

Jumat, 14 Februari 2020

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Mata Kuliah : Praktikum Cloud Computing

## Pertemuan ke-2

### Pengenalan VMware Workstation dan Linux OS

#### A. VMware Workstation

VMware Workstation digunakan untuk virtualisasi(menciptakan versi maya) OS untuk bisa memakai banyak OS dalam satu PC.

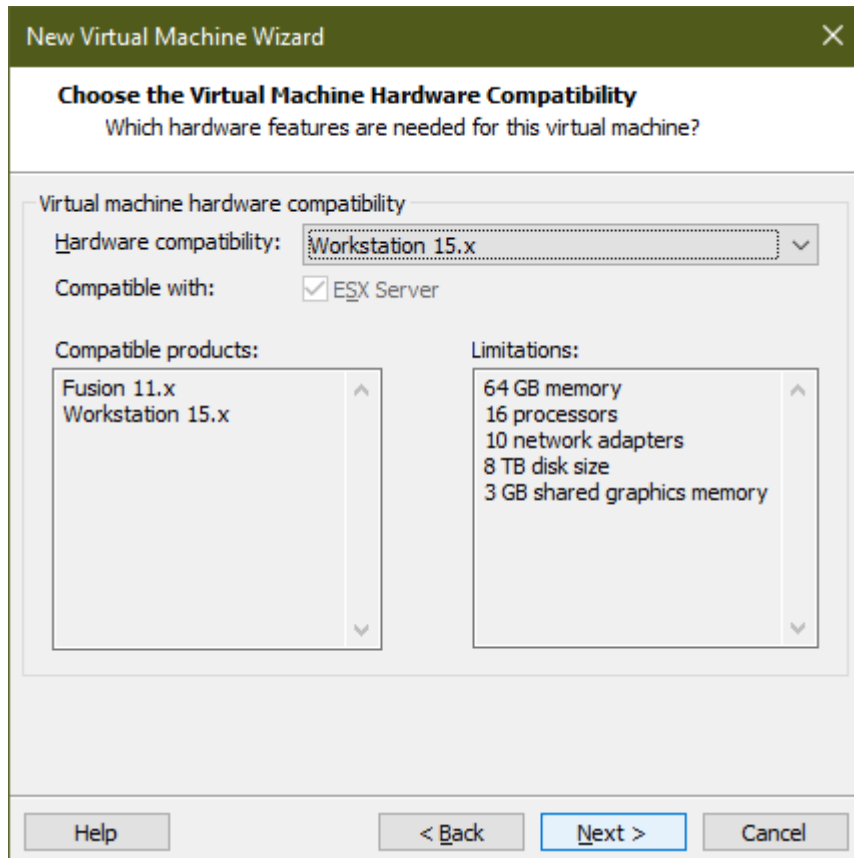
1. Virtual OS
2. VMware Workstation
3. OS PC
4. Hardware PC

Fasilitas Swapping digunakan untuk menggunakan VMware dalam RAM yang tidak cukup(preferensi->memory->allow most virtual). VMware akan menggunakan port 443 sehingga apache xampp menjadi error(perbaiki: preferensi->shared VMs->enable sharing).

Tahapan pembuatan VM :



1. Pilih opsi Custom



2. Pilih hardware compatibility Workstation 15.x versi terbaru(XP = 10.x kebawah)

**New Virtual Machine Wizard** [X]

**Guest Operating System Installation**  
A virtual machine is like a physical computer; it needs an operating system. How will you install the guest operating system?

Install from:

☒ **Installer disc:**  
DVD RW Drive (F:) [v]  
⇒ Insert the installer disc into this drive to continue.

☐ **Installer disc image file (iso):**  
[ ] [v] [Browse...]

☐ **I will install the operating system later.**  
The virtual machine will be created with a blank hard disk.

[Help] [ < Back ] [ Next > ] [Cancel]

- Pilih Installer disk image file dan cari folder OS.iso

**New Virtual Machine Wizard** [X]

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

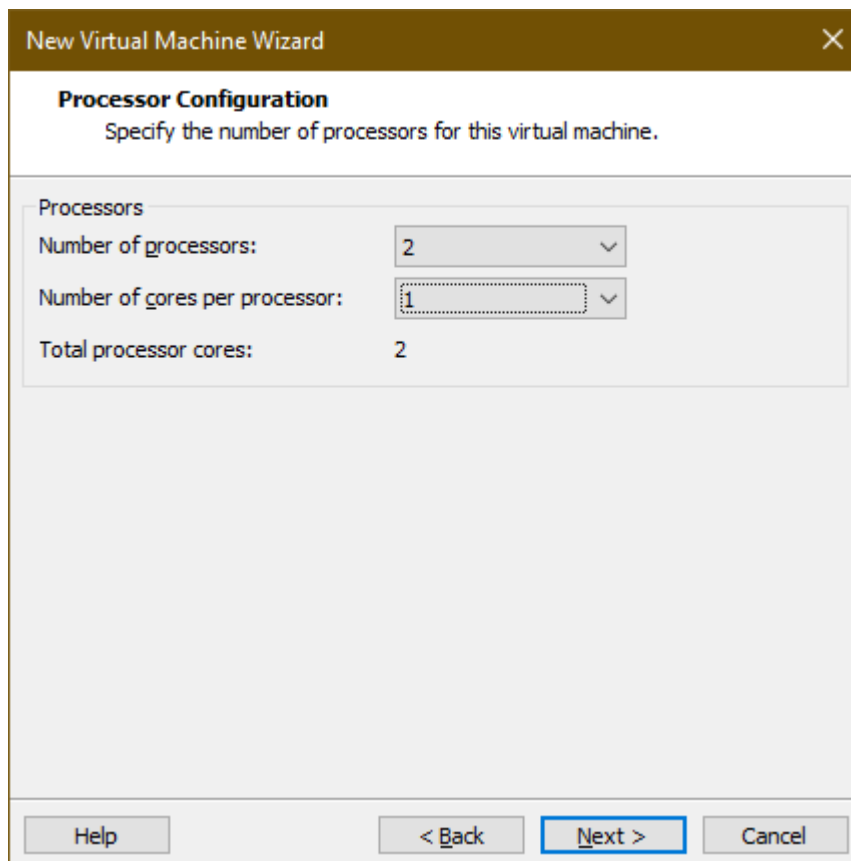
Virtual machine name:  
[ Ubuntu LAMPP 123180027 ]

Location:  
[ D:\VM-123180027\Ubuntu LAMPP ] [Browse...]

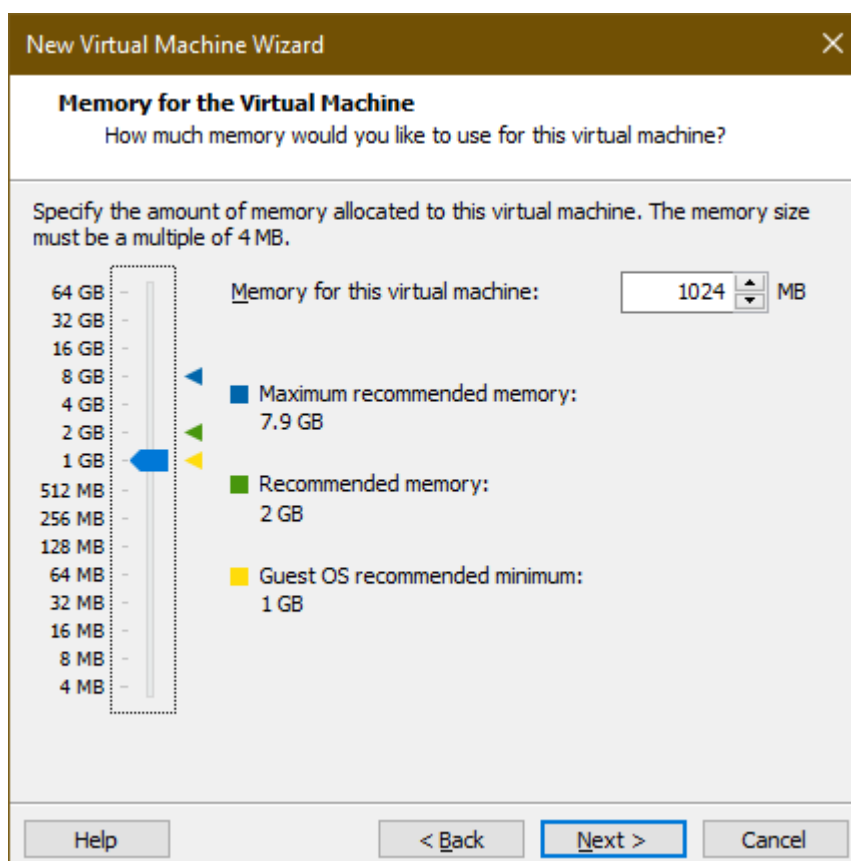
The default location can be changed at Edit > Preferences.

