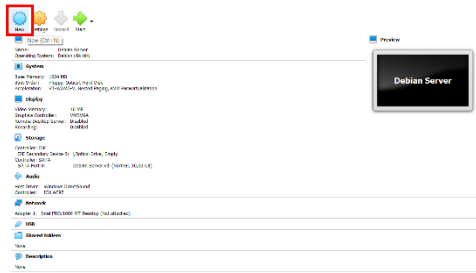
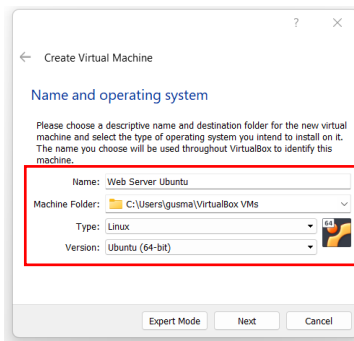


Instalasi Web Server Di Virtualbox

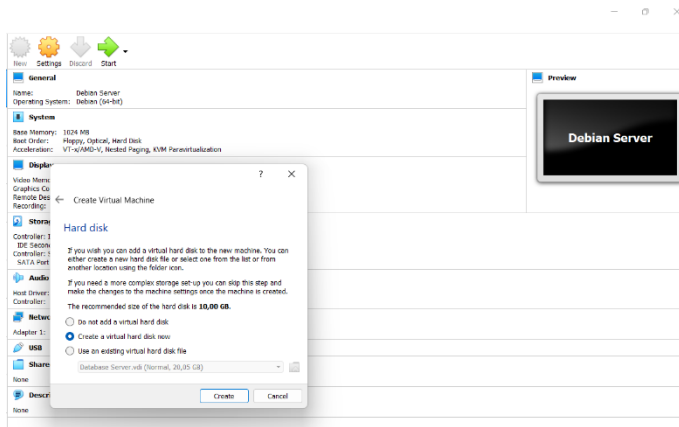
1. Klik menu New untuk membuat mesin baru.



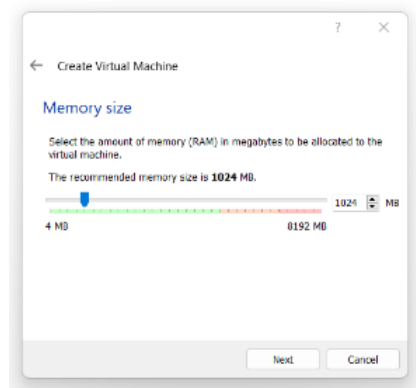
2. Setelah mengklik menu New akan muncul pop-up seperti gambar dibawah ini. Beri **nama mesin** virtual dan alokasikan tempat penyimpanan mesin virtual kalian dengan pilih menu **machine folder** lalu browse. Untuk Type dan Version kalian ikuti gambar dibawah ini, setelah itu pilih Next.



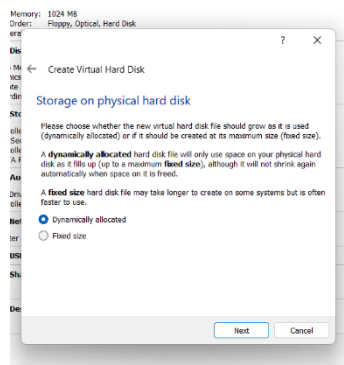
3. Pilih **Create a Virtual Har disk Now** untuk membuat hardisk virtual yang digunakan oleh mesin virtual dan pilih **Next**.



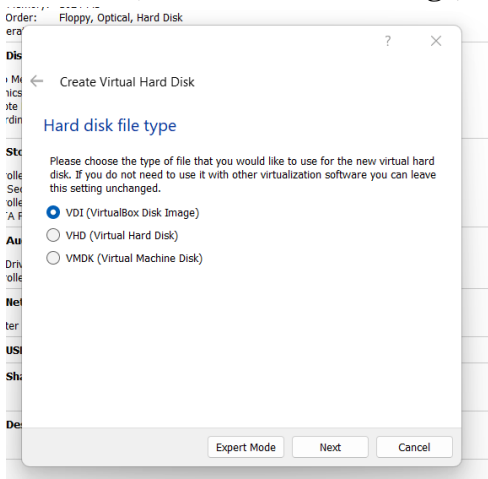
4. **Memory Size** atau Ram yang saya berikan ke mesin Virtual ialah 1024 MB. Perlu diperhatikan jika kalian menggunakan 1024 MB maka RAM dilaptop kalian akan diambil sesuai yang kalian isikan.



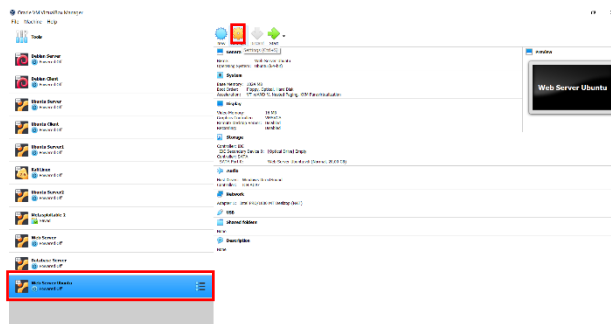
5. Pilih **Dynamically Allocated**, untuk harddisk hanya akan menggunakan ruang pada harddisk fisik kalian saat terisi (hingga ukuran tetap maksimum). Kemudian tidak akan menyusut lagi secara otomatis ketika ruang di atasnya dibebaskan



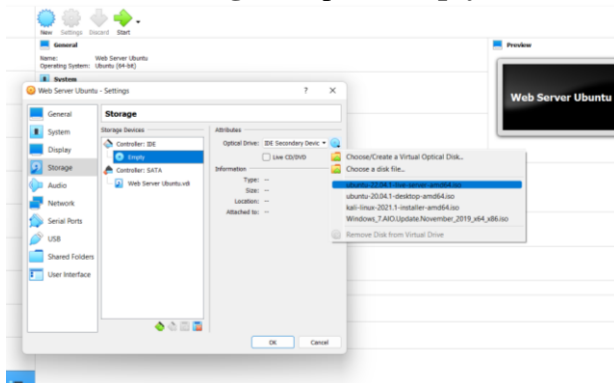
6. Pilih **VDI(VirtualBox Disk Image)**



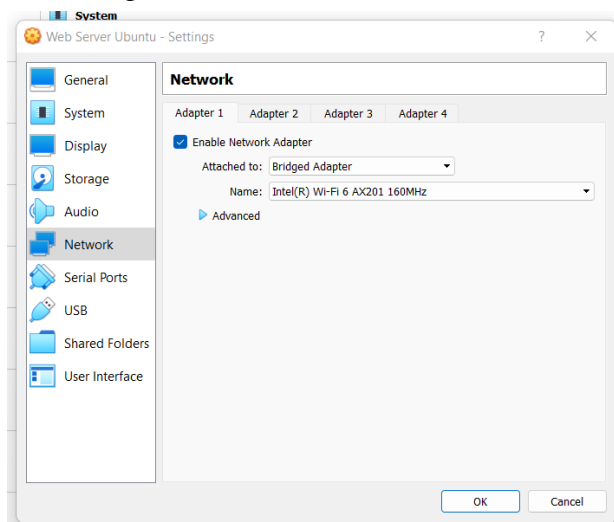
7. Mesin Virtual berhasil dibuat dan Klik Menu **Setting** untuk mengatur **Network** menjadi **Bridge** dan Memasukan ISO Linux Ubuntu Servernya.



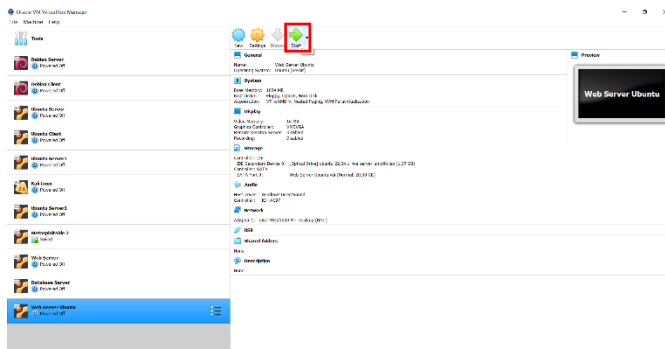
8. Pilih menu **Storage** lalu pilih **Empty** dan masukan File ISO Linux Ubuntu Servernya



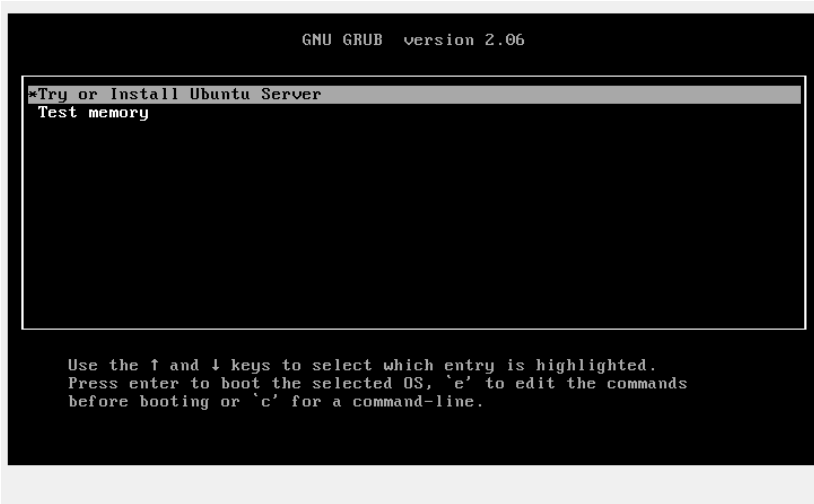
9. Pilih menu **Network** lalu pilih Jaringan **Bridged Adapter** agar mesin virtual bisa terhubung ke internet melalui ip router di internet kalian. Setelah Linux ubuntu sudah diinstall dan service lainnya maka nanti kita bisa mengatur jaringanya agar bisa terhubung ke database server.



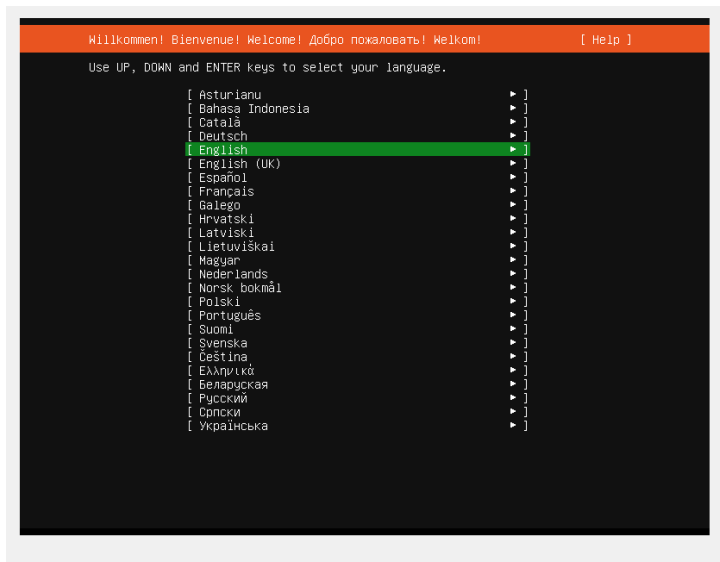
10. Pilih menu **Start** untuk menjalankan mesin virtual



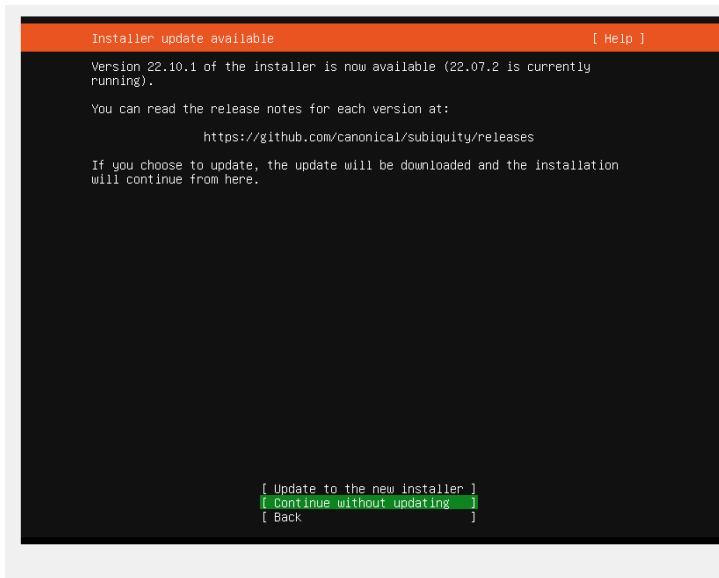
11. Pilih **Try or Install Ubuntu Server** untuk menginstall Linux Ubuntu Server



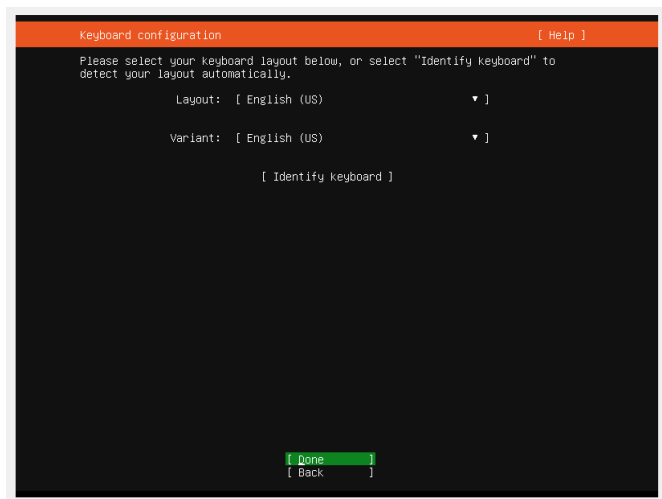
12. Pilih **English** untuk memilih bahasa yang digunakan linux ubuntu server



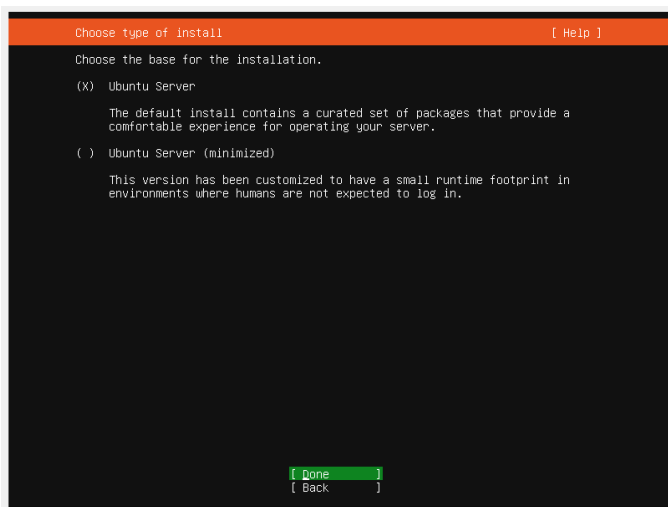
13. Pilih **Continue Without Updating**, disini saya tidak mengupgrade versi 22.07.2



