

OS Hands-on Session

WEEK-1

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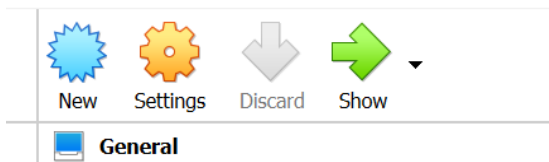
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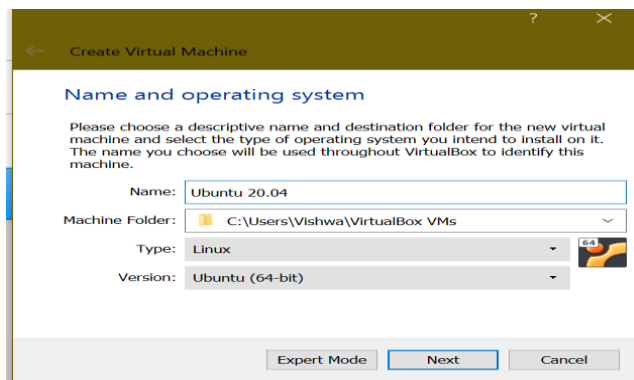
Procedure to install a Linux Distribution(Ubuntu 20.04 LTS) on VirtualBox:

Step 1: Download the iso file from the official website. Virtual Box must be pre-installed.

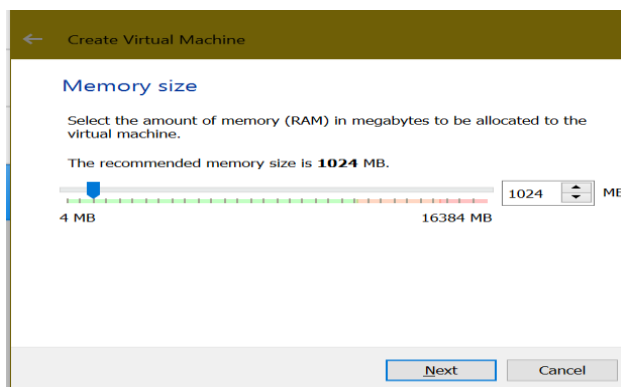
Step 2: Click on “New”.



Step 3: Enter the type of OS to be installed. Click on Next.



Step 4: Assign enough RAM for the OS. Click on Next.



Step 5: Click on “Create” and then “Next”.

← Create Virtual Machine

Hard disk

If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.

If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.

The recommended size of the hard disk is **10.00 GB**.

☐ Do not add a virtual hard disk
☒ Create a virtual hard disk now
☐ Use an existing virtual hard disk file

Ubuntu.vdi (Normal, 15.00 GB)

Create Cancel

← Create Virtual Hard Disk

← Create Virtual Hard Disk

Hard disk file type

Please choose the type of file that you would like to use for the new virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.

☒ VDI (VirtualBox Disk Image)
☐ VHD (Virtual Hard Disk)
☐ VMDK (Virtual Machine Disk)

Expert Mode Next Cancel

← Create Virtual Hard Disk

Storage on physical hard disk

Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).

A **dynamically allocated** hard disk file will only use space on your physical hard disk as it fills up (up to a maximum **fixed size**), although it will not shrink again automatically when space on it is freed.

A **fixed size** hard disk file may take longer to create on some systems but is often faster to use.

☒ Dynamically allocated
☐ Fixed size

Next Cancel

Step 6: Assign Storage Space for the OS and click on “Create”.

← Create Virtual Hard Disk

File location and size

Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.

C:\Users\Vishwa\VirtualBox VMs\Ubuntu 20.04\Ubuntu 20.04

Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.

4.00 MB 2.00 TB 10.00 GB

Create Cancel

Step 7: Go to “Settings -> Storage -> Controller IDE” and click on



the icon and add the iso from downloads and click “Ok”.

Step 8: Click on “Start” and wait for the OS to load and follow the steps as directed by the OS setup wizard.

Linux Commands:

1. ls:

```
vishwa@pop-os: ~  
vishwa@pop-os:~$ ls  
Desktop Documents Downloads Music Pictures Public Templates Videos  
vishwa@pop-os:~$
```

2. mkdir:

```
vishwa@pop-os:~/Documents$ mkdir OS  
vishwa@pop-os:~/Documents$ ls  
OS  
vishwa@pop-os:~/Documents$
```

3. man:

```
vishwa@pop-os:~/Documents$ man rmdir  
vishwa@pop-os:~/Documents$
```

```
RMDIR(1) User Commands RMDIR(1)  
  
NAME  
    rmdir - remove empty directories  
  
SYNOPSIS  
    rmdir [OPTION]... DIRECTORY...  
  
DESCRIPTION  
    Remove the DIRECTORY(ies), if they are empty.  
  
    --ignore-fail-on-non-empty  
        ignore each failure that is solely because a directory  
        is non-empty  
  
    -p, --parents  
        remove DIRECTORY and its ancestors; e.g., 'rmdir -p a/b/c' is  
        similar to 'rmdir a/b/c a/b a'  
  
    -v, --verbose  
        output a diagnostic for every directory processed  
Manual page rmdir(1) line 1 (press h for help or q to quit)
```

4. ping:

```
vishwa@pop-os:~/Documents$ ping google.com
PING google.com (142.250.71.46) 56(84) bytes of data.
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=1 ttl=58 time=14.9 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=2 ttl=58 time=17.5 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=3 ttl=58 time=15.4 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=4 ttl=58 time=16.9 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=5 ttl=58 time=14.9 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=6 ttl=58 time=13.3 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=7 ttl=58 time=13.7 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=8 ttl=58 time=17.6 ms
64 bytes from maa03s35-in-f14.1e100.net (142.250.71.46): icmp_seq=9 ttl=58 time=13.5 ms
^C
--- google.com ping statistics ---
9 packets transmitted, 9 received, 0% packet loss, time 8033ms
rtt min/avg/max/mdev = 13.311/15.284/17.579/1.587 ms
vishwa@pop-os:~/Documents$
```

5. ifconfig:

```
vishwa@pop-os:~/Documents$ ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
    inet6 fe80::c4c3:1e2:88b7:59c6 prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:4f:0b:16 txqueuelen 1000 (Ethernet)
    RX packets 3798 bytes 2219904 (2.2 MB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 2943 bytes 1062910 (1.0 MB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 1499 bytes 147081 (147.0 KB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 1499 bytes 147081 (147.0 KB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

vishwa@pop-os:~/Documents$
```