[ < Back ] [ Next > ] [Cancel]

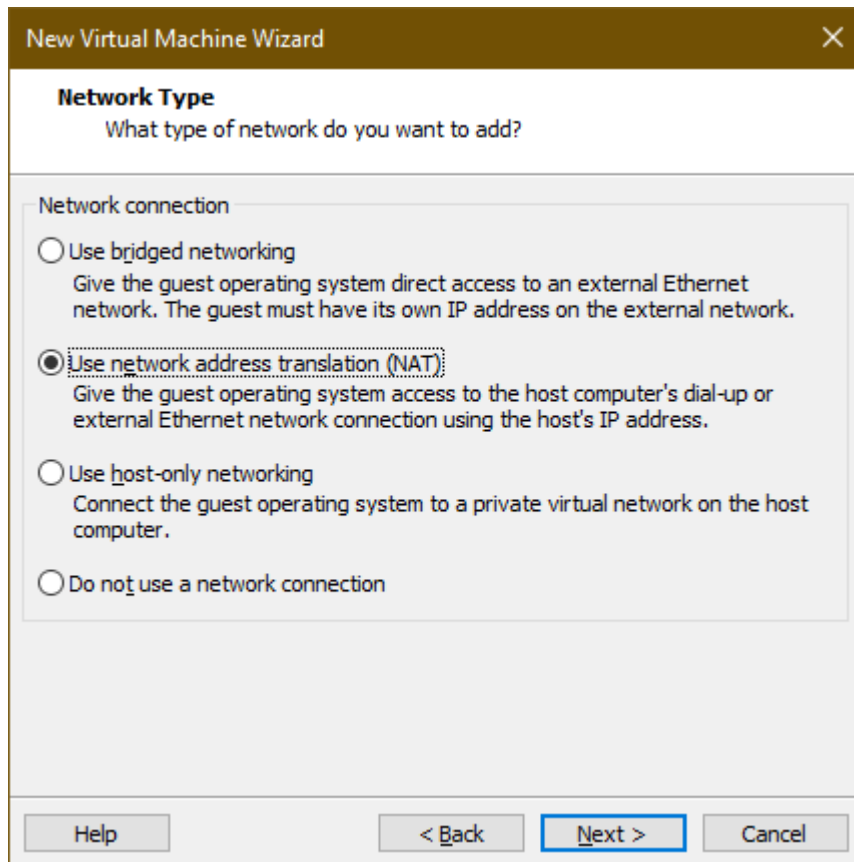
- Isi nama VM dan tempat penyimpanan data VMnya



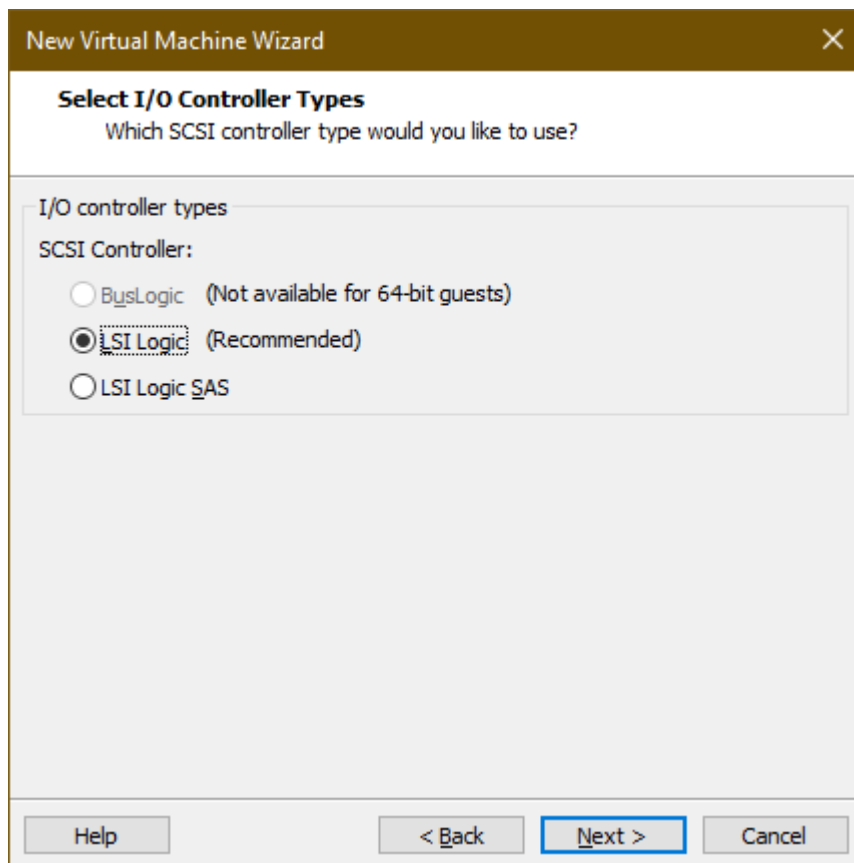
5. Tentukan processornya dan core processornya, usahakan seimbang agar tidak memberatkan pcnya



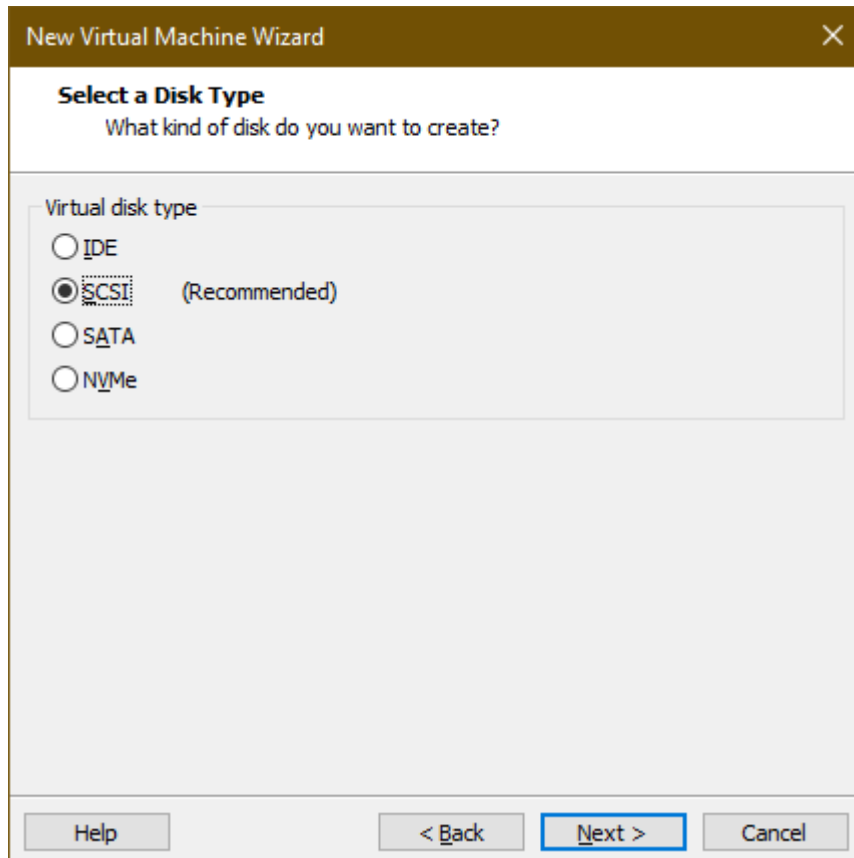
6. Tentukan RAM untuk VMnya(tidak terlalu kecil untuk membuat VM bekerja cepat dan tidak terlalu besar biar PC tidak terlalu berat)



