



QUERY LESSONS LEARNED REPORT

Revisions

Change reference	Date
Original Version	12/05/2022

Contacts

For questions related to ctcLink reporting and the Lessons Learned Report, please email: <u>dataservices@sbctc.edu</u>

Table of Contents

Revisions	2
Contacts	2
Table of Contents	3
Document Description	5
FERPA Flag	6
PeopleSoft Table Types	6
PeopleSoft Naming Conventions for Delivered Records	6
Query execution order and joins	8
How to find a table/field name from a page	9
How to find a table/field name from a popup page	. 10
Query Properties	. 13
Saving with the DEV_ prefix (1)	. 13
Query Description (2)	. 13
Query Folder (3)	. 14
Query Definition	. 14
Join Type Errors	. 18
Query Criteria: Hard-Coding vs. Prompts	. 27
Academic Career	. 27
Student Group	. 27
GPA	. 29
Summary	. 30
Related Prompts	. 31
How To Know if a Prompt is Related and What Field it is Related To	. 33
Which Prompt Table Edit Type to Use	. 34
Live Example of No Table Edit and Prompt Table Edit Types	. 35
Translate Values and the PSXLATITEM table	. 36
Which Prompt Table to Use in the Prompt Table Field	. 37
INSTITUTION vs SETID vs COMPANY vs BUSINESS_UNIT	. 38
Why Join or Prompt on Different College Identifying Fields	. 39
Data Differences between College Identifying Tables	. 40
Floating Prompts	.41
Prompts Used in Expressions Require Manual Clean-Up	. 42
Pop Select Queries	. 44
What Join Method to Use	. 45

Hierarchy Join	
Pre-defined Join	
Any Join	
Redundant Records	
Custom Records	
Delivered Records	
What Now?	
Effective Dating	
QUERY SECURITY	52

Document Description

This document was created to provide information about findings and trends observed over the past year of query migrations; It contains examples of the most common pitfalls and recommendations to avoid them. Most queries submitted for migration are well developed and are migrated to production without any errors. Any queries that may be referenced in this document were chosen to highlight specific solutions and are not meant to single out any query, developer or institution.

FERPA Flag

If the query includes student name or any other identifiable information about a student, it must have the FERPA flag. The FERPA Flag is most often seen with name and should be placed immediately after the name.

Link to Data Brief - FERPA

<u>https://www.sbctc.edu/resources/documents/colleges-staff/commissions-councils/dgc/ferpa-directory-information.pdf</u>

PeopleSoft Table Types

PeopleSoft applications are table-based systems that contains three major sets of tables:

- System Catalog tables store physical attributes of tables and views, which the database management system uses to optimize performance.
- PeopleTools tables contain information that you define using PeopleTools.
- Application Data tables house the actual data that users enter and access through PeopleSoft application pages.

This figure shows PeopleSoft database tables and sample names:



PeopleSoft Naming Conventions for Delivered Records

Suffixes used by PeopleSoft to identify certain types of record definitions

- **_TBL** Identifies edit or prompt tables that contain data that is used for validation, as opposed to data that is maintained by the application.
 - Prompt tables store commonly used values. They include, but are not limited to, control tables, which store institution-wide values. For example:
 - ACAD_PROG_TBL Academic Program Table
 - ITEM_TYPE_TBL Item Type Table
 - SRVC_IND_CD_TBL Service Indicator Code Table

- ACAD_PLAN_TBL Academic Plan Table
- TERM_VAL_TBL Term Value Table
- _VW Identifies record definitions that are physically implemented by defining an SQL view.

Example

- ACAD_PLAN_VW
- **_DVW** Identifies a dynamic view. This is a record definition that can be used like a view in pages and PeopleCode but is <u>not actually stored as an SQL view in</u> <u>the database</u>. Instead, the system uses the view text as a base for the SQL select that is performed at runtime.
- _WRK Identifies derived work records. These records are used for temporary storage and display. <u>The data is not stored in the database</u>.
- _SBR Identifies subrecords.
 - SELECT %subrec(JRNL_LN_KK_VW, A) FROM PS_JRNL_LN
 - You may see this when using MetaLink to research the SQL script used to create a view
- _QVW Identifies query views. a view that is constructed using the PeopleSoft Query tool. Before you can create the view, PeopleSoft Application Designer prompts you to save the definition.
- _WL Identifies records as worklist record definitions.

Prefixes used by PeopleSoft to identify certain types of record definitions.

- R_ Identifies work record definitions for Structured Query Report (SQR) reports. The remainder of the record name consists of the program or report ID.
- AUDIT_ Identifies record definitions that store audit information for other record definitions in the database.
- WEBLIB_ Identifies record definitions that store internet scripts.
- FUNCLIB_ Identifies record definitions that contain written PeopleCode functions, as opposed to built-in functions.
- DERIVED_ Identifies shared record definitions (across an application module or group) that have fields for PeopleCode events.

Query execution order and joins

When a query is submitted to the database, it is executed in the following order: FROM clause WHERE clause GROUP BY clause HAVING clause SELECT clause ORDER BY clause.



Why is it important to understand this?

- When a query is executed,
 - First all the tables and their join conditions from the where clause are executed filtering out invalid references between them.
 - Then the rest of the WHERE clause is applied which again filters the records based on the conditions given.
 - \circ $\;$ Now you have handful of records which are GROUP-ed
 - And HAVING clause is applied on the result.
 - $\circ~$ As soon as it is completed, the columns mentioned are selected from the corresponding tables.
 - And finally sorted using ORDER BY clause.

So, when a query is written it should be verified based on this order, otherwise it will lead wrong result sets.

The join order within the FROM clause does matter because if we can join two tables that will reduce the number of rows needed to be processed by subsequent steps then our performance will improve.

As a best practice you should try to order your table join so the records joined first are the ones that reduce the result set the most.

- 1. Smaller is better
- 2. Your first record should provide the biggest bang for the buck.
 - a. What record contains most of the data needed for the WHERE clause and the SELECT clause?
- 3. Understand your data and the table hierarchy
 - a. Parent table
 - b. Child table
- 4. Never start with the VCS_BIO views.
 - a. This is a very large reference table and should not be used as a primary table

How to find a table/field name from a page

You will first need to have access to PS Utilities. PS Utilities is a Google Chrome Extension for use with PeopleSoft systems. It's useful for all users of Oracle PeopleSoft applications, whether end user, functional super user, or developer.

- It has many features, each of which can be turned on/off on the features page of PS Utilities Options.
- The PS Utilities bar will show up in the upper left of your browser when you go to a PeopleSoft page. This bar will have a help icon which you can use to find out more details about each of the features.



https://chrome.google.com/webstore/detail/ps-utilities/jajoopnifcliapcngocgiidifkmboemc?hl=en

Open a PeopleSoft page. Click on the magnifying glass icon from the PS Utilities bar. This is the Field Inspector.



Each field on the page will be surrounded by a red box with a magnifying glass in the left corner of each box.

Budget Criteria						1 of 1 🗸 🕨 🕨 🛛 View All
Select	Ledger Group	Calendar ID	From Budget Period	To Budget Period	Include Adjustment Period(s)	Include Closing Adjustments
Q 🔽	Q DETAIL_KK	QPC	Q 1 Q	Q 1	Q 🗸	Q []

Hover the mouse over the magnifying glass next to each field and you will see the name of the table and field. If you want to "lock" the field name, click the magnifying glass which will turn it green, and the name of the table and field will stay at the top of the page.



How to find a table/field name from a popup page

Hold your mouse/pointer over the pop-up page and right click. Click on "Inspect"

Maintain Pe	urchase Ord	er															
Schedule	es																
Unit	WA140				Supplie	YANKEEBOOK-00	1		PO Status Dispa	atched							
PO ID	000000780				PO Dat	12/27/2019											
Return to Ma	in Page		Distribu	utions for S	chedule 1									×			
Lines														Help	Find View All	First 🕚) 1 of 2
Line 1	Item	_			Unit WA140		Supplier YANK	EEBOOK-001						Back	Δlt+	l eft Arrow	44.6
Details	Statuses	Shipm			Line 1	80	item			EM #: ICD-10	0-CMPUBLICAT	ION:		Forward	Alt+R	light Arrow	
	Schedule			Sch	edule 1		Status Active	9						Reload		Ctrl+R	
Sched	Details	*Due D												Save ar		Ctrl+S	
1	P	12/08/		*Distrib	ute By Quantity	~					Sch	edule Qtv	1.0000	Print		Ctrl+P	+.
		-		*Liquid	ate By Amount	~					Merchandis	e Amount	126.44 U	g Cast			
Add ShipTo C	comments			Speed	IChart	Q Multi-S	peedCharts				Doc. Bas	e Amount	126.44 U	s Translate t	o English		
R Save		Search	Distrib	ution						Personalia	ze Find View	All [🔄 🛛	📑 First 🕢 1 of	View page	source	Ctrl+U	pdate/E
			Chartfie	elds <u>D</u> etai	Is/Tax Asset I	formation Req De	etail <u>S</u> tatuses	Budget Infor	mation 💷					View fram	e source		
			Diet	Statue	Darcan	Buda Dt	Encumbrance	Currency	Encumbered	Base	Expensed	Final	Commitment Control	Reload fra	me		
			Diat	Julua	reiten	Dudy Dr	Balance	currency	Base Balance	Currency	To Date	T IIIdie	Close Flag▲	Inspect		.trl+Shift+I	
			1	Open	100.000	0 12/27/2019	0.00	USD	0.00	USD	226.44	~		± =			
						•				1				Þ			
			ОК	Cano	cel Refresh												
			_												-		

SE_ORDER.GBL	_	· · · · · · · · · · · · · · · · · · ·	* 🖪 😝 🗉
		🕞 🖬 Elements Console Sources Network » 📀	1 🗛 1 🔯 🗄 🗙
• 🐴 👘	: 🔿	Select an element in the page to inspect it Ctrl + Shift + C	
New Window Help f	Personalize Page	td colspan="2" rowspan="2" valig "right"> clospan="5" rowspan="2" valig "right"> "right"> "left">	;n="top" align= ;n="top" align= ign="top" align=
	1	<pre></pre>	ANCEL_STATUS">
Help	Find View All		
D-10-CMPUBLICATION:	All 🔁 🔢	<pre>> >>> ></pre>	
Schedule Oty 1 0000		► >	
Merchandise Amount 126.44 LISD	-43	#ACE_width tbody tr td div#win12divPO_LINE_SHIP_CANCEL_STAT	rus
Doc. Base Amount 126.44 USD		Styles Event Listeners DOM Breakpoints Properties Accessibility	
nalize Find View All 🔄 🔐 First 🕢 1 of 1 🕑 Last	A	Filter :hov .cls +	-
cy Expensed To Date Final Commitment Control Close Flag		div { user agent stylesheet adsplay: block; }	ng - 530 × 18
226.44		Inhented from table#ACE_wi table { user agent stylesheet border-collapse: separate; border-spacing: > 2px;	-
		Filter	Show all
		Mnemiced noin gouy, rsread >SpSpAGE >border-col -font-family: Arial, sans-serif; background-color: >gplay background-color: opl(255,255,255); block margin-top: 0px; > font-family	lapse v
		Console What's New ×	×
		Highlights from the Chrome 83 update	
		Foundate vision definition in form the Decidentics tell	

Then click on the pointer symbol in the upper left-hand corner of the inspection window.

