

# What is Snowflake?

INTRODUCTION TO SNOWFLAKE



**Danny Hong**  
Senior Data Engineer

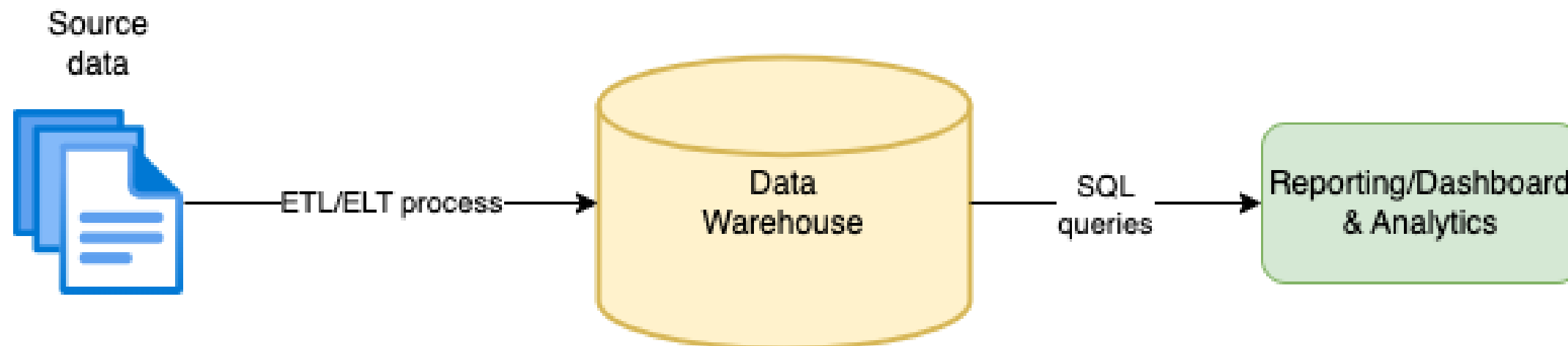
# Your instructor

- I'm Danny Hong
  - 10+ years of experience as a *Data Analytics Engineer*
  - Worked at Google, Amazon, and Meta
  - Expert in **Snowflake** for data models and big data analysis



# What is Snowflake? (cont)

- Snowflake is a leading AI Data Cloud & data warehousing platform
- Commonly used by Data/BI Engineers and analysts
- **Data Warehouse**
  - A repository for storing large amounts of historical data
  - Designed to support historical analysis and reporting using SQL



# Why is Snowflake popular?

## Data Platform as a Self-Managed Service

- No hardware or software provisioning required
- Ready to use after signing up new account



Traditional Data Warehouse



# A few Snowflake features to highlight

- Supports connection with major cloud providers
  - Example: data pipeline for a video streaming app




- Ability to unify external data sources together
- Data governance controls
  - Enforce "least-privilege access"

# Snowsight UI

Home - Snowflake

app.snowflake.com/datacamp/learn\_content\_prod/#/homepage

snowflake

+ Create

Home

Search

Projects

Data

Data Products

AI & ML

Monitoring

Admin


Home PREVIEW

Feedback


Welcome to your new Home experience  
Here you can find and access all of your most recent projects in one place, search your data, or get started on something new.

