Netflix Data Analytics

Date:-
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Dataset Information: -

The dataset contains following information: -

1.) show_id :- Unique id for TV shows or Movies.
2.) type: - TV show or Movie.
3.) title:- title of TV show or Movie.
4.) director:- person who makes the TV show or Movie.
5.) actor(cast):- persons worked in TV show or Movie.
6.) country: - TV show or Movie released in.
7.) date_added: - date on which TV show or Movie is added on Netflix.
8.) release_year:- year on which TV show or Movie is released on Netflix.
9.) rating :-rating on TV show or Movie.
10.) duration:- how longest is TV show or Movie.
11.) listed_in:-type of TV show or Movie.
12) description:- short overview of TV show or Movie.

Problem Statement :-

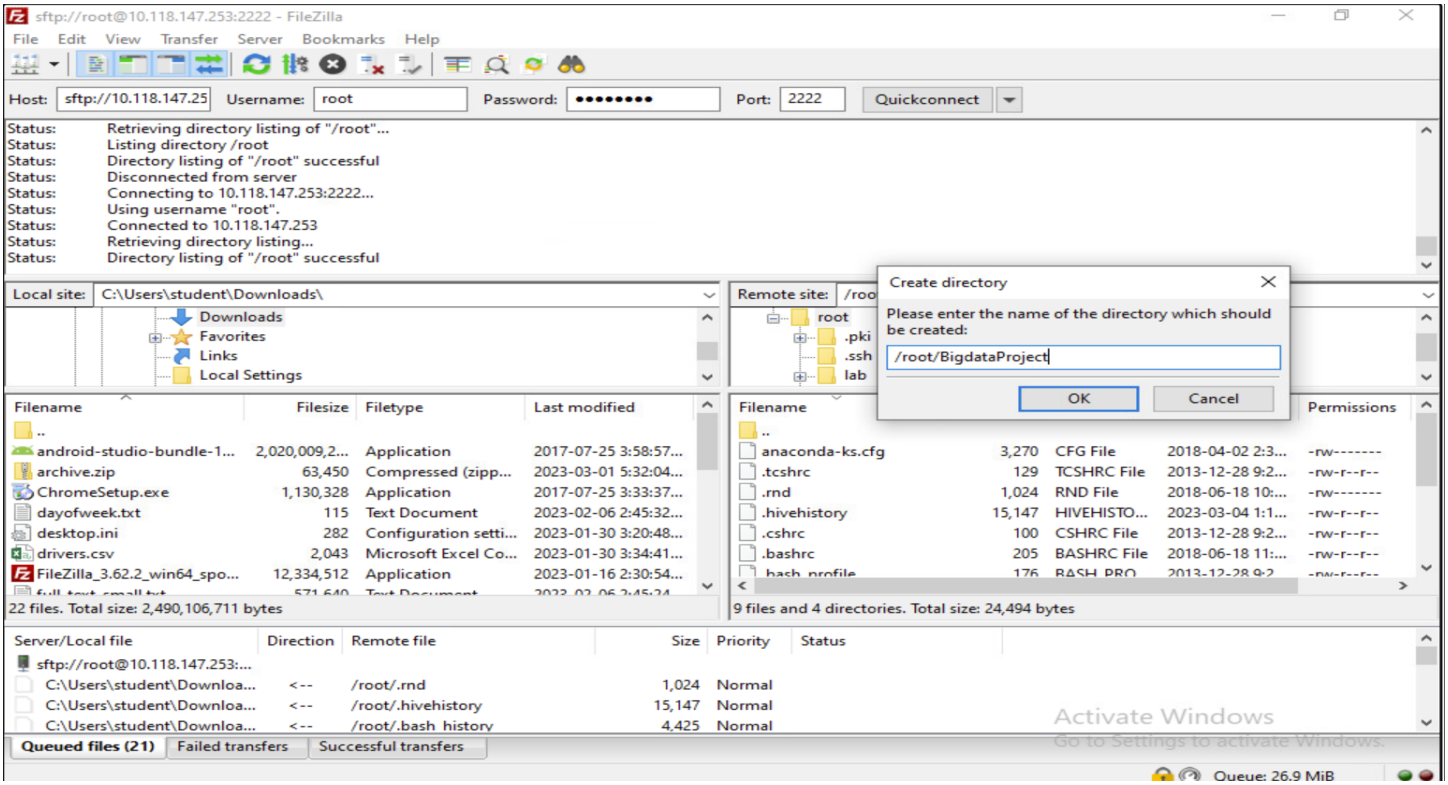
With so much content available on Netflix, users may find it challenging to discover new movies and shows that align with their interests. While Netflix has a vast database of content, the quality of the movies and shows may not be consistent across the platform. Netflix recommends content to users based on their viewing history. However, these recommendations may not always be accurate, leading to user dissatisfaction.

