ORACLE VM SERVER ADMINISTRATION

LAB FILE

SUBMITTED BY: **SUBMITTED TO:**

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EXPERIMENT-1

To understand the physical machine and its available resources for creating new virtual machines. Student should analyse and note down the hardware resources of the physical machine. Now note down the resources that can be used for creating new VM machines. Hardware resources to be noted are as below:
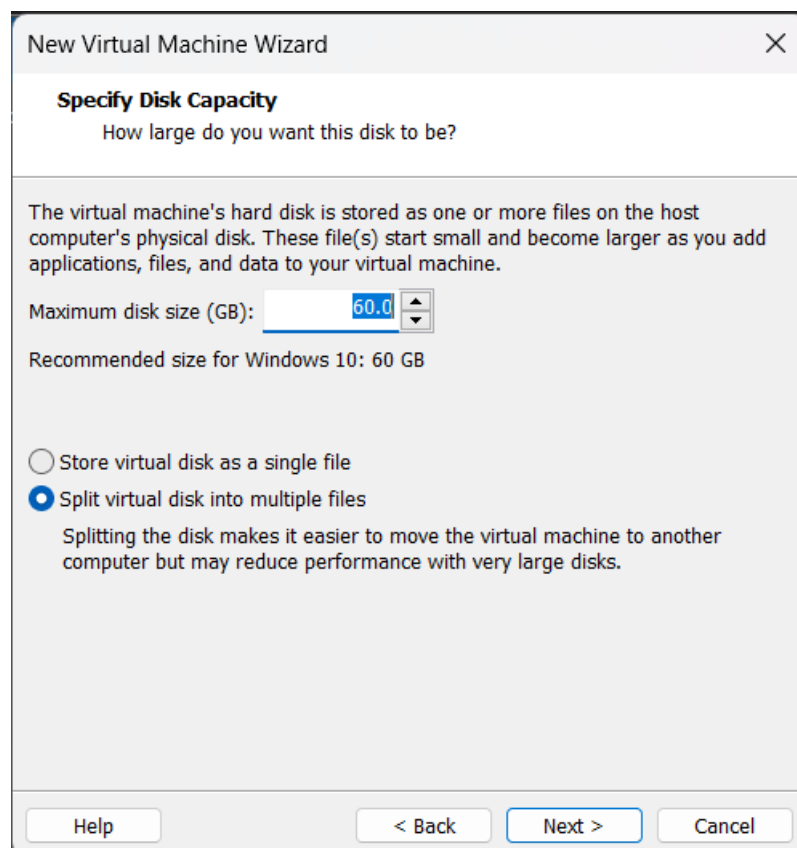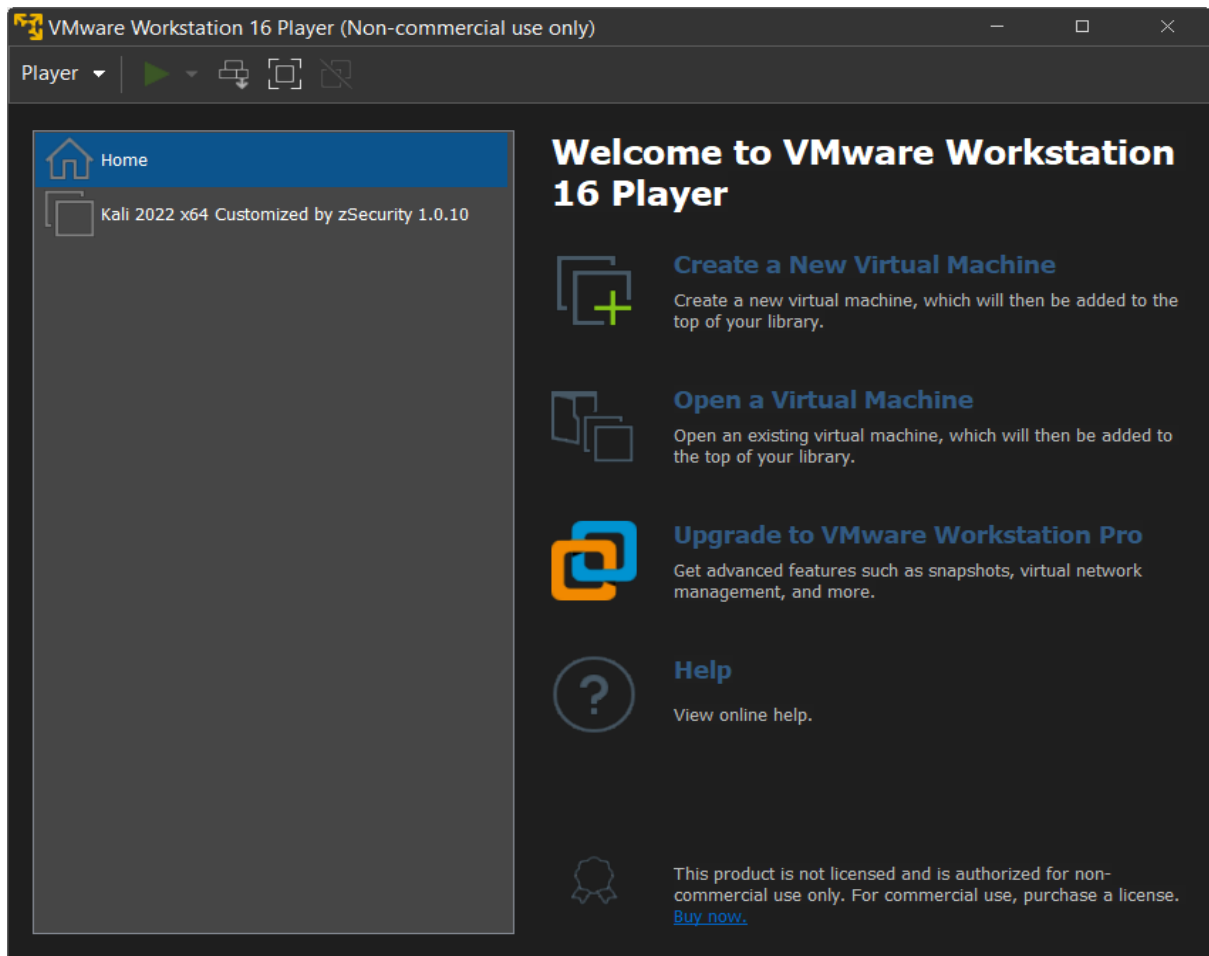1. **Processor (total number of available cores)**
2. **Memory i.e., Total RAM installed in a physical machine**
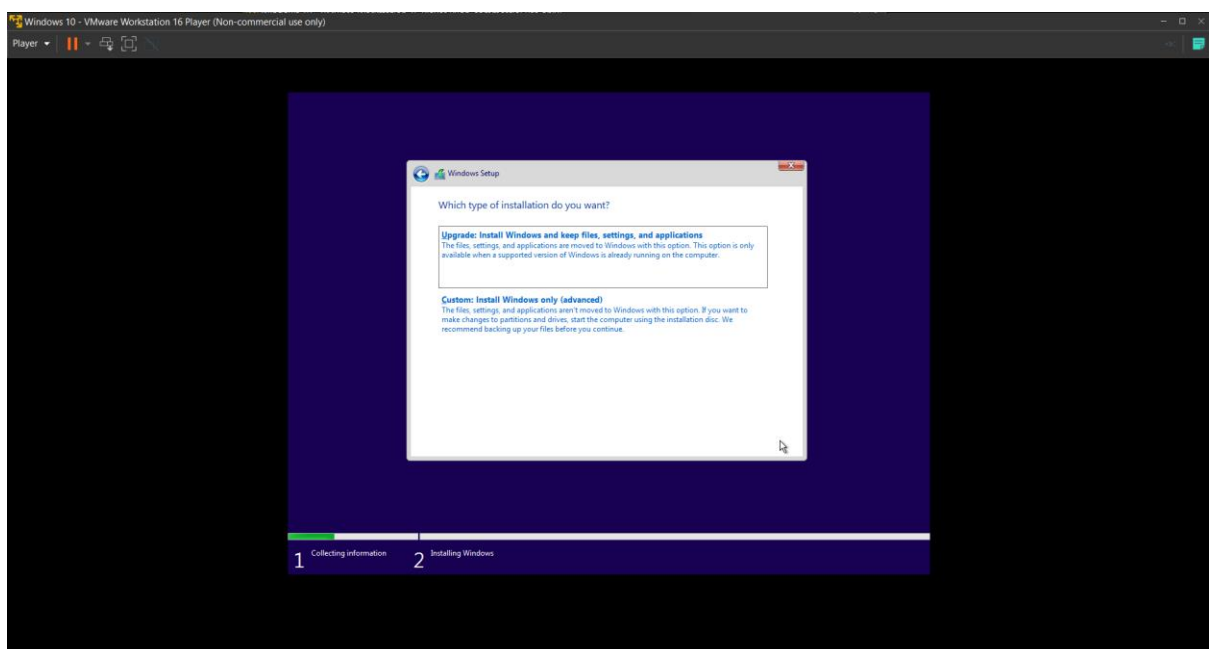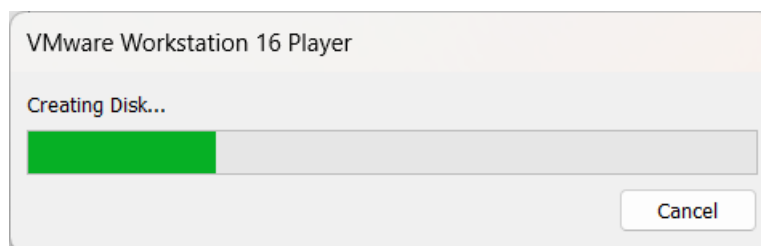3. **Secondary storage i.e., total Hard disk installed in a physical machine.**