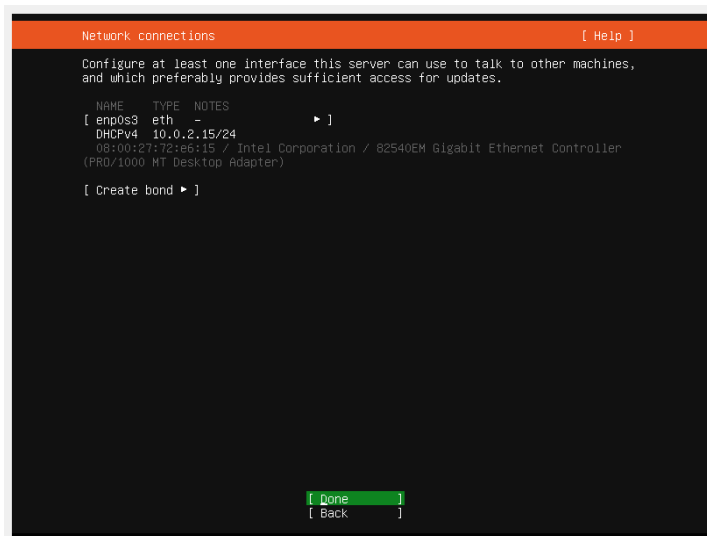
14. Pilih **English US**, untuk memilih konfigurasi keyboard dilinux ubuntu



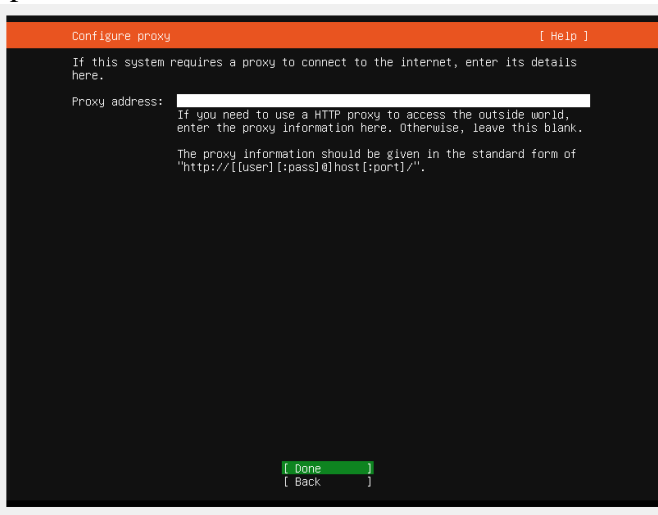
15. Pilih **Ubuntu Server**, agar mesin virtual mirip seperti server, jika device yang kalian gunakan kurang high performance maka kalian pilih **Ubuntu Server(minimized)**



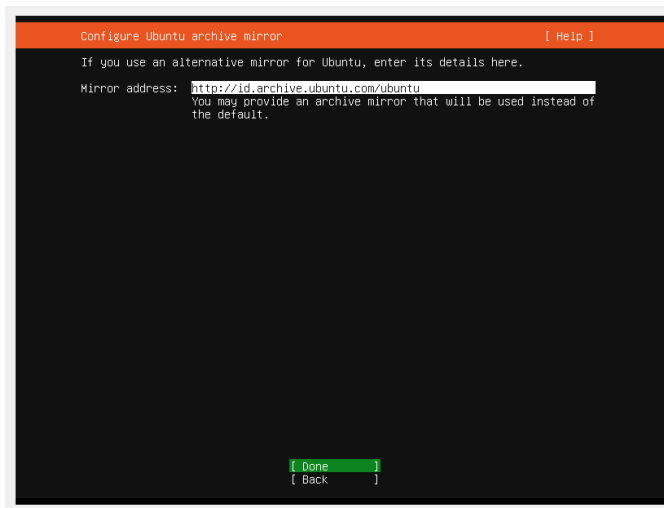
16. Mesin Virtual akan otomatis dapat ip dari route internet dikarenakan sebelumnya kita sudah mengatur network ke mode **Bridge Adapter**.



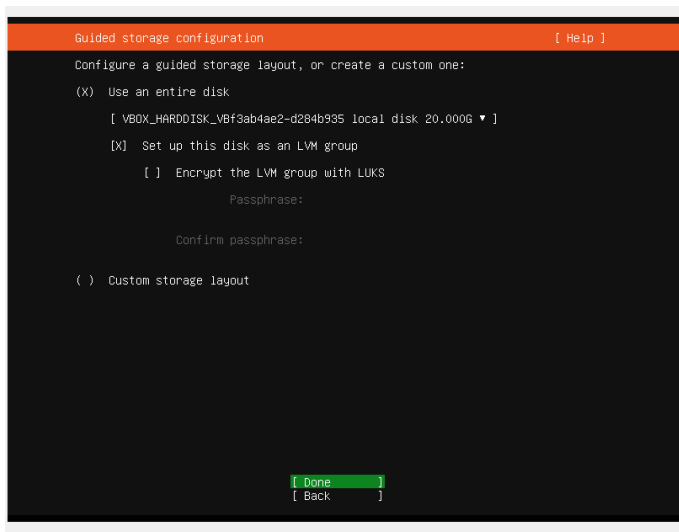
17. Untuk **Proxy Address**, kita kosong saja, karena belum konfigurasi Proxy Server, kita pilih done



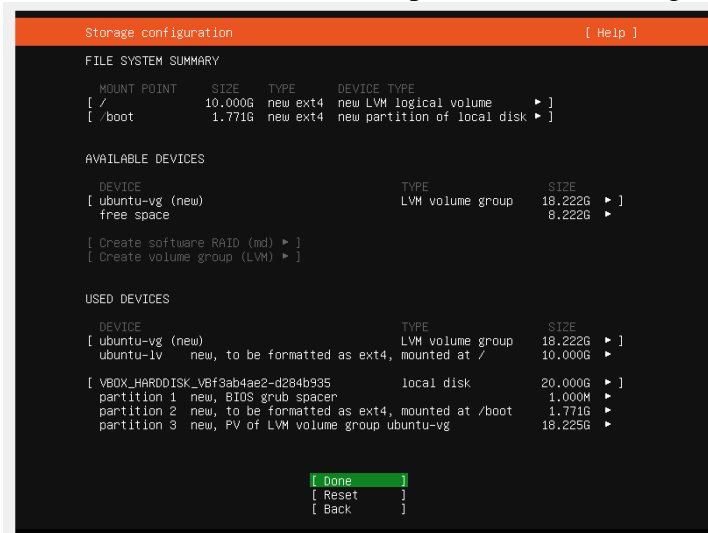
18. **Mirror Address** akan terotomatis berisi karena virtual mesin sudah terhubung ke internet. Mirror Address ini merupakan Repository Server



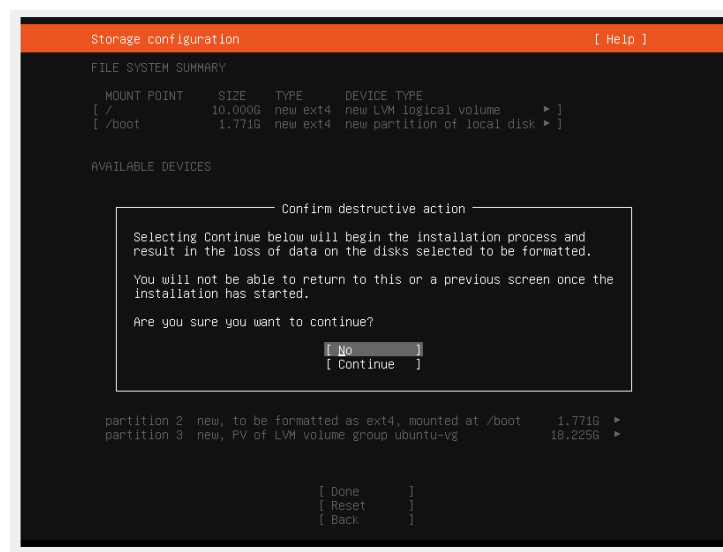
19. Pilih Done, karena kita memilih konfigurasi storage defaultnya



20. Karena sebelumnya sudah memilih konfigurasi default maka partisi pada linux ubuntu sudah otomatis dibuatkan, lalu pilih done untuk langkah berikutnya



21. Pilih Continue, untuk menyakinkan konfigurasi partisi pada linux Ubuntu



22. Masukan data pada linux Ubuntu kalian

Profile setup [Help]

Enter the username and password you will use to log in to the system. You can configure SSH access on the next screen but a password is still needed for sudo.

Your name:

Your server's name:
The name it uses when it talks to other computers.

Pick a username:

Choose a password:

Confirm your password:

[Done]

23. Beri tanda **Install OpenSSH Server** dengan cara menekan tombol space pada keyboard. Tujuan Install SSH untuk meremote Server dan Menginstall Service SFTP

SSH Setup [Help]

You can choose to install the OpenSSH server package to enable secure remote access to your server.

☒ Install OpenSSH server

Import SSH identity: [No ▼]
You can import your SSH keys from GitHub or Launchpad.

Import Username:

☒ Allow password authentication over SSH

[Done]
[Back]

24. Pilih **Done** karena kita tidak menginstall Fitur Server Snaps pada linux ubuntu

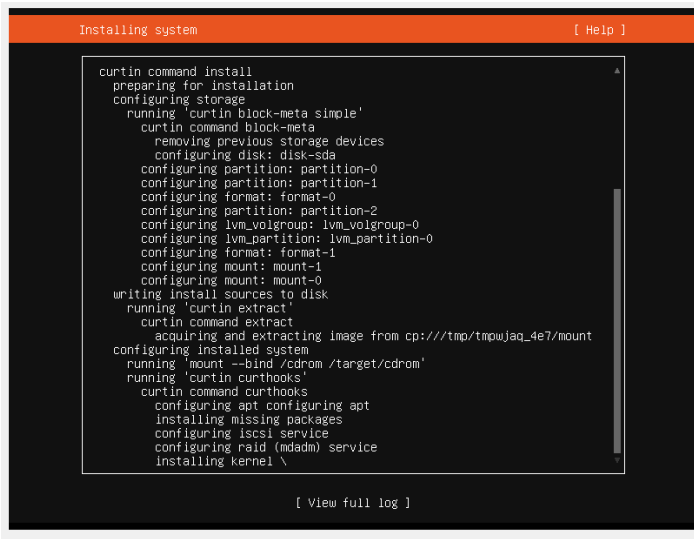
Featured Server Snaps [Help]

These are popular snaps in server environments. Select or deselect with SPACE, press ENTER to see more details of the package, publisher and versions available.

<input type="checkbox"/> microk8s	Kubernetes for workstations and appliances	▶
<input type="checkbox"/> nextcloud	Nextcloud Server - A safe home for all your data	▶
<input type="checkbox"/> wekan	The open-source kanban	▶
<input type="checkbox"/> kata-containers	Build lightweight VMs that seamlessly plug into the c	▶
<input type="checkbox"/> docker	Docker container runtime	▶
<input type="checkbox"/> canonical-livepatch	Canonical Livepatch Client	▶
<input type="checkbox"/> rocketchat-server	Rocket.Chat server	▶
<input type="checkbox"/> mosquitto	Eclipse Mosquitto MQTT broker	▶
<input type="checkbox"/> etcd	Resilient key-value store by CoreOS	▶
<input type="checkbox"/> powershell	PowerShell for every system!	▶
<input type="checkbox"/> stress-ng	tool to load and stress a computer	▶
<input type="checkbox"/> sabnzbd	SABnzbd	▶
<input type="checkbox"/> wormhole	get things from one computer to another, safely	▶
<input type="checkbox"/> aws-cli	Universal Command Line Interface for Amazon Web Servi	▶
<input type="checkbox"/> google-cloud-sdk	Google Cloud SDK	▶
<input type="checkbox"/> sicii	Python based SoftLayer API Tool.	▶
<input type="checkbox"/> doctl	The official DigitalOcean command line interface	▶
<input type="checkbox"/> conjure-up	Package runtime for conjure-up spells	▶
<input type="checkbox"/> postgresql10	PostgreSQL is a powerful, open source object-relation	▶
<input type="checkbox"/> heroku	CLI client for Heroku	▶
<input type="checkbox"/> keepalived	High availability VRRP/BFD and load-balancing for Lin	▶
<input type="checkbox"/> prometheus	The Prometheus monitoring system and time series data	▶
<input type="checkbox"/> juju	Juju - a model-driven operator lifecycle manager for	▶

[Done]
[Back]

25. Tunggu proses instalasi linux ubuntu server



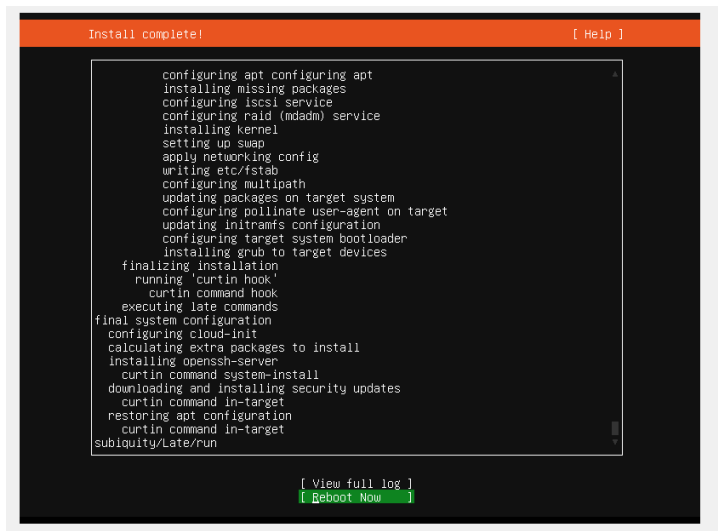
The screenshot shows a terminal window titled "Installing system" with a "[Help]" link in the top right corner. The terminal displays a list of commands and their outputs, indicating the progress of the installation. The commands include preparing for installation, configuring storage, running 'curtin block-meta simple', removing previous storage devices, configuring disk: disk-sda, configuring partition: partition-0, configuring partition: partition-1, configuring format: format-0, configuring partition: partition-2, configuring lvm_voigroup: lvm_voigroup-0, configuring lvm_partition: lvm_partition-0, configuring format: format-1, configuring mount: mount-1, configuring mount: mount-0, writing install sources to disk, running 'curtin extract', curtin command extract, acquiring and extracting image from cp:///tmp/tpwjaq_4e7/mount, configuring installed system, running 'mount --bind /cdrom /target/cdrom', running 'curtin curthooks', curtin command curthooks, configuring apt, configuring apt, installing missing packages, configuring iscsi service, configuring raid (mdadm) service, installing kernel, setting up swap, apply networking config, writing etc/fstab, configuring multipath, updating packages on target system, configuring pollinate user-agent on target, updating initramfs configuration, configuring target system bootloader, installing grub to target devices, finalizing installation, running 'curtin hook', curtin command hook, executing late commands, final system configuration, configuring cloud-init, calculating extra packages to install, installing openssh-server, curtin command system-install, downloading and installing security updates, curtin command in-target, restoring apt configuration, curtin command in-target, and subiquity/late/run. A "[View full log]" link is visible at the bottom of the terminal window.

```
Installing system [ Help ]

curtin command install
preparing for installation
configuring storage
running 'curtin block-meta simple'
curtin command block-meta
removing previous storage devices
configuring disk: disk-sda
configuring partition: partition-0
configuring partition: partition-1
configuring format: format-0
configuring partition: partition-2
configuring lvm_voigroup: lvm_voigroup-0
configuring lvm_partition: lvm_partition-0
configuring format: format-1
configuring mount: mount-1
configuring mount: mount-0
writing install sources to disk
running 'curtin extract'
curtin command extract
acquiring and extracting image from cp:///tmp/tpwjaq_4e7/mount
configuring installed system
running 'mount --bind /cdrom /target/cdrom'
running 'curtin curthooks'
curtin command curthooks
configuring apt
configuring apt
installing missing packages
configuring iscsi service
configuring raid (mdadm) service
installing kernel \

[ View full log ]
```

