

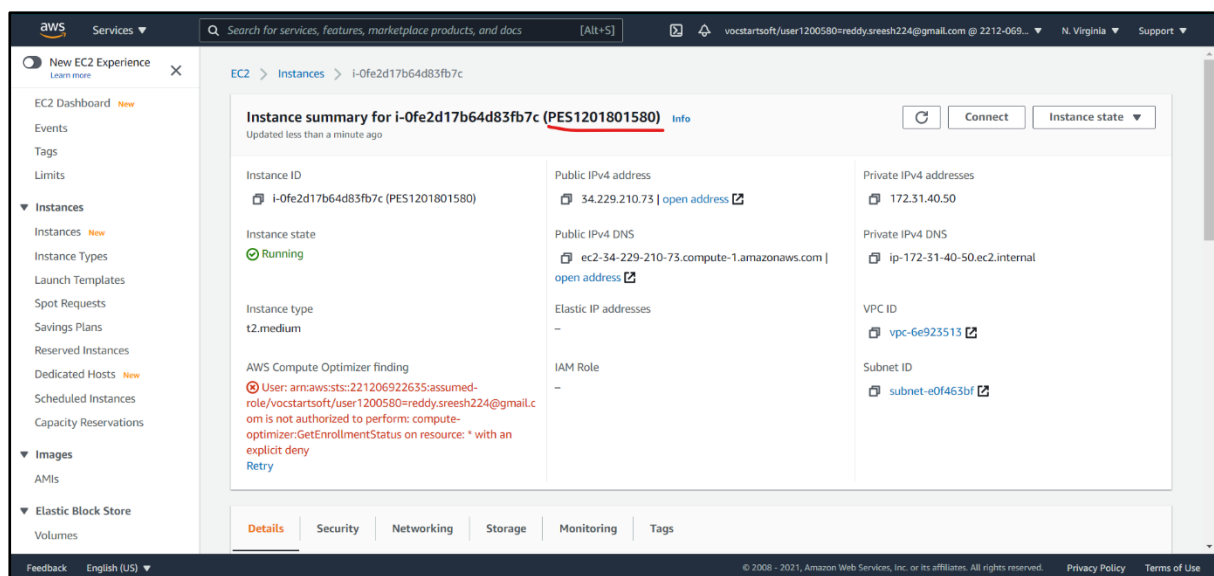
Cloud Computing Laboratory

Week No: 2

SRN: PES1201801580

Task 1 Outputs:

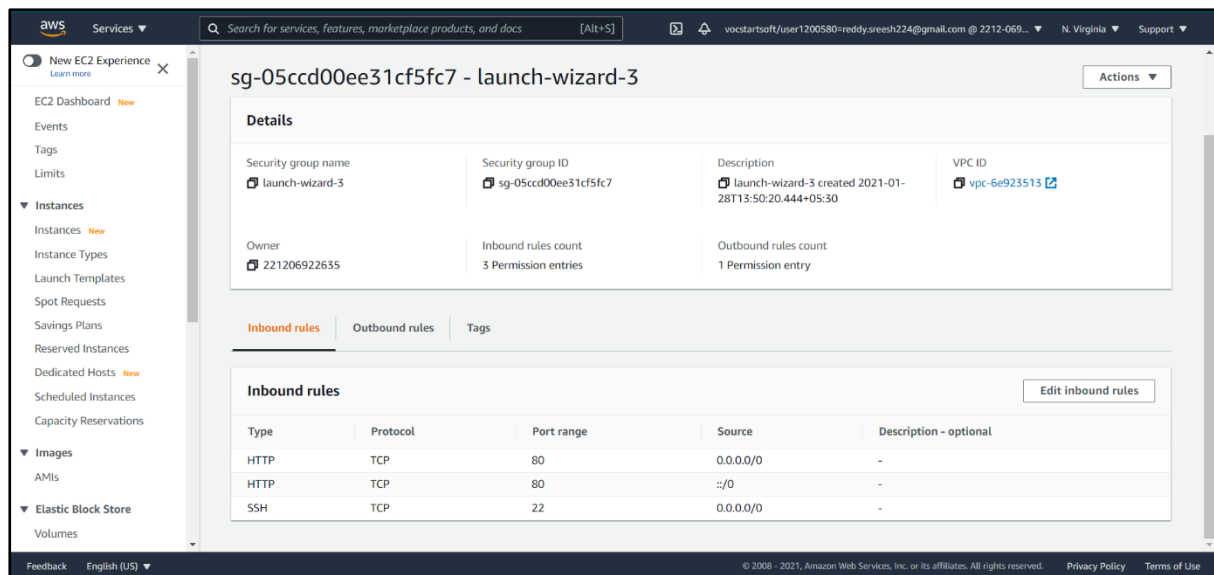
1a:



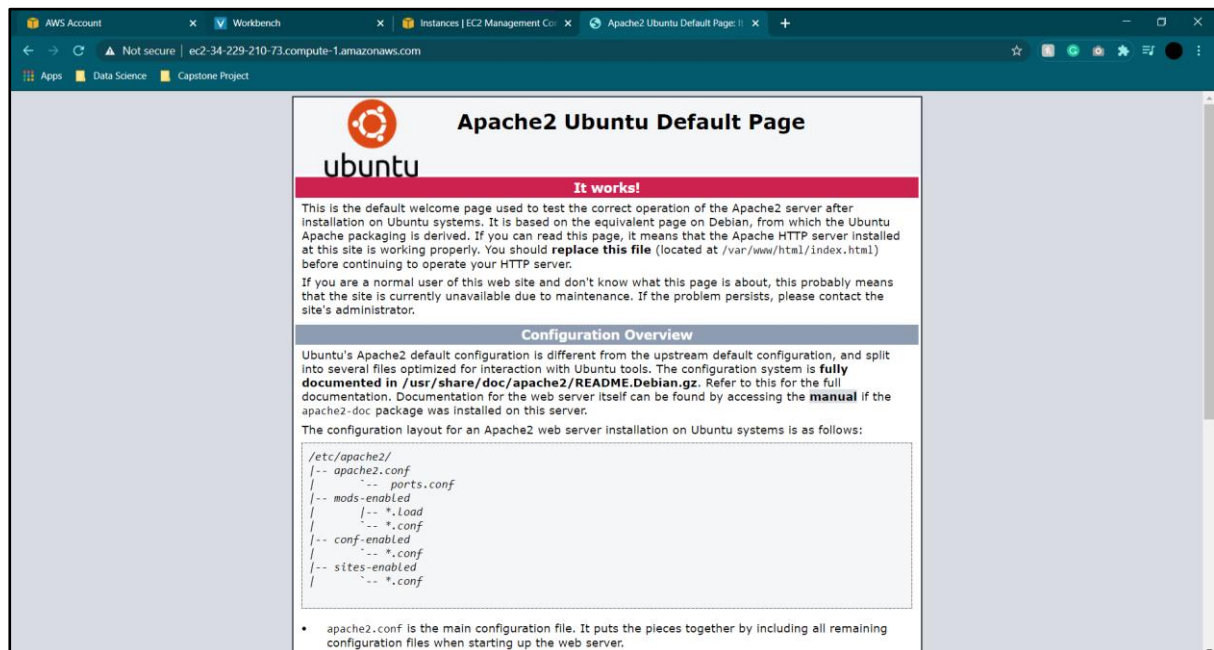
2a:

```
ubuntu@ip-172-31-40-50: ~  
ubuntu@ip-172-31-40-50:~$ sudo systemctl status apache2  
● apache2.service - The Apache HTTP Server  
   Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)  
   Drop-In: /lib/systemd/system/apache2.service.d  
            └─apache2-systemd.conf  
   Active: active (running) since Thu 2021-01-28 08:26:06 UTC; 1min 47s ago  
   Main PID: 2856 (apache2)  
     Tasks: 55 (limit: 4686)  
    CGroup: /system.slice/apache2.service  
            └─2856 /usr/sbin/apache2 -k start  
              └─2857 /usr/sbin/apache2 -k start  
                └─2859 /usr/sbin/apache2 -k start  
  
Jan 28 08:26:06 ip-172-31-40-50 systemd[1]: Starting The Apache HTTP Server...  
Jan 28 08:26:06 ip-172-31-40-50 systemd[1]: Started The Apache HTTP Server.  
ubuntu@ip-172-31-40-50:~$ SRN: PES1201801580
```

