CLOUD COMPUTING TASK 3

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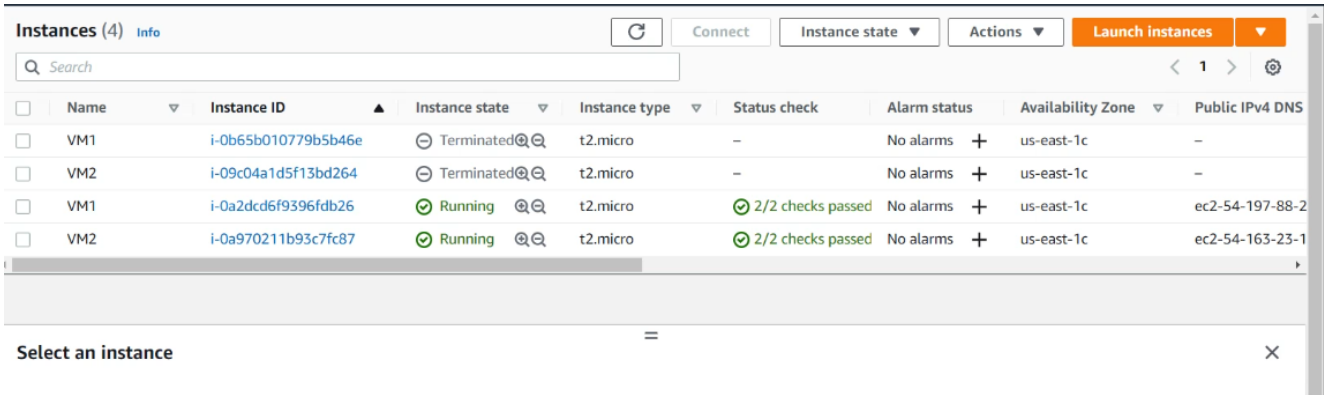
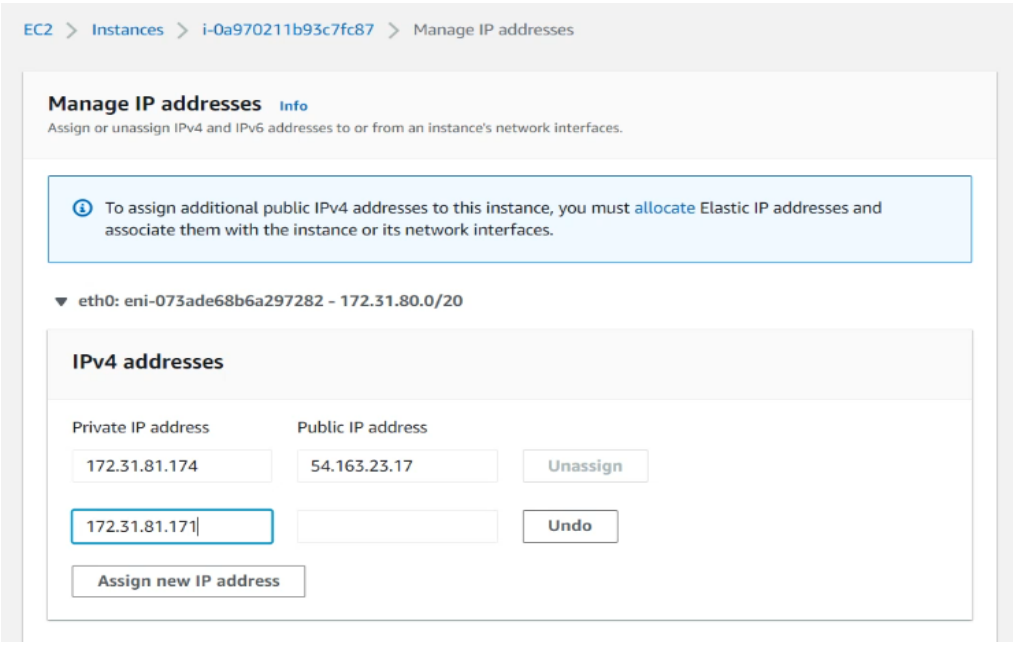
To achieve the 3rd task, we had to go through a certain step-by-step procedure. These are more thoroughly explained in the screen recording provided. The steps are as follows:

>> We start by creating 2 VM instances named VM1 and VM2.

