

Snowflakes Roles and Permissions Assignment

1. I have created two roles called Mentor and Mentees using security admin and created 5 users using Useradmin and assigned the roles to the sysadmin like I have assigned the mentor to the sysadmin and mentees to the mentor and the sysadmin is the parent of mentor and mentor is the parent of mentees.

Query:-

```
use role Securityadmin;  
  
create role Mentor;  
  
create role Mentees;  
  
grant role mentor to role sysadmin;  
  
grant role mentees to role mentor;  
  
use role Useradmin;  
  
create user manojisir;  
  
create user nelantiveda;  
  
create user nehareddy;  
  
create user vishnuvardhan;  
  
create user sainath;
```

The screenshot displays the Snowflake SQL Editor interface. The top navigation bar includes tabs for Worksheets, [Tutorial] Sample queries o..., Trainer and Trainee role cr..., roles and permissions, Tables, views file format, and rough sheet. The left sidebar shows the Databases and Worksheets sections, with a search bar and a list of objects including SNOWFLAKE and SNOWFLAKE_SAMPLE_DATA. The main editor area contains the SQL query from the previous block. The bottom section shows the Results tab with a table containing one row: 'User SAINATH successfully created.' The right sidebar displays Query Details, including the query duration (41ms), the number of rows (1), and the query ID (01b03b2a-3200-ee06-...).

status
1 User SAINATH successfully created.

Query Details

Query duration 41ms

Rows 1

Query ID 01b03b2a-3200-ee06-...

2. Now I have assigned the 5 users to the respected mentor and mentees using security admin

Query :-

```
use role securityadmin;  
grant role mentor to user manojisir;  
grant role mentees to user nelantiveda;  
grant role mentees to user nehareddy;  
grant role mentees to user vishnuvardhan;  
grant role mentees to user sainath;
```

The screenshot shows the Snowflake SQL Editor interface. The left sidebar displays the 'Databases' tab with a list of objects including SNOWFLAKE, SNOWFLAKE_SAMPLE_DATA, TEST1_DB, TEST2_DB, and TEST_DB. The main editor area contains a SQL query with 26 lines. The query starts with 'use role securityadmin;' and then grants the 'mentor' role to 'user manojisir' and the 'mentees' role to 'user nelantiveda', 'user nehareddy', 'user vishnuvardhan', and 'user sainath'. The query is highlighted in blue. Below the editor, the 'Results' tab shows a single row with the status 'Statement executed successfully.' The right sidebar displays 'Query Details' including 'Query duration: 44ms', 'Rows: 1', and 'Query ID: 01b03b36-3200-ee0a-...'.

