

## PERTEMUAN 2

Materi : Pengenalan VMware Workstation dan Linux OS

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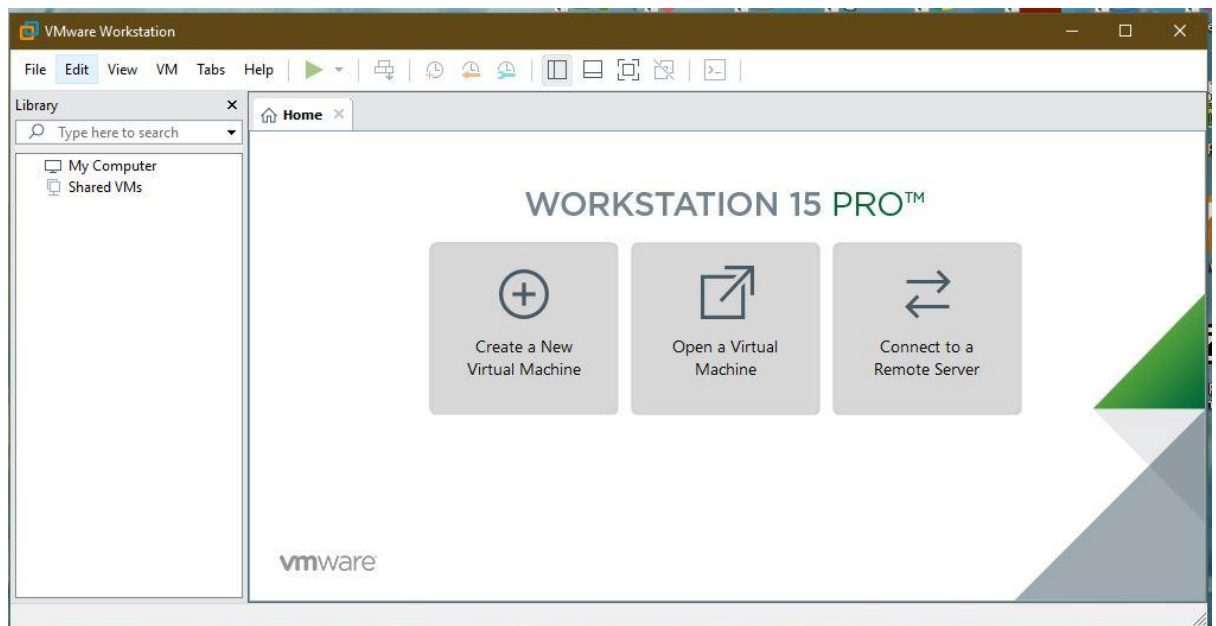
**Plug : Praktikum TCC (A)**

- Membuat layanan SaaS berbasis Private Cloud :
  - Apache
  - Mysql
  - PHP
  - PHPMyAdmin

### Pengenalan VMware

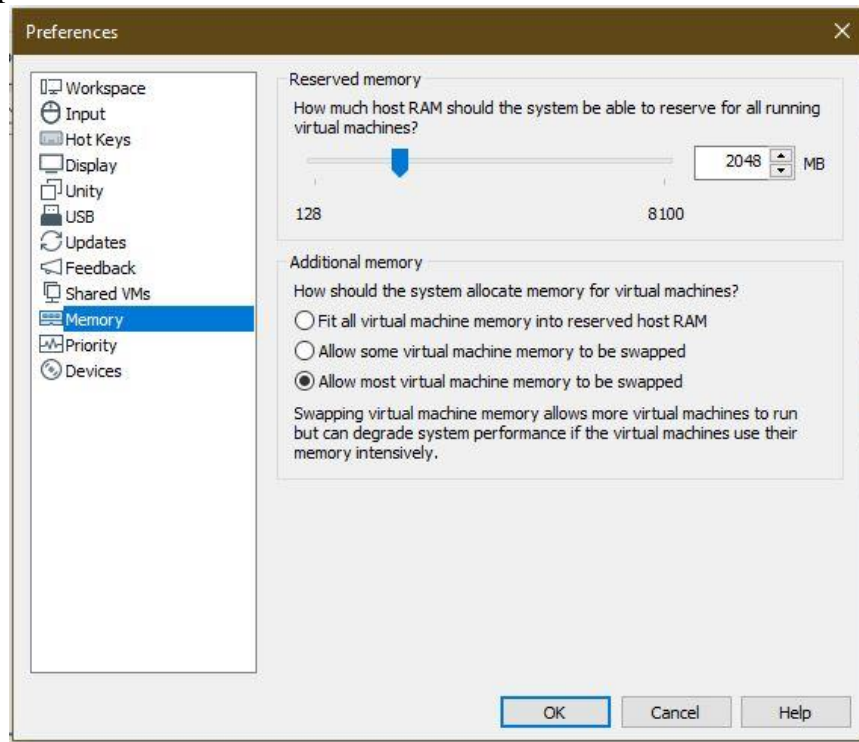
Virtual OS
Aplikasi VMware Workstation
OS pada komputer LAB
Hardware fisik komputer LAB

- VMware digunakan untuk Virtualisasi OS
- Contoh yang divirtualisasikan : CPU, RAM, Motherboard, VGA, PCI-e, Printer, dsb



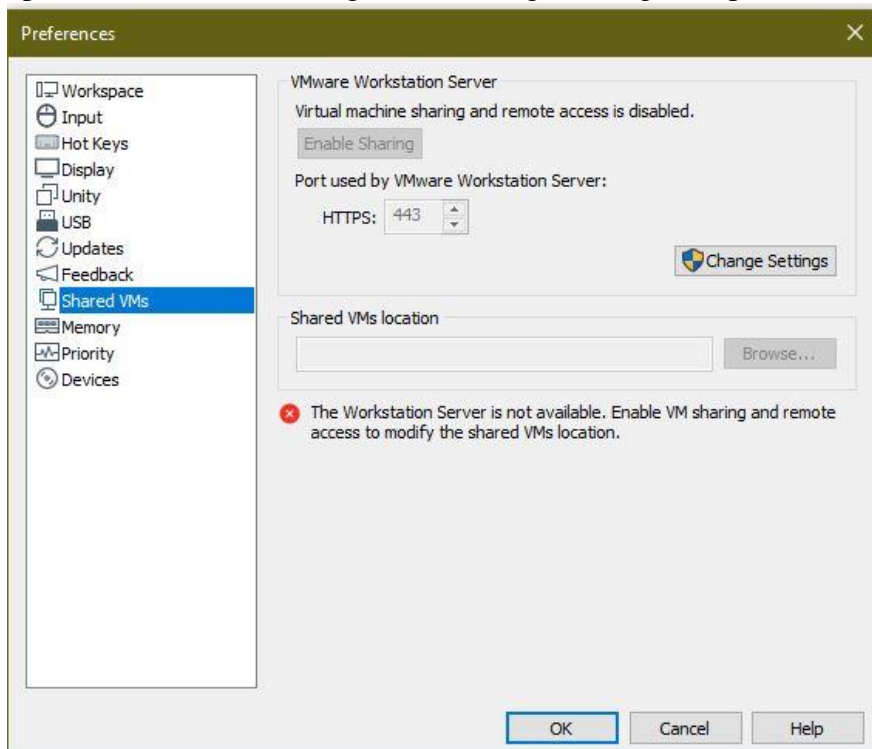
Fasilitas Swapping :

- Bilamana komputer host tidak memiliki RAM yang cukup, maka dapat digunakan opsi swap



Memperbaiki konflik PORT pada XAMPP

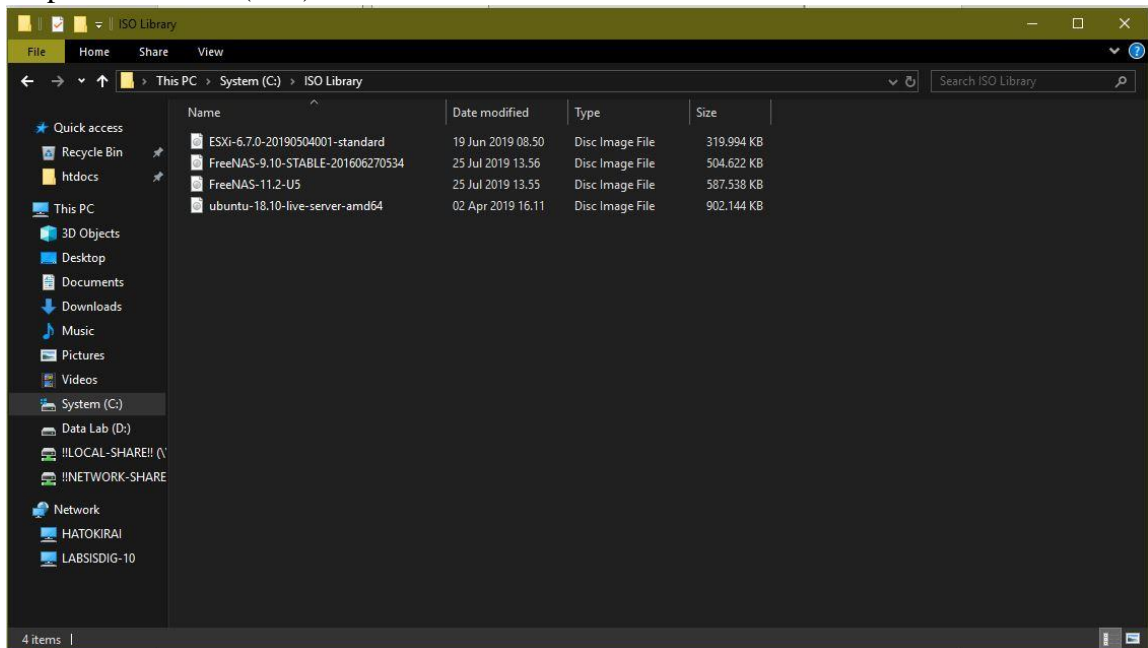
- Cara memperbaiki shared VMs dengan klik Change Setting Lalu pilih Enable



