Setting up C Programming Environment

Before you start..

- ✓ Please note that this is "NOT" a required part of the course and is not a homework.

- ✓ This manual is written for someone who has never programmed / never used Linux before.
  If you have background knowledge, you can ignore this.

- ✓ If you have any questions, please email
  Yoonji Shin ys2476@columbia.edu

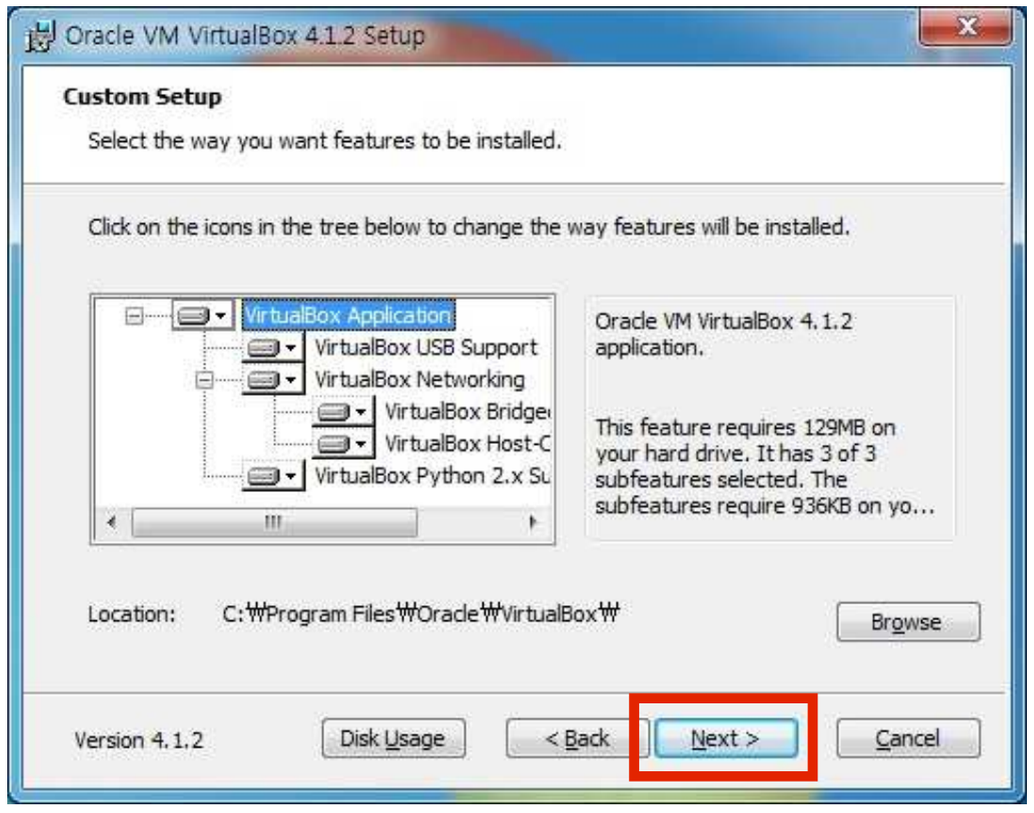
- ✓ Don't be scared, programming is fun! Enjoy :)

Install VirtualBox

1. Visit http://www.virtualbox.org/wiki/downloads
2. Download VirtualBox platform packages for your OS
3. Open the Installation Package by double clicking

MAC

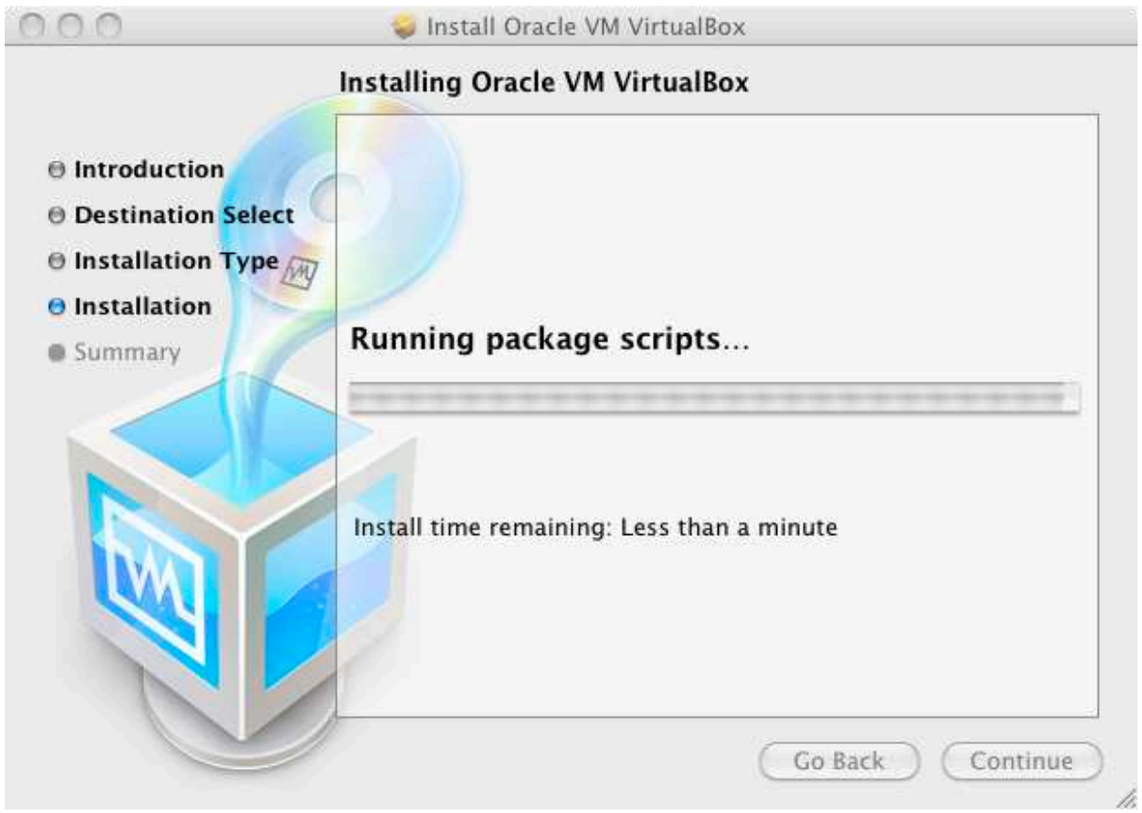
PC



Install VirtualBox

4. Click continue and finish installing VirtualBox

MAC



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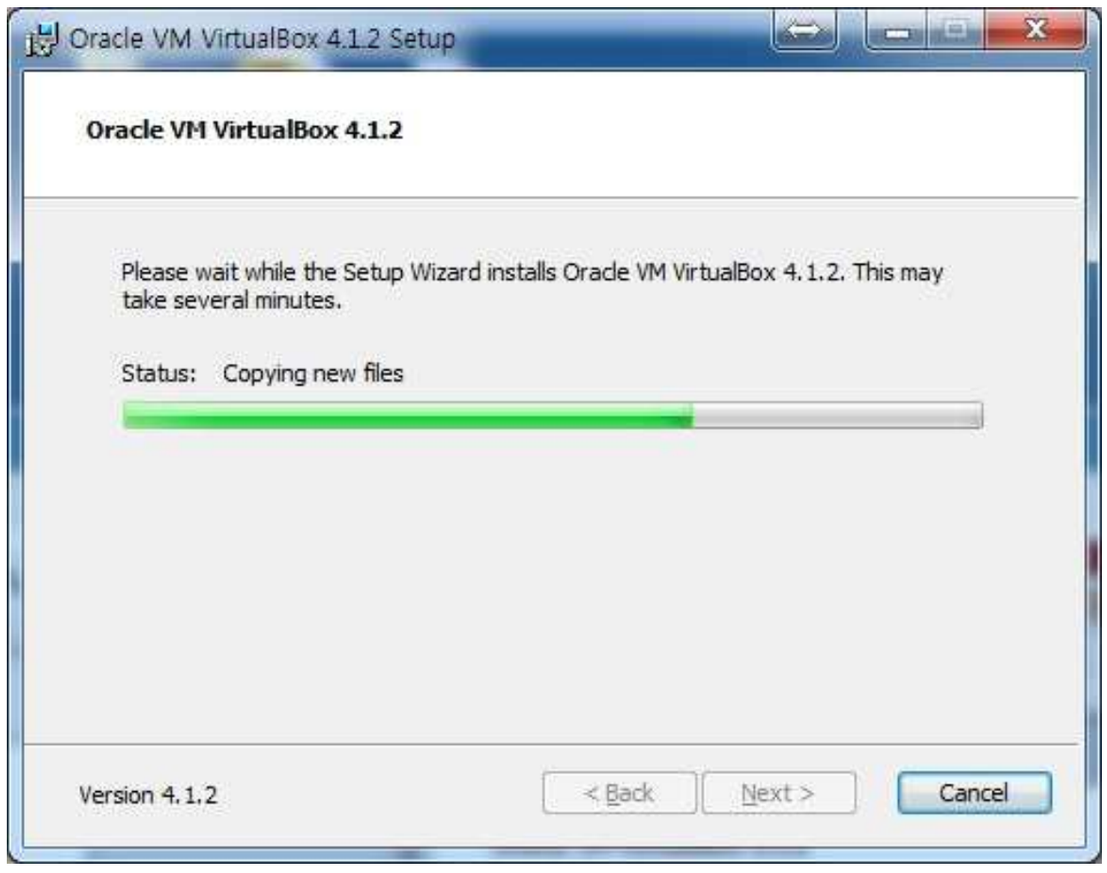
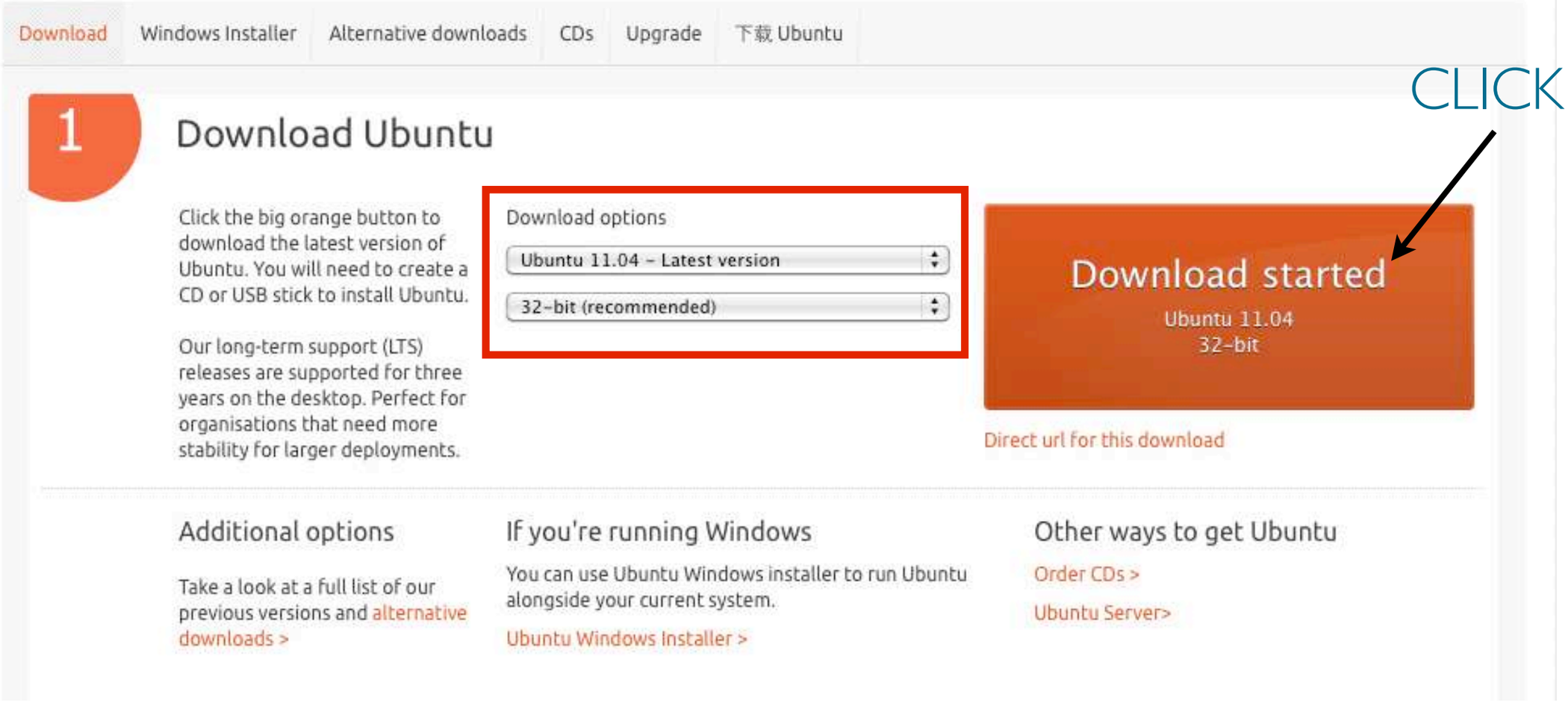


