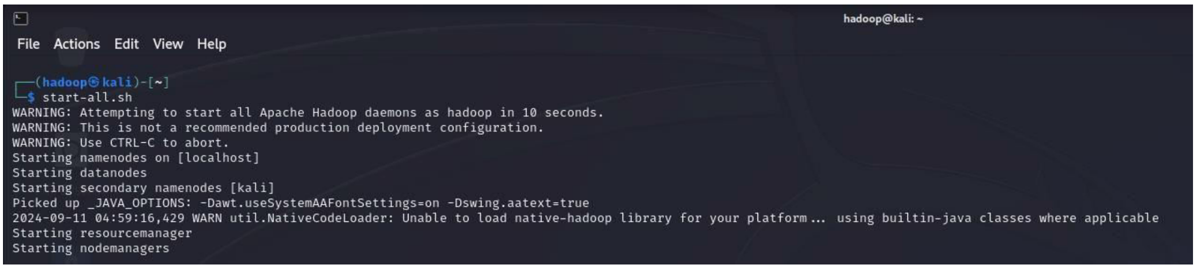
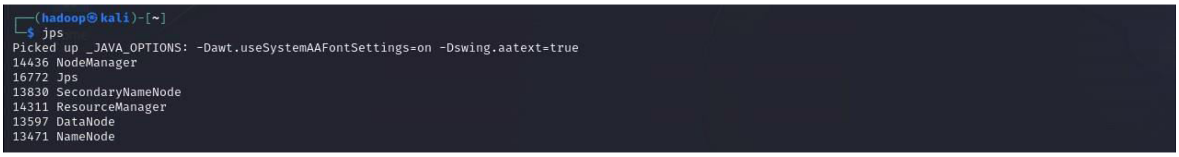
EXP NO: 4 CREATE UDF IN PIG

$start-all.sh



```
┌──(hadoop㉿kali)-[~]
└─$ start-all.sh
WARNING: Attempting to start all Apache Hadoop daemons as hadoop in 10 seconds.
WARNING: This is not a recommended production deployment configuration.
WARNING: Use CTRL-C to abort.
Starting namenodes on [localhost]
Starting datanodes
Starting secondary namenodes [kali]
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-09-11 04:59:16,429 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
Starting resourcemanager
Starting nodemanagers
```

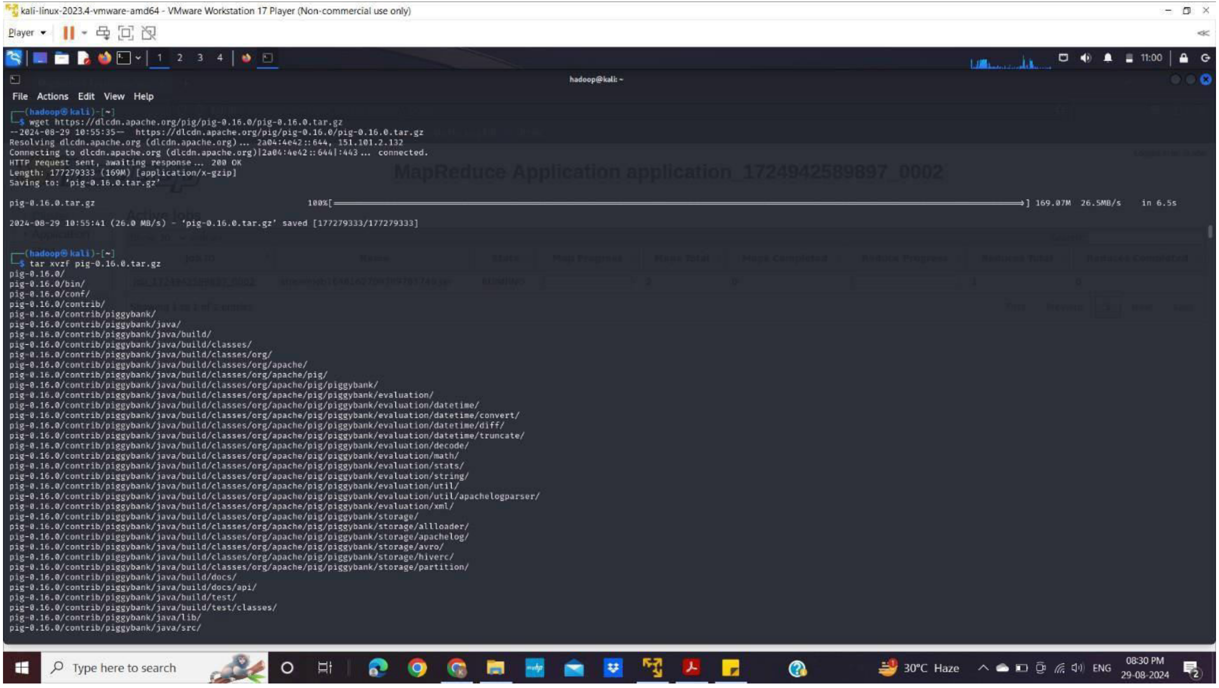
$ jps



```
┌──(hadoop㉿kali)-[~]
└─$ jps
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
14436 NodeManager
16772 Jps
13830 SecondaryNameNode
14311 ResourceManager
13597 DataNode
13471 NameNode
```