7. Tentukan jaringan dan ip address dari VMnya



8. Tentukan I/O controllernya



9. Tentukan virtual disknya

**New Virtual Machine Wizard** [Close]

**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 ]

10. Tentukan disk untuk VMnya

**New Virtual Machine Wizard** [Close]

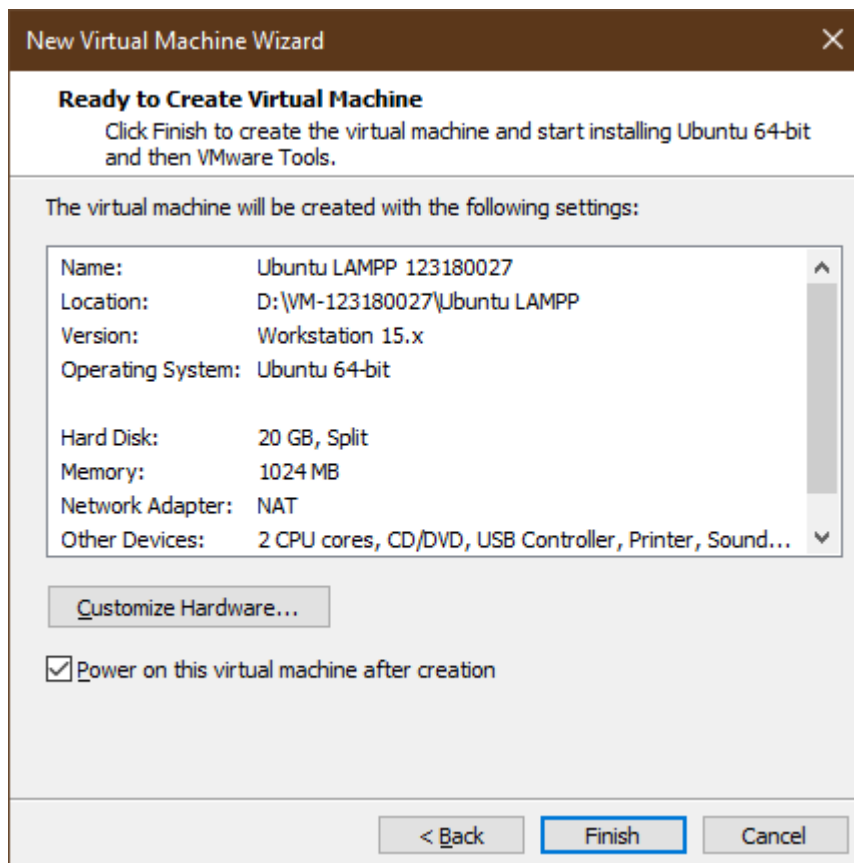
**Specify Disk Capacity**  
How large do you want this disk to be?

Maximum disk size (GB):  [Up] [Down]  
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.

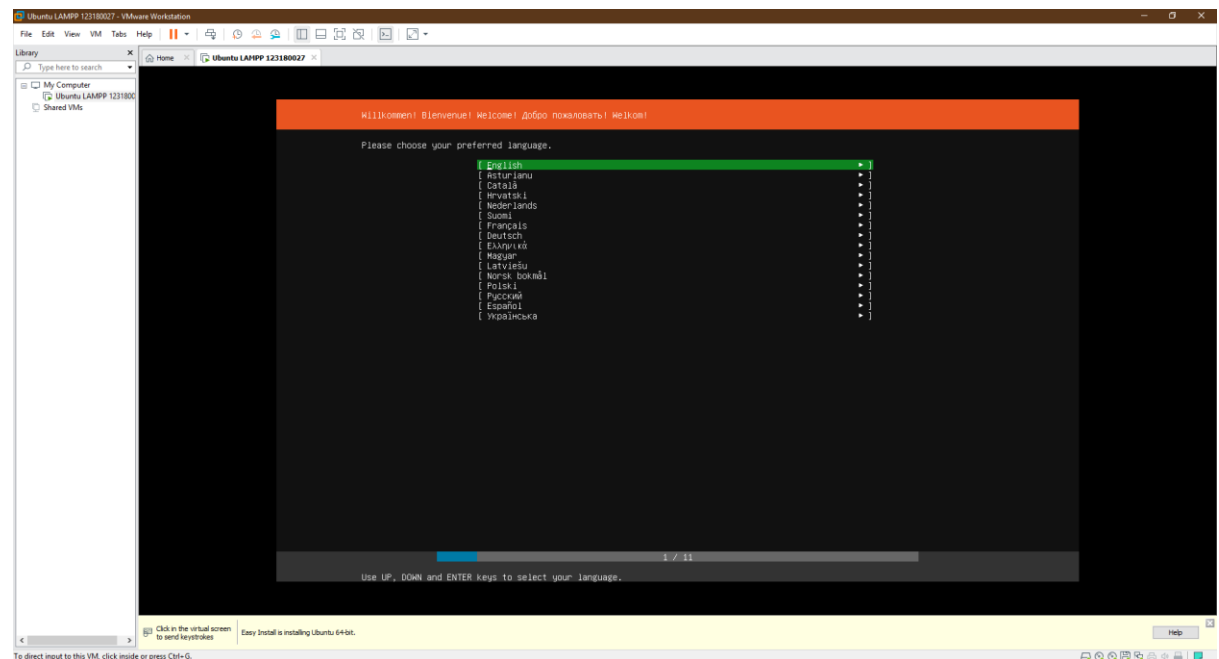
[Help] [ < Back ] [ Next > ] [ Cancel ]

11. Tentukan disk capacity untuk VM



12. Tampilan dari VM yang sudah dibuat

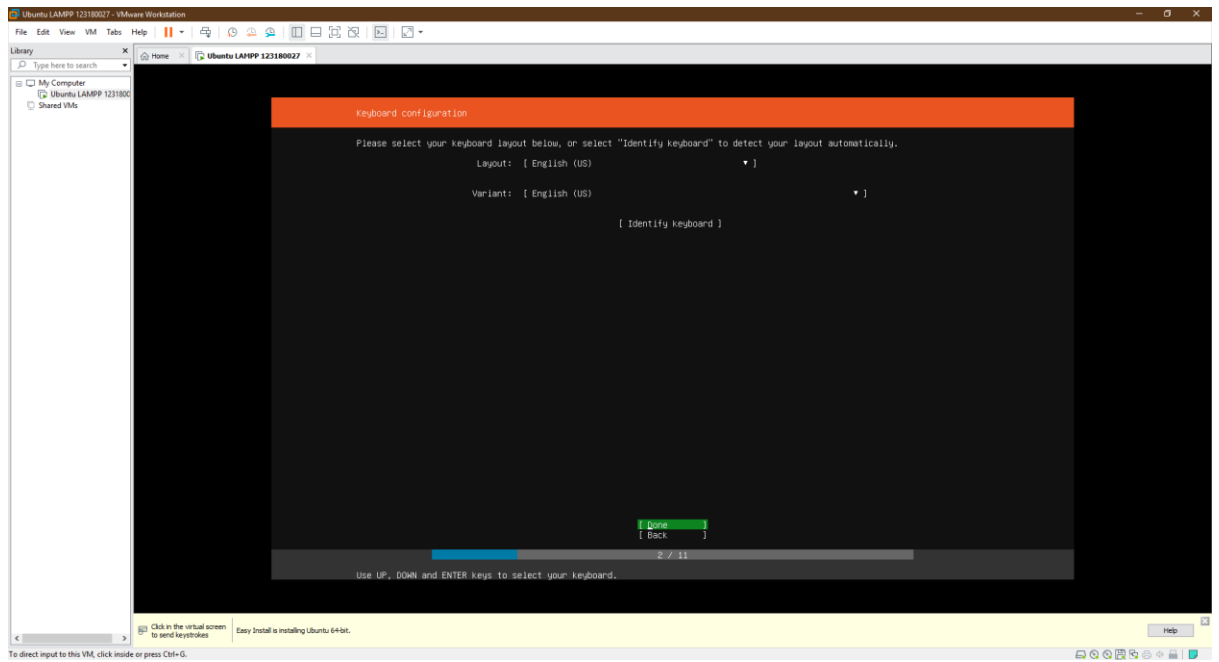
## Instalasi OS di VMware



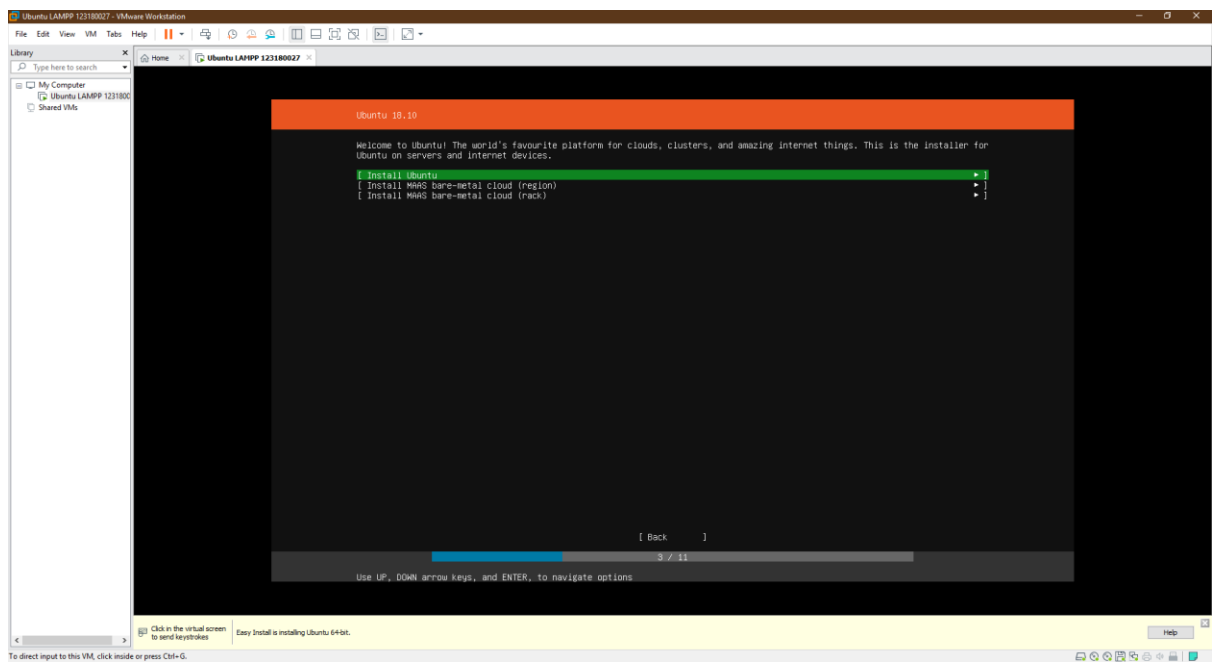
1. Click di dalam atau ctrl+g untuk interaktif di VMnya dan keluar dengan ctrl+alt.