26. Install Complete, Pilih **Reboot Now** dan Instalasi Linux Ubuntu Server untuk Webserver sudah Berhasil



The screenshot shows a terminal window titled "Install complete!" with a "[Help]" link in the top right corner. The terminal displays a list of commands and their outputs, indicating the completion of the installation. The commands include configuring apt, configuring apt, installing missing packages, configuring iscsi service, configuring raid (mdadm) service, installing kernel, setting up swap, apply networking config, writing etc/fstab, configuring multipath, updating packages on target system, configuring pollinate user-agent on target, updating initramfs configuration, configuring target system bootloader, installing grub to target devices, finalizing installation, running 'curtin hook', curtin command hook, executing late commands, final system configuration, configuring cloud-init, calculating extra packages to install, installing openssh-server, curtin command system-install, downloading and installing security updates, curtin command in-target, restoring apt configuration, curtin command in-target, and subiquity/late/run. A "[View full log]" link is visible at the bottom of the terminal window, and a "[Reboot Now]" link is highlighted in green.

```
Install complete! [ Help ]

configuring apt
configuring apt
installing missing packages
configuring iscsi service
configuring raid (mdadm) service
installing kernel
setting up swap
apply networking config
writing etc/fstab
configuring multipath
updating packages on target system
configuring pollinate user-agent on target
updating initramfs configuration
configuring target system bootloader
installing grub to target devices
finalizing installation
running 'curtin hook'
curtin command hook
executing late commands
final system configuration
configuring cloud-init
calculating extra packages to install
installing openssh-server
curtin command system-install
downloading and installing security updates
curtin command in-target
restoring apt configuration
curtin command in-target
subiquity/late/run

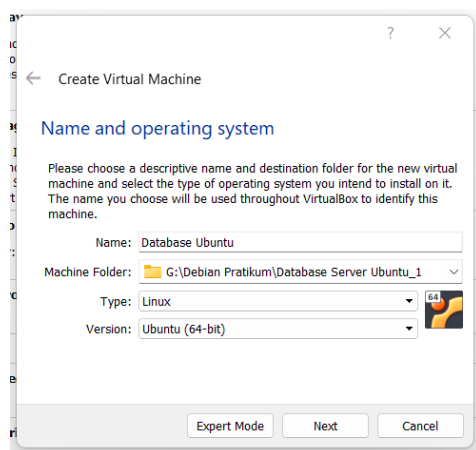
[ View full log ]
[ Reboot Now ]
```

Instalasi Database Server Di Virtualbox

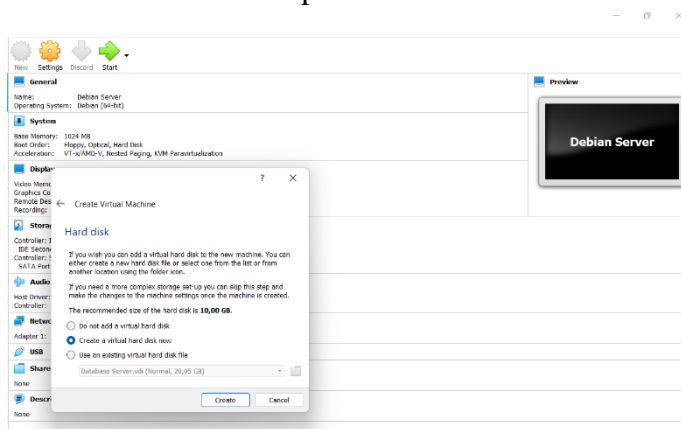
1. Klik menu **New** untuk membuat mesin baru.



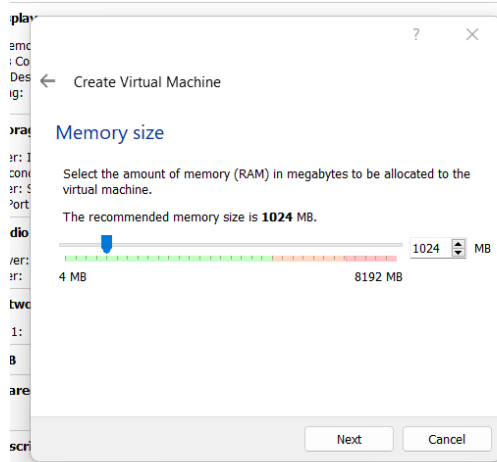
2. Setelah mengklik menu **New** akan muncul pop-up seperti gambar dibawah ini. Beri nama mesin virtual dan alokasikan tempat penyimpanan mesin virtual kalian dengan pilih menu **machine folder** lalu browse. Untuk **Type** dan **Version** kalian ikuti gambar dibawah ini, setelah itu pilih **Next**.



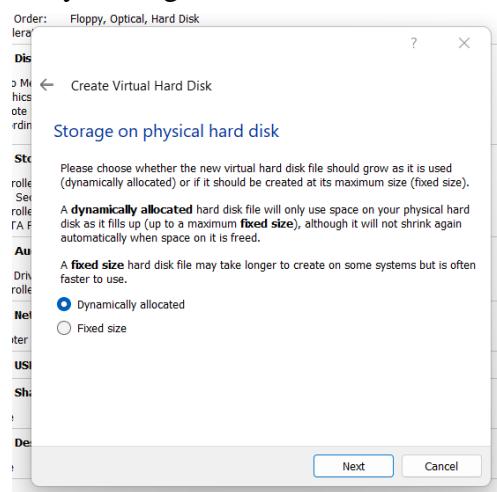
3. Pilih **Create a Virtual Hard disk Now** untuk membuat hardisk virtual yang digunakan oleh mesin virtual dan pilih **Next**.



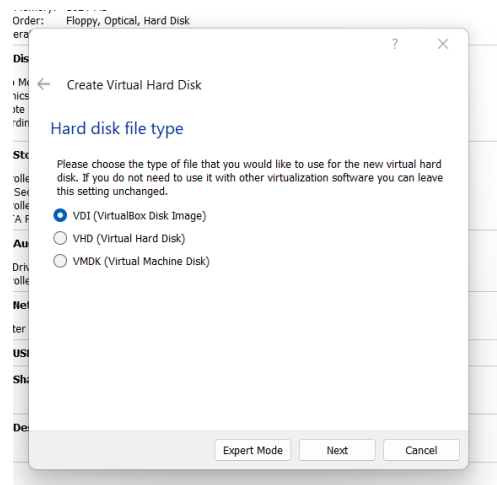
4. **Memory Size** atau Ram yang saya berikan ke mesin Virtual ialah 1024 MB. Perlu diperhatikan jika kalian menggunakan 1024 MB maka RAM dilaptop kalian akan diambil sesuai yang kalian isikan.



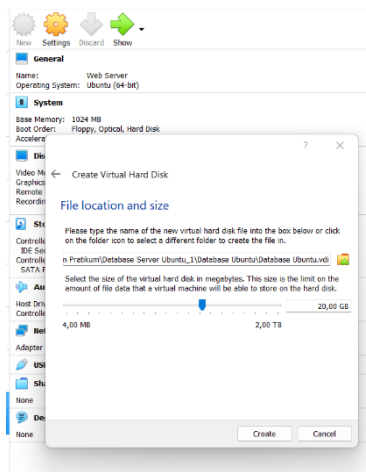
5. Pilih **Dynamically Allocated**, untuk harddisk hanya akan menggunakan ruang pada harddisk fisik kalian saat terisi (hingga ukuran tetap maksimum). Kemudian tidak akan menyusut lagi secara otomatis ketika ruang di atasnya dibebaskan



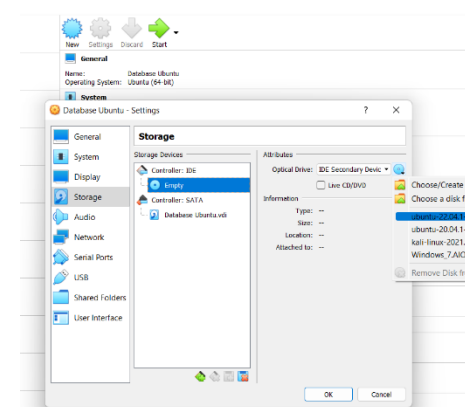
6. Pilih **VDI(VirtualBox Disk Image)**



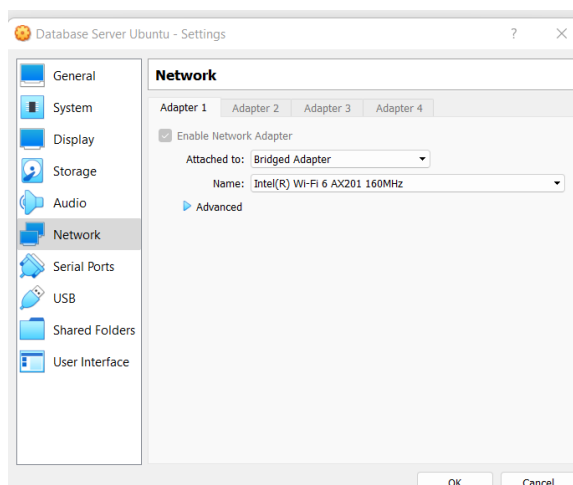
7. Disini saya memberikan space storage untuk mesin virtual sebesar 20 Gb



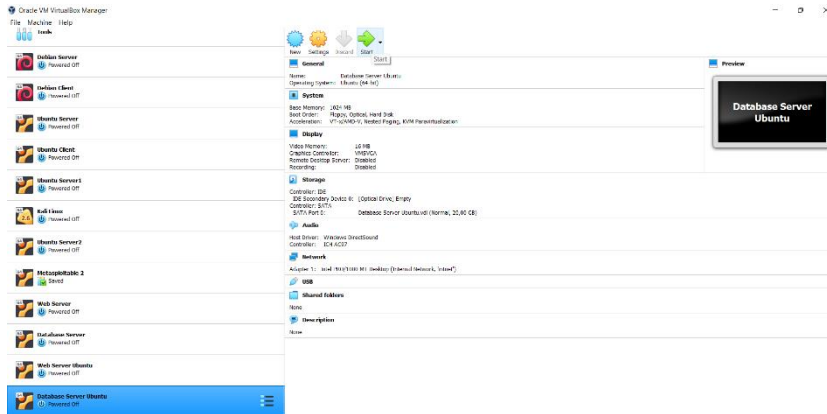
8. Pilih menu **Storage** lalu pilih **Empty** dan masukan File ISO Linux Ubuntu Servernya



9. Pilih menu **Network** lalu pilih Jaringan **Bridged Adapter** agar mesin virtual bisa terhubung ke internet melalui ip router di internet kalian. Setelah Linux ubuntu sudah diinstall dan service lainnya maka nanti kita bisa mengatur jaringanya agar bisa terhubung ke webserver



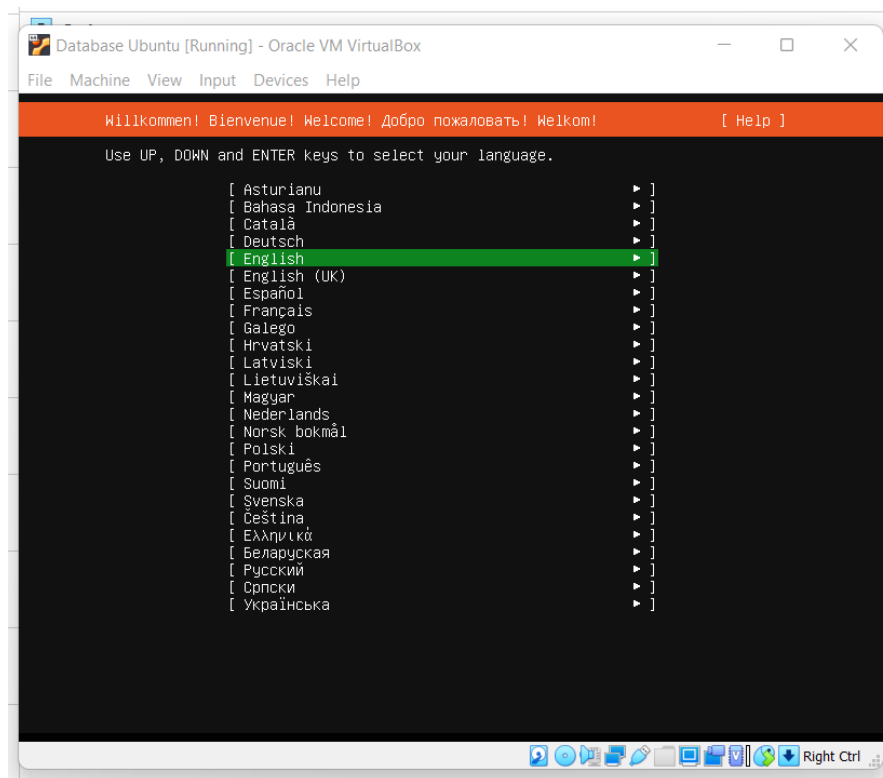
10. Jika sudah setting **network** dan memasukkan ISO linux, selanjutnya kita klik menu start untuk menjalankan



