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Snowflake Interview Questions and Answers

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Snowflake Interview Questions and Answers

Are you looking for the best career opportunities in the advanced IT world? Yes, we need to have knowledge of the particular subject before we attend the interview. Choosing the right career opportunity with the right organization is one of the important steps to be taken. Snowflake is one of the data warehouse solutions which is currently leading the world with its unique features. I know you are here to prepare for the interview and grab the job opportunity. Here are the most frequently asked Snowflake interview questions that will help you get the job easily.

These are the most frequently asked Snowflake Interview Questions

- What do you know about Snowflake cloud data warehouses?
- What type of tool is Snowflake?
- List out the different number of ways that can be used to access the Snowflake cloud data warehouse?
- Briefly explain the different data security features that are available in Snowflake?
- What do you understand by the terms Snowflake computing and schema in Snowflake?
- Briefly explain different Snowflake editions?
- Can you give a brief explanation about Snowflake AWS?
- What is meant by Snowflake caching?
- List of the different types of caching in Snowflake?
- Briefly describe how the Cloud Service layer works in Snowflake?

Q1. What do you know about Snowflake cloud data warehouses?

Ans: A Snowflake cloud data warehouse is referred to as the analytical data warehouse built on the new SQL database engine. Snowflake utilizes a unique architecture that is specifically built for the cloud. It is implemented as the software as a service and is first available on the Amazon Web Services to load and perform the analysis of the large volumes of data.

Snowflake has come up with the most dynamic and remarkable feature, which has the capability to spin any number of virtual warehouses, which means that the user will be allowed to operate any number of workloads that will be independent against the same data without any risk or issues.

Q2. Give a brief explanation of the Snowflake architecture?

Ans: Snowflake has come up with a unique architecture that is specifically built on Amazon Web Services cloud data warehouse. Snowflake does not require any software or hardware or maintenance using extra, which is specifically required by other platforms. Snowflake architecture consists of three different layers, which are data storage, query processing and cloud services. Each layer has its functionality. Let me give you a brief explanation of each layer in the Snowflake architecture.

1. **Data storage:** in this layer, the stored data is organized into columnar, internal optimized format.

2. **Query processing:** in query processing, the virtual warehouses will be processing the queries that are present in the Snowflake.

3. **Cloud services:** the cloud services layer is responsible for coordinating and handling all the related activities across the Snowflake. It is also accountable and provides the best results in infrastructure management, metadata management, query parsing, authentication and access control.

Q3. What type of tool is Snowflake?

Ans: Snowflake is referred to as an ETL tool that consists of three steps, hence called a three-step process. It includes the following:

1. **Extract:** the first step includes the extraction of the data from the source and will be creating the data files.   The data files that are created will be able to support multiple data formats like XML, CSV, JSON, etc.

2. **Load:** this step includes the loading of the data to an external or internal stage. The data Staging will be either in an internal Amazon S3 bucket, Microsoft Azure Blob or any Snowflake managed location.

3. **Copy:** in this step, the data will be copied into the Snowflake database table by using the copy into the command.

Q4. Give a brief description of software architecture?

Ans: Snowflake has a unique architecture based on a multi-cluster, patented, shared data specifically created for the cloud. The architecture of Snowflake includes its storage computer and the service layers. All these are integrated with each other logically and also scaled to be independent of each other.

Q5. List out the different number of ways that can be used to access the Snowflake cloud data warehouse?

Ans: There are many ways on how you can access the Snowflake data warehouse. They are:

1. Jdbc drivers

2. Odbc drivers

3. Python libraries

4. Web user interface

5. Snow SQL command-line client

Q6. Briefly explain the different data security features that are available in Snowflake?

Ans: Snowflake has the flexibility to encrypt all the information of the data related to the customer by default by making use of the end to end encryption, utilizing the latest security standards. Snowflake security does not require any sort of additional cost and is flexible to provide the key management, which is transparent to the customer entirely. It also includes the below security features like:

1. All the information related to the customer or the data present in the system will be automatically encrypted using the Snowflake managed keys in Snowflake.

2. It also lets you use the geographical location of the data that is stored based on the cloud region.

3. In Snowflake, the data transfer and the communication between the client and server will be protected using the TLS.

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Q7. Do you know how the data is stored in Snowflakes?

Ans: In Snowflake, the data will be stored in multiple micro partitions, which should be compressed and internally optimized. The data is stored in the columnar format in the cloud storage of Snowflake. Not all of the data objects that are stored to be visible or accessed by the users. You are allowed to access them only by running some SQL Query operations on Snowflake.

Q8. Give a brief idea about the Snowflake cluster?

