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Question 1

Question Type: MultipleChoice

A Data Engineer wants to create a new development database (DEV) as a clone of the permanent production database (PROD) There is a requirement to disable Fail-safe for all tables.

Which command will meet these requirements?

Options:

A- CREATE DATABASE DEV
CLONE PROD
FAIL_SAFE=FALSE;

B- CREATE DATABASE DEV
CLONE PROD;

C- CREATE TRANSIENT DATABASE DEV
CLONE RPOD

D- CREATE DATABASE DEV
CLOSE PROD
DATA_RETENTION_TIME_IN_DAYS =0L

Answer:

C

Explanation:

This option will meet the requirements of creating a new development database (DEV) as a clone of the permanent production database (PROD) and disabling Fail-safe for all tables. By using the CREATE TRANSIENT DATABASE command, the Data Engineer can create a transient database that does not have Fail-safe enabled by default. Fail-safe is a feature in Snowflake that provides additional protection against data loss by retaining historical data for seven days beyond the time travel retention period. Transient databases do not have Fail-safe enabled, which means that they do not incur additional storage costs for historical data beyond their time travel retention period. By using the CLONE option, the Data Engineer can create an exact copy of the PROD database, including its schemas, tables, views, and other objects.

Question 2

Question Type: MultipleChoice

A company is building a dashboard for thousands of Analysts. The dashboard presents the results of a few summary queries on tables that are regularly updated. The query conditions vary by tope according to what data each Analyst needs Responsiveness of the dashboard queries is a top priority, and the data cache should be preserved.

How should the Data Engineer configure the compute resources to support this dashboard?

Options:

A- Assign queries to a multi-cluster virtual warehouse with economy auto-scaling Allow the system to automatically start and stop clusters according to demand.

B- Assign all queries to a multi-cluster virtual warehouse set to maximized mode Monitor to determine the smallest suitable number of clusters.

C- Create a virtual warehouse for every 250 Analysts Monitor to determine how many of these virtual warehouses are being utilized at capacity.

D- Create a size XL virtual warehouse to support all the dashboard queries Monitor query runtimes to determine whether the virtual warehouse should be resized.

Answer:

B

Explanation:

This option is the best way to configure the compute resources to support this dashboard. By assigning all queries to a multi-cluster virtual warehouse set to maximized mode, the Data Engineer can ensure that there is enough compute capacity to handle thousands of concurrent queries from different analysts. A multi-cluster virtual warehouse can scale up or down by adding or removing clusters based on the load. A maximized scaling policy ensures that there is always at least one cluster running and that new clusters are added as soon as possible when needed. By monitoring the utilization and performance of the virtual warehouse, the Data Engineer can determine the smallest suitable number of clusters that can meet the responsiveness requirement and minimize costs.

Question 3

Question Type: MultipleChoice

Within a Snowflake account permissions have been defined with custom roles and role hierarchies.

To set up column-level masking using a role in the hierarchy of the current user, what command would be used?

Options:

A- CORRECT_ROLE

B- IKVOKER_ROLE

C- IS_RCLE_IN_SESSION

D- IS_GRANTED_TO_INVOKER_ROLE

Answer:

C

Explanation:

The IS_ROLE_IN_SESSION function is used to set up column-level masking using a role in the hierarchy of the current user. Column-level masking is a feature in Snowflake that allows users to apply dynamic data masking policies to specific columns based on the roles of the users who access them. The IS_ROLE_IN_SESSION function takes a role name as an argument and returns true if the role is in the current user's session, or false otherwise. The function can be used in a masking policy expression to determine whether to mask or unmask a column value based on the role of the user. For example:

CREATE OR REPLACE MASKING POLICY email_mask AS (val string) RETURNS string -> CASE WHEN IS_ROLE_IN_SESSION('HR') THEN val ELSE REGEXP_REPLACE(val, '(.).(.@.)', '\1****\2') END;

In this example, the IS_ROLE_IN_SESSION function is used to create a masking policy for an email column. The masking policy returns the original email value if the user has the HR role in their session, or returns a masked email value with asterisks if not.

Question 4

Question Type: MultipleChoice

When would a Data engineer use table with the flatten function instead of the lateral flatten combination?

