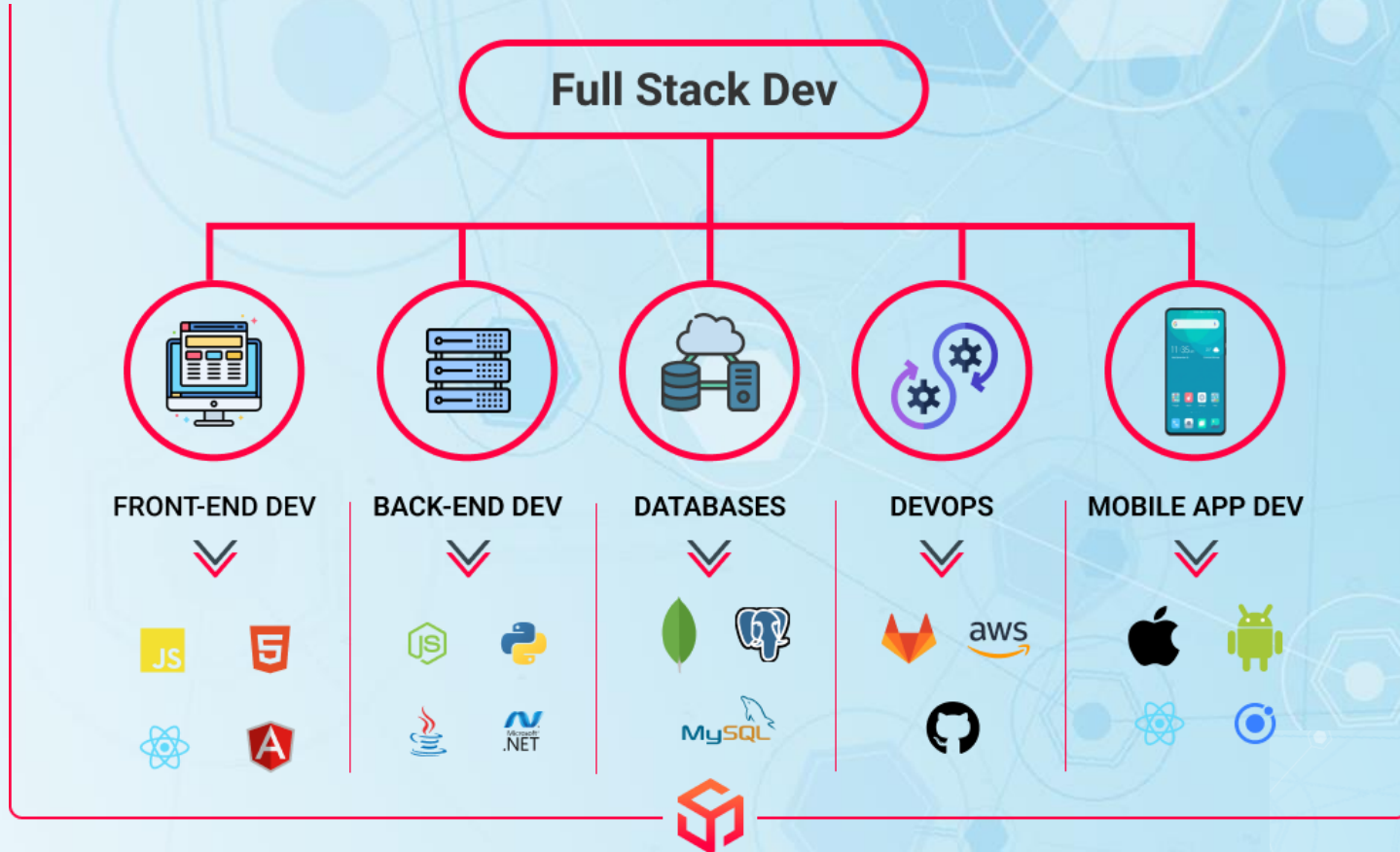


# MC4266 – Full Stack Web Development



# 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](https://www.virtualbox.org/wiki/Download_Old_Builds_7_0)

