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Class: BE COMPS
Batch: A

EXPERIMENT NO. 7 HBASE

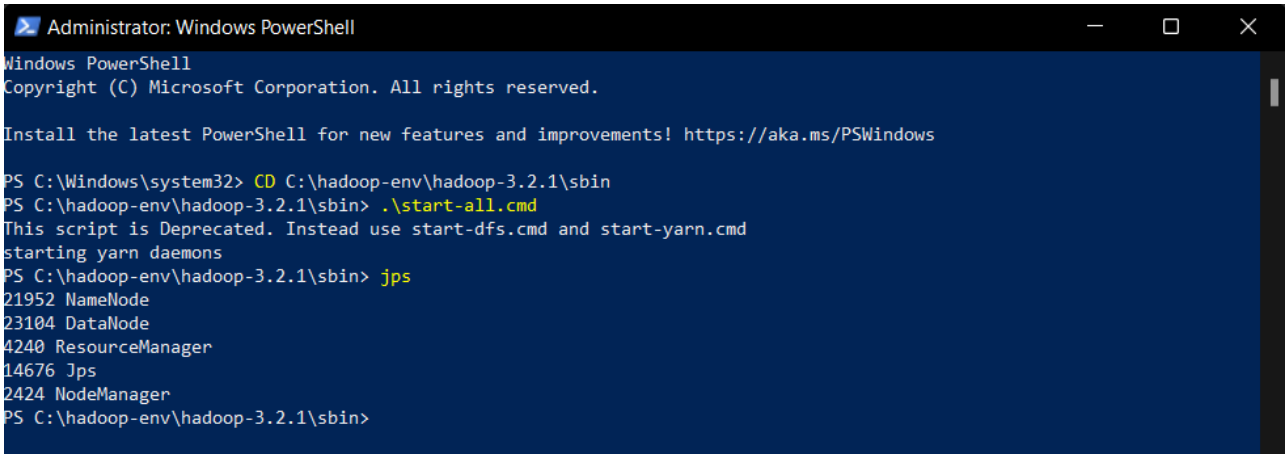
AIM: Carry our CRUD operations using HBase.

Download HBase (v1.4.9): hbase-1.4.9-bin.tar.gz
(Link: https://archive.apache.org/dist/hbase/1.4.9/)
Extract the zipped file to your C:\ drive.

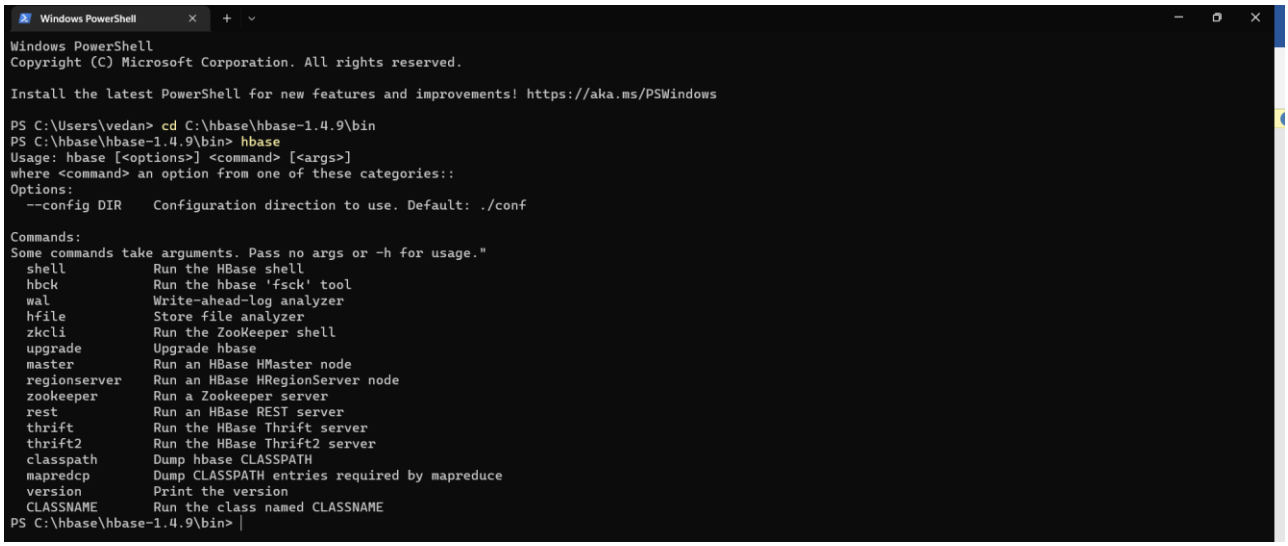
Environment Variables:
HBASE_HOME → C:\hbase-1.4.9
User Variables and System Variables → Path → C:\hbase-1.4.9\bin

