**Snowflake Health Check Guide**



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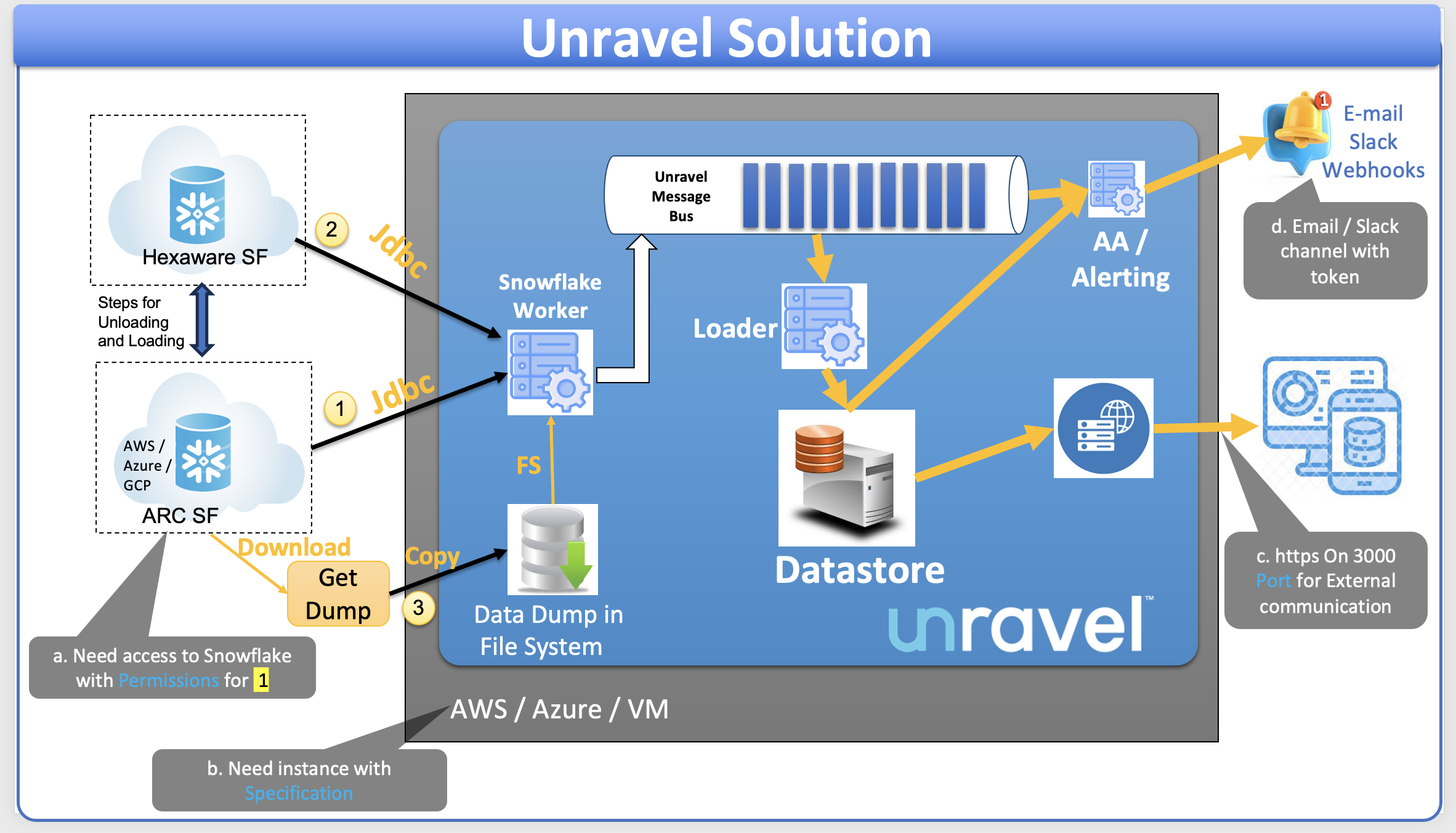
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## Objectives

Health check download for snowflake unravel product.

