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Query Foundations

Vicky Wall and Lenna Wenke

Welcome!

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

- Look up common tables to use in query development.
- Create simple queries.
- Join multiple records together to create more complex queries.
- Make queries more efficient by using prompts.

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Log in -

https://csmtt92pr-oci.wsu.edu/

Password - Query2021

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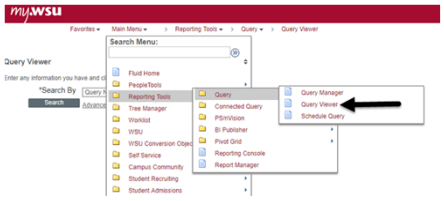
Using Query Viewer

Navigation: Main Menu>Reporting Tools>Query>Query Viewer



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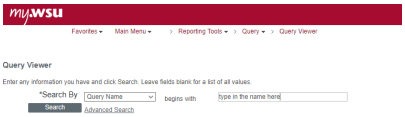
Search for a Query



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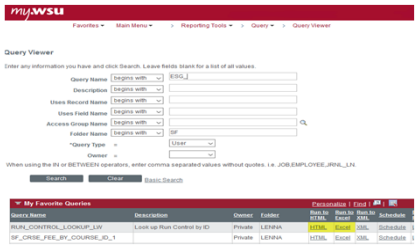
Advanced Search



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Searching Using Wildcards

- _replaces a single character
- % replaces a string of characters. It can be used in front of or behind the search term.

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Where do you start?

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Query Naming Convention

Based on the WSU Data Standards, here are some suggested prefixes to use for naming your services:

Prefix	Department
A	Admissions
F	Financial Aid
R	Student Records
S	Student Financials
V	Advising
P	Payroll Services

WSU_A_ENROLLED_NO_ADVISOR

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Query Development

Description

- 30 Characters.
- General description of the query.
- Use key words to facilitate searching.
- Can search in Query Viewer.

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Query Development

- Runtime prompts are pop-up selection windows which appear when the query is ran that asks the end user to enter information or select something from a list.
- Is your query PUBLIC or PRIVATE?
- Folders can be used to categorize and organize Queries. Queries may only be stored in one folder at a time.
- The best way to ensure the query is efficient is to run it and verify that its run-time is less than one minute, preferable just a few seconds.
- **TEST IT IN THE TEST ENVIRONMENT!!!!**

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Terminology

- Relational Database
  - A collection of records/tables that can be linked together using various fields
- Record/Table
  - A collection of related data arranged by rows and columns
- Column/Field
  - The information displayed when the query runs
- Query
  - A request that reads and returns data from the database
- SQL
  - Structured Query Language. This is what the system sees and executes based on the query you build.
- Criteria
  - Behind-the-scenes logic that tells the query what information to retrieve
- Join
  - The process of combining two or more records
- Primary Key
  - A field or group of fields that uniquely identify a row in the table

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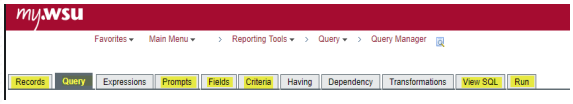

Creating a Simple Query

Tabs that we will be using:

- Records
- Query
- Prompts
- Fields
- Criteria
- View SQL
- Run

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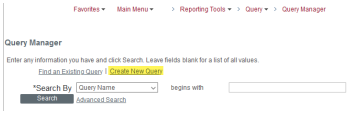
Query Manager



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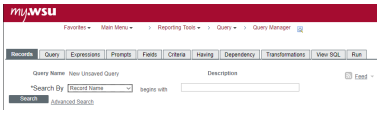
Records

The purpose of the Records tab is to provide a location where users can search for and select one or more Records to use in their Queries



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Search for and add Records to your Query

Search Results

Record — Personalize | Find | View All | First 1-20 of 75 Last

Recname	Add Record	Show Fields
ADMIT_LVL_TBL - Admit Level Table	Add Record	Show Fields
ADMIT_TYPE_LNG - Related Lang-Admit Type Table	Add Record	Show Fields
ADMIT_TYPE_TBL - Admit Type Table	Add Record	Show Fields
ADM_ACTION_LANG - Related Lang-Adm Action Tbl	Add Record	Show Fields
ADM_ACTION_TBL - Admissions Actions Table	Add Record	Show Fields
ADM_APPLCTR_LNG - Related Lang-Applicatn Ctr Tbl	Add Record	Show Fields
ADM_APPLCTR_TBL - Application Center Table	Add Record	Show Fields
ADM_APPL_CMP - Adm Application Componet	Add Record	Show Fields
ADM_APPL_DATA - Admission Application Data	Add Record	Show Fields
ADM_APPL_DEP - Deposit Information	Add Record	Show Fields