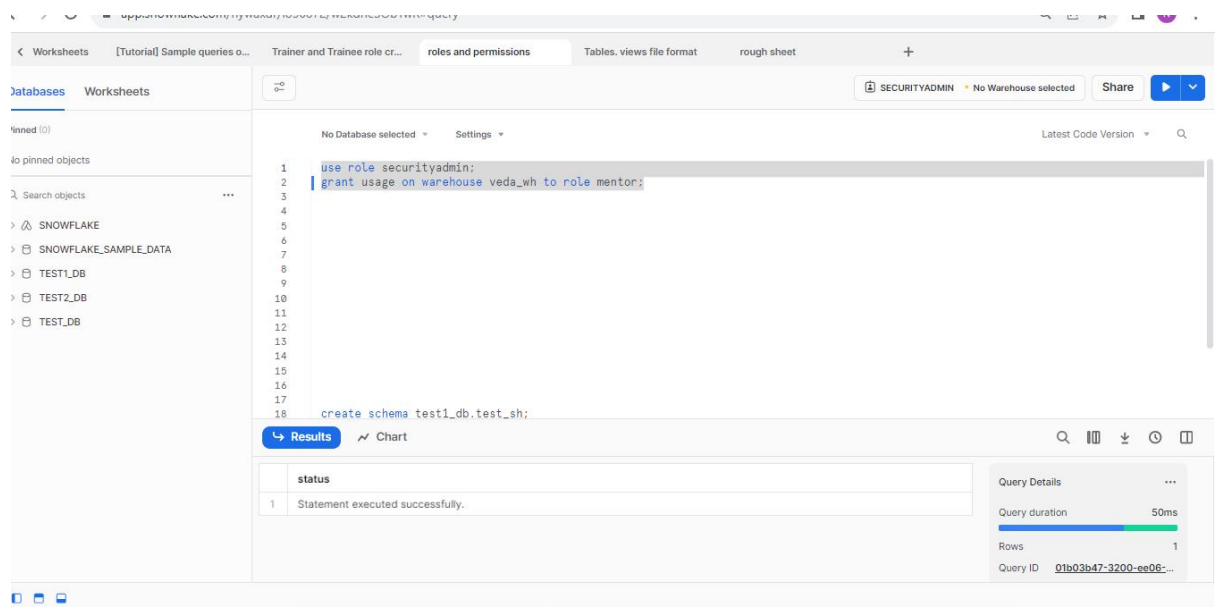
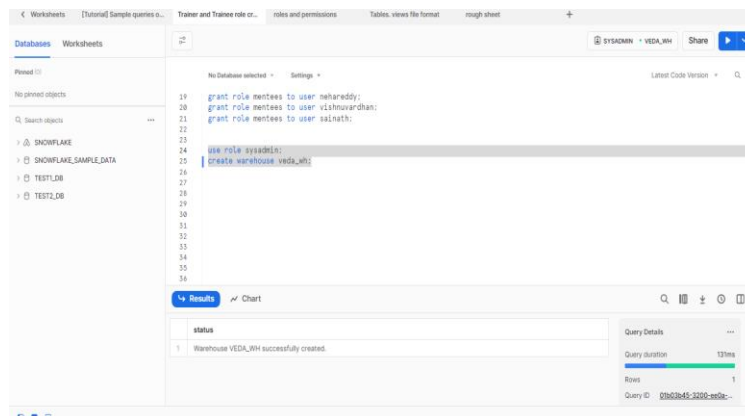
The screenshot shows the Snowflake 'Users & Roles' management interface. The left sidebar contains a navigation menu with options like Worksheets, Dashboards, Streamlit, Apps, Data, Marketplace, Activity, Admin, Usage, Warehouses, Resource Monitors, Users & Roles (selected), Security, Billing & Terms, Contacts, and Accounts. The main area is titled 'Users Roles' and has a 'Graph' tab selected. It displays a hierarchical diagram of roles and users. The 'Focused Role' is 'MENTOR', which is shown as a box containing 'ACCOUNTADMIN' (1 user) and 'SYSADMIN' (0 users). Below 'MENTOR' is a box for 'MENTOR' (1 user) with a dropdown menu. At the bottom is a box for 'MENTEES' (4 users). The right sidebar shows 'Details' for the 'MENTOR' role, including '24 minutes ago', 'A SECURITYADMIN', and 'Granted roles: 1', 'Granted to roles: 1', and 'Granted to users: 1'.

3. Now I am creating a warehouse, as warehouse is a snowflake object so for creating snowflake objects, we mainly use sysadmin and granting the usage privilege of warehouse for mentor using security admin.

Query :-

use role sysadmin;

create warehouse veda_wh;



4. Now I am creating a Database I used sysadmin and granting the usage privilege of database for mentor using security admin.

Query :-

use role sysadmin;

create warehouse veda_wh;

create database veda_db;

The screenshot shows the Snowflake SQL Editor interface. The top navigation bar includes tabs for Worksheets, [Tutorial] Sample queries o..., Trainer and Trainee role cr..., roles and permissions, Tables, views file format, and rough sheet. The left sidebar shows the Databases tab with a list of pinned objects: SNOWFLAKE, SNOWFLAKE_SAMPLE_DATA, TEST1_DB, and TEST2_DB. The main editor area displays the following SQL code:

```
1 create user mentor_role;  
2 create user vishnuvardhan;  
3 create user sainath;  
4  
5 use role securityadmin;  
6 grant role mentor to user manojin;  
7 grant role mentees to user nelantiveda;  
8 grant role mentees to user nehareddy;  
9 grant role mentees to user vishnuvardhan;  
10 grant role mentees to user sainath;  
11  
12 use role sysadmin;  
13 create warehouse veda_wh;  
14 create database veda_db;
```

The bottom section shows the Results tab with a single row indicating "Database VEDA_DB successfully created." The Query Details panel on the right shows a query duration of 101ms and 1 row.