## Architecture



## Pre-requisite

1. **Snowflake account Access** 
   1. Health check data download from snowflake
      1. Create or select a user in snowflake, which has read access to Snowflake#Account\_usage & Snowflake#Information\_Schema.
      2. Grant selects for unravel user on schema SNOWFLAKE.ACCOUNT\_USAGE & SNOWFLAKE.INFORMATION\_SCHEMA.
      3. User should have permission to create stage and file format.
      4. Snowsql 1.2.27 should be installed
      5. Python3 should be available

## Download Snowflake Metadata for health check.

The following scripts let you download the account usage information from your Snowflake account.

* **snowsql\_download\_data.sql**: Downloads Snowflake metadata or telemetry data.
* **snowsql\_show\_wareshouses.sql**: Downloads Snowflake warehouse's data.
* **snowflake\_query.py**: Downloads Snowflake warehouse parameters

Do the following to download Snowflake metadata:

1. Download the download/upload scripts from this location:

<https://github.com/unraveldata-org/snowflake-data-loader/tree/main/script>

1. Using SnowSQL connect to a Snowflake account. This account must have access to creating **stage** and **file** format.
2. Execute the **snowsql\_download\_data.sql**script with the required arguments to download the metadata from Snowflake **#account\_usage** views. Refer to the following list of arguments for more details:

**Step-1**:

Note : ${variable} -> need to be modified as per site credentials and data

Once you run the script, it will prompt for the password.

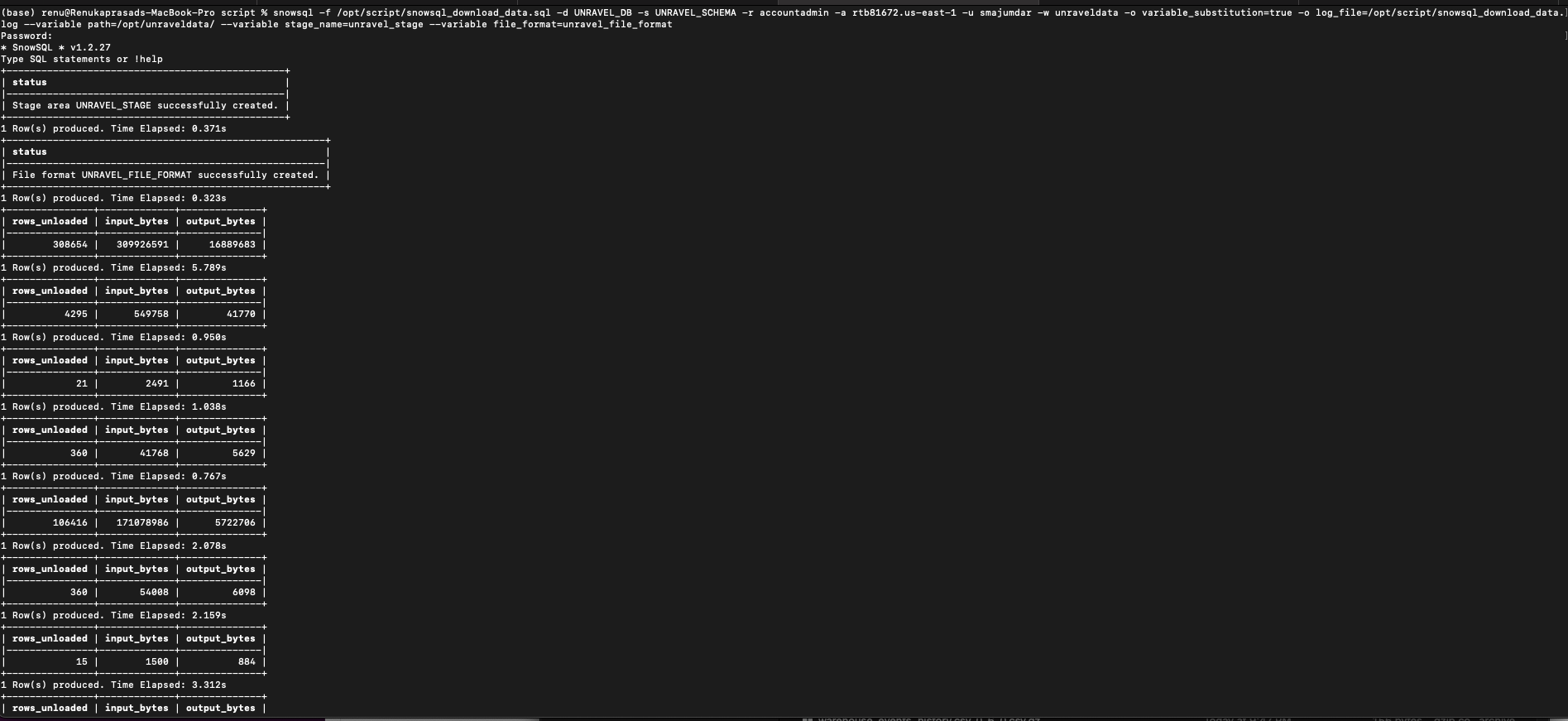
snowsql -f ${downloaded-path}/snowsql\_download\_data.sql -d ${db} -s ${schema} -r ${role} -a ${account} -u ${user} -w ${warehouse} -o variable\_substitution=true -o log\_file=${script output file path/filename} --variable path=$(local/path/to store/downloaded metadata) --variable stage\_name=unravel\_stage\_name --variable file\_format=unravel\_file\_format

