

Nama : Donny Ariff Galih Samodra

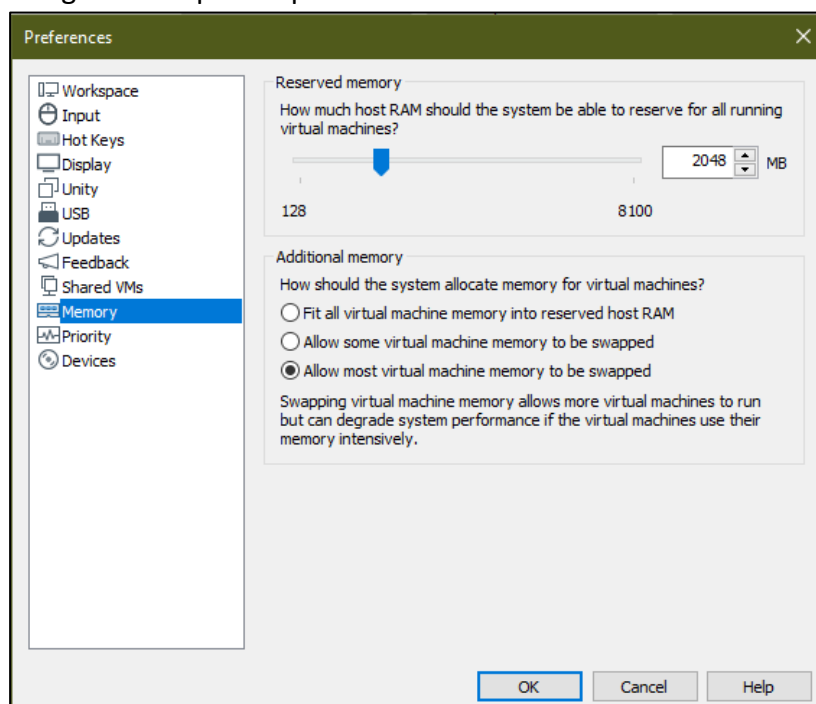
Nim : 123170045

Pertemuan 2 Praktikum Cloud Computing

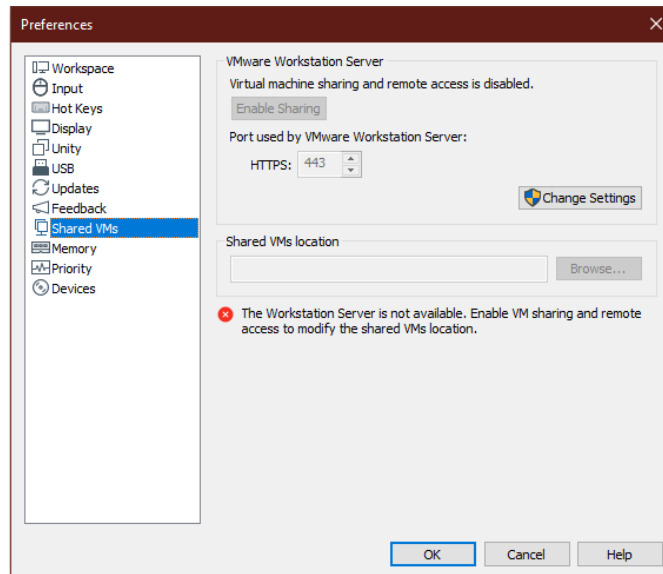
Pengenalan VMware Workstation dan Linux OS

Materi

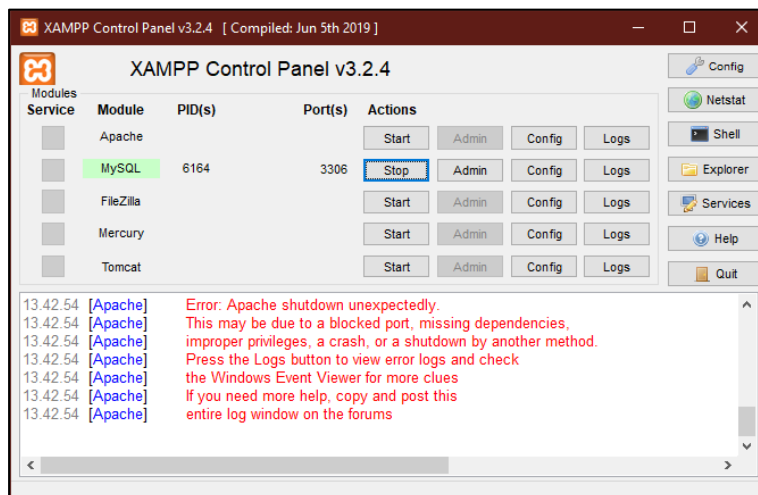
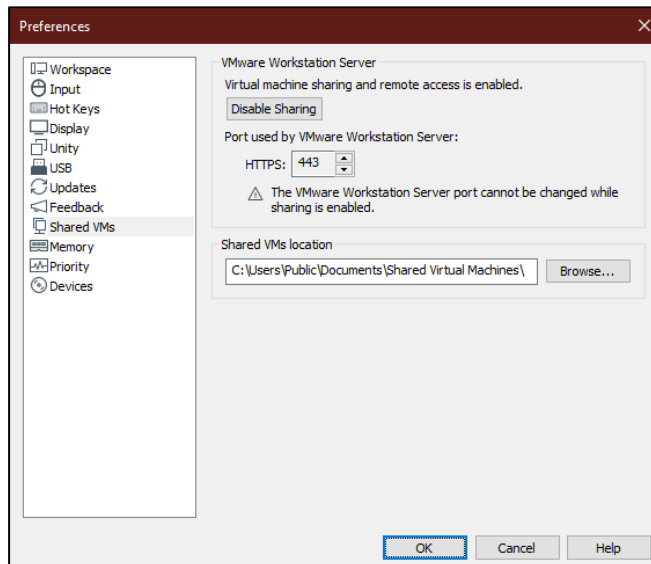
1. Review
2. PT 2 & 3
 - Membuat layanan Hosting(SaaS) berbasiskan Private Cloud
 - Apache
 - MySql
 - PHP
 - PHPMyAdmin
 - Conceptual
 - Virtual OS
 - Aplikasi Vm Ware
 - OS pc lab
 - Hardware fisik pc lab
 - Vmware
 - Untuk Virtualisasi OS
 - Virtualisasi “dalam bahasa komputasi , virtualisasi merujuk pd kegiatan untuk menciptakan versi maya (virtual) dari sesuatu , mis : hardware , storage , resource dr komputer”
 - Contoh yang dpt diritualkan : cpu , ram , network adapter , hardisk , motherboard , vga , pci-e , printer , sound card , dsb
3. VM ware
 - Fasilitas swapping
 - 1) Bila pc host(pc fisik) tidak ada ram yang cukup untuk jalankan vm , maka digunakan opsi swap



- Memperbaiki konflik port xampp
 - 1) Setelah instal akan error xamppnya krn alokasi port 433
 - 2) Buka menu shared vms di preference, buat menjadi disable



- 3) Jika di enable kan maka akan seperti ini tampilan xampp



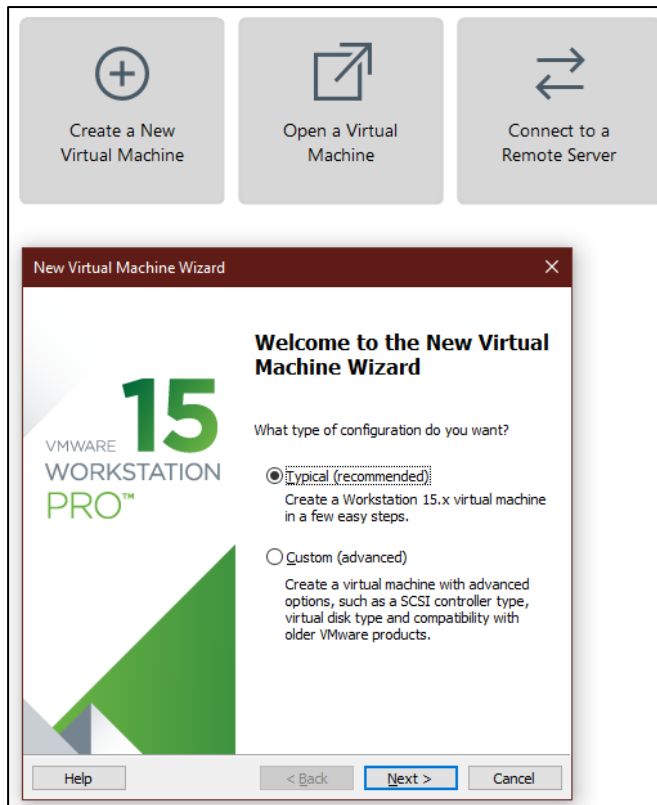
- Instalasi

1) persiapan master ISO(instalasi OS)