S.NO	RESOURCE	TOTAL	UTILIZED	AVAILABLE
1	Processor	4 Cores and 8 LPU	1 Core and 2 LPU	3 Core and 6 LPU
2	Memory	7.8 GB	4.9 GB	2.9 GB
3	Secondary Memory	477 GB	180.2 GB	296.8 GB

EXPERIMENT-2

As per the available resources identified in Experiment no.1 create new virtual machines.
1. **Install Oracle Virtual Box in a Lab Workstation**
2. **Create a new virtual machine with available resources (Memory minimum 2048 MB).**
3. **Select OS iso from your d/e drive**
4. **Install the OS**
5. **Create your own Users in OS**

VMware Workstation 16 Player (Non-commercial use only)

Player ▼

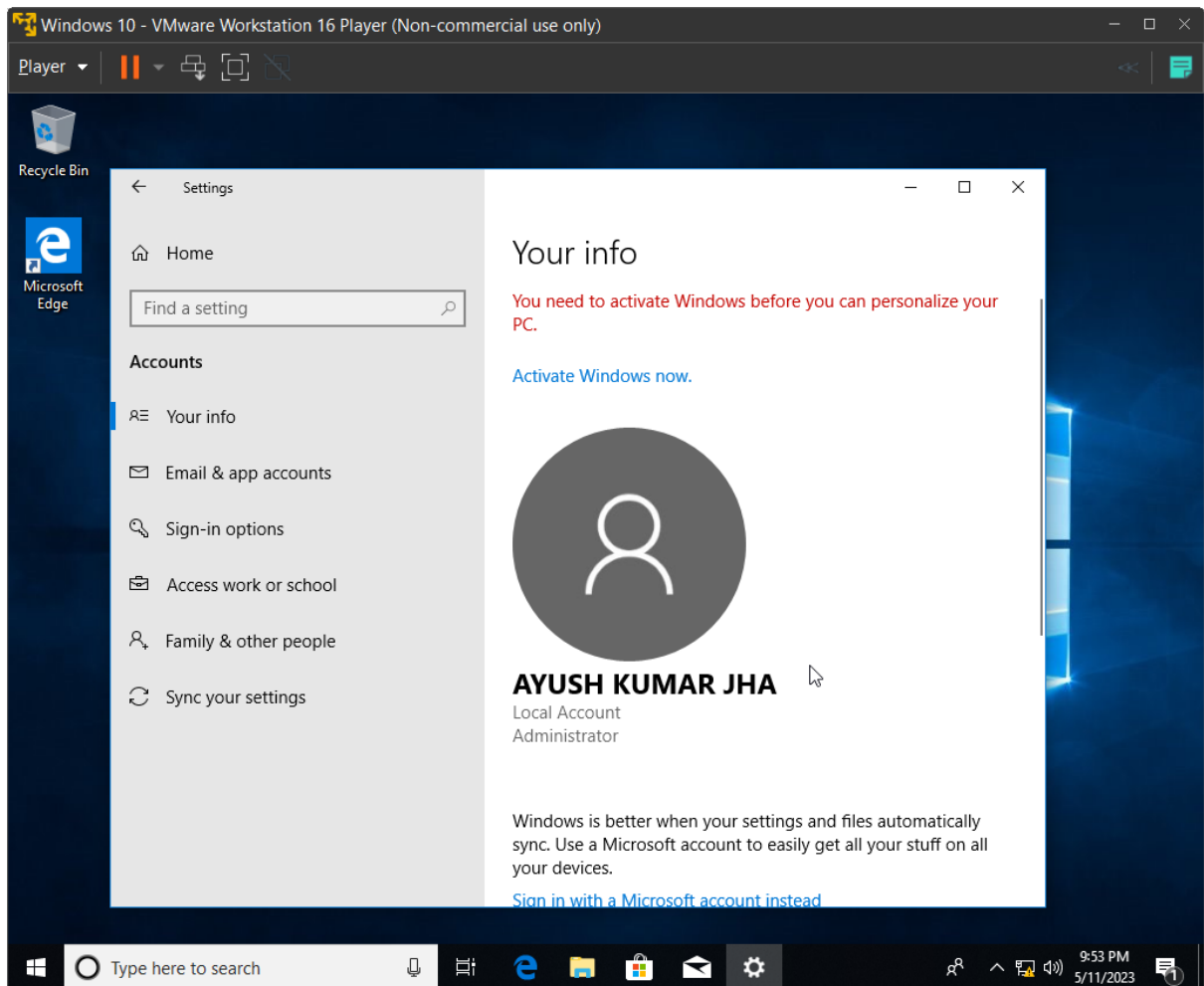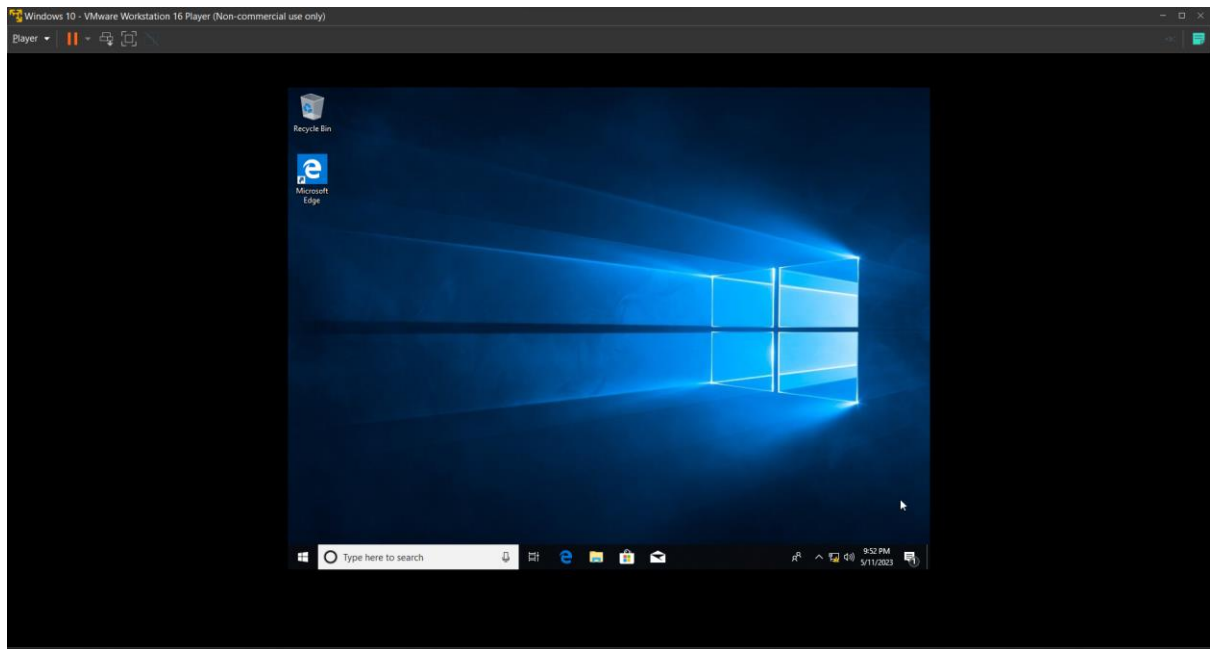**Home**

