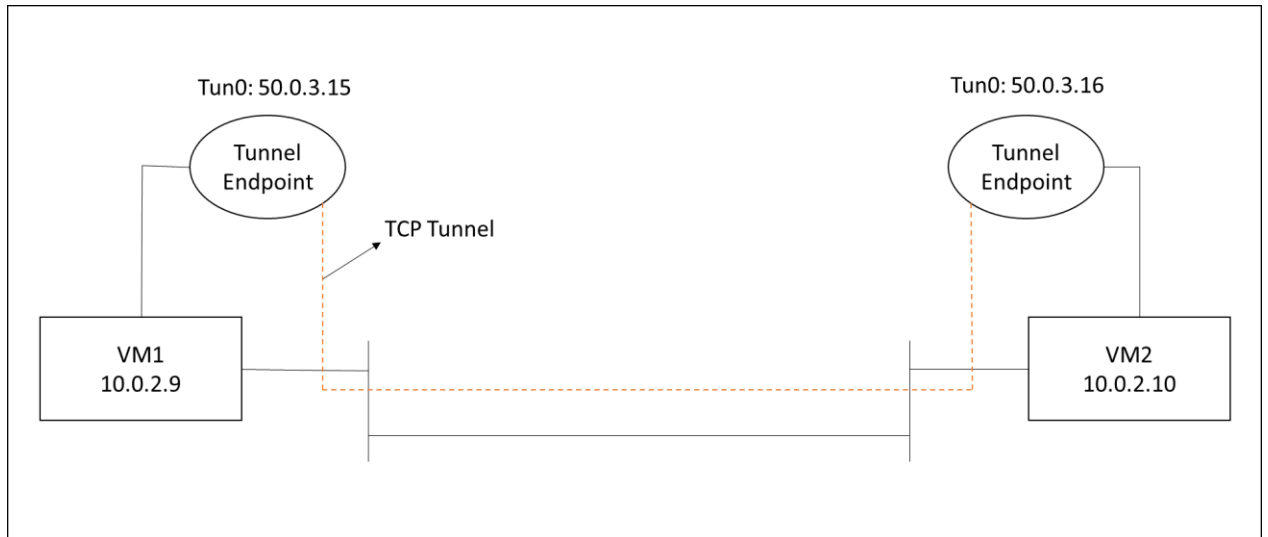


# IT IS 6167

## Project 2: VPN And Its Usage

