

하둡2.7.2 설치하기 - (3) 공공데이터 예제

>>>>> 실행 과정 로그는 사진으로 대체하겠습니다.

1. jps를 실행합니다.

```
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ jps  
2672 org.eclipse.equinox.launcher_1.5.300.v20190213-1655.jar  
22998 Jps  
chosun@chosun-VirtualBox:~/hadoop2$
```

```
chosun@chosun-VirtualBox:~/hadoop2$ start-all.sh  
This script is Deprecated. Instead use start-dfs.sh and start-yarn.sh  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
Starting namenodes on [localhost]
```

```
chosun@chosun-VirtualBox:~/hadoop2$ mr-jobhistory-daemon.sh start historyserver  
starting historyserver, logging to /home/chosun/hadoop-2.7.2/logs/mapred-chosun-hi  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ yarn-daemon.sh start proxyserver  
starting proxyserver, logging to /home/chosun/hadoop-2.7.2/logs/yarn-chosun-proxys  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
chosun@chosun-VirtualBox:~/hadoop2$
```

```
chosun@chosun-VirtualBox:~/hadoop2$ jps  
24432 WebAppProxyServer  
2672 org.eclipse.equinox.launcher_1.5.300.v20190213-1655.jar  
23649 SecondaryNameNode  
23206 NameNode  
23832 ResourceManager  
24104 NodeManager  
24361 JobHistoryServer  
23403 DataNode  
24508 Jps  
chosun@chosun-VirtualBox:~/hadoop2$
```

2. sed -e 명령어를 사용해서 작업할 데이터의 첫 번째 칼럼을 삭제합니다.

```
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ ls  
HW13.jar LICENSE.txt NOTICE.txt README.txt SURFACE_ASOS_  
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ sed -e '1d' SURFACE_ASOS_  
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ ls  
2019.csv HW13.jar LICENSE.txt NOTICE.txt README.txt SUR  
chosun@chosun-VirtualBox:~/hadoop2$
```

3. hdfs에서 data폴더를 생성하고 작업할 데이터를 hdfs에 업로드 했습니다.

```
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -ls  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -mkdir data  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
chosun@chosun-VirtualBox:~/hadoop2$  
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -put 2019.csv data  
WARNING: An illegal reflective access operation has occurred  
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1 (unresolved)  
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security.authentication.util.Base64EncodingUtil$1  
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective access operations  
WARNING: All illegal access operations will be denied in a future release  
chosun@chosun-VirtualBox:~/hadoop2$
```


4. jar 파일을 실행했습니다.

클래스 이름은 HWEx13이고 작업이 완료되면 Homework디렉터리에 출력 데이터가 저장됩니다.

```
chosun@chosun-VirtualBox:~/hadoop2$ yarn jar HW13.jar HWEx13 data Homework
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util.Ker
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.security
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective acce
WARNING: All illegal access operations will be denied in a future release
19/05/28 20:12:48 INFO client.RMProxy: Connecting to ResourceManager at localhost/127.0.
19/05/28 20:12:48 WARN mapreduce.JobResourceUploader: Hadoop command-line option parsing
19/05/28 20:12:48 INFO input.FileInputFormat: Total input paths to process : 1
19/05/28 20:12:48 INFO mapreduce.JobSubmitter: number of splits:1
19/05/28 20:12:48 INFO mapreduce.JobSubmitter: Submitting tokens for job: job_1559030378
19/05/28 20:12:49 INFO impl.YarnClientImpl: Submitted application application_1559030378
19/05/28 20:12:49 INFO mapreduce.Job: The url to track the job: http://0.0.0.0:8089/prox
19/05/28 20:12:49 INFO mapreduce.Job: Running job: job_1559030378616_0028
19/05/28 20:12:53 INFO mapreduce.Job: Job job_1559030378616_0028 running in uber mode :
19/05/28 20:12:53 INFO mapreduce.Job: map 0% reduce 0%
19/05/28 20:12:58 INFO mapreduce.Job: map 100% reduce 0%
19/05/28 20:13:03 INFO mapreduce.Job: map 100% reduce 100%
19/05/28 20:13:03 INFO mapreduce.Job: Job job_1559030378616_0028 completed successfully
19/05/28 20:13:03 INFO mapreduce.Job: Counters: 49
```

5. Homework 디렉터리에 저장된 part-r-00000의 내용을 확인했습니다.

```
chosun@chosun-VirtualBox:~/hadoop2$
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -cat Homework/part-r-00000 | head -100
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.secu
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective
WARNING: All illegal access operations will be denied in a future release
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-06 18:06 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-06 18:07 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-20 9:28 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:13 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:14 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:15 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:16 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:17 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:18 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:19 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:20 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:21 --- Hadoop2 Homework
Temp : 0.0,      Humid : 0.0,      Date : 2019-05-21 13:22 --- Hadoop2 Homework
Temp : 10.0,     Humid : 48.1,     Date : 2019-05-06 20:21 --- Hadoop2 Homework
Temp : 10.0,     Humid : 48.6,     Date : 2019-05-06 20:22 --- Hadoop2 Homework
```

```
chosun@chosun-VirtualBox:~/hadoop2$ hdfs dfs -cat Homework/part-r-00000 | tail -100
WARNING: An illegal reflective access operation has occurred
WARNING: Illegal reflective access by org.apache.hadoop.security.authentication.util
WARNING: Please consider reporting this to the maintainers of org.apache.hadoop.secu
WARNING: Use --illegal-access=warn to enable warnings of further illegal reflective
WARNING: All illegal access operations will be denied in a future release
Temp : 9.2,      Humid : 51.0,     Date : 2019-05-06 20:51 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.1,     Date : 2019-05-06 20:48 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.1,     Date : 2019-05-06 20:49 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.2,     Date : 2019-05-06 20:47 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.4,     Date : 2019-05-06 20:42 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.4,     Date : 2019-05-06 21:01 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.5,     Date : 2019-05-06 20:44 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.6,     Date : 2019-05-06 20:46 --- Hadoop2 Homework
Temp : 9.2,      Humid : 51.9,     Date : 2019-05-06 20:41 --- Hadoop2 Homework
Temp : 9.2,      Humid : 52.1,     Date : 2019-05-06 20:40 --- Hadoop2 Homework
Temp : 9.3,      Humid : 37.3,     Date : 2019-05-07 1:17 --- Hadoop2 Homework
Temp : 9.3,      Humid : 38.2,     Date : 2019-05-07 1:23 --- Hadoop2 Homework
```

소감

우선 하둡2를 설치할 때 vi 에디터를 사용해서 환경설정 파일을 수정했는데,

오랜만에 사용해서 그런지 익숙하지 않아서 오타를 찾느라 꽤 오래걸렸던 것 같습니다.

그리고 수업 중 처음으로 직접 자바 파일을 작성해서 맵리듀스를 하게 되었는데, 오랜만에 해보는 자바 코딩이라 그런지 많이 어려웠습니다. 때문에, 빅데이터 뿐 아니라 앞으로 공부를 위해서 자바 공부를 열심히 해야겠습니다.