Starting the nodes and yarn:

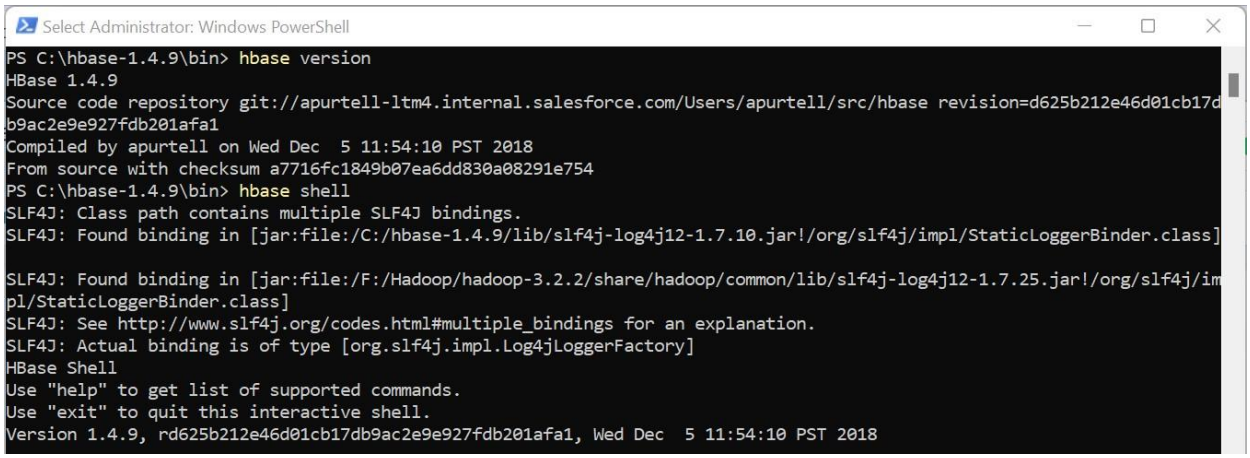
PS C:\WINDOWS\system32> cd F:\Hadoop\hadoop-3.2.2\sbin
PS F:\Hadoop\hadoop-3.2.2\sbin> .\start-all.cmd
This script is Deprecated. Instead use start-dfs.cmd and start-yarn.cmd
starting yarn daemons
PS F:\Hadoop\hadoop-3.2.2\sbin> jps
20804 DataNode
22296 NameNode
14892 ResourceManager
16204 Jps
17020 NodeManager



PS C:\WINDOWS\system32> cd C:\hbase-1.4.9\bin
PS C:\hbase-1.4.9\bin> hbase



PS C:\hbase-1.4.9\bin> hbase version
PS C:\hbase-1.4.9\bin> hbase shell



CREATE:

It is used to create a table.

create '<table name>','<column family>'

hbase(main):001:0> create 'student', 'personalinfo', 'academics'

LIST:

It is used to list all the tables.

hbase(main):002:0> list

```
hbase(main):001:0> create 'student', 'personalinfo', 'academics'
0 row(s) in 1.7670 seconds

=> Hbase::Table - student
hbase(main):002:0> list
TABLE

student

1 row(s) in 0.2230 seconds

=> ["student"]
```

DESCRIBE:

It gives the description of a table.

describe 'table name'

hbase(main):003:0> describe 'student'

```
Select Administrator: Windows PowerShell
hbase(main):003:0> describe 'student'
Table student is ENABLED

student, {TABLE_ATTRIBUTES => {METADATA => {'hbase.store.file-tracker.impl' => 'DEFAULT'}}

COLUMN FAMILIES DESCRIPTION

{NAME => 'academics', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY => 'false', KEEP_DELETED_CELLS => 'FALSE', DATA_B

LOCK_ENCODING => 'NONE', TTL => 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BLOCKCACHE => 'true', BLOCKSIZE =

> '65536', REPLICATION_SCOPE => '0', METADATA => {'INDEX_BLOCK_ENCODING' => 'NONE'}}

{NAME => 'personalinfo', BLOOMFILTER => 'ROW', VERSIONS => '1', IN_MEMORY => 'false', KEEP_DELETED_CELLS => 'FALSE', DAT

A_BLOCK_ENCODING => 'NONE', TTL => 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BLOCKCACHE => 'true', BLOCKSIZ

E => '65536', REPLICATION_SCOPE => '0', METADATA => {'INDEX_BLOCK_ENCODING' => 'NONE'}}

2 row(s) in 0.1930 seconds
```

PUT:

It is used to put a cell value at a specified column in a specified row in a particular table. Using this command, we can insert rows into a table. Its syntax is as follows:

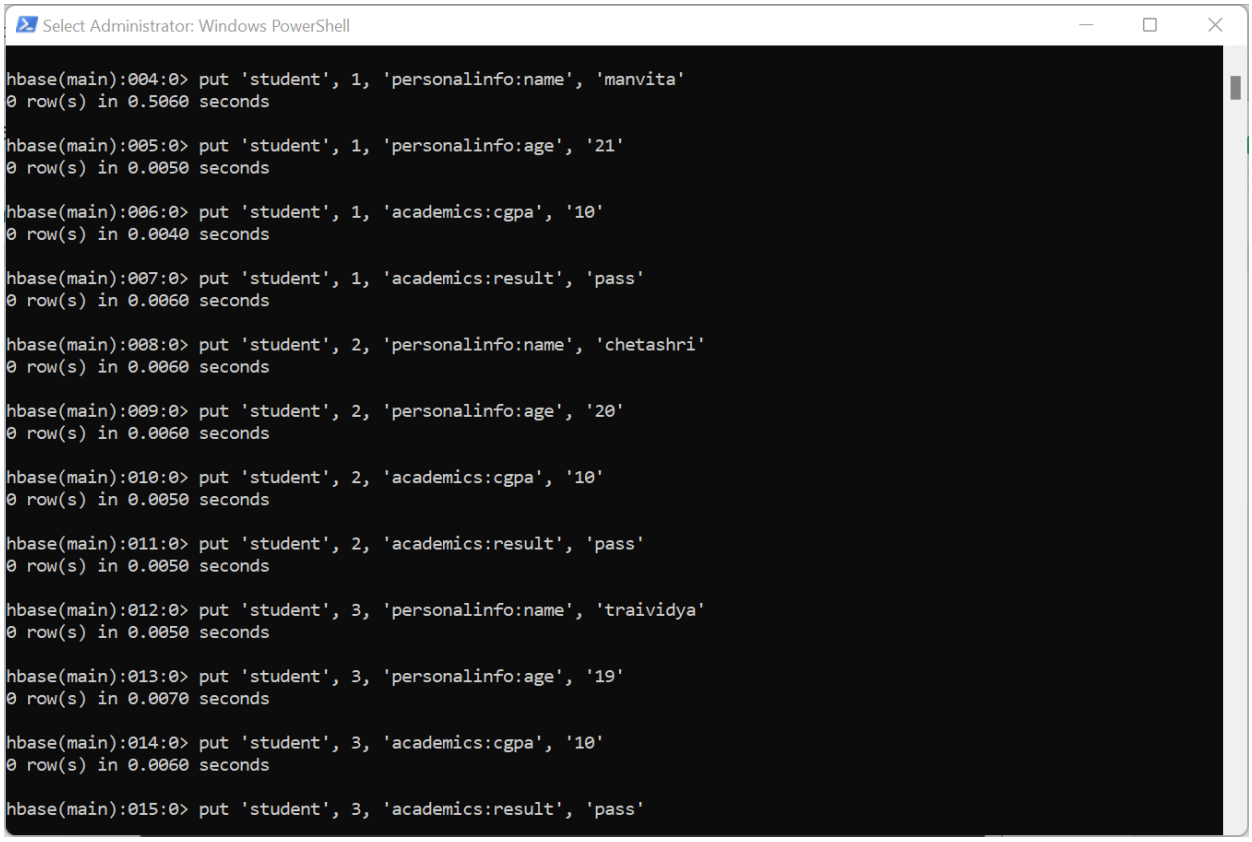
put '<table name>','row','<columnfamily:columnname>','<value>'

hbase(main):004:0> put 'student', 1, 'personalinfo:name', 'vedant'
0 row(s) in 0.5060 seconds

hbase(main):005:0> put 'student', 1, 'personalinfo:age', '21'
0 row(s) in 0.0050 seconds

hbase(main):006:0> put 'student', 1, 'academics:cgpa', '10'
0 row(s) in 0.0040 seconds

hbase(main):007:0> put 'student', 1, 'academics:result', 'pass'
0 row(s) in 0.0060 seconds

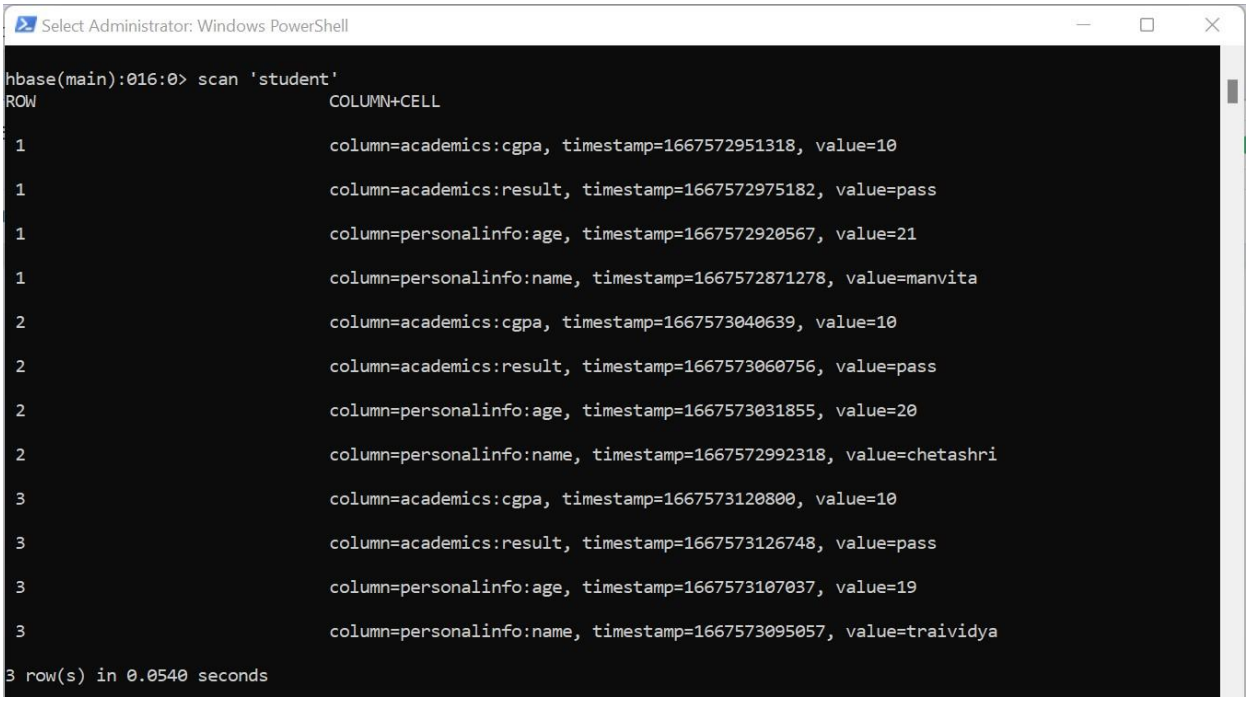


SCAN:

It is used to scan and then return the table data.

scan '<table name>'

hbase(main):016:0> scan 'student'

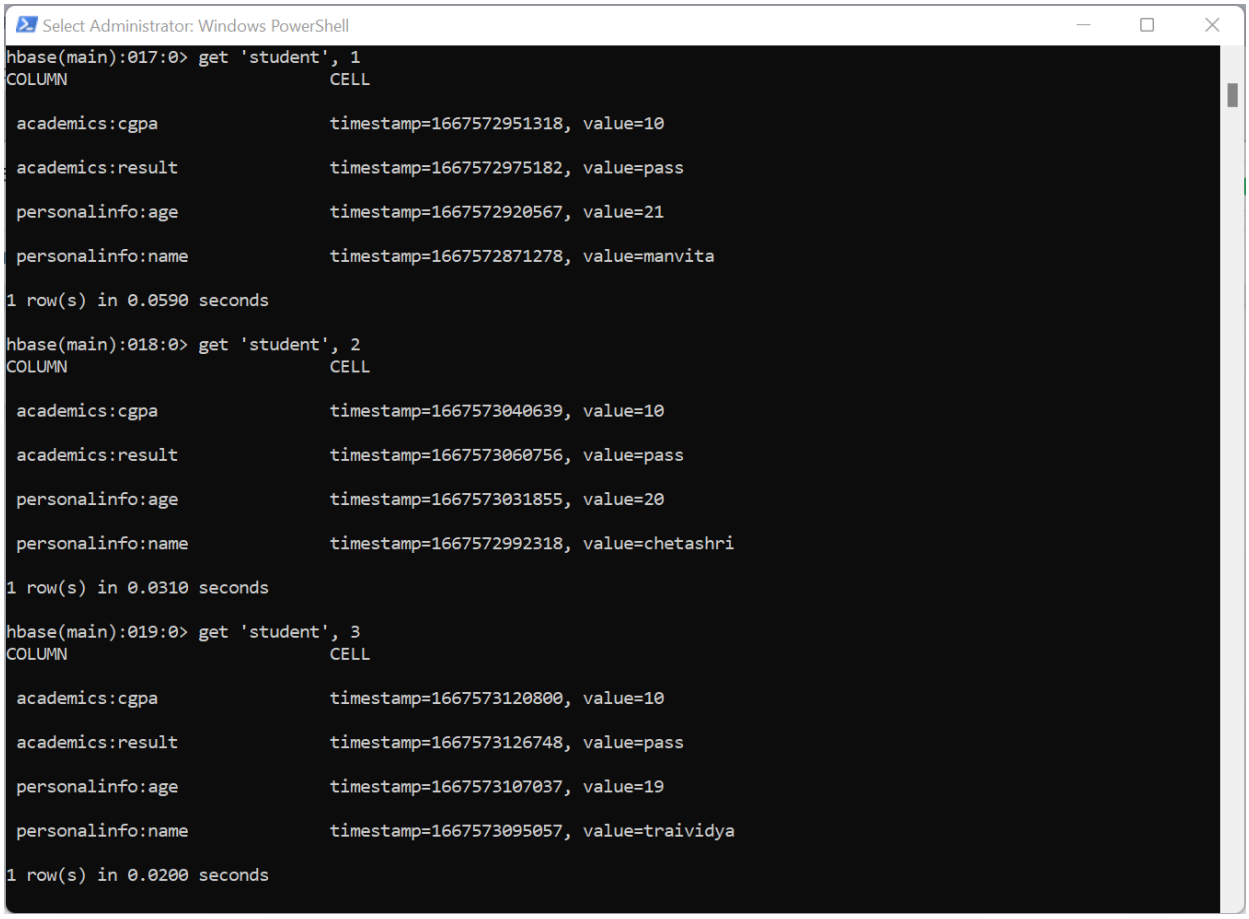


GET (READ):

It is used to read the contents