Some of Analysis we performed: -

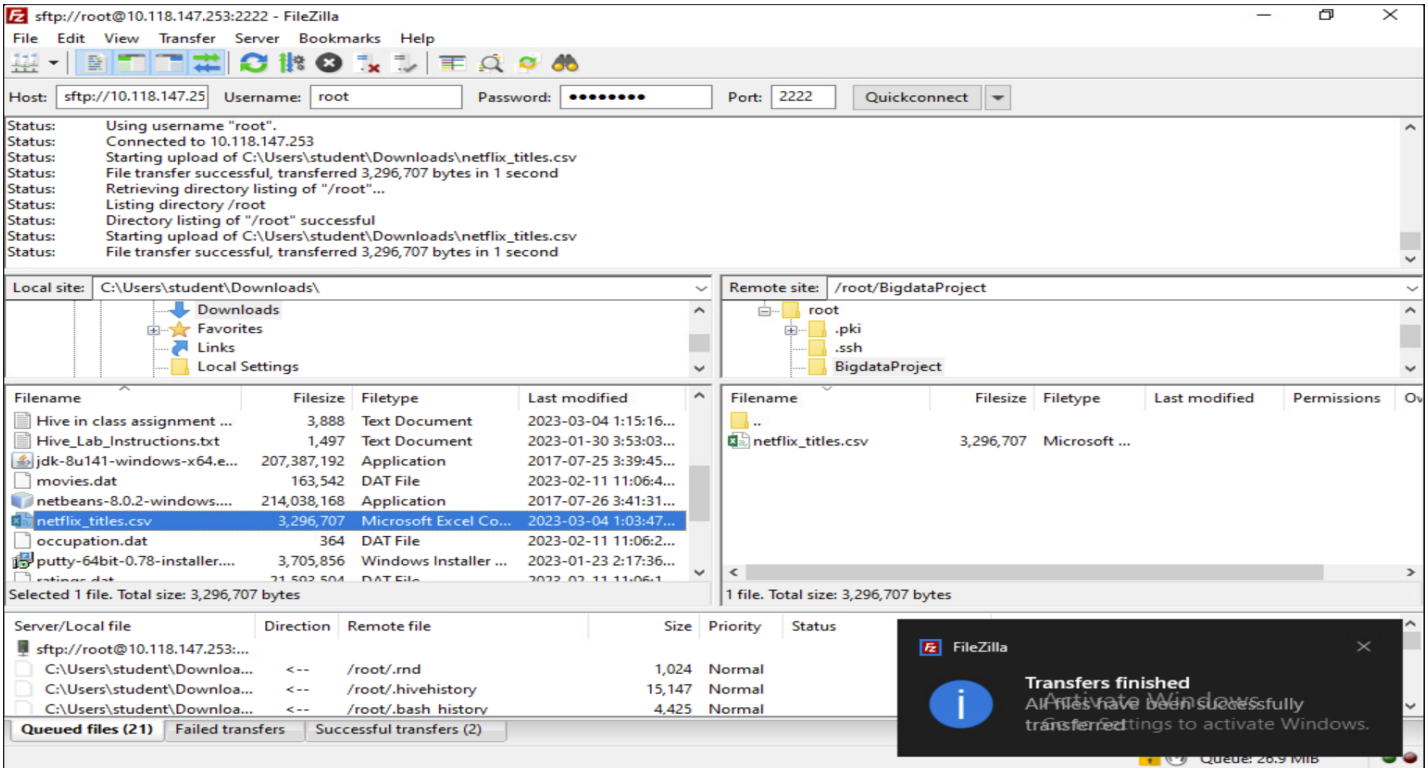
1.) To analysis which kind of show or movies is famous in Netflix dataset.
2.) To analysis which country is suitable for produce movies and TV shows.
3.) To analysis which actors have worked in more movies and TV shows.
4.) To analysis which rating movies or TV shows are more watched by audience.

And many more....

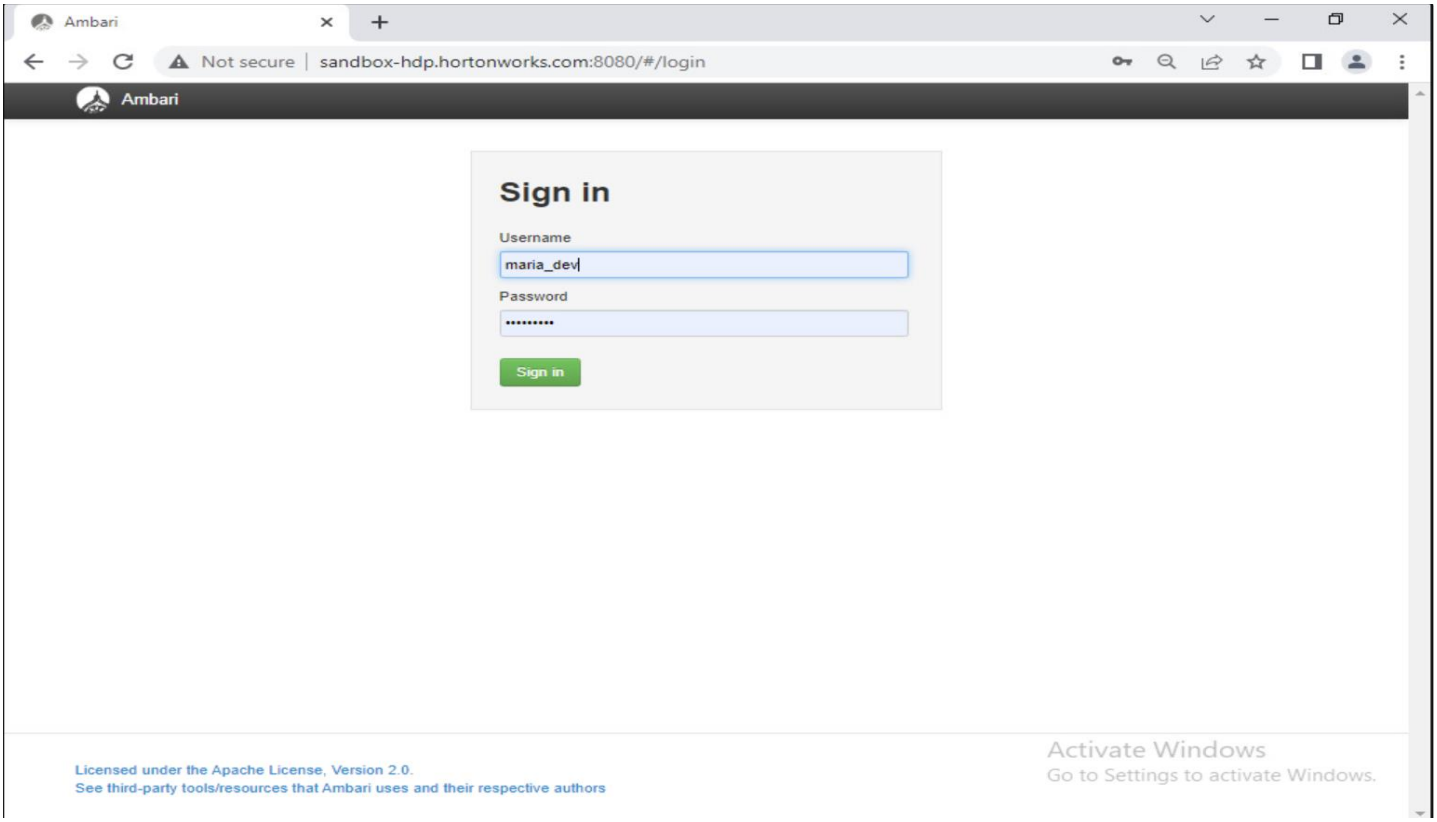
Step -1 – Login into FileZilla using the VMWare SSH and create a remote directory inside /root folder and named it BigdataProject.



