

# NETWORK SECURITY

한양대학교 소프트웨어융합대학 소프트웨어학부  
이연준 교수

# 주요 사항

- 실습환경 구축

- **Lab Preparation**

  - ***Linux*** 설치 및 패키지 설치

- **Lab Task**

  - ***Apache2, MySQL, PHP Setup***

- **Evaluation**

# **LAB PREPARATION**

# Ubuntu 16.04.6 LTS (Xenial Xerus)

■ <http://releases.ubuntu.com/16.04/>

## Select an image

Ubuntu is distributed on two types of images described below.

### Desktop image

The desktop image allows you to try Ubuntu without changing your computer at all, and at your option to install it permanently later. This type of image is what most people will want to use. You will need at least 384MiB of RAM to install from this image.

#### 64-bit PC (AMD64) desktop image

Choose this if you have a computer based on the AMD64 or EM64T architecture (e.g., Athlon64, Opteron, EM64T Xeon, Core 2). If you have a non-64-bit processor made by AMD, or if you need full support for 32-bit code, use the i386 images instead. Choose this if you are at all unsure.

#### 32-bit PC (i386) desktop image

For almost all PCs. This includes most machines with Intel/AMD/etc type processors and almost all computers that run Microsoft Windows, as well as newer Apple Macintosh systems based on Intel processors.

### Server install image

The server install image allows you to install Ubuntu permanently on a computer for use as a server. It will not install a graphical user interface.

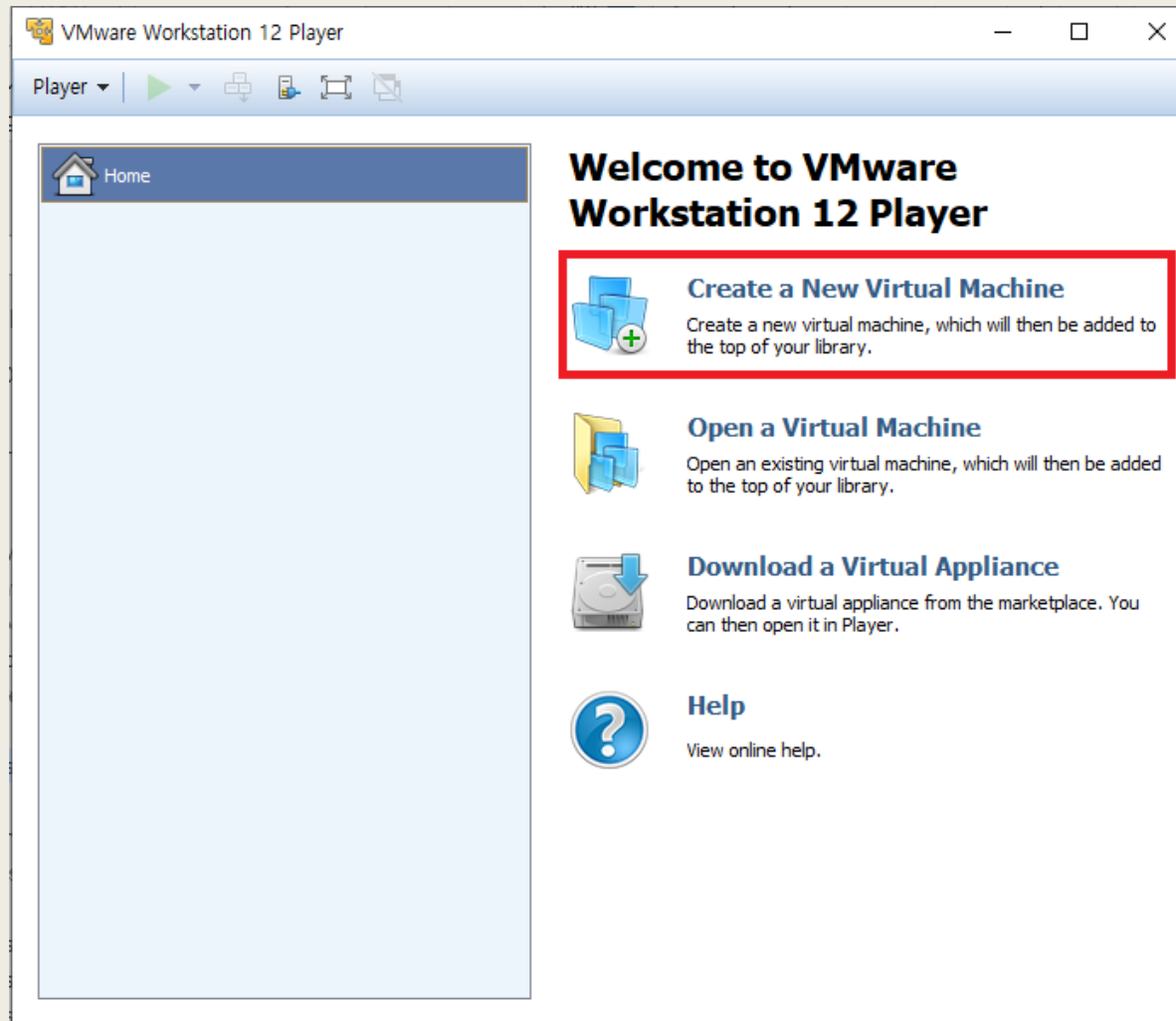
#### 64-bit PC (AMD64) server install image

Choose this if you have a computer based on the AMD64 or EM64T architecture (e.g., Athlon64, Opteron, EM64T Xeon, Core 2). If you have a non-64-bit processor made by AMD, or if you need full support for 32-bit code, use the i386 images instead. Choose this if you are at all unsure.

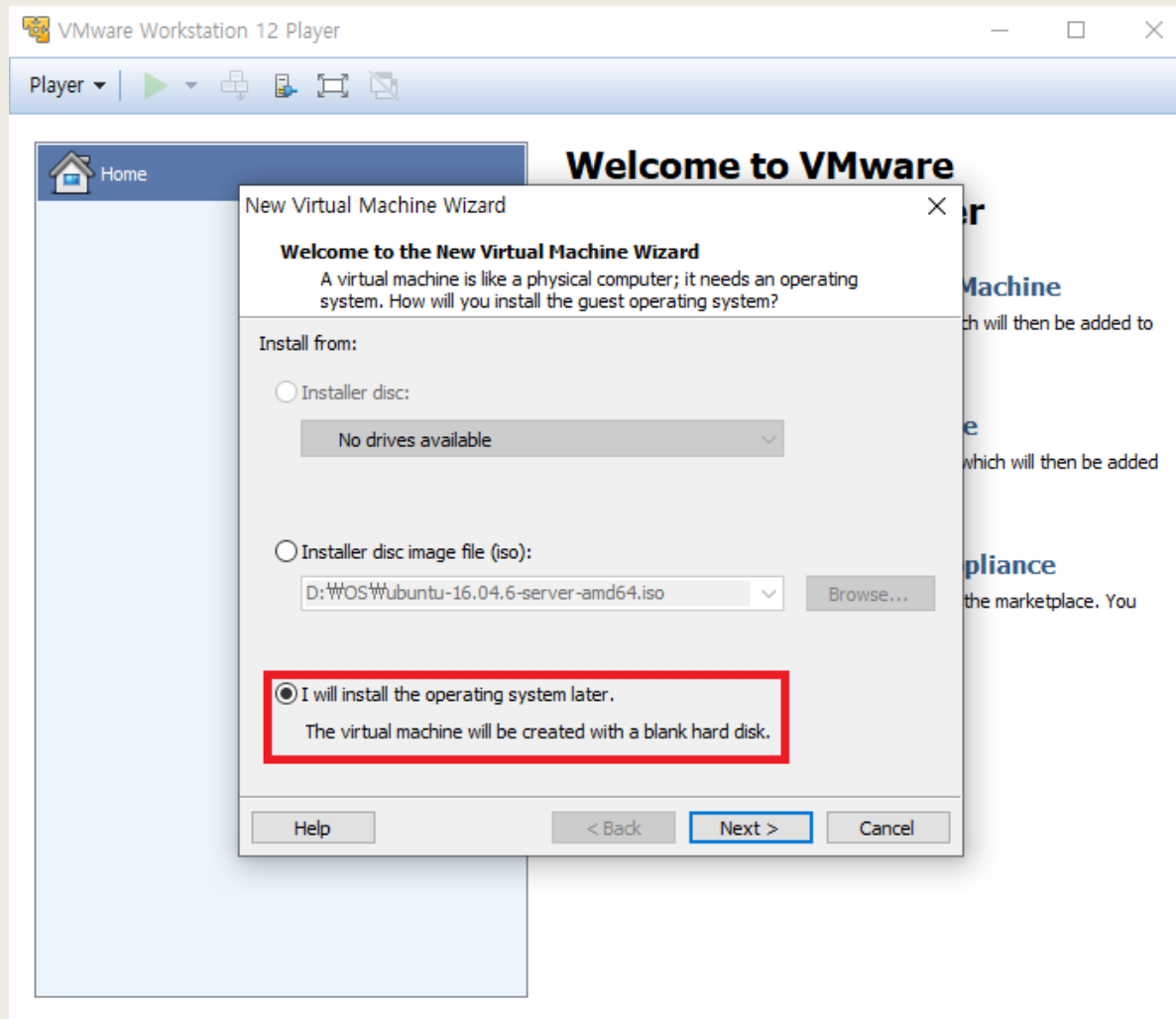
#### 32-bit PC (i386) server install image

For almost all PCs. This includes most machines with Intel/AMD/etc type processors and almost all computers that run Microsoft Windows, as well as newer Apple Macintosh systems based on Intel processors.

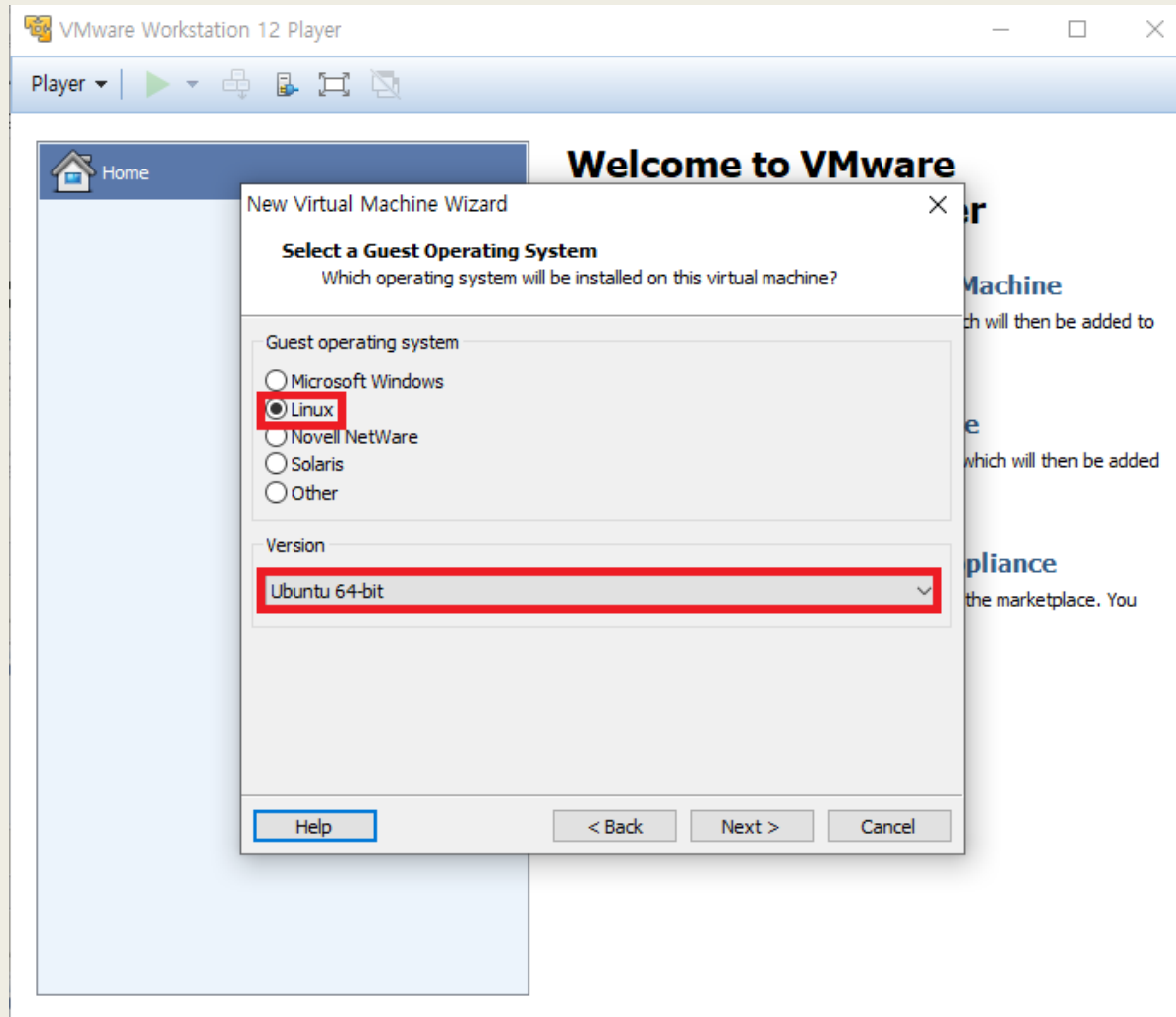
# VM Setting - (1)



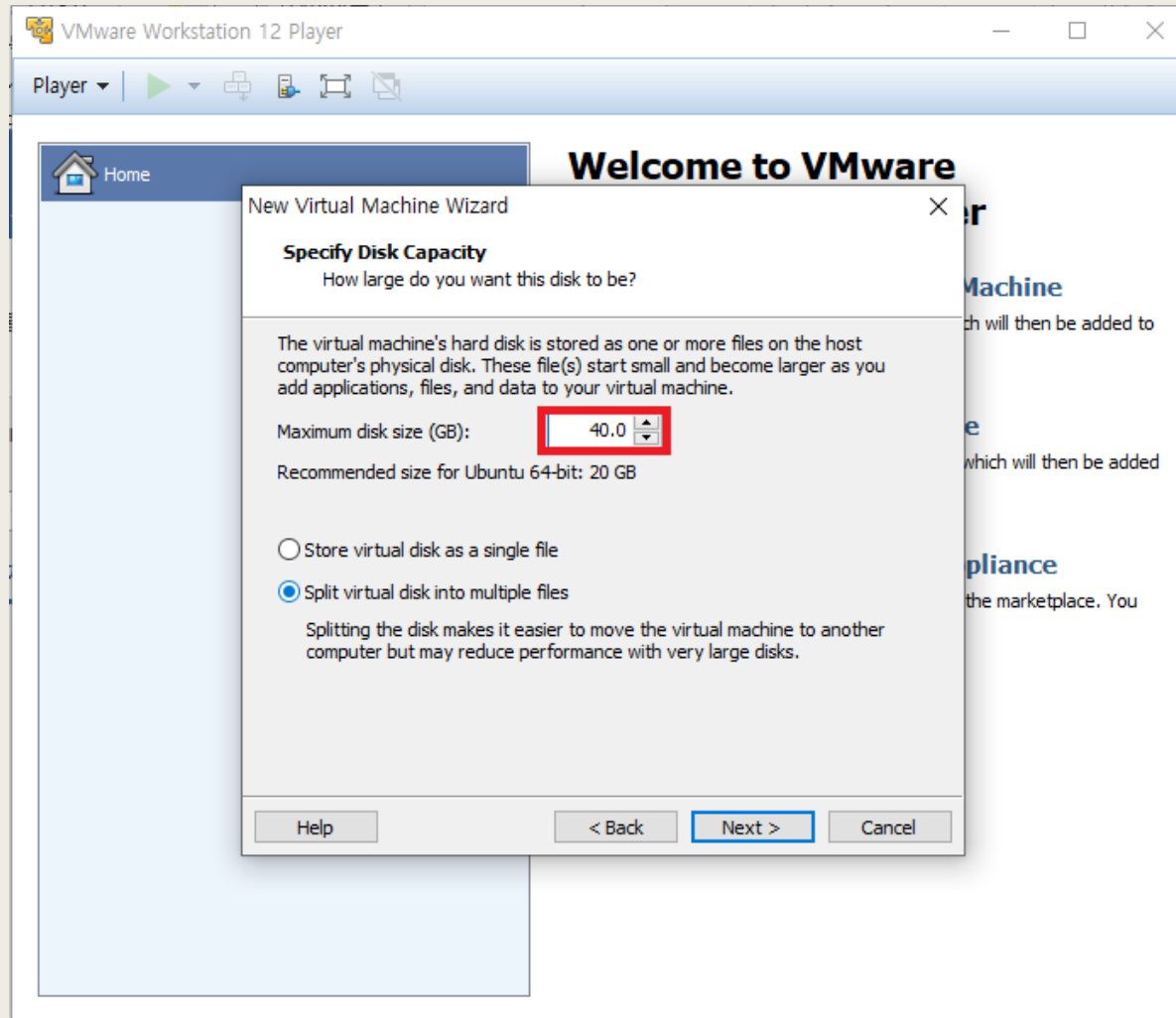
# VM Setting - (2)