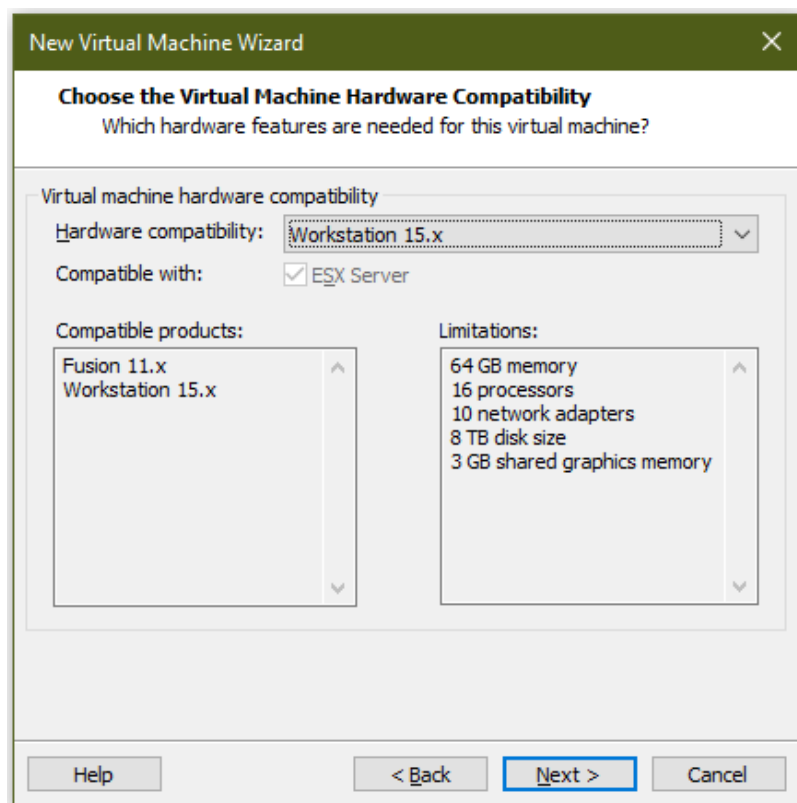
Name	Date modified	Type	Size
ESXi-6.7.0-20190504001-standard	19 Jun 2019 08.50	Disc Image File	319.994 KB
FreeNAS-9.10-STABLE-201606270534	25 Jul 2019 13.56	Disc Image File	504.622 KB
FreeNAS-11.2-U5	25 Jul 2019 13.55	Disc Image File	587.538 KB
ubuntu-18.10-live-server-amd64	02 Apr 2019 16.11	Disc Image File	902.144 KB

2) create new virtual machine(ctrl+new)

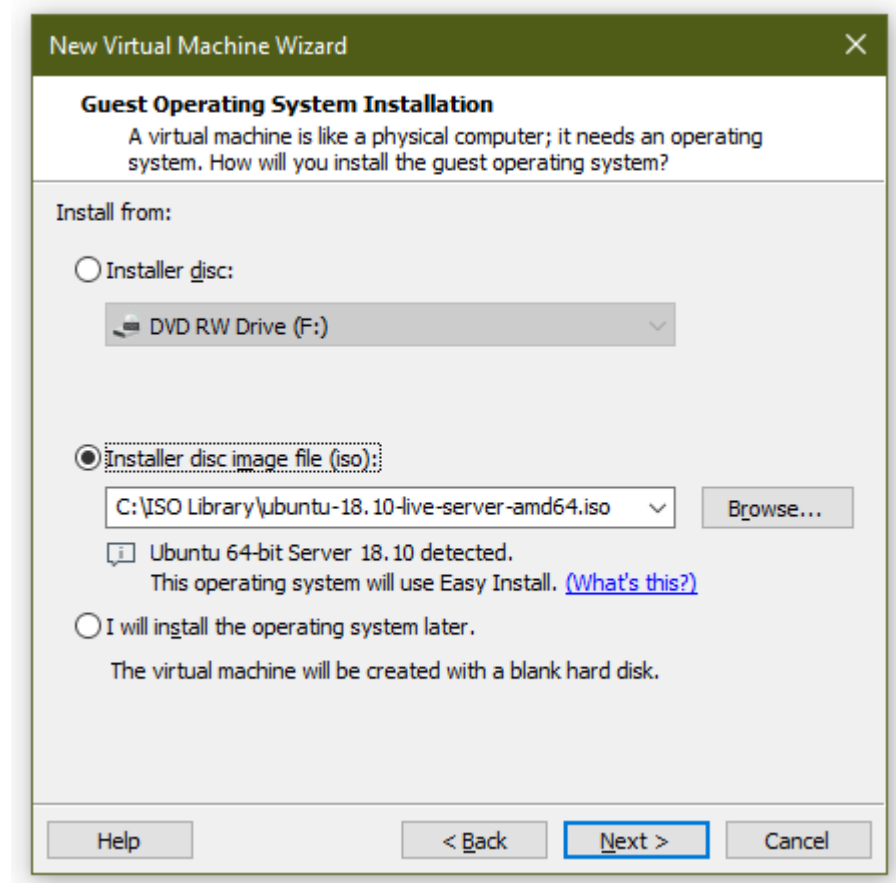
3) pilih mode custom



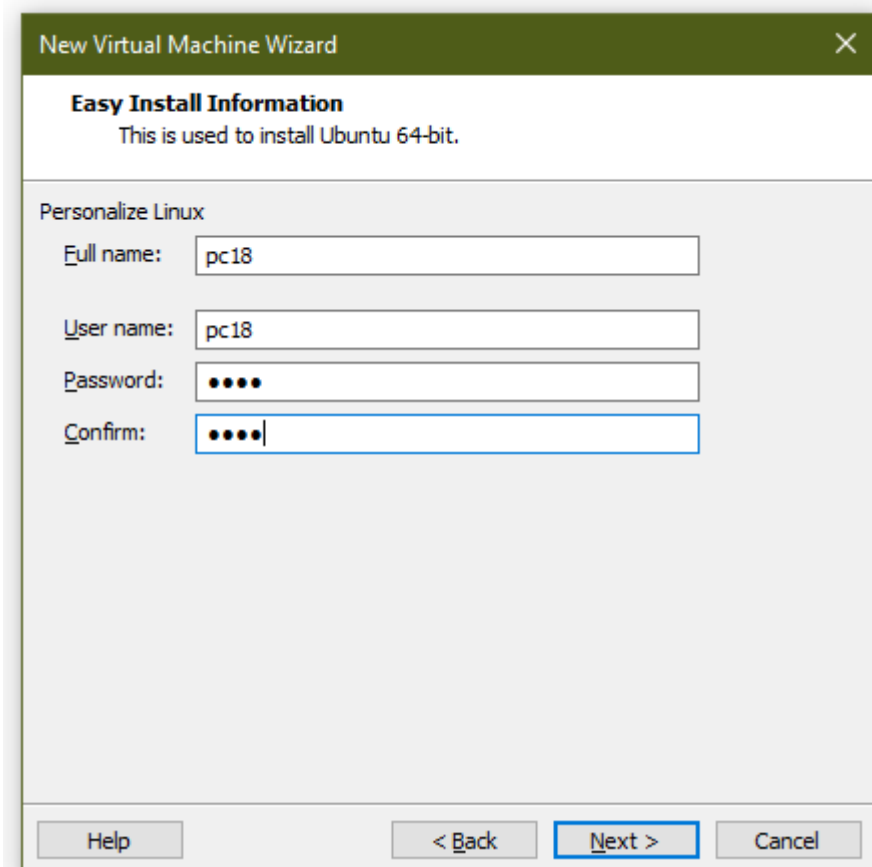
4) Pilih compability yang sesuai



- 5) Masukkan file ISO OS



- 6) Untuk OS ubuntu 18.10 ,easy install masih ada kendala , lalu akan muncul isian username dsb (isi sembarang)



- 7) Buat nama dan lokasi file

The screenshot shows the 'New Virtual Machine Wizard' dialog box. The title bar is green with a close button. The main title is 'Name the Virtual Machine' in bold, followed by the instruction 'What name would you like to use for this virtual machine?'. There are two input fields: 'Virtual machine name:' with the text 'Ubuntu LAMPP 123170045' and 'Location:' with the text 'D:\VM-123170045\Ubuntu LAMPP'. A 'Browse...' button is next to the location field. Below the fields is a note: 'The default location can be changed at Edit > Preferences.' At the bottom are three buttons: '< Back', 'Next >', and 'Cancel'.

New Virtual Machine Wizard

Name the Virtual Machine
What name would you like to use for this virtual machine?

Virtual machine name:
Ubuntu LAMPP 123170045

Location:
D:\VM-123170045\Ubuntu LAMPP [Browse...](#)

The default location can be changed at Edit > Preferences.

< Back Next > Cancel

- 8) Pilih prosesor config

The screenshot shows the 'New Virtual Machine Wizard' dialog box at the 'Processor Configuration' step. The title bar is grey with a close button. The main title is 'Processor Configuration' in bold, followed by the instruction 'Specify the number of processors for this virtual machine.' There are two dropdown menus: 'Number of processors:' set to '2' and 'Number of cores per processor:' set to '1'. Below these is a label 'Total processor cores:' with the value '2'. At the bottom are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

New Virtual Machine Wizard

Processor Configuration
Specify the number of processors for this virtual machine.