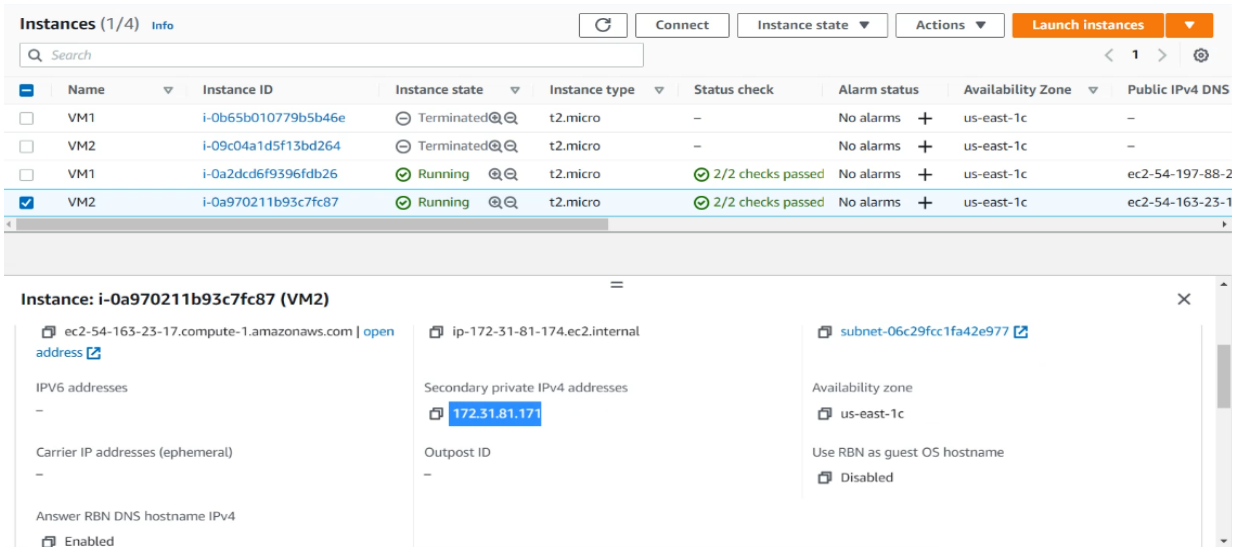


>> Now create a private IP add to VM2 so that we can connect it to VM1.

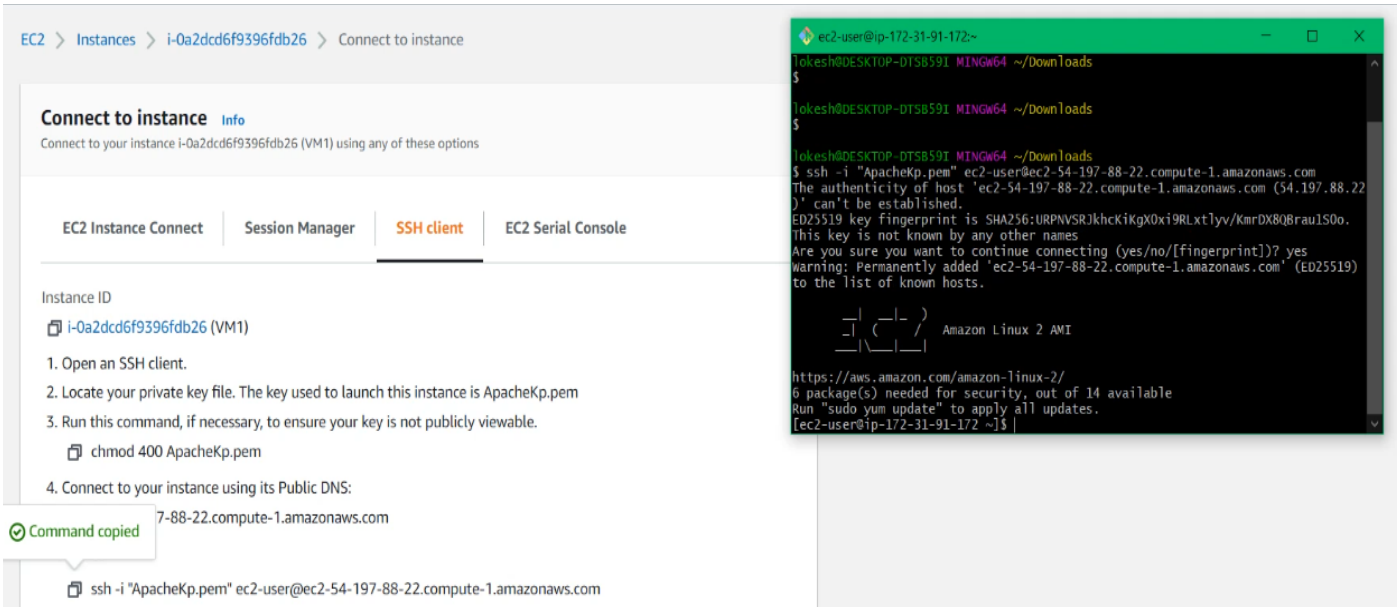
>> To do that, we need to go to 'Manage IP addresses' and assign a new private IP.