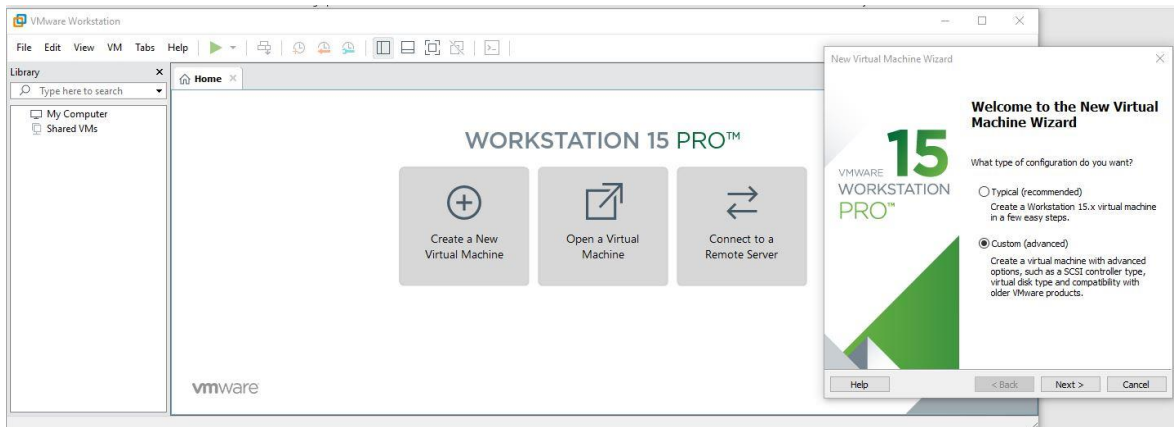
## LiuxOS(Ubuntu)

Penjelasan untuk konfigurasi pada VMware

- Siapkan Bootable (ISO)



- Pembuatan VM “Create VM” pada dashboard VMware Workstation Lalu pilih Custom



- Kita menentukan compabilitas dari VM yang kita gunakan

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Choose the Virtual Machine Hardware Compatibility' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Choose the Virtual Machine Hardware Compatibility' with a subtitle 'Which hardware features are needed for this virtual machine?'. Below this, there's a section 'Virtual machine hardware compatibility' containing a dropdown menu for 'Hardware compatibility:' set to 'Workstation 15.x', and a checkbox for 'Compatible with:' which is checked and labeled 'ESX Server'. Two list boxes are present: 'Compatible products:' showing 'Fusion 11.x' and 'Workstation 15.x', and 'Limitations:' showing '64 GB memory', '16 processors', '10 network adapters', '8 TB disk size', and '3 GB shared graphics memory'. At the bottom, there are buttons for 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

- Pilih berkas ISO pada Browse lalu diarahkan pada file yang berada di folder C tadi.

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Guest Operating System Installation' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Guest Operating System Installation' with a subtitle 'A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?'. Below this, there's a section 'Install from:' with three radio button options. The first is 'Installer disc:' with a dropdown menu showing 'DVD RW Drive (E:)'. The second is 'Installer disc image file (iso):' which is selected; it has a text box showing 'C:\ISO Library\ubuntu-18.10-live-server-amd64.iso' and a 'Browse...' button. Below this, a message says 'Ubuntu 64-bit Server 18.10 detected. This operating system will use Easy Install. (What's this?)'. The third option is 'I will install the operating system later.' with a sub-note 'The virtual machine will be created with a blank hard disk.' At the bottom, there are buttons for 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

- Isikan Vm dengan format yang disesuaikan dan foldernya disimpan di Drive D

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Name the Virtual Machine' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Name the Virtual Machine' with the instruction 'What name would you like to use for this virtual machine?'. Below this, there are two input fields: 'Virtual machine name:' containing 'Ubuntu LAMPP 123170089' and 'Location:' containing 'D:\VM-123170089\Ubuntu LAMPP'. A 'Browse...' button is next to the location field. A note states 'The default location can be changed at Edit > Preferences.' At the bottom are buttons for '< 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 123170089

Location:  
D:\VM-123170089\Ubuntu LAMPP Browse...

The default location can be changed at Edit > Preferences.

< Back   Next >   Cancel

- Isikan processon configuration sesuai pada opsi yang ditentukan.

The screenshot shows the 'New Virtual Machine Wizard' dialog box, specifically the 'Processor Configuration' step. The title bar reads 'New Virtual Machine Wizard' with a close button. The main heading is 'Processor Configuration' with the instruction 'Specify the number of processors for this virtual machine.' Below this, there are three rows of configuration options: 'Processors' with a sub-label 'Number of processors:' and a dropdown menu set to '2'; 'Number of cores per processor:' with a dropdown menu set to '1'; and 'Total processor cores:' with the value '2'. At the bottom are buttons for 'Help', '< Back', 'Next >', and 'Cancel'.

New Virtual Machine Wizard

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

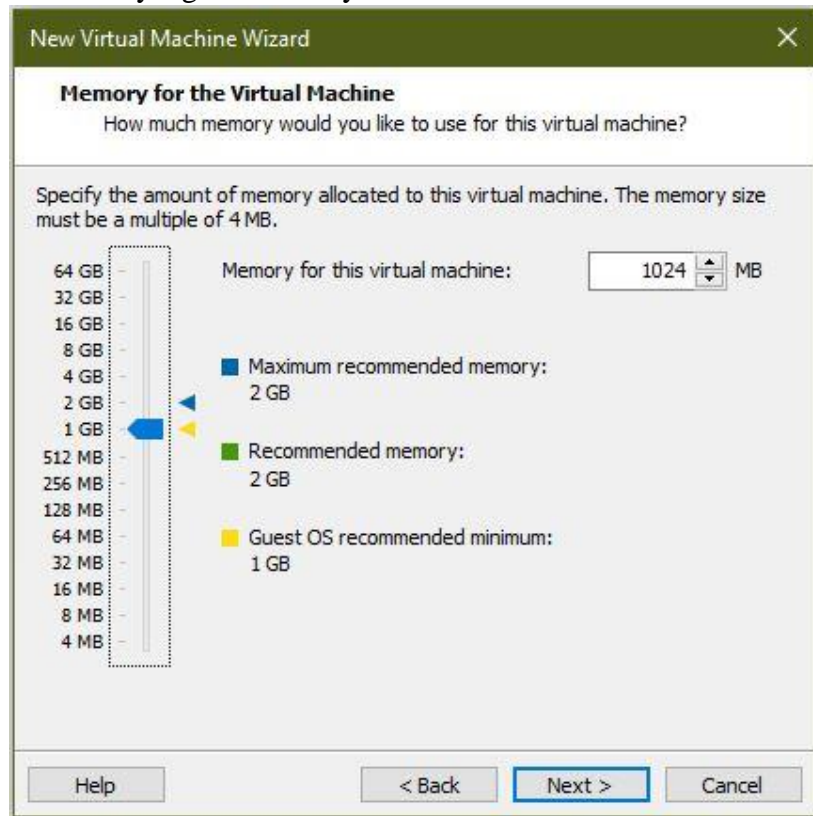
Processors  
Number of processors: 2

Number of cores per processor: 1

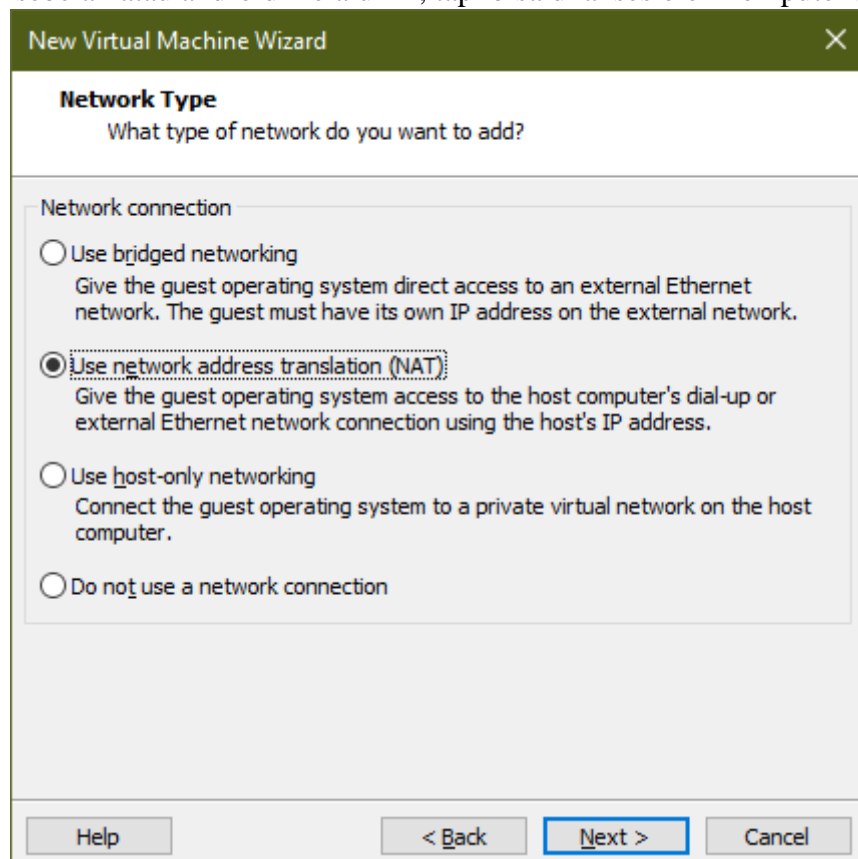
Total processor cores: 2

Help   < Back   Next >   Cancel

- Lalu kita tentukan RAM sesuai opsi, untuk versi server pada umumnya tidak membutuhkan RAM yang terlalu banyak