Ans: The data partitioning that happens in Snowflake is called clustering. This usually specified the clustered keys on the table. The practice of managing the clustered data that is present in the table is called Re-clustering.

Q9. What are the responsibilities of a storage layer in Snowflake?

Ans: The Snowflake storage layer is responsible for storing all the tables data query results and tables in the Snowflake. The storage layer is usually built in the cloud storage, making use of the Azure, GPC, AWS system. The storage layer ensures that there will be maximum scalability, elasticity and performance capacity will be high for data warehousing and Analytics. The storage layer is built so that it is responsible for scaling completely independent of the computer resources.

Q10. What do you understand by the terms Snowflake computing and schema in Snowflake?

Ans: Snowflake computing: Snowflake computing refers to the Snowflake cloud data warehouse's capability to provide secure and governed access to the data network to enable the different types of data workloads using a single platform for developing modern data applications.

Schema: Snowflake refers to the concept of organizing the data in Snowflake. In simple terms, schemas and databases are used to organize the data stored in the Snowflake. Schema is referred to as the logical grouping of the database objects. The database objects include tables, views, etc. Snowflake's schema has its own benefit of utilizing these small disk space and providing structured data.

Snowflake Developer Interview Questions

Q11. List some of the important features of Snowflake?

Ans: Snowflake has come up with multiple unique features, which are listed below:

1. Support for XML.

2. Data protection and security

3. Database and object closing

4. Data sharing

5. Allows metastore integration

6. External tables

7. Extensive support to geospatial data

8. Result caching

9. Search Optimisation service

10. Table streams on external and shared tables

Q12. Briefly explain different Snowflake editions?

Ans: Snowflake has different editions that will help customers based on the requirements. They are listed below:

1. Standard edition: this edition is best for beginners and is called Snowflake's introductory level offering. It provides unlimited access to the standard features to the users.

2. Enterprise edition: the Enterprise edition comes along with standard edition features and services and includes some of the additional features required for large-scale Enterprises.

3. business-critical edition: the business statical edition is also called an enterprise for sensitive data. The business-critical edition provides support to the high-level data protection in order to protect the sensitive data from meeting the organization's needs.

4. Virtual private Snowflake: virtual private Snowflake on VPS is responsible for providing high-level security for the organizations that deal with financial activities.

Q13. Explain what type of database Snowflake is?

Ans: SQL is entirely in SQL database or purely based on SQL database. It is a relational database system that stores the data in columns and is also compatible with other tools like Excel, tableau, etc. Snowflake has also come up with the query tool, which supports the multi-statement transactions and involves role-based security. These are some of the features that are usually expected in the SQL database.

Q14.Can you give a brief explanation about Snowflake AWS?

Ans: Most organizations are looking for the data platform that comes up with high performance and on-demand scalability for performing the Data Analytics management. Snowflake AWS platform is referred to as a SQL data warehouse, an add-on to make the data warehousing more efficient, accessible, and manageable to all the different data users who are using the platform. Snowflake also allows data-driven Enterprises to ensure that there is Secure data sharing and elasticity.

Q15. List out the different ETL tools that can be used with Snowflake?

Ans: The different ETL tools that are used with Snowflake are:

1. Blendo

2. Matillion

3. StreamSets

4. Etleap

5. Apache Airflow

6. Hevo data

Q16. What is the responsibility of the compute layer in Snowflake?

Ans: The computer layer is responsible for performing the data processing task within Snowflake, usually one or more clusters of the compute resources. The virtual Warehouses are responsible for retrieving the data from the storage layer to perform the query request.

Q17. What do you mean by a columnar database, and what is the advantage of using it?

Ans: Columnar database usually refers to the databases in which the data is organized in the form of column-level instead of using the conventional row level. It is observed that the column level operations will be faster when compared to the row-level operations and also utilize fewer number of resources when compared to the row-level database.

Related Article: *Snowflake Tutorial*

Q18. What is meant by Snowflake caching?

Ans: Snowflake is capable of caching the results of the query that are run. Whenever a new query is submitted, it also performs a check on the previously executed queries. If it finds any matching query that already exists, then the results of it are cached. It then uses the cached result set instead of executing the query once again. As a result, the Snowflake can be used by any number of users across the globe and hence, called to be a global Snowflake catching.

Q19. Briefly list the advantages of Snowflake compression?

Ans: Snowflake compression has got the below advantages.

1. Due to Compression, the storage costs will be less than the native cloud storage.

2. There will not be any storage cost for the disc caches.

3. Due to compression, there will be zero storage overhead for data cloning and data sharing.

Q20. List of the different types of caching in Snowflake?

Ans: There are three different types of caching in Snowflake. They are listed below.