# VM Setting - (3)

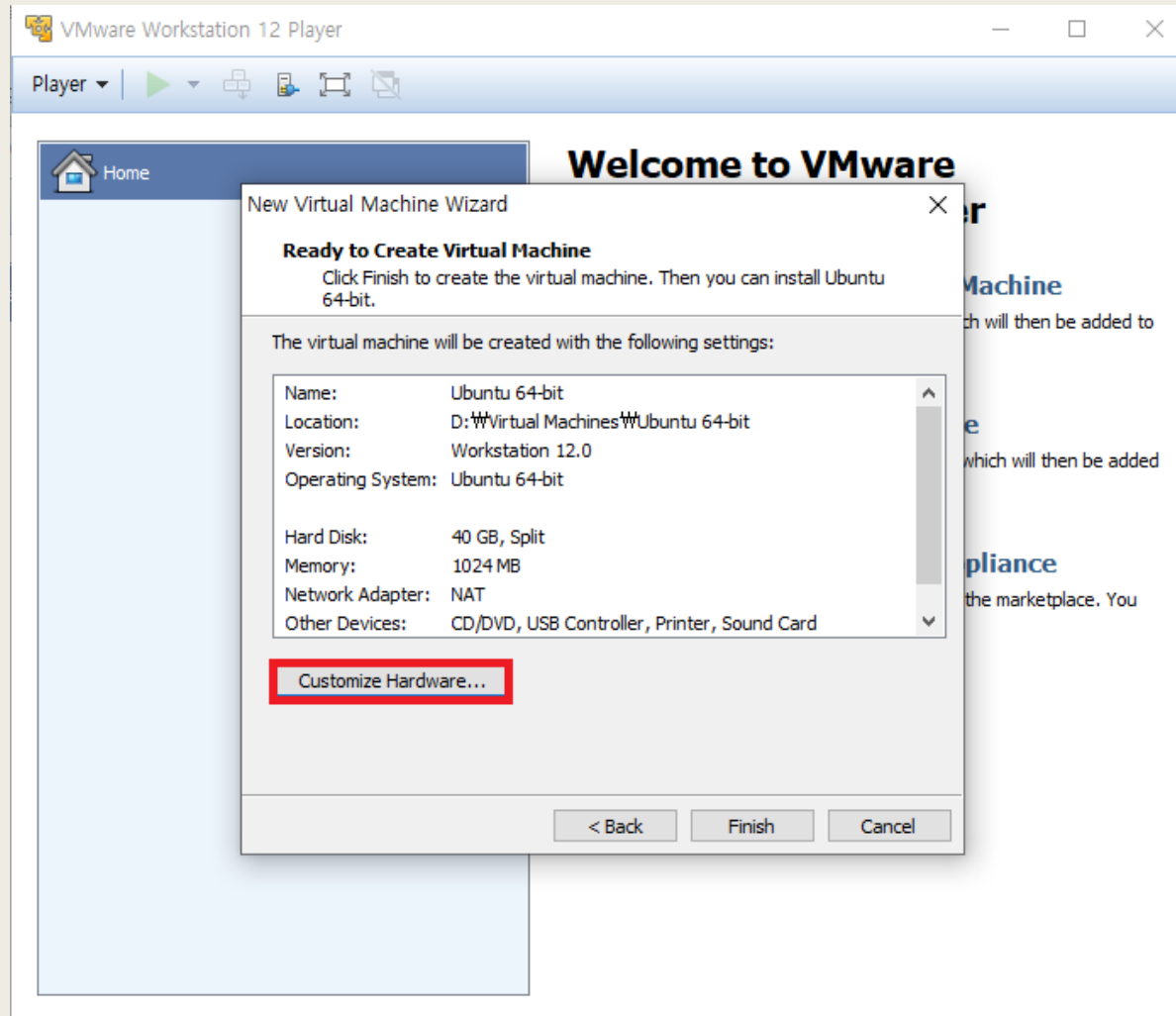


# VM Setting - (4)

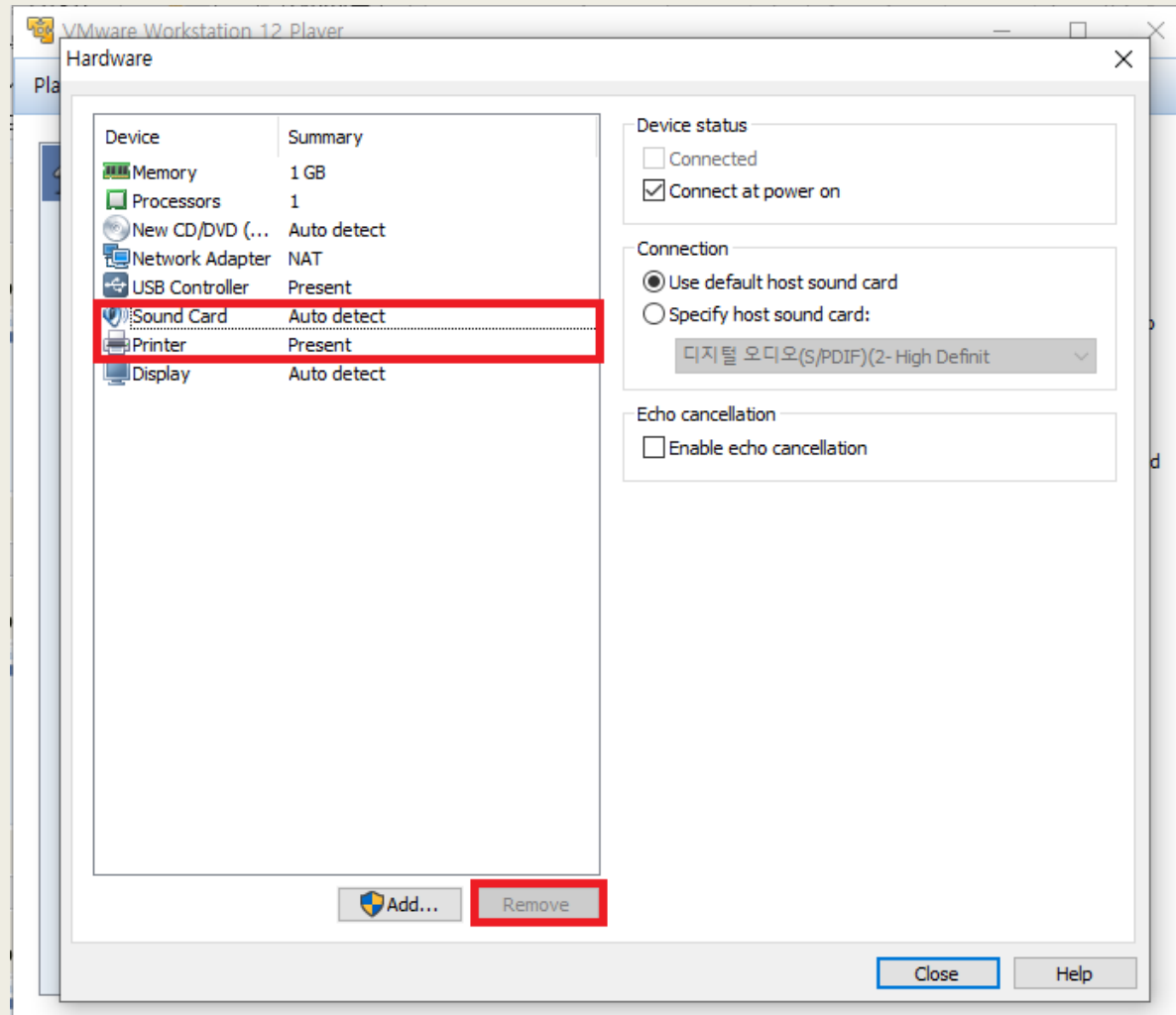




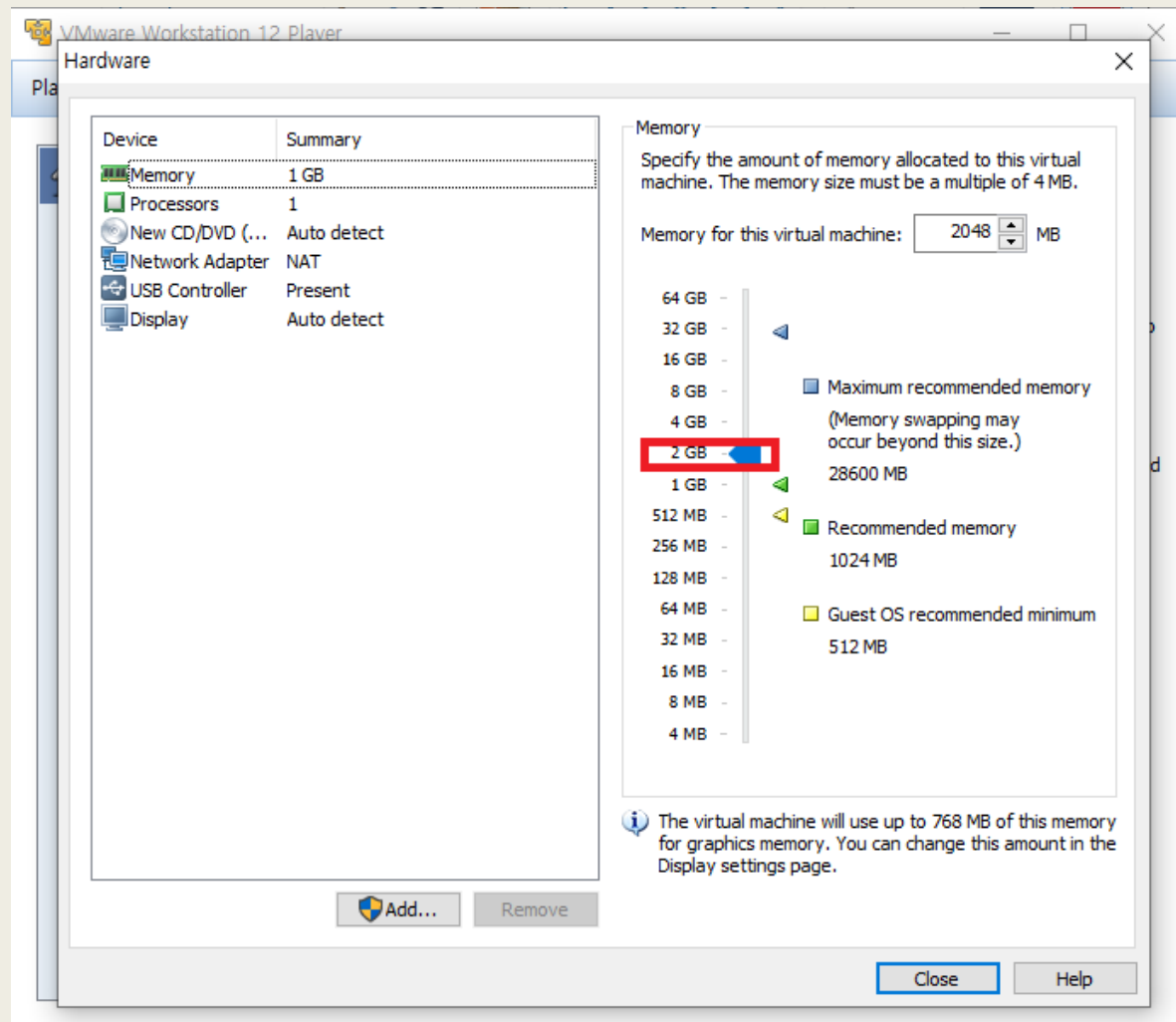
# VM Setting - (5)



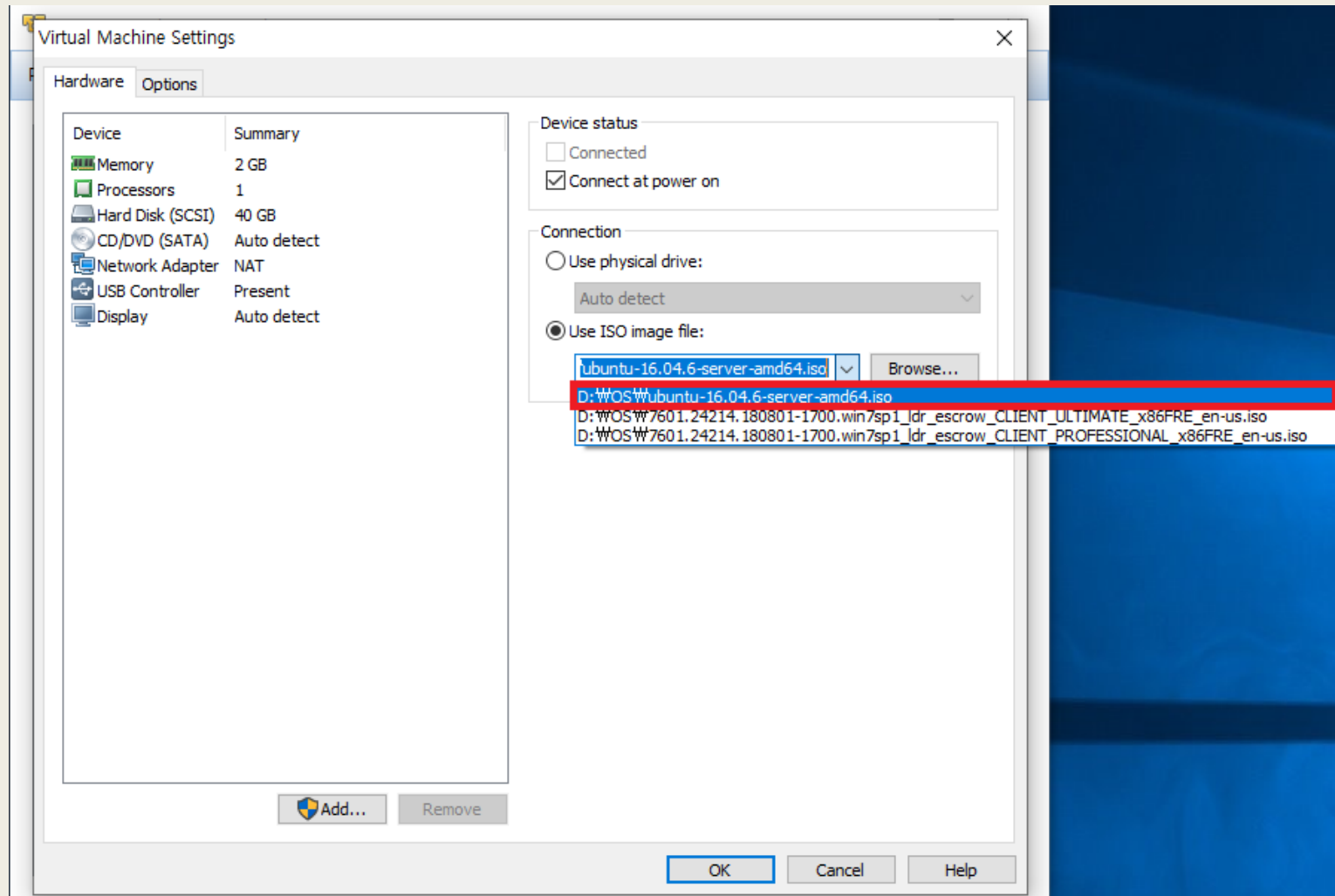
# VM Setting - (6)



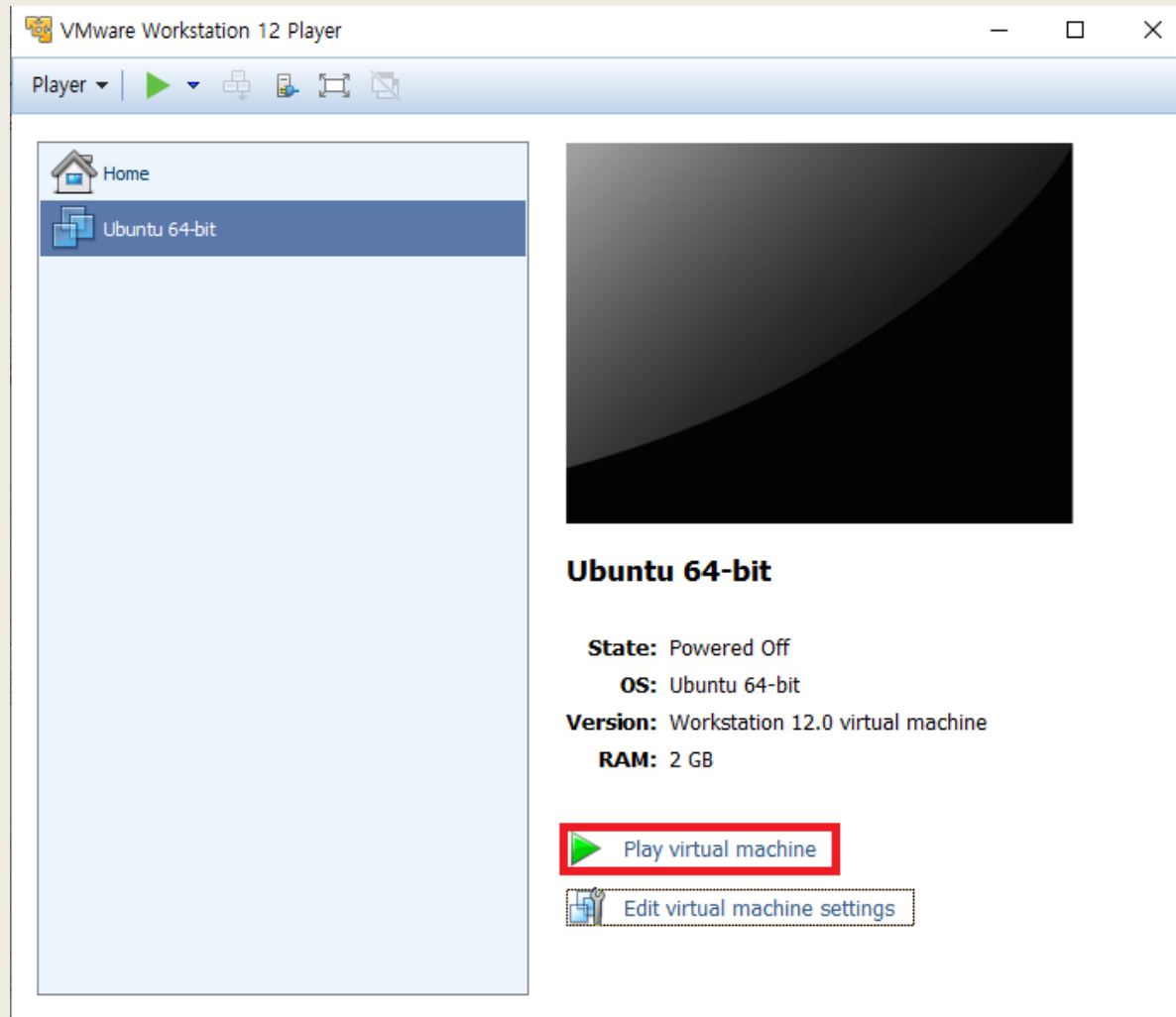
# VM Setting - (7)



