1.load the given textfile in HDFS.

```
[cloudera@quickstart ~]$ ls
mouni             eclipse                      kp
rakeshdata
avro              emp.java                     kpi_hadoop
rakeshdata1
cloudera-manager  enterprise-deployment.json   lib
sample.txt
cm_api.py         express-deployment.json      Music
sparkjars_exec
data1             external_jars                parcels        table.csv
Desktop           external-unified             parquet_write  Templates
devices.json      HiveDirectory                part_dir  Videos
Documents         input.txt                    Pictures  workspace
Downloads         kerberos                     Public
zeyo_tab.java
[cloudera@quickstart ~]$ hdfs dfs -ls
22/01/20 22:20:53 WARN ipc.Client: Failed to connect to server:
quickstart.cloudera/127.0.0.1:8020: try once and fail.
java.net.ConnectException: Connection refused
      at sun.nio.ch.SocketChannelImpl.checkConnect(Native Method)
      at
sun.nio.ch.SocketChannelImpl.finishConnect(SocketChannelImpl.java:714)
      at
org.apache.hadoop.net.SocketIOWithTimeout.connect(SocketIOWithTimeout.
java:206)
      at org.apache.hadoop.net.NetUtils.connect(NetUtils.java:530)
      at org.apache.hadoop.net.NetUtils.connect(NetUtils.java:494)
      at
org.apache.hadoop.ipc.Client$Connection.setupConnection(Client.java:64
8)
      at
org.apache.hadoop.ipc.Client$Connection.setupIOstreams(Client.java:744
)
      at
org.apache.hadoop.ipc.Client$Connection.access$3000(Client.java:396)
      at org.apache.hadoop.ipc.Client.getConnection(Client.java:1557)
      at org.apache.hadoop.ipc.Client.call(Client.java:1480)
      at org.apache.hadoop.ipc.Client.call(Client.java:1441)
      at
org.apache.hadoop.ipc.ProtobufRpcEngine$Invoker.invoke(ProtobufRpcEngi
ne.java:230)
      at com.sun.proxy.$Proxy10.getFileInfo(Unknown Source)
      at
org.apache.hadoop.hdfs.protocolPB.ClientNamenodeProtocolTranslatorPB.g
etFileInfo(ClientNamenodeProtocolTranslatorPB.java:786)
      at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
      at
sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.j
ava:62)
      at
```

```
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccess
orImpl.java:43)
      at java.lang.reflect.Method.invoke(Method.java:498)
      at
org.apache.hadoop.io.retry.RetryInvocationHandler.invokeMethod(RetryIn
vocationHandler.java:260)
      at
org.apache.hadoop.io.retry.RetryInvocationHandler.invoke(RetryInvocati
onHandler.java:104)
      at com.sun.proxy.$Proxy11.getFileInfo(Unknown Source)
      at
org.apache.hadoop.hdfs.DFSClient.getFileInfo(DFSClient.java:2131)
      at
org.apache.hadoop.hdfs.DistributedFileSystem$20.doCall(DistributedFile
System.java:1265)
      at
org.apache.hadoop.hdfs.DistributedFileSystem$20.doCall(DistributedFile
System.java:1261)
      at
org.apache.hadoop.fs.FileSystemLinkResolver.resolve(FileSystemLinkReso
lver.java:81)
      at
org.apache.hadoop.hdfs.DistributedFileSystem.getFileStatus(Distributed
FileSystem.java:1261)
      at org.apache.hadoop.fs.Globber.getFileStatus(Globber.java:64)
      at org.apache.hadoop.fs.Globber.doGlob(Globber.java:272)
      at org.apache.hadoop.fs.Globber.glob(Globber.java:151)
      at
org.apache.hadoop.fs.FileSystem.globStatus(FileSystem.java:1715)
      at
org.apache.hadoop.fs.shell.PathData.expandAsGlob(PathData.java:326)
      at
org.apache.hadoop.fs.shell.Command.expandArgument(Command.java:235)
      at
org.apache.hadoop.fs.shell.Command.expandArguments(Command.java:218)
      at
org.apache.hadoop.fs.shell.FsCommand.processRawArguments(FsCommand.jav
a:102)
      at org.apache.hadoop.fs.shell.Command.run(Command.java:165)
      at org.apache.hadoop.fs.FsShell.run(FsShell.java:315)
      at org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:70)
      at org.apache.hadoop.util.ToolRunner.run(ToolRunner.java:84)
      at org.apache.hadoop.fs.FsShell.main(FsShell.java:372)
ls: Call From quickstart.cloudera/127.0.0.1 to quickstart.cloudera:8020
failed on connection exception: java.net.ConnectException: Connection
refused; For more details see:
http://wiki.apache.org/hadoop/ConnectionRefused
[cloudera@quickstart ~]$ list
bash: list: command not found
[cloudera@quickstart ~]$ ls
mouni             cm_api.py     devices.json     eclipse
express-deployment.json HiveDirectory kp  Music
```

```
part_dir  rakeshdata   sparkjars_exec  Videos
avro              data1      Documents     emp.java
external_jars            input.txt      kpi_hadoop  parcels
Pictures  rakeshdata1  table.csv       workspace
cloudera-manager  DesktopDownloads         enterprise-deployment.json
external-unified         kerberos       lib         parquet_write
Public    sample.txt   Templates       zeyo_tab.java
[cloudera@quickstart ~]$ dir
mouni        cm_api.py  devices.json  eclipse
express-deployment.json    HiveDirectory  kp        Music     part_dir
rakeshdata  sparkjars_exec  Videos
avro         data1      Documents        emp.java
external_jars         input.txt      kpi_hadoop  parcels      Pictures
rakeshdata1  table.csv      workspace
cloudera-manager   Desktop   Downloads   enterprise-deployment.json
external-unified    kerberos      lib       parquet_write    Public
sample.txt Templates  zeyo_tab.java
```

2.Perform WordCount on the text file using mapreduce

```
[cloudera@quickstart ~]$ hdfs dfs -ls /user/cloudera
Found 19 items
drwx------   - cloudera cloudera          0 2022-01-12 09:03
