

제03장

Ubuntu 설치

DevOps

학습목표

1. Ubuntu 운영체제를 설치할 수 있다.

목차

1. Ubuntu 운영체제 설치

```

each: function(e, t, n) {
  var r, i = 0,
      o = e.length,
      a = M(e);
  if (n) {
    if (a) {
      for (; o > i; i++)
        if (r = t.apply(e[i], n), r === !1) break
    } else
      for (i in e)
        if (r = t.apply(e[i], n), r === !1) break
  } else if (a) {
    for (; o > i; i++)
      if (r = t.call(e[i], e[i]), r === !1) break
  } else
    for (i in e)
      if (r = t.call(e[i], e[i]), r === !1) break;
  return e
},
trim: b && !b.call("\uffff\u00a0") ? function(e) {
  return null == e ? "" : b.call(e)
} : function(e) {
  return null == e ? "" : (e + "").replace(C, "")
},
makeArray: function(e, t) {
  var n = t || [];
  return null != e && (M(Object(e)) ? x.merge(n, "string"
),
isArray: function(e, t, n) {
  var r;
  if (t) {
    if (n) return m.call(t, e, n);
    for (r = t.length, r = r ? 0 > n ? Math.max(0, r + n
      if (n in t && t[n] === e) return n
  }
}

```

01. Ubuntu 운영체제 설치

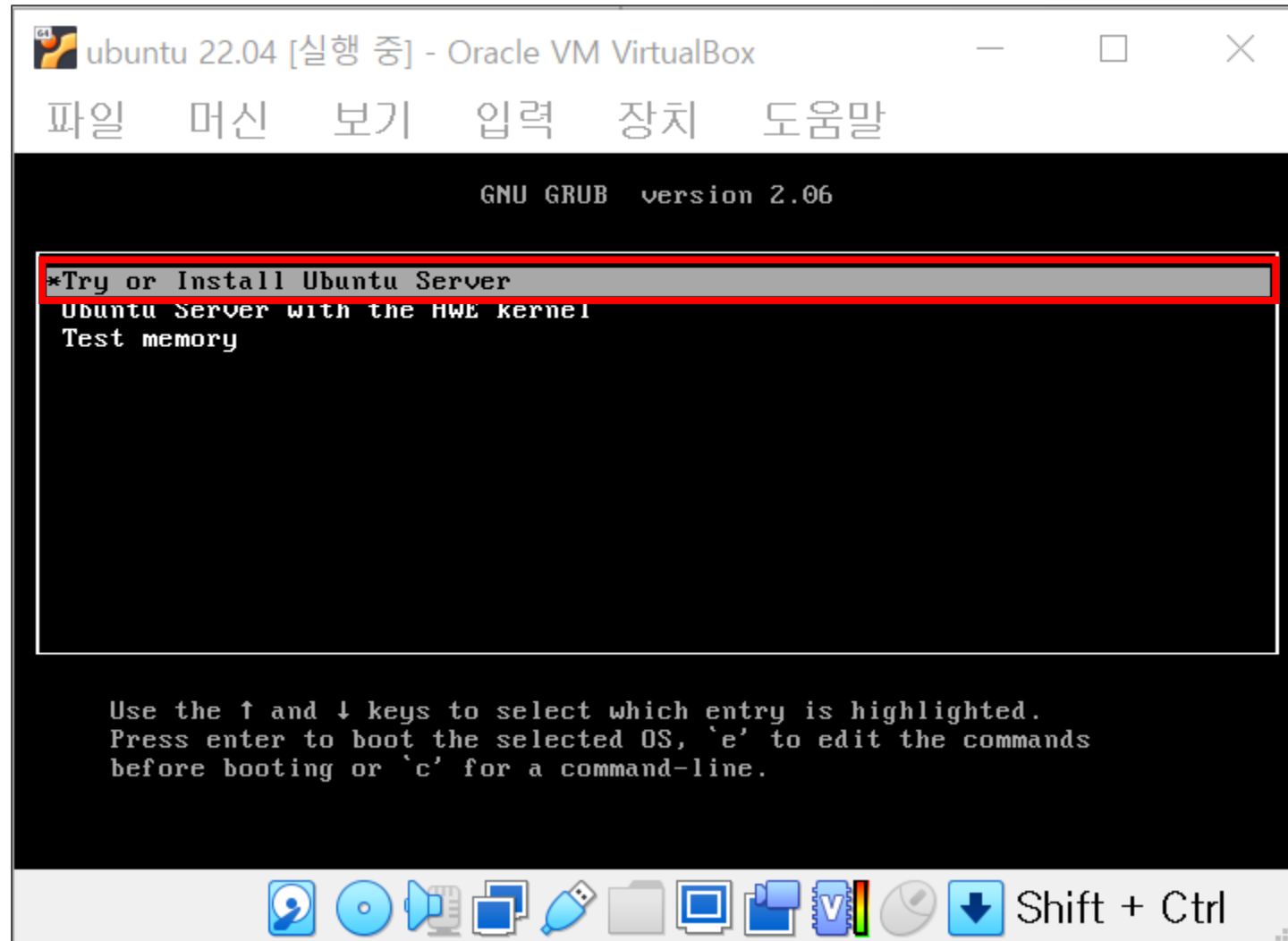
가상 머신 전원 켜기

- VirtualBox에 등록한 가상 머신 시작하기
 - Ubuntu 설치 CD를 삽입해 두었기 때문에 곧바로 설치가 시작된다.



