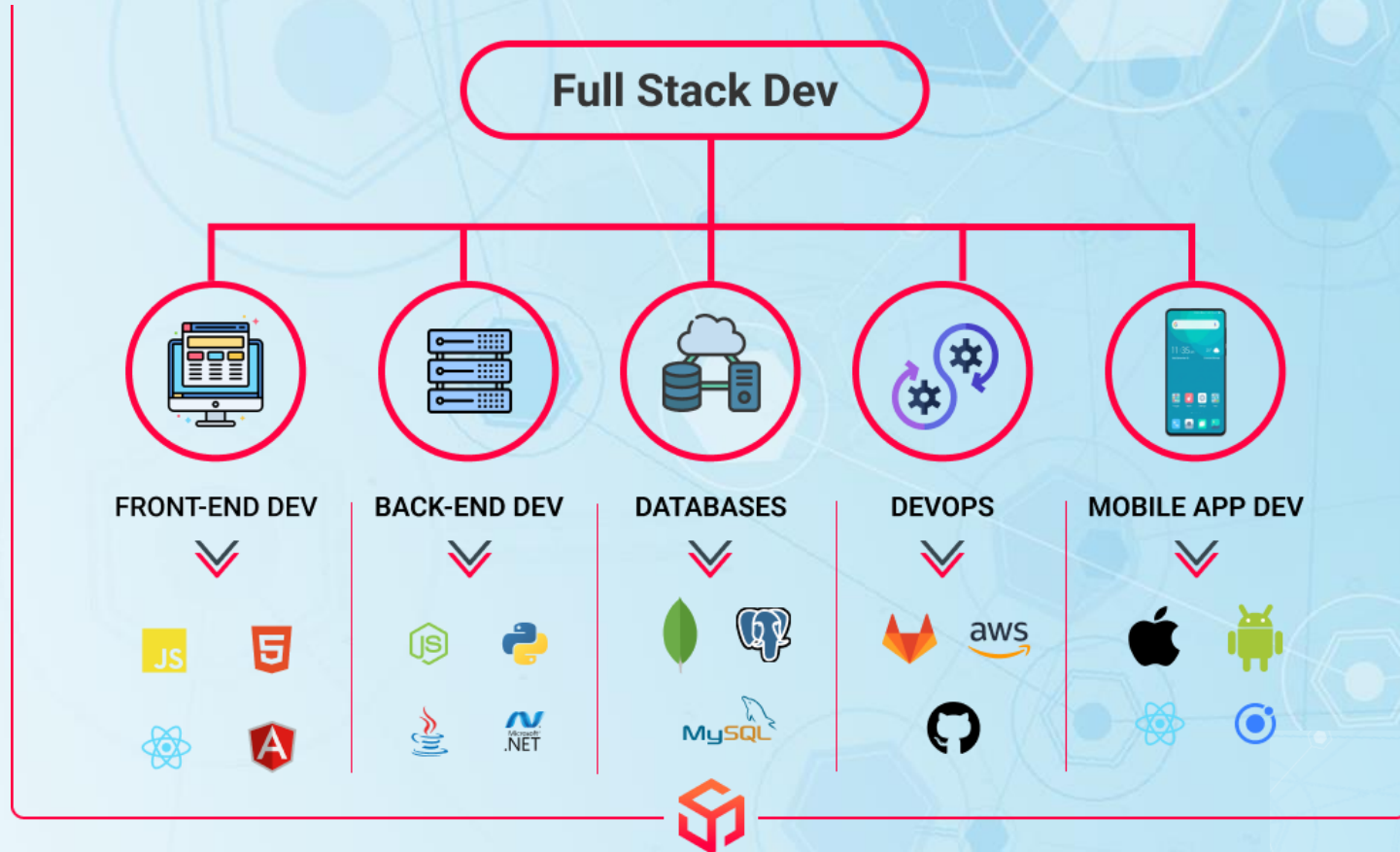


MC4266 – Full Stack Web Development



Ex:10

Create and deploy a virtual machine using a virtual box that can be accessed from the host computer using SSH

