

# Importing and Exporting Data

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# What's in This Module?



**File formats and best practices**

**Data stages**

**Import and export tools**

**Import and export processes**

**Web portal, COPY and Snowpipe**



# File Formats

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# File Formats

Delimited

JSON

Avro

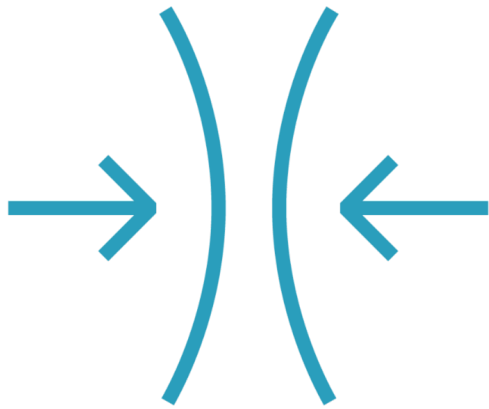
ORC

Parquet

XML



# Options



Compression



Encryption



# Best Practices

**Loading virtual warehouse**

**10 to 100 MB compressed**

**Aggregate or split data to get to this range**

**Separate files by folders with source and date information**



# Import Tools

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## Available Tools



Web portal



COPY command



Snowpipe



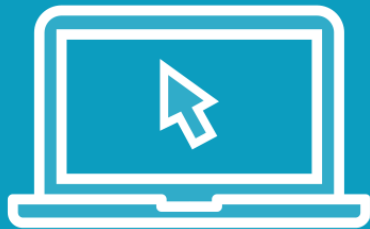




There are many 3<sup>rd</sup> party ETL tools as well.



Demo



Import with the web portal



# Data Stages

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# Data Stage



A data stage is used for loading data from files into Snowflake tables and unloading data into files



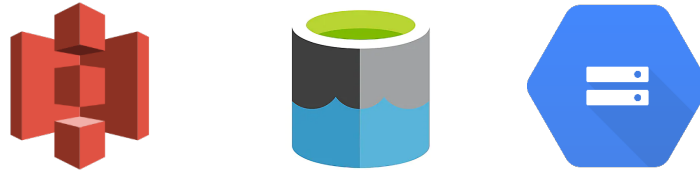
## Types of Stages

**Internal**

**External**



# External Stage



A data stage pointing to an external cloud provider storage account



# Internal Stages



User Stage

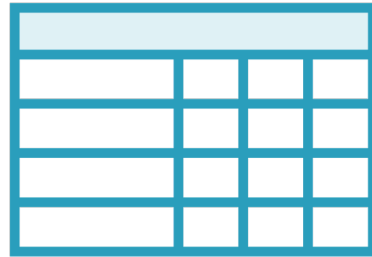


Table Stage



Named Stage



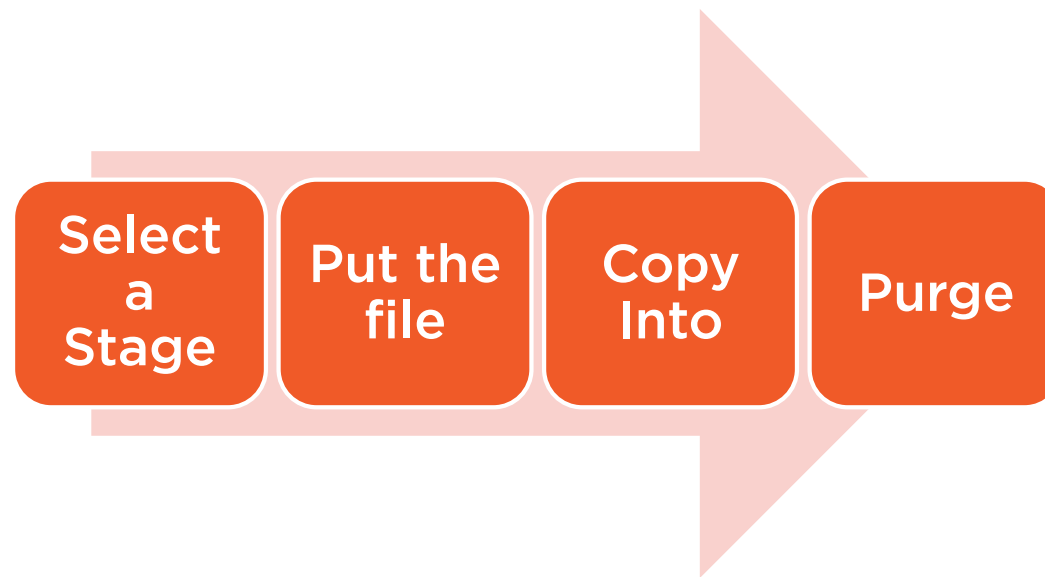


The contents of internal stages are considered active data.

