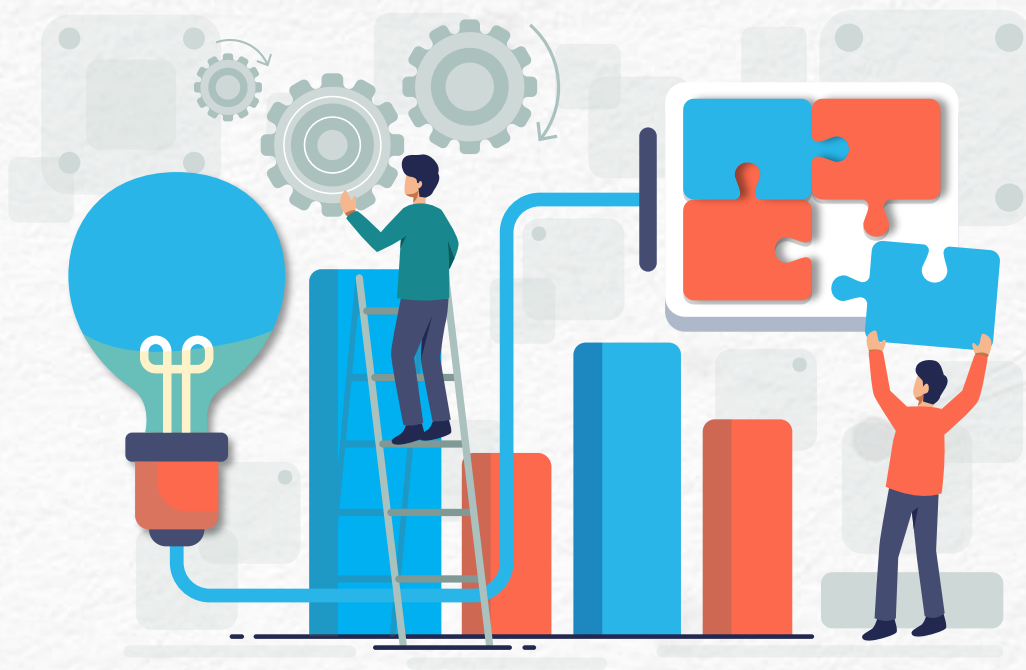# Streams
In
Snowflake

A **Stream** in Snowflake is a feature that allows you to track changes made to a table (such as inserts, updates, and deletes) over time. It captures the modifications to the data since the last time the stream was queried, enabling efficient incremental data processing.

Streams are typically used to capture and process only the changes in data, making them ideal for real-time data pipelines and minimizing unnecessary data reloads.

Why Do We Need a **Stream** in **Snowflake**

o **Incremental Processing**: Processes only changed data, improving efficiency.

o **Real-Time Integration**: Enables real-time data updates across systems.

o **Change Data Capture (CDC):** Simplifies tracking of data changes.

o **Data Synchronization**: Keeps data in sync between systems by processing only updates.

o **Efficient ETL**: Streamlines ETL processes with incremental loads.

Features of **Stream** in **Snowflake**

o **Seamless Integration with Tasks**: **Streams** can be used with **Tasks** to automate the processing of captured changes in real-time.

o **Supports DML Operations**: Streams track all **Data Manipulation Language (DML)** operations (INSERT, UPDATE, DELETE), making them useful for a variety of data processing scenarios.

o **Flexibility**: Streams can be queried to get both current and historical changes, allowing users to reprocess or re-sync data if needed.

o **Time-Stamped Changes**: Changes are recorded with timestamps, allowing you to track when a change occurred and ensuring accurate data capture.

Use of **Stream** in **Snowflake**

o **Real-Time Data Pipelines**: Capture and process data changes as they happen for real-time integration.

o **Auditing & Versioning**: Track data changes for auditing and maintaining historical records.

o **Data Warehouse Optimization**: Load only changed data, reducing load on the warehouse.

o **Event-Driven Processing**: Trigger downstream tasks or processes based on data changes.

o **Incremental Backup/Recovery**: Backup or recover only modified data, saving time and resources.

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