



Experiment No. 2
Use of Sqoop tool
Date of Performance: 24/7/23
Date of Submission: 31/7/23



Aim:

To install SQOOP and execute basic commands of Hadoop eco system component Sqoop.

Theory:

Installation and configuration of SQOOP:

- 1) Download SQOOP from <https://sqoop.apache.org>
- 2) Unzip and Install SQOOP

After Downloading the SQOOP, we need to Unzip the sqoop-1.4.7.bin__hadoop-2.6.0.tar.gz file.

- 3) Create a folder and move the final extracted file in it.
- 4) Set up the environment variables
 - a. Set SQOOP_HOME
 - b. Set up path variable
- 5) Configure SQOOP

Basic SQOOP commands:

1. List Table:

This command lists the particular table of the database in MYSQL server.

```
sqoop list - tables --connect jdbc:mysql://localhost/payment --username gatner
```

2. Target Directory:

This command import table in a specific directory in HDFS. -m denotes mapper argument. They have an integer value.



```
$ sqoop import --connect jdbc:mysql://localhost/inventory --username jony -table inventory --m 1 --target-dir/inv
```

3. sqoop-eval:

This command runs quickly SQL queries of the respective database.

```
$ sqoop eval --connect --query "SQLQuery"
```

4. sqoop – version:

This command displays version of the sqoop.

```
$ sqoop version      sqoop {revnumber}
```

5. sqoop-job:

This command allows us to create a job, the parameters that are created can be invoked at any time. They take options like (–create,–delete,–show,–exit).

```
$ sqoop job --create --import --connect --table
```

6.codegen:

This Sqoop command creates java class files which encapsulate the imported records. All the java

```
$ sqoop codegen --connect -table
```

files are recreated, and new versions of a class are generated. They generate code to interact with database records. Retrieves a list of all the columns and their datatypes.



Vidyavardhini's College of Engineering & Technology

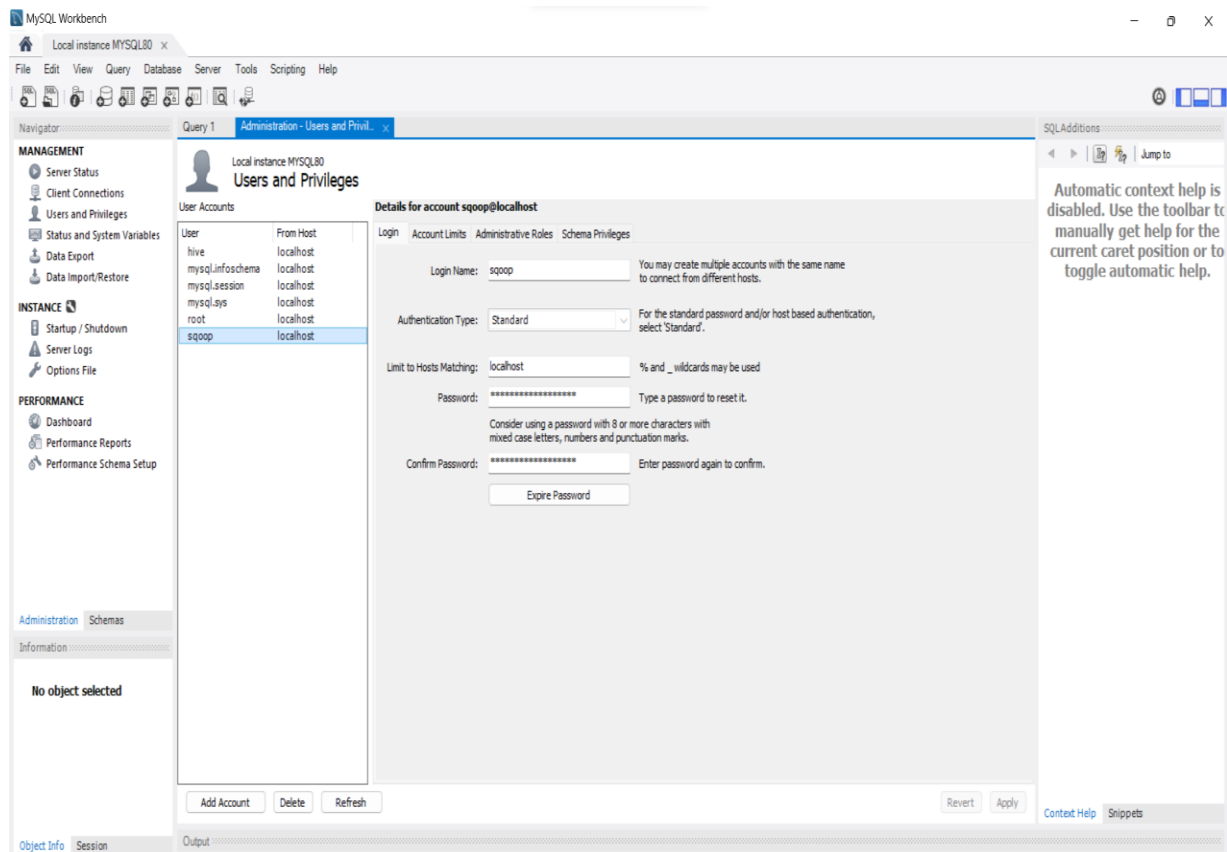
Department of Computer Engineering

7. List Database

This Sqoop command lists have all the available database in the RDBMS server.

```
>$ sqoop list - database -- connect
```

Output:





Vidyavardhini's College of Engineering & Technology

Department of Computer Engineering

MySQL Workbench - Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: Administration - Users and Privileges

Local instance MySQL80
Users and Privileges

User Accounts

User	From Host
hive	localhost
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost
sqoop	localhost

