Installing Ubuntu alongside other pre-installed OS

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Contents

1. Windows setup for dual booting with Ubuntu
2. Max OSX setup for dual booting with Ubuntu
3. Install Ubuntu 14.04

NOTICE: Depend on your pre-installed OS, use this material as below:

- **Windows**: Chapter 1 ⇒ Chapter 3
- **Mac OSX**: Chapter 2 ⇒ Chapter 3
Chapter 01.

Windows setup for dual booting with Ubuntu
• If you are a Mac user, please proceed to the next chapter
• In this section, we will introduce how to setup your Windows OS (8, 8.1, and 10) before installing Ubuntu alongside the Windows OS.
• If you are familiar with installing operating system, please go to the link http://www.everydaylinuxuser.com/2014/05/install-ubuntu-1404-alongside-windows.html that contains more details.

• The overall procedure is summarized by below

1. Make a backup of your files
2. Make a booting USB of Ubuntu 14.04
3. Disable “Fast Startup” function of Windows
4. Set up the partitions of your hard drive
5. Booting with “UEFI : USB DISK”
Make a backup of your files

• Back up all of your Windows files and folders that you don't want to lose.

• Reason
  • As long as you have enough free hard drive space for your new Ubuntu partition, this process should not interfere with Windows files. Should is a risky word, though.
  • Moreover, you can make a mistake during the process.

• (Recommended) Open Windows Explorer, and copy them to a backup disk.

Make a booting USB of Ubuntu 14.04

• Download Ubuntu 14.04 Desktop Image

• Follow the official article to create booting USB of Ubuntu 14.04
  • http://www.ubuntu.com/download/desktop/create-a-usb-stick-on-windows
  • In the article, they used “Ubuntu-16.04-desktop-amd64.iso”, but you have to use “Ubuntu-14.04.5-desktop-amd64.iso” instead.
To be able to boot with Ubuntu USB drive, you will need to turn off the “Fast startup” function.

Summary

1. Logged in as an administrator to do this
2. Go to ‘Control Panel’ of Windows
3. Click on “System and Security” heading
4. Click on “Power Options”
5. Click on “Choose what the power button does”
6. Click on “Change settings that are currently unavailable”
7. Scroll down and uncheck “Turn on fast startup (recommended)”
8. Click “Save Changes”
9. Reboot your computer

Step 1/9: Please logged in as an administrator to do this
Disable “Fast Startup” function of Windows

• Step 2/9: Go to ‘Control Panel’ of Windows
  1. Windows key + x (⊞ + ⌘)
  2. Click on ‘Control Panel’ on the list. (or, press ⊞)

• Step 3/9: Click on “System and Security” heading

Click here!
Disable “Fast Startup” function of Windows

- Step 4/9: Click on “Power Options”
Disable “Fast Startup” function of Windows

• Step 5/9: Click on “Choose what the power button does”
Disable “Fast Startup” function of Windows

• Step 6/9: Click on “Change settings that are currently unavailable”
Disable “Fast Startup” function of Windows

- Step 7/9: Scroll down and uncheck “Turn on fast startup (recommended)"

![System Settings window showing the uncheck option for Fast Startup]

- Step 8/9: Click “Save Changes”
- Step 9/9: Reboot your computer
Set up the partitions of your hard drive

- To make a cozy space for you Ubuntu
Set up the partitions of your hard drive

• Summary
  1. Go to “Disk Management” of Windows
  2. Right click on ‘(C:)’ and click on ‘Shrink Volume…’
  3. Set the value next to “Enter the amount of space to shrink in MB” and click on “Shrink”
  4. Turn off your computer
Set up the partitions of your hard drive

- Step 1/4: Go to “Disk Management” of Windows
  1. Windows key + x (⊞ ⊞ + ⊞)
  2. Click on ‘Control Panel’ on the list. (or, press ⊞)
Set up the partitions of your hard drive

- Step 2/4: Right click on ‘(C:)’ and click on ‘Shrink Volume…’
Set up the partitions of your hard drive

- Step 3/4: Set the value next to “Enter the amount of space to shrink in MB” and click on “Shrink”
  - Recommended size is 50 GB ( = 50 * 1,024 = 51,200 MB)
    - At least 7 GB + your memory size
    - For example, if your computer has 16 GB memory, then set the value at least 23 GB ( = 23,552 MB)
  - **WARNING!!** Do not set a larger value than a value next to “Size of available shrink space in MB:”

![Screenshot of the Shrink C: window with values set and instructions]

- No more than this!!
  (The number will differ on your computer)
- Set this value
Set up the partitions of your hard drive

- After for a while, you will see the “Unallocated” part in your disk as below

- Step 4/4: Turn off your computer
Booting with “UEFI : USB DISK”

- Plug in your USB stick to your computer
- Then, turn on your computer and continue to press “Boot Device Options” key of your computer
  - NOTICE: each manufacturer uses the different key to open up the menu. Please refer “Boot Menu” key in the link below
  - NOTICE: if you are a Sony’s Vaio Pro user, just press “assist” button instead of power button on your computer