- Pada mode jaringan kita pilih NAT, mode ini tidak bisa diakses pada dengan komputer sebelah atau android melalui IP, tapi bisa di akses oleh komputer sendiri



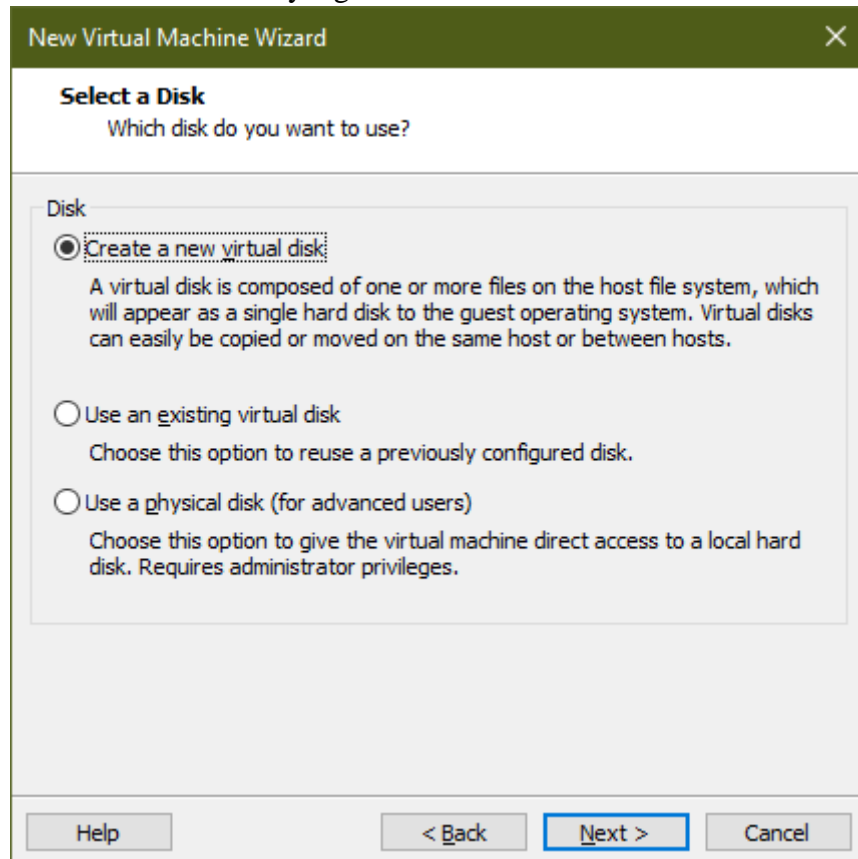
- Lalu pilih LSI Logic (Recommended)

The screenshot shows the 'New Virtual Machine Wizard' dialog box. The title bar is green with a close button. The main title is 'Select I/O Controller Types' and the subtitle is 'Which SCSI controller type would you like to use?'. Below this, there is a section titled 'I/O controller types' containing a 'SCSI Controller:' label and three radio button options: 'BusLogic (Not available for 64-bit guests)', 'LSI Logic (Recommended)' (which is selected), and 'LSI Logic SAS'. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

- Lalu DISK TYPE pilih SCSI (Recommended)

The screenshot shows the 'New Virtual Machine Wizard' dialog box. The title bar is green with a close button. The main title is 'Select a Disk Type' and the subtitle is 'What kind of disk do you want to create?'. Below this, there is a section titled 'Virtual disk type' containing four radio button options: 'IDE', 'SCSI (Recommended)' (which is selected), 'SATA', and 'NVMe'. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

- Lalu kita membuat virtual disk yang baru



The screenshot shows the 'New Virtual Machine Wizard' window, specifically the 'Select a Disk' step. The title bar is green with a close button. The main heading is 'Select a Disk' with the subtitle 'Which disk do you want to use?'. Below this, there's a section titled 'Disk' containing three radio button options. The first option, 'Create a new virtual disk', is selected and has a text box around it. It includes a description: '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.' The other two options are 'Use an existing virtual disk' and 'Use a physical disk (for advanced users)', each with a brief description. At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

**New Virtual Machine Wizard**

**Select a Disk**  
Which disk do you want to use?

Disk

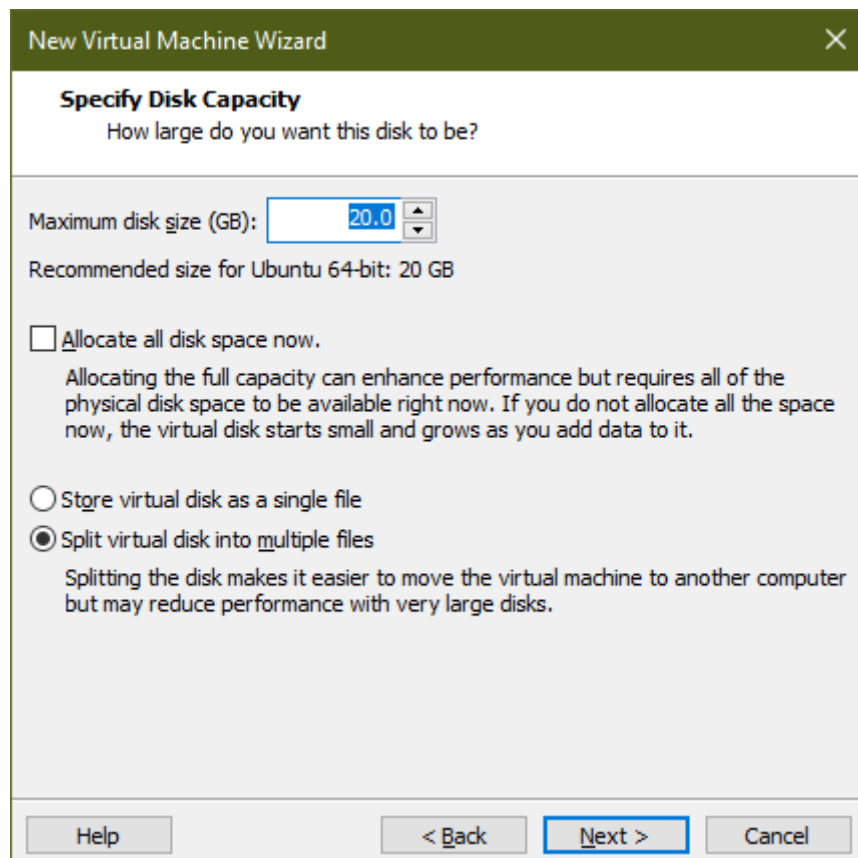
☒ **Create a new virtual disk**  
A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.

☐ 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


- Lalu menentukan besaran disk size (GB) bisa mengambil opsi recommended lalu pilih opsi split



The screenshot shows the 'New Virtual Machine Wizard' window, specifically the 'Specify Disk Capacity' step. The title bar is green with a close button. The main heading is 'Specify Disk Capacity' with the subtitle 'How large do you want this disk to be?'. Below this, there's a text input field for 'Maximum disk size (GB):' with the value '20.0' and a spin button. Below the input field, it says 'Recommended size for Ubuntu 64-bit: 20 GB'. There are two main sections of options. The first section has a checkbox 'Allocate all disk space now.' with a description: '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.' The second section has two radio button options: 'Store virtual disk as a single file' and 'Split virtual disk into multiple files', which is selected. It includes a description: 'Splitting the disk makes it easier to move the virtual machine to another computer but may reduce performance with very large disks.' At the bottom, there are four buttons: 'Help', '< Back', 'Next >' (highlighted with a blue border), 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.

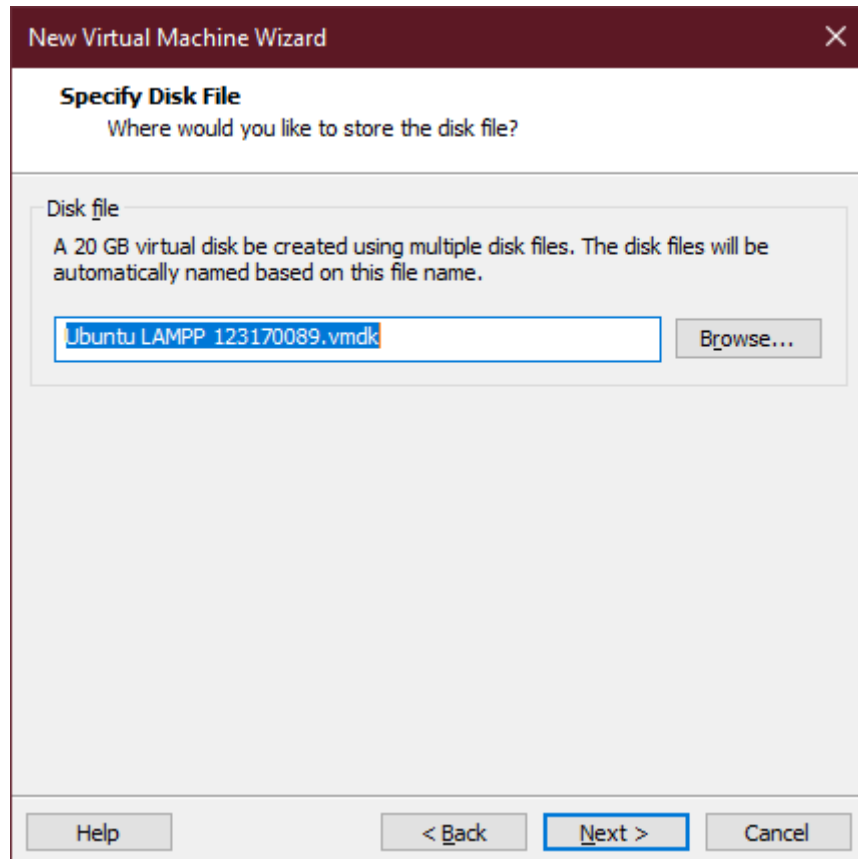
☐ Store virtual disk as a single file

☒ **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.