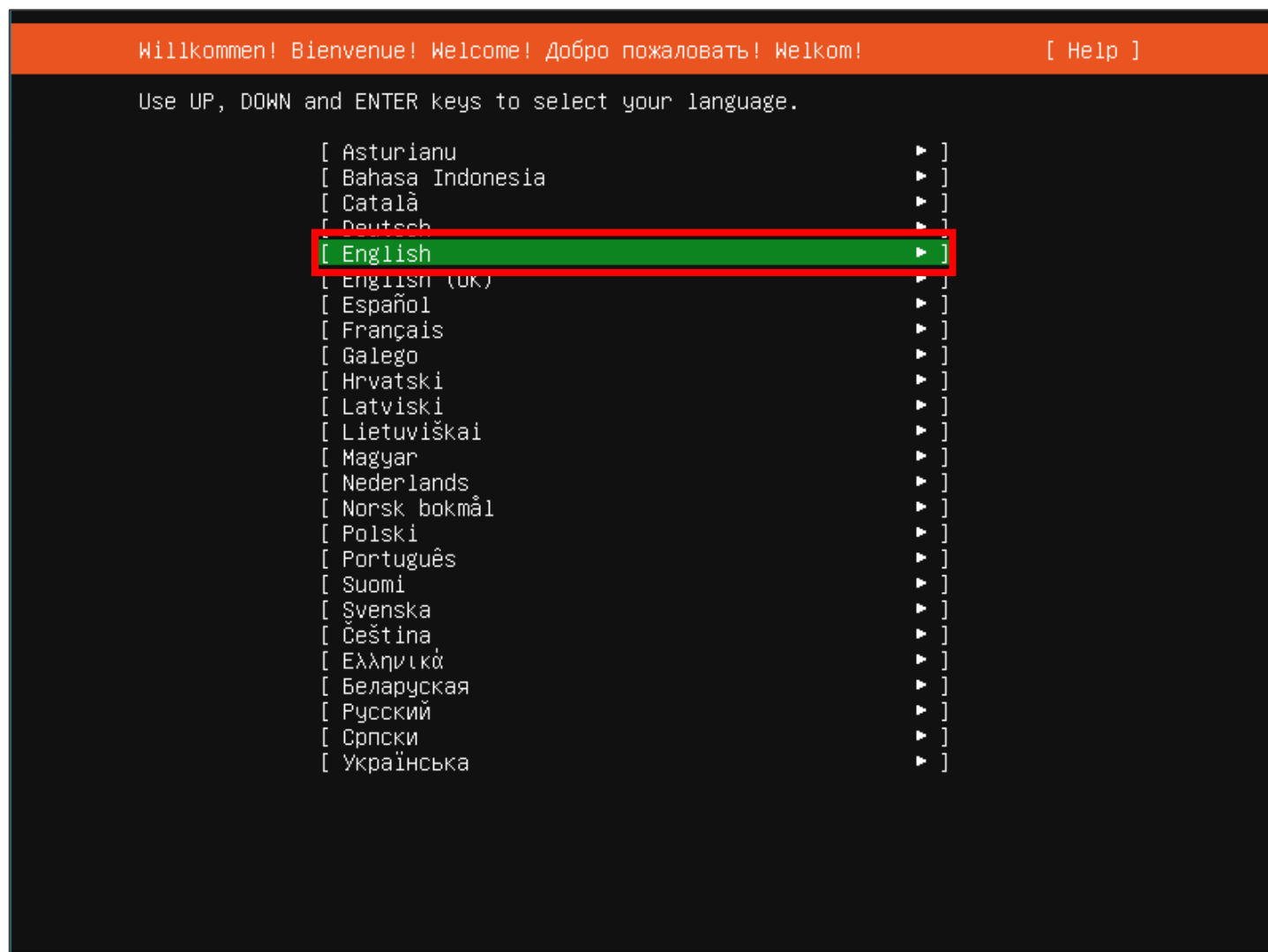
Ubuntu 설치

- Try or Install Ubuntu Server



Ubuntu 설치

- Language - English (항목 이동은 방향키 or Tab)



Ubuntu 설치

- Keyboard configuration - English (US)

Keyboard configuration [Help]

Please select your keyboard layout below, or select "Identify keyboard" to detect your layout automatically.

