

Loading Data from Snowflake Marketplace

INTRODUCTION TO SNOWFLAKE



Daniel Hong
Senior Data Engineer

Let's practice!
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Loading Data from a cloud provider

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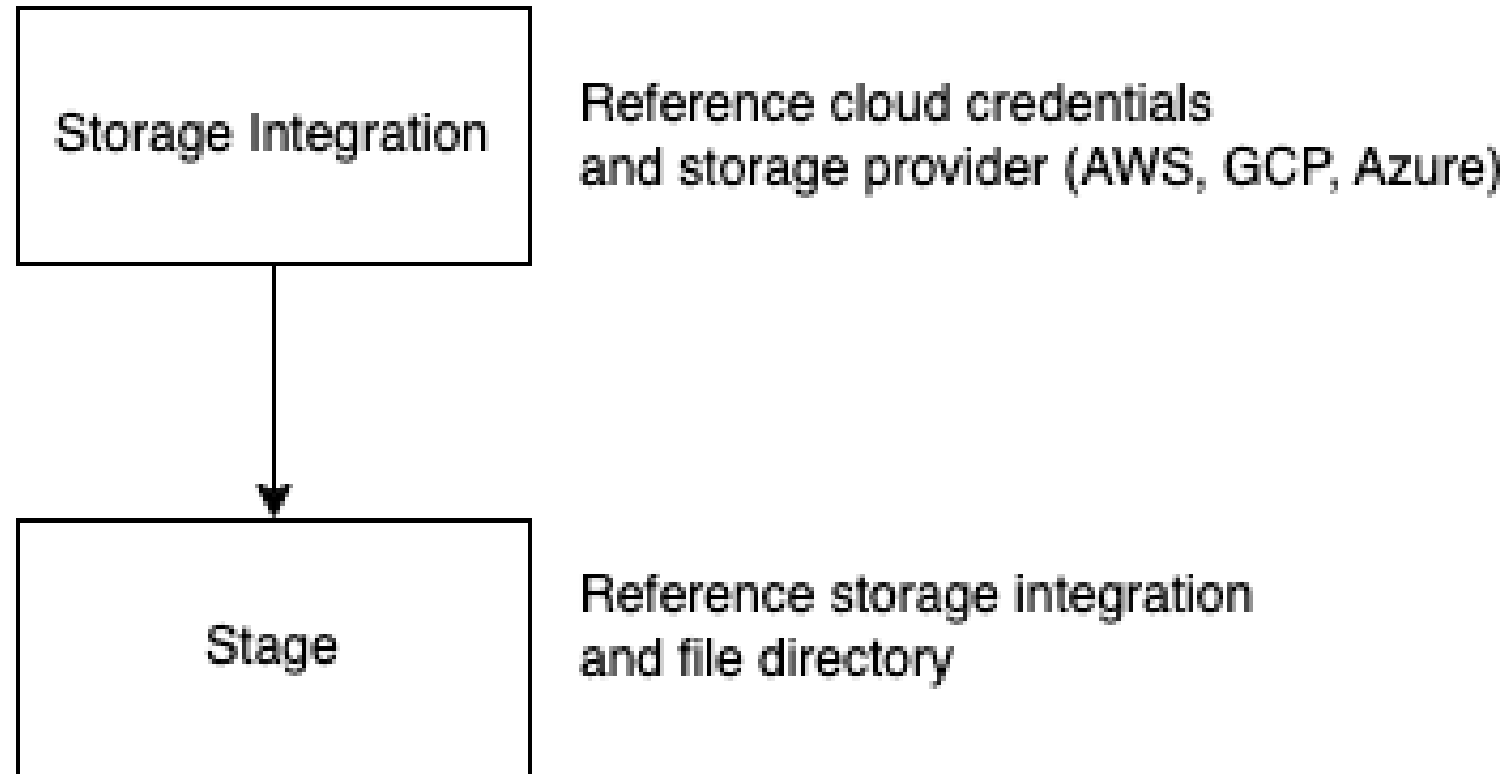


