BigData And Hadoop

Assignment 1 of Session 4

Problem Statement :
Given a dataset of sales of different TV sets across different locations, with records in the format :
Company Name|Product Name|Size in inches|State|Pin Code|Price
Eg : Samsung|Optima|14|Madhya Pradesh|132401|14200
There are some invalid records which contain 'NA' in either Company Name or Product Name.
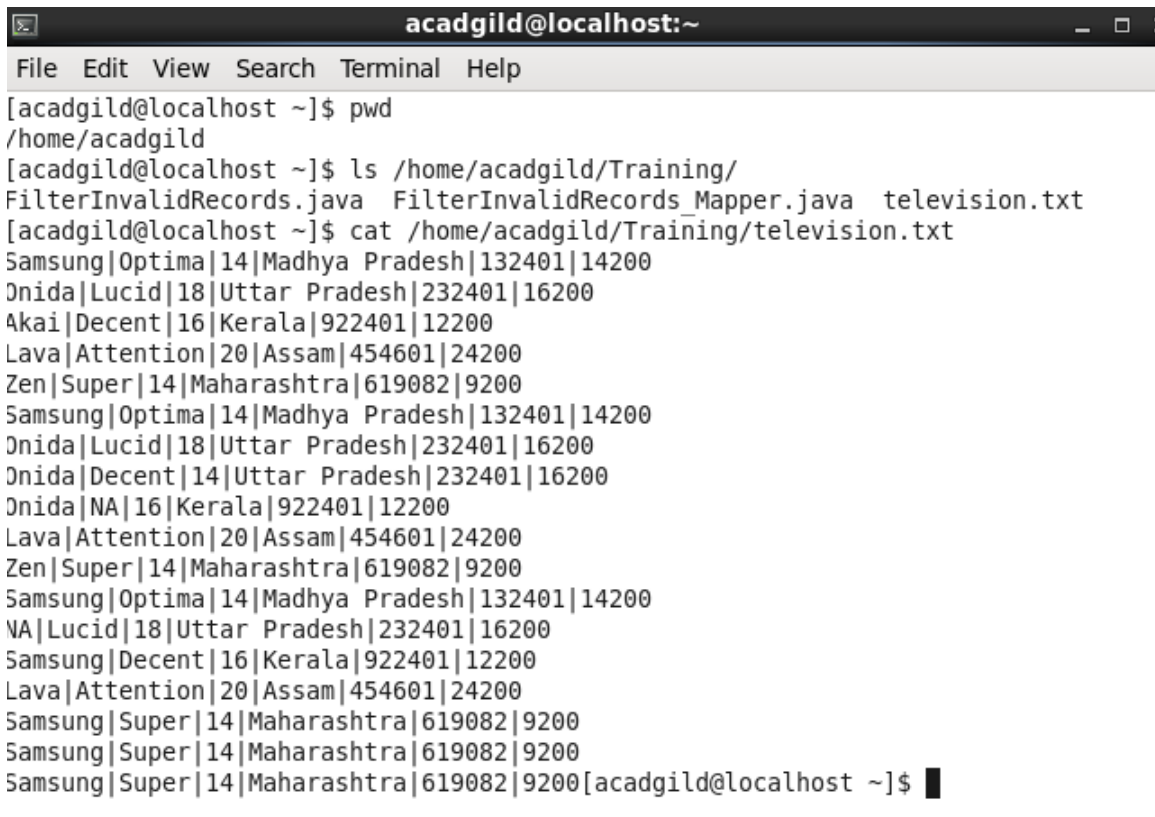Write a Map Reduce program to filter out the invalid records.

Solution

Code files are as follows :
Mapper class : FilterInvalidRecords_Mapper.java
Driver class : FilterInvalidRecords.java

Snapshots of the output are as follows :

- Input file present in '/home/acadgild/Training'. Its name is television.txt

- Command executed to put television.txt to hdfs system

```
[acadgild@localhost ~]$ hadoop fs -put /home/acadgild/Training/television.txt /u
ser/acadgild
18/11/18 10:58:54 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
[acadgild@localhost ~]$ hadoop fs -cat /user/acadgild/television.txt
18/11/18 10:59:36 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Samsung|Optima|14|Madhya Pradesh|132401|14200
Onida|Lucid|18|Uttar Pradesh|232401|16200
Akai|Decent|16|Kerala|922401|12200
Lava|Attention|20|Assam|454601|24200
Zen|Super|14|Maharashtra|619082|9200
Samsung|Optima|14|Madhya Pradesh|132401|14200
Onida|Lucid|18|Uttar Pradesh|232401|16200
Onida|Decent|14|Uttar Pradesh|232401|16200
Onida|NA|16|Kerala|922401|12200
Lava|Attention|20|Assam|454601|24200
Zen|Super|14|Maharashtra|619082|9200
Samsung|Optima|14|Madhya Pradesh|132401|14200
NA|Lucid|18|Uttar Pradesh|232401|16200
Samsung|Decent|16|Kerala|922401|12200
Lava|Attention|20|Assam|454601|24200
Samsung|Super|14|Maharashtra|619082|9200
Samsung|Super|14|Maharashtra|619082|9200
Samsung|Super|14|Maharashtra|619082|9200You have new mail in /var/spool/mail/aca
dgild
[acadgild@localhost ~]$
```

