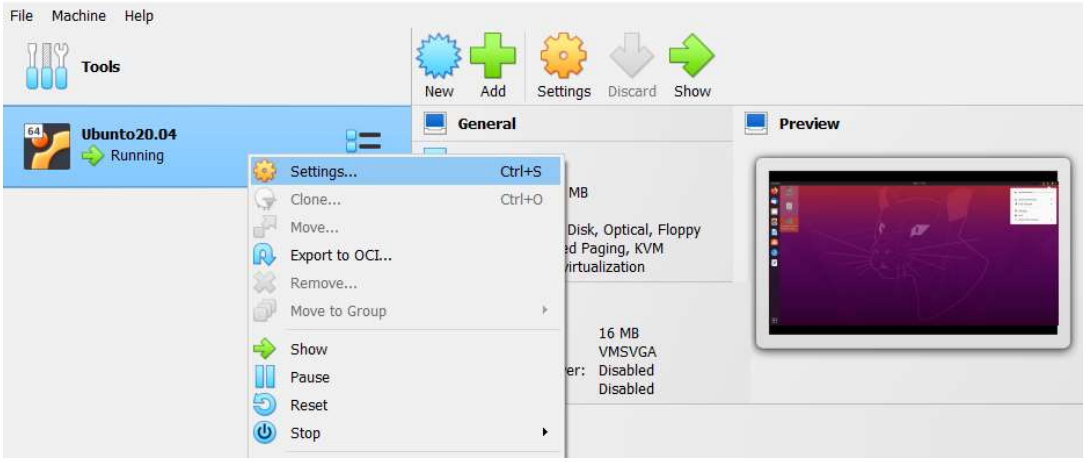
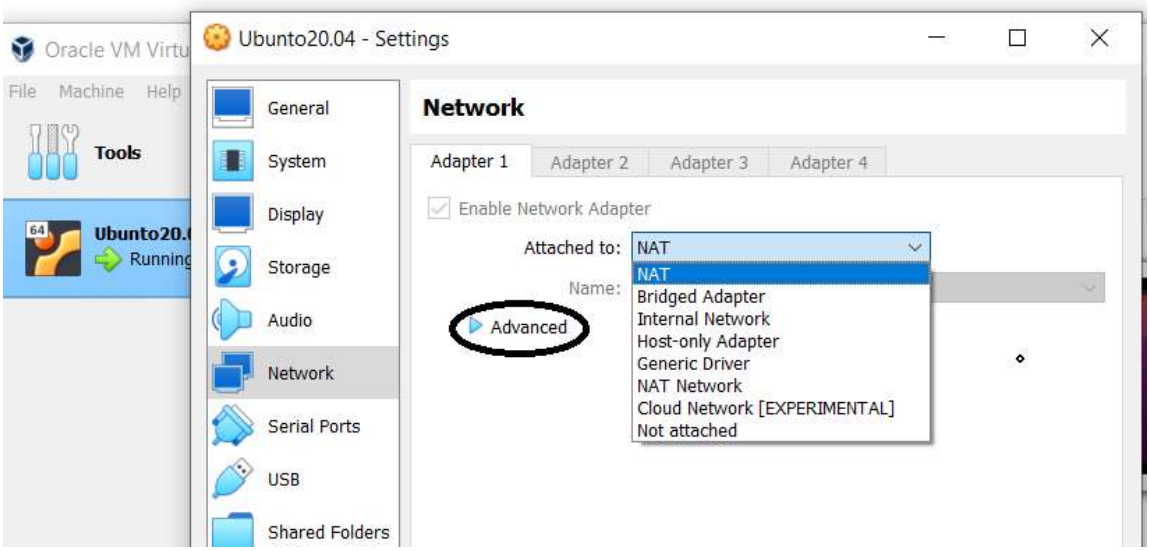
Setup Virtual Box for UDP communication