Danny Hong
Senior Data Engineer

High Level Workflow



Setting up stage permissions



AWS file directory

`s3://dh-datacamp-demo/chapter2/new-customer-signup/`



Creating an external stage

Snowsight

STUDENT_DB.PUBLIC ▾ Settings ▾ Code Versions 🔍

1

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```
1 CREATE OR REPLACE STORAGE INTEGRATION DH_DATACAMP_DEMO_SINT
2   type = external_stage
3   storage_provider = s3
4   storage_aws_role_arn = 'arn:aws:iam::288761726152:role/snowflake_role'
5   enabled = true
6   storage_allowed_locations = ( 's3://dh-datacamp-demo/chapter2/' )
7   comment = 'chapter 2 demo';
8
9
10 CREATE OR ALTER STAGE EXT_STAGE_CUSTOMER_SIGNUP
11   URL = 's3://dh-datacamp-demo/chapter2/new-customer-signup/'
12   STORAGE_INTEGRATION = dh_datacamp_demo_sint
13   DIRECTORY = (enable = true);
14
15 --Run this and look for property AWS_EXTERNAL_ID. Copy its property_value.
16 --You will need to update your AWS policy with this value first before using the stage.
17 DESCRIBE STAGE EXT_STAGE_CUSTOMER_SIGNUP;
```

Step 1

Step 2

Step 3

Results Chart 🔍 🗑️ ⬇️ 📄 ⌚

	parent_property	property	property_type	property_value	property_value