Processors

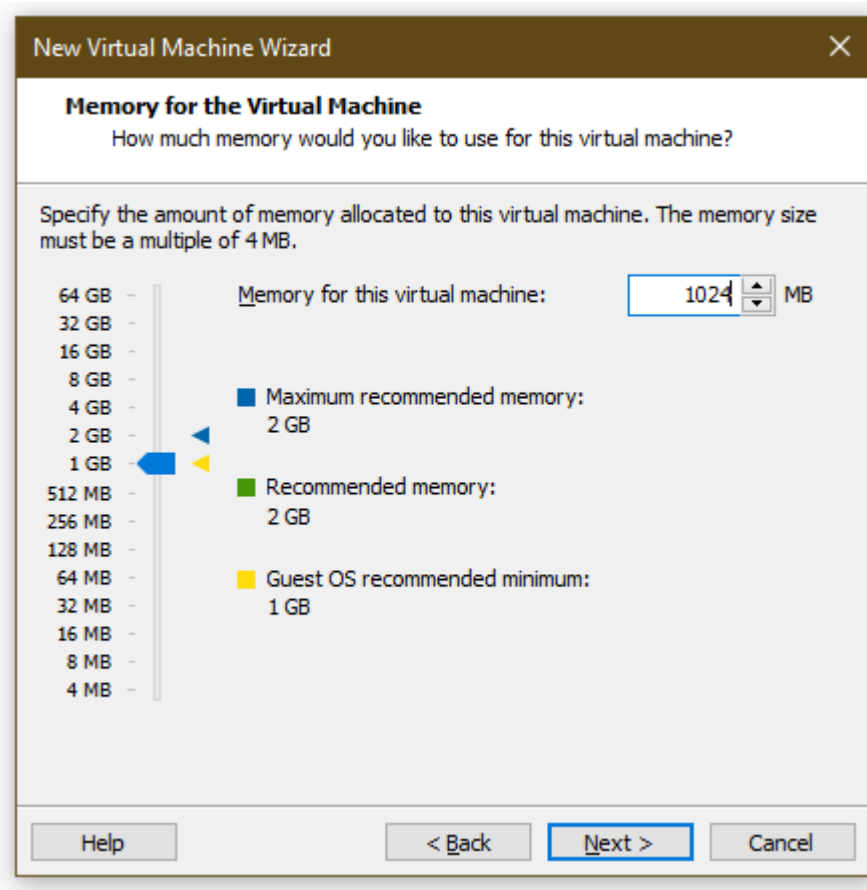
Number of processors: 2

Number of cores per processor: 1

Total processor cores: 2

Help < Back Next > Cancel

9) Pilih Besaran Ram

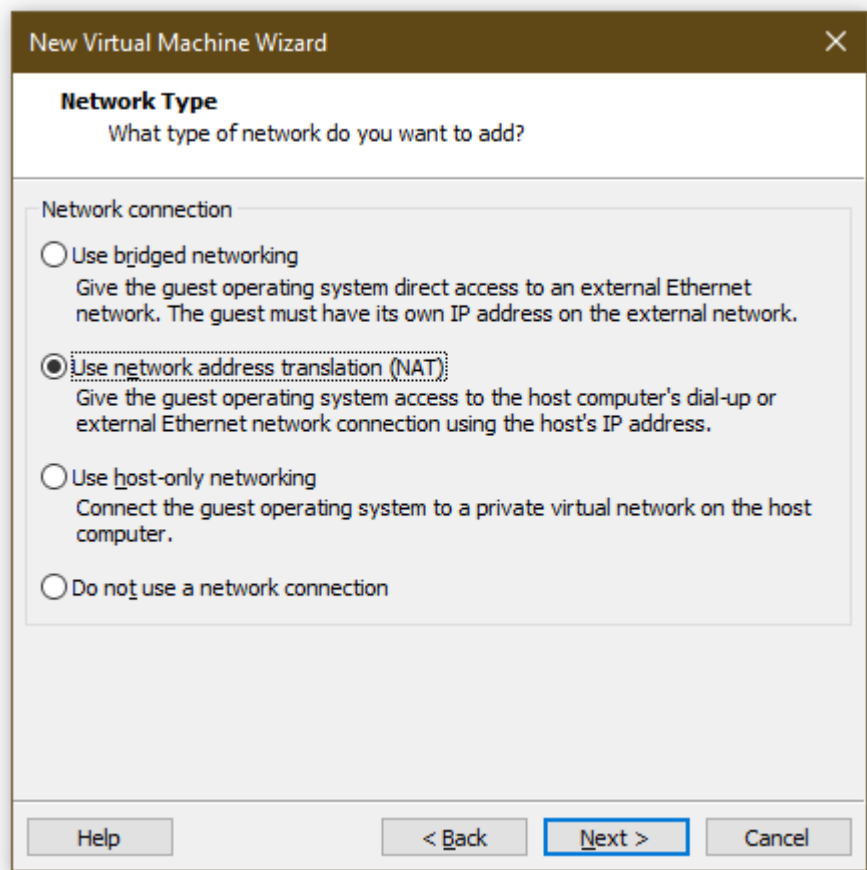


10) Pilih mode jaringan NAT

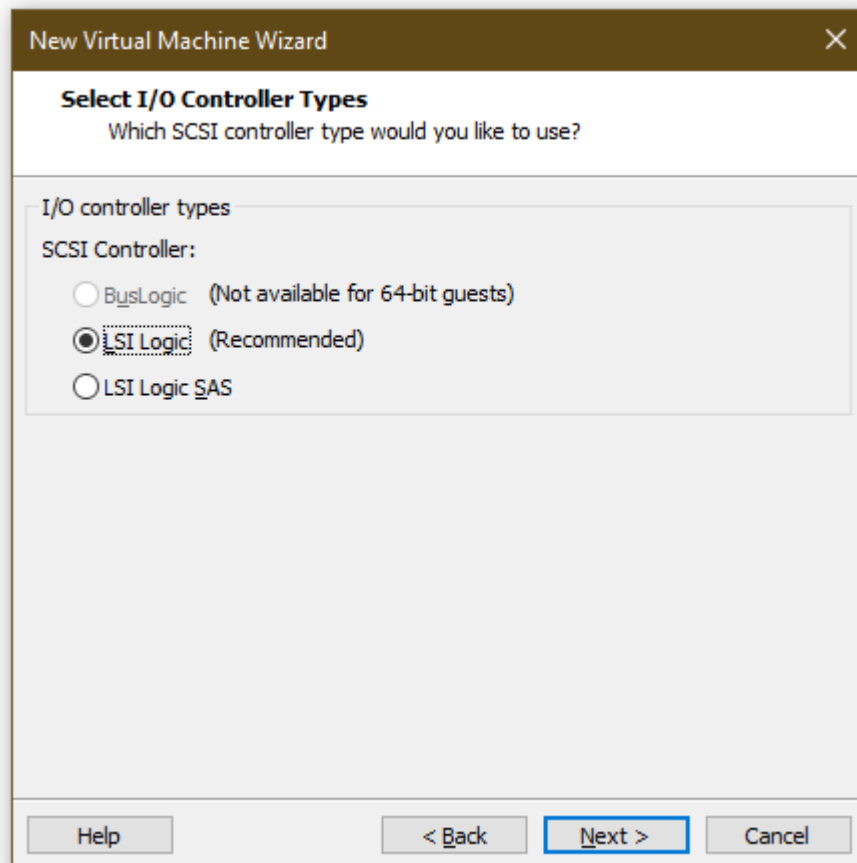
bridged akan dapat ip eksternal (bisa diakses eksternal)

Mode nat mirip bridged tapi tidak mudah diakses eksternal , dpt ip beda dr vm . vm dpt diakses host scr default dan ttp dpt internet

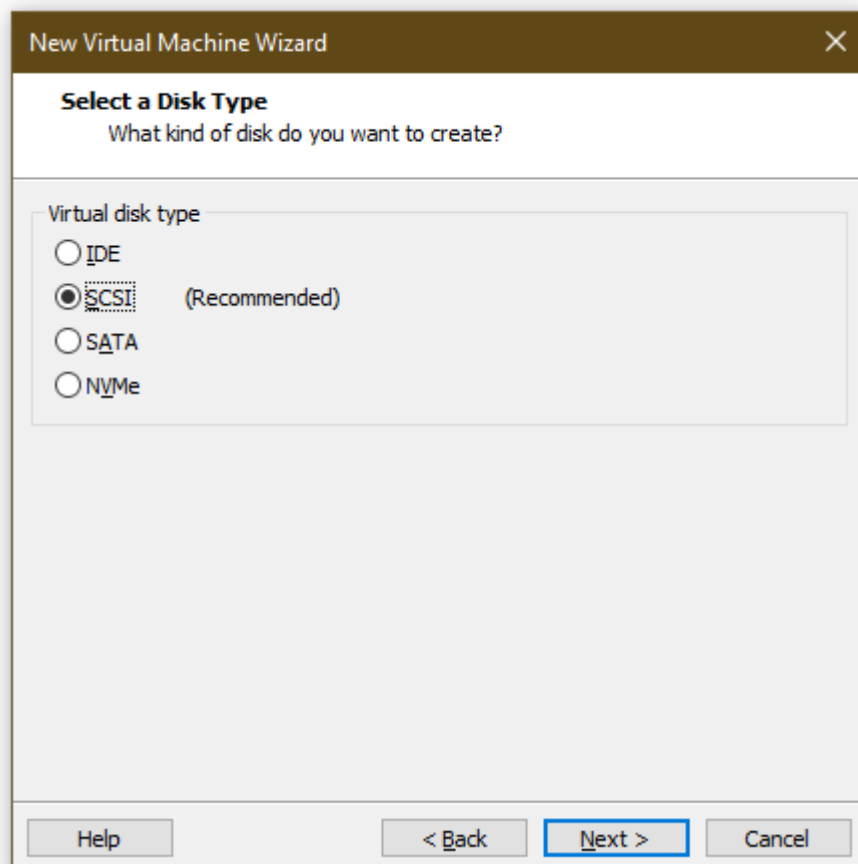
Host only akan mengisolasi vm dan hanya dpt diakses host



11) Pilih sesuai gambar



12) Pilih tipe disk
Ide (yang lama , win XP dsb)
Scsi(yang baru)



- 13) Pilih mode pembuatan disk

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Select a Disk' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Select a Disk' with the subtitle 'Which disk do you want to use?'. Under the 'Disk' section, there are three radio button options: 'Create a new virtual disk' (which is selected), 'Use an existing virtual disk', and 'Use a physical disk (for advanced users)'. Each option has a descriptive paragraph below it. At the bottom, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

New Virtual Machine Wizard

Select a Disk
Which disk do you want to use?

Disk

☒ **Create a new virtual disk**
A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.

☐ **Use an existing virtual disk**
Choose this option to reuse a previously configured disk.

☐ **Use a physical disk (for advanced users)**
Choose this option to give the virtual machine direct access to a local hard disk. Requires administrator privileges.

Help < Back Next > Cancel

- 14) Pilih kapasitas , normalnya 20gb

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Specify Disk Capacity' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Specify Disk Capacity' with the subtitle 'How large do you want this disk to be?'. It features a text input field for 'Maximum disk size (GB)' with the value '20.0' and a spinner control. Below this, it states 'Recommended size for Ubuntu 64-bit: 20 GB'. There are three radio button options: 'Allocate all disk space now.', 'Store virtual disk as a single file', and 'Split virtual disk into multiple files' (which is selected). Each option has a descriptive paragraph below it. At the bottom, there are four buttons: 'Help', '< Back', 'Next >', and 'Cancel'.

