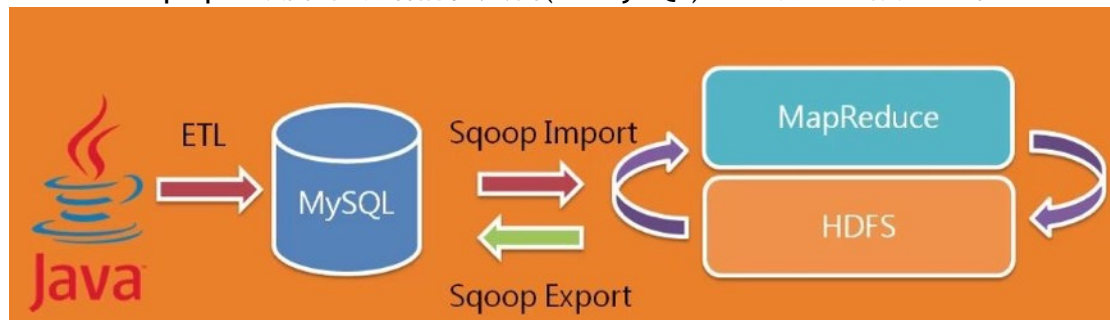


# Sqoop Setup

## 1. 簡介：

- Sqoop是設計來讓結構化資料(如.MySQL)可以讓HDFS讀入和取出



- Sqoop目前有Sqoop1和Sqoop2兩種版本。Sqoop1較為簡化，本文件將進行的是Sqoop1的安裝和使用測試。

## 2. install Sqoop

- 訪問Sqoop網站，可以看到目前Sqoop1和Sqoop2的最新版本

The first screenshot shows the Apache Sqoop website (sqoop.apache.org). It features the Sqoop logo, the Apache Software Foundation logo, and navigation links. The text states: "Apache Sqoop(TM) is a tool designed for efficiently transferring bulk data between Apache Hadoop and structured datastores such as relational databases." It also mentions that Sqoop graduated from the Incubator in March 2012 and is now a Top-Level Apache project. The latest stable release is 1.4.6 (download, documentation) and the latest cut of Sqoop2 is 1.99.7 (download, documentation). Note that 1.99.7 is not compatible with 1.4.6 and not feature complete, it is not intended for production deployment.

The second screenshot shows the Apache download page for Sqoop 1.4.6 (www.apache.org/dyn/closer.lua/sqoop/1.4.6). It lists several HTTP mirrors for downloading the software:

- <http://apache.stu.edu.tw/sqoop/1.4.6>
- <http://ftp.mirror.tw/pub/apache/sqoop/1.4.6>
- <http://ftp.tc.edu.tw/pub/Apache/sqoop/1.4.6>
- <http://ftp.twaren.net/Unix/Web/apache/sqoop/1.4.6>

Index of /scoop/1.4.6 x +

← ⓘ apache.stu.edu.tw/scoop/1.4.6/ ↻ 🔍 Search

## Index of /scoop/1.4.6

| Name  | Last modified    | Size | Description |
|---|------------------|------|-------------|
| <a href="#">Parent Directory</a>                          |                  | -    |             |
| <a href="#">scoop-1.4.6.bin_hadoop-0.23.tar.gz</a>        | 2015-05-08 16:28 | 16M  |             |
| <a href="#">scoop-1.4.6.bin_hadoop-1.0.0.tar.gz</a>       | 2015-05-08 16:28 | 16M  |             |
| <a href="#">scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz</a> | 2015-05-08 16:28 | 16M  |             |
| <a href="#">scoop-1.4.6.tar.gz</a>                        | 2015-05-08 16:28 | 2.1M |             |

- 請開啟HadoopMaster主機的終端
- 下載Scoop1，輸入 `wget http://apache.stu.edu.tw/scoop/1.4.6/scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ wget http://apache.stu.edu.tw/scoop/1.4.6/scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz
--2016-12-25 11:19:26-- http://apache.stu.edu.tw/scoop/1.4.6/scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz
Resolving apache.stu.edu.tw (apache.stu.edu.tw)... 120.119.118.1, 2001:e10:c41:eee::1
Connecting to apache.stu.edu.tw (apache.stu.edu.tw)|120.119.118.1|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 16870735 (16M) [application/x-gzip]
Saving to: 'scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz'

scoop-1.4.6.bin  1%[          ] 216.12K  87.9KB/s
```

- 執行解壓縮，輸入 `tar -zxvf scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ tar -zxvf scoop-1.4.6.bin_hadoop-2.0.4-alpha.tar.gz
scoop-1.4.6.bin_hadoop-2.0.4-alpha/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/bin/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/conf/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/api/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/api/com/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/api/com/cloudera/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/api/com/cloudera/scoop/
scoop-1.4.6.bin_hadoop-2.0.4-alpha/docs/api/com/cloudera/scoop/lib/
```