5. When finished installation, close the window.

Download Linux

1. Visit the page
   http://www.ubuntu.com/download/ubuntu/download

2. Choose the Latest version of Ubuntu and 32-bit
   and click "Start Download"



Install Linux using Virtual Box

1. Run VirtualBox by double-clicking the icon
2. Click "New" button on the top left corner

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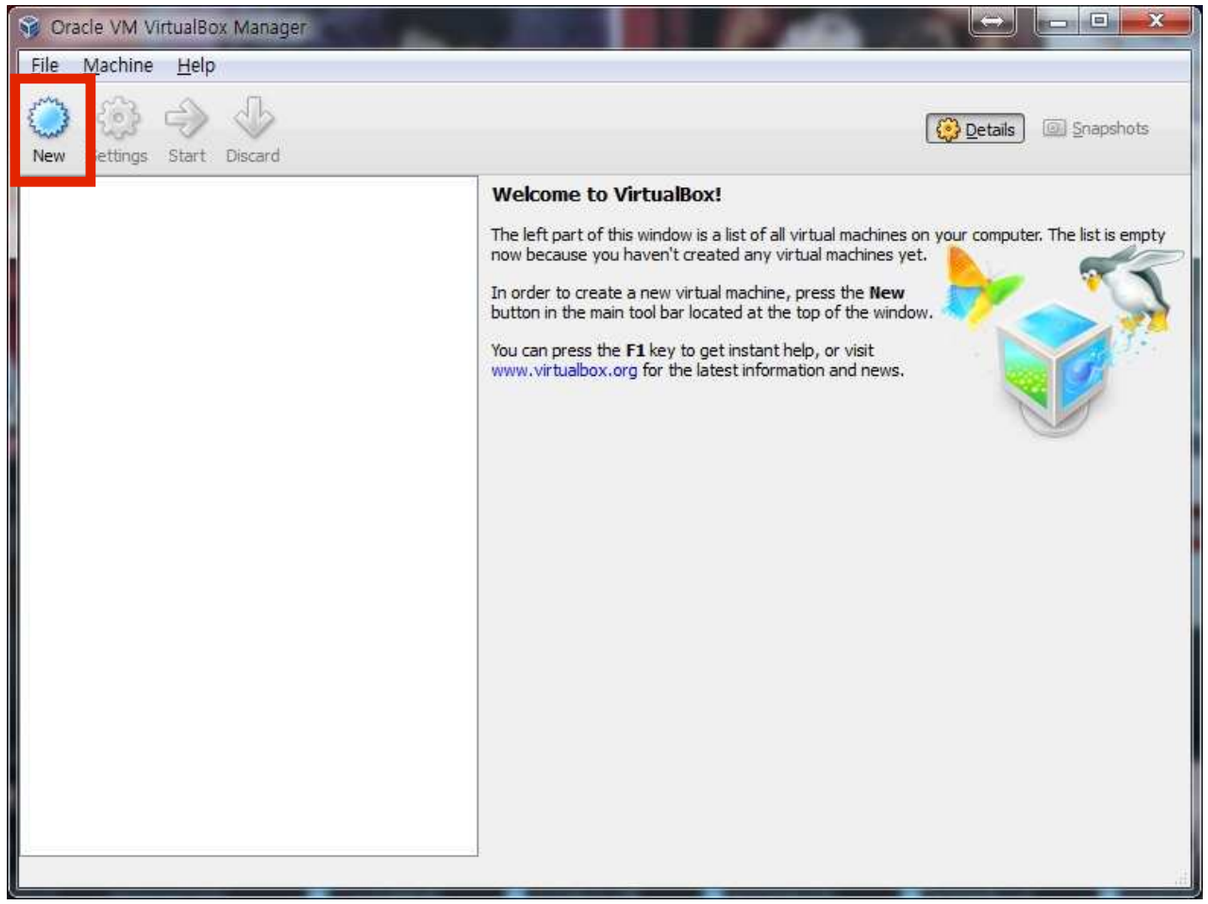
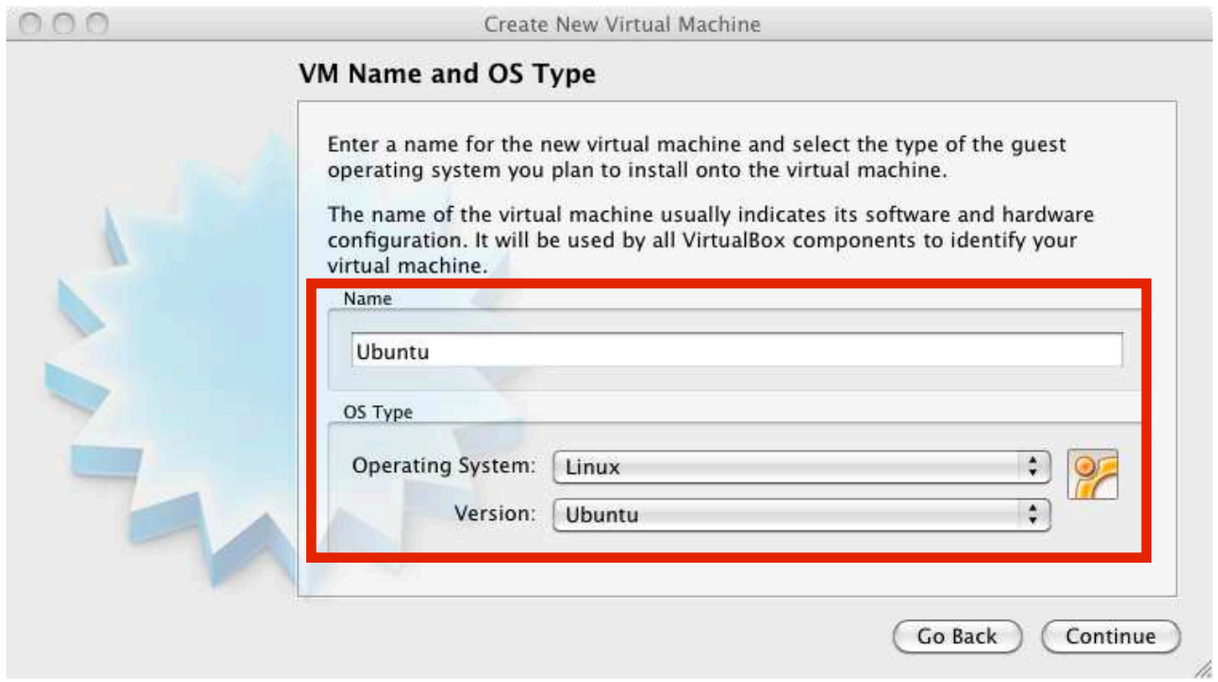


Install Linux using Virtual Box

3. Click "Continue" on the pop-up window

4. Type VM name, select "Linux" for the OS and choose "Ubuntu" for the version.

MAC



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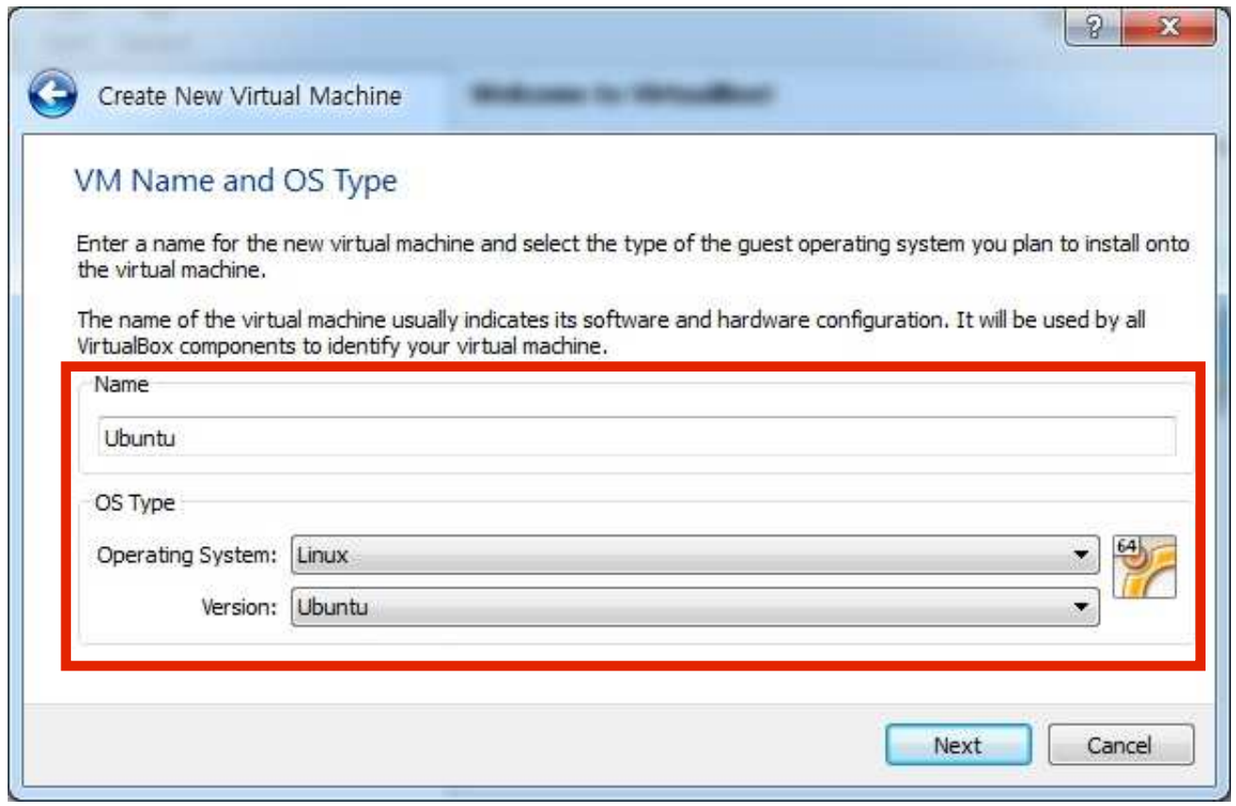
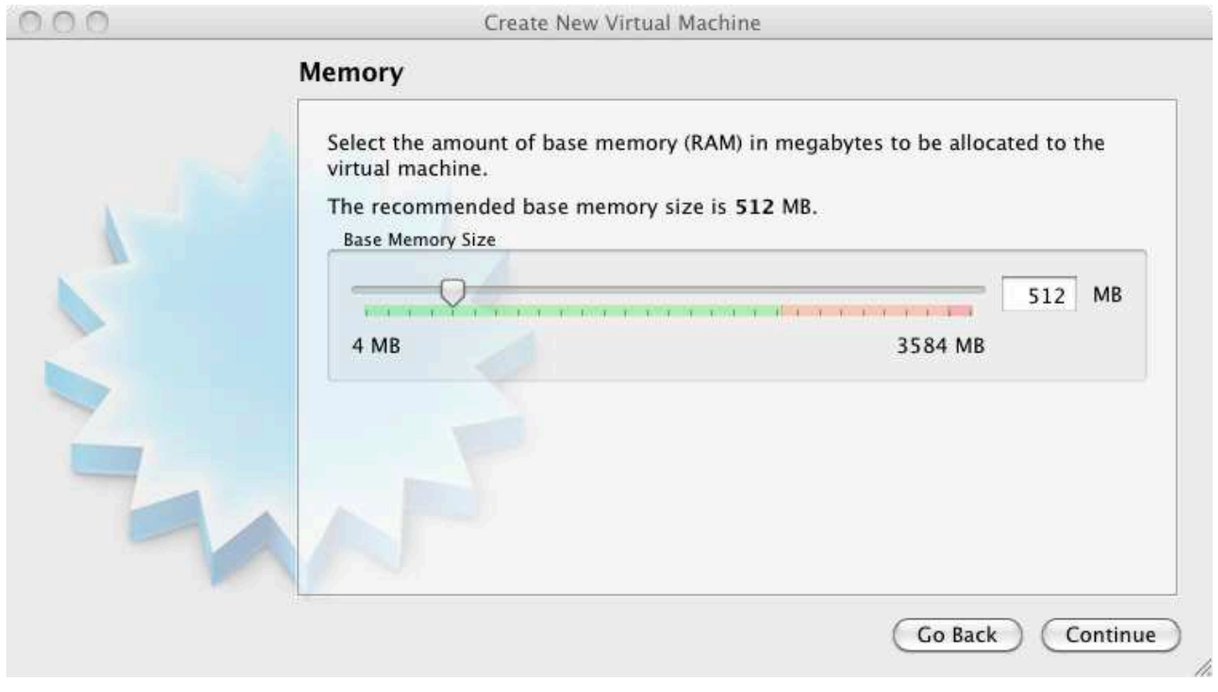


