



Vidyavardhini's College of Engineering & Technology

Department of Computer Engineering

Experiment No. 2
Use of Sqoop tool
Date of Performance:
Date of Submission:



AIM: To install SQOOP and execute basic commands of Hadoop ecosystem 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. code gen

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

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

7. List Database

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

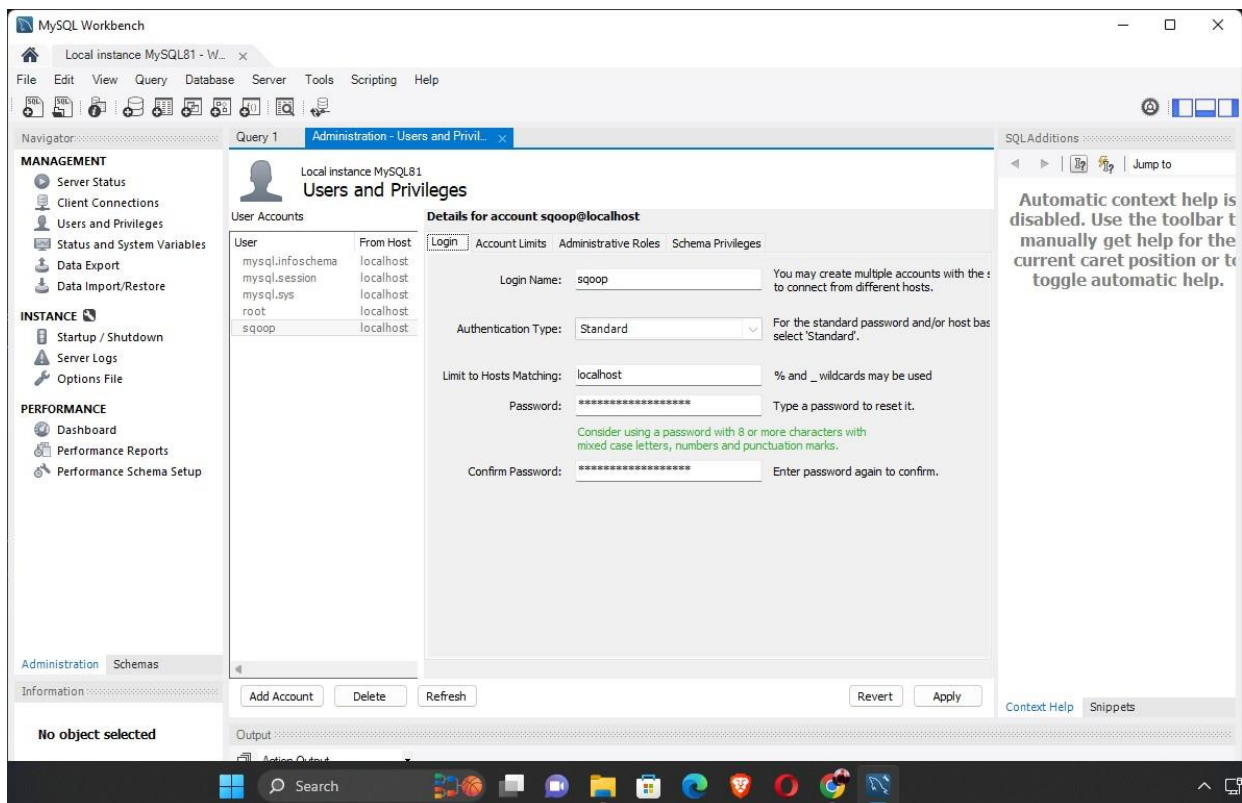
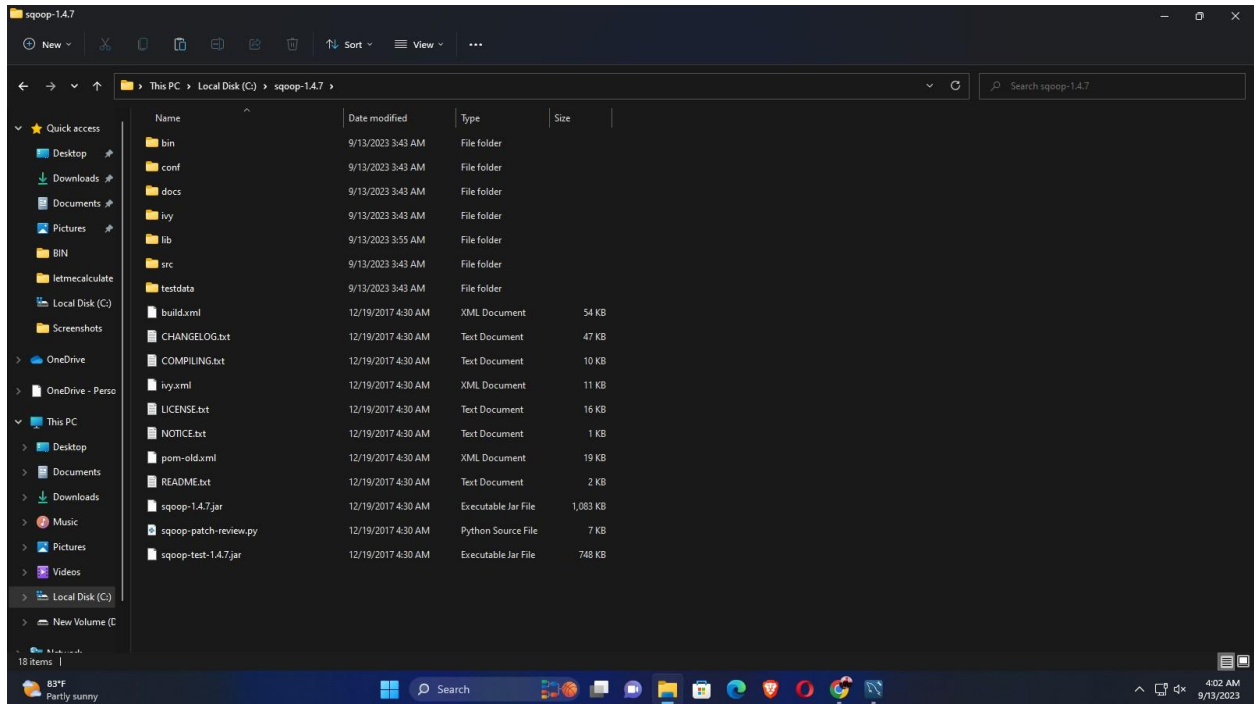
```
>$ sqoop list - database -- connect
```



