Data Ingestion from the RDS to HDFS using Sqoop

Before initiating the Sqoop import command, it's necessary to first download and install the MySQL connector. Once our EMR cluster is set up and we've accessed the EMR console, we need to execute the following steps:

1. **sudo -i**
   - Switch to the root user to ensure we have the necessary permissions for the following operations.

2. **wget https://de-mysql-connector.s3.amazonaws.com/mysql-connector-java-8.0.25.tar.gz**
   - Download the MySQL connector from the provided link. This connector is required for Sqoop to interact with MySQL databases.

3. **tar -xvf mysql-connector-java-8.0.25.tar.gz**
   - Extract the contents of the downloaded tar.gz file.

4. **cd mysql-connector-java-8.0.25/**
   - Navigate into the directory that we created from extracting the tar.gz file. This directory contains the MySQL connector JAR file.

5. **sudo cp mysql-connector-java-8.0.25.jar /usr/lib/sqoop/lib/**
   - Copy the MySQL connector JAR file to the Sqoop library directory. This step is essential for Sqoop to use the MySQL connector during the import process.

Sqoop Import command used for importing table from RDS to HDFS:

```
sqoop import \
--connect jdbc:mysql://upgraddetest.cyaielc9bmnf.us-east-
1.rds.amazonaws.com/testdatabase \
--table SRC_ATM_TRANS \
--username student -P \
--target-dir /user/root/ETL/Spar_Nord_Bank_ATM \
-m 1
```

Command used to see the list of imported data in HDFS:

➔ *Lists the contents of the directory* ***/user/root/ETL/Spar_Nord_Bank_ATM*** *in the Hadoop Distributed File System (HDFS)*

```
[hadoop@ip-172-31-19-74 ~]$ hadoop fs -ls
/user/root/ETL/Spar_Nord_Bank_ATM
Found 2 items
-rw-r--r--   1 root hadoop          0 2023-11-15 15:36
/user/root/ETL/Spar_Nord_Bank_ATM/_SUCCESS
-rw-r--r--   1 root hadoop  531214815 2023-11-15 15:36
/user/root/ETL/Spar_Nord_Bank_ATM/part-m-00000
```