1. Query results caching

2. Metadata cache

3. Virtual warehouse local district caching

Snowflake Interview Questions for freshers

Q21. Give a brief idea about the unique features available in the Snowflake cloud data warehouse?

Ans: Snowflake is cloud-native, which is specifically built for the cloud. It has come up with many good things about the cloud and possess some exciting features like:

1. Time travel

2. Dedicated virtual warehouse

3. Zero copy cloning

4. Autoscaling

5. Robusta data protection features

6. Military-grade encryption and security

 It also includes some of the default features that are listed below:

1. The data is encrypted

2. The data will be compressed by default

3. It makes use of the relational database system, which presents the data in the form of columns, allowing the operations to be functioning faster.

Q22. Briefly describe how the Cloud Service layer works in Snowflake?

Ans: The Cloud Service layer is called the brain of Snowflake. The service layer in Snowflake is responsible for authenticating user sessions, provides extensive support to the management, utilizes the security functions, is flexible to perform the Optimisation and query compilation, and coordinates with the different transactions in the system.

Q23. Briefly explain the working of data compression in Snowflake?

Ans: In Snowflake, all the data is compressed by default. Snowflake provides compatibility to choose the best compression algorithm and does not and has the end users' configuration. Snowflake's most important thing is that the charge will apply to the customers based on the final size of the data after the compression is applied.

Q24. Explain the brief differences between the horizontal scaling and vertical scaling in Snowflake?

Ans: Horizontal scaling usually refers to the scaling that will help in increasing the concurrency. Whenever there is a need To support multiple users, you are allowed to use the auto-scaling and also increase the number of virtual warehouses to gain instant support and fulfil the queries of the user.

Vertical scaling is referred to as a scaling that will help in reducing the processing time. Whenever there is a huge workload, whenever optimization is required you can consider to choose a bigger virtual warehouse size.

Q25. Briefly give an idea about zero-copy cloning in Snowflake?

Ans: Zero-copy cloning is simply called cloning in Snowflake. Cloning here is responsible for creating the copy of the database table or schema without any duplication of the storage files that are available on the disk.

Q26. What do you mean by fail-safe in Snowflake?

Ans: Fail-safe in Snowflake is responsible for providing a 7 day period in which historical data can be recovered only by Snowflake. This. Usually starts immediately once the time travel retention period has been completed or ended. Fail-safe is not flexible to provide any means for accessing the historical data after the retention has been completed.

Q27. What do you understand about the term time travel in Snowflake?

Ans: Time travel provides the flexibility to allow you to access data anytime from the past. Let us take an example of an employee table that has been deleted accidentally. You can use time travel to retrieve the data on the table by going 5 minutes back. This is often referred to as an easy process to retrieve the information that is required.

Q28. Can you briefly explain the differences between Time Travel and fail-safe?

Ans: In time travel, the user is allowed to set and retrieve the data as and when required by going back to history. This is based on the Snowflake edition and the object that is available for account-specific time travel setup.

In fail-safe, the user is not allowed to retrieve the data, and the user will not be given any control over the data retrieval only after the time travel period is over. The Snowflake support team can provide the information for only seven days. Let us say that you have set the time travel as 6 days; then you are allowed to retrieve the database objects after the transaction execution for six days which would be from the 7th to 13th day once the transaction execution is over. You will not be allowed to retrieve or restore the data back once the 13th day is over.

Q29. What do you understand by the term data shares in Snowflake?

Ans: Snowflake has a unique feature called Secure data sharing, which allows organizations to instantly and securely share the data. Secure data sharing will enable the sharing among the accounts that would be accountable to account sharing of the data by using the database tables, secure UDFs and secure views.

Q30. Do you know how many days is the time travel history preserved in Snowflake? Also, is there any cost that is associated with time travel in Snowflake?

Ans: Time Travel will be available between 1 to 90 days, based on the Snowflake edition you are using or signing up for. There will be a cost associated with the time travel in Snowflake. There will be storage charges that will be incurred, which are specifically for maintaining the historical data during the failed Safe And The Time Travel periods.

Q31. Is it possible for the AWS glue to connect to the Snowflake?

Ans: Yes, there is a possibility for the areas glue to connect to Snowflake. WS blue offers the users a comprehensive managed environment, which will help in easy connection with the

Snowflake as a data warehouse service. Snowflake and AWS glue are two different solutions that allow you to handle the data transformation and data ingestion when they work collectively with great flexibility and ease.

Conclusion:

Snowflake is one of the important platforms which is essentially successful in driving customer satisfaction to the users who are using this platform. I hope the frequently asked interview questions will help you in grabbing the interview and attaining the right career opportunity. I wish you all the best!

About Author

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Author Bio

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