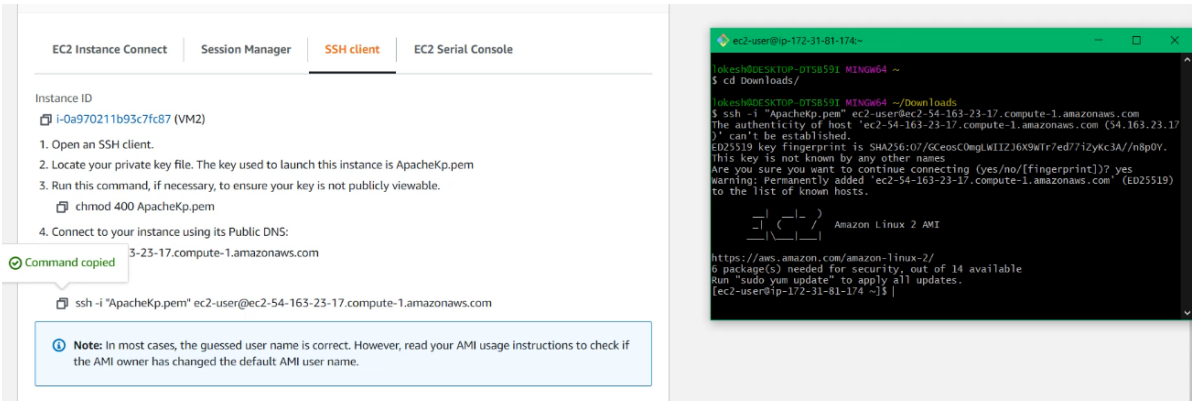
>> We can always cross-check this IP implementation from the instances dashboard.



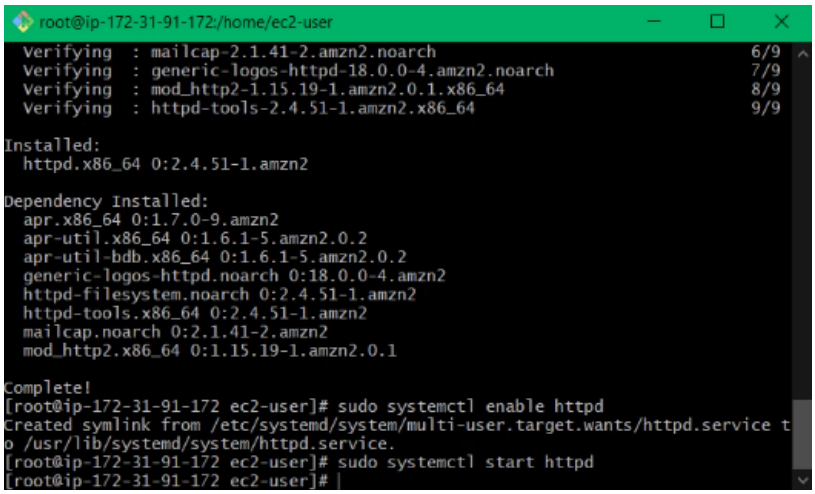
>> Now we will connect our VM1 through SSH Client using GitHub. after the connection is established it looks like this:



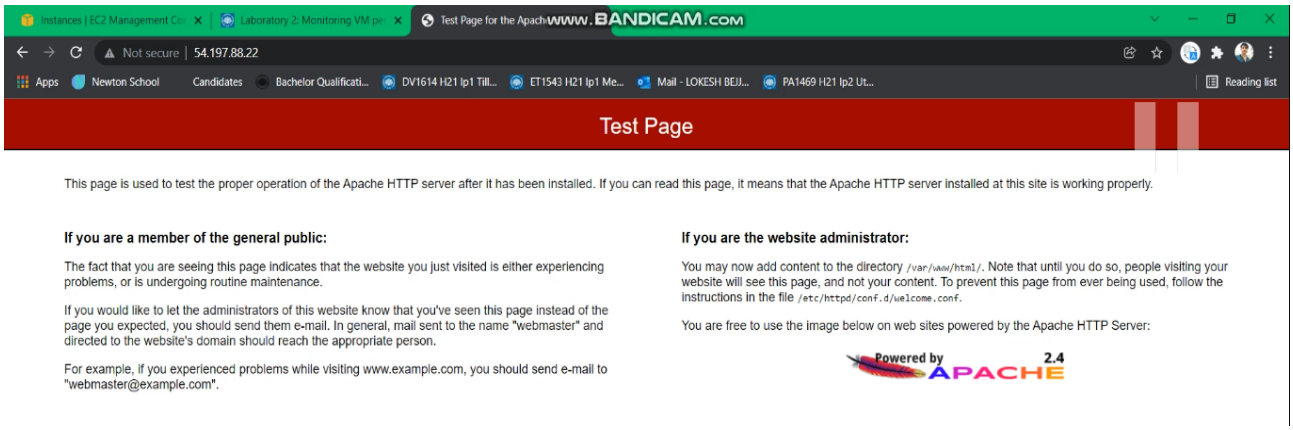
>> Similarly we will connect VM2 using Git as well but on another terminal:



>> Then we need to install Apache HTTPd. and after installation, we need to start it.



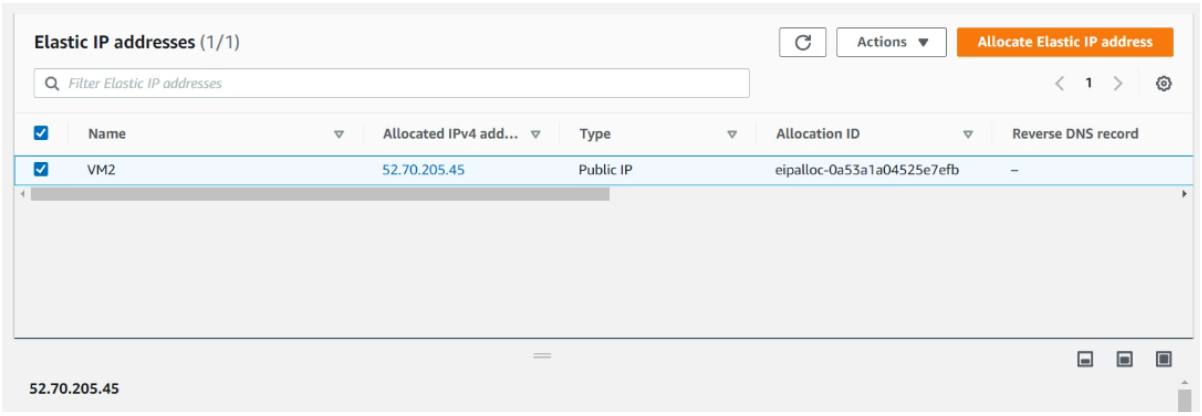
>> After the start it is possible for us to view our default apache website.