/user/cloudera/.staging
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:09
/user/cloudera/avro_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:15
/user/cloudera/csv_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-12 09:03
/user/cloudera/emp
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 08:36
/user/cloudera/import_avro
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_avro_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:13
/user/cloudera/json_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:39
/user/cloudera/json_orc
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_orc_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:38
/user/cloudera/json_parquet
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_parquet_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:11
/user/cloudera/orc_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:14
/user/cloudera/parquet_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:11
/user/cloudera/parquet_json_write
```

```
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 13:40
/user/cloudera/part_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 14:01
/user/cloudera/part_dir2
-rw-r--r--   1 cloudera cloudera         81 2022-01-11 02:29
/user/cloudera/table.csv
-rw-r--r--   1 cloudera cloudera       1173 2022-01-20 22:48
/user/cloudera/words.txt
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 09:04
/user/cloudera/zeyo_dir
[cloudera@quickstart ~]$ cat words.txt
cat: words.txt: No such file or directory
[cloudera@quickstart ~]$ cd user/cloudera
bash: cd: user/cloudera: No such file or directory
[cloudera@quickstart ~]$ cd user
bash: cd: user: No such file or directory
[cloudera@quickstart ~]$ hdfs dfs -cat /user/cloudera
cat: `/user/cloudera': Is a directory
[cloudera@quickstart ~]$ hdfs dfs -cat words.txt /user/cloudera
It's a truly pleasant experience to read this book, actually I should
confess that I laughed A LOT in the reading. The book is hilarious.

Besides the fun part, I was inspired by this book too. This book went through
the early history of Personal Computer industry, gave the vivid silhouettes
of the people, the companies and Silicon Valley in this industry.
Mr.Cringely examined why today's Information Technology industry is what
it is now, and how it became like this.

The book provided the facts and opinion about how the high tech companies
succeeded, and how many more failed. Why Bill Gates is the richest person
in the world, and how Steve Jobs and Steve Wozniak created the most beloved
high tech company in the world.

It used to say that reading history can make people understand the rise
and fall of things. We can learn the lessons from it, and get new ideas
or patterns from the past success. Today Personal Computer is declining,
and the focus is shifting to Smart Phone and Tablet. Although product is
changing, the similar struggles, fights, winning and loss are still
happening lively everyday in this industry, just like what it did in the
old days.


cat: `/user/cloudera': Is a directory
[cloudera@quickstart ~]$ ^C
[cloudera@quickstart ~]$ hadoop jar
/usr/lib/hadoop-mapreduce/hadoop-map-reduce-examples.jar
Not a valid JAR:
/usr/lib/hadoop-mapreduce/hadoop-map-reduce-examples.jar
[cloudera@quickstart ~]$ hadoop jar
/usr/lib/hadoop-mapreduce/hadoop-mapreduce-examples.jar wordcount
/user/cloudera/sample_kpi.txt /user/cloudera/output
22/01/20 23:12:10 INFO client.RMProxy: Connecting to ResourceManager at
```

```
quickstart.cloudera/127.0.0.1:8032
22/01/20 23:12:13 INFO mapreduce.JobSubmitter: Cleaning up the staging
area /user/cloudera/.staging/job_1642747289338_0001
22/01/20 23:12:13 WARN security.UserGroupInformation:
PriviledgedActionException as:cloudera (auth:SIMPLE)
cause:org.apache.hadoop.mapreduce.lib.input.InvalidInputException:
Input path does not exist:
hdfs://quickstart.cloudera:8020/user/cloudera/sample_kpi.txt
org.apache.hadoop.mapreduce.lib.input.InvalidInputException: Input path
does not exist:
hdfs://quickstart.cloudera:8020/user/cloudera/sample_kpi.txt
      at
org.apache.hadoop.mapreduce.lib.input.FileInputFormat.singleThreadedLi
stStatus(FileInputFormat.java:323)
      at
org.apache.hadoop.mapreduce.lib.input.FileInputFormat.listStatus(FileI
nputFormat.java:265)
      at
org.apache.hadoop.mapreduce.lib.input.FileInputFormat.getSplits(FileIn
putFormat.java:387)
      at
org.apache.hadoop.mapreduce.JobSubmitter.writeNewSplits(JobSubmitter.j
ava:305)
      at
org.apache.hadoop.mapreduce.JobSubmitter.writeSplits(JobSubmitter.java
:322)
      at
org.apache.hadoop.mapreduce.JobSubmitter.submitJobInternal(JobSubmitte
r.java:200)
      at org.apache.hadoop.mapreduce.Job$10.run(Job.java:1307)
      at org.apache.hadoop.mapreduce.Job$10.run(Job.java:1304)
      at java.security.AccessController.doPrivileged(Native Method)
      at javax.security.auth.Subject.doAs(Subject.java:422)
      at
org.apache.hadoop.security.UserGroupInformation.doAs(UserGroupInformat
ion.java:1917)
      at org.apache.hadoop.mapreduce.Job.submit(Job.java:1304)
      at
org.apache.hadoop.mapreduce.Job.waitForCompletion(Job.java:1325)
      at org.apache.hadoop.examples.WordCount.main(WordCount.java:87)
      at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
      at
sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.j
ava:62)
      at
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccess
orImpl.java:43)
      at java.lang.reflect.Method.invoke(Method.java:498)
      at
org.apache.hadoop.util.ProgramDriver$ProgramDescription.invoke(Program
Driver.java:71)
      at
```

```
org.apache.hadoop.util.ProgramDriver.run(ProgramDriver.java:144)
      at
org.apache.hadoop.examples.ExampleDriver.main(ExampleDriver.java:74)
      at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
      at
sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.j
ava:62)
      at
sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccess
orImpl.java:43)
      at java.lang.reflect.Method.invoke(Method.java:498)
      at org.apache.hadoop.util.RunJar.run(RunJar.java:221)
      at org.apache.hadoop.util.RunJar.main(RunJar.java:136)
[cloudera@quickstart ~]$ hadoop jar
/usr/lib/hadoop-mapreduce/hadoop-mapreduce-examples.jar wordcount
/user/cloudera/words.txt /user/cloudera/output
22/01/20 23:12:45 INFO client.RMProxy: Connecting to ResourceManager at
quickstart.cloudera/127.0.0.1:8032
22/01/20 23:12:49 INFO input.FileInputFormat: Total input paths to process
: 1
22/01/20 23:12:50 WARN hdfs.DFSClient: Caught exception
java.lang.InterruptedException
      at java.lang.Object.wait(Native Method)
      at java.lang.Thread.join(Thread.java:1252)
      at java.lang.Thread.join(Thread.java:1326)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.closeResponder(DFS
OutputStream.java:967)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.endBlock(DFSOutput
Stream.java:705)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.run(DFSOutputStrea
m.java:894)
22/01/20 23:12:50 WARN hdfs.DFSClient: Caught exception
java.lang.InterruptedException
      at java.lang.Object.wait(Native Method)
      at java.lang.Thread.join(Thread.java:1252)
      at java.lang.Thread.join(Thread.java:1326)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.closeResponder(DFS
OutputStream.java:967)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.endBlock(DFSOutput
Stream.java:705)
      at
org.apache.hadoop.hdfs.DFSOutputStream$DataStreamer.run(DFSOutputStrea
m.java:894)
22/01/20 23:12:50 INFO mapreduce.JobSubmitter: number of splits:1
22/01/20 23:12:50 INFO mapreduce.JobSubmitter: Submitting tokens for job:
job_1642747289338_0002
22/01/20 23:12:52 INFO impl.YarnClientImpl: Submitted application
```

```
application_1642747289338_0002
22/01/20 23:12:53 INFO mapreduce.Job: The url to track the job:
http://quickstart.cloudera:8088/proxy/application_1642747289338_0002/
22/01/20 23:12:53 INFO mapreduce.Job: Running job: job_1642747289338_0002

22/01/20 23:13:33 INFO mapreduce.Job: Job job_1642747289338_0002 running
in uber mode : false
22/01/20 23:13:33 INFO mapreduce.Job:  map 0% reduce 0%
22/01/20 23:14:05 INFO mapreduce.Job:  map 100% reduce 0%
22/01/20 23:14:35 INFO mapreduce.Job:  map 100% reduce 100%
22/01/20 23:14:37 INFO mapreduce.Job: Job job_1642747289338_0002
completed successfully
22/01/20 23:14:38 INFO mapreduce.Job: Counters: 49
      File System Counters
            FILE: Number of bytes read=1261
            FILE: Number of bytes written=297411
            FILE: Number of read operations=0
            FILE: Number of large read operations=0
            FILE: Number of write operations=0
            HDFS: Number of bytes read=1293
            HDFS: Number of bytes written=1143
            HDFS: Number of read operations=6
            HDFS: Number of large read operations=0
            HDFS: Number of write operations=2
      Job Counters
            Launched map tasks=1
            Launched reduce tasks=1
            Data-local map tasks=1
            Total time spent by all maps in occupied slots (ms)=14978560
            Total time spent by all reduces in occupied slots (ms)=14747648
            Total time spent by all map tasks (ms)=29255
            Total time spent by all reduce tasks (ms)=28804
            Total vcore-milliseconds taken by all map tasks=29255
            Total vcore-milliseconds taken by all reduce tasks=28804
            Total megabyte-milliseconds taken by all map tasks=14978560
            Total megabyte-milliseconds taken by all reduce tasks=14747648
      Map-Reduce Framework
            Map input records=9
            Map output records=203
            Map output bytes=1980
            Map output materialized bytes=1257
            Input split bytes=120
            Combine input records=203
            Combine output records=134
            Reduce input groups=134
            Reduce shuffle bytes=1257
            Reduce input records=134
            Reduce output records=134
            Spilled Records=268
            Shuffled Maps =1
            Failed Shuffles=0
            Merged Map outputs=1
```

```
            GC time elapsed (ms)=1352
            CPU time spent (ms)=2520
            Physical memory (bytes) snapshot=251547648
            Virtual memory (bytes) snapshot=3890036736
            Total committed heap usage (bytes)=101449728
      Shuffle Errors
            BAD_ID=0
            CONNECTION=0
            IO_ERROR=0
            WRONG_LENGTH=0
            WRONG_MAP=0
            WRONG_REDUCE=0
      File Input Format Counters
            Bytes Read=1173
      File Output Format Counters
            Bytes Written=1143
[cloudera@quickstart ~]$
[cloudera@quickstart ~]$ hadoop dfs -ls /user/cloudera/output
DEPRECATED: Use of this script to execute hdfs command is deprecated.