Search this account, Marketplace, and documentation


Quick actions




Query data  
Create a SQL Worksheet



Upload local files  
Quickly convert data into tables



Write Python code  
Create a Python Worksheet



Create Dashboard  
Visualize data insights

Recently viewed

All projects

Worksheets

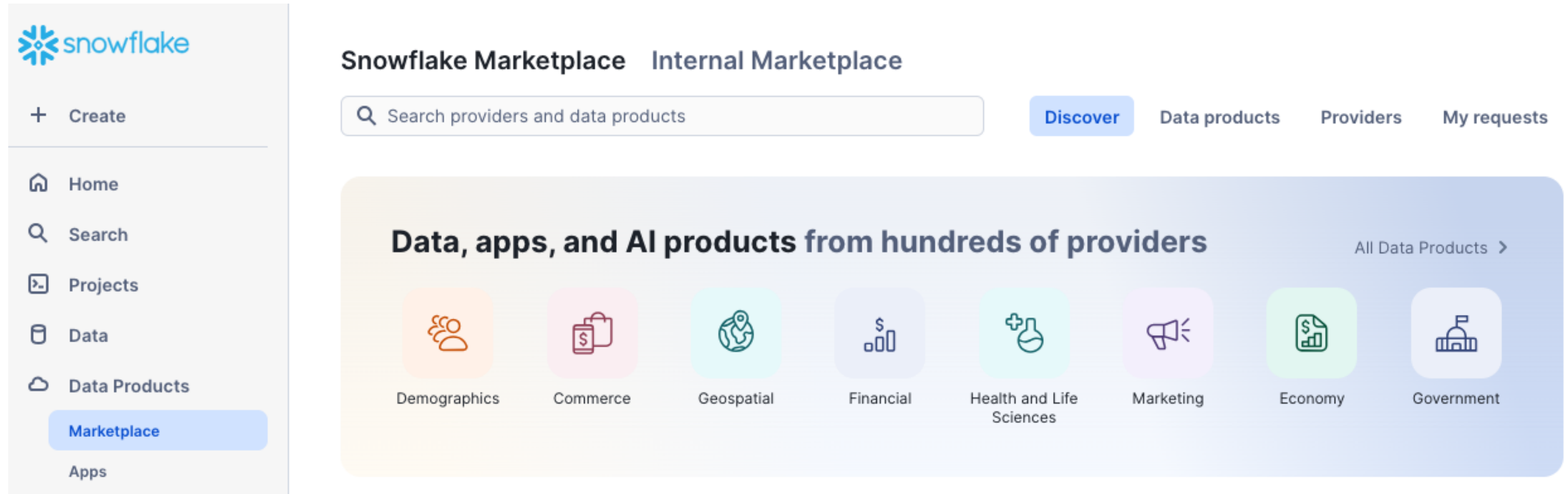
Notebooks

Streamlit

Dashboards

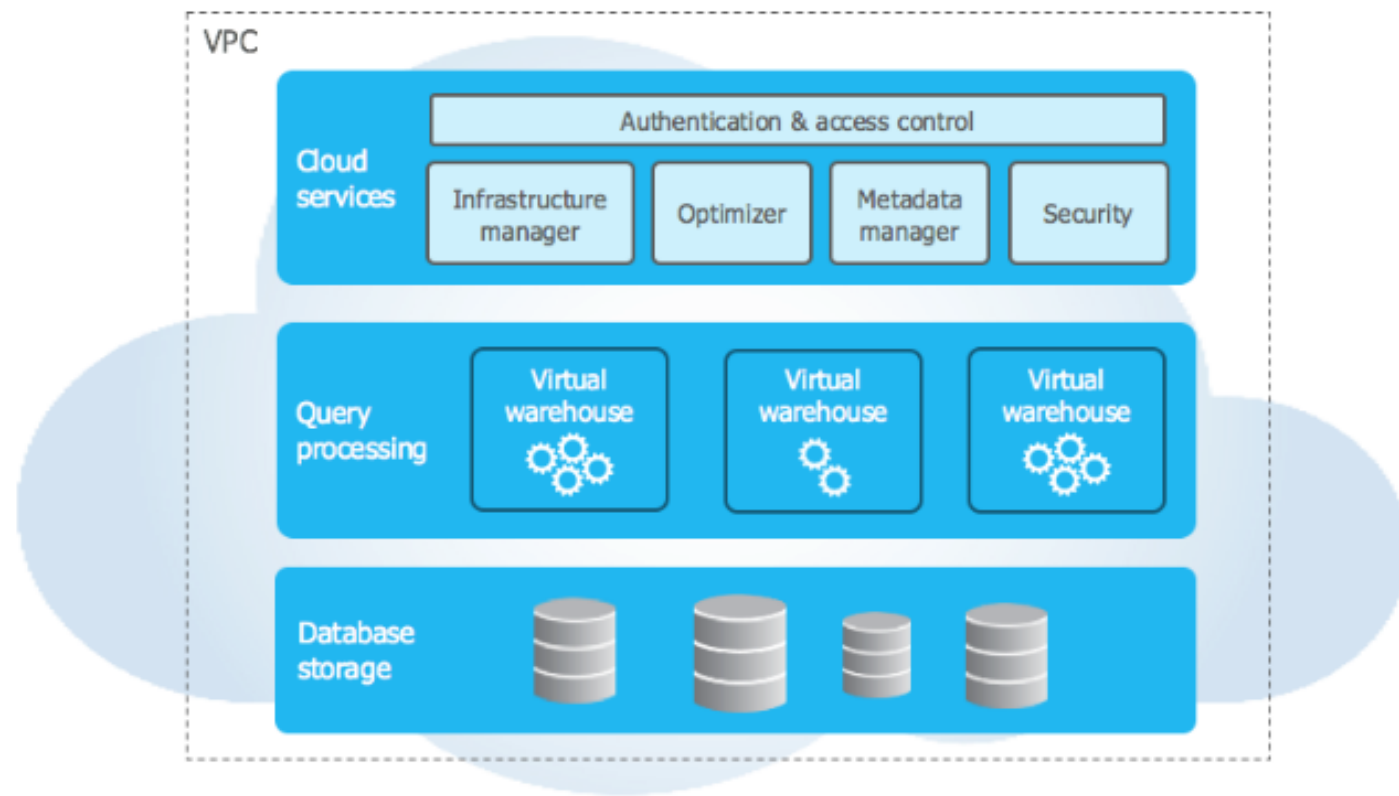


# Data Marketplace in Snowsight



The screenshot displays the Snowflake Marketplace interface within the Snowsight console. On the left, a sidebar contains the Snowflake logo and navigation links: '+ Create', 'Home', 'Search', 'Projects', 'Data', 'Data Products', 'Marketplace' (highlighted in blue), and 'Apps'. The main content area is titled 'Snowflake Marketplace' and 'Internal Marketplace'. It features a search bar with the placeholder text 'Search providers and data products', a 'Discover' button, and links for 'Data products', 'Providers', and 'My requests'. Below this, a large banner reads 'Data, apps, and AI products from hundreds of providers' with a link to 'All Data Products >'. A row of eight category tiles follows, each with an icon and a label: Demographics (orange icon of three people), Commerce (pink icon of a shopping bag with a dollar sign), Geospatial (teal icon of a globe with a location pin), Financial (light blue icon of a bar chart with a dollar sign), Health and Life Sciences (light green icon of a flask with a plus sign), Marketing (light purple icon of a megaphone), Economy (light green icon of a document with a dollar sign and bar chart), and Government (light blue icon of a government building).

# Snowflake's data architecture



- Cloud Services
  - Coordinate user activities
- Query Processing
  - Uses Massive parallel processing (MPP) architecture
  - Distributes data and compute resources across a cluster of nodes (computers)
- Database Storage