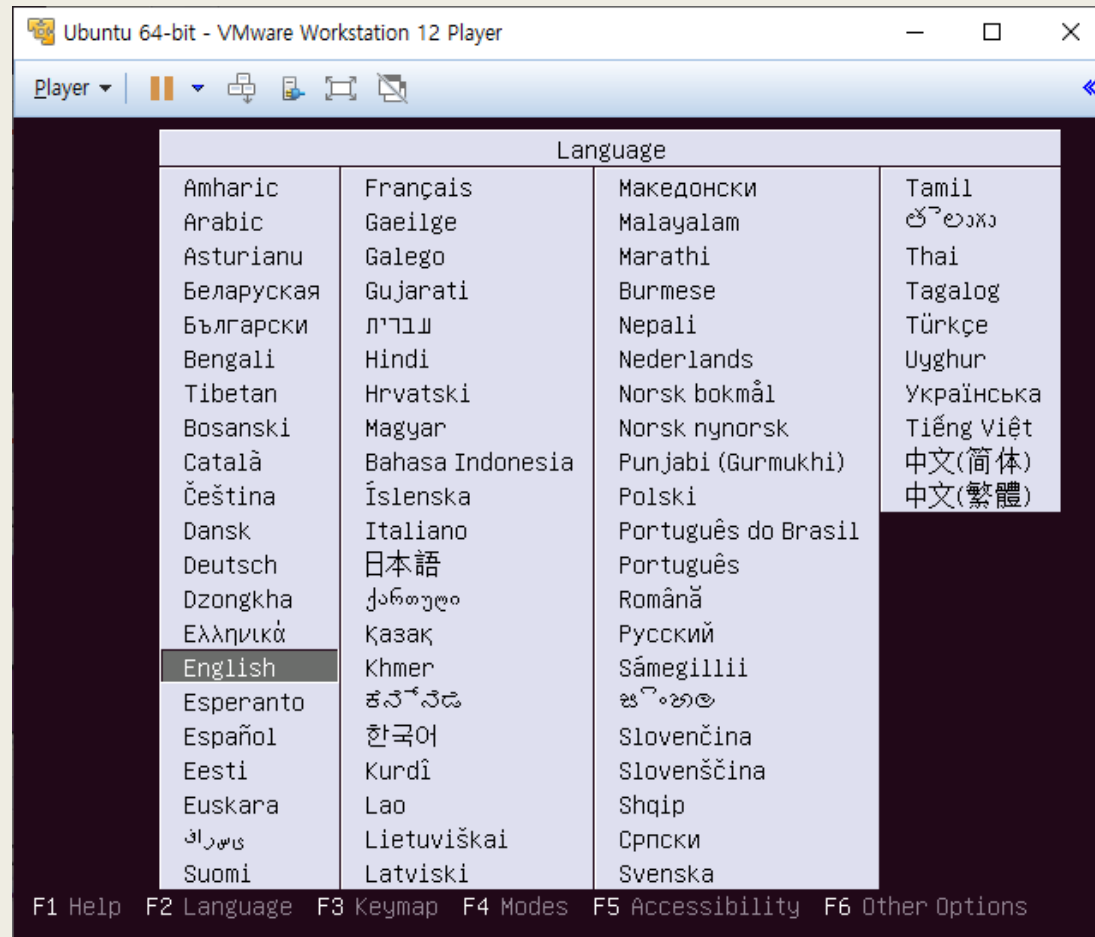
# VM Setting - (8)



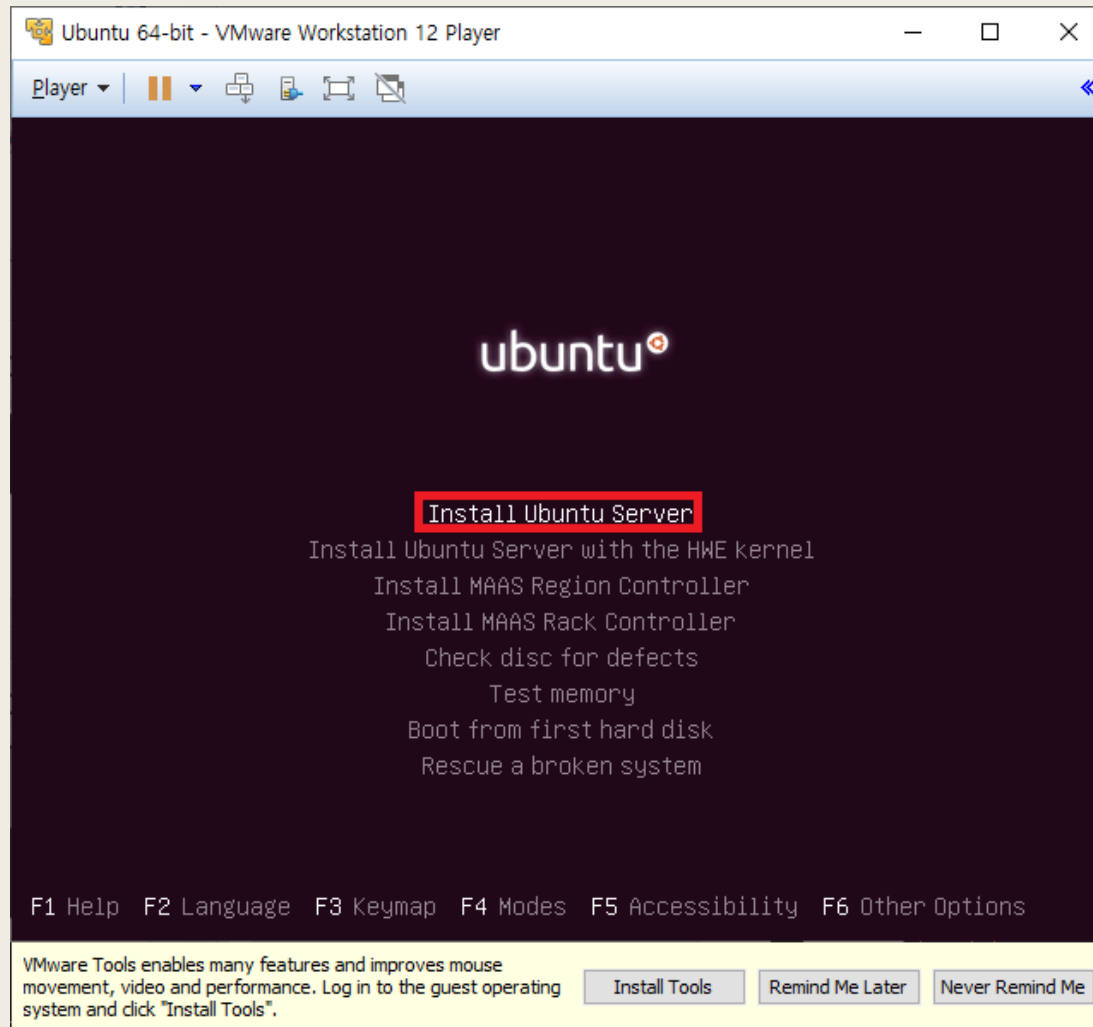
# Ubuntu Setup - (1)



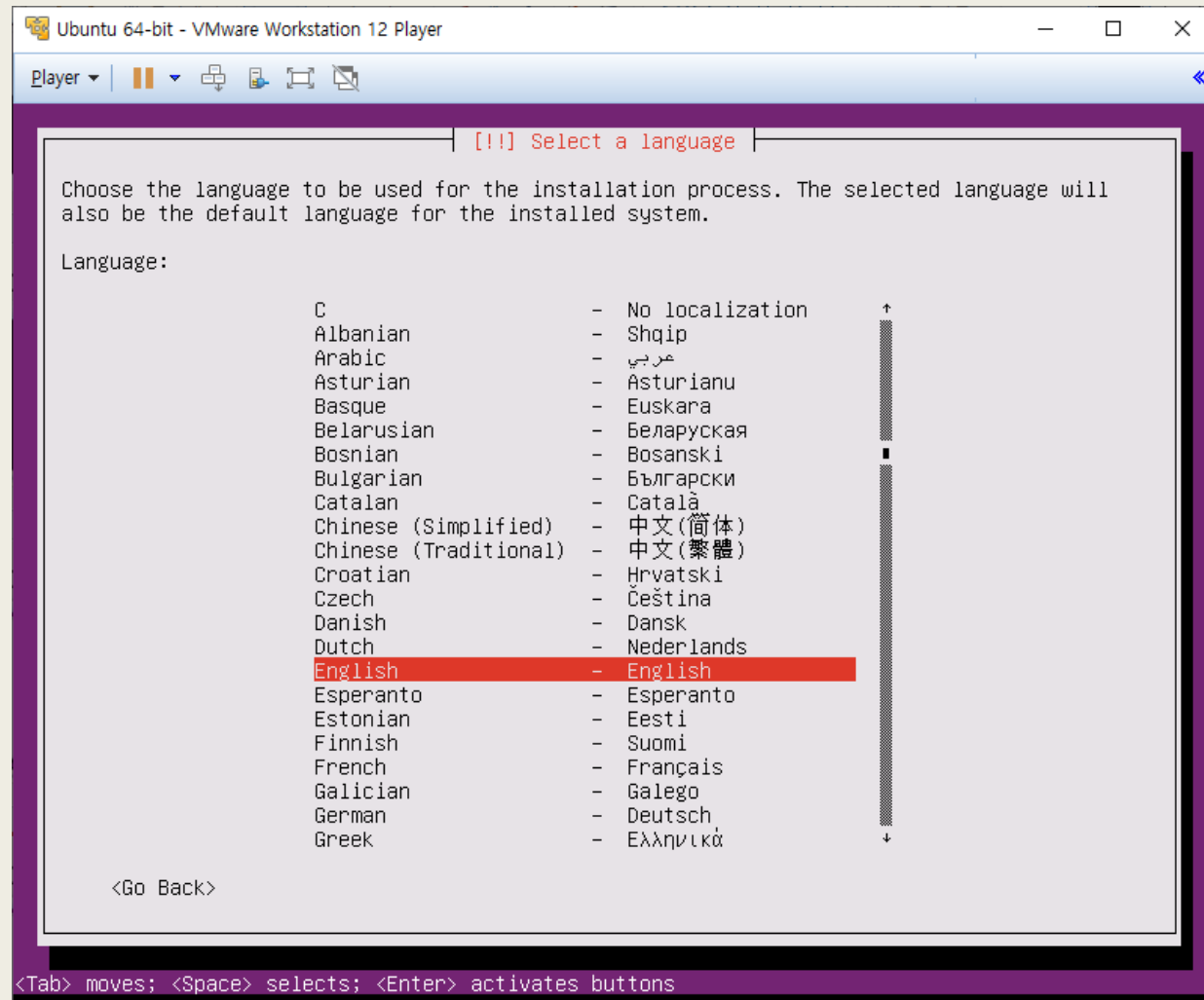
# Ubuntu Setup - (2)