Layout: [English (US) ▼]

Variant: [English (US) ▼]

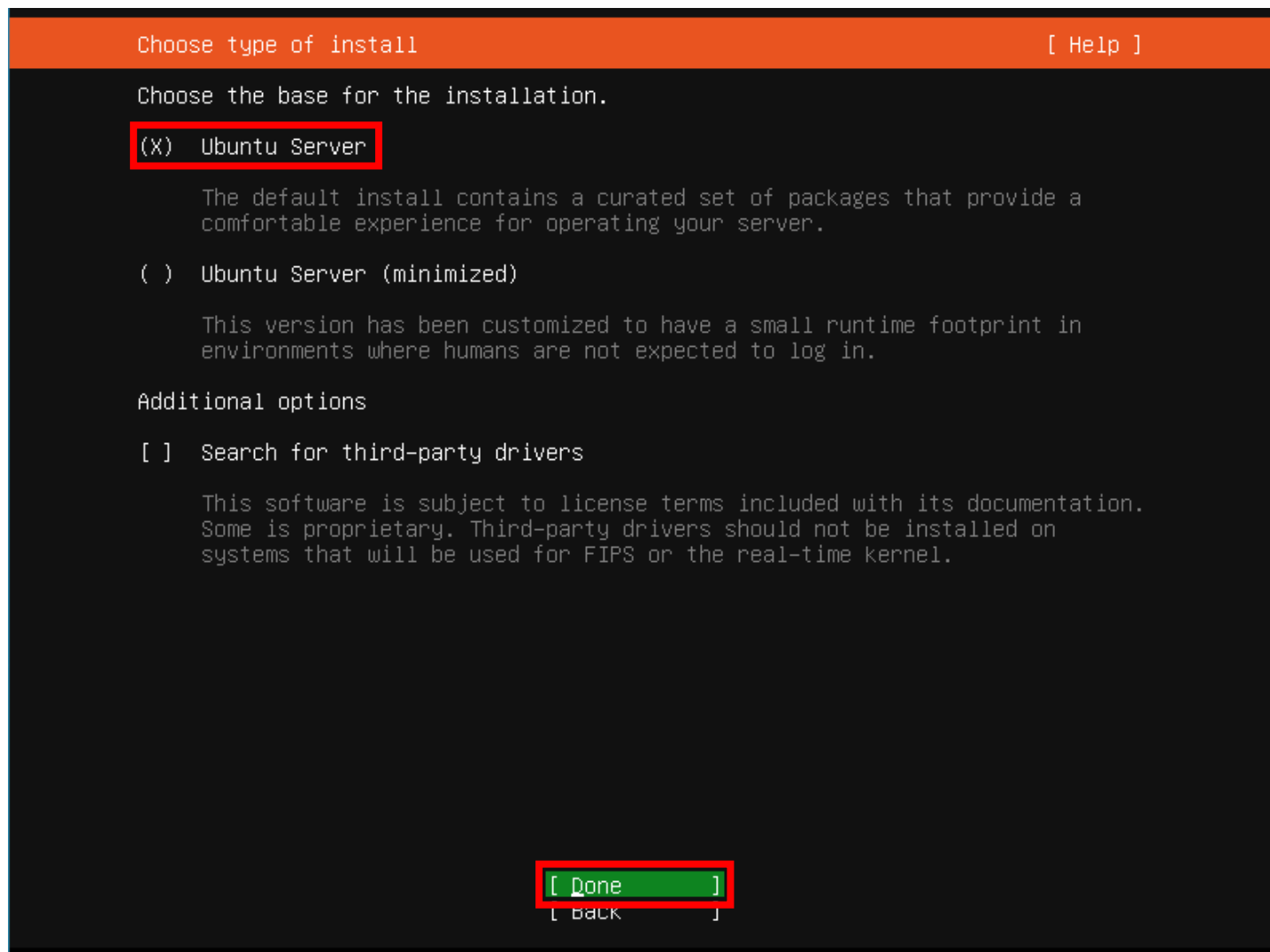
[Identify keyboard]

[Done]

[Back]

