1. **Before installing postgres**

* **Create a postgres operating system with password (note if you don’t create this user, the RPM installing will create it, but you will not know his password)**
* **Create the following mount points:**
  + - **/pgDATA Application specific**
    - **/pgWAL Write Ahead Logs**
    - **/pgBACKUP Application specific - at least the size of data**
    - **/pgBACKUP/ archivelogs for archivelogs**
    - **/PgDATA\_tbs Application tablespaces.**

1. **During installation**

* **After the installation they will be two important directories will be created:**
* **The postgres home (usr/pgsql-12) for version 12 postgres this directory contains the**

**The bin folder, the library and a share folder. The bin folder holds all the utilities need by postgres to perform various important task.**

* **The data directory or the cluster directory (/var/lib/pgsql/12/data/) this directory contains many other subdirectories and files. Here reside the two must important files in postgres (pg\_hba.conf and postgresql.conf)**

1. **After Installation**

* **After the installation you Cn check if the postgres server is up and running using the command ps -ef|grep postgres**
* **To stop the cluster user the pg\_ctl utility as postgres user**
* **To stop /usr/pgsql-12/bin/pg\_ctl -D /var/lib/pgsql/12/data/ stop**
* **To start: /usr/pgsql-12/bin/pg\_ctl -D /var/lib/pgsql/12/data/ start**
* **To check the status: /usr/pgsql-12/bin/pg\_ctl -D /var/lib/pgsql/12/data/ status**

* **Now you can stop the cluster using the pg\_ctl utility and move the data directory to /pgDATA/data and the create a symbolic link**

**mv /var/lib/pgsql/10/data /pgDATA/**

**Create symbolic link in the /var/lib/pgsql/12 to point to the new location.**

**ln -s /pgDATA/data /var/lib/pgsql/12/data**

**when the link is created start the cluster using /usr/pgsql-12/bin/pg\_ctl -D /pgDATA/ start**

* **Mode the Write Ahead Log (WAL) to the pgWAL. to do that**

**Shutdown PostgreSQL cluster**

**Move pg\_wal to /WAL and create symbolic link**

**/usr/pgsql-12/bin/pg\_ctl -D /pgDATA/ stop**

**mv pgDATA/pg\_wal/ pgWAL/**

**ln -s /pgWAL/pg\_wal pgDATA/pg\_wal**

**Start the cluster**

**/usr/pgsql-12/bin/pg\_ctl -D /pgDATA/ start**

* **Edit the postgres operating system bash\_profile export this various path:**

**export PGHOST=<server\_name>**

**export PGHOME=/usr/pgsql-10**

**export PGPORT=5432**

**export PGDATA=/pgDATA/data**

**export PGXLOG=/pgWAL/pg\_wal**

**export PGUSER=postgres**

**export PGDATABASE=postgres**

**export PGBIN=/usr/pgsql-12/bin**

**export PGLIB=/usr/pgsql-12/lib**

* **Configuration files postgres.conf stop the cluster first ( /usr/pgsql-12/bin/pg\_ctl -D /pgDATA/ start)**

**vi /pgDATA/data/postgresql.conf**

**if you set line number on this file**

* **#listen\_addresses = 'localhost' # what IP address(es) to listen on;**

**Uncomment this parameter and change localhost to all IP addresses that should be allowed to connect to this server for your training you can changed it to start (listen\_addresses = '\*')**

* **#port = 5432 # (change requires restart)**

**Uncomment this as it shows some parameter required restart or reload to take effect after modification.**

* **shared\_buffers = 1GB**
* **effective\_cache\_size = 3GB**
* **maintenance\_work\_mem = 256MB**
* **wal\_buffers = 16MB**
* **work\_mem = 3495kB**
* **min\_wal\_size = 2GB**
* **max\_wal\_size = 8GB**
* **max\_worker\_processes = 2**
* **max\_parallel\_workers\_per\_gather = 1**
* **max\_parallel\_workers = 2**
* **max\_parallel\_maintenance\_workers = 1**
* **archive mode can be turn on if you want (archive\_mode = on)**
* **archive\_command = 'cp -i %p /pgBACKUP/archivelogs/%f' for this make sure that the**

**/pgBACKUP/archivelogs/ exist.**

* **Configure the pg\_hba.conf this allows user to connect a database in the cluster. Those users can come from the local server or from et remote host, when a user is create at the database level before accessing any database an entry need to be made on this file to allow him to connect**

**Let say you create a user call school with a password on you a database call department before that user connect to any database on the cluster you need make this entry on the pg\_hba.conf**