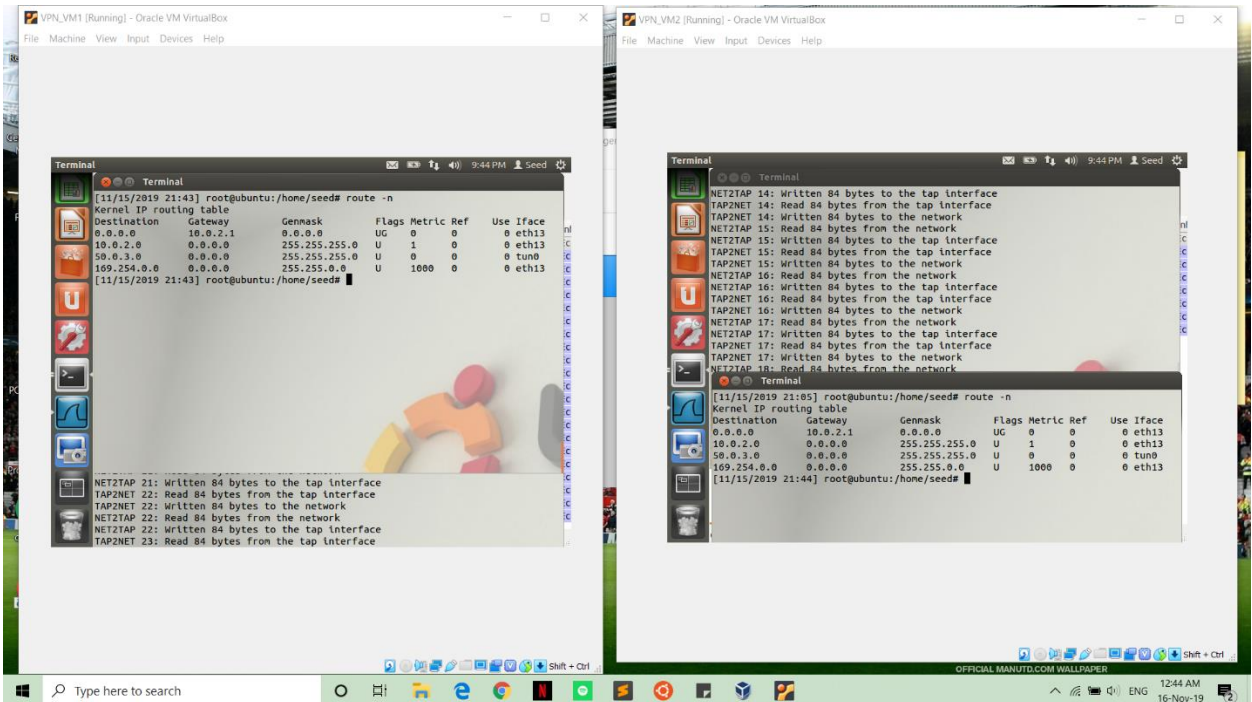
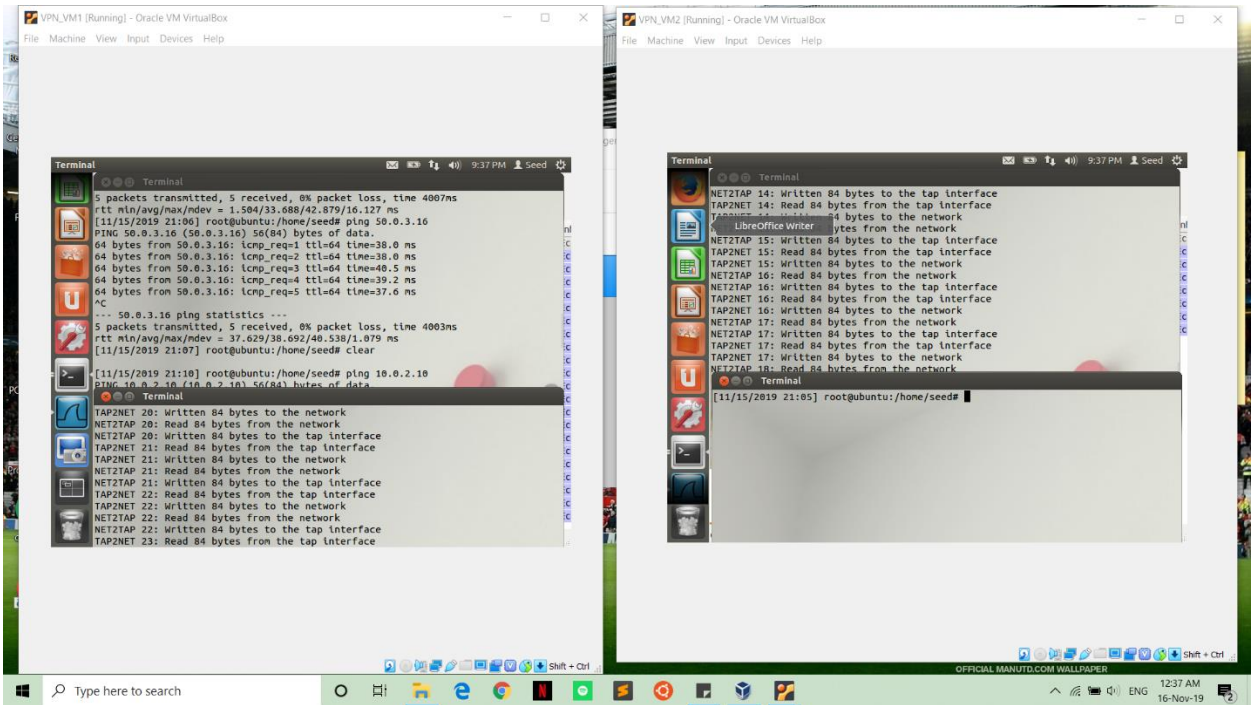
Sahil Bhirud

