Job Sheet - Using the Hydro Database

This is a brief overview of working with the WHFS Hydro database on AWIPS-2 suggestions for interacting with it.

There will be a separate course on the Hydro Database in this series, including use of the **Hydro Database Manager** (a.k.a. **HydroBase**) and **Snoopy** applications to query or update key table information.

As mentioned in the lesson, you might see a variety of names for this DB in documentation:

HydroBase
Hydro DB
WHFS DB
IHFSDB
hd_ob92xxx (xxx= office ID in lowercase)

They all refer to the **same** database: **hd_ob92xxx** - within PostgreSQL.

Again, **HydroBase** is a GUI interface used by focal points to make edits to database tables that contain Alert/Alarm and QC limits, flood category values, station metadata, and other static information on precipitation and river stations in the database.

Two commands that you can use as a general user on AWIPS-2:

A. From any workstation or server, type **psql -l** to **list** the database names within PostgreSQL on AWIPS-2

- There are a number of databases running - we are concerned with **hd_ob92xxx** and also perhaps **dc_ob7xxx** (the DamCatalog database used by DamCREST)

B. On DX1, type **ps -ef |grep -i postgres** to make sure there are PostgreSQL processes running

- If not, repeat on DX2 to make sure PostgreSQL failed over correctly to dx2
- If no processes are running, notify ITO / ESA / AWIPS Focal Point to make sure they are not doing something that requires the database to be stopped, then notify NCF
- There are normally a number of inactive processes running
- If there are a large number of waiting processes, you may have a problem

(continued)

Access to the Hydro DB

There are four choices you have for accessing the database.
The first two provide plenty of tools to do the tasks you commonly need to perform.
The third option is using **psql** commands to query and possibly update tables directly, **IF** you know what you are doing.
The last option is a tool used by the ITO / ESA called pgAdmin3.

1. The default access for the WHFS Focal Point is through the **Hydro Database Manager** application, commonly referred to as **HydroBase**

   - Under the **HydroApps** menu in the **Hydro** perspective, select **Hydro Database Manager**
   - This GUI provides access to allow you to do a number of things

   - **NOTE**: There should be a password used when accessing this GUI. It is just for the GUI. It is not the actual database password
   - Please make sure to set a password so there is some restriction to who can access **HydroBase** and make changes
   - In the **Setup** menu on the right in **HydroBase**, select **Administration**
   - The **Password** field is in the lower right.
   - If you can't login and nobody knows (or admits they changed) the password, work with your ITO to use **Snoopy**, **psql, or pgAdmin3** to run this query:
     select * from admin

2. The next access option is to use the **Snoopy.py** program from **Mike Callahan**, Senior Service Hydrologist at WFO Louisville.

   - Work with your ITO to download and install this program on AWIPS-2
   - The application is available from the **NWS Software Collaboration Portal**: https://collaborate.nws.noaa.gov/trac/nwsscp/wiki/AppsAwips/Snoopy
   - Login to the site with your LDAP username and password
   - At the bottom of the page, click to expand the **Attachments** section
   - Work with your ITO to download the instructions and tar file and install it

3. Command-line interaction with PostgreSQL is available through use of the **psql** utility, a PostgreSQL interactive tool/

   - IF you have some experience, you can use **psql** commands to query and/or update database tables directly
   - Note: Be careful **adding**, **changing**, or **deleting** data through **psql** commands
   - You are usually safe running simple **select** commands to **view** data
   - You can run **psql** commands from a terminal window, within **Snoopy,** or from **pgAdmin3**, the PostgreSQL Admin tool that ITOs have been trained to use (see #4 on the next page)

4. In a terminal window, open the pgadmin3 tool to interface with PostgreSQL

- **cd /awips2/pgadmin3/bin**
- **./pgadmin3 &**
- In the GUI, highlight the line **awips2 (dx1f:####)**
- Click **Tools** > **Connect**
- Expand hd_ob92xxx
  - Expand Schemas
    - Expand Public
      - Expand Tables
- Click to highlight a table
- Click the icon just right of the SQL (magnifying glass) icon to View data in the table
- BE CAREFUL!!!
- Get help from the ITO / ESA / AWIPS Focal Point on using **pgadmin3**