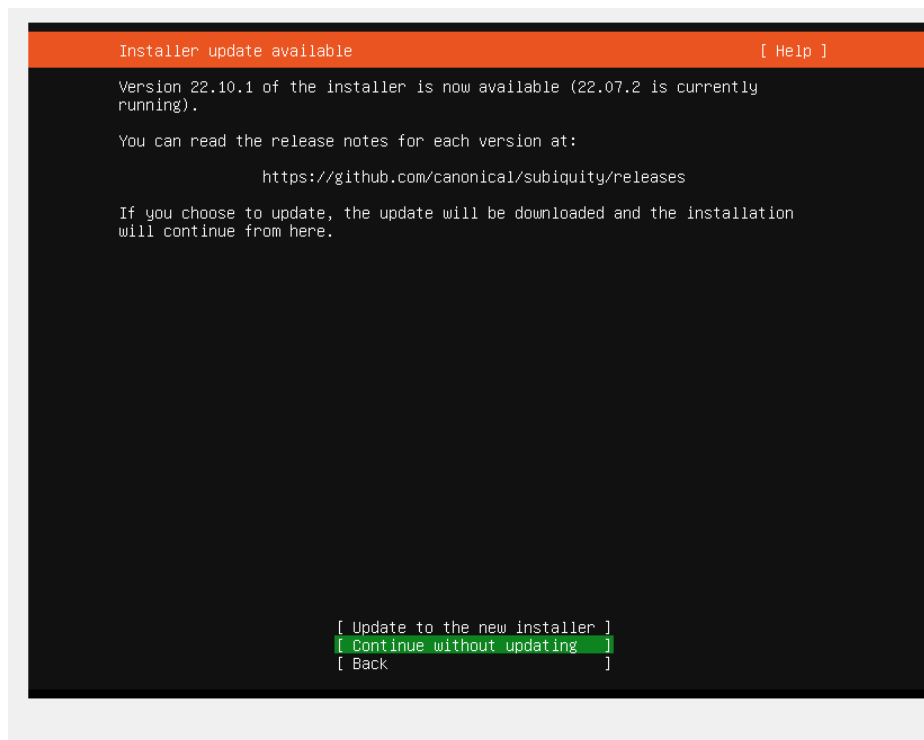
11. Pilih **Try or Install Ubuntu Server** untuk menginsall Linux Ubuntu Server



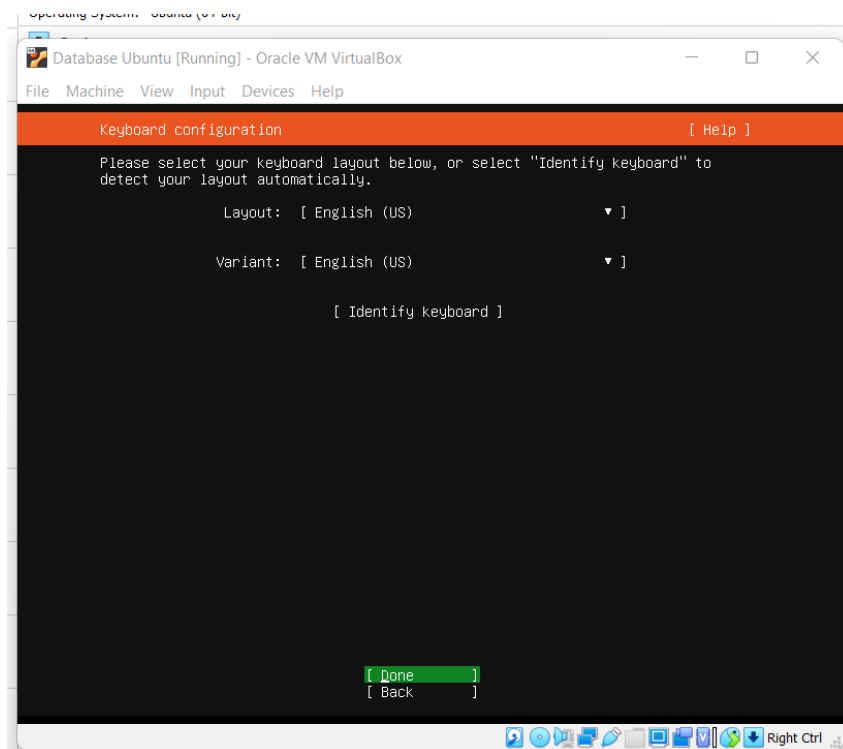
12. Pilih **English** untuk memilih bahasa yang digunakan linux ubuntu server



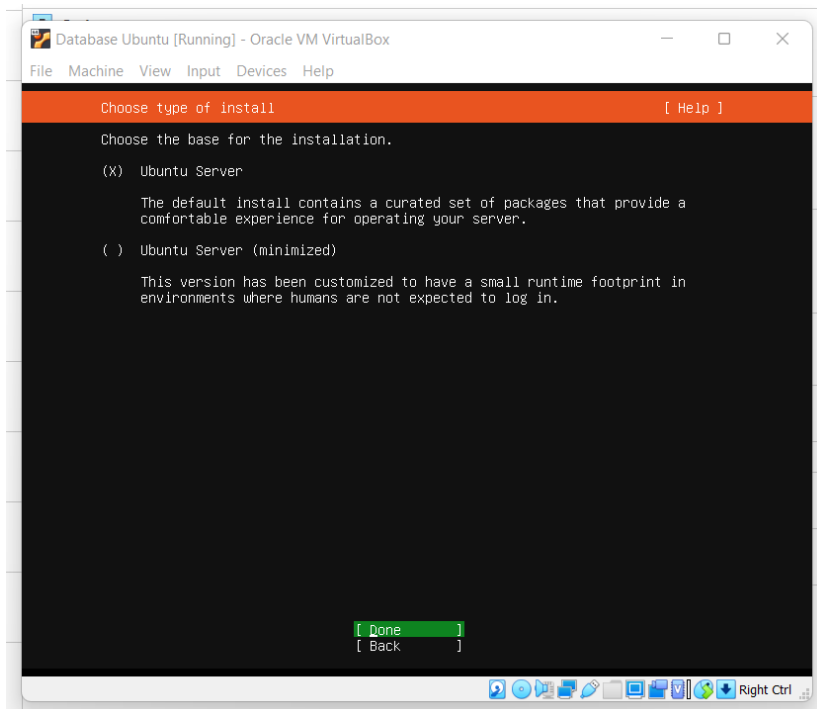
13. Pilih **Continue Without Updating**, disini saya tidak mengupgrade versi 22.07.2



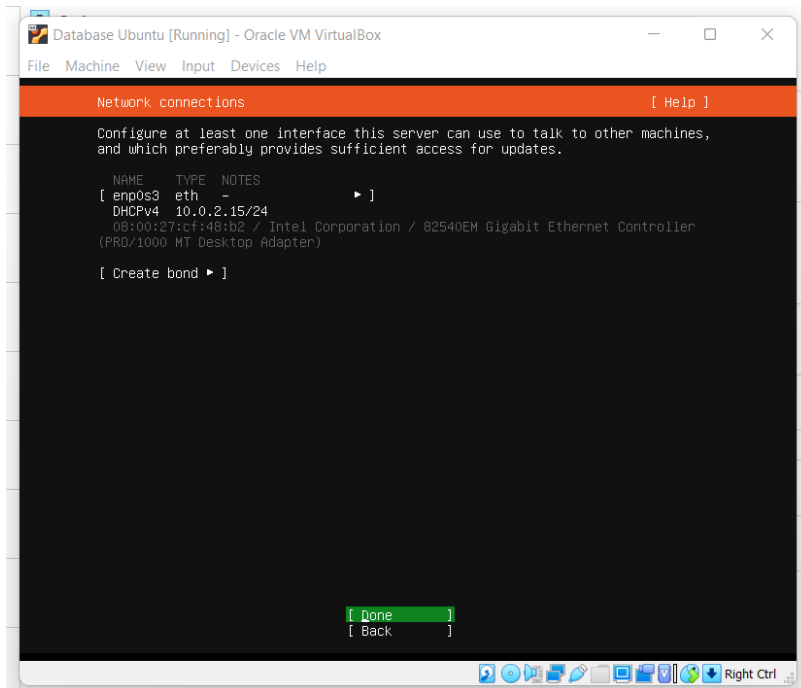
14. Pilih **English US**, untuk memilih konfigurasi keyboard dilinux ubuntu



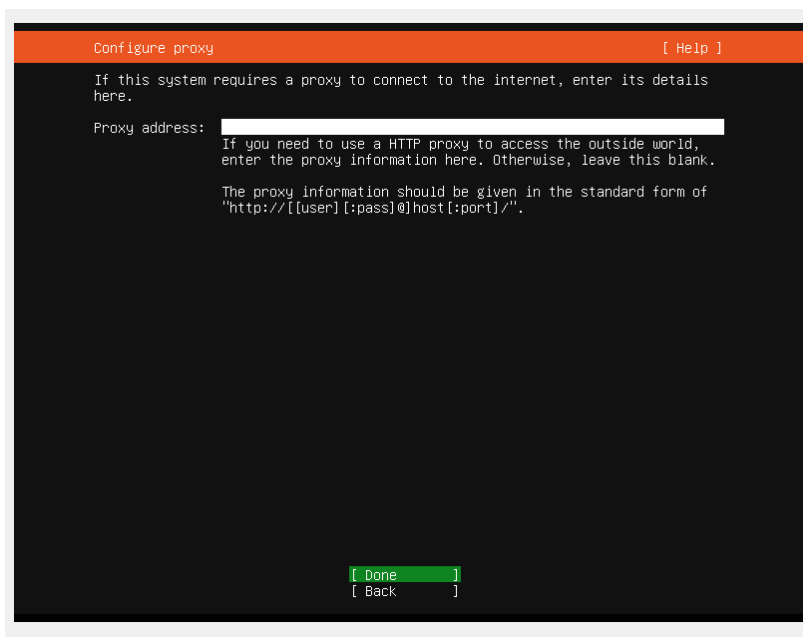
15. Pilih **Ubuntu Server**, agar mesin virtual mirip seperti server, jika device yang kalian gunakan kurang high performance maka kalian pilih **Ubuntu Server(minimized)**



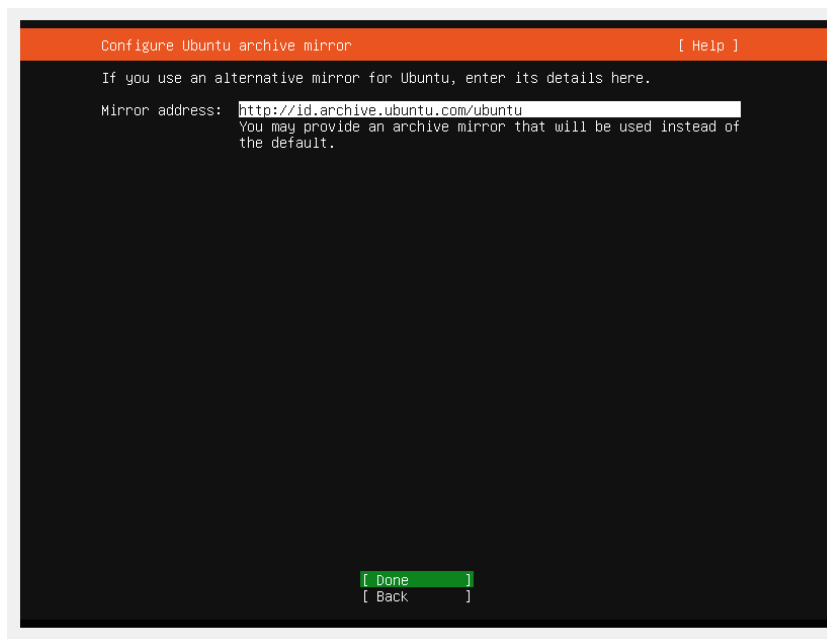
16. Mesin Virtual akan otomatis dapat ip dari route internet dikarenakan sebelumnya kita sudah mengatur network ke mode **Bridge Adapter**



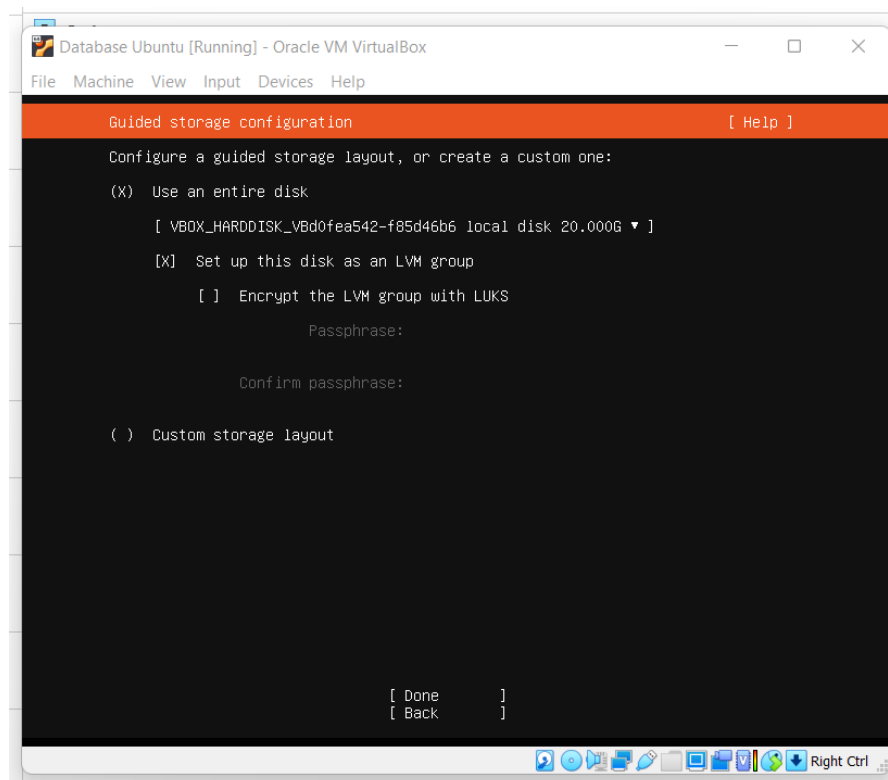
17. Untuk **Proxy Address**, kita kosong saja, karena belum konfigurasi Proxy Server, kita pilih done



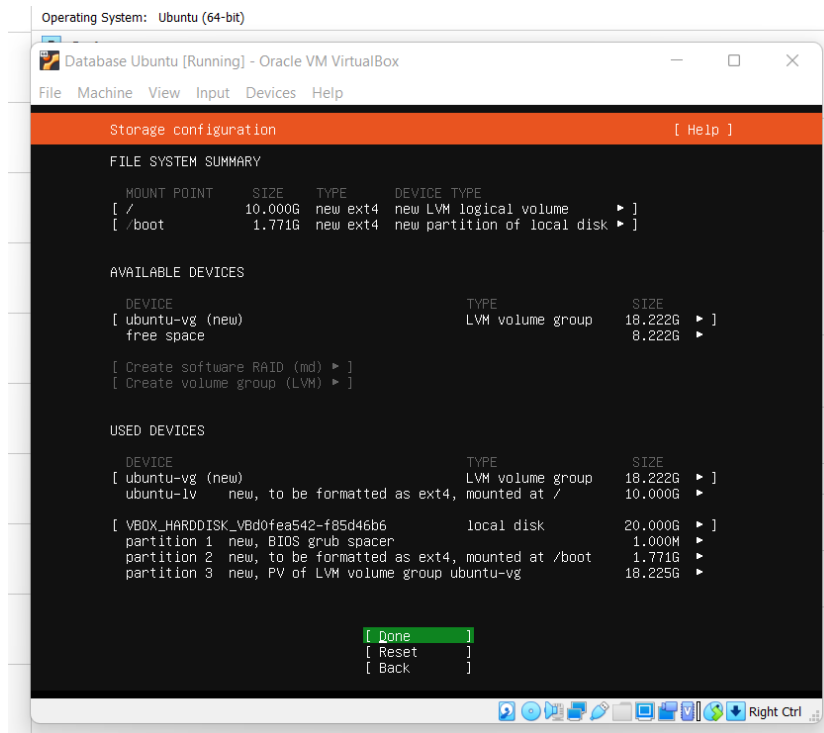
18. **Mirror Address** akan terotomatis berisi karena virtual mesin sudah terhubung ke internet. Mirror Address ini merupakan Repository Server