R.GBL	
	Elements Console
💿 : ⁶ 7 🏫	
New Window Help Personalize Page	
×	
Help ew All	
-10-CMPUBLICATION:	
artFields	
Schedule Ofre 4 0000	
Merchandise Amount 126.44 USD	html body #PURCHASE_ORD
Doc. Base Amount 126.44 USD	Styles Event Listeners DOM Bre
alize Find View All 🔄 🧱 🛛 First 🕢 1 of 1 🕟 Last	Filter
	element.style { }
Expensed LAG\$0.PSCHECKBOX	div { u
y To Date Margin 3px 3px 3px 4px	display: block; }
226.44	Inherited from body.PSPAGE
₩	.PSPAGE { PSS font-family: Arial,sans-seri
	<pre>background-color:rgb(255, margin-top: 0px;</pre>
	<pre>margin-left: 2px; }</pre>
	-
	Console What's New Y
	Highlights from the Chrome 92 und
	rightights from the chrome os upda

Hoover the mouse over the element on the page that you wish to inspect.

To close out click on the X in the upper right corner of the inspection window.



Query Properties

Entering information into the query properties page is an important step in development that can easily be overlooked or rushed. There were many lessons learned that revolve around the Query Properties Page.

< Records	
Query Propertie	s
*Query	
Description	CamelCaseExample LessVwlsExmpl
Folder	MOST SPECIFIC FOLD
*Query Type	User v
*Owner	Public v

Saving with the DEV_ prefix (1)

Saving your query with the DEV_ prefix provides two main benefits. The first benefit is the query will not be lost in the PCD refresh that happens every month. The second benefit is that it allows for a more thorough comparison between a modified version and the original.

Query Description (2)

Entering new description

When modifying or saving a query as a new query, it is essential to change the description. The query description is the first place many end users go to see information about the query, and if the information is the same across multiple queries, it can cause confusion.

Using CamelCase or Less Vowels

With the limited number of characters available to use in the description, there are methods that you can employ to maximize the space available while still being able to functionally read it. The use of abbreviations and acronyms is encouraged as well but be sure to include what they stand for in the definition. The first method in maximizing space is to remove the spaces in-between words, when this is done capitalize each word to help differentiate between them. This is called CamelCase. The next method is to remove vowels that are easily implied.

Query Folder (3)

Sometimes it's difficult to determine the best folder to add a query to. When you find yourself looking at the Pillar-Folder List <u>https://www.sbctc.edu/resources/documents/colleges-staff/data-services/peoplesoft-ctclink/pillar-folder-lists.pdf</u> and if there are multiple folders that seem appropriate, try to choose the most specific option you can. For example if your query is a population select that searches student records using a student group prompt, the query technically would work in the STUDENT RECORDS, STUDENT GROUPS, and the POPULATION SELECT folder. The most specific folder of these three would be the POPULATION SELECT folder.

Some folders should aways be selected:

POPULATION SELECT for any population select queries

FINANCIAL AID for any Financial Aid queries

Query Definition

Expanding the Definition section

Clicking the bottom right corner and dragging down and to the right will expand the size of the definition box and allows for a much easier reading experience.

C Decembra	
Kecords	
Query Propertie	S
*Query	DEV_SR_QUERY_PROPERTIES_DEMC
Description	CamelCaseExample LessVwIsExmpl
Folder	MOST SPECIFIC FOLD
*Query Type	User ~
*Owner	Public ~
	Distinct Security Join Optimizer
Query Definition	
090: currentdevelope I changed out the EX	er@highline.edu Current Developer 11/15/2022 #555123 AMPLE_ <u>TBL</u> for EXAMPLE_VW which gives student specific data
Image Fields	No. a
O Blank Val	ue
💿 Image Da	ta
⊖ Image Hy	perlink

Records

Query Properties

*Query	DEV_SR_QUERY_PROPERTIES_DEMC
Description	CamelCaseExample LessVwlsExmpl
Folder	MOST SPECIFIC FOLD
*Query Type	User ~
*Owner	Public ~
	Distinct Security Join Optimizer
Query Definition	
I changed out the EX instead of configuration Modification approved 890: queryguru@sbc Duplicate lines were LISTAGG on the D.EX they would be concat	AMPLE_TBL for EXAMPLE_VW which gives student specific data on table data. I also removed the prompt default value on prompt :3 d by Query Guru at SBCTC. tc.edu Query Guru 11/02/2022 #555001 caused by the data that came from EXAMPLE_TBL. I created a XAMPLE field so that the values would still show for each employee but tenated into one value.
890: querywizard@sl Added secure promp 110: pastdeveloper@ Lorem ipsum dolor si labore et dolore magi laboris nisi ut aliquip voluptate velit esse c non proident, sunt in	bctc.edu Query Wizard 02/26/2021 t so users cannot run query for data they are not authorized to view. ppierce.ctc.edu 10/7/2018 it amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut na aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco ex ea commodo consequat. Duis aute irure dolor in reprehenderit in illum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat culpa qui officia deserunt mollit anim id est laborum.
Image Fields	

Query	Defin	ition
-------	-------	-------

090: currentdeveloper@highline.edu Current Developer 11/15/2022 #555123 4 I changed out the EXAMPLE_TBL for EXAMPLE_VW which gives student specific data instead of configuration table data. I also removed the prompt default value on prompt :3 Modification approved by Query Guru at SBCTC.

890: queryguru@sbctc.edu Query Guru 11/02/2022 #555001 🤜

Duplicate lines were caused by the data that came from EXAMPLE_TBL. I created a LISTAGG on the D.EXAMPLE field so that the values would still show for each employee but they would be concatenated into one value.

890: guerywizard@sbctc.edu Query Wizard 02/26/2021

Added secure prompt so users cannot run query for data they are not authorized to view.

110: pastdeveloper@pierce.ctc.edu 10/7/2018

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Locating the first developer (1)

The very bottom entry in the query definition is the first person to develop the query. There are many older queries that may not have a lot of information in the first entry. Ideally there will be an email address and/or a name along with the first definition entry.

Definition can be found in Query Manager and metaLink.

Importance of identifying first developer

Whenever you are trying to modify a query, contacting the first developer is essential to ensure that you are not changing the expected result set that is already a part of the original developer's business processes.

If the original developer is not reachable, then please reach out to the SBCTC reporting team, preferably a team member who already has worked on the query (2 & 3)

Adding who approved modification to definition update (4)

When you obtain approval to modify a query, please enter in the definition who authorized the modification.

Join Type Errors

Most queries utilize multiple records joined together. Knowing when to use which join and how to structure the criteria for them are important aspects of query development. Many issues we find have to do with using the wrong join type or not building the criteria correctly for the join.

The Two Join Types

уре	
Join to filter and get additional fields (Standard Join) Join to get additional fields only (Left outer join)	
	Join to filter and get additional fields (Standard Join) Join to get additional fields only (Left outer join)

Fruit	Citrus	Fruit	Color
Banana	No	Banana	Yellow
Apple	No	Apple	Red
Orange	Yes	Apple	Green
Lemon	Yes	Apple	Yellow

Standard Join (Inner Join)

A standard join only shows results where a match occurs between the two joined sets of data. This means that the query will display less results if the joined record does not have a match for every line of data in the record it is being joined to.

Fruit	Citrus	Color	
Banana	No	Yellow	
Apple	No	Red	
Apple	No	Green	
Apple	No	Yellow	

The red Color table inner/standard joined to the blue Citrus table.

Left Outer Join

A left outer join adds additional data from the joined record without filtering the query where there is not a match to the record it is being joined to. Instead of restricting the results where there is not a match, the joined record contains no results (is null/blank) for the fields they add to the query.

			1
Fruit	Citrus	Color	
Banana	No	Yellow	
Apple	No	Red	
Apple	No	Green	
Apple	No	Yellow	
Orange	Yes		
Lemon	Yes		

The red Color table left outer joined to the blue Citrus table.

Note: Left outer joins use more system resources than inner joins. Therefore, if a query will get the

same results with either join, the inner/standard join is the one that should be used.

VCS_BIO_ Records

The VCS_BIO_PRIMARY and VCS_BIO_PRIORTY records are commonly used CS Pillar views that provide unduplicated listings of core student bio/demo data by EMPLID. Every student with an EMPLID will have a row of data in these views. Therefore, these should always be standard/inner joined to a query, not left outer joined. These are robust views that can be very taxing on performance when left outer joined.

Having one of these views left outer joined to a query is a common error that we run into. In many cases rebuilding the query as an inner join significantly increases performance.

If you are using a left outer join to tie one of these views to your query, make sure you understand and clearly explain in your migration request why this needs to be a left outer vs an inner join.