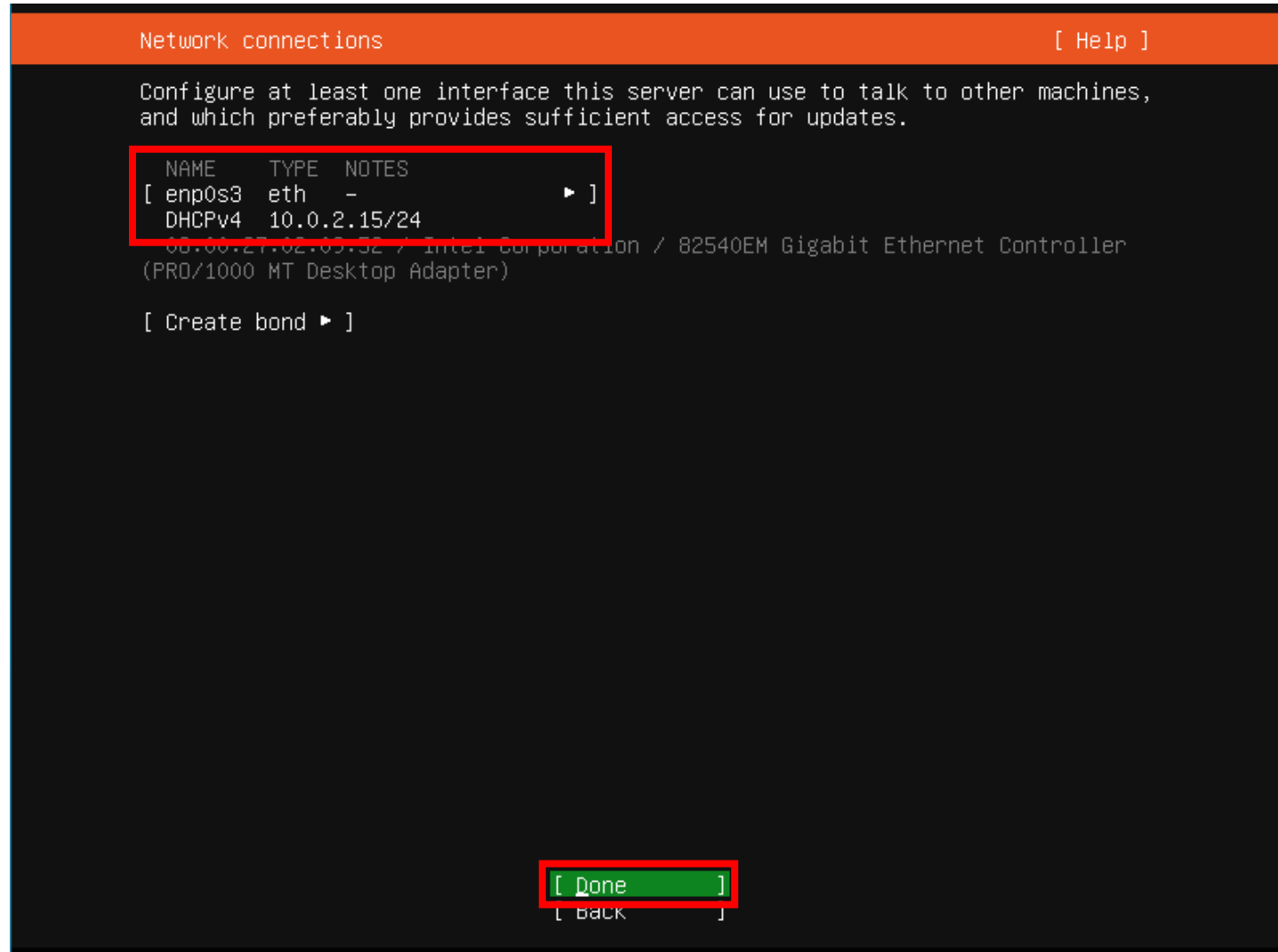
Ubuntu 설치

- Choose type of install - Ubuntu Server (항목 선택은 Spacebar)



Ubuntu 설치

- Network connections - 자동으로 설정됨



Ubuntu 설치

- Configure proxy - 아무 것도 입력하지 않음

Configure proxy [Help]

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

Proxy address:

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

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

[Done]
[Back]

Ubuntu 설치

■ Configure Ubuntu archive mirror - 기본값 사용

Configure Ubuntu archive mirror [Help]

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

Mirror address:

you may provide an archive mirror that will be used instead of the default.

[Done]
[Back]