of row or a cell.

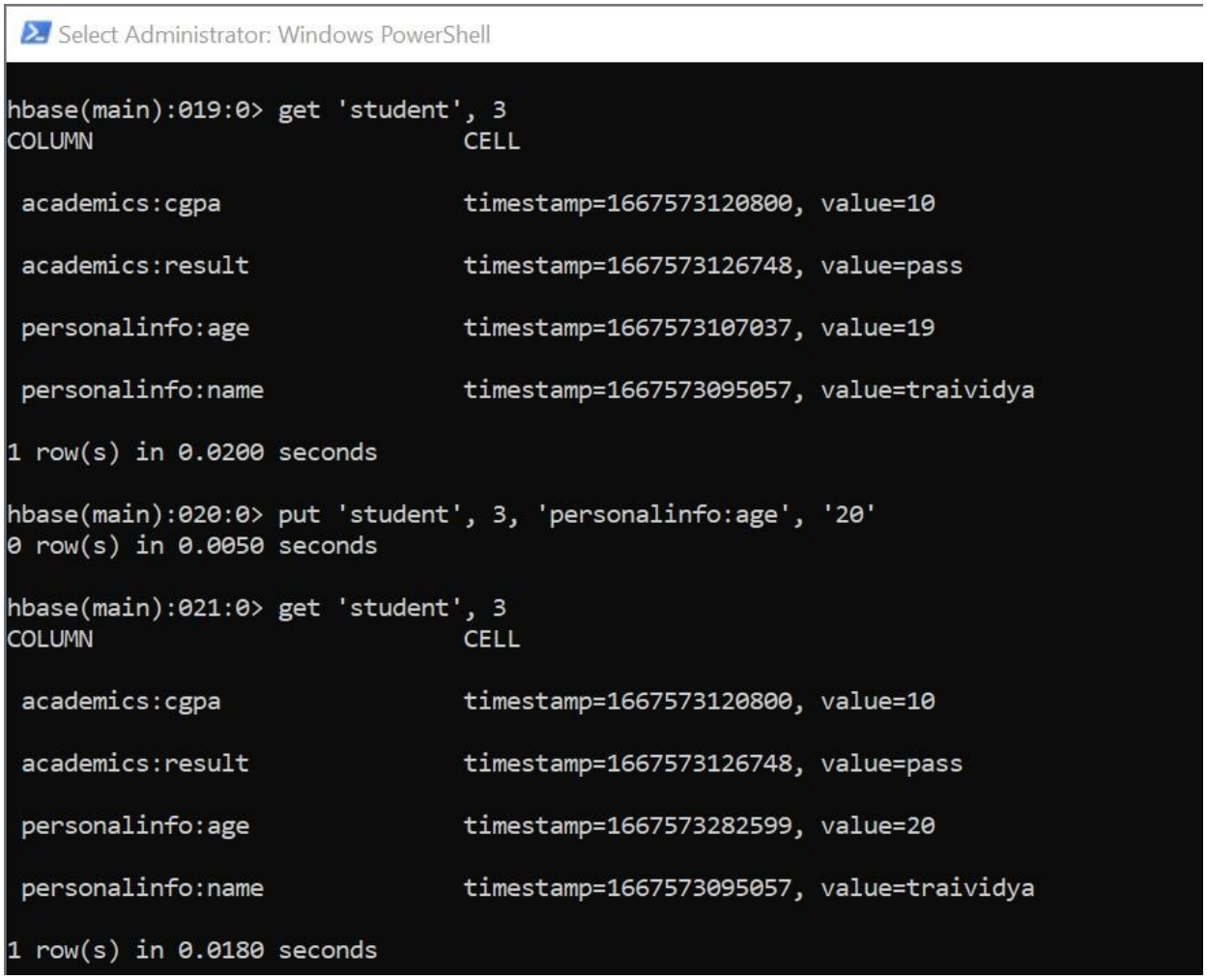
get '<table name>','row'