For example: In the query QCS_CM_PRMS_INSTR_CLASS_DETAIL the VCS_BIO_PRIMARY record is left outer joined because the EMPLID field in the CLASS_PRMSN record it is joined to is only populated after/if the permission code is used. The developer wanted the query to also show results for rows where the permission code is not being used. Therefore a left outer join was the best option:

		Qu	ery	Nar	me	Q	CS_C	CM_PF	RMS_	NST	R_C	LASS	DE	TAI	IL				Des	criptio	on (Class Per	missio	on det	ails				5 F
Click reco	fold ds b	ler n by cl	ext f ckin	to re ig th	ecor ne re	rd to ∋cor	show ds tal	/ fields 5. Whe	. Che en finis	ck fie shed	lds t click	o add the fie	to q elds	uer tab	y. Ur).	nche	eck fi	elds	to re	move	from	query. Ac	dd add	litiona	I	2́∕∕			
Cho	oser	n Re	eco	rds																									
A	lias			Re	cor	d																							
+	Α	Cl	AS	S_F	RN	ISN	- Clas	ss Per	missio	ons Ta	able														H	lierar	rchy Jo	oin 🗕	
+	В	Cl	AS	S_T	BL	- Cli	ass Ta	able																	H	lierar	chy Jo	oin 🗕	
+	С	Cl	AS	s_li	NST	R -	Class	s Instru	uctor 1	able	left o	outer jo	bine	d w	/ith B	5									H	lierar	chy Jo	oin 🗕	
+	D	V	CS_	BIO	_PF	RIM	ARY -	Bio d	ata Pr	imary	/ Nai	me w/F	ER	PA	left o	oute	r joir	ned v	with A						H	lierar	chy Jo	oin 🗕	
+	Е	P	RS	ON.	NA	ME	- Cu	rent P	rimar	/ Nar	ne V	iew lef	t ou	ter	joine	ed w	/ith C	;							H	lierar	chy Jo	oin 🗕	
+	F	S	cc_	EM		QV	'W - E	imail A	ddres	ses (Quer	y View	left	ou	iter jo	oine	d wit	hC							H	lierar	chy Jo	oin 🗕	
Ē.	G	P	SOP	RD	EFN	1 - C	perat	tor De	finitior	n															F	lierar	chy Jo	oin 🗕	
Ē.	н	IN	STF	RUC	T_1	NOE	DE																		H	lierar	chy Jo	oin 🗕	
+	T	P	SOP	RD	EFN	۱ - C	Operat	tor De	finitior	ı left	oute	r joine	d wit	th A	4										F	lierar	chy Jo	oin 🗕	
+	J	P	SOP	RD	EFN	1 - C	perat	tor De	finitior	left	oute	r joine	d wit	th A	4										H	lierar	chy Jo	oin 🗕	
QCS_CM	PRMS	_INST	R_CLA	SS_D	ETAIL	- Clas	s Permis:	sion detail	s																				
Ins	titution V Term 2	VA062	۹																										
Subject (O) View Resu	tional)		Q																										
Download View All	results in	: Exce	Spread	Sheet	CSV T	ot File	XML File	(24095 kb)																					
Row Institu	tion Term	n Subjec	Catalog	Course	Class Nbr	Class	Componen	Consent Type	Class Type	Class	Campus	Location	Session	n Mode	e Descr	Enri Status	Total Enrolled	Enrol Capacity	Permission	Permission Nbr.	Date	Created by Created by (EMPLID)	d Last Updated by	Updated In By	Date (FMC	ed Issue	Permission Used?	Date Student	Student
1 WA06	2 2217	7 ABE	21	065422	2 12206	OL1	LEC	Department Consent	Enroliment	Active	MAIN	OFFCAMPUS	OEE	OL	On-line	Open	5	25	Add	104540	05/11/2021	101	1010	(Name)	(Line		Not Used	-	
2 WA06	2 2217	7 ABE	21	065422	2 12200	OL1	LEC	Department Consent	Enrollment Section	Active	MAIN	OFFCAMPUS	OEE	OL	On-line	Open	5	25	Add	104540	05/11/2021	1010	1010				Not Used		
3 WA06	2 221	7 ABE	21	065422	2 12206	OL1	LEC	Department Consent Required	Enrollment Section	Active	MAIN	OFFCAMPUS	OEE	OL	On-line	Open	5	25	Add	232224	05/11/2021	1010	1010				Not Used		

OFFCAMPUS OEE OL On-line Open 5 25 Add

232224 05/11/2021

Common Join Errors: Query Building Exercise

For this section I built a simple class information query to show some of the common join errors we encounter.

I created the query based on the CLASS_TBL (Class Table) record and used the first 12 fields of this record with a prompt for Institution and Term. For these examples I used WA062 as the institution value and 2233 for the term. Running this query for these values in PCP I got 368 results:

Instit	ution = WA06	62, Term=22	33									
View	All Rerun Qu	iery Downl	oad to E	Excel Dow	nload to)	ML					First 🕚 1-10) o <mark>f 368</mark> 🕑 Last
Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Subject	Catalog	Career	Descr	Class Nbr
1	070491	1	2233	1	1L	WA062	SKILL	WTC	134	UGRD	Marine Mechanical	5044
2	070514	1	2233	1	1	WA062	SKILL	WTC	172	UGRD	Forklift Operation & Crt	5107
3	070490	1	2233	1	1	WA062	SKILL	WTC	133	UGRD	Wooden Boat Repair	5041

Error 01: Assuming There is a Data Match

Next, I wanted to add the following fields from the CLASS_INSTR record to the query:

- 1) CLASS_MTG_NBR (Class Meeting Pattern Nbr)
- 2) INSTR_ASSIGN_SEQ (Class/Instructor Assign Seq#)
- 3) EMPLID (ID of instructor)
- 4) INSTR_ROLE (Instructor Role)
- 5) ASSIGN_TYPE (Assignment Type)

Since every class has an instructor, I assumed there will be matching data in the CLASS_INSTR record for every row in the CLASS_TBL record and so used an inner join to bridge these two tables. However when I ran the query, I only received 218 results:

Insti	tution = \	NA062,1	Term=	2233													
Viev	All Reru	in Query	Dov	vnload t	o Excel	Downloa	ad to XML								First	④ 1-100 of	218 Dast
Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Subject	Catalog	Career	Descr	Class Nbr	Pat Nbr	Assign Seq #		ID Role	e Assign Type
1	070491	1	2233	1	1L	WA062	SKILL	WTC	134	UGRD	Marine Mechanical	5044	1	1	201	PI	FT6
2	070514	1	2233	1	1	WA062	SKILL	WTC	172	UGRD	Forklift Operation & Crt	5107	1	1	101	PI	AD5
3	070491	1	2233	1	1	WA062	SKILL	WTC	134	UGRD	Marine Mechanical	5043	1	1	201	PI	FT6

Redoing this as a left outer join I get 380 results - slightly more than the 368 results I received before the join because some of the classes are taught by more than one instructor (adding additional rows):

View	All Reru	n Query	Dov	nload t	o Excel	Downloa	ad to XML							First	1-100	of 380 🕑 Las
Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Subject	Catalog	Career	Descr	Class Nbr	Pat Nbr	Assign Seq #	ID Ro	le Assign Type
1	070491	1	2233	1	1L	WA062	SKILL	WTC	134	UGRD	Marine Mechanical	5044	1	1 201	PI	FT6
2	070514	1	2233	1	1	WA062	SKILL	WTC	172	UGRD	Forklift Operation & Crt	5107	1	1 101	PI	AD5
3	070491	1	2233	1	1	WA062	SKILL	WTC	134	UGRD	Marine Mechanical	5043	1	1 201	PI	FT6
4	070511	1	2233	1	1	WA062	SKILL	WTC	164	UGRD	Industrial 1st Aid/CPR	5101	1	1 101	PI	AD5
5	070490	1	2233	1	1	WA062	SKILL	WTC	133	UGRD	Wooden Boat Repair	5041	1	1 201	PI	FT6
6	070501	1	2233	1	1L	WA062	SKILL	WTC	146	UGRD	Roof System	5050	1	1 101	PI	FT6
7	070502	1	2233	1	1L	WA062	SKILL	WTC	147	UGRD	Stair System	5052	1	1 101	PI	FT6
8	070516	1	2233	1	1L	WA062	SKILL	WTC	177	UGRD	Fitness and Nutrition I	5110				

You can see from the blank cells in row eight of the example above that not all classes for this institution/term combination have an assigned instructor. Doing an inner join because you assume there will be a match between records is another common error we run into. It is important to know your data and not make assumptions. Errors like these can be avoided by exploring the data before joining it to a query, and then also checking to see if you get the expected results after the join.

Error 02: Unnecessary Left Outer Join

This is the opposite of the error demonstrated above. I wanted to add the academic group description field next to the Academic Group column and so I added the ACAD_GROUP_TBL record using a left outer join. I got the expected number of results and the query worked as intended. However, I noticed that there were no blank values in the new Description field like there had been for the CLASS_INSTR fields in the previous example:

Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Descr	Subject	Catalog	Career	Descr	Class Nbr	Assign Seq	ID	Role	Assign Type
1	070491	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5044	1	201	PI	FT6
2	070514	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	172	UGRD	Forklift Operation & Crt	5107	1	101	PI	AD5
3	070491	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5043	1	201	PI	FT6
\$	070511	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	164	UGRD	Industrial 1st Ald/CPR	5101	1	101	PI	AD5
5	070490	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	133	UGRD	Wooden Boat Repair	5041	1	201	PI	FT6
5	070501	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	146	UGRD	Roof System	5050	1	101	PI	FT6
ĩ	070502	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	147	UGRD	Stair System	5052	1	101	PI	FT6
\$	070516	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	177	UGRD	Fitness and Nutrition I	5110				
9	070517	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	179	UGRD	Osha 10 Safety	5111	1	101	PI	NON

Looking further into these records, I discovered that every row in the CLASS_TBL record has an Academic Group (ACAD_GROUP) value and each of these has a corresponding value in the ACAD_GROUP_TBL.

In this example the join therefore should be an inner join. Remember - When either join produces the wanted results a left outer join should not be used. This is a common mistake because the query produces the same results either way, though doing a left outer join instead of an inner join wastes resources and can possibly cause issues or confusion if the query needs modified later.

Note: Records that end in _TBL are edit or prompt tables that contain much of the fundamental data often used throughout ctcLink as the foundation for more complex records or views. Therefore these will usually be inner joined in a query as opposed to left outer joined. Many of the recommended prompt tables are _TBL records.