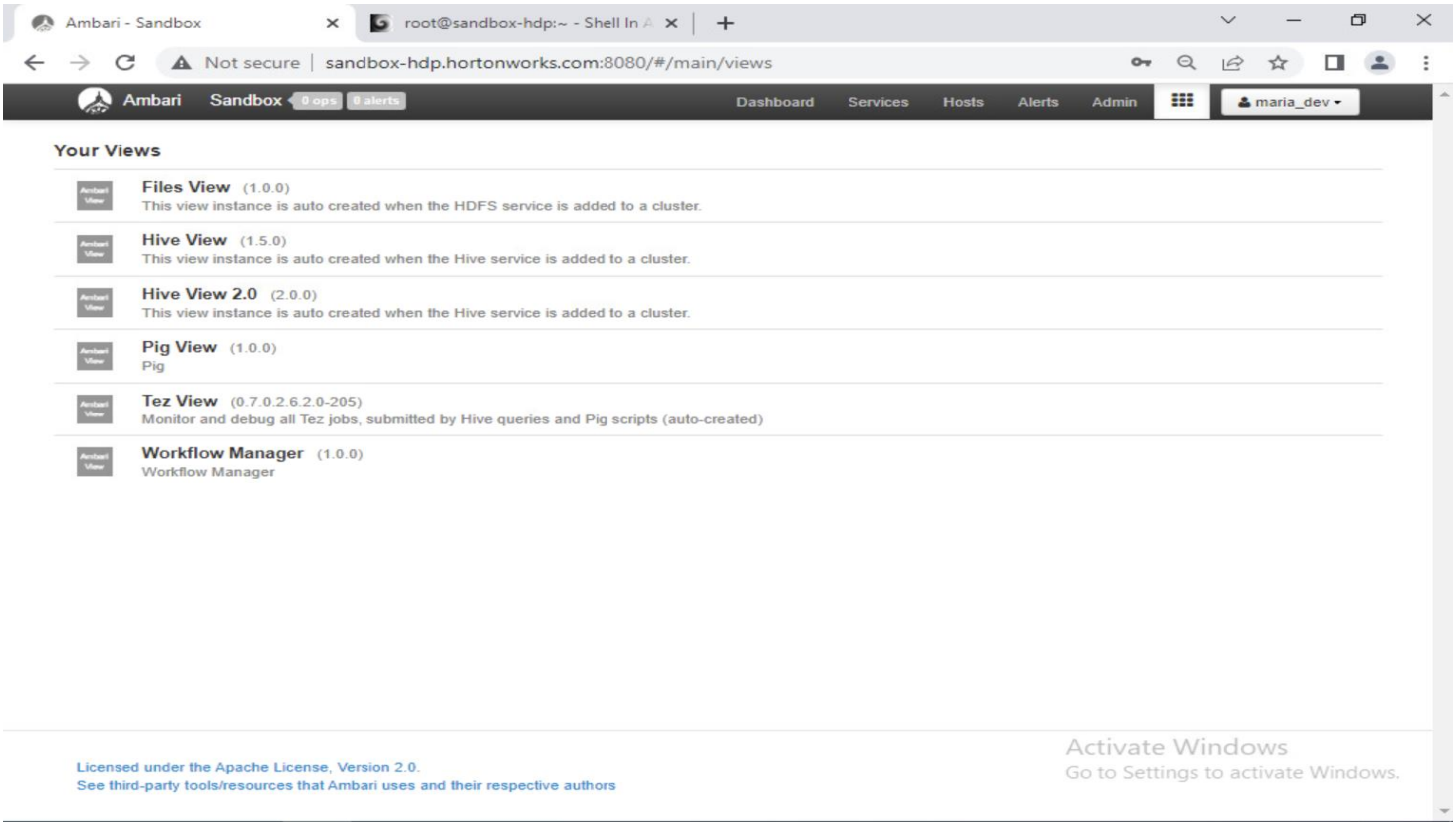
Step-2 -Now upload the dataset into remote directory(BigdataProject) just drag & drop from the downloads section folder seen on left-side(local site).



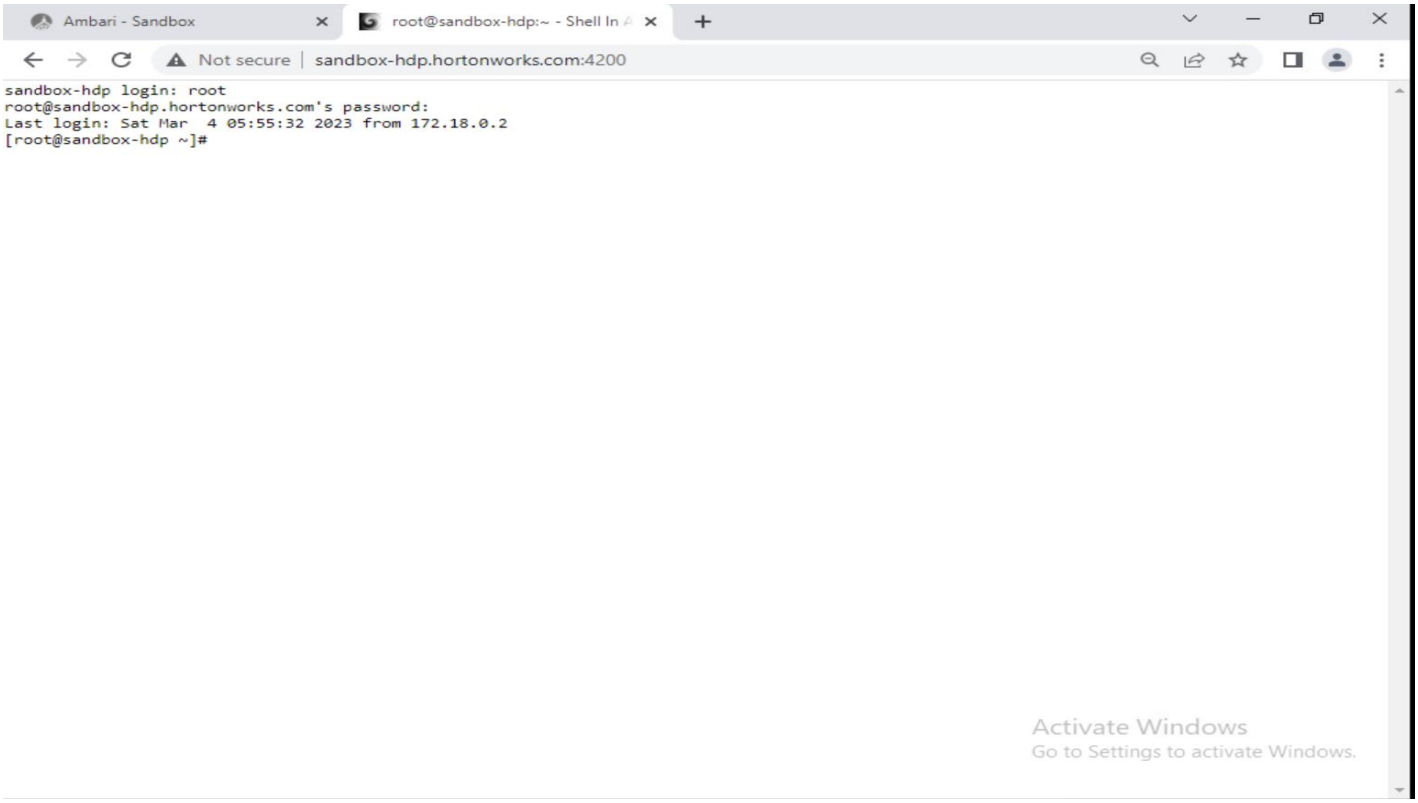
Step-3 – Now, Login into Ambari server using the Login credentials or other option is to use putty. Here, I am going to use Ambari server.