- 移動Scoop資料夾，輸入 `sudo mv scoop-1.4.6.bin_hadoop-2.0.4-alpha /usr/local/scoop`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ sudo mv scoop-1.4.6.bin_hadoop-2.0.4-alpha /usr/local/scoop
[sudo] password for hduser:
hduser@hadoopmaster:~$
```

- 修改~/.bashrc，輸入 `sudo gedit ~/.bashrc`
- 輸入下列指令

```
export SCOOP_HOME=/usr/local/scoop
export PATH=$PATH:$SCOOP_HOME/bin
```

```
hduser@hadoopmaster: ~  
hduser@hadoopmaster:~$ sudo gedit ~/.bashrc  
*.bashrc  
export PATH=$PATH:$SPARK_HOME/bin  
#SPARK Variables  
#SQOOP Variables  
export SQOOP_HOME=/usr/local/sqoop  
export PATH=$PATH:$SQOOP_HOME/bin  
#SQOOP Variables
```

- 執行更新過的~/.bashrc檔，輸入source ~/.bashrc

```
hduser@hadoopmaster:~$ source ~/.bashrc  
hduser@hadoopmaster:~$
```

- 此時已可以執行Sqoop，輸入Sqoop可看到許多Warning

```
hduser@hadoopmaster:~$ sqoop  
Warning: /usr/local/sqoop/../../hbase does not exist! HBase imports will fail.  
Please set $HBASE_HOME to the root of your HBase installation.  
Warning: /usr/local/sqoop/../../hcatalog does not exist! HCatalog jobs will fail.  
Please set $HCAT_HOME to the root of your HCatalog installation.  
Warning: /usr/local/sqoop/../../accumulo does not exist! Accumulo imports will fail  
.  
Please set $ACCUMULO_HOME to the root of your Accumulo installation.  
Warning: /usr/local/sqoop/../../zookeeper does not exist! Accumulo imports will fail  
l.  
Please set $ZOOKEEPER_HOME to the root of your Zookeeper installation.  
Try 'sqoop help' for usage.  
hduser@hadoopmaster:~$
```

- 修改configure-sqoop檔，輸入sudo gedit /usr/local/sqoop/bin/configure-sqoop
- 將
  - ✓ HBASE\_HOME
  - ✓ HCAT\_HOME
  - ✓ HIVE\_CONF\_DIR
  - ✓ ACCUMULO\_HOME
  - ✓ ZOOKEEPER\_HOME的runtime check warning message設定以# 註解掉

```
hduser@hadoopmaster:~$ sudo gedit /usr/local/sqoop/bin/configure-sqoop  
configure-sqoop  
## Moved to be a runtime check in sqoop.  
#if [ ! -d "${HBASE_HOME}" ]; then  
# echo "Warning: $HBASE_HOME does not exist! HBase imports will fail."  
# echo "Please set $HBASE_HOME to the root of your HBase installation."  
#fi  
## Moved to be a runtime check in sqoop.  
#if [ ! -d "${HCAT_HOME}" ]; then  
# echo "Warning: $HCAT_HOME does not exist! HCatalog jobs will fail."  
# echo "Please set $HCAT_HOME to the root of your HCatalog installation."  
#fi  
## Moved to be a runtime check in sqoop.  
#if [ ! -d "${ACCUMULO_HOME}" ]; then  
# echo "Warning: $ACCUMULO_HOME does not exist! Accumulo imports will fail."  
# echo "Please set $ACCUMULO_HOME to the root of your Accumulo installation."  
#fi  
## Moved to be a runtime check in sqoop.  
#if [ ! -d "${ZOOKEEPER_HOME}" ]; then  
# echo "Warning: $ZOOKEEPER_HOME does not exist! Accumulo imports will fail."  
# echo "Please set $ZOOKEEPER_HOME to the root of your Zookeeper installation."  
#fi
```

- 再輸入sqoop就沒有warnings了