## 2. Download Ubuntu Server

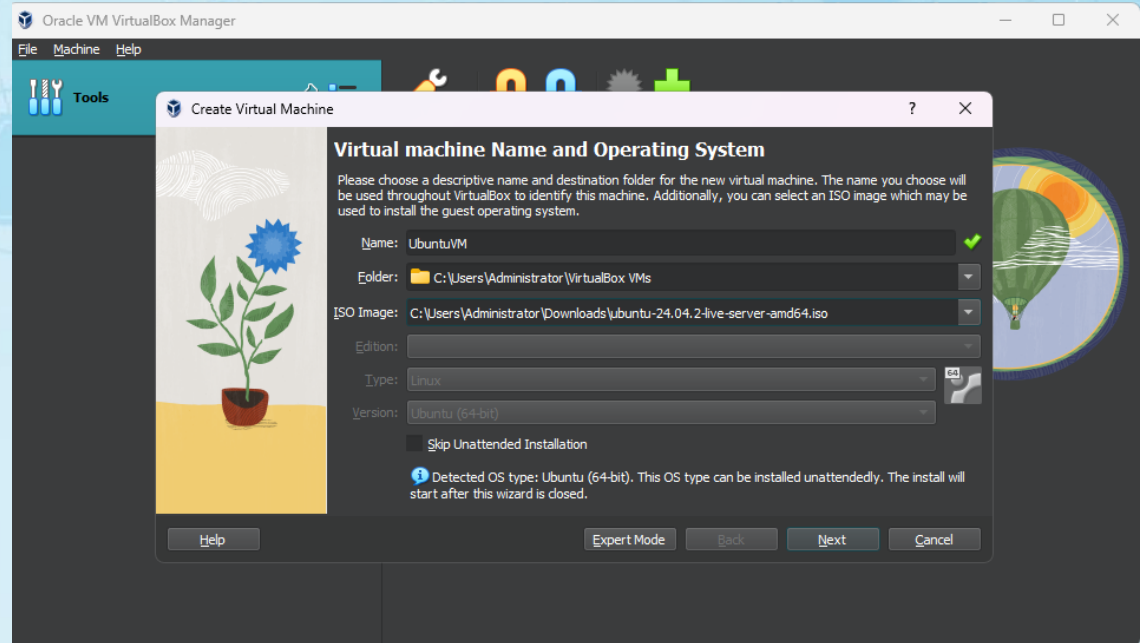
<https://ubuntu.com/download/server>

## 3. Install virtualbox

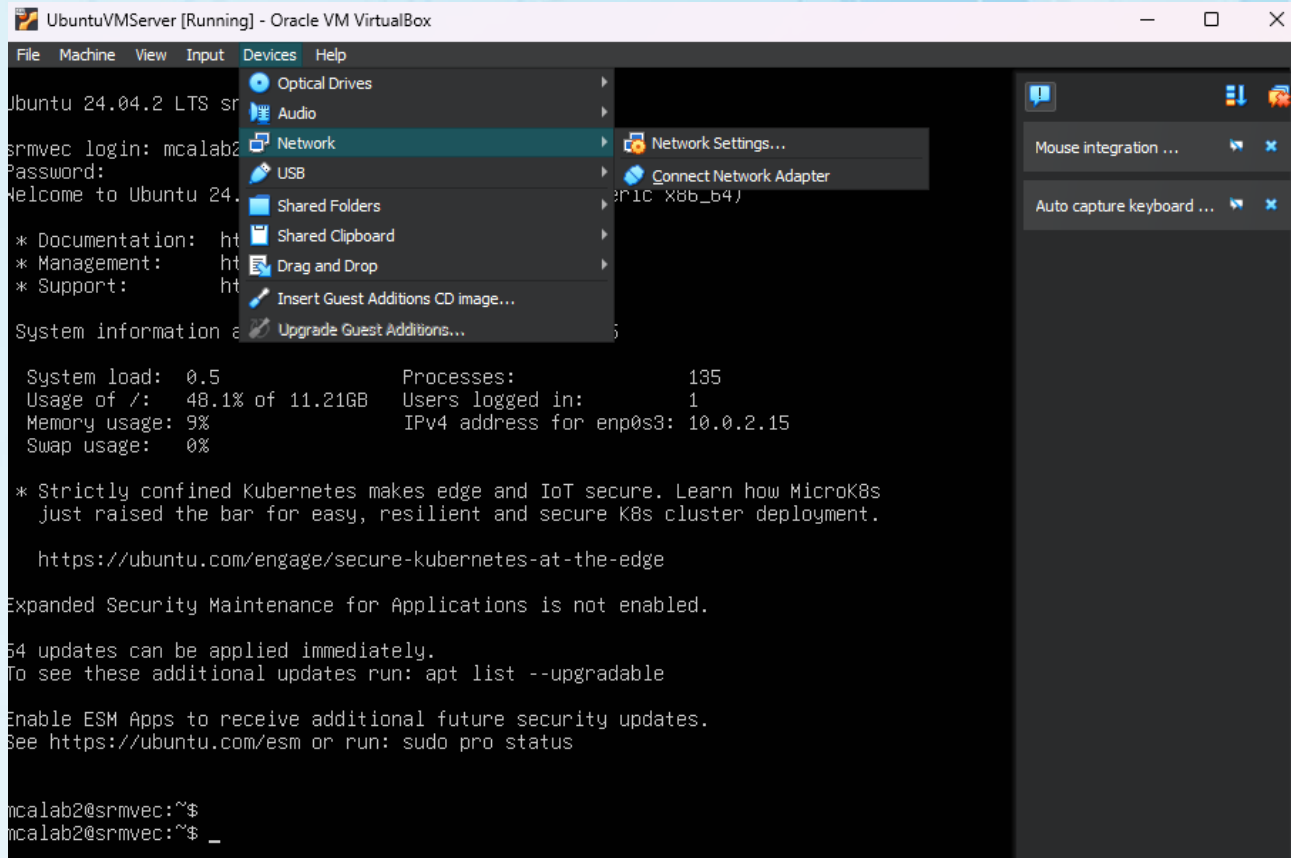
