
GETTING STARTED
WITH SNOWFLAKE

- Setting up trial account
- Snowflake web interface
- Hands On Lab using SF UI

Setting up your trial account

https://trial.snowflake.com/

Snowflake web interface

Hands on Lab using UI :

Create WH ,DB and Table
Load table
View data in table


VIRTUAL
WAREHOUSE

- Overview of virtual warehouses
- Optimizing Warehouse: resizing vs multi clustering
- Hands on Demo : Virtual Warehouse

Overview of virtual warehouses

Virtual warehouse

A cluster of compute resources in Snowflake.

A warehouse provides the required resources, such as CPU, memory, and temporary storage, to perform the following operations in a Snowflake session:

Executing SQL SELECT statements

Performing DML operations

Warehouse Size

Specifies the number of servers that comprise each cluster in a warehouse

Warehouse Size	Servers / Cluster	Credits / Hour	Credits / Second
X-Small	1	1	0.0003
Small	2	2	0.0006
Medium	4	4	0.0011
Large	8	8	0.0022
X-Large	16	16	0.0044
2X-Large	32	32	0.0089
3X-Large	64	64	0.0178
4X-Large	128	128	0.0356

Multi Cluster Warehouse

A multi-cluster warehouse is defined by specifying the following properties:
Maximum number of server clusters, greater than 1 (up to 10).
Minimum number of server clusters, equal to or less than the maximum (up to 10)

Maximized vs. Auto-scale

Setting the Scaling Policy for a Multi-cluster Warehouse

- Standard (default)
- Economy

Credit Usage and Billing

Snowflake utilizes per-second billing

For a multi-cluster warehouse, the number of credits billed is calculated based on the number of servers per cluster and the number of clusters that run within the time period

Auto suspend and Auto Resume

Optimizing Warehouse

Resizing

- Increasing the size of a warehouse does ***not*** always improve data loading performance
- The size of a warehouse can impact the amount of time required to execute queries submitted to the warehouse, particularly for larger, more complex queries

Multi clustering

Multi-cluster warehouses are best utilized for scaling resources to improve concurrency for users/queries. They are not as beneficial for improving the performance of slow-running queries or data loading