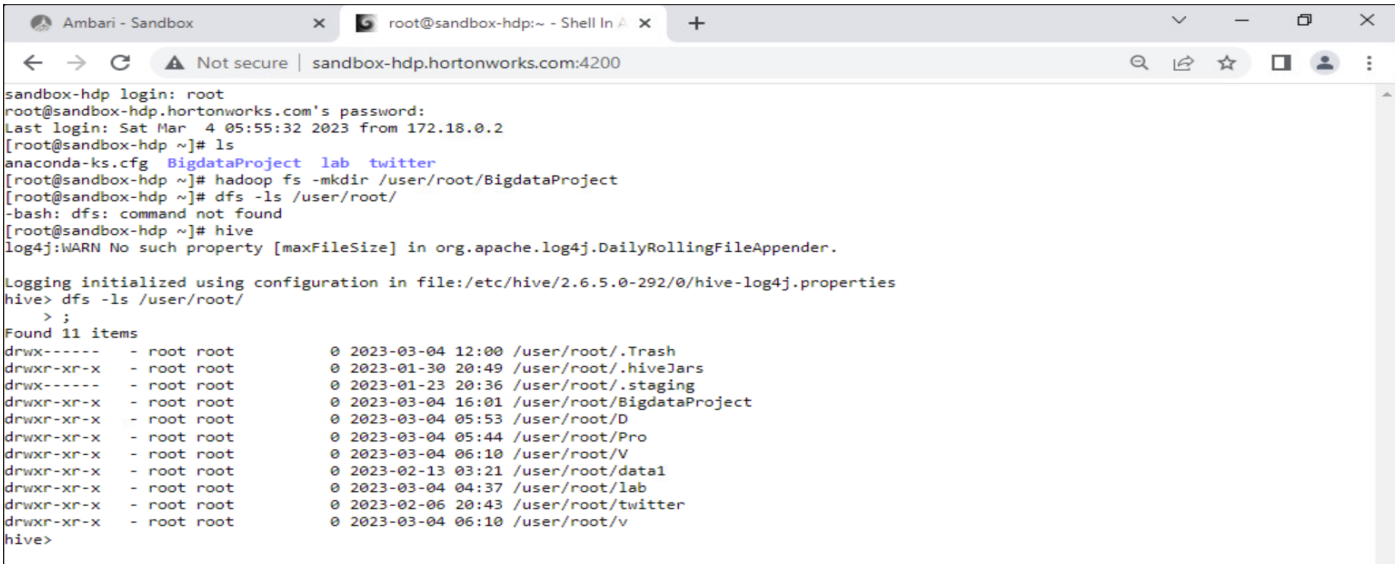
The Image shown Below is Ambari Dashboard.



Step-4- Now connect with HDP sandbox using the link http://sandbox-hdp.hortonworks.com:4200 and enter Login Credentials.



Step -5 – Now we will create a new directory in HDFS using the Hadoop Commands.



hadoop fs -mkdir /user/root/BigdataProject is used to create new directory in HDFS and then after to check it we can start hive and type **dfs -ls /user/root/** to see whether directory is created or not.(as this command list the directory inside the path.)

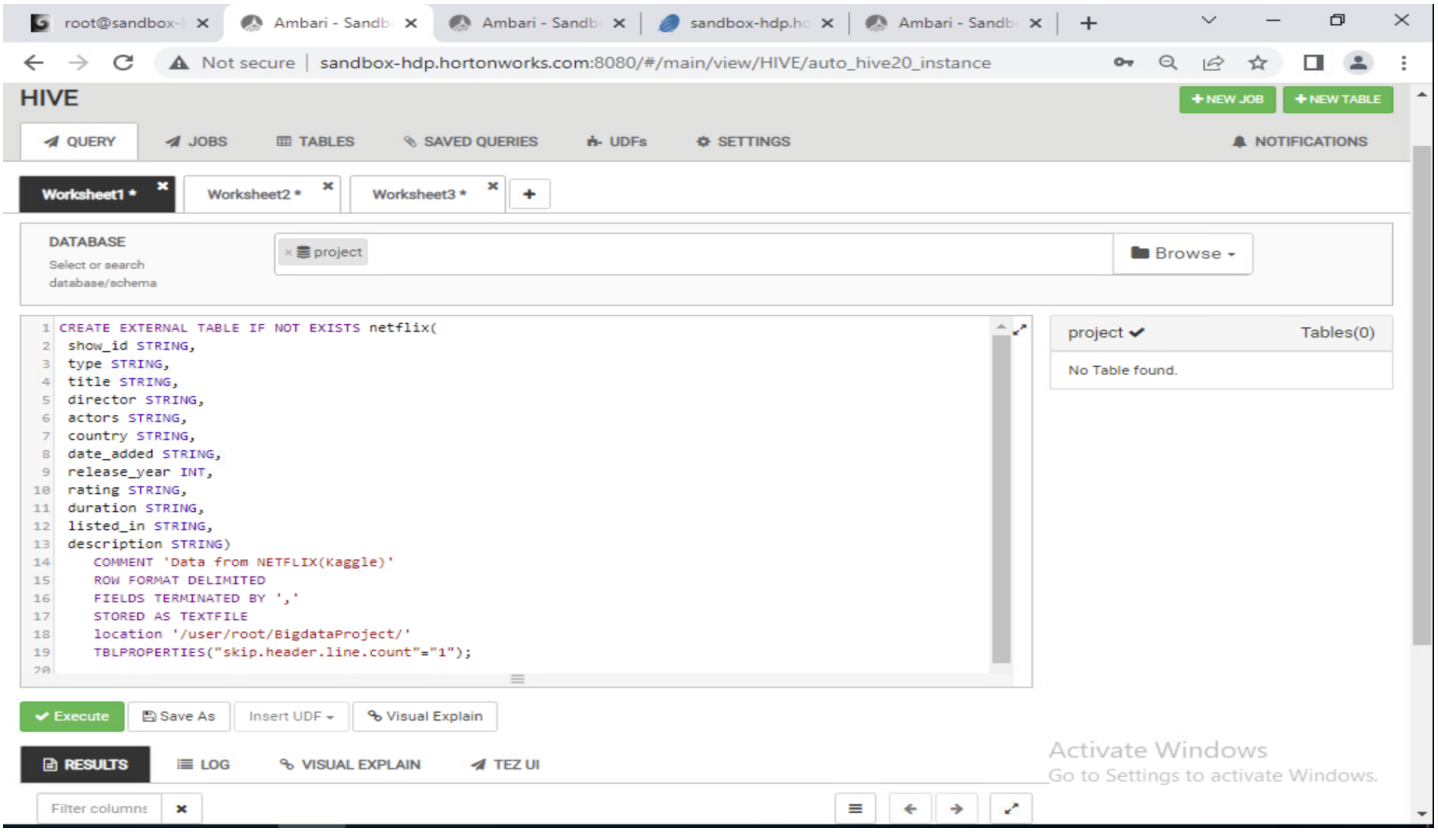
Step – 6- Now, we exit the hive using CTRL + C because I need to copy my dataset files to directory using the Hadoop command.Also,I went inside my directory where the dataset file i.e., netflix_titles.csv was there.