# Ubuntu Setup - (3)

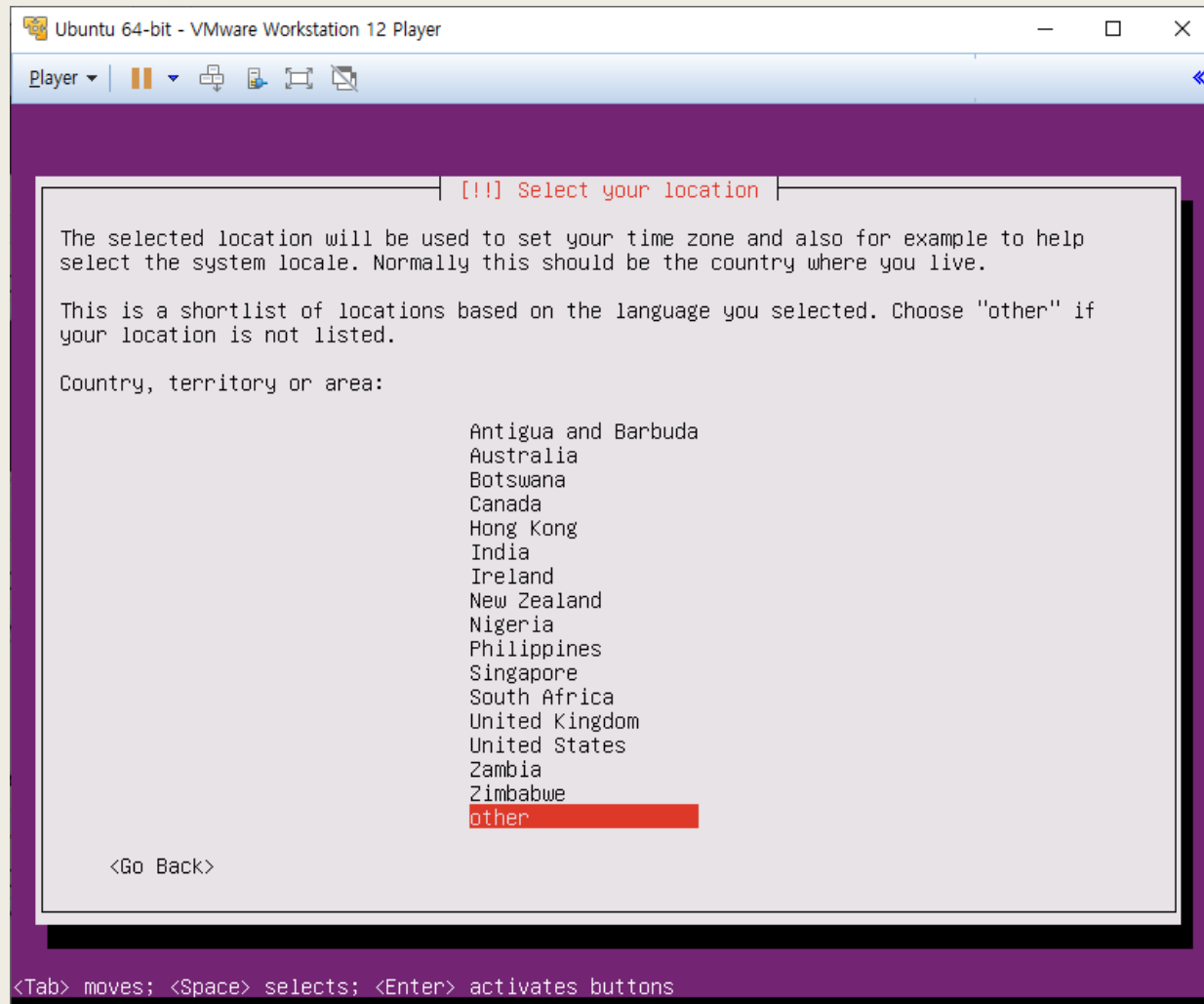


# Ubuntu Setup - (4)

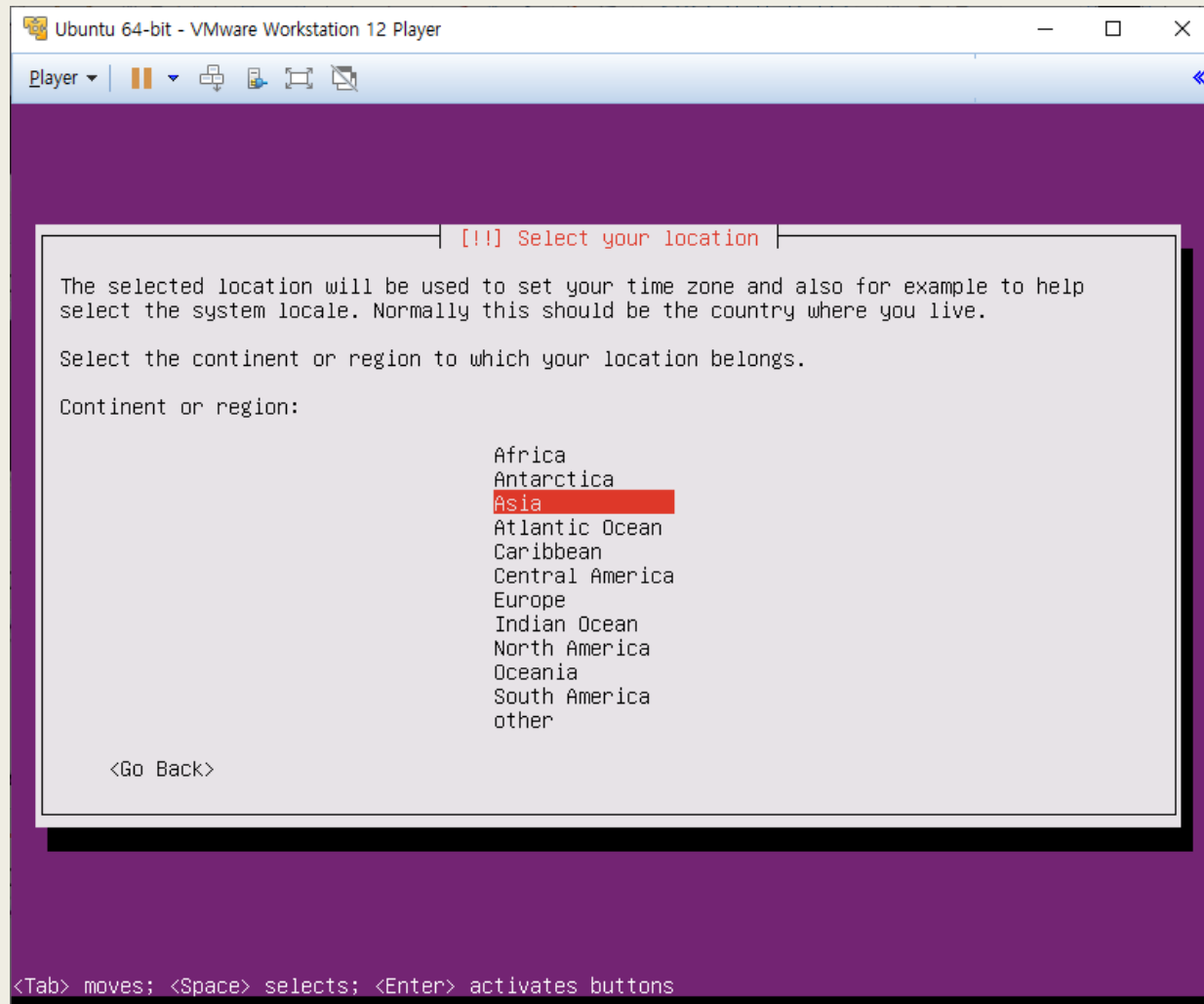




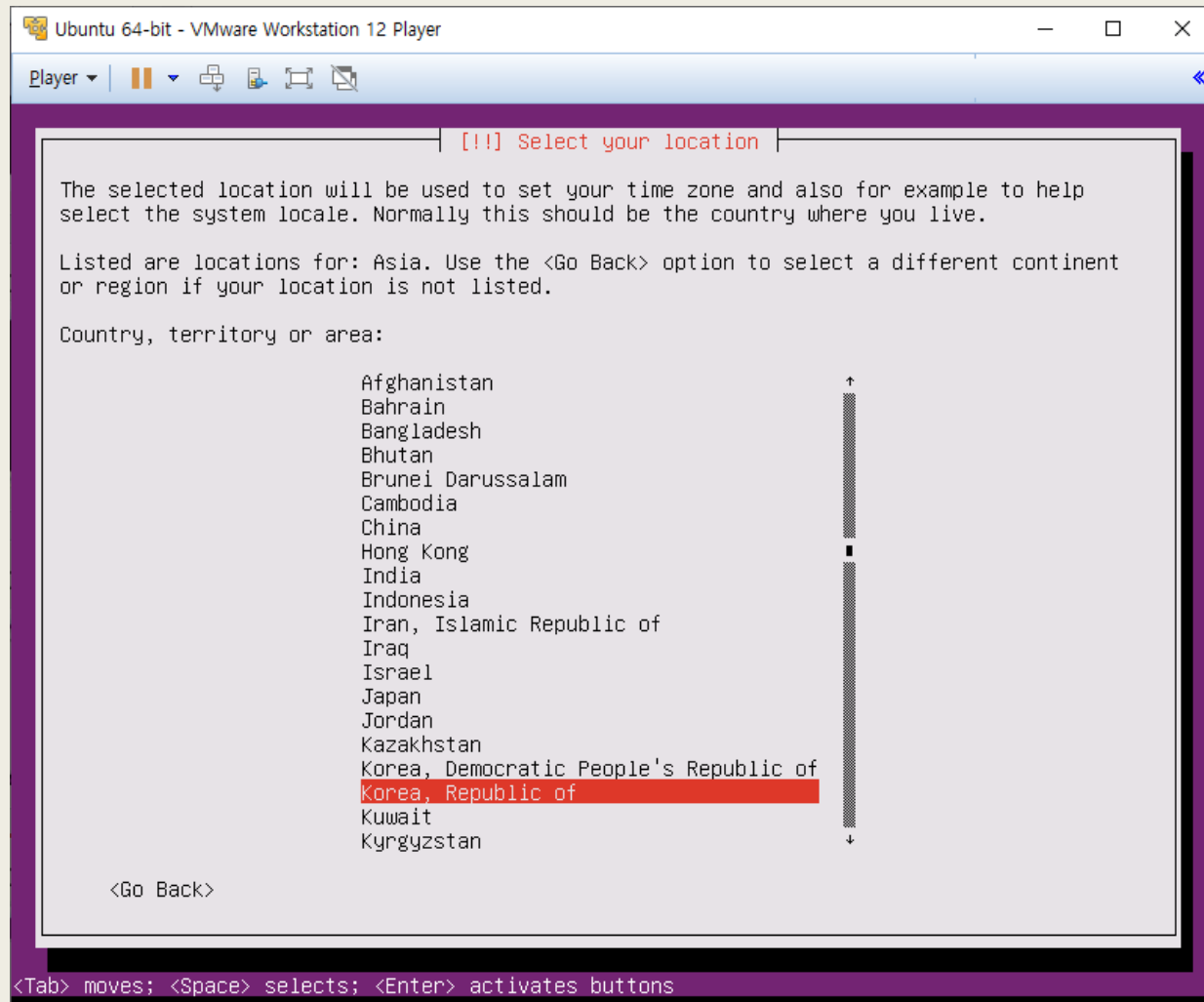
# Ubuntu Setup - (5)



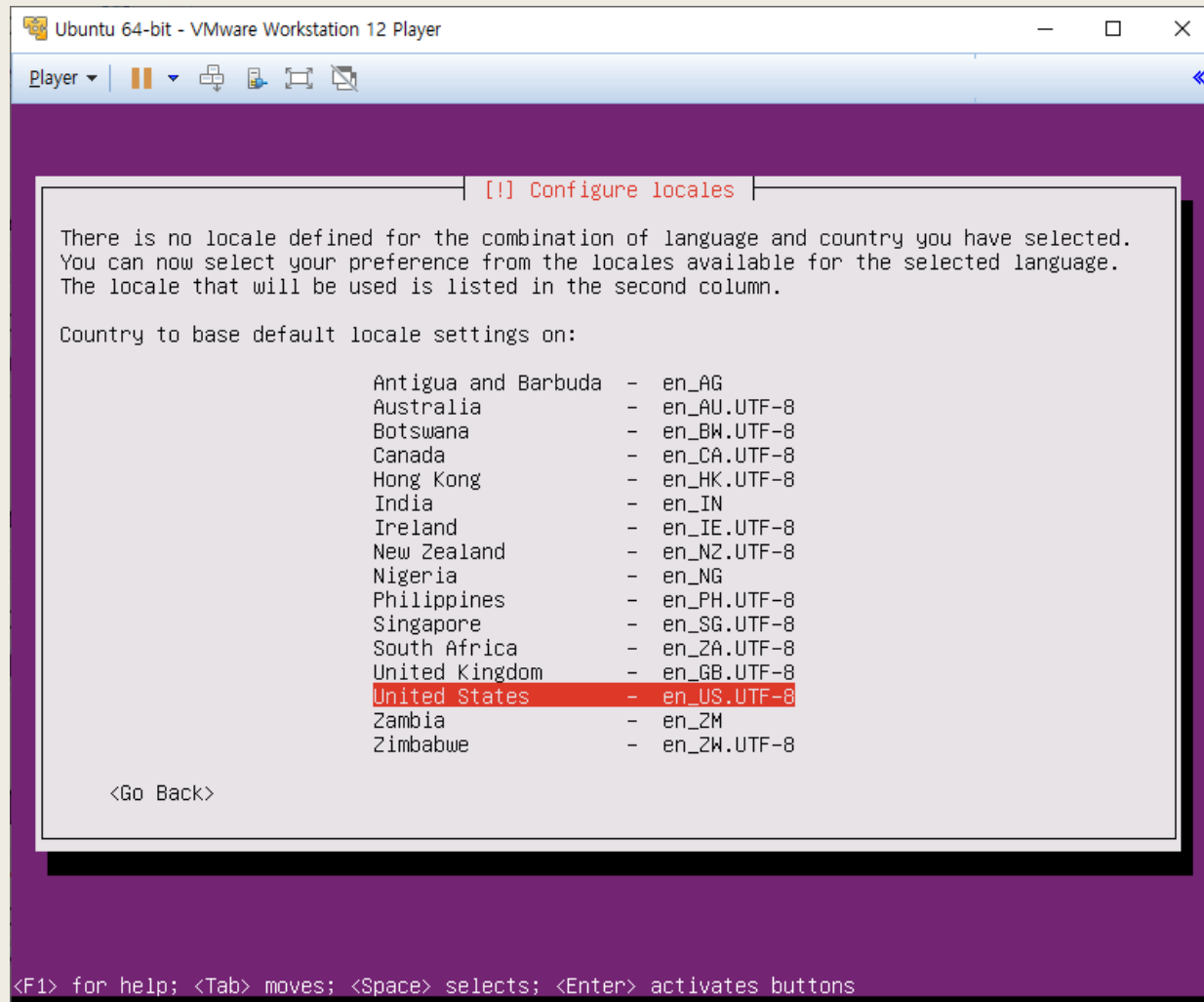
# Ubuntu Setup - (6)



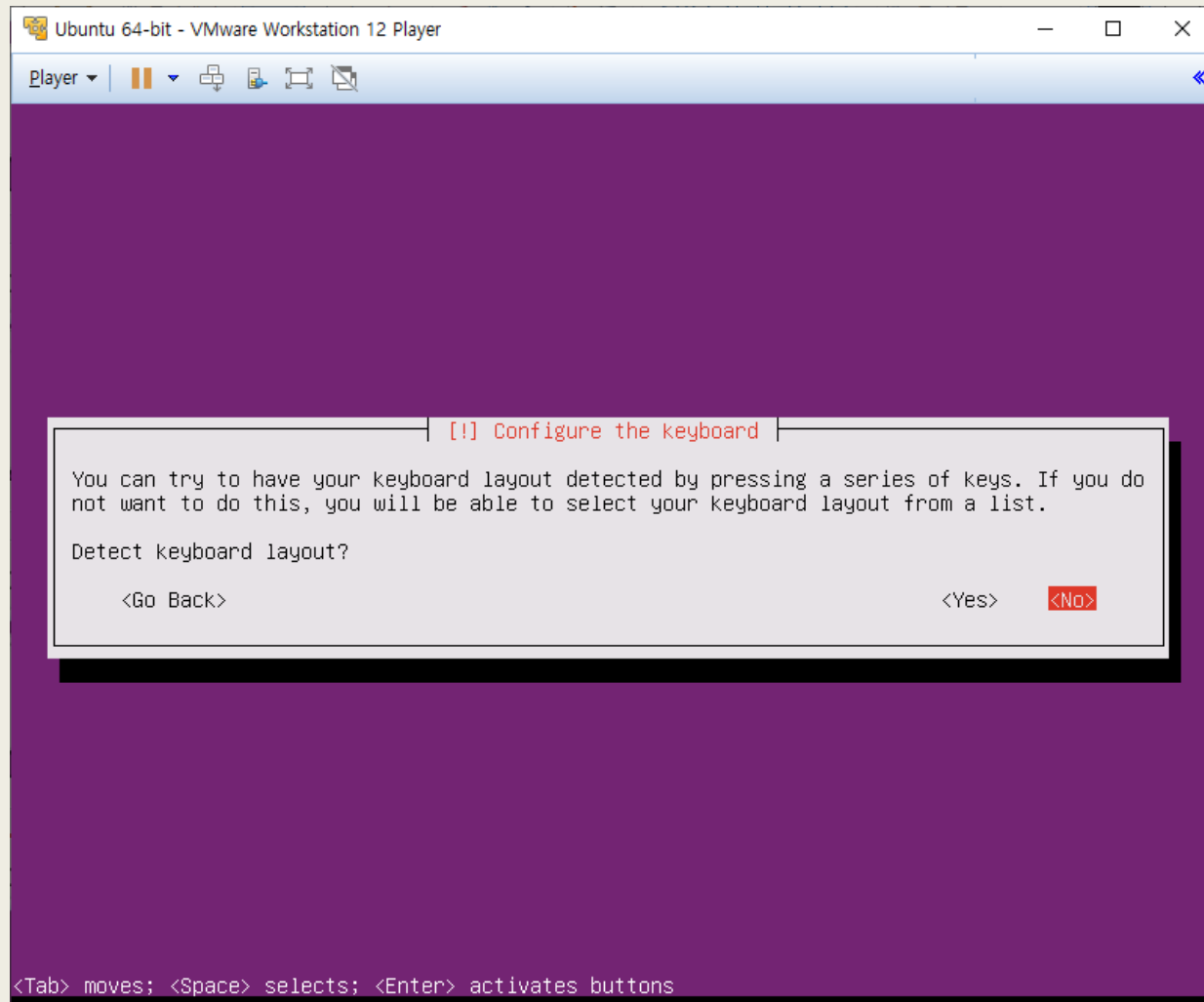
# Ubuntu Setup - (7)



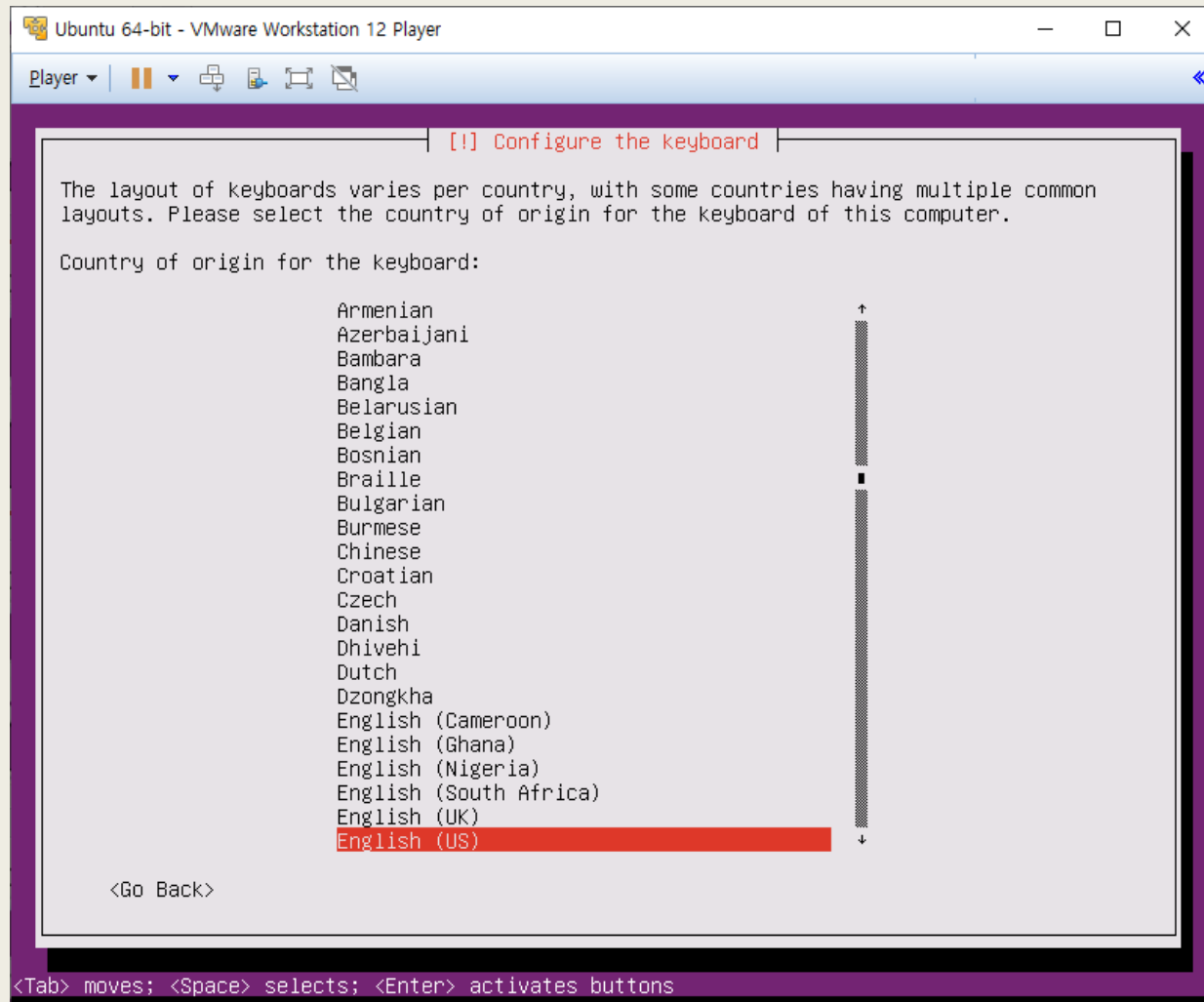
# Ubuntu Setup - (8)