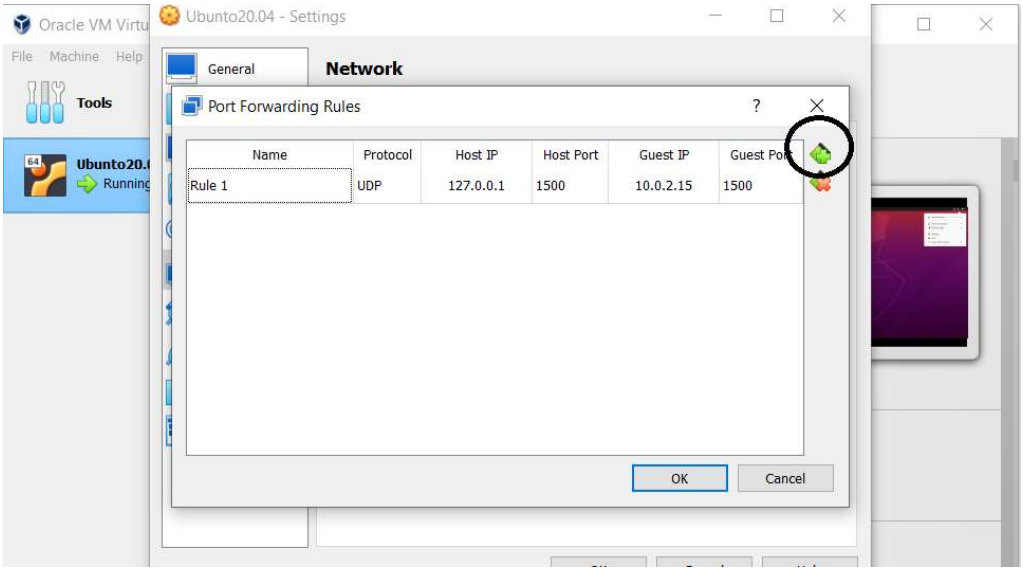
- From the Virtual Box homepage go to ‘Settings’ of your virtual machine



- Go to ‘Network’
- Set Network Adapter attached to ‘NAT’
- Go to ‘Advanced’



- Click on ‘Port Forwarding’
- On the right side of the window click on ‘Adds new port forwarding rules’



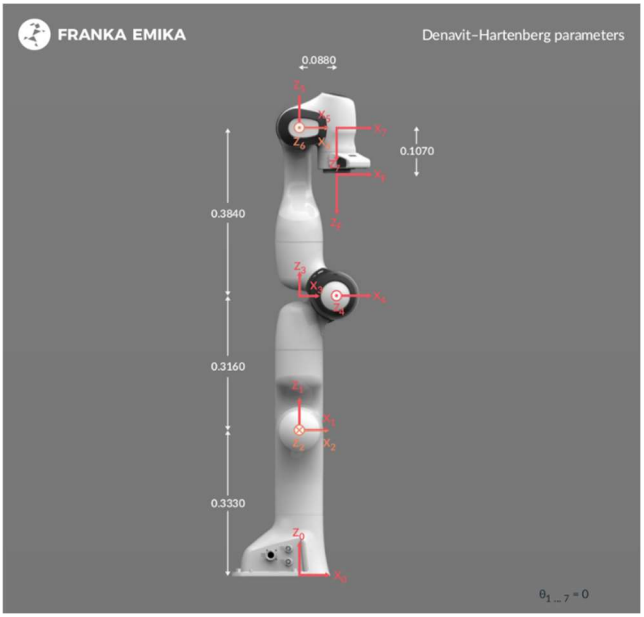
- Define the rule as below, and then click OK:

Protocol	Host IP	Host Port	Guest IP	Gust Port
UDP	127.0.0.1	a free port, ie: 1500	<your virtual box IP> ie: 10.0.2.15	A free port, ie: 1500

- Now you can run the virtual machine and **set in the simulation script**, in the socket binding command, the **Guest IP** (ie: 10.0.2.15) and Guest **PORT** (ie: 1500) set before.
- On **Matlab** (running on Windows) set the **IP of UDPSender** object as '127.0.0.1' (the localhost) and the **Host Port** defined (ie: 1500).

```
Editor - C:\Users\andre\Desktop\test_udp.m
MainPandaArmBimanual.m | test_udp.m
1 -   hudps = dsp.UDPSender('RemoteIPPort',1500);
2 -   hudps.RemoteIPAddress = '127.0.0.1';
3 -   a = [0 0 0 0 0 0 0]';
4
5 -   for i=1:0.1:30
6 -       disp(i)
7 -       step(hudps,[a;a])
8 -       pause(1)
9 -   end
```

- Launch the simulation in python on the virtual machine. Wait for the manipulator to reach the home position.
- Launch the matlab test script for UDP communication, which set all joint positions to 0
- The robot should go to the following configuration:



- If you still have problems, try do disable the Firewall by typing in a shell:
  $ sudo ufw allow <Guest Port Number>