Book Recommendation And Sharing
Steps to execute project

Unzip G4_Book recommendation and Sharing

1. Installing required packages :

- **Installing python3 :**
- **Installing pip :**
- **Installing the required modules :**

  Open SGDB-project folder, open terminal and execute following commands :-

```
$ sudo apt-get install libpq-dev
$ pip install psycopg2
$ pip install -r requirements.txt
```

—---

2. Connecting databases :

Graph database

Installing Neo4j in ubuntu:

```
● sudo apt update
● sudo apt install apt-transport-https ca-certificates curl software-properties-common
● curl -fsSL https://debian.neo4j.com/neotechnology.gpg.key | sudo apt-key add -
```

- sudo add-apt-repository "deb https://debian.neo4j.com stable 4.1"
- sudo apt install neo4j
- sudo systemctl enable neo4j.service
- Go to browser and open link : http://localhost:7474/browser/
  Write username : neo4j
  password : neo4j
  and set new password : 123

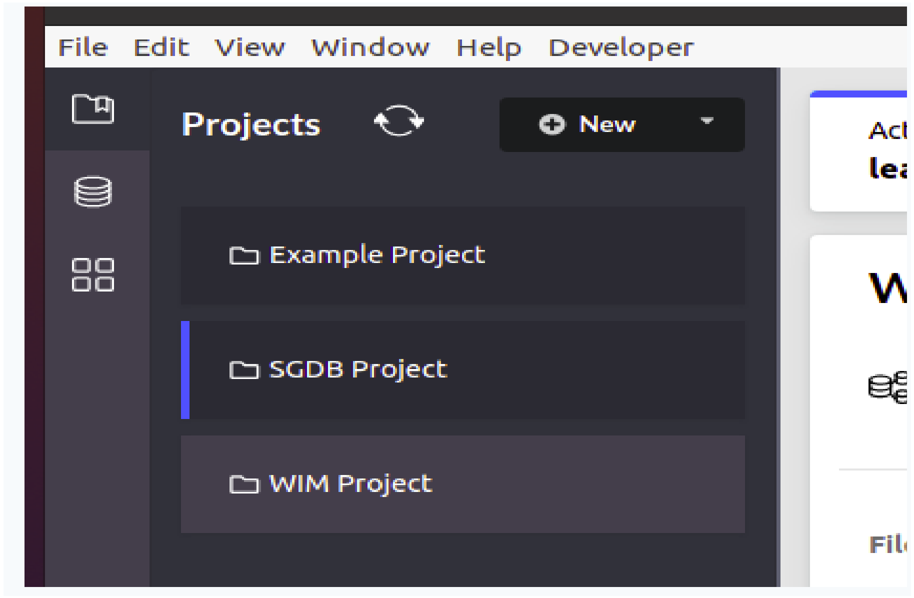
- Close browser and close the terminal

Installing Neo4j desktop in ubuntu:

-> Go to link and download neo4j desktop
-> Go to Downloads folder
-> Open terminal and execute the following commands :

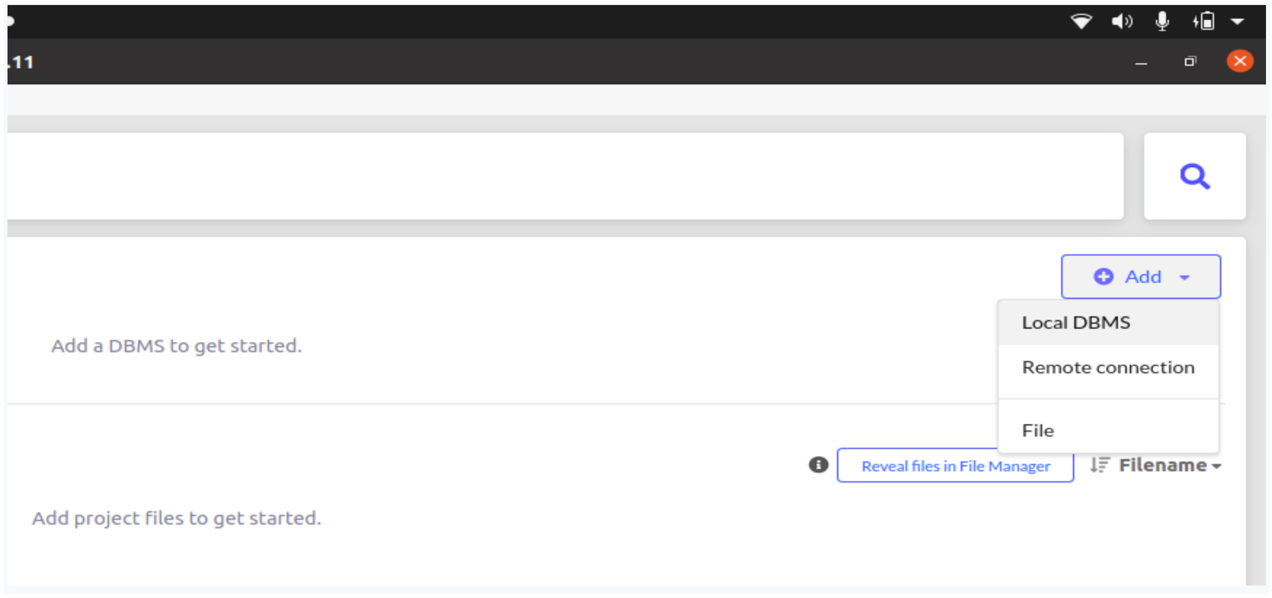
```
-> $ chmod a+x <downloaded filename>
-> $ ./<downloaded filename>
```