```
hduser@hadoopmaster:~$ sqoop  
Try 'sqoop help' for usage.  
hduser@hadoopmaster:~$
```

### 3. 資料測試—資料匯入HDFS



- 請將附檔的ratings.txt檔放到/usr/local/sqoop中  
✓ 可以用`sudo gedit /usr/local/sqoop/ratings.txt`，再將文字內容貼上
- 安裝MySQL(結構化資料來源)，如已有安裝MySQL可跳到匯入資料步驟
- 安裝MySQL，輸入`sudo apt-get install mysql-server`，帳密設定為hduser/hduser

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ sudo apt-get install mysql-server
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following packages were automatically installed and are no longer required:
  linux-headers-4.4.0-31 linux-headers-4.4.0-31-generic
  linux-image-4.4.0-31-generic linux-image-extra-4.4.0-31-generic
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  libaio1 libevent-core-2.0-5 libhtml-template-perl mysql-client-5.7
  mysql-client-core-5.7 mysql-common mysql-server-5.7 mysql-server-core-5.7
Suggested packages:
  libipc-sharedcache-perl mailx tinycal
The following NEW packages will be installed:
  libaio1 libevent-core-2.0-5 libhtml-template-perl mysql-client-5.7
  mysql-client-core-5.7 mysql-common mysql-server mysql-server-5.7
  mysql-server-core-5.7
0 upgraded, 9 newly installed, 0 to remove and 186 not upgraded.
Need to get 18.3 MB of archives.
After this operation, 160 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

```
hduser@hadoopmaster: ~
Package configuration
```

**Configuring mysql-server-5.7**

While not mandatory, it is highly recommended that you set a password for the MySQL administrative "root" user.

If this field is left blank, the password will not be changed.

New password for the MySQL "root" user:

\*\*\*\*\*

<Ok>

- 安裝完成後，輸入`mysql -u root -p`，進入MySQL

```
hduser@hadoopmaster: ~  
hduser@hadoopmaster:~$ mysql -u root -p  
Enter password:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 6  
Server version: 5.7.16-0ubuntu0.16.04.1 (Ubuntu)  
  
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affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
mysql>
```

- 建立資料庫yelp並建立使用者hduser，將yelp的使用權放給hduser
  - ✓ create database yelp;
  - ✓ grant all on yelp.\* to 'hduser' identified by 'hduser';
- 輸入show databases可以查看資料庫狀況，看到已建立yelp

```
mysql> create database yelp;  
Query OK, 1 row affected (0.00 sec)  
  
mysql> grant all on yelp.* to 'hduser' identified by 'hduser';  
Query OK, 0 rows affected, 1 warning (0.00 sec)  
  
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
| yelp |  
+-----+  
5 rows in set (0.00 sec)  
  
mysql>
```

- 切換至yelp資料庫，輸入use yelp;
- 建立table，輸入create table ratings(userid integer,itemid integer, ratings integer);

```
mysql> use yelp;  
Database changed  
mysql> create table ratings(userid integer,itemid integer,ratings integer);  
Query OK, 0 rows affected (0.04 sec)
```

- 接著將測試資料ratings.txt內容灌入table ratings，輸入load data local infile '/usr/local/sqoop/ratings.txt' into table ratings fields terminated by ':' optionally enclosed by '\"' lines terminated by '\n' ignore 1 lines(userid,itemid,ratings)

```
mysql> load data local infile '/usr/local/sqoop/ratings.txt' into table ratings  
fields terminated by ':' optionally enclosed by '\"' lines terminated by '\n'  
ignore 1 lines(userid,itemid,ratings);  
Query OK, 263778 rows affected, 3 warnings (3.14 sec)  
Records: 263778 Deleted: 0 Skipped: 0 Warnings: 3
```

- 檢視匯入的資料，輸入select \* from ratings limit 10

