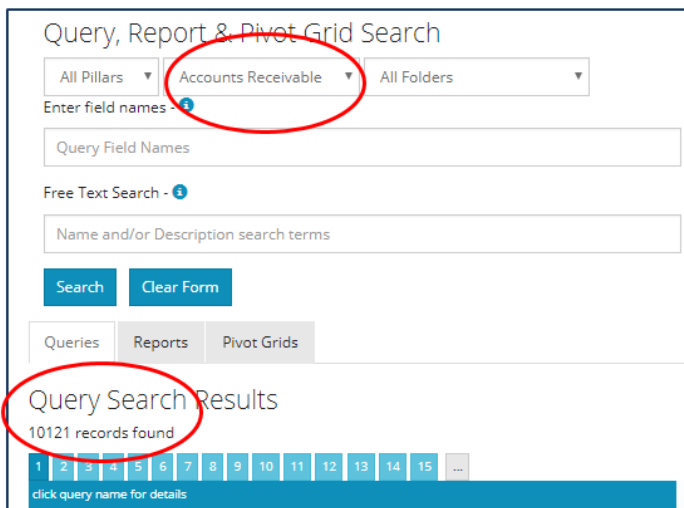
Combine Search criteria

In the same way as the Advanced Search in PeopleSoft all of the fields used for searching in MetaLink can be combined with other fields to narrow down your search results to find specifically the queries, reports or pivot grids you are most interested in. Just make sure to keep in mind that some of the search fields are designed to only search either queries, reports or pivot grids.

Search Results

Each tab will either display results or a message saying no results found if the search applies to that tab. If the search does not apply to the tab then a complete list of current inventory will display. For example, if a search is performed on the Modules box then a complete, exhaustive list of all queries will display as the Modules search does not apply to queries as shown below.
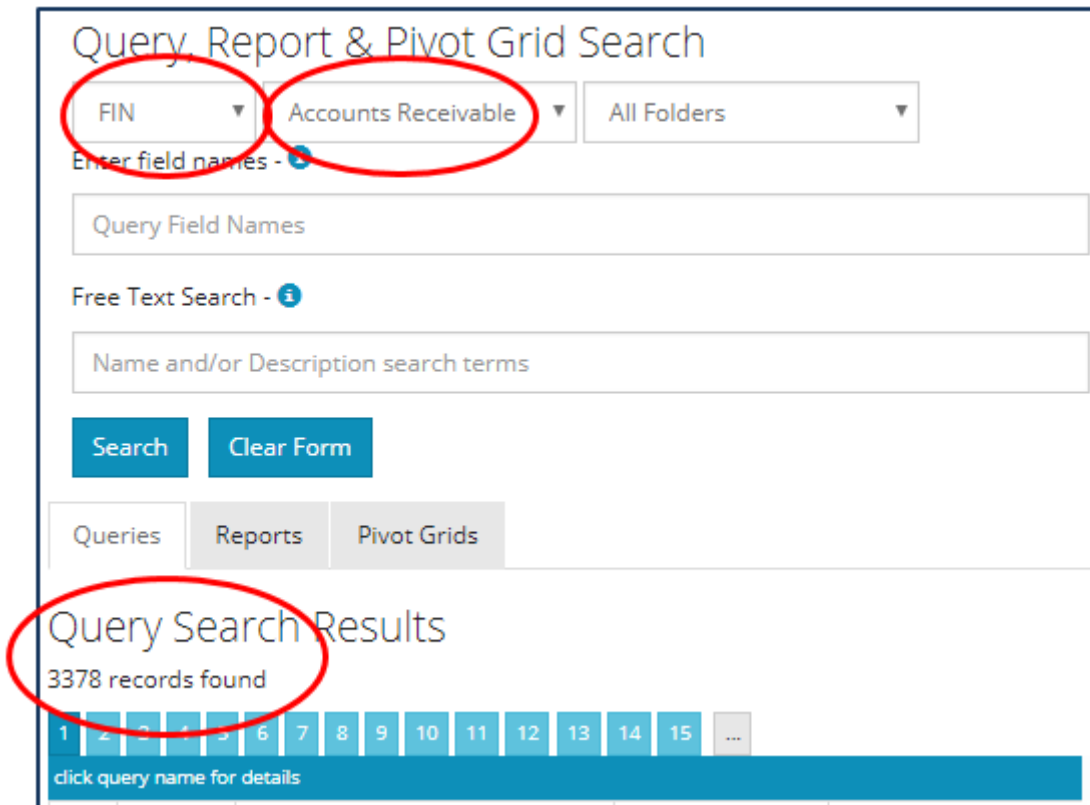
It gets really interesting however, if another search criteria has been selected. Following the same example, let's say that we selected the Pillar of FIN and then selected a Module. Then, the list of queries (and pivot grids) will be exhaustive and complete WITHIN the Finance module.

It can be a bit confusing at first but with practice it will soon make sense!

Queries Tab Results

The Queries Tab will show queries that match the search criteria (or all queries as explained above). The list will include the:

- Pillar
- Folder
- Query Name
- Description
- Long Description (Definition)

The query name will be in the form of a hyperlink which can be clicked to bring up additional details about the query.

The additional details available via the hyperlink are the table/field pairs which shows which records and fields were used in the creation of the query.

Query Details

Query Name:

CTC_CS_AA_ACAD_ADVISOR_NOT_R35

Query Description:

Students by Advisor & R35

Table - Field Pairs:

Table - Field	Query Field Name
NAMES_VW - EFFDT	B.EFFDT
NAMES_VW - EMPLID	B.EMPLID
NAMES_VW - NAME	B.NAME
SRVC_IND_DATA - EMPLID	C.EMPLID
SRVC_IND_DATA - INSTITUTION	C.INSTITUTION
SRVC_IND_DATA - SRVC_IND_CD	C.SRVC_IND_CD
STDNT_ADVR_HIST - ACAD_PROG	A.ACAD_PROG
STDNT_ADVR_HIST - ADVISOR_ID	A.ADVISOR_ID
STDNT_ADVR_HIST - EFFDT	A.EFFDT
STDNT_ADVR_HIST - EMPLID	A.EMPLID
STDNT_ADVR_HIST - INSTITUTION	A.INSTITUTION
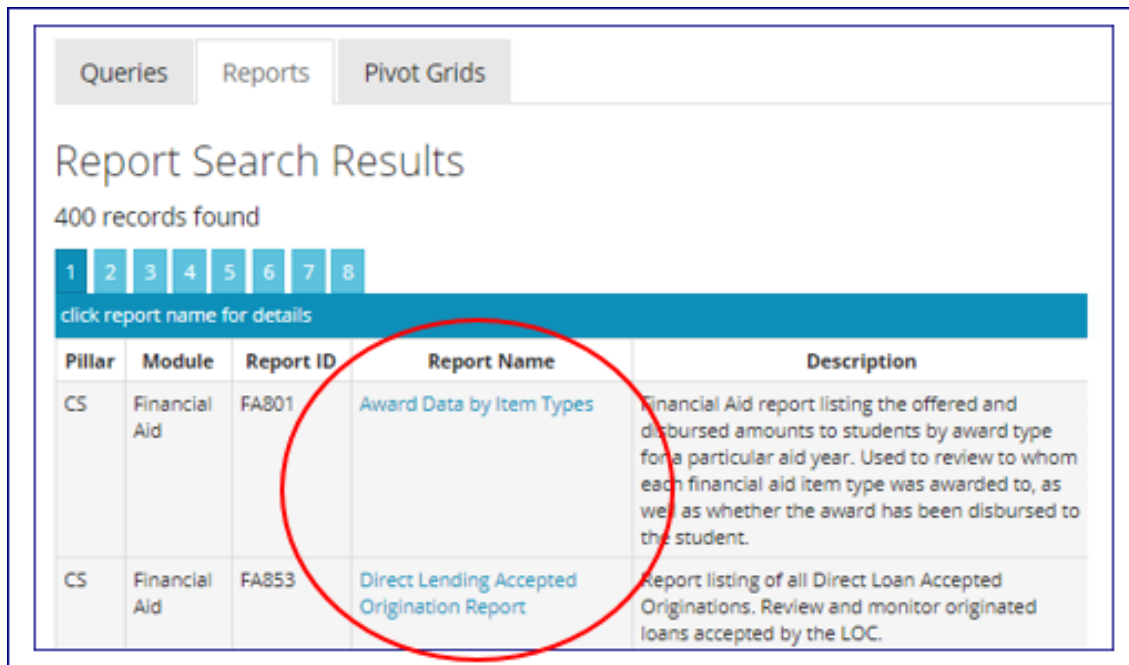
Close

Reports Tab Results

The Reports Tab will show reports that match the search criteria (or all reports as previously explained). The list will include the:

- Pillar
- Module
- Report ID
- Report Name
- Description

The report name will be in the form of a hyperlink which can be clicked to bring up additional details about the report.