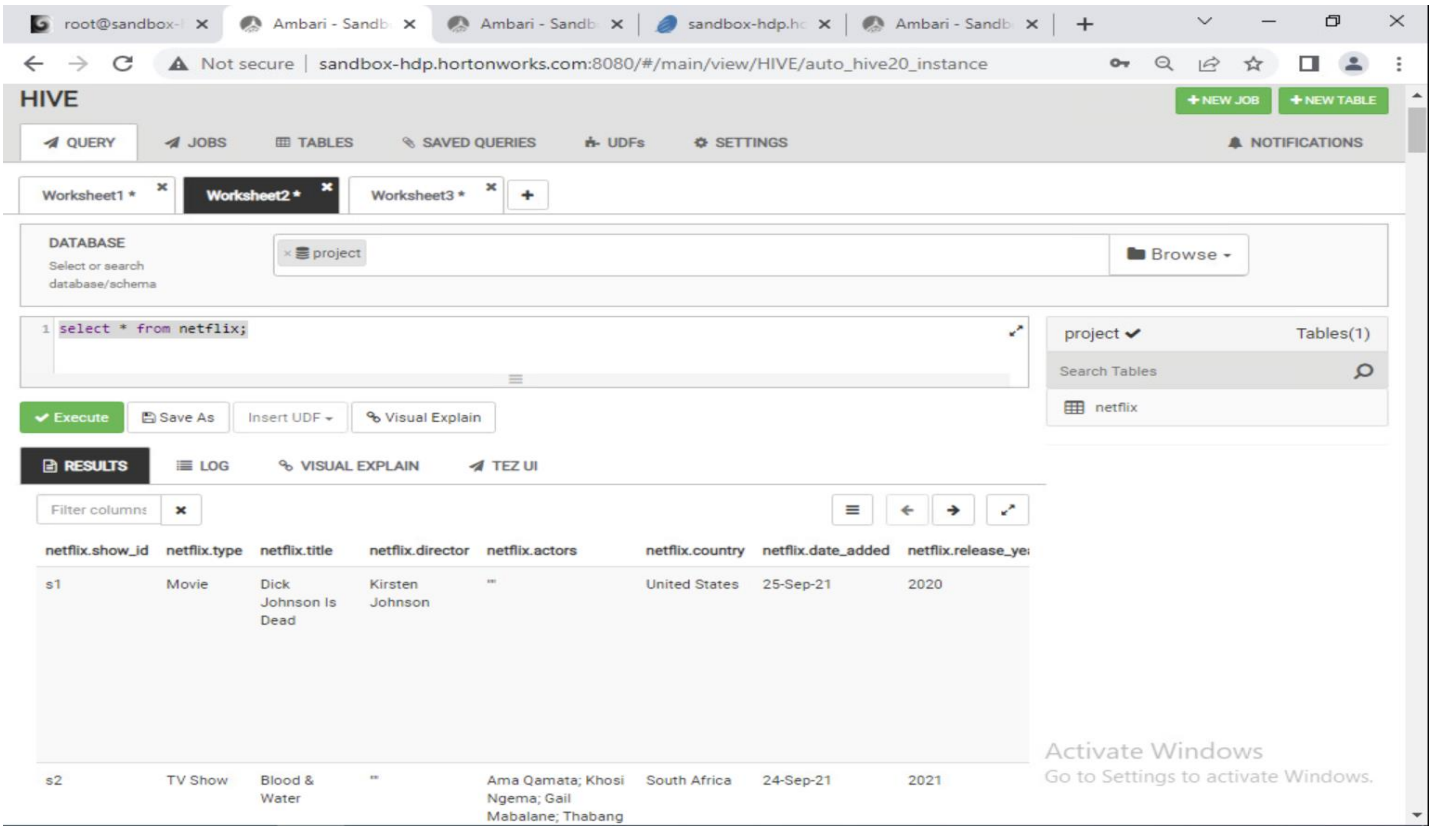
```
Ambari - Sandbox    root@sandbox-hdp:~/BigdataPr
Not secure | sandbox-hdp.hortonworks.com:4200
sandbox-hdp login: root
root@sandbox-hdp.hortonworks.com's password:
Last login: Sat Mar  4 05:55:32 2023 from 172.18.0.2
[root@sandbox-hdp ~]# ls
anaconda-ks.cfg  BigdataProject  lab  twitter
[root@sandbox-hdp ~]# hadoop fs -mkdir /user/root/BigdataProject
[root@sandbox-hdp ~]# dfs -ls /user/root/
-bash: dfs: command not found
[root@sandbox-hdp ~]# hive
log4j:WARN No such property [maxFileSize] in org.apache.log4j.DailyRollingFileAppender.

Logging initialized using configuration in file:/etc/hive/2.6.5.0-292/0/hive-log4j.properties
hive> dfs -ls /user/root/
    > ;
Found 11 items
drwx------   - root root          0 2023-03-04 12:00 /user/root/.Trash
drwxr-xr-x   - root root          0 2023-01-30 20:49 /user/root/.hiveJars
drwx------   - root root          0 2023-01-23 20:36 /user/root/.staging
drwxr-xr-x   - root root          0 2023-03-04 16:01 /user/root/BigdataProject
drwxr-xr-x   - root root          0 2023-03-04 05:53 /user/root/D
drwxr-xr-x   - root root          0 2023-03-04 05:44 /user/root/Pro
drwxr-xr-x   - root root          0 2023-03-04 06:10 /user/root/V
drwxr-xr-x   - root root          0 2023-02-13 03:21 /user/root/data1
drwxr-xr-x   - root root          0 2023-03-04 04:37 /user/root/lab
drwxr-xr-x   - root root          0 2023-02-06 20:43 /user/root/twitter
drwxr-xr-x   - root root          0 2023-03-04 06:10 /user/root/v
hive> [root@sandbox-hdp ~]# cd BigdataProject
[root@sandbox-hdp BigdataProject]# ls
netflix_titles.csv
[root@sandbox-hdp BigdataProject]# hadoop fs -put netflix_titles.csv  /user/root/BigdataProject
[root@sandbox-hdp BigdataProject]#
```

Step-7- Now, almost we are done with hdfs now it's time to start hive again and create new database for my project.