Kali 2022 x64 Customized by zSecurity 1.0.10

Welcome to VMware Workstation 16 Player

Create a New Virtual Machine
Create a new virtual machine, which will then be added to the top of your library.

Open a Virtual Machine
Open an existing virtual machine, which will then be added to the top of your library.

Upgrade to VMware Workstation Pro
Get advanced features such as snapshots, virtual network management, and more.

Help
View online help.

This product is not licensed and is authorized for non-commercial use only. For commercial use, purchase a license.
Buy now.

New Virtual Machine Wizard   ✕

Specify Disk Capacity
   How large do you want this disk to be?

The virtual machine's hard disk is stored as one or more files on the host computer's physical disk. These file(s) start small and become larger as you add applications, files, and data to your virtual machine.

Maximum disk size (GB):   [60.0]

Recommended size for Windows 10: 60 GB

○ Store virtual disk as a single file

● Split virtual disk into multiple files

   Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

| Help | | < Back | Next > | Cancel |

New Virtual Machine Wizard

Ready to Create Virtual Machine
Click Finish to create the virtual machine and start installing Windows 10.

The virtual machine will be created with the following settings:

Name:	Windows 10
Location:	C:\Users\jhaay\OneDrive\Documents\Virtual Machines\...
Version:	Workstation 16.2.x
Operating System:	Windows 10
Hard Disk:	60 GB, Split
Memory:	1024 MB
Network Adapter:	NAT
Other Devices:	2 CPU cores, CD/DVD, USB Controller, Printer, Sound C...

Customize Hardware...

☑ Power on this virtual machine after creation

< Back   Finish   Cancel

VMware Workstation 16 Player

Creating Disk...

Cancel

EXPERIMENT – 3
Configuring Virtual Network

Students must check the network adapters of their Virtual Machine and perform the following task

1. **Identify the type of network it is connected (Ethernet or WiFi)**
2. **Check the IP details of the VM. (Whether static of dynamic)**
3. **Note down the IP configuration of the VM with DNS and gateway**
4. **If IP is found assigned by DHCP then assign the static IPs as follows:**

   172.16.1.102
   255.255.0.0
   172.16.1.101
   172.16.1.101

Assign IP address 172.16.1.101 to the Virtual Server Machine that has been created using Server OS.
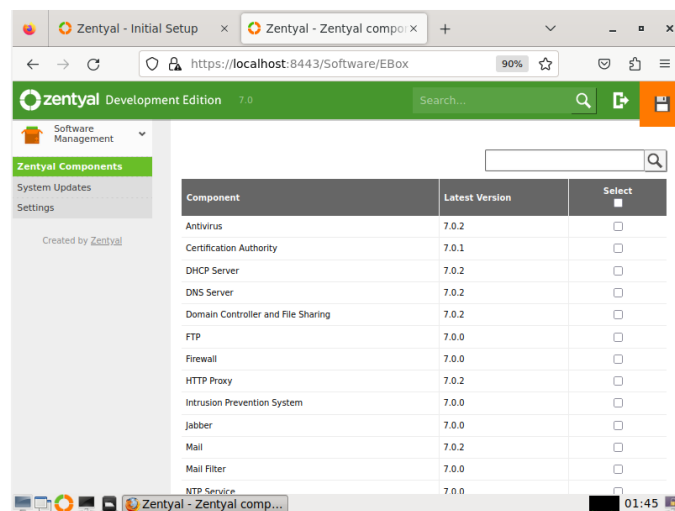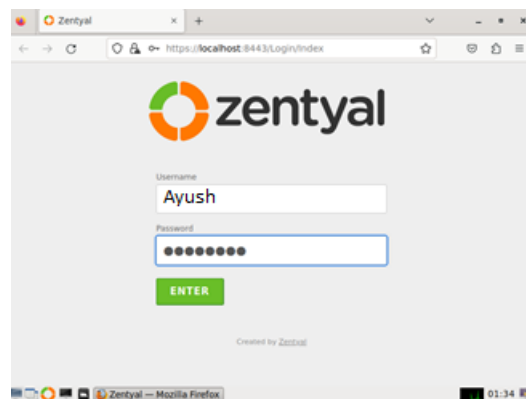
EXPERIMENT-4