The additional details available via the hyperlink are:

- Report ID
- Business Process Number
- CEMLI Number
- Report Name
- Report Description
- Report Type
- PeopleSoft Navigation

Report Details

Report ID:

FA854A

Business Process Number:

23k

CEMLI#:

No Number Available

Report Name:

Direct Lending Loans on Hold Report

Report Description:

Review and monitor loans placed on hold. Loans are placed on hold by the system when rejected origination acknowledgement, origination change acknowledgement, and disbursement acknowledgement files are received. You can also place loans on hold manually. Use after every import function.

Report Type:

BI Publisher

PeopleSoft Navigation:

Main Menu>>Financial Aid>>Loans>>Direct Lending Reconciliation>>Loans on Hold Report

Close

Pivot Grids Tab Results

The Pivot Grids Tab will show pivot grids that match the search criteria (or all pivot grids as previously explained). The list will include the:

- Pillar
- Object Name (Pivot Grid Name)
- Description
- Long Description

The pivot grid name will be in the form of a hyperlink which can be clicked to bring up additional details about the pivot grid.

The additional details available via the hyperlink are table/field pairs which show which records and fields were used in the creation of the pivot grid.
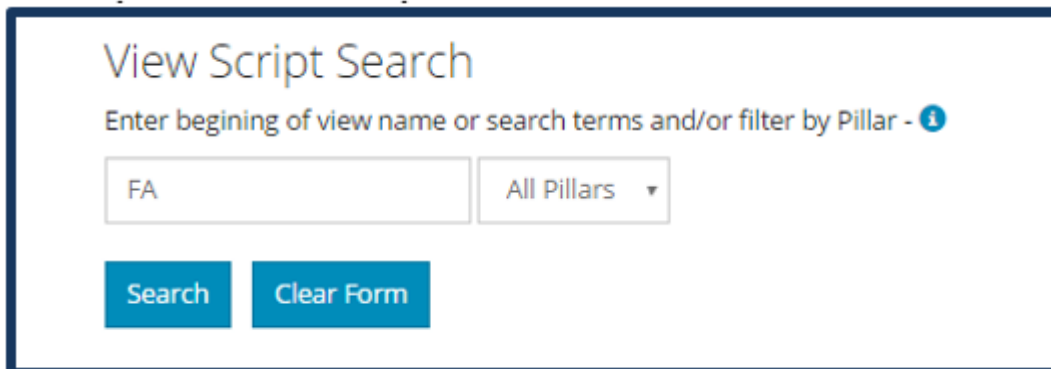
View Script Search

The MetaLink Script Search allows for searching for the underlying SQL script used in the creation of Views. Users can search by View Name and/or by Pillar. Click on Meta Data to go to the Reporting Library.

Data Services metaLink	Meta Data	Edit Meta Data	My Account

Click on View Script Search.

View Current Data Dictionary

View Query Search

View Report Search
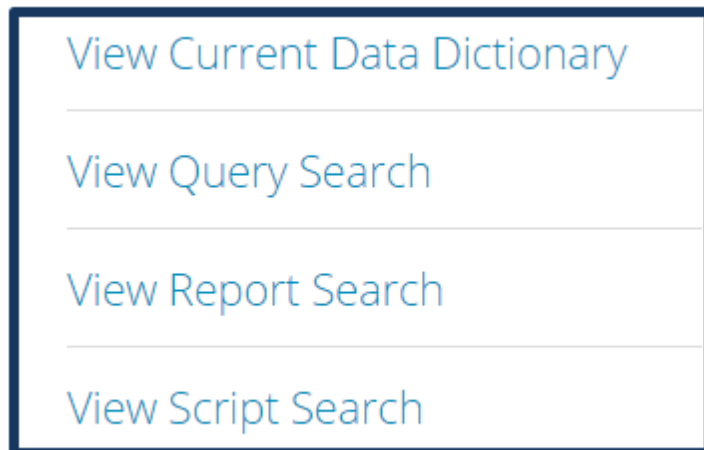
View Script Search

Here you will enter your search terms.

View Script Search

Enter begining of view name or search terms and/or filter by Pillar - ⓘ

FA	All Pillars ▾

Search   Clear Form

The results will display as show below.

Rows returned: 180

1 2 3 4 5 6

- The SBMD pillar represents views available in Golden Gate only and are considered State Board Master Data views.
- View scripts from any other Pillar are available only in PeopleSoft.

click name for details

View Name	Pillar
FA_ADDR_VW	CS
FA_APPL_PROG_VW	CS
FA_APPL_VW	CS

Click on the hyperlink of the View Name to see the underlying SQL code.

View Script Details

×

Pillar:

CS

View Name:

FA_ADDR_VW

SQL Script:

SELECT A.EMPLID , E.INSTITUTION , E.CPS_SCHOOL_CODE , C.ADDRESS_TYPE , C.ADDR_USAGE_ORDER ,%subrec(ADDRESS_SBR,A) FROM PS_HCR_PER_ADDR_I A , PS_ADDR_ORDER_TBL C , PS_FA_ADDR_USAGE E WHERE A.ADDRESS_TYPE = C.ADDRESS_TYPE AND C.ADDR_USAGE = E.ADDR_USAGE AND E.EFFDT = (SELECT MAX(G.EFFDT) FROM PS_FA_ADDR_USAGE G WHERE E.INSTITUTION = G.INSTITUTION AND E.CPS_SCHOOL_CODE =G.CPS_SCHOOL_CODE AND G.EFFDT <= %CurrentDateIn AND G.EFF_STATUS = 'A') AND A.EFFDT = (SELECT MAX(X.EFFDT) FROM PS_HCR_PER_ADDR_I X WHERE X.EMPLID = A.EMPLID AND X.ADDRESS_TYPE = A.ADDRESS_TYPE AND X.EFFDT<=%CurrentDateIn AND X.EFF_STATUS = 'A') AND C.ADDR_USAGE_ORDER = (SELECT MIN(Y.ADDR_USAGE_ORDER) FROM PS_ADDR_ORDER_TBL Y WHERE Y.ADDR_USAGE = C.ADDR_USAGE AND Y.ADDRESS_TYPE IN (SELECT DISTINCT(T.ADDRESS_TYPE) FROM PS_HCR_PER_ADDR_I T WHERE A.EMPLID = T.EMPLID AND T.EFFDT <=%CurrentDateIn AND T.EFF_STATUS = 'A'))

Last Updated:

1/1/1900 12:00:00 AM

Close

Resources

While it is now possible to search commonly used tables in metaLink there is also a Resources page where full documents of commonly used tables are available by pillar.

To access these documents simply click on Resources when accessing the home page.
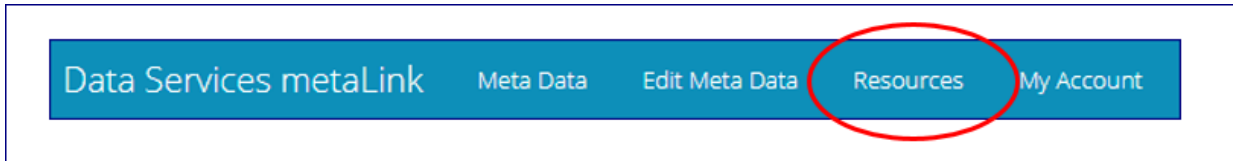
This brings the user to the Resources page where documents are available for download.