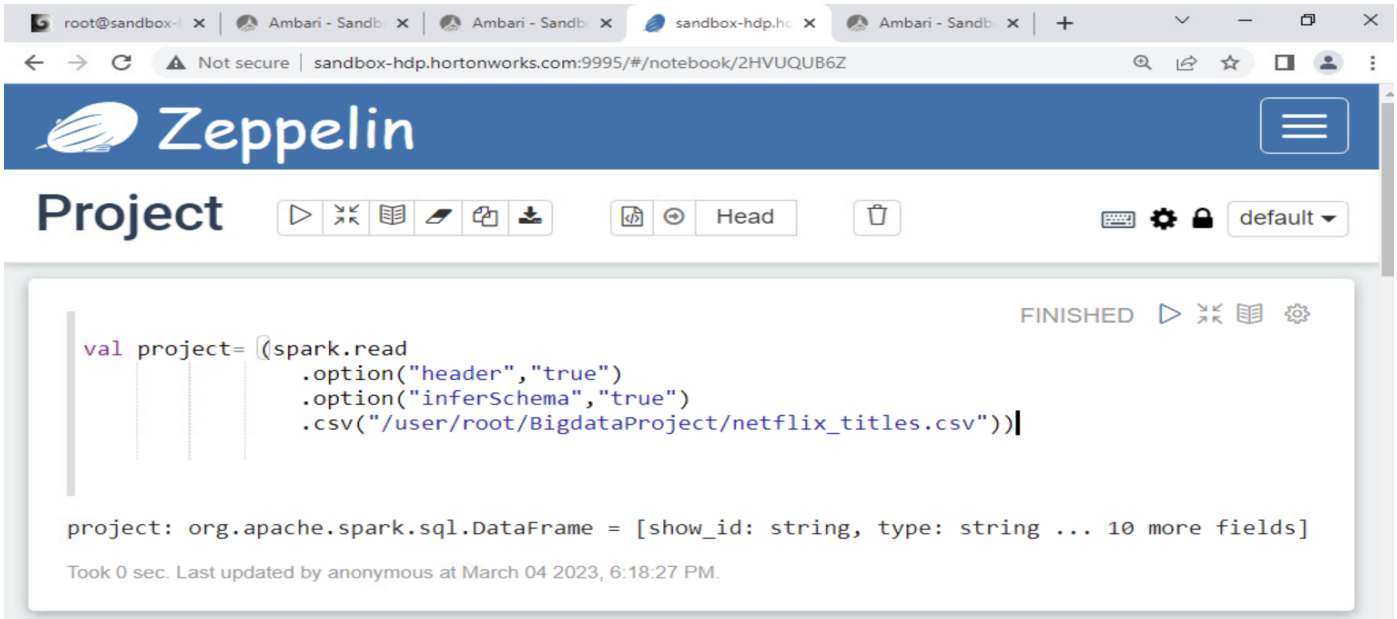
```
Ambari - Sandbox    root@sandbox-hdp:~/BigdataPr
Not secure | sandbox-hdp.hortonworks.com:4200
Press Esc to exit full screen
sandbox-hdp login: root
root@sandbox-hdp.hortonworks.com's password:
Last login: Sat Mar  4 05:55:32 2023 from 172.18.0.2
[root@sandbox-hdp ~]# ls
anaconda-ks.cfg  BigdataProject  lab  twitter
[root@sandbox-hdp ~]# hadoop fs -mkdir /user/root/BigdataProject
[root@sandbox-hdp ~]# dfs -ls /user/root/
-bash: dfs: command not found
[root@sandbox-hdp ~]# hive
log4j:WARN No such property [maxFileSize] in org.apache.log4j.DailyRollingFileAppender.

Logging initialized using configuration in file:/etc/hive/2.6.5.0-292/0/hive-log4j.properties
hive> dfs -ls /user/root/
    > ;
Found 11 items
drwx------   - root root          0 2023-03-04 12:00 /user/root/.Trash
drwxr-xr-x   - root root          0 2023-01-30 20:49 /user/root/.hiveJars
drwx------   - root root          0 2023-01-23 20:36 /user/root/.staging
drwxr-xr-x   - root root          0 2023-03-04 16:01 /user/root/BigdataProject
drwxr-xr-x   - root root          0 2023-03-04 05:53 /user/root/D
drwxr-xr-x   - root root          0 2023-03-04 05:44 /user/root/Pro
drwxr-xr-x   - root root          0 2023-03-04 06:10 /user/root/V
drwxr-xr-x   - root root          0 2023-02-13 03:21 /user/root/data1
drwxr-xr-x   - root root          0 2023-03-04 04:37 /user/root/lab
drwxr-xr-x   - root root          0 2023-02-06 20:43 /user/root/twitter
drwxr-xr-x   - root root          0 2023-03-04 06:10 /user/root/v
hive> [root@sandbox-hdp ~]# cd BigdataProject
[root@sandbox-hdp BigdataProject]# ls
netflix_titles.csv
[root@sandbox-hdp BigdataProject]# hadoop fs -put netflix_titles.csv  /user/root/BigdataProject
[root@sandbox-hdp BigdataProject]# hive
log4j:WARN No such property [maxFileSize] in org.apache.log4j.DailyRollingFileAppender.

Logging initialized using configuration in file:/etc/hive/2.6.5.0-292/0/hive-log4j.properties
hive> create database Project;
OK
Time taken: 2.234 seconds
hive> use Project;
OK
Time taken: 0.227 seconds
hive>
Activate Windows
Go to Settings to activate Windows.
```

Step-8 – Creating Empty External Tables to store my dataset information into tables and loading the data into tables(it's GUI view for Hive).