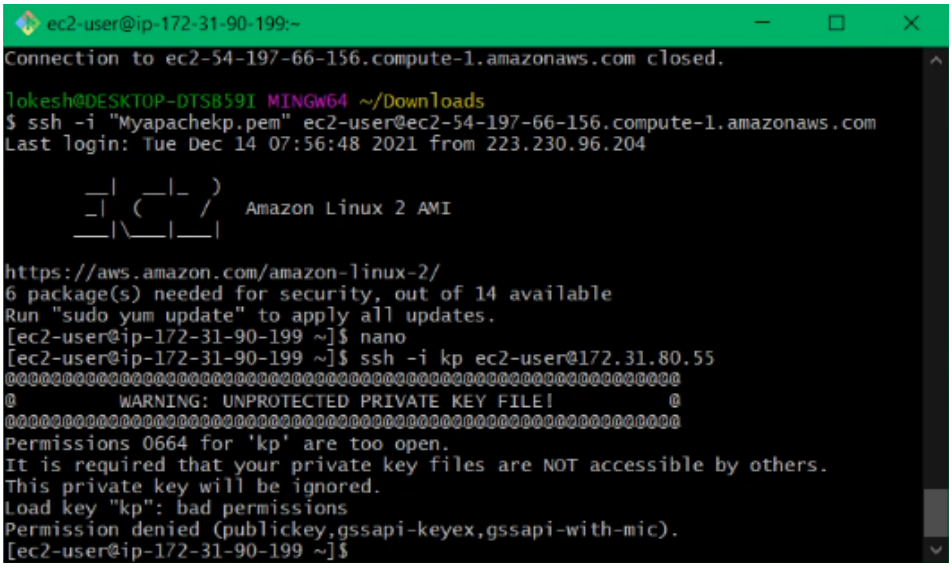
>> We need to do the same for VM2 as well right until we are able to view the apache website as done in the previous steps.

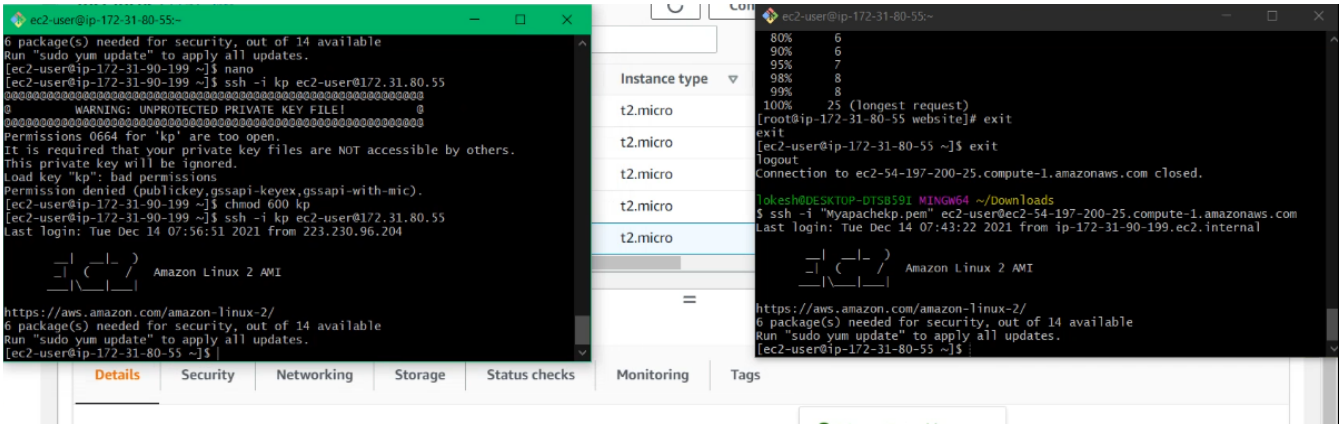
>> Our main objective in this task is to stress VM2 by running it and monitoring its performance using VM1.

>> To achieve this objective we need to connect both our VMS using our private IP. We create an Elastic IP add and attach it to VM@ ec2 instance.



>> Now we establish a connection between VM1 and vm2 using the private ipv4 ad of vm2. After the connection, we can see that both the ec2 instances are on the same private ipv4 ad.