```
mysql> select * from ratings limit 10;
+-----+-----+-----+
| userid | itemid | ratings |
+-----+-----+-----+
| 0      | 0      | 4      |
| 0      | 1      | 5      |
| 0      | 7495   | 3      |
| 0      | 7496   | 5      |
| 0      | 7497   | 5      |
| 0      | 7498   | 4      |
| 0      | 23688  | 3      |
| 0      | 23689  | 2      |
| 0      | 23690  | 3      |
| 0      | 23691  | 5      |
+-----+-----+-----+
10 rows in set (0.00 sec)
```

- 離開MySQL，輸入 `quit`
- 然後將MySQL資料轉入hdfs中
  - ✓ 開啟伺服器HadoopMaster & HadoopSlave1 & HadoopSlave2
  - ✓ 開啟hadoop，於HadoopMaster的終端輸入 `start-all.sh`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
Starting namenodes on [hadoopmaster]
hadoopmaster: starting namenode, logging to /usr/local/hadoop/logs/hadoop-hduser
-namenode-hadoopmaster.out
hadoopslave1: starting datanode, logging to /usr/local/hadoop/logs/hadoop-hduser
-datanode-hadoopslave1.out
hadoopslave2: starting datanode, logging to /usr/local/hadoop/logs/hadoop-hduser
-datanode-hadoopslave2.out
Starting secondary namenodes [0.0.0.0]
0.0.0.0: starting secondarynamenode, logging to /usr/local/hadoop/logs/hadoop-hd
user-secondarynamenode-hadoopmaster.out
starting yarn daemons
starting resourcemanager, logging to /usr/local/hadoop/logs/yarn-hduser-resource
manager-hadoopmaster.out
hadoopslave1: starting nodemanager, logging to /usr/local/hadoop/logs/yarn-hduse
r-nodemanager-hadoopslave1.out
hadoopslave2: starting nodemanager, logging to /usr/local/hadoop/logs/yarn-hduse
r-nodemanager-hadoopslave2.out
hduser@hadoopmaster:~$ jps
6771 NameNode
6968 SecondaryNameNode
7244 Jps
7166 ResourceManager
```

- 由MySQL讀取資料，需有JDBC Driver(網址)，執行下列指令來取得
  - ✓ `wget http://dev.mysql.com/get/Downloads/Connector-J/mysql-connector-java-5.1.40.tar.gz`
  - ✓ `tar mysql-connector-java-5.1.40.tar.gz`
  - ✓ `sudo mv mysql-connector-java-5.1.40 /usr/local/mysql-connector`



MySQL :: Download ... x +

dev.mysql.com/downloads/connector, Search ☆ ⌵ » ≡

Generally Available (GA) Releases Development Releases

### Connector/J 5.1.40

Select Platform: Platform Independent ▾ Looking for previous GA versions?

|  |        |      |                          |
|--|--------|------|--------------------------|
| <b>Platform Independent (Architecture Independent), Compressed TAR Archive</b><br>(mysql-connector-java-5.1.40.tar.gz) | 5.1.40 | 3.7M | <a href="#">Download</a> |
| MD5: 415a375cf8a096ef0aa775a4ae36916d   <a href="#">Signature</a>  |        |      |                          |
| <b>Platform Independent (Architecture Independent), ZIP Archive</b><br>(mysql-connector-java-5.1.40.zip)               | 5.1.40 | 4.1M | <a href="#">Download</a> |
| MD5: ed67bcb6c617bc949537219d42b8407d5   <a href="#">Signature</a>   |        |      |                          |

MySQL :: Begin You... x +

dev.mysql.com/downloads/file/?id=46564 Search ☆ ⌵ » ≡

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[No thanks, just start my download.](#)

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ wget http://dev.mysql.com/get/Downloads/Connector-J/mysql-connector-java-5.1.40.tar.gz
--2016-12-25 16:05:12-- http://dev.mysql.com/get/Downloads/Connector-J/mysql-connector-java-5.1.40.tar.gz
Resolving dev.mysql.com (dev.mysql.com)... 137.254.60.11
Connecting to dev.mysql.com (dev.mysql.com)|137.254.60.11|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: http://cdn.mysql.com//Downloads/Connector-J/mysql-connector-java-5.1.40.tar.gz [following]
--2016-12-25 16:05:13-- http://cdn.mysql.com//Downloads/Connector-J/mysql-connector-java-5.1.40.tar.gz
Resolving cdn.mysql.com (cdn.mysql.com)... 104.115.235.134
Connecting to cdn.mysql.com (cdn.mysql.com)|104.115.235.134|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3911557 (3.7M) [application/x-tar-gz]
Saving to: 'mysql-connector-java-5.1.40.tar.gz'

mysql-connector-jav 30%[====>] 1.15M 209KB/s eta 25s
```

- 接下來將jar檔移到/sqoop/lib，執行`cp /usr/local/mysql-connector/mysql-connector-java-5.1.40-bin.jar /usr/local/sqoop/lib`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ cp /usr/local/mysql-connector/mysql-connector-java-5.1.40
-bin.jar /usr/local/sqoop/lib
```