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OUTPUT:





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MySQL Workbench

Local instance MySQL81 - W...

File Edit View Query Database Server Tools Scripting Help

Navigator: Administration - Users and Priv...

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Local instance MySQL81

Users and Privileges

User Accounts

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

Details for account sqoop@localhost

Administrative Roles

Role	Description
<input type="checkbox"/> DBA	grants the rights to
<input type="checkbox"/> MaintenanceAdmin	grants rights neede
<input type="checkbox"/> ProcessAdmin	rights needed to as
<input type="checkbox"/> UserAdmin	grants rights to cre
<input type="checkbox"/> SecurityAdmin	rights to manage lo
<input type="checkbox"/> MonitorAdmin	minimum set of rig
<input checked="" type="checkbox"/> DBManager	grants full rights o
<input checked="" type="checkbox"/> DBDesigner	rights to create and
<input type="checkbox"/> ReplicationAdmin	rights needed to se
<input checked="" type="checkbox"/> BackupAdmin	minimal rights need

Global Privileges

Privilege	Status
<input checked="" type="checkbox"/> ALTER	checked
<input checked="" type="checkbox"/> ALTER ROUTINE	checked
<input checked="" type="checkbox"/> CREATE	checked
<input checked="" type="checkbox"/> CREATE ROUTINE	checked
<input type="checkbox"/> CREATE TABLESPACE	unchecked
<input checked="" type="checkbox"/> CREATE TEMPORARY TABLES	checked
<input checked="" type="checkbox"/> CREATE USER	checked
<input checked="" type="checkbox"/> CREATE VIEW	checked
<input checked="" type="checkbox"/> DELETE	checked
<input checked="" type="checkbox"/> DROP	checked
<input type="checkbox"/> EVENT	unchecked
<input type="checkbox"/> EXECUTE	unchecked
<input type="checkbox"/> FILE	unchecked
<input type="checkbox"/> GRANT OPTION	unchecked
<input checked="" type="checkbox"/> INDEX	checked
<input checked="" type="checkbox"/> INSERT	checked
<input checked="" type="checkbox"/> LOCK TABLES	checked
<input type="checkbox"/> PROCESS	unchecked
<input type="checkbox"/> REFERENCES	unchecked

Revoke All Privileges

Add Account Delete Refresh Revert Apply

Context Help Snippets

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 MySQL81 - W...