33	STAGE_CREDENTIALS	AWS_ROLE	String	arn:aws:iam::288761726152:role/snowflake_role	
34	STAGE_CREDENTIALS	AWS_EXTERNAL_ID	String	BVB43669_SFCRole=1_fsFqsZ+Nts5wGjsvQ0HnC24NDss=	
35	STAGE_CREDENTIALS	SNOWFLAKE_IAM_USER	String	arn:aws:iam::585008083954:user/jras0000-s	
36	DIRECTORY	LAST_REFRESHED_ON	Timestamp	2025-01-19 18:00:00.000	
37	DIRECTORY	ENABLE	Boolean	true	false
38	DIRECTORY	AUTO_REFRESH	Boolean	false	false

Row 34 / 39

property_value

BVB43669_SFCRole=1_fsFqsZ+Nts5wGjsvQ0HnC24NDss=

property_default

No value

Ask Copilot

AWS

Summary

Creation date

December 14, 2024, 14:52 (UTC-06:00)

ARN

arn:aws:iam::288761726152:role/snowflake_role

Link to switch roles in console

https://signin.aws.amazon.com/switchrole?roleName=snowflake_role&account=288761726152

Last activity

🟢 14 days ago

Maximum session duration

1 hour

Edit

Permissions

Trust relationships

Tags

Last Accessed

Revoke sessions

Trusted entities

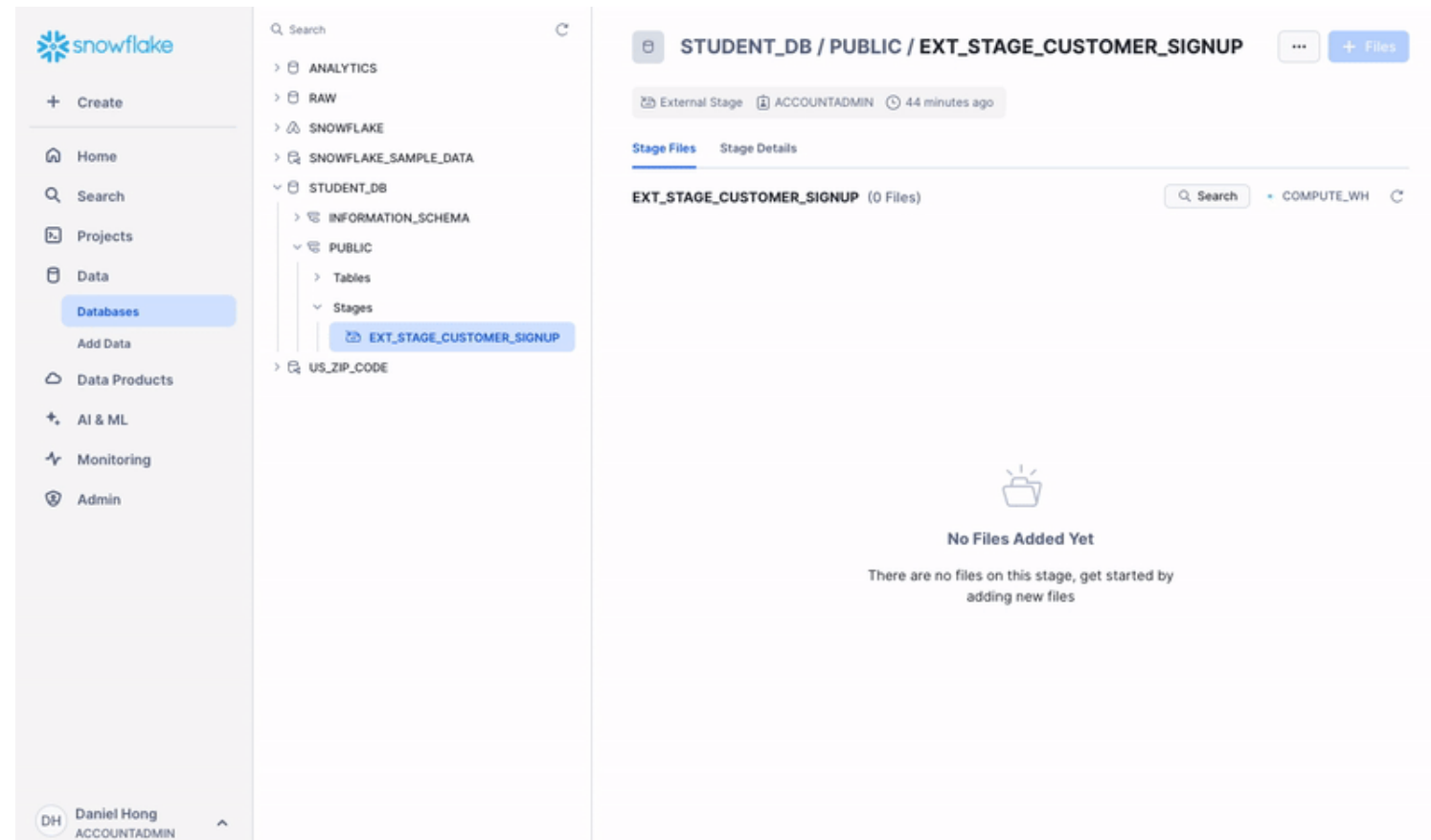
Edit trust policy

Entities that can assume this role under specified conditions.

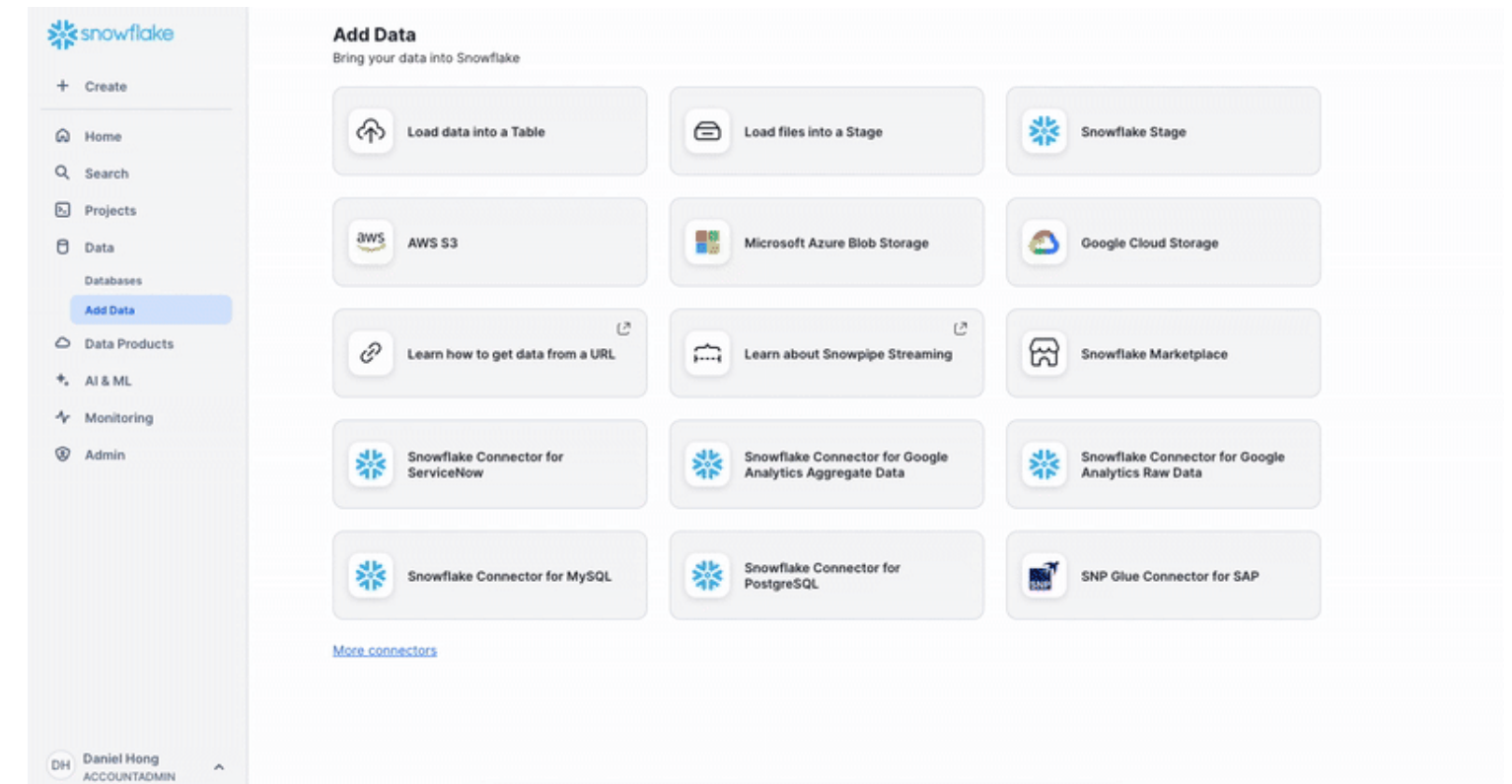
```
1 {