- Executing the map-reduce program on Hadoop. Jar is placed locally at /home/acadgild/. Its name is fir.jar

```
[acadgild@localhost ~]$ hadoop jar /home/acadgild/fir.jar /user/acadgild/television.txt /invalidrecordsoutput
18/11/18 17:25:59 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java cl
asses where applicable
18/11/18 17:26:30 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/11/18 17:26:50 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed. Implement the Tool in
terface and execute your application with ToolRunner to remedy this.
18/11/18 17:26:56 INFO input.FileInputFormat: Total input paths to process : 1
18/11/18 17:27:00 INFO mapreduce.JobSubmitter: number of splits:1
18/11/18 17:27:08 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1542513919353_0001
18/11/18 17:27:19 INFO impl.YarnClientImpl: Submitted application application_1542513919353_0001
18/11/18 17:27:25 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/application_1542513919353_0001/
18/11/18 17:27:25 INFO mapreduce.Job: Running job: job_1542513919353_0001
18/11/18 17:31:13 INFO mapreduce.Job: Job job_1542513919353_0001 running in uber mode : false
18/11/18 17:31:14 INFO mapreduce.Job:   map 0% reduce 0%
18/11/18 17:32:36 INFO mapreduce.Job:   map 100% reduce 0%
18/11/18 17:32:42 INFO mapreduce.Job: Job job_1542513919353_0001 completed successfully
18/11/18 17:32:46 INFO mapreduce.Job: Counters: 30
        File System Counters
```

- Executed MR program filtered out the invalid records i.e. records having NA

```
[acadgild@localhost ~]$ hadoop fs -l /invalidrecordsouput
-l: Unknown command
[acadgild@localhost ~]$ hadoop fs -ls /invalidrecordsouput
18/11/18 17:47:22 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
ls: `/invalidrecordsouput': No such file or directory
[acadgild@localhost ~]$ hadoop fs -ls /invalidrecordsoutput
18/11/18 17:48:48 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Found 2 items
-rw-r--r--   1 acadgild supergroup          0 2018-11-18 17:32 /invalidrecordsou
tput/_SUCCESS
-rw-r--r--   1 acadgild supergroup        646 2018-11-18 17:32 /invalidrecordsou
tput/part-m-00000
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$
```

- Output file Content:

```
[acadgild@localhost ~]$ hadoop fs -cat /invalidrecordsoutput/part-m-00000
18/11/18 17:50:44 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Samsung|Optima|14|Madhya Pradesh|132401|14200
Onida|Lucid|18|Uttar Pradesh|232401|16200
Akai|Decent|16|Kerala|922401|12200
Lava|Attention|20|Assam|454601|24200
Zen|Super|14|Maharashtra|619082|9200
Samsung|Optima|14|Madhya Pradesh|132401|14200
Onida|Lucid|18|Uttar Pradesh|232401|16200
Onida|Decent|14|Uttar Pradesh|232401|16200
Lava|Attention|20|Assam|454601|24200
Zen|Super|14|Maharashtra|619082|9200
Samsung|Optima|14|Madhya Pradesh|132401|14200
Samsung|Decent|16|Kerala|922401|12200
Lava|Attention|20|Assam|454601|24200
Samsung|Super|14|Maharashtra|619082|9200
Samsung|Super|14|Maharashtra|619082|9200
Samsung|Super|14|Maharashtra|619082|9200
You have new mail in /var/spool/mail/acadgild
```

Assignment 2-A of Session 4

Problem Statement :
Given a dataset of sales of different TV sets across different locations, with records in the format :
Company Name|Product Name|Size in inches|State|Pin Code|Price
Eg : Samsung|Optima|14|Madhya Pradesh|132401|14200
There are some invalid records which contain 'NA' in either Company Name or Product Name.
Write a Map Reduce program to calculate the total units sold for each Company.

Solution

Code files are as follows :
Mapper class : TelevisionSalesMapper.java
Reducer class : TelevisionSalesReducer.java
Driver class : TelevisionSales.java

Snapshots of the output are as follows :

- Executed Assi4.jar on television.txt

```
[acadgild@localhost ~]$ hadoop jar /home/acadgild/Assi4.jar /user/acadgild/television.txt /TVSales
18/11/18 22:54:37 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform..
asses where applicable
18/11/18 22:55:11 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.0.1:8032
18/11/18 22:55:34 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing not performed
terface and execute your application with ToolRunner to remedy this.
18/11/18 22:55:42 INFO input.FileInputFormat: Total input paths to process : 1
18/11/18 22:55:46 INFO mapreduce.JobSubmitter: number of splits:1
18/11/18 22:55:54 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1542561132187_0002
18/11/18 22:56:10 INFO impl.YarnClientImpl: Submitted application application_1542561132187_0002
18/11/18 22:56:15 INFO mapreduce.Job: The url to track the job: http://localhost:8088/proxy/applicatio
18/11/18 22:56:15 INFO mapreduce.Job: Running job: job 1542561132187 0002
```