New Virtual Machine Wizard

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

Maximum disk size (GB):

Recommended size for Ubuntu 64-bit: 20 GB

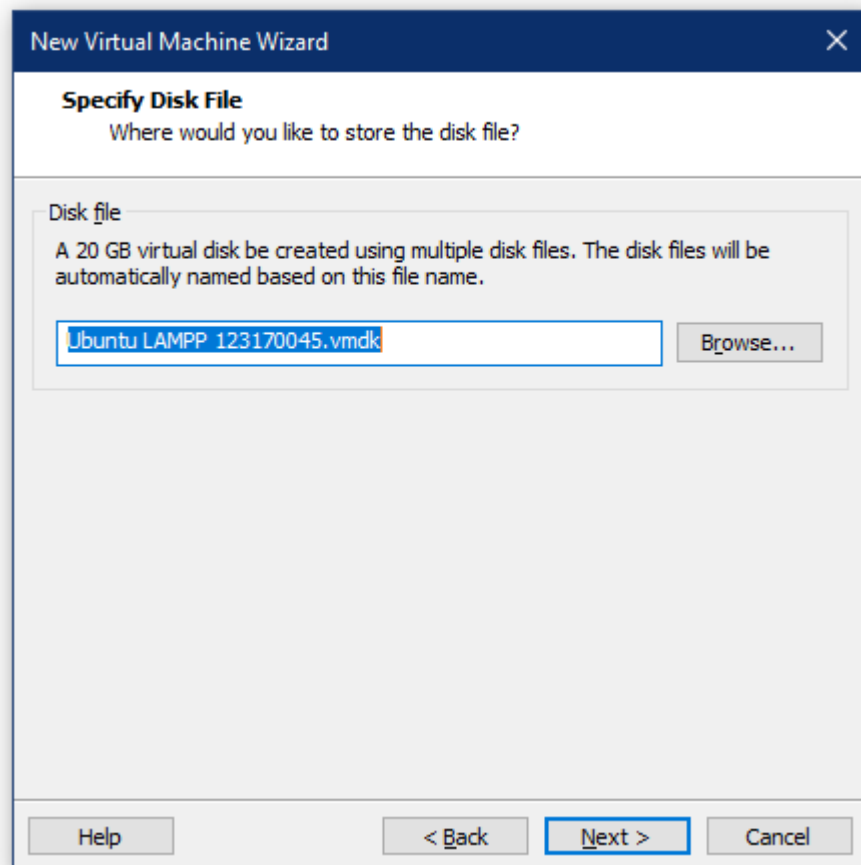
☐ **Allocate all disk space now.**
Allocating the full capacity can enhance performance but requires all of the physical disk space to be available right now. If you do not allocate all the space now, the virtual disk starts small and grows as you add data to it.

☐ **Store virtual disk as a single file**

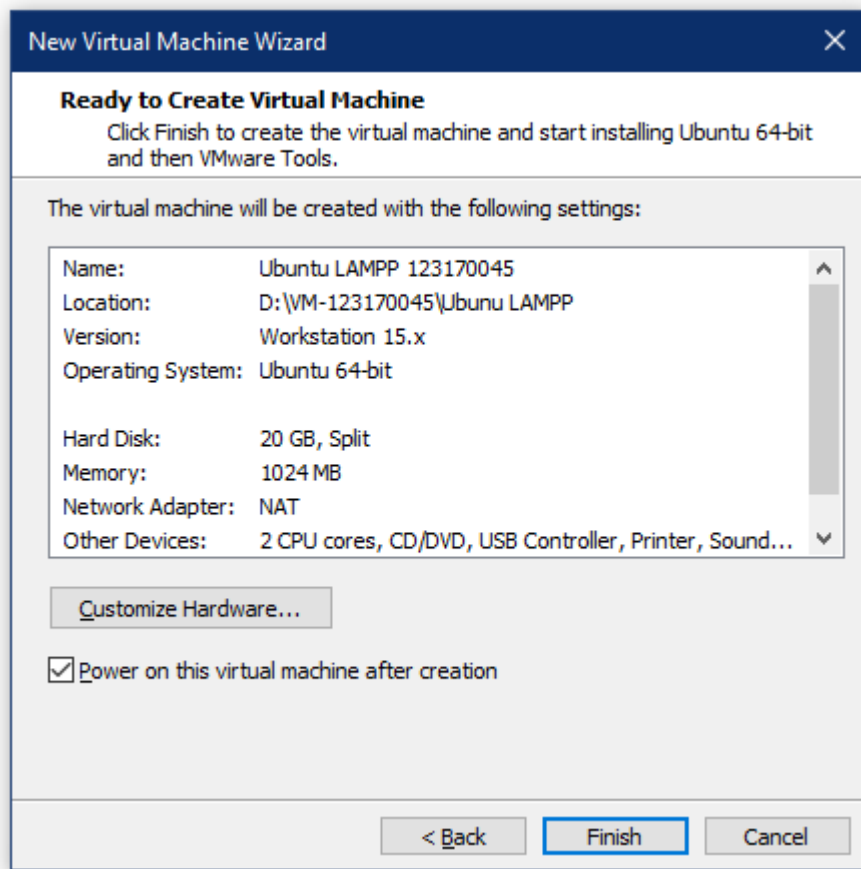
☒ **Split virtual disk into multiple files**
Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.

Help < Back Next > Cancel

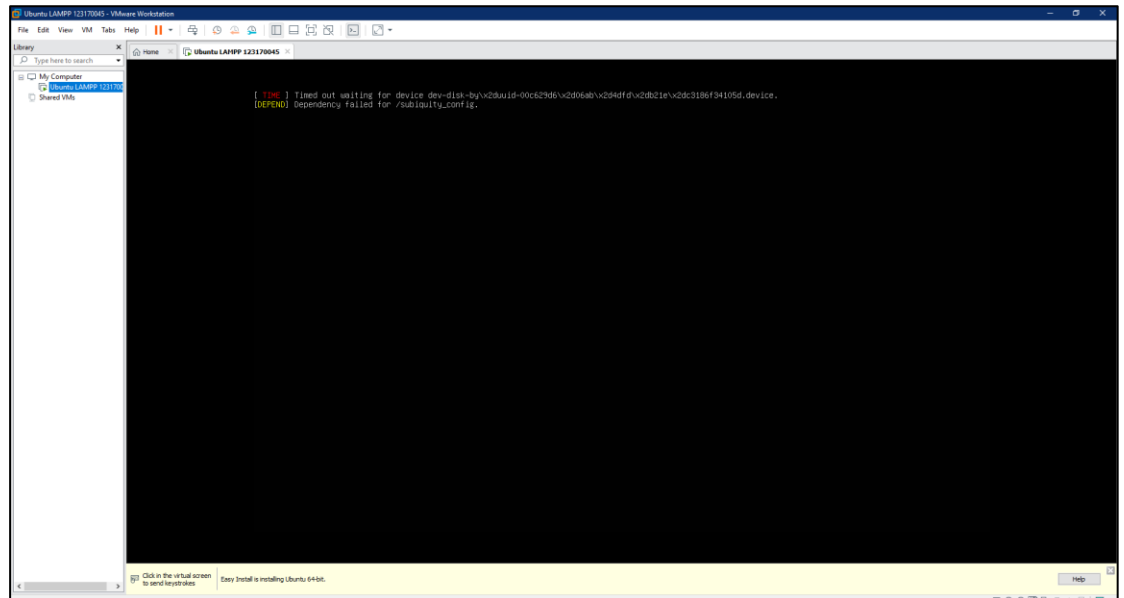
- 15) Konfirmasi file name hardisk



- 16) Konfirmasi secara keseluruhan , centang power on , klik finish



17) Tunggu proses instalasi



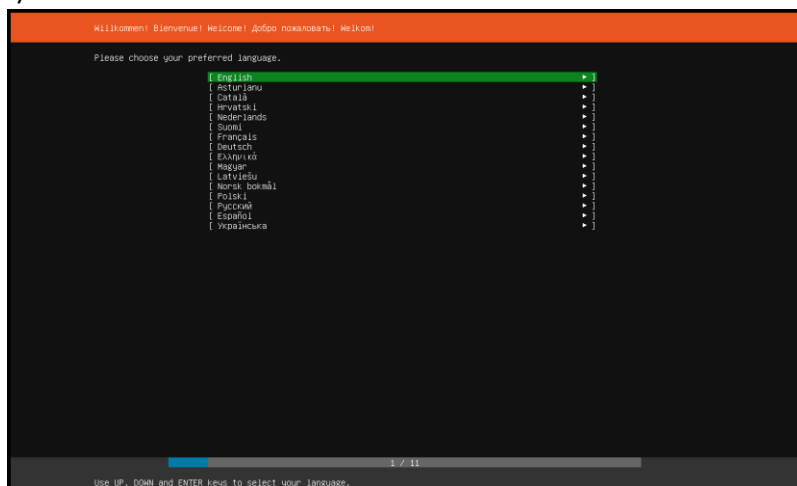
18) Untuk interaksi ke vm ware

masuk : klik window vm/ctrl+g

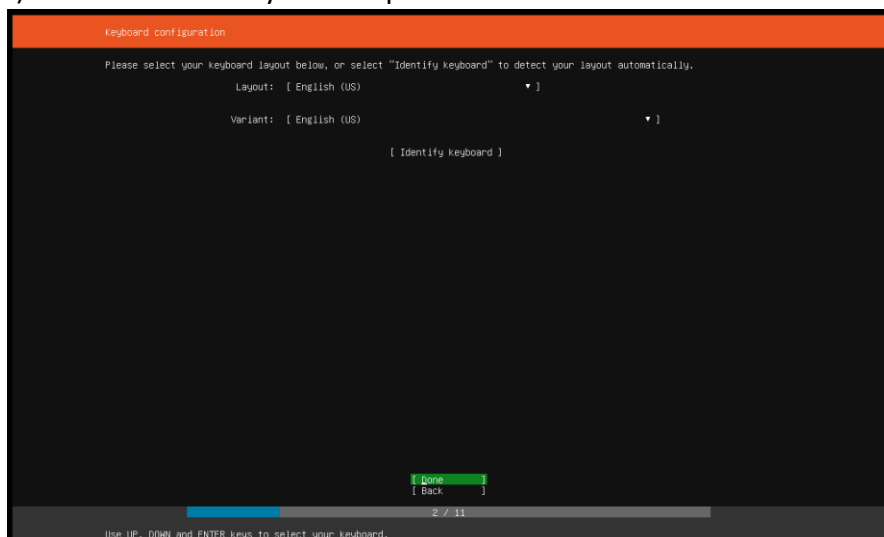
Keluar : klik ctrl + alt

To direct input to this VM, click inside or press Ctrl+G.