Ex:10

1. Download Virtualbox for Windows

https://www.virtualbox.org/wiki/Download_Old_Builds_7_0

2. Download Ubuntu Server

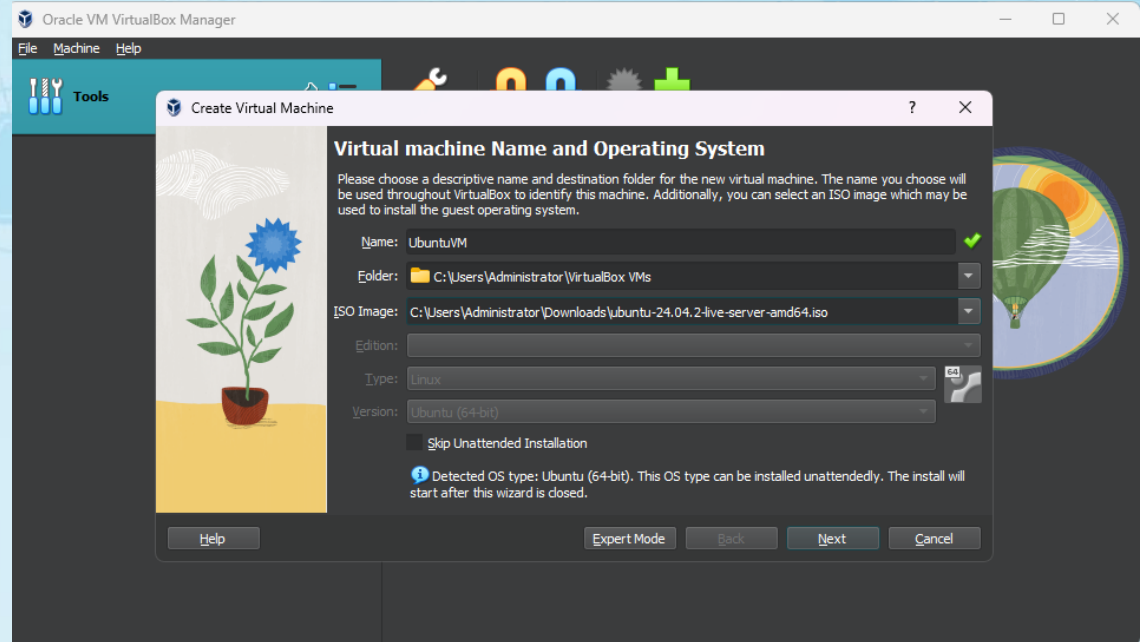
<https://ubuntu.com/download/server>