  - Stores data in a columnar format (optimized for analytical queries)

<sup>1</sup> <https://docs.snowflake.com/en/user-guide/intro-key-concepts#snowflake-architecture>



**Let's practice!**  
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# Executing a query and viewing the results

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**Daniel Hong**  
Senior Data Engineer

**Let's practice!**  
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# Monitoring a Query and Copy History

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**Daniel Hong**  
Senior Data Engineer

# Benefits of Monitoring

- See how tables are queried
- See which queries take longest to execute
- See how much data is copied to tables
- Debug failures and see historical queries

# Viewing Query History

- Can retrieve a past SQL query you wrote
- Keeps track of queries executed in past 14 days

**Query History**


Individual Queries Grouped Queries PREVIEW

Status All User MOOKIE\_001 Last 3 days Filters 7 queries Columns

	SQL TEXT	QUERY ID	STATUS	USER	WA
1	SELECT system\$GET_NPS_FEEDBACK_TIMESTAMP(	01b97c5c-0004-6ba7-0002-1c7f000e352e	Success	MOOKIE_001	—
2	WITH TOTAL AS ( SELECT customer_country_co	01b97c5b-0004-6ca6-0002-1c7f000e517e	Success	MOOKIE_001	—
3	WITH TOTAL AS ( SELECT customer_country_co	01b97c56-0004-6ba7-0002-1c7f000e34be	Success	MOOKIE_001	CO
4	select customer_country_code as country,	01b97c52-0004-6ba7-0002-1c7f000e349a	Success	MOOKIE_001	CO
5	select * from sales_transactions	01b97c50-0004-6ca6-0002-1c7f000e50f6	Success	MOOKIE_001	CO
6	select * from sales_transactions	01b97c50-0004-6ba7-0002-1c7f000e3482	Failed	MOOKIE_001	—



# Finding a Query



+ Create

Home

Search

Projects

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Data Products

AI & ML

Monitoring


Admin

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Folders

Create your first project


You can start querying in SQL, develop workflows, or visualize data insights.

