Cloud Computing: UE20CS352
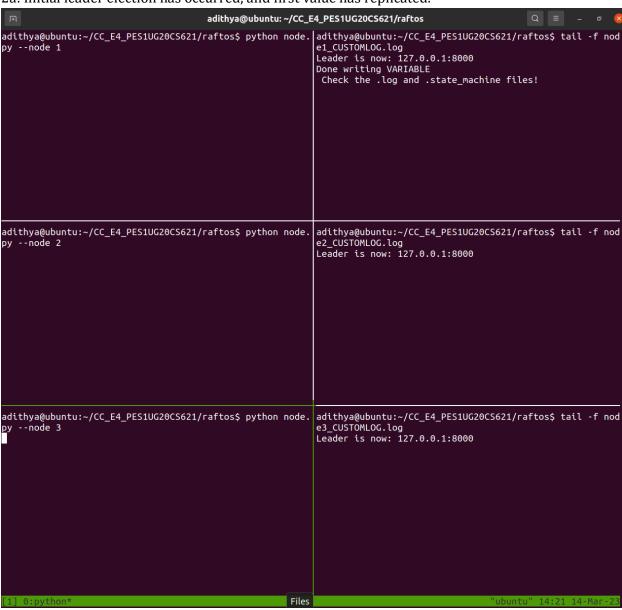
Experiment 4

-Adithya M, Section K
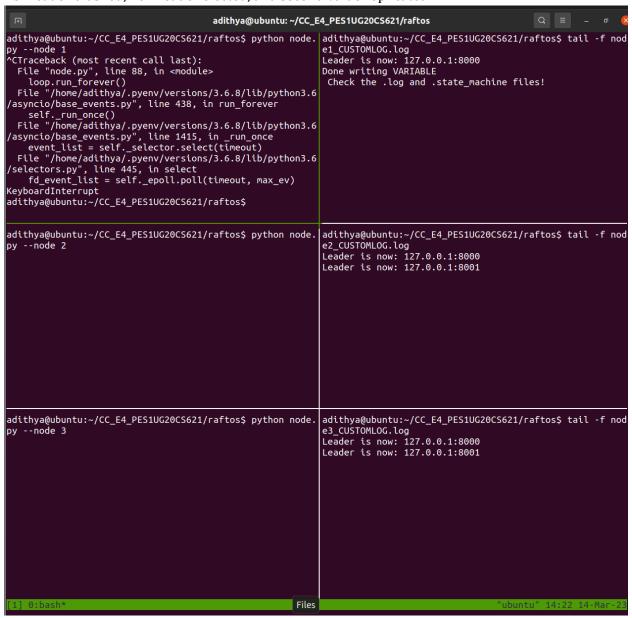
-PES1UG20CS621

1a: Pyenv installed and local Python version changed to 3.6.8

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ pyenv versions
  system
* 3.6.8 (set by /home/adithya/CC_E4_PES1UG20CS621/.python-version)
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python -V
Python 3.6.8
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$
```

2a: Initial leader election has occurred, and first value has replicated.

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 1                                                 e1_CUSTOMLOG.log
                                                            Leader is now: 127.0.0.1:8000
                                                            Done writing VARIABLE
                                                             Check the .log and .state_machine files!



adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 2                                                 e2_CUSTOMLOG.log
                                                            Leader is now: 127.0.0.1:8000



adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 3                                                 e3_CUSTOMLOG.log
                                                            Leader is now: 127.0.0.1:8000



[1] 0:python*                       Files                      "ubuntu" 14:21 14-Mar-23
```

2b: Leader crashed, new leader elected, and second value replicated.


```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 1                                                 e1_CUSTOMLOG.log
^CTraceback (most recent call last):                        Leader is now: 127.0.0.1:8000
  File "node.py", line 88, in <module>                      Done writing VARIABLE
    loop.run_forever()                                       Check the .log and .state_machine files!
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/asyncio/base_events.py", line 438, in run_forever
    self._run_once()
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/asyncio/base_events.py", line 1415, in _run_once
    event_list = self._selector.select(timeout)
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/selectors.py", line 445, in select
    fd_event_list = self._epoll.poll(timeout, max_ev)
KeyboardInterrupt
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$


adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 2                                                 e2_CUSTOMLOG.log
                                                            Leader is now: 127.0.0.1:8000
                                                            Leader is now: 127.0.0.1:8001


adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.   adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
py --node 3                                                 e3_CUSTOMLOG.log
                                                            Leader is now: 127.0.0.1:8000
                                                            Leader is now: 127.0.0.1:8001
```

2c: Old leader comes back online, but becomes a follower instead and updates its old state to its new state

adithya@ubuntu: ~/CC_E4_PES1UG20CS621/raftos

```
py --node 1
^CTraceback (most recent call last):
  File "node.py", line 88, in <module>
    loop.run_forever()
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/asyncio/base_events.py", line 438, in run_forever
    self._run_once()
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/asyncio/base_events.py", line 1415, in _run_once
    event_list = self._selector.select(timeout)
  File "/home/adithya/.pyenv/versions/3.6.8/lib/python3.6
/selectors.py", line 445, in select
    fd_event_list = self._epoll.poll(timeout, max_ev)
KeyboardInterrupt
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.
py --node 1
```

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
e1_CUSTOMLOG.log
Leader is now: 127.0.0.1:8000
Done writing VARIABLE
 Check the .log and .state_machine files!tail: node1_CUS
TOMLOG.log: file truncated
Leader is now: 127.0.0.1:8001
```

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.
py --node 2
```

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
e2_CUSTOMLOG.log
Leader is now: 127.0.0.1:8000
Leader is now: 127.0.0.1:8001
Done writing VARIABLE
 Check the .log and .state_machine files!
```

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ python node.
py --node 3
```

```
adithya@ubuntu:~/CC_E4_PES1UG20CS621/raftos$ tail -f nod
e3_CUSTOMLOG.log
Leader is now: 127.0.0.1:8000
Leader is now: 127.0.0.1:8001
```

```
[1] 0:bash*                                    "ubuntu" 14:23 14-Mar-23
```

```
          127.0.0.1_8000.log          127.0.0.1_8001.log          127.0.0.1_8002.log
1 {"term": 2, "command": {"VARIABLE": "PES1UG20CS621"}}
2 {"term": 3, "command": {"VARIABLE": "HashCode"}}
```