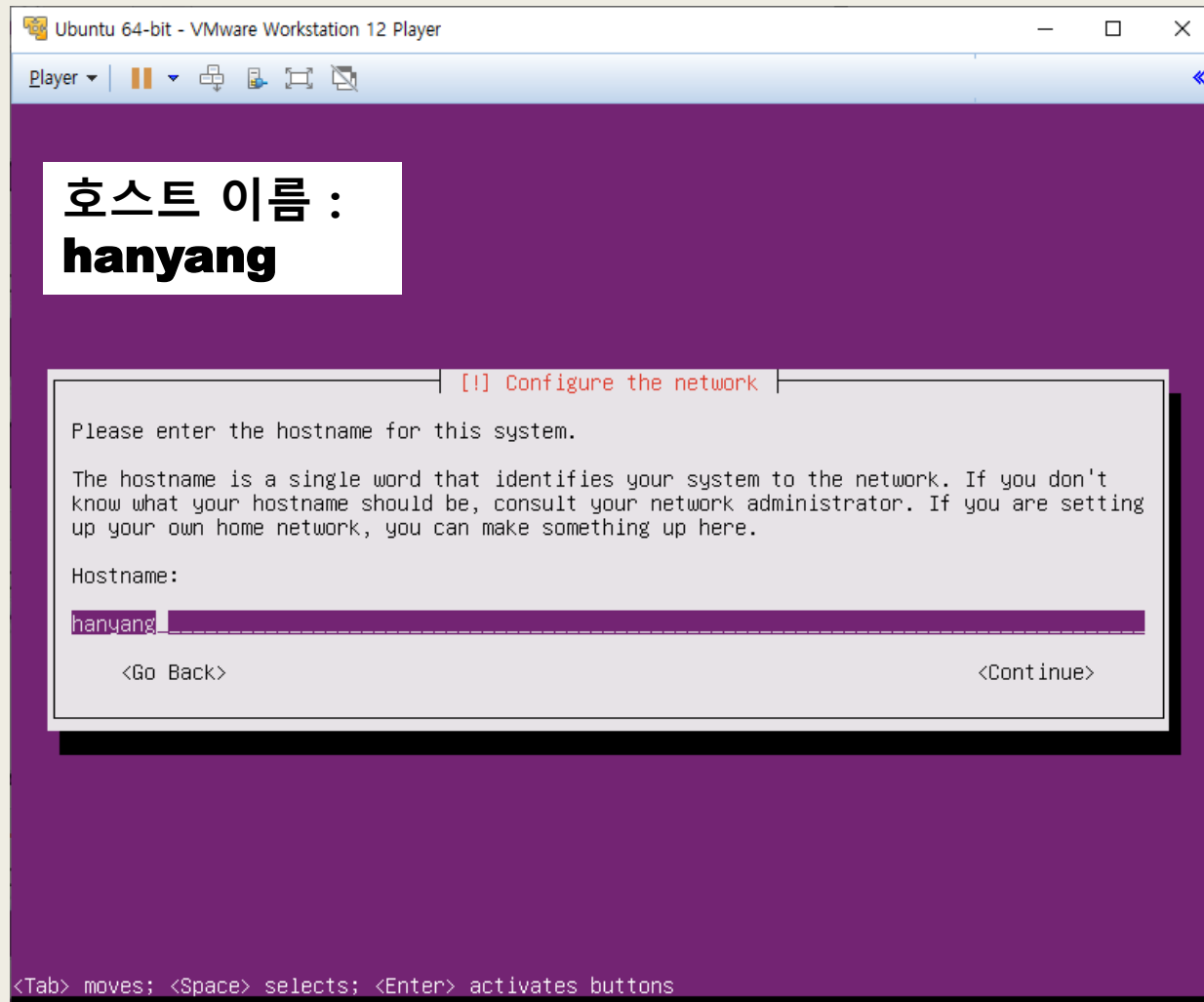
# Ubuntu Setup - (9)



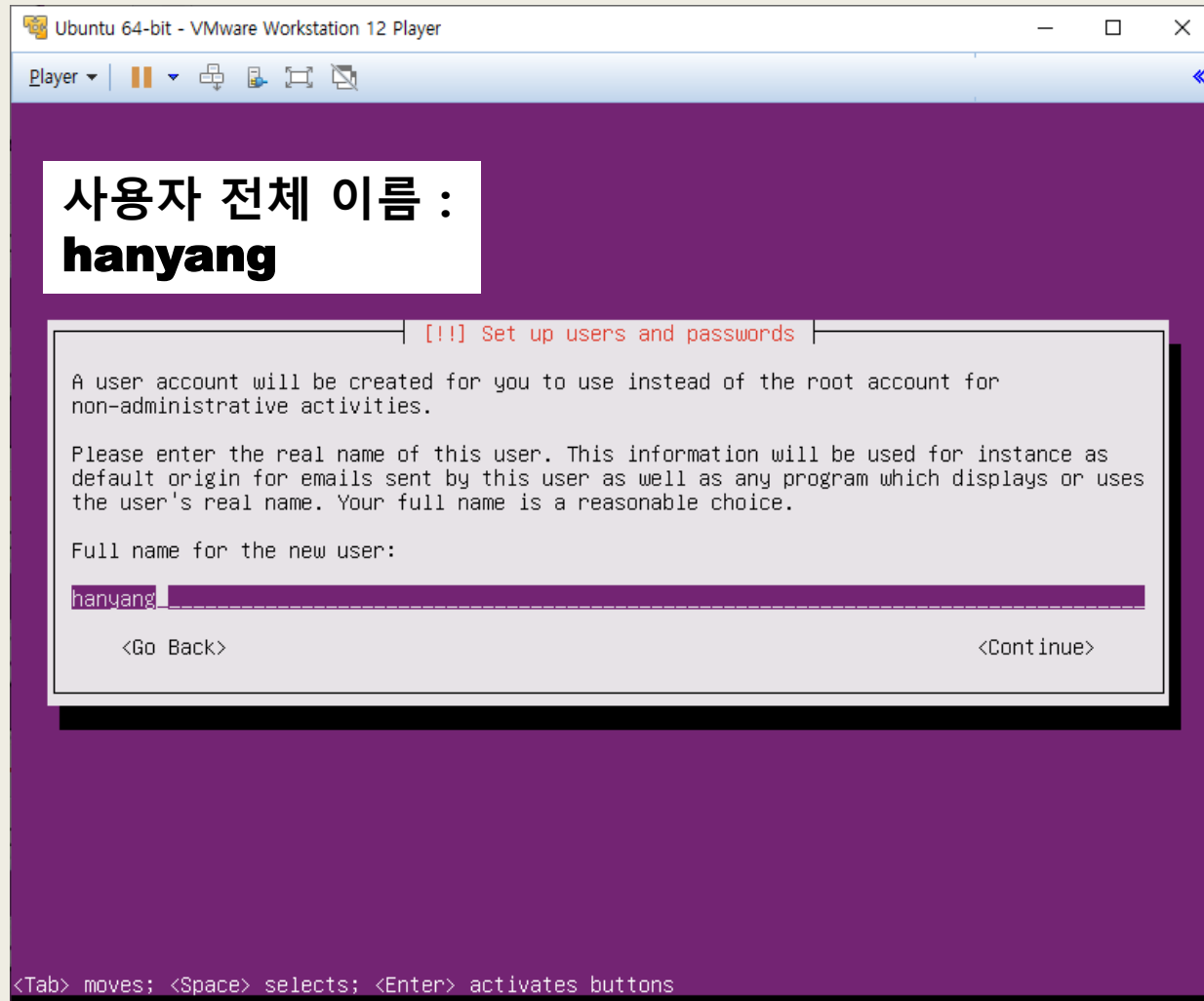
# Ubuntu Setup - (10)



