Linux:

Step 1: Go to https://www.postgresql.org/ftp/source/

Step 2:
wget https://ftp.postgresql.org/pub/source/v8.1.7/postgresql-8.1.7.tar.gz

```
This message is shown once once a day. To disable it please create the
/home/sakivg/.hushlogin file.
sakivg@LAPTOP-J049TCCU:~$ wget https://ftp.postgresql.org/pub/source/v8.4.22/postgresql-8.4.22.tar.gz
--2022-09-21 20:52:45--  https://ftp.postgresql.org/pub/source/v8.4.22/postgresql-8.4.22.tar.gz
Resolving ftp.postgresql.org (ftp.postgresql.org)... 217.196.149.55, 72.32.157.246, 87.238.57.227, ...
Connecting to ftp.postgresql.org (ftp.postgresql.org)|217.196.149.55|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18332542 (17M) [application/octet-stream]
Saving to: 'postgresql-8.4.22.tar.gz'

postgresql-8.4.22.tar.gz    100%[=====================================================>]  17.48M  9.79MB/s    in 1.8s

2022-09-21 20:52:49 (9.79 MB/s) - 'postgresql-8.4.22.tar.gz' saved [18332542/18332542]
```

Step 3: (extract source code)
gunzip postgresql-8.1.7.tar.gz
tar xf postgresql-8.1.7.tar

Step4: install dependencies (for gcc compiler and other things)
sudo apt-get update
sudo apt-get install make
sudo apt-get install libreadline7 libreadline-dev
sudo apt-get install zlib1g zlib1g-dev
sudo apt-get install clang

Step 5:
cd postgresql-8.1.7

Step 6: configure
sudo ./configure CC=/usr/bin/clang CFLAGS="-O1"

```
configure: creating ./config.status
config.status: creating GNUmakefile
config.status: creating src/Makefile.global
config.status: creating src/include/pg_config.h
config.status: linking ./src/backend/port/tas/dummy.s to src/backend/port/tas.s
config.status: linking ./src/backend/port/dynloader/linux.c to src/backend/port/dynloader.c
config.status: linking ./src/backend/port/sysv_sema.c to src/backend/port/pg_sema.c
config.status: linking ./src/backend/port/sysv_shmem.c to src/backend/port/pg_shmem.c
config.status: linking ./src/backend/port/dynloader/linux.h to src/include/dynloader.h
config.status: linking ./src/include/port/linux.h to src/include/pg_config_os.h
config.status: linking ./src/makefiles/Makefile.linux to src/Makefile.port
```

Step 7:
sudo make

```
make[2]: Nothing to be done for 'all'.
make[2]: Leaving directory '/home/sakivg/postgresql-8.1.7/src/makefiles'
make -C utils all
make[2]: Entering directory '/home/sakivg/postgresql-8.1.7/src/utils'
make[2]: Nothing to be done for 'all'.
make[2]: Leaving directory '/home/sakivg/postgresql-8.1.7/src/utils'
make[1]: Leaving directory '/home/sakivg/postgresql-8.1.7/src'
make -C config all
make[1]: Entering directory '/home/sakivg/postgresql-8.1.7/config'
make[1]: Nothing to be done for 'all'.
make[1]: Leaving directory '/home/sakivg/postgresql-8.1.7/config'
All of PostgreSQL successfully made. Ready to install.
```

Step 8:
sudo make install

Step 9:
sudo mkdir /usr/local/pgsql/data
sudo adduser postgres
su postgres

```
sakivg@LAPTOP-J049TCCU:~/postgresql-8.1.7$ sudo mkdir /usr/local/pgsql/data
sakivg@LAPTOP-J049TCCU:~/postgresql-8.1.7$ ls
COPYRIGHT        HISTORY    README       config.log      configure.in  src
GNUmakefile      INSTALL    aclocal.m4   config.status   contrib
GNUmakefile.in   Makefile   config       configure       doc
sakivg@LAPTOP-J049TCCU:~/postgresql-8.1.7$ sudo adduser postgre
Adding user `postgre' ...
Adding new group `postgre' (1002) ...
Adding new user `postgre' (1002) with group `postgre' ...
Creating home directory `/home/postgre' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for postgre
Enter the new value, or press ENTER for the default
        Full Name []: vikas gogia
        Room Number []: 2060
        Work Phone []: na
        Home Phone []: na
        Other []:
Is the information correct? [Y/n] y
sakivg@LAPTOP-J049TCCU:~/postgresql-8.1.7$ su postgre
Password:
postgre@LAPTOP-J049TCCU:/home/sakivg/postgresql-8.1.7$ _
```

Step 10:
sudo chown postgre /usr/local/pgsql/data

Step 11:
su postgre

Step 12:
Init db
/usr/local/pgsql/bin/initdb -D /usr/local/pgsql/data

```
Success. You can now start the database server using:

    /usr/local/pgsql/bin/postmaster -D /usr/local/pgsql/data
or
    /usr/local/pgsql/bin/pg_ctl -D /usr/local/pgsql/data -l logfile start
```

Step 13: start the server
/usr/local/pgsql/bin/pg_ctl start -D /usr/local/pgsql/data

```
postgre@LAPTOP-J049TCCU:/home/sakivg$ /usr/local/pgsql/bin/pg_ctl start -D /usr/local/pgsql/data
postmaster starting
postgre@LAPTOP-J049TCCU:/home/sakivg$ LOG:  database system was shut down at 2022-09-21 23:19:12 EDT
LOG:  checkpoint record is at 0/38FF90
LOG:  redo record is at 0/38FF90; undo record is at 0/0; shutdown TRUE
LOG:  next transaction ID: 565; next OID: 10794
LOG:  next MultiXactId: 1; next MultiXactOffset: 0
LOG:  database system is ready
LOG:  transaction ID wrap limit is 2147484146, limited by database "postgres"
```

Step 14: open a new terminal instance and create db
/usr/local/pgsql/bin/createdb test_db

Step 15:
Psql
/usr/local/pgsql/bin/psql test_db

```
postgre@LAPTOP-J049TCCU:~$ /usr/local/pgsql/bin/createdb test_db
CREATE DATABASE
postgre@LAPTOP-J049TCCU:~$ /usr/local/pgsql/bin/psql test_db
Welcome to psql 8.1.7, the PostgreSQL interactive terminal.

Type:  \copyright for distribution terms
       \h for help with SQL commands
       \? for help with psql commands
       \g or terminate with semicolon to execute query
       \q to quit

test_db=#
```

Step 16: stop server command
/usr/local/pgsql/bin/pg_ctl stop -mimmediate -D /usr/local/pgsql/data

Step 17:
\l to see all databases, \d to see all tables, \d name_of_table to see schema of table