Resources

File Downloads

Campus Solutions Commonly Used Tables
Campus Solutions Pillar

Finance Commonly Used Tables
Finance Pillar

Human Capital Management Commonly Used Tables
Human Capital Management Pillar
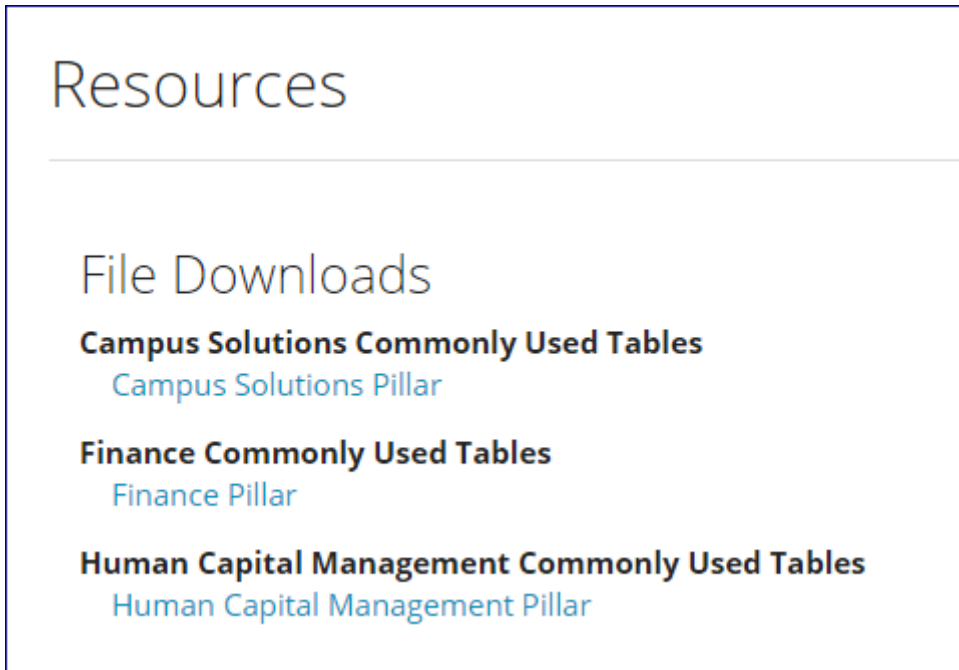
Adding Information to MetaLink

How is it populated? Well, while we in Data Services are definitely the responsible party for making sure it is populated, we are also harnessing the knowledge and expertise of our users… all of our users, not just Query Developers. The app is basically a wiki utilizing crowdsourcing as its source of information. We leverage our communities of practice, functional analysts, project staff… anyone who knows (or finds out something interesting) about the data is able to share their knowledge. As we gain information about data structure and business uses of different fields and records we have an obligation to all our fellow users to share it. It is quick and easy to add in information.

Click on Edit Meta Data

 To update the record – select only the Pillar and record. To update a field within a record – select the Pillar, record and field you would like to modify. Type in the new information.

Scroll to the bottom of the screen when finished and click Save Data.

BI Publisher Introduction

Oracle Business Intelligence Publisher (BI Publisher, formerly XML Publisher) is an enterprise reporting solution that streamlines report and form generation. BI Publisher enables you to design and create report layout templates with the more common desktop applications of Microsoft Word and Adobe Acrobat, and renders XML data based on those templates. With a single template, it can generate reports in many formats (PDF, RTF, Excel, HTML, and so on)

in many languages. This approach to reporting can dramatically reduce report maintenance, enabling power business users to adjust report templates without involvement of IT resources.

In essence BI Publisher allows the State Board to create actual formatted reports using queries, Connected queries or other data sources and then allow the end users the option of how the report should be rendered. Users are able to select to view a report on the Web, in Excel, Word or Adobe. BI Publisher is basically a translator of data. It takes the raw format of query results and translates those results into a nicely formatted report.

The BI Publisher report naming convention prefixes will be:

- BCS - Campus Solutions
- BFS - Finance
- BHC - Human Capital Management

The rest of the BIP report name will follow the standard query naming convention.

For the purpose of this class we are going to be looking at how to view query based BI Publisher reports through query Report, how to run a BI Publisher report using Query Report Scheduler and using BI Publisher Report search.

BI Publisher Query Report Viewer

The BI Publisher Query Report Viewer allows end users to run query based BI Publisher reports. Note: BI Publisher reports with data sources other than query do not appear in search results and will need to be scheduled to run.

Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Viewer

There are two search methods: Basic Search and Advanced Search.

Basic Search

Basic Search allows users to search by:
- Data Source ID
- Data Source Owner
- Object Owner ID
- Report Category ID
- Report Description
- Report Name
- Template Type

Wildcards % and_ are also available to use in your searches here.

"Begins With" is the only available operator in Basic Search.

Advanced Search

The Advanced Search allows for the same searching options but with different operators available. Users can combine search criteria in the Advanced Search to narrow the results returned.

Wildcards % and _ are also available to use in your searches here.

Enter your search criteria or simply hit enter for a list of all available reports.

Users are able to select how the report should be displayed in the Format column. Available options are:

- PDF
- HTM
- RTF
- XLS

Once the Format selection is made, click on "View Report" to see the report results.

BI Publisher Query Report Scheduler

The Query Report Scheduler is similar to Schedule Query in that users are able to schedule reports to run at a specific time/date or immediately. All BI Publisher reports with data sources of query or Connected query are available to be run through this tool.
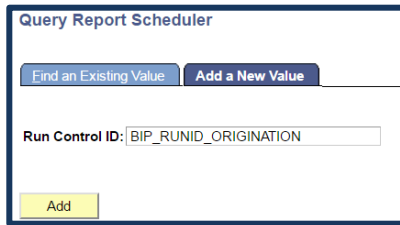
📁 Note: Do not schedule any queries or Reports to run between the hours of 1 am and 3 am as this time is reserved for IT.

The BI Publisher Query Report Scheduler is very similar in use and appearance to Schedule Query. Each report is assigned a Run Control ID which will tell the system when, where and how to run the report saving the report parameters (prompts) to the Run Control ID. Run Control ID's are personal and are not shared across the system.

Adding a New Run Control ID
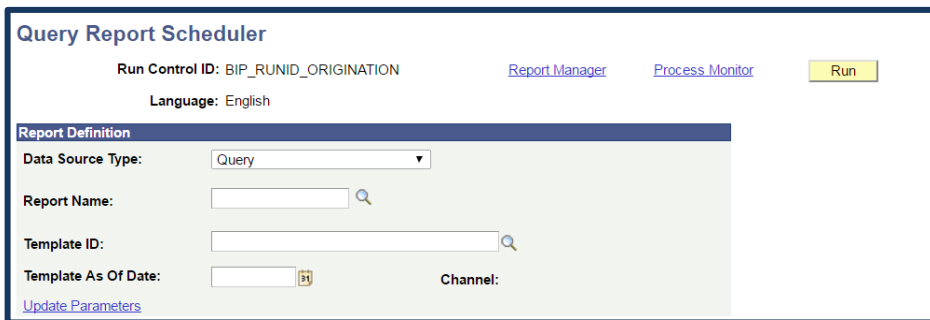
Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Scheduler

If adding a new Run Control ID, select the Add a New Value tab. Enter the Run Control ID and click on "Add". This will take you to the Query Report Scheduler Page.

Query Report Scheduler

Find an Existing Value | **Add a New Value**

Run Control ID: BIP_RUNID_ORIGINATION

Add

On this page select the Report Name. Either type it in or click on the magnifying glass next to the Report Name field to search for your report. Once you have made the selection if there are prompts in the report you will be asked to enter in the values.

Query Report Scheduler

Run Control ID: BIP_RUNID_ORIGINATION   Report Manager   Process Monitor   Run
Language: English

Report Definition

Data Source Type: Query

Report Name:

Template ID:

Template As Of Date: Channel:

Update Parameters

Note that once the Report Name is entered the remainder of the fields will fill in automatically with the exception of Template as of Date where users can select a particular version of the template they want the report to be based on. Click on Run in the upper right corner to run the report.

Query Report Scheduler

Run Control ID: BIP_RUNID_ORIGINATION   Report Manager   Process Monitor   Run
Language: English

Report Definition

Data Source Type: Query

Report Name: CTC_FA853   Accepted Origination Report

Template ID: CTC_FA853_1   Accpeted Origination Report

Template As Of Date: Channel:

Update Parameters

Query Parameters

Prompt Name	Prompt Value
INSTITUTION	WA220
AID_YEAR	2016

This will take you to the Process Scheduler Request page where final selections are made including the Date and Time to run the report as well as Type and Format. Once done with the selections click OK to schedule the report.

You will be directed back to the Query Report Scheduler page where you will be able to check the Process Monitor and the Report Manager for your report.

Using an Existing Run Control ID

Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Scheduler
From the main Query Report Scheduler page you are also able to search for an existing Run Control ID.

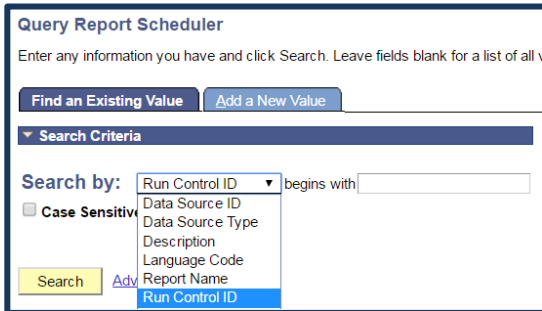There are two search methods: Basic Search and Advanced Search.

BASIC SEARCH

Basic Search allows users to search by:
- Data Source ID
- Data Source Type

- Description
- Language Code
- Report Name
- Run Control ID

Wildcards % and_ are also available to use in your searches here.

"Begins With" is the only available operator in Basic Search.
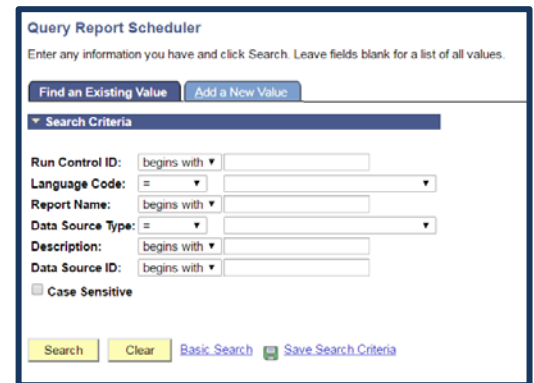

ADVANCED SEARCH

The Advanced Search allows for the same searching options but with different operators available. Users can combine search criteria in the Advanced Search to narrow the results returned.

Wildcards % and _ are also available to use in your searches here.

Enter your search criteria or simply hit enter for a list of all Run Control ID's. Remember they are personal to you so only Run Control ID's you have created will display here.

Click on the hyperlink of the Report you wish you run. This will take you to the Query Report Scheduler page where the report name will be filled in already. The parameters will also be saved though they can be changed by clicking on the Update Parameters hyperlink. Click on Run in the upper right corner to run the report.

This will take you to the Process Scheduler Request page where final selections are made including the Date and Time to run the report as well as Type and Format. Once done with the selections click OK to schedule the report.

You will be directed back to the Query Report Scheduler page where you will be able to check the BI Publisher Process Monitor and the Report Manager for your report.

BI Publisher Report Search

The BI Publisher Report Search will allow users to search specifically for the results of their scheduled BI Publisher reports. It is similar to Report Manager. In the example to the right the search was made for all BI Publisher Reports ran within the last 30 days.

Also note that users are able to access the BI Publisher Process Monitor and BI Publisher Report Manager from this page.

Click on the hyperlink in the Report column to go the Report Index page to view the report.

To download and/or view the report click on the Report Name in the File List box.

It is interesting to note that while there appears to be separate Process Monitors and Report Viewers for BI Publisher with different menu paths they are actually the same query Process Monitor and Report Viewer as found when scheduling standard queries. You will be able to view both BI Publisher reports and standard scheduled queries from either navigation. At the same time, only BI Publisher run Control ID's will display when finding an existing value in BI Publisher Query Report Scheduler and only Run Control ID's for standard queries will display in Schedule Query.

Section 3 Review

In this section we learned to understand BIND records and how they affect Population Selection query development.

We also looked at how to effectively use MetaLink to search for and create query metadata.

Finally we saw how to run reports created with BI Publisher.

Section 3 Knowledge Test

1. What is a BIND record?

   _____

   _____

2. Population selection (Pop Select) is a feature in PeopleSoft that allows for the selection of specific individuals or organization ID's to be selected for a particular batch process based on specific parameters.

               True   False

3. Any and all _____ _____ in a BIND record MUST be displayed in the query result set for the batch process associated with the query to properly execute.

4. If creating a Pop Select query, how should the query be named? (What designation should appear at the end of the query name)?

   _____

5. MetaLink is a data dictionary provided by Data Services where users can search for _____, _____ and _____.

6. MetaLink allows users to search queries using a variety of methods, some of which are not available in standard PeopleSoft query searching?

               True   False

7. One of the great functions of BI Publisher is that it allows end users the option of how to view the final report. The four output options are:

   1. _____
   2. _____
   3. _____
   4. _____

8. BI Publisher Query Report Viewer only allows for viewing BI Publisher reports which have _____ as a data source.

9. The Query Report Scheduler is similar to _____.

Section 3 Exercises Campus Solutions

1. Navigate to Data Services MetaLink and click on the Meta Data tab. In the Current Data Dictionary find the field GRADING_BASIS in the PS_ACAD_CAR_TBL record. What does the Value OPT   stand for in this field?

   _____

2. Going to query Search look in the CS Pillar in the Student Financials Folder for queries that have the code 890 in the definition and use the fields: ADVR_LOAD_ENRL. How many queries match these criteria?

   _____

3. Now go to Report Search and look in the CS Pillar in the Financial Aid folder for queries which have a name or description with "Student". How many reports match these criteria?

   _____

4. When searching in MetaLink a space acts as an _____ separator and a comma acts as an _____ separator.

5. MetaLink allows users to search across all pillars by Folder, Description, Definition and query Name?

                                          True   False

6. The BI Publisher report naming convention prefix for Campus Solutions will be:

   _____

7. BI Publisher Query Report Viewer allows end users to run _____ based BI Publisher reports.

Section 3 Exercises Human Capital

1. Navigate to Data Services MetaLink and click on the Meta Data tab. In the Current Data Dictionary find the field EMPLID_TYPE in the PS_PAY_CHECK record. What does the Value E stand for in this field?

   _____

2. Going to query Search look in the HCM Pillar in All Folders for queries that have the code 890 in the definition and use the fields: ACCOUNT. How many queries match these criteria?

   _____

3. Now go to Report Search and look in the HCM Pillar in the HR Core Objects folder for queries which have a name or description with "Salary". How many reports match these criteria?

   _____

4. When searching in MetaLink a space acts as an _____ separator and a comma acts as an _____ separator.

5. MetaLink allows users to search across all pillars by Folder, Description, Definition and query Name?

                                          True   False

6. The BI Publisher report naming convention prefix for Campus Solutions will be:

   _____

7. BI Publisher Query Report Viewer allows end users to run _____ based BI Publisher reports.

Section 3 Exercises Financials

1. Navigate to Data Services MetaLink and click on the Meta Data tab. In the Current Data Dictionary find the field VAT_ACCOUNT_FLG in the PS_GL_ACCOUNT_TBL record. What does the Value N stand for in this field?

   _____

2. Going to query Search look in the FIN Pillar in the Expenses folder for queries that have the code 890 in the definition and use the fields: ACCOUNT. How many queries match these criteria?

   _____

3. Now go to Report Search and look in the FIN Pillar in the Payables folder for queries which have a name or description with "1099". How many reports match these criteria?

   _____

4. When searching in MetaLink a space acts as an _____ separator and a comma acts as an _____ separator.

5. MetaLink allows users to search across all pillars by Folder, Description, Definition and query Name?

   <div align="center">True   False</div>

6. The BI Publisher report naming convention prefix for Campus Solutions will be:

   _____

7. BI Publisher Query Report Viewer allows end users to run _____ based BI Publisher reports.

Course Review

The goal of this course was to empower query Developers with the tools and skills needed to create and manage more complex queries.