### 1. Network Environment



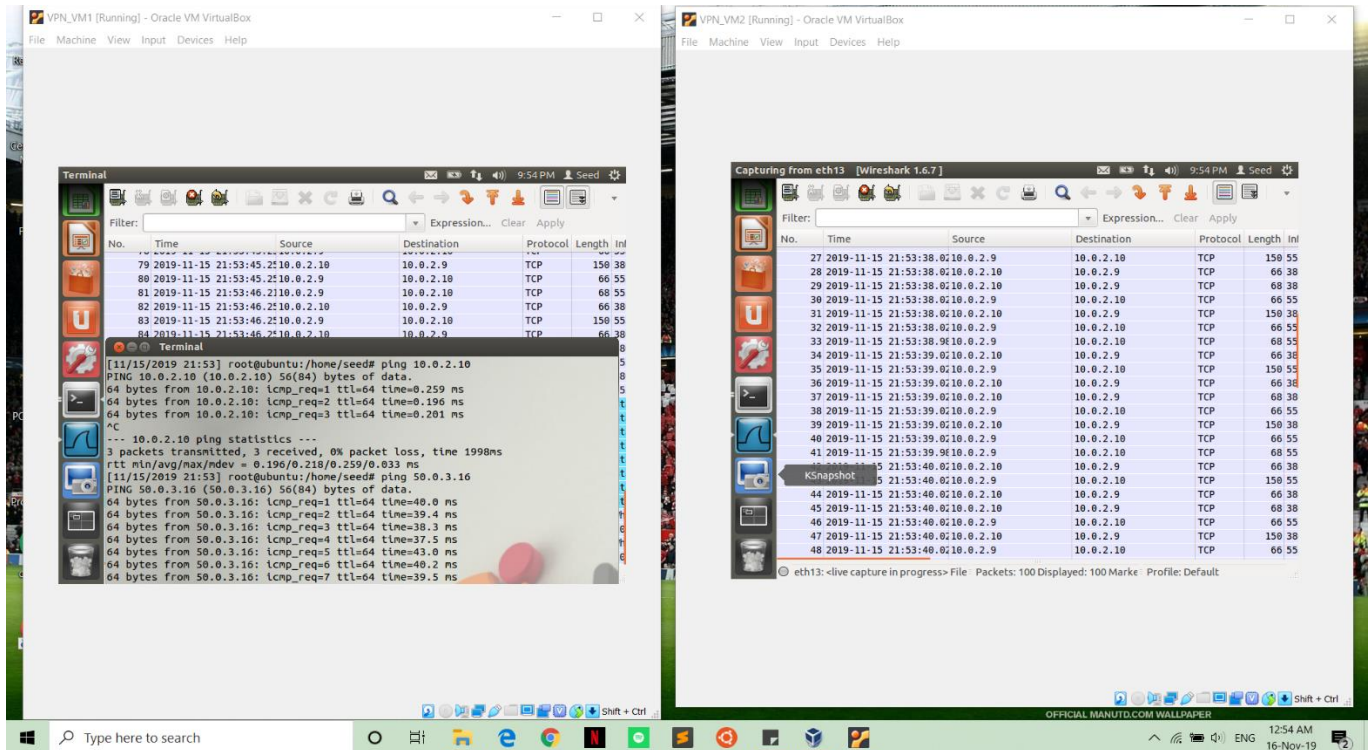
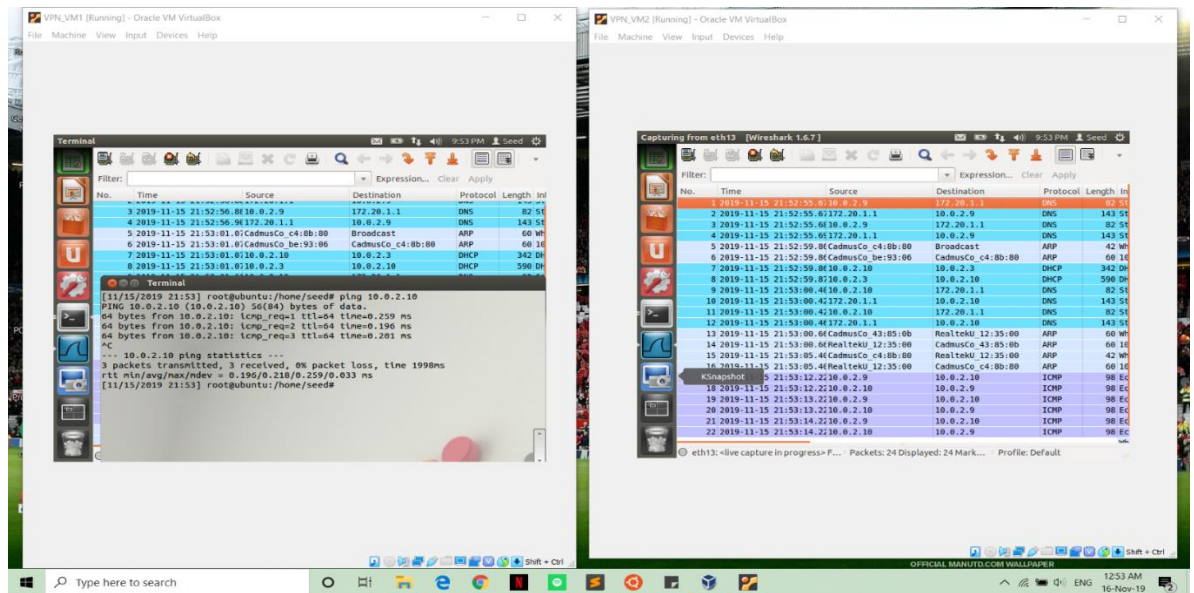
We have 2 VMs and our objective is to create a tunnel between these two VMs so that they can reach out to blocked sites through the other VM. VM1 and VM2 each connect to a different NAT server. At the end of this lab, there will be a tunnel created between these two VMs which will let the VMs access internet sites which are blocked by its firewall.