Options:

A- When TABLE with FLATTEN requires another source in the from clause to refer to

B- When TABLE with FLATTEN requires no additional source m the from clause to refer to

C- When the LATERAL FLATTEN combination requires no other source m the from clause to refer to

D- When table with FLATTEN is acting like a sub-query executed for each returned row

Answer:

A

Explanation:

The TABLE function with the FLATTEN function is used to flatten semi-structured data, such as JSON or XML, into a relational format. The TABLE function returns a table expression that can be used in the FROM clause of a query. The TABLE function with the FLATTEN function requires another source in the FROM clause to refer to, such as a table, view, or subquery that contains the semi-structured data. For example:

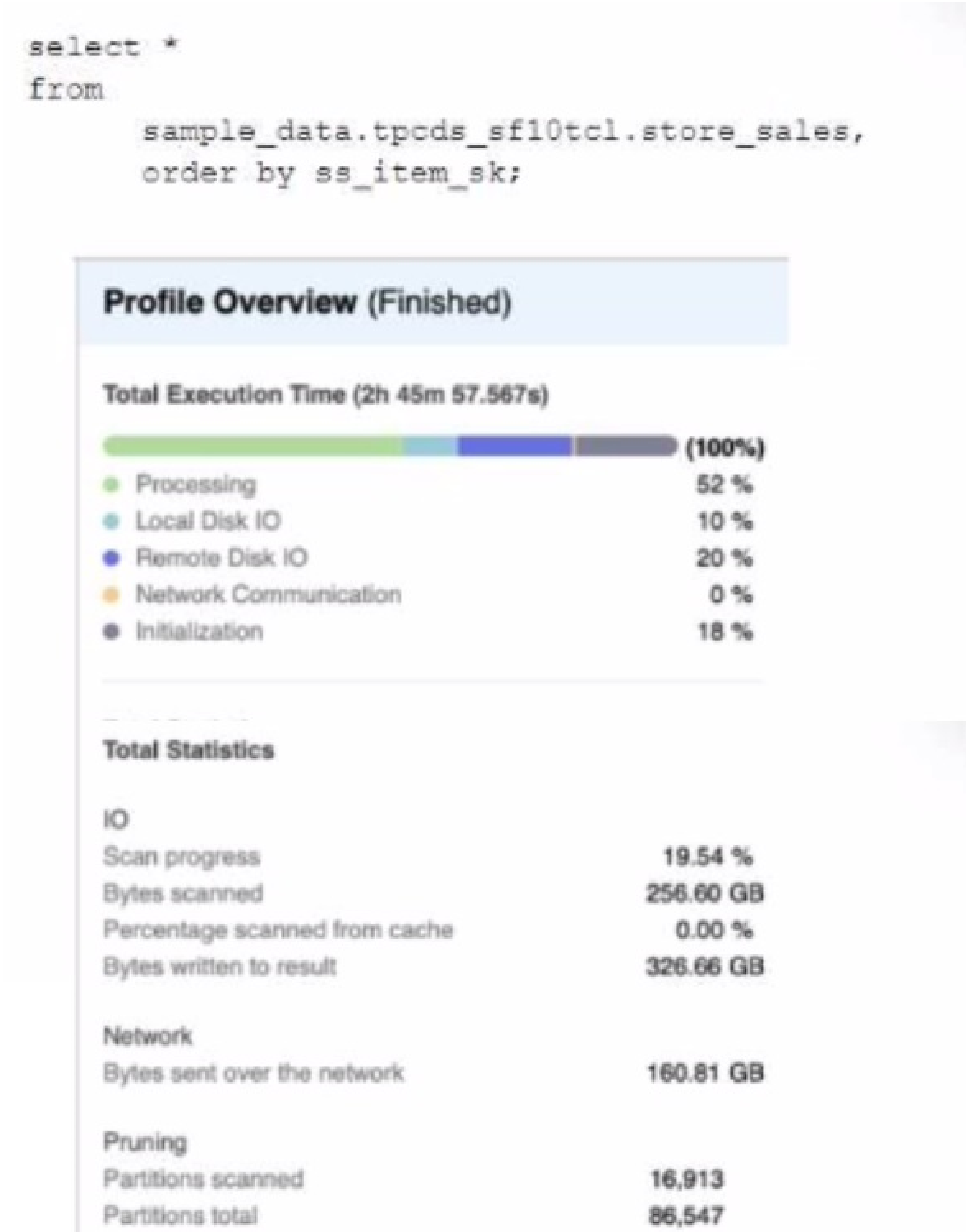
SELECT t.value:city::string AS city, f.value AS population FROM cities t, TABLE(FLATTEN(input => t.value:population)) f;

In this example, the TABLE function with the FLATTEN function refers to the cities table in the FROM clause, which contains JSON data in a variant column named value. The FLATTEN function flattens the population array within each JSON object and returns a table expression with two columns: key and value. The query then selects the city and population values from the table expression.