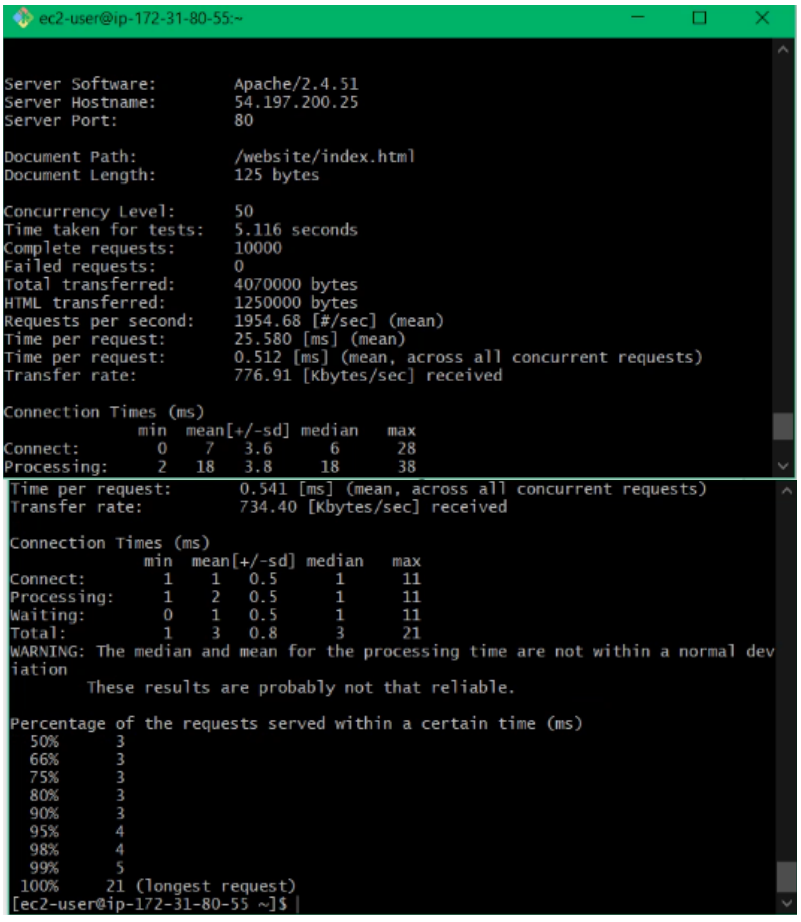




>> After the connection is established, we use the ApacheBench stress test to test the VM. The command used to stress it was:

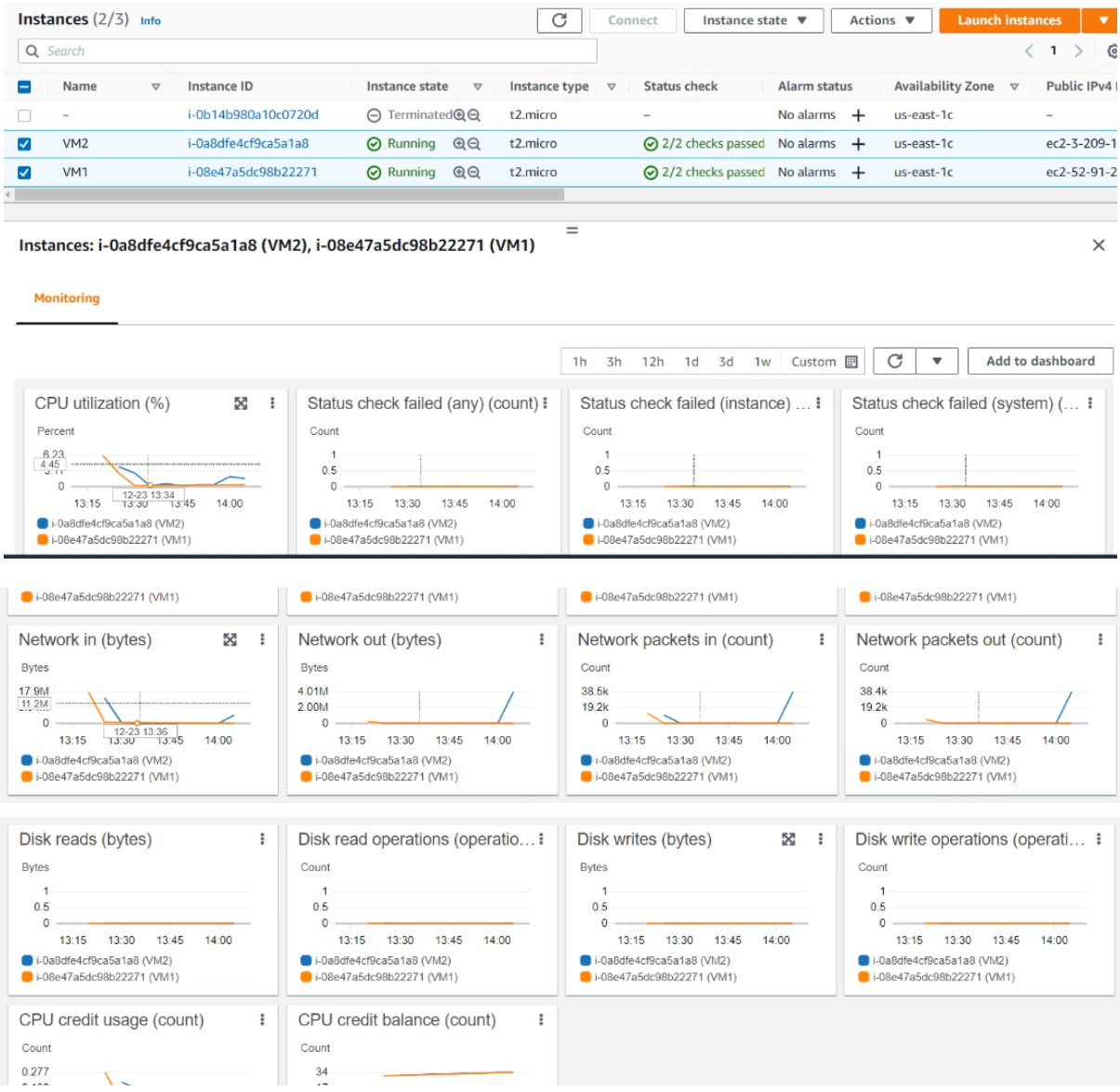
'**ab -n 10000 -c 50 http://54.197.200.25/website/index.html**'

