# Introduction to SEQUEL Viewpoint

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## What is SEQUEL (SQL)?

- SQL is an acronym that stands for "Structured Query Language."
- SQL is the standard and most widely used programming language for relational databases.
- SQL can be utilized using any one of three (3) interfaces:
  - SQL – Similar to WVEIS green screen
  - SQL ViewPoint – a graphical, point-and-click, computer software environment
  - SQL Web Interface (SWI) – Web-based interaction, even from tablets
- This presentation covers some of the basics of SEQUEL ViewPoint

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## How do I get ViewPoint on my computer?

- You should always start by asking your WVEIS County Contact for assistance with installing and setting up ViewPoint.
- If your WVEIS County Contact is unable to assist you, ask that they contact the WVDE WVEIS helpdesk.
- ViewPoint requires installation of IBM i Access
- Unless you are already familiar with ViewPoint, do not attempt to install it yourself via web downloads.
- Once installed, the ViewPoint icon should be accessible on your desktop:



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## What are the benefits of using ViewPoint

- Benefits:
  - Easily extract WVEIS data
  - Easily tailor queries to fit your data needs
  - If it exists in WVEIS, it can be queried
    - FMS year-to-date data
    - EMS contract information
    - EMS deduction history information
    - EMS payroll distribution information
    - FMS accounts payable invoice detail
    - FMS journal entry details
    - EMS employee social security numbers for SSN online verification
  - Once a query is created, it can be run whenever you need updated data
  - Makes Excel pivot tables much easier to generate and/or update
  - Queried data can be used to build journal entries

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# Keys to success

- You must understand that the quality of the query <u>results</u> is limited to the quality of the query, itself.
- Queried data must be pulled from appropriate databases:
  - Correct fiscal year data
  - Correct county/client member file
  - Correct database file (i.e., pull from a budgeting file if you are intending to query proposed budget information)
- Data "joins" must be correct
  - A "join" is parameter within ViewPoint that joins together data from multiple database files (i.e., Employee IDs, deduction codes, or check numbers).
  - There are multiple "join" options when adding new databases to a query
- You must have access authority for the file(s) you wish to query.
- Always compare results to WVEIS reports to check accuracy/completeness of the data.

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# ViewPoint Explorer Window

- Once installed, your ViewPoint explorer window will allow you to access existing queries in your county's (or other counties') SEQUEL library
- I named all my queries with my initials as the first three digits of the query ID.



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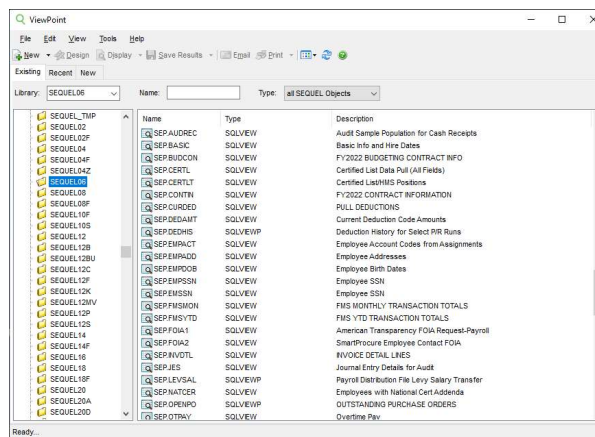
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# SQL ViewPoint Design View

- Design view allows you to go through a point-and-click process for setting up and/or tailoring a query to fit your specific needs.
- You can access Design View by clicking ⊞ New ▾ to create a new query or by selecting an existing query and clicking 🔨 Design .
- Basic information needed in a query:
  - WHAT data do you want
  - WHERE can that data be found

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# WHERE is my data located

- "WHERE" is usually the most difficult part of building a new query
- However, green screen menu names will usually give some indication of where your data is kept on the server.

```
5/16/22  FY 22              BOONE COUNTY SCHOOLS          10:38:23 OPADEV005G
FMS               Account Balance & Transaction Detail Lookup    Ref: GNL.601L.01




    _           Account Code: _____
    Lookup
    Index
    End

                    Index: 1
                           1 = Chart of Accounts.
                           2 = G.L. Accounts in Budget Control.
                           3 = G.L. Accounts by Budget Control Account.
```