# Ubuntu Setup - (11)

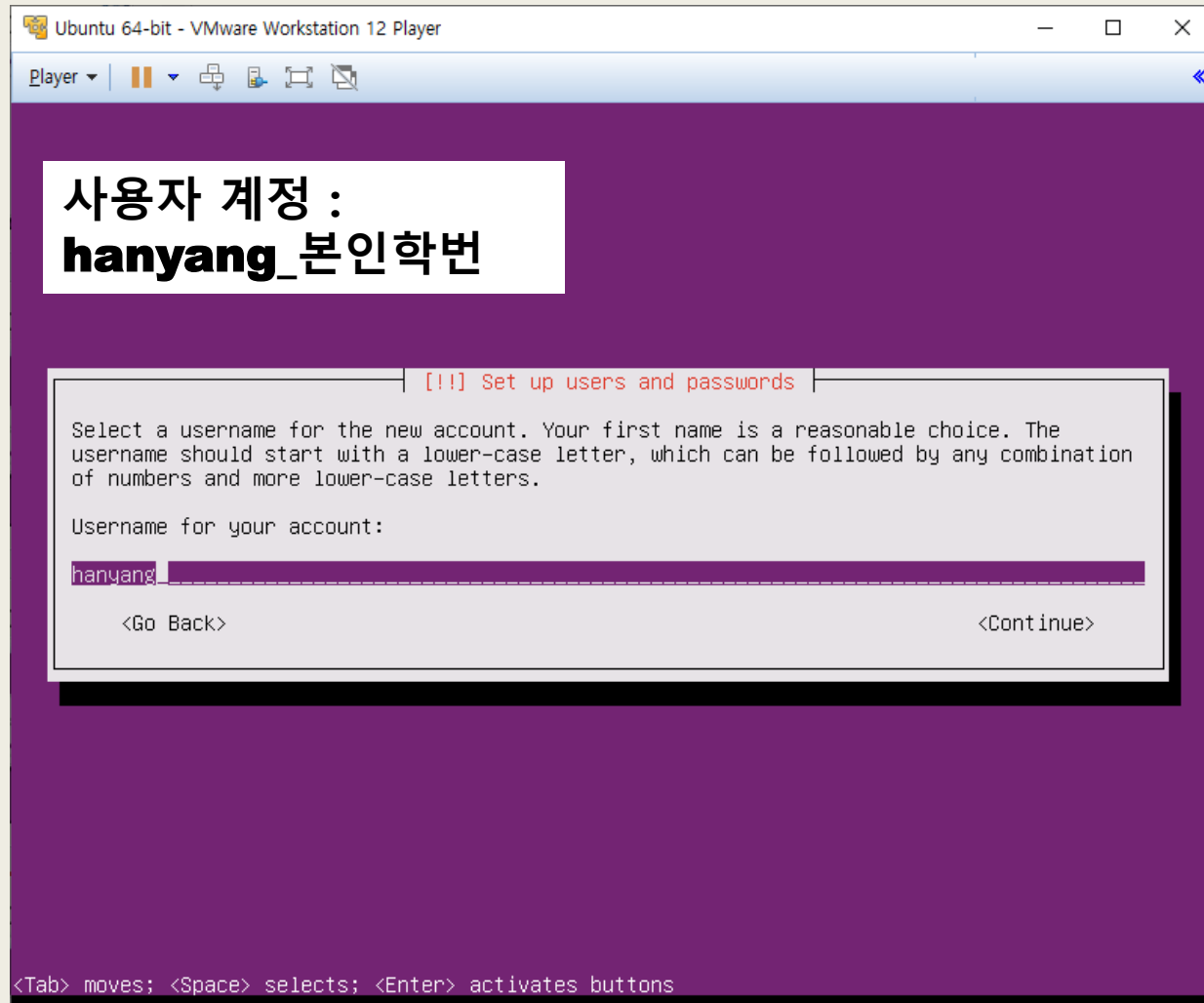


# Ubuntu Setup - (12)

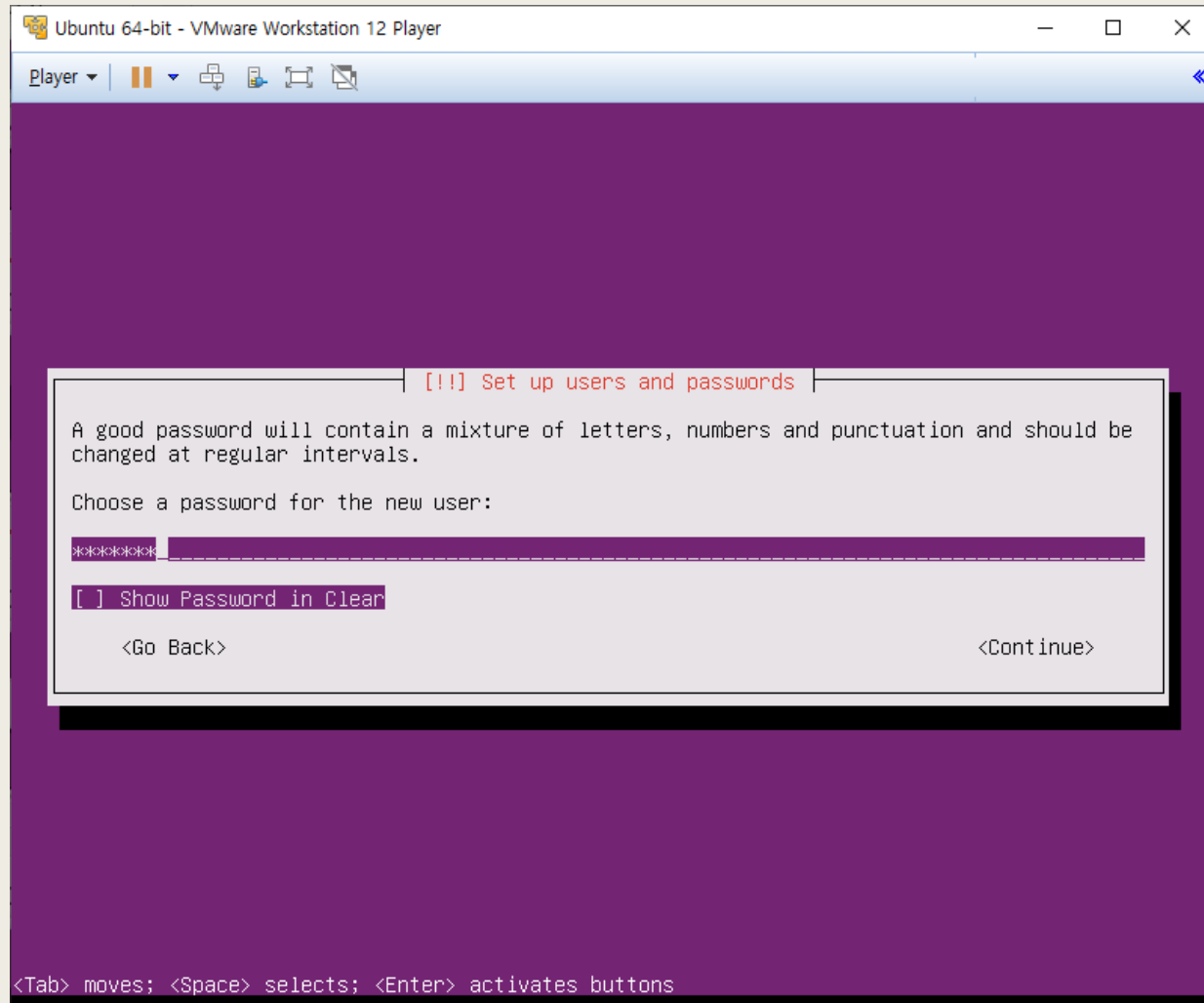




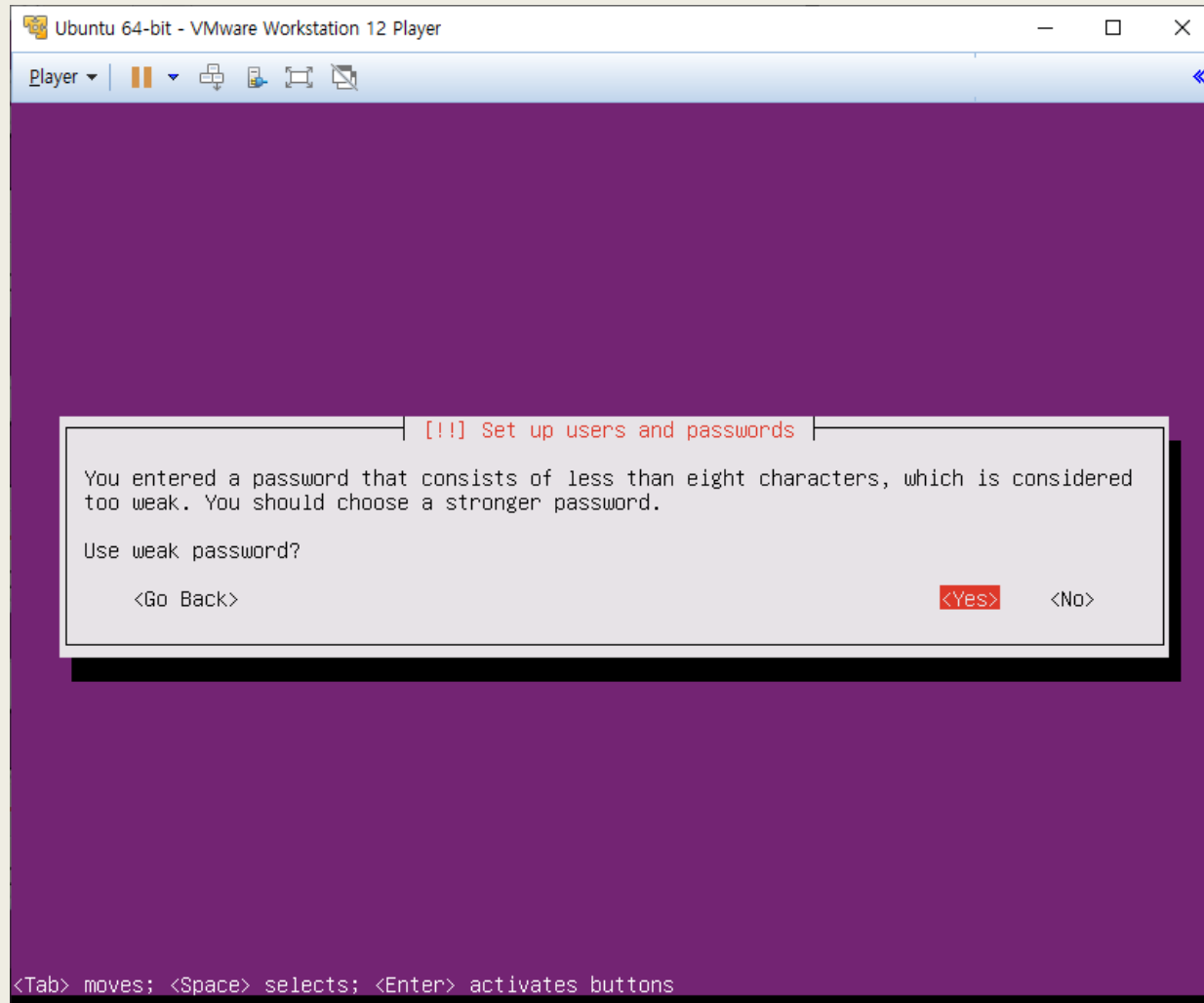
# Ubuntu Setup - (13)



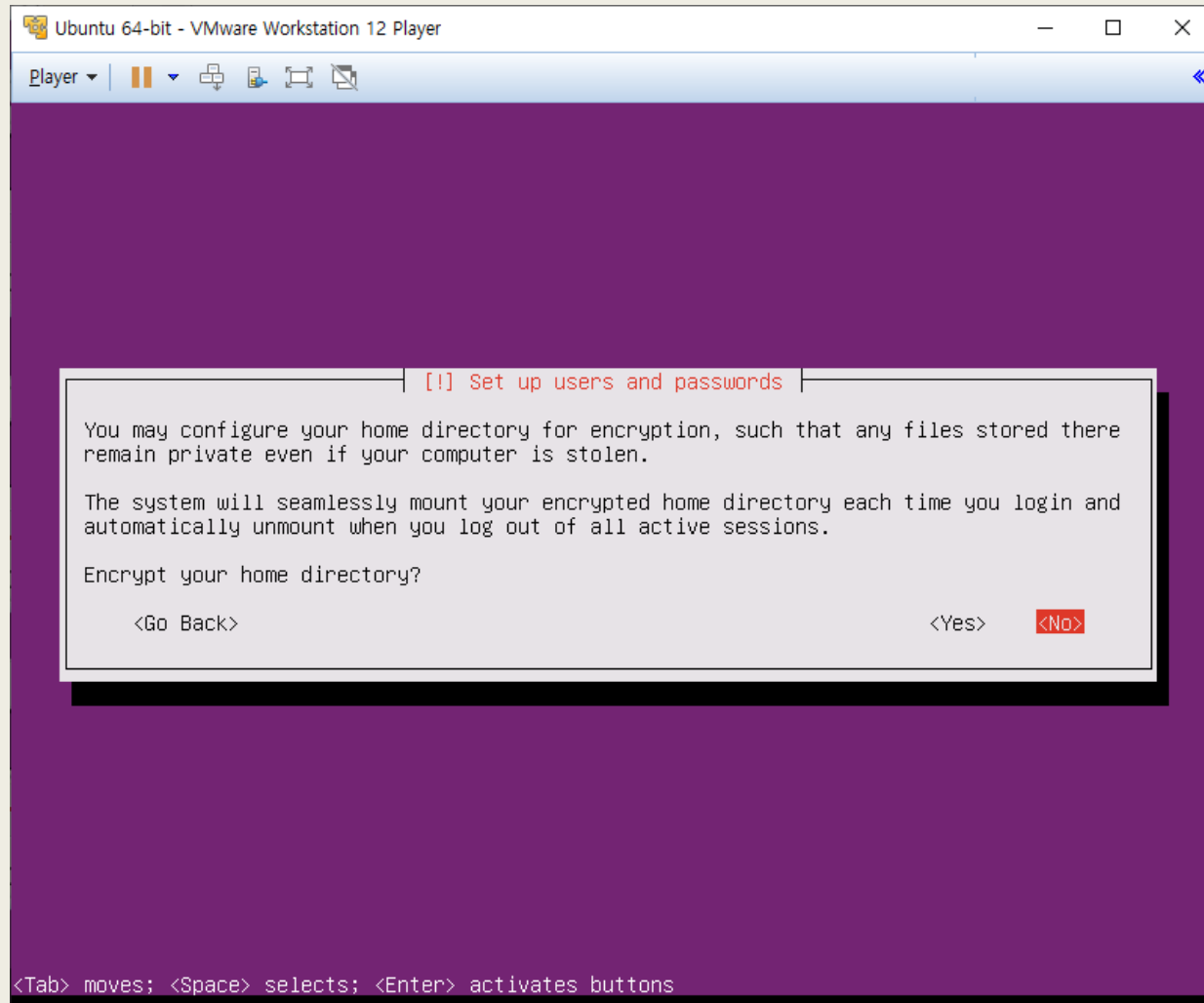
# Ubuntu Setup - (14)



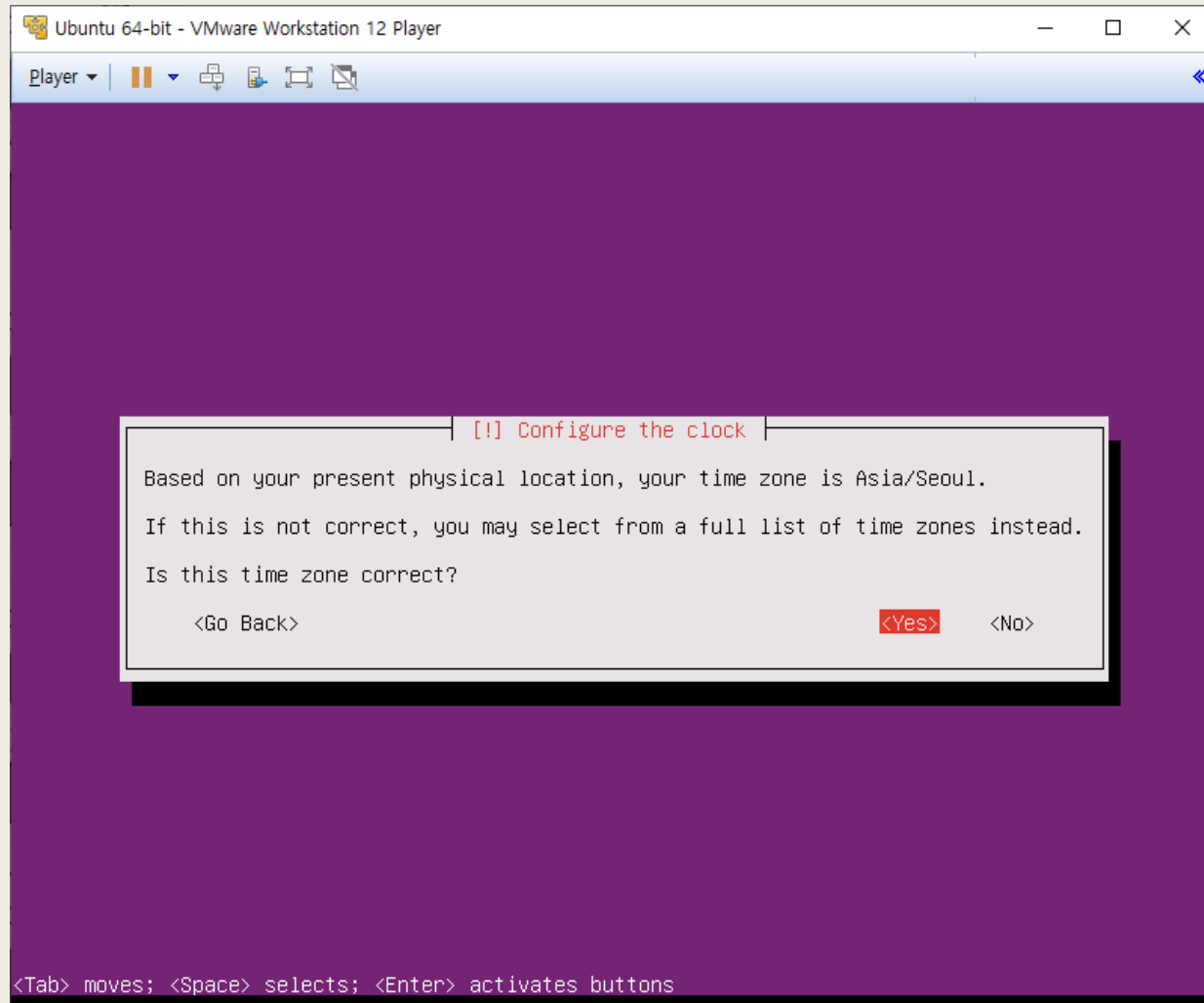
# Ubuntu Setup - (15)



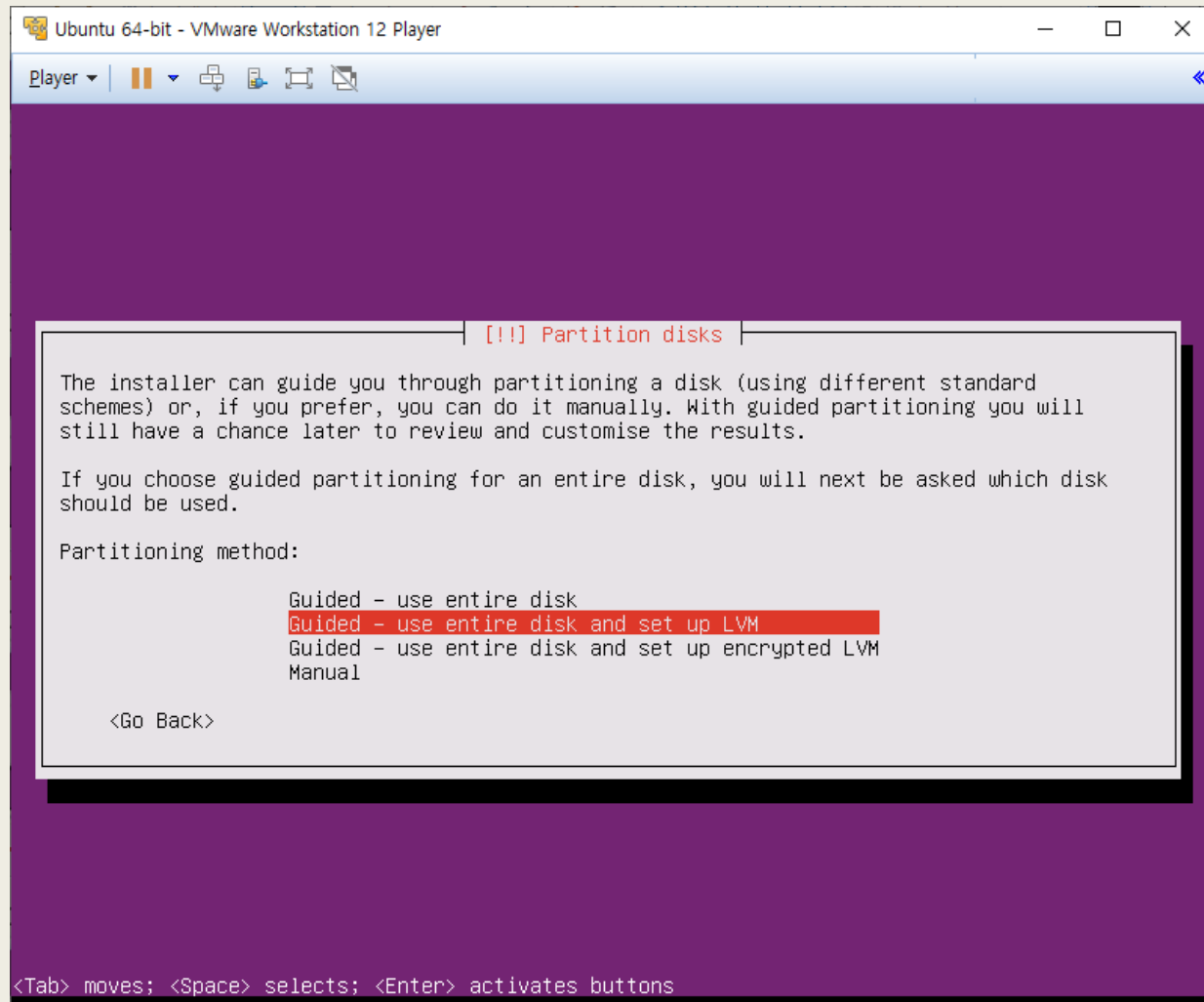
# Ubuntu Setup - (16)



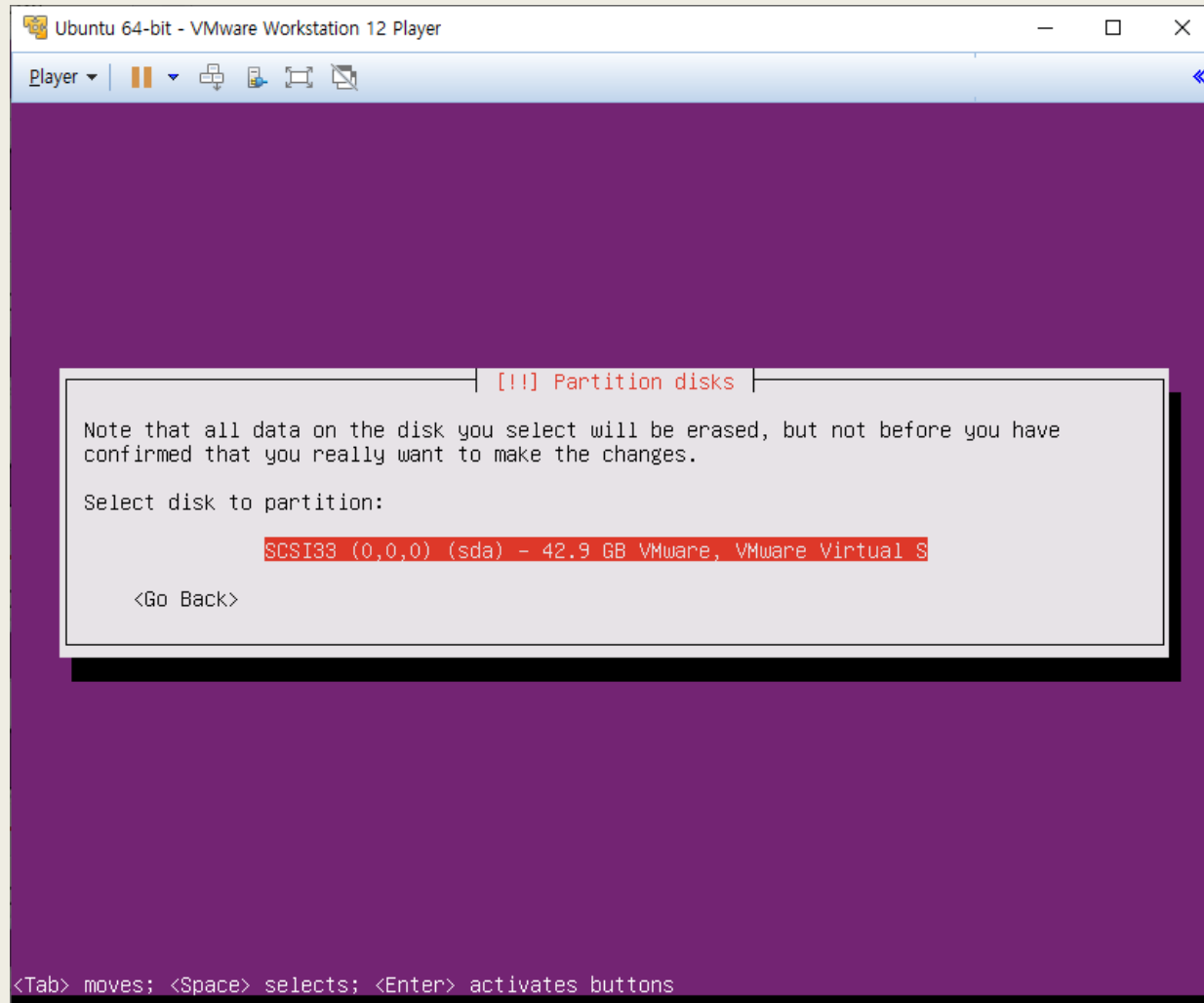
# Ubuntu Setup - (17)