The objectives for this course were to:
- Add criteria to a Left Outer Join.
- Be able to apply effective data logic to queries.
- Utilize queries of queries to effectively search for query data information.
- Efficiently find record and field information using the front end of PeopleSoft in conjunction with other tools.
- Gain the knowledge and skills to check your query results to be certain of query accuracy.
- Effectively apply Aggregate Functions to query results.
- Utilize the Having tab to add criteria to fields using Aggregate Functions.
- Be able to create Expressions to allow complex refining of query results.
- Understand BIND records and how they affect query development.
- Effectively use MetaLink to search and create query metadata.
- Understand how to run reports created with BI Publisher.

To meet the Goal and Objectives we learned in Section 1 about:

- The WHERE clause and ON clause and how to place criteria appropriately to a Left Outer Join and to apply effective date logic to queries allowing understanding of how this logic can affect the results from your queries.
- How to create and use queries which search existing queries for specified information. We also learned how to find record and field information using the front end of PeopleSoft and the PSChrome Extension and how you can use this information in your query development.
- How to check the results of your queries to ensure accurate reporting.

In Section 2 we learned how to:

- Effectively apply Aggregate Functions to query results as well as use the Having tab to add criteria to fields using Aggregate Functions.
- How to create Expressions to allow complex refining of query results.

In Section 3 we learned how to:

- Understand BIND records and how they affect query development.
- Effectively use Metalink to search query metadata.
- Run reports created with BI Publisher

Now get out there and have fun developing top notch queries! ☺

Simplified Instructions 101 Basics Skills

Find below all of the step by step instructions provided in this manual.

Scheduling through Query Viewer/Manager – Simplified Instructions for a New Run Control ID

- Go to Query Manager or Query Viewer and search for the desired query and click on "Schedule "from the list of results
- The query name will automatically populate based on the query selected from Query Viewer or Query Manager.
- Click on Add New Value and enter a Run Control ID.
- Click on the "Add" button.
- If there are prompts (parameters) in the query a pop up box will appear where they can be filled in. To update existing parameters click on Update Parameters.
- Enter a description for the query Run Control ID in the Description field. This will be the Report Name.
- Click Apply
- On the Process Scheduler page select the Time Zone, Date and Time to run the query, if desired. Also change the default output Type and Format, if desired
- Click OK
- Note the Process Instance Number
- View the status of the run via Process Monitor
- View the results of the report via Report Manager

Scheduling through Query Viewer/Manager – Simplified Instructions for an Existing Run Control ID

- Go to Query Manager or Query Viewer and search for the desired query and click on "Schedule "from the list of results
- The query name will automatically populate based on the query selected from Query Viewer or Query Manager.
- Click on Find an Existing Value and search for the Run Control ID.
- Click on the the hyperlink for the Report Name or Run Control ID in the search results.
- If there are prompts (parameters) in the query a pop up box will appear where they can be filled in. To update existing parameters click on Update Parameters.
- Click Apply
- On the Process Scheduler page select the Time Zone, Date and Time to run the query, if desired. Also change the default output Type and Format, if desired
- Click OK
- Note the Process Instance Number
- View the status of the run via Process Monitor
- View the results of the report via Report Manager

Scheduling through Schedule Query Menu Path – Simplified Instructions for a New Run Control ID

- Navigate to Schedule Query: Main Menu → Reporting Tools → query → Schedule Query.
- Click on Add a New Value to create a new Run Control ID. Enter a Run Control ID.
- Click on the "Add" button.
- Enter the query name or search for the query.
- Enter a description for the query Run Control ID in the Description field. This will be the Report Name.
- If there are prompts (parameters) in the query a pop up box will appear where they can be filled in. To update existing parameters click on Update Parameters.
- Click Run.
- On the Process Scheduler page select the Time Zone, Date and Time to run the query, if desired.
- Also change the default output Type and Format, if desired.
- Click OK.
- Note the Process Instance Number.
- View the status of the run via Process Monitor.
- View the results of the report via Report Manager.
-

Scheduling through Schedule Query Menu Path – Simplified Instructions for an Existing Run Control ID

- Navigate to Schedule Query: Main Menu → Reporting Tools → query → Schedule Query.
- Click on Find an Existing Value and select the correct Run Control ID
- If there are prompts (parameters) in the query a pop up box will appear where they can be filled in. To update existing parameters click on Update Parameters.
- Click Run.
- On the Process Scheduler page select the Time Zone, Date and Time to run the query, if desired. Also change the default output Type and Format, if desired.
- Click OK.
- Note the Process Instance Number.
- View the status of the run via Process Monitor.
- View the results of the report via Report Manager.

Creating a Simple query - Simplified Instructions

- Navigate to Query Manager.
- Click on "Create New query".

Create New Query

- On the records tab search for and select the record to use in the query.

- On the query tab, select the fields from the selected record to use in the query.

- On the fields tab, make any edits to the display of the heading text, translate values, field order or sort order.

- Optional – On the criteria tab, add any desired criteria to the query.

- Optional – On the Prompts tab (or from the fields tab) create any desired Prompts to use in the query.

- Save Changes

Creating a Join - Simplified Instructions

- Determine the Join Method to use for creating the Join; Pre-defined, Hierarchy or Any Join.
  - o Pre-Defined Joins are listed next to the field Name in the query tab.
  - o Hierarchy Joins are listed next to the record Name in the query tab.
  - o Any Joins are created by searching for related records in the records tab. **Any Joins are the preferred Method.**

- Create the Join by selecting the correct hyperlink.
- Select to use either a Standard Join or a Left Outer Join Type.
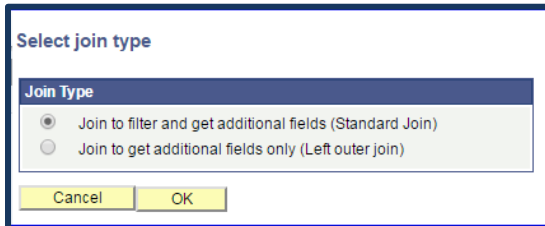
- If prompted, select/confirm the Auto Join criteria
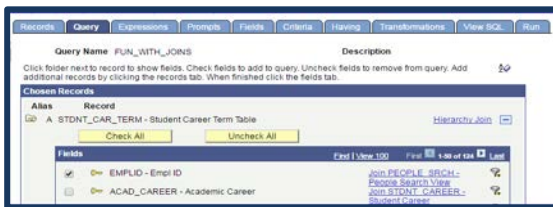
- If not prompted to Auto Join, go to the criteria tab and create the criteria to link record A to record B.
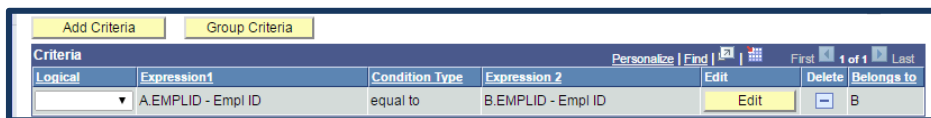
- Save changes.

Adding criteria - Simplified Instructions

- From the criteria tab click on "Add criteria" button.
- OR From the query or fields tab, click on the "Add criteria" icon.

- If not preselected, select *Expression 1 Type*

  Choose Expression 1 Type
  - ● Field
  - ○ Expression

- Select the field or Expression to use as criteria (or create the New Expression) for *Expression 1* depending on the prior selection.

  Expression 1
  Choose Record and Field
  Record Alias.Fieldname

  or

  Expression 1
  Define Expression
  Expression
  New Expression   Edit the Expression

- Select the *Condition Type.*

  *Condition Type equal to ▼

- Select the *Expression 2* Type.

  Choose Expression 2 Type
  - ○ Field
  - ○ Expression
  - ● Constant
  - ○ Prompt
  - ○ Subquery

- Select the *Expression 2* to use as criteria.

  Expression 2
  Define Constant
  Constant WA171

- If using a Left Outer Join, select where the criteria belongs, either the WHERE clause or on the Left Outer Join.

- Click *OK*.

  This criteria belongs to
  WHERE clause ▼

- Select the *Logical*   *Operator* for each criteria.

  Criteria
  Logical
  ▼

  AND ▼

  AND
  AND NOT
  OR
  OR NOT

- Group or Reorder the criteria as necessary.