>> after this command was run, we get the following performance results.



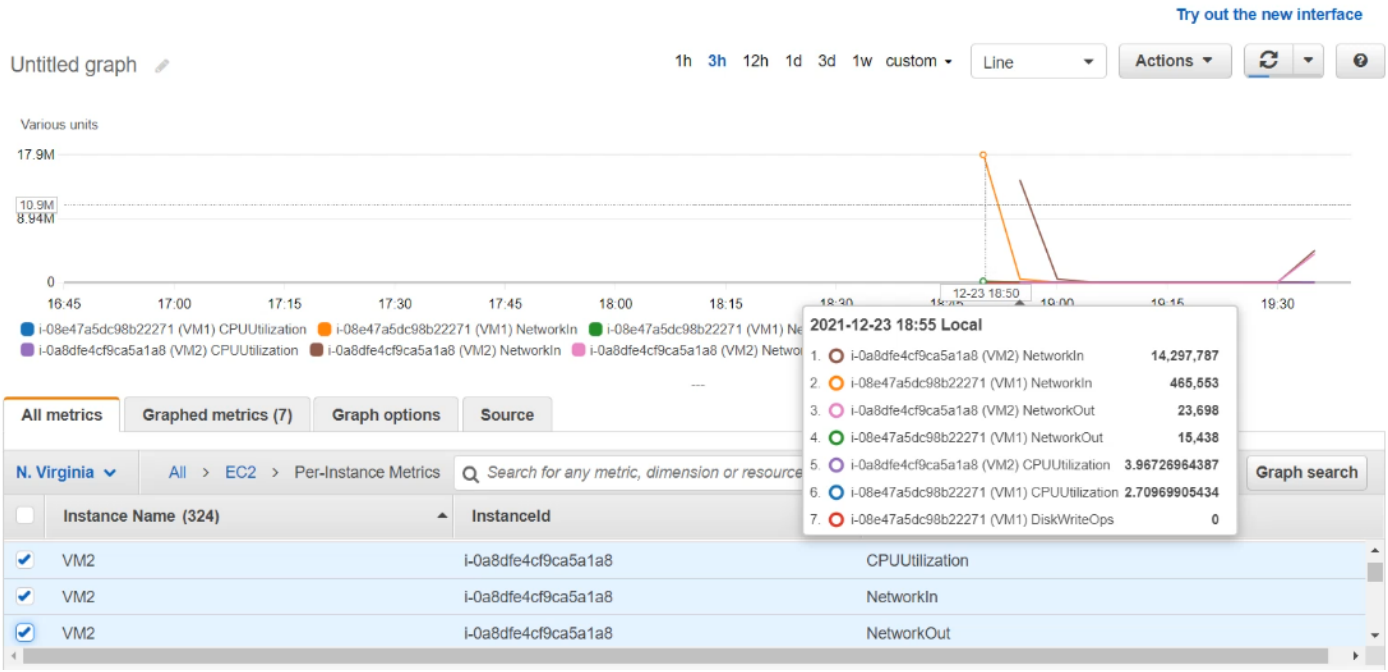
From here we redo a part of Task 3 based on the comments from our previous submission. It is worth noting that, new VM's were created to make this part due to the fact that the original/previous ones were terminated after completion. Hence the IP address will be different, but the main concept still applies.