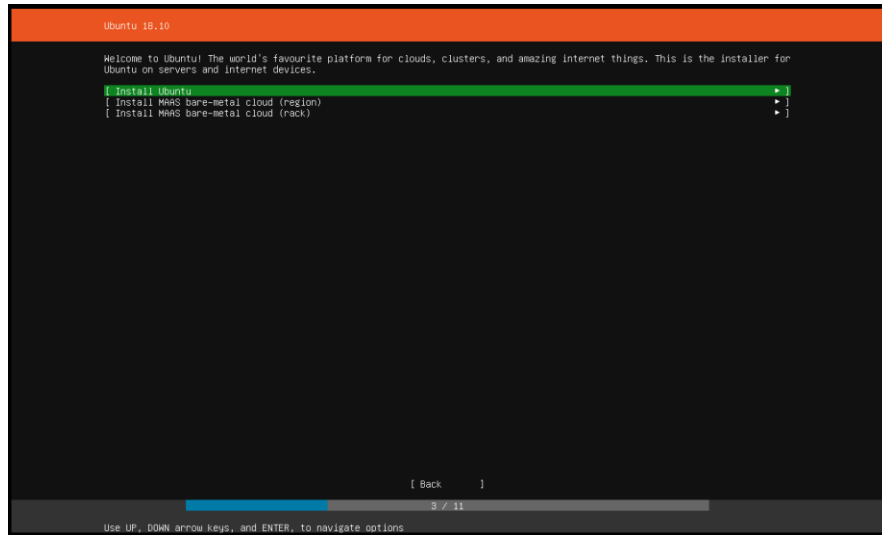
19) Tentukan Bahasa – tkn enter



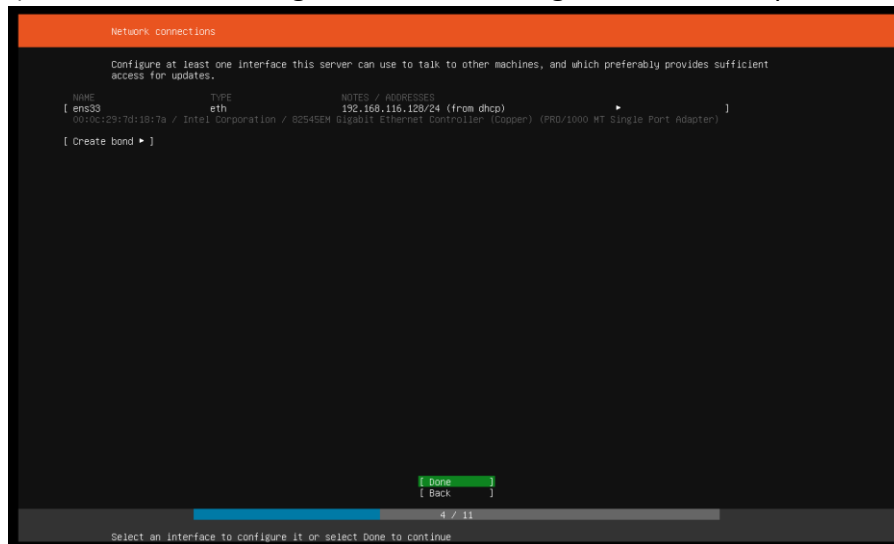
20) Tentukan keyboard – pilih done



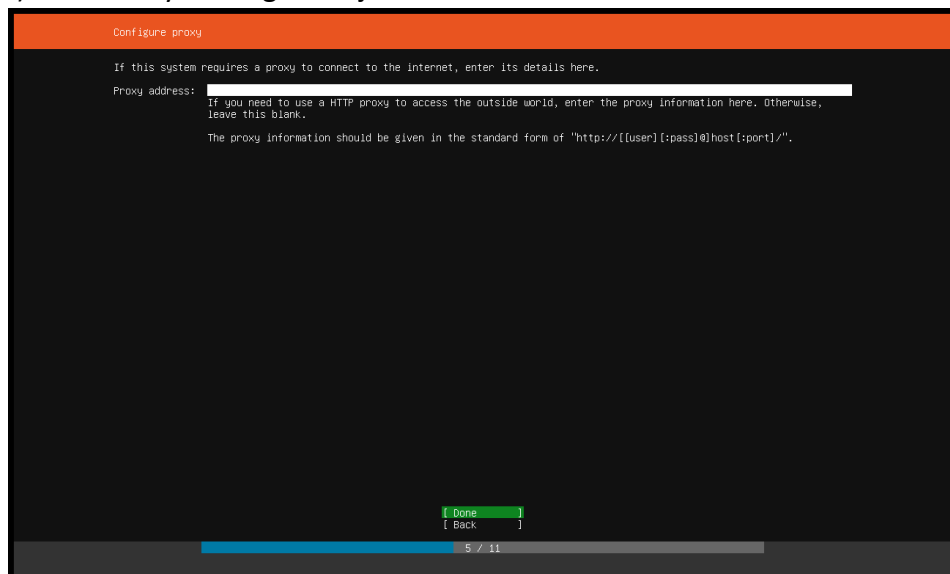
21) Pilih mode atas sendiri



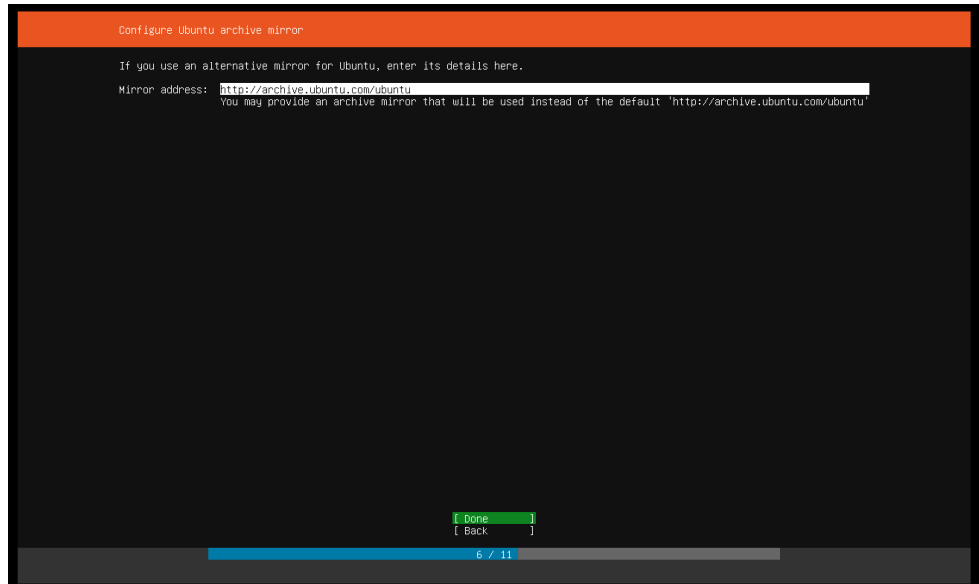
22) Harus sambung internet , bisa dengan lihat alamat ip ada / tidak



