**Snowflake Health Check Metadata Download Guide**



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Table Of Contents

[1.1 Objectives 2](#_Toc141993283)

[1.2 Architecture 2](#_Toc141993284)

[1.3 Pre-requisite 2](#_Toc141993285)

[1.4 Download Snowflake Metadata for health check. 3](#_Toc141993286)

[1.5 Output Files 5](#_Toc141993287)

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## Objectives

Health check download for snowflake unravel product.

## Architecture

A computer screen shot of a computer

Description automatically generated

We are going to follow  Download from customer snowflake environment and upload to unravel snowflake environment.

## 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
      6. snowflake-connector-python required to execute snowflake queries in python (Refer the steps here - <https://docs.snowflake.com/en/developer-guide/python-connector/python-connector-install>).
      7. Tested on Mac-OS(12.3), Windows 10, Ubuntu(16.04.7 LTS), CentOS-8

## Download Snowflake Metadata for health check.

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

* **snowsql\_advance\_data\_download.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\_advance\_data\_download.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\_advance\_data\_download.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:

**Windows :**

snowsql -f "**snowsql\_advance\_data\_download.sql**" -d unravel\_db -s unravel\_schema -r accountadmin -a rtb81672.us-east-1 -u unraveluser -w unraveldata -o variable\_substitution=true -o log\_file=.\snowsql\_download\_data.log --variable path=C:\opt\unraveldata\ --variable stage\_name=unravel\_stage --variable file\_format=unravel\_file\_format

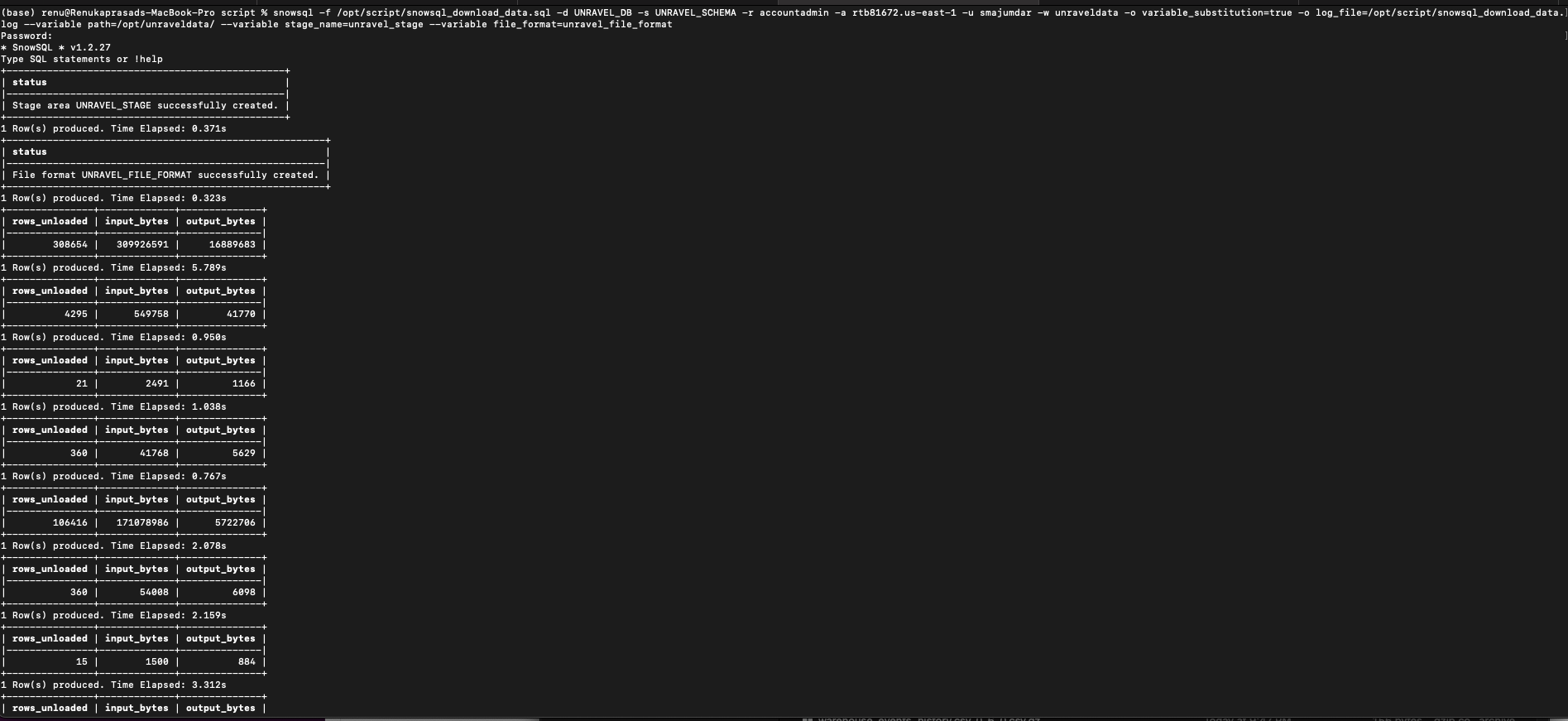
During copy make sure double quotes are correctly transferred.