-> Follow the steps as asked in window
-> Create new project by clicking on "New"



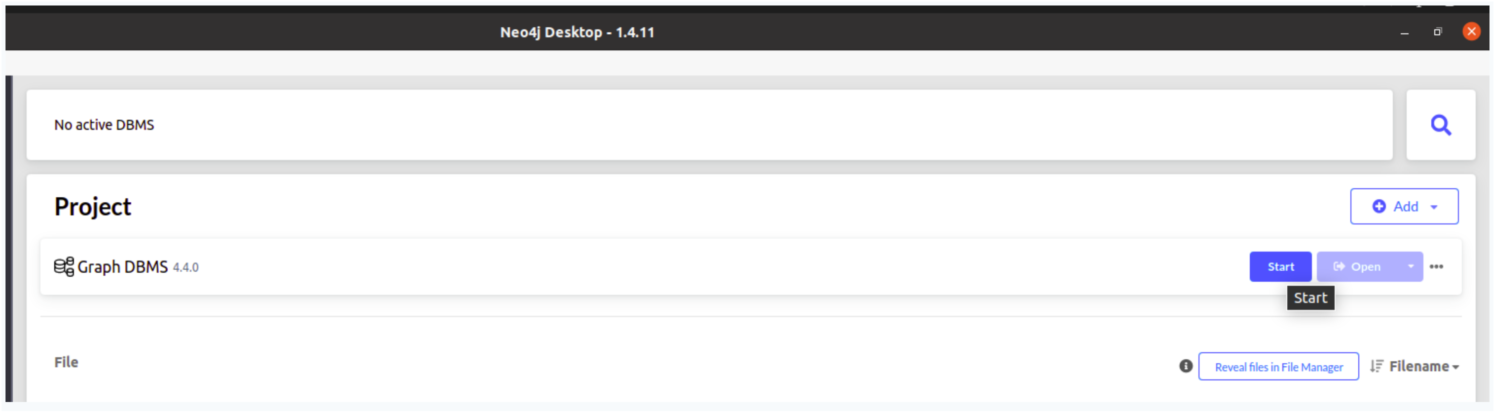
-> Select the new Project created

-> Press on Add -> Local DBMS

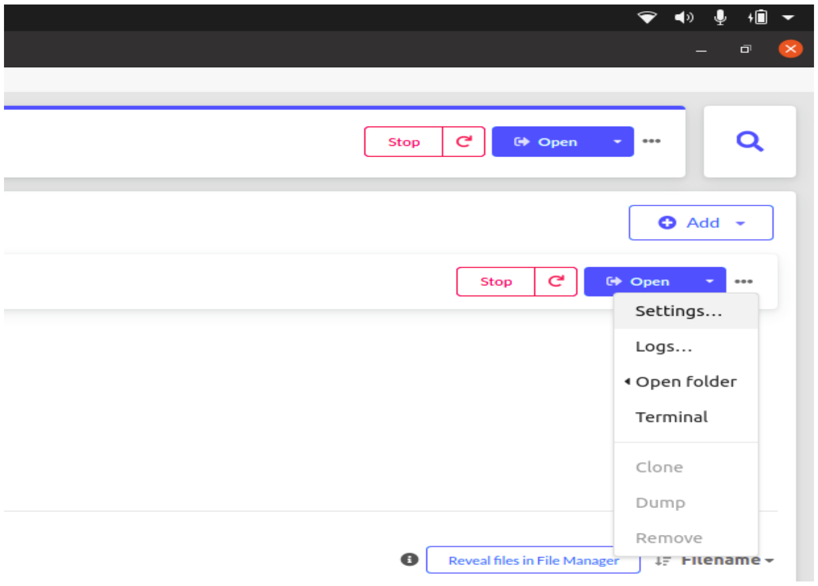

.11
Add
Local DBMS
Remote connection
File
Add a DBMS to get started.
Reveal files in File Manager
Filename
Add project files to get started.