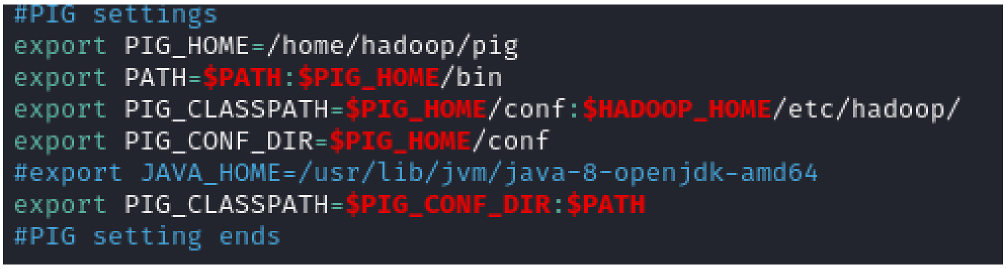
$wget https://dlcdn.apache.org/pig/pig-0.16.0/pig-0.16.0.tar.gz

$ tar xvzf pig-0.16.0.tar.gz


kali-linux-2023.4-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
1 2 3 4
11:00
hadoop@kali: ~
File Actions Edit View Help
Type here to search
30°C Haze
ENG
08:30 PM
29-08-2024

```
┌──(hadoop㉿kali)-[~]
└─$ wget https://dlcdn.apache.org/pig/pig-0.16.0/pig-0.16.0.tar.gz
--2024-08-29 10:55:35--  https://dlcdn.apache.org/pig/pig-0.16.0/pig-0.16.0.tar.gz
Resolving dlcdn.apache.org (dlcdn.apache.org)... 2a04:4e42::644, 151.101.2.132
Connecting to dlcdn.apache.org (dlcdn.apache.org)|2a04:4e42::644|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 177279333 (169M) [application/x-gzip]
Saving to: 'pig-0.16.0.tar.gz'

pig-0.16.0.tar.gz                          100%[===================================================>] 169.07M  26.5MB/s    in 6.5s

2024-08-29 10:55:41 (26.0 MB/s) - 'pig-0.16.0.tar.gz' saved [177279333/177279333]

┌──(hadoop㉿kali)-[~]
└─$ tar xvzf pig-0.16.0.tar.gz
pig-0.16.0/
pig-0.16.0/bin/
pig-0.16.0/conf/
pig-0.16.0/contrib/
pig-0.16.0/contrib/piggybank/
pig-0.16.0/contrib/piggybank/java/
pig-0.16.0/contrib/piggybank/java/build/
pig-0.16.0/contrib/piggybank/java/build/classes/
pig-0.16.0/contrib/piggybank/java/build/classes/org/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/datetime/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/datetime/convert/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/datetime/diff/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/datetime/truncate/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/decode/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/math/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/stats/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/string/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/util/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/util/apachelogparser/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/evaluation/xml/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/allloader/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/apachelog/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/avro/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/hiverc/
pig-0.16.0/contrib/piggybank/java/build/classes/org/apache/pig/piggybank/storage/partition/
pig-0.16.0/contrib/piggybank/java/build/docs/
pig-0.16.0/contrib/piggybank/java/build/docs/api/
pig-0.16.0/contrib/piggybank/java/build/test/
pig-0.16.0/contrib/piggybank/java/build/test/classes/
pig-0.16.0/contrib/piggybank/java/lib/
pig-0.16.0/contrib/piggybank/java/src/
```

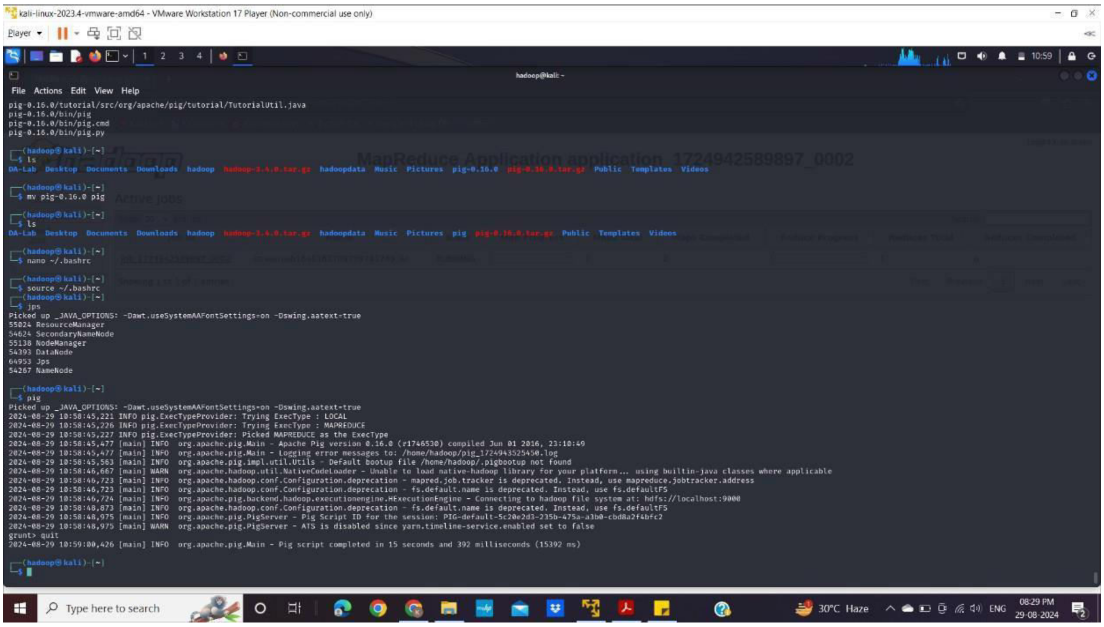
$nano ~/.bashrc



```
#PIG settings
export PIG_HOME=/home/hadoop/pig
export PATH=$PATH:$PIG_HOME/bin
export PIG_CLASSPATH=$PIG_HOME/conf:$HADOOP_HOME/etc/hadoop/
export PIG_CONF_DIR=$PIG_HOME/conf
#export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64
export PIG_CLASSPATH=$PIG_CONF_DIR:$PATH
#PIG setting ends
```