For example:

snowsql -f /opt/script/snowsql\_download\_data.sql -d SNOWFLAKE -s ACCOUNT\_USAGE -r accountadmin -a rtb81672.us-east-1 -u smajumdar -w unraveldata -o variable\_substitution=true -o log\_file=/opt/script/snowsql\_download\_data.log --variable path=/opt/unraveldata/ --variable stage\_name=unravel\_stage --variable file\_format=unravel\_file\_format

| Parameter | Description |
| --- | --- |
| -f | Specify the file name of the script that is executed. |
| -d | Specify the database used for the script execution. |
| -s | Specify the name of the schema name used for the script execution. User should have **rights to create the stage and file formats under this** schema. |
| -r | Specify the role of the user who executes the script. |
| -a | Specify the Snowflake account, which will be used for the script execution. |
| -u | Specify the username of the Snowflake user who executes the script. |
| -w | Specify the Snowflake warehouse. |
| -o log\_file | Specify the path to the log file that will be generated when you execute the script. |
| -o | Provide the output-related arguments to get the logs in the specified path and format. |
| -o variable\_substitution | Enable the variable substitution switch in the script. Some variables are used in the script for which the values must be passed from the CLI. Set this to **true**. |
| --variable path | Specify the local path to store the downloaded Snowflake system metadata. |
| --variable stage\_name | Specify the stage name, which is used to keep the temporary files for download and upload. |
| --variable file\_format | Specify the file format name, which is used by upload/download scripts. |

After the script is executed, the Snowflake metadata gets downloaded to the specified location.