Pertama pilih bahasa OS(default : english)

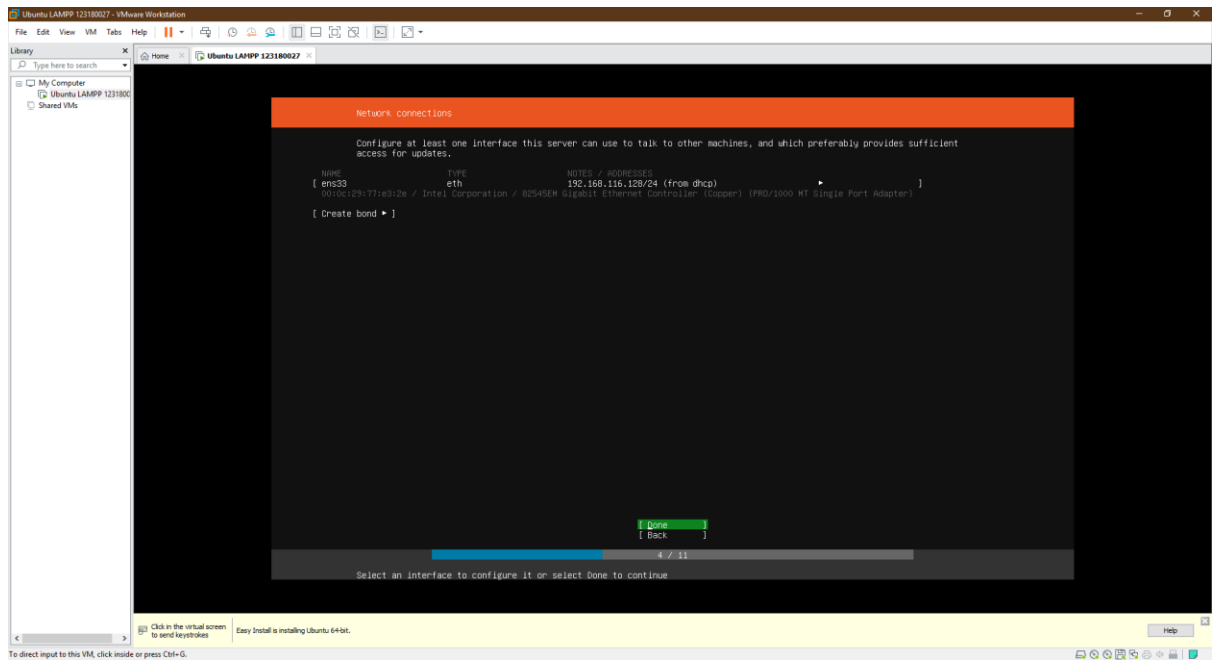




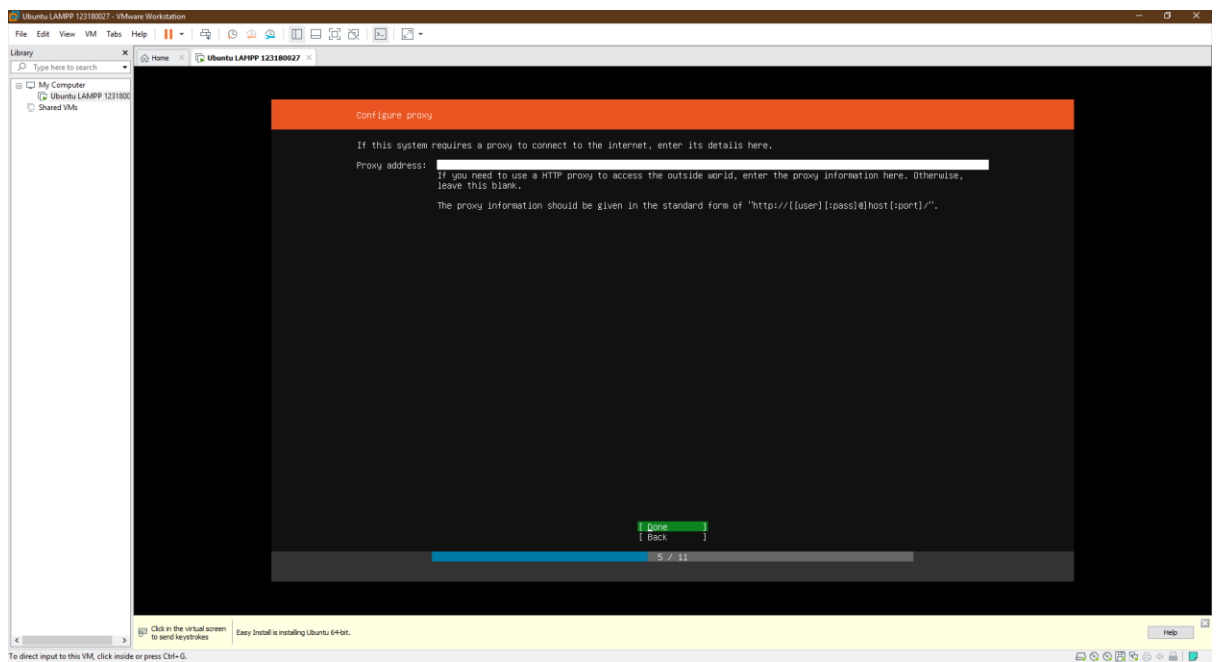
## 2. Pilih keyboard layout(default)