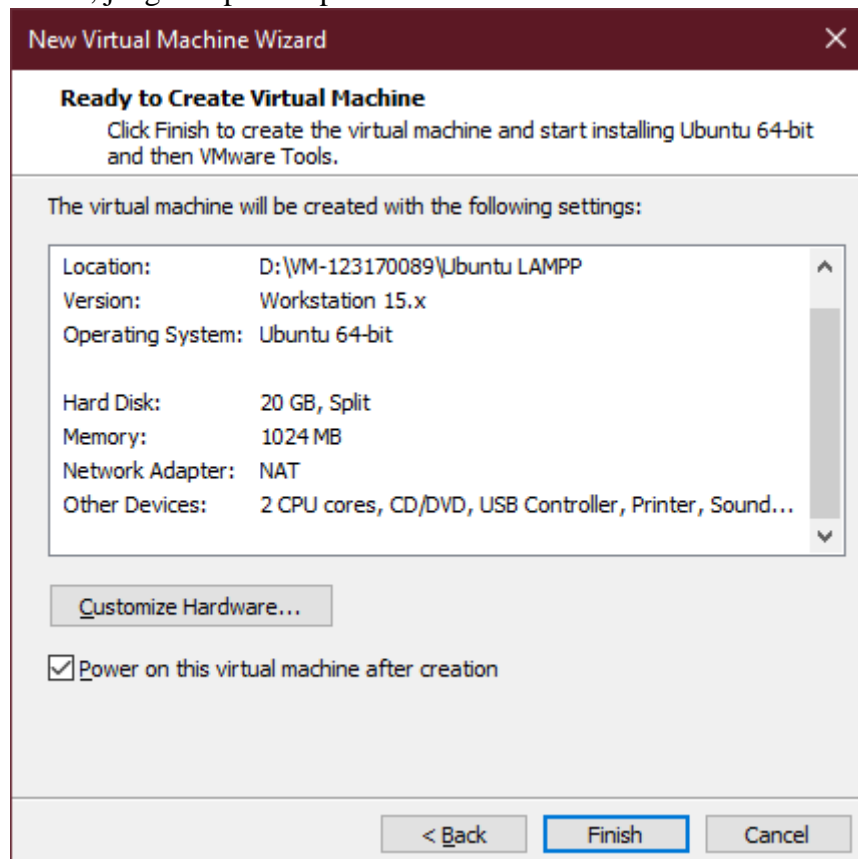
Help < Back **Next >** Cancel



- Confirmasi terakhir



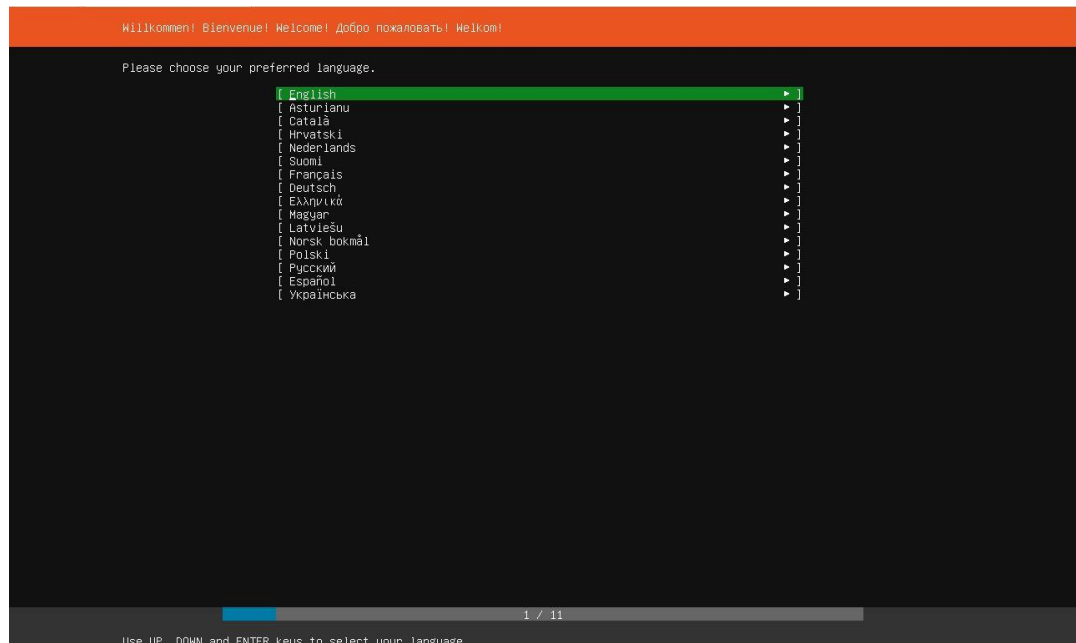
- Lalu klik Finish, jangan lupa klik power on



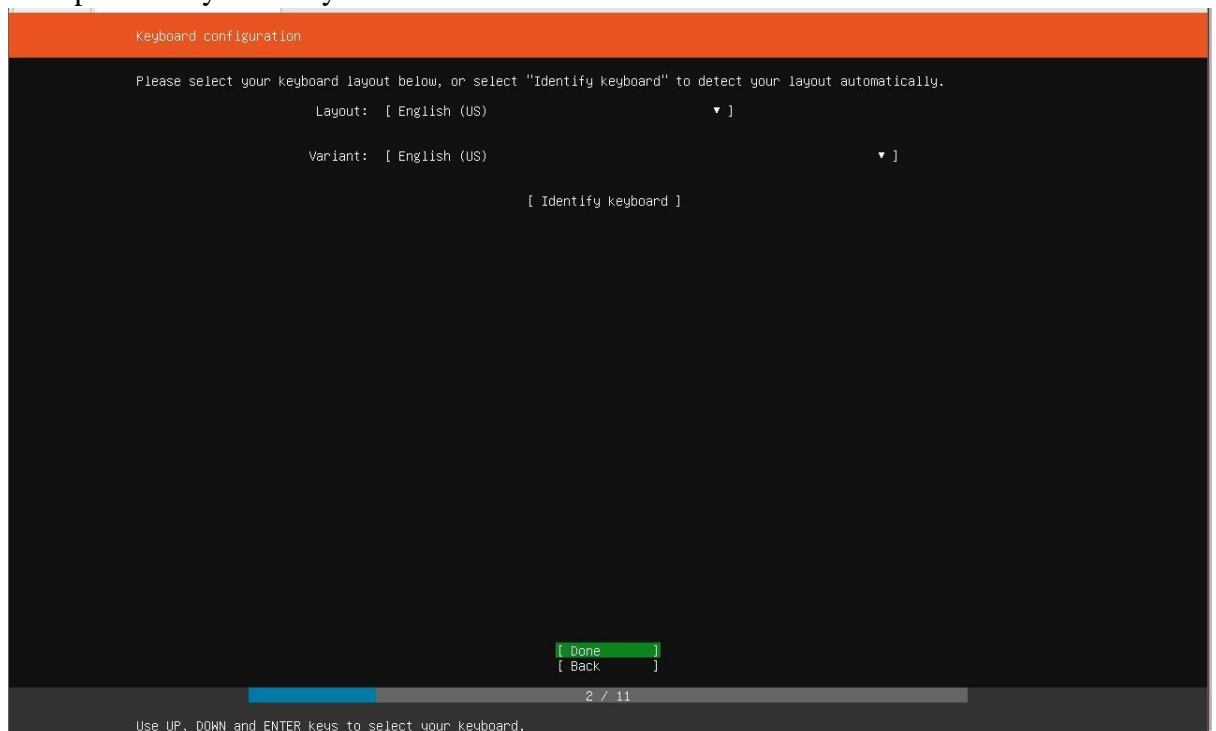
## Proses Instalasi :