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Principal": {
7         "AWS": "arn:aws:iam::585008083954:user/jras0000-s"
8       },
9       "Action": "sts:AssumeRole",
10      "Condition": {
11        "StringEquals": {
12          "sts:ExternalId": "BVB43669_SFCRole=1_fsFqsZ+Nts5wGjsvQ0HnC24NDss="
13        }
14      }
15    }
16  ]
17 }
```

Refresh and use external stage

Refreshing the stage



Create table from stage



Let's practice!
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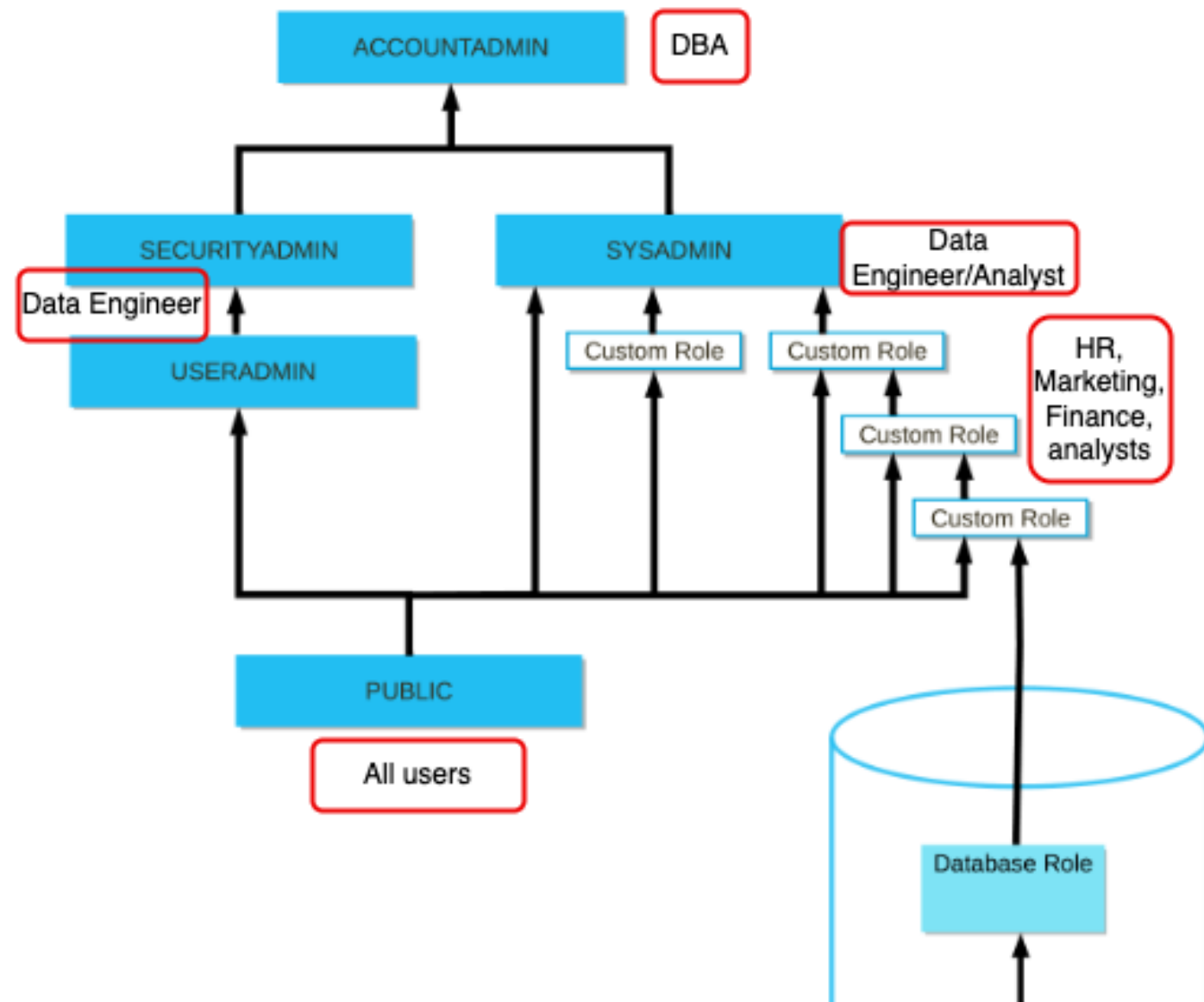
Creating new roles, users, and warehouses

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Danny Hong
Senior Data Engineer


Snowflake Roles Explained



- ACCOUNTADMIN manages account-level tasks like billing
- SECURITYADMIN manages all objects in the account
- USERADMIN manages access to roles and users it owns
- SYSADMIN manages any objects it owns
- PUBLIC can access and manage objects granted to its role

¹ <https://docs.snowflake.com/en/user-guide/security-access-control-overview#role-hierarchy-and-privilege-inheritance>

Creating a new role



+ Create

Home

Search

Projects

