# Creating Warehouses, Roles, and Users in Snowflake

This session demonstrates how to create virtual warehouses, roles, and users for two distinct teams — Data Scientists and DBAs — using Snowflake’s Role-Based Access Control (RBAC) model.

## 1️⃣ Creating Virtual Warehouses

A virtual warehouse is a compute engine in Snowflake used to run SQL queries. It can scale up/down and suspend automatically to save cost.

### For Data Scientists

CREATE WAREHOUSE DS\_WH   
WITH WAREHOUSE\_SIZE = 'SMALL'  
WAREHOUSE\_TYPE = 'STANDARD'   
AUTO\_SUSPEND = 300   
AUTO\_RESUME = TRUE   
MIN\_CLUSTER\_COUNT = 1   
MAX\_CLUSTER\_COUNT = 1   
SCALING\_POLICY = 'STANDARD';

Explanation: Moderate compute (2 credits/hour), auto-suspend after 5 minutes, auto-resume enabled, single cluster setup, suitable for analytics workloads.

### For DBAs

CREATE WAREHOUSE DBA\_WH   
WITH WAREHOUSE\_SIZE = 'XSMALL'  
WAREHOUSE\_TYPE = 'STANDARD'   
AUTO\_SUSPEND = 300   
AUTO\_RESUME = TRUE   
MIN\_CLUSTER\_COUNT = 1   
MAX\_CLUSTER\_COUNT = 1   
SCALING\_POLICY = 'STANDARD';

Explanation: Lower compute cost (1 credit/hour), suitable for administrative tasks.

## 2️⃣ Creating Roles and Granting Warehouse Access

CREATE ROLE DATA\_SCIENTIST;  
GRANT USAGE ON WAREHOUSE DS\_WH TO ROLE DATA\_SCIENTIST;  
  
CREATE ROLE DBA;  
GRANT USAGE ON WAREHOUSE DBA\_WH TO ROLE DBA;

Explanation: Each role is tied to its respective warehouse to maintain separation of duties and control compute usage.

## 3️⃣ Creating Users and Assigning Roles

### Data Scientists

CREATE USER DS1 PASSWORD = 'DS1' LOGIN\_NAME = 'DS1'   
 DEFAULT\_ROLE = 'DATA\_SCIENTIST' DEFAULT\_WAREHOUSE = 'DS\_WH' MUST\_CHANGE\_PASSWORD = FALSE;  
  
CREATE USER DS2 PASSWORD = 'DS2' LOGIN\_NAME = 'DS2'   
 DEFAULT\_ROLE = 'DATA\_SCIENTIST' DEFAULT\_WAREHOUSE = 'DS\_WH' MUST\_CHANGE\_PASSWORD = FALSE;  
  
CREATE USER DS3 PASSWORD = 'DS3' LOGIN\_NAME = 'DS3'   
 DEFAULT\_ROLE = 'DATA\_SCIENTIST' DEFAULT\_WAREHOUSE = 'DS\_WH' MUST\_CHANGE\_PASSWORD = FALSE;  
  
GRANT ROLE DATA\_SCIENTIST TO USER DS1;  
GRANT ROLE DATA\_SCIENTIST TO USER DS2;  
GRANT ROLE DATA\_SCIENTIST TO USER DS3;

Explanation: Creates three data science users and assigns them to the DATA\_SCIENTIST role using DS\_WH as their default warehouse.

### DBAs

CREATE USER DBA1 PASSWORD = 'DBA1' LOGIN\_NAME = 'DBA1'   
 DEFAULT\_ROLE = 'DBA' DEFAULT\_WAREHOUSE = 'DBA\_WH' MUST\_CHANGE\_PASSWORD = FALSE;  
  
CREATE USER DBA2 PASSWORD = 'DBA2' LOGIN\_NAME = 'DBA2'   
 DEFAULT\_ROLE = 'DBA' DEFAULT\_WAREHOUSE = 'DBA\_WH' MUST\_CHANGE\_PASSWORD = FALSE;  
  
GRANT ROLE DBA TO USER DBA1;  
GRANT ROLE DBA TO USER DBA2;

Explanation: Creates two DBA users responsible for system administration, each using the smaller DBA\_WH warehouse.

## 4️⃣ Cleaning Up (Dropping Demo Objects)

DROP USER DBA1;  
DROP USER DBA2;  
  
DROP USER DS1;  
DROP USER DS2;  
DROP USER DS3;  
  
DROP ROLE DATA\_SCIENTIST;  
DROP ROLE DBA;  
  
DROP WAREHOUSE DS\_WH;  
DROP WAREHOUSE DBA\_WH;

Explanation: Removes all demo objects to keep the environment clean and avoid unnecessary compute costs.

## Key Teaching Points

• Warehouse – Compute engine to execute queries.  
• Role – Defines privileges and access (RBAC model).  
• User – Individual account linked to a role and warehouse.  
• Auto-Suspend/Resume – Saves cost by pausing compute automatically.  
• Separation of Duties – Ensures governance and cost optimization by isolating resources.

This exercise demonstrates Snowflake’s RBAC model in action — creating dedicated compute warehouses for different teams, granting appropriate access, and assigning roles to users. It’s a foundational step in enterprise-level Snowflake administration and governance.