## 4. Enter Username

&

## Password



## Ex:10 5. Set up Network for SSH Access

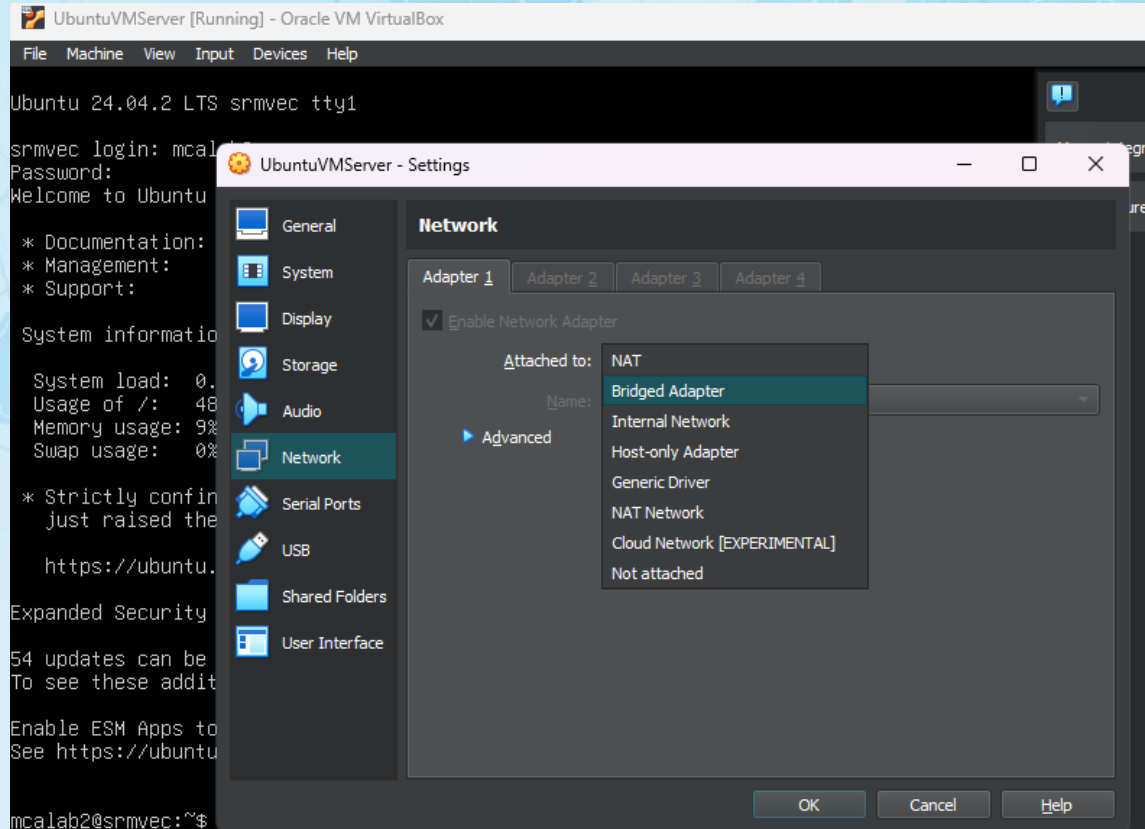


## Ex:10 5. Set up Network for SSH Access

Select “Bridged Adapter”