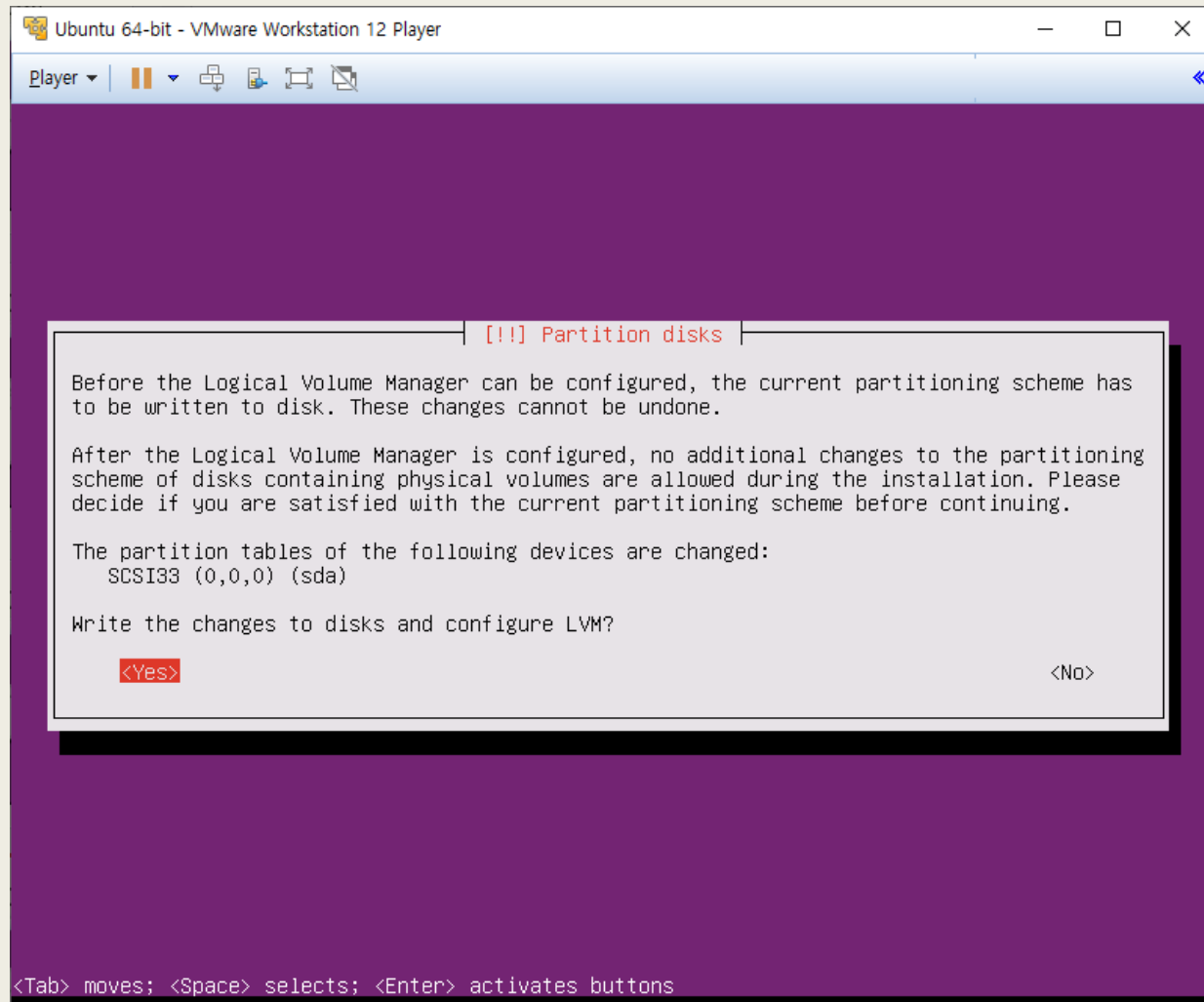
# Ubuntu Setup - (18)



# Ubuntu Setup - (19)

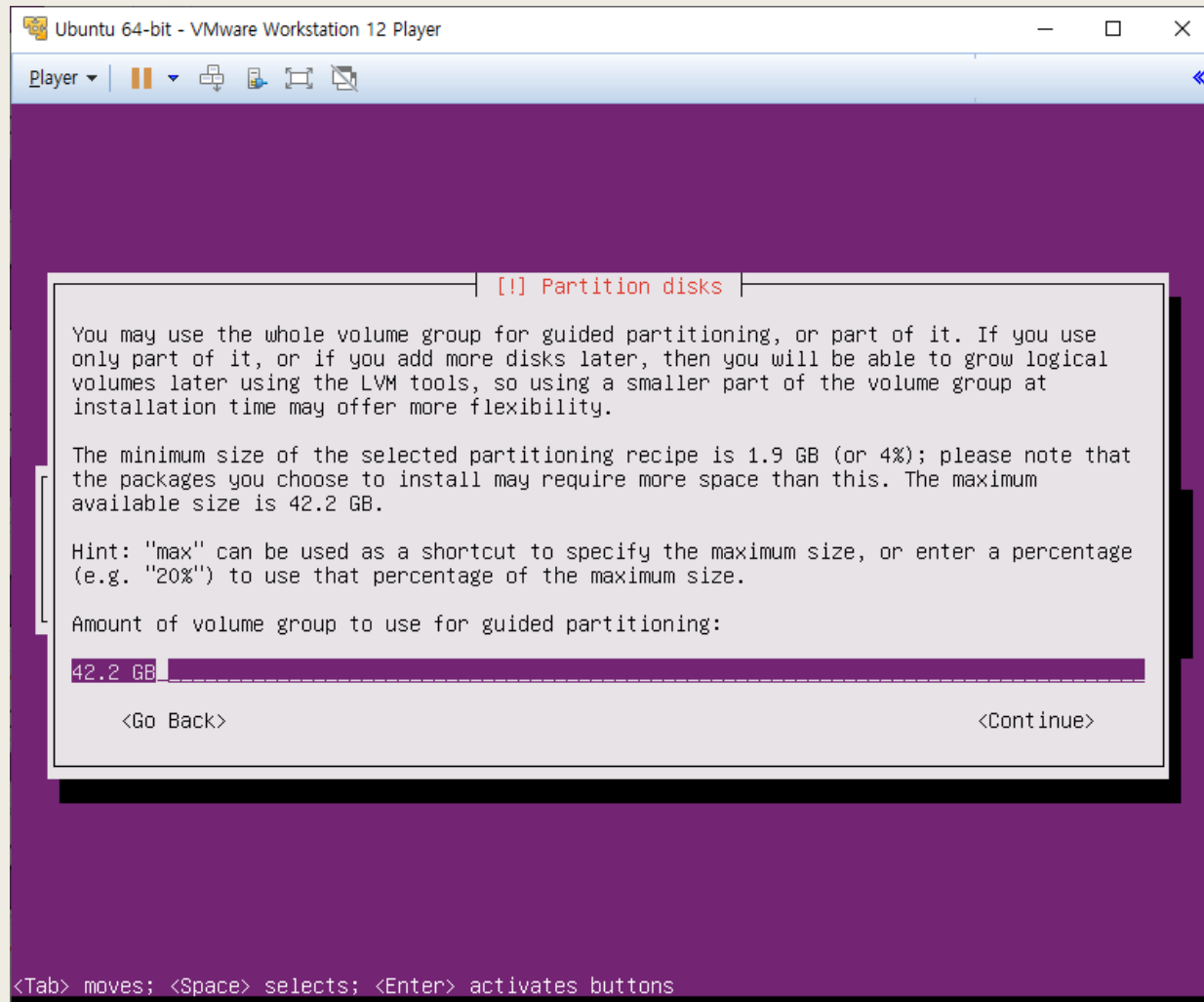


# Ubuntu Setup - (20)

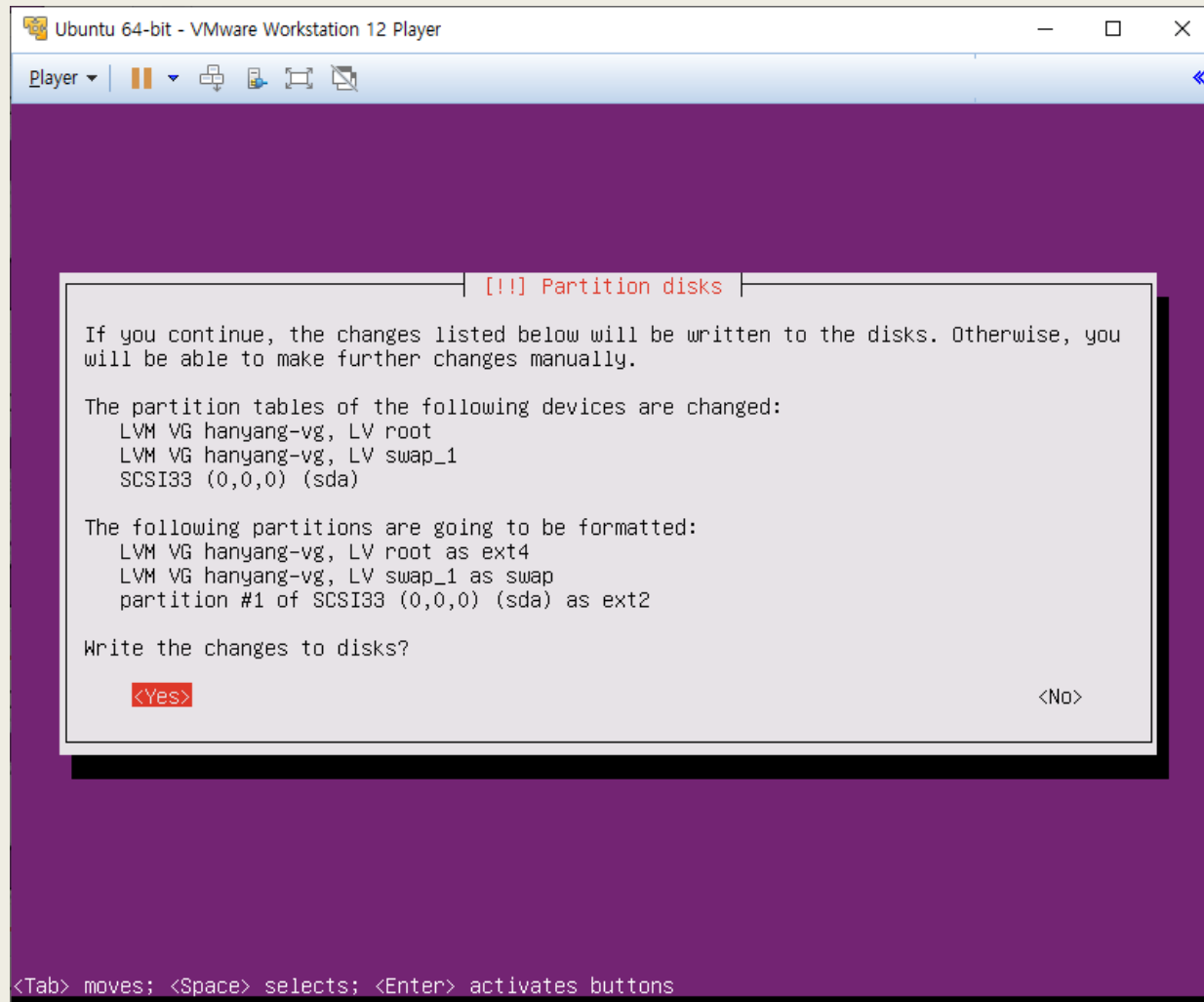




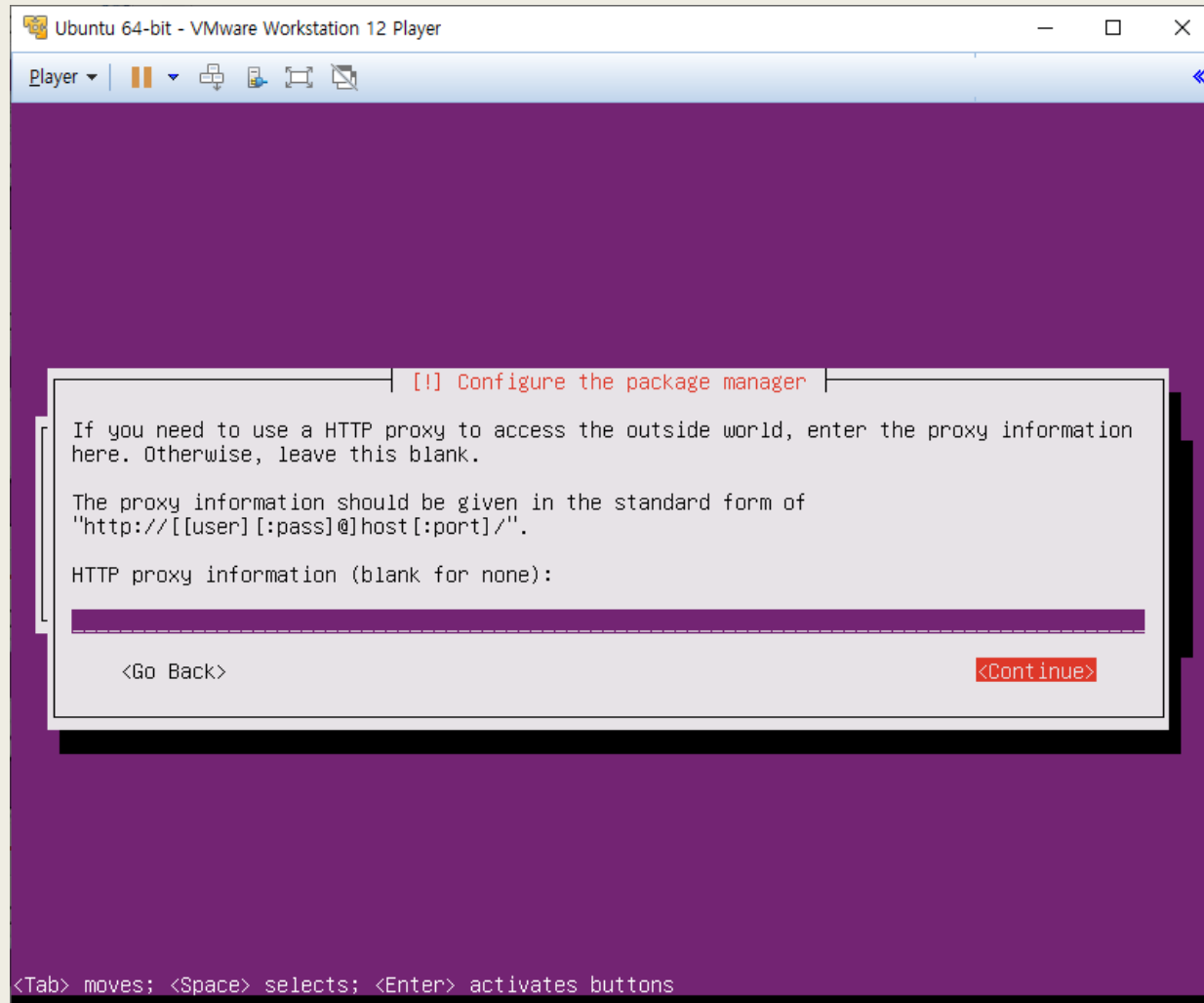
# Ubuntu Setup - (21)