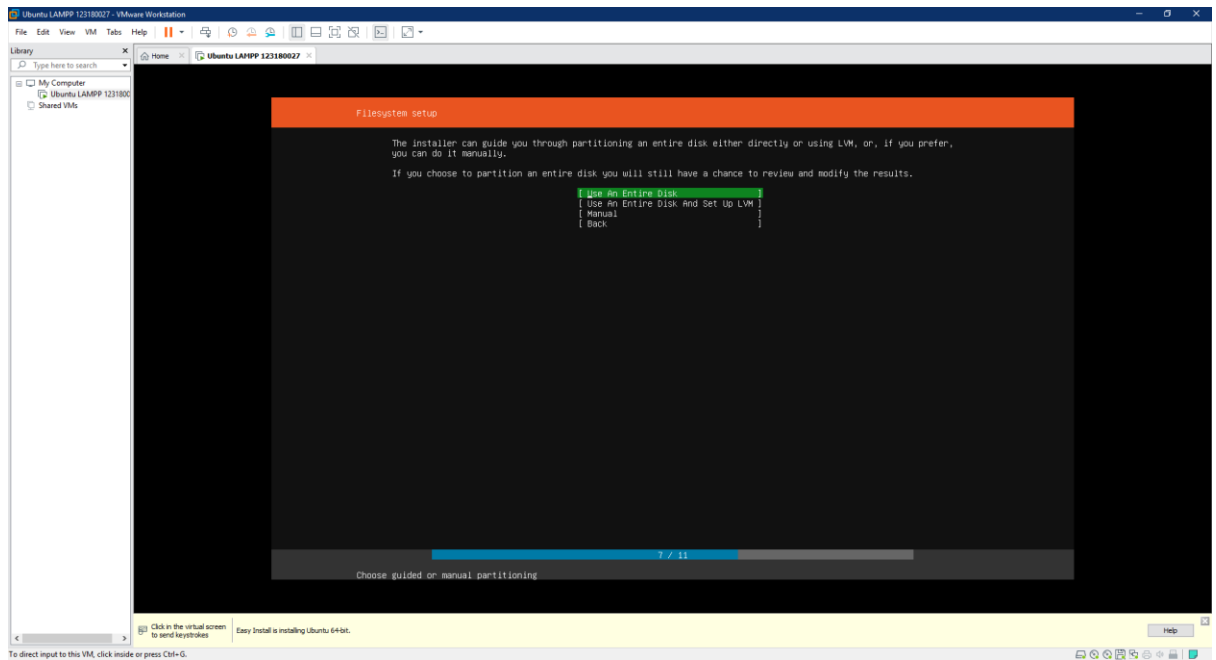
## 3. Pilih menu OSnya



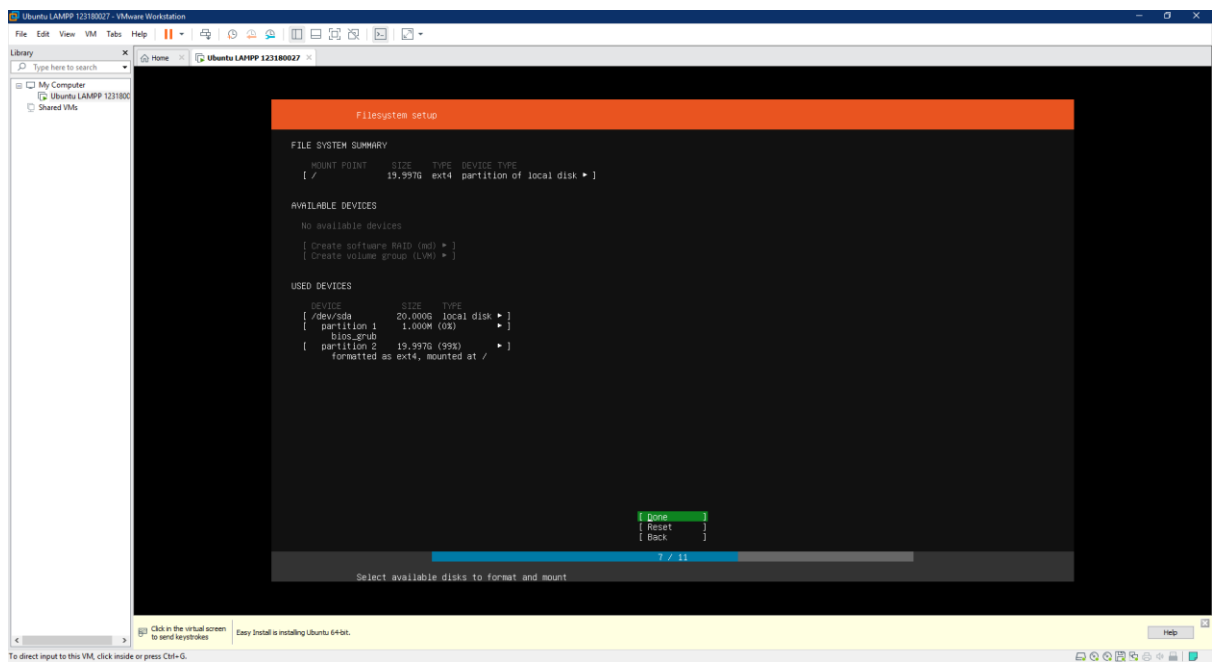
#### 4. Tampilan hasil ip addressnya(NAT)



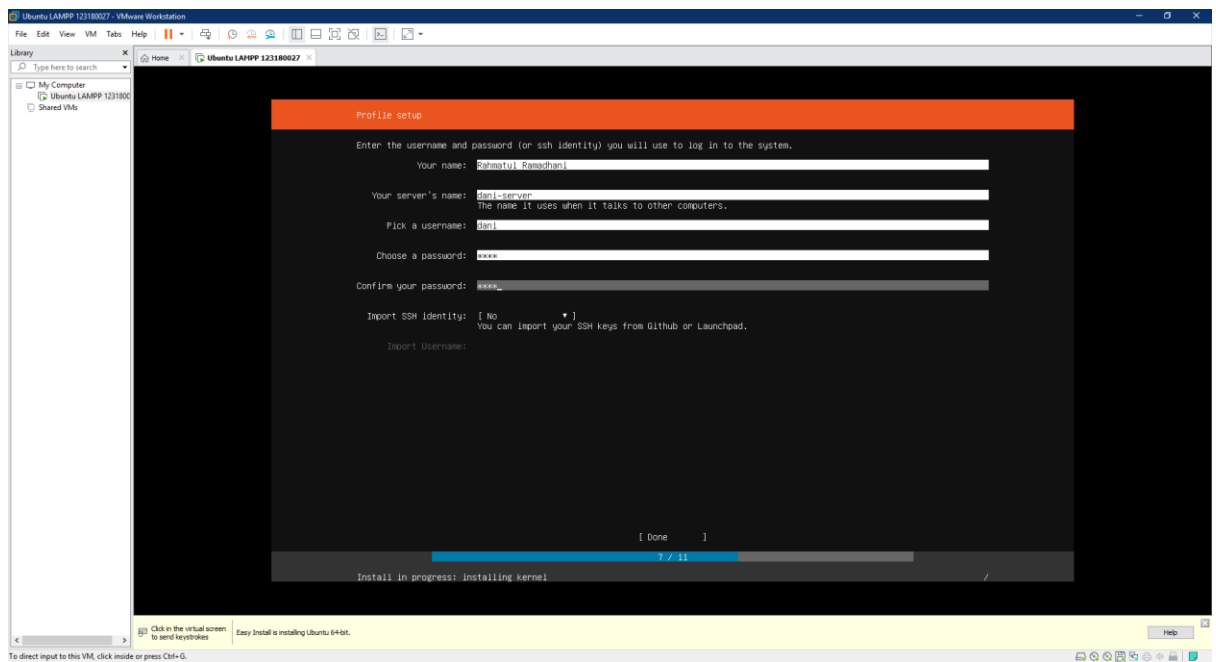
#### 5. Tentukan proxynya(kalau tidak ada kosongkan)