### 2. Communication Screenshots



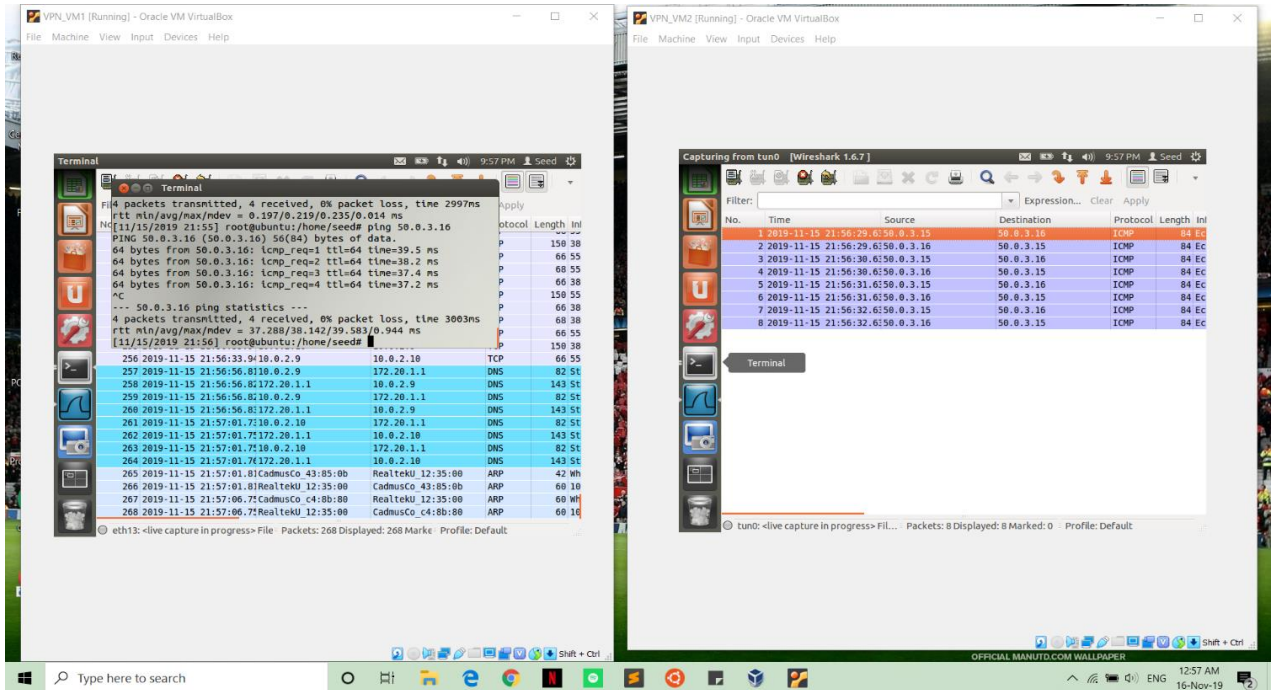
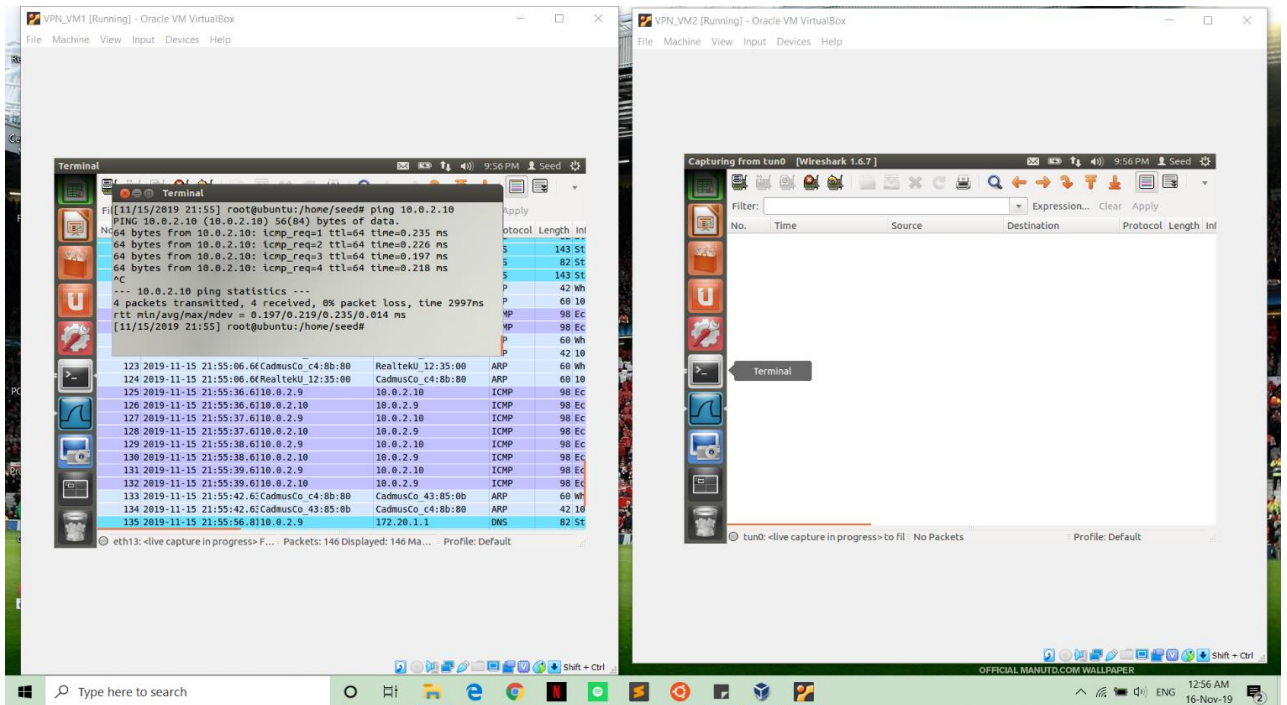
### 3. Wireshark Screenshots

