Lab0: Be familiar with Ubuntu

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The objective of the tutorial is to have your working environments: Ubuntu 18.04 system. The content is aimed for beginners who have little knowledge about basic commands in Ubuntu and Vim.

Any sentence behind "$" means those are commands that typed in the terminal
$ 代表terminal 的指令
- *laptop: do the command after $ on the laptop/PC side*
- *laptop: 代表在筆電上打指令*

Hardware and Software Setup

The tutorial requires Ubuntu 18.04 system installed in the following:
- First option, use the provided Virtualbox (image, 4.6 GB).
  Username/Password of this ubuntu image: **arg / bocelli2015**
- Second option, use the provided USB Virtualbox image from our Teaching Assistant
- For advanced users who wish to have native system, take a look at our Dockerfiles

Overview

Estimated Time to Finish: 0.5 hours

After completing this tutorial you should

- understand how to install ubuntu system on your laptop
- be able to use vim to modify the text file
- develop the common sense of ubuntu system

Topics and Activities

Topic/Activity 1 Ubuntu introduction

Why to use Ubuntu Linux for this course?

- It's convenient to install the software, just type the cammands like "sudo apt-get install [PACKAGE1] [PACKAGE2]"
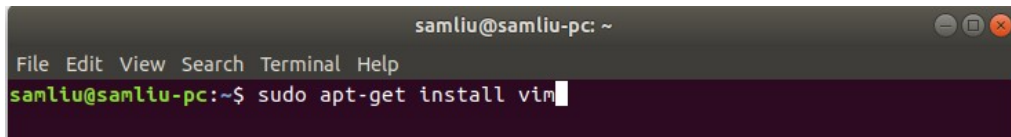
- Supporting all functionaries of ROS (Robotic operating system) and RVIZ (a visualization tool for ROS) that allow we to develop most of applications for the robot.
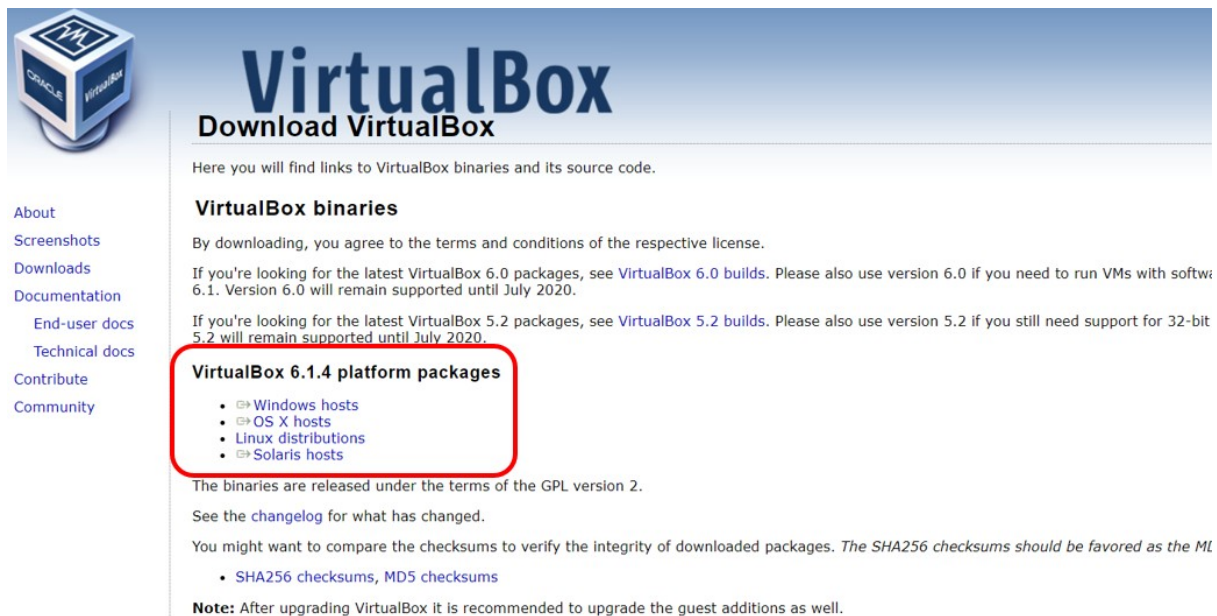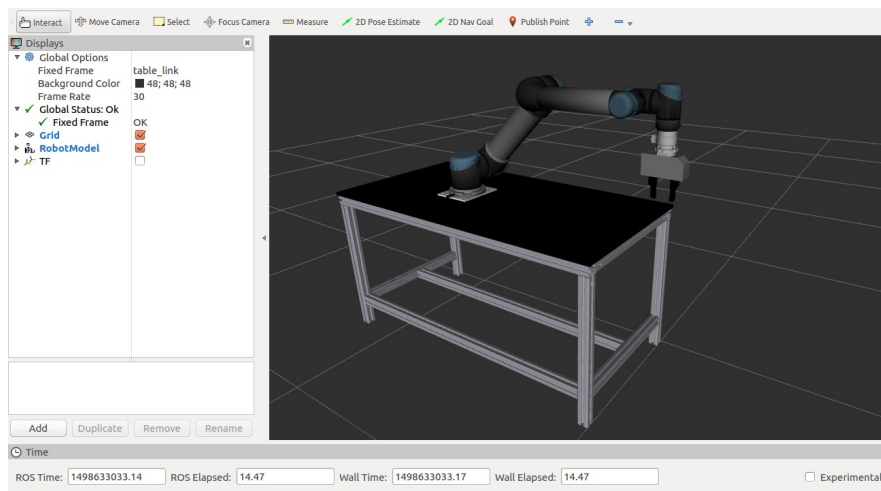