OR

Select NAT

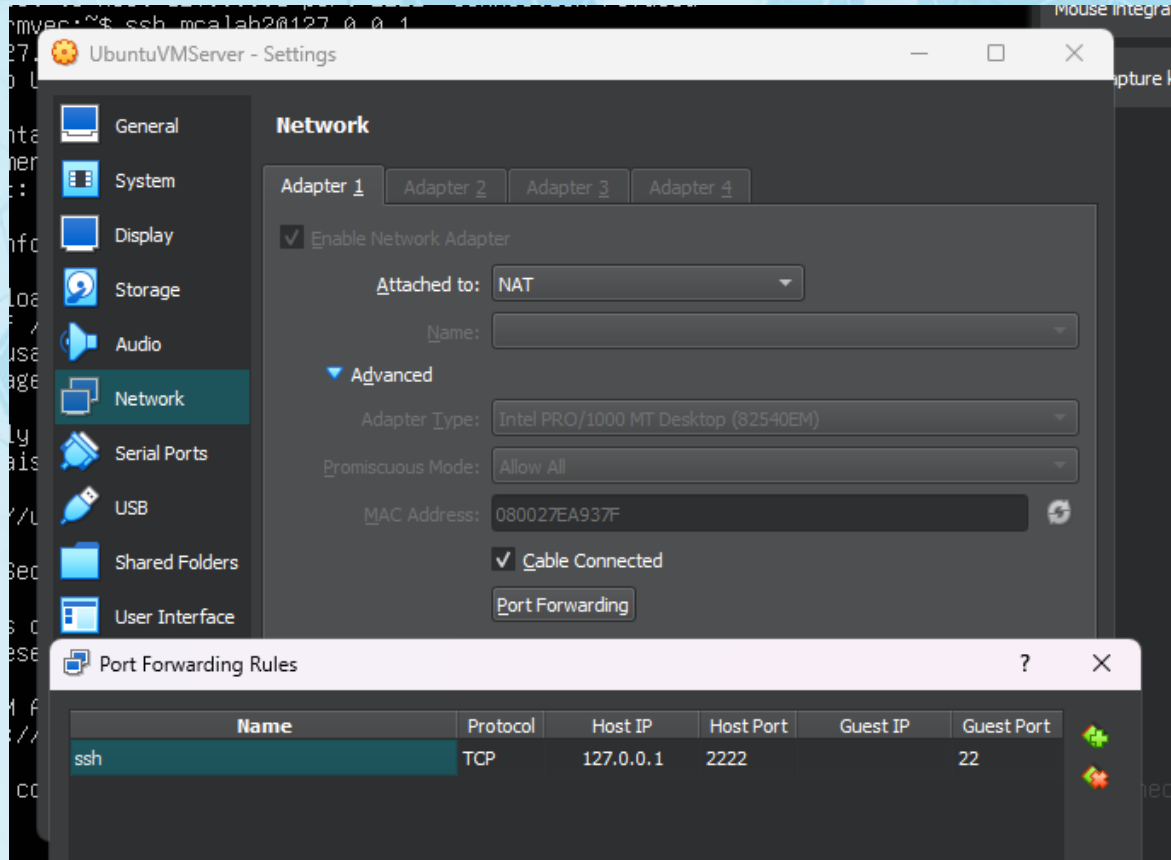


## Ex:10 5. Set up Network for SSH Access

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:~$
```

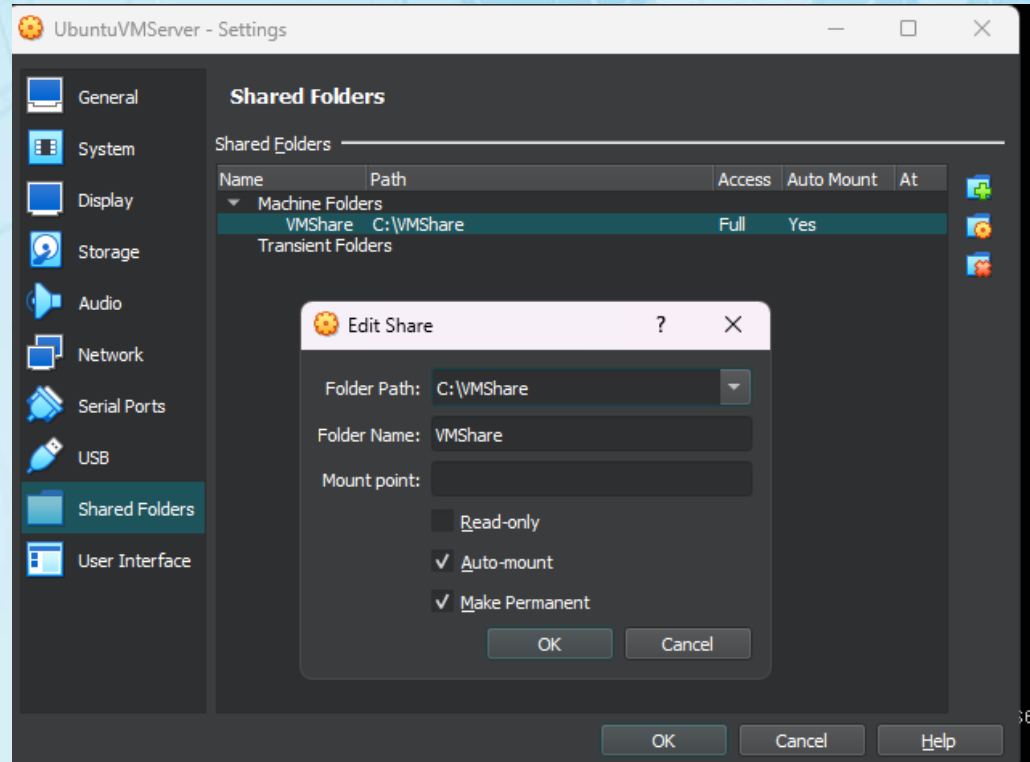
## Ex:10

### 11. Create a Txt file

**mcablab2@srmvec~\$** echo "Its Works" > test.txt cat test.txt

```
mcablab2@srmvec:~$ echo "It Works...." > test.txt && cat test.txt
It Works....
mcablab2@srmvec:~$ ls
test.txt
mcablab2@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?



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