Instead use the hdfs command for it.

Found 2 items
-rw-r--r--   1 cloudera cloudera          0 2022-01-20 23:14
/user/cloudera/output/_SUCCESS
-rw-r--r--   1 cloudera cloudera       1143 2022-01-20 23:14
/user/cloudera/output/part-r-00000
[cloudera@quickstart ~]$ hadoop dfs -cat
/user/cloudera/output/part-r-00000
DEPRECATED: Use of this script to execute hdfs command is deprecated.
Instead use the hdfs command for it.

A     1
Although   1
Besides    1
Bill  1
Computer   2
Gates 1
I     3
Information      1
It    1
It's  1
Jobs  1
LOT   1
Mr.Cringely      1
Personal   2
Phone 1
Silicon    1
Smart 1
Steve 2
Tablet.    1
Technology 1
The   2
```

```
This 1
Today 1
Valley 1
We 1
Why 1
Wozniak 1
a 1
about 1
actually 1
and 11
are 1
became 1
beloved 1
book 4
book, 1
by 1
can 2
changing, 1
companies 2
company 1
confess 1
created 1
days. 1
declining, 1
did 1
early 1
everyday 1
examined 1
experience 1
facts 1
failed. 1
fall 1
fights, 1
focus 1
from 2
fun 1
gave 1
get 1
happening 1
high 2
hilarious. 1
history 2
how 4
ideas 1
in 6
industry 1
industry, 2
industry. 1
inspired 1
is 7
it 3
it, 1
```

```
just 1
laughed    1
learn 1
lessons    1
like 2
lively     1
loss 1
make 1
many 1
more 1
most 1
new  1
now, 1
of   3
old  1
opinion    1
or   1
part, 1
past 1
patterns   1
people     1
people,    1
person     1
pleasant   1
product    1
provided   1
read 1
reading    1
reading.   1
richest    1
rise 1
say  1
shifting   1
should     1
silhouettes      1
similar    1
still 1
struggles, 1
succeeded, 1
success.   1
tech 2
that 2
the  18
things.    1
this 4
this. 1
through    1
to   3
today's    1
too. 1
truly 1
understand 1
```

```
used  1
vivid 1
was   1
went  1
what  2
why   1
winning    1
world,     1
world.     1
[cloudera@quickstart ~]$
```

3.Create a HBase table ‘Census’ using java with Column Family as ‘Personal’, ‘Professional’.

```
[cloudera@quickstart ~]$ hbase shell
OpenJDK 64-Bit Server VM warning: Using incremental CMS is deprecated and
will likely be removed in a future release
OpenJDK 64-Bit Server VM warning: If the number of processors is expected
to increase from one, then you should configure the number of parallel GC
threads appropriately using -XX:ParallelGCThreads=N
22/01/21 01:29:53 INFO Configuration.deprecation: hadoop.native.lib is
deprecated. Instead, use io.native.lib.available
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 1.2.0-cdh5.13.0, rUnknown, Wed Oct  4 11:16:18 PDT 2017

hbase(main):001:0> create table 'census', 'personal', 'professional'
NoMethodError: undefined method `table' for #<Object:0x5809fa26>

hbase(main):002:0> create 'census', 'personal', 'professional'
0 row(s) in 3.3680 seconds

=> Hbase::Table - census
hbase(main):003:0> describe census
NameError: undefined local variable or method `census' for
#<Object:0x5809fa26>

hbase(main):004:0> describe 'census'
Table census is ENABLED
census
COLUMN FAMILIES DESCRIPTION
{NAME => 'personal', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY =>
'false', KEEP_DELETED_CELLS => 'FALSE', DATA_BLOCK_ENCODING => 'NONE', TTL
=> 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BLOCKC
ACHE => 'true', BLOCKSIZE => '65536', REPLICATION_SCOPE => '0'}
{NAME => 'professional', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY
=> 'false', KEEP_DELETED_CELLS => 'FALSE', DATA_BLOCK_ENCODING => 'NONE',
```

```
TTL => 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BL
OCKCACHE => 'true', BLOCKSIZE => '65536', REPLICATION_SCOPE => '0'}
2 row(s) in 0.5510 seconds
```

4.Put 2 rows in the Census table each having columns name and gender in personal and occupation in professional and display data using HBase shell.