Install Linux using Virtual Box

5. Choose the amount of memory to allocate (I suggest choosing between 512 MB to 1024 MB)

6. Click Continue or Next

MAC



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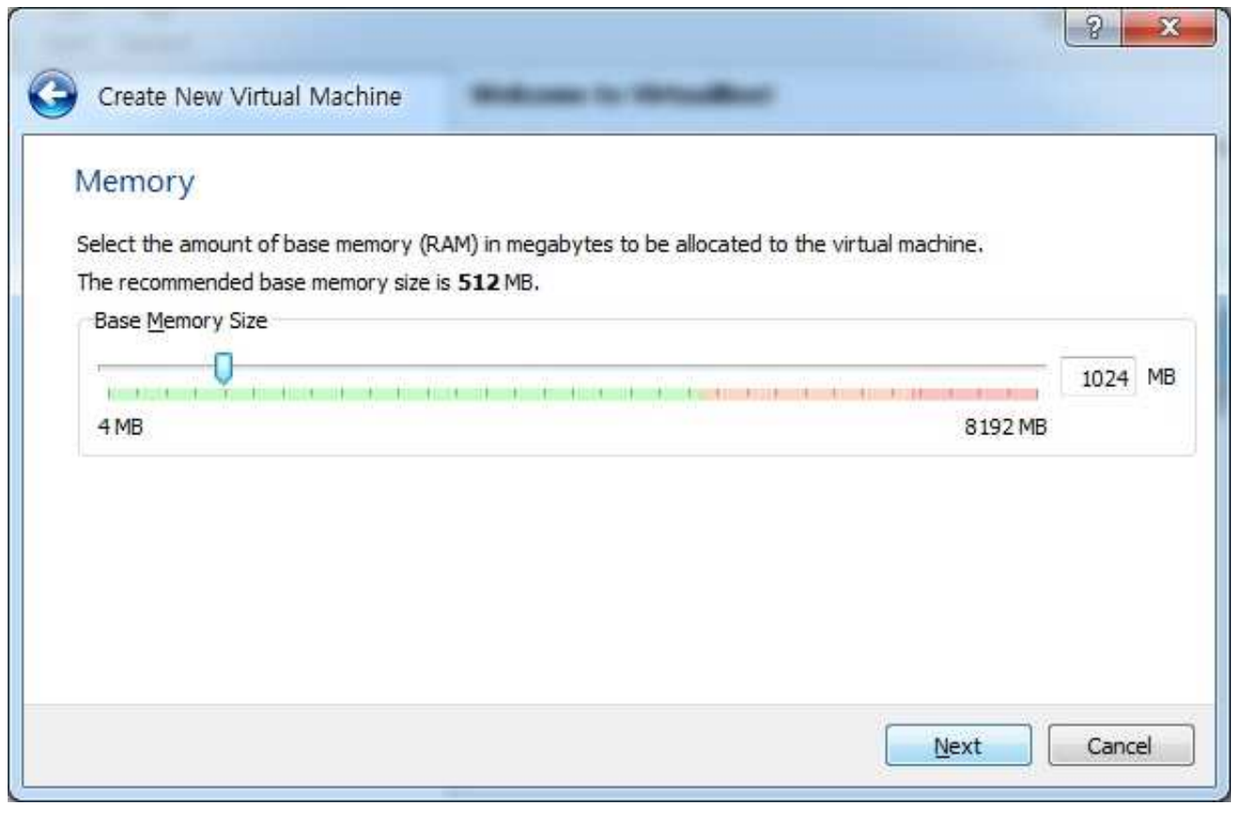

Install Linux using Virtual Box

7. Choose create a new virtual hard disk

8. Click Continue or Next

MAC

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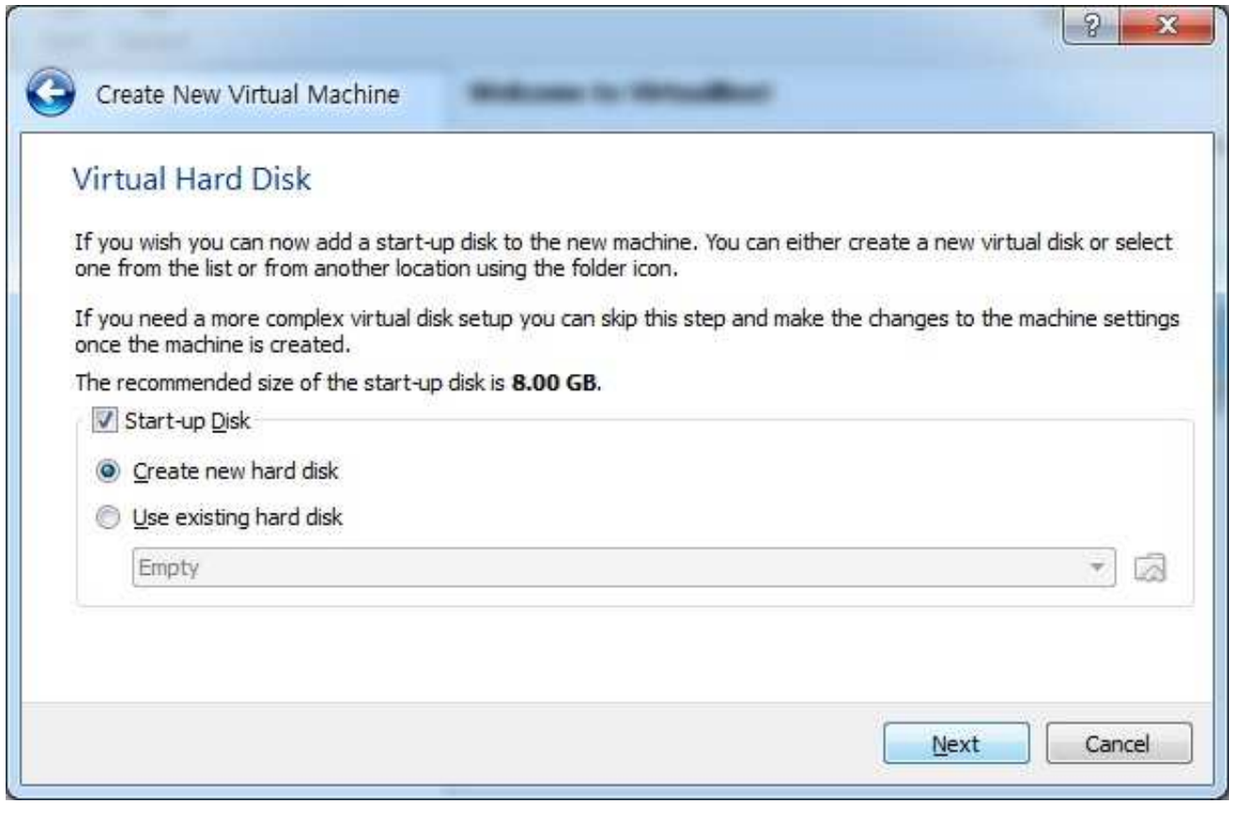

Install Linux using Virtual Box

9. Choose VDI (VirtualBox Disk Image)

10. Click Continue or Next

MAC

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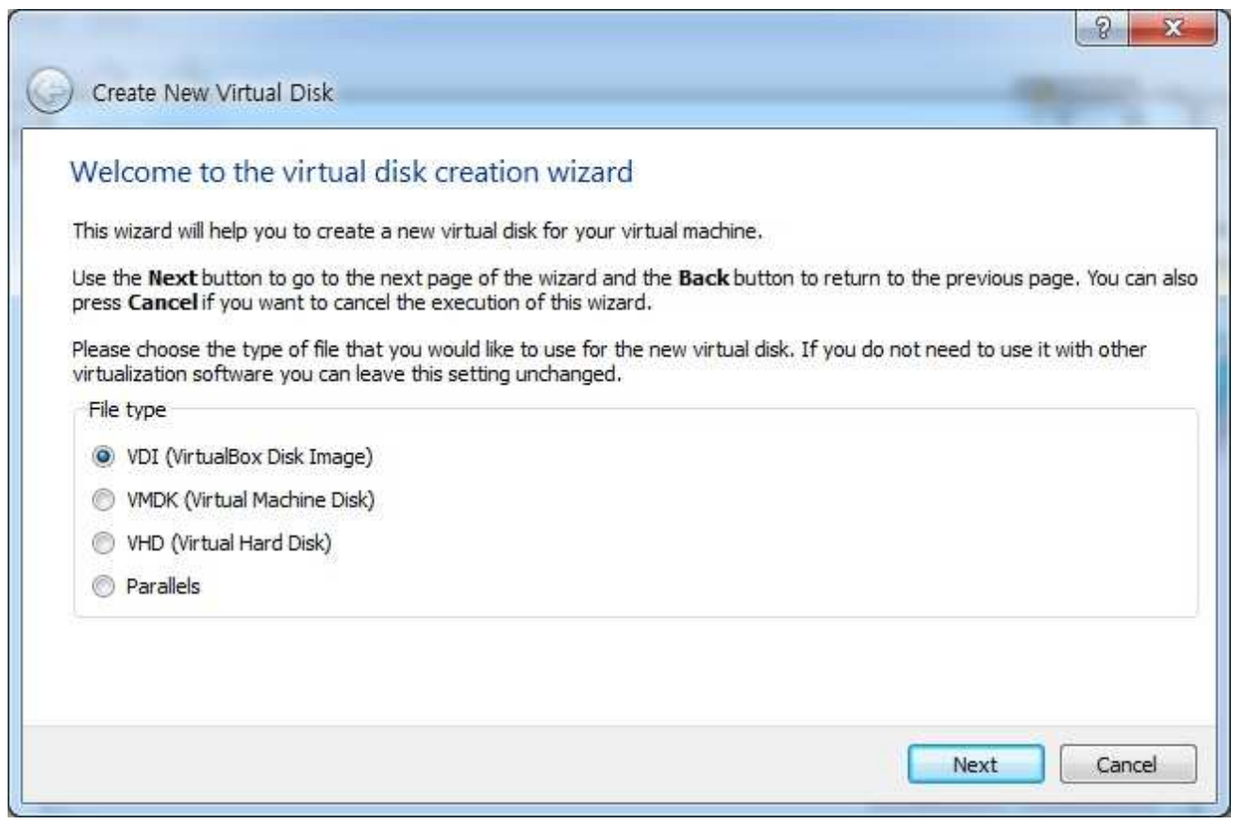

Install Linux using Virtual Box

11. Choose "Dynamically Allocated" click continue.
    This way, the size of your Virtual Hard Disk will grow as you use.

