# *BAHRIA UNIVERSITY ISLAMABAD*

## *DATA COMMUNICATION AND NETWORKING LAB*

## *PROJECT*

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# *PROJECT*

First, I introduced virtual box from the connection given by teacher and afterward I downloaded the ubuntu plate picture ISO record and make a virtual machine utilizing virtual box and ubuntu where I designate memory to it as per machine specs.

After this I introduce clay programming for fruitful culmination of my term project.

In the wake of introducing and making virtual machine I start my undertaking I opened the organization tab and select connector 1 and afterward select crossed over connector and in cutting edge segment I permit all modes offered beneath is the screen chance of this working:

# *Screenshots*
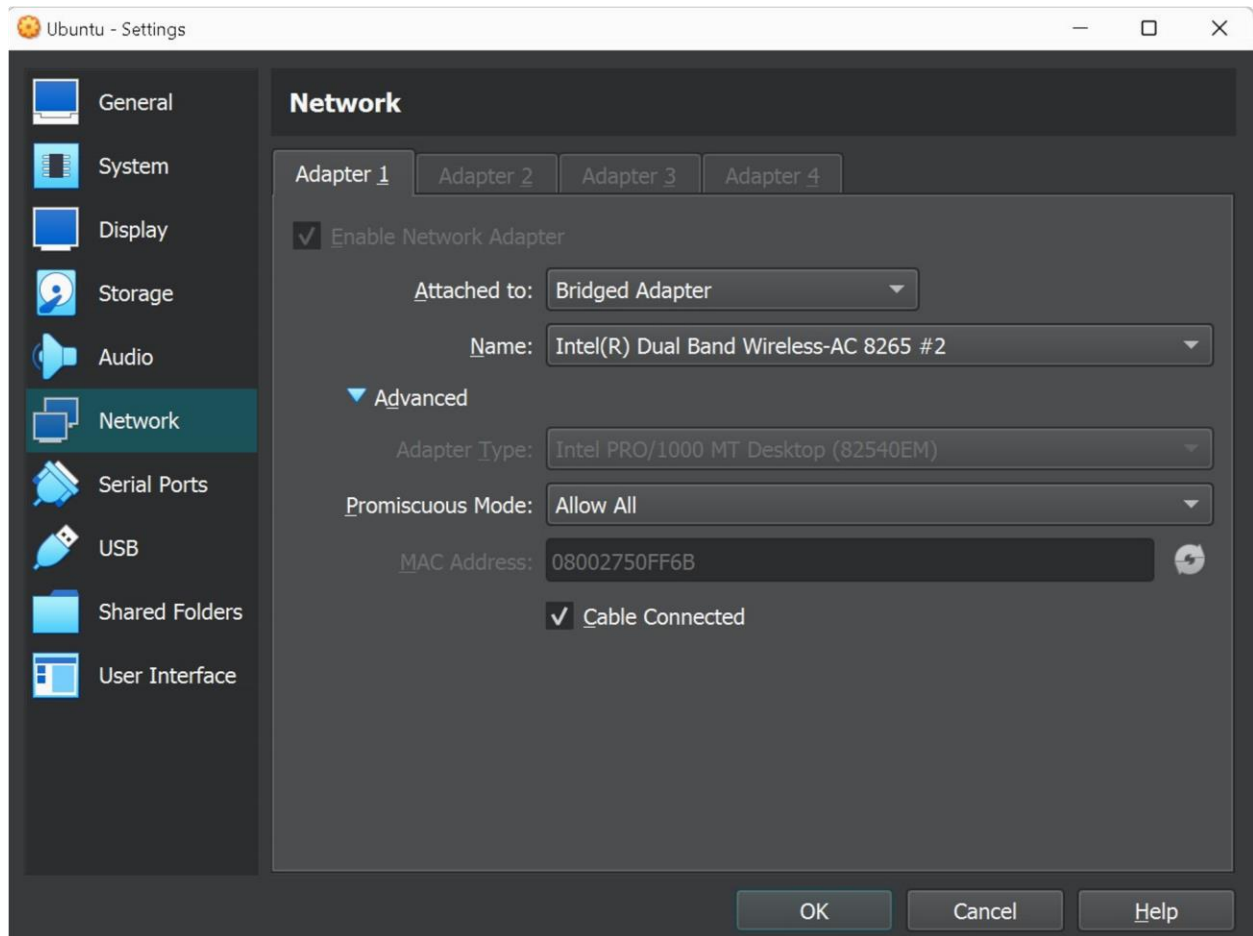


After this step I move towards subsequent stage that is to introduce open ssh in ubuntu for that I use order " **"sudo apt-get install openssh-server".** This order introduce open ssh in my ubuntu beneath is the screen shot of my working:

# *Screenshots*

```
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ncurses-term openssh-client openssh-sftp-server ssh-import-id
Suggested packages:
  ssh-askpass libpam-ssh keychain monkeysphere rssh molly-guard
The following NEW packages will be installed:
  ncurses-term openssh-server openssh-sftp-server ssh-import-id
The following packages will be upgraded:
  openssh-client
1 upgraded, 4 newly installed, 0 to remove and 724 not upgraded.
Need to get 1,223 kB of archives.
After this operation, 5,147 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://za.archive.ubuntu.com/ubuntu xenial-updates/main amd64 openssh-clie
nt amd64 1:7.2p2-4ubuntu2.10 [590 kB]
Get:2 http://za.archive.ubuntu.com/ubuntu xenial/main amd64 ncurses-term all 6.0
+20160213-1ubuntu1 [249 kB]
Get:3 http://za.archive.ubuntu.com/ubuntu xenial-updates/main amd64 openssh-sftp
-server amd64 1:7.2p2-4ubuntu2.10 [38.8 kB]
Get:4 http://za.archive.ubuntu.com/ubuntu xenial-updates/main amd64 openssh-serv