Hands on Demo : Virtual warehouse

QUIZ

Multi-cluster warehouses are

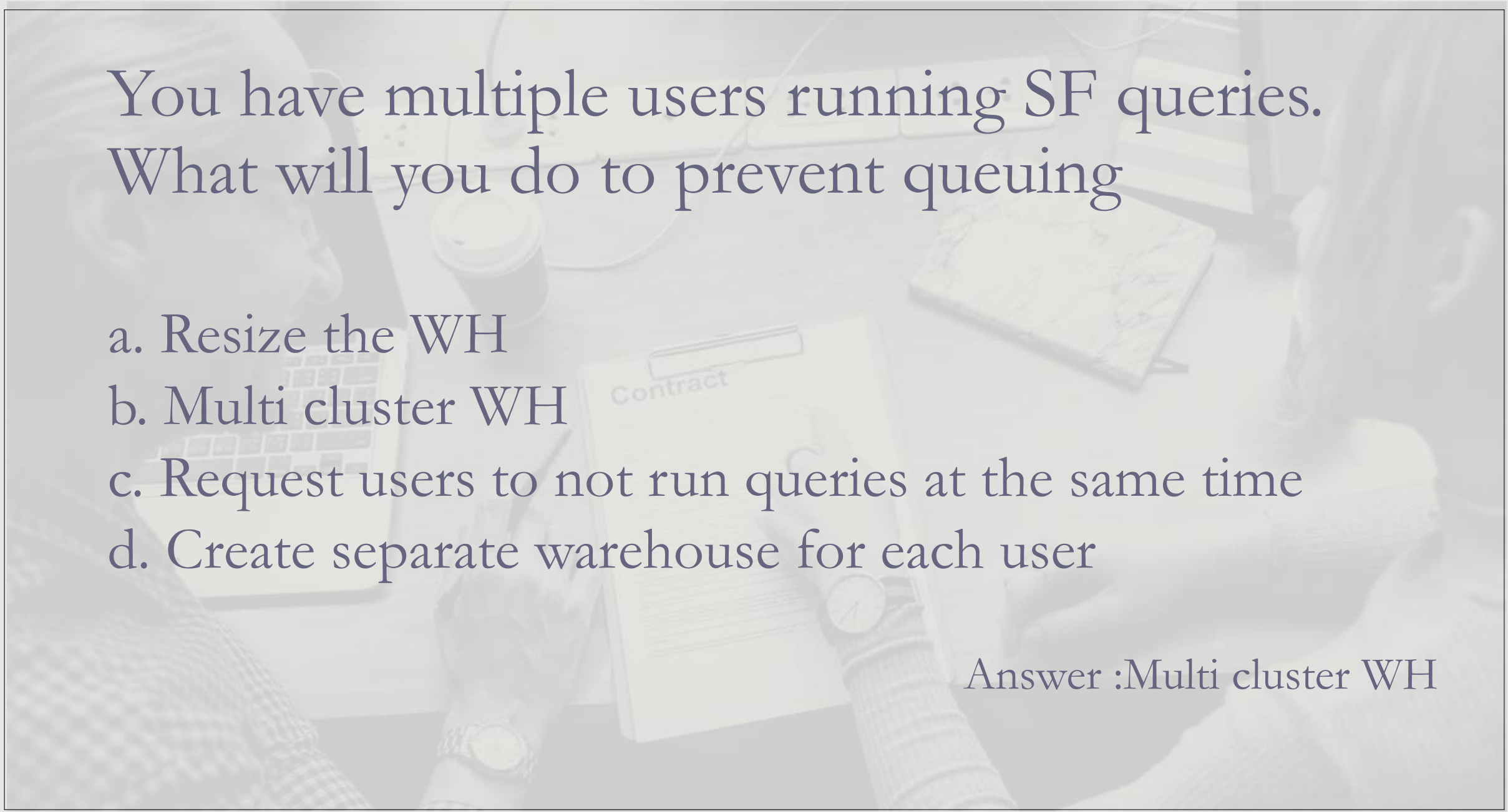
- Standard
- Enterprise Edition

Answer : Enterprise Edition

Performance of slow-running queries or data loading can b improved by

a. Multi-cluster warehouses
b. Sizing up
c. Sizing down
d. Suspending warehouse

Answer : Sizing up



You have multiple users running SF queries. What will you do to prevent queuing

a. Resize the WH
b. Multi cluster WH
c. Request users to not run queries at the same time
d. Create separate warehouse for each user

Answer :Multi cluster WH

Calculate total credits when a Medium-size warehouse (4 servers per cluster) with 3 clusters runs in Maximized mode for 2 hours.

Credit usage for M- size WH is 4/hour

Answer : 24 credits

Standard Scaling option

a. Cluster starts Immediately when either a query is queued or the system detects that there's one more query than the currently-running clusters can execute.

b. Cluster starts Only if the system estimates there's enough query load to keep the cluster busy for at least 6 minutes

c. Prevents/minimizes queuing by favoring starting additional clusters over conserving credits

d. Conserves credits by favoring keeping running clusters fully-loaded rather than starting additional clusters, which may result in queries being queued and taking longer to complete.

Answer : A

Recap

Virtual warehouse provides the required resources, such as CPU, memory, and temporary storage, to perform the following operations in a Snowflake session:

Executing SQL SELECT statements

Performing DML operations

WH Size: Specifies the number of servers that comprise each cluster in a warehouse

Multi Cluster Warehouse

Maximized vs. Auto-scale

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Credit Usage and Billing

Auto suspend and Auto Resume

Optimizing Warehouse
Resizing
Multi clustering