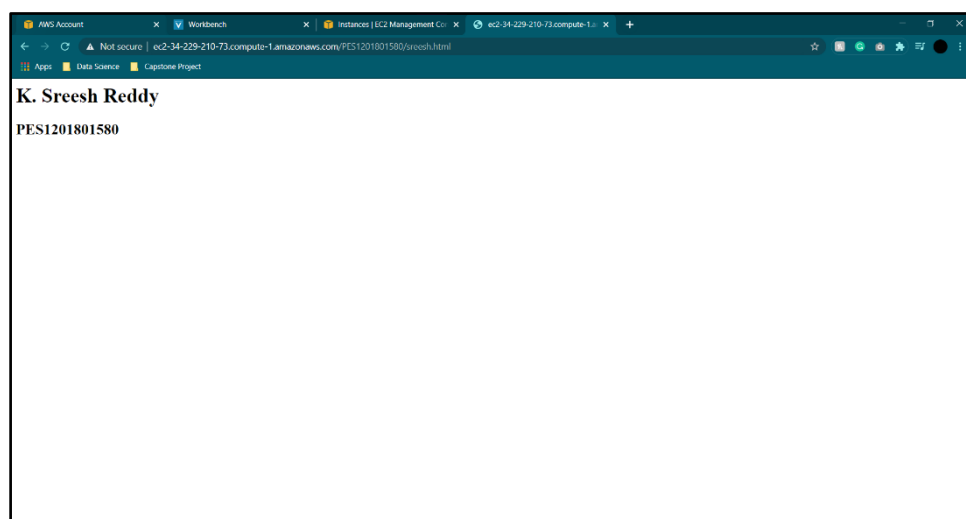
3a:



3b:



4a:



5a: (varying the no. of users and requests)

```
ubuntu@ip-172-31-48-50:/var/www/html/PES1201801580$ ab -k -c 10 -n 2000 -r http://ec2-34-229-210-73.compute-1.amazonaws.com/PES1201801580/sreesh.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking ec2-34-229-210-73.compute-1.amazonaws.com (be patient)
Completed 200 requests
Completed 400 requests
Completed 600 requests
Completed 800 requests
Completed 1000 requests
Completed 1200 requests
Completed 1400 requests
Completed 1600 requests
Completed 1800 requests
Completed 2000 requests
Finished 2000 requests


Server Software:      Apache/2.4.29
Server Hostname:      ec2-34-229-210-73.compute-1.amazonaws.com
Server Port:          80

Document Path:        /PES1201801580/sreesh.html
Document Length:      84 bytes

Concurrency Level:    10
Time taken for tests:  0.150 seconds
Complete requests:    2000
Failed requests:       0
Keep-Alive requests:  1987
Total transferred:    777438 bytes
HTML transferred:     168000 bytes
Requests per second:  13366.12 [#/sec] (mean)
Time per request:     0.748 [ms] (mean)
Time per request:     0.075 [ms] (mean, across all concurrent requests)
Transfer rate:        5073.89 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:     0       0   0.0      0       0
Processing:   0       1   0.9      1      12
Waiting:     0       1   0.9      1      12
```

```
ubuntu@ip-172-31-48-50:/var/www/html/PES1201801580$ ab -k -c 20 -n 4000 -r http://ec2-34-229-210-73.compute-1.amazonaws.com/PES1201801580/sreesh.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking ec2-34-229-210-73.compute-1.amazonaws.com (be patient)
Completed 400 requests
Completed 800 requests
Completed 1200 requests
Completed 1600 requests
Completed 2000 requests
Completed 2400 requests
Completed 2800 requests
Completed 3200 requests
Completed 3600 requests
Completed 4000 requests
Finished 4000 requests


Server Software:      Apache/2.4.29
Server Hostname:      ec2-34-229-210-73.compute-1.amazonaws.com
Server Port:          80

Document Path:        /PES1201801580/sreesh.html
Document Length:      84 bytes

Concurrency Level:    20
Time taken for tests:  0.296 seconds
Complete requests:    4000
Failed requests:       0
Keep-Alive requests:  3970
Total transferred:    1554695 bytes
HTML transferred:     336000 bytes
Requests per second:  13505.26 [#/sec] (mean)
Time per request:     1.481 [ms] (mean)
Time per request:     0.074 [ms] (mean, across all concurrent requests)
Transfer rate:        5126.11 [Kbytes/sec] received

Connection Times (ms)
              min      mean[+/-sd] median   max
Connect:     0       0   0.0      0       1
Processing:   0       1   0.8      1       8
Waiting:     0       1   0.8      1       8
Total:       0       1   0.8      1       8

Percentage of the requests served within a certain time (ms)
 50%    1
 66%    2
```

```

ubuntu@ip-172-31-40-50:/var/www/html/PES1201801580$ ab -k -c 30 -n 6000 -r http://ec2-34-229-210-73.compute-1.amazonaws.com/PES1201801580/sreesh.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking ec2-34-229-210-73.compute-1.amazonaws.com (be patient)
Completed 600 requests
Completed 1200 requests
Completed 1800 requests
Completed 2400 requests
Completed 3000 requests
Completed 3600 requests
Completed 4200 requests
Completed 4800 requests
Completed 5400 requests
Completed 6000 requests
Finished 6000 requests


Server Software:      Apache/2.4.29
Server Hostname:      ec2-34-229-210-73.compute-1.amazonaws.com
Server Port:          80

Document Path:        /PES1201801580/sreesh.html
Document Length:      84 bytes

Concurrency Level:    30
Time taken for tests:  0.426 seconds
Complete requests:     6000
Failed requests:       87
   (Connect: 0, Receive: 0, Length: 87, Exceptions: 0)
Keep-Alive requests:  5894
Total transferred:    2299418 bytes
HTML transferred:     496692 bytes
Requests per second:  14091.16 [#/sec] (mean)
Time per request:     2.129 [ms] (mean)
Time per request:     0.071 [ms] (mean, across all concurrent requests)
Transfer rate:        5273.67 [Kbytes/sec] received

Connection Times (ms)
              min   mean[+/-sd] median   max
Connect:        0    0   0.0      0      1
Processing:      0    2   2.1      2     37
Waiting:        0    2   2.1      2     37
Total:          0    2   2.1      2     37

Percentage of the requests served within a certain time (ms)
 50%    2
 66%    2
 75%    2