Klik biasa pada screen, lalu untuk keluar kombinasi tombol CTRL + ALT

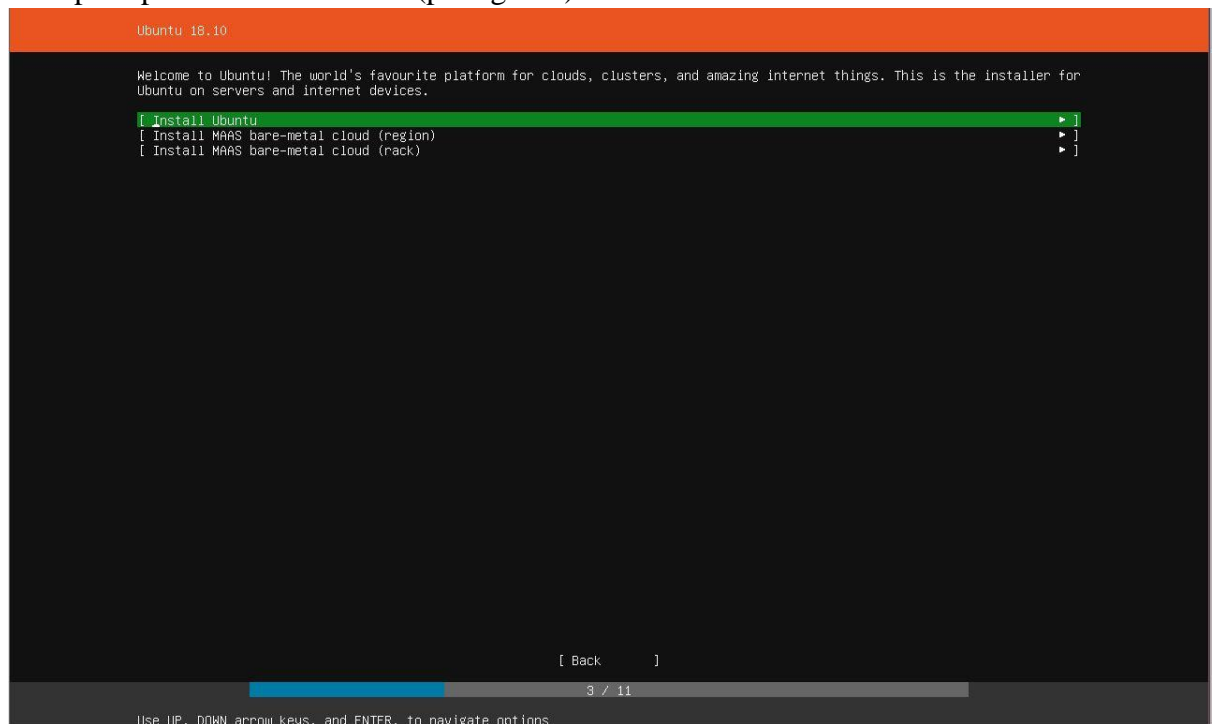
- Pilih Bahasa



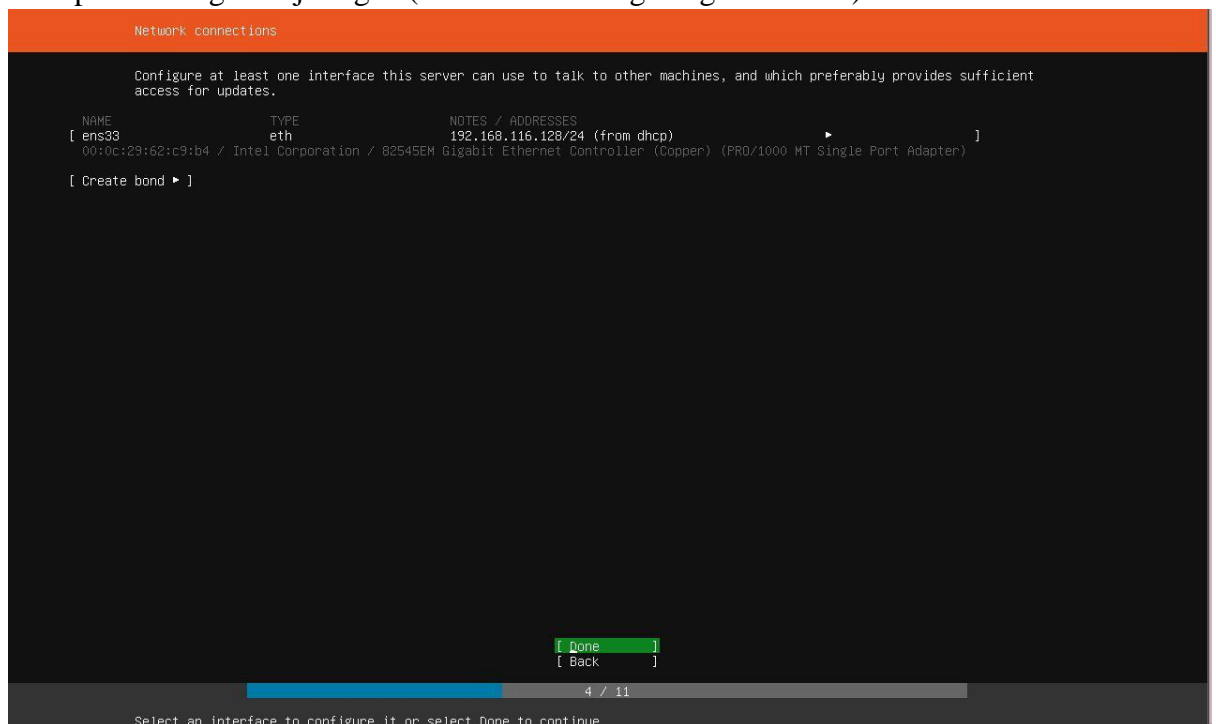
- Lalu pilihan keyboard layout



- Lalu pilih pilihan Ubuntu biasa (paling atas)



- Lalu pilih konfigurasi jaringan (harus tersambung dengan internet)



- Proxy Setting kosong saja (karena settingan di kampus tidak perlu proxy)

Configure proxy

If this system requires a proxy to connect to the internet, enter its details here.

Proxy address:

If you need to use a HTTP proxy to access the outside world, enter the proxy information here. Otherwise, leave this blank.

The proxy information should be given in the standard form of "http://[[user][:pass]@host[:port]]/".

[ Done ]  
[ Back ]

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- Next

Configure Ubuntu archive mirror

If you use an alternative mirror for Ubuntu, enter its details here.

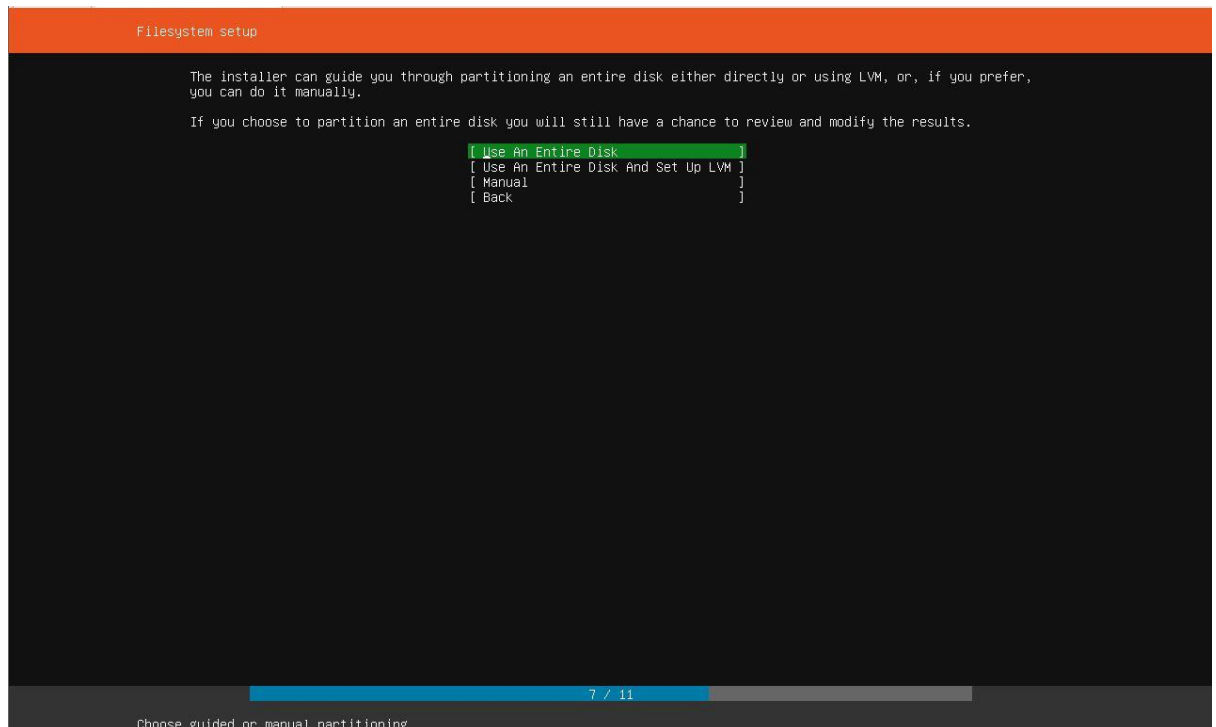
Mirror address:

You may provide an archive mirror that will be used instead of the default 'http://archive.ubuntu.com/ubuntu'

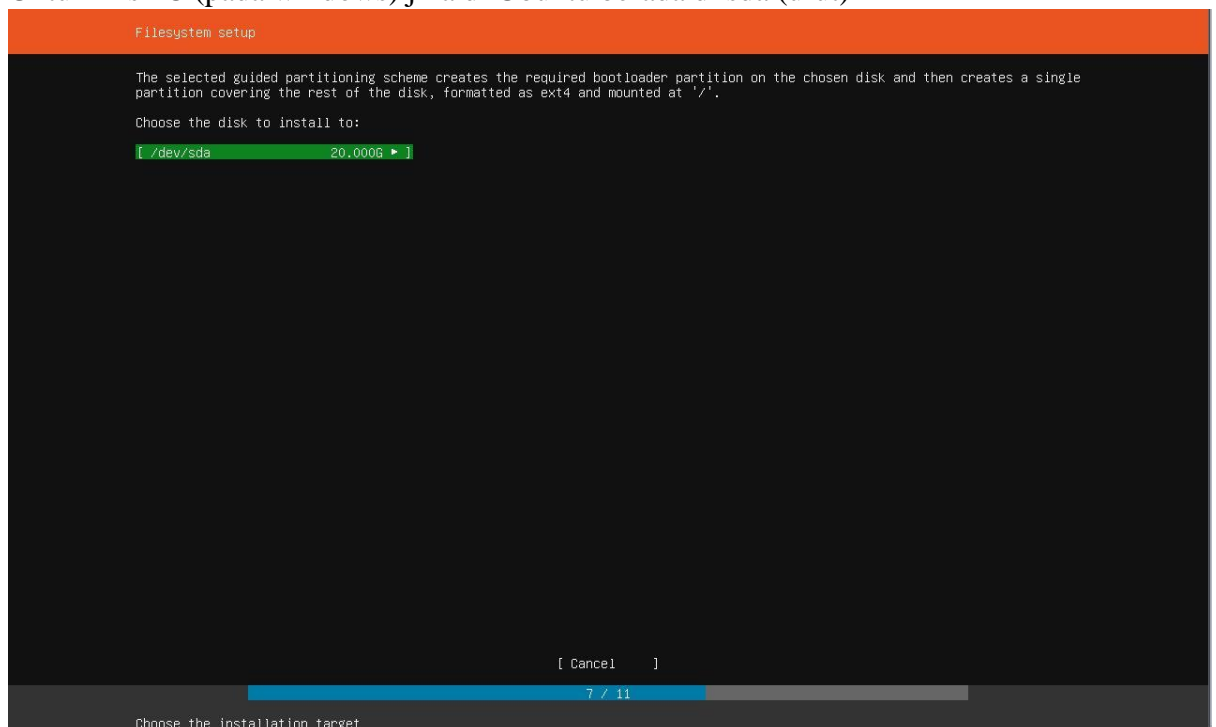
[ Done ]  
[ Back ]