Error 03: An Inner Join on a Left Outer Join

Next, I wanted to add Instructor Name next to the Instructor ID field. To get this data I joined the PERSON_NAME record to the CLASS_INSTR record. Because there should be a record for every EMPLID in the PERSON_NAME record I structured this as an inner join. However, when I ran the query I only got 212 results instead of the expected 380:

Insti Viev	tution = / All Re	• WAO	062, Te	rm=22	33 bad to	Excel D	ownload	to XML								First 🕙 1-100	o <mark>f 212</mark>	🕑 🕑 Last
Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Descr	Subject	Catalog	Career	Descr	Class Nbr	Assign Seq #	ID	Name	Role	Assign Type
1	070491		1 2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5044	1	201		PI	FT6
2	070514	1	1 2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	wтс	172	UGRD	Forklift Operation & Crt	5107	1	101		PI	AD5
3	070491	1	1 2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5043	1	201		PI	FT6

This is because doing an inner join puts the criteria on the where clause which means the entire result set is restricted to where a match exists between all the involved data. Redoing this as a left outer join I get the expected number of results:

Row	Course	Offer	Term	Session	Section	Institution	Acad	Descr	Subject	Catalog	Career	Descr	Class	Assign Seg #	ID	Name	Role	Assign
1	070491	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5044	1	201		PI	FT6
2	070514	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	172	UGRD	Forklift Operation & Crt	5107	1	101		PI	AD5
3	070491	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5043	1	201		PI	FT6
4	070511	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	164	UGRD	Industrial 1st Aid/CPR	5101	1	101		PI	AD5
5	070490	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	133	UGRD	Wooden Boat Repair	5041	1	201		PI	FT6
6	070501	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	wтс	146	UGRD	Roof System	5050	1	101		PI	FT6
7	070502	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	147	UGRD	Stair System	5052	1	101		PI	FT6
8	070516	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	177	UGRD	Fitness and Nutrition I	5110					

A record should never be inner joined to a left outer joined record. Doing so functionally turns that previous left outer join into an inner join. An inner join or a left outer join can both be added onto another inner joined record, however only a left outer join should be added onto another left outer join.

Error 04: Left Outer Joined EFFDT criteria Placed on the Where Clause

Next I wanted to add a description of the instructor assignment type (ASSIGN_TYPE) to the query. To do this I joined the ASSIGNMENT_TYPE table to the CLASS_INSTR table. Since the CLASS_INSTR record is joined to the query using a left outer join, I know that the ASSIGNMENT_TYPE table should also be joined using a left outer join.

Note: Since INSTITUTION is a key field in the ASSIGNMENT_TYPE record but there is no INSTITUTION in the CLASS_INSTR table I added criteria making the CLASS_INSTR INSTITUTION equal to :1 (the Intsitution Prompt). Since I added this record as a left outer join this criteria needs to be put on the outer join clause, not the where clause.

When I finished adding this criteria, I noticed that the Effective Date criteria was on the where clause:

AND 🗸	E.ASSIGN_TYPE - Assignment Type	equal to	B.ASSIGN_TYPE - Assignment Type	Edit	-	E
AND ~	E.EFFDT - Effective Date	Eff Date <=	Current Date	Edit	-	
AND 🗸	E.INSTITUTION - Academic Institution	equal to	:1	Edit	-	E

If I leave this as is and run the query, I will only get 218 results:

Inst	itution =	= WA	062, Query	Term=2	2233 nload te	o Excel I	Downlo	ad to XML									Fin	st 🕑 1-	100 of <mark>218</mark> 🕑 La
Row	Course	Offer Nbr	Term	Session	Section	Institution	Acad Group	Descr	Subject	Catalog	Career	Descr	Class Nbr	Assign Seq #	ID	Name	Role	Assign Type	Descr
1	070491	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5044	1	201		PI	FT6	FT 275 BASE
2	070514	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	172	UGRD	Forklift Operation & Crt	5107	1	101		PI	AD5	ADJ 270 BASE
3	070491	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	134	UGRD	Marine Mechanical	5043	1	201		PI	FT6	FT 275 BASE

To fix this I will need to edit the Effective Date criteria so that it belongs to the left outer join clause:

hoose Expression 1	Expression 1				
Field	Choose Record and Field				
OExpression	Record Alias.Fieldname Q E EFFDT - Effective Date				
*Condition Type	€ Eff Date <= ✓				
∩ Eiold					
Current Date					
nis criteria belongs to					
ON clause of outer join E	~				
ON clause of outer join B					

After doing so when I ran the query again, I received the expected 380 results:

Insti Viev	tution : v All Re	= WA	062, Query	Term=2	2233 nload to	o Excel I	Downlo	ad to XML										Firs	st 🛞 1-	100 of <mark>380</mark> 🕑 La
Row	Course ID	Offer Nbr	Term	Session	Section	Institution	Acad Group	Descr	Subject	Catalog	Career	Descr	Class Nbr	Assign Seq #	į.	D	Name	Role	Assign Type	Descr
1	070491	1	2233	1	1L	WA062	SKILL	Skilled Trades & Tech Training	wтс	134	UGRD	Marine Mechanical	5044	1	201			PI	FT6	FT 275 BASE
2	070514	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	WTC	172	UGRD	Forklift Operation & Crt	5107	1	101			PI	AD5	ADJ 270 BASE
3	070491	1	2233	1	1	WA062	SKILL	Skilled Trades & Tech Training	wтс	134	UGRD	Marine Mechanical	5043	1	201			PI	FT6	FT 275 BASE

Though the ASSIGNMENT_TYPE record was left outer joined, having the EFFDT criteria on the where clause made the join behave as an inner join because every row where the EFFDT was blank/null was excluded from the results instead of simply displaying blank/null values for the Descr field.

This is a very easy mistake to make because regardless of the type of join you are doing, Peoplesoft always puts the automated Effective Date criteria on the where clause.

Note: The ability to add effective date criteria to the outer join clause is a fairly new function in ctcLink. Before this was available as a feature the old way of coding effective date criteria for a left outer join was to add an "or null" clause to the criteria and group it with the other EFFDT where clause criteria:

AND	~	E.INSTITUTION - Academic Institution	equal to	:1	Edit	-	E
AND	~	(E.EFFDT - Effective Date	Eff Date <=	Current Date	Edit	-	
OR	~	E.EFFDT - Effective Date	<mark>is null</mark>)	Edit	-	

Though newly created or modified queries should use the new EFFDT criteria method for Left Outer Joins (putting the join on the Left Outer Join clause), many older queries use the old "or null" method. If you do a modification or "Save-As" of one of these queries you should update the criteria to the new method.

Error 05: Required Prompt on the Where Clause of a Left Outer Join

Next I wanted to add a prompt for the instructor EMPLID, so that I could run the query to only show results for a particular instructor.

Just like with the EFFDT criteria. If I add the criteria for this prompt on the where clause, it will restrict all data as if it were inner joined, even though the field the propmt is on (EMPLID) is from a left outer joined record (CLASS_INSTR). Therefore if I make this a required prompt it would be as if the CLASS_INSTR record was inner joined because the results would be restricted to where there is data in the CLASS_INSTR record.

Therefore in this case I should make the prompt optional, so that if the prompt is not used the join acts as a left outer join, but if it is used then it restricts the results like an inner join:

AND 🗸	E.EFFDT - Effective Date	Eff Date <=	Current Date	Edit	-	E
AND 🗸	E.INSTITUTION - Academic Institution	equal to	:1	Edit	-	E
AND 🗸	B.EMPLID - Empl ID	equal to	:3	Edit	-	

Field Name	*Heading Type Text ✓
Туре	Heading Text
Character 🗸	Instructor ID (Optional)
Format	*Unique Prompt Name
Upper ~	BIND3
Decimals	Prompt Table
Optional	PERSONAL_DATA
Default Value	
	li.

This way if I run the query for a specific instructor I will only see the classes that instructor teaches, however I also have the option to leave this prompt blank to see the classes of all instructors (and those without an assigned instructor).

This method of doing prompt criteria can seem counterintuitive. Therefore this is another example of why it is important to know your data and the results you are expecting to get, and to throughly test your queries with your end users and subject matter experts to make sure they are producing the correct data.

Query Criteria: Hard-Coding vs. Prompts

After completing your ctcLink query training, you are probably already familiar with certain fields that should never be hard-coded in query criteria, such as Institution. Instead of hard-coding Institution (or SetID or Business Unit, etc.) in the query criteria, we require using a secure Institution prompt.

It is common for the ctcLink Reporting Team to see query migration requests for queries that have criteria hard-coded that would be better as prompts to make the queries easier to be used globally. Examples are below.

Academic Career

The Academic Career (ACAD_CAREER) field is commonly hard-coded in ctcLink query criteria. Rather than hard-coding a query with a criterion of ACAD_CAREER = UGRD or ACAD_CAREER = CNED, consider adding a secure ACAD_CAREER prompt instead (see screenshot below).

Records	Query Manager	A < ▼ : Ø
🧷 🖬 😋 🌩 📓		New Window Help Personalize Page
Edit Prompt Properties		
Field Name Q ACAD_CAREER *Type	*Heading Type RFT Short ~ Heading Text	
Character 🗸	Career	
*Format	*Unique Prompt Name	
Upper 🗸	CAREER	
Length 4 Decimals		
*Edit Type	Prompt Table	
Prompt Table 🗸	Q ACAD CAR SCRTY	
Optional		
Default Value		
OK Cancel		

Make sure you do not enter a value in the Default Value section, as this will override the ACAD_CAREER security.

Example query: QCS_CM_COURSE_SUCCESS

Student Group

Another field that the ctcLink Reporting Team commonly sees query migration requests submitted with hard-coded values is the Student Group (STDNT_GROUP) field.

All queries containing Student Group data are required to have Student Group security either by including a secure Student Group prompt(s) or a secure Student Group record (or both). This is because not everyone has access to all Student Group data, and end users should only see Student Group data to which they have access.

Keep in mind that if you hard-code a query with Student Group criteria that are specific to your college, then that essentially makes it a college-specific query because users from other colleges may try to run that query but will not get results.

Also keep in mind that if you hard-code a query with global Student Group (i.e., Student Groups that exist at all colleges) criteria (e.g., STDNT_GROUP = SDOC), then end users who don't have access to see data for that Student Group(s) may try to run the query but will not see results returned.

For these reasons, it is better to use a secure STDNT_GROUP prompt(s) instead (see screenshots below).