- Installer update available - Continue without updating

```
Installer update available [ Help ]

Version 23.04.2 of the installer is now available (23.02.1 is currently
running).

You can read the release notes for each version at:

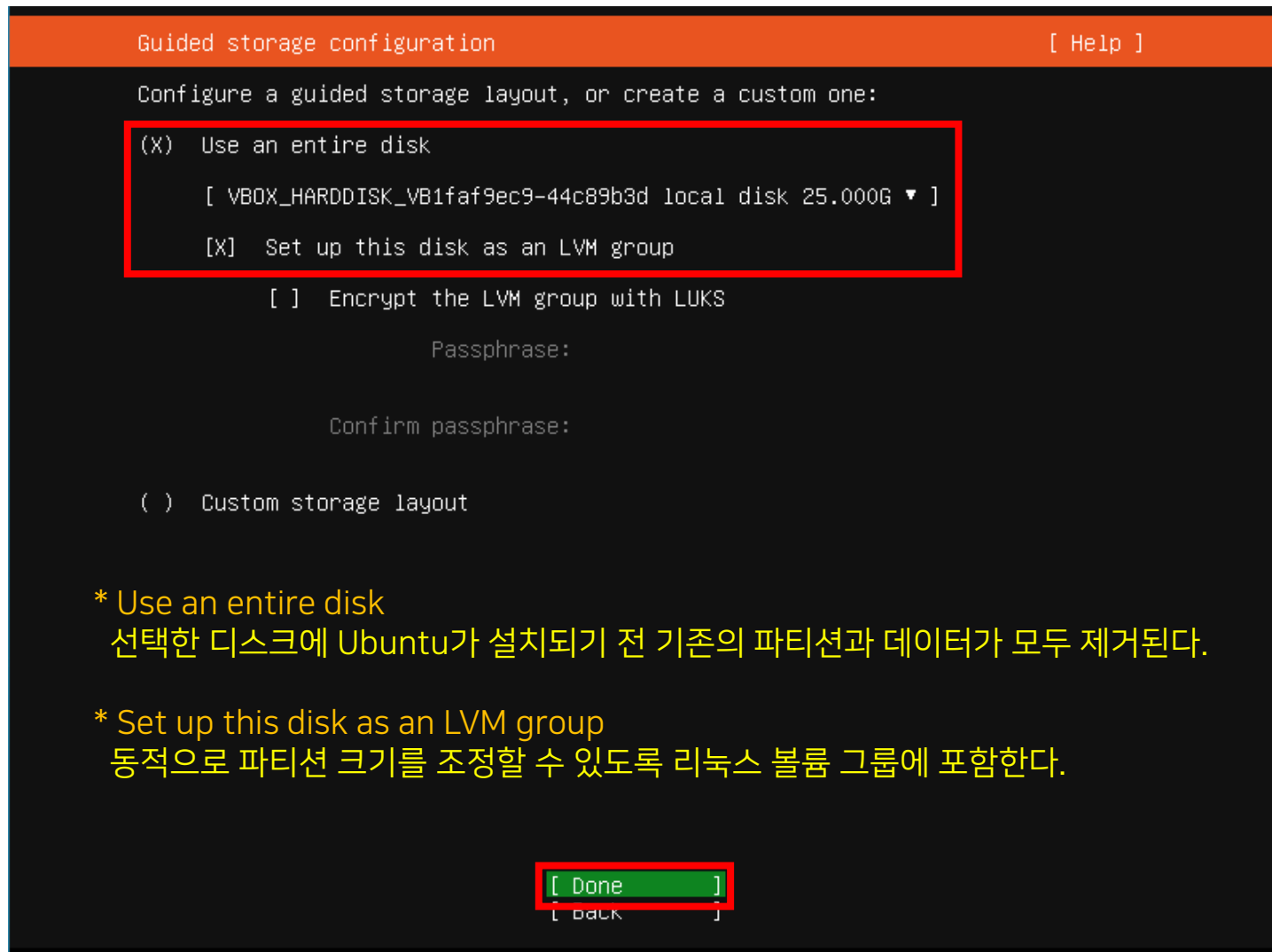
    https://github.com/canonical/subiquity/releases

If you choose to update, the update will be downloaded and the installation
will continue from here.

[ Update to the new installer ]
[ Continue without updating ]
[ Back ]
```

Ubuntu 설치

■ Guided storage configuration



Guided storage configuration [Help]

Configure a guided storage layout, or create a custom one:

☒ Use an entire disk

[VBOX_HARDDISK_VB1faf9ec9-44c89b3d local disk 25.000G ▼]

☒ Set up this disk as an LVM group

☐ Encrypt the LVM group with LUKS

Passphrase:

Confirm passphrase:

☐ Custom storage layout

* Use an entire disk
선택한 디스크에 Ubuntu가 설치되기 전 기존의 파티션과 데이터가 모두 제거된다.