- Most of the deep learning frameworks are support the Ubuntu environment, such as Caffe, Tensorflow and Pytorch.

Topic/Activity 2 Ubuntu Installation

Download and install Virtualbox on your machine

[Please choose the latest version of virtualbox and ignore the older one shown in above figure.]

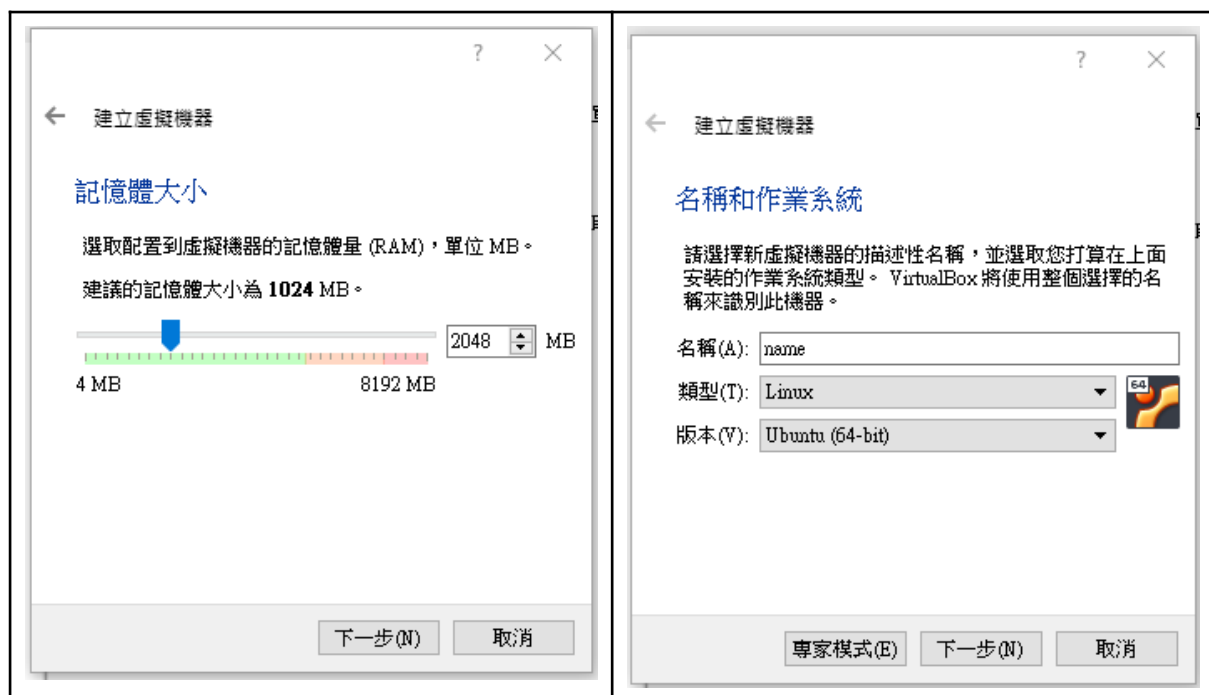https://www.virtualbox.org/wiki/Downloads

Start Virtualbox

New(新增) -> Linux -> 64bit -> Memory 2048M -> select the .vdi file.