< Records	Q	uery Manage
	1-130113	
Prompt	Edit	Delete
:1 = INSTITUTION - Institution	Edit] –
:2 = ACAD_CAREER - Acad Career	Edit	-
:3 = STRM - Term	Edit] –
:4 = ACAD_PROG - Academic Program	Edit] –
:5 = ACAD_PROG - Acad Program 2 (Optional)	Edit) –
:6 = ACAD_PROG - Acad Program 3 (Optional)	Edit) –
:7 = ACAD_PROG - Acad Program 4 (Optional)	Edit	-
:8 = ACAD_PLAN - Acad Plan, Blank or % for all	Edit] –
:9 = STDNT_GROUP - Stdnt Grp 1 - Enter value or %	Edit] –
:10 = STDNT_GROUP - Stdnt Grp 2 - Enter value or %	Edit) –
:11 = STDNT_GROUP - Stdnt Grp 3 - Enter value or %	Edit	-
:12 = STDNT_GROUP - Stdnt Grp 4 - Enter value or %	Edit	-
:13 = STDNT_GROUP - Stdnt Grp 5 - Enter value or %	Edit	-
Records	Qu	ery Manager
2 🖬 😔 🛱 📓		
Edit Prompt Properties		
Field Name *Heading Type		
Q STDNT_GROUP		
Character Stdnt Grp 1 - Enter value or %		
*Format *Unique Prompt Name		
Upper V BIND9		
Length 4		
Decimais		
*Edit Type Prompt Table		
No Table Edit VCS_STDNTGRP_VW		
Optional		
Default Value RCOL		
1		
OK Cancel		

If you are entering a default value like the example in the screenshot above, then make sure that your query also contains a secure Student Group record so as to not override Student Group security (see screenshot below).



Example query: QCS_CC_ENRL_DISABILITY_REPORT

GPA

Another field that the ctcLink Reporting Team commonly sees query migration requests submitted with hard-coded values is GPA.

If, for example, you need to create a query that only returns students with a cumulative GPA of 3.5 and above, then consider having that criterion as a prompt rather than hard-coded (see screenshots below).

< Fields					
2000					
Records	Query Expressions Pr	ompts Fields Cr	Having Dependency	Transformations	JW SQL R
Query	Name DEV_SR_PTK_ELIG		Description Phi Theta	Kappa Elig	S Fer
Add Criteria	a Group Criteria	Reorder	Criteria		
Criteria					
≡; Q				4 4 1-16 of 16 🗸	▶
Logical	Expression1	Condition Type	Expression 2	Edit	Delete
~	A.EMPLID - ID	equal to	B.EMPLID - Empl ID	Edit	-
AND 🗸	A EMPLID - ID	equal to	D.EMPLID - Empl ID	Edit	-
AND 🗸	A.ACAD_CAREER - Academic Career	equal to	D.ACAD_CAREER - Academic Career	Edit	-
AND 🗸	A INSTITUTION - Academic	equal to	D.INSTITUTION - Academic	Edit	-
AND 🗸	A.STRM - Term	equal to	D.STRM - Term	Edit	-
	A INSTITUTION - Academic	equal to	4	Edit	-
	D SUBJECT Subject from	pot organite		Edit	
AND V	D.3063ECT - Subject Area	not equal to		Eur	
AND V	D.SUBJECT - Subject Area	not equal to	:3	Edit	-
AND ¥	D.SUBJECT - Subject Area	not equal to	:4	Edit	-
AND 🗸	D.SUBJECT - Subject Area	not equal to	:5	Edit	-
AND 🗸	A.STRM - Term	equal to	:6	Edit	-
AND 🗸	D.SUBJECT - Subject Area	not equal to	:7	Edit	-
AND 🗸	D.SUBJECT - Subject Area	not equal to	:8	Edit	-
AND 🗸	A.ACAD_CAREER - Academic Career	equal to	:9	Edit	-
AND 👻	A.CUM_GPA - Cumulative GPA	not less than	:10	Edit	-
AND 🗸	UPPER(B.ADDRESS1)	not equal to	:11	Edit	-
Save	Save As	New Query	Preferences Prope	erties	
	Publish as Feed	Publish as Pivot Grid	New Union		

< Prompts	Query Manager	A < 🚩 i Ø
		New Window Help Personalize Page
Records Query Expressions Prompts Fields Criteria Having	Dependency Transformations View SQL Run	
Query Name DEV_SR_PTK_ELIG Description #	Phi Theta Kappa Elig 💿 Feed -	
Add Prompt		
Prompts List		
■ Q (4 4 1-11	of it v b bi	
Prompt Edit	Delete	
:1 = INSTITUTION - Institution Edit	-	
:2 = SUBJECT - Exclude Subject 1 Edit	-	
:3 = SUBJECT - Exclude Subject 2 Edit	-	
:4 = SUBJECT - Exclude Subject 3 Edit	-	
:5 = SUBJECT - Exclude Subject 4 Edit	-	
:6 = STRM - Term Edit	-	
:7 = SUBJECT - Exclude Subject 5 Edit	-	
:8 = SUBJECT - Exclude Subject 6 Edit	-	
:9 = ACAD_CAREER - Career Edit	-	
:10 = CUM_GPA- GPA greater than or = Edit	-	
:11 = ADDRESS1 - Exclude Address Edit	-	
Save Save As New Query Preferences	Properties	
Publish as Feed Publish as Pivot Grid New Union		
Return To Search		
< Prompts	Query Manager	n a 🕈 : 🖲
2 🖬 O 🔅 🖬		New Window Help Personalize Page
Edit Prompt Properties		
Field Name "Heading Type Design Text		
*Type Heading Text		
Number GPA greater than or =		
*Format *Unique Prompt Name None V BIND 10		
Length 9		
Decimals 3		
*Edit TypePrompt Table No Table Edit V Q.		
Optional		
Default Value		
3.3		

The example query (DEV_SR_PTK_ELIG) referenced in the screenshots above was developed to determine eligibility for an honor society, which requires a cumulative GPA of 3.5 or above. A reason to have this be a prompt with a default value of 3.5 rather than a hard-coded criterion is because other colleges might have different minimum cumulative GPA requirements for eligibility for their chapter of that honor society. Having this prompt makes this query more flexible to be used globally.

Summary

Just about any ctcLink query criteria that are hard-coded can be made into prompts instead. While it may be tempting to include college-specific criteria in a ctcLink query, doing so makes it more difficult for the query to be used globally. If you find yourself adding college-specific criteria to a ctcLink query, please consider using dataLink to create the query instead.

If hard-coding ctcLink query criteria absolutely **has to** be done, then be sure to include details about why you chose to hard-code in the query definition. Keep in mind that hard-coded ctcLink queries you create will be found and used by other colleges, and they may even be copied and used as the basis for other queries. That means that if the original query contains criteria that are hard-coded, then copies of that query will also contain criteria that are hard-coded unless those criteria are changed.

Related Prompts

Related prompts are prompts which are dependent on the value from another prompt. ACAD_CAREER and DEPTID are good examples of related prompts. ACAD_CAREER is related to (dependent on) INSTITUTION and DEPTID is related to SETID.

The order of prompt entry can be very important because of this. We recommend to always include the college identifying prompt as the first prompt to avoid any potential difficulties. In this example, I left the INSTITUTION prompt blank and tried to look up a value for ACAD_CAREER first.

t de c	
Institution	٩
Career	Q
ок	Cancel

Instead of a list of values I see the error message "No matching values were found"

Look Up Career	×
Search by: Academic Career v begins with	Help
Search Cancel Advanced Lookup	
No matching values were found.	

When I go back and enter in a valid value in the Institution prompt and then try to look up a value in the academic career prompt, I see the list of values I was expecting.

Institution WA010 Q	
Career Q	
Look Up Career	×
Search by: Academic Career V begins with	lelp
Search Cancel Advanced Lookup	
Search Results	
View 100 4 1-2 of 2 v	
Academic Career Description	
CNED Continuing Education	
UGRD Undergraduate	

How To Know if a Prompt is Related and What Field it is Related To

The document <u>Query Prompt Tables to Use by Pillar</u> lists out known related prompts. If the prompt is not indicated as related in this document then the best indication of a related prompt (though it could be an incorrect prompt table) is when there are no options when using the magnifying glass to look up prompt values. Click on "Advanced Lookup" and you will see a field with no selection box next to it. That is the field that the prompt is related to which will need to be added as a prompt *before* the related prompt. Also, please send a message to <u>dataservices@sbctc.edu</u> if you find a related prompt we do not have listed.

Look Up Career	×	
Search by: Academic Career v begins with	Help	
Search Cancel Advanced Lookup	Look Up Career	×
No matching values were found.	Academic Institution Academic Career begins with v	lelp
	Description begins with v	
	Search Clear Cancel Basic Lookup	
	No matching values were found.	

Which Prompt Table Edit Type to Use

Determining the edit type depends on the desired effect for the end user when entering a value into the prompt.

Edit Prompt Properties	
Field Name	*Heading Type
	RFT Short ~
*Туре	Heading Text
Character v	Institution
*Format	*Unique Prompt Name
Upper 🗸	BIND1
Length 5 Decimals	
*Edit Type	Prompt Table
No Table Edit 🗸	INSTITUTN_SCRTY
Optional	
Default Value	
	1.
OK Cancel	

Translate Table and Yes/No Table edit types will default in automatically based on the field selected for the prompt. No Table Edit and Prompt Table edit types are selected by the developer. When in doubt, choose Prompt Table edit type.

EDIT TYPE	PROMPT TABLE FIELD' FUNCTION	EFFECT ON THE PROMPT
NO TABLE EDIT	• A record is not required to be added to the 'Prompt Table Field'.	Look up list available only if a record is entered in the
	 If added, the values in the record provide a look up list and a 	'Prompt Table Field'.
	comparison, but not validation, to the prompt entry.	No validation of the prompt entry made by the end user.
	 Does not prevent invalid prompt entry values. 	Invalid entries are not prevented, but the query will not
		return results with an invalid prompt entry.
PROMPT TABLE	 A record is required to be added to the 'Prompt Table Field'. 	 Look up list will always be available.
	 Validates the prompt entry against the values in the record. 	The end user's prompt entry is validated against the
	 Prevents invalid prompt entry values. 	values in the record added to the 'Prompt Table Field'.
	 The values in the record provide users a look up list. 	 The query will not run with an invalid value.
TRANSLATE TABLE	 None. Not used for this edit type. 	 Used on fields with a translate value.
		Provides a drop down selection list of predefined values
		in the prompt.
YES/NO TABLE	 None Not used for this edit type. 	Creates a 'Yes' or 'No' prompt checkbox. Checked =
		'Yes', Unchecked = 'No'.