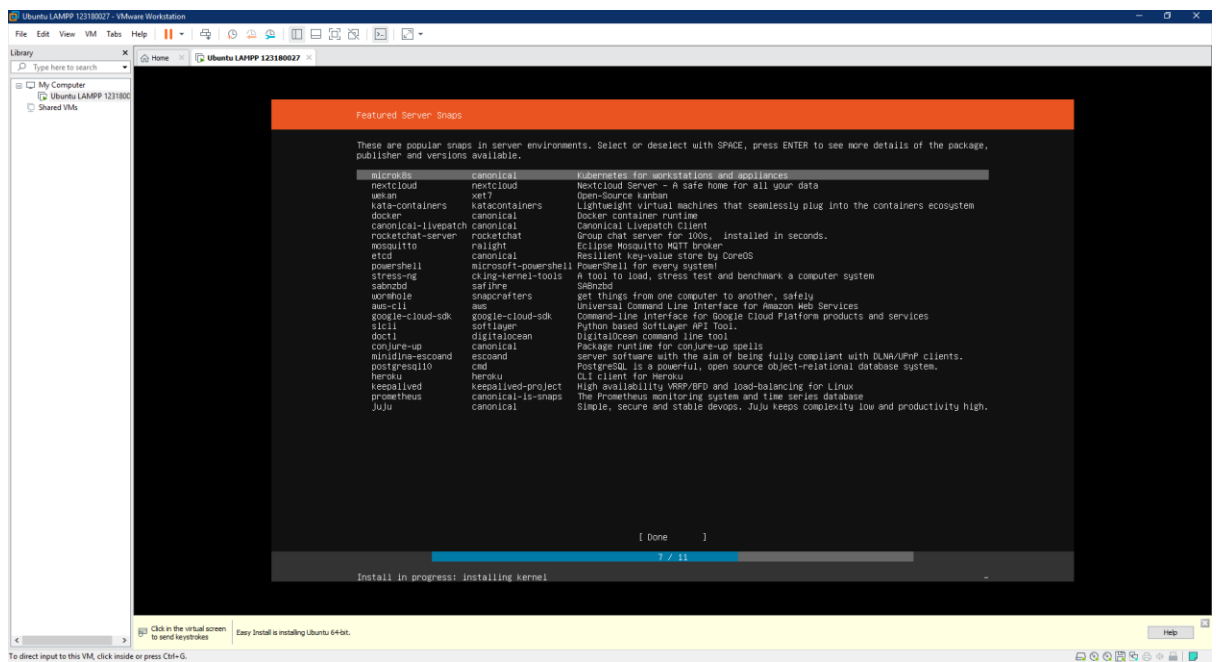
## 6. Pilih partision disknya



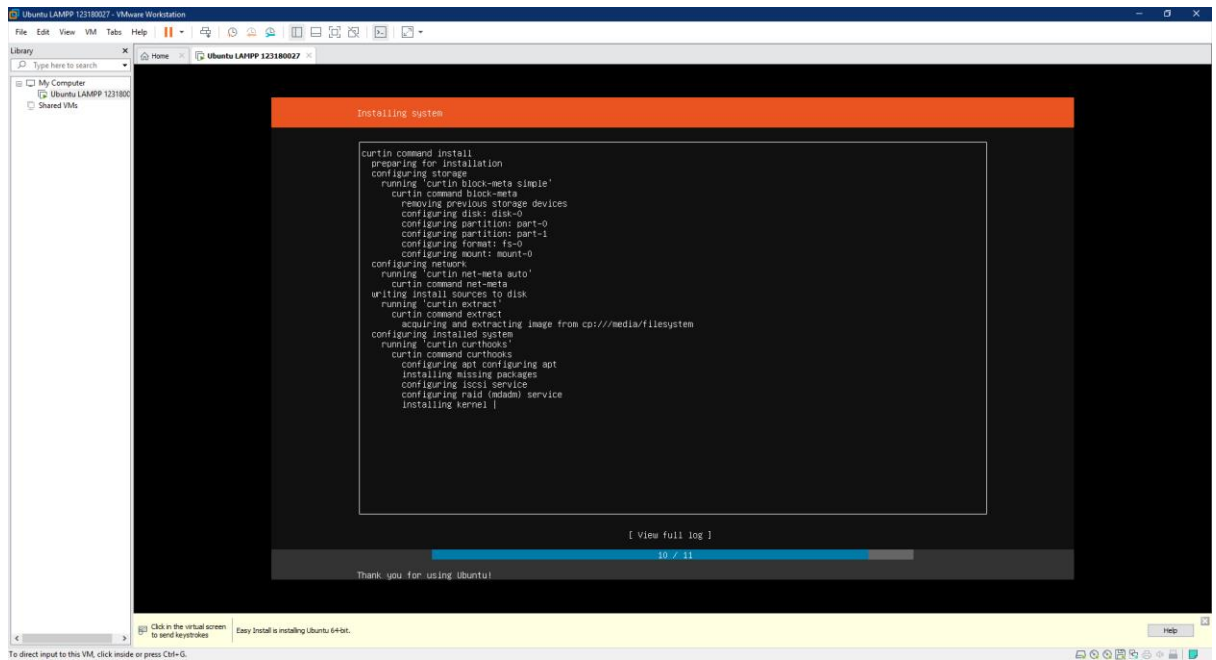
## 7. Konfirmasi partisinya



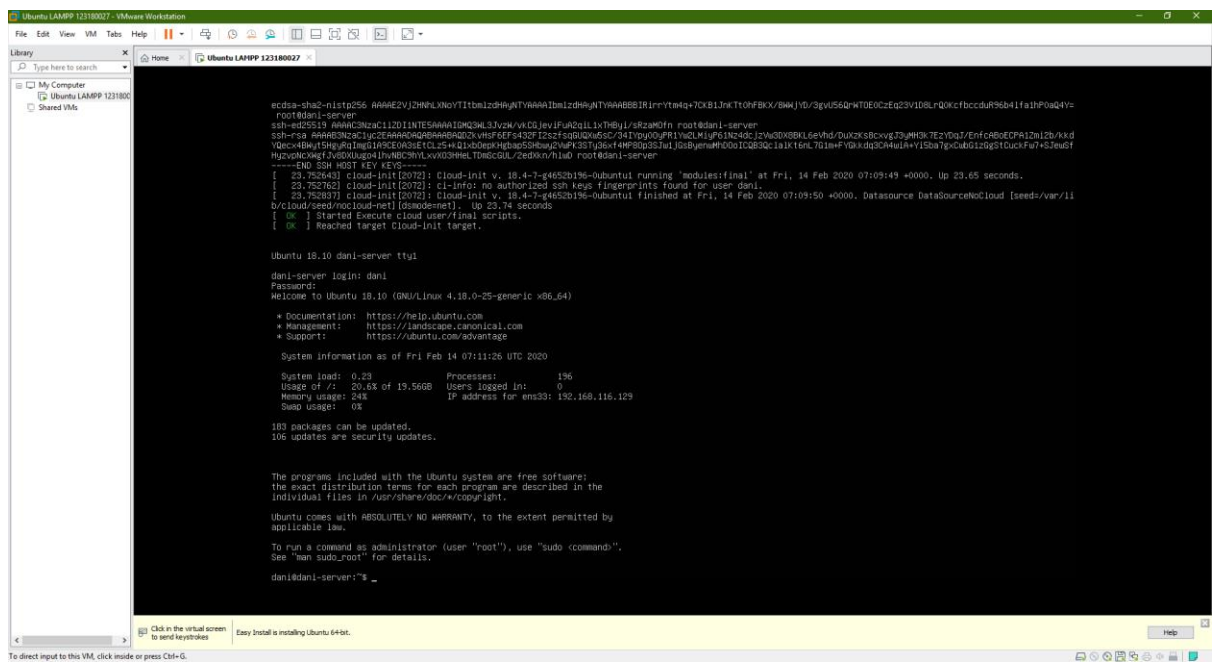
## 8. Konfigurasi OSnya



## 9. Pilih featured untuk OSnya



## 10. Menunggu hasil instalasinya



## 11. Jika tampilannya seperti ini artinya VMware sudah siap, masukan username dan passwordnya

```
ssh-ed25519 AAAAC3NzaC1lZD01NTESAAAG1MQ3M3I3vsk/vx0CjeVUfuR2qL1v7BjL/sE2aM0fn root@dani-server
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQ2KvH6F6FFs432F12s2fsg0UQW65C/341tpy00yPR1VdLM1yP61N24dcJ2Vw0X0BKL6evhdUuxz8bCkv79MH3k7E2YQq7/EnfCAB0E0F912w12b/vkd
YQecx8Wj15hgJq1mg1P4CE0A3ETCL2544Q1x0dnpHpb495SHwJcVhP387y3644Nf8cp3JwJjG8ByemH00GIC083Qc1a1K16NL761mFVgkddq3CAHu1A+V15ba7gxubd12g5St0ckFw7+5Jeu5f
Hgvv0Kw6E13v0VUgag1JwNB7m1Lxw039H6LT08CZUL2edKxv/1h4D root@dani-server
-----END SSH HOST KEY-----
[ 23.728493] cloud-init[2072]: Cloud-init v. 18.4-7-g4652b196-ubuntu running 'modules:final' at Fri, 14 Feb 2020 07:09:49 +0000. Up 23.65 seconds.
[ 23.752762] cloud-init[2072]: ci-info: no authorized ssh keys. fingerprints found for user dani.
[ 23.753877] cloud-init[2072]: Cloud-init v. 18.4-7-g4652b196-ubuntu finished at Fri, 14 Feb 2020 07:09:50 +0000. DataSource DataSourceNoCloud [seed=/var/lib
d/cloud/seed/nocloud-net] (dsmod=net). Up 23.74 seconds
[ OK ] Started Execute cloud user/final scripts.
[ OK ] Reached target Cloud-init target.

Ubuntu 18.10 dani-server tty1
dani-server login: dani
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 Fri Feb 14 07:11:26 UTC 2020

System load:  0.23                       Processes:    196
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.

dani@dani-server:~$ sudo su
[sudo] password for dani:
root@dani-server:/home/dani#
```