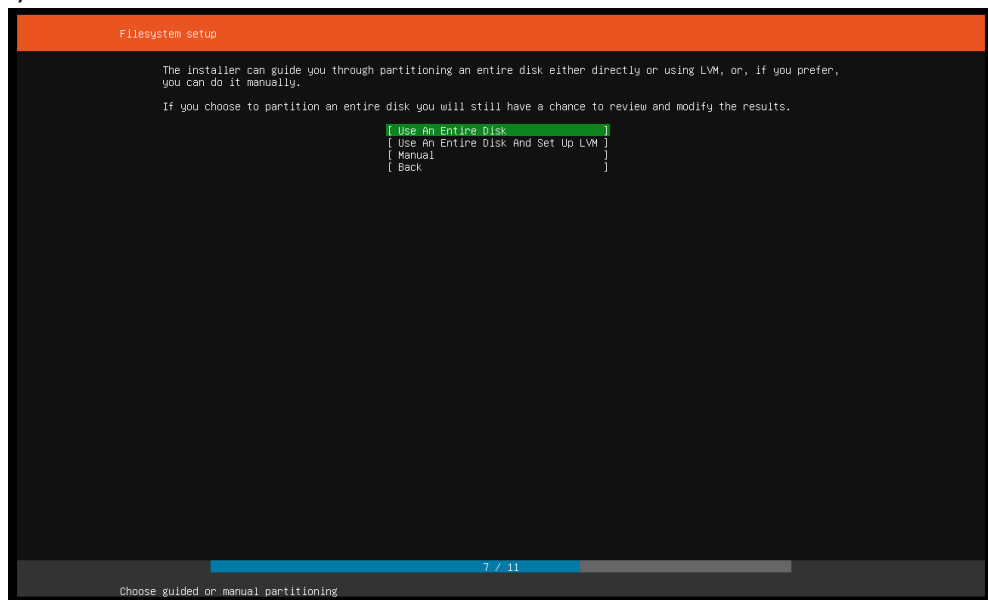
23) Proxy kosongkan saja



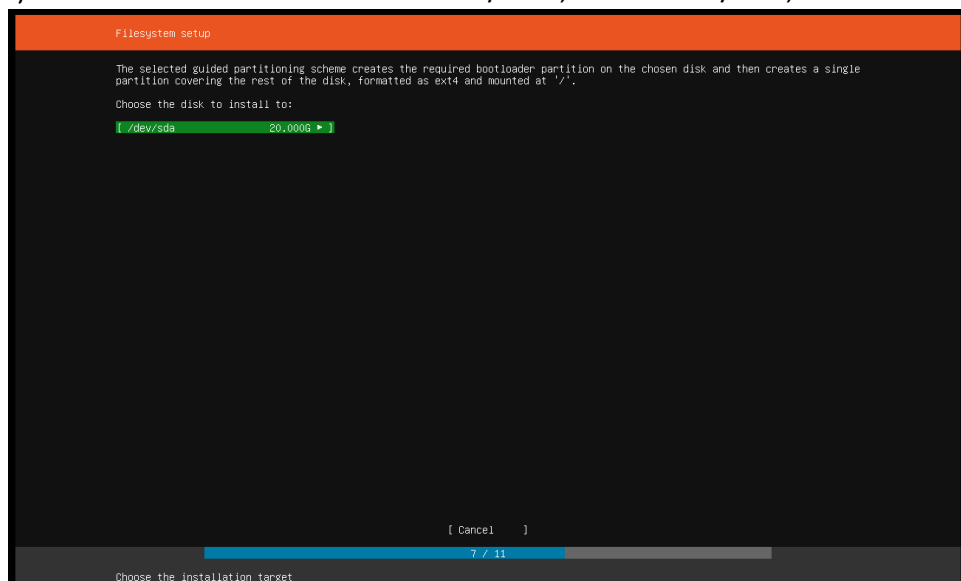
24) Next saja



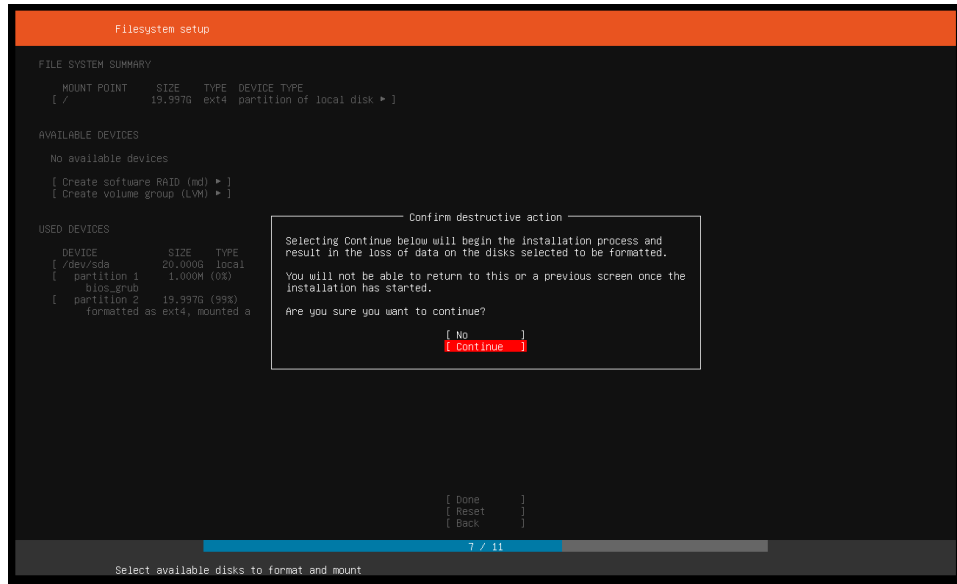
25) Pilih entire disk



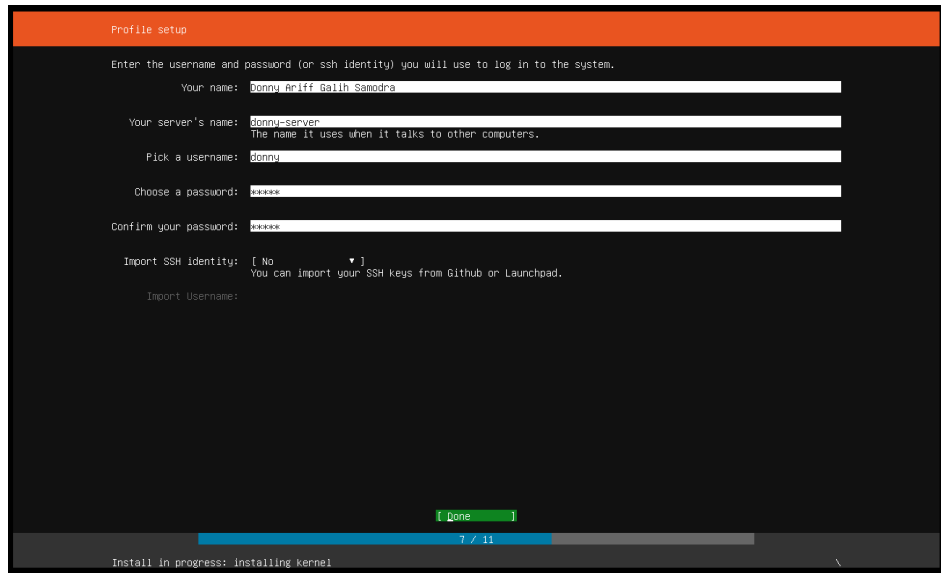
26) Pilih local disk C di linux : dev/sda , disk d : dev/sdb , dst