$mv pig-0.16.0 pig

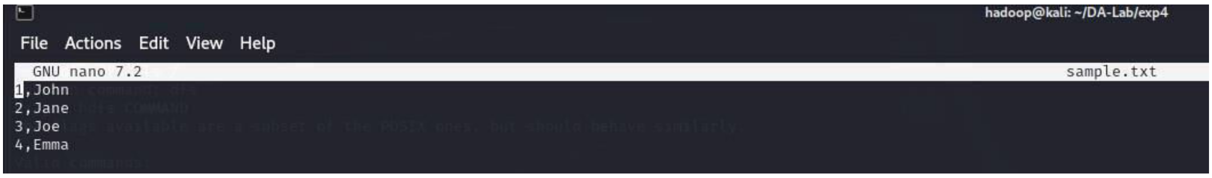
$pig



kali-linux-2023.4-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
hadoop@kali: ~
File Actions Edit View Help
Type here to search
30°C Haze
ENG
08:29 PM
29-08-2024

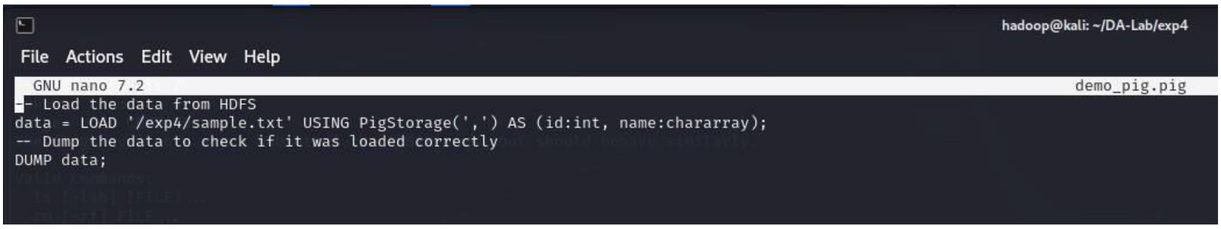
```
pig-0.16.0/tutorial/src/org/apache/pig/tutorial/TutorialUtil.java
pig-0.16.0/bin/pig
pig-0.16.0/bin/pig.cmd
pig-0.16.0/bin/pig.py

┌──(hadoop㉿kali)-[~]
└─$ ls
DA-Lab  Desktop  Documents  Downloads  hadoop  hadoop-3.4.0.tar.gz  hadoopdata  Music  Pictures  pig-0.16.0  pig-0.16.0.tar.gz  Public  Templates  Videos

┌──(hadoop㉿kali)-[~]
└─$ mv pig-0.16.0 pig

┌──(hadoop㉿kali)-[~]
└─$ ls
DA-Lab  Desktop  Documents  Downloads  hadoop  hadoop-3.4.0.tar.gz  hadoopdata  Music  Pictures  pig  pig-0.16.0.tar.gz  Public  Templates  Videos

┌──(hadoop㉿kali)-[~]
└─$ nano ~/.bashrc

┌──(hadoop㉿kali)-[~]
└─$ source ~/.bashrc
┌──(hadoop㉿kali)-[~]
└─$ jps
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
55024 ResourceManager
54624 SecondaryNameNode
55138 NodeManager
54393 DataNode
64953 Jps
54267 NameNode

┌──(hadoop㉿kali)-[~]
└─$ pig
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-08-29 10:58:45,221 INFO pig.ExecTypeProvider: Trying ExecType : LOCAL
2024-08-29 10:58:45,226 INFO pig.ExecTypeProvider: Trying ExecType : MAPREDUCE
2024-08-29 10:58:45,227 INFO pig.ExecTypeProvider: Picked MAPREDUCE as the ExecType
2024-08-29 10:58:45,477 [main] INFO  org.apache.pig.Main - Apache Pig version 0.16.0 (r1746530) compiled Jun 01 2016, 23:10:49
2024-08-29 10:58:45,477 [main] INFO  org.apache.pig.Main - Logging error messages to: /home/hadoop/pig_1724943525450.log
2024-08-29 10:58:45,563 [main] INFO  org.apache.pig.impl.util.Utils - Default bootup file /home/hadoop/.pigbootup not found
2024-08-29 10:58:46,667 [main] WARN  org.apache.hadoop.util.NativeCodeLoader - Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
2024-08-29 10:58:46,723 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapred.job.tracker is deprecated. Instead, use mapreduce.jobtracker.address
2024-08-29 10:58:46,723 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-29 10:58:46,724 [main] INFO  org.apache.pig.backend.hadoop.executionengine.HExecutionEngine - Connecting to hadoop file system at: hdfs://localhost:9000
2024-08-29 10:58:48,873 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-29 10:58:48,975 [main] INFO  org.apache.pig.PigServer - Pig Script ID for the session: PIG-default-5c20e2d3-235b-475a-a3b0-cbd8a2f4bfc2
2024-08-29 10:58:48,975 [main] WARN  org.apache.pig.PigServer - ATS is disabled since yarn.timeline-service.enabled set to false
grunt> quit
2024-08-29 10:59:00,426 [main] INFO  org.apache.pig.Main - Pig script completed in 15 seconds and 392 milliseconds (15392 ms)

┌──(hadoop㉿kali)-[~]
└─$ 
```