```
hbase(main):006:0> scan 'census'
ROW                                                    COLUMN+CELL
0 row(s) in 0.1280 seconds

hbase(main):007:0> put 'census', '1', 'personal:name,gender',
'mouni,female'
0 row(s) in 0.1800 seconds

hbase(main):008:0> put 'census', '1', 'professional:occupation', 'design'
0 row(s) in 0.0260 seconds

hbase(main):009:0> scan 'census'
ROW                                                    COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758230179,
value=mouni,female
 1
column=professional:occupation, timestamp=1642758281887, value=design
1 row(s) in 0.0360 seconds

hbase(main):010:0> put 'census', '2', 'personal:name,gender',
'yugesh,male'
0 row(s) in 0.0150 seconds

hbase(main):011:0> put 'census', '1', 'professional:occupation',
'cricket'
0 row(s) in 0.0060 seconds

hbase(main):012:0> scan 'census'
ROW                                                    COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758230179,
value=mouni,female
 1
column=professional:occupation, timestamp=1642758449677, value=cricket
 2
column=personal:name,gender, timestamp=1642758439344, value=yugesh,male
2 row(s) in 0.0290 seconds

hbase(main):013:0> truncate 'census'
```

```
Truncating 'census' table (it may take a while):
 - Disabling table...
 - Truncating table...
0 row(s) in 4.0800 seconds

hbase(main):014:0> put 'census', '1', 'personal:name,gender',
'mouni,female'
0 row(s) in 0.1700 seconds

hbase(main):015:0> put 'census', '1', 'professional:occupation', 'design'
0 row(s) in 0.0150 seconds

hbase(main):016:0> put 'census', '2', 'personal:name,gender',
'yugesh,male'
0 row(s) in 0.0780 seconds

hbase(main):017:0> put 'census', '2', 'professional:occupation',
'cricket'
0 row(s) in 0.0380 seconds

hbase(main):018:0> scan 'census'
ROW                                                    COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758509217,
value=mouni,female
 1
column=professional:occupation, timestamp=1642758519896, value=design
 2
column=personal:name,gender, timestamp=1642758533100, value=yugesh,male
 2
column=professional:occupation, timestamp=1642758543828, value=cricket
2 row(s) in 0.0950 seconds
```

5.Load the groceries data file usig Hdfs,Hbase,Sqoop with a schema and describe and display the data.

```
[cloudera@quickstart ~]$ hadoop fs -put groceries.csv /user/cloudera
[cloudera@quickstart ~]$ hdfs dfs -ls
Found 21 items
drwx------   - cloudera cloudera          0 2022-01-20 23:14 .staging
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:09
avro_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:15 csv_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-12 09:03 emp
-rw-r--r--   1 cloudera cloudera        456 2022-01-21 02:33
groceries.csv
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 08:36 import_avro
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56 json_avro_1
```

```
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:13 json_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:39 json_orc
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56 json_orc_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:38 json_parquet
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
json_parquet_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:11 orc_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-20 23:14 output
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:14 parquet_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:11
parquet_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 13:40 part_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 14:01 part_dir2
-rw-r--r--   1 cloudera cloudera         81 2022-01-11 02:29 table.csv
-rw-r--r--   1 cloudera cloudera       1173 2022-01-20 22:48 words.txt
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 09:04 zeyo_dir
[cloudera@quickstart ~]$ hdfs dfs -ls /user/cloudera
Found 21 items
drwx------   - cloudera cloudera          0 2022-01-20 23:14
/user/cloudera/.staging
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:09
/user/cloudera/avro_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:15
/user/cloudera/csv_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-12 09:03
/user/cloudera/emp
-rw-r--r--   1 cloudera cloudera        456 2022-01-21 02:33
/user/cloudera/groceries.csv
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 08:36
/user/cloudera/import_avro
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_avro_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:13
/user/cloudera/json_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:39
/user/cloudera/json_orc
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_orc_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:38
/user/cloudera/json_parquet