>> Now after achieving the results from the ApacheBench stress test, we can monitor them through our EC2 instances. From there we can monitor all the stats for our VM's.

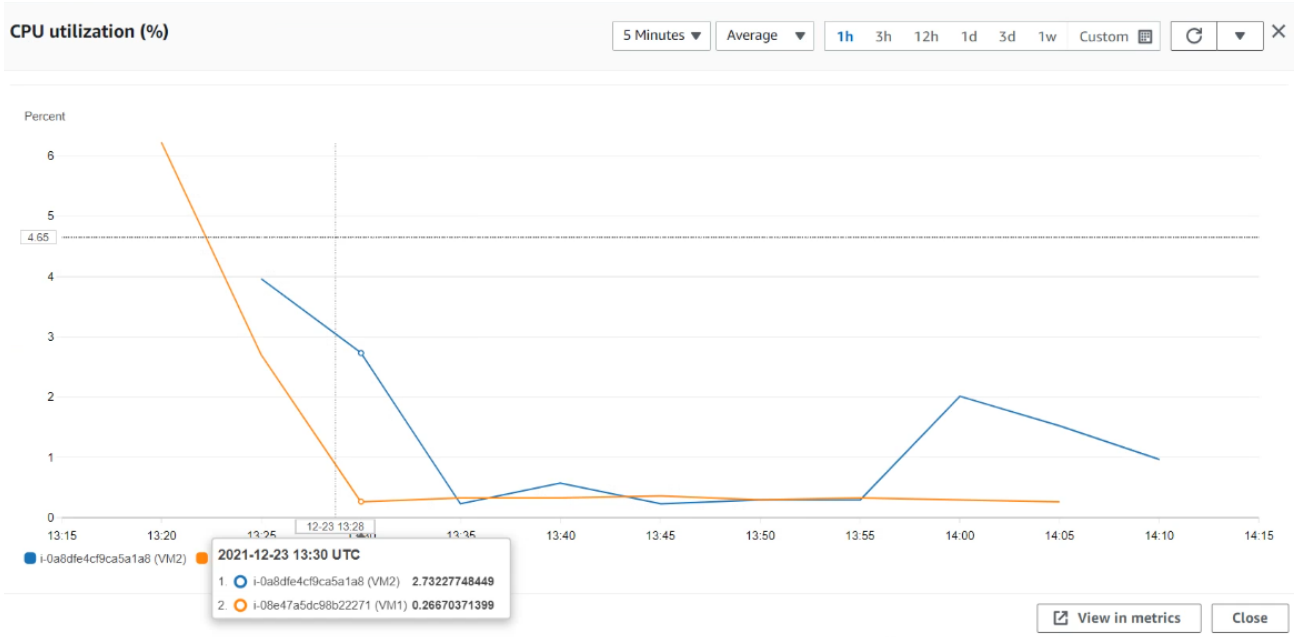


>> We should also note that this isn't the only viewing/monitoring option we have. To have a better look at the performance graphs, we can use CloudWatch.

>> CloudWatch allows us to compare the performance of any combination parameters between the VM's. The image below illustrates that. The performance graphs based on the following parameters would look like this:



>> We can also compare a specific parameter of such as CPU Utilization between VM1 and VM2 simultaneously.



In this CPU Utilization graph, the orange line is VM1 and the blue line is VM2.