

Assignment 17.2

Create an HBase table named 'clicks' with a column family 'hits' such that it should be able to store last 5 values of qualifiers inside 'hits' column family.

Commands:

```
create 'clicks', {NAME=>'hits', VERSIONS=>5}
```

Describe 'clicks'

```
hbase(main):003:0> create 'clicks', {NAME=>'hits', VERSIONS=>5}
0 row(s) in 0.3820 seconds

=> Hbase::Table - clicks
hbase(main):004:0>
hbase(main):005:0> describe 'clicks'
Table clicks is ENABLED
clicks
COLUMN FAMILIES DESCRIPTION
{NAME => 'hits', BLOOMFILTER => 'ROW', VERSIONS => '5', IN_MEMORY => 'false', KEEP_DELETED_CELLS => 'FALSE', DATA_BLOCK_ENCODING => 'NONE', TTL => 'FOREVER', COMPRESSION => 'NONE', MIN_VERSIONS => '0', BLOCKCACHE => 'true', BLOCKSIZE => '65536', REPLICATION_SCOPE => '0'}
1 row(s) in 0.0420 seconds
```

Table clicks is created with 'hits' as a column family and stores last 5 value as mentioned in versions.

Add few records in the table and update some of them. Use IP Address as row-key. Scan the table to view if all the previous versions are getting displayed.

Commands:

Insert data into the table:

```
put 'clicks','10.217.215.98','hits:site','https://www.google.co.in'
put 'clicks','10.217.215.99','hits:site','https://www.wikipedia.org'
put 'clicks','10.217.215.100','hits:site','https://www.facebook.com'
put 'clicks','10.217.215.101','hits:site','https://acadgild.com'
put 'clicks','10.217.215.102','hits:site','https://www.quora.com'
```

```
hbase(main):006:0> put 'clicks','10.217.215.98','hits:site','https://www.google.co.in'
0 row(s) in 0.1420 seconds

hbase(main):007:0> put 'clicks','10.217.215.99','hits:site','https://www.wikipedia.org'
0 row(s) in 0.0080 seconds

hbase(main):008:0> put 'clicks','10.217.215.100','hits:site','https://www.facebook.com'
0 row(s) in 0.0060 seconds

hbase(main):009:0> put 'clicks','10.217.215.101','hits:site','https://acadgild.com'
0 row(s) in 0.0090 seconds

hbase(main):010:0> put 'clicks','10.217.215.102','hits:site','https://www.quora.com'
0 row(s) in 0.0070 seconds
```

View data into the table:

scan 'clicks'

```
hbase(main):011:0> scan 'clicks'
ROW                                COLUMN+CELL
10.217.215.100                    column=hits:site, timestamp=1502938768836, value=https://www.facebook.com
10.217.215.101                    column=hits:site, timestamp=1502938768867, value=https://acadgild.com
10.217.215.102                    column=hits:site, timestamp=1502938768888, value=https://www.quora.com
10.217.215.98                     column=hits:site, timestamp=1502938768727, value=https://www.google.co.in
10.217.215.99                     column=hits:site, timestamp=1502938768786, value=https://www.wikipedia.org
5 row(s) in 0.0430 seconds
```

Update rows into the table based on row key as IP:

```
put 'clicks','10.217.215.98','hits:site','https://www.quora.com'
put 'clicks','10.217.215.99','hits:site','https://www.quora.com'
```

```
hbase(main):012:0> put 'clicks','10.217.215.98','hits:site','https://www.quora.com'
0 row(s) in 0.0090 seconds

hbase(main):013:0> put 'clicks','10.217.215.99','hits:site','https://www.quora.com'
0 row(s) in 0.0090 seconds
```

```
put 'clicks','10.217.215.98','hits:site','https://www.facebook.com'
put 'clicks','10.217.215.99','hits:site','https://www.facebook.com'
```

```
hbase(main):015:0> put 'clicks','10.217.215.98','hits:site','https://www.facebook.com'
0 row(s) in 0.0090 seconds

hbase(main):016:0> put 'clicks','10.217.215.99','hits:site','https://www.facebook.com'
0 row(s) in 0.0040 seconds
```

Values of rowkey '10.217.215.98' & '10.217.215.99' have 3 history values as of now.

```
put 'clicks','10.217.215.98','hits:site','https://acadgild.com'
put 'clicks','10.217.215.99','hits:site','https://acadgild.com'
put 'clicks','10.217.215.98','hits:site','https://www.youtube.com/'
put 'clicks','10.217.215.99','hits:site','https://www.youtube.com/'
```

```
hbase(main):022:0> put 'clicks','10.217.215.98','hits:site','https://acadgild.com'
0 row(s) in 0.0100 seconds

hbase(main):023:0> put 'clicks','10.217.215.99','hits:site','https://acadgild.com'
0 row(s) in 0.0070 seconds

hbase(main):024:0> put 'clicks','10.217.215.98','hits:site','https://www.youtube.com/'
0 row(s) in 0.0050 seconds

hbase(main):025:0> put 'clicks','10.217.215.99','hits:site','https://www.youtube.com/'
0 row(s) in 0.0080 seconds
```

Values of rowkey '10.217.215.98' & '10.217.215.99' have 5 history values as of now.