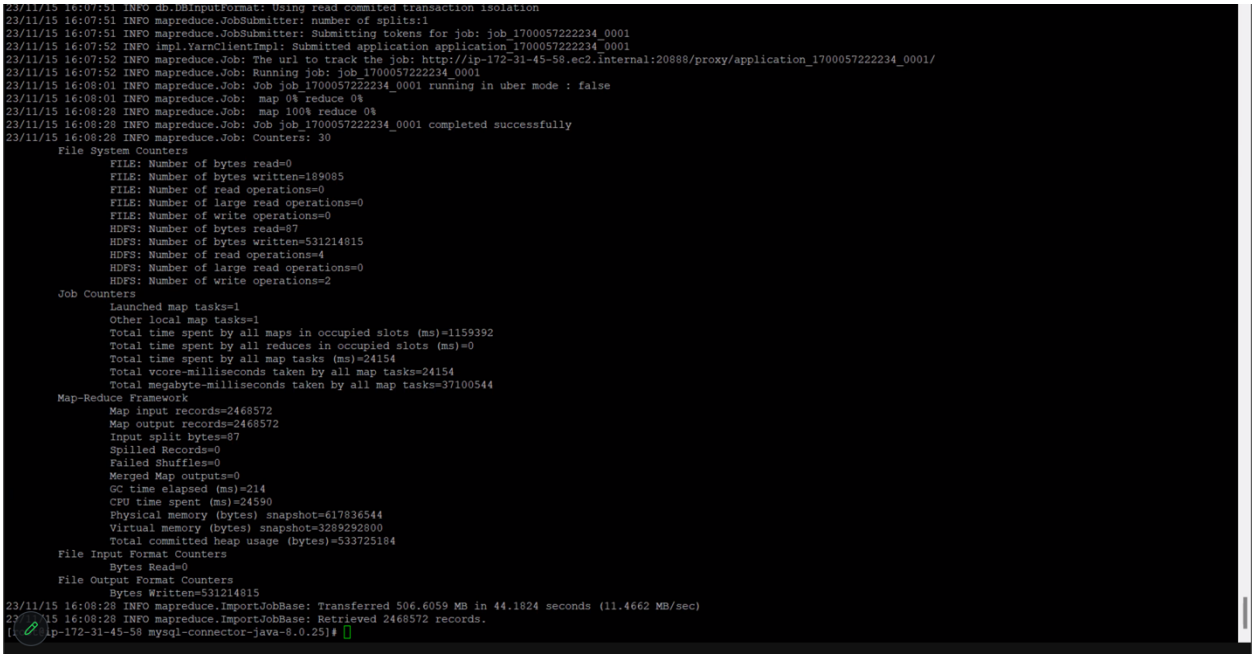
➔ *displays the first 10 lines of the file* ***part-m-00000*** *located in the* ***/user/root/ETL/Spar Nord Bank ATM*** *directory on HDFS.*

```
[hadoop@ip-172-31-19-74 ~]$ hadoop fs -cat
/user/root/ETL/Spar_Nord_Bank_ATM/part-m-00000 | head -n 10
2017,January,1,Sunday,0,Active,1,NCR,NÃƒÂ¦stved,Farimagsvej,8,4700,55.
233,11.763,DKK,MasterCard,5643,Withdrawal,,,55.230,11.761,2616038,Naes
tved,281.150,1014,87,7,260,0.215,92,500,Rain,light rain
2017,January,1,Sunday,0,Inactive,2,NCR,Vejgaard,Hadsundvej,20,9000,57.
043,9.950,DKK,MasterCard,1764,Withdrawal,,,57.048,9.935,2616235,NÃƒÂ¸r
resundby,280.640,1020,93,9,250,0.590,92,500,Rain,light rain
2017,January,1,Sunday,0,Inactive,2,NCR,Vejgaard,Hadsundvej,20,9000,57.
043,9.950,DKK,VISA,1891,Withdrawal,,,57.048,9.935,2616235,NÃƒÂ¸rresund
by,280.640,1020,93,9,250,0.590,92,500,Rain,light rain
2017,January,1,Sunday,0,Inactive,3,NCR,Ikast,RÃƒÂ¥dhusstrÃƒÂ¦det,12,74
30,56.139,9.154,DKK,VISA,4166,Withdrawal,,,56.139,9.158,2619426,Ikast,
281.150,1011,100,6,240,0.000,75,300,Drizzle,light intensity drizzle
2017,January,1,Sunday,0,Active,4,NCR,Svogerslev,BrÃƒÂ¸nsager,1,4000,55
.634,12.018,DKK,MasterCard,5153,Withdrawal,,,55.642,12.080,2614481,Ros
kilde,280.610,1014,87,7,260,0.000,88,701,Mist,mist
2017,January,1,Sunday,0,Active,5,NCR,Nibe,Torvet,1,9240,56.983,9.639,D
KK,MasterCard,3269,Withdrawal,,,56.981,9.639,2616483,Nibe,280.640,1020
,93,9,250,0.590,92,500,Rain,light rain
2017,January,1,Sunday,0,Active,6,NCR,Fredericia,SjÃƒÂ¦llandsgade,33,70
00,55.564,9.757,DKK,MasterCard,887,Withdrawal,,,55.566,9.753,2621951,F
redericia,281.150,1014,93,7,230,0.290,92,500,Rain,light rain
2017,January,1,Sunday,0,Active,7,Diebold Nixdorf,Hjallerup,Hjallerup
Centret,18,9320,57.168,10.148,DKK,Mastercard - on-
us,4626,Withdrawal,,,57.165,10.146,2620275,Hjallerup,280.640,1020,93,9
,250,0.590,92,500,Rain,light rain
2017,January,1,Sunday,0,Active,8,NCR,GlyngÃƒÂ¸re,FÃƒÂ¦rgevej,1,7870,56
.762,8.867,DKK,MasterCard,470,Withdrawal,,,56.793,8.853,2615964,Nykobi
```

ng Mors,281.150,1011,100,6,240,0.000,75,300,Drizzle,light intensity drizzle
2017,January,1,Sunday,0,Active,9,Diebold Nixdorf,Hadsund,Storegade,12,9560,56.716,10.114,DKK,VISA,8473,Withdrawal,,,56.715,10.117,2620952,Hadsund,280.640,1020,93,9,250,0.590,92,500,Rain,light rain
cat: Unable to write to output stream.

Screenshot of the imported data:

➔ *The screenshot below shows the output from the Sqoop import command.*



➔ The screenshot below shows the output of the commands to list the data as required in previous step.