### USB Flash Drive Boot Reference List

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Type</th>
<th>Models</th>
<th>Boot Menu</th>
<th>Boot Once</th>
<th>BIOS/UEFI Key</th>
<th>Change Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acer</td>
<td></td>
<td></td>
<td>Esc, F12, F9</td>
<td></td>
<td>Del, F2</td>
<td></td>
</tr>
<tr>
<td>Acer</td>
<td>netbook</td>
<td>Aspire One zg5, zg8</td>
<td>F12</td>
<td></td>
<td>F2</td>
<td></td>
</tr>
<tr>
<td>Acer</td>
<td>netbook</td>
<td>Aspire Timeline</td>
<td>F12</td>
<td></td>
<td>F2</td>
<td></td>
</tr>
<tr>
<td>Acer</td>
<td>netbook</td>
<td>Aspire v3, v5, v7</td>
<td>F12</td>
<td>The “F12 Boot Menu” must be enabled in</td>
<td>F2</td>
<td></td>
</tr>
</tbody>
</table>
Booting with “UEFI: USB DISK”

- Select “UEFI: ______” (which is your Ubuntu installing drive) and press enter
- NOTICE: The boot device menu can be vary depending on the manufacturer
Chapter 02.

Mac OSX setup for dual booting with Ubuntu
References

• Install Ubuntu 14.04 on OS X

• http://askubuntu.com/questions/462360/macbook-air-how-to-install-a-dual-bootable-ubuntu-14-04-lts

• http://www.howtogeek.com/187410/how-to-install-and-dual-boot-linux-on-a-mac/
Download Ubuntu 14.04

• Download Ubuntu 14.04 image using torrent
  • 64bit
    • http://releases.ubuntu.com/14.04/ubuntu-14.04.5-desktop-amd64.iso.torrent
  • 32bit
    • http://releases.ubuntu.com/14.04/ubuntu-14.04.5-desktop-i386.iso.torrent
Create Bootable USB stick

• Download UNetbootin (http://unetbootin.github.io)
• Launch UNetbootin
• Plug in USB stick (> 2GB)
• Follow this page: (continue from step 2)
  • http://www.ubuntu.com/download/desktop/create-a-usb-stick-on-mac-osx
• When cannot finding USB drive, open ‘disk utility app’ and format USB drive as MS-DOS(FAT32)
Install REFIND

- Download the REFIND binary (https://sourceforge.net/projects/refind/)
- Unpack it and open terminal app
  - $ ./refine-install
- Sometimes failed to install REFIND on El Capitan.
  - Read this page:
Partitioning Disk for Ubuntu

- Open OS X Disk Utility
Partitioning Disk for Ubuntu

Partition device “APPLE SSD SM0512G Media”?
To resize a partition on the selected disk, drag its resize control and press Apply.

Device Information
- Device: APPLE SSD SM0512G Media
- Scheme: GUID Partition Map

Partition Information
- Partition: Macintosh HD
- Format: OS X Extended (Journaled, Encrypted)
- Size: 440.372 GB

+ -
Partitioning Disk for Ubuntu

Add new partition

Partition device “APPLE SSD SM0512G Media”? To resize a partition on the selected disk, drag its resize control and press Apply.

Device Information
- Device: APPLE SSD SM0512G Media
- Scheme: GUID Partition Map

Partition Information
- Partition: Untitled
- Format: OS X Extended (Journaled)
- Size: 50 GB

> 20 GB
Install Ubuntu 14.04

- Reboot mac and press alt button
  - Booting USB is plugged in
- Select EFI Boot

- Select ‘Install Ubuntu’
Chapter 03.

Install Ubuntu 14.04
In this section, we will introduce how to install Ubuntu 14.04 for dual booting with pre-installed OS (e.g. Windows, Mac OSX)

The overall procedure is summarized by below:

1. Select booting type
2. Launch installation procedure
3. Select installation language
4. Select internet connection
5. Select install option
6. Select installation type
7. Making partitions
8. Select your location
9. Select keyboard layout
10. Set user information
Select booting type

• Select (with ↑ ↓ keys) “Try Ubuntu without installing” and press enter
  • In this option, you can access the internet during installation
Launch installation procedure

- Double click on “Install Ubuntu 14.04 LTS”
Select installation language

- Select “English” and click “next”
Select internet connection

- Choose your internet connection if that is on the list. Then, press “Continue”
Select install option

- Uncheck “Download updates while installing” and “Install this third-party software”. Then, press “Continue”
Select installation type

- Select “Something else” and press “Install Now”
Making partitions (1/4)

- Select “free space” that has the size you set in the previous section.
Making partitions (2/4)

- Create a partition for “swap area” with your RAM size
  1. Click on “+” below the list of devices
  2. Set the size to your RAM size
  3. Select “Logical”
  4. “swap area” for “Use as”
• Create a partition for “Primary disk” with left space
  1. Click on “+” below the list of devices again
  2. Select “Primary”
  3. “Ext4 journaling file system” for “Use as”
  4. Type “/” for “Mount point”
Making partitions (4/4)

- Press “Install Now”
Select your place

- Select your place (e.g., “Seoul”) and press “Continue”
Select keyboard layout

- Choose “English (US)” > “English (US)” as your keyboard layout and press “Continue”
Set user information

• Set your information and press “Continue”

These are login information. Don’t forget them.
Viola!!

• Done!!
The End