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PERFORMANCE

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Local instance MySQL81

Users and Privileges

User Accounts

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

Details for account sqoop@localhost

Schema Privileges

Schema	Privileges
%_bigdata%	ALTER, ALTER ROUTINE, CREATE, CREATE ROUTINE, CREATE TEMPORARY TABLES, CREATE VIEW, DE

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 schemas matching '%_bigdata%':

Object Rights

Right	Status
<input checked="" type="checkbox"/> SELECT	checked
<input checked="" type="checkbox"/> INSERT	checked
<input checked="" type="checkbox"/> UPDATE	checked
<input checked="" type="checkbox"/> DELETE	checked
<input checked="" type="checkbox"/> EXECUTE	checked
<input checked="" type="checkbox"/> SHOW VIEW	checked

DDL Rights

Right	Status
<input checked="" type="checkbox"/> CREATE	checked
<input checked="" type="checkbox"/> ALTER	checked
<input checked="" type="checkbox"/> REFERENCES	checked
<input checked="" type="checkbox"/> INDEX	checked
<input checked="" type="checkbox"/> CREATE VIEW	checked
<input checked="" type="checkbox"/> CREATE ROUTINE	checked
<input checked="" type="checkbox"/> ALTER ROUTINE	checked
<input checked="" type="checkbox"/> EVENT	checked
<input checked="" type="checkbox"/> DROP	checked
<input checked="" type="checkbox"/> TRIGGER	checked

Other Rights

Right	Status
<input checked="" type="checkbox"/> GRANT OPTION	checked
<input checked="" type="checkbox"/> CREATE TEMPORARY TABLES	checked
<input checked="" type="checkbox"/> LOCK TABLES	checked

The REFERENCES privilege currently is unused.

Revoke All Privileges Delete Entry Add Entry...

Add Account Delete Refresh Revert Apply

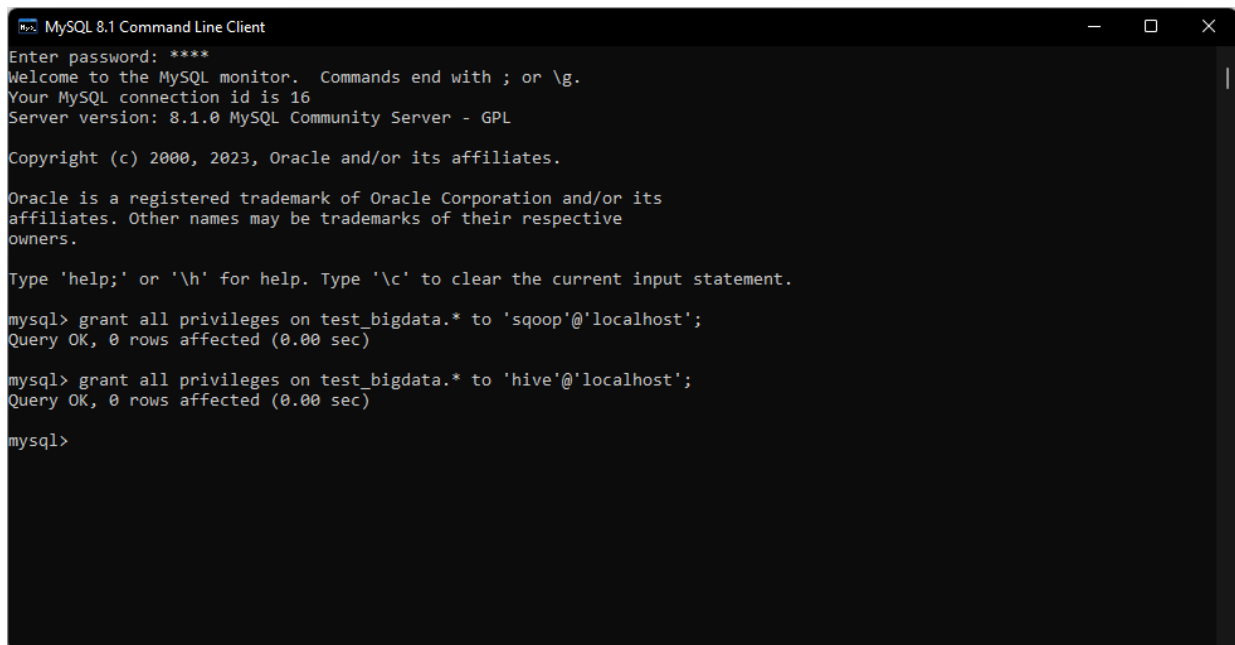
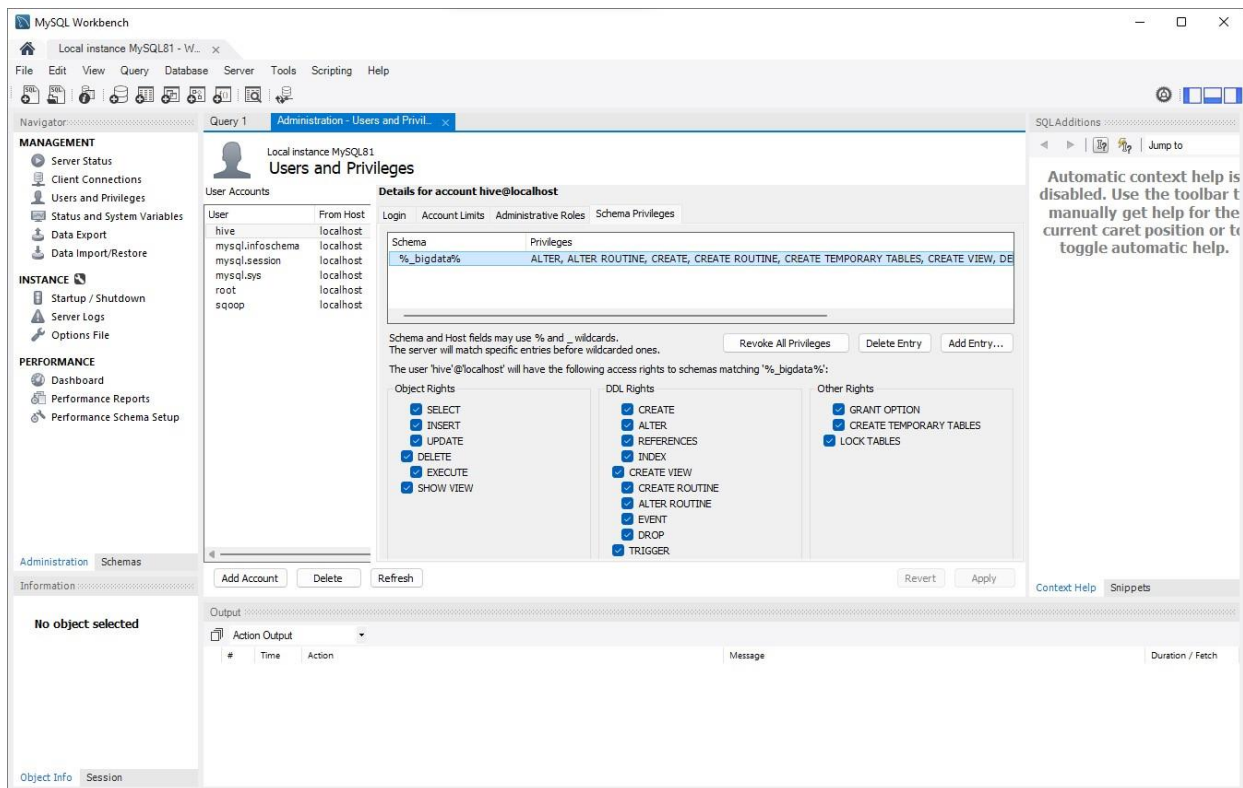
Context Help Snippets