Data

Data Products

AI & ML

Monitoring

Admin

- Cost Management
- Warehouses
- Users & Roles**
- Accounts
- Security
- Contacts
- Billing & Terms

DH

Daniel Hong
SECURITYADMIN

^

Users


Roles













+ Role

Table

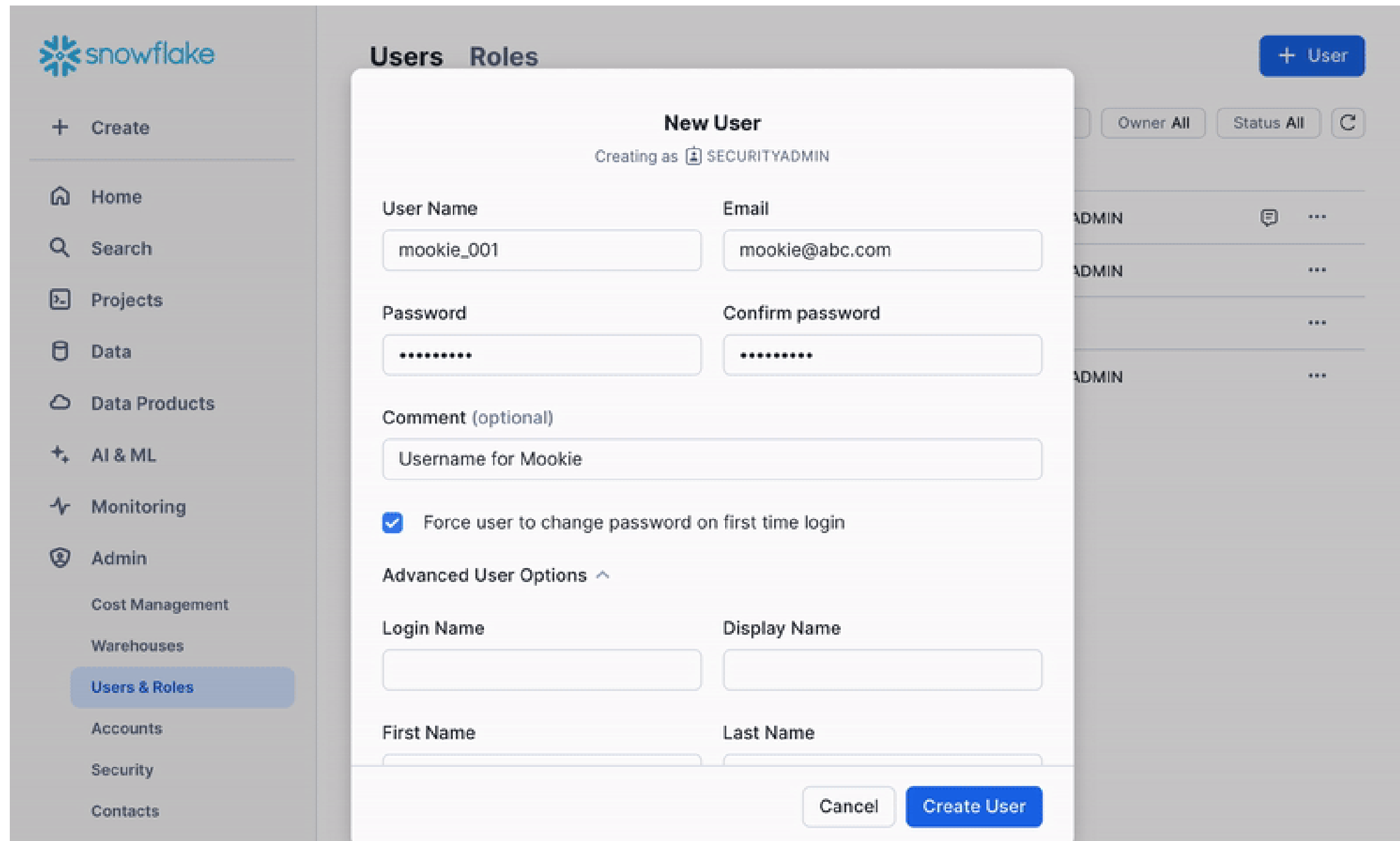
Graph

6 Roles



NAME ↑	GRANTED ROL...	GRANTED TO ...	USERS	CREAT...	OWNER	
 ACCOUNTAD...	2	0	1	2 month...	—	
 ORGADMIN	0	0	1	2 month...	—	
 PUBLIC	0	0	0	2 month...	—	
 SECURITYAD...	1	1	0	2 month...	—	
 SYSADMIN	0	1	0	2 month...	—	
 USERADMIN	0	1	0	2 month...	—	

Creating a new user



The screenshot shows the Snowflake web interface with the 'New User' modal open. The modal is titled 'New User' and indicates the user is being created as 'SECURITYADMIN'. The form contains the following fields and options:

- User Name:** mookie_001
- Email:** mookie@abc.com
- Password:** (masked with dots)
- Confirm password:** (masked with dots)
- Comment (optional):** Username for Mookie
- ☒ Force user to change password on first time login
- Advanced User Options** (expanded):
 - Login Name:** (empty)
 - Display Name:** (empty)
 - First Name:** (empty)
 - Last Name:** (empty)

At the bottom of the modal are 'Cancel' and 'Create User' buttons. The background shows the 'Users' tab in the Snowflake console with a table of existing users.

Owner	Status	...
ADMIN		...
ADMIN		...
ADMIN		...
ADMIN		...

Why create a new virtual warehouse?

When do we want to do this?

- Role-based warehouse access
 - Example: Engineers and Analysts
- Slow query execution
 - Example: Analysis query taking 10+ minutes long

Warehouse Size	Credits / Hour
X-Small	1
Small	2
Medium	4
Large	8
X-Large	16
2X-Large	32
3X-Large	64
4X-Large	128
5X-Large	256

¹ <https://docs.snowflake.com/en/user-guide/warehouses-overview#warehouse-size>

Creating a new virtual warehouse

Warehouses

+ Warehouse

Search Type All Size All Status All 2 Warehouses Columns

NAME	SI...	STATUS ↑	RUNNING ⓘ	QUEUED ⓘ	OWNER
COMPUTE_WH	XS	Suspended	0	0	ACCOUNTADMIN
SYSTEM\$STREAMLIT_NOTEB...	XS	Suspended	0	0	—

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Course Wrap-Up

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Daniel Hong
Senior Data Engineer

**Thank you for
completing the
course!**

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