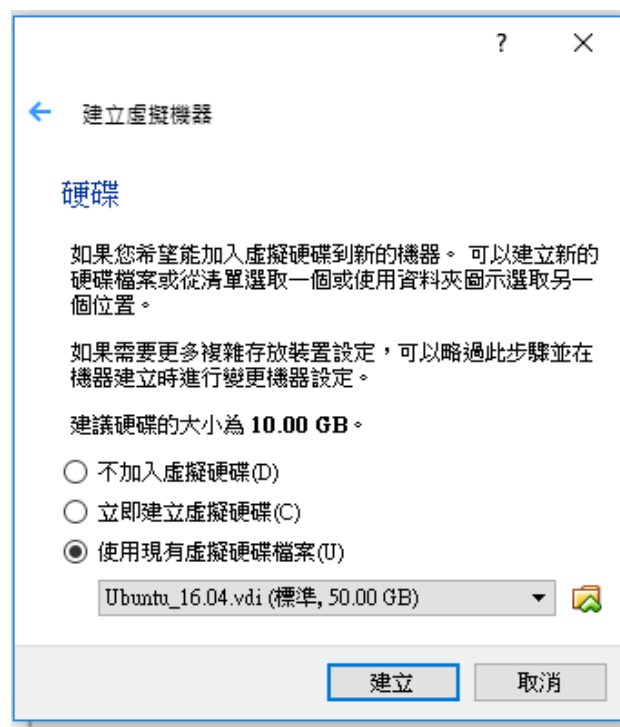Give a name to this virtual machine as you want.

To use the existing VirtualBox image, please assign the correct path to the
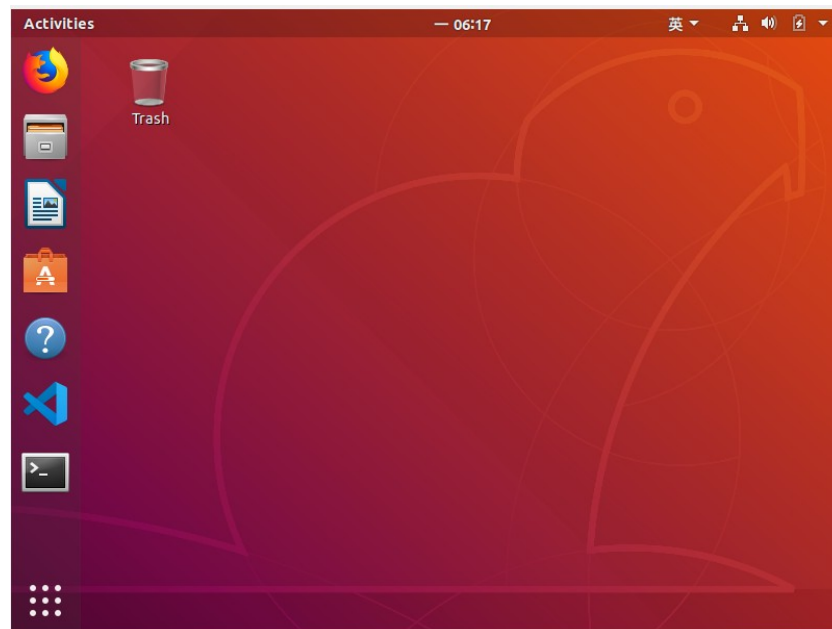
VirtualBox image file (**.vdi** extension) downloaded from here.

Press the "activate" to activate your virtual machine.