**Step-2**:

Execute the snowsql\_show\_wareshouses.sql script with the required arguments to download the warehouse data. Refer to the following list of arguments for more details:

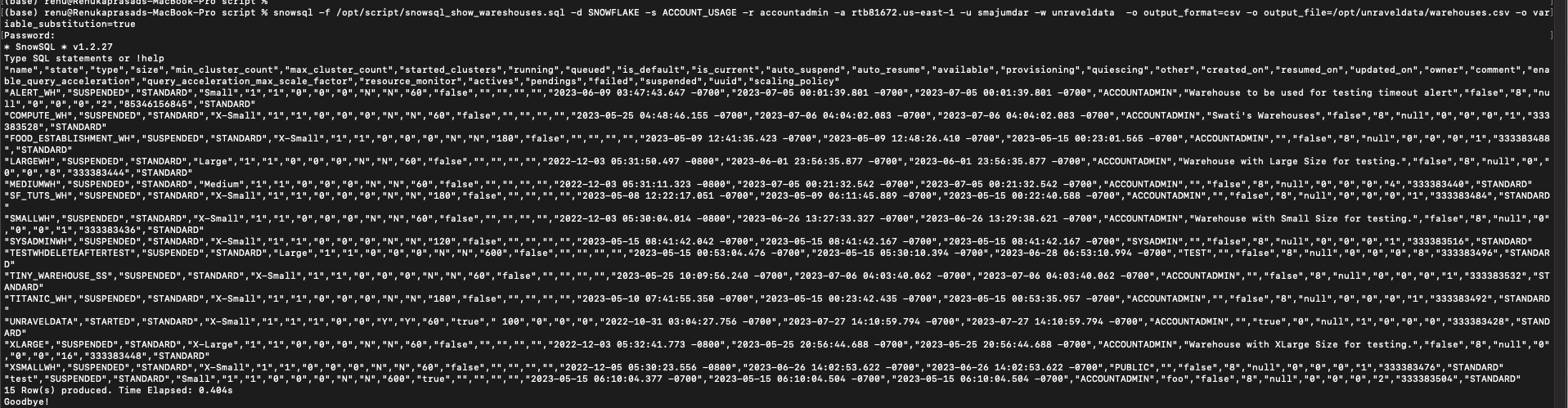
Once you run the script, it will prompt for the password.

snowsql -f ${downloaded-path}/snowsql\_show\_wareshouses.sql -d ${db} -s ${schema} -r ${role} -a ${account} -u ${user} -w ${warehouse} -o output\_format=csv -o output\_file=${path}/warehouses.csv -o variable\_substitution=true

snowsql -f /opt/script/snowsql\_show\_wareshouses.sql -d SNOWFLAKE -s ACCOUNT\_USAGE -r accountadmin -a rtb81672.us-east-1 -u smajumdar -w unraveldata -o output\_format=csv -o output\_file=/opt/unraveldata/warehouses.csv -o variable\_substitution=true

| Parameter | Description |
| --- | --- |
| -f | Specify the file name of the script that is executed. |
| -d | Specify the database used for the script execution. |
| -u | Specify the username of the Snowflake user who executes the script. |
| -s | Specify the name of the schema name used for the script execution. |
| -r | Specify the role of the user who executes the script. |
| -a | Specify the Snowflake account, which will be used for the script execution. |
| -o | Provide the output-related arguments to get the logs in the specified path and format. |
| -o variable\_substitution | Enable the variable substitution switch in the script. Some variables are used in the script for which the values must be passed from the CLI. Set this to **true**. |
| -o output\_file | Specify the path to the output file generated on script execution.  **Note**: The output\_file path should be same as the path mentioned in the **snowsql\_download\_data.sql** command |
| -o output\_format | Specify the output file format on script execution. This is in CSV format. |

After the script is executed, the warehouse data gets downloaded in CSV format at the specified output location.