## i. Eth-eth

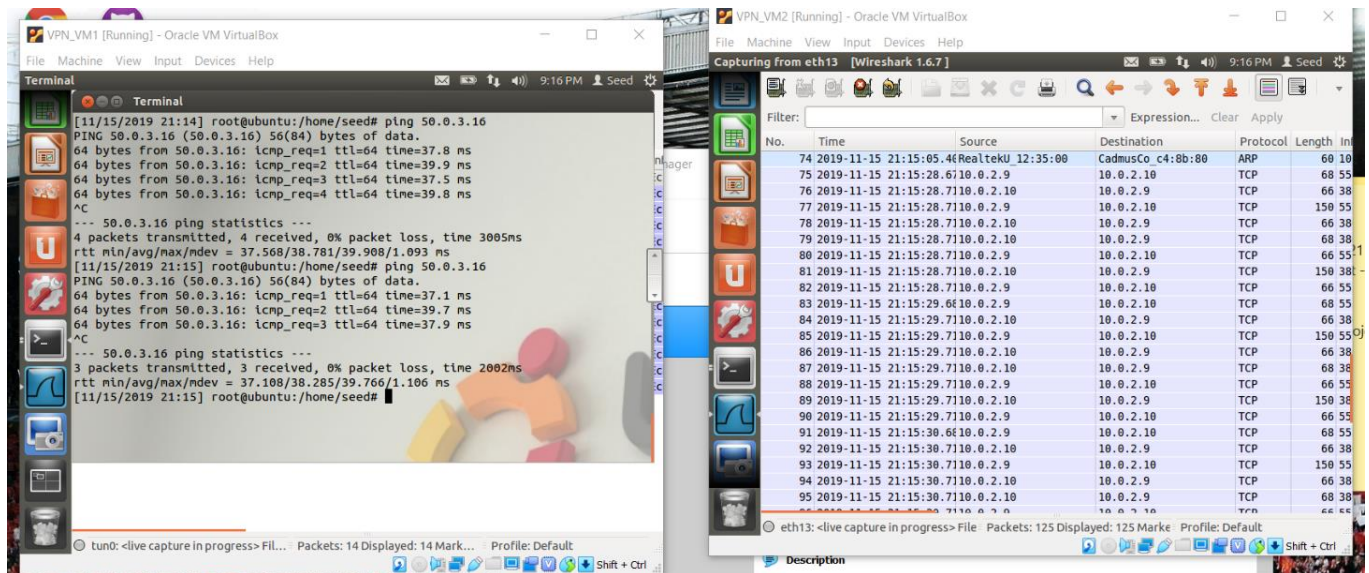
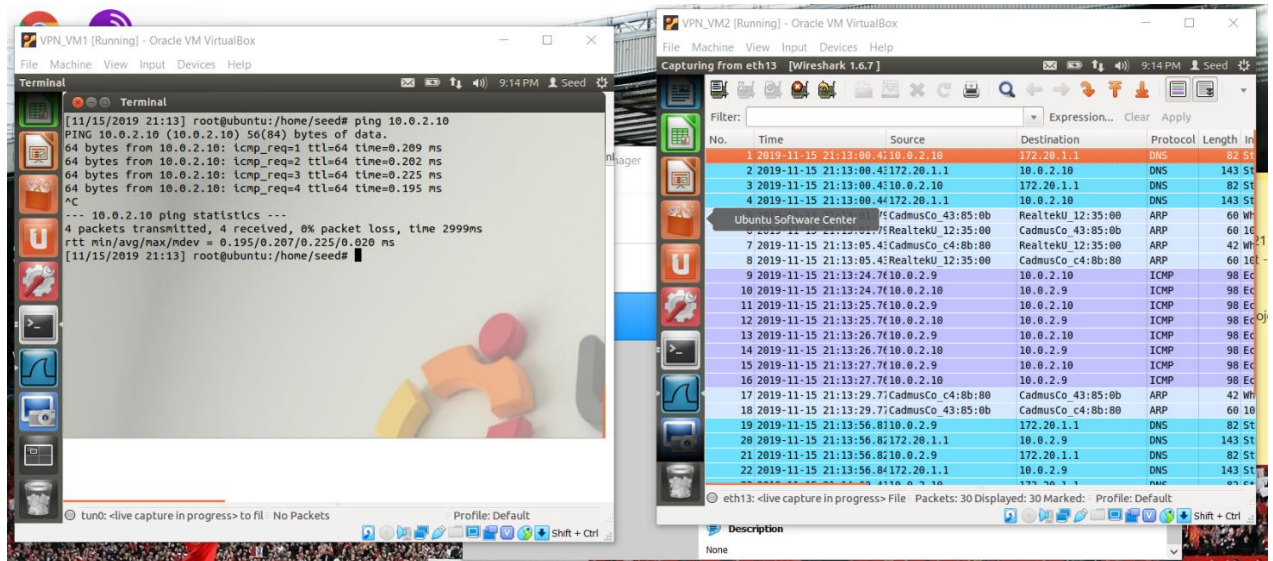