+ New Project

 datacamp

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# Query Details



+ Create

Home

Search

Projects

Data

Data Products

AI & ML

Monitoring

Query History

Copy History

Task History

Dynamic Tables

Traces & Logs

Trust Center

Admin

<

Query - 01b97ebf-0004-6ba7-0002-1c7f000e3b5a

↺

↻

A. MOOKIE\_001






Query Details

Query Profile

Query Telemetry

PREVIEW

Details

Status	Duration	Driver Status
Success	126ms	Supported
Start Time	Query ID	Client Driver
1/4/2025, 4:23:08 PM	01b97ebf-0004-6ba7-0002-1c7f00... 	Go 1.1.5 
End Time	Query Tag	Session ID
1/4/2025, 4:23:08 PM	—	594281740968346 
Warehouse Size	Attributed Compute Credits 	Parameterized query hash
—	—	c09feae6236c6ff66216997f20730... 

SQL Text

```
WITH TOTAL AS (  
SELECT  
customer_country_code as country,  
SUM(amount) as total_amount
```

# Viewing Copy History

- Monitor incoming volume of data from external sources
  - see how often loads are succeeding vs failing
- Two options to view
  - Monitoring > Copy History (45 minute data latency, **BUT** can be longer)
  - Table > Copy History (no latency, data is up to date)
- Access limited to higher privilege roles
  - PUBLIC role restricted due to sensitive information