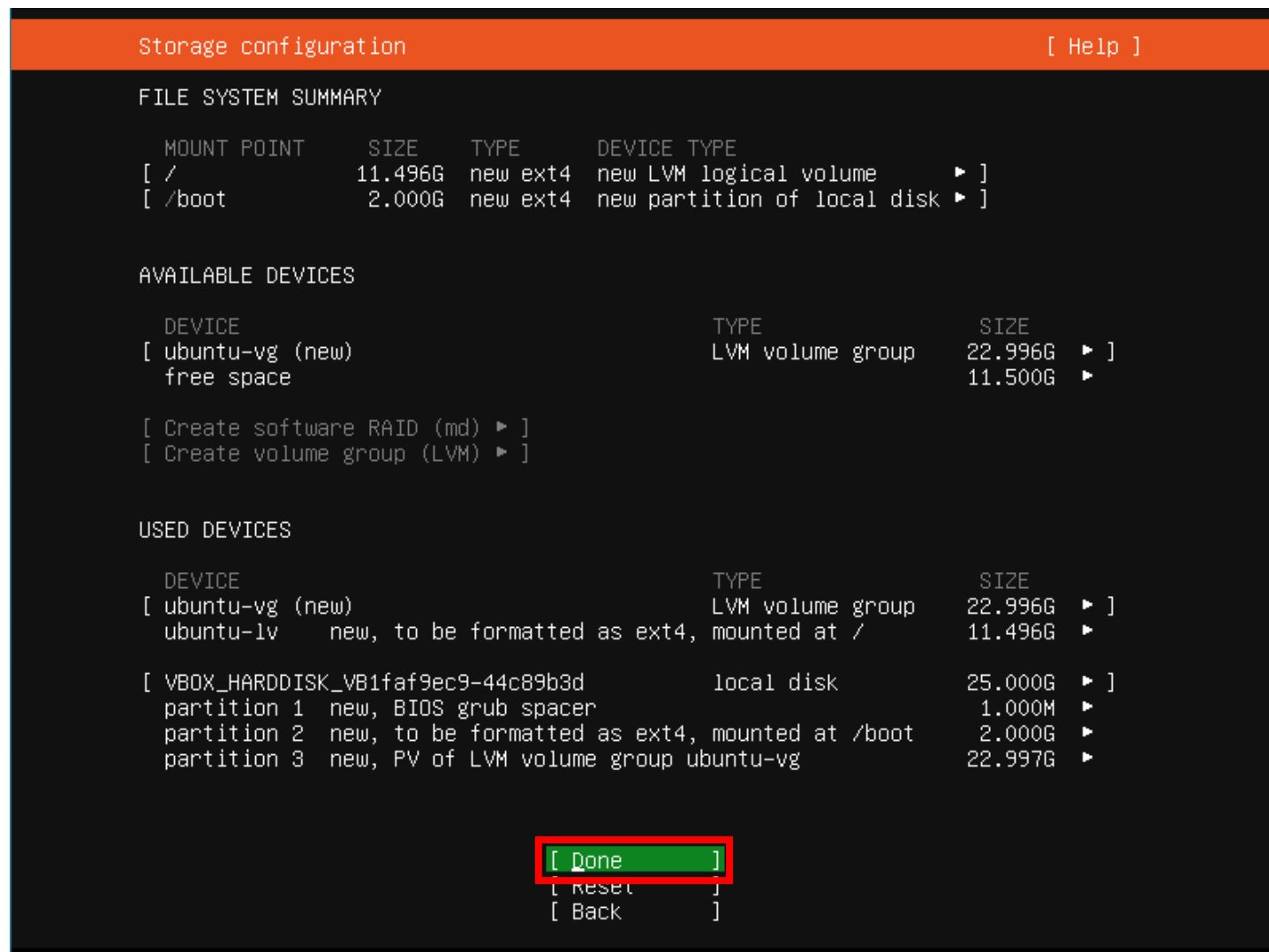
* Set up this disk as an LVM group
동적으로 파티션 크기를 조정할 수 있도록 리눅스 볼륨 그룹에 포함한다.

[Done]

[Back]

Ubuntu 설치

■ Storage configuration - 기본값 사용



Ubuntu 설치

■ Storage configuration

```
Storage configuration [ Help ]

FILE SYSTEM SUMMARY

MOUNT POINT      SIZE    TYPE    DEVICE TYPE
[ /              11.496G new ext4 new LVM logical volume ▶ ]
[ /boot         2.000G  new ext4 new partition of local disk ▶ ]

AVAILABLE DEVICES  * 기존 데이터가 모두 포맷될 것이다. 계속할것인가? Continue

----- Confirm destructive action -----

Selecting Continue below will begin the installation process and
result in the loss of data on the disks selected to be formatted.

You will not be able to return to this or a previous screen once the
installation has started.

Are you sure you want to continue?

[ No ]
[ Continue ]

partition 2  new, to be formatted as ext4, mounted at /boot      2.000G ▶
partition 3  new, PV of LVM volume group ubuntu-vg             22.997G ▶

[ Done ]
[ Reset ]
[ Back ]
```


Ubuntu 설치

■ Profile setup

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: mgt

Your server's name: server1
The name it uses when it talks to other computers.

Pick a username: mgt

Choose a password: ****

Confirm your password: ****

[Done]