Granted the usage privilege of database to mentor and mentees

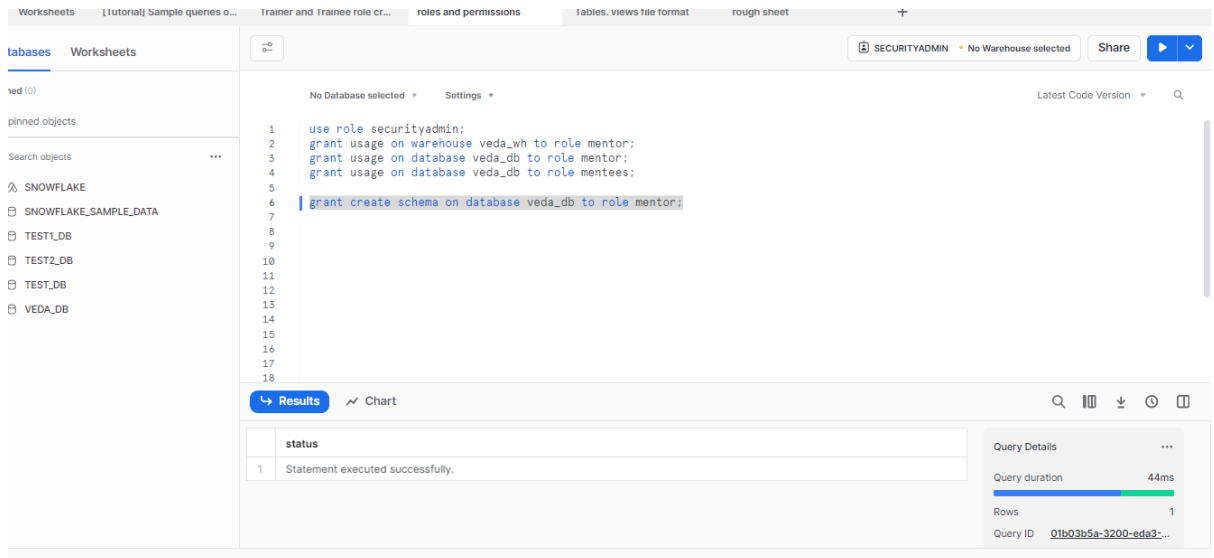
The screenshot shows the Snowflake SQL Editor interface. The top navigation bar includes tabs for Worksheets, [Tutorial] Sample queries o..., Trainer and Trainee role cr..., roles and permissions, Tables, views file format, and rough sheet. The left sidebar shows the Databases tab with a list of pinned objects: SNOWFLAKE, SNOWFLAKE_SAMPLE_DATA, TEST1_DB, and TEST2_DB. The main editor area displays the following SQL code:

```
1 use role securityadmin;  
2 grant usage on warehouse veda_wh to role mentor;  
3 grant usage on database veda_db to role mentor;  
4 grant usage on database veda_db to role mentees;  
5  
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18 create schema test1_db.test_sh;
```

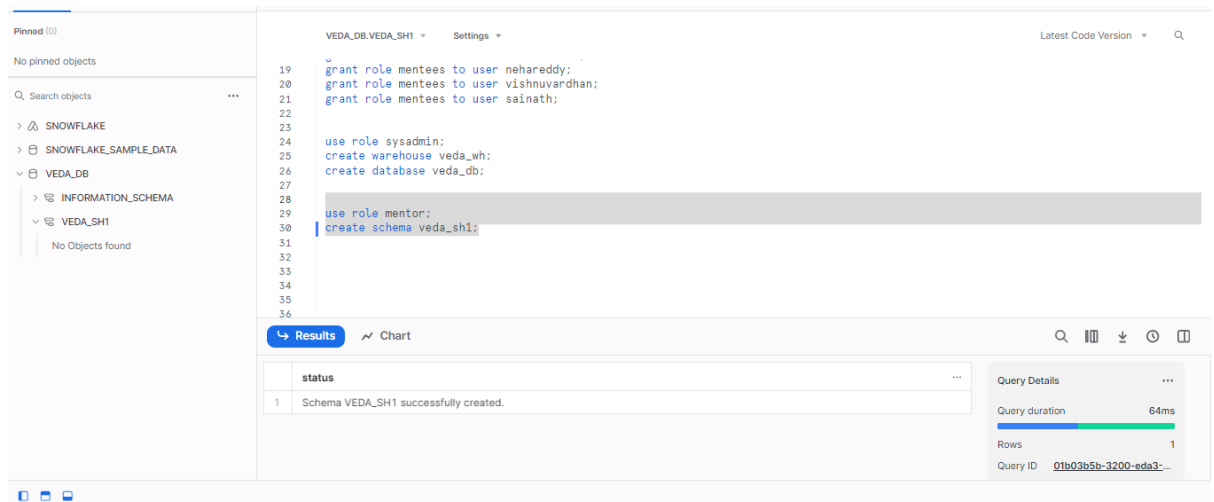
The bottom section shows the Results tab with a single row indicating "Statement executed successfully." The Query Details panel on the right shows a query duration of 62ms and 1 row.

