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.

Log in -
https://csmtt92pr-oci.wsu.edu/
Password - Query2021
Using Query Viewer

Search for a Query

Advanced Search
Searching Using Wildcards

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

Where do you start?

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

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Admissions</td>
</tr>
<tr>
<td>F</td>
<td>Financial Aid</td>
</tr>
<tr>
<td>R</td>
<td>Student Records</td>
</tr>
<tr>
<td>S</td>
<td>Student Financials</td>
</tr>
<tr>
<td>Y</td>
<td>Advising</td>
</tr>
<tr>
<td>P</td>
<td>Payroll Services</td>
</tr>
</tbody>
</table>

WSU_A_ENROLLED_NO_ADVISOR
**Description**

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

**Runtime prompts** are pop-up selection windows which appear when the query is run that ask the end user to enter information or select something from a list.

- Is your query PUBLIC or PRIVATE?

Folders can be used to 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!!!**

**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**
  - Describes the case 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
Creating a Simple Query

Tabs that we will be using:
- Records
- Query
- Prompts
- Fields
- Criteria
- View SQL
- Run

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.
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.

**Search for and add Records to your Query**

**Review Record and Field Information**

CTRL + SHIFT + C shortcut keys

**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.
Adding Prompts

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

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.

Creating Prompts Page

- Field Name – Name of field to be prompted.
- Field Type – Specify delivered or custom field name.
- Field Type – Specify the type of data in the field.
- Field Text – Enter the text that the user will see on the prompt.
- Heading Type – Choose the heading type for the prompt.
- Heading Text – Enter the text for the prompt.
- Format – Specify the format for the prompt.
- Length – Specify the length for the prompt.
- Decimals – Specify the number of decimals allowed.
- Edit Type – Specify the type of field edit.
- Prompt Table – Specify the table for data validation.
Using Prompts from Criteria button

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

Prompt Tab

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

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
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.

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

Save Your Query
Always save your Query before running it and save frequently as you are working on it.
Run Tab

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

Query Properties

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.

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.
• 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.

Effective Date

• 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.
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.

Create your Own Query!