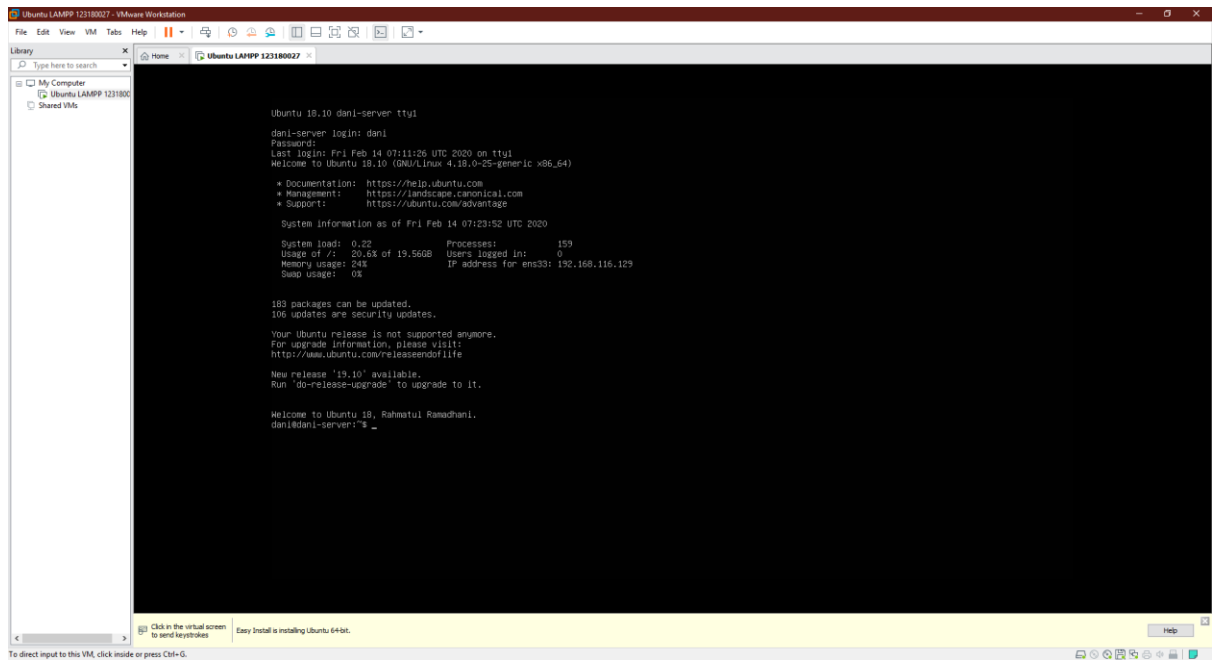
12. Pindah ke akun root dengan mengetik **sudo su** dan untuk kembali ketik **exit**

```
GNU nano 2.9.8 /etc/motd

Welcome to Ubuntu 18.

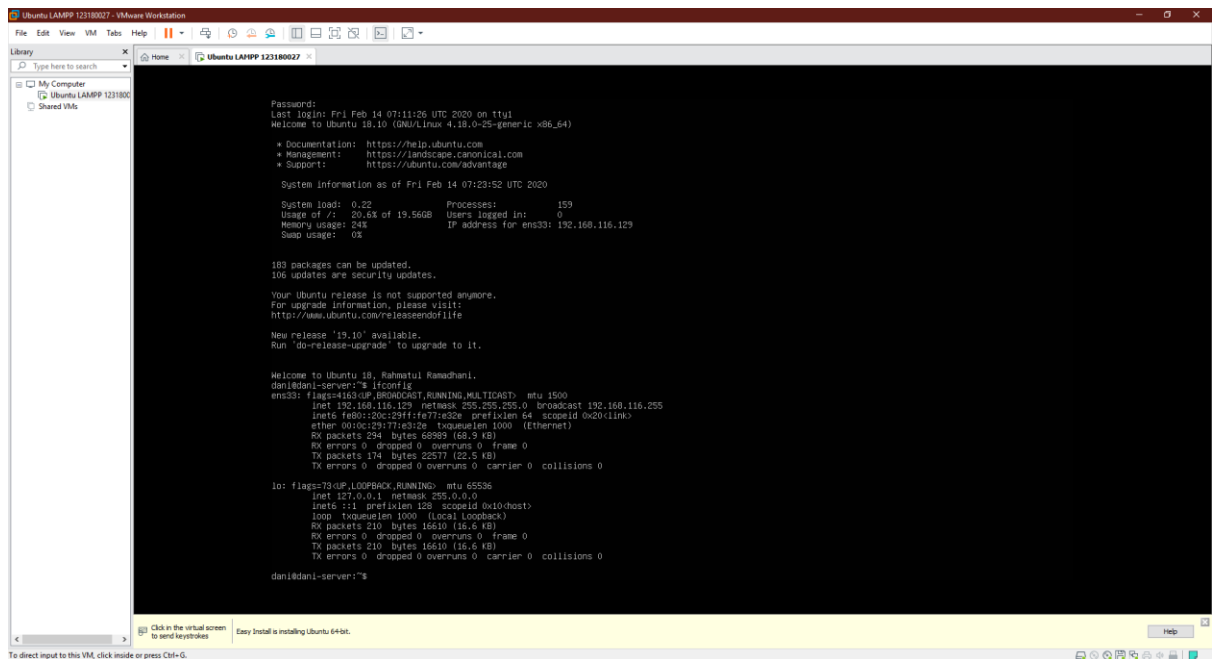
root@dani-server:/home/dani#
```

13. Untuk coba mengubah MOTD dengan masuk sebagai root dan ketik **nano /etc/motd**

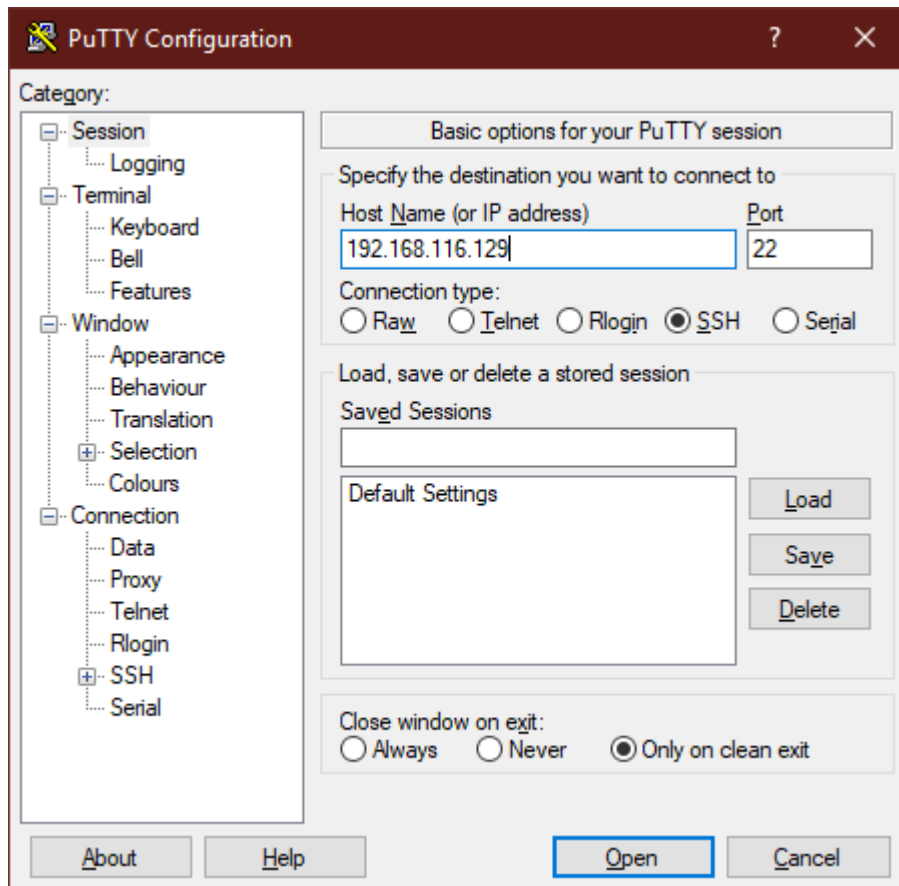


## 14. Hasil setelah mengubah MOTDnya

## Menggunakan remote terminal : PUTTY



## 1. Cari ip addressnya dengan mengetik ifconfig



2. Buka aplikasi PUTTY dan masukan ip address VMnya

```
dani@dani-server: ~
login as: dani
dani@192.168.116.129's 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 Fri Feb 14 07:28:59 UTC 2020

System load:  0.0               Processes:    160
Usage of /:   20.6% of 19.56GB   Users logged in: 1
Memory usage: 25%              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 to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:23:52 2020
dani@dani-server:~$
```

3. Tampilan VM dalam PUTTY



## Evaluasi :

```
dani@dani-server: ~/pertemuan 2 LAMPP

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

Welcome to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:23:52 2020
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:32 pertemuan-2
dani@dani-server:~$ cp -r pertemuan-2 pertemuan-1
dani@dani-server:~$ ls
pertemuan-1  pertemuan-2
dani@dani-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
dani@dani-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
dani@dani-server:~$ cd "pertemuan 2"
>
> exit
> "
-bash: cd: $'pertemuan 2\n\nexit\n': No such file or directory
dani@dani-server:~$ cd "pertemuan 2"
-bash: cd: pertemuan 2: No such file or directory
dani@dani-server:~$ cd "pertemuan 2 LAMPP"/
dani@dani-server:~/pertemuan 2 LAMPP$ nano biodata.txt
dani@dani-server:~/pertemuan 2 LAMPP$ ls -l
total 4
-rw-rw-r-- 1 dani dani 16 Feb 14 07:35 biodata.txt
dani@dani-server:~/pertemuan 2 LAMPP$ cat biodata.txt
NIM      : 123180027
dani@dani-server:~/pertemuan 2 LAMPP$ nano biodata.txt
dani@dani-server:~/pertemuan 2 LAMPP$ cat biodata.txt
123180027
dani@dani-server:~/pertemuan 2 LAMPP$ tail biodata.txt
123180027
dani@dani-server:~/pertemuan 2 LAMPP$
```

## Penjelasan :

```
dani@dani-server: ~

System information as of Fri Feb 14 07:49:29 UTC 2020

System load:  0.0                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 to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$
```

1. Fungsi ls dan ls -l digunakan untuk melihat direktori dalam akun VM

```
dani@dani-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 to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:49 pertemuan-2
dani@dani-server:~$
```

2. mkdir digunakan untuk membuat direktori baru(make directory)

```
dani@dani-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 to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:49 pertemuan-2
dani@dani-server:~$ cp -r pertemuan-2 pertemuan-1
dani@dani-server:~$ ls
pertemuan-1  pertemuan-2
dani@dani-server:~$
```