- Output:

```
[acadgild@localhost ~]$ hadoop fs -ls /TVSales
18/11/18 23:09:47 WARN util.NativeCodeLoader: Unable to load native-hadoop libra
ry for your platform... using builtin-java classes where applicable
Found 2 items
-rw-r--r--   1 acadgild supergroup          0 2018-11-18 23:06 /TVSales/_SUCCESS
-rw-r--r--   1 acadgild supergroup         38 2018-11-18 23:06 /TVSales/part-r-0
0000
[acadgild@localhost ~]$ hadoop fs -cat /TVSales/part-r-00000
18/11/18 23:12:16 WARN util.NativeCodeLoader: Unable to load native-hadoop library
for your platform... using builtin-java classes where applicable
Akai    1
Lava    3
Onida   3
Samsung 7
Zen     2
You have new mail in /var/spool/mail/acadgild
[acadgild@localhost ~]$ ▉
```

BigData And Hadoop

Assignment 2-B of Session 4

Problem Statement :
Given a dataset of sales of different TV sets across different locations, with records in the format :
Company Name|Product Name|Size in inches|State|Pin Code|Price
Eg : Samsung|Optima|14|Madhya Pradesh|132401|14200
There are some invalid records which contain 'NA' in either Company Name or Product Name.

Write a Map Reduce program to calculate the total units sold in each state for Onida company.

Solution
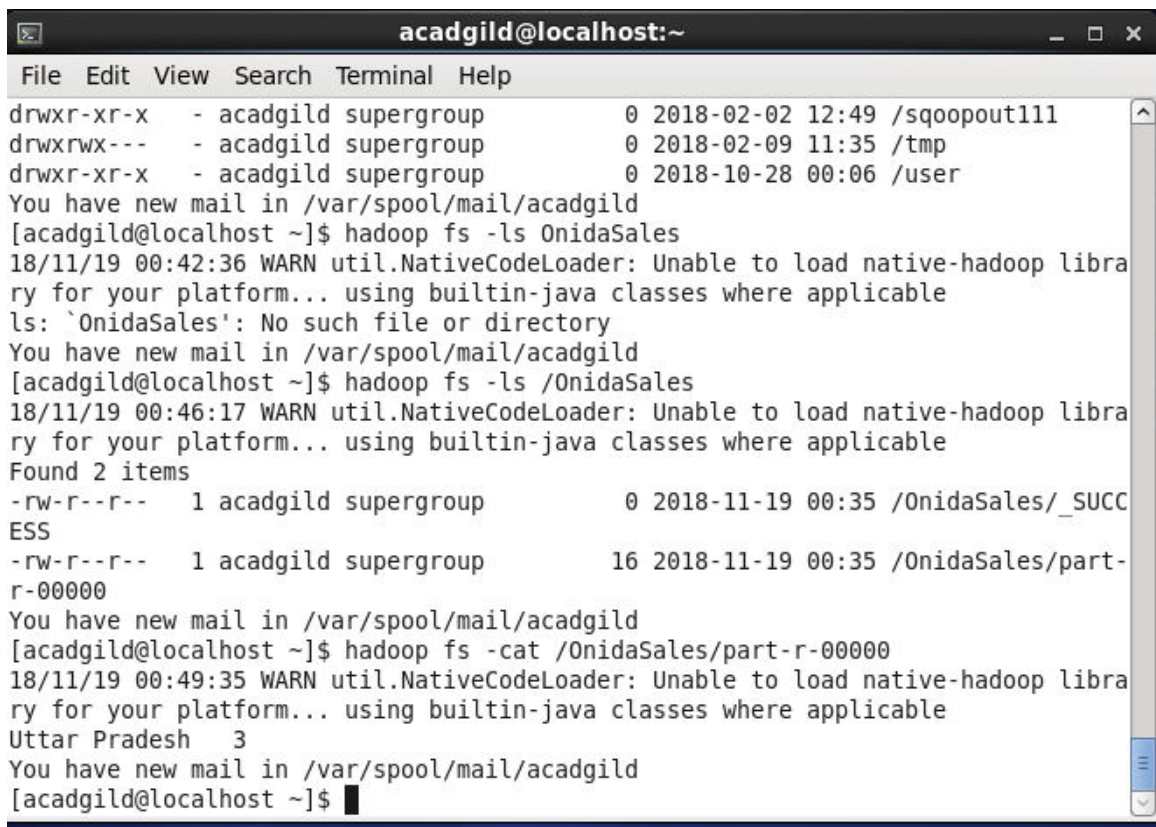
Code files are as follows :
Mapper class : OnidaSalesMapper.java
Reducer class : OnidaSalesReducer.java
Driver class : OnidaSales.java

Snapshots of the output are as follows :

- Executed Assign4.jar on file television.txt

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