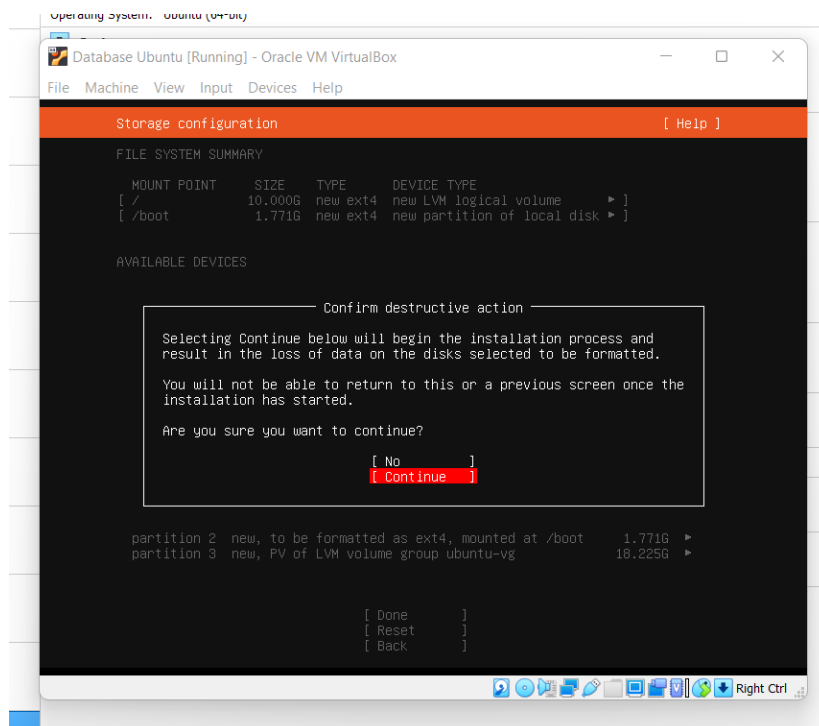
19. Pilih Done, karena kita memilih konfigurasi storage defaultnya



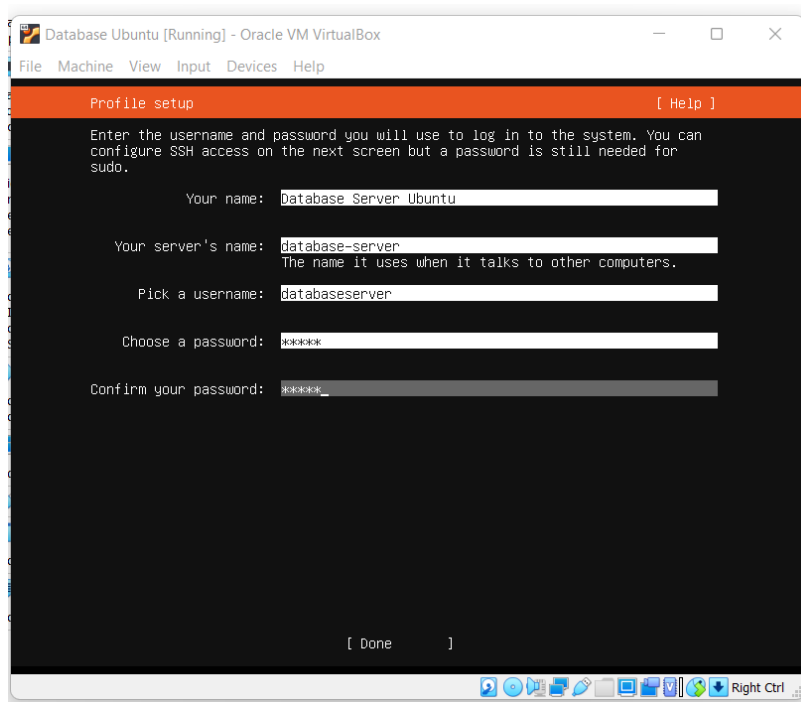
20. Karena sebelumnya sudah memilih konfigurasi default maka partisi pada linux ubuntu sudah otomatis dibuatkan, lalu pilih done untuk langkah berikutnya



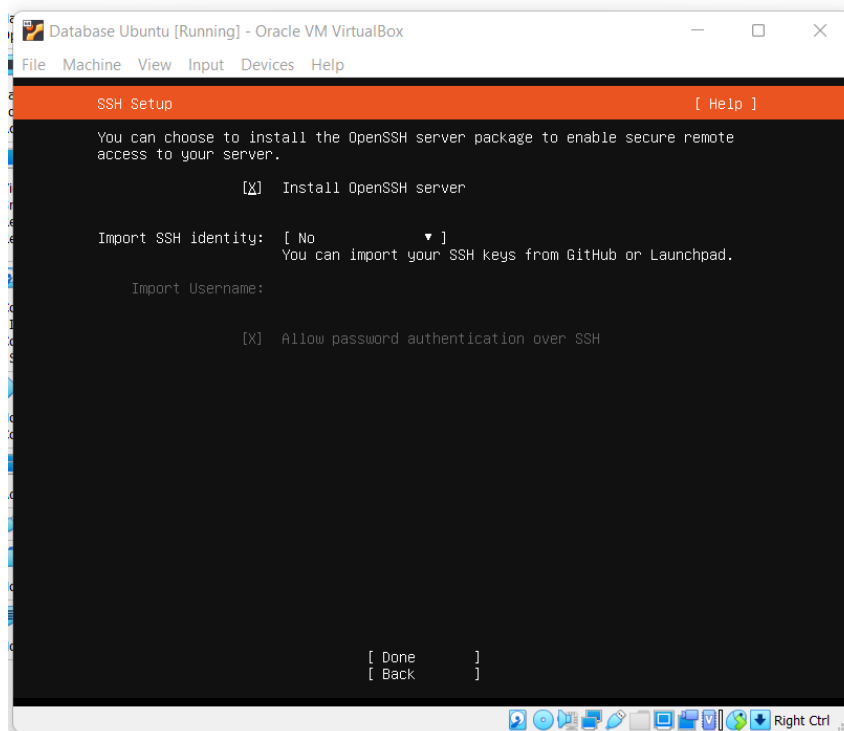
21. Pilih **Continue**, untuk menyakinkan konfigurasi partisi pada linux Ubuntu



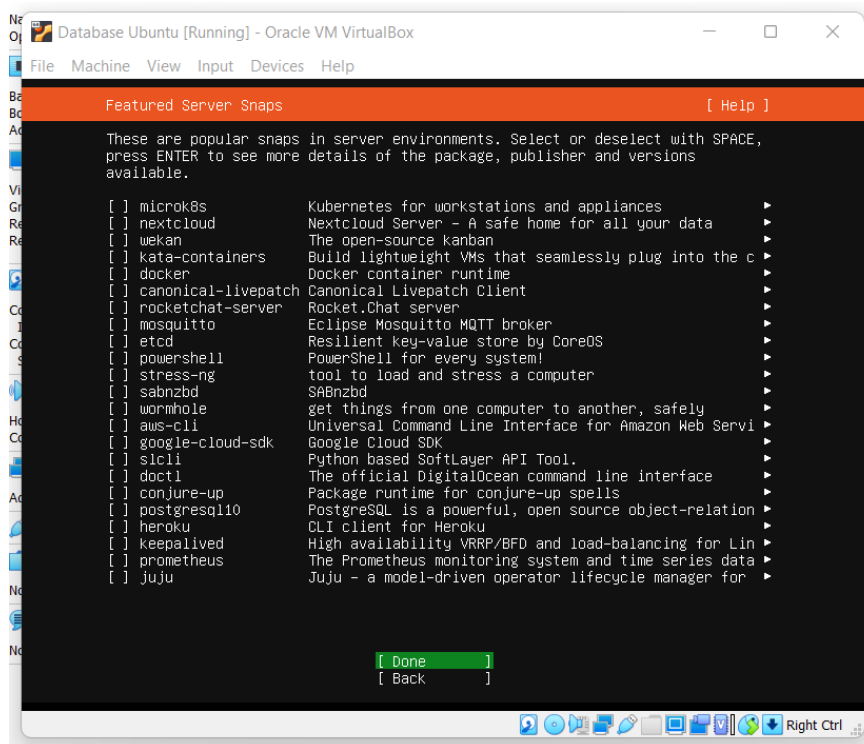
22. Masukkan data pada linux Ubuntu kalian



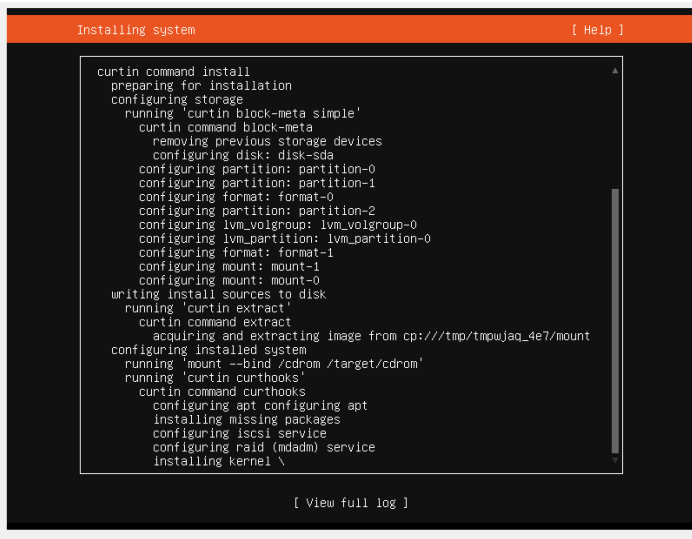
23. Beri tanda **Install OpenSSH Server** dengan cara menekan tombol space pada keyboard. Tujuan Install SSH untuk meremote Server dan Menginstall Service SFTP



24. Pilih **Done** karena kita tidak menginstall Fitur Server Snaps pada linux ubuntu



Tunggu proses instalasi linux ubuntu server

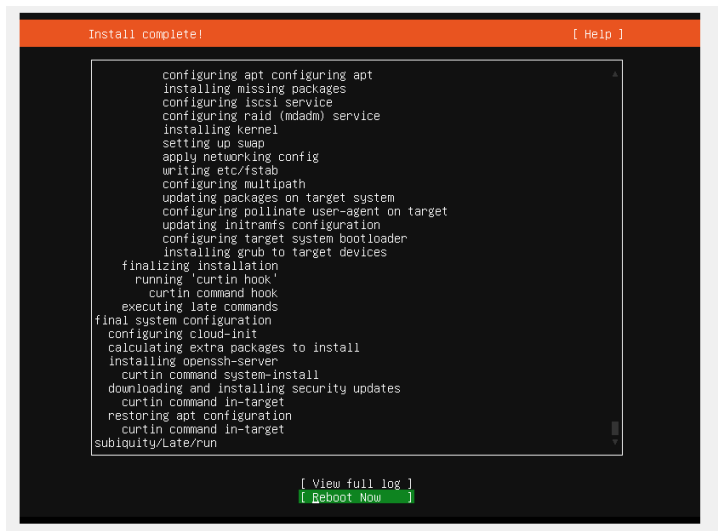


The screenshot shows a terminal window titled "Installing system" with a "[Help]" button in the top right corner. The terminal displays a list of commands and their outputs, indicating the progress of the installation. The commands include preparing for installation, configuring storage, running 'curtin block-meta simple', removing previous storage devices, configuring disk: disk-sda, configuring partition: partition-0, configuring partition: partition-1, configuring format: format-0, configuring partition: partition-2, configuring lvm_voigroup: lvm_voigroup-0, configuring lvm_partition: lvm_partition-0, configuring format: format-1, configuring mount: mount-1, configuring mount: mount-0, writing install sources to disk, running 'curtin extract', curtin command extract, acquiring and extracting image from cp:///tmp/tpwjaq_4e7/mount, configuring installed system, running 'mount --bind /cdrom /target/cdrom', running 'curtin curthooks', curtin command curthooks, configuring apt, configuring apt, installing missing packages, configuring iscsi service, configuring raid (mdadm) service, installing kernel, and installing kernel \. A "[View full log]" button is located at the bottom of the terminal window.

```
curtin command install
preparing for installation
configuring storage
running 'curtin block-meta simple'
curtin command block-meta
removing previous storage devices
configuring disk: disk-sda
configuring partition: partition-0
configuring partition: partition-1
configuring format: format-0
configuring partition: partition-2
configuring lvm_voigroup: lvm_voigroup-0
configuring lvm_partition: lvm_partition-0
configuring format: format-1
configuring mount: mount-1
configuring mount: mount-0
writing install sources to disk
running 'curtin extract'
curtin command extract
acquiring and extracting image from cp:///tmp/tpwjaq_4e7/mount
configuring installed system
running 'mount --bind /cdrom /target/cdrom'
running 'curtin curthooks'
curtin command curthooks
configuring apt
configuring apt
installing missing packages
configuring iscsi service
configuring raid (mdadm) service
installing kernel \
installing kernel \

[ View full log ]
```

27. Install Complete, Pilih **Reboot Now** dan Instalasi Linux Ubuntu Server untuk Webserver sudah Berhasil



The screenshot shows a terminal window titled "Install complete!" with a "[Help]" button in the top right corner. The terminal displays a list of commands and their outputs, indicating the final steps of the installation. The commands include configuring apt, configuring apt, installing missing packages, configuring iscsi service, configuring raid (mdadm) service, installing kernel, setting up swap, apply networking config, writing etc/fstab, configuring multipath, updating packages on target system, configuring pollinate user-agent on target, updating initramfs configuration, configuring target system bootloader, installing grub to target devices, finalizing installation, running 'curtin hook', curtin command hook, executing late commands, final system configuration, configuring cloud-init, calculating extra packages to install, installing openssh-server, curtin command system-install, downloading and installing security updates, curtin command in-target, restoring apt configuration, curtin command in-target, and subiquity/late/run. A "[View full log]" button is located at the bottom of the terminal window, and a "[Reboot Now]" button is highlighted in green.

```
configuring apt
configuring apt
installing missing packages
configuring iscsi service
configuring raid (mdadm) service
installing kernel
setting up swap
apply networking config
writing etc/fstab
configuring multipath
updating packages on target system
configuring pollinate user-agent on target
updating initramfs configuration
configuring target system bootloader
installing grub to target devices
finalizing installation
running 'curtin hook'
curtin command hook
executing late commands
final system configuration
configuring cloud-init
calculating extra packages to install
installing openssh-server
curtin command system-install
downloading and installing security updates
curtin command in-target
restoring apt configuration
curtin command in-target
subiquity/late/run

[ View full log ]
[ Reboot Now ]
```

Menghidupkan Port SSH di Web Server (SFTP)