- Now I am creating a schema using sysadmin as sysadmin has the privilege to create schema there is no need to grant him the create schema privilege but mentor doesn't have a permission to create schema and usage of schema so now I am giving a create schema privilege to the role mentor and I am creating the schema in database veda_db.

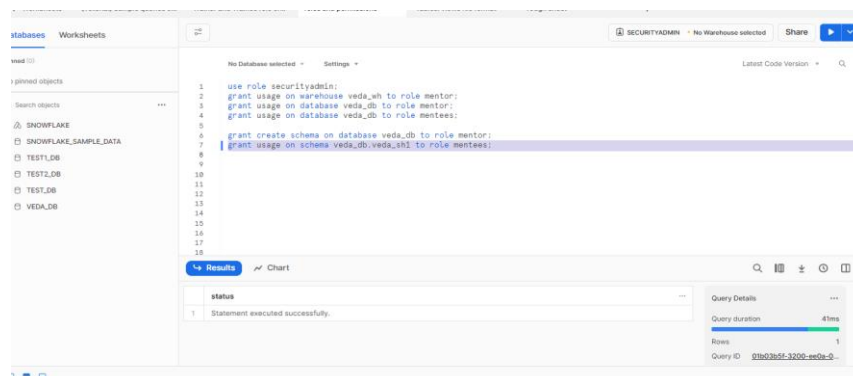
Query :-



Now I have created a schema using mentor



Now I have created the schema using mentor so mentor is the owner of it so I am granting a schema usage privilege to mentees too.



6. Now I am creating a permanent table under mentees role for that mentees needs to have create table privilege and as mentor is the owner, he needs to give permission in order to create the snowflake object table

The screenshot shows the Snowflake SQL Editor interface. On the left, the 'Databases' tab is active, showing a tree view of the database structure: SNOWFLAKE, SNOWFLAKE_SAMPLE_DATA, VEDA_DB, INFORMATION_SCHEMA, VEDA_SH1, and PERMANENT_TABLE. The main editor area shows a SQL script with the following content:

```
24 use role sysadmin;
25 create warehouse veda_wh;
26 create database veda_db;
27
28
29 use role mentor;
30 create schema veda_sh1;
31
32 // creation of tables
33 use role mentees;
34 create table veda_db.veda_sh1.Permanent_Table(name varchar(200), marks int);
35
36
37
38
39
40
41
```

The 'Results' tab shows a single row with the status: 'Table PERMANENT_TABLE successfully created.' The 'Query Details' panel on the right shows a query duration of 135ms, 1 row, and a query ID of 01b03b6a-3200-ee08-...

Granted the privilege

The screenshot shows the Snowflake SQL Editor interface with the 'roles and permissions' tab selected. The main editor area shows a SQL script with the following content:

```
1 // warehouse, database
2 use role securityadmin;
3 grant usage on warehouse veda_wh to role mentor;
4 grant usage on database veda_db to role mentor;
5 grant usage on database veda_db to role mentees;
6
7 // schema
8 grant create schema on database veda_db to role mentor;
9 grant usage on schema veda_db.veda_sh1 to role mentees;
10
11 // tables
12 grant create table on schema veda_db.veda_sh1 to role mentees;
13
14
15
16
17
18
```

The 'Results' tab shows a single row with the status: 'Statement executed successfully.' The 'Query Details' panel on the right shows a query duration of 46ms, 1 row, and a query ID of 01b03b69-3200-eda3-...