## ii. Eth – tun0



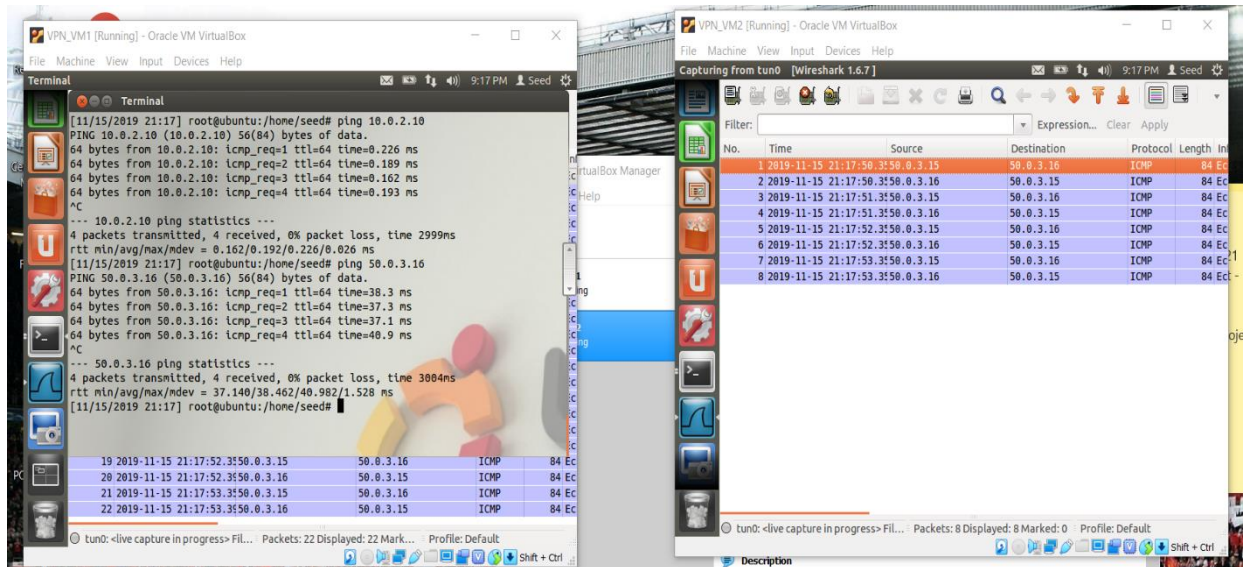
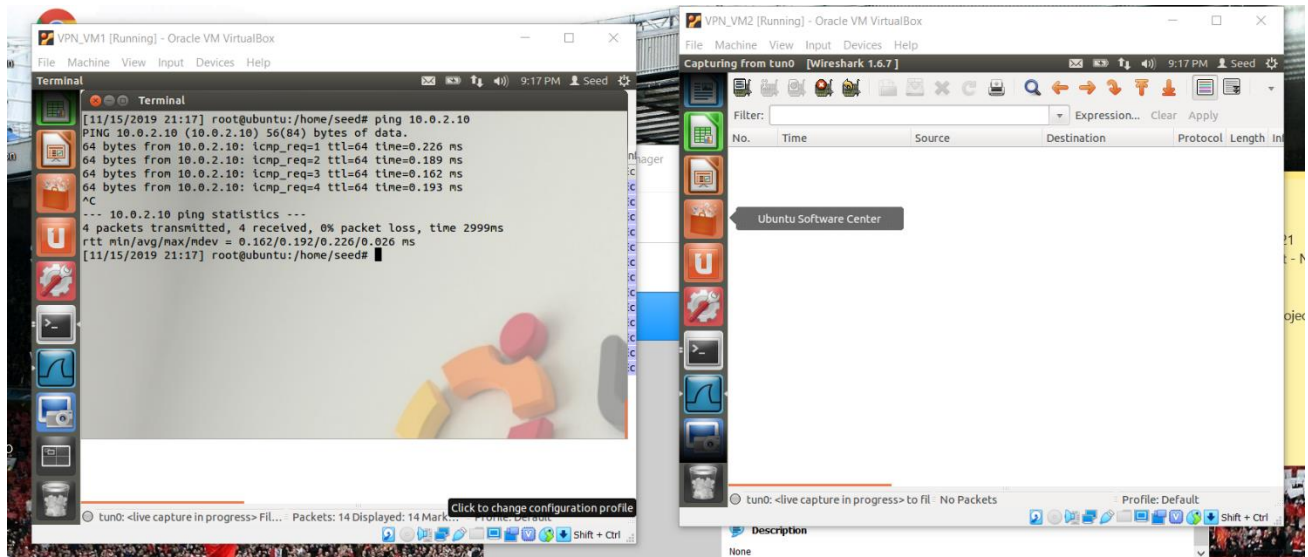