The username/password are **arg / bocelli2015**

Network Setup

Open the setting terminal from 裝置 -> 網路 -> 網路設定

Change the 'attaching interface' to bridged adapter (橋接介面卡). If you are using Wi-Fi interface on host OS, please choose the Wi-Fi chip module. The keywords often appearing in the drop-down menu are 'Realtek', '88XX' and 'wireless'. If you are using Ethernet, please choose 'PCIe GBE Family Controller'.
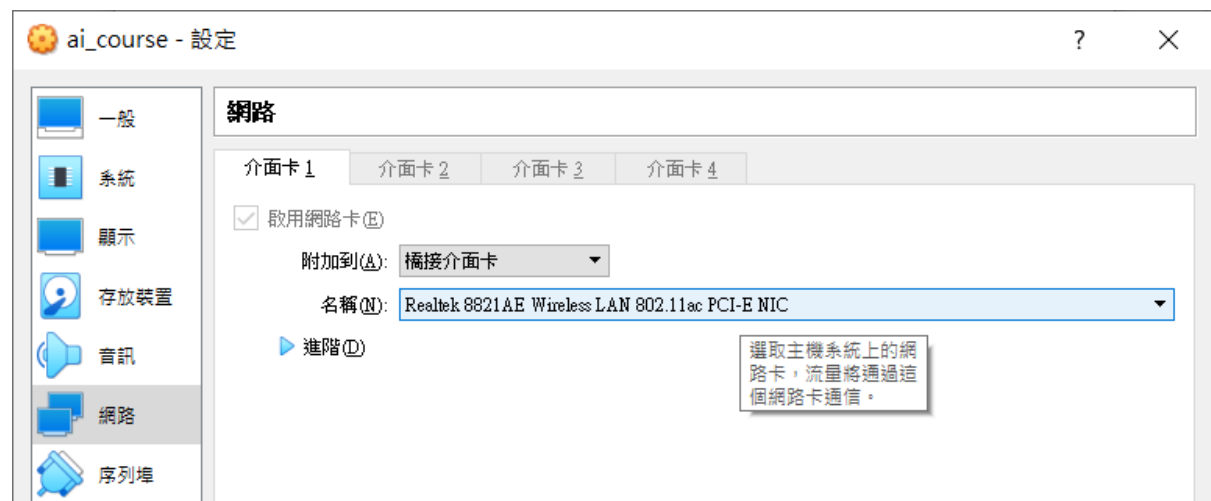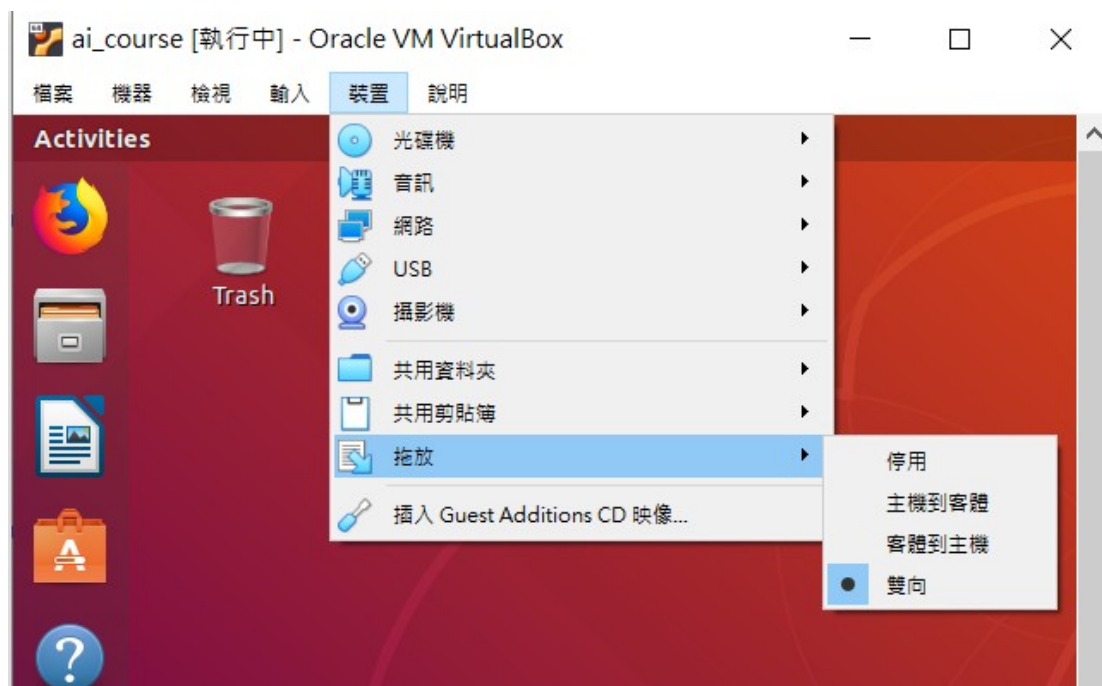
Scrapbook Setup