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## Adding a Database

- To add a database to a query, click the "add database" button (⊞).
- Navigate to "ALLUSR" menu (All Users) and find the library file you need for your county number (i.e., if pulling data from FMS for Barbour County, you would look for the library "FMSFILES02").
- Then navigate to the individual database file where your information is kept (i.e., PGNL601 for general ledger).
- Once the file is selected, you will then select the "file member."
  - Some file members are specific to an individual fiscal year
  - Others are not date specific (such as history files)
  - For the general ledger example for Barbour, use "WV00222" to view general ledger data from FY2022.
  - File members are usually in the format "WV" followed by 3-digit county number and two-digit fiscal year.

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## Adding a Database (Continued)

- Click the "Detail View" button to see the file descriptions.
- You can also manually type a library name over the current one (i.e., change the "F" in "FMSFILES02" to an "E" to get EMS files).



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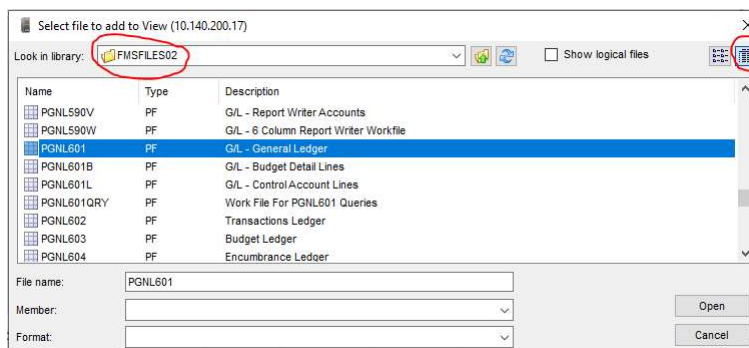
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## Adding a Database (Continued)

- Multiple databases can be added to the same query.
  - Requires the use of "joins" in order to tell the system how the database files are related
  - Joins control what happens when a multi-file (join) request is made.
  - There are three types of joins:
    - INNER – Inner joins only show records that match all joining criteria.
    - PARTOUT – Partial outer joins show primary records and shows missing secondary records with default values (usually blanks and zeros) when the joined record is created.
    - ONLYDFT – Only default joins show only the primary records which do not have a matching secondary record.
  - Selecting the correct join type could mean the difference between a complete query and an incomplete query

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## Selecting Your Data Fields
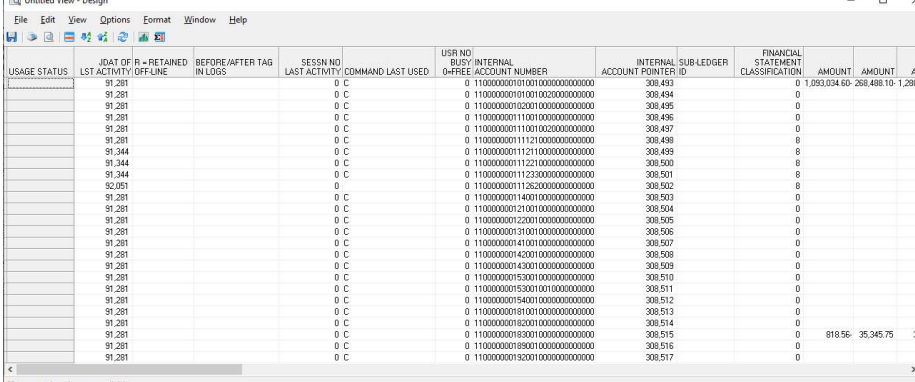
- Once the database is added, it can be useful to query the entire file to see what data is available and in what format.
- Click on the "Files & Fields" tab to see the available files and their related data fields that can be selected.
- Use the * option to select all fields.