$cd DA-Lab
$mkdir exp4
$cd exp4
$nano sample.txt



```
  GNU nano 7.2                                                          sample.txt
1,John
2,Jane
3,Joe
4,Emma
```

$nano demo_pig.pig

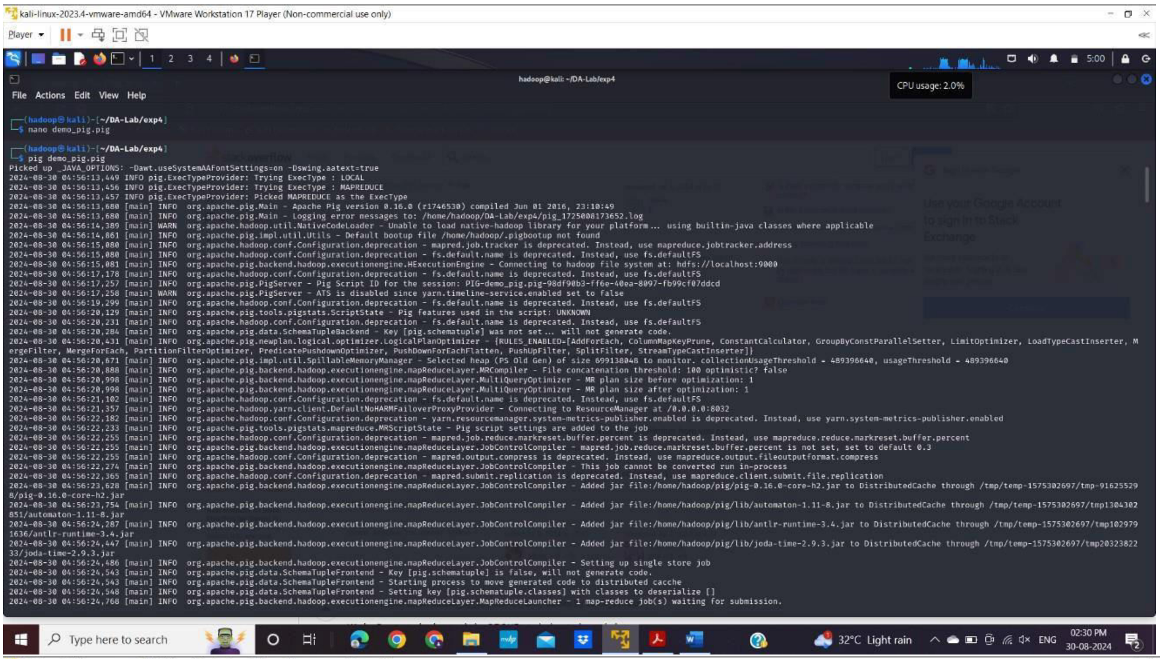


```
  GNU nano 7.2                                                          demo_pig.pig
-- Load the data from HDFS
data = LOAD '/exp4/sample.txt' USING PigStorage(',') AS (id:int, name:chararray);
-- Dump the data to check if it was loaded correctly
DUMP data;
```

$hdfs dfs -mkdir /exp4

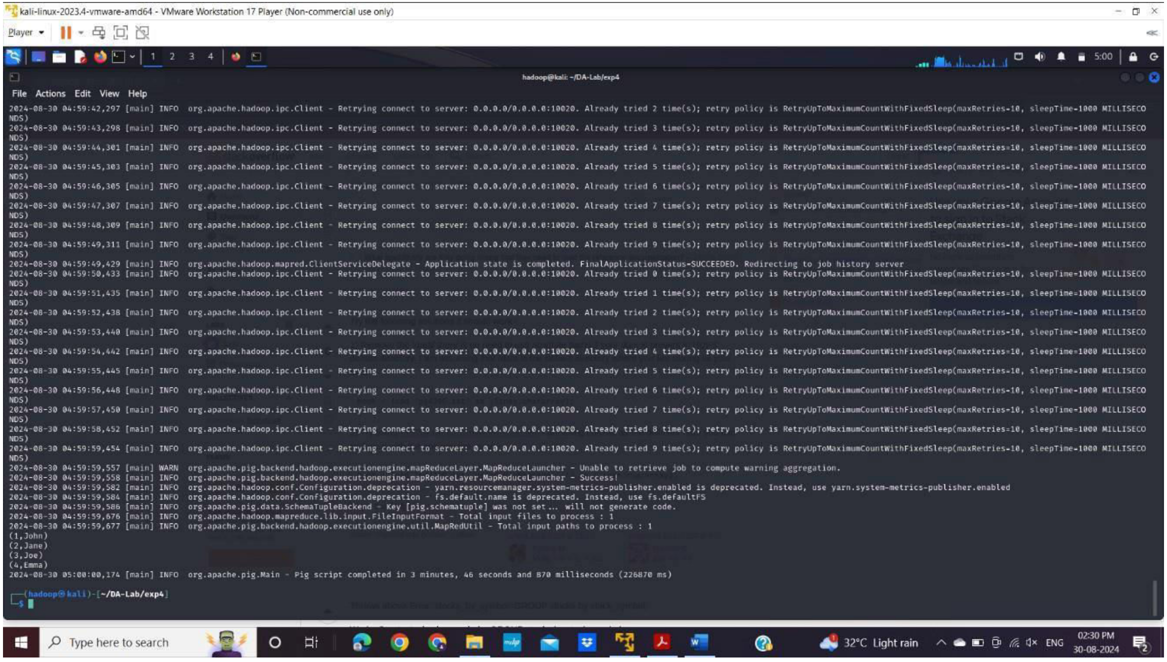
$hdfs dfs -copyFromLocal ~/DA-Lab/exp4/sample.txt /exp4