-> Enter password as 123

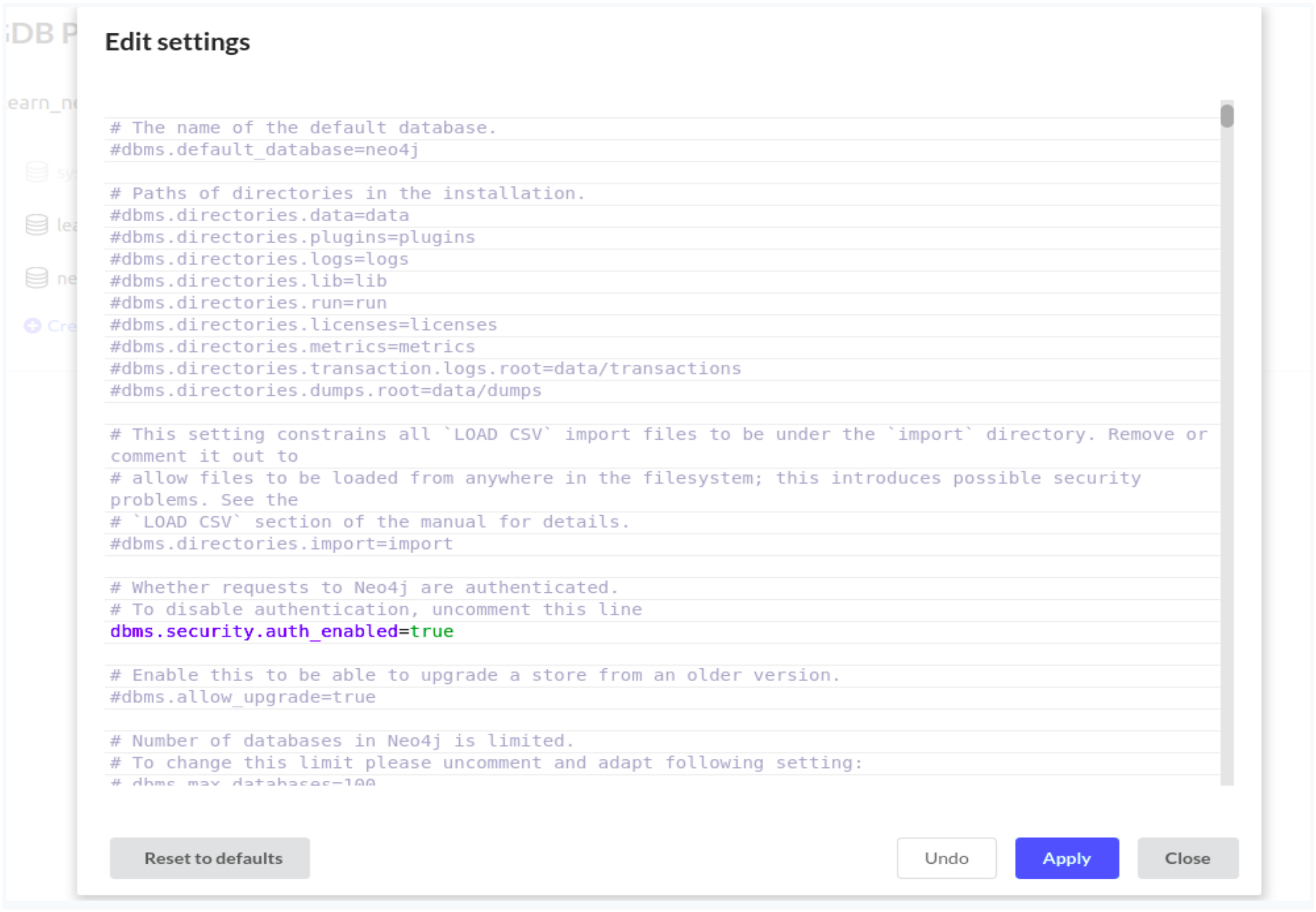
-> Press on Start



-> Press on 3 dots to right of Open, Got to Settings



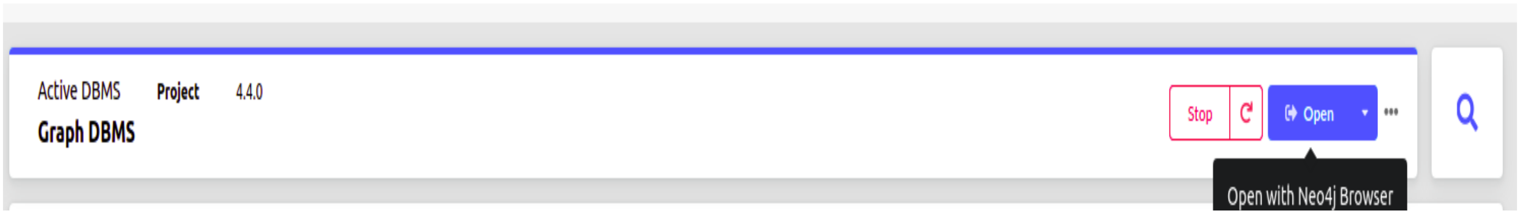
-> comment the line dbms.directories.import=import
using #



```
# The name of the default database.
#dbms.default_database=neo4j

# Paths of directories in the installation.
#dbms.directories.data=data
#dbms.directories.plugins=plugins
#dbms.directories.logs=logs
#dbms.directories.lib=lib
#dbms.directories.run=run
#dbms.directories.licenses=licenses
#dbms.directories.metrics=metrics
#dbms.directories.transaction.logs.root=data/transactions
#dbms.directories.dumps.root=data/dumps

# This setting constrains all `LOAD CSV` import files to be under the `import` directory. Remove or
comment it out to
# allow files to be loaded from anywhere in the filesystem; this introduces possible security
problems. See the
# `LOAD CSV` section of the manual for details.
#dbms.directories.import=import

# Whether requests to Neo4j are authenticated.
# To disable authentication, uncomment this line
dbms.security.auth_enabled=true

# Enable this to be able to upgrade a store from an older version.
#dbms.allow_upgrade=true

# Number of databases in Neo4j is limited.
# To change this limit please uncomment and adapt following setting:
# dbms.max_databases=100
```