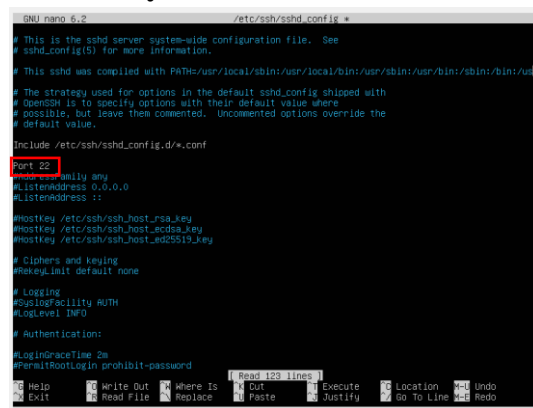
1. Setelah install linux ubuntu server, maka update pakentnya dengan cara “**sudo apt-get update**”

```
webserver@webserver-ubuntu:~$ sudo apt-get update
```

2. Setelah update, kita akan menghidupkan Port 22 yaitu Port SSH. Catatan virtual mesin kalian sudah terinstal SSH

```
root@webserver-ubuntu:/home# nano /etc/ssh/sshd_config
```

3. Hapus tanda pagar di **Port 22** agar port 22-nya hidup dan save menggunakan **ctrl + o** dan **tekan y + enter** dan exit **ctrl + x**



4. Ikuti sintak dibawah untuk mengizinkan port tersebut di firewall. **UFW** merupakan salah satu fitur front end iptables pada Ubuntu, yang dapat digunakan untuk melakukan konfigurasi sistem firewall. UFW berfungsi untuk menyaring data dan membuat aturan data yang boleh masuk atau keluar dari sebuah sistem computer

```
root@webserver-ubuntu:/home/webserver# ufw allow 20,21,22,990,40000,50000/tcp
Rules updated
Rules updated (v6)
root@webserver-ubuntu:/home/webserver# ufw enable
Firewall is active and enabled on system startup
root@webserver-ubuntu:/home/webserver# ufw status
Status: active

To Action From
--
20,21,22,990,40000,50000/tcp ALLOW Anywhere
20,21,22,990,40000,50000/tcp (v6) ALLOW Anywhere (v6)
root@webserver-ubuntu:/home/webserver#
```

5. Setelah sudah diijinkan maka kita harus menghidupkan ufw. Dengan cara “**ufw enable**” dan “**ufw status**” untuk melihat list port yang diijinkan oleh ufw

```
root@databaseserver-ubuntu:/home/databaseserver# ufw enable
Firewall is active and enabled on system startup
root@databaseserver-ubuntu:/home/databaseserver# ufw status
Status: active

To Action From
--
20,21,22,990,40000,50000/tcp ALLOW Anywhere
20,21,22,990,40000,50000/tcp (v6) ALLOW Anywhere (v6)
root@databaseserver-ubuntu:/home/databaseserver#
```

Menghidupkan Port SSH di Database Server (SFTP)

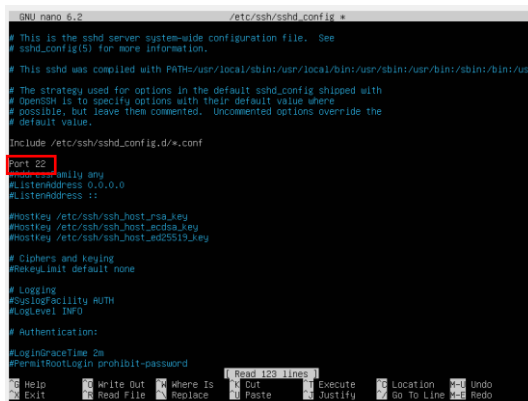
1. Setelah install linux ubuntu server, maka update pakentnya dengan cara “**sudo-apt get update**”

```
databaseserver@database-server:~$ sudo apt-get update
```

2. Setelah update, kita akan menghidupkan Port 22 yaitu Port SSH. Catatan virtual mesin kalian sudah terinstal SSH

```
root@database-server:/home/databaseserver# nano /etc/ssh/sshd_config
```

3. Hapus tanda pagar di **Port 22** agar port 22-nya hidup dan save menggunakan **ctrl + o** dan tekan **y + enter** dan exit **ctrl + x**



4. Ikuti sintak dibawah untuk mengizinkan port tersebut di firewall. **UFW** merupakan salah satu fitur front end iptables pada Ubuntu, yang dapat digunakan untuk melakukan konfigurasi sistem firewall. UFW berfungsi untuk menyaring data dan membuat aturan data yang boleh masuk atau keluar dari sebuah sistem computer

```
root@webservice-ubuntu:/home/webserver# ufw allow 20,21,22,990,40000,50000/tcp
Rules updated
Rules updated (v6)
root@webservice-ubuntu:/home/webserver# ufw enable
Firewall is active and enabled on system startup
root@webservice-ubuntu:/home/webserver# ufw status
Status: active

To Action From
--
20,21,22,990,40000,50000/tcp ALLOW Anywhere
20,21,22,990,40000,50000/tcp (v6) ALLOW Anywhere (v6)
root@webservice-ubuntu:/home/webserver#
```

5. Setelah sudah diijinkan maka kita harus menghidupkan ufw. Dengan cara “**ufw enable**” dan “**ufw status**” untuk melihat list port yang diijinkan oleh ufw

```
root@databaseserver-ubuntu:/home/databaseserver# ufw enable
Firewall is active and enabled on system startup
root@databaseserver-ubuntu:/home/databaseserver# ufw status
Status: active

To Action From
--
20,21,22,990,40000,50000/tcp ALLOW Anywhere
20,21,22,990,40000,50000/tcp (v6) ALLOW Anywhere (v6)
root@databaseserver-ubuntu:/home/databaseserver#
```

Install Apache di Web Server

1. Install Apache di Web Server dengan menggunakan perintah “**apt-get install apache2 -y**”. Catatan kalian harus sudah berada di akses root

```
root@webserver-ubuntu:/home# apt-get install apache2 -y
```

2. berikan izin port Apache agar bisa diakses oleh server, dengan menggunakan “**ufw allow 'Apache' ”**

```
root@webserver-ubuntu:/home# ufw allow 'Apache'
Rule added
Rule added (v6)
root@webserver-ubuntu:/home# _
```

3. Setelah sudah diinstall dan diberi izin oleh UFW, selanjutnya restart apache agar konfigurasi active

```
root@webserver-ubuntu:/home/webserver# systemctl restart apache2
```

Membuat User untuk Hosting Web Server

1. Membuat user untuk bisa mengakses folder khusus

```
root@webserver-ubuntu:/home# adduser anomganteng
```

2. Setelah menjalankan sintak diatas berikan data user kalian

```
root@webserver-ubuntu:/home# adduser anomganteng
Adding user `anomganteng' ...
Adding new group `anomganteng' (1001) ...
Adding new user `anomganteng' (1001) with group `anomganteng' ...
Creating home directory `/home/anomganteng' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for anomganteng
Enter the new value, or press ENTER for the default
  Full Name []: Anom Mudita
  Room Number []: 87878
  Work Phone []: 87878
  Home Phone []: 87878
  Other []: 8787
Is the information correct? [Y/n] y
root@webserver-ubuntu:/home# _
```

3. Setelah berhasil membuat user baru, jalankan sintak dibawah ini untuk mengkonfigurasi apache2

```
root@webserver-ubuntu:/home# nano /etc/apache2/sites-available/000-default.conf
```


4. Ubah DocumentRoot sesuai dengan nama user yang tadi dibuat, dan tujuan konfigurasi untuk mengarahkan atau redirect ke folder tersebut dan save konfigurasinya

```
GNU nano 6.2 /etc/apache2/sites-available/000-default.conf *
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin webmaster@localhost
    DocumentRoot /home/anomganteng

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>

vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

5. Setelah konfigurasi kita akan pindah ke directory sesuai dengan sites-enabled

```
root@webserver-ubuntu:/home# cd /etc/apache2/sites-enabled/
```

6. Ikuti sintak gambar dibawah ini

```
root@webserver-ubuntu:/home# cd /etc/apache2/sites-enabled
```

7. Setelah sudah di directory site-enabled ketik ls untuk melihat 000-default.conf

```
root@webserver-ubuntu:/etc/apache2/sites-enabled# ls
000-default.conf
root@webserver-ubuntu:/etc/apache2/sites-enabled# _
```

8. Setelah itu pindah ke directory /home dan ikuti sintak dibawah ini untuk change owner dan chamod untuk folder user tersebut ini yang berarti folder tersebut hanya diakses oleh user yang kita buat.

```
root@webserver-ubuntu:/etc/apache2/sites-enabled# cd /home
root@webserver-ubuntu:/home# chown -R www-data:www-data anomganteng
root@webserver-ubuntu:/home# chmod -R 777 /home/anomganteng
```

9. Kita konfigurasi apache2.conf ikut perintah gambar dibawah ini

```
root@webserver-ubuntu:/home# nano /etc/apache2/apache2.conf_
```

10. Tambahkan intruksi yang sudah ditandakan dan save

```
GNU nano 6.2 /etc/apache2/apache2.conf *
Require all denied
</Directory>
<Directory /usr/share>
    AllowOverride None
    Require all granted
</Directory>
<Directory /var/www/>
    Options Indexes FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>
<Directory /home>
    Options Indexes FollowSymLinks
    AllowOverride None
    Require all granted
</Directory>
#<Directory /srv>
#
#    Options Indexes FollowSymLinks
#    AllowOverride None
#    Require all granted
#</Directory>

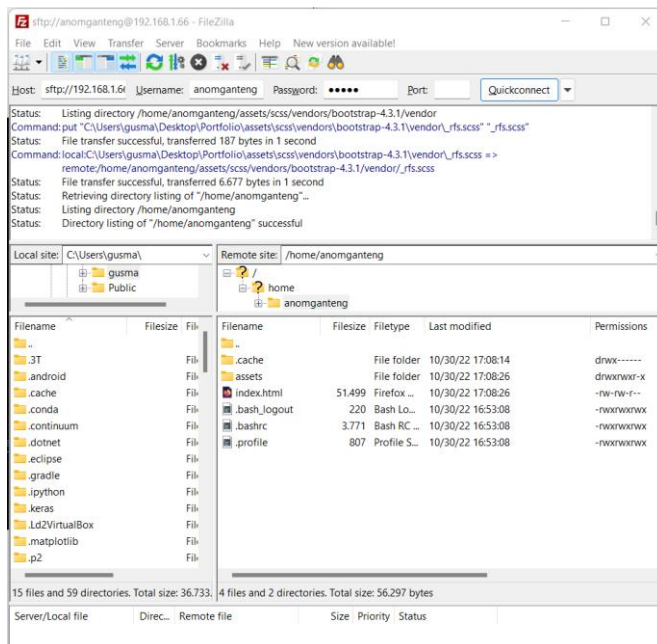
# AccessFileName: The name of the file to look for in each directory
# for additional configuration directives. See also the AllowOverride
# directive.
#
```

11. Setelah semua dikonfigurasi maka restart apache agar konfigurasi diterima oleh apach2

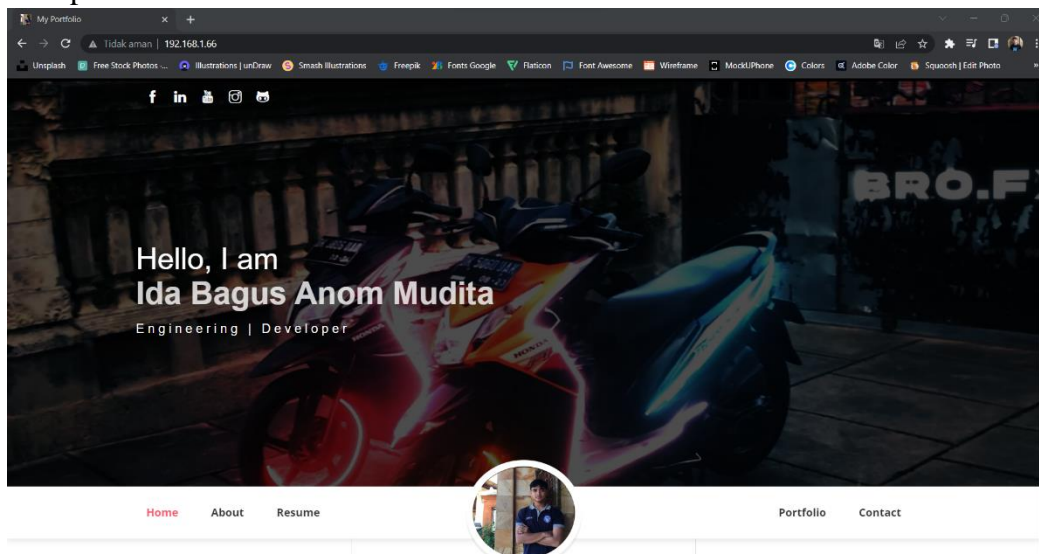
```
root@webserver-ubuntu:/home# service apache2 restart
```

Menambkan Folder Di User (Testing Apache2)

1. Buka aplikasi filezilla agar bisa mengakses folder anomganteng dan login menggunakan adduser serta gunakan port 22 untuk SFTP. Setelah berhasil login upload file html kalian.



2. Setelah mengupload file, buka aplikasi browser dan ketikkan ip web server, maka akan tampil website kalian. Ini sudah berhasil



Install MYSQL di Database server

1. Install mysql server

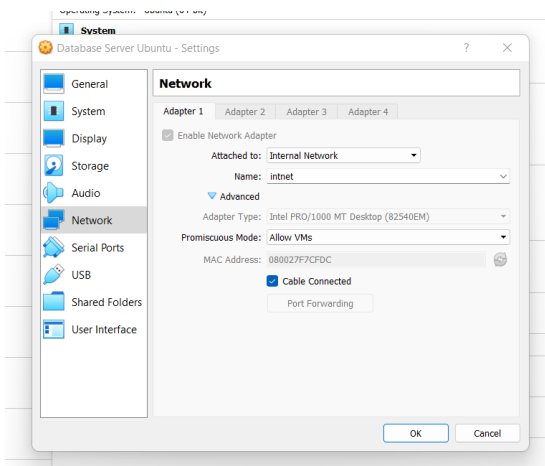
```
root@database-server:/home/databaseserver# sudo apt-get install mysql-server -y
```

2. Start untuk menghidupkan mysql

```
root@database-server:/home/databaseserver# systemctl start mysql
root@database-server:/home/databaseserver#
```

Konfigurasi Adapter Database dan Netplan

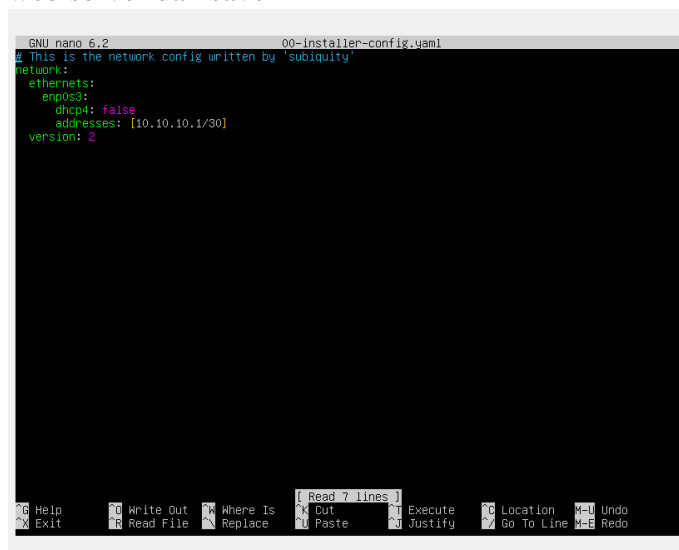
1. Ganti Network menjadi Internal Network agar Database bisa berkomunikasi dengan Database melalui jaringan virtual



2. Ikuti Sintak dibawah ini untuk konfigurasi netplan