$pig demo_pig.pig



```
┌──(hadoop㉿kali)-[~/DA-Lab/exp4]
└─$ nano demo_pig.pig

┌──(hadoop㉿kali)-[~/DA-Lab/exp4]
└─$ pig demo_pig.pig
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-08-30 04:56:13,449 INFO pig.ExecTypeProvider: Trying ExecType : LOCAL
2024-08-30 04:56:13,456 INFO pig.ExecTypeProvider: Trying ExecType : MAPREDUCE
2024-08-30 04:56:13,457 INFO pig.ExecTypeProvider: Picked MAPREDUCE as the ExecType
2024-08-30 04:56:13,680 [main] INFO  org.apache.pig.Main - Apache Pig version 0.16.0 (r1746530) compiled Jun 01 2016, 23:10:49
2024-08-30 04:56:13,680 [main] INFO  org.apache.pig.Main - Logging error messages to: /home/hadoop/DA-Lab/exp4/pig_1725008173652.log
2024-08-30 04:56:14,389 [main] WARN  org.apache.hadoop.util.NativeCodeLoader - Unable to load native-hadoop library for your platform... using builtin-java classes where applicable
2024-08-30 04:56:14,861 [main] INFO  org.apache.pig.impl.util.Utils - Default bootup file /home/hadoop/.pigbootup not found
2024-08-30 04:56:15,080 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapred.job.tracker is deprecated. Instead, use mapreduce.jobtracker.address
2024-08-30 04:56:15,080 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:56:15,081 [main] INFO  org.apache.pig.backend.hadoop.executionengine.HExecutionEngine - Connecting to hadoop file system at: hdfs://localhost:9000
2024-08-30 04:56:17,178 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:56:17,257 [main] INFO  org.apache.pig.PigServer - Pig Script ID for the session: PIG-demo_pig.pig-98df90b3-ff6e-40ea-8097-fb99cf07ddcd
2024-08-30 04:56:17,258 [main] WARN  org.apache.pig.PigServer - ATS is disabled since yarn.timeline-service.enabled set to false
2024-08-30 04:56:19,299 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:56:20,129 [main] INFO  org.apache.pig.tools.pigstats.ScriptState - Pig features used in the script: UNKNOWN
2024-08-30 04:56:20,231 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:56:20,284 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not generate code.
2024-08-30 04:56:20,431 [main] INFO  org.apache.pig.newplan.logical.optimizer.LogicalPlanOptimizer - {RULES_ENABLED=[AddForEach, ColumnMapKeyPrune, ConstantCalculator, GroupByConstParallelSetter, LimitOptimizer, LoadTypeCastInserter, M
ergeFilter, MergeForEach, PartitionFilterOptimizer, PredicatePushdownOptimizer, PushDownForEachFlatten, PushUpFilter, SplitFilter, StreamTypeCastInserter]}
2024-08-30 04:56:20,671 [main] INFO  org.apache.pig.impl.util.SpillableMemoryManager - Selected heap (PS Old Gen) of size 699138048 to monitor. collectionUsageThreshold = 489396640, usageThreshold = 489396640
2024-08-30 04:56:20,888 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MRCompiler - File concatenation threshold: 100 optimistic? false
2024-08-30 04:56:20,998 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MultiQueryOptimizer - MR plan size before optimization: 1
2024-08-30 04:56:20,998 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MultiQueryOptimizer - MR plan size after optimization: 1
2024-08-30 04:56:21,102 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:56:21,357 [main] INFO  org.apache.hadoop.yarn.client.DefaultNoHARMFailoverProxyProvider - Connecting to ResourceManager at /0.0.0.0:8032
2024-08-30 04:56:22,182 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - yarn.resourcemanager.system-metrics-publisher.enabled is deprecated. Instead, use yarn.system-metrics-publisher.enabled
2024-08-30 04:56:22,233 [main] INFO  org.apache.pig.tools.pigstats.mapreduce.MRScriptState - Pig script settings are added to the job
2024-08-30 04:56:22,255 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapred.job.reduce.markreset.buffer.percent is deprecated. Instead, use mapreduce.reduce.markreset.buffer.percent
2024-08-30 04:56:22,255 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - mapred.job.reduce.markreset.buffer.percent is not set, set to default 0.3
2024-08-30 04:56:22,255 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapred.output.compress is deprecated. Instead, use mapreduce.output.fileoutputformat.compress
2024-08-30 04:56:22,274 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - This job cannot be converted run in-process
2024-08-30 04:56:22,365 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - mapred.submit.replication is deprecated. Instead, use mapreduce.client.submit.file.replication
2024-08-30 04:56:23,628 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - Added jar file:/home/hadoop/pig/pig-0.16.0-core-h2.jar to DistributedCache through /tmp/temp-1575302697/tmp-91625529
8/pig-0.16.0-core-h2.jar
2024-08-30 04:56:23,754 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - Added jar file:/home/hadoop/pig/lib/automaton-1.11-8.jar to DistributedCache through /tmp/temp-1575302697/tmp1304302
851/automaton-1.11-8.jar
2024-08-30 04:56:24,287 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - Added jar file:/home/hadoop/pig/lib/antlr-runtime-3.4.jar to DistributedCache through /tmp/temp-1575302697/tmp102979
1636/antlr-runtime-3.4.jar
2024-08-30 04:56:24,447 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - Added jar file:/home/hadoop/pig/lib/joda-time-2.9.3.jar to DistributedCache through /tmp/temp-1575302697/tmp20323822
33/joda-time-2.9.3.jar
2024-08-30 04:56:24,486 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.JobControlCompiler - Setting up single store job
2024-08-30 04:56:24,543 [main] INFO  org.apache.pig.data.SchemaTupleFrontend - Key [pig.schematuple] is false, will not generate code.
2024-08-30 04:56:24,543 [main] INFO  org.apache.pig.data.SchemaTupleFrontend - Starting process to move generated code to distributed cacche
2024-08-30 04:56:24,548 [main] INFO  org.apache.pig.data.SchemaTupleFrontend - Setting key [pig.schematuple.classes] with classes to deserialize []
2024-08-30 04:56:24,768 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - 1 map-reduce job(s) waiting for submission.
```