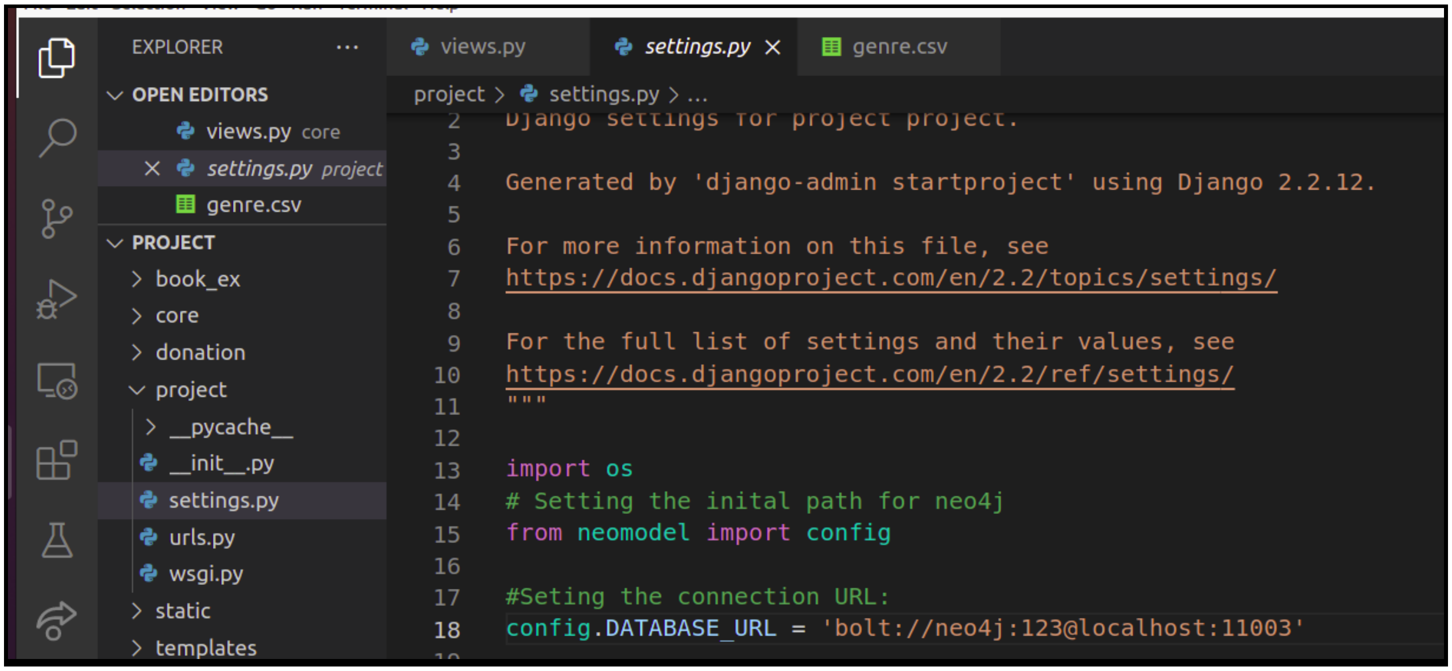
```
->Press Apply
```

-> Click on Open to open the database in Neo4j browser

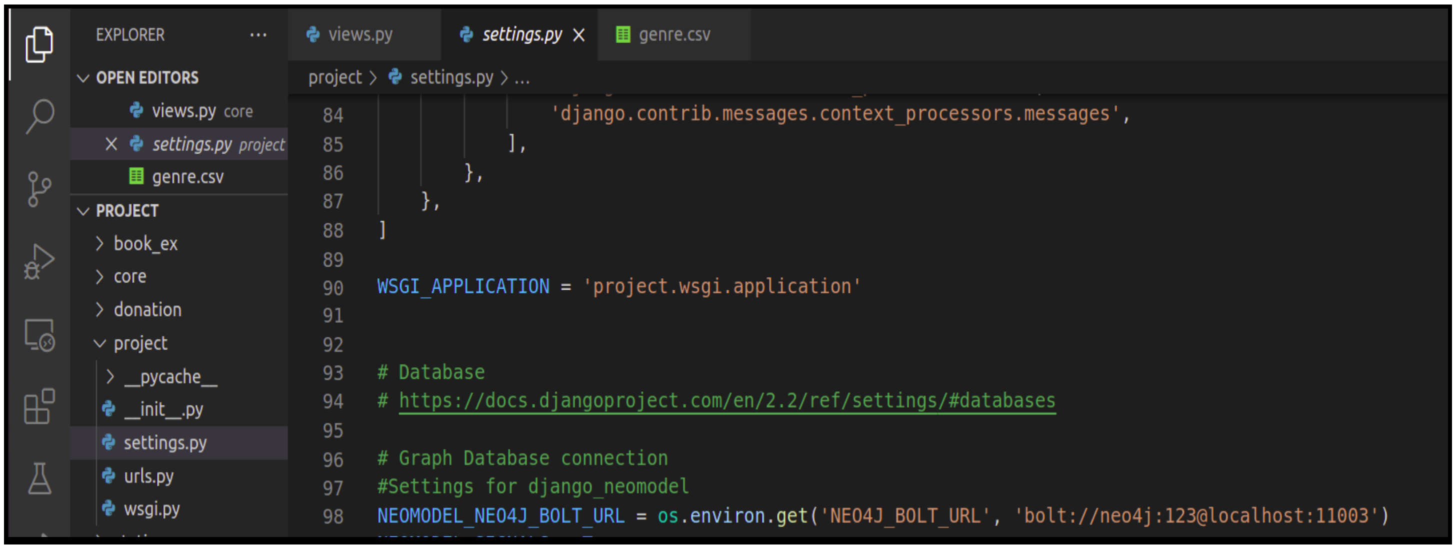


Connecting backend to graph data model :

1. Extract G4_Sha-Fi-Re-Do
2. Open folder PROJECT
3. Open folder project
4. Open file settings.py
5. On line 18 and on line 98 in settings.py

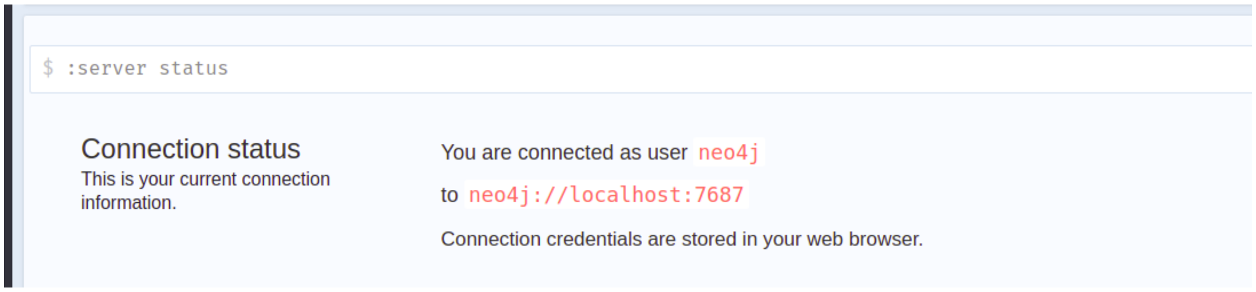


```
Django settings for project project.

Generated by 'django-admin startproject' using Django 2.2.12.

For more information on this file, see
https://docs.djangoproject.com/en/2.2/topics/settings/

For the full list of settings and their values, see
https://docs.djangoproject.com/en/2.2/ref/settings/
"""


import os
# Setting the inital path for neo4j
from neomodel import config

#Seting the connection URL:
config.DATABASE_URL = 'bolt://neo4j:123@localhost:11003'
```



```
                'django.contrib.messages.context_processors.messages',
            ],
        },
    },
]

WSGI_APPLICATION = 'project.wsgi.application'


# Database
# https://docs.djangoproject.com/en/2.2/ref/settings/#databases

# Graph Database connection
#Settings for django_neomodel
NEOMODEL_NEO4J_BOLT_URL = os.environ.get('NEO4J_BOLT_URL', 'bolt://neo4j:123@localhost:11003')
```

6. On line 18 and 98, change "11003" in link to connection credentials as shown in neo4j browser
   For example, using the below neo4j credentials, 11003 in settings.py should be changed to 7687



```
$ :server status
```

Connection status
This is your current connection information.