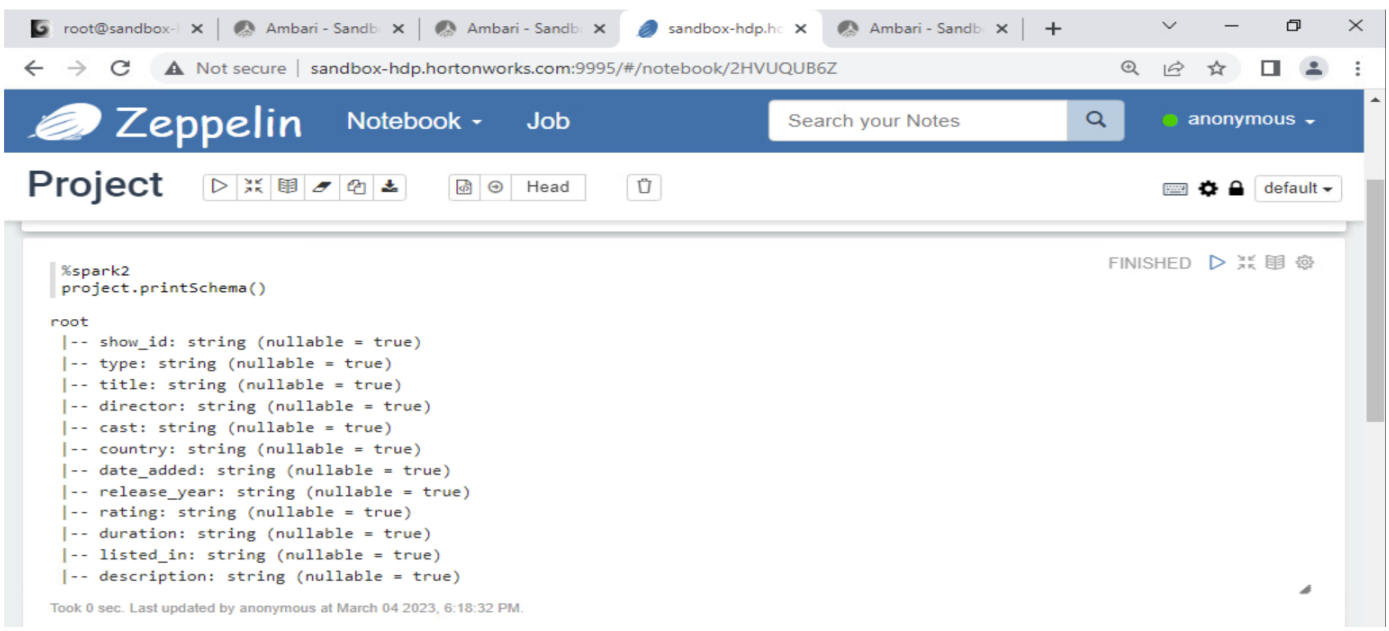




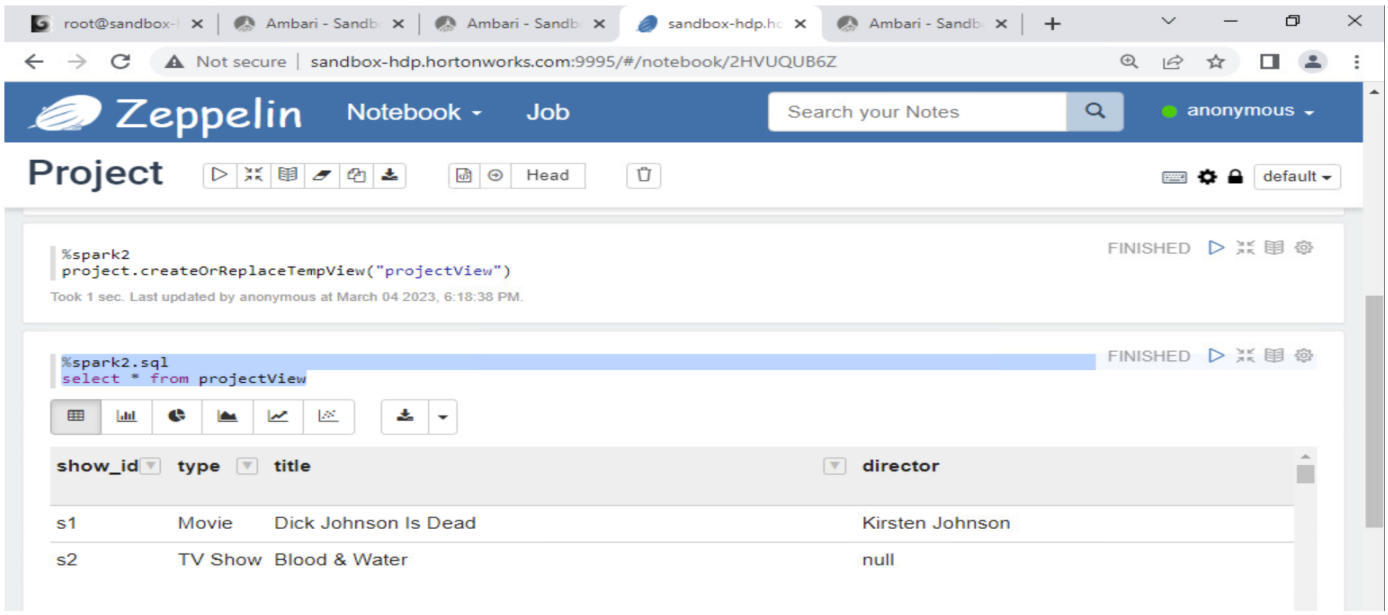
Step-9 – Using the Zeppelin we are analyzing the dataset. Create a project DataFrame from CSV file.



Step-10 – Printing the schema in a tree format.



Step-11 - we will now create a temporary view for access by SQL commands and display the data from view.