```
root@databaseserver-ubuntu:/home/databaseserver# cd /etc/netplan
root@databaseserver-ubuntu:/etc/netplan# ls
00-installer-config.yaml
root@databaseserver-ubuntu:/etc/netplan# nano 00-installer-config.yaml
```

3. Setting **enps8** dan **dhcp false** karena kita menggunakan ip static untuk menghubungkan web server dan save



4. Restart Netplan

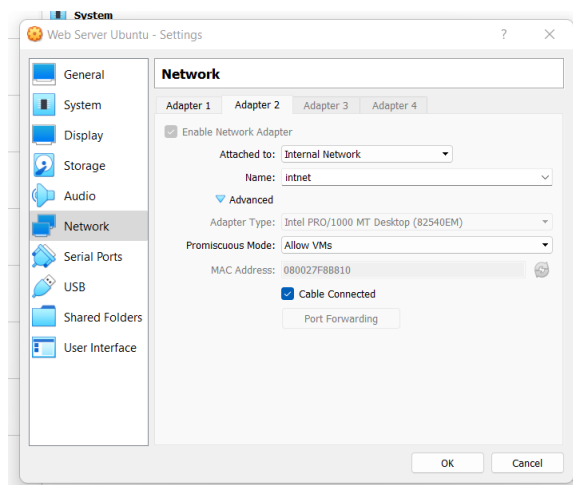
```
databaseserver@databaseserver-ubuntu:/etc/netplan$ sudo netplan apply
```

5. Ping IP Webserver

```
root@databaseserver-ubuntu:/etc/netplan# ping 10.10.10.2
PING 10.10.10.2 (10.10.10.2) 56(84) bytes of data:
64 bytes from 10.10.10.2: icmp_seq=1 ttl=64 time=6.05 ms
64 bytes from 10.10.10.2: icmp_seq=2 ttl=64 time=0.277 ms
64 bytes from 10.10.10.2: icmp_seq=3 ttl=64 time=0.401 ms
```

Konfigurasi Adapter Webserver

1. Tambahkan Network di Adapter2 menjadi Internal Network agar Database bisa berkomunikasi dengan Database melalui jaringan virtual, catatan jika ingin menambahkan adapter mesin virtual harus mati terlebih dahulu



2. Ikuti perintah dibawah untuk konfigurasi IP pada webserver

```
Last login: Mon Oct 31 03:46:44 UTC 2022 on tty1
webserver@webserver-ubuntu:~$ cd /etc/netplan
webserver@webserver-ubuntu:/etc/netplan$ ls
00-installer-config.yaml
webserver@webserver-ubuntu:/etc/netplan$ sudo nano 00-installer-config.yaml
```

3. Tambahkan **enps8** dan **dchp false** karena kita menggunakan ip static untuk menghubungkan database server dan save

```
# This is the network config written by 'subiquity'
network:
  ethernets:
    enp0s3:
      dhcp4: true
    enp0s8:
      dhcp4: false
      addresses: [10.10.10.2/30]
  version: 2
```

4. Restart Netplan

```
webserver@webserver-ubuntu:/etc/netplan$ sudo netplan apply
```

5. Ping IP Database Server

```
root@webserver-ubuntu:/home/webserver# ping 10.10.10.1
PING 10.10.10.1 (10.10.10.1) 56(84) bytes of data:
64 bytes from 10.10.10.1: icmp_seq=1 ttl=64 time=0.491 ms
64 bytes from 10.10.10.1: icmp_seq=2 ttl=64 time=0.415 ms
64 bytes from 10.10.10.1: icmp_seq=3 ttl=64 time=0.246 ms
```

Konfigurasi Mysql Di Database Server

1. Ikuti perintah dibawah ini untuk memilih tingkatan level password dan pilih y

```
root@database-server:/home/databaseserver# sudo mysql_secure_installation
```

```
root@database-server:/home/databaseserver# sudo mysql_secure_installation
```

```
Securing the MySQL server deployment.
```

```
Connecting to MySQL using a blank password.
```

```
VALIDATE PASSWORD COMPONENT can be used to test passwords
and improve security. It checks the strength of password
and allows the users to set only those passwords which are
secure enough. Would you like to setup VALIDATE PASSWORD component?
```

```
Press y|Y for Yes, any other key for No: y
```

2. Pilih 2 lebih kuat untuk mengamankan password dan masukan password baru untuk root dan ctrl + C untuk keluar

```
LOW      Length >= 8
MEDIUM  Length >= 8, numeric, mixed case, and special characters
STRONG Length >= 8, numeric, mixed case, special characters and dictionary

Please enter 0 = LOW, 1 = MEDIUM and 2 = STRONG: 2
```

```
New password:
```

```
Re-enter new password:
```

```
Estimated strength of the password: 100
```

```
Do you wish to continue with the password provided?(Press y|Y for Yes, any other key for No) : y
```

```
... Failed! Error: SET PASSWORD has no significance for user 'root'@'localhost' as the authentication method used doesn't store authentication data in the MySQL server. Please consider using ALTER USER instead if you want to change authentication parameters.
```

```
New password:
```

```
Re-enter new password:
```

```
Estimated strength of the password: 100
```

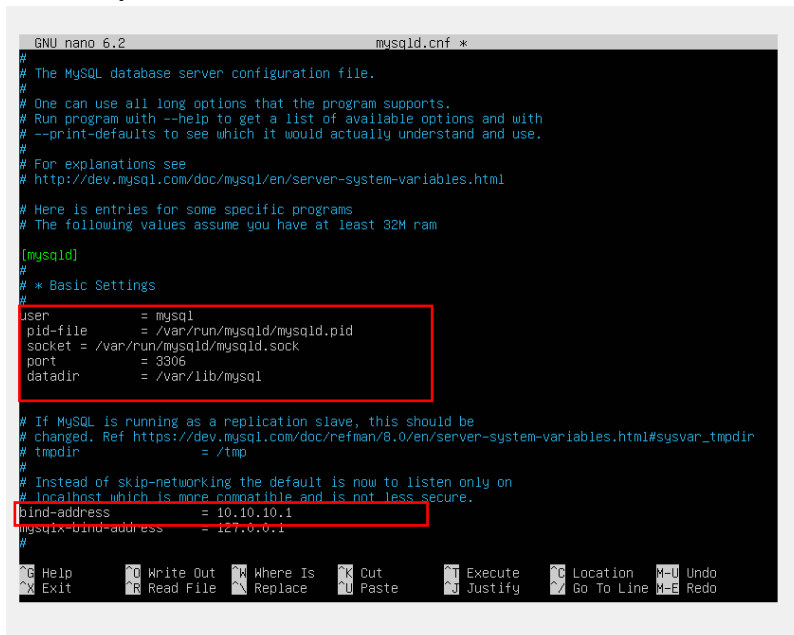
```
Do you wish to continue with the password provided?(Press y|Y for Yes, any other key for No) : ^C
```

```
root@database-server:/home/databaseserver# _
```

3. Konfigurasi Mysql dengan perintah dibawah ini

```
root@database-server:/home/databaseserver# sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf
```

4. Hilangkan tanda pagar untuk menghidupkan dan ubah bind-address menjadi ip database servernya dan save



```
GNU nano 6.2 mysqld.cnf *
# The MySQL database server configuration file.
#
# One can use all long options that the program supports.
# Run program with --help to get a list of available options and with
# --print-defaults to see which it would actually understand and use.
#
# For explanations see
# http://dev.mysql.com/doc/mysql/en/server-system-variables.html
#
# Here is entries for some specific programs
# The following values assume you have at least 32M ram
[mysqld]
#
# * Basic Settings
#
user                = mysql
pid-file            = /var/run/mysqld/mysqld.pid
socket              = /var/run/mysqld/mysqld.sock
port                = 3306
datadir             = /var/lib/mysql

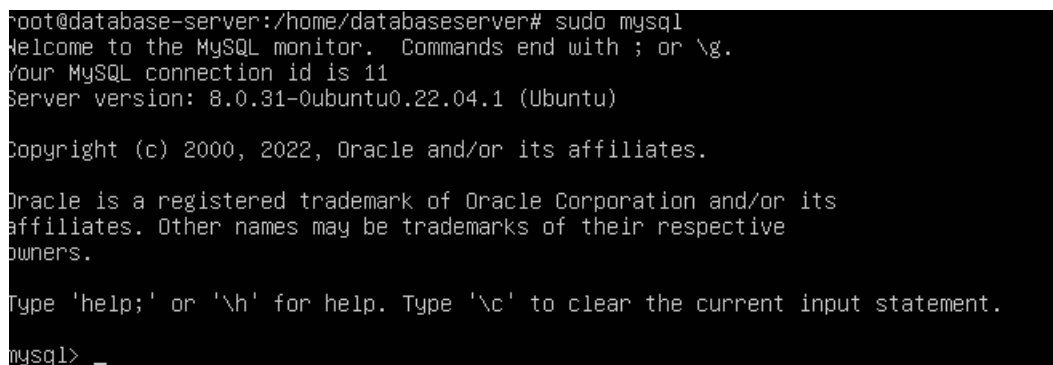
# If MySQL is running as a replication slave, this should be
# changed. Ref https://dev.mysql.com/doc/refman/8.0/en/server-system-variables.html#sysvar_tmpdir
tmpdir              = /tmp
#
# Instead of skip-networking the default is now to listen only on
# localhost which is more compatible and is not less secure.
bind-address         = 10.10.10.1
#mysqlx-bind-address = 127.0.0.1
#
Help      Write Out  Where Is  Cut      Execute  Location  M-U Undo
Exit     Read File  Replace  Paste    Justify  Go To Line M-E Redo
```

5. Masuk ke aplikasi mysql



```
root@database-server:/home/databaseserver# sudo mysql_
```

6. Ini tanda jika sudah berhasil masuk ke mysql



```
root@database-server:/home/databaseserver# sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 11
Server version: 8.0.31-0ubuntu0.22.04.1 (Ubuntu)

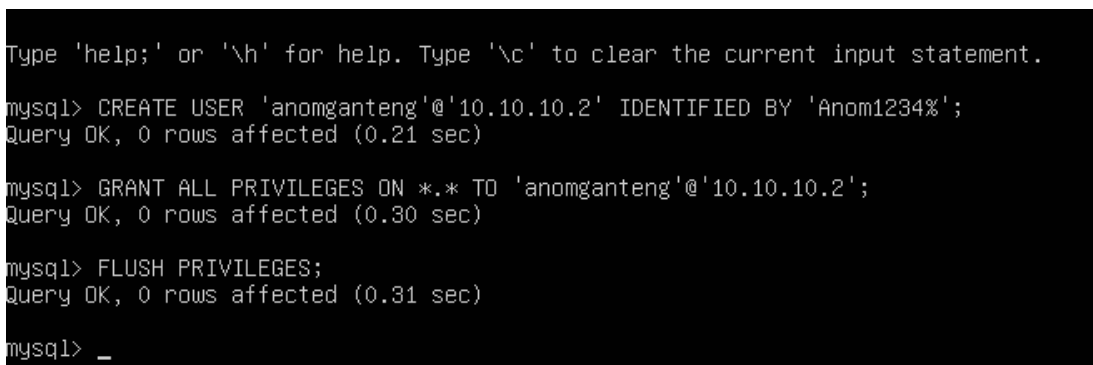
Copyright (c) 2000, 2022, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> _
```

7. Buat akun untuk bisa terhubung ke database server dari Webserver ikuti perintah gambar bawah ini. Untuk ip 10.10.10.2 itu merupakan ip dari webserver jadi akun mysql ini hanya bis terhubung dengan ip tersebut



```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> CREATE USER 'anomganteng'@'10.10.10.2' IDENTIFIED BY 'Anom1234%';
Query OK, 0 rows affected (0.21 sec)

mysql> GRANT ALL PRIVILEGES ON *.* TO 'anomganteng'@'10.10.10.2';
Query OK, 0 rows affected (0.80 sec)

mysql> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.81 sec)

mysql> _
```

8. Restart mysql agar konfigurasi kita terupdate

```
root@database-server:/home/databaseserver# service mysql restart
```

9. Buat database ikuti perintah dibawah ini , syaratnya kalian sudah masuk ke aplikasi mysql dengan cara **sudo mysql**

```
mysql> CREATE DATABASE db_testing;
Query OK, 1 row affected (0.00 sec)

mysql> SHOW DATABASES
-> ;
+-----+
| Database |
+-----+
| db_testing |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

mysql> exit
Bye
root@webserver-ubuntu:/home#
```

Install PHP di webserver

1. Update Repository

```
root@webserver-ubuntu:/home# sudo apt-get update
Hit:1 http://id.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://id.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://id.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://id.archive.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
root@webserver-ubuntu:/home# _
```

2. Install PHP untuk Apache

```
root@webserver-ubuntu:/home# sudo apt-get install php libapache2-mod-php
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libapache2-mod-php8.1 php-common php8.1 php8.1-cli php8.1-common php8.1-opcache php8.1-
Suggested packages:
  php-pear
The following NEW packages will be installed:
  libapache2-mod-php libapache2-mod-php8.1 php php-common php8.1 php8.1-cli php8.1-commo
  php8.1-opcache php8.1-readline
0 upgraded, 9 newly installed, 0 to remove and 45 not upgraded.
Need to get 5,130 kB of archives.
After this operation, 21.3 MB of additional disk space will be used.
Do you want to continue? [Y/n] _
```

3. Install PHP untuk MYSQL

```
root@webserver-ubuntu:/home/anomganteng# sudo apt-get install php-mysql php-gd_
```

Install Wordpress di Web Server

1. Masuk ke Directory /home/user lalu download wordpress

```
root@webserver-ubuntu:/home/anomganteng# wget http://wordpress.org/latest.zip
--2022-10-31 09:03:32-- http://wordpress.org/latest.zip
```

2. Lihat menggunakan ls untuk melihat folder wordpress, dan instal aplikasi unzip untuk mengekstrak folder

```
root@webserver-ubuntu:/home/anomganteng# ls
assets index.html latest.zip
root@webserver-ubuntu:/home/anomganteng# apt-get install unzip_
```

3. Ekstrak folder tersebut menggunakan perintah dibawah ini

```
root@webserver-ubuntu:/home/anomganteng# unzip latest.zip _
```

4. Gunakan perintah dibawah ini untuk redirect ke folder wordpress

```
root@webserver-ubuntu:/home/anomganteng# cd /etc/apache2/sites-available/
root@webserver-ubuntu:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf
root@webserver-ubuntu:/etc/apache2/sites-available# nano 000-default.conf _
```


5. Tambahkan /wordpress untuk meredirect dan save