Question 5

Question Type: MultipleChoice

A Data Engineer is evaluating the performance of a query in a development environment.



```
select *
from
      sample_data.tpcds_sf10tcl.store_sales,
      order by ss_item_sk;
```

Profile Overview (Finished)

Total Execution Time (2h 45m 57.567s)

(100%)

● Processing	52 %
● Local Disk IO	10 %
● Remote Disk IO	20 %
● Network Communication	0 %
● Initialization	18 %

Total Statistics

IO	
Scan progress	19.54 %
Bytes scanned	256.60 GB
Percentage scanned from cache	0.00 %
Bytes written to result	326.66 GB

Network	
Bytes sent over the network	160.81 GB

Pruning	
Partitions scanned	16,913
Partitions total	86,547

Based on the Query Profile what are some performance tuning options the Engineer can use? (Select TWO)

Options:

A- Add a LIMIT to the ORDER BY If possible

B- Use a multi-cluster virtual warehouse with the scaling policy set to standard

C- Move the query to a larger virtual warehouse

D- Create indexes to ensure sorted access to data

E- Increase the max cluster count

Answer:

A, C

Explanation:

The performance tuning options that the Engineer can use based on the Query Profile are:

Add a LIMIT to the ORDER BY If possible: This option will improve performance by reducing the amount of data that needs to be sorted and returned by the query. The ORDER BY clause requires sorting all rows in the input before returning them, which can be expensive and time-consuming. By adding a LIMIT clause, the query can return only a subset of rows that satisfy the order criteria, which can reduce sorting time and network transfer time.

Create indexes to ensure sorted access to data: This option will improve performance by reducing the amount of data that needs to be scanned and filtered by the query. The query contains several predicates on different columns, such as o_orderdate, o_orderpriority, l_shipmode, etc. By creating indexes on these columns, the query can leverage sorted access to data and prune unnecessary micro-partitions or rows that do not match the predicates. This can reduce IO time and processing time.

The other options are not optimal because:

Use a multi-cluster virtual warehouse with the scaling policy set to standard: This option will not improve performance, as the query is already using a multi-cluster virtual warehouse with the scaling policy set to standard. The Query Profile shows that the query is using a 2XL warehouse with 4 clusters and a standard scaling policy, which means that the warehouse can automatically scale up or down based on the load. Changing the warehouse size or the number of clusters will not affect the performance of this query, as it is already using the optimal resources.

Increase the max cluster count: This option will not improve performance, as the query is not limited by the max cluster count. The max cluster count is a parameter that specifies the maximum number of clusters that a multi-cluster virtual warehouse can scale up to. The Query Profile shows that the query is using a 2XL warehouse with 4 clusters and a standard scaling policy, which means that the warehouse can automatically scale up or down based on the load. The default max cluster count for a 2XL warehouse is 10, which means that the warehouse can scale up to 10 clusters if needed. However, the query does not need more than 4 clusters, as it is not CPU-bound or memory-bound. Increasing the max cluster count will not affect the performance of this query, as it will not use more clusters than necessary.

Question 6

Question Type: MultipleChoice

Company A and Company B both have Snowflake accounts. Company A's account is hosted on a different cloud provider and region than Company B's account Companies A and B are not in the same Snowflake organization.

How can Company A share data with Company B? (Select TWO).

Options:

A- Create a share within Company A's account and add Company B's account as a recipient of that share

B- Create a share within Company A's account, and create a reader account that is a recipient of the share Grant Company B access to the reader account

C- Use database replication to replicate Company A's data into Company B's account Create a share within Company B's account and grant users within Company B's
account access to the share

D- Create a new account within Company A's organization in the same cloud provider and region as Company B's account Use database replication to replicate Company
A's data to the new account Create a share within the new account and add Company B's account as a recipient of that share

E- Create a separate database within Company A's account to contain only those data sets they wish to share with Company B Create a share within Company A's account
and add all the objects within this separate database to the share Add Company B's account as a recipient of the share

Answer:

A, E

Explanation:

The ways that Company A can share data with Company B are:

Create a share within Company A's account and add Company B's account as a recipient of that share: This is a valid way to share data between different accounts on different cloud platforms and regions. Snowflake supports cross-cloud and cross-region data sharing, which allows users to create shares and grant access to other accounts regardless of their cloud platform or region. However, this option may incur additional costs for network transfer and storage replication.