Figure 1 Edit Type/Prompt Table Field Function Crosswalk

Live Example of No Table Edit and Prompt Table Edit Types



Figure 2 Edit Type Gif Double Click to open

The video in the link above shows in detail the No Table Edit and Prompt Table edit types. In this query Institution has been set up using a Prompt Table Edit Type while the Academic Program prompt has been set up using an edit type of No Table Edit.

The video shows what happens when I run the query and put in an incorrect institution code. I got a small message saying that no matching values were found but I'll just continue on. When I get to the next required prompt I get an error message window saying that there is an invalid value in the Institution prompt. The prompt box itself turns red and it lets me know that it's not going to run. Even if I try to run it anyway, I can't. It won't let me move forward. To run the query, I have to go back and select a valid institution because the prompt table edit type was used for this prompt.

In contrast the Academic Program prompt used the edit type of No Table Edit so if I put in an incorrect value there, I still get a small message saying that no matching values were found. This is because I put a record in the Prompt Table field in the Edit Prompt Properties page and it will compare the value entered into the prompt against the values in the record added to the Prompt Table field. It is a comparison only, not a validation as nothing will stop me if I continue past the error message. When I try to run the query it will run. I just won't get any results because it tried to filter it on a value that doesn't exist.

Translate Values and the PSXLATITEM table

The same way that fields with a translate value don't need a record in the Prompt Table field, they also don't require a join on the PSXLATITEM table. Check the fields tab. If there is a value of either N, L or S in the XLAT column then the field has a translate value so any prompt will default to a Translate Table type and does not require a record in the Prompt Table field in the Edit Prompt Properties page.

Fields						
=	Q					
Col	Record.Fieldname	Format	Ord	XLAT	Agg	Heading Text
1	A.INSTITUTION - Academic Institution	Char5				Institution
2	A.STDNT_ENRL_STATUS - Student Enrollment Status	Char2		N		Status

Which Prompt Table to Use in the Prompt Table Field

The document <u>Query Prompt Tables to Use by Pillar</u> lists which table to use in the Prompt Table field in the Edit Prompt Properties page. Many times, the record listed is a secure record and will determine which rows of data in the record the end user will be able to view.

If using a field as a prompt that is not listed in the document, choosing a record ending in _TBL is a good place to start looking.

Campus Solutions Pillar (CS) Prompt Tables Required Secure CS Prompt Tables

If one of the following fields is used in a CS Query prompt, the following prompt tables must be used.

Field	Prompt Table
INSTITUTION	INSTITUTN_SCRTY
BUSINESS UNIT	SP_BU_SF_OPRVW
SETID	SP_SETID_OPRVW

Standard Recommended CS Prompt Tables

Field	Prompt Table
ACAD_CAREER*/**	ACAD_CAR_SCRTY*/**
ACAD_ORG	ACAD_ORG_SRCH
ACAD_PLAN	ACAD_PLAN_TBL
ACAD_PROG	ACAD_PROG_TBL
ACAD_STNDNG_ACTN	VCS_ACAD_STACTN
ADMIT_TYPE	ADMIT_TYPE_TBL
ADVISOR_ID*	VCS_ADVISOR_PVW*
AID_YEAR (FA)	FED_AID_YR_TBL
CHECKLIST_CD (FA)	CS_CHKLST_TBL
CLASS_NBR	SE_CLASS_NBR_VW
CRSE_ATTR	CRSE_ATTR_TBL
EMPLID (STUDENT ONLY)*	VCS_PERS_SEC_VW*
EXT_ORG_ID	EXT_ORGSCHL_VW
FACILITY_ID	FACILITY_TBL
INSTRUCTOR_ID*	VCS_INSTRUC_PVW*
ITEM_TYPE*	ITEM_TYPE_BU_VW*
ITEM_TYPE (FA)*	ITEM_TYPE_FA_VW*
SESSION_CODE	SESSION_CODE_VW
SRVC_IND_CD	SRVC_IND_CD_TBL
SRVC_IND_REASON	SRVC_IN_RSN_TBL
STDNT_GROUP*/**	VCS_STDNTGRP_VW*/**
STRM	TERM_VAL_TBL
SUBJECT	SUBJECT_TBL
*Related Prompt - must be a child prompt to an	Institution, Business Unit, or SETID prompt

^{**}Additional SACR Security required

Washington State Board for Community and Technical Colleges ctcLink Reporting Query Migration Lessons Learned 2022 // Last Updated: November 2022

INSTITUTION vs SETID vs COMPANY vs BUSINESS_UNIT

College identifying fields are the most important to use a secure prompt record with. Each query created requires a college identifying secure prompt. The college identifying prompt requires a secure record in the Prompt Table field in the Edit Prompt Properties page.

While these fields all identify an institution, they are not all the same and do not always contain the same data.

Creating joins or prompts between any of these fields requires careful consideration of the data. There are times when one table might contain different values than one would think. For example, while it is possible to create a prompt using INSTITUTION as the field in the prompt but have the criteria belong to BUSINESS_UNIT, you will need to first ensure that the data is the same in both fields.

Why Join or Prompt on Different College Identifying Fields

In this query QCS_SF_ENROLL_CANCEL_MESSAGES it works to set up the prompt that way because the data is the same in both the business unit and the institution. But as it's not always the case, check the data first.

Setting it up this way allows the related prompts to work. Remember, ACAD_CAREER is related to INSTITUTION.

Edit Prompt Properties							
Field Name INSTITUTION *Type Character ~ *Format	*Heading RFT Sh Heading Institutio *Unique	j Type ort ✓ j Text on Prompt Name					
Length 5 Decimals *Edit Type No Table Edit v	Prompt	Table STITUTN_SCRTY					
Default Value	Records	uery Expressions F	Prompts	Fields Criteria	Having	Dependency	Trans
OK Cancel	Query Add Criteria	Name QCS_SF_ENROLL_C	ANCEL_MESS	AGES Reorder Crite	De	scription Enrollm	ent Canc
	Criteria						
	Logical	Expression1		Condition Type	Expression 2		
	~	A.BUSINESS_UNIT - Busines	s Unit	equal to	:1		
	AND v	B.BILLING_CAREER - Billing	Career	equal to	:2		
	AND ~	A.BATCH_ID - Batch ID		equal to	:3		

Data Differences between College Identifying Tables

Figure 3 SF_PAYMENT Table INSTITUTION and BUSINESS_UNIT fields

The table SF_PAYMENT shows how the INSTITUTION and BUSINESS_UNIT fields can be different even within the same record.

Expressions	Prompts	Fields	Criteria	Having	Dependency	Transformations
d to Excel Down	nload to XML					First
		Institut	tion			Unit
					WA171	
					WA172	
					WA220	
WA020						
WA030						
WA040						
WA040					WA040	
WA050						
VVA050					WA050	
WA062						
VVA062					VVA062	
VVA063						
WA064					W/A064	
WA070					WA004	
WA070						
WA090						
WA100						
WA110						
WA120						
WA130						
WA130					WA130	

The JOB and JOBCODE_TBL records also highlight the potential differences between college identifying fields

Set ID	Co
WA000	000
WA000	890
WA010	000
WA010	010
WA020	000
WA020	020
WA030	000
WA030	030
WA040	000
WA040	040
WA050	000
WA050	050
WA060	000
WA060	060
WA070	000
WA070	070
WA080	000
WA080	080
WA090	000
WA090	090
WA100	000

Figure 5 JOBCODE_TBL SETID and

Figure 5 JOB Table COMPANY and BUSINESS_UNIT fields

Co	Unit
010	HR010
020	HR020
030	HR030
040	HR040
050	HR050
060	HR060
060	HR062
060	HR063
060	HR064
070	HR070
080	HR080
090	HR090
100	HR100
110	HR110
110	HR111
110	HR112
120	HR120
130	HR130

Washington State Board for Community and Technical Colleges ctcLink Reporting Query Migration Lessons Learned 2022 // Last Updated: November 2022

Floating Prompts

Prompts can be created through the Add Criteria icon or through the Prompts tab. If they are created using the Prompts tab they must be manually added as criteria in the query. Here we see a prompt on ACAD_PROG_PRIMARY in the list of prompts.

Prompts List		
町 Q	1-5 of 5 v	
Prompt	Edit	Delete
:1 = INSTITUTION - Institution	Edit	—
:2 = STRM - Term 1	Edit	-
:3 = STRM - Term 2	Edit	_
:4 = ACAD_CAREER - Career	Edit	_
:5 = ACAD_PROG_PRIMARY - Prim Prog	Edit	-

However, it is not listed as a criterion on the Query tab. It is "floating". It is not filtering the query results. Either tie the prompt as criteria or delete it from the Prompts tab.

Criteria					
□ □ □ □ □ □ □					
Logical	Expression1	Condition Type	Expression 2	Edit	Delete
~	A.INSTITUTION - Academic Institution	equal to	:1	Edit	-
AND ~	A.STRM - Term	between	:2 AND :3	Edit	-
AND ~	A.ACAD_CAREER - Academic Career	equal to	:4	Edit	_

Prompts Used in Expressions Require Manual Clean-Up

When a prompt is deleted, the remaining prompts will re-number. But prompts used in an expression will require manual clean up.

Here we see prompts :1 - :4.

Criteria IF Q I-3 of 3 v b b									
Logical	Edit	Delete							
~	A.INSTITUTION - Academic Institution	equal to	:1	Edit	-				
AND ~	A.ACAD_CAREER - Academic Career	equal to	:2	Edit	-				
AND ~	A.STRM - Term	between	:3 AND :4	Edit	—				

When I delete the prompt on ACAD_CAREER, the term prompts, which were :3 and :4 now move to :2 and :3.

Prompts List			
₽ Q		-3 of 3 🗸	
Prompt	Edit		Delete
:1 = INSTITUTION - Institution	Edit		-
:2 = STRM - Term 1	Edit		-
:3 = STRM - Term 2	Edit		-

But the criteria on TERM that used on expression still is referring to the term prompts as :3 and :4

<mark>Criteria</mark>	Criteria III Q III 1-2 of 2 ∨ > >									
Logical	Expression1	Condition Type	Expression 2	Edit	Delete					
~	A.INSTITUTION - Academic Institution	equal to	:1	Edit	-					
AND ~	A.STRM - Term	between	:3 AND :4	Edit	-					

I have to go into the criteria and edit the Expression 2 expressions to reflect the new prompt numbers which are :2 and :3.