```
GNU nano 6.2 000-default.conf *
<VirtualHost *:80>
    # The ServerName directive sets the request scheme, hostname and port that
    # the server uses to identify itself. This is used when creating
    # redirection URLs. In the context of virtual hosts, the ServerName
    # specifies what hostname must appear in the request's Host: header to
    # match this virtual host. For the default virtual host (this file) this
    # value is not decisive as it is used as a last resort host regardless.
    # However, you must set it for any further virtual host explicitly.
    #ServerName www.example.com

    ServerAdmin webmaster@localhost
    DocumentRoot /home/anomganteng/wordpress_

    # Available loglevels: trace8, ..., trace1, debug, info, notice, warn,
    # error, crit, alert, emerg.
    # It is also possible to configure the loglevel for particular
    # modules, e.g.
    #LogLevel info ssl:warn

    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined

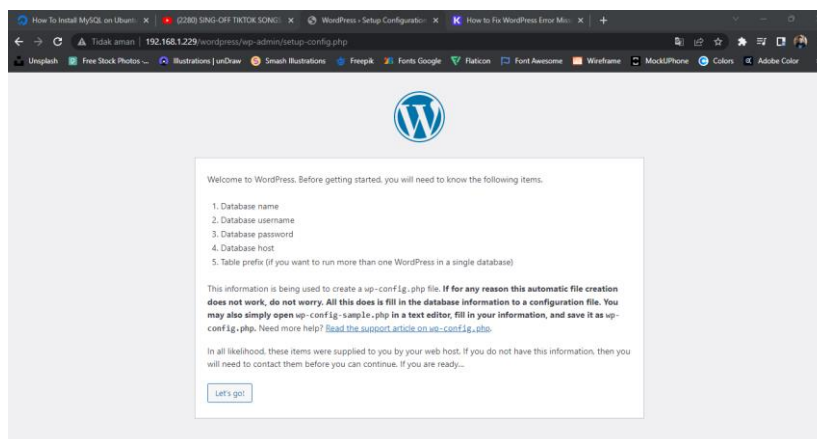
    # For most configuration files from conf-available/, which are
    # enabled or disabled at a global level, it is possible to
    # include a line for only one particular virtual host. For example the
    # following line enables the CGI configuration for this host only
    # after it has been globally disabled with "a2disconf".
    #Include conf-available/serve-cgi-bin.conf
</VirtualHost>

# vim: syntax=apache ts=4 sw=4 sts=4 sr noet
```

6. Berikan full akses untuk folder wordpress agar kita bisa upload gambar

```
root@webserver-ubuntu:/home/anomganteng/wordpress# chmod -R 777 wordpress_
```

7. Buka menggunakan browser maka akan tampil halaman wordpressnya



8. Copy file **wp-config-sample.php** ganti dengan nama **wp-config.php**

```
root@webserver-ubuntu:/home/anomganteng/wordpress# cp wp-config-sample.php wp-config.php _
```

9. Edit file kita copy untuk menghubungkan database ke webserver

```
root@webserver-ubuntu:/home/anomganteng/wordpress# nano wp-config.php
```

10. Ikuti perintah dibawah ini untuk menghubungkan database. Kalian harus sudah membuat database dan save

```
GNU nano 6.2 wp-config.php
<?php
/**
 * The base configuration for WordPress
 *
 * The wp-config.php creation script uses this file during the installation.
 * You don't have to use the web site, you can copy this file to "wp-config.php"
 * and fill in the values.
 *
 * This file contains the following configurations:
 *
 * * Database settings
 * * Secret keys
 * * Database table prefix
 * * ABSPATH
 *
 * @link https://wordpress.org/support/article/editing-wp-config-php/
 *
 * @package WordPress
 */

// ** Database Settings - You can get this info from your web host ** //
/** The name of the database for WordPress */
define( 'DB_NAME', 'db_testing' );

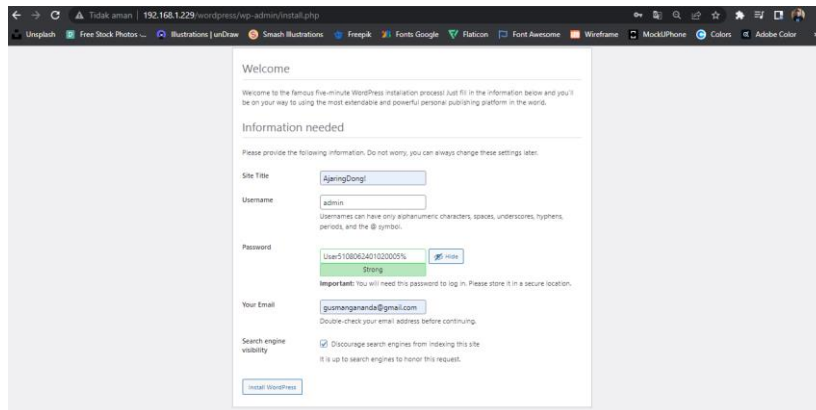
/** Database username */
define( 'DB_USER', 'anonganteng' );

/** Database password */
define( 'DB_PASSWORD', 'Anoni294%' );

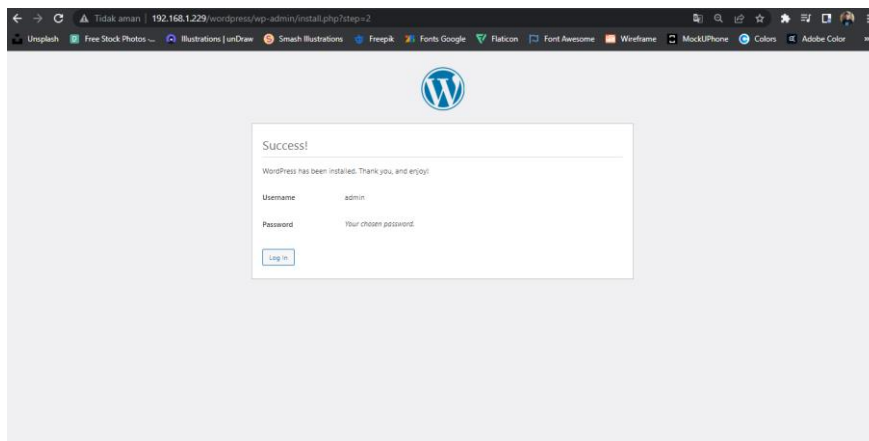
/** Database hostname */
define( 'DB_HOST', '10.10.10.1' );

root@webserver-ubuntu:/home/anonganteng/wordpress# _
```

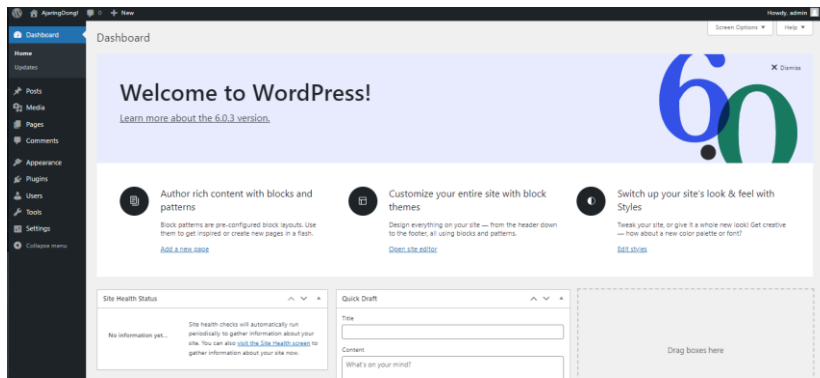
11. Setelah sudah ditambahkan databasenya, lalu masuk ke browser, maka akan tampil gambar seperti dibawah ini. Kalian harus membuat akun root



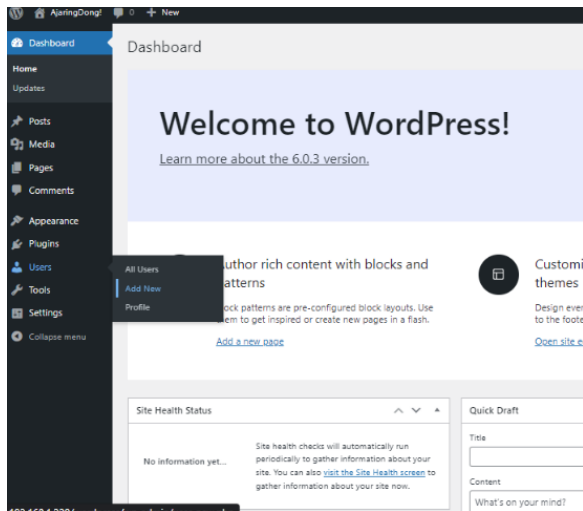
12. Proses pembuatan akun admin berhasil silahkan login



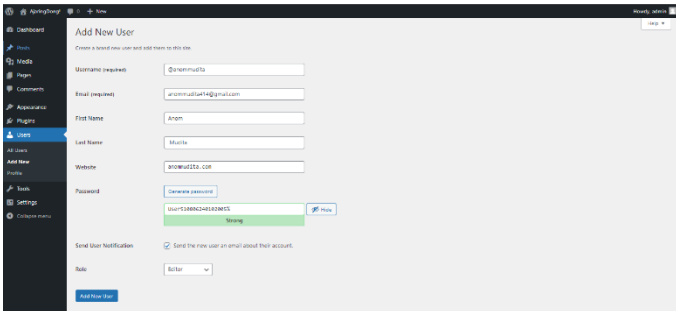
13. Setelah login berhasil maka akan tampilan dashboard untuk admin



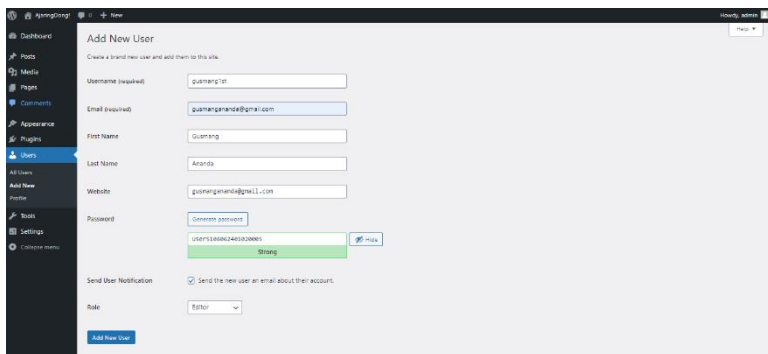
14. Buat User



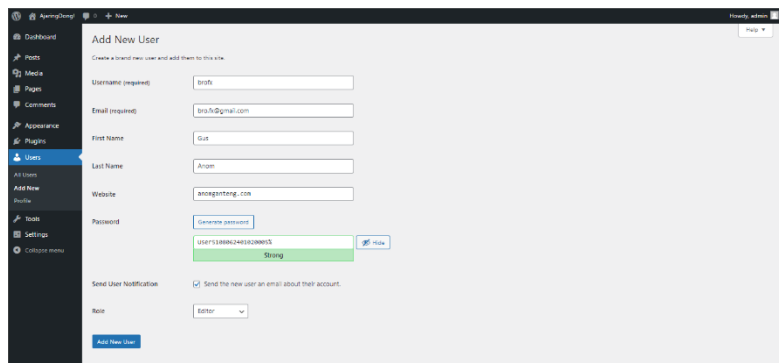
15. User 1



16. User 2

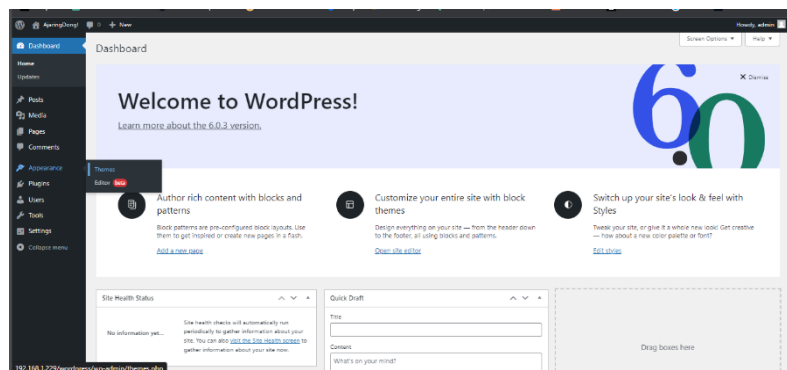


17. User 3

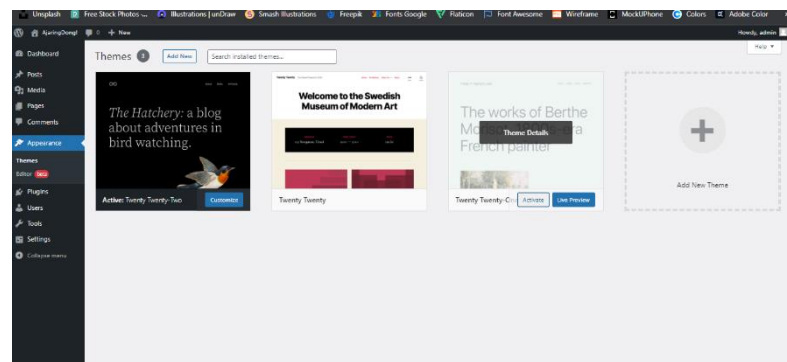


The screenshot shows the 'Add New User' form in the WordPress admin dashboard. The left sidebar has 'Users' selected. The form fields are: Username (required) with 'broth' entered, Email (required) with 'broth@gmail.com' entered, First Name with 'Gus' entered, Last Name with 'Arcom' entered, Website with 'anongenting.com' entered, and Password with 'Generate password' and 'Show' buttons. A strength indicator shows 'Strong'. There is a checkbox for 'Send User Notification' and a 'Role' dropdown set to 'Editor'. An 'Add New User' button is at the bottom.

18. Untuk mengubah tampilan Wordpress Pilih menu → Appearance → Themes



19. Kalian bisa mengedit tampilannya



Sumber Belajar :

<https://www.youtube.com/watch?v=-mPqYt0K2y8>

<https://www.youtube.com/watch?v=DVCuhRAFETY>

<https://www.youtube.com/watch?v=ChfU0YkhOq8>

https://www.youtube.com/watch?v=CA3WnL_VHYA

<https://www.youtube.com/watch?v=NIDBgMjgy8A>

https://www.youtube.com/watch?v=Np_OUB4gvc4

<https://www.youtube.com/watch?v=1YCstraERFA&t=478s>

<https://www.digitalocean.com/community/tutorials/how-to-install-mysql-on-ubuntu-20-04>

<https://www.digitalocean.com/community/tutorials/how-to-set-up-a-remote-database-to-optimize-site-performance-with-mysql-on-ubuntu-18-04>

<https://www.youtube.com/watch?v=Oe0r7L2Lbfw>

https://www.youtube.com/watch?v=tyWhP_ayMaA&t=0s

<https://linuxize.com/post/how-to-install-php-on-ubuntu-20-04/>

<https://www.digitalocean.com/community/tutorials/how-to-set-up-a-remote-database-to-optimize-site-performance-with-mysql-on-ubuntu-18-04>