3. Install virtualbox

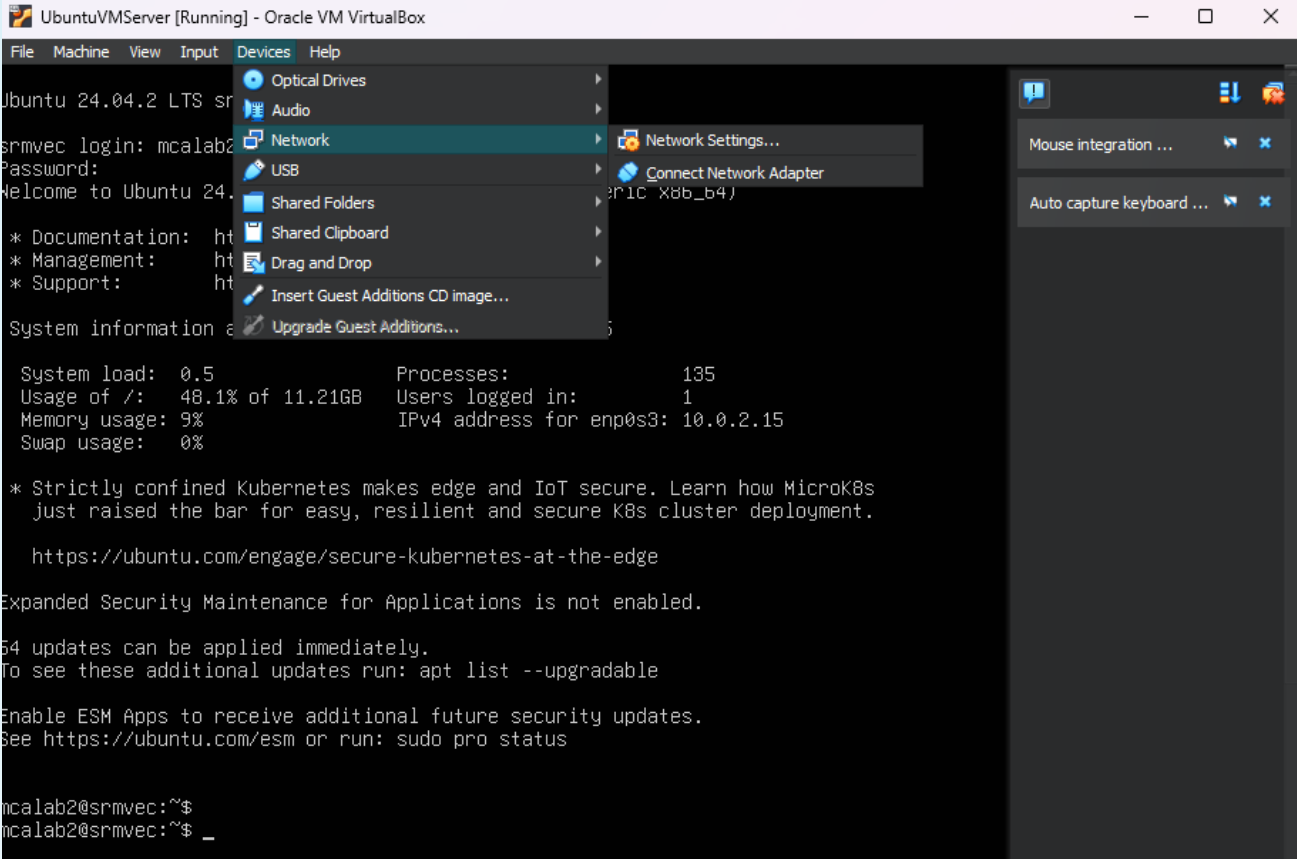
4. Enter Username

&

Password



Ex:10

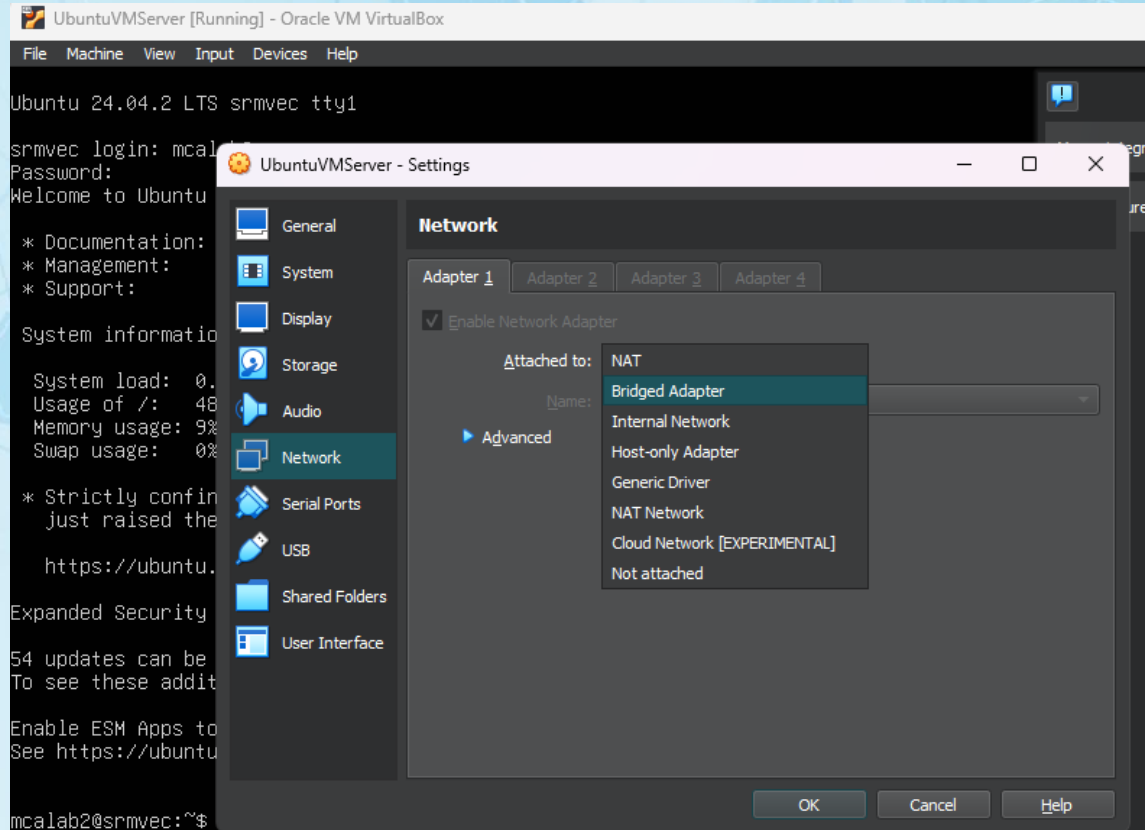


Ex:10 5. Set up Network for SSH Access

Select “Bridged Adapter”