Choose Expression 1	Expression 1							
ype	Choose Record and Field							
Field								
	Record Alias.Fieldname							
	Q. A.STRM - Term							
*Condition Ty	between v							
noose Expression 2	Expression 2							
noose Expression 2 pe	Expression 2							
oose Expression 2 pe O Const - Const	Expression 2 Define Expression							
Oconst - Const Oconst - Field	Expression 2 Define Expression Expression :2							
Const - Const Const - Const Const - Field Const - Expr	Expression 2 Define Expression Expression :2							
Const - Const Const - Const Const - Field Const - Expr Field - Const	Expression 2 Define Expression Expression .2 Add Prompt Add Field	11.						
Const - Const Const - Const Const - Field Const - Expr Field - Const Field - Field	Expression 2 Define Expression Expression Add Prompt Add Field	11.						
Const - Const Const - Const Const - Field Const - Expr Field - Const Field - Field Field - Expr	Expression 2 Define Expression Expression Add Prompt Add Field	li.						
Const - Const Const - Const Const - Field Const - Expr Field - Const Field - Field Field - Expr Expr - Const	Expression 2 Define Expression Expression Add Prompt Add Field	11.						
Const - Const Const - Const Const - Field Const - Expr Field - Const Field - Const Field - Field Field - Expr Expr - Const Expr - Field	Expression 2 Define Expression Expression 2 Add Prompt Add Field	11.						
Const - Const Const - Const Const - Field Const - Expr Field - Const Field - Const Field - Field Field - Expr Expr - Const Expr - Field Expr - Field	Expression 2 Define Expression Expression Add Prompt Add Field	11.						
hoose Expression 2 // Const - Const Const - Field Const - Expr Field - Const Field - Const Field - Field Field - Expr Expr - Const Expr - Field Expr - Expr	Expression 2 Define Expression Expression :2 Add Prompt Add Field Define Expression 2 Expression :3							

Pop Select Queries

A Pop Select query is just a tool to gather the IDs. It was never meant to be a standalone query that provides data outside of what is needed to run the batch process it is associated with.

For a query to be a pop select query it must contain a bind record. Each batch process that allows pop selects has an associated bind record. The bind record contains all the fields necessary to run that batch process.

- If a query uses a bind record, it must be associated to a process and be saved in the POPULATION SELECTION folder.
- A stand-alone query may not use a bind record. Queries using bind records are not captured as part of the annual query maintenance as they are associated to a business process so bind records should not be used for data queries.

Query Name CTC_SR_MIS_NATID_POPSEL	Description Pop selection for SSN missing											
Click folder next to record to show fields. Check fields to add to query. Uncheck fields to remove from query. Add additional records by clicking the records tab. When finished click the fields tab.												
Chosen Records												
Alias Record												
A STDNT_CAR_TERM - Student Career Term Table	Hierarchy Join											
B ITEM_SF - Item Record	Hierarchy Join											
C ITEM TYPE TBL - Item Type Table	Hierarchy Join											
E SCC_PS_STRM_BND - PopSel Bind record for STRM	Hierarchy Join											
D PERS_NID_SA_VW - PERS_NID Record	Hierarchy Join											

For the full explantion of using bind records, please see this email from Ivy Brent to the querydev listserv dated 10/27/2022



Ctclink_qrydev Pop Select Queries.msg

Figure 6

What Join Method to Use

There are three methods for creating a join.

- 1. Hierarchy Join
 - Do Not Use
- 2. Pre-defined Join
 - Do Not Use
- 3. Any Join
 - Recommended

Hierarchy Join

• Not allowed for migration.

Record	ds Qu	ery Expressions	Prompts	Fields	Criteria	Having	Dependency	Transformations	View SQL	Run	
	0N										
	Query Na	me New Unsaved Query	y		D	escription			Feed -		
click tolder next to record to show fields. Check fields to add to query. Uncheck fields to remove from query. Add additional											
Chose	Chosen Records										
Alias	Alias Record										
🗁 A	STDNT_C	AR_TERM - Student Caree	er Term Table					Hierarchy Join 🗕			
		Check All	Unche	ck All							
	Fields				Q 4	1-50	of 124 🗸 🕨	▶ View 100			
		ACADEMIC_LOAD - Acad	demic Load					94			
ACADEMIC_LOAD_DT - Academic Load Change Date											
	>	ACAD CAREER Acade	mic Career			Join STDNT	CAREER - Student	Career 😵			

This join method only allows for standard joins between records and while the join criteria will display in the SQL code, it is not available for the Query Developer to manipulate in the Criteria tab.

Records	Query	Expressions	Prompts	Fields	C	Criteria	Having	Dependency	Transform	nations	View SQL	
Quer	y Name N ted Langua	ew Unsaved Query ge				Desci	ription			6	Feed -	
Query SQL SELECT A EMPLID, A ACAD_CAREER, A.INSTITUTION, A.STRM, A.ACAD_PROG_PRIMARY, B.ACAD_STNDNG_ACTN, B.ACAD_STNDNG_STAT FROM PS_STDNT_CAR_TERMA_PS_ACAD_STDNG_ACTN B WHERE (B.EMPLID = A.EMPLID WHERE (B.EMPLID = A.EMPLID												
AND B.INSTITUTION = A.INSTITUTION Records Query Expressions Prompts Fields Criteria Having Determined of the second secon											Depende	
AND BJRSTIN FASTRM AND (B.EFFDT = (SELECT MAX(B_ED.EFFDT) FROM PS_ACAD_ST WEEDE DEMONDE DE FIDENCE Add Criteria Crown Criteria											ription	
Criteria												
				Logical		Expressi	ion1		Conditio	n iype	Expression 2	
				v	·	B.EFFDT	- Effective Da	te	Eff Date	<=	Current Date (E	ffSeq = Last)

Pre-defined Join

• Not allowed for migration.

Records	Qu	Expressions	Prompts	Fields	Criteria	Having	Dependency	Transformations	View SQL	Run	
Query Name New Unsaved Query Description S Feed Click folder next to record to show fields. Check fields to add to query. Uncheck fields to remove from query. Add additional records by clicking the records tab. When finished click the fields tab. \$2											
Alias	Records Rec TDNT_C/	s ord AR_TERM - Student Caree Check All	er Term Table Unched	ck All				Hierarchy Join —			
F	ields				Q	4 1-50	of 124 🗸 🕨	▶ View 100			
	2 🕞	EMPLID - ID			Г	Join PEOPLE	E_SRCH - People Se	earch View 🛛 🖗			
	2 🕬	ACAD_CAREER - Acade	mic Career			Join STDNT_	CAREER - Student	Career 🐕			
	2 🕬	INSTITUTION - Academic	Institution					94			
	2 🗁	STRM - Term				Join TERM_1	BL - Term Definition	Table 🗣			
]	REG_CARD_DATE - Reg	gistration Card Da	ate				94			

This join method allows for both left outer and standard joins between records. But again, while the join criteria will display in the SQL code, it is not available for the Query Developer to manipulate in the Criteria tab.

Records Query Expressions Promp	ts Fields	Criteria	Having	Dependency	Transformations	View	r SQL	Run	
Query Name New Unsaved Query XLAT/Related Language		Descrip	otion			Feed -			
Query SQL SELECT A EMPLID, A ACAD_CAREER, A INSTITUTION FROM PS STDNT CAR TERM A PS STDNT CARE WHERE (B ACAD_CAREER = A ACAD_CAREER	I, A.STRM, A.ACAE ER B	PROG_PRIMA	ARY, B.ACAD	CAREER, B.CAR	_REQ_TERM	Fields	Criteria	Having	
AND B.EMFLID - A.EMFLID			Query Name New Unsaved Query Desr						
		Add C Save	Add Criteria No criteria have			e been added yet. New Query		S	
		Re	Publ turn To Searc	ish as Feed	Publish as Pivo	ot Grid	New Union		

Any Join

• Recommended.

Rec	ords	Query	Expressions	Prompts	Fields	Criteria	Having	Dependency	Transformations	View SQL	Run
	Q	uery Name *Search By	New Unsaved Que	ery ~	begins with	STDNT_	Descriptio ENRL	'n		S Feed -	
Search	Search Advanced Search										
Recor	d										
5	Q										
Recna	ame					Join Record	Show	Fields			
STDN	T_ENRL	- Student Er	rollment Table			Join Record	Show	Fields			

This join method allows for both left outer and standard joins between records. The join criteria will display in the SQL code and it is also available for the Query Developer to manipulate in the Criteria tab.

Records	Query	Expressions	Prompts	Fields Criteria Having Dependency Transformations View SQL Run									
Que	lew Unsaved Query ge			D	escription			Feed -					
SELECT A.E FROM PS WHERE (A AND A.AC	MPLID, A.AC. STDNT_CAR EMPLID = B AD_CAREE	AD_CAREER, A.INS <u>TERM A, PS_STD</u> .EMPLID R = B.ACAD_CARE	STITUTION, A.S	Records	D_PROG_ Que	PRIMARY y Express	ions Prompts	Fields	riteria Hav	ing Dependen			
AND A.IN AND A.ST	STITUTION = TRM = B.STR	B.INSTITUTION M)			Query Na	me New Unsa	ved Query		Description				
					Add Criteria Group Criteria Reorder Criteria								
				Criteria									
				Logical	E	pression1		Condition Ty	1 2				
				A.EMPLID - ID				equal to B.EM		'LID - Empl ID			
				AND AACAD_CAREER - Academic Career			equal to B.ACAD_CARE Career		AREER - Academic				
				AND A.INSTITUTION - Academic Institution			equal to B.INSTITUTION - A		ION - Academic				
				AND	✓ A.	STRM - Term		equal to	B.STRM - T	erm			

Redundant Records

Chose	Chosen Records										
Alias	Record										
÷ /	STDNT_CAR_TERM - Student Career Term Table	Hierarchy Join 🗕									
Ē E	VCS_BIO_PRIORTY - Bio Prioritize PRF PRI w FERPA	Hierarchy Join 🗕									
Ē (VCS_ACADPLAN_VW - Stdnt Acad Plan View with Term	Hierarchy Join 🗕									

Example:

VCS_ACADPLAN_VW joins to the STDNT_CAR_NBR detail in STDNT_CAR_TERM in the view.

