**Postgres Installation and Setup on Linux:**

1. **Installation**

We will be installing postgres from the official website.

**Step 1 -** First thing, we will install the wget and ca-certificate packages so that we can connect to the external sources

*#sudo apt install wget ca-certificates*

**Step 2 -** Get the certificate, add it to apt-key management utility and create a new configuration file with an official PostgreSQL repository address inside.

*# wget --quiet -O - https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add -*

*# sudo sh -c 'echo "deb http://apt.postgresql.org/pub/repos/apt/ $(lsb\_release -cs)-pgdg main" >> /etc/apt/sources.list.d/pgdg.list'*

**Step 3 -** Update the apt, and install postgressql -

*#sudo apt update*

*#sudo apt install postgresql postgresql-contrib*

**Step 4 -** Installation done. Verify if the service is running or not.

*# service postgresql status*

The installation is complete.

1. **Set-up postgres**

Postgresql is now installed and running successfully on your machine. By default it create the root user as 'postgres'. You can access the command psql using -

*# sudo -u postgres psql*

Once you are in, first thing you should do is to create a password

*# \password postgres* (here, postgres is the username)

**Commands** in psql to see the databases, roles and tables -

*# \l* (this will show you the list of databases)

*# \du* (this shows the user roles in the postgres)

*# \dt* (show the list of tables)

1. **Basic operations – Database, Table setup**

Let’s learn and verify some basic operations in psql -

**Step 1:** Create a database 'testdb', and connect to it -

*postgres=# CREATE DATABASE testdb;*

*CREATE DATABASE*

*postgres=# \c testdb* (command to connect to the database)

*You are now connected to database "testdb" as user "postgres".*

**Step 2:** See the tables, inside the database 'testdb'

*test\_erp=# \dt*

*List of relations*

*Schema | Name | Type | Owner*

*--------+---------+-------+----------*

*(0 row)*

As there are no tables, it should be empty.

**Step 3:** Create a table called *'employee'* -

*test\_erp=# CREATE TABLE employee (id SERIAL PRIMARY KEY, first\_name VARCHAR, last\_name VARCHAR, role VARCHAR);*

*CREATE TABLE*

*test\_erp=# \dt*

*List of relations*

*Schema | Name | Type | Owner*

*--------+---------+-------+----------*

*public | employee | table | postgres*

*(1 row)*

**Step 4:** Insert some data into the table *'employee'*

*test\_erp=# INSERT INTO employee (first\_name, last\_name, role) VALUES ('John', 'Snow', 'Manager');*

*INSERT 0 1*

**Step 5:** Print the data from the table *'employee'*

*test\_erp=# select \* from employee;*

*id | first\_name | last\_name | role*

*----+------------+-----------+------*

*1 | John | Snow | Manager*

*(1 row)*

1. **Load the Database and Tables**

**Step 1** – Changing the /etc/postgresql/14/main/pg\_hba.conf the line *local all postgres peer* from *peer* to *trust*

It should look like this -

**Step 2** – Restart the postgres service

# *service postgresql restart*

**Step 3** – Check service is running successfully

# *service postgresql status*

**Step 4** – Download the sql file ‘setup\_tables.sql’ to local machine.

**Step 5** – Run the command to execute the sql file. This file will create the tables and dump the data for the exercises.

# *sudo psql -U postgres -a -f setup\_tables.sql*

**Step 6** – Enter the psql and you should be able to see the database ‘sqlfundamentals’ and the respective tables.

# *sudo -u postgres psql*