I have created a temporary, transient and permanent table using mentees role

Query :-

use role mentees;

create table veda_db.veda_sh1.Permanent_Table(name varchar(200), marks int);

create temporary table veda_db.veda_sh1.temporary_table (id int , score float);

create transient table veda_db.veda_sh1.transient_table (course_name varchar(250),
faculty_name varchar(200));

The screenshot shows a SQL IDE interface. On the left, a sidebar displays a database tree with 'VEDA_DB' and 'VEDA_SH1' schemas. The main editor shows a SQL script with the following content:

```
28  
29 use role mentor;  
30 create schema veda_sh1;  
31  
32 // creation of tables  
33 use role mentees;  
34 create table veda_db.veda_sh1.Permanent_Table(name varchar(200), marks int);  
35 create temporary table veda_db.veda_sh1.transient_table (id int , score float);  
36 create transient table veda_db.veda_sh1.transient_table (course_name varchar(250), faculty_name varchar(200));  
37  
38  
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```

Below the editor, the 'Results' tab shows a single row with the status 'Table TRANSIENT_TABLE successfully created.' The 'Query Details' panel on the right indicates a query duration of 211ms and 1 row returned.

7. for views I have granted a create view privilege to mentees using role mentor.

Query :-

use role mentor;

grant create view on schema veda_db.veda_sh1 to role mentees;

grant create materialized view on schema veda_db.veda_sh1 to role mentees;

The screenshot shows a SQL IDE interface. The main editor displays a SQL script with the following content:

```
19 // external table  
20 grant create external table on schema veda_db.veda_sh1 to role mentees;  
21  
22 // views  
23 use role mentor;  
24 grant create view on schema veda_db.veda_sh1 to role mentees;  
25 grant create materialized view on schema veda_db.veda_sh1 to role mentees;  
26  
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```

Below the editor, the 'Results' tab shows a single row with the status 'Statement executed successfully.' The 'Query Details' panel on the right indicates a query duration of 47ms and 1 row returned.

Now I am creating the normal and secure views using role mentees

Query :-

use role mentees;

create view veda_db.veda_sh1.Normal_View AS select name FROM
veda_db.veda_sh1.permanent_table;

create secure view veda_db.veda_sh1.Secure_View AS select marks FROM
veda_db.veda_sh1.permanent_table;

The screenshot displays the Snowflake web interface. On the left, the 'Databases' tab is active, showing a tree view of the database structure. The 'VEDA_DB' database is expanded, showing the 'VEDA_SH1' schema, which contains three tables: 'PERMANENT_TABLE', 'TEMPORARY_TABLE', and 'TRANSIENT_TABLE'. The main editor area shows the following SQL code:

```
//8
79
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85 //views
86 use role mentees;
87 create view veda_db.veda_sh1.Normal_View AS select name FROM veda_db.veda_sh1.permanent_table;
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```

The 'Results' tab is active, showing a single row with the status 'View SECURE_VIEW successfully created.' The 'Query Details' panel on the right shows the query duration as 127ms and 1 row returned. The query ID is 01b03bab-3200-se24-...

Now I am creating the materialized views

Query:-

use role mentees;

create materialized view veda_db.veda_sh1.Materialized_View AS select name FROM
veda_db.veda_sh1.permanent_table;

create secure MATERIALIZED view veda_db.veda_sh1.Materialized_Secure_View AS SELECT
marks FROM veda_db.veda_sh1.permanent_table;

VEDA_DB.VEDA_SH1 Settings Latest Code Version

```

82
83
84 //views
85 use role mentees;
86 create view veda_db.veda_sh1.Normal_View AS select name FROM veda_db.veda_sh1.permanent_table;
87 create secure view veda_db.veda_sh1.Secure_View AS select marks FROM veda_db.veda_sh1.permanent_table;
88
89 //materialized views
90 use role mentees;
91 create materialized view veda_db.veda_sh1.Materialized_View AS select name FROM veda_db.veda_sh1.permanent_table;
92 create secure MATERIALIZED view veda_db.veda_sh1.Materialized_Secure_View AS SELECT marks FROM veda_db.veda_sh1.permanent_table;
93
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```

Results Chart

status
1 Materialized view MATERIALIZED_VIEW successfully created.