Identify the Desktop Virtualization Infrastructure in Lab Configured Workstation.
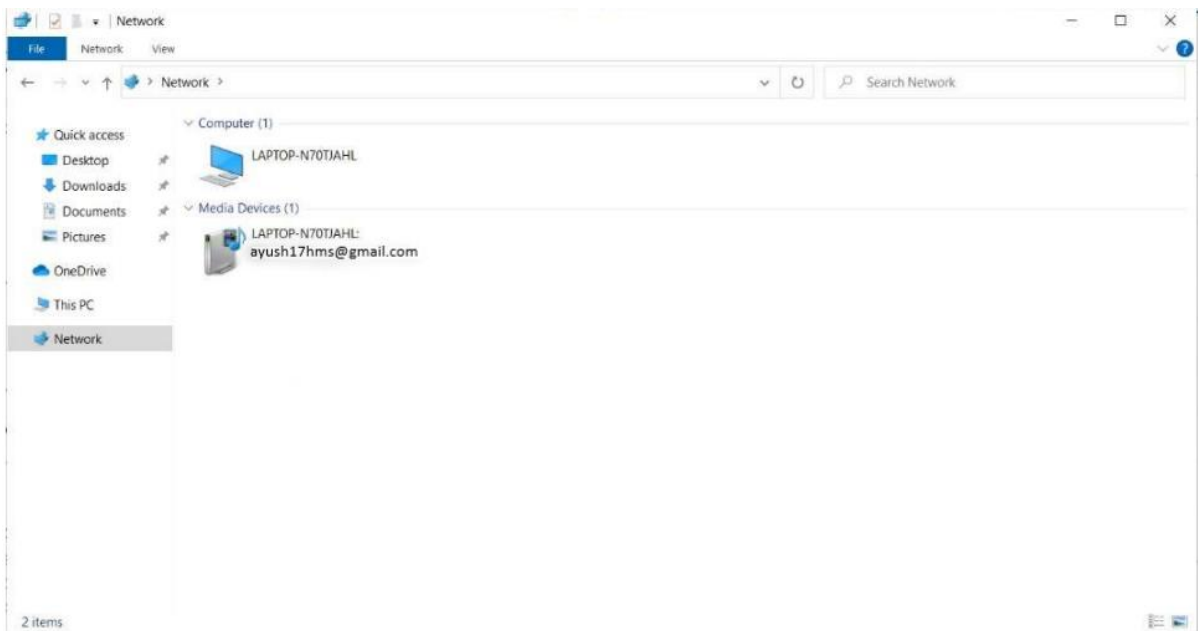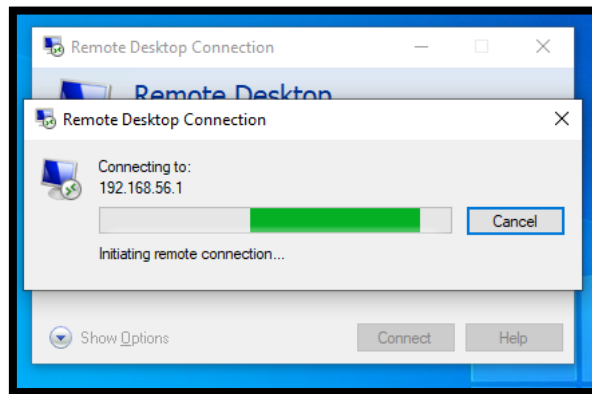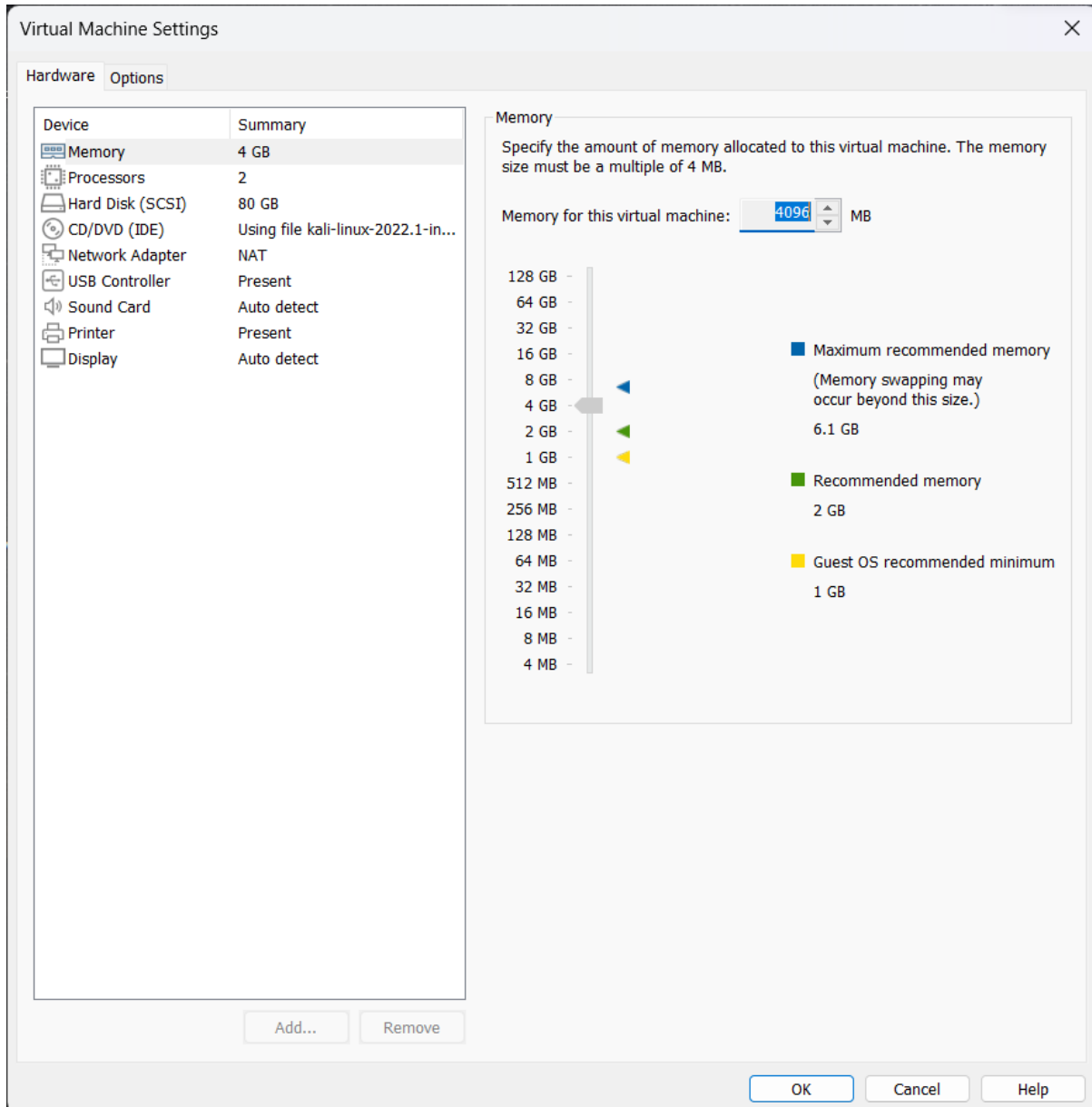
EXPERIMENT – 5

1. Now open oracle virtual box and import the appliance of Zentyal
2. After successful import check the IP address of the imported Zentyal machine
3. Now access the Zentyal from the web browser throughhttp://ip_address:8443". The default port is 8443.
4. Now you will see the web interface of the Zentyal Server on Virtual Machine.
5. Now through the Zentyal Web interface check various services provided by Zentyal

EXPERIMENT – 6

1. **Download Oracle Virtual Box**
2. **Install Oracle Virtual Box**
3. **Create a Virtual Machine with maximum available resources of your system**

Virtual Machine Settings

Hardware | Options

Device	Summary
Memory	4 GB
Processors	2
Hard Disk (SCSI)	80 GB
CD/DVD (IDE)	Using file kali-linux-2022.1-in...
Network Adapter	NAT
USB Controller	Present
Sound Card	Auto detect
Printer	Present
Display	Auto detect

Add... Remove

Processors

Number of processor cores: 2

Virtualization engine

☐ Virtualize Intel VT-x/EPT or AMD-V/RVI
☐ Virtualize CPU performance counters
☐ Virtualize IOMMU (IO memory management unit)
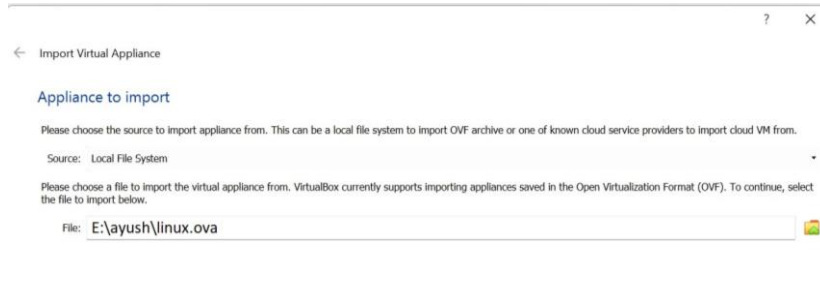
OK   Cancel   Help

EXPERIMENT – 7

**Take a backup of the configured VM as an Oracle Virtual box appliance.
Now import on your friend's workstation.
Check for observations. This is the process of backup and recovery. Note down the
entire procedure stepwise.**

EXPERIMENT – 8

**To understand and perform the backup procedure of an entire virtual machine.
Student will first create a full function VM in Oracle Virtual Box and then configure
it as per his/her requirement.
After successful deployment of the VM student will take a backup. Go into file
menu→ select Export Appliance → set the name and location of the file. Check the
size of the Exported file.**
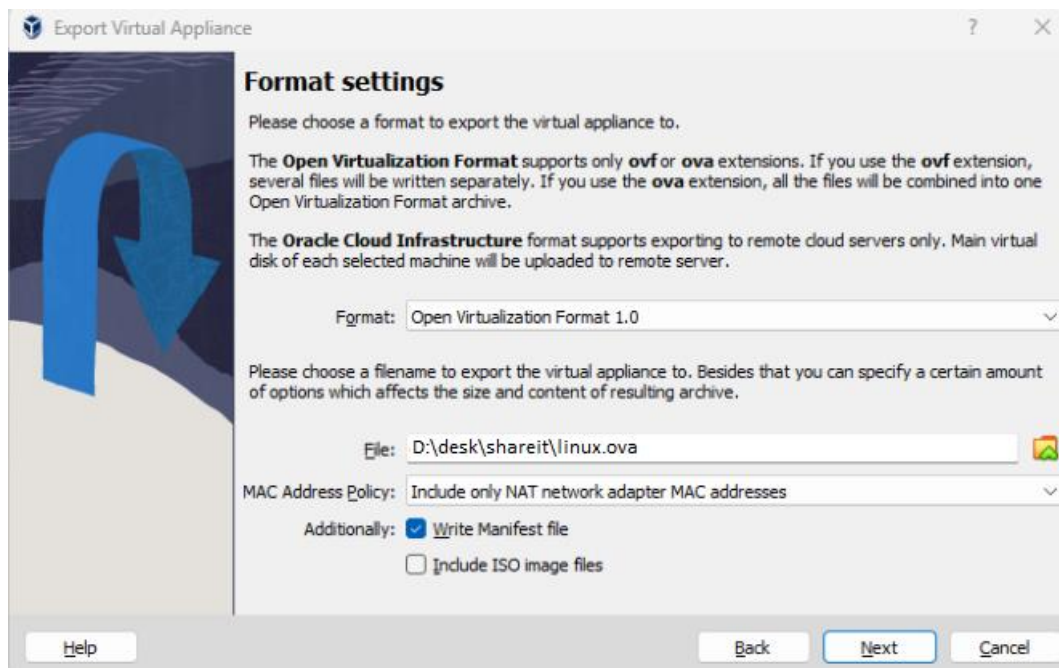
```
root@Ayush500086400:~# ls
animal.sh    Downloads                              file2.txt   Music        outfile      Public
Desktop      embedded-browser-no-sandbox.json       hlw.sh      newfile.txt  Pictures     Templates
Documents    extra                                  hlw.txt     od.sh        project.sh   Videos
root@Ayush500086400:~# ls -l
total 68
--wx--x--x 1 root root  256 Aug 31 13:09 animal.sh
drwxr-xr-x 3 root root 4096 Feb 19 07:48 Desktop
drwxr-xr-x 2 root root 4096 Feb 21  2022 Documents
drwxr-xr-x 2 root root 4096 May 16  2022 Downloads
-rwxr-xr-x 1 root root  160 Sep 16  2021 embedded-browser-no-sandbox.json
lrwxrwxrwx 1 root root    5 Oct  7 03:26 extra -> extra
-rw-r--r-- 1 root root   84 Feb 19 08:57 file2.txt
-rw-r--r-- 1 root root   20 Nov 10 23:02 hlw.sh
-rw-r--r-- 1 root root   17 Nov 10 23:02 hlw.txt
drwxr-xr-x 2 root root 4096 Feb 21  2022 Music
-rw-r--r-- 1 root root   71 Feb 19 08:56 newfile.txt
-rw-r--r-- 1 root root  141 Nov 10 23:05 od.sh
-rw-r--r-- 1 root root   22 Oct  7 03:03 outfile
drwxr-xr-x 2 root root 4096 Nov 25 04:54 Pictures
-rw-r--r-- 1 root root  607 Nov 24 23:51 project.sh
drwxr-xr-x 2 root root 4096 Feb 21  2022 Public
drwxr-xr-x 2 root root 4096 Feb 21  2022 Templates
drwxr-xr-x 2 root root 4096 Feb 21  2022 Videos
root@Ayush500086400:~# ls -la
total 180
drwx------ 22 root root  4096 Feb 19 08:57 .
drwxr-xr-x 19 root root  4096 Oct 10 06:38 ..
--wx--x--x  1 root root   256 Aug 31 13:09 animal.sh
-rw-------  1 root root  7114 Feb 19 07:11 .bash_history
-rw-r--r--  1 root root   774 Feb 21  2022 .bashrc
drwx------  6 root root  4096 Feb 24  2022 .BurpSuite
drwx------ 12 root root  4096 Sep  6 01:09 .cache
drwx------ 22 root root  4096 Oct 27 11:44 .config
drwx------  3 root root  4096 Mar  8  2022 .dbus
drwxr-xr-x  3 root root  4096 Feb 19 07:48 Desktop
drwxr-xr-x  2 root root  4096 Feb 21  2022 Documents
drwxr-xr-x  2 root root  4096 May 16  2022 Downloads
-rwxr-xr-x  1 root root   160 Sep 16  2021 embedded-browser-no-sandbox.json
lrwxrwxrwx  1 root root     5 Oct  7 03:26 extra -> extra
```

```
root@Ayush500086400:~# cd Desktop/
root@Ayush500086400:~/Desktop# cd
root@Ayush500086400:~# pwd
/root
root@Ayush500086400:~# mkdir dir
root@Ayush500086400:~# touch file2
root@Ayush500086400:~# rm file2
root@Ayush500086400:~# touch file1
```

```
root@Ayush500086400:~# mkdir dir2
root@Ayush500086400:~# rm -rf dir2
root@Ayush500086400:~# touch file3
```

```
root@Ayush500086400:~# mkdir dir2
root@Ayush500086400:~# rm -rf dir2
root@Ayush500086400:~# touch file3
root@Ayush500086400:~# vi file4
root@Ayush500086400:~# touch file4
root@Ayush500086400:~# nano file4
root@Ayush500086400:~# cp file4 file3
root@Ayush500086400:~# mv file4 hello_file
root@Ayush500086400:~# mkdir dir3
root@Ayush500086400:~# mv file3 dir3/renamed-file
root@Ayush500086400:~# ls
animal.sh    Documents                          file2.txt    Music        Pictures      Videos
Desktop      Downloads                          hello_file   newfile.txt  project.sh
dir          embedded-browser-no-sandbox.json   hlw.sh       od.sh        Public
dir3         extra                              hlw.txt      outfile      Templates
root@Ayush500086400:~# cat hello_file
ksjbaflibalsriufibalsirbfblsaiurbfliasbf
root@Ayush500086400:~# cd dir3
root@Ayush500086400:~/dir3# ls
renamed-file
root@Ayush500086400:~/dir3# cat renamed-file
ksjbaflibalsriufibalsirbfblsaiurbfliasbf
```

```
root@Ayush500086400:~/dir3# cat renamed-file
ksjbaflibalsriufibalsirbfblsaiurbfliasbf
root@Ayush500086400:~/dir3# cat >> file5
khjasbkfjbakfubaskj sjgf kajsgk uyasgrkufgaksjerg fku^C
root@Ayush500086400:~/dir3# tail -f file5
this is file no. file
majshebfjhsa^C
root@Ayush500086400:~/dir3# ping google.com
PING google.com (142.250.194.78) 56(84) bytes of data.
64 bytes from del12s03-in-f14.1e100.net (142.250.194.78): icmp_seq=1 ttl=128 time=10.1 ms
64 bytes from del12s03-in-f14.1e100.net (142.250.194.78): icmp_seq=2 ttl=128 time=11.1 ms
64 bytes from del12s03-in-f14.1e100.net (142.250.194.78): icmp_seq=3 ttl=128 time=18.9 ms
64 bytes from del12s03-in-f14.1e100.net (142.250.194.78): icmp_seq=4 ttl=128 time=15.3 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3021ms
rtt min/avg/max/mdev = 10.055/13.837/18.946/3.535 ms
root@Ayush500086400:~/dir3# whois google.com
   Domain Name: GOOGLE.COM
   Registry Domain ID: 2138514_DOMAIN_COM-VRSN
   Registrar WHOIS Server: whois.markmonitor.com
   Registrar URL: http://www.markmonitor.com
   Updated Date: 2019-09-09T15:39:04Z
   Creation Date: 1997-09-15T04:00:00Z
   Registry Expiry Date: 2028-09-14T04:00:00Z
   Registrar: MarkMonitor Inc.
```

```
root@Ayush500086400:~/dir3# dig google.com

; <<>> DiG 9.18.0-2-Debian <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15526
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 4, ADDITIONAL: 4

;; QUESTION SECTION:
;google.com.                    IN      A

;; ANSWER SECTION:
google.com.             5       IN      A       142.250.192.174

;; AUTHORITY SECTION:
google.com.             5       IN      NS      ns1.google.com.
google.com.             5       IN      NS      ns4.google.com.
google.com.             5       IN      NS      ns3.google.com.
google.com.             5       IN      NS      ns2.google.com.

;; ADDITIONAL SECTION:
ns1.google.com.         5       IN      A       216.239.32.10
ns4.google.com.         5       IN      A       216.239.38.10
ns3.google.com.         5       IN      A       216.239.36.10
ns2.google.com.         5       IN      A       216.239.34.10
```

```
root@Ayush500086400:~/dir3# wget -r http://192.168.56.102/bodgeit/
--2023-02-19 09:36:00--  http://192.168.56.102/bodgeit/
