

11 Adding Archived Text Data to Postgres

Background: WES uses Postgres for AWIPS database operations just like a configuration managed AWIPS. The primary function of Postgres in WES8.3 is to support WarnGen in creating warnings. Standard NWS text data can also be copied into the Postgres database for access during static review or simulations.

In WES8.3 the Postgres database changed in AWIPS, requiring new pgdata databases with new tables. WES will move any old pgdata directories from a pre-WES8.3 case to a “badpgdata” directory in the case, and it will untar a new blank database that will work with the OB8.3 Postgres freeware. Archived text files can be written to the new database as with the previous WES releases. The following instructions detail how to add archived text data into the Postgres database for use with WES.

11.1 Obtain Archived Text Files

1. The text files must be the exact format as is stored in the Postgres text database on AWIPS (likely the standard product format). This archiving can be done in a variety of ways. A WFO can access all the text products issued from an office in a tar file located in `/data/fixa/archive/OUP/archive` on their baseline AWIPS. There is also a program on the AWIPS LAD that archives text data called “**Archived_text AWIPS Build 6 version**”.

11.2 Copy the Text Files into the Case Directory as User fixa

1. The WES convention for Postgres file manipulation is to store the files in the `<data_case>/archived_text/<$PILNAME>` directory with AWIPS timestamps as their name (e.g. YYYYMMDD_hhmmss).

as user fixa:

e.g. `mkdir /data/awips/2006Aug24test/archived_text`

e.g. `mkdir /data/awips/2006Aug24test/archived_text/FSDSAW1`

e.g. `cp mySAW1-1810.txt`

`/data/awips/2006Aug24test/archived_text/FSDSAW1/20060824_181005`

Note: Beginning in OB7.2, SPC watch polygons display from the WOU files in D2D (see NCEP/Hydro menu) rather than SAW products. If you want to display

archived SAW products and you don't have WOU files, then you will need to replace the "WOU" entries with "SAW" in your <data_case>/localizationDataSets/XXX/textDataKeys.txt file.

11.3 Write the Files to the Postgres Database in Your Case

1. Run the `start_simulator` script, and click the "Tools" button.
2. Click on "Restore Case to Original Format" if the case is in DRT format. Note the WES requires that any new data be added to a case while the case is in original format.
3. Click on the "Write Archived Text to Database" button.
4. Select your case and localization ID, and click "OK".

Description of what happens: The WES untars an empty database into a <data_case>/pgdata directory as user postgres if it does not already exist. If a pgdata in your case is not owned by user postgres or if it is from prior to WES8.3, WES moves it to <data_case>/badpgdata/pgdata.\$date. If you someday accidentally change the ownership of the pgdata directory, say from copying a case as user fxa, you can manually change the ownership to user postgres and move the pgdata back to continue to use the database. The WES8.3 installation modifies the /etc/sudoers file to allow the fxa account to untar a blank database, start/stop postgres, and move the pgdata all as user postgres.

Once the database is in place, the WES starts postgres as user postgres, and it will start the TextDB_Server Read and Write processes as user fxa. WES writes each file in the archived_text/\$PILNAME directory to the database using the "textdb -w" command. The time stamp of each file in the database is initially given the current time, so after each file is written, the time of the product in the database is corrected using the time of the filename. This permits database access and purging.

After WES completes writing all files to the database, postgres is stopped, and the TextDB_Servers are killed. The database is available for static review and simulations.

11.4 Verify the Files Were Written Correctly

1. After the "Write to postgres database complete" displays in start_simulator, exit out of the start_simulator application.
2. Start enhanced_case_review, and select your case, localization ID, and check the "Start AWIPS Text Workstation Control" checkbox to be able to access the

database. The `enhanced_case_review` script also accesses the Postgres database.

3. Bring up a text window (e.g. Text1 in the Text Workstation Control window), and enter a product PIL in the “**AFOS Cmd:**” entry box (e.g. **FSDSAW1** if you copied in this product), and hit return. The text products should be retrieved from the database.

Note :Because D2D will sometimes display a blank frame when loading a polygon from the NCEP/Hydro menu, it is helpful to first load a separate product that will match the time of the polygon.

4. Check to make sure all versions are available. If you only see two versions available and the `<data_case>/archived_text/$your_PILname` directory has more than two valid files in it, then your database probably doesn't have the PIL defined. For a list of defined PILs see `/awips/fxa/postgres/versionsTable.txt`.
5. If your PIL isn't covered by the wildcards in `/awips/fxa/postgres/versionsTable.txt`, then you will need to manually adjust the database. To do this:
 - Start `enhanced_case_review`
 - In a shell window type `psql fxatext`
 - “`SELECT * FROM textProductInfo;`”
 - Find your PIL with the `versionstokeep` set at the incorrect value (e.g. SEA | WRK | W3 | 2 | 2)
 - Delete the PIL using the appropriate id value (e.g. “`DELETE FROM textProductInfo WHERE cccid = 'SEA';` ”). Note that the ' is the mark next to the Enter key on the keyboard.
 - Verify the delete using “`SELECT * FROM textProductInfo;`”
 - Add the PIL wildcard to the `versionsTable` (e.g. “`INSERT INTO versionsTable VALUES ('CCCWRKXXX', '999');` ”). Note that the single quote key is the mark next to the Enter key on the keyboard.
 - Verify the change exists by using “`SELECT * FROM versionsTable;`”
 - Type in `\q` and return to exit postgres (very important)
 - If this doesn't work, then email the wes@infolist.nws.noaa.gov list.

11.5 Running a Simulation with Text Products

1. Once **a)** the text products have been copied to the archived_text directory, **b)** they have been written to the database, and **c)** queries have been verified to work correctly, then the text products are ready to be used in a simulation.
2. Convert the case to DRT format using the “**Tools**” button in start_simulator. Since the text data was added to the case before the conversion to DRT format, the WES indexes the files in the archived_text directory along with other data files.
3. Run a simulation.

Description of what happens: In the first part of the simulation preparation, WES starts some of the AWIPS decoders, including the postgres (as user postgres) and the TextDB_Server Read and Write processes. Then the AWIPS data links are created and deleted to set the start time. Every time a link is made for the archived_text file, the file is written to the database using “**textdb -w**”, and the write time is modified based on the filename. After the links have been modified, the Postgres database is purged of future products using the simulation start time. Each time a text file is processed in a simulation, the file gets written to the database. When the simulation is over, the decoders are killed.