  Group Criteria   Reorder Criteria

Required Prompt with Lookup List – Simplified Instructions

To create a prompt that must be filled in and can be selected from a list of validated lookup values:
- From the fields tab click on the "Add criteria" icon.
- Select "Prompt" for *Choose Expression 2 Type.*
- Select Prompt Table" for the *Edit Type.*
- Look up the correct Prompt Table to use for the selected field Name and select it.
- Optional: change the *Heading Text*.
- Click "OK".

Optional Prompt with Lookup List – Simplified Instructions

To create a prompt that can be left blank or selected from a list of lookup values:
- From the fields tab click on the "Add criteria" icon.
- Select "Prompt" for *Choose Expression 2 Type.*
- Click on "New Prompt".
- Select "No Table Edit" for the *Edit Type.*
- Look up the correct Prompt Table to use for the selected field Name and select it.
- Optional: change the *Heading Text*.
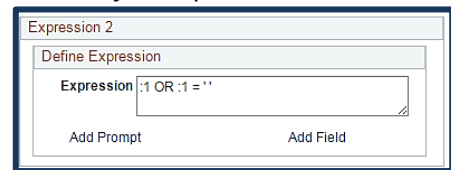- Click "OK".
- Edit Your Optional Prompt in the criteria Tab
  - o Navigate to the criteria tab and find your Prompt. Note the Prompt number.
  - o Select Edit.
  - o Change the selection in *Choose Expression 2 Type* from "Prompt" to "Expression"
  - o Substituting your Prompt number for X insert the following into the *Define Expression* box.
    - ▪ :X OR :X = ' '
  - o Click "OK".
- Make the final criteria modifications
  - o Still in the "criteria" tab click "Group criteria" button.
  - o Add left and right parenthesis to group the Prompt and Expression criteria:

Expression 2		
Define Expression		
Expression	:1 OR :1 = ' '	
Add Prompt		Add Field

AND	(	A.SETID - Set ID	equal to	:1 OR :1 = ' '	)

  - o
  - o Click "OK".

Optional Prompt with No Lookup List – Simplified Instructions

To create a query where the Prompt can be left blank or typed in with no data validation (list of lookup values):
- From the fields tab click on the "Add criteria" icon.
- Select "Prompt" for *Choose Expression 2 Type.*
- Click on "New Prompt".
- Select "No Table Edit" for the *Edit Type.*
- Click on the "Magnifying Glass" icon to select a Prompt table. Click on "No Value".
- Optional: change the *Heading Text*.

- Click "OK".
- <u>Edit Your Optional Prompt in the criteria Tab</u>
  - o Navigate to the criteria tab and find your Prompt. Note the Prompt number.
  - o Select Edit.
  - o Change the selection in *Choose Expression 2 Type* from "Prompt" to "Expression"
  - o Substituting your Prompt number for X insert the following into the *Define Expression* box.
    - :X OR :X = ' '
  - o Click "OK".
- <u>Make the final criteria modifications</u>
  - o Still in the "criteria" tab click "Group criteria" button.
  - o Add left and right parenthesis to group the Prompt and Expression criteria:
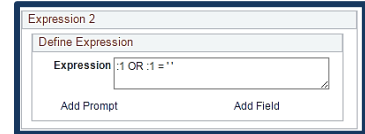 - o
  - o Click "OK".

AND	(	A.SETID - Set ID	equal to	:1 OR :1 = ' '	)

Date Prompt – Simplified Instructions

To create a Standard Date Prompt:
- <u>Create the Date Prompt</u>
  - o Go to Prompts tab and click on "Add Prompt".
  - o Leave the *field Name* blank.
  - o On *Type* drop down select *Date.*
  - o Optional: Type the name of the Prompt in the *Heading Text* field.
  - o On *Format* drop down select *None.*
  - o On *Edit Type* select *No Table Edit.*
  - o Click the "Magnifying Glass" on the *Prompt Table* and click on the "No Value" button.
  - o Click the "Ok" button.
- <u>Link the Date Prompt to the Selected field as query criteria</u>
  - o From the criteria Tab click on "Add criteria".
  - o Select *field* for *Choose Expression 1 Type*.
  - o In Expression 1 select the Date field where to tie the Prompt by using the "Magnifying Glass" icon.
  - o Select the Operator.
  - o In "*Choose Expression 2 Type* select *Expression*
  - o In *Expression 2* click on "Add Prompt".
  - o Select the Date Prompt previously created.
  - o Click "Ok".
  - o Click "Save"

Date Range Prompt – Simplified Instructions

To create a Date Range prompt where random date range can be select it is necessary to create 2 Date prompts then link them through a criteria added to the date field.

- <u>Create the First Date Prompt</u>

- o   Go to the Prompts tab and click on "Add Prompt".
- o   Heading Text should be Text.
- o   Type "From Date" in the Heading Text field.
- o   Select Date on the Type drop down list.
- o   On the *Format* drop down list, select *None*.
- o   On *Edit Type* select *No Table Edit.*
- o   For the *Prompt Table* click on the "Magnifying Glass" icon and click on the "No Value" button.
- o   Click "Ok".
- • Create the Second Date Prompt
  - o   Go to the Prompts tab and click on "Add Prompt".
  - o   *Heading Text* should be *Text*.
  - o   Type "To Date" in the *Heading Text field*.
  - o   Select *Date* on the *Type* drop down list.
  - o   On the *Format* drop down list, select *None.*
  - o   On *Edit Type* select No *Table Edit.*
  - o   For the Prompt Table click on the "Magnifying Glass" icon and click on the "No Value" button.
  - o   Click "Ok".
- • Match your Prompts to the Selected Date field and Add as query criteria
  - o   Go to the fields tab and identify the *Date* field to tie to your Prompts.
  - o   Click on the "Add criteria" icon.
  - o   As this was done from the fields tab *Choose Expression* 1 and *Expression 1 – Choose record and field* will be already filled in with the information from the selected field.
  - o   For *Condition Type* select *Between* from the drop down list.
  - o   For *Choose Expression 2 Type* select the *Expr – Expr* radio button.
  - o   On *Expression 2 – Define Expression* click "Add Prompt".
  - o   Select and link the "From Date" Prompt.
  - o   On *Expression2 – Define Expression 2* click "Add Prompt"
  - o   Select and link the "To Date" Prompt.
  - o   "Save".

Optional Numeric Prompt with No Lookup List – Simplified Instructions

This is a special case since the field used is numeric and the user wants to have the option to enter a numeric value without having a list to choose from or leave the field blank. This combination doesn't work with a regular "Prompt-Expression" combination. It is necessary to convert the "Numeric" field to a "TO-CHAR" format to make this Prompt work.

- Create a new Expression in the Expression tab.
  - For Expression Type select Character from the drop down list.
  - Match the original numeric length in the Length field.
  - Enter TO_CHAR(X.FIELD_NAME) where X.FIELD_NAME is the name of the field.
  - Click "OK" button to save the new Expression.
  - Back on the Expression tab click "Use as field" link, to add the Expression as a field. Make sure to test it.
- Run your query to test the results.
  - If it runs correctly, re-name the *Expression* field and remove the original numeric field.
- Create the Optional Numeric Prompt
  - Back at the fields tab click the "Add criteria" icon next to the TO_CHAR field.
  - *Choose Expression 1Type* and *Expression 1* will be already filled in with the information from the selected field.
  - On Choose Expression 2 Type select the Prompt radio button.
  - Click "New Prompt" button to create a new Prompt.
  - Leave *field Name* blank.
  - Optional: Name the Prompt in the *Heading Text* field.
  - Match the original numeric length in the *Length* field.
  - Make sure *Edit Type* is *No Table Edit.*
  - Leave *Prompt Table* blank.
  - Click the "OK" button.
- Add as query criteria
  - Navigate to the criteria tab and find your Prompt. Note the Prompt number.
  - Select Edit.
  - Change the selection in *Choose Expression 2 Type* from "Prompt" to "Expression"
  - Substituting your Prompt number for X insert the following into the *Define Expression* box.
    - :X OR :X = ' '
  - Click "OK".
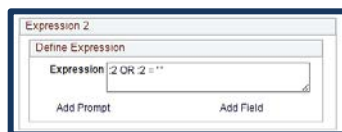
- Make the final criteria   modifications
  - Still in the "criteria" tab click "Group criteria" button.
  - Add left and right parenthesis to group the Prompt and Expression criteria:

AND ▼	(to_char(A.STD_HOURS)	equal to	:2 OR :2 = '')	Edit	⊟

  - Click "OK".