Show 5 history values of hits column in the table clicks:

scan 'clicks',{COLUMN=>'hits:site',VERSIONS=>5}

```
hbase(main):026:0> scan 'clicks',{COLUMN=>'hits:site',VERSIONS=>5}
ROW COLUMN+CELL
10.217.215.100 column=hits:site, timestamp=1502938768836, value=https://www.facebook.com
10.217.215.101 column=hits:site, timestamp=1502938768867, value=https://acadgild.com
10.217.215.102 column=hits:site, timestamp=1502938768888, value=https://www.quora.com
10.217.215.98 column=hits:site, timestamp=1502939696966, value=https://www.youtube.com/
10.217.215.98 column=hits:site, timestamp=1502939696931, value=https://acadgild.com
10.217.215.98 column=hits:site, timestamp=1502938823166, value=https://www.facebook.com
10.217.215.98 column=hits:site, timestamp=1502938807727, value=https://www.quora.com
10.217.215.98 column=hits:site, timestamp=1502938768727, value=https://www.google.co.in
10.217.215.99 column=hits:site, timestamp=1502939698902, value=https://www.youtube.com/
10.217.215.99 column=hits:site, timestamp=1502939696949, value=https://acadgild.com
10.217.215.99 column=hits:site, timestamp=1502938823190, value=https://www.facebook.com
10.217.215.99 column=hits:site, timestamp=1502938807760, value=https://www.quora.com
10.217.215.99 column=hits:site, timestamp=1502938768786, value=https://www.wikipedia.org
5 row(s) in 0.0310 seconds
```

Rowkey '10.217.215.98' & '10.217.215.99' have 5 history values as shown above.

Show the normal table with the recent values updated in column hits:

scan 'clicks'

```
hbase(main):027:0> scan 'clicks'
ROW COLUMN+CELL
10.217.215.100 column=hits:site, timestamp=1502938768836, value=https://www.facebook.com
10.217.215.101 column=hits:site, timestamp=1502938768867, value=https://acadgild.com
10.217.215.102 column=hits:site, timestamp=1502938768888, value=https://www.quora.com
10.217.215.98 column=hits:site, timestamp=1502939696966, value=https://www.youtube.com/
10.217.215.99 column=hits:site, timestamp=1502939698902, value=https://www.youtube.com/
5 row(s) in 0.0350 seconds
```

Update rowkey '10.217.215.98' & '10.217.215.99' hits values further.

```
put 'clicks','10.217.215.98','hits:site','https://www.tesla.com/'
```

```
put 'clicks','10.217.215.99','hits:site','https://www.tesla.com/'
```

```
hbase(main):028:0> put 'clicks','10.217.215.98','hits:site','https://www.tesla.com/'
0 row(s) in 0.0220 seconds
```

```
hbase(main):029:0> put 'clicks','10.217.215.99','hits:site','https://www.tesla.com/'
0 row(s) in 0.0060 seconds
```

Show 6 history values of hits column in the table clicks:

```
scan 'clicks',{COLUMN=>'hits:site',VERSIONS=>6}
```

```
hbase(main):030:0> scan 'clicks',{COLUMN=>'hits:site',VERSIONS=>6}
ROW                                COLUMN+CELL
10.217.215.100                     column=hits:site, timestamp=1502938768836, value=https://www.facebook.com
10.217.215.101                     column=hits:site, timestamp=1502938768867, value=https://acadgild.com
10.217.215.102                     column=hits:site, timestamp=1502938768888, value=https://www.quora.com
10.217.215.98                      column=hits:site, timestamp=1502939986047, value=https://www.tesla.com/
10.217.215.98                      column=hits:site, timestamp=1502939696966, value=https://www.youtube.com/
10.217.215.98                      column=hits:site, timestamp=1502939696931, value=https://acadgild.com
10.217.215.98                      column=hits:site, timestamp=1502938823166, value=https://www.facebook.com
10.217.215.98                      column=hits:site, timestamp=1502938807727, value=https://www.quora.com
10.217.215.99                      column=hits:site, timestamp=1502939986860, value=https://www.tesla.com/
10.217.215.99                      column=hits:site, timestamp=1502939698902, value=https://www.youtube.com/
10.217.215.99                      column=hits:site, timestamp=1502939696949, value=https://acadgild.com
10.217.215.99                      column=hits:site, timestamp=1502938823190, value=https://www.facebook.com
10.217.215.99                      column=hits:site, timestamp=1502938807760, value=https://www.quora.com
5 row(s) in 0.0200 seconds
```

Even though rowkey '10.217.215.98' & '10.217.215.99' have changed 6 times in past but it only shows last 5 values since versions have been set to 5. This is how versioning works in Hbase.