OR

Select NAT

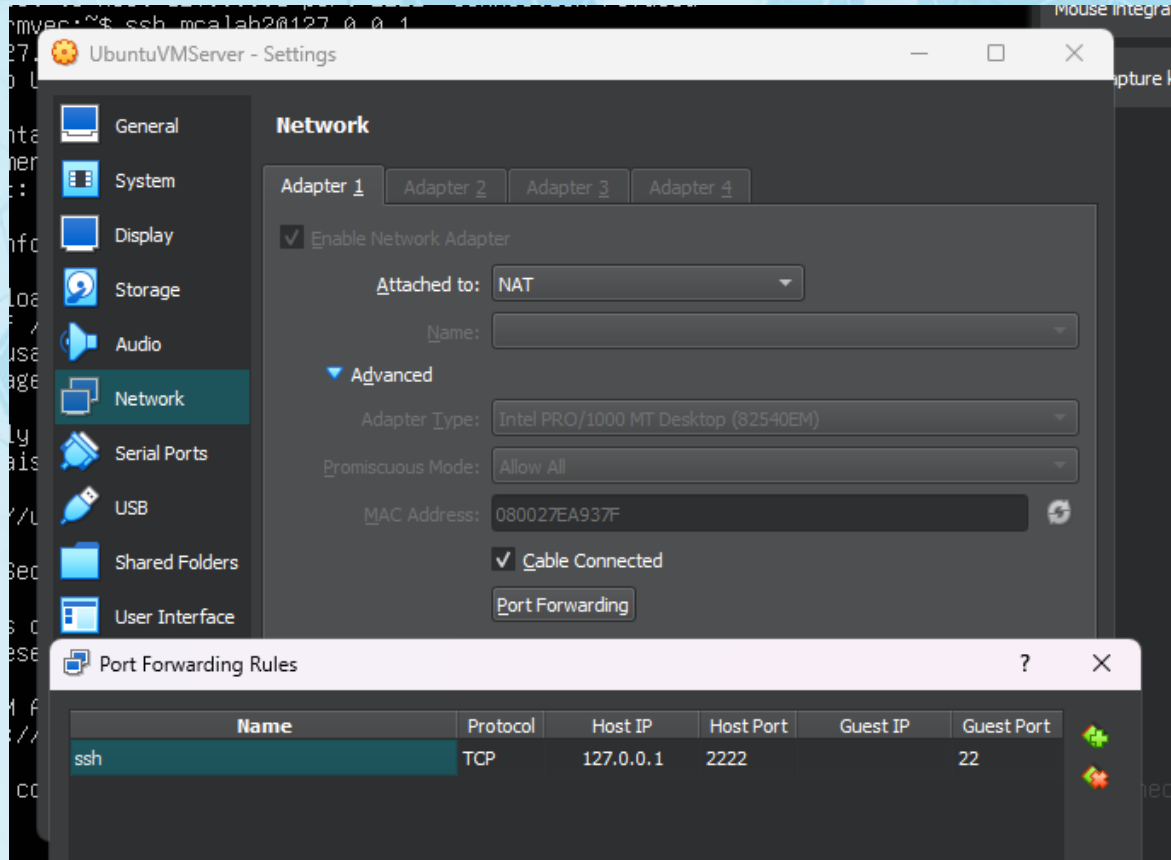


Ex:10 5. Set up Network for SSH Access

Select “Bridged Adapter”

OR

Select NAT



6. Install and Enable SSH

```
mcalab2@srmvec~$ sudo apt update
```

```
mcalab2@srmvec~$ sudo apt install openssh-server -y
```

```
mcalab2@srmvec~$ sudo systemctl enable ssh
```

```
mcalab2@srmvec~$ sudo systemctl start ssh
```

7. Check SSH status

```
mcalab2@srmvec~$ sudo systemctl status ssh
```

```
mcalab2@srmvec:~$ sudo systemctl start ssh
mcalab2@srmvec:~$ sudo systemctl status ssh
• ssh.service - OpenBSD Secure Shell server
   Loaded: loaded (/usr/lib/systemd/system/ssh.service; enabled; preset: enabled)
   Active: active (running) since Mon 2025-04-14 16:18:49 UTC; 33min ago
   TriggeredBy: • ssh.socket
     Docs: man:sshd(8)
           man:sshd_config(5)
    Main PID: 5927 (sshd)
      Tasks: 1 (limit: 3836)
     Memory: 2.1M (peak: 2.4M)
        CPU: 60ms
    CGroup: /system.slice/ssh.service
            └─5927 "sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups"

Apr 14 16:18:47 srmvec systemd[1]: Starting ssh.service - OpenBSD Secure Shell server...
Apr 14 16:18:49 srmvec sshd[5927]: Server listening on :: port 22.
Apr 14 16:18:49 srmvec systemd[1]: Started ssh.service - OpenBSD Secure Shell server.
mcalab2@srmvec:~$
```

Ex:10