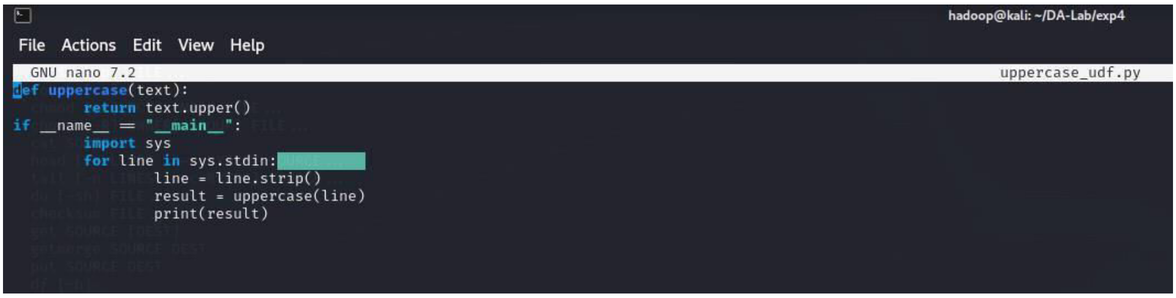
kali-linux-2023.4-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
hadoop@kali: ~/DA-Lab/exp4
CPU usage: 2.0%
File
Actions
Edit
View
Help
Type here to search
32°C Light rain
ENG
02:30 PM
30-08-2024



```
2024-08-30 04:59:42,297 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:43,298 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:44,301 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:45,303 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:46,305 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:47,307 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:48,309 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:49,311 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:49,429 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalApplicationStatus=SUCCEEDED. Redirecting to job history server
2024-08-30 04:59:50,433 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:51,435 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:52,438 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:53,440 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:54,442 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:55,445 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:56,448 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:57,450 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:58,452 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:59,454 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECO
NDS)
2024-08-30 04:59:59,557 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable to retrieve job to compute warning aggregation.
2024-08-30 04:59:59,558 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success!
2024-08-30 04:59:59,582 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - yarn.resourcemanager.system-metrics-publisher.enabled is deprecated. Instead, use yarn.system-metrics-publisher.enabled
2024-08-30 04:59:59,584 [main] INFO  org.apache.hadoop.conf.Configuration.deprecation - fs.default.name is deprecated. Instead, use fs.defaultFS
2024-08-30 04:59:59,586 [main] INFO  org.apache.pig.data.SchemaTupleBackend - Key [pig.schematuple] was not set... will not generate code.
2024-08-30 04:59:59,676 [main] INFO  org.apache.hadoop.mapreduce.lib.input.FileInputFormat - Total input files to process : 1
2024-08-30 04:59:59,677 [main] INFO  org.apache.pig.backend.hadoop.executionengine.util.MapRedUtil - Total input paths to process : 1
(1,John)
(2,Jane)
(3,Joe)
(4,Emma)
2024-08-30 05:00:00,174 [main] INFO  org.apache.pig.Main - Pig script completed in 3 minutes, 46 seconds and 870 milliseconds (226870 ms)

┌──(hadoop㉿kali)-[~/DA-Lab/exp4]
└─$ 
```

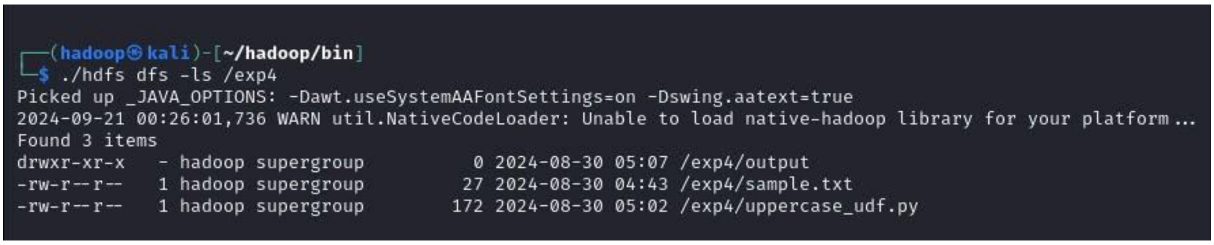
kali-linux-2023.4-vmware-amd64 - VMware Workstation 17 Player (Non-commercial use only)
Player
hadoop@kali: ~/DA-Lab/exp4
File
Actions
Edit
View
Help
Type here to search
32°C Light rain
ENG
02:30 PM
30-08-2024