If another field is needed from STDNT_CAR_TERM, performance will suffer if I add STDNT_CAR_TERM to the query. Ideally, I would submit a ticket asking to add an additional field to the custom view, preventing the need of the redundant STDNT_CAR_TERM record.

Custom Records

Need another field in a custom record or must join a seemingly redundant record?

Submit a ticket to ask Data Services to add the field!

Delivered Records

I take the time to research if there is a delivered record or view that may have the field(s).

I use metaLink – search by Field(s) Name

https://dataservicesmetalink.sbctc.edu/QRSearch

If you are logged in, you will see Records/View definition returned as well as reporting objects

What Now?

I try not to leave both records in the query. I will remove the record that may no longer need to be included because the replacement record includes the fields I was using the original record for.

This may require rewriting the query. Worth it!

Effective Dating

One of the most important things I feel that a query developer can understand is Effective Dating when joining records that have time-based fields to consider.

This concept is relevant in every Pillar, joining Effective Dated records to time-based records, such as:

- Term in CS Pillar
- Term End Date (most common)
- Term Begin Date (important to be used between Course and Class)
- Pay End Date in HCM Pillar
- Fiscal Year End Date in FIN Pillar

Normally, we want to retrieve data from the Maximum Effective Dated row that is less than or equal to the Date related in the other time-based record we are joining to.

Think about the relation of the data in the record to the term/pay end date/fiscal year, etc. and its importance, validity, or accuracy on what you are joining to.

There may be times you may want the most recent or last effective dated row:

- Descriptions
- Translate Values (PSXLATITEM)

One of the best ways to understand effective dating and the impact of the join criteria is to really know your data. Here are a few ways I "get to know my data".

- I select all fields in a table or view for a single ID and verify my understanding of the fields/values.
- I will remove the effective dating logic that defaults into the query so that I can see all rows to help understand how this data may flow over time into this record.
- If I see something or question what other values may be in a field, I create a new query and select where the Field <> to that value to see what others are present, are there blanks, etc.
- I ask for a specific example that I can track through the tables to give me an expectation of data to be returned based on my understanding of the business process. I look at the data to prove the expectation is true or false. This helps me to ensure that I understand the relation of the data in the record and its importance, validity, or accuracy based on the keys fields and the fields I am joining to.
- I will create different queries to compare and see the difference based on different join criteria or effective date logic.
- I will compare counts, compare data, review differences with the institutional subject matter

expert.

- I thoroughly test the query in PCD
- I work to understand the Business Process
- Find related QRGs
- Work closely with Subject Matter Experts
- Review previously developed queries and reports
- This is last on purpose because what works for one doesn't work for all, query logic needs to be reviewed for accuracy and validity for the specific need/institution/business process, etc.
- I work closely with Subject Matter Experts to test the query results *before* migrating to Production.

There are so many tips and tricks related to "Getting to know your data" that we plan to have an entire Reporting Hour dedicated to this in the future.

QUERY SECURITY

When adding a new table to an existing query run QXX_DS_QUERY_RECORD_USER_RPT to determine if additional roles will be needed to run the query or if the record should be added to an existing access group/role to ensure users with access will continue to have access without having to add additional query security roles.

Submit a ticket to ask Data Service to add record to an access group/role

In the example below, the record GRV_CLASS_MTG_P was added and is only accessible via the ZD_DS_QRY_CURRICULUM_MGMT role. However, all other records in this query are also accessible with the ZD_DS_QRY_STUDENT_RECORDS role.

QCS_	DS_QUERY_RECORD_USER_RPT - Query a	nd Records and Users			
Ouer	PCS CM				
Quei	y (200_0/W_				
User IL					
View	Results				
Down	load results in : Excel SpreadSheet CSV Text File XM	/L File (13 kb)			
View A	.11				
Row	Query Name	Record	High Sensitive Indicator	Roleuser Record Access	Role Name
1	QCS CM CLASS INFO EXPANDED V2	CLASS INSTR			ZD DS QRY CURRICULUM MGMT
2	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_INSTR			ZD_DS_QRY_FACULTY_WORKLOAD
3	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_INSTR			ZD_DS_QRY_STUDENT_RECORDS
4	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_NOTES			ZD_DS_QRY_CURRICULUM_MGMT
5	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_NOTES			ZD_DS_QRY_STUDENT_RECORDS
6	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_RSRV_CAP			ZD_DS_QRY_CURRICULUM_MGMT
7	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_RSRV_CAP			ZD_DS_QRY_STUDENT_RECORDS
8	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_SBFEE_TBL			ZD_DS_QRY_CURRICULUM_MGMT
9	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_SBFEE_TBL			ZD_DS_QRY_STUDENT_FINANCE
10	QCS_CM_CLASS_INFO_EXPANDED_V2	CLASS_SBFEE_TBL			ZD_DS_QRY_STUDENT_RECORDS
11	QCS_CM_CLASS_INFO_EXPANDED_V2	CRSE_CATALOG			ZD_DS_QRY_CURRICULUM_MGMT
12	QCS CM CLASS INFO EXPANDED V2	CRSE CATALOG			ZD DS QRY STUDENT RECORDS
13	QCS CM CLASS INFO EXPANDED V2	GRV CLASS MTG P			ZD DS QRY CURRICULUM MGMT
14	QCS_CM_CLASS_INFO_EXPANDED_V2	GRV_CLASS_TBL			ZD_DS_QRY_CURRICULUM_MGMT
15	QCS_CM_CLASS_INFO_EXPANDED_V2	GRV_CLASS_TBL			ZD_DS_QRY_FACULTY_WORKLOAD
16	QCS_CM_CLASS_INFO_EXPANDED_V2	GRV_CLASS_TBL			ZD_DS_QRY_SECURITY_TABLES
17	QCS_CM_CLASS_INFO_EXPANDED_V2	GRV_CLASS_TBL			ZD_DS_QRY_STUDENT_FINANCE
18	QCS_CM_CLASS_INFO_EXPANDED_V2	GRV_CLASS_TBL			ZD_DS_QRY_STUDENT_RECORDS

How do you know when secure tables need to be added and what tables to use?

Get a better understanding of Query Security by reviewing the Understanding Query Security training

https://www.sbctc.edu/resources/documents/colleges-staff/data-services/peoplesoft-ctclink/psguery-102-query-security-training-manual.pdf

Review our Secure Prompts document

https://www.sbctc.edu/resources/documents/colleges-staff/data-services/peoplesoft-ctclink/prompttables-to-use.pdf

CS is the pillar where these decisions most often need to be made

In HCM/FIN, this decision more often is when to decide not to use a Highly Sensitive version of a table if those fields are not required in the output

Review the SQL tab from Query Manager to review any OPRID = logic

This indicates there is security being applied on a record and field in the query

SELECT DISTINCT A...

FROM (((((PS_STDNT_CAR_TERM A LEFT OUTER JOIN (VCS_STDNT_RS D INNER JOIN GRV QSEC INSTIT D1 ON (D.INSTITUTION = D1.INSTITUTION AND D1.OPRID = 'CTC TMORRILL')) ON A.EMPLID = D.EMPLID AND A.ACAD CAREER = D.ACAD CAREER AND A.INSTITUTION = D.INSTITUTION AND A.STRM = D.STRM LEFT OUTER JOIN (PS VCS FIRST TERM F INNER JOIN GRV_QSEC_INSTIT F1 ON (F.INSTITUTION = F1.INSTITUTION AND F1.OPRID = 'CTC_TMORRILL')) ON A.EMPLID = F.EMPLID AND A.ACAD CAREER = F.ACAD CAREER AND A.INSTITUTION = F.INSTITUTION AND F.STDNT CAR NBR = A.STDNT CAR NBR) LEFT OUTER JOIN (PS VCS LAST TERM G INNER JOIN GRV QSEC INSTIT G1 ON (G.INSTITUTION = G1.INSTITUTION AND G1.OPRID = 'CTC_TMORRILL')) ON A.EMPLID = G.EMPLID AND A.ACAD_CAREER = G.ACAD_CAREER AND A.INSTITUTION = G.INSTITUTION AND G.STDNT_CAR_NBR = A.STDNT_CAR_NBR) LEFT OUTER JOIN (VCS_STDNT_RACE H INNER JOIN GRV_QSEC_INSTIT H1 ON (H.INSTITUTION = H1.INSTITUTION AND H1.OPRID = 'CTC_TMORRILL')) ON_A.EMPLID = H.EMPLID AND A.INSTITUTION = H.INSTITUTION AND A.STRM = H.STRM AND H.PRIMARY_INDICATOR = 'Y') LEFT OUTER JOIN PS ACAD DEGR I ON A.EMPLID = I.EMPLID AND A.ACAD CAREER = I.ACAD CAREER AND A.INSTITUTION = I.INSTITUTION) LEFT OUTER JOIN PS ACAD DEGR PLAN J ON I.EMPLID = J.EMPLID AND I.STDNT_DEGR = J.STDNT_DEGR), PS_VCS_BIO_PRIORTY B, PS_VCS_ACADPLAN_VW C, VCS STDNT GROUP E, GRV QSEC INSTIT C1, PS SCRTY TBL STGP E1 WHERE (C.INSTITUTION = C1.INSTITUTION AND C1.OPRID = 'CTC_TMORRILL' AND E.INSTITUTION = E1.INSTITUTION AND E.STDNT GROUP = E1.STDNT GROUP AND E1.OPRID = 'CTC TMORRILL' AND (A.INSTITUTION = :1 AND A.STRM = :2 AND A.EMPLID = B.EMPLID AND A.EMPLID = C.EMPLID...

Does your query have an optional or default prompt on a secure prompt field?

If so, then you will need to ensure there is a secure GRV record joined in the query.

Review the SQL to ensure that the OPRID and record field is secure by operator

Best Practice is to have at least one inner joined GRV version of a record in place of the delivered version, this ensures secure data at the Institution level.

Example: Choose GRV_STDNT_ENRL in place of STDNT_ENRL

There are so many things to relay about Query Security that we plan to have an entire Reporting Hour dedicated to this in the future.

Return to Table of Contents





Content is licensed under a Creative Commons Attribution 4.0 International License, unless noted otherwise.

Washington State Board for Community and Technical Colleges