8. Find IP Address

```
mcalab2@srmvec~$ ip a
```

9. Working SSH

Bridged Network:

```
mcalab2@srmvec~$ ssh yourusername@192.168.56.1
```

NAT with Port Forwarding:

```
mcalab2@srmvec~$ ssh yourusername@127.0.0.1 -p 2222
```


Ex:10 10. Ping

mcalab2@srmvec~\$ ping 8.8.8.8 -c 3

```
mcalab2@srmvec:~$ ping 8.8.8.8 -c 3
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=118 time=52.1 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=118 time=6.13 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=118 time=6.24 ms

--- 8.8.8.8 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2035ms
rtt min/avg/max/mdev = 6.133/21.475/52.052/21.621 ms
mcalab2@srmvec:~$
```

Ex:10

11. Work sample commands in VM

mcalab2@srmvec~\$ hostname && whoami && ip a | grep inet

```
Last login: Mon Apr 14 17:05:46 2025 from 127.0.0.1
mcalab2@srmvec:~$ hostname && whoami && ip a | grep inet
srmvec
mcalab2
  inet 127.0.0.1/8 scope host lo
  inet6 ::1/128 scope host noprefixroute
  inet 10.0.2.15/24 metric 100 brd 10.0.2.255 scope global dynamic enp0s3
  inet6 fe80::a00:27ff:feea:937f/64 scope link
  inet6 fe80::ecee:eeff:feee:eeee/64 scope link
  inet 10.1.7.192/32 scope global vxlan.calico
  inet6 fe80::647f:acff:fe5b:923e/64 scope link
  inet6 fe80::ecee:eeff:feee:eeee/64 scope link
mcalab2@srmvec:~$
```