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```
Command Prompt
Microsoft Windows [Version 10.0.22000.2295]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>echo %SQOOP_HOME%
C:\sqoop-1.4.7

C:\Users\admin>sqoop list-databases --connect jdbc:mysql://localhost/ --username sqoop -P
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.
2023-09-13 04:22:22,757 INFO sqoop.Sqoop: Running Sqoop version: 1.4.7
Enter password:
2023-09-13 04:22:26,809 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 drive
r is automatically registered via the SPI and manual loading of the driver class is generally unnecessary.
mysql
information_schema
performance_schema
sys
C:\Users\admin>
```

```
Command Prompt
No such sqoop tool: list. See 'sqoop help'.

C:\Users\admin>sqoop list-tables --connect jdbc:mysql://localhost/ --username sqoop -P
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.
2023-09-13 04:25:49,023 INFO sqoop.Sqoop: Running Sqoop version: 1.4.7
Enter password:
2023-09-13 04:25:53,985 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 drive
r is automatically registered via the SPI and manual loading of the driver class is generally unnecessary.

C:\Users\admin>
```

CONCLUSION:

The trial focused on implementing and employing Sqoop, a crucial element in the Hadoop framework. It effectively illustrated Sqoop's functionalities, such as establishing connections with various databases, transferring data between Hadoop and relational databases, and executing data modifications during the transfer process. The experiment highlighted Sqoop's ability to transfer data in parallel and seamlessly integrate with other Hadoop components. It underscored Sqoop's pivotal role in bridging the gap between Hadoop's dispersed storage and relational databases, emphasizing its vital importance for organizations handling diverse data sources. Mastery of Sqoop empowers data professionals with essential competencies to streamline data workflows and optimize the potential of large-scale data projects.



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