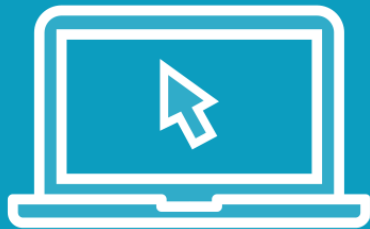




# Import Process



# Demo



Import with the **COPY** command



# Snowpipe



**Continuous data loading**

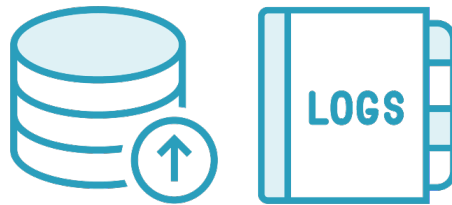
**Serverless feature**

**Same file best practices**

**Recommended 1 minute cadence**



# Load History



Snowflake keeps a load history log and automatically avoids loading the same file multiple times



## Load Metadata



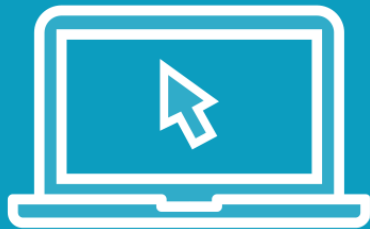
**COPY command metadata expires  
after 64 days**



**Snowpipe metadata expires after 14  
days**



Demo



**Import with Snowpipe**



# Export Tools

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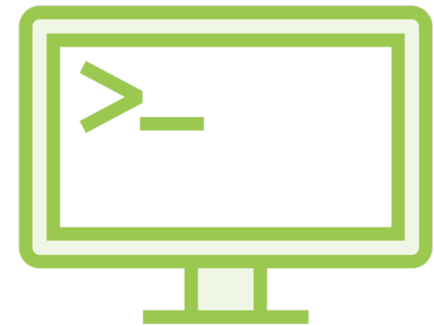
## Available Tools



Web portal



COPY command

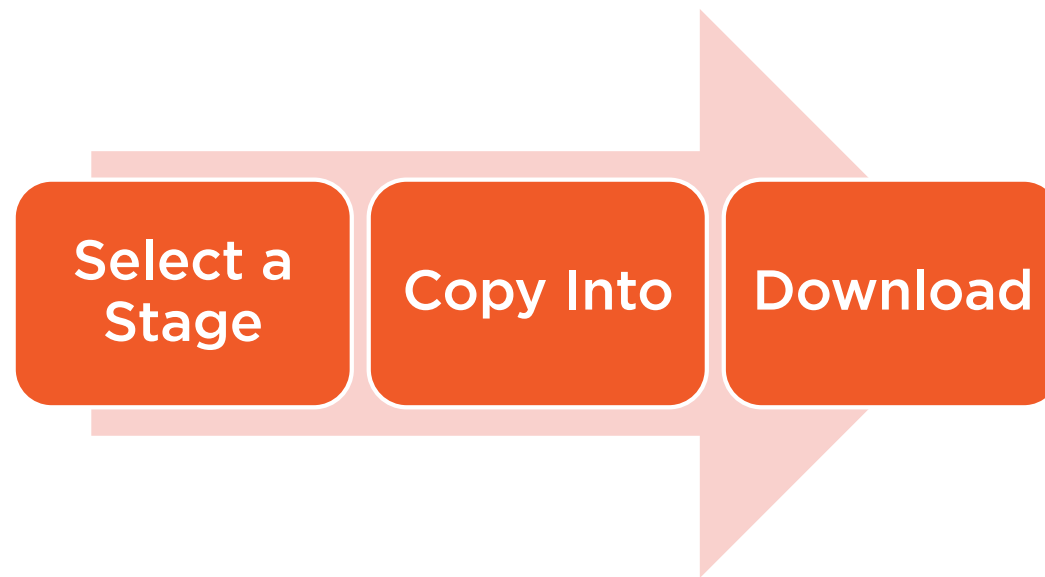


Snowsql

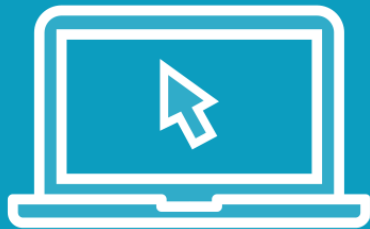




# Export Process



# Demo



Export with the **COPY** command



# Summary



Support for multiple file formats and cloud storage providers

Built-in support for staging data

Batch and continuous import with multiple tools

Batch export with the COPY command



Up Next:

Querying and Monitoring Snowflake

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