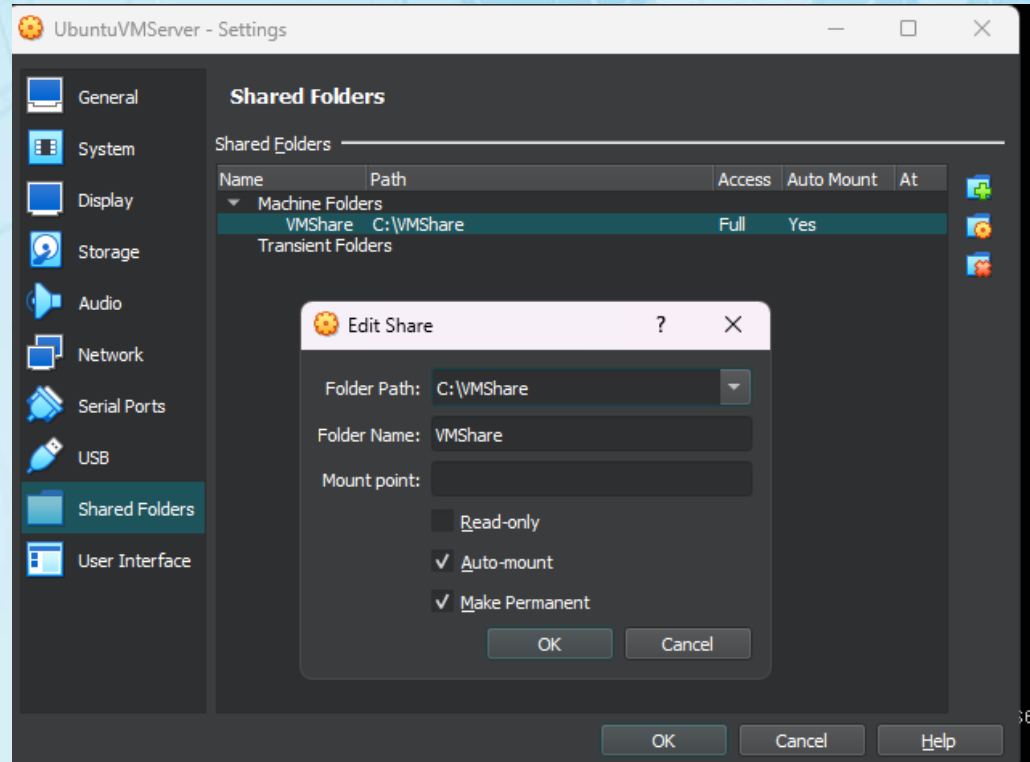
Ex:10

11. Create a Txt file

mc~~al~~ab2@srmvec~\$ echo "Its Works" > test.txt cat test.txt

```
mcalab2@srmvec:~$ echo "It Works...." > test.txt && cat test.txt
It Works....
mcalab2@srmvec:~$ ls
test.txt
mcalab2@srmvec:~$ _
```

12. Share Host Windows Folder



13. `mcalab2@srmvec~$ sudo reboot`

Ex:10

14. Access the Shared Folder

Create a mount point (folder) inside your VM:

```
mcalab2@srmvec~$ sudo mkdir /mnt/shared
```

```
mcalab2@srmvec~$ sudo mount -t vboxsf VMShare /mnt/shared
```

15. List the Files in Shared Folder

```
mcalab2@srmvec~$ ls /mnt/shared
```

```
mcalab2@srmvec:~$ sudo mount -t vboxsf VMShare /mnt/shared
mcalab2@srmvec:~$ ls /mnt/shared
[ 598.629592] UBSAN: array-index-out-of-bounds in /build/linux-AUvUe4/linux-6.8
[ 598.630534] index 1 is out of range for type '__u64 [1]'
ShareTest.txt
mcalab2@srmvec:~$ _
```



Any Queries?



manirajk.mca@srmvalliammai.ac.in