```

```

ubuntu@ip-172-31-40-50:/var/www/html/PES1201801580$ ab -k -c 40 -n 10000 -r http://ec2-34-229-210-73.compute-1.amazonaws.com/PES1201801580/sreesh.html
This is ApacheBench, Version 2.3 <$Revision: 1807734 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.net/
Licensed to The Apache Software Foundation, http://www.apache.org/

Benchmarking ec2-34-229-210-73.compute-1.amazonaws.com (be patient)
Completed 1000 requests
Completed 2000 requests
Completed 3000 requests
Completed 4000 requests
Completed 5000 requests
Completed 6000 requests
Completed 7000 requests
Completed 8000 requests
Completed 9000 requests
Completed 10000 requests
Finished 10000 requests


Server Software:      Apache/2.4.29
Server Hostname:      ec2-34-229-210-73.compute-1.amazonaws.com
Server Port:          80

Document Path:        /PES1201801580/sreesh.html
Document Length:      84 bytes

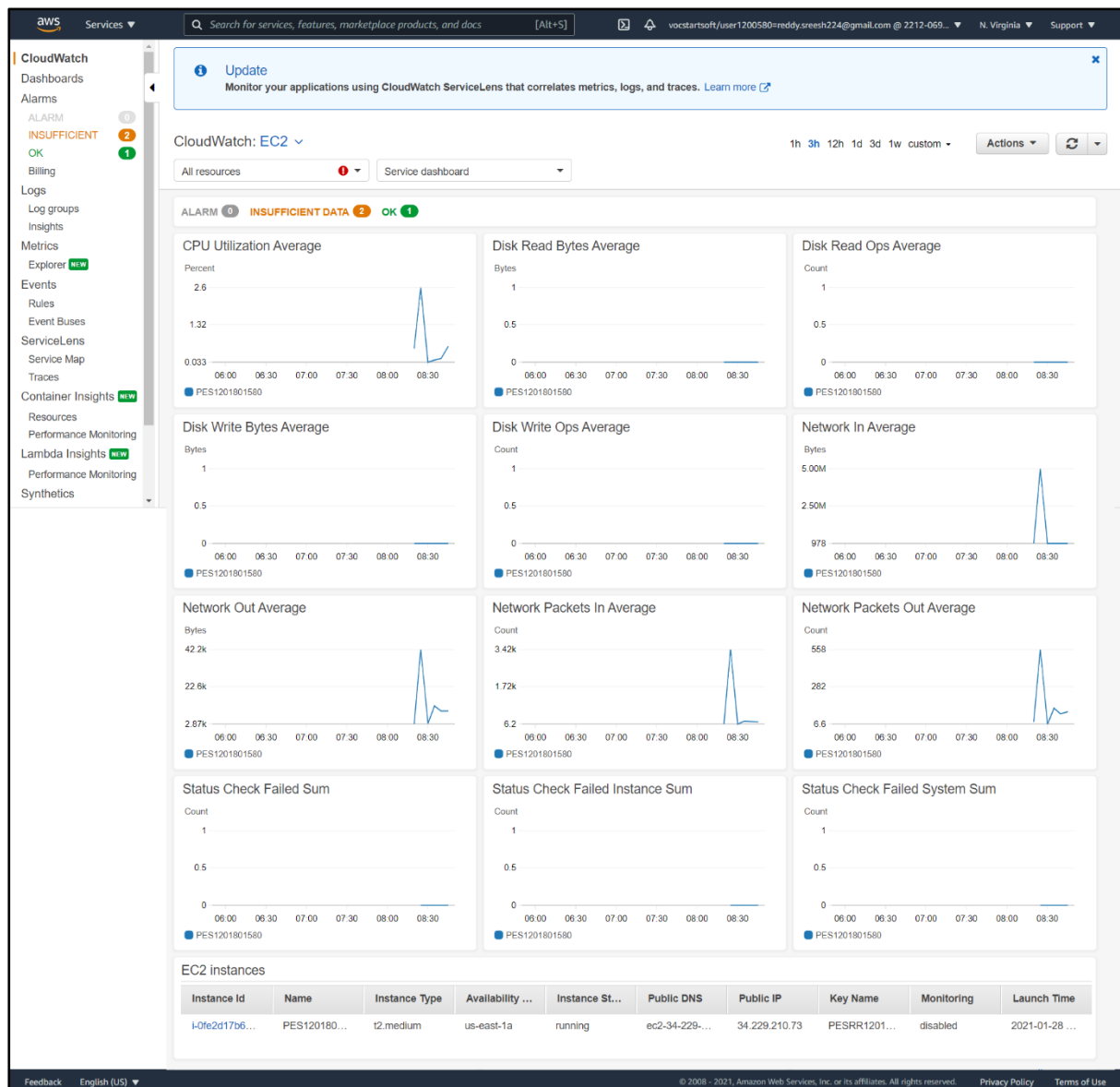
Concurrency Level:    40
Time taken for tests:  0.732 seconds
Complete requests:     10000
Failed requests:       170
   (Connect: 0, Receive: 0, Length: 170, Exceptions: 0)
Keep-Alive requests:  9776
Total transferred:    3821687 bytes
HTML transferred:     825720 bytes
Requests per second:  13661.95 [#/sec] (mean)
Time per request:     2.928 [ms] (mean)
Time per request:     0.073 [ms] (mean, across all concurrent requests)
Transfer rate:        5098.80 [Kbytes/sec] received

Connection Times (ms)
              min   mean[+/-sd] median   max
Connect:        0    0   0.1      0      1
Processing:      0    3   2.6      2     35
Waiting:        0    3   2.6      2     35
Total:          0    3   2.6      2     35

Percentage of the requests served within a certain time (ms)
 50%    2