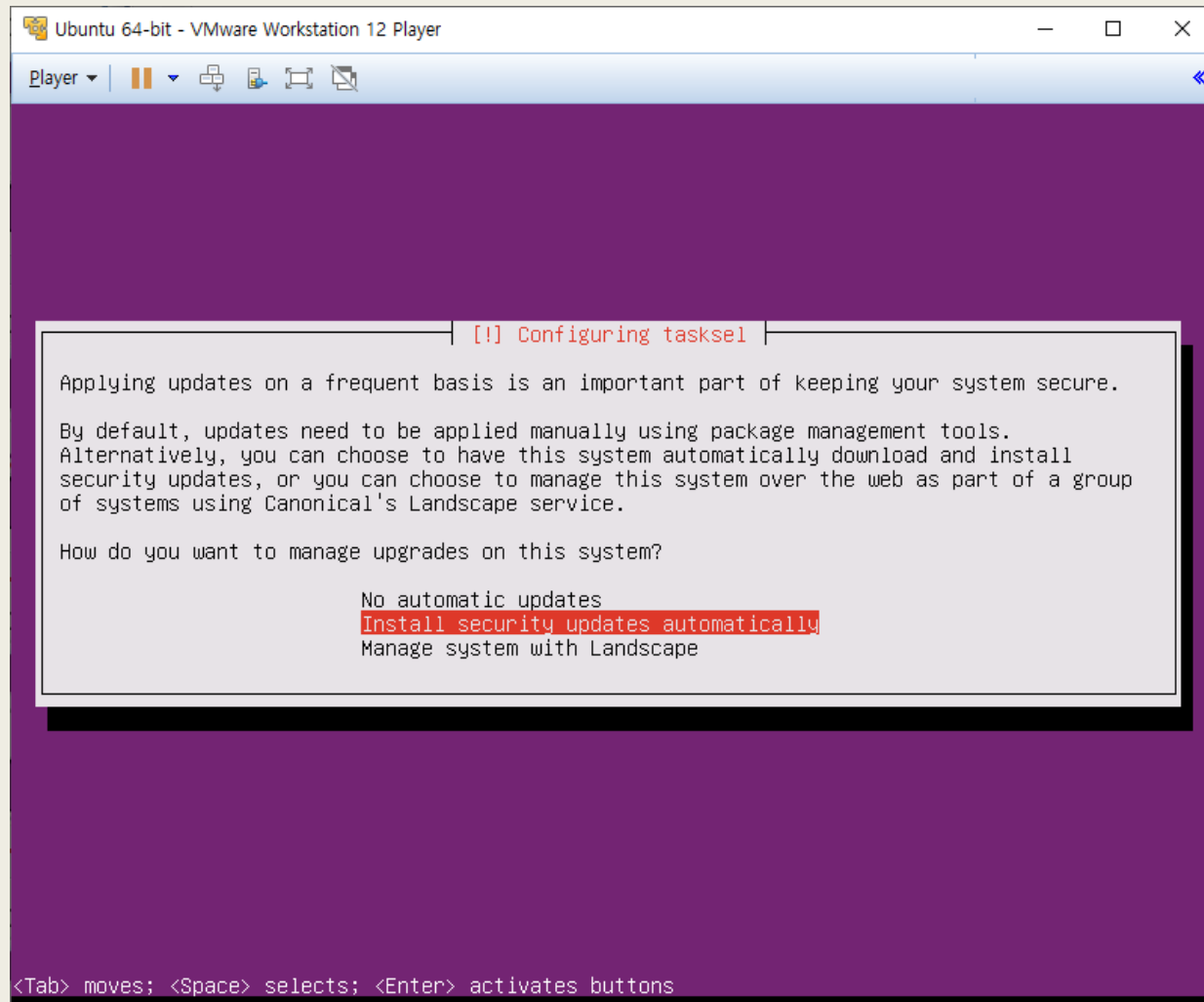
# Ubuntu Setup - (22)



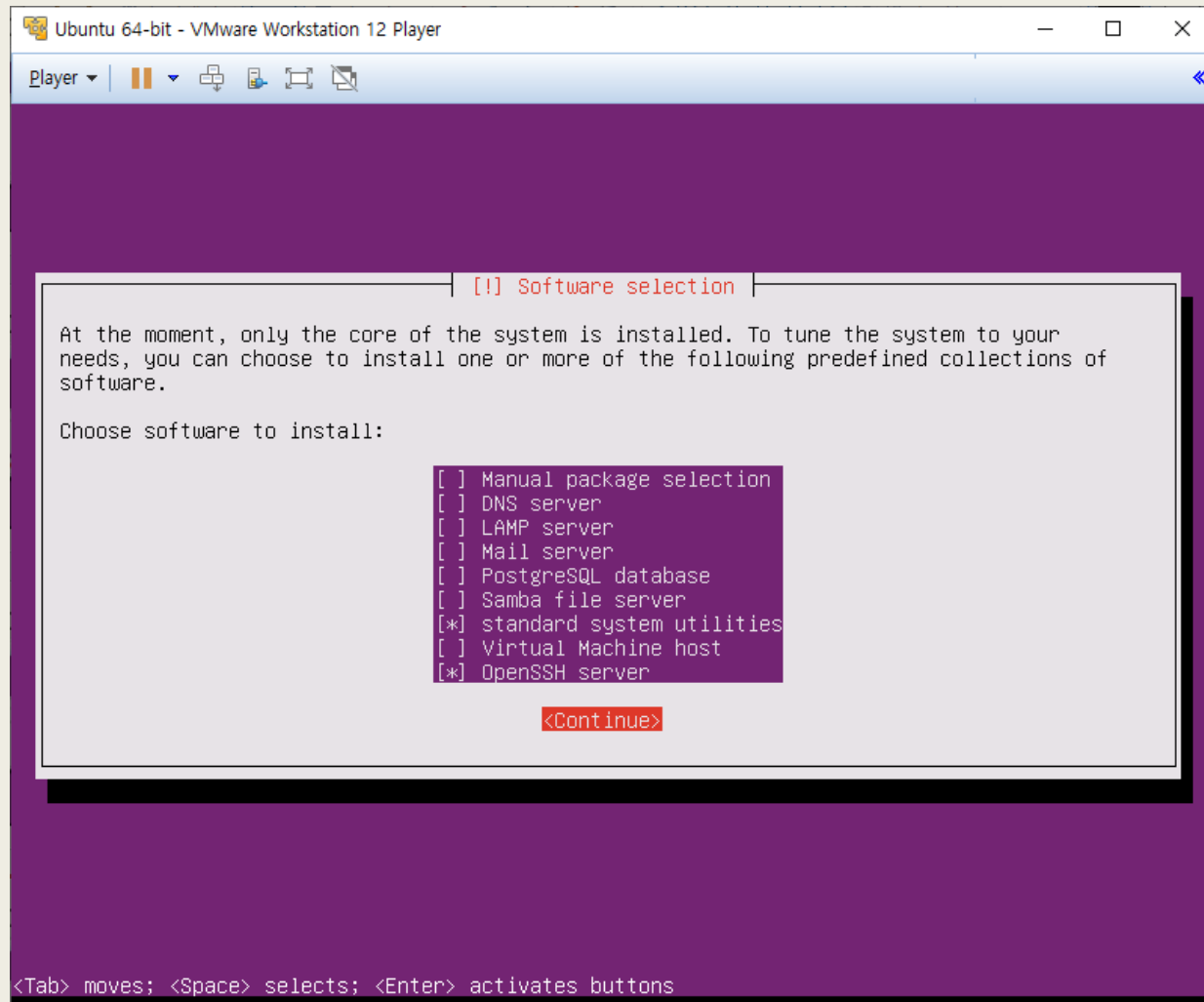
# Ubuntu Setup - (23)



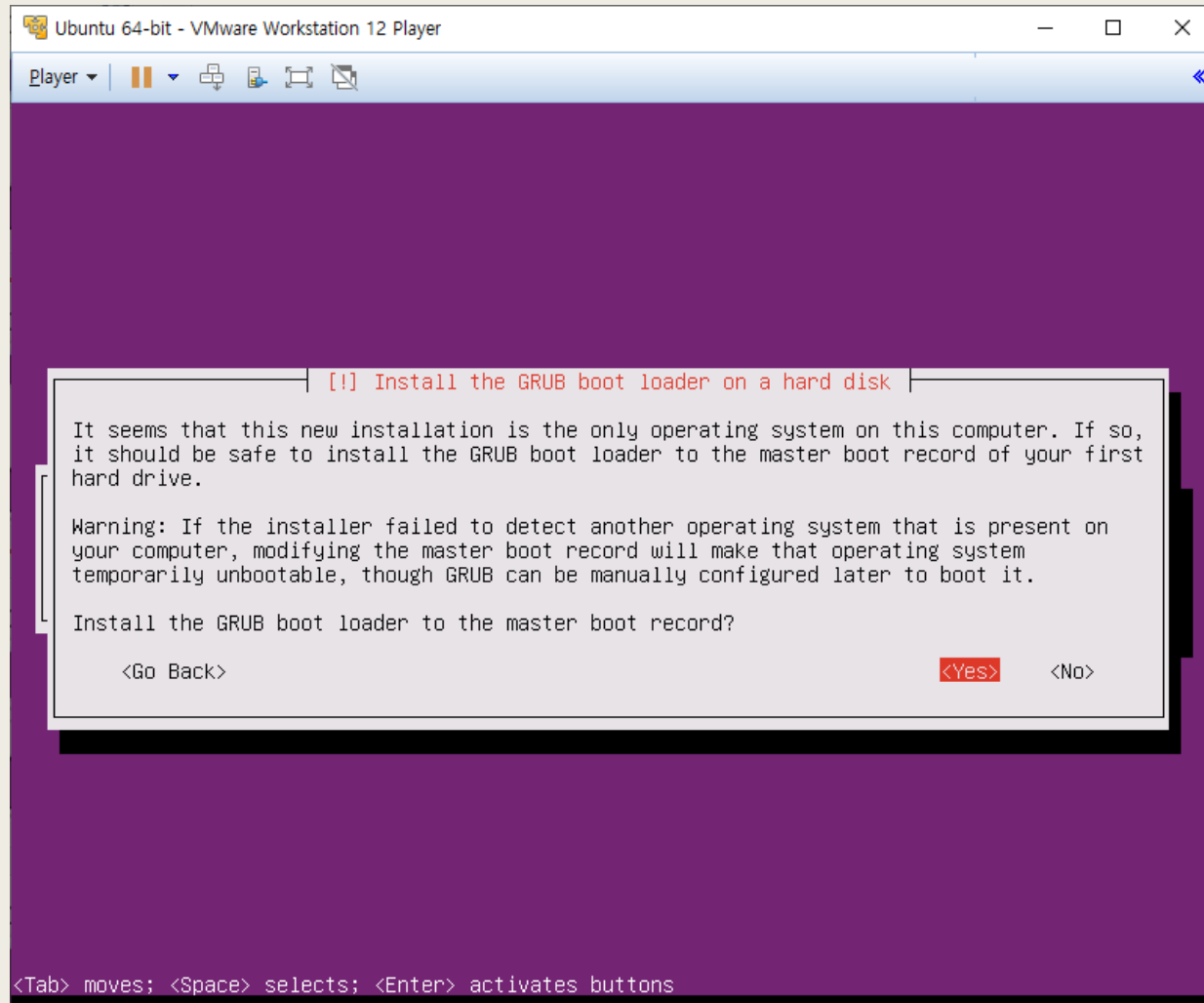
# Ubuntu Setup - (24)



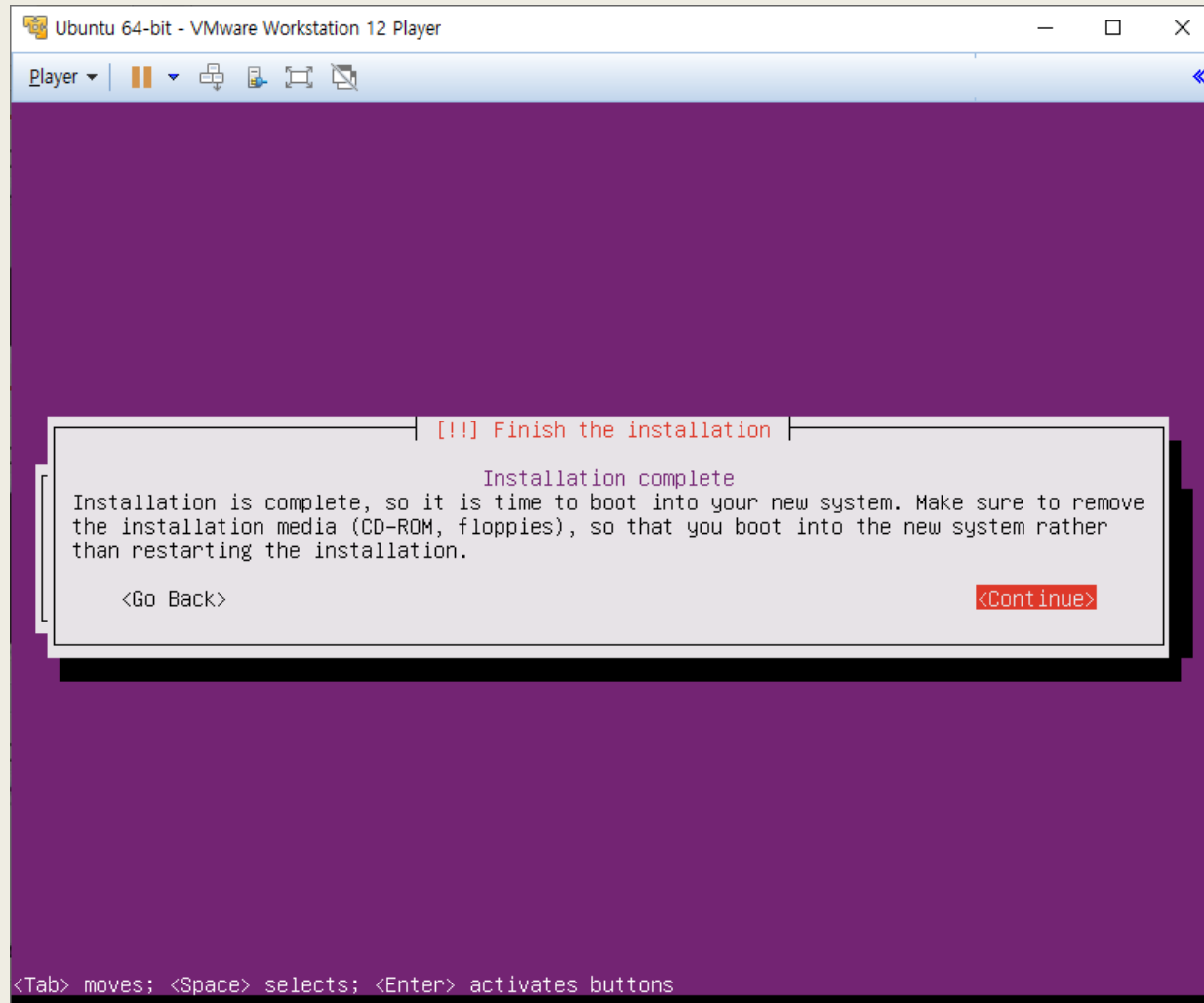
# Ubuntu Setup - (25)



# Ubuntu Setup - (26)



# Ubuntu Setup - (27)



# Sudoer Setting - (1)

```
Ubuntu 64-bit - VMware Workstation 12 Player
Player ▾ | [Icons]
Ubuntu 16.04.6 LTS hanyang tty1

hanyang login:
Password:
Last login: Tue Sep 10 16:11:06 KST 2019 on tty1
Welcome to Ubuntu 16.04.6 LTS (GNU/Linux 4.4.0-142-generic x86_64)

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

124 packages can be updated.
81 updates are security updates.

New release '18.04.2 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

hanyang@hanyang:~$ sudo vi /etc/sudoers
[sudo] password for hanyang: _
```



# Sudoer Setting - (2)

```
Ubuntu 64-bit - VMware Workstation 12 Player
Player ▾ | [Icons]
#
# This file MUST be edited with the 'visudo' command as root.
#
# Please consider adding local content in /etc/sudoers.d/ instead of
# directly modifying this file.
#
# See the man page for details on how to write a sudoers file.
#
Defaults      env_reset
Defaults      mail_badpass
Defaults      secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin"

# Host alias specification

# User alias specification

# Cmnd alias specification

# User privilege specification
root    ALL=(ALL:ALL) ALL

# Members of the admin group may gain root privileges
%admin   ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL

# See sudoers(5) for more information on "#include" directives:

#includedir /etc/sudoers.d

hanyang  ALL=(ALL:ALL) NOPASSWD:ALL
~
~
~
:wq!_
```

# Package Update

```
Ubuntu 64-bit - VMware Workstation 12 Player
Player ▾ | [Icons]
hanyang@hanyang:~$ sudo apt-get update
Hit:1 http://kr.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://kr.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://kr.archive.ubuntu.com/ubuntu xenial-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu xenial-security InRelease
Reading package lists... Done
hanyang@hanyang:~$
```

# **LAB TASK**

# Apache2, MySQL, PHP Setup

- <https://www.digitalocean.com/community/tutorials/how-to-install-linux-apache-mysql-php-lamp-stack-on-ubuntu-16-04>
- `sudo apt-get install apache2`
- `sudo apt-get install mysql-server`
- `sudo apt-get install php libapache2-mod-php php-mcrypt php-mysql`

# Evaluation

## ■ Apache2 설치 확인

- VM 내에서의 IP 확인하여 웹 브라우저 접속
- **http://[본인 IP]**

## ■ MySQL 서버 접속

- VM 내에서 **root**로 들어가서 확인

## ■ PHP 설치 확인

- **sudo vi /var/www/html/본인학번.php**
- **<?php**  
**echo "Hello Network Security <본인 학번>";**  
**?>**
- **http://[본인 IP]/본인학번.php**

## ■ 수행 결과를 캡처하여 MS Word 또는 PDF 파일로 결과를 제출할 것.

# Evaluation

- 과제 제출 기한 : 2019/09/16 23:59
- 과제 제출 시 메일 제목은 ‘본인 이름\_학번’으로 제출  
– 예) 이석원\_2019101059
- [sevenshards00@gmail.com](mailto:sevenshards00@gmail.com)으로 보낼 것.

# Q&A