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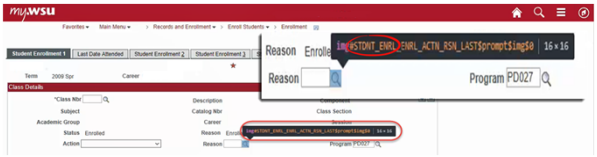
Review Record and Field Information

CTRL +SHIFT+C shortcut keys
Inspect Element



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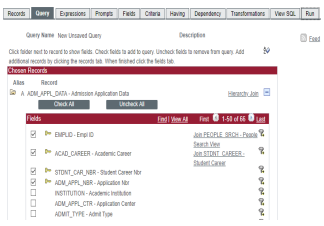
Query Tab

The purpose of the Query tab is to provide a location where all the Records used in the Query can be displayed and where Fields can be selected to use in the Query



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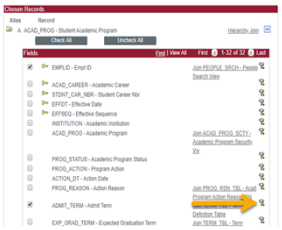
Adding Prompts

From the Query tab select the funnel by the field you wish to add criteria/prompt



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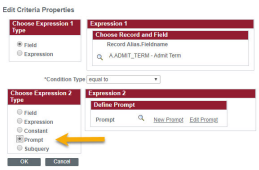
Edit Criteria Properties

Once the funnel has been clicked this page opens and you change the Choose Expression 2 Type from Constant to Prompt.

You then can choose New Prompt or if you already have a prompt in the query choose the magnifying glass and select the prompt.



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Creating Prompts Page

Field Name – Name of field to be prompted.

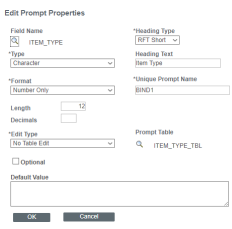
Heading Type – Specify delivered or custom Heading Text

Type- Select the type of data in the field.

Heading Text – Enter the text that the user will see on the prompt.
Format – choose the format for the prompt table.
Unique Prompt Name – filled in automatically by the system and shouldn't be changed.
Length – determine the Prompt field's length
Decimals – number of decimals allowed for numeric prompts
Edit Type – define the prompt type of field edit

- *No Table Edit - No Data Validation (Optional)*
- *Prompt Table – Data Validation*
- *Translate Table – Select from dropdown list.*
- *Yes/No Table - This is will produce a Yes/No Prompt checkbox.*

Prompt Table *– specify the record to use for data validation*



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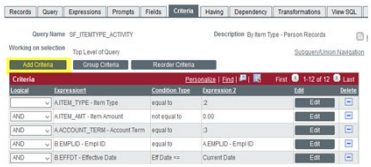
Using Prompts from Criteria button

Adding Prompts through the "Add Criteria" Button automatically adds the Prompt as Criteria.



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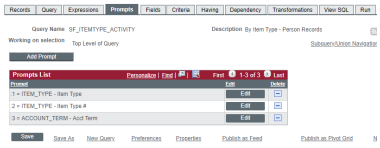
Prompt Tab

Adding Prompts through the Prompts tab will add the Prompt however, the prompt will have to be manually added as Criteria



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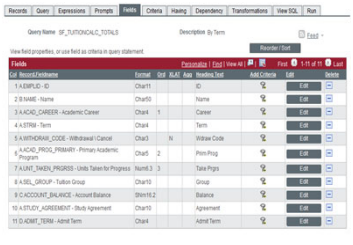
Field Tab

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.

Change the:

- Order
- Sort Options
- Column Headers
- Select Translate Values



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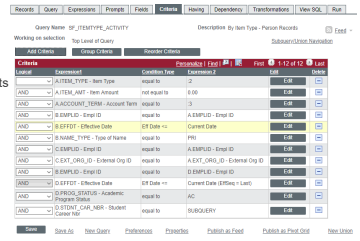
Criteria Tab

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.



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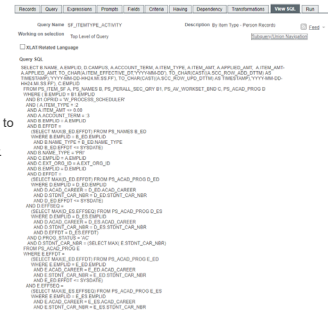
View SQL Tab

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



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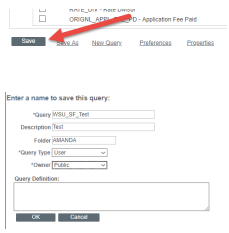
Save Your Query

Always save your Query before running it and save frequently as you are working on it.