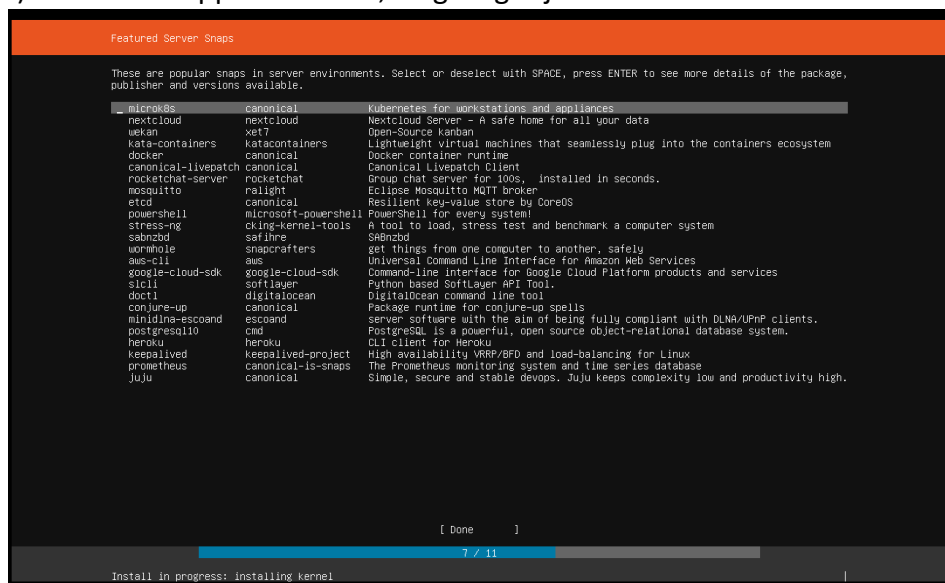
27) Done- continue



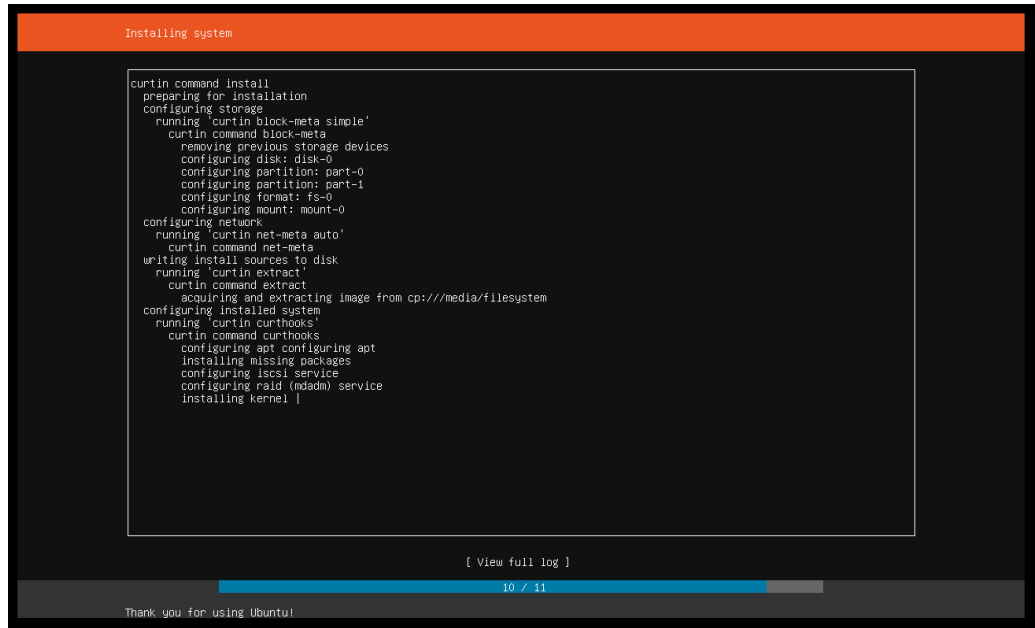
28) Isi user dsb



29) Instal app tambahan , langsung saja next krn tidak butuh untk skrng



30) Tunggu instalasi



31) Jika stack , klik reboot

32) Tampilan selesai booting , klik enter kemudian login dg user dan pass td

```
Ubuntu 18.10 donny-server tty1
donny-server login:          Mounting Mount unit for lxd, revision 9239...
[ OK ] Mounted Mount unit for lxd, revision 9239.
[ OK ] Listening on Socket unix for snap application lxd.daemon.
      Starting Service for snap application lxd.activate...
[ OK ] Started Service for snap application lxd.activate.
[ OK ] Started Wait until snapd is fully seeded.
      Starting Apply the settings specified in cloud-config...
[ 23.179247] cloud-init[2145]: Generating locales (this might take a while)...
[ OK ] Started System Logging Service.
[ OK ] Reached target Multi-User System.
[ OK ] Reached target Graphical Interface.
      Starting Update UTMP about System Runlevel Changes...
[ OK ] Started Update UTMP about System Runlevel Changes.
[ 24.637631] cloud-init[2145]: en_US.UTF-8, done
[ 24.637840] cloud-init[2145]: Generation complete.
[ 24.836751] cloud-init[2145]: Cloud-init v. 18.4-7-g4652b196-0ubuntu1 running 'modules:config' at Thu, 13 Feb 2020 07:32:43 +0000. Up 23.09 seconds.
[ OK ] Started Apply the settings specified in cloud-config.
      Starting Execute cloud user/final scripts.
ci-info: no authorized ssh keys fingerprints found for user donny.
<14>Feb 13 07:32:45 ec2: #####
<14>Feb 13 07:32:45 ec2: -----BEGIN SSH HOST KEY FINGERPRINTS-----
<14>Feb 13 07:32:45 ec2: 1024 SHA256:01F22gUkc188mytN3KFacnD/wup22AhKIdyudFp52JM root@donny-server (DSA)
<14>Feb 13 07:32:45 ec2: 256 SHA256:ez1t0TV074632aJONLx2qgH9Bh5SH12asJ064q6INE root@donny-server (ECDSA)
<14>Feb 13 07:32:45 ec2: 256 SHA256:xlTs80ak/yh2Ums2Dm+naCtXlKbE51nap2eAM7J4V root@donny-server (ED25519)
<14>Feb 13 07:32:45 ec2: 2048 SHA256:V1CgrVCh0At267B0V/0CtRov1gu52u3x7yRzChyHq root@donny-server (RSA)
<14>Feb 13 07:32:45 ec2: -----END SSH HOST KEY FINGERPRINTS-----
<14>Feb 13 07:32:45 ec2: #####
-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlkbmdhNTYAAAAIbmIzdHhYNTYAAABBJXOn39AUMHY6uSkA1d4Jf1Agp32nd7gddngIL/0X0rVektd6IESNgEw7Yf2KT7zpbD1u4JzVlvS5H4H8Bjbsg=
root@donny-server
ssh-ed25519 AAAAC3NzaC1lZD01INTE5AAAA1PF6qIF3g2yGLyFdfJUVJYX0CJTJS1DccU0AX2Pc3TP root@donny-server
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDQB8C3MTEU5EPXmJnnc6ahymueC224K0a9K9thBt6dR3IUEJTGEvEGC3MvpaUsssp2BNX10nnhK0DE3XHRuvrsr6T6r59a1bvd5DKU46hs1XhMcRn1g/XKcF25H
0c4C/HkpSd5ey60u61NvkTVNp21w1X0D+3xsxofJK61xt/vcdKxHLP5tP1C2A6d+JTB1qxJmmtY2MKV1QarytJu0nUg1faxRUGdyT8dCd322214Ks9BS0S26Cvduc2g7FK9T2uyn2JfAQGNhK1uLecSTx0
1uKX6NcnHwZfHwF8B0n/71xu1p5q9Bn7Bpa1K01A13uz2um98Cj1l root@donny-server
-----END SSH HOST KEY KEYS-----
[ 25.233353] cloud-init[2245]: Cloud-init v. 18.4-7-g4652b196-0ubuntu1 running 'modules:final' at Thu, 13 Feb 2020 07:32:45 +0000. Up 25.13 seconds.
[ 25.233544] cloud-init[2245]: ci-info: no authorized ssh keys fingerprints found for user donny.
[ 25.233601] cloud-init[2245]: Cloud-init v. 18.4-7-g4652b196-0ubuntu1 finished at Thu, 13 Feb 2020 07:32:45 +0000. DataSource DataSourceNoCloud [seed:/var/lib/cloud/seed/nocloud-net] [dsnode-net], Up 25.22 seconds
[ OK ] Started Execute cloud user/final scripts.
[ OK ] Reached target Cloud-init target.
```

33) Tampilan setelah login(dashboard)

```
donny-server login: donny
Password:
Welcome to Ubuntu 18.10 (GNU/Linux 4.18.0-25-generic x86_64)

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

System information as of Thu Feb 13 07:34:23 UTC 2020

System load: 0.31               Processes:           197
Usage of /:  20.6% of 19.56GB   Users logged in:    0
Memory usage: 24%               IP address for ens3: 192.168.116.129
Swap usage:  0%

183 packages can be updated.
106 updates are security updates.

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.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

donny@donny-server:~$
```

- Contoh Perintah
 - 1) Sudo : superuser do - masuk akses dg terbatas
 - 2) Sudo su : msk akses sebagai admin
 - 3) Cd : change directory
 - 4) mkdir : make directory
 - 5) Ls : tampilkan isi dalam folder
 - 6) Cp : copy
 - 7) Mv : move
 - 8) Rm : remove
 - 9) Nano : baca / editor
 - 10) Apt :app package manager
 - 11) Cat : editor
 - 12) Chown : change owner / ganti kepemilikan
 - 13) Chmod : ganti mode
 - 14) Ctrl+c , masuk ke direktori /command/user awal

UJI COBA

- Saat pertama masuk , hanya pny akses standar(perintah tidak dapt dieksekusi)
 - 1) Agar masuk ke root akses , ketik sudo su lalu masukan pass
 - 2) Untuk keluar ketik exit
- Ubah motd
 - 1) Setelah masuk ke akses root
 - 2) Setelah tulisan .../home/(nama pc)#

root@donny-server:/home/donny# _
 - 3) Ketik **nano(spasi)/etc/motd**
 - 4) Ketik pesan bebas
 - 5) Save dengan ctrl+o
 - 6) Dibawah akan ada folder save nya , pilih folder save , klik enter
 - 7) Ctrl+x untk keluar text editornya
 - 8) Ketik exit 2x untuk masuk ke login os
 - 9) Masukan user pass lagi
 - 10) Muncul pesan yang dibuat tadi

```

donny-server login: donny
Password:
Last login: Thu Feb 13 07:34:22 UTC 2020 on tty1
Welcome to Ubuntu 18.10 (GNU/Linux 4.18.0-25-generic x86_64)

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

System information as of Thu Feb 13 07:46:35 UTC 2020

System load: 0.14           Processes:            161
Usage of /:  20.6% of 19.56GB Users logged in:        0
Memory usage: 24%          IP address for ens33: 192.168.116.129
Swap usage:  0%

183 packages can be updated.
106 updates are security updates.

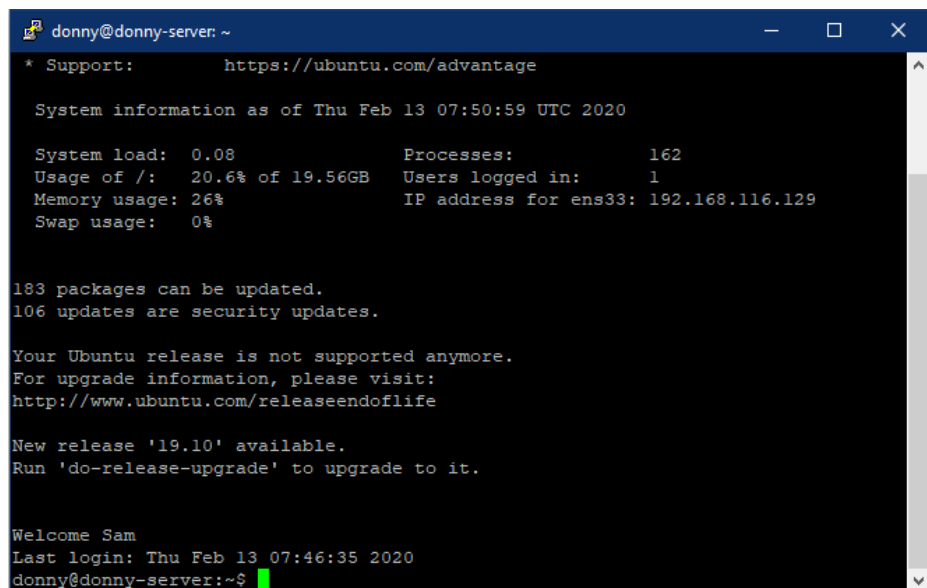
Your Ubuntu release is not supported anymore.
For upgrade information, please visit:
http://www.ubuntu.com/releaseendoflife

New release '19.10' available.
Run 'do-release-upgrade' to upgrade to it.

Welcome Sam
donny@donny-server:~$

```

- Menggunakan remote terminal : Putty
 1. Cari ip vmware : bisa dg ip config / lihat di menu login awal (192.168.116.129)
 2. Cari putty di windows , buka , masukkan ip vmware , open , yes (jika warning)
 3. Login dg akun (user pass)
 4. Tampilan



```

donny@donny-server: ~
 * Support:       https://ubuntu.com/advantage

System information as of Thu Feb 13 07:50:59 UTC 2020

System load: 0.08           Processes:            162
Usage of /:  20.6% of 19.56GB Users logged in:        1
Memory usage: 26%          IP address for ens33: 192.168.116.129
Swap usage:  0%

183 packages can be updated.
106 updates are security updates.

Your Ubuntu release is not supported anymore.
For upgrade information, please visit:
http://www.ubuntu.com/releaseendoflife

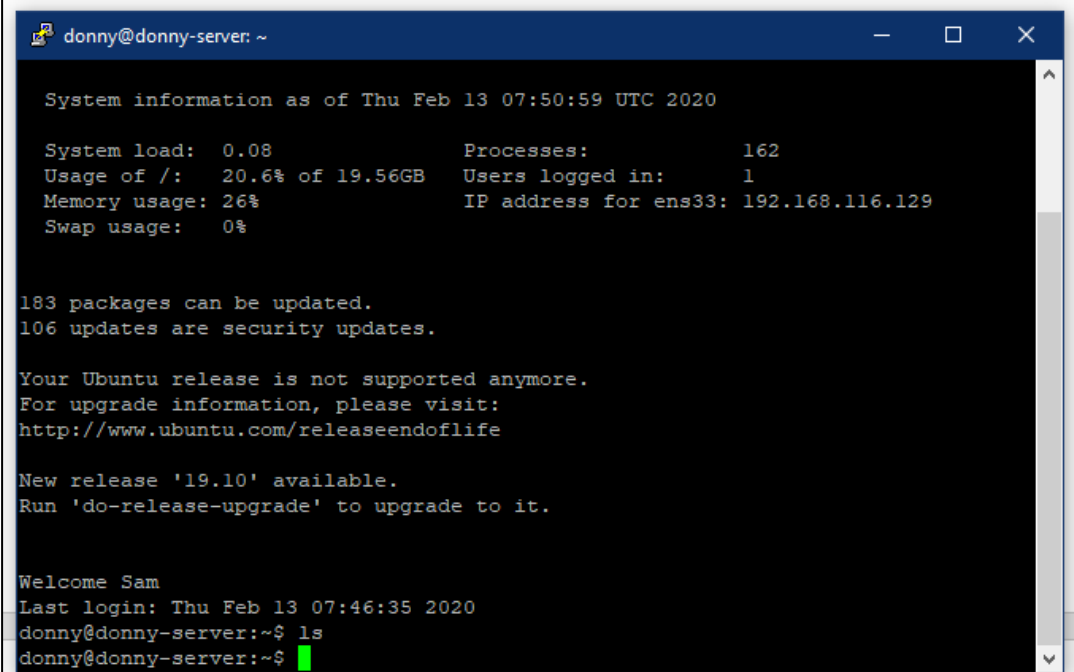
New release '19.10' available.
Run 'do-release-upgrade' to upgrade to it.

Welcome Sam
Last login: Thu Feb 13 07:46:35 2020
donny@donny-server:~$