Connecting to 192.168.56.102:80... ^C
root@Ayush500086400:~/dir3# wget -r https://www.google.com
--2023-02-19 09:36:34--  https://www.google.com/
Resolving www.google.com (www.google.com)... 142.250.77.228, 2404:6800:4002:807::2004
Connecting to www.google.com (www.google.com)|142.250.77.228|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'www.google.com/index.html'

www.google.com/index.ht     [ <=>                              ]  17.48K  --.-KB/s    in 0s

2023-02-19 09:36:35 (171 MB/s) - 'www.google.com/index.html' saved [17900]

Loading robots.txt; please ignore errors.
--2023-02-19 09:36:35--  https://www.google.com/robots.txt
Reusing existing connection to www.google.com:443.
HTTP request sent, awaiting response... 200 OK
Length: 7240 (7.1K) [text/plain]
Saving to: 'www.google.com/robots.txt'
```

```
root@Ayush500086400:~/dir3# curl https://www.google.com
<!doctype html><html itemscope="" itemtype="http://schema.org/WebPage" lang="en-IN"><head><m
a content="text/html; charset=UTF-8" http-equiv="Content-Type"><meta content="/images/brandi
/googleg/1x/googleg_standard_color_128dp.png" itemprop="image"><title>Google</title><script
nce="y9b4XZA73k1t0gLrJo0knw">(function(){window.google={kEI:'OkLyY6TGLf_g2roP09y8sAU',kEXPI:
,1359409,1709,4350,206,4804,2316,383,246,5,1129120,1612,1196110,380769,16114,28684,22431,136
12316,17583,4998,13228,3847,38444,1594,1278,2891,1103,2826,7825,606,29843,27342,1654,1851,15
6,3,346,230,1014,1,5445,148,11323,2652,4,1528,2304,27348,1714,13063,13660,4437,9358,7428,580
2548,4094,17,7579,1,42154,2,14022,2715,3533,19491,5679,1020,31123,4567,6259,23418,1246,5841,
968,4332,8,7476,445,2,2,1,24626,2006,8155,7381,2,15967,874,7829,11804,7,1922,5784,3995,21390
89,14375,6305,2007,18192,927,19209,14,82,4641,8692,1377,5496,1622,1779,2224,930,1,1821,3787,
79,2425,4069,3847,2,566,988,3030,427,846,4355,483,1410,20,3,867,136,104,2445,4720,1262,42,50
6352,1201,181,26,469,1150,1088,5,442,1206,109,681,312,134,450,407,147,2,4009,2,2144,495,690,
60,949,2,3,17,2,3,220,923,353,5636,4,34,212,2,375,265,1126,193,2033,78,2754,1,2055,278,418,9
509,91,306,758,475,86,38,694,3,34,1150,186,475,352,842,133,87,104,149,149,118,642,719,162,36
177,35,56,213,127,643,181,1229,696,243,93,1680,6,244,2,10,3,1,8,318,1043,132,2,1652,732,452,
435,145,759,238,198,294,224,4,4,20,250,4,127,760,30,28,1425,909,1293,658,2091,5243221,137,49
09,40,8798843,3311,141,795,19735,1,1,346,4176,180,18,4,5,3,23,20726092,2920792,299191,397,27
771,91859,1180116,1964,14298,2375,2893,512,5738,11103,2855',kBL:'Xt94'};google.sn='webhp';go
le.kHL='en-IN';})();(function(){
var f=this||self;var h,k=[];function l(a){for(var b;a&&(!a.getAttribute||!(b=a.getAttribute(
id")));)a=a.parentNode;return b||h}function m(a){for(var b=null;a&&(!a.getAttribute||!(b=a.g
Attribute("leid")));)a=a.parentNode;return b}
function n(a,b,c,d,g){var e="";c||-1!==b.search("&ei=")||(e="&ei="+l(d),-1===b.search("&lei=
&&(d=m(d))&&(e+="&lei="+d));d="";!c&&f._cshid&&-1===b.search("&cshid=")&&"slh"!==a&&(d="&csh
="+f._cshid);c=c||"/"+(g||"gen_204")+"?atyp=i&ct="+a+"&cad="+b+e+"&zx="+Date.now()+d;/^http:
```

```
root@Ayush500086400:~/dir3# ps
    PID TTY          TIME CMD
   1771 pts/0    00:00:00 bash
   2249 pts/0    00:00:00 ps
root@Ayush500086400:~/dir3# ps aux
USER        PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root          1  0.0  0.2 100672 11328 ?        Ss   08:00   0:01 /sbin/init splash
root          2  0.0  0.0      0     0 ?        S    08:00   0:00 [kthreadd]
root          3  0.0  0.0      0     0 ?        I<   08:00   0:00 [rcu_gp]
root          4  0.0  0.0      0     0 ?        I<   08:00   0:00 [rcu_par_gp]
root          6  0.0  0.0      0     0 ?        I<   08:00   0:00 [kworker/0:0H-events_highpr
root          9  0.0  0.0      0     0 ?        I<   08:00   0:00 [mm_percpu_wq]
root         10  0.0  0.0      0     0 ?        S    08:00   0:00 [rcu_tasks_rude_]
root         11  0.0  0.0      0     0 ?        S    08:00   0:00 [rcu_tasks_trace]
root         12  0.0  0.0      0     0 ?        S    08:00   0:00 [ksoftirqd/0]
root         13  0.0  0.0      0     0 ?        I    08:00   0:00 [rcu_sched]
root         14  0.0  0.0      0     0 ?        S    08:00   0:00 [migration/0]
```

```
root@Ayush500086400:~/dir3# cd
root@Ayush500086400:~# sleep 100
^Z
[1]+  Stopped                 sleep 100
root@Ayush500086400:~# sleep 1
root@Ayush500086400:~# fg
sleep 100
^Z
[1]+  Stopped                 sleep 100
root@Ayush500086400:~# ps
    PID TTY          TIME CMD
   1771 pts/0    00:00:00 bash
   2260 pts/0    00:00:00 sleep
   2307 pts/0    00:00:00 ps
root@Ayush500086400:~# kill 2260
root@Ayush500086400:~#
```

```
root@Ayush500086400:~# date
Sun Feb 19 09:41:34 AM CST 2023
root@Ayush500086400:~# uptime
 09:41:36 up  1:40,  1 user,  load average: 0.15, 0.15, 0.
root@Ayush500086400:~# whoami
root
root@Ayush500086400:~#
```

```
root@Ayush500086400:~# cat /proc/cpuinfo
processor       : 0
vendor_id       : GenuineIntel
cpu family      : 6
model           : 142
model name      : Intel(R) Core(TM) i5-10210U CPU @ 1.60GHz
stepping        : 12
microcode       : 0xd6
cpu MHz         : 2112.004
cache size      : 6144 KB
physical id     : 0
siblings        : 1
core id         : 0
cpu cores       : 1
apicid          : 0
initial apicid  : 0
fpu             : yes
fpu_exception   : yes
cpuid level     : 22
wp              : yes
flags           : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clfl
ush mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon nopl xtopology
 tsc_reliable nonstop_tsc cpuid tsc_known_freq pni pclmulqdq ssse3 fma cx16 pcid sse4_1 sse4_2
 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand hypervisor lahf_lm abm 3dnow
prefetch cpuid_fault invpcid_single ssbd ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust bmi
1 avx2 smep bmi2 invpcid rdseed adx smap clflushopt xsaveopt xsavec xgetbv1 xsaves arat md_cle
ar flush_l1d arch_capabilities
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs itlb_multihit srbds
bogomips        : 4224.00
clflush size    : 64
cache_alignment : 64