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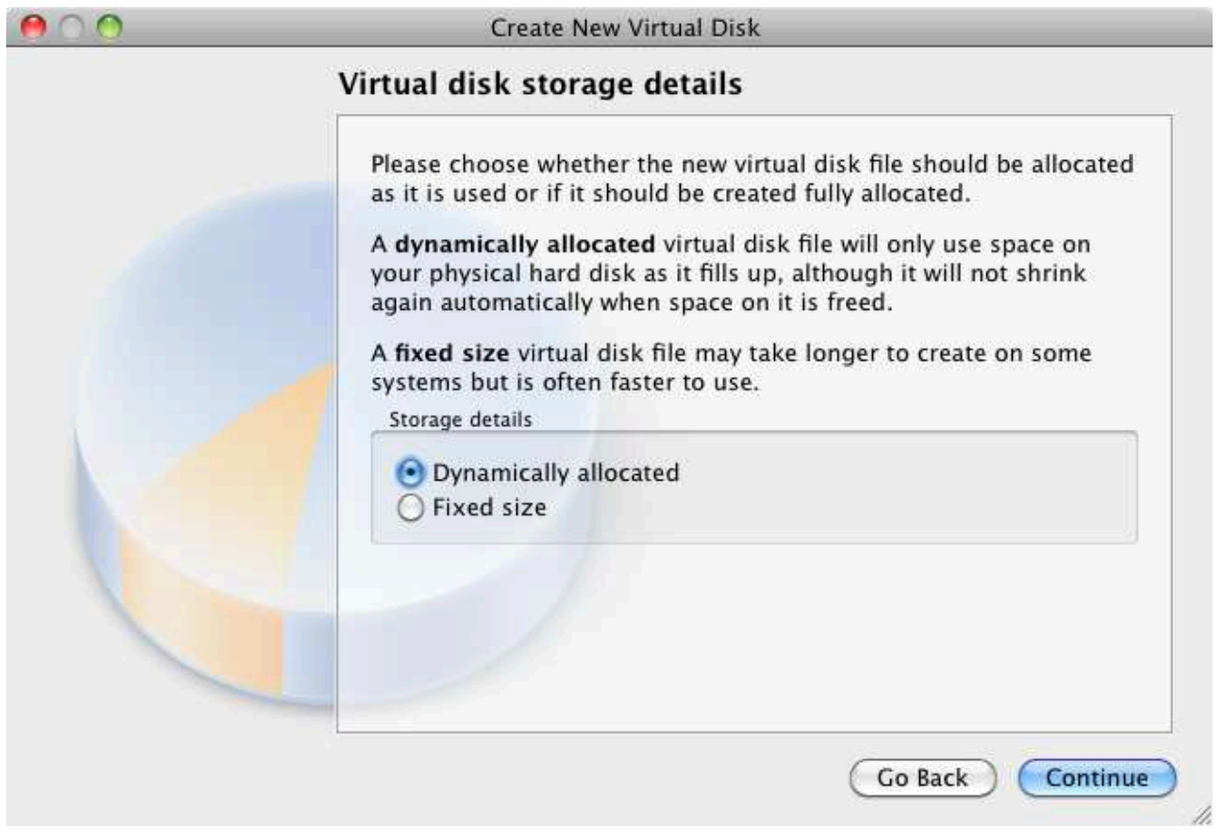

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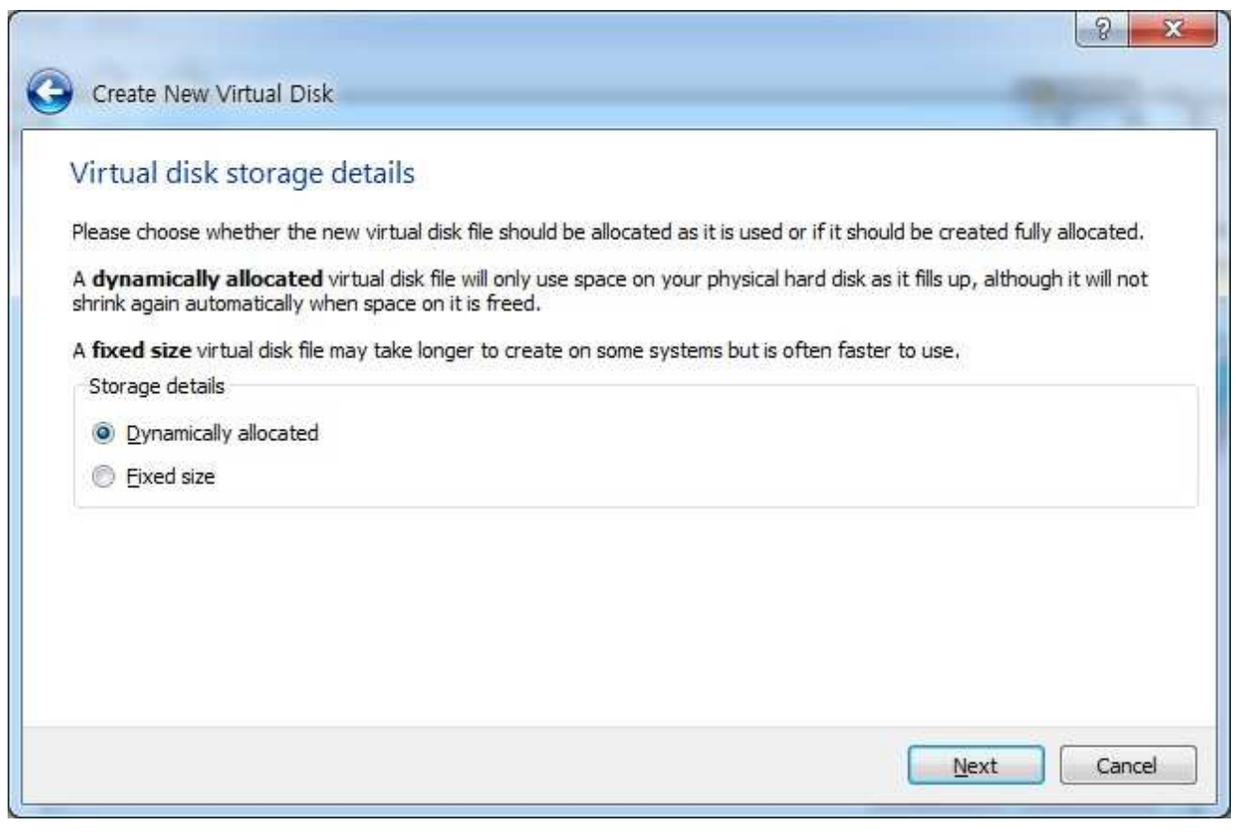
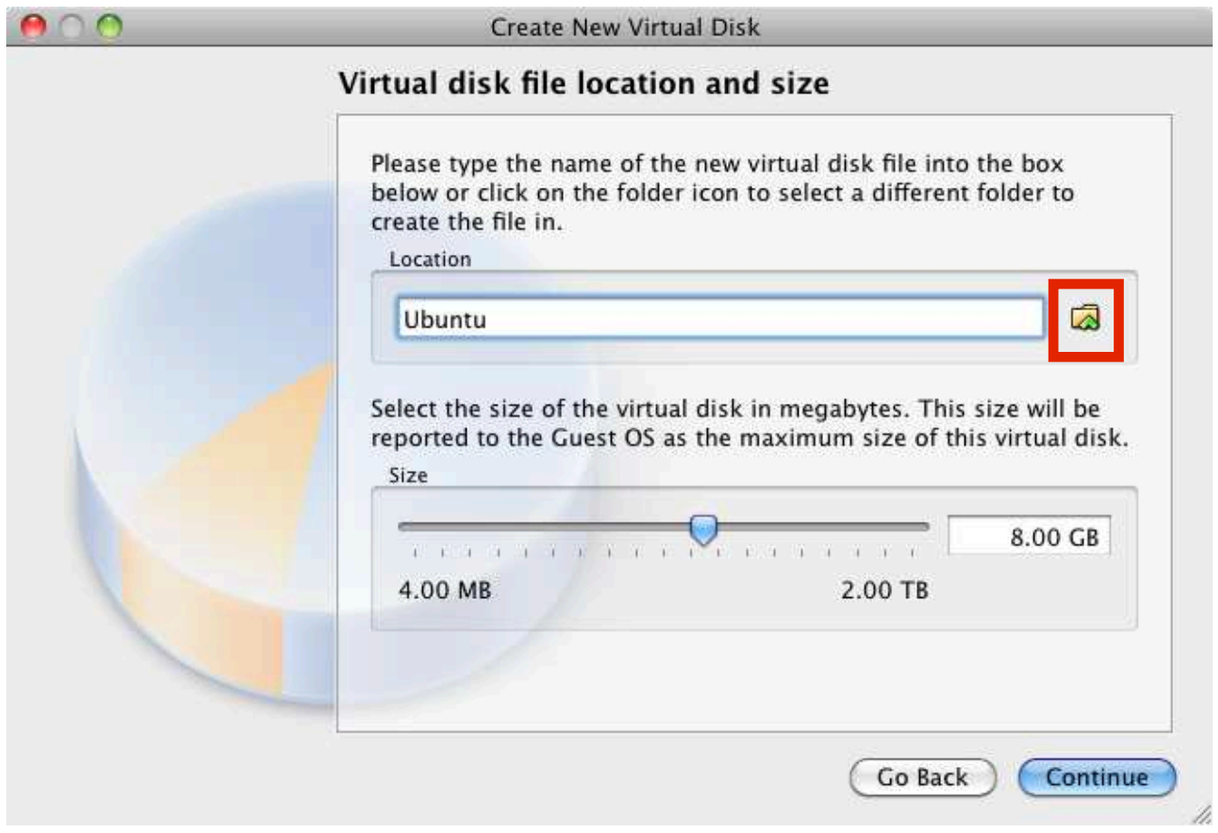