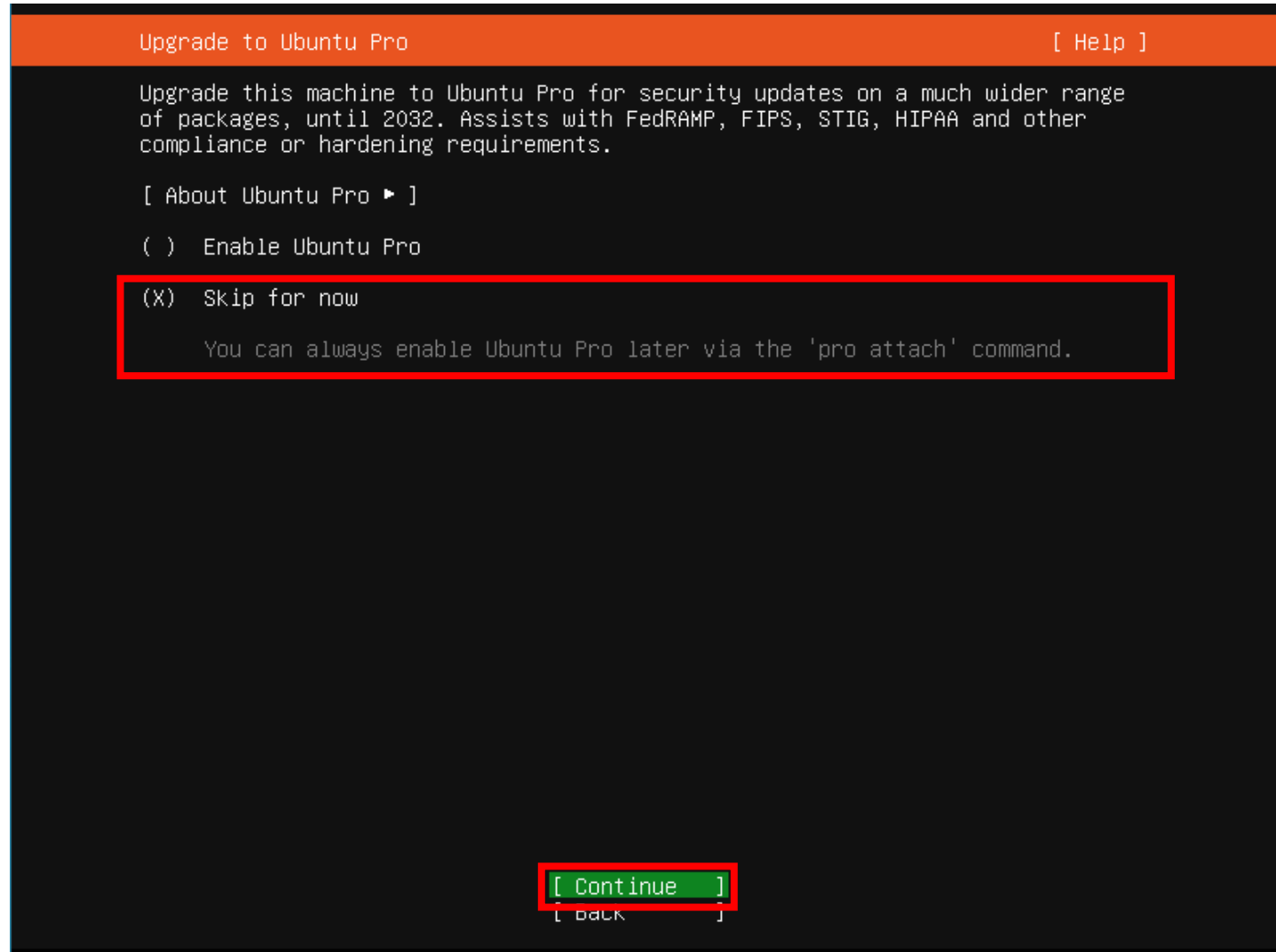
서버명

로그인 할 계정명

로그인 계정의 비밀번호

Ubuntu 설치

- Upgrade to Ubuntu Pro - Skip for now



Ubuntu 설치

■ SSH Setup - Install OpenSSH server

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

* OpenSSH
SSH는 Secure Shell을 의미한다.
원격 호스트에 접속하기 위해서 사용하는 보안 프로토콜이다.
OpenSSH는 가장 널리 사용하는 무료 SSH 패키지이다.

Ubuntu 설치

■ Featured Server Snaps - 선택 안 함

```
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.

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

[ Done ]
[ Back ]
```

■ Installing system - 대략 수십분 소요

```
Installing system [ Help ]

    configuring disk: disk-sda
    configuring partition: partition-0
    configuring partition: partition-1
    configuring format: format-0
    configuring partition: partition-2
    configuring lvm_volgroup: lvm_volgroup-0
    configuring lvm_partition: lvm_partition-0
    configuring format: format-1
    configuring mount: mount-1
    configuring mount: mount-0
executing curtin install extract step
  curtin command install
    writing install sources to disk
      running 'curtin extract'
        curtin command extract
          acquiring and extracting image from cp:///tmp/tmp1z5m2iws/mount
executing curtin install curthooks step
  curtin command install
    configuring installed system
      running 'mount --bind /cdrom /target/cdrom'
      running 'curtin in-target -- setupcon --save-only'
      curtin command in-target
      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 ]
```

Ubuntu 설치 완료

■ Install complete! - Reboot Now

```
Install complete! [ Help ]

running 'curtin in-target -- setupcon --save-only'
curtin command in-target
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
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 ]
```

Ubuntu 설치 시 오류 발생

- Linux Ubuntu 설치 CD 자동 배출 오류로 인하여 FAILED 발생하므로 강제로 종료시킨다.
 - 강제로 종료한 뒤 수동으로 설치 CD를 제거해 주면 된다.

```
[FAILED] Failed unmounting /cdrom.  
Please remove the installation medium, then press ENTER:  
[FAILED] Failed unmounting /cdrom.
```