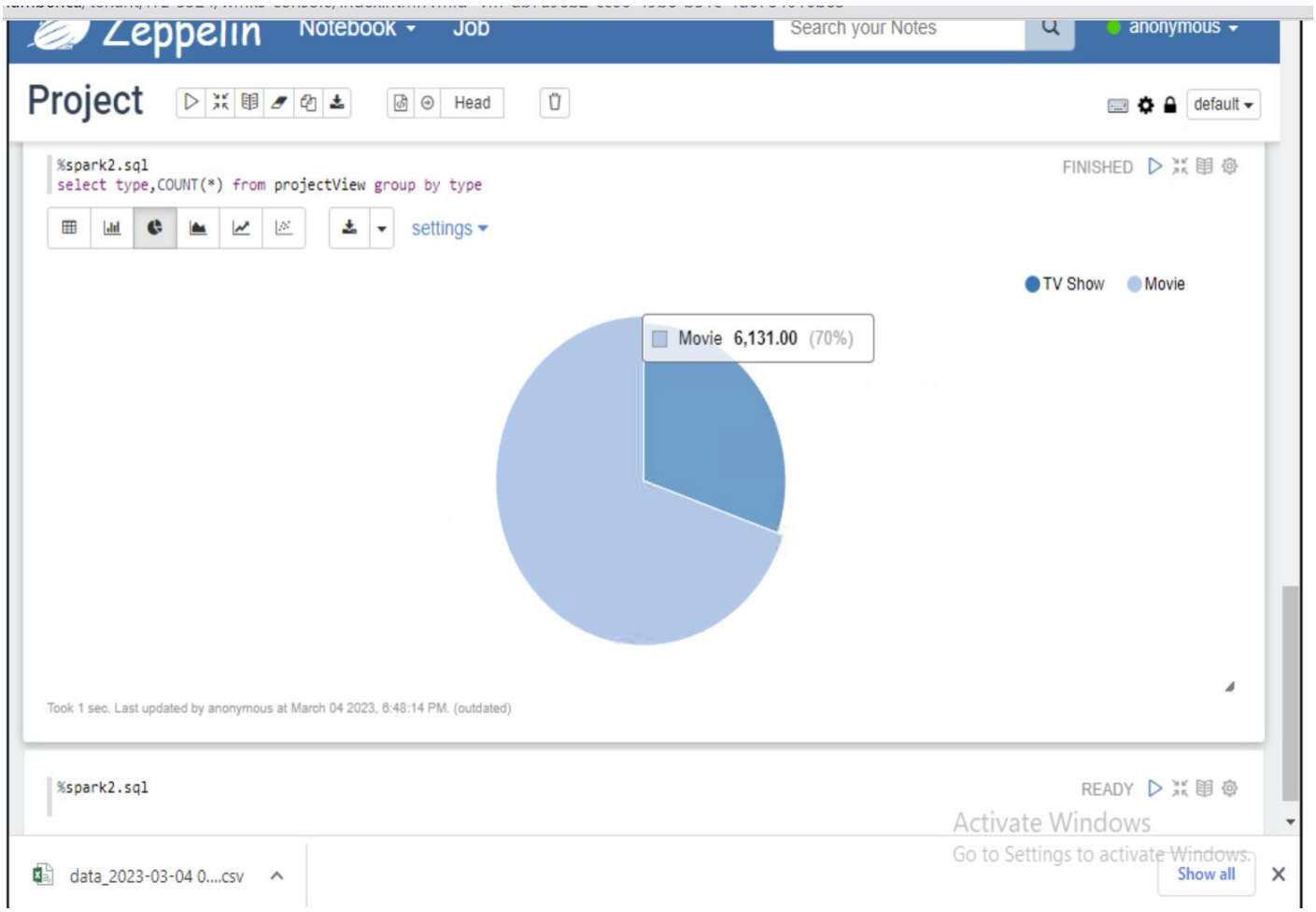
Step- 12 – Performing Various Analysis

1.) Based on rating, we can know which type of movies or TV shows are most popular.

Query: -
%spark2.sql
select rating,count(*) from projectView group by rating order by count(*) desc

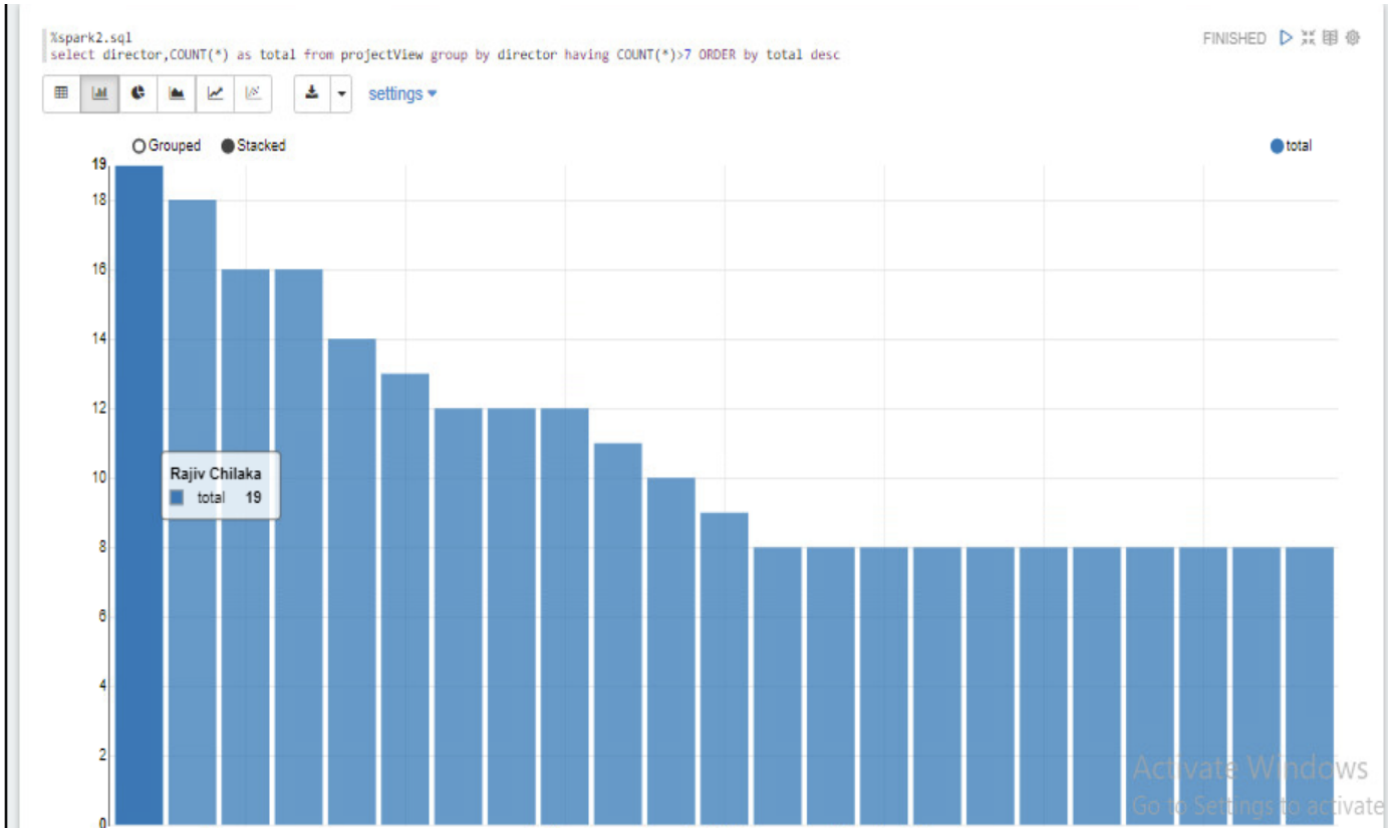
2.) Here we have analysis what interests more movies or TV shows.

Query:-
%spark2.sql
select type,COUNT(*) from projectView group by type



3.)Here we have analysis which actor have work more in movies and TV shows both(must have atleast worked in more than 7 movies result).

Query:-
%spark2.sql
select director,COUNT(*) as total from projectView group by director having COUNT(*)>7 ORDER by total desc



4.)Here,we have analyzed what kind of movies or TV shows are most popular(MAXIMUM 10 list).

Query:-
%spark2.sql
select listed_in,count(*) as total from projectView group by listed_in order by total desc limit 10