Prompt with wildcard (%)– Simplified Instructions

This prompt allows users to select either one value or multiple values. For example, if using Union Codes the user could type in W% to search all codes beginning with W or the partial code 17% to find all codes starting with 17 or simply % to search all possible codes.

Create a new Expression in the Expression tab.
- o   In *Expression Text* enter: ' ' (apostrophe-space-apostrophe).
- o   Click "OK".
- Add your Expression as an Optional Prompt to the query criteria
  - o   Go *to the criteria tab click the "Add criteria" button.*
  - o   Select *Expression* in *Expression1 Type*.
  - o   Click on the "Magnifying Glass" icon to search for the desired Expression in *Expression 1* – and click to select.
  - o   Select *Prompt* in *Choose Expression 2 Type*.
  - o   Select "New Prompt" in *Expression 2 – Define Prompt* to create the Optional Prompt.
  - o   Leave the *field Name* blank.
  - o   Select *Text* from the *Heading Text* drop down list.
  - o   Type the Prompt Name in the *Heading Text* field. Be sure to include instructions regarding Wildcard.
  - o   The *Edit Type* field should be *No Table Edit.*
  - o   Click on the "Magnifying Glass" icon to select a Prompt table. Click on "No Value".
- Match the Selected field to the Optional Prompt
  - o   Go to the fields tab and click on the "Add criteria" icon next to the field to be used for the Prompt.
  - o   Select the *Condition Type* of *Like.*
  - o   Select *Prompt* for the *Choose Expression 2 Type*.
  - o   Click on the "Magnifying Glass" icon to search for the Optional Prompt and click to select it.
  - o   Click "OK".

- Make the final criteria modifications
  - o   Navigate to the criteria Tab.
  - o   Click the "Group criteria" button.
  - o   Add left and right parenthesis to group both criteria:
  - o   Click "OK".
  - o   Change the operator in the *Logical* column to *Or* and click "Save".

Simplified Instructions 201 Intermediate Skills

Adding criteria to a Left Outer Join – Simplified Instructions

- Using a query that has a Left Outer Join, select a field from the record which has been Left Outer Joined and add criteria to it, either from the criteria tab or the Add criteria Icon.
- In the "criteria Belongs To" box select the Outer Join clause that matches the record alias (for example, record B)

Adding EFFDT criteria to a Left Outer Join – Simplified Instructions

- Using a query that has a Left Outer Join where record B contains and EFFDT. Add additional criteria to the EFFDT field of record B where the EFFDT is NULL.
- Group both the EFFDT criteria with an OR Logical Operator.

Create a query of queries

- Create a query using one of the PSQRY tables found below.
    - PSQRYBIND – Stores all run-time prompt data
    - PSQRYBINDLANG - Related language record for PSQRYBIND
    - PSQRYCRITERIA – Stores all criteria Expressions in code format
    - PSQRYDEFN – Stores high-level query definitions with version numbers.
    - PSQRYFIELD – Stores all fields used in all aspects of query operation
    - PSQRYDEL – Stores operator ID, query name and version
    - PSQRYEXECLOG – Stores information on the execution of queries
    - PSQRYEXPR – Stores the text associated with each criteria Expression
    - PSQRYFIELD – Stores all fields used in all aspects of query operation
    - PSQRYFIELDLANG - Related language record for PSQRYFIELD
    - PSQRYLINK – Stores the relationships to child queries
    - PSQRYRECORD – Stores all records used in all aspects of query creation
    - PSQRYSELECT – Stores all SELECT requirements by select type, i.e. union, subselect, join,….
    - PSQRYSTATS – Stores run time statistics

In addition there are also records which store page or panel information.

    - PSPNLDEFN - Panel Definition
    - PSPNLDEFN_VW - Panel Definition View
    - PSPNLFIELD - Panel field
    - PSPNLFIELD_VW - Panel field View
    - PSPNLGDEFNLANG - Panel Group Related Lang
    - PSPNLGROUP - Panel Group
    - PSPNLGROUPLANG - Panel Group Related Language
    - PSPNLGRPDEFN - Panel Group Definition
    - PSPNLHTMLAREA - Panel HTML Area
    - PSPNLTREECTRL - Panel Tree Control

Create a query of queries with Definition Search Capabilities

To make the query more valuable you can make the definition field searchable by adding a wildcard prompt on the DESCRLONG (Definition) field and you can then search for queries created by a certain college code, email address or name.

Text fields are not searchable so we must convert it to a Character field. Hence, you will need to convert the DESCRLONG (Definition) field to a character field before being able to prompt with a wildcard on it. While we will

cover Expressions much more in depth later in the class, let's see how to use them now to convert a Text field to a Character field.

On the fields tab of the query QFS_QRY_DEFINITION we see that the DESCRLONG, which is the query Definition field, is a Text field and so it must be converted to a Character field, which is searchable.

Fields										
Col	Record.Fieldname	Format	Ord	XLAT	Agg	Heading Text	Add Criteria	Edit		Delete
1	A.OPRID - User ID	Char30				User	🔍	Edit		−
2	A.QRYNAME - Input Name	Char30				Query Name	🔍	Edit		−
3	A.DESCR - Description	Char30				Descr	🔍	Edit		−
4	A.LASTUPDDTTM - Last Update Date/Time	DateTm				Last Upd DtTm	🔍	Edit		−
5	A.LASTUPDOPRID - Last Update User ID	Char30				Last Upd User	🔍	Edit		−
6	A.DESCRLONG - Description	Text				Definition	🔍	Edit		−

Go to the Expressions tab and click on Add Expression. In the Expression Test type in TO_CHAR(A.DESCRLONG). Make sure to update the length allowed. Click OK.

Now click on "Use as field" to use this new Expression as a field in your query.

Go to the fields tab and change the heading text of your field from TO_CHAR(A.DESCRLONG) to query Definition.

You will now be able to create a Wildcard Prompt on the Definition field. For step by step instructions on creating a Wild Card Prompt see below.

To create a Wildcard Prompt:

CREATE A NEW EXPRESSION IN THE EXPRESSION TAB.
- o   In *Expression Text* enter: ' ' (apostrophe-space-apostrophe).
- o   Click "OK".

ADD YOUR EXPRESSION AS AN OPTIONAL PROMPT TO THE QUERY CRITERIA
- o   Go *to the criteria tab click the "Add criteria" button.*
- o   Select *Expression* in *Expression1 Type*.
- o   Click on the "Magnifying Glass" icon to search for the desired Expression in *Expression 1* – and click to select.
- o   Select *Prompt* in *Choose Expression 2 Type*.
- o   Select "New Prompt" in *Expression 2 – Define Prompt* to create the Optional Prompt.
- o   Leave the *field Name* blank.
- o   Select *Text* from the *Heading Text* drop down list.
- o   Type the Prompt Name in the *Heading Text* field. Be sure to include instructions regarding Wildcard.
- o   The *Edit Type* field should be *No Table Edit.*
- o   Click on the "Magnifying Glass" icon to select a Prompt table. Click on "No Value".

MATCH THE SELECTED FIELD TO THE OPTIONAL PROMPT
- o   Go to the fields tab and click on the "Add criteria" icon next to the field to be used for the Prompt.
- o   Select the *Condition Type* of *Like.*
- o   Select *Prompt* for the *Choose Expression 2 Type.*
- o   Click on the "Magnifying Glass" icon to search for the Optional Prompt and click to select it.
- o   Click "OK".

MAKE THE FINAL CRITERIA MODIFICATIONS
- o   Navigate to the criteria Tab.
- o   Click the "Group criteria" button.
- o   Add left and right parenthesis to group both criteria:
- o   Click "OK".
- o   Change the operator in the *Logical* column to *Or* and click "Save".

Once the query is complete you are able to search by any standard in the Definition field.