共用剪貼簿
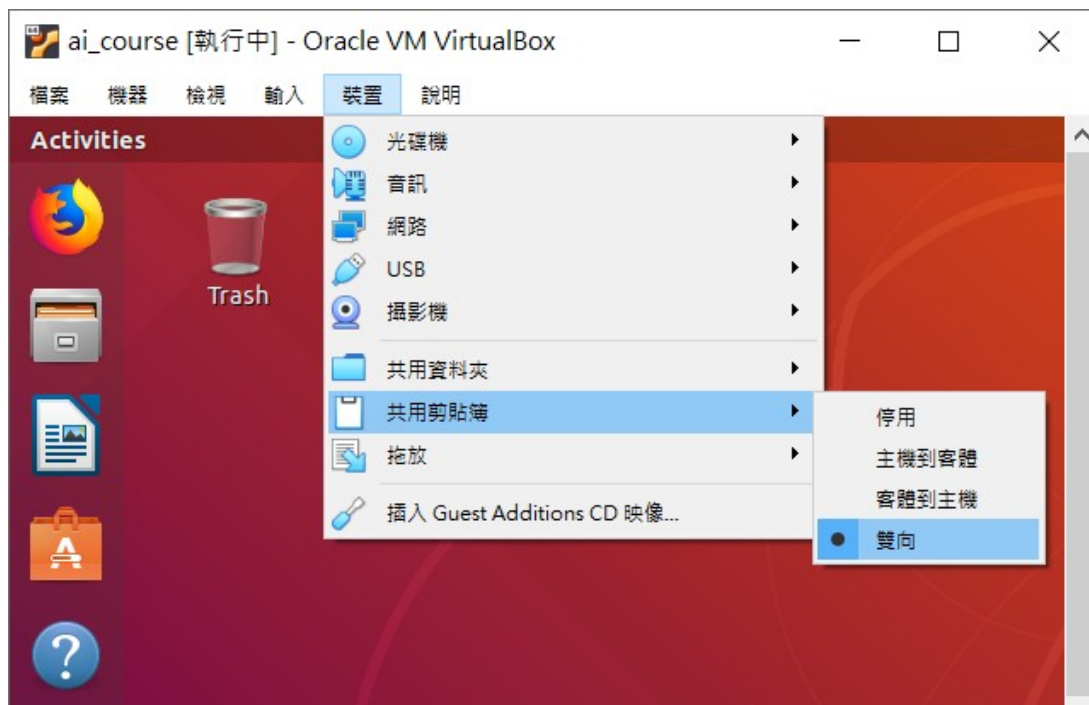
Drag and Drop

托放

Topic/Activity 3 Use Ubuntu and Vim

Most tasks can be complete in Terminal for Ubuntu OS. We list the **famous shortcut** and **basic terminal commands** you should know in the Ubuntu Linux.

Ctrl + Alt + T	Open a new Terminal window.
Ctrl + Shift + T	Open a new Terminal tab. (if terminal window existing)
Ctrl + Shift + C	Copy text from the current terminal. (if you have selected something in terminal)
Ctrl + Shift + V	Paste something from scrapbook to the current terminal.
Ctrl + L	Clean the current terminal

|	
sudo [COMMAND]	act as root before other commands (最高權限進行指令)
cd [directory]	enter a folder (進入資料夾)
ls	list all files and folders in current directory(列出該目錄所有檔案、資料夾)
mkdir [dir name]	create a folder (建立新資料夾)
cp [file] [new file]	copy files (複製檔案)
rm [file]	delete files (刪除檔案)
apt-get update	update packages (取得遠端更新伺服器的套件檔案清單)
apt-get install [package name]	install packages (安裝套件)
git clone [url of remote repository]	Git command line utility which is used to target an existing repository and create a clone, or copy of the target repository. (透過 **Git** 系統從遠端 **repo** 複製一份 **repo** 到本地端)
[COMMAND1] **&&** [COMMAND2]	**(做完 COMMAND1 後 做 COMMAND2)**
sudo shutdown now	
sudo reboot	

HOSTNAME represents a machine name that helps other computers or laptops identify with your machine. Due to our fleet setting, we wish that all laptops have unique hostname. We suggest to use:

- [Name] for your laptop, ex: allen

在更改筆電的 hostname 時，請不要使用特殊字元 (e.g. %^#@!_,;:”)，只用數字以及小寫英文字母

Open a terminal (press this terminal app shown below or type [**ctrl + alt + T**]):
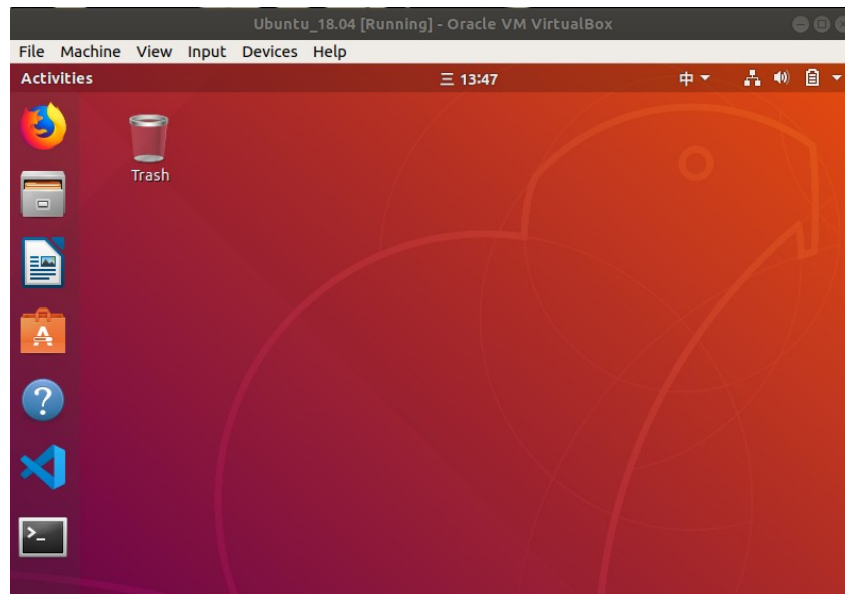
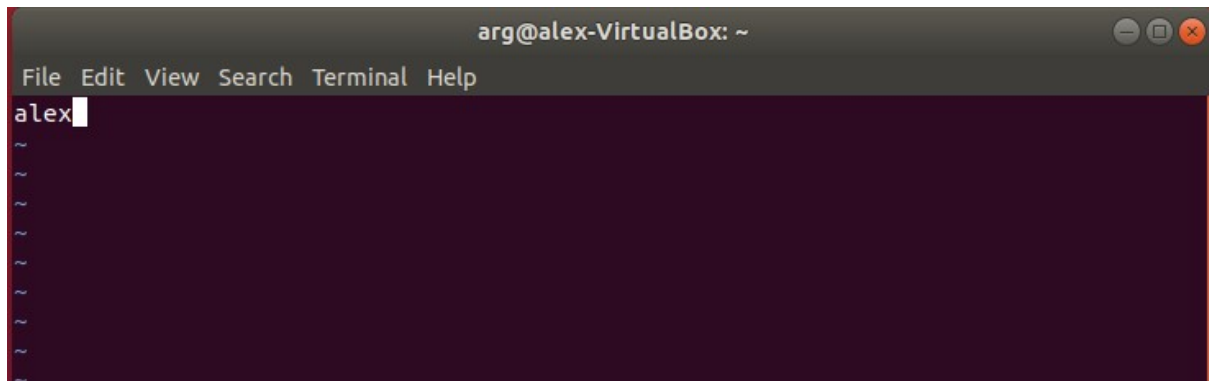type in the command below:

記得打 sudo, 沒有 sudo 會無法更改此檔案

laptop$ sudo vim /etc/hostname

[sudo] password for arg: bocelli2015

若不小心忘了打 sudo 卻已經更改檔案，請打”**:q!**”強制退出後再加上 sudo 進去一次

Change "hostname" to your own hostname. For example: alex
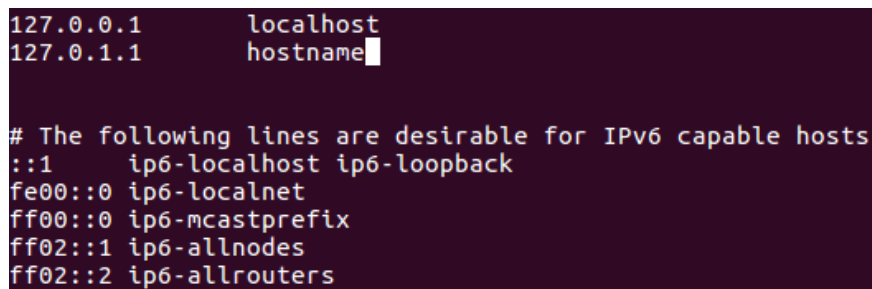
For information about vim & how to use it,

check http://linux.vbird.org/linux_basic/0310vi.php

After exiting vim editing and go back to terminal, type in the command below:

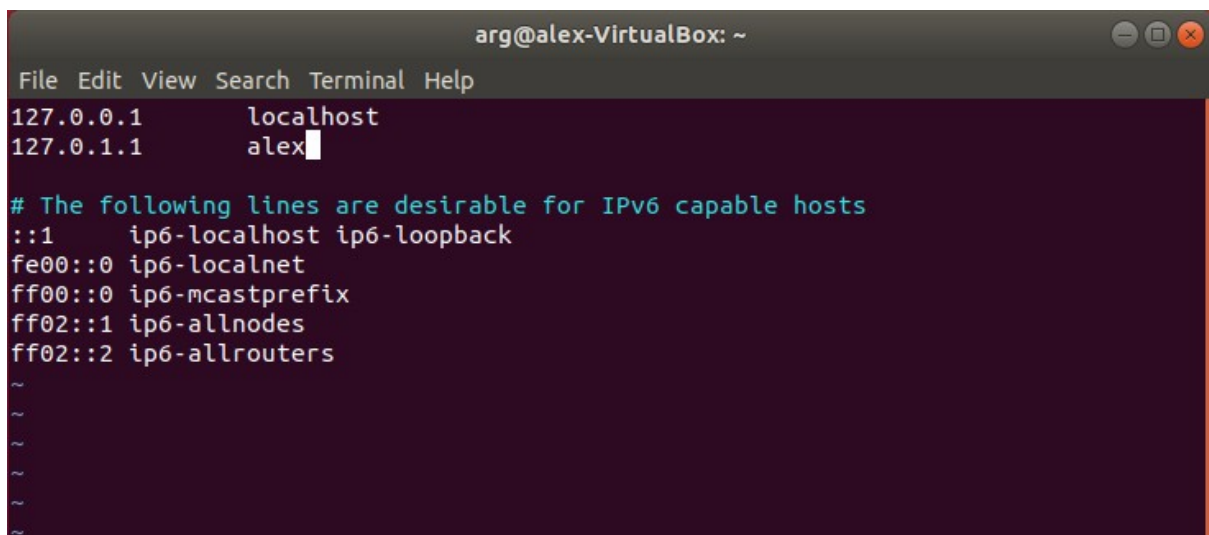記得打 sudo, 若沒有 sudo 會沒有權限 (Permission deny)更改此檔案

laptop$ sudo vim /etc/hosts

change "hostname" to the one you typed in the /etc/hostname file, don't forget to save it (:wq) after modification.

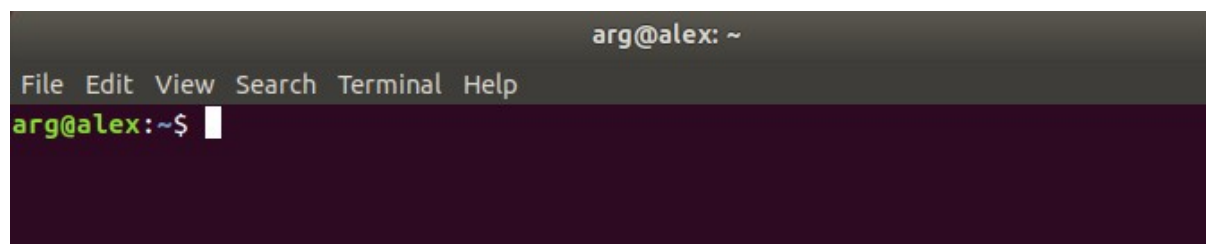將 hostname 改的跟剛剛在/etc/hostname 一樣的名字，並儲存

Then reboot (重開機)

laptop $ sudo reboot

Double check if hostname is changed.

確認 hostname 改變了