Create a separate database within Company A's account to contain only those data sets they wish to share with Company B Create a share within Company A's account and add all the objects within this separate database to the share Add Company B's account as a recipient of the share: This is also a valid way to share data between different accounts on different cloud platforms and regions. This option is similar to the previous one, except that it uses a separate database to isolate the data sets that need to be shared. This can improve security and manageability of the shared data. The other options are not valid because:

Create a share within Company A's account, and create a reader account that is a recipient of the share Grant Company B access to the reader account: This option is not valid because reader accounts are not supported for cross-cloud or cross-region data sharing. Reader accounts are Snowflake accounts that can only consume data from shares created by their provider account. Reader accounts must be on the same cloud platform and region as their provider account.

Use database replication to replicate Company A's data into Company B's account Create a share within Company B's account and grant users within Company B's account access to the share: This option is not valid because database replication cannot be used for cross-cloud or cross-region data sharing. Database replication is a feature in Snowflake that allows users to copy databases across accounts within the same cloud platform and region. Database replication cannot copy databases across different cloud platforms or regions.

Create a new account within Company A's organization in the same cloud provider and region as Company B's account Use database replication to replicate Company A's data to the new account Create a share within the new account and add Company B's account as a recipient of that share: This option is not valid because it involves creating a new account within Company A's organization, which may not be feasible or desirable for Company A. Moreover, this option is unnecessary, as Company A can directly share data with Company B without creating an intermediate account.

Question 7

Question Type: MultipleChoice

A secure function returns data coming through an inbound share

What will happen if a Data Engineer tries to assign usage privileges on this function to an outbound share?

Options:

A- An error will be returned because the Engineer cannot share data that has already been shared

B- An error will be returned because only views and secure stored procedures can be shared

C- An error will be returned because only secure functions can be shared with inbound shares

D- The Engineer will be able to share the secure function with other accounts

Answer:

A

Explanation:

An error will be returned because the Engineer cannot share data that has already been shared. A secure function is a Snowflake function that can access data from an inbound share, which is a share that is created by another account and consumed by the current account. A secure function can only be shared with an inbound share, not an outbound share, which is a share that is created by the current account and shared with other accounts. This is to prevent data leakage or unauthorized access to the data from the inbound share.

Question 8

Question Type: MultipleChoice

What is a characteristic of the use of external tokenization?

Options:

A- Secure data sharing can be used with external tokenization

B- External tokenization cannot be used with database replication

C- Pre-loading of unmasked data is supported with external tokenization

D- External tokenization allows (he preservation of analytical values after de-identification

Answer:

D

Explanation:

External tokenization is a feature in Snowflake that allows users to replace sensitive data values with tokens that are generated and managed by an external service. External tokenization allows the preservation of analytical values after de-identification, such as preserving the format, length, or range of the original values. This way, users can perform analytics on the tokenized data without compromising the security or privacy of the sensitive data.

Question 9

Question Type: MultipleChoice

Which functions will compute a 'fingerprint' over an entire table, query result, or window to quickly detect changes to table contents or query results? (Select TWO).

Options:

A- HASH (*)

B- HASH_AGG(*)

C- HASH_AGG(<expr>, <expr>)

D- HASH_AGG_COMPARE (*)

E- HASH COMPARE(*)

Answer:

B, C

Explanation:

The functions that will compute a 'fingerprint' over an entire table, query result, or window to quickly detect changes to table contents or query results are:

HASH_AGG(*): This function computes a hash value over all columns and rows in a table, query result, or window. The function returns a single value for each group defined by a GROUP BY clause, or a single value for the entire input if no GROUP BY clause is specified.

HASH_AGG(<expr>, <expr>): This function computes a hash value over two expressions in a table, query result, or window. The function returns a single value for each group defined by a GROUP BY clause, or a single value for the entire input if no GROUP BY clause is specified. The other functions are not correct because:

HASH (*): This function computes a hash value over all columns in a single row. The function returns one value per row, not one value per table, query result, or window.

HASH_AGG_COMPARE (): This function compares two hash values computed by HASH_AGG() over two tables or query results and returns true if they are equal or false if they are different. The function does not compute a hash value itself, but rather compares two existing hash values.

HASH COMPARE(): This function compares two hash values computed by HASH() over two rows and returns true if they are equal or false if they are different. The function does not compute a hash value itself, but rather compares two existing hash values.