```


LATIHAN/EVALUASI

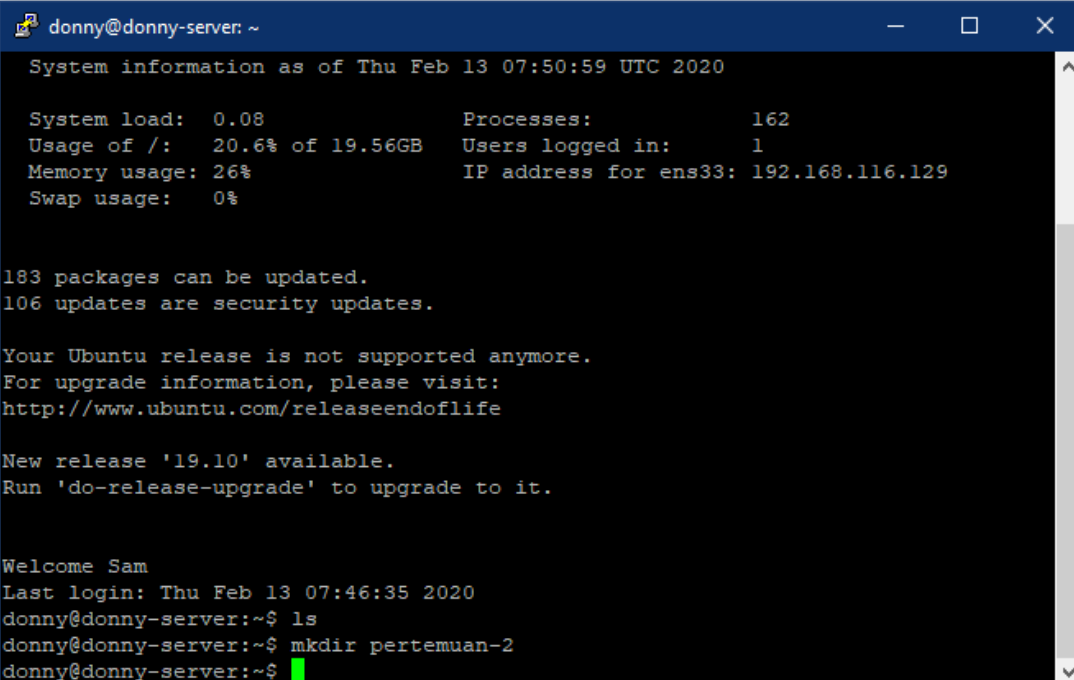
1. ls



```
donny@donny-server: ~  
  
System information as of Thu Feb 13 07:50:59 UTC 2020  
  
System load:  0.08          Processes:           162  
Usage of /:   20.6% of 19.56GB Users logged in:      1  
Memory usage: 26%          IP address for ens33: 192.168.116.129  
Swap usage:   0%  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$
```

Menampilkan list direktory yang ada(Tidak menampilkan folder apapun krn blm buat)

2. mkdir pertemuan-2



```
donny@donny-server: ~  
  
System information as of Thu Feb 13 07:50:59 UTC 2020  
  
System load:  0.08          Processes:           162  
Usage of /:   20.6% of 19.56GB Users logged in:      1  
Memory usage: 26%          IP address for ens33: 192.168.116.129  
Swap usage:   0%  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$
```

membuat direktori pertemuan-2

3. ls -l

```
donny@donny-server: ~  
Usage of /: 20.6% of 19.56GB  Users logged in: 1  
Memory usage: 26%          IP address for ens33: 192.168.116.129  
Swap usage: 0%  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$ ls -l  
total 4  
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2  
donny@donny-server:~$
```

Menampilkan properti dr direktori folder yang ada

4. cp -r pertemuan-2 pertemuan-1

```
donny@donny-server: ~  
Memory usage: 26%          IP address for ens33: 192.168.116.129  
Swap usage: 0%  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
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Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$ ls -l  
total 4  
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2  
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1  
donny@donny-server:~$
```

Mengkopi direktory yang ada pada pertemuan 2 ke pertemuan-1 dengan membuat direktory pertemuan 1 dahulu

5. ls

```
donny@donny-server: ~  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$ ls -l  
total 4  
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2  
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1  
donny@donny-server:~$ ls  
pertemuan-1  pertemuan-2  
donny@donny-server:~$
```

Menampilkan list direktori(pertemuan1 dan pertemuan-2)

6. mv pertemuan-2 "pertemuan 2 LAMPP"

```
donny@donny-server: ~  
  
183 packages can be updated.  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$ ls -l  
total 4  
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2  
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1  
donny@donny-server:~$ ls  
pertemuan-1  pertemuan-2  
donny@donny-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"  
donny@donny-server:~$
```

Memindah pertemuan 2 ke pertemuan 2 lampp sekaligus membuat direktorynya

7. ls

```
donny@donny-server: ~  
  
106 updates are security updates.  
  
Your Ubuntu release is not supported anymore.  
For upgrade information, please visit:  
http://www.ubuntu.com/releaseendoflife  
  
New release '19.10' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Welcome Sam  
Last login: Thu Feb 13 07:46:35 2020  
donny@donny-server:~$ ls  
donny@donny-server:~$ mkdir pertemuan-2  
donny@donny-server:~$ ls -l  
total 4  
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2  
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1  
donny@donny-server:~$ ls  
pertemuan-1  pertemuan-2  
donny@donny-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"  
donny@donny-server:~$ ls  
pertemuan-1  'pertemuan 2 LAMPP'  
donny@donny-server:~$
```

Menampilkan list direktory utama yang baru

8. cd "pertemuan 2(tab lalu enter)

```
donny@donny-server: ~/pertemuan 2 LAMPP
New release '19.10' available.
Run 'do-release-upgrade' to upgrade to it.

Welcome Sam
Last login: Thu Feb 13 07:46:35 2020
donny@donny-server:~$ ls
donny@donny-server:~$ mkdir pertemuan-2
donny@donny-server:~$ ls -l
total 4
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1
donny@donny-server:~$ ls
pertemuan-1  pertemuan-2
donny@donny-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
donny@donny-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
donny@donny-server:~$ cd "pertemuan-2"
> ^C
donny@donny-server:~$ cd "pertemuan 2"
> ^C
donny@donny-server:~$ cd "pertemuan 2 LAMPP"/
donny@donny-server:~/pertemuan 2 LAMPP$
```

Berpindah direktori , masuk ke direktori pertemuan 2 , tab enter untuk masuk ke direktori yang sesuai dengan awal pengetikan nama direktori dan direktori yang sesuai dengan pertemuan 2 adalah pertemuan 2 LAMPP

9. nano biodata.txt(masukan nim)

```
donny@donny-server: ~/pertemuan 2 LAMPP
Welcome Sam
Last login: Thu Feb 13 07:46:35 2020
donny@donny-server:~$ ls
donny@donny-server:~$ mkdir pertemuan-2
donny@donny-server:~$ ls -l
total 4
drwxrwxr-x 2 donny donny 4096 Feb 13 07:56 pertemuan-2
donny@donny-server:~$ cp -r pertemuan-2 pertemuan-1
donny@donny-server:~$ ls
pertemuan-1  pertemuan-2
donny@donny-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
donny@donny-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
donny@donny-server:~$ cd "pertemuan-2"
> ^C
donny@donny-server:~$ cd "pertemuan 2"
> ^C
donny@donny-server:~$ cd "pertemuan 2 LAMPP"/
donny@donny-server:~/pertemuan 2 LAMPP$ nano biodata.txt 123170045
donny@donny-server:~/pertemuan 2 LAMPP$ ls -l
total 4
-rw-rw-r-- 1 donny donny 10 Feb 13 08:14 biodata.txt
donny@donny-server:~/pertemuan 2 LAMPP$ nano biodata.txt
```

Buat file biodata.txt

10. ls-l

```
donny@donny-server:~/pertemuan 2 LAMPP$ ls -l
total 4
-rw-rw-r-- 1 donny donny 10 Feb 13 08:14 biodata.txt
donny@donny-server:~/pertemuan 2 LAMPP$ nano biodata.txt
```

Menampilkan isi direktori

11. cat biodata.txt

```
donny@donny-server:~/pertemuan 2 LAMPP$ cat biodata.txt
123170045
```

Lihat isi file catbiodata.txt

12. nano biodata.txt(masukkan 1-20 dibawah nim)

```
donny@donny-server:~/pertemuan 2 LAMPP$ nano biodata.txt
donny@donny-server:~/pertemuan 2 LAMPP$
```

13. cat biodata.txt

```
donny@donny-server:~/pertemuan 2 LAMPP$ cat biodata.txt
123170045
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
15
17
18
19
20
donny@donny-server:~/pertemuan 2 LAMPP$
```

Menampilkan data biodata.txt

14. tail biodata.txt

```
donny@donny-server:~/pertemuan 2 LAMPP$ tail biodata.txt
11
12
13
14
15
15
17
18
19
20
```

Menampilkan ½ terakhir data biodata.txt