Searching record and field Information – CTRL+SHIFT+J

Note: this process is not available in the production environment.
- Navigate to the front end page where you are looking to find record and field information.
- Press CTRL+SHIFT+J to access the data sheet for that page.
  - NOTE: in Chrome the user must input CTRL+SHIFT+J **TWICE** for the process to work.
- Note or copy the page name and then navigate to PeopleSoft Query Manager or Query Viewer.
- Use one of the following queries as appropriate to the pillar:

  - QCS_PSPNLFIELD
  - QHC_PSPNLFIELD
  - QFS_PSPNLFIELD
- Run the QXX_PSPNLFIELD query to HTML and when prompted, enter the page name in the Prompt window then click View Results.
- The results display the names of the fields found in the page and the record where each field lives.

Searching record and field Information – CTRL+SHIFT+C

Note: this process is not available in Internet Explorer.
- Navigate to the front end page where you are looking to find record and field information.
- Press CTRL+SHIFT+C to access the information for that page.
- Hover your mouse over the desired field and look in the black box that appears above for the record and field information.

Searching record and field Information – PSCHROME Extension

- Install this extension and use it anywhere in the front end to get record and field information. Go to https://google.com/chrome/webstore from within the Chrome browser.
- Click on The Chrome Webstore hyperlink under Distribution Options.
- Search for "PeopleSoft" in the search bar.
- Click on "Add to Chrome" next to the PSChromeExtension.
- Now you are ready to start using the PSChrome Chrome Extension in PeopleSoft.

Using the PSChrome Extension Simplified Instructions

THE FIELD INFORMATION ICON
- Navigate to the front end page where you are looking to find record and field information.
- Click on the field Information icon
- Red dotted line boxes will appear around the fields
- Click inside the red dotted line box on the "I" icon then scroll to the bottom of your screen to see the resulting information. The name of the field and the value currently entered will display.
THE PAGE INFORMATION ICON
- Navigate to the front end page where you are looking to find record and field information.
- Click on the Page Information icon
- The Page information box will appear
- Note or copy the page name and then navigate to PeopleSoft Query Manager or Query Viewer.

- Use one of the following queries as appropriate to the pillar:

  - QCS_PSPNLFIELD
  - QHC_PSPNLFIELD
  - QFS_PSPNLFIELD

- Run the QXX_PSPNLFIELD query to HTML and when prompted, enter the page name in the Prompt window then click View Results.
- The results display the names of the fields found in the page and the record where each field lives.

Searching record and field Information – MetaLink

- Click on Meta Data to go to the Reporting Library.
- Click on View Current Data Dictionary.
- Select a pillar and table then click View Report.
- Table Information holds details regarding the record while column Information holds details regarding the fields of the table.

Applying Aggregate Functions

- Create a new query or edit an existing query
- Go to the fields tab
- Select the field to which to apply the Aggregate Function
- Click on the Edit box next to the selected field
- Click on the radio button corresponding to the desired Aggregate Function
- Click Ok

Applying Having criteria

- Create a new query or edit an existing query
- Go to the fields tab and select the field with the Aggregate Function to which to apply the Having criteria
- Click on the Add criteria icon
- Add the Having criteria to the field
- Click OK

Using an Expression as a column

- Create a new query or edit an existing query
- Note the field Format of the field to be used in the Expression
- Go to the Expression tab and add a new Expression
- Match the Expression Type to the field Format and if needed adjust the Length and Decimals of the Expression field
- Click the Aggregate Function box if applicable
- Enter the Expression in the Expression Text box
- Click OK
- Click the hyperlink "Use As field"

- Change the field Heading Text in the fields tab

BI Publisher Reports

- Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Viewer
- Search for a Report
- Select the desired format in which to view the Report
- Click on View Report

Adding a new Run Control ID

- Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Scheduler
- Click the Add a New Value tab. Enter the Run Control ID and click on "Add".
- This will take you to the Query Report Scheduler Page.
- On this page select the Report Name. Either type it in or click on the magnifying glass next to the Report Name field to search for your report. Once you have made the selection if there are prompts in the report you will be asked to enter in the values.
- Note that once the Report Name is entered the remainder of the fields will fill in automatically with the exception of Template as of Date where users can select a particular version of the template they want the report to be based on. Click on Run in the upper right corner to run the report.
- This will take you to the Process Scheduler Request page where final selections are made including the Date and Time to run the report as well as Type and Format. Once done with the selections click OK to schedule the report.
- You will be directed back to the Query Report Scheduler page where you will be able to check the Process Monitor and the Report Manager for your report.

Using an Existing Run Control ID

- Navigate to Query Report Viewer: Main Menu → Reporting Tools → BI Publisher →Query Report Scheduler
- Search for an existing Run Control ID. To search for all Run Control ID's simply press enter or click Search
- This will show you a list of all available Run Control ID's.
- Click on the hyperlinked name of the desired Run Control ID.
- This will take you to the Query Report Scheduler page where the report name will be filled in already. The parameters will also be saved though they can be changed by clicking on the Update Parameters hyperlink.
- Click on Run in the upper right corner to run the report.
- This will take you to the Process Scheduler Request page where final selections are made including the Date and Time to run the report as well as Type and Format. Once done with the selections click OK to schedule the report.
- You will be directed back to the Query Report Scheduler page where you will be able to check the Process Monitor and the Report Manager for your report.

Glossary

BIND record: A record which binds a process which needs variable to run to a query which provides the necessary variables.

column/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.

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.

Condition Type (Edit criteria Properties Page) – The operator used to determine how the criteria will be compared.

Criteria Tab - The purpose of the criteria tab is to allow users a place to create and/or view criteria that will refine the results of their queries.

Expression 1 Type (Edit criteria Properties Page) - Defines WHAT the criteria is being added to. Can be a field or an Expression.

Expression 1 (Edit criteria Properties Page) – The field or Expression the criteria is being compared to.

Expression 2 Type (Edit criteria Properties Page) - Defines where the VALUE the criteria is being compared against will come from. Generally from a field, Expression, Prompt, Constant or Subquery though the options can change based on the condition Type selected..

Expression 2 (Edit criteria Properties Page) – The Value the criteria will be compared against.

Expressions Tab – The purpose of the Expressions tab is to allow users a place01

Expression Text – Area where to write the Expression.

Fields Tab - The purpose of the fields tab is to show a list of all of the fields selected for the query and to determine how those fields should be displayed in the query results

Having Tab - The purpose of the Having tab is to allow users a place to create and/or view criteria that will refine the results of their queries for fields which have Aggregate Functions applied to them.

Join: The process of combining data from two or more records using matching keys.

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

Private query: Private queries are only viewable by the individual who created the query. They can be shared with others individually, however.

Prompts Tab - The purpose of the Prompts tab is to create and display prompts

PS query: PeopleSoft query

Public query: Public queries are viewable and editable by any user with access to Query Manager and the proper record 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.

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

Query Tab - The purpose of the query tab is to provide a location where all of the records used in the query can be displayed and where fields can be selected to use in the query.

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/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.

Records Tab - The purpose of the records tab is to provide a location where users are able to search for and select one or more records to use in their queries.

Run Control ID – A unique system identifier that remembers parameters for a scheduled query.

Run Tab - The purpose of the Run tab is to allow users to view the results of the query.

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".

View SQL Tab - The purpose of the View SQL tab is to allow users to review the SQL statements being used in the query.

PS query 201 Training Evaluation

Please take a moment to answer the following questions. Your comments are an **important contribution** as we design learning experiences to meet your professional needs.

What will you do **differently** as a result of this training?

_____

_____

_____

_____

What do you feel were the **strengths** of this course?

_____

_____

_____

_____

What do you feel were the **weaknesses** of this course?

_____

_____

_____

_____

How can we **improve** this course?
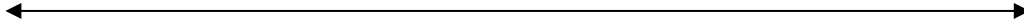
_____

_____

_____

What **additional training-development** in PS query do you require?

_____

_____

_____

Please rate the following statements using a 1 through 5 scale where:

1 = Agree Strongly   **5 = Disagree Strongly**

Question	1 (Agree Strongly)	2 (Agree)	3 (Neutral)	4 (Disagree)	5 (Strongly Disagree)
The course **difficulty level** was about right.					
I can **apply the information** I learned in this course to my job.					
The course met my professional **educational needs**.					
The trainer **actively involved** me in the learning process.					
As a result of this training, I feel **more confident** in my capacity to develop queries.					