Ubuntu 설치 후 재부팅

■ Rebooting...

```
[ OK ] Reached target Graphical Interface.
Starting Execute cloud user/final scripts...
Starting Record Runlevel Change in UTMF...
[ OK ] Finished Record Runlevel Change in UTMF.
[ 28.913282] cloud-init[1294]: Cloud-init v. 23.1.2-0ubuntu0~22.04.1 running 'modules:final' at Sun, 30 Jul 2023 08:08:57 +0000. Up 28.83 seconds.
ci-info: no authorized SSH keys fingerprints found for user mgt.
<14>Jul 30 08:08:57 cloud-init: #####
<14>Jul 30 08:08:57 cloud-init: -----BEGIN SSH HOST KEY FINGERPRINTS-----
<14>Jul 30 08:08:57 cloud-init: 1024 SHA256:UjH5T3jy9wQNPREWICA2+1om1fyt/qGJcS0ZRQz61RU root@server1
(DSA)
<14>Jul 30 08:08:57 cloud-init: 256 SHA256:aRNx02cNv/RUu9Ik6DUg91iFJWWDKeT0i7bXD20evv8 root@server1
(ECDSA)
<14>Jul 30 08:08:57 cloud-init: 256 SHA256:NmCKU++yDbP9a3uHUdEK5hm0UEZJF7gtsqUK2hioB9c root@server1
(ED25519)
<14>Jul 30 08:08:57 cloud-init: 3072 SHA256:8b22iiAM+DKH/y/o3YDQv0vGYK5vG1cq81wHsEt1RFE root@server1
(RSA)
<14>Jul 30 08:08:57 cloud-init: -----END SSH HOST KEY FINGERPRINTS-----
<14>Jul 30 08:08:57 cloud-init: #####
-----BEGIN SSH HOST KEY KEYS-----
ecdsa-sha2-nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBB0c0x8+osahrsUUa6CN9fMk4mijv
x6LSGC2Hh5ePSD3oq3mAfMT8VFj+XK1EoN5i/YU8hV5v6LjqzbmW20grYbA= root@server1
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAI00qBRXR7k7rnNX2dys6im0sDp3tj5Wrx1qVobqXTc3/ root@server1
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGDW1A27fPWid0uyqf/RiwqqqB2e9K61S3G8U13wuME+WG4W125v7zOWJid4K92
6CEovx2Evbbssu1v6evPoxBqA2PAhYe9AqpX71NINH+6fMpF2W115Wk7h0K0EYeETh/NFcjzm29Ev5q1McAzuIeID1C18zGj+3zCy
cf/AzIyBQHigbykI9nFI7bp3yL8Y4rg38jUC1ETQjE1kzpLxE5I9tE4PSr4QGUGW8ji9AZan2gudBU0L0qWuHT/L2tXgEU3/QoPP
dI46DQsAcPacD6s1J9goB//XjHAFwUlwIHt/rMJxiiB+zscFOYPXVC/CD0NyzHNmBNLvy8XhfVFKjOMmy7j/PpBqDUjyfdQzXIF
A0SnuDF/E3cETRV3uhne3hnUn/ESHXdePde3Y0Ig0MJFJR2y3tmjddbXhuKHKBJd3NSiemYAO0ueupVgBm4PDcy886BxWSBWh0S4
OuUo40dNJ2DGSzGJ7rgjD81sYon/4qURj4w24KwT2qV6kZ3S0Us= root@server1
-----END SSH HOST KEY KEYS-----
[ 29.038625] cloud-init[1294]: Cloud-init v. 23.1.2-0ubuntu0~22.04.1 finished at Sun, 30 Jul 2023
08:08:58 +0000. DataSource DataSourceNone. Up 29.03 seconds
[ 29.040392] cloud-init[1294]: 2023-07-30 08:08:58,015 - cc_final_message.py[WARNING]: Used fallback
datasource
[ OK ] Finished Execute cloud user/final scripts.
[ OK ] Reached target Cloud-init target.
```


Ubuntu 로그인

■ username과 password를 이용한 로그인

설치 시 입력한
Username과 Password 입력

```
Ubuntu 22.04.2 LTS server1 tty1
server1 login: mgt
Password:
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.15.0-78-generic x86_64)

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

System information as of Mon Jul 31 01:16:25 PM UTC 2023

System load:  0.0               Processes:            101
Usage of /:   44.7% of 11.21GB   Users logged in:     0
Memory usage: 5%               IPv4 address for enp0s3: 10.0.2.15
Swap usage:   0%

Expanded Security Maintenance for Applications is not enabled.

64 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Mon Jul 31 13:11:22 UTC 2023 on tty1
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

mgt@server1:~$
```

프롬프트 \$ 가 보이면 성공임