Lab 12: PostgreSQL Database Administration

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Q1. Create a new user and grant them admin rights.
- To do this task we use the following commands
    1. $ *sudo su – postgres –c "createuser parth"*
    2. $ *sudo –u postgres psql –c "ALTER USER parth WITH SUPERUSER;"*

```
Setting up libjson-xs-perl (4.020-1build1) ...
Setting up postgresql-client-11 (11.14-2.pgdg20.04+1) ...
update-alternatives: using /usr/share/postgresql/11/man/man1/psql.1.gz to provid
e /usr/share/man/man1/psql.1.gz (psql.1.gz) in auto mode
Setting up postgresql-common (232.pgdg20.04+1) ...
Adding user postgres to group ssl-cert

Creating config file /etc/postgresql-common/createcluster.conf with new version
Building PostgreSQL dictionaries from installed myspell/hunspell packages...
  en_us
Removing obsolete dictionary files:
Created symlink /etc/systemd/system/multi-user.target.wants/postgresql.service →
 /lib/systemd/system/postgresql.service.
Setting up postgresql-11 (11.14-2.pgdg20.04+1) ...
Creating new PostgreSQL cluster 11/main ...
/usr/lib/postgresql/11/bin/initdb -D /var/lib/postgresql/11/main --auth-local pe
er --auth-host md5
The files belonging to this database system will be owned by user "postgres".
This user must also own the server process.

The database cluster will be initialized with locales
  COLLATE:  en_US.UTF-8
  CTYPE:    en_US.UTF-8
  MESSAGES: en_US.UTF-8
  MONETARY: ru_RU.UTF-8
  NUMERIC:  ru_RU.UTF-8
  TIME:     ru_RU.UTF-8
The default database encoding has accordingly been set to "UTF8".
The default text search configuration will be set to "english".

Data page checksums are disabled.

fixing permissions on existing directory /var/lib/postgresql/11/main ... ok
creating subdirectories ... ok
selecting default max_connections ... 100
selecting default shared_buffers ... 128MB
selecting default timezone ... Europe/Moscow
selecting dynamic shared memory implementation ... posix
creating configuration files ... ok
running bootstrap script ... ok
performing post-bootstrap initialization ... ok
syncing data to disk ... ok

Success. You can now start the database server using:

    pg_ctlcluster 11 main start

update-alternatives: using /usr/share/postgresql/11/man/man1/postmaster.1.gz to provide /usr/share/man/man1/postmaster.1.gz (postmaster.1.gz) in auto mode
Processing triggers for systemd (245.4-4ubuntu3.13) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo su - postgres -c "createuser parth"
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo -u postgres psql -c "ALTER USER parth WITH SUPERUSER;"
ALTER ROLE
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ █
```

Q2. Create a new database, switch to a new database and create a table in your new database.

- To do the following task we need to use the following commands

    1. $ *sudo su - postgres -c "createdb database"*
    2. $ *sudo -u postgres psql -c "\c database"*
    3. $ *sudo -u postgres psql -c "*

        CREATE TABLE t1 (
        user_id serial PRIMARY KEY,
        name VARCHAR(50) UNIQUE NOT NULL,
        password VARCHAR (50) NOT NULL
        );"

```
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo su - postgres -c "createdb database"
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo -u postgres psql -c "\c database"
You are now connected to database "database" as user "postgres".
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo -u postgres psql -c "
> CREATE TABLE t1 (
> user_id serial PRIMARY KEY,
> name VARCHAR(50) UNIQUE NOT NULL,
> password VARCHAR ( 50 ) NOT NULL
> );"
CREATE TABLE
```

Q3. Backup your new database by naming it.
- To do the following task we need to use the command
    1. $ *sudo su - postgres psql –c "pg_dump database > database.sql"*

```
parth@GL62M-7RDX:~/Desktop/PostgresSQL$ sudo su - postgres psql -c "pg_dump database > database.sql"
```

Q4. Delete your new database and restore it from the backup which you created in 3rd question.
- To do the following task we need to the commands
    1. $ *sudo su - postgres psql –c "dropdb database"*
    2. $ *sudo su - postgres psql –c "psql database < database.sql"*

```
         List of relations
 Schema | Name | Type  |  Owner
--------+------+-------+----------
 public | t1   | table | postgres
(1 row)
```

```
SET
SET
SET
SET
SET
 set_config
- - - - - - - - - - -

(1 row)

SET
SET
SET
SET
```