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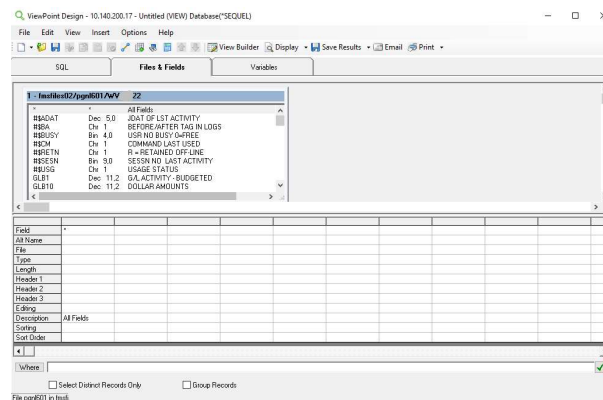
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# Selecting Your Data Fields (Continued)

• Click `Q Display` to view the query results



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# SQL ViewPoint Design View

• For this introductory presentation, you will see how to access an existing query and tailor it to your county.
• One of the most helpful queries I used in Boone was "SEP.FMSYTD" in the "SEQUEL06" user library.
   • Pulls year-to-date FMS data from WVEIS
      • Beginning budget
      • Current budget
      • Year-to-date transaction balance
      • Current balance of open encumbrances
      • Remaining unencumbered budget balance
   • Account codes in resulting data file are parsed out into individual pieces to easily pivot for various informational needs.
   • Allowed me to quickly find account balances at higher levels than the WVEIS account balance lookup.
   • Allowed me to quickly set up custom reports.

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## SEP.FMSYTD

- Access SEP.FMSYTD by navigating to the SEQUEL06 file library and finding the "SEP.FMSYTD" SEQUEL object, then select it and click "Design" to open Design View.



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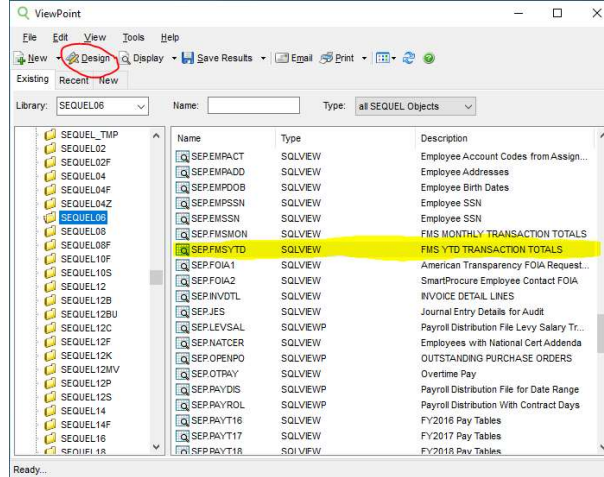
## SEP.FMSYTD

- Select the "SQL" tab at the top and scroll down to the bottom of the sequel language to see the "FROM" expression.
- To tailor this query to your county, simply change the "FROM" expression to agree with your county's file location and member name.
  - Boone's FY2022 "FROM" expression:       fmsfiles06/pgnl601(wv00622)
  - Barbour's FY2022 "FROM" expression:     fmsfiles02/pgnl601(wv00222)
  - Barbour's FY2021 "FROM" expression:     fmsfiles02/pgnl601(wv00221)
- File locations will typically end with your county's two-digit code.
- File members will typically include "WV" followed by your county's three-digit county code and the two-digit fiscal year.
  - If a file member ends with "00" it is usually a history file.

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SEP.FMSYTD

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## Saving The Tailored Query

- Once you have changed the query's "FROM" expression to your own county's information, you'll want to save it in your own county's SEQUEL library.

- You should change the SEQUEL object name to your own unique title that you can find again when you need it (change "SEP" in the name to your own initials).

- Be careful not to save over the Boone Query. Typically, you will not be able to write over another county's queries since you won't have permissions for those file locations. However, it is best to play it safe and save the file in your own library as soon as you enter "Design View" mode.

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## Saving Query Results

- Once the query is created and saved, you can run or "Display" the results by either:
  - Double-clicking the query name,
  - Single-clicking the query then clicking 🔍 Display ▾ in the top menu bar,
  - Right-clicking the query then selecting "Display Results," or
  - Clicking 🔍 Display ▾ within Design View
- Once the query results are displayed, click "File" in the top left corner of the window and then select "Save Results As…"
  - Change file "Save as type" to desired format, such as Microsoft Excel 2007
  - Select the location on your computer or network where you want the file to be saved
  - Change "File Name" if desired
- DO NOT use the "Export to Excel" option in the "File" menu to save.

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## Results in Excel



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# Questions?

## Thank you!

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