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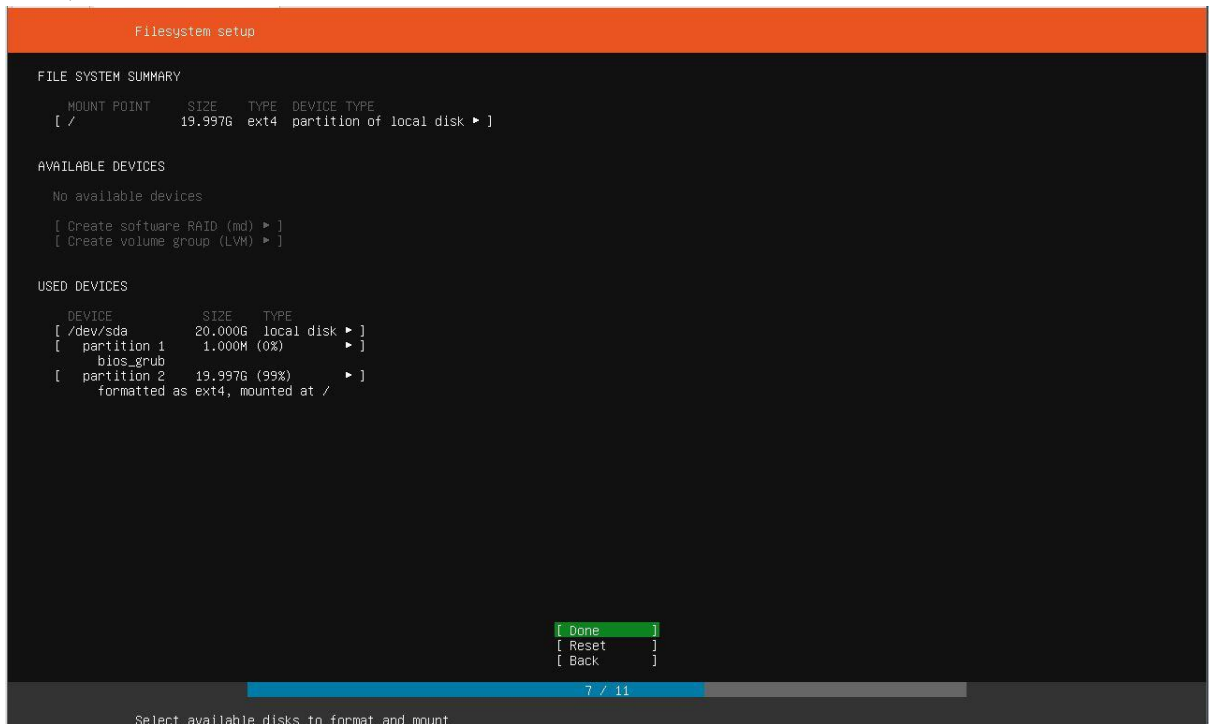
- Pilih Entire Disk



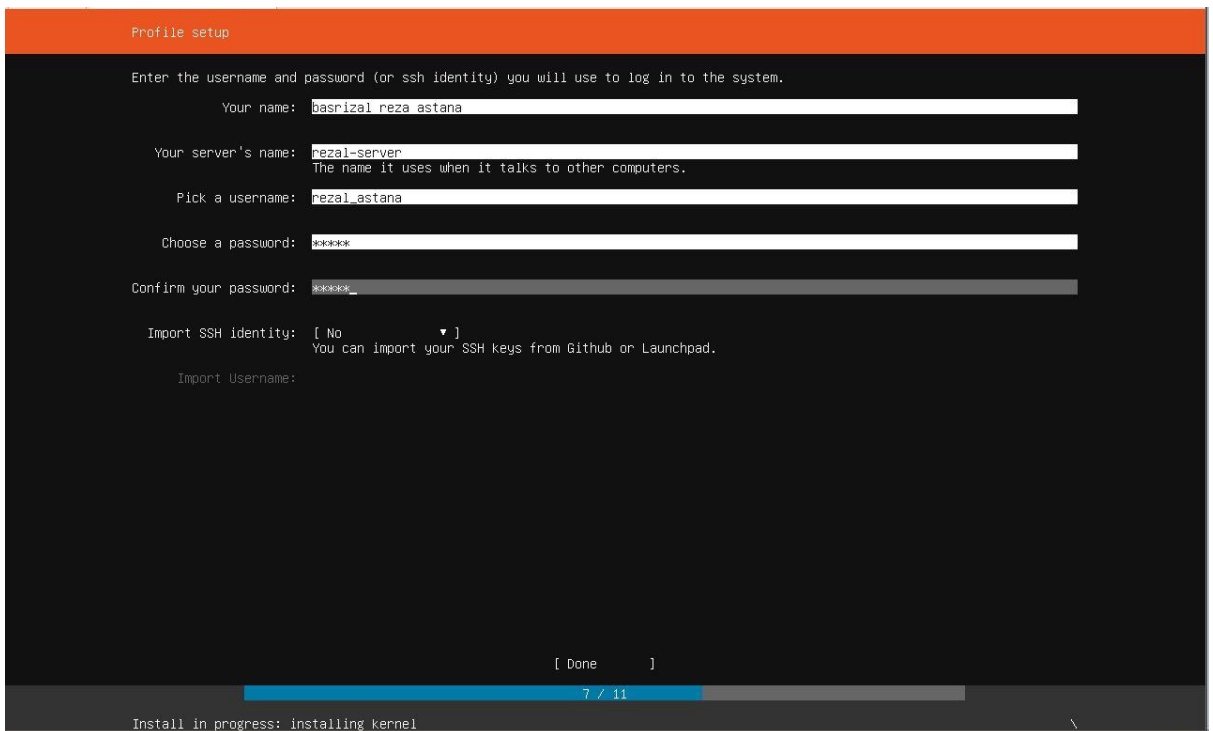
- Untuk Disk C (pada windows) jika di Ubuntu berada di sda (urut)



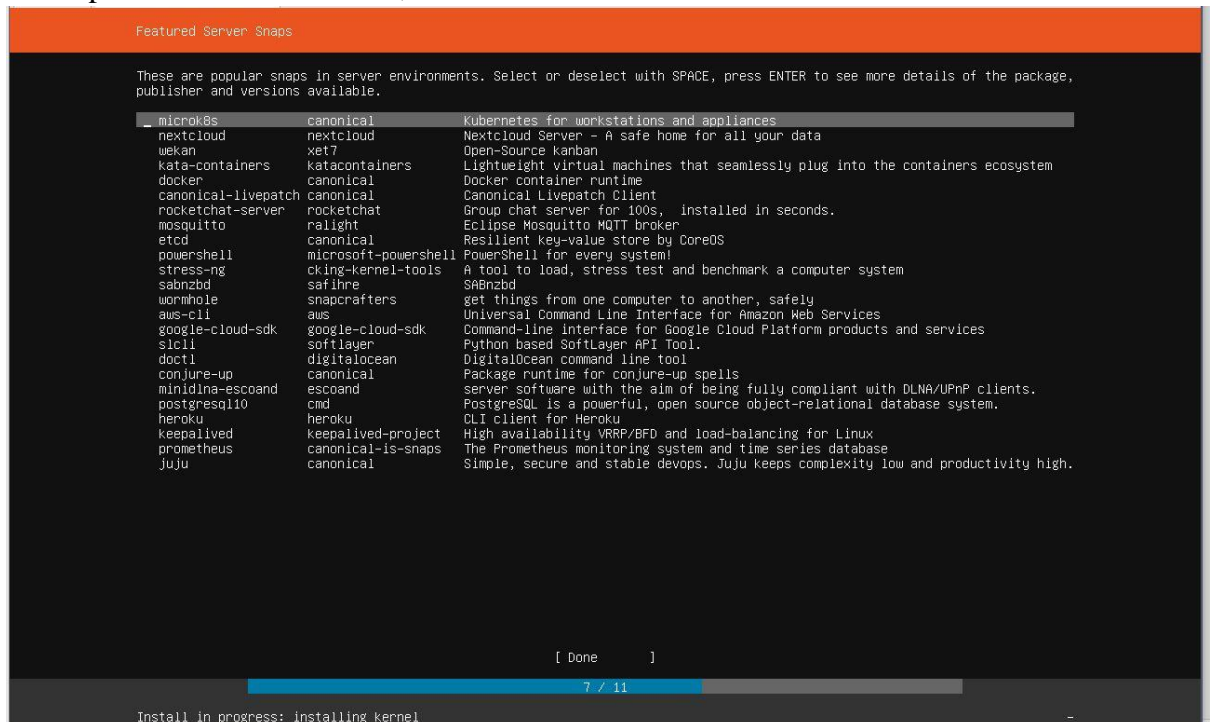
- Next, and Done



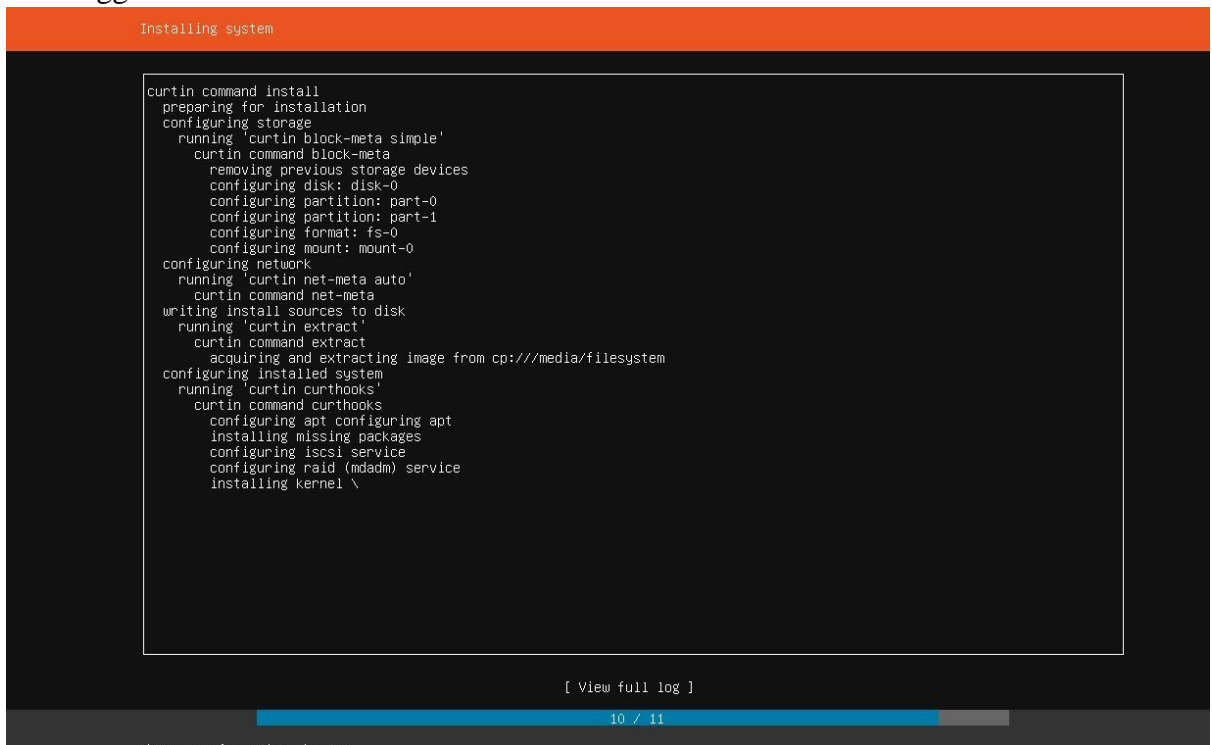
- Isikan sesuai



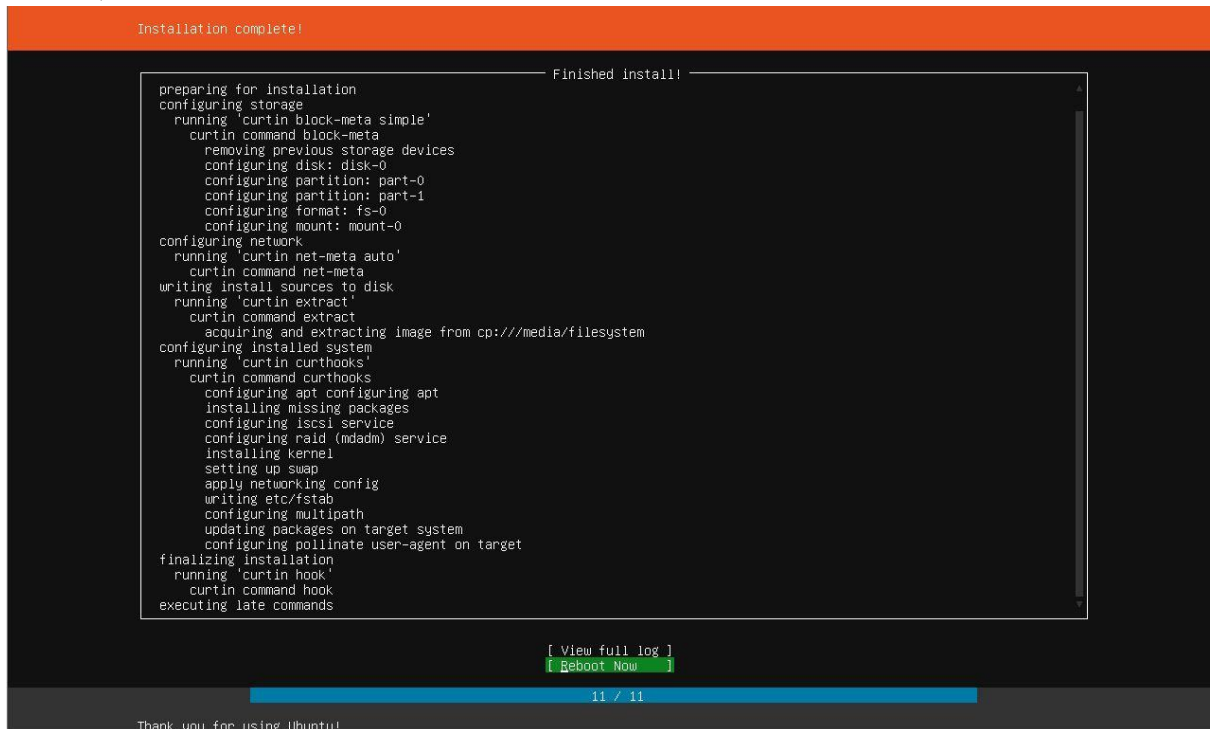
- Tidak perlu instalasi tambahan, done



- Menunggu instalasi



- Reboot,done



- Input username-Password

```

rezal-server login: rezal_astana
Password:
Last login: Thu Feb 13 07:34:23 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 07:46:24 UTC 2020

System load:  0.0               Processes:    159
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.
  
```

- Coba ketikkan sudo su

```

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

rezal_astana@rezal-server:~$ sudo su
  
```



- Lalu akan berubah menjadi root

```
[sudo] password for rezal_astana:  
Sorry, try again.  
[sudo] password for rezal_astana:  
root@rezal-server:/home/rezal_astana#
```

- Lalu kita akan mencoba mengubah dashboard

```
root@rezal-server:/home/rezal_astana# nano /etc/motd
```

- Save dengan CTRL + O



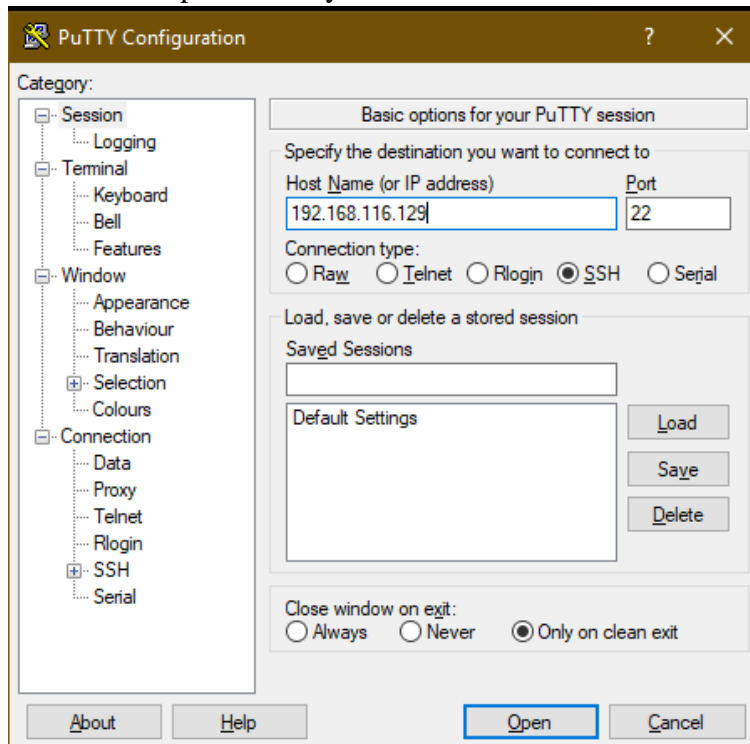
```
GNU nano 2.9.8 /etc/motd Modified  
Hello World_  
  
[ New File ]  
Get Help Write Out Where Is Cut Text Justify Cur Pos M-U Undo M-A Mark Text M-J To Bracket M-P Previous  
Exit Read File Replace Uncut Text To Spell Go To Line M-E Redo M-C Copy Text M-K WhereIs Next M-N Next
```