$nano uppercase_udf.py



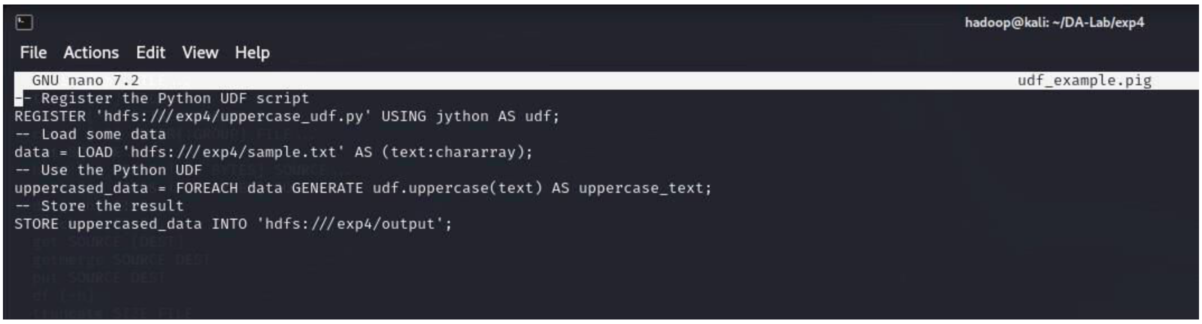
```
  GNU nano 7.2                                                              uppercase_udf.py
def uppercase(text):
    return text.upper()
if __name__ == "__main__":
    import sys
    for line in sys.stdin:
        line = line.strip()
        result = uppercase(line)
        print(result)
```

$hdfs dfs -copyFromLocal ~/DA-Lab/exp4/uppercase_udf.py /exp4



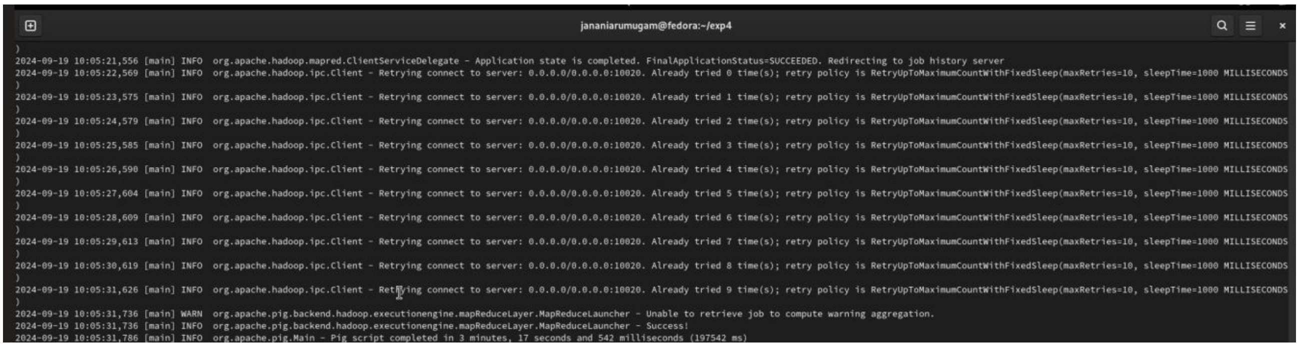
```
┌──(hadoop㉿kali)-[~/hadoop/bin]
└─$ ./hdfs dfs -ls /exp4
Picked up _JAVA_OPTIONS: -Dawt.useSystemAAFontSettings=on -Dswing.aatext=true
2024-09-21 00:26:01,736 WARN util.NativeCodeLoader: Unable to load native-hadoop library for your platform...
Found 3 items
drwxr-xr-x   - hadoop supergroup          0 2024-08-30 05:07 /exp4/output
-rw-r--r--   1 hadoop supergroup         27 2024-08-30 04:43 /exp4/sample.txt
-rw-r--r--   1 hadoop supergroup        172 2024-08-30 05:02 /exp4/uppercase_udf.py
```