```

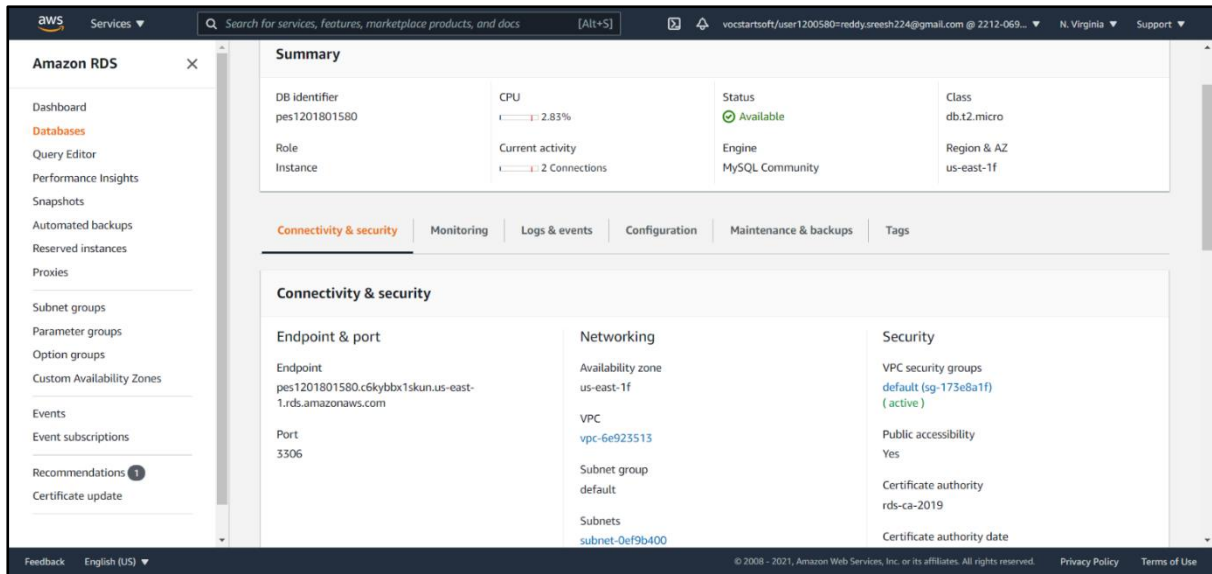
5b:



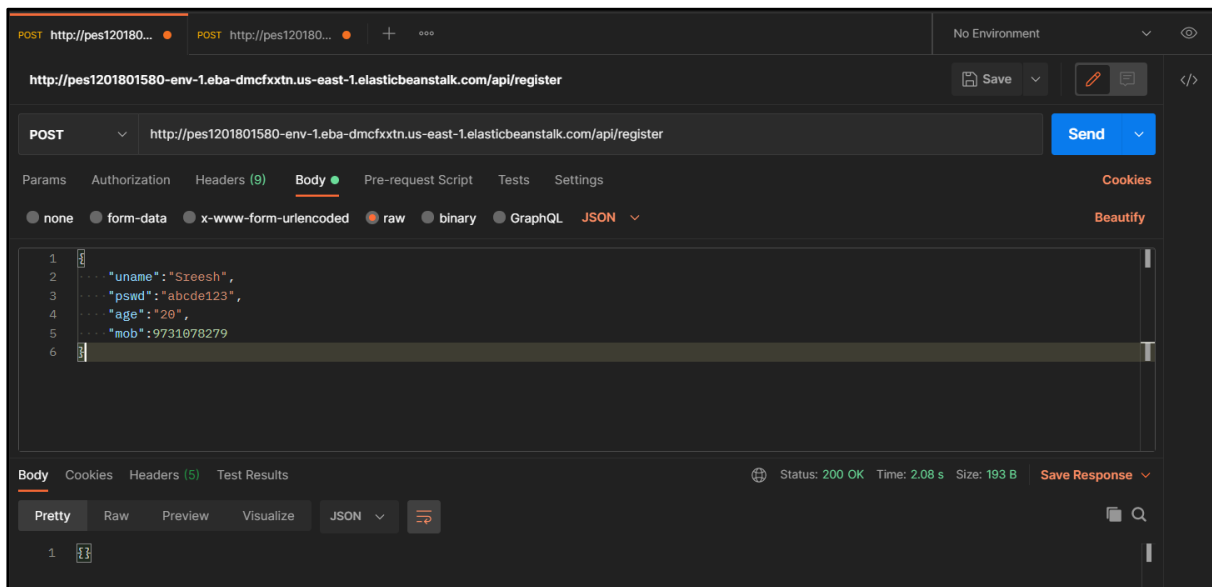
5c: (varying the stress percentage on the CPU)

```
ubuntu@ip-172-31-40-50:/var/www/html/PES1201801580$ stress-ng -c 0 -l 60
stress-ng: info: [3512] Working directory /var/www/html/PES1201801580 is not read/writeable, some I/O tests may fail
stress-ng: info: [3512] defaulting to a 86400 second (1 day, 0.00 secs) run per stressor
stress-ng: info: [3512] dispatching hogs: 2 cpu
^Cstress-ng: info: [3512] successful run completed in 628.70s (10 mins, 28.70 secs)
ubuntu@ip-172-31-40-50:/var/www/html/PES1201801580$ stress-ng -c 0 -l 80
stress-ng: info: [3525] Working directory /var/www/html/PES1201801580 is not read/writeable, some I/O tests may fail
stress-ng: info: [3525] defaulting to a 86400 second (1 day, 0.00 secs) run per stressor
stress-ng: info: [3525] dispatching hogs: 2 cpu
^Cstress-ng: info: [3525] successful run completed in 528.07s (8 mins, 48.07 secs)
ubuntu@ip-172-31-40-50:/var/www/html/PES1201801580$
```

B2:



B3:



B4:

