Assignment 16.2

Step 1: Start Hadoop Daemons:

$ start-all.sh

$ jps

```
[acadgild@localhost dataset]$ start-all.sh
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh
17/08/28 16:35:28 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Starting namenodes on [localhost]
localhost: namenode running as process 2830. Stop it first.
localhost: datanode running as process 2931. Stop it first.
Starting secondary namenodes [0.0.0.0]
0.0.0.0: secondarynamenode running as process 3086. Stop it first.
17/08/28 16:35:35 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
starting yarn daemons
resourcemanager running as process 3263. Stop it first.
localhost: nodemanager running as process 3364. Stop it first.
[acadgild@localhost dataset]$ jps
2931 DataNode
3364 NodeManager
2830 NameNode
3086 SecondaryNameNode
3263 ResourceManager
4111 Jps
[acadgild@localhost dataset]$
```

Step 2: create a dataset as below where it contains id, name, skills:

$ cat users.txt

```
[acadgild@localhost assignment16]$ vi users.txt
[acadgild@localhost assignment16]$ cat users.txt
101,Amit,HADOOP:HIVE:SPARK:BIG-DATA
102,Sumit,HIVE:OOZIE:HADOOP:SPARK:STORM
103,Rohit,KAFKA:CASSANDRA:HBASE
[acadgild@localhost assignment16]$
```

Step 3: start hive shell and load data:

$ sudo service mysqld start

$ hive

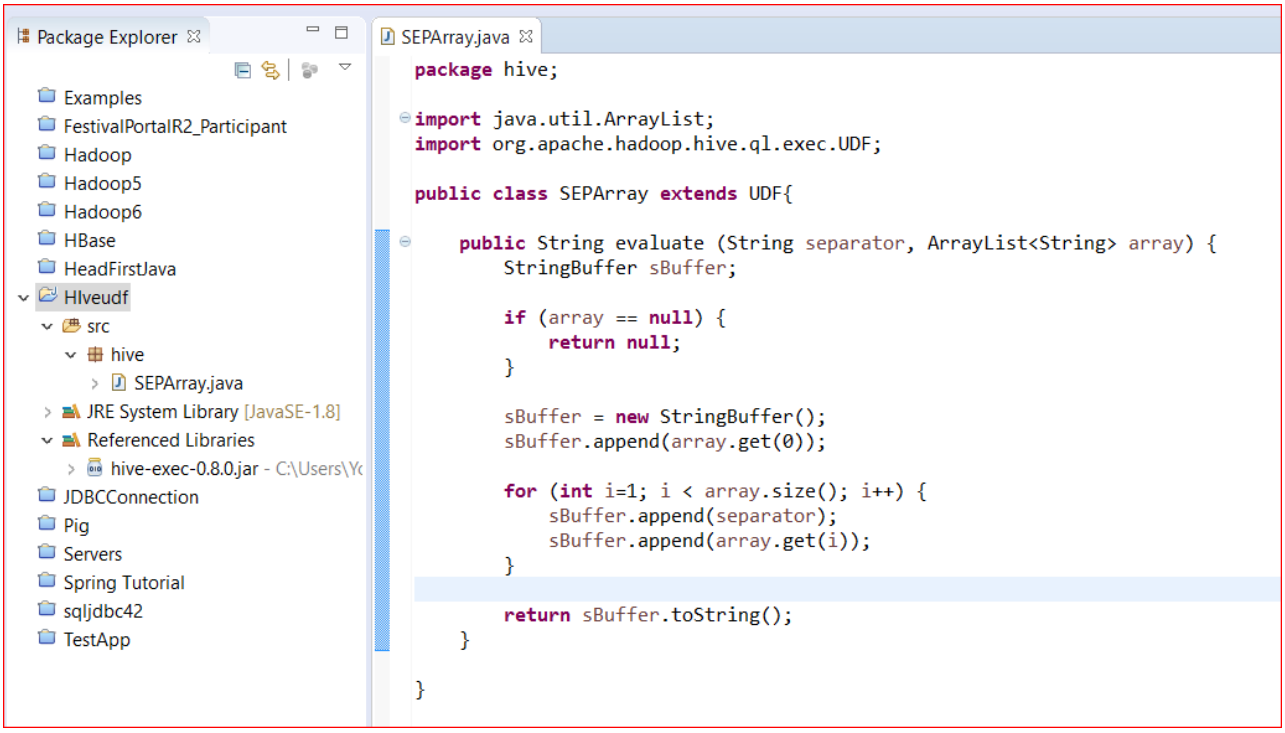
```
USE default;
CREATE TABLE users
(
id INT,
name STRING,
skills ARRAY<STRING>
)
ROW FORMAT DELIMITED
FIELDS TERMINATED BY '\t';
LOAD DATA LOCAL INPATH '/home/acadgild/dataset/assignment16/users.txt'
INTO TABLE users;
SELECT * FROM users;
```

```
hive> USE default;
OK
Time taken: 0.012 seconds
hive> CREATE TABLE users
    > (
    > id INT,
    > name STRING,
    > skills ARRAY<STRING>
    > )
    > ROW FORMAT DELIMITED
    > FIELDS TERMINATED BY ',';
OK
Time taken: 0.058 seconds
hive> LOAD DATA LOCAL INPATH '/home/acadgild/dataset/assignment16/users.txt'
    > INTO TABLE users;
Loading data to table default.users
Table default.users stats: [numFiles=1, totalSize=108]
OK
Time taken: 0.342 seconds
hive> SELECT * FROM users;
OK
101     Amit    ["HADOOP:HIVE:SPARK:BIG-DATA"]
102     Sumit   ["HIVE:OOZIE:HADOOP:SPARK:STORM"]
103     Rohit   ["KAFKA:CASSANDRA:HBASE"]
Time taken: 0.039 seconds, Fetched: 3 row(s)
hive>
```

Write a hive UDF that implements functionality of string concat_ws(string SEP, array<string>). This UDF will accept two arguments, one string and one array of string. It will return a single string where all the elements of the array are separated by the SEP

Step 4: Write the UDF java program which evaluates adding of SEP as a separator in SKILLS parameter

JAR file required: hive-exec-0.8.0.JAR



Step 5: compile program into jar and import it to acadgild sandbox:

```
[acadgild@localhost ~]$ cd dataset/assignment16/
[acadgild@localhost assignment16]$ ll
total 12
-rw-rw-r--. 1 acadgild acadgild  115 Aug 28 20:42 employee.txt
-rw-rw-r--. 1 acadgild acadgild 1569 Aug 28 21:20 hiveudf.jar
-rw-rw-r--. 1 acadgild acadgild  108 Aug 28 21:13 users.txt
[acadgild@localhost assignment16]$
```

Step 6: Add jar and create temp function for usage of evaluation:

ADD JAR /home/acadgild/dataset/assignment16/hiveudf.jar;

CREATE TEMPORARY FUNCTION concat_ws AS hive.SEPArray;

```
hive> ADD JAR /home/acadgild/dataset/assignment16/hiveudf.jar;
Added [/home/acadgild/dataset/assignment16/hiveudf.jar] to class path
Added resources: [/home/acadgild/dataset/assignment16/hiveudf.jar]
hive> CREATE TEMPORARY FUNCTION concat_ws AS 'hive.SEPArray';
OK
Time taken: 0.007 seconds
hive>
```

Step 7: perform the said concatenation:

SELECT id, name, concat_ws("SEP",skills) as result from users;

```
hive> SELECT id, name, concat_ws("SEP",skills) as result from users;
OK
101     Amit    HADOOPSEPHIVESEPSPARKSEPBIG-DATA
102     Sumit   HIVESEPOOZIESEPHADOOPSEPSPARKSEPSTORM
103     Rohit   KAFKASEPCASSANDRASEPHBASE
Time taken: 0.056 seconds, Fetched: 3 row(s)
hive> SELECT id, name, skills as result from users;
OK
101     Amit    ["HADOOP","HIVE","SPARK","BIG-DATA"]
102     Sumit   ["HIVE","OOZIE","HADOOP","SPARK","STORM"]
103     Rohit   ["KAFKA","CASSANDRA","HBASE"]
Time taken: 0.055 seconds, Fetched: 3 row(s)
hive>
```