Query Details

Query duration 465ms

Rows 1

Query ID 01b03baf-3200-ee06-0...

For secure views is secure column has true and for normal views it has false :-

VEDA_DB.VEDA_SH1 Settings Latest Code Version

```

82
83
84 //views
85 use role mentees;
86 create view veda_db.veda_sh1.Normal_View AS select name FROM veda_db.veda_sh1.permanent_table;
87 create secure view veda_db.veda_sh1.Secure_View AS select marks FROM veda_db.veda_sh1.permanent_table;
88
89 //materialized views
90 use role mentees;
91 create materialized view veda_db.veda_sh1.Materialized_View AS select name FROM veda_db.veda_sh1.permanent_table;
92 create secure MATERIALIZED view veda_db.veda_sh1.Materialized_Secure_View AS SELECT marks FROM veda_db.veda_sh1.permanent_table;
93
94 show views;
95

```

Results Chart

	comment	text	is_secure	is_material
1	S	create secure MATERIALIZED view veda_db.veda_sh1.Materialized_Secure_View AS	true	true
2	S	create materialized view veda_db.veda_sh1.Materialized_View AS select name FROM	false	true
3	S	create view veda_db.veda_sh1.Normal_View AS select name FROM veda_db.veda_s	false	false
4	S	create secure view veda_db.veda_sh1.Secure_View AS select marks FROM veda_db	true	false

text

create secure view veda_db.veda_sh1.Secure_View AS select marks FROM veda_db.veda_sh1.permanent_table;

8. Now I am creating an external table :-

- In amazon s3 bucket I have created a vedabucket-101123
- then I have uploaded a sample csv file then I have got a secret key and access key in order to access the csv file present in external location (s3) from snowflake we need to use these credentials and need to mention the bucket URL like path.
- So now in order to do this we need to create a stage and create stage privilege and create external table privilege need to be granted to mentees using role mentor.

Query :-

Use role mentor;

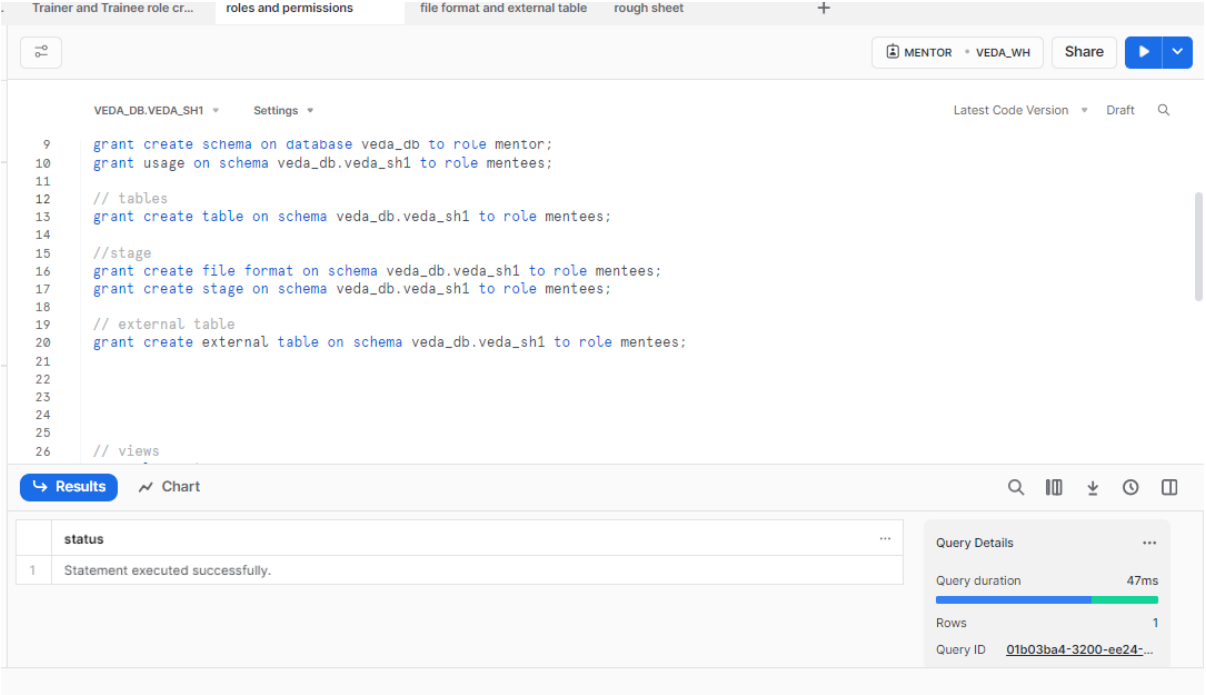
grant create file format on schema veda_db.veda_sh1 to role mentees;