You are connected as user `neo4j`
to `neo4j://localhost:7687`
Connection credentials are stored in your web browser.

Setting up graph data model :

-> Download book.csv and genre.csv from SGDB-project folder
-> Go to neo4j browser
-> Run command :

```
:use neo4j
```

-> Creating genre node from csv file, run query:

(replace <path to genre.csv file> with absolute path of genre.csv e.g. 'file:///home/bhumika/genre.csv')

```
LOAD CSV WITH HEADERS FROM 'file:///<path to genre.csv file>' AS row
WITH row
CREATE (b:Genre{genre_id:row.genre_id, name:row.name})
```

-> Creating index on genre node, run query :

```
CREATE INDEX genre_index FOR (g:Genre) ON (g.genre_id)
```

-> Creating book node from csv file, run query:

(replace <path to book.csv file> with absolute path of book.csv e.g. 'file:///home/bhumika/book.csv')

```
LOAD CSV WITH HEADERS FROM 'file:///<path to book.csv file>'
AS row
WITH row WHERE row.AUTHOR is NOT NULL
CREATE (b:Book{Title:row.TITLE, img_url:row.IMAGEURL})
```

-> Creating index on book node, run query :

```
CREATE INDEX book_index FOR (b:Book) ON (b.Title)
```

-> GENRE Relationship btw book and genre, run query :

(replace <path to book.csv file> with absolute path of book.csv e.g. 'file:///home/bhumika/book.csv')

```
LOAD CSV WITH HEADERS FROM 'file:///<path to book.csv file>'
AS row
WITH row WHERE row.AUTHOR is NOT NULL
MATCH (b:Book {Title:row.TITLE}), (g:Genre{genre_id:
row.CATEGORYID})
CREATE (g)-[:GENRE]->(b)
```

-> Creating author node from csv file, run query:

(replace <path to book.csv file> with absolute path of book.csv e.g. 'file:///home/bhumika/book.csv')

```
:auto USING PERIODIC COMMIT
LOAD CSV WITH HEADERS FROM 'file:///<path to book.csv file>'
AS row
WITH row WHERE row.AUTHOR is NOT NULL
MERGE (a:Author{name:row.AUTHOR})
```

-> Creating index on author node, run query :

```
CREATE INDEX author_index FOR (a:Author) ON (a.name)
```

-> WROTE Relationship between author and book, run query :

(replace <path to book.csv file> with absolute path of book.csv e.g. 'file:///home/bhumika/book.csv')

```
:auto USING PERIODIC COMMIT
LOAD CSV WITH HEADERS FROM 'file:///<path to book.csv file>'
AS row
WITH row WHERE row.AUTHOR is NOT NULL
MATCH (a:Author{name:row.AUTHOR}), (b:Book{Title:row.TITLE})
CREATE (a)-[:WROTE]->(b)
```

-> Creating index on UserProfileInfo node, run query :

```
CREATE INDEX user_index FOR (u:UserProfileInfo) ON (u.username)
```

Spatial database

Connecting backend to postgres data model :

1. Installing PostgreSQL in Ubuntu 20.04

Open terminal and run the following commands:

```
$ sudo apt update
$ sudo apt install postgresql postgresql-contrib
```

Steps To Change Postgres User Password :

1. Login into the psql:

```
$ sudo -u postgres psql
```

2. Then in the psql console change the password to 123 and quit:

```
postgres=# \password postgres
Enter new password: 123
postgres=# \q
```

Close terminal

2. Installing pgAdmin4 in Ubuntu 20.04

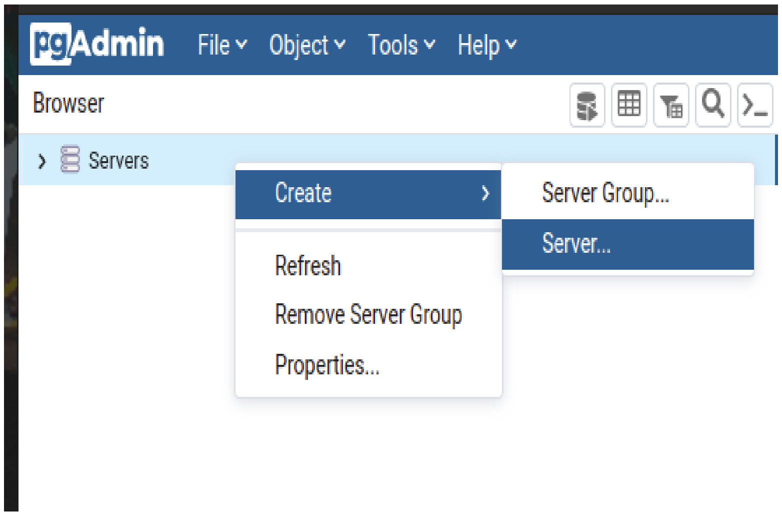
Open terminal and run the following commands:

1. sudo sh -c 'echo "deb http://apt.postgresql.org/pub/repos/apt/ $(lsb_release -cs)-pgdg main" >> /etc/apt/sources.list.d/pgdg.list'
2. sudo apt install wget ca-certificates
3. wget --quiet -O - https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add
4. sudo apt update
5. sudo apt install pgadmin4

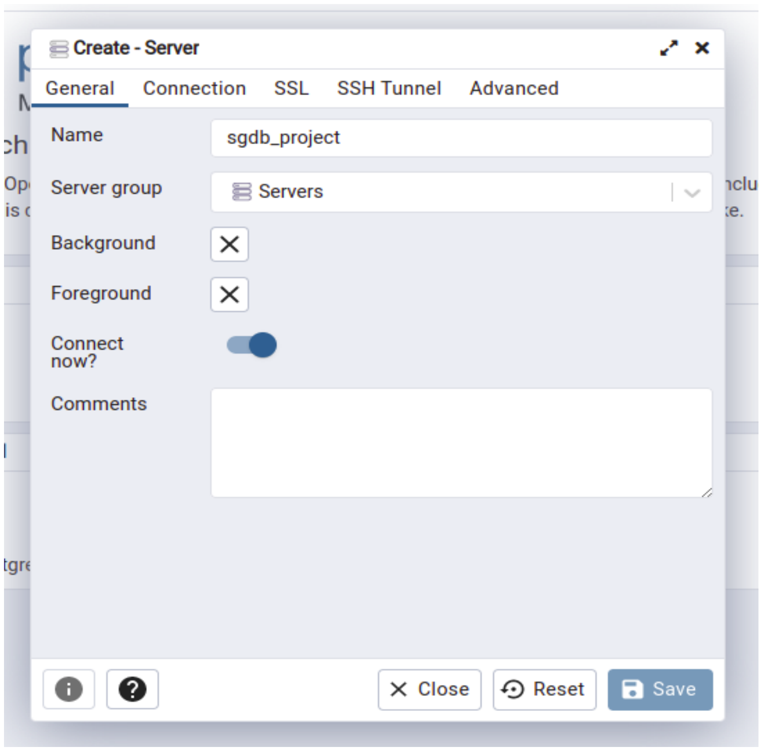
3. Creating Spatial Database

- Open pgAdmin4
- Set password as : 123

- Go to Server->Create->Server



-> name : sgdb_project



Create - Server

General | Connection | SSL | SSH Tunnel | Advanced

Name	sgdb_project
Server group	Servers
Background	
Foreground	
Connect now?	
Comments	

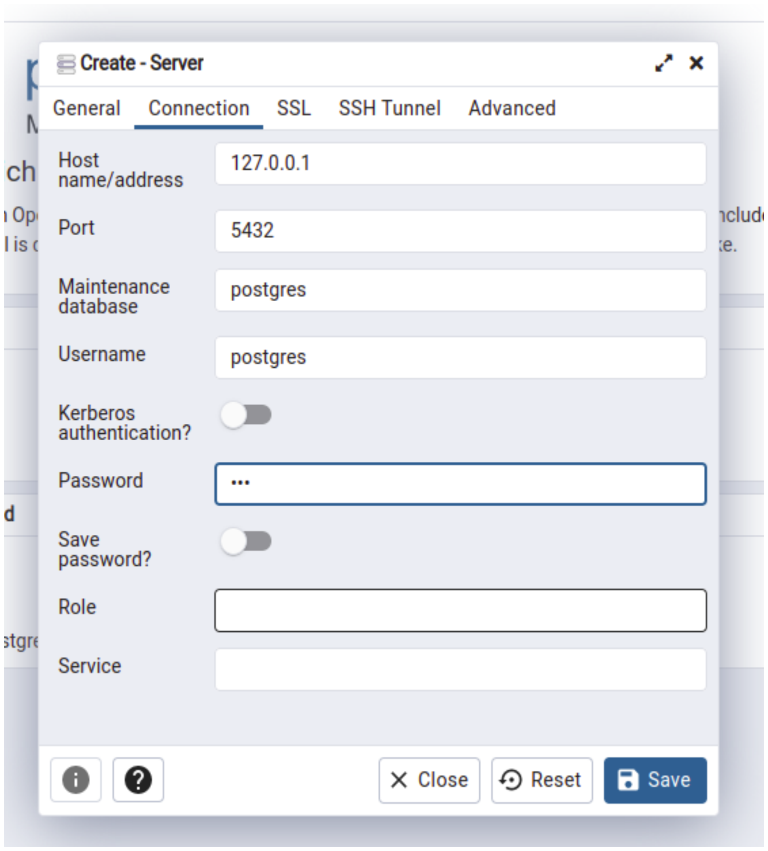
-> Host address : 127.0.0.1

Port : 5432

Username : postgres

Password : 123

Click **Save** after adding the details



Host name/address: 127.0.0.1

Port: 5432

Maintenance database: postgres

Username: postgres

Kerberos authentication?