- 可以將ratings.txt資料灌入MySQL了，執行sqoop import --bindir /usr/local/sqoop/lib --connect jdbc:mysql://localhost:3306/yelp?useSSL=false -username hduser --password hduser --query "select \* from ratings where 1=1 and \\${CONDITIONS} limit 2000" -target-dir /sqoop/ratings -m1
  - ✓ --bindir→指定import過程中，用到的class檔路徑，若未指定會發生ClassNotFoundException
  - ✓ useSSL=false→localhost指定不使用SSL金鑰
  - ✓ \$CONDITIONS→sqoop匯入時的指定字串，必加

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ sqoop import --connect jdbc:mysql://localhost:3306/yelp?useSSL=false -username hduser --password hduser --query "select * from ratings where 1=1 and \${CONDITIONS} limit 2000" -target-dir /sqoop/ratings -m1
16/12/25 16:42:28 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6
16/12/25 16:42:28 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
16/12/25 16:42:28 INFO manager.MySQLManager: Preparing to use a MySQL streaming resultset.
16/12/25 16:42:28 INFO tool.CodeGenTool: Beginning code generation
16/12/25 16:42:29 INFO manager.SqlManager: Executing SQL statement: select * from ratings where 1=1 and (1 = 0) limit 2000
16/12/25 16:42:29 INFO manager.SqlManager: Executing SQL statement: select * from ratings where 1=1 and (1 = 0) limit 2000
16/12/25 16:42:29 INFO manager.SqlManager: Executing SQL statement: select * from ratings where 1=1 and (1 = 0) limit 2000
16/12/25 16:42:29 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /usr/local/hadoop
Note: /tmp/sqoop-hduser/compile/1534557e78cb74f4dcea656ae1bb49c3/QueryResult.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.
16/12/25 16:42:33 INFO orm.CompilationManager: Writing jar file: /tmp/sqoop-hduser/compile/1534557e78cb74f4dcea656ae1bb49c3/QueryResult.jar
16/12/25 16:42:46 INFO mapreduce.Job: Counters: 20
  File System Counters
    FILE: Number of bytes read=18051210
    FILE: Number of bytes written=18496540
    FILE: Number of read operations=0
    FILE: Number of large read operations=0
    FILE: Number of write operations=0
    HDFS: Number of bytes read=0
    HDFS: Number of bytes written=20882
    HDFS: Number of read operations=4
    HDFS: Number of large read operations=0
    HDFS: Number of write operations=3
  Map-Reduce Framework
    Map input records=2000
    Map output records=2000
    Input split bytes=87
    Spilled Records=0
    Failed Shuffles=0
    Merged Map outputs=0
    GC time elapsed (ms)=0
    Total committed heap usage (bytes)=213385216
  File Input Format Counters
    Bytes Read=0
  File Output Format Counters
    Bytes Written=20882
16/12/25 16:42:46 INFO mapreduce.ImportJobBase: Transferred 20.3926 KB in 9.7872 seconds (2.0836 KB/sec)
16/12/25 16:42:46 INFO mapreduce.ImportJobBase: Retrieved 2000 records.
hduser@hadoopmaster:~$
```

- 匯入成功後，可執行下列指令查看hdfs中的資料狀況
  - ✓ `hadoop fs -ls /sqoop`
  - ✓ `hadoop fs -ls /sqoop/ratings`
  - ✓ `hadoop fs -tail /sqoop/ratings/part-m-00000`



```

hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ hadoop fs -ls /sqoop
Found 1 items
drwxr-xr-x  - hduser supergroup          0 2016-12-25 16:42 /sqoop/ratings
hduser@hadoopmaster:~$ hadoop fs -ls /sqoop/ratings
Found 2 items
-rw-r--r--  2 hduser supergroup          0 2016-12-25 16:42 /sqoop/ratings/_SUCCESS
-rw-r--r--  2 hduser supergroup    20882 2016-12-25 16:42 /sqoop/ratings/part-m-000000
hduser@hadoopmaster:~$ hadoop fs -tail /sqoop/ratings/part-m-000000
22,2
21,71323,1
21,71324,4
21,71325,1
21,71326,4
21,71327,4
21,71328,4
21,71329,2
21,71330,3
21,71331,4
21,71332,4
21,71333,1

```

- 若之前執行失敗，已於hdfs產生 sqoop/ratings，再次執行會產生 IOException，先執行 `hadoop fs -rm -R /sqoop` 刪除，後再執行前兩步