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_parquet_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:11
/user/cloudera/orc_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-20 23:14
/user/cloudera/output
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:14
/user/cloudera/parquet_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:11
/user/cloudera/parquet_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 13:40
/user/cloudera/part_dir
```

```
drwxr-xr-x - cloudera cloudera 0 2020-05-22 14:01
/user/cloudera/part_dir2
-rw-r--r--   1 cloudera cloudera         81 2022-01-11 02:29
/user/cloudera/table.csv
-rw-r--r--   1 cloudera cloudera       1173 2022-01-20 22:48
/user/cloudera/words.txt
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 09:04
/user/cloudera/zeyo_dir
[cloudera@quickstart ~]$ hbase shell
```

HBASE

```
cloudera@quickstart ~]$ hbase shell
OpenJDK 64-Bit Server VM warning: Using incremental CMS is deprecated and
will likely be removed in a future release
OpenJDK 64-Bit Server VM warning: If the number of processors is expected
to increase from one, then you should configure the number of parallel GC
threads appropriately using -XX:ParallelGCThreads=N
22/01/21 01:29:53 INFO Configuration.deprecation: hadoop.native.lib is
deprecated. Instead, use io.native.lib.available
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 1.2.0-cdh5.13.0, rUnknown, Wed Oct  4 11:16:18 PDT 2017

hbase(main):001:0> create table 'census', 'personal', 'professional'
NoMethodError: undefined method `table' for #<Object:0x5809fa26>

hbase(main):002:0> create 'census', 'personal', 'professional'
0 row(s) in 3.3680 seconds

=> Hbase::Table - census
hbase(main):003:0> describe census
NameError: undefined local variable or method `census' for
#<Object:0x5809fa26>

hbase(main):004:0> describe 'census'
Table census is ENABLED
census
COLUMN FAMILIES DESCRIPTION
{NAME => 'personal', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY =>
'false', KEEP_DELETED_CELLS => 'FALSE', DATA_BLOCK_ENCODING => 'NONE', TTL
=> 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BLOCKC
ACHE => 'true', BLOCKSIZE => '65536', REPLICATION_SCOPE => '0'}
{NAME => 'professional', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY
=> 'false', KEEP_DELETED_CELLS => 'FALSE', DATA_BLOCK_ENCODING => 'NONE',
```

```
TTL => 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BL
OCKCACHE => 'true', BLOCKSIZE => '65536', REPLICATION_SCOPE => '0'}
2 row(s) in 0.5510 seconds

hbase(main):005:0> put 'census', '1', 'personal:name,gender',
'mrspy,male', 'professional:occupation', 'spy'

ERROR: no method 'add' for arguments
(org.jruby.java.proxies.ArrayJavaProxy,org.jruby.java.proxies.ArrayJav
aProxy,org.jruby.RubyString,org.jruby.java.proxies.ArrayJavaProxy) on
Java::OrgApacheHadoopHbaseClient::Put
  available overloads:
    (byte[],byte[],long,byte[])
    (byte[],java.nio.ByteBuffer,long,java.nio.ByteBuffer)

Put a cell 'value' at specified table/row/column and optionally
timestamp coordinates.  To put a cell value into table 'ns1:t1' or 't1'
at row 'r1' under column 'c1' marked with the time 'ts1', do:

  hbase> put 'ns1:t1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value', ts1
  hbase> put 't1', 'r1', 'c1', 'value',
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{VISIBILITY=>'PRIVATE|SECRET'}

The same commands also can be run on a table reference. Suppose you had
a reference
t to table 't1', the corresponding command would be:

  hbase> t.put 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}


hbase(main):006:0> scan 'census'
ROW                                                   COLUMN+CELL
0 row(s) in 0.1280 seconds

hbase(main):007:0> put 'census', '1', 'personal:name,gender',
'mouni,female'
0 row(s) in 0.1800 seconds

hbase(main):008:0> put 'census', '1', 'professional:occupation',
'design'
0 row(s) in 0.0260 seconds

hbase(main):009:0> scan 'census'
ROW                                                   COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758230179,
value=mouni,female
```

```
 1
column=professional:occupation, timestamp=1642758281887, value=design
1 row(s) in 0.0360 seconds

hbase(main):010:0> put 'census', '2', 'personal:name,gender', 'abhi,male'
0 row(s) in 0.0150 seconds

hbase(main):011:0> put 'census', '1', 'professional:occupation',
'cricket'
0 row(s) in 0.0060 seconds

hbase(main):012:0> scan 'census'
ROW                                                    COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758230179,
 value=mouni,female 1
column=professional:occupation, timestamp=1642758449677, value=cricket
 2
column=personal:name,gender, timestamp=1642758439344, value=abhi,male
2 row(s) in 0.0290 seconds

hbase(main):013:0> truncate 'census'
Truncating 'census' table (it may take a while):
 - Disabling table...
 - Truncating table...