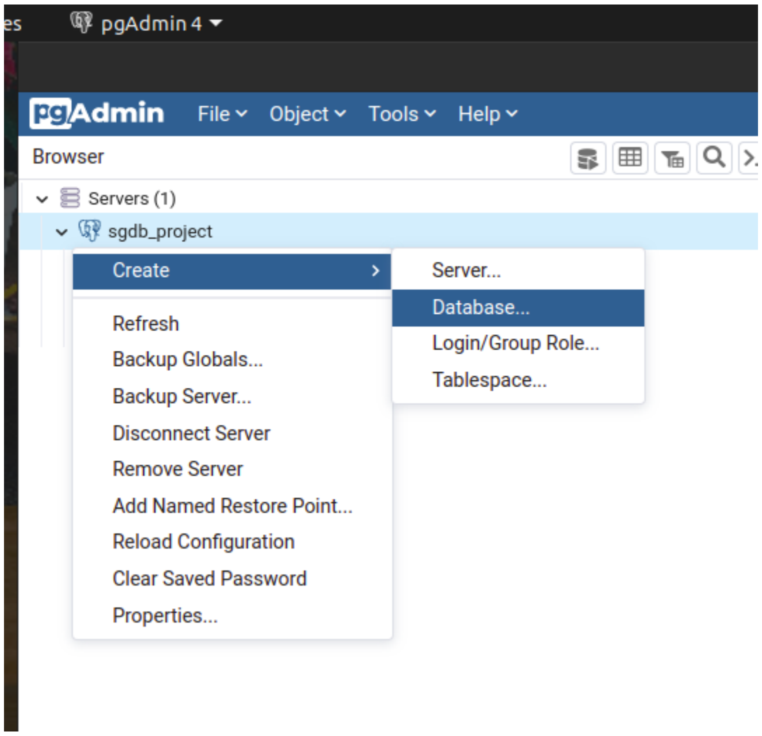
Password: •••

Save password?

Role:

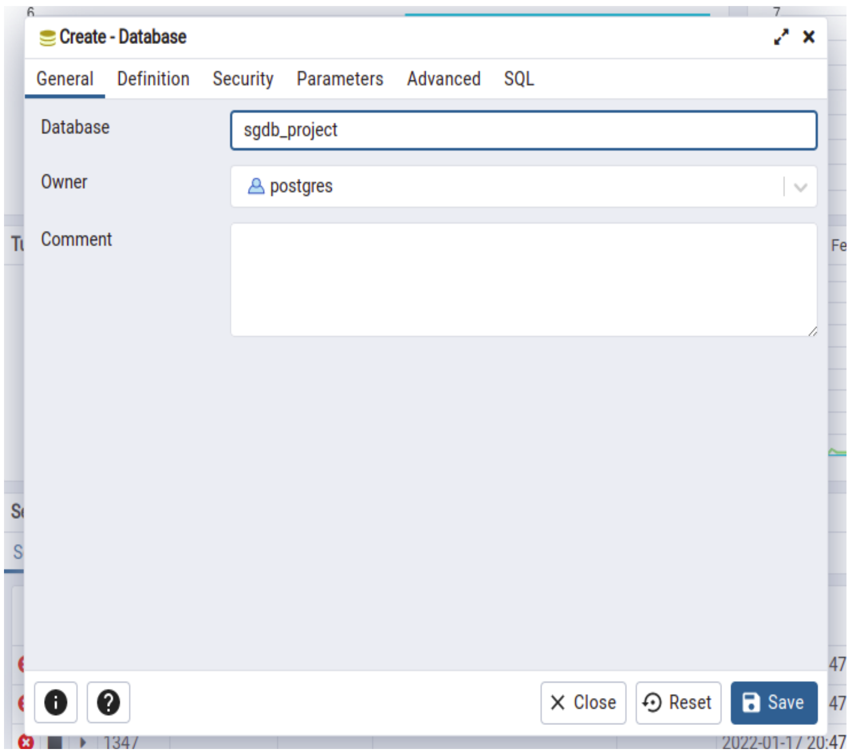
Service:

- Go to sgdb_project->right click on->create->database



-> Database : sgdb_project

Click **Save** after adding the details



Database: sgdb_project

Owner: postgres

Comment:

—---

3. Migrating postgres tables :

- Open SGDB-project folder
- Open terminal
- Run the following commands :

```
$ python manage.py makemigrations
$ python manage.py migrate
```

—---

4. Running the project :

- Open SGDB-project folder
- Open terminal
- Run the following commands :

```
$ python manage.py runserver
```

- Open link in browser : http://127.0.0.1:8000/ in google chrome

—---