# Copy History Demo

Monitoring > Copy History

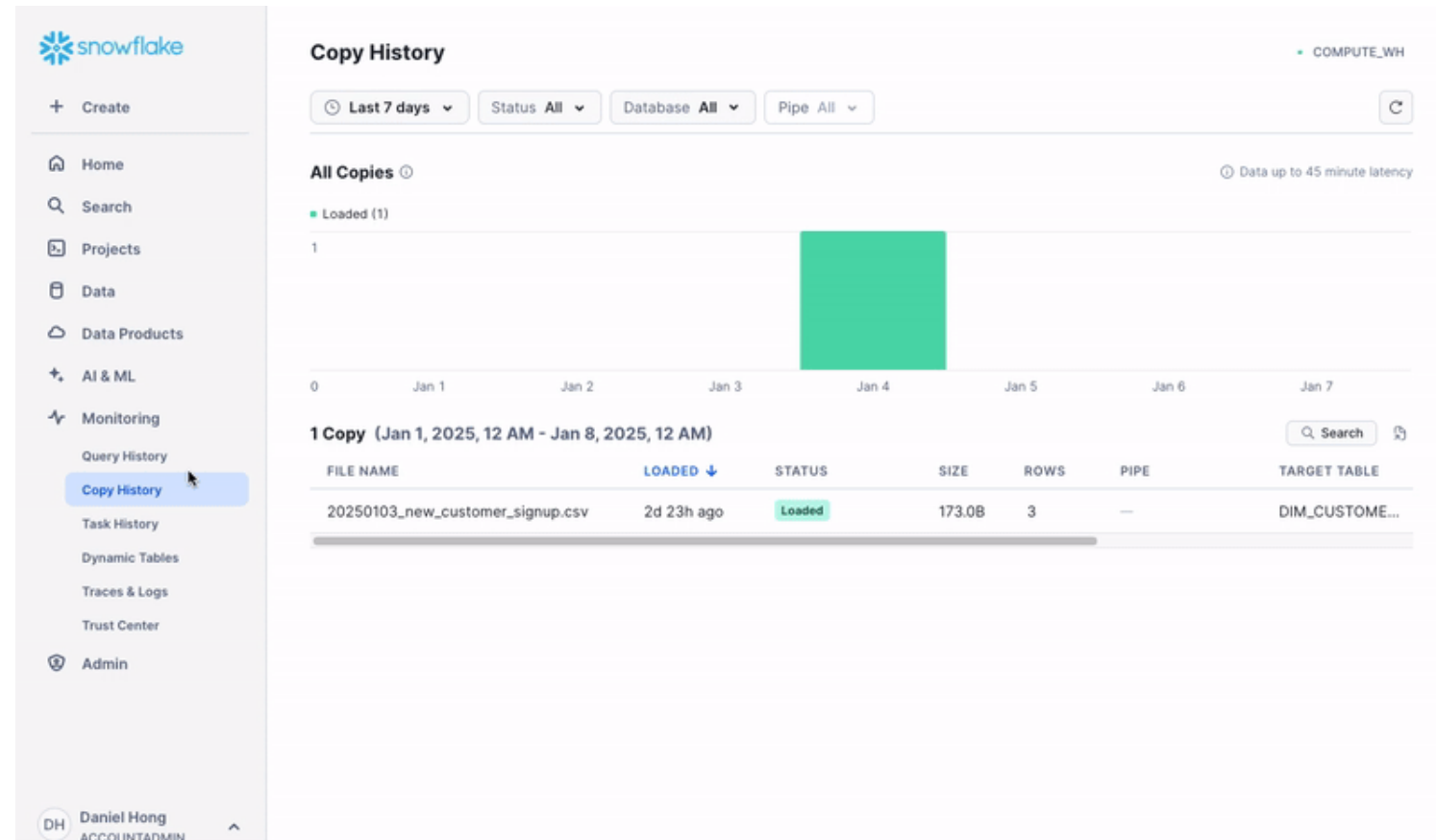
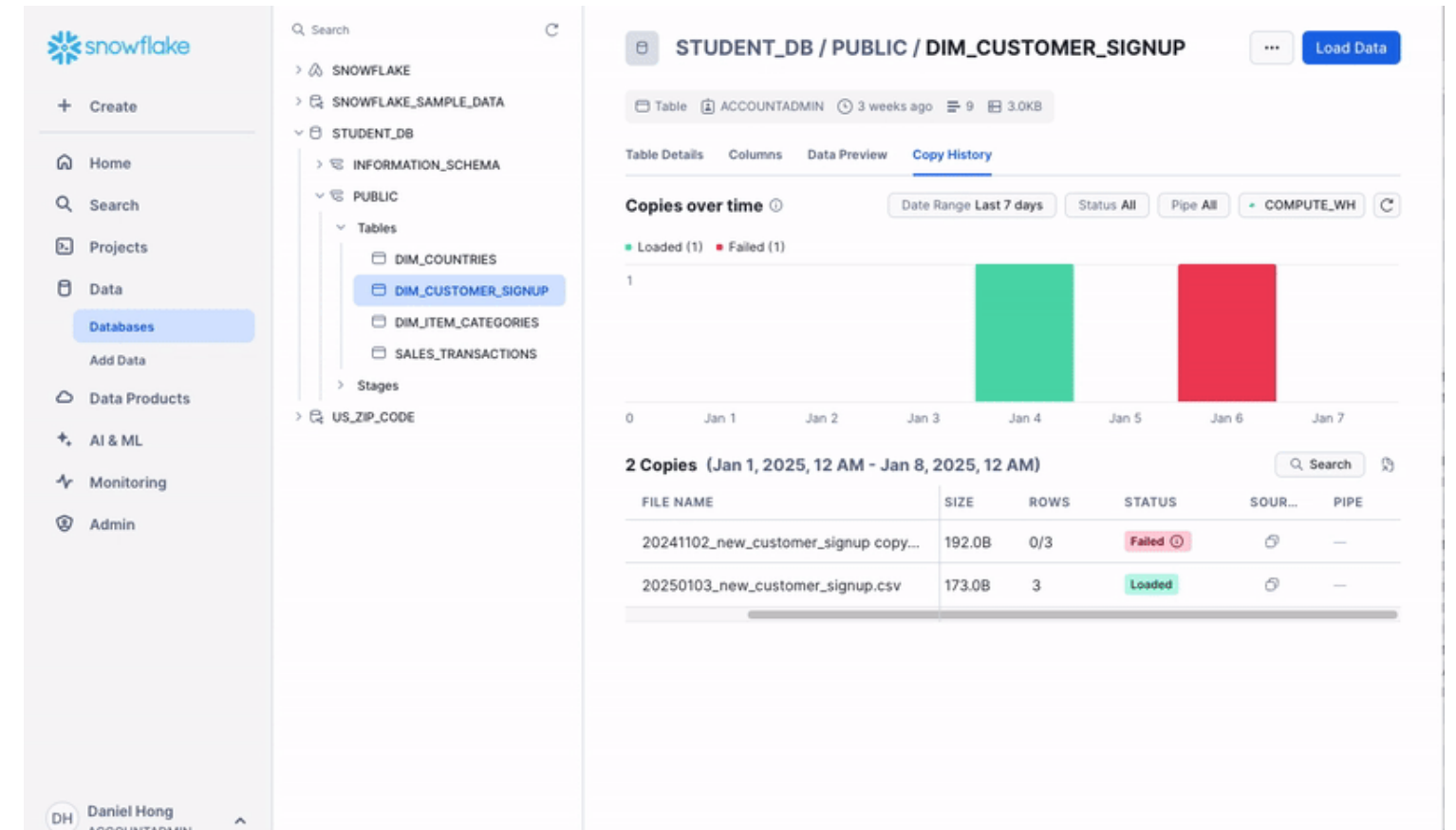


Table > Copy History



**Let's practice!**  
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