Details for account sqoop@localhost

Login Account Limits Administrative Roles Schema Privileges

Role Description

- ☐ DBA: grants the rights to perform all tasks
- ☐ MaintenanceAdmin: grants rights needed to maintain server
- ☐ ProcessAdmin: grants rights to assess, monitor, and kill any user process
- ☐ UserAdmin: grants rights to create users/logins and reset passwords
- ☐ SecurityAdmin: grants rights to manage logins and grant and revoke server access
- ☐ MonitorAdmin: minimum set of rights needed to monitor server
- ☒ DBManager: grants full rights on all databases
- ☒ DBDesigner: rights to create and reverse engineer any database schema
- ☐ ReplicationAdmin: rights needed to setup and manage replication
- ☒ BackupAdmin: minimal rights needed to backup any database

Global Privileges

- ☒ ALTER
- ☒ ALTER ROUTINE
- ☒ CREATE
- ☐ CREATE ROUTINE
- ☐ CREATE TABLESPACE
- ☒ CREATE TEMPORARY TABLES
- ☐ CREATE USER
- ☒ CREATE VIEW
- ☒ DELETE
- ☒ DROP
- ☒ EVENT
- ☐ EXECUTE
- ☐ FILE
- ☒ GRANT OPTION
- ☒ INDEX
- ☒ INSERT
- ☐ LOCK TABLES
- ☐ PROCESS
- ☐ REFERENCES
- ☐ RELOAD
- ☐ REPLICATION CLIENT
- ☐ REPLICATION SLAVE
- ☒ SELECT
- ☒ SHOW DATABASES
- ☒ SHOW VIEW
- ☐ SHUTDOWN
- ☐ TRIGGER

Revoke All Privileges

Add Account Delete Refresh Revert Apply

Output

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

MySQL Workbench - Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: Administration - Users and Privileges

Local instance MySQL80
Users and Privileges

User Accounts

User	From Host
hive	localhost
mysql.infoschema	localhost
mysql.session	localhost
mysql.sys	localhost
root	localhost
sqoop	localhost

Details for account sqoop@localhost

Login Account Limits Administrative Roles Schema Privileges

Schema Privileges

Schema	Privileges
%	ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DELETE, DROP, EVENT, EXECUTE, GRANT OPTION, INDEX, INSERT, LOCK TABLES, PROCESS, REFERENCES, RELOAD, REPLICATION CLIENT, REPLICATION SLAVE, SELECT, SHOW DATABASES, SHOW VIEW, SHUTDOWN, TRIGGER
information_schema	ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DELETE, DROP, EVENT, EXECUTE, GRANT OPTION, INDEX, INSERT, LOCK TABLES, PROCESS, REFERENCES, RELOAD, REPLICATION CLIENT, REPLICATION SLAVE, SELECT, SHOW DATABASES, SHOW VIEW, SHUTDOWN, TRIGGER

Revoke All Privileges Delete Entry Add Entry...

Schema and Host fields may use % and _ wildcards.
The server will match specific entries before wildcarded ones.

The user 'sqoop@localhost' will have the following access rights to any schema:

Object Rights

- ☒ SELECT
- ☒ INSERT
- ☒ UPDATE
- ☒ DELETE
- ☒ EXECUTE
- ☒ SHOW VIEW

DDL Rights

- ☒ CREATE
- ☒ ALTER
- ☒ REFERENCES
- ☒ INDEX
- ☒ CREATE VIEW
- ☒ CREATE ROUTINE
- ☒ ALTER ROUTINE
- ☒ EVENT
- ☒ DROP
- ☒ TRIGGER

Other Rights

- ☐ GRANT OPTION
- ☒ CREATE TEMPORARY TABLES
- ☒ LOCK TABLES

Unselect All Select "ALL"

Add Account Delete Refresh Revert Apply

Output

SQLAdditions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.



```
Administrator: Command Prompt
Try --help for usage instructions.

C:\Windows\System32>sqoop list-databases --connect jdbc:mysql://localhost/ --username root --password root
Warning: HBASE_HOME and HBASE_VERSION not set.
Warning: HCAT_HOME not set
Warning: HCATALOG_HOME does not exist HCatalog imports will fail.
Please set HCATALOG_HOME to the root of your HCatalog installation.
Warning: ACCUMULO_HOME not set.
Warning: ZOOKEEPER_HOME not set.
Warning: HBASE_HOME does not exist HBase imports will fail.
Please set HBASE_HOME to the root of your HBase installation.
Warning: ACCUMULO_HOME does not exist Accumulo imports will fail.
Please set ACCUMULO_HOME to the root of your Accumulo installation.
Warning: ZOOKEEPER_HOME does not exist Accumulo imports will fail.
Please set ZOOKEEPER_HOME to the root of your Zookeeper installation.
2023-10-12 14:13:00,117 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6
2023-10-12 14:13:00,131 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
2023-10-12 14:13:00,241 INFO manager.MySQLManager: Preparing to use a MySQL streaming resultset.
Loading class 'com.mysql.jdbc.Driver'. This is deprecated. The new driver class is 'com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI and manual loading of the driver class is generally unnecessary.
mysql
information_schema
performance_schema
sys
temp
temp1

C:\Windows\System32>S_
```

Conclusion:

Sqoop is a tool designed for transferring extensive amounts of data between Hadoop and external datastores like relational databases, such as MS SQL Server and MySQL. In general, Sqoop operations are straightforward for users to grasp, as it processes user commands through a command-line interface. This tool allows us to perform ETL (Extract, Transform, Load) processes efficiently and cost-effectively. In our experiment, we achieved a successful installation and configuration of the Sqoop tool within the Hadoop ecosystem.