hbase(main):017:0> get 'student', 1



UPDATE:

Execute the ‘put’ command again to overwrite the previous value.

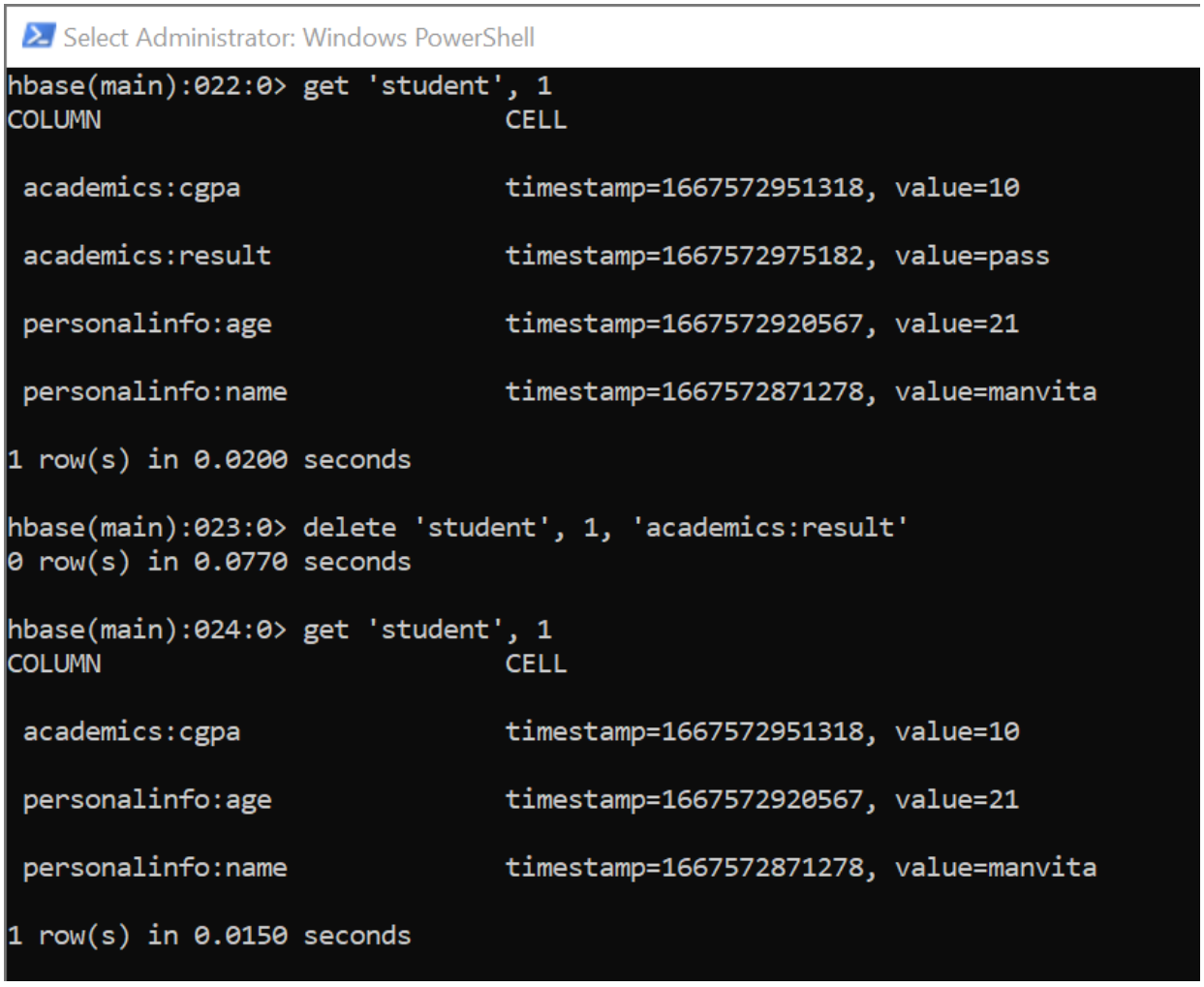


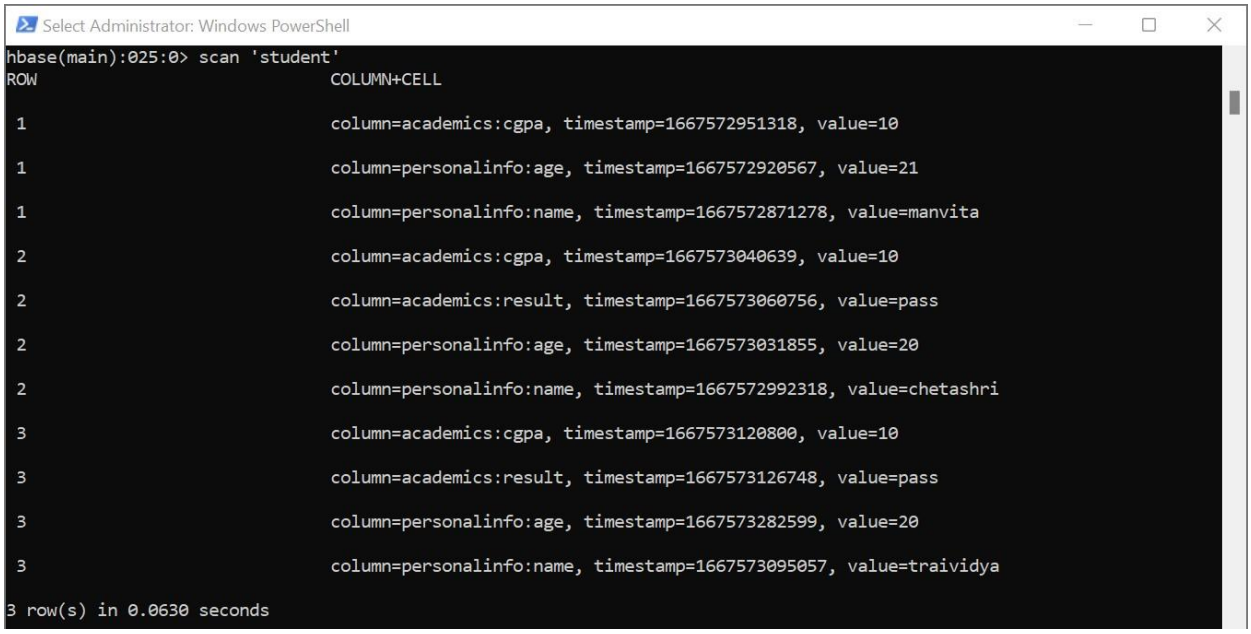
DELETE:

It is used to delete a cell value in a table.

delete '<table name>', '<row>', '<column name >'

hbase(main):023:0> delete 'student', 1, 'academics:result'





CONCLUSION: In this experiment I learnt how to perform CRUD operations on HBase.