address sizes   : 45 bits physical, 48 bits virtual
power management:

processor       : 1
vendor_id       : GenuineIntel
cpu family      : 6
```

```
root@Ayush500086400:~# cat /proc/meminfo
MemTotal:        3989212 kB
MemFree:         2410656 kB
MemAvailable:    2813932 kB
Buffers:           61276 kB
Cached:           536060 kB
SwapCached:            0 kB
Active:           341372 kB
Inactive:         919892 kB
Active(anon):       1164 kB
Inactive(anon):   676068 kB
Active(file):     340208 kB
Inactive(file):   243824 kB
Unevictable:           0 kB
Mlocked:               0 kB
SwapTotal:        997372 kB
SwapFree:         997372 kB
Dirty:                 4 kB
Writeback:             0 kB
AnonPages:        661904 kB
Mapped:           238876 kB
Shmem:             13304 kB
KReclaimable:      47440 kB
Slab:              96704 kB
SReclaimable:      47440 kB
```

```
root@Ayush500086400:~# free
              total        used        free      shared  buff/cache   available
Mem:        3989212      933780     2410656       13304      644776     2813932
Swap:        997372           0      997372
root@Ayush500086400:~# du
4       ./Downloads
4       ./Documents
12      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/components/payments/mojom
16      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/components/payments
20      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/components
8       ./.BurpSuite/burpbrowser/96.0.4664.45/gen/device/bluetooth/public/mojom
12      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/device/bluetooth/public
16      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/device/bluetooth
20      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/device
20      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/usb
28      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/content_index
28      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/serial
20      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/idle
12      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/sms
16      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom/contacts
128     ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public/mojom
132     ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink/public
136     ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party/blink
140     ./.BurpSuite/burpbrowser/96.0.4664.45/gen/third_party
16      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/skia/public/mojom
20      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/skia/public
24      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/skia
16      ./.BurpSuite/burpbrowser/96.0.4664.45/gen/gpu/ipc/common
```

```
root@Ayush500086400:~# du -sh
494M    .
root@Ayush500086400:~# df
Filesystem     1K-blocks     Used Available Use% Mounted on
udev             1951052        0   1951052   0% /dev
tmpfs             398924     1416    397508   1% /run
/dev/sda1       82394960 12768936  66097980  17% /
tmpfs            1994604        0   1994604   0% /dev/shm
tmpfs               5120        0      5120   0% /run/lock
tmpfs             398920       44    398876   1% /run/user/0
root@Ayush500086400:~# uname -a
Linux Ayush500086400 5.15.0-kali3-amd64 #1 SMP Debian 5.15.15-2kali1 (2022-01
inux
root@Ayush500086400:~#
```

```
root@Ayush500086400:~# ls
animal.sh  embedded-browser-no-sandbox.json  Music      project.sh
Desktop    extra                             od.sh      Public
Documents  hlw.sh                            outfile    Templates
Downloads  hlw.txt                           Pictures   Videos
root@Ayush500086400:~# ls -ltr
total 60
-rwxr-xr-x 1 root root  160 Sep 16  2021 embedded-browser-no-sandbox.json
drwxr-xr-x 2 root root 4096 Feb 21  2022 Videos
drwxr-xr-x 2 root root 4096 Feb 21  2022 Templates
drwxr-xr-x 2 root root 4096 Feb 21  2022 Public
drwxr-xr-x 2 root root 4096 Feb 21  2022 Music
drwxr-xr-x 2 root root 4096 Feb 21  2022 Documents
drwxr-xr-x 2 root root 4096 May 16  2022 Downloads
--wx--x--x 1 root root  256 Aug 31 13:09 animal.sh
-rw-r--r-- 1 root root   22 Oct  7 03:03 outfile
lrwxrwxrwx 1 root root    5 Oct  7 03:26 extra -> extra
-rw-r--r-- 1 root root   17 Nov 10 23:02 hlw.txt
-rw-r--r-- 1 root root   20 Nov 10 23:02 hlw.sh
-rw-r--r-- 1 root root  141 Nov 10 23:05 od.sh
-rw-r--r-- 1 root root  607 Nov 24 23:51 project.sh
drwxr-xr-x 2 root root 4096 Nov 25 04:54 Pictures
drwxr-xr-x 3 root root 4096 Feb 19 07:48 Desktop
root@Ayush500086400:~# ls -ltrh
total 60K
-rwxr-xr-x 1 root root  160 Sep 16  2021 embedded-browser-no-sandbox.json
drwxr-xr-x 2 root root 4.0K Feb 21  2022 Videos
drwxr-xr-x 2 root root 4.0K Feb 21  2022 Templates
drwxr-xr-x 2 root root 4.0K Feb 21  2022 Public
drwxr-xr-x 2 root root 4.0K Feb 21  2022 Music
drwxr-xr-x 2 root root 4.0K Feb 21  2022 Documents
drwxr-xr-x 2 root root 4.0K May 16  2022 Downloads
--wx--x--x 1 root root  256 Aug 31 13:09 animal.sh
-rw-r--r-- 1 root root   22 Oct  7 03:03 outfile
lrwxrwxrwx 1 root root    5 Oct  7 03:26 extra -> extra
-rw-r--r-- 1 root root   17 Nov 10 23:02 hlw.txt
-rw-r--r-- 1 root root   20 Nov 10 23:02 hlw.sh
-rw-r--r-- 1 root root  141 Nov 10 23:05 od.sh
-rw-r--r-- 1 root root  607 Nov 24 23:51 project.sh
drwxr-xr-x 2 root root 4.0K Nov 25 04:54 Pictures
```

```
root@Ayush500086400:~# ls -lart
total 172
-rwxr-xr-x  1 root root   160 Sep 16  2021 embedded-browser-no-sandbox.json
-rw-r--r--  1 root root   161 Feb  3  2022 .profile
-rw-r--r--  1 root root 10875 Feb 21  2022 .zshrc
lrwxrwxrwx  1 root root    11 Feb 21  2022 .face.icon -> /root/.face
-rw-r--r--  1 root root 11656 Feb 21  2022 .face
drwx------  3 root root  4096 Feb 21  2022 .local
drwxr-xr-x  2 root root  4096 Feb 21  2022 Videos
drwxr-xr-x  2 root root  4096 Feb 21  2022 Templates
drwxr-xr-x  2 root root  4096 Feb 21  2022 Public
drwxr-xr-x  2 root root  4096 Feb 21  2022 Music
drwxr-xr-x  2 root root  4096 Feb 21  2022 Documents
drwx------  5 root root  4096 Feb 21  2022 .mozilla
-rw-r--r--  1 root root   774 Feb 21  2022 .bashrc
drwxr-xr-x  2 root root  4096 Feb 21  2022 .rpmdb