er amd64 1:7.2p2-4ubuntu2.10 [335 kB]
Get:5 http://za.archive.ubuntu.com/ubuntu xenial/main amd64 ssh-import-id all 5.
5-0ubuntu1 [10.2 kB]
Fetched 1,223 kB in 8s (149 kB/s)
Preconfiguring packages ...
(Reading database ... 172656 files and directories currently installed.)
Preparing to unpack .../openssh-client_1%3a7.2p2-4ubuntu2.10_amd64.deb ...
Unpacking openssh-client (1:7.2p2-4ubuntu2.10) over (1:7.2p2-4ubuntu1) ...
Selecting previously unselected package ncurses-term.
```

After this I moved to very next step that Is to find IP of virtual machine UBUNTU for that I used command **"ifconfig"** it shows me every information about the machine i.e Ethernet etc from there I found IP of the UBUNTU below screen shot is my working:

# _Screenshots_

```
enp0s3    Link encap:Ethernet  HWaddr 08:00:27:50:ff:6b
          inet addr:192.168.0.102  Bcast:192.168.0.255  Mask:255.255.255.0
          inet6 addr: fe80::a1c4:882f:5d2f:fd3a/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:7728 errors:0 dropped:0 overruns:0 frame:0
          TX packets:5457 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:5775930 (5.7 MB)  TX bytes:1954706 (1.9 MB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:1061 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1061 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1
          RX bytes:85999 (85.9 KB)  TX bytes:85999 (85.9 KB)

abdullah@abdullah-VirtualBox:~$
```

After this all work is done, we must login in PUTTY which we installed earlier on windows with the IP we found in UBUNTU that is **"192.168.0.102"**. Here below is the successful login of the system.

# *Screenshots*

```
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-31-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

756 packages can be updated.
529 updates are security updates.

New release '18.04.6 LTS' available.
Run 'do-release-upgrade' to upgrade to it.


The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
```

# *THE END!!!*