**Mac / Linux :**

snowsql -f **snowsql\_advance\_data\_download.sql** -d unravel\_db -s unravel\_schema -r accountadmin -a rtb81672.us-east-1 -u unraveluser -w unraveldata -o variable\_substitution=true -o log\_file=./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. Either specify the fully qualified name or just filename from the current directly.  **For Windows:** Please put the parameter value in double quotes ("") |
| -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.  If any issues with the relative path, please provide absolute path. |
| -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

**Windows :**

snowsql -f "snowsql\_show\_wareshouses.sql" -d unravel\_db -s unravel\_schema -r accountadmin -a rtb81672.us-east-1 -u unraveluser -w unraveldata -o output\_format=csv -o output\_file=C:\opt\unraveldata\warehouses.csv -o variable\_substitution=true

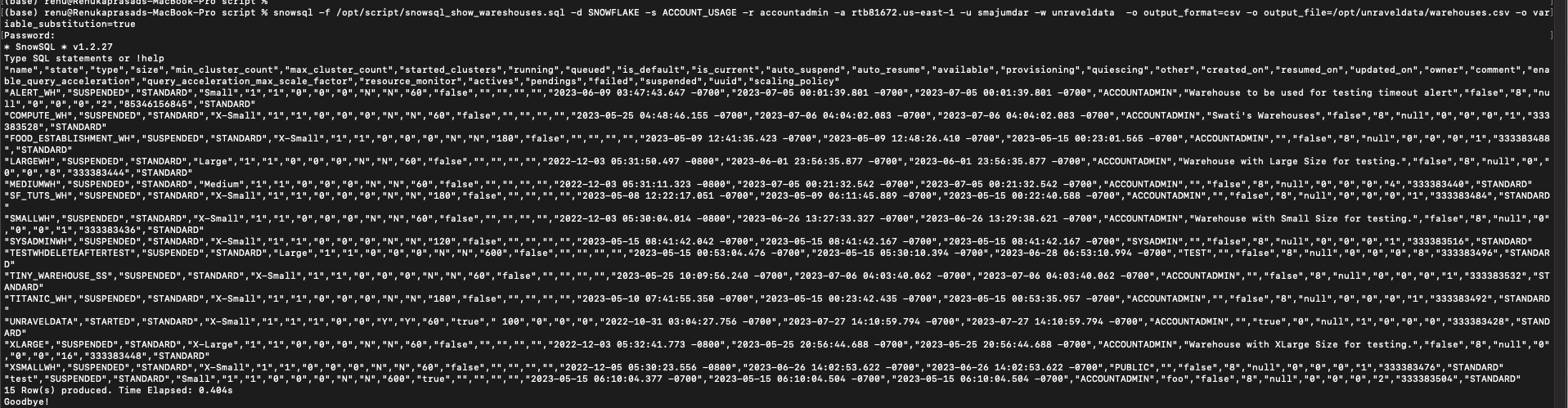
During copy make sure double quotes are correctly transferred.

**Mac / Linux :**

snowsql -f snowsql\_show\_wareshouses.sql -d unravel\_db -s unravel\_schema -r accountadmin -a rtb81672.us-east-1 -u unraveluser -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. Either specify the fully qualified name or just filename from the current directly.  For Windows: Please put the parameter value in double quotes ("") |
| -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.  Generated filename should be ‘warehouses.csv’ as mentioned in the command/example. Don’t change the filename here.  **Note**: The output\_file path should be same as the path mentioned in the **snowsql\_download\_data.sql** command  If any issues with the relative path, please provide absolute path. |
| -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 snowflake\_query.py --user '${user}' --password '${password}' --account '${account}' --warehouse '${warehouse}' --database '${db}' --schema '${schema}' --out '/opt/unravel' --role ${role}

For example:

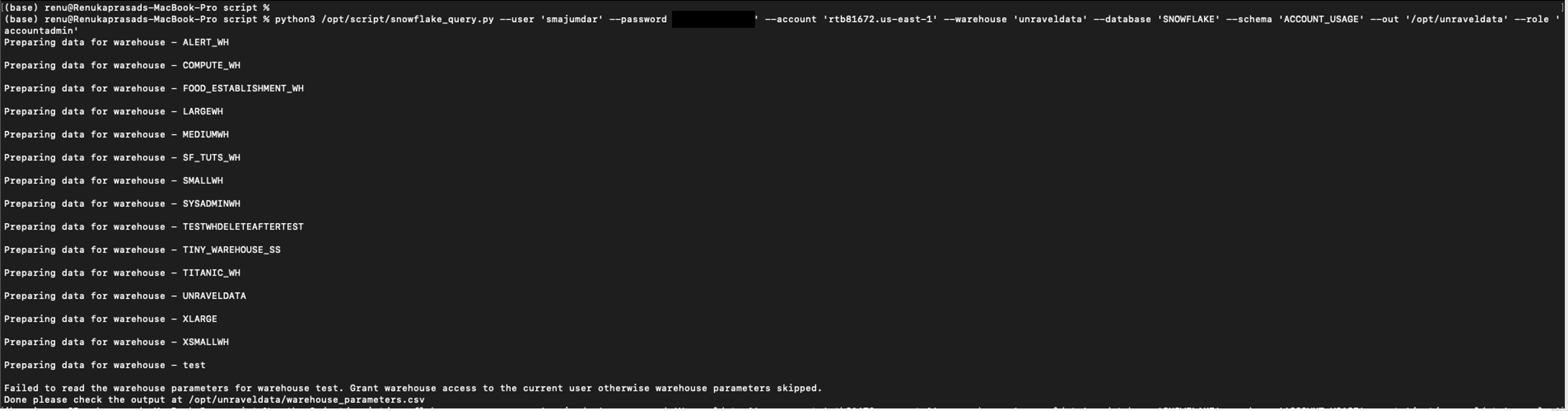
**Windows :**

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

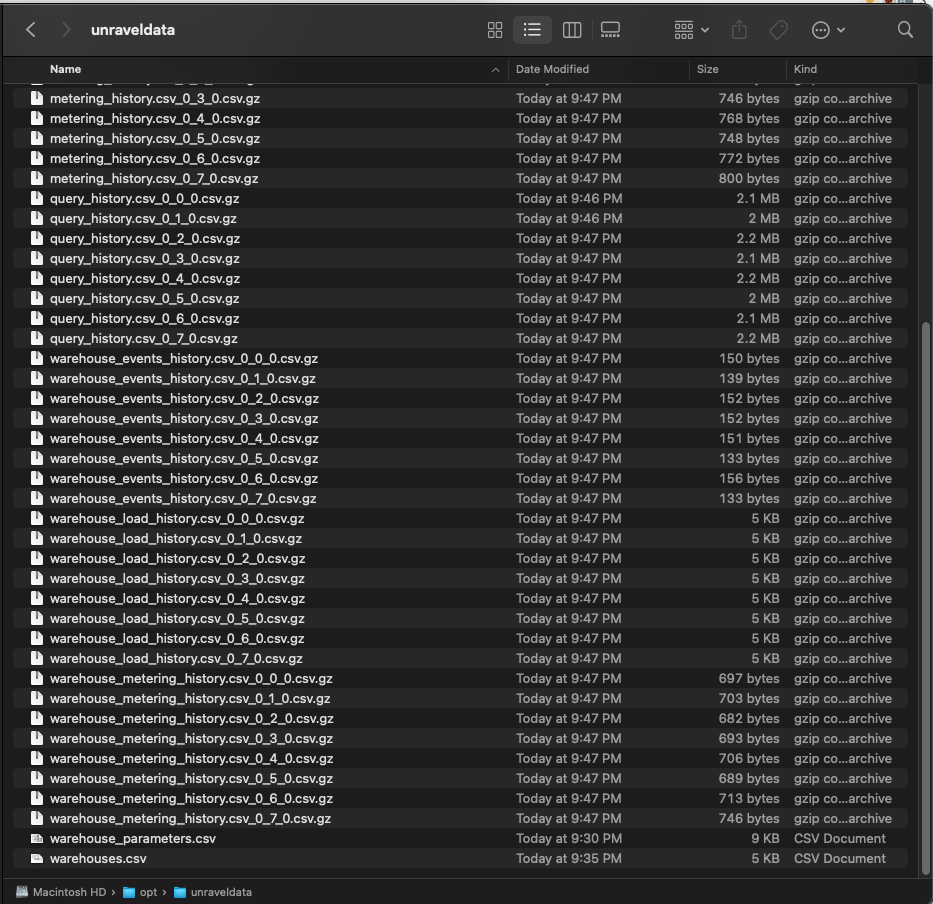
**Mac / Linux :**

python3 snowflake\_query.py --user 'unraveluser' --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 (Sample)



## Video Guide

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