Manually Updating PostgreSQL 9.4.19 to PostgreSQL 9.4.22

This document describes how to manually update databases from PostgreSQL 9.4.19 to PostgreSQL 9.4.22. The processes described in this document are only valid for PostgreSQL binaries downloaded from SAS.

These steps should only be used for a deployment that is at SAS 9.4M5.

Note: *In this document, the term "data server" refers to the SAS Web Infrastructure Platform Data Server or the solution-specific data server.*

Manual Process

Required Information

Collect the following information before beginning the upgrade.

- The host name and port number for the SAS Web Infrastructure Platform Data Server, and any SAS solution data server. For instance:
  - wipds.hostname.com, 9432
  - fmdb.hostname.com, 9632

  Note: *The host name and port can be located using the SAS Management Console Server Manager plug-in.*
- Location of "SASHome". For instance:
  - UNIX - `/usr/local/SASHome`
  - Windows - `C:\Program Files\SASHome`
- Location of the SAS Configuration Directory. For instance:
  - UNIX - `/usr/local/SASConfig/Lev1`
  - Windows - `C:\SAS\SASConfig\Lev1`
- Data Server Administrator ID and password for all data servers in your cluster. For instance:
  - SAS Web Infrastructure Platform Data Server: dbmsowner/xxxxxxxx
  - Job Monitor Data Server: jmdbadmin/xxxxxxxx
  - Data Remediation Server: rmdbadmin/xxxxxxxx

  Note: *For each data server, the Data Server Administrator ID has a login defined for SAS Administrator. Use the SAS Management Console User Manager plug-in to locate the ID by displaying properties for the SAS Administrator and clicking the **Accounts** tab.*

- Read/write access in the `WebInfrastructurePlatformDataServer` install directory (location of the PostgreSQL server binaries). For instance:
    - UNIX - `/usr/local/SASHome/SASWebInfrastructurePlatformDataServer/9.4`
    - Windows - `C:\Program Files\SASHome\SASWebInfrastructurePlatformDataServer\9.4`

UNIX and Linux

Each command in the following steps should be run as the SAS installer ID.

1. Shut down your SAS servers and middle-tier servers. Close all SAS clients, such as SAS Management Console.

2. Stop the data servers. For example, this is how to stop the default Web Infrastructure Platform Data Server instance.

    a. Go to the server instance configuration directory.

    ```
    cd <SAS Configuration Directory>/WebInfrastructurePlatformDataServer
    ```

    b. Run the Web Infrastructure Platform Data Server start/stop script.

    ```
    ./webinfdsvrc.sh stop
    ```

    c. Ensure that ALL the "postgres" processes have stopped.
    ```
    ps –ef | grep –i postgres
    ```

    d. Repeat steps 4a – 4c for each Data server.

3. Put the 9.4.22 PostgreSQL binaries into place. This step will only be performed once.

    a. Go to the server binaries install directory.

    ```
    cd <SASHome>/SASWebInfrastructurePlatformDataServer/9.4
    ```

    b. Rename the following 9.4.19 directories.

    ```
    mv bin bin_9419
    mv lib lib_9419
    mv share share_9419
    mv include include_9419
    ```

    c. Copy in the 9.4.22 binary package.

    ```
    cp /xxx/xxx/psql_9.4.22_<three-byte code for the operating
    system>.tar <SASHome>/ SASWebInfrastructurePlatformDataServer/9.4
    ```

    d. Unpackage the 9.4.22 binary package.

    ```
    tar –xvf  psql_9.4.22_<three-byte code for the operating system>.tar
    ```

    Note: *This command creates new bin, lib, share, and include directories*

4. Restart your SAS servers, middle-tier servers, and clients.

5. Using the procedures described in the middle tier Instructions.html document, perform the following tasks:

    - Validate the middle tier.

- Perform an ad hoc backup with the Deployment Backup and Recovery Tool (or Backup Manager).

Windows

Each command in the following steps must be run as the SAS installer ID.

1. Shut down your SAS servers and middle-tier servers. Close all SAS clients, such as SAS Management Console.

2. Stop the data servers. For example, this is how to stop the default Web Infrastructure Platform Data Server instance.
   a. Open the Services app by clicking the **Start** button.
   b. Type **services** in the search text box, and click **Services** in the results.
   c. Scroll through the **Services** window and find the data server (for example, "SAS [Metadata-Lev1] Web Infrastructure Platform Data Server").
   d. Right-click the data server and select **Stop**.
   e. Repeat steps 4a – 4d for each data server.

   Note: Ensure that all postgres processes have stopped by checking the task manager.

3. Upgrade to the 9.4.22 PostgreSQL binaries. This step will only be performed once.
   a. Go to the server binaries install directory.
   ```
   cd <SASHome>\SASWebInfrastructurePlatformDataServer\9.4
   ```
   b. Rename the 9.4.19 directories.
   ```
   rename bin bin_9419
   rename lib lib_9419
   rename share share_9419
   rename include include_9419
   ```
   c. Copy in the 9.4.22 binary package.
   d. Unpackage the 9.4.22 binary package by unzipping `psql_9.4.22_<three-byte code for the operating system>.zip` in the `<SASHome>\SASWebInfrastructurePlatformDataServer\9.4` directory. Depending on the settings of your system, you may see a Destination Folder Access Denied message asking you to provide administrator permission.

4. Restart your SAS servers, middle-tier servers, and clients.

5. Using the procedures described in the middle tier Instructions.html document, perform the following tasks:
   - Validate the middle tier.
   - Perform an ad hoc backup with the Deployment Backup and Recovery Tool (or Backup Manager).

After you have upgraded PostgreSQL, the SAS Installation Qualification tool will return failures on the updated files in the `/SASWebInfrastructurePlatformDataServer/9.4` directory. This is expected and should not be a concern.

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