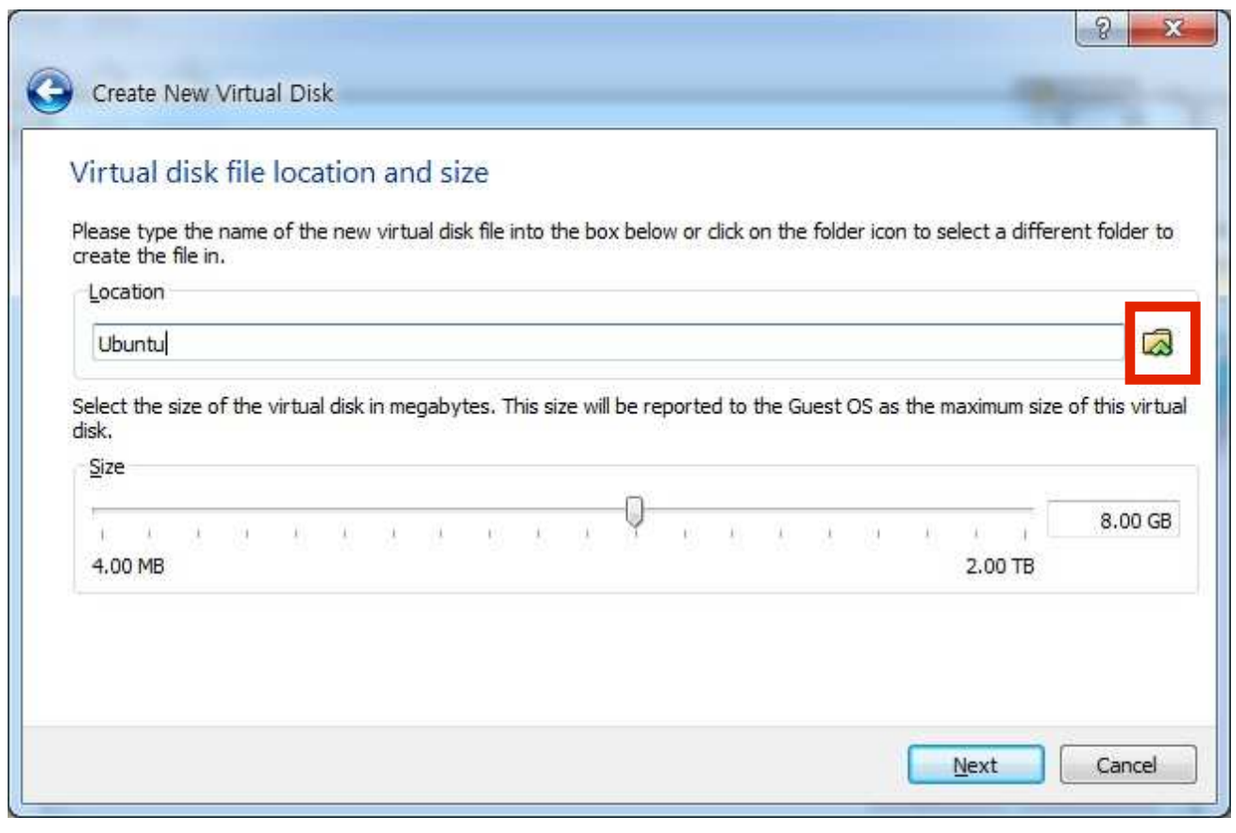
Install Linux using Virtual Box

12. Click the folder icon and choose the ubuntu iso file you downloaded.
13. Select the size of the Virtual Disk (I recommend choosing 8 GB) and click continue

MAC



PC



Install Linux using Virtual Box

14. Click Create

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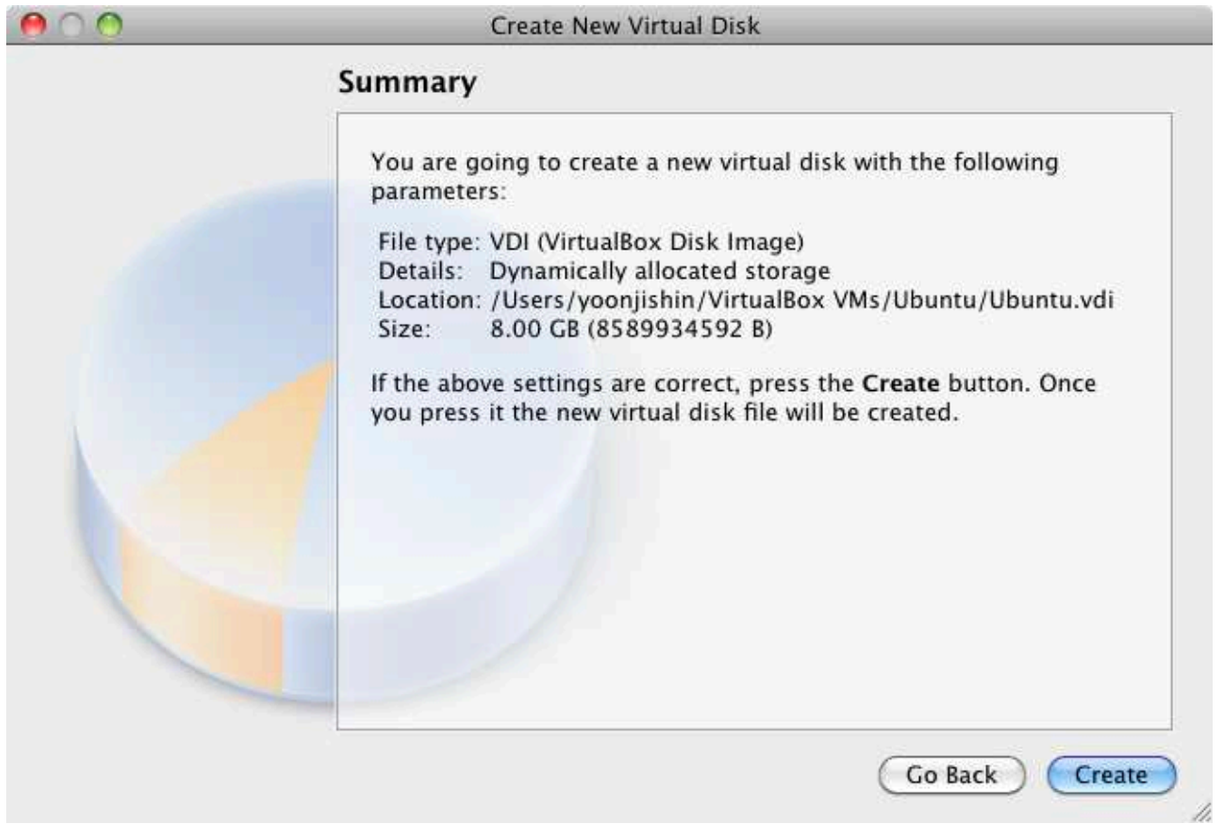

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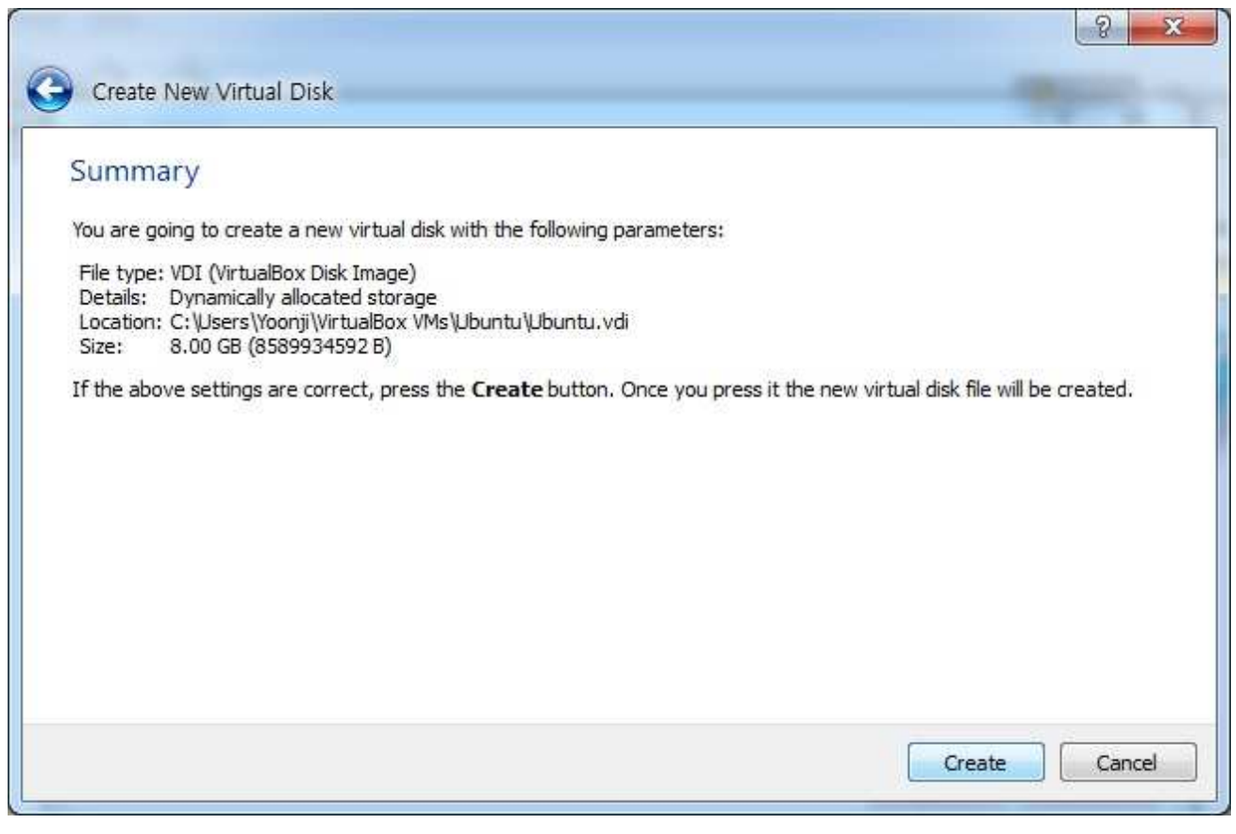
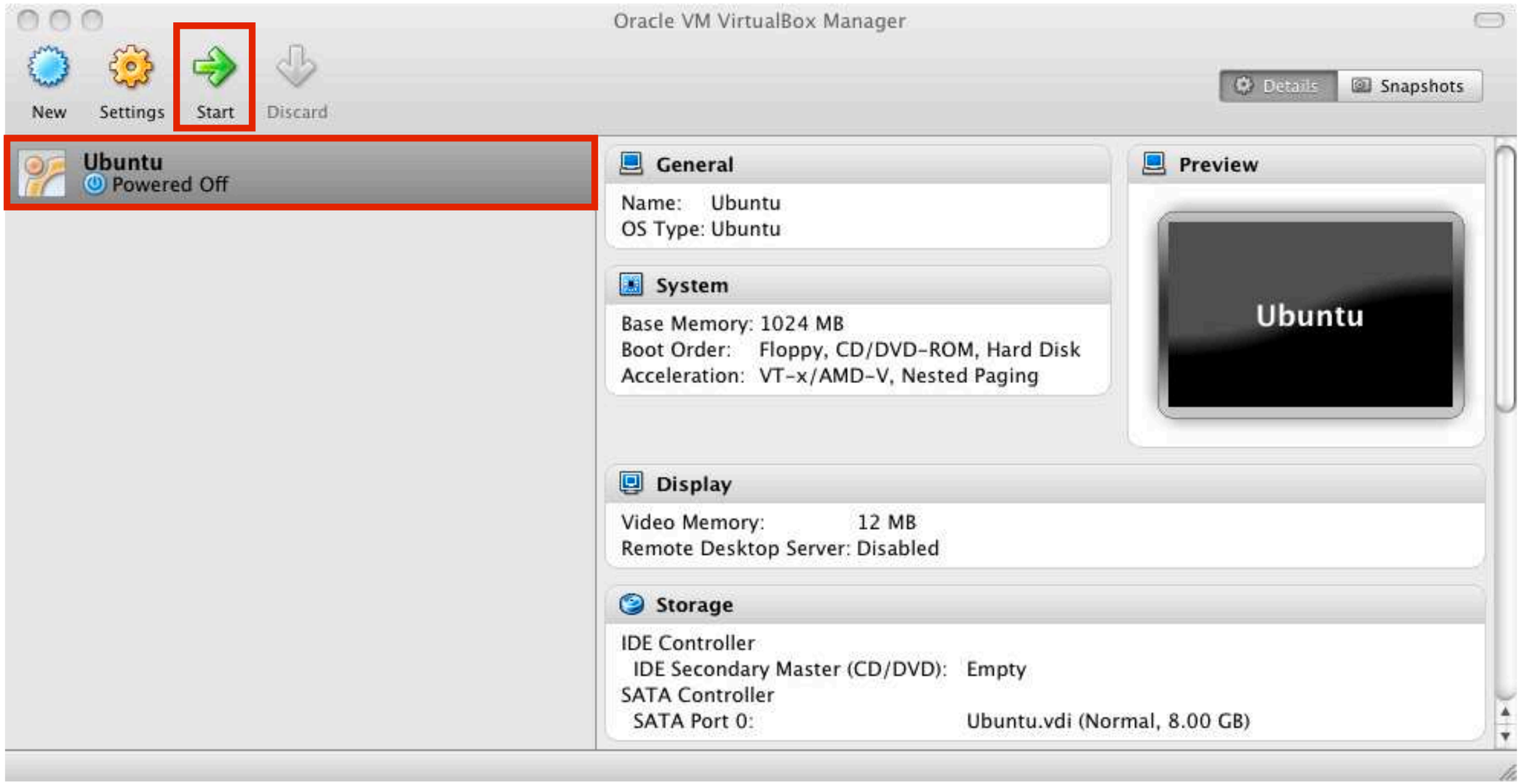


Running Linux

1. Choose Ubuntu from left column and click Start

MAC & PC



Running Linux

2. Click continue on pop-up window

MAC

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Running Linux

3. Click the folder icon and choose the ubuntu iso file you downloaded and click continue and start

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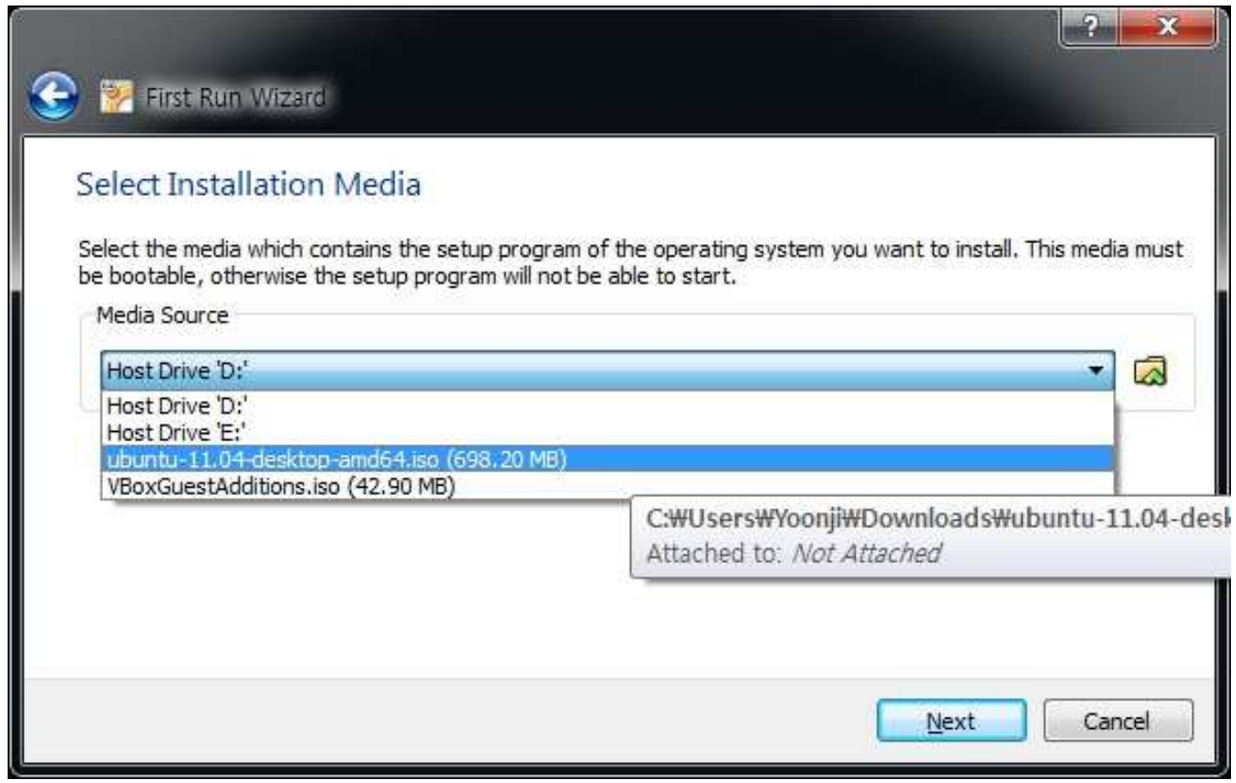
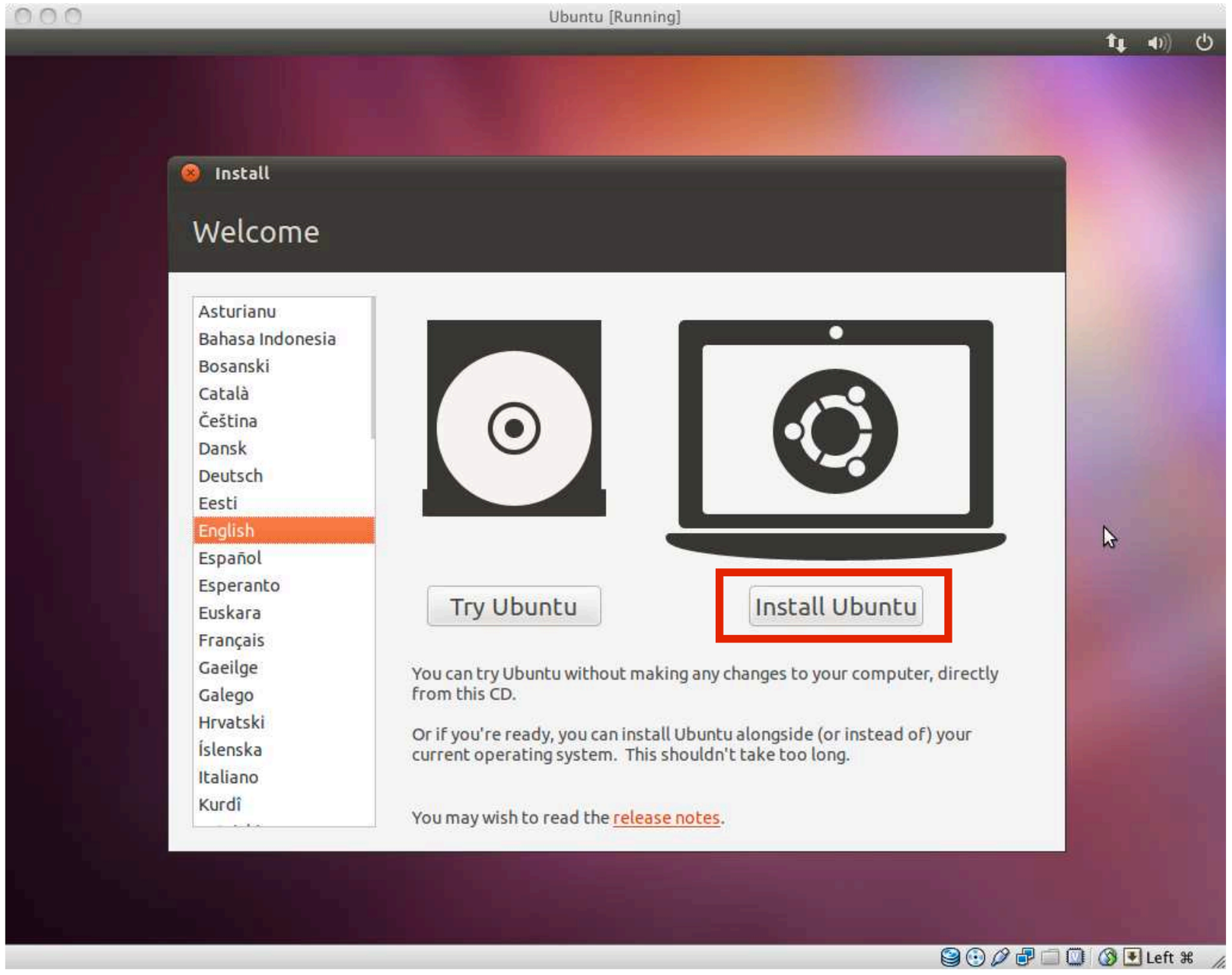
PC



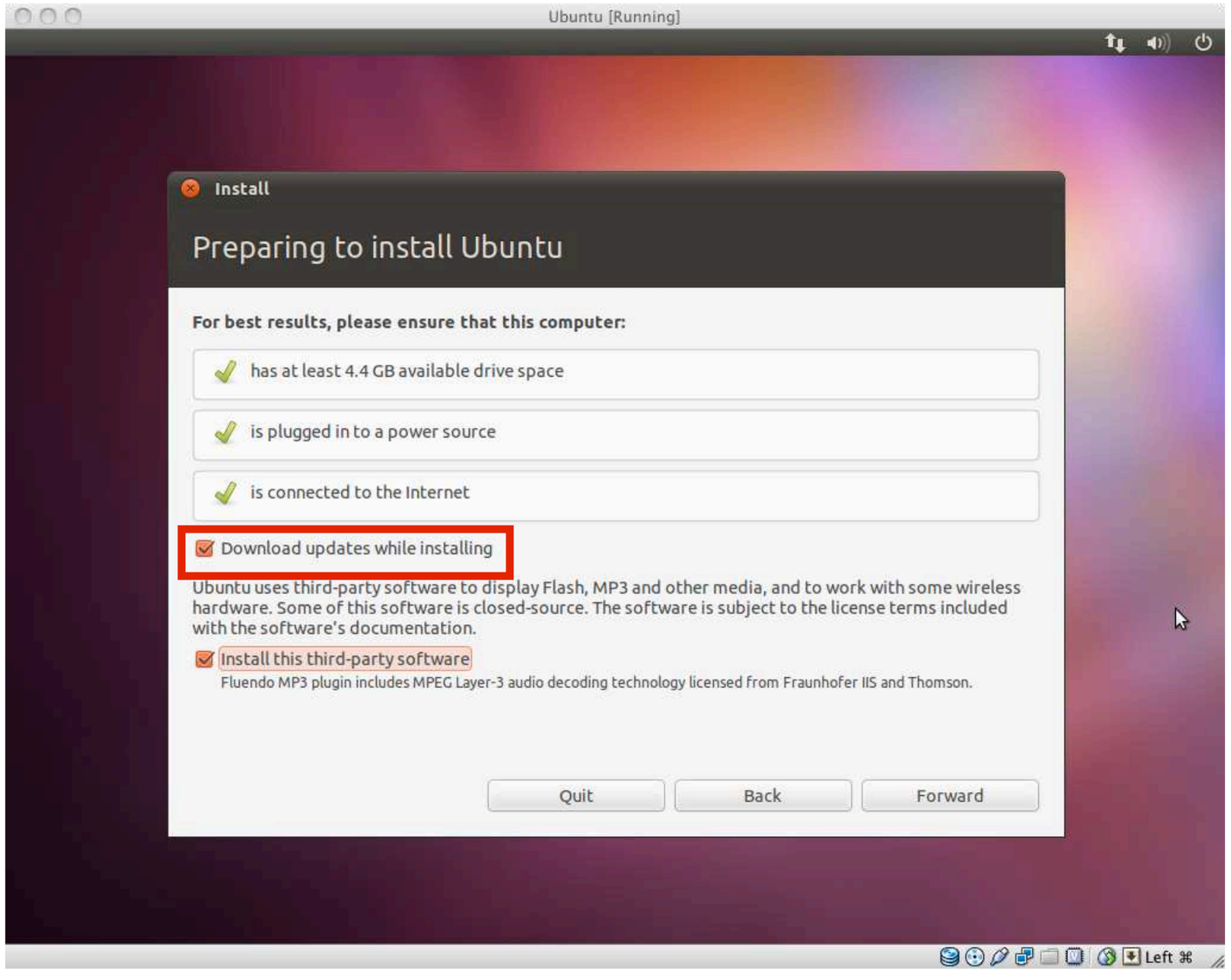
Running Linux

4. Click Install Ubuntu



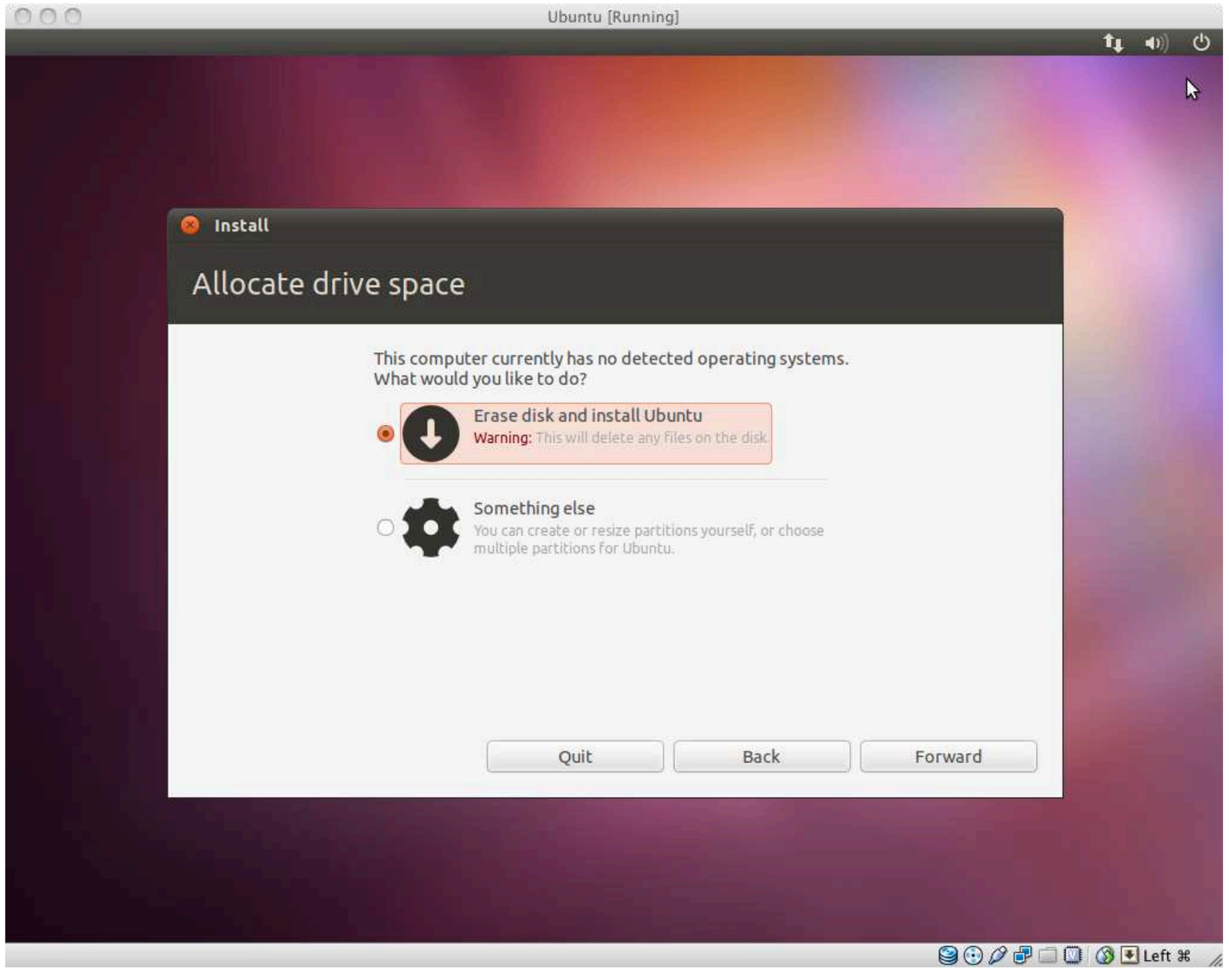
Running Linux

4. Check “Download updates” and click Forward



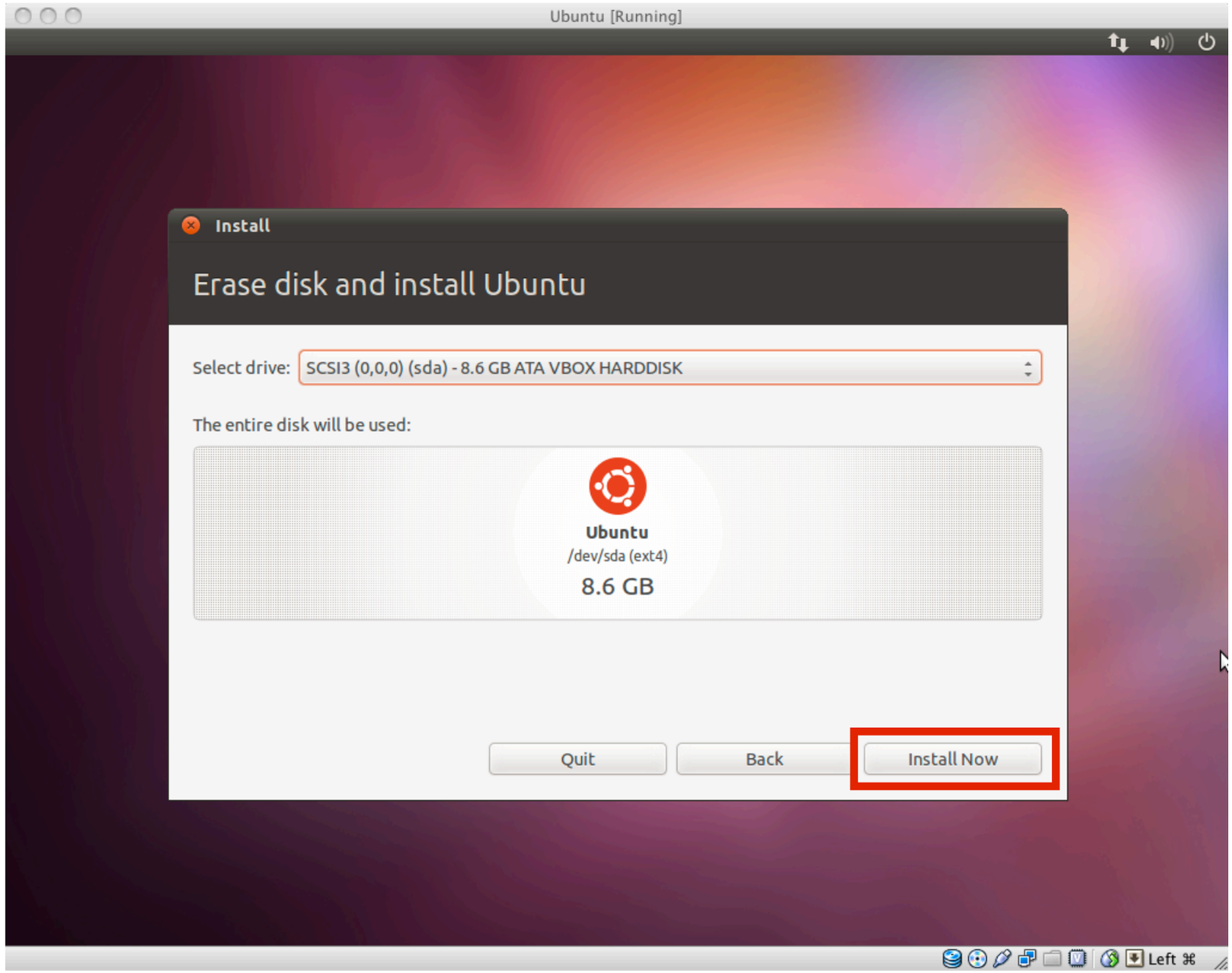
Running Linux

5. Choose “Erase disk and install Ubuntu” and click Forward (Don’t worry, it won’t wipe your computer)



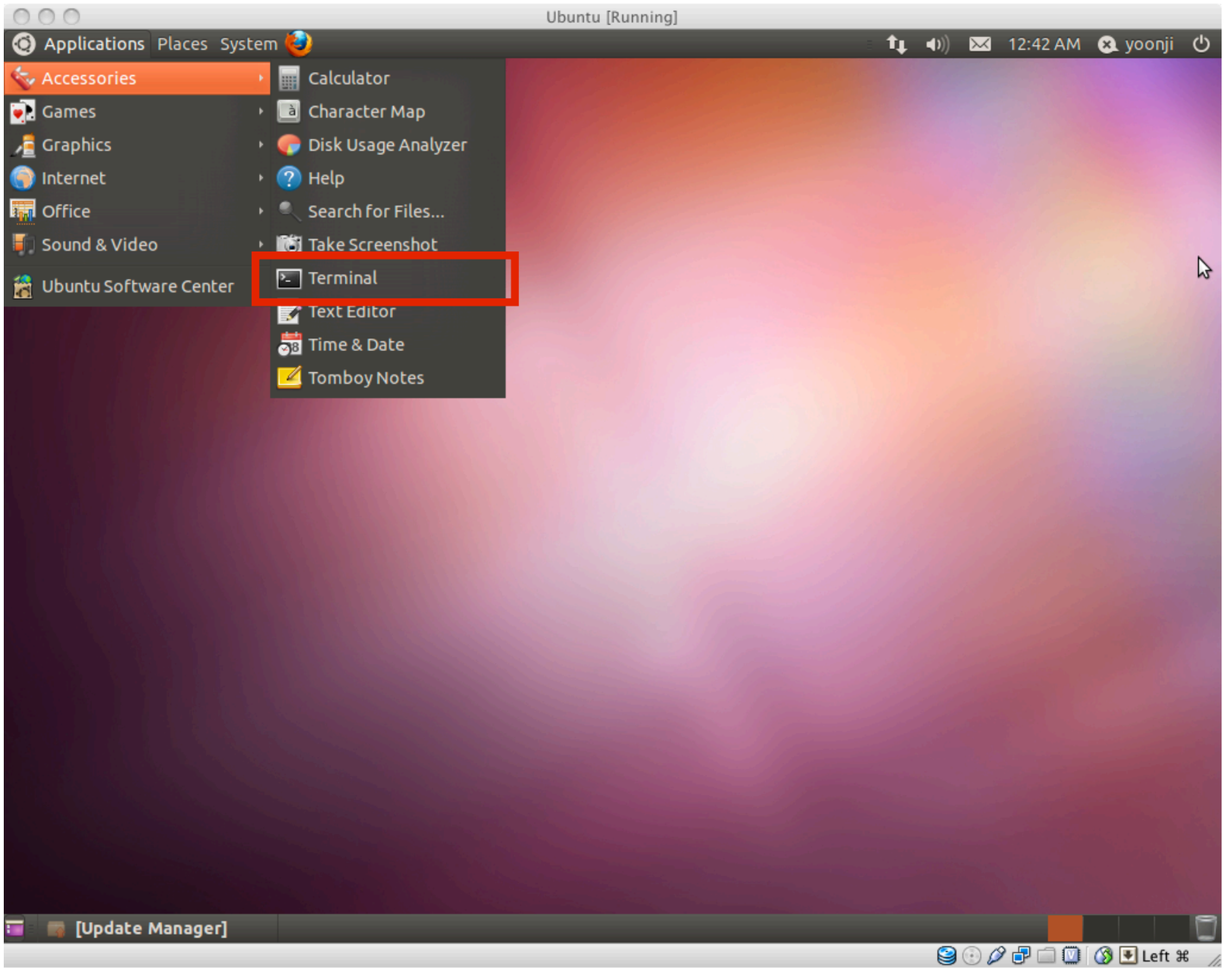
Running Linux

6. Click “Install Now” and wait. Maybe grab a snack.
7. When finished, click Restart and press Enter.



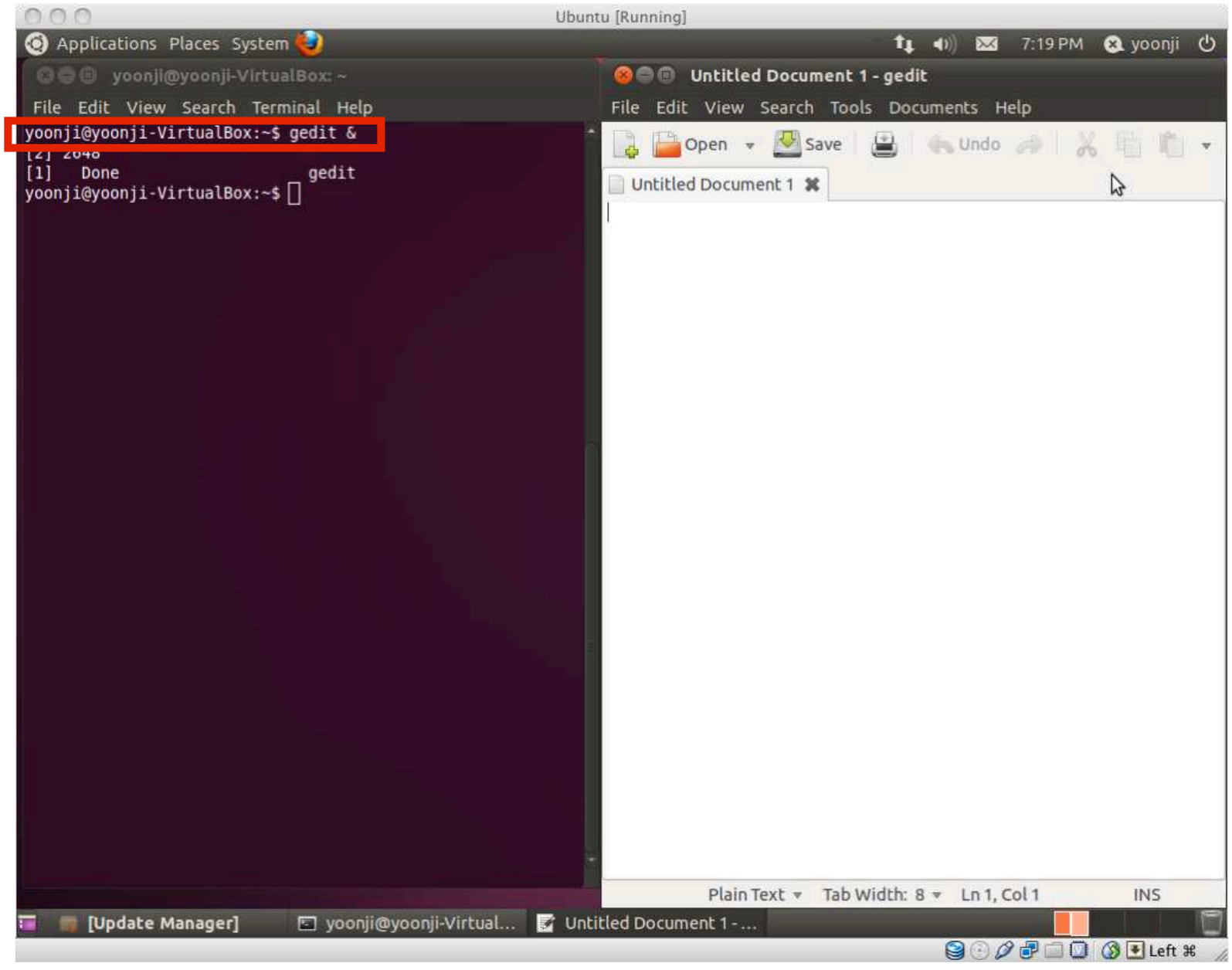
C Programming on Linux

1. Open Terminal (Applications-Accessories-Terminal)



C Programming on Linux

2. Open gedit by typing "gedit &" on terminal
   (You can also use any other Text Editor application)



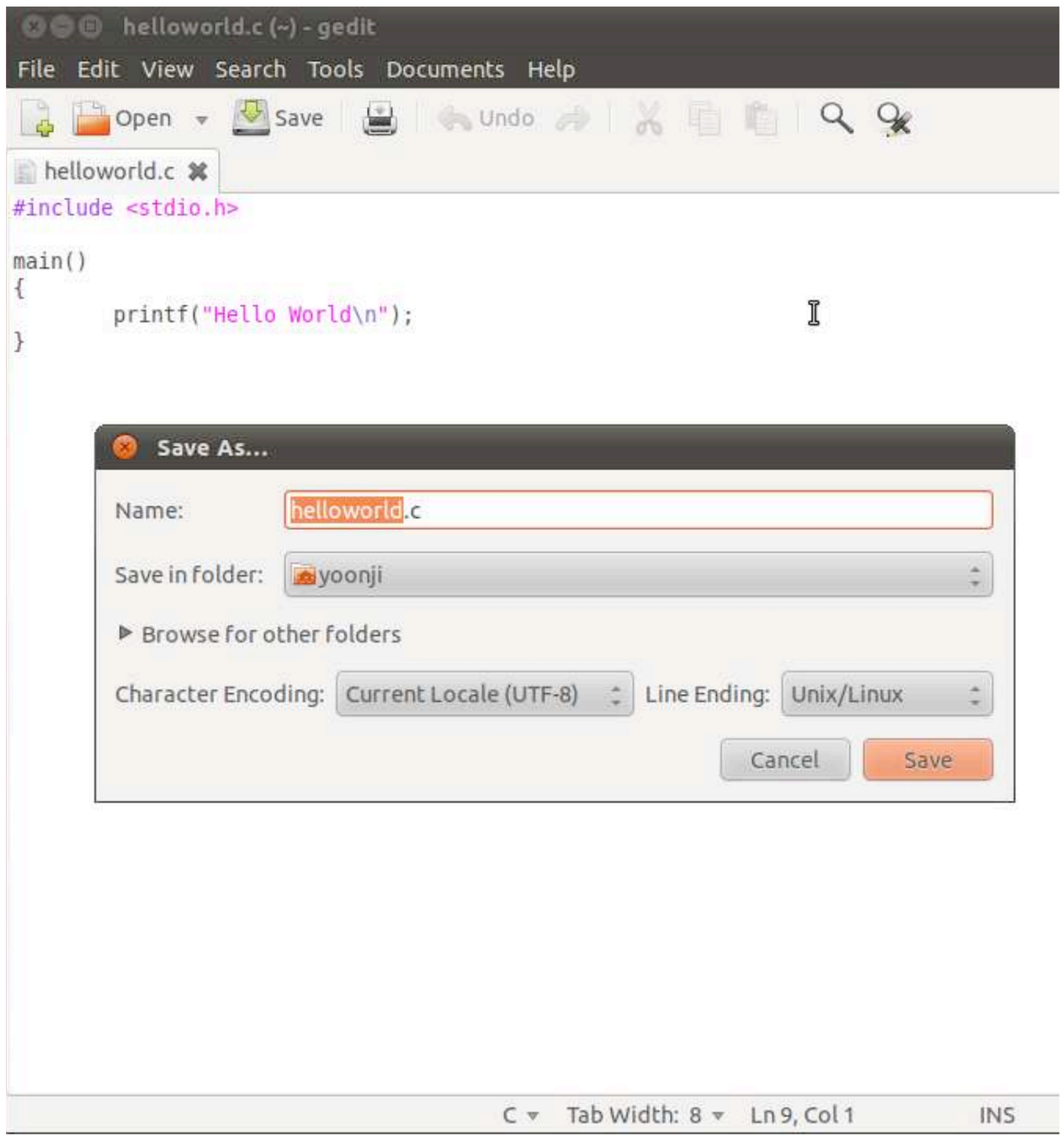
C Programming on Linux

3. Type the following on gedit (or any other text editor)

```
#include<stdio.h>

main()
{
    printf("Hello World\n");
}
```

4. Save this file as "helloworld.c"

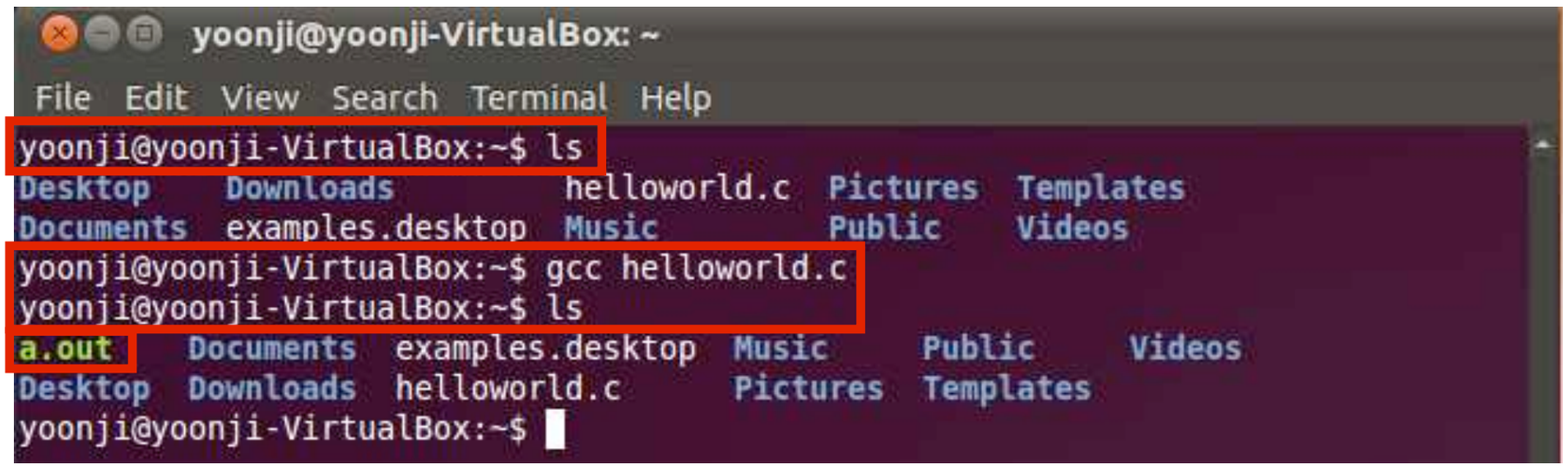


C Programming on Linux

5. Type "ls" on Terminal to see all files under current folder

6. Confirm that "helloworld.c" is in the current directory.
   If not, type cd DIRECTORY_PATH to go to the
   directory that has "helloworld.c"

7. Type "gcc helloworld.c" to compile, and type "ls" to
   confirm that a new executable file "a.out" is created



C Programming on Linux

8. Type "./a.out" on Terminal to run the program

9. If you see "Hello World" on the next line,
   you just successfully ran your first C program!

10. Try other codes from "A Shotgun Introduction to C"
on professor Edwards's webpage. You can also find many C programing guides online. (just google it!) Enjoy :)