**Step-3**:

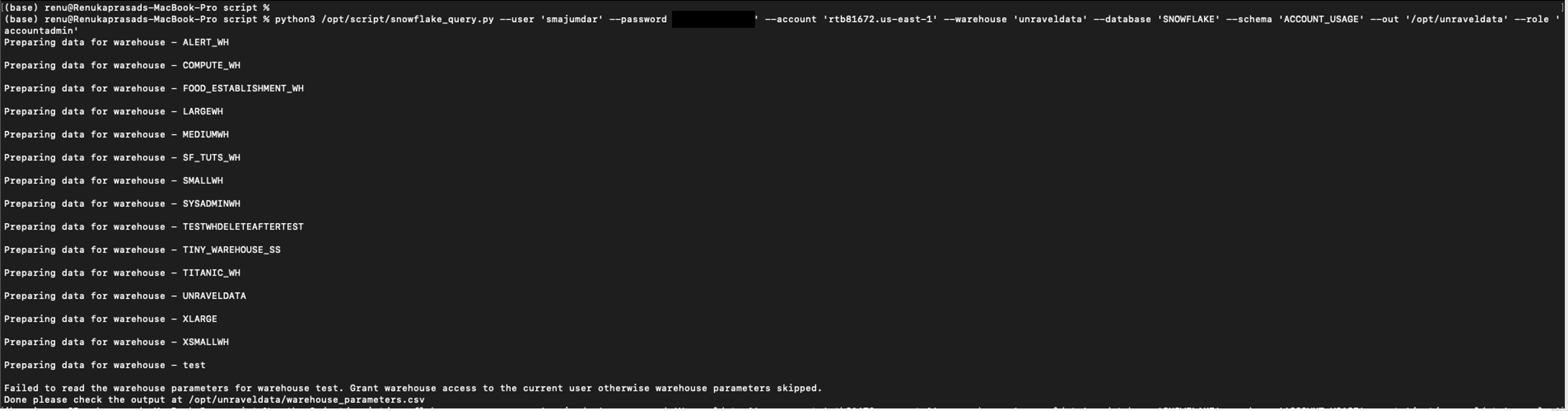
Execute the snowflake\_query.py script with the required arguments to download the warehouse parameters data. Refer to the following list of arguments for more details:

python3 /opt/script/snowflake\_query.py --user '${user}' --password '${password}' --account '${account}' --warehouse '${warehouse}' --database '${db}' --schema '${schema}' --out '/opt/unravel' --role ${role}

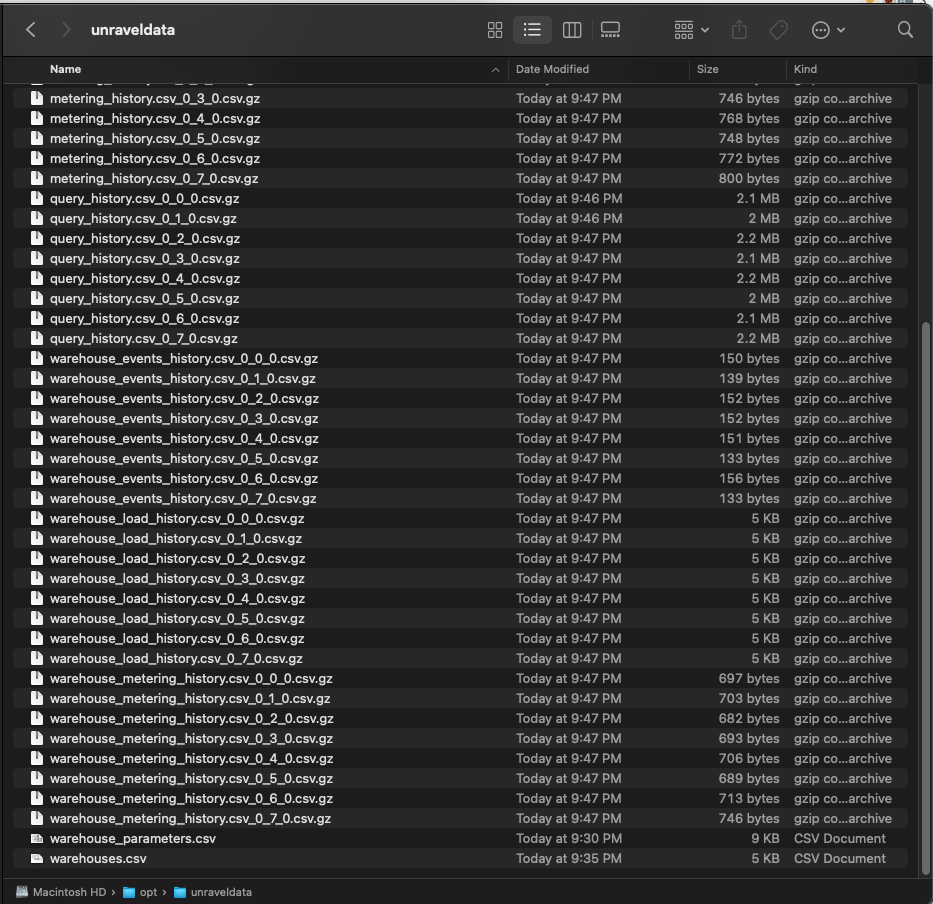
For example:

python3 /opt/script/snowflake\_query.py --user 'smajumdar' --password 'Password' --account 'rtb81672.us-east-1' --warehouse 'unraveldata' --database 'SNOWFLAKE' --schema 'ACCOUNT\_USAGE' --out '/opt/unraveldata' --role 'accountadmin'

| Parameter | Description |
| --- | --- |
| --user | Specify the name of the Snowflake user for the script execution. |
| --password | Specify the Snowflake user account passcode. |
| --database | Specify the database used for the script execution. |
| --schema | Specify the name of the schema that must be used to for the script execution. |
| --role | Specify the role of the user. |
| --account | Specify the Snowflake account, which will be used for the script execution. |
| --out | Specify the path to the output folder. |



## Output Files



**Step-4**:

Execute the snowsql\_upload\_data.sql script with the required arguments to upload all the data downloaded in the above 3 steps. Refer to the following list of arguments for more details:

snowsql -f /opt/script/snowsql\_upload\_data.sql -d $*{db}* -s $*{schema}* -r $*{role}* -a $*{account}* -u $*{user}* -w $*{warehouse}* -o variable\_substitution=true -o log\_file=/opt/script/snowsql\_upload\_data.log --variable path=$*{path}* --variable stage\_name=${unravel\_stage\_upload} --variable file\_format=${unravel\_file\_format\_upload}

For example:

snowsql -f /opt/script/snowsql\_upload\_data.sql -d unravel\_sf\_database -s unravel\_sf\_schema -r unravel\_sf\_role -a unravel\_sf\_account -u unravel\_sf\_user -w unravel\_sf\_warehouse -o variable\_substitution=true -o log\_file=/opt/script/snowsql\_upload\_data.log --variable path=/opt/download\_path/ --variable stage\_name=unravel\_stage\_upload --variable file\_format=unravel\_file\_format\_upload

| Parameter | Description |
| --- | --- |
| -f | Specify the script file that you want to execute. |
| -d | Specify the target Snowflake Account database name. This database should have rights to create stage & file-format. |
| -u | Specify the target Snowflake Account User name. This schema should have rights to create stage & file-format. |
| -s | Specify the target Snowflake Account Schema name. |
| -r | Target Snowflake Account Role |
| -a | Specify the target Snowflake Account name |
| -o variable\_substitution | Enable the variable substitution switch in the script. Some variables are used in the script for which the values must be passed from the CLI. Set this to **true**. |
| -o log\_file | Specify the name of log file that must be generated on command execution. |
| --variable path | Specify the local path to where the snowflake system metadata is downloaded. |
| --variable stage\_name | Specify the stage name, which is used to keep the temporary files for upload. |
| --variable file\_format | Specify the file format name, which is used by the upload scripts. |
| -o | Provide the output related arguments to get the logs in the specified path and format. |

## Video Guide

<https://drive.google.com/open?id=13FvL6XTOzvTYtVAI2MZRRzeOWx0Y_s2r&usp=drive_fs>