drwxr-xr-x  2 root root  4096 Feb 21  2022 .mitmproxy
drwxr-xr-x  3 root root  4096 Feb 22  2022 .maltego
drwxr-xr-x  4 root root  4096 Feb 24  2022 .java
drwx------  6 root root  4096 Feb 24  2022 .BurpSuite
drwxr-xr-x 10 root root  4096 Mar  8  2022 .msf4
drwxr-xr-x  2 root root  4096 Mar  8  2022 .zenmap
drwx------  3 root root  4096 Mar  8  2022 .dbus
drwxr-xr-x  2 root root  4096 May 16  2022 Downloads
--wx--x--x  1 root root   256 Aug 31 13:09 animal.sh
drwx------ 12 root root  4096 Sep  6 01:09 .cache
-rw-r--r--  1 root root    22 Oct  7 03:03 outfile
lrwxrwxrwx  1 root root     5 Oct  7 03:26 extra -> extra
-rw-------  1 root root    20 Oct  9 11:19 .lesshst
drwxr-xr-x 19 root root  4096 Oct 10 06:38 ..
drwx------ 22 root root  4096 Oct 27 11:44 .config
-rw-r--r--  1 root root    17 Nov 10 23:02 hlw.txt
-rw-r--r--  1 root root    20 Nov 10 23:02 hlw.sh
```

```
root@Ayush500086400:~# nano newfile.txt
root@Ayush500086400:~# nano file2.txt
root@Ayush500086400:~# tail -n 3 newfile.txt
line number-3
line number-4
end of file
root@Ayush500086400:~#
root@Ayush500086400:~# tail -c 13 newfile.txt

end of file
root@Ayush500086400:~# tail -q newfile.txt file2.txt
this is new file
line number-2
line number-3
line number-4
end of file
this is file 2
apple is a fruit
bottlegourd, bittergourd, snake gourd
end of file 2
root@Ayush500086400:~# head newfile.txt file2.txt
==> newfile.txt <==
this is new file
line number-2
line number-3
line number-4
end of file

==> file2.txt <==
this is file 2
apple is a fruit
bottlegourd, bittergourd, snake gourd
end of file 2
```

```
root@Ayush500086400:~# head -v newfile.txt
==> newfile.txt <==
this is new file
line number-2
line number-3
line number-4
end of file
root@Ayush500086400:~# diff newfile.txt file2.txt
1,5c1,4
< this is new file
< line number-2
< line number-3
< line number-4
< end of file
---
> this is file 2
> apple is a fruit
> bottlegourd, bittergourd, snake gourd
> end of file 2
root@Ayush500086400:~# diff -c newfile.txt  file2.txt
*** newfile.txt 2023-02-19 08:56:35.838818902 -0600
--- file2.txt   2023-02-19 08:57:43.048339982 -0600
***************
*** 1,5 ****
! this is new file
! line number-2
! line number-3
! line number-4
! end of file
--- 1,4 ----
! this is file 2
! apple is a fruit
! bottlegourd, bittergourd, snake gourd
! end of file 2
```

```
root@Ayush500086400:~# diff -u newfile.txt  file2.txt
--- newfile.txt 2023-02-19 08:56:35.838818902 -0600
+++ file2.txt   2023-02-19 08:57:43.048339982 -0600
@@ -1,5 +1,4 @@
-this is new file
-line number-2
-line number-3
-line number-4
-end of file
+this is file 2
+apple is a fruit
+bottlegourd, bittergourd, snake gourd
+end of file 2
root@Ayush500086400:~# diff -i newfile.txt  file2.txt
1,5c1,4
< this is new file
< line number-2
< line number-3
< line number-4
< end of file
---
> this is file 2
> apple is a fruit
> bottlegourd, bittergourd, snake gourd
> end of file 2
```

```
root@Ayush500086400:~# find ./Desktop -empty
./Desktop/New Folder/extra18/set3-2.sh
./Desktop/New Folder/extra18/set3-2
./Desktop/New Folder/extra18/set3-1.sh
./Desktop/New Folder/extra15/set3-3
./Desktop/New Folder/extra15/set3-2
```

```
top - 09:15:15 up  1:14,  1 user,  load average: 0.00, 0.02, 0.00
Tasks: 190 total,   1 running, 189 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us,  0.0 sy,  0.0 ni,100.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   3895.7 total,   2375.4 free,    907.4 used,    612.9 buff/cache
MiB Swap:    974.0 total,    974.0 free,      0.0 used.   2752.6 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
 1183 root      20   0  349052 110264  56208 S   6.7   2.8   0:08.76 Xorg
    1 root      20   0  100672  11328   8416 S   0.0   0.3   0:01.96 systemd
    2 root      20   0       0      0      0 S   0.0   0.0   0:00.02 kthreadd
    3 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_gp
    4 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 rcu_par_gp
    6 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/0:0H-events_h+
    9 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 mm_percpu_wq
   10 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_tasks_rude_
   11 root      20   0       0      0      0 S   0.0   0.0   0:00.00 rcu_tasks_trace
   12 root      20   0       0      0      0 S   0.0   0.0   0:00.05 ksoftirqd/0
   13 root      20   0       0      0      0 I   0.0   0.0   0:00.31 rcu_sched
   14 root      rt   0       0      0      0 S   0.0   0.0   0:00.02 migration/0
   15 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/0
   16 root      20   0       0      0      0 S   0.0   0.0   0:00.00 cpuhp/1
   17 root      rt   0       0      0      0 S   0.0   0.0   0:01.09 migration/1
   18 root      20   0       0      0      0 S   0.0   0.0   0:00.07 ksoftirqd/1
   19 root      20   0       0      0      0 I   0.0   0.0   0:03.32 kworker/1:0-events
   20 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kworker/1:0H-events_h+
   23 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kdevtmpfs
   24 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 netns
   25 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 inet_frag_wq
   26 root      20   0       0      0      0 S   0.0   0.0   0:00.00 kauditd
   28 root      20   0       0      0      0 S   0.0   0.0   0:00.00 khungtaskd
   29 root      20   0       0      0      0 S   0.0   0.0   0:00.00 oom_reaper
   30 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 writeback
   31 root      20   0       0      0      0 S   0.0   0.0   0:00.19 kcompactd0
   32 root      25   5       0      0      0 S   0.0   0.0   0:00.00 ksmd
   33 root      39  19       0      0      0 S   0.0   0.0   0:05.18 khugepaged
   53 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kintegrityd
   54 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 kblockd
   55 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 blkcg_punt_bio
   56 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 tpm_dev_wq
   57 root       0 -20       0      0      0 I   0.0   0.0   0:00.00 edac-poller
```