0 row(s) in 4.0800 seconds

hbase(main):014:0> put 'census', '1', 'personal:name,gender',
'mouni,female'
0 row(s) in 0.1700 seconds

hbase(main):015:0> put 'census', '1', 'professional:occupation',
'design'
0 row(s) in 0.0150 seconds

hbase(main):016:0> put 'census', '2', 'personal:name,gender', 'abhi,male'
0 row(s) in 0.0780 seconds

hbase(main):017:0> put 'census', '2', 'professional:occupation',
'cricket'
0 row(s) in 0.0380 seconds

hbase(main):018:0> scan 'census'
ROW                                                    COLUMN+CELL
 1
column=personal:name,gender, timestamp=1642758509217,
 value=mouni,female 1
column=professional:occupation, timestamp=1642758519896,
 value=design 2
column=personal:name,gender, timestamp=1642758533100, value=abhi,male
 2
column=professional:occupation, timestamp=1642758543828, value=cricket
2 row(s) in 0.0950 seconds
```

```
hbase(main):019:0> [cloudera@quickstart ~]$ ^C
[cloudera@quickstart ~]$ hadoop fs -put groceries.csv /user/cloudera
[cloudera@quickstart ~]$ hdfs dfs -ls
Found 21 items
drwx------   - cloudera cloudera          0 2022-01-20 23:14 .staging
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:09
avro_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:15 csv_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-12 09:03 emp
-rw-r--r--   1 cloudera cloudera        456 2022-01-21 02:33
groceries.csv
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 08:36 import_avro
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56 json_avro_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:13 json_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:39 json_orc
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56 json_orc_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:38 json_parquet
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
json_parquet_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:11 orc_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-20 23:14 output
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:14 parquet_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:11
parquet_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 13:40 part_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 14:01 part_dir2
-rw-r--r--   1 cloudera cloudera         81 2022-01-11 02:29 table.csv
-rw-r--r--   1 cloudera cloudera       1173 2022-01-20 22:48 words.txt
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 09:04 zeyo_dir
[cloudera@quickstart ~]$ hdfs dfs -ls /user/cloudera
Found 21 items
drwx------   - cloudera cloudera          0 2022-01-20 23:14
/user/cloudera/.staging
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:09
/user/cloudera/avro_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:15
/user/cloudera/csv_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-12 09:03
/user/cloudera/emp
-rw-r--r--   1 cloudera cloudera        456 2022-01-21 02:33
/user/cloudera/groceries.csv
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 08:36
/user/cloudera/import_avro
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_avro_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:13
/user/cloudera/json_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:39
/user/cloudera/json_orc
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_orc_1
```

```
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:38
/user/cloudera/json_parquet
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 22:56
/user/cloudera/json_parquet_1
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:11
/user/cloudera/orc_dir
drwxr-xr-x   - cloudera cloudera          0 2022-01-20 23:14
/user/cloudera/output
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 22:14
/user/cloudera/parquet_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-23 23:11
/user/cloudera/parquet_json_write
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 13:40
/user/cloudera/part_dir
drwxr-xr-x   - cloudera cloudera          0 2020-05-22 14:01
/user/cloudera/part_dir2
-rw-r--r--   1 cloudera cloudera         81 2022-01-11 02:29
/user/cloudera/table.csv
-rw-r--r--   1 cloudera cloudera       1173 2022-01-20 22:48
/user/cloudera/words.txt
drwxr-xr-x   - cloudera cloudera          0 2020-06-04 09:04
/user/cloudera/zeyo_dir
[cloudera@quickstart ~]$ hbase shell
OpenJDK 64-Bit Server VM warning: Using incremental CMS is deprecated and
will likely be removed in a future release
OpenJDK 64-Bit Server VM warning: If the number of processors is expected
to increase from one, then you should configure the number of parallel GC
threads appropriately using -XX:ParallelGCThreads=N
22/01/21 02:37:15 INFO Configuration.deprecation: hadoop.native.lib is
deprecated. Instead, use io.native.lib.available
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 1.2.0-cdh5.13.0, rUnknown, Wed Oct 4 11:16:18 PDT 2017

hbase(main):001:0> [cloudera@quickstart ~]$ ^C
[cloudera@quickstart ~]$ hbase shell
OpenJDK 64-Bit Server VM warning: Using incremental CMS is deprecated and
will likely be removed in a future release
OpenJDK 64-Bit Server VM warning: If the number of processors is expected
to increase from one, then you should configure the number of parallel GC
threads appropriately using -XX:ParallelGCThreads=N
22/01/21 02:46:42 INFO Configuration.deprecation: hadoop.native.lib is
deprecated. Instead, use io.native.lib.available
HBase Shell; enter 'help<RETURN>' for list of supported commands.
Type "exit<RETURN>" to leave the HBase Shell
Version 1.2.0-cdh5.13.0, rUnknown, Wed Oct 4 11:16:18 PDT 2017

hbase(main):001:0> create 'groceries','info'
0 row(s) in 2.5750 seconds

=> Hbase::Table - groceries
hbase(main):002:0> put 'groceries','info:itmno,city,item,date,quantity'
```

```
ERROR: wrong number of arguments (2 for 4)

Put a cell 'value' at specified table/row/column and optionally
timestamp coordinates.  To put a cell value into table 'ns1:t1' or 't1'
at row 'r1' under column 'c1' marked with the time 'ts1', do:

  hbase> put 'ns1:t1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value', ts1
  hbase> put 't1', 'r1', 'c1', 'value',
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{VISIBILITY=>'PRIVATE|SECRET'}

The same commands also can be run on a table reference. Suppose you had
a reference
t to table 't1', the corresponding command would be:

  hbase> t.put 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}


hbase(main):003:0> put
'groceries','info:itmno,city,item,date,quantity',', , ,'

ERROR: wrong number of arguments (3 for 4)

Put a cell 'value' at specified table/row/column and optionally
timestamp coordinates.  To put a cell value into table 'ns1:t1' or 't1'
at row 'r1' under column 'c1' marked with the time 'ts1', do:

  hbase> put 'ns1:t1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value'
  hbase> put 't1', 'r1', 'c1', 'value', ts1