Question 10

Question Type: MultipleChoice

A Data Engineer needs to load JSON output from some software into Snowflake using Snowpipe.

Which recommendations apply to this scenario? (Select THREE)

Options:

A- Load large files (1 GB or larger)

B- Ensure that data files are 100-250 MB (or larger) in size compressed

C- Load a single huge array containing multiple records into a single table row

D- Verify each value of each unique element stores a single native data type (string or number)

E- Extract semi-structured data elements containing null values into relational columns before loading

F- Create data files that are less than 100 MB and stage them in cloud storage at a sequence greater than once each minute

Answer:

B, D, F

Explanation:

The recommendations that apply to this scenario are:

Ensure that data files are 100-250 MB (or larger) in size compressed: This recommendation will improve Snowpipe performance by reducing the number of files that need to be loaded and increasing the parallelism of loading. Smaller files can cause performance degradation or errors due to excessive metadata operations or network latency.

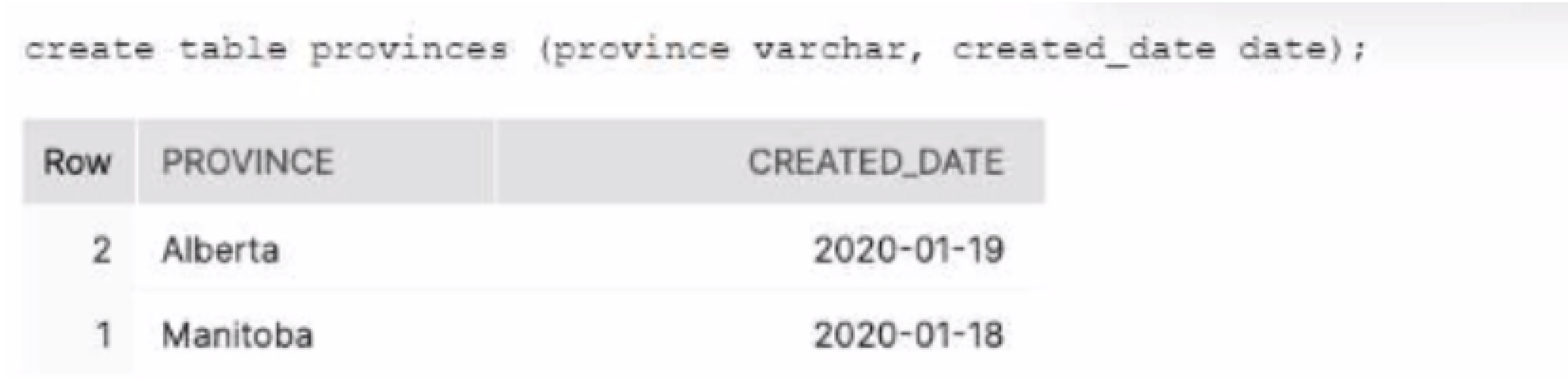
Verify each value of each unique element stores a single native data type (string or number): This recommendation will improve Snowpipe performance by avoiding data type conversions or errors when loading JSON data into variant columns. Snowflake supports two native data types for JSON elements: string and number. If an element has mixed data types across different files or records, such as string and boolean, Snowflake will either convert them to string or raise an error, depending on the FILE_FORMAT option.

Create data files that are less than 100 MB and stage them in cloud storage at a sequence greater than once each minute: This recommendation will minimize Snowpipe costs by reducing the number of notifications that need to be sent to Snowpipe for auto-ingestion. Snowpipe charges for notifications based on the number of files per notification and the frequency of notifications. By creating smaller files and staging them at a lower frequency, fewer notifications will be needed.

Question 11

Question Type: **MultipleChoice**

How can the following relational data be transformed into semi-structured data using the LEAST amount of operational overhead?



```
create table provinces (province varchar, created_date date);
```

Row	PROVINCE	CREATED_DATE
2	Alberta	2020-01-19
1	Manitoba	2020-01-18

Options:

A- Use the to_json function

B- Use the PAESE_JSON function to produce a variant value

C- Use the OBJECT_CONSTRUCT function to return a Snowflake object

D- Use the TO_VARIANT function to convert each of the relational columns to VARIANT.

Answer:

C

Explanation:

This option is the best way to transform relational data into semi-structured data using the least amount of operational overhead. The OBJECT_CONSTRUCT function takes a variable number of key-value pairs as arguments and returns a Snowflake object, which is a variant type that can store JSON data. The function can be used to convert each row of relational data into a JSON object with the column names as keys and the column values as values.

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