grant create stage on schema veda_db.veda_sh1 to role mentees;

grant create external table on schema veda_db.veda_sh1 to role mentees;

Granting the

1. create external table,
2. create file format and
3. create stage Privileges to mentees using role mentor



The screenshot displays a SQL query editor interface with the following components:

- Query Editor:** Contains the following SQL commands:

```
9 grant create schema on database veda_db to role mentor;  
10 grant usage on schema veda_db.veda_sh1 to role mentees;  
11  
12 // tables  
13 grant create table on schema veda_db.veda_sh1 to role mentees;  
14  
15 //stage  
16 grant create file format on schema veda_db.veda_sh1 to role mentees;  
17 grant create stage on schema veda_db.veda_sh1 to role mentees;  
18  
19 // external table  
20 grant create external table on schema veda_db.veda_sh1 to role mentees;  
21  
22  
23  
24  
25  
26 // views
```
- Results Pane:** Shows a table with the following data:

	status
1	Statement executed successfully.
- Query Details Sidebar:** Displays the following information:
 - Query duration: 47ms
 - Rows: 1
 - Query ID: 01b03ba4-3200-ee24-...

- Then I have created a file format (csv format) and then I have Created a Aws external stage and external table and appended all the values in csv file to a list and then the values are represented in table format for this we need to write a sql query and we can see all the values in tabular format.
- As it is a csv file like comma separated file so delimiter is a “,” and configurations of the file format has been set.
- Using select statement I have accessed the values in a csv file which is in s3 bucket for this I have selected a warehouse and then queried and got the values from storage location.



Query :-

Created the file format:-

1. CREATE OR REPLACE FILE FORMAT veda_db.veda_sh1.csv_format

TYPE = 'CSV'

COMPRESSION = 'AUTO'

FIELD_DELIMITER = ','

RECORD_DELIMITER = '\n'

SKIP_HEADER = 0

FIELD_OPTIONALLY_ENCLOSED_BY = '\042'

TRIM_SPACE = FALSE

ERROR_ON_COLUMN_COUNT_MISMATCH = TRUE

ESCAPE = 'none'

ESCAPE_UNENCLOSED_FIELD = '\134'

DATE_FORMAT = 'AUTO'

TIMESTAMP_FORMAT = 'AUTO'

NULL_IF = ('\n');

Created the stage here :-

1. CREATE OR REPLACE stage veda_db.veda_sh1.AWS_EXTERNAL_STAGE
URL='s3://vedabucket-101123'Credentials= (aws_key_id='AKIA5HAAK4YDFLJ4TYEK'
aws_secret_key='iEWeeoJqDBCP3vpU0RDL+Jt9FZj0eblDzTWPQmIM');
2. list @veda_db.veda_sh1.AWS_EXTERNAL_STAGE;

Created the external table here :-

3. create or replace external table veda_db.veda_sh1.External_table with location
=@veda_db.veda_sh1.AWS_EXTERNAL_STAGE

auto_refresh=true

file_format='veda_db.veda_sh1.csv_format';

To retrieve all the values in csv file :-

```
select * from veda_db.veda_sh1.External_table;
```

Sql query in order to see the values in tabular format :-

```
select value :c1:: string as year,  
value :c2:: string as industry_code_ANZSIC,  
value :c3:: string as industry_name_ANZSIC,  
value :c4:: string as rme_size_grp,  
value :c5:: string as variable,  
value :c6:: string as value,  
value :c7:: string as unit  
from veda_db.veda_sh1.External_table
```