$nano udf_example.pig

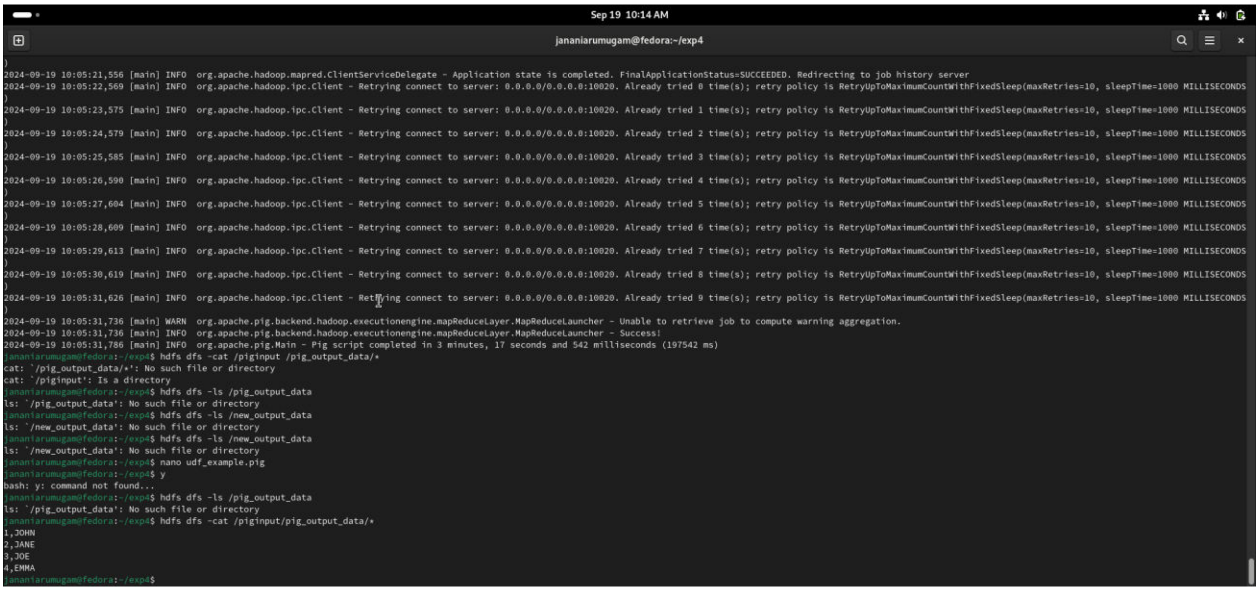


```
-- Register the Python UDF script
REGISTER 'hdfs:///exp4/uppercase_udf.py' USING jython AS udf;
-- Load some data
data = LOAD 'hdfs:///exp4/sample.txt' AS (text:chararray);
-- Use the Python UDF
uppercased_data = FOREACH data GENERATE udf.uppercase(text) AS uppercase_text;
-- Store the result
STORE uppercased_data INTO 'hdfs:///exp4/output';
```

$pig -f udf_example.pig

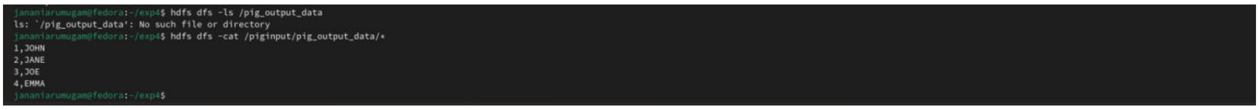


```
)
2024-09-19 10:05:21,556 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalApplicationStatus=SUCCEEDED. Redirecting to job history server
2024-09-19 10:05:22,569 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:23,575 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:24,579 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:25,585 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:26,590 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:27,604 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:28,609 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:29,613 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:30,619 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:31,626 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:31,736 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable to retrieve job to compute warning aggregation.
2024-09-19 10:05:31,736 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success!
2024-09-19 10:05:31,786 [main] INFO  org.apache.pig.Main - Pig script completed in 3 minutes, 17 seconds and 542 milliseconds (197542 ms)
```



```
)
2024-09-19 10:05:21,556 [main] INFO  org.apache.hadoop.mapred.ClientServiceDelegate - Application state is completed. FinalApplicationStatus=SUCCEEDED. Redirecting to job history server
2024-09-19 10:05:22,569 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 0 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:23,575 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 1 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:24,579 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 2 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:25,585 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 3 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:26,590 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 4 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:27,604 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 5 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:28,609 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 6 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:29,613 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 7 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:30,619 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 8 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:31,626 [main] INFO  org.apache.hadoop.ipc.Client - Retrying connect to server: 0.0.0.0/0.0.0.0:10020. Already tried 9 time(s); retry policy is RetryUpToMaximumCountWithFixedSleep(maxRetries=10, sleepTime=1000 MILLISECONDS
)
2024-09-19 10:05:31,736 [main] WARN  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Unable to retrieve job to compute warning aggregation.
2024-09-19 10:05:31,736 [main] INFO  org.apache.pig.backend.hadoop.executionengine.mapReduceLayer.MapReduceLauncher - Success!
2024-09-19 10:05:31,786 [main] INFO  org.apache.pig.Main - Pig script completed in 3 minutes, 17 seconds and 542 milliseconds (197542 ms)
jananiarumugam@fedora:~/exp4$ hdfs dfs -cat /piginput /pig_output_data/*
cat: `/pig_output_data/*': No such file or directory
cat: `/piginput': Is a directory
jananiarumugam@fedora:~/exp4$ hdfs dfs -ls /pig_output_data
ls: `/pig_output_data': No such file or directory
jananiarumugam@fedora:~/exp4$ hdfs dfs -ls /new_output_data
ls: `/new_output_data': No such file or directory
jananiarumugam@fedora:~/exp4$ hdfs dfs -ls /new_output_data
ls: `/new_output_data': No such file or directory
jananiarumugam@fedora:~/exp4$ nano udf_example.pig
jananiarumugam@fedora:~/exp4$ y
bash: y: command not found...
jananiarumugam@fedora:~/exp4$ hdfs dfs -ls /pig_output_data
ls: `/pig_output_data': No such file or directory
jananiarumugam@fedora:~/exp4$ hdfs dfs -cat /piginput/pig_output_data/*
1,JOHN
2,JANE
3,JOE
4,EMMA
jananiarumugam@fedora:~/exp4$
```

$hdfs dfs -cat /exp4/output/*



```
jananiarumugam@fedora:~/exp4$ hdfs dfs -ls /pig_output_data
ls: `/pig_output_data': No such file or directory
jananiarumugam@fedora:~/exp4$ hdfs dfs -cat /piginput/pig_output_data/*
1,JOHN
2,JANE
3,JOE
4,EMMA
jananiarumugam@fedora:~/exp4$
```