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Run Tab

The purpose of the run tab is to allow users to view the results of the query.

Records | Query | Expressions | Prompts | Fields | Criteria | Having | Dependency | Transformations | View SQL | Run

View All | Rerun Query | Download to Excel | Download to XML

First 1-100 of 902 Last

	User	Query Name	Record	Last Run
1		AD_EVAL_TCR_2ND_NOTICE	W_ADMISSION_RPT	11/02/2018 11:17:58AM
2		AD_DATACHECK_NO_APPCOMPDATE	W_ADMISSION_RPT	11/02/2018 11:17:48AM
3		AD_NEW_FRS	W_ADMISSION_RPT	11/02/2018 11:17:17AM
4		AD_3CE_ASSIGN_AUFRSH_WC	W_ADMISSION_RPT	11/02/2018 11:16:49AM
5		AD_ACT_WR_SCORE_RELOAD	W_ADMISSION_RPT	11/02/2018 11:16:01AM
6		AD_NEW_FRS_1	W_ADMISSION_RPT	11/02/2018 11:15:45AM
7		AD_EVAL_TCR_ORDERED	W_ADMISSION_RPT	11/02/2018 11:12:09AM
8		AD_NEW_WORK_HAS_DECISION	W_ADMISSION_RPT	11/02/2018 11:12:00AM
9		AD_PSG_ADD_AVFW	W_ADMISSION_RPT	11/02/2018 11:08:12AM

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Query Properties Link

If you are seeing duplicate rows in your query, you can use distinct in Properties to limit your results.

Caveat – this doesn't work if you have unique information displaying in your rows.

Save | Save As | View Query | Preferences | Properties | Publish as Feed | Publish as Pivot Grid | New Query

Query Properties

*Query FA_ISIRS_LOADED_WITH_TRAN_NUM

Description

Folder FA_JEN

*Query Type User

*Owner Public

Distinct | Security Join Optimizer

Query Definition:

Image Fields

Blank Value | Image Data | Image Hyperlink

Last Updated Date/Time 01/17/2019 8:16:36AM

Last Update User ID 0903023389

OK | Cancel

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Standard joins only display rows where there is a match between BOTH records, meaning it is possible not all of the rows from Record A will be displayed.

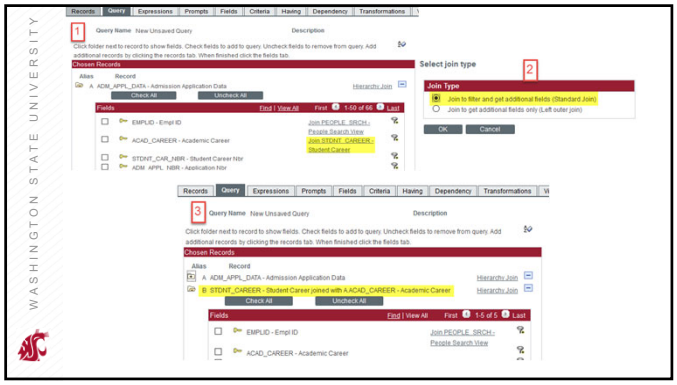
Record A	
Name	ID
Mike	001
Sophia	002
Olivia	003
Drake	004
Amanda	005
Caroline	006
Josh	007
Lucinda	008
Carol	009
Alan	010
Brett	011

+

Record B	
ID	Favorite Thing
001	Fishing Pole
002	Computer
003	Playing
004	Dirt
006	Dogs
007	Engines
008	Antiques
009	Reading
011	Football

=

Standard Join		
ID	Name	Favorite Thing
001	Mike	Fishing Pole
002	Sophia	Computer
003	Olivia	Playing
004	Drake	Dirt
006	Caroline	Dogs
007	Josh	Engines
008	Lucinda	Antiques
009	Carol	Reading
011	Brett	Football



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Effective Date

- 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, 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 (**EFFDT**) specifies the date on which data becomes effective.
- Effective status (**EFF_STATUS**) indicates which row is currently active and which rows were previously active (inactive) for configuration history.
- Effective sequence (**EFFSEQ**) tracks the sequence of changes in rows for transactional history.

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Effective Data

Effective dated records are classified in one of three categories

- **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.
- **History** – The effective date is less than the current effective date.
- **Future** – The effective date is greater than the current date.

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Effective Date Criteria

EffDate<=
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.

EffDate<
Returns the one row that is closest to the Expression 2 date value without equaling or 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.

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Create your Own Query!