```

hduser@hadoopmaster:~$ hadoop fs -rm -R /sqoop
16/12/25 16:26:37 INFO fs.TrashPolicyDefault: Namenode trash configuration: Deletion interval = 0 minutes, Emptier interval = 0 minutes.
Deleted /sqoop

```

#### 4. 資料測試—由HDFS讀出資料

- 由HDFS讀出資料放置到MySQL中，先建立放置處
  - ✓ 進入MySQL，執行 `mysql -u root -p`
  - ✓ 使用yelp資料庫，執行 `use yelp;`
  - ✓ 建立放置table，執行 `create table ratings_tmp(userid integer,itemid integer, ratings integer);`
  - ✓ 離開，輸入quit

```

hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 18
Server version: 5.7.16-0ubuntu0.16.04.1 (Ubuntu)

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use yelp;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> create table ratings_tmp(userid integer,itemid integer,ratings integer);
Query OK, 0 rows affected (0.04 sec)

mysql> quit
Bye
hduser@hadoopmaster:~$

```

- 接下來執行 `sqoop export --connect jdbc:mysql://localhost/yelp?useSSL=false --username hduser -password hduser --table ratings_tmp -m1 --bindir /usr/local/sqoop/lib --export-dir /sqoop/ratings --input-fields-terminated-by ','`

```
hduser@hadoopmaster: ~
hduser@hadoopmaster:~$ sqoop export --connect jdbc:mysql://localhost/yelp?useSSL=false --username hduser --password hduser --table ratings_tmp -m1 --bindir /usr/local/sqoop/lib --export-dir /sqoop/ratings --input-fields-terminated-by ','
16/12/25 17:30:53 INFO sqoop.Sqoop: Running Sqoop version: 1.4.6
16/12/25 17:30:53 WARN tool.BaseSqoopTool: Setting your password on the command-line is insecure. Consider using -P instead.
16/12/25 17:30:54 INFO manager.MySQLManager: Preparing to use a MySQL streaming resultset.
16/12/25 17:30:54 INFO tool.CodeGenTool: Beginning code generation
16/12/25 17:30:55 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM `ratings_tmp` AS t LIMIT 1
16/12/25 17:30:55 INFO manager.SqlManager: Executing SQL statement: SELECT t.* FROM `ratings_tmp` AS t LIMIT 1
16/12/25 17:30:55 INFO orm.CompilationManager: HADOOP_MAPRED_HOME is /usr/local/hadoop
16/12/25 17:31:05 INFO mapreduce.Job: Counters: 20
File System Counters
  FILE: Number of bytes read=18055072
  FILE: Number of bytes written=18500436
  FILE: Number of read operations=0
  FILE: Number of large read operations=0
  FILE: Number of write operations=0
  HDFS: Number of bytes read=20888
  HDFS: Number of bytes written=0
  HDFS: Number of read operations=12
  HDFS: Number of large read operations=0
  HDFS: Number of write operations=0
Map-Reduce Framework
  Map input records=2000
  Map output records=2000
  Input split bytes=132
  Spilled Records=0
  Failed Shuffles=0
  Merged Map outputs=0
  GC time elapsed (ms)=13
  Total committed heap usage (bytes)=223870976
File Input Format Counters
  Bytes Read=0
File Output Format Counters
  Bytes Written=0
16/12/25 17:31:05 INFO mapreduce.ExportJobBase: Transferred 20.3984 KB in 4.5784 seconds (4.4554 KB/sec)
16/12/25 17:31:05 INFO mapreduce.ExportJobBase: Exported 2000 records.
hduser@hadoopmaster:~$
```

- 執行完成可以進入MySQL查看

```
mysql> use yelp;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> select * from ratings_tmp limit 10;
+-----+-----+-----+
| userid | itemid | ratings |
+-----+-----+-----+
| 0 | 0 | 4 |
| 0 | 1 | 5 |
| 0 | 7495 | 3 |
| 0 | 7496 | 5 |
| 0 | 7497 | 5 |
| 0 | 7498 | 4 |
| 0 | 23688 | 3 |
| 0 | 23689 | 2 |
| 0 | 23690 | 3 |
| 0 | 23691 | 5 |
+-----+-----+-----+
10 rows in set (0.00 sec)
```