iii. tun0 – eth

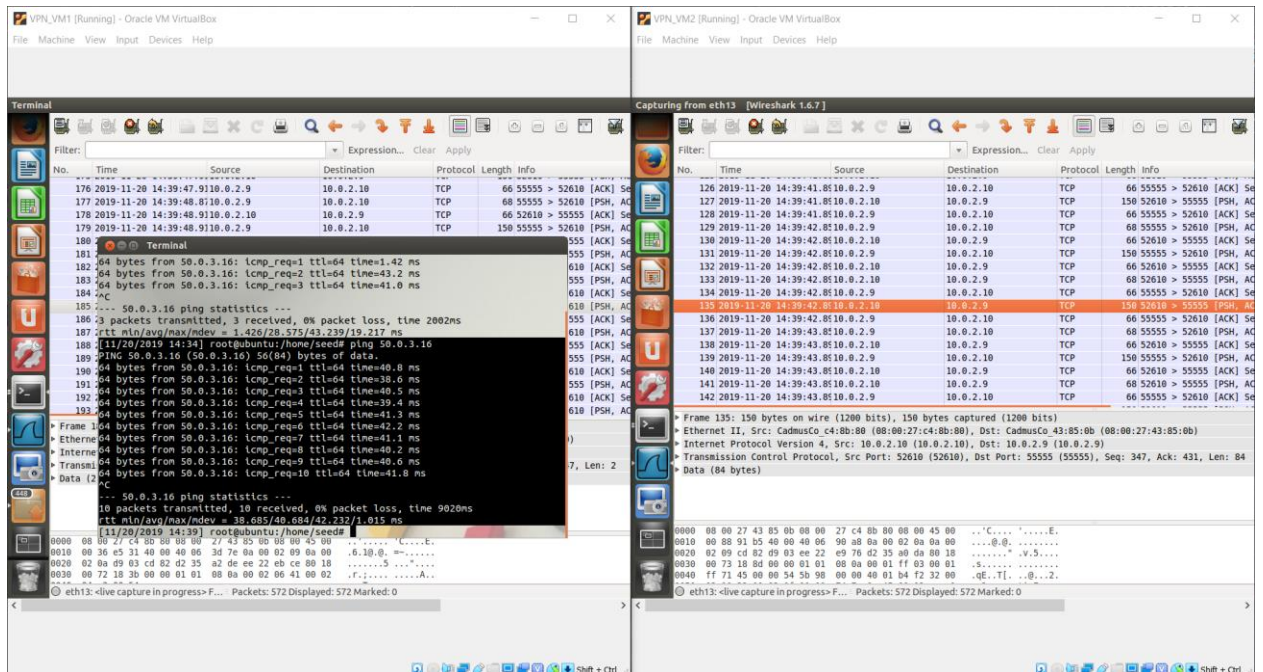


iv. tun0 – tun0





- We can see TCP packets being sent from one VM1 to VM2 when we are viewing eth-eth interfaces in Wireshark. When we try to ping the other tunnel end point from the eth IP, we get the source and the destination as the original IP addresses of the machines and not the tunnel IP which proves that the ICMP packets are being encapsulated while being transmitted to the other VM.



We don't see any IP addresses at the eth interface when the tun0 interfaces are communicating. We can only see the ICMP packets of the tunnel endpoints which are communicating with each other since the eth interface has no authority over the tun0 interfaces. The size of tun0 packets when tun0 interfaces ping each other is 56 bytes.