  hbase> put 't1', 'r1', 'c1', 'value',
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
  hbase> put 't1', 'r1', 'c1', 'value', ts1,
{VISIBILITY=>'PRIVATE|SECRET'}

The same commands also can be run on a table reference. Suppose you had
a reference
t to table 't1', the corresponding command would be:

  hbase> t.put 'r1', 'c1', 'value', ts1,
{ATTRIBUTES=>{'mykey'=>'myvalue'}}
```

```
hbase(main):004:0> scan 'groceries'
ROW                                                   COLUMN+CELL
0 row(s) in 6.7560 seconds

hbase(main):005:0> scan 'groceries'
ROW                                                   COLUMN+CELL
 o1                                                   column=info:city,
timestamp=1642764326730, value=Bananas
 o1                                                   column=info:date,
timestamp=1642764326730, value=7
 o1                                                   column=info:item,
timestamp=1642764326730, value=01-01-2017
 o1                                                   column=info:itemno,
timestamp=1642764326730, value=Seattle
 o10                                                  column=info:city,
timestamp=1642764326730, value=Onion
 o10                                                  column=info:date,
timestamp=1642764326730, value=4
 o10                                                  column=info:item,
timestamp=1642764326730, value=06-01-2017
 o10                                                  column=info:itemno,
timestamp=1642764326730, value=Issaquah
 o11                                                  column=info:city,
timestamp=1642764326730, value=Bread
 o11                                                  column=info:date,
timestamp=1642764326730, value=5
 o11                                                  column=info:item,
timestamp=1642764326730, value=05-01-2017
 o11                                                  column=info:itemno,
timestamp=1642764326730, value=Renton
 o12                                                  column=info:city,
timestamp=1642764326730, value=Onion
 o12                                                  column=info:date,
timestamp=1642764326730, value=4
 o12                                                  column=info:item,
timestamp=1642764326730, value=07-01-2017
 o12                                                  column=info:itemno,
timestamp=1642764326730, value=Issaquah
 o13                                                  column=info:city,
timestamp=1642764326730, value=Bread
 o13                                                  column=info:date,
timestamp=1642764326730, value=5
 o13                                                  column=info:item,
timestamp=1642764326730, value=07-01-2017
 o13                                                  column=info:itemno,
timestamp=1642764326730, value=Sammamish
 o14                                                  column=info:city,
timestamp=1642764326730, value=Tomato
 o14                                                  column=info:date,
timestamp=1642764326730, value=6
 o14                                                  column=info:item,
timestamp=1642764326730, value=07-01-2017
```

```
 o14                                                column=info:itemno,
timestamp=1642764326730, value=Issaquah
 o2                                                 column=info:city,
timestamp=1642764326730, value=Apples
 o2                                                 column=info:date,
timestamp=1642764326730, value=20
 o2                                                 column=info:item,
timestamp=1642764326730, value=02-01-2017
 o2                                                 column=info:itemno,
timestamp=1642764326730, value=Kent
 o3                                                 column=info:city,
timestamp=1642764326730, value=Flowers
 o3                                                 column=info:date,
timestamp=1642764326730, value=10
 o3                                                 column=info:item,
timestamp=1642764326730, value=02-01-2017
 o3                                                 column=info:itemno,
timestamp=1642764326730, value=Bellevue
 o4                                                 column=info:city,
timestamp=1642764326730, value=Meat
 o4                                                 column=info:date,
timestamp=1642764326730, value=40
 o4                                                 column=info:item,
timestamp=1642764326730, value=03-01-2017
 o4                                                 column=info:itemno,
timestamp=1642764326730, value=Redmond
 o5                                                 column=info:city,
timestamp=1642764326730, value=Potatoes
 o5                                                 column=info:date,
timestamp=1642764326730, value=9
 o5                                                 column=info:item,
timestamp=1642764326730, value=04-01-2017
 o5                                                 column=info:itemno,
timestamp=1642764326730, value=Seattle
 o6                                                 column=info:city,
timestamp=1642764326730, value=Bread
 o6                                                 column=info:date,
timestamp=1642764326730, value=5
 o6                                                 column=info:item,
timestamp=1642764326730, value=04-01-2017
 o6                                                 column=info:itemno,
timestamp=1642764326730, value=Bellevue
 o7                                                 column=info:city,
timestamp=1642764326730, value=Bread
 o7                                                 column=info:date,
timestamp=1642764326730, value=5
 o7                                                 column=info:item,
timestamp=1642764326730, value=05-01-2017
 o7                                                 column=info:itemno,
timestamp=1642764326730, value=Redmond
 o8                                                 column=info:city,
timestamp=1642764326730, value=Onion
```

```
 o8                                                 column=info:date,
timestamp=1642764326730, value=4
 o8                                                 column=info:item,
timestamp=1642764326730, value=05-01-2017
 o8                                                 column=info:itemno,
timestamp=1642764326730, value=Issaquah
 o9                                                 column=info:city,
timestamp=1642764326730, value=Cheese
 o9                                                 column=info:date,
timestamp=1642764326730, value=15
 o9                                                 column=info:item,
timestamp=1642764326730, value=05-01-2017
 o9                                                 column=info:itemno,
timestamp=1642764326730, value=Redmond
14 row(s) in 1.4130 seconds
```