3. "cp -r pertemuan-2 pertemuan-1" digunakan untuk mengcopy paste direktori "pertemuan-2" menjadi direktori "pertemuan-1"

```
dani@dani-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 to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:49 pertemuan-2
dani@dani-server:~$ cp -r pertemuan-2 pertemuan-1
dani@dani-server:~$ ls
pertemuan-1  pertemuan-2
dani@dani-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
dani@dani-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
dani@dani-server:~$
```

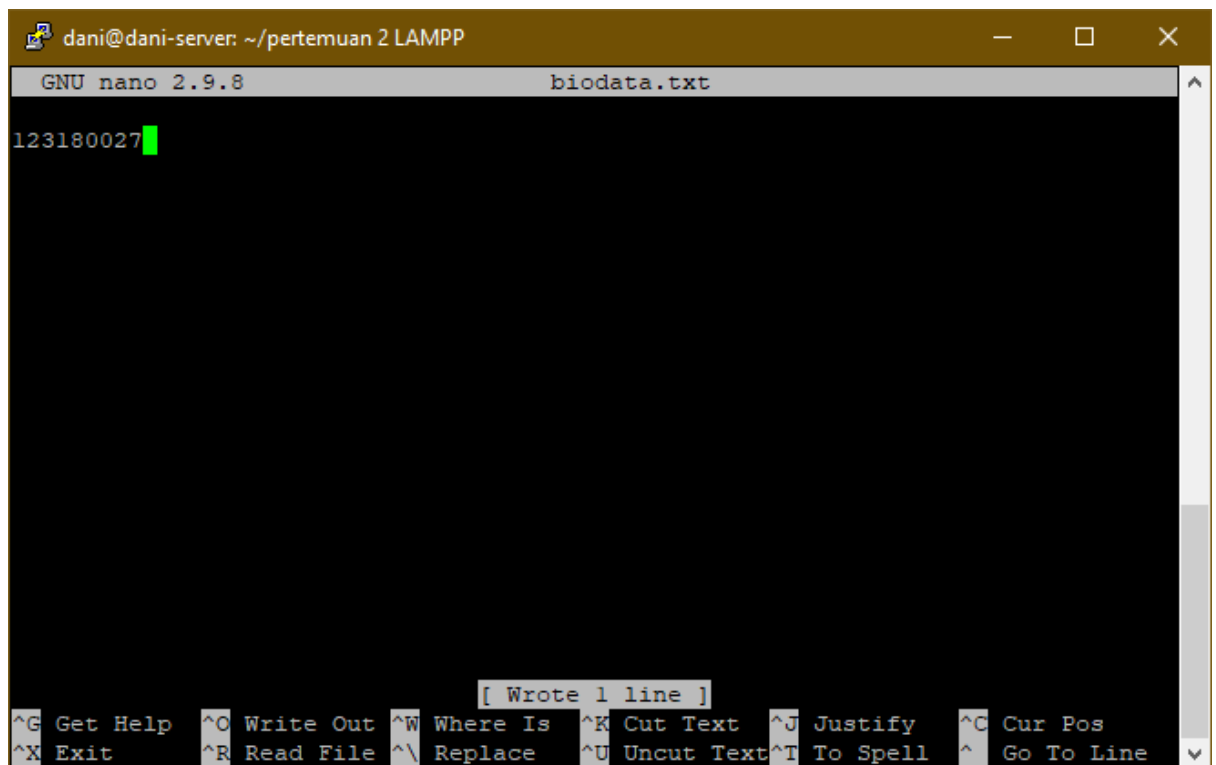
4. “mv pertemuan-2 “pertemuan 2 LAMPP”” digunakan untuk mengganti nama direktorinya

```
dani@dani-server: ~/pertemuan 2 LAMPP
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.

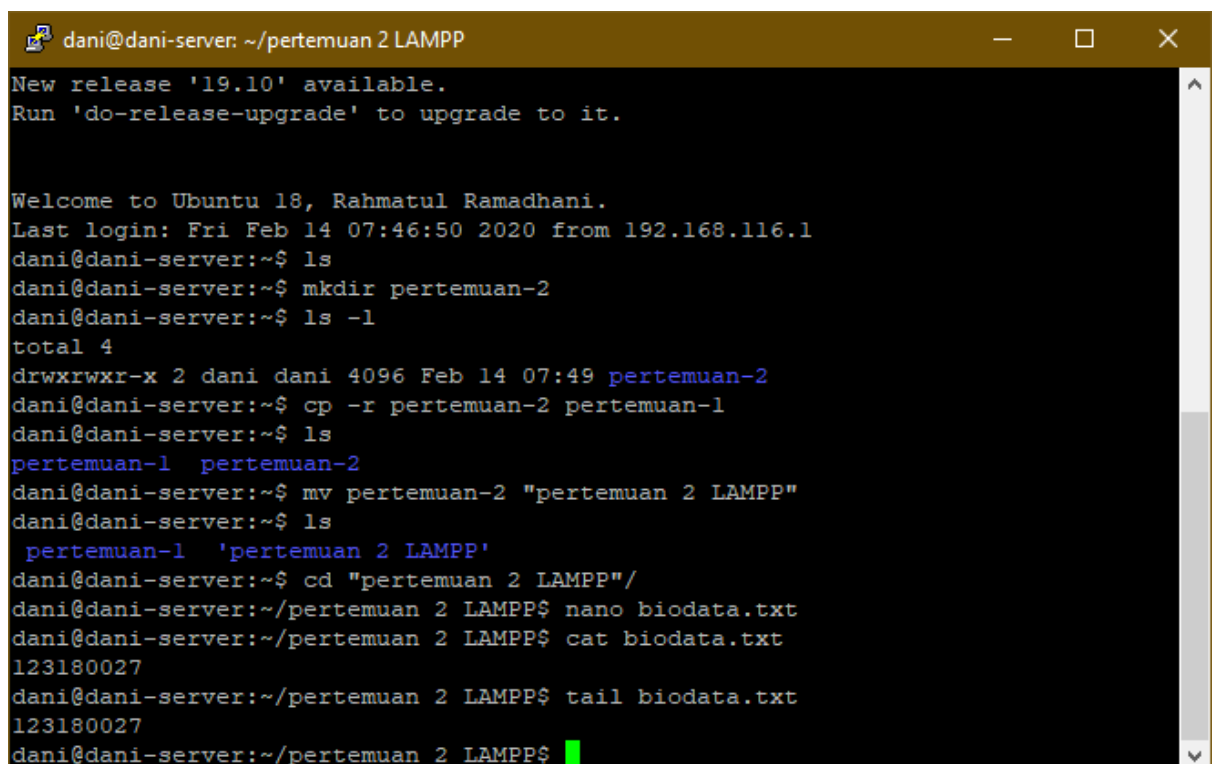
Welcome to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:49 pertemuan-2
dani@dani-server:~$ cp -r pertemuan-2 pertemuan-1
dani@dani-server:~$ ls
pertemuan-1  pertemuan-2
dani@dani-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
dani@dani-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
dani@dani-server:~$ cd "pertemuan 2 LAMPP"/
dani@dani-server:~/pertemuan 2 LAMPP$
```

5. “cd “pertemuan 2 LAMPP”/” digunakan untuk pindah/masuk ke direktori “pertemuan 2 LAMPP”



```
dani@dani-server: ~/pertemuan 2 LAMPP
GNU nano 2.9.8 biodata.txt
123180027
[ Wrote 1 line ]
^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
```

6. “nano biodata.txt” digunakan untuk membuat file “biodata.txt” dan mengubah/mengedit isinya



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

Welcome to Ubuntu 18, Rahmatul Ramadhani.
Last login: Fri Feb 14 07:46:50 2020 from 192.168.116.1
dani@dani-server:~$ ls
dani@dani-server:~$ mkdir pertemuan-2
dani@dani-server:~$ ls -l
total 4
drwxrwxr-x 2 dani dani 4096 Feb 14 07:49 pertemuan-2
dani@dani-server:~$ cp -r pertemuan-2 pertemuan-1
dani@dani-server:~$ ls
pertemuan-1  pertemuan-2
dani@dani-server:~$ mv pertemuan-2 "pertemuan 2 LAMPP"
dani@dani-server:~$ ls
pertemuan-1  'pertemuan 2 LAMPP'
dani@dani-server:~$ cd "pertemuan 2 LAMPP"/
dani@dani-server:~/pertemuan 2 LAMPP$ nano biodata.txt
dani@dani-server:~/pertemuan 2 LAMPP$ cat biodata.txt
123180027
dani@dani-server:~/pertemuan 2 LAMPP$ tail biodata.txt
123180027
dani@dani-server:~/pertemuan 2 LAMPP$
```

7. Fungsi cat dan tail digunakan untuk menampilkan isi dari file yang dipilih