- Untuk keluar gunakan CTRL + X

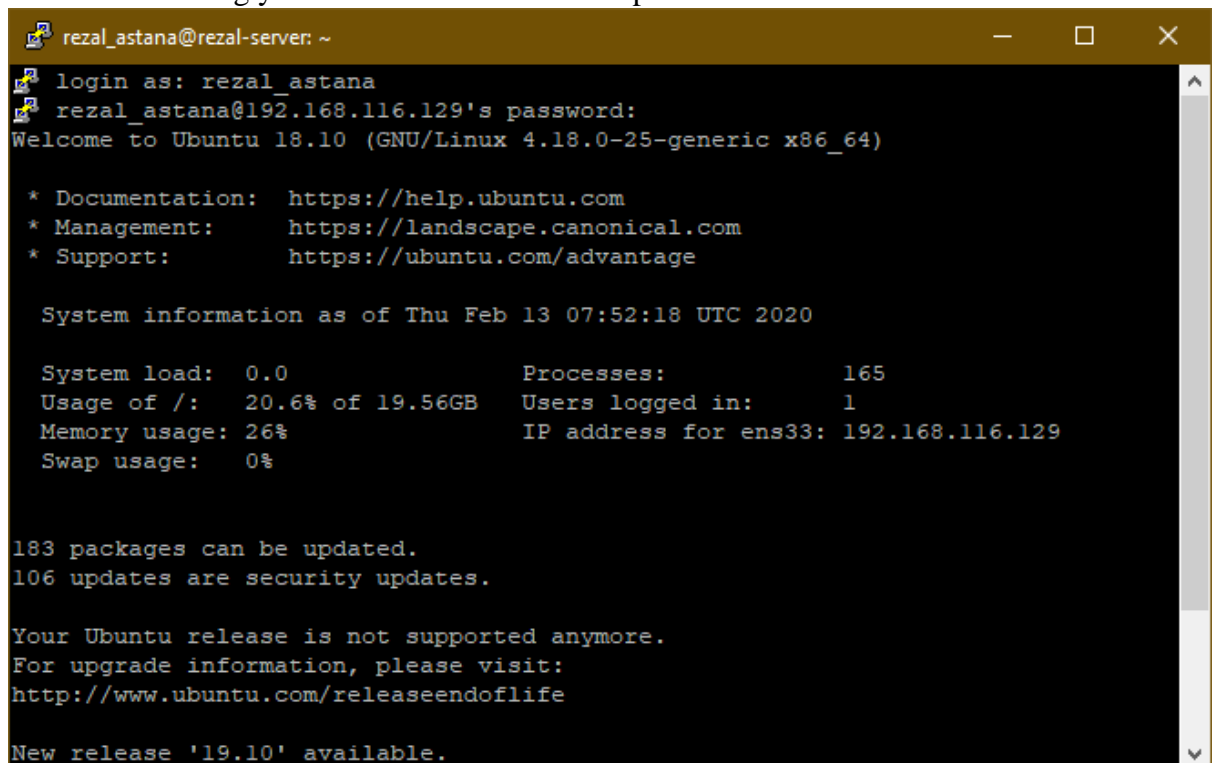
- Lalu cek IP

```
System load: 0.0 Processes: 162  
Usage of /: 20.6% of 19.56GB Users logged in: 0  
Memory usage: 25% IP address for ens33: 192.168.116.129  
Swap usage: 0%
```

- Lalu masuk aplikasi Putty masukkan IP



- Kalau ada warning yes lalu masukkan username password



## Perintah pada Ubuntu

- sudo
- sudo su
- cd
- mkdir
- ls
- cp
- mv
- rm
- nano
- apt
- cat
- chown
- chmod

## EVALUASI

1. Perintah = ls

```
Hello World
Last login: Thu Feb 13 07:49:16 2020
rezal_astana@rezal-server:~$ ls
rezal_astana@rezal-server:~$
```

Tidak menampilkan apa-apa  
Digunakan untuk menampilkan list

2. Perintah = mkdir pertemuan-2

```
Hello World
Last login: Thu Feb 13 07:49:16 2020
rezal_astana@rezal-server:~$ ls
rezal_astana@rezal-server:~$ mkdir pertemuan-2
rezal_astana@rezal-server:~$
```

Dengan perintah tersebut juga tidak menampilkan apa-apa  
Tetapi berfungsi membuat direktori

3. Perintah = ls -l

```
rezal_astana@rezal-server:~$ ls -l
total 4
drwxrwxr-x 2 rezal_astana rezal_astana 4096 Feb 13 07:57 pertemuan-2
rezal_astana@rezal-server:~$
```

Menampilkan direktori yang telah dibuat tadi

4. Perintah = cp -r pertemuan-2 pertemuan-1

```
rezal_astana@rezal-server:~$ cp -r pertemuan-2 pertemuan-1
rezal_astana@rezal-server:~$
```

Tidak terjadi apa-apa  
Berfungsi membuat copy

5. Perintah = ls

```
rezal_astana@rezal-server:~$ ls
pertemuan-1 pertemuan-2
rezal_astana@rezal-server:~$
```

Menampilkan list direktori folder yang telah dibuat

6. Perintah = mv pertemuan-2 "pertemuan 2 LAMPP"

```
rezal_astana@rezal-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
rezal_astana@rezal-server:~$
```

Digunakan untuk mengganti (rename) direktori pertemuan-2 menjadi pertemuan 2 LAMPP

7. Perintah = ls

```
rezal_astana@rezal-server:~$ ls
pertemuan-1 'pertemuan 2 LAMPP'
rezal_astana@rezal-server:~$
```

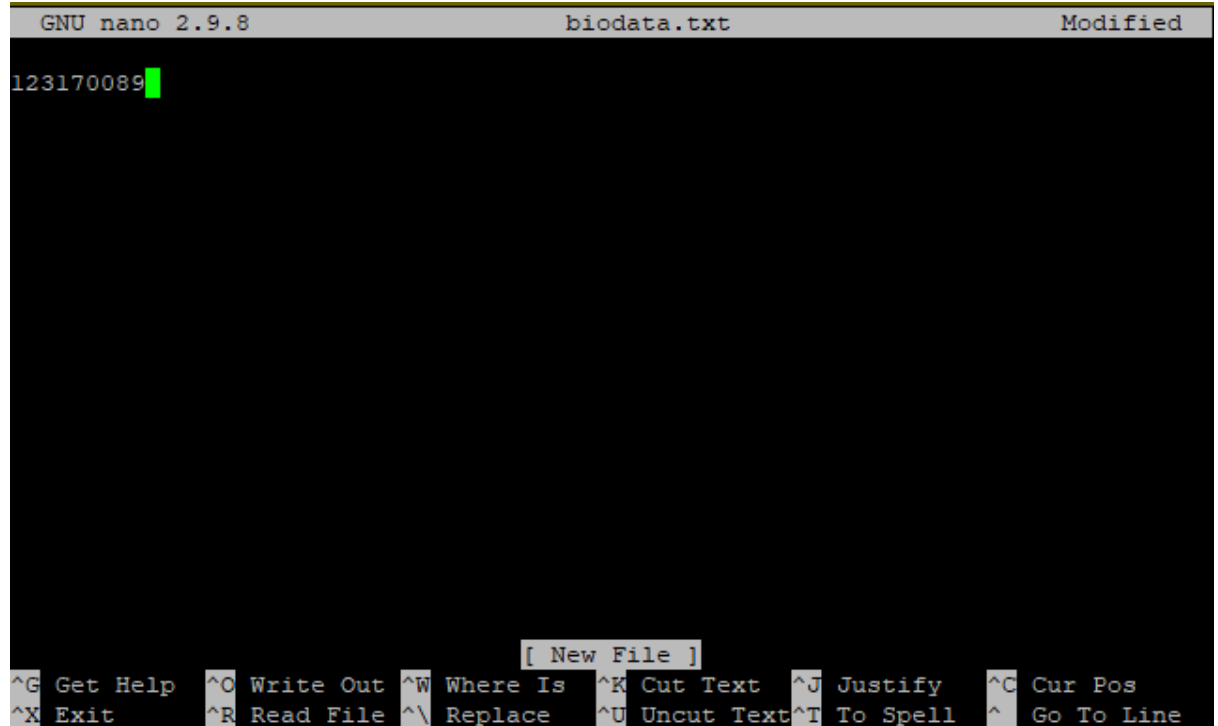
Digunakan untuk menampilkan list

8. Perintah = cd "pertemuan 2 (tab)

```
rezal_astana@rezal-server:~$ cd "pertemuan 2 LAMPP"/  
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$
```

Fungsi tab untuk auto complete

9. Perintah = nano biodata.txt



The screenshot shows the nano 2.9.8 text editor interface. The title bar at the top indicates the file is 'biodata.txt' and it has been 'Modified'. The main editing area contains the text '123170089' followed by a green cursor. At the bottom, a status bar displays various keyboard shortcuts: ^G Get Help, ^O Write Out, ^W Where Is, ^K Cut Text, ^J Justify, ^C Cur Pos, ^X Exit, ^R Read File, ^\ Replace, ^U Uncut Text, ^T To Spell, and ^\_ Go To Line. A '[ New File ]' button is also visible above the status bar.

Untuk menyimpan sebuah txt dengan nama biodata

10. Perintah = ls -l

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

Untuk menampilkan list yang telah kita buat "biodata.txt"

11. Perintah = cat biodata.txt

```
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$ cat biodata.txt  
123170089  
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$
```

Digunakan untuk menampilkan isi dari biodata.txt

12. Perintah = nano biodata.txt

```
123170089
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify  ^C Cur Pos
^X Exit      ^R Read File ^\ Replace  ^U Uncut Text ^T To Spell ^_ Go To Line
```

Isikan sesuai yang diperintah kan 1-20 untuk menambahkan pada biodata.txt, save and exit

13. Perintah = cat biodata.txt

```
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$ cat biodata.txt
123170089
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$
```

Menampilkan data yang telah kita ubah tadi

14. Perintah = tail biodata.txt

```
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$ tail biodata.txt
11
12
13
14
15
16
17
18
19
20
rezal_astana@rezal-server:~/pertemuan 2 LAMPP$
```

\Menampilkan data dari segmen bawah