

# Environment Setup

*Install VirtualBox*





# Outline

- ☐ Objective
- ☐ Experiment Environment
- ☐ Installation
  - VirtualBox 6.1.2
  - Add VM
  - Ubuntu 18.04



# Objective

- ❑ Prepare a operational environment
  - VirtualBox: Open-source cross-platform virtualization application
    - Run virtual machines
  - Ubuntu: Open-source operating system
    - A most popular OS for software development



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# Experiment Environment

- ❑ Ubuntu Desktop **18.04**
- ❑ **Minimum** Hardware Requirements:
  - **2** Cores (CPUs)
  - **8GB** RAM
  - **20GB** HDD



# Outline

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# VirtualBox Installation (1/6)

- Go to official website:

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

- Download the “platform packages” for the corresponding host’s

Downloads – Oracle VM VirtualBox x +

virtualbox.org/wiki/Downloads

## VirtualBox

### Download VirtualBox

Here you will find links to VirtualBox binaries and its source code.

#### VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

If you're looking for the latest VirtualBox 6.0 packages, see [VirtualBox 6.0 builds](#). Please also use version 6.0 if you need to run VMs with software virtualization, as this has been discontinued in 6.1. Version 6.0 will remain available for a limited time.

If you're looking for the latest VirtualBox 5.2 packages, see [VirtualBox 5.2 builds](#). Please also use version 5.2 if you still need support for 32-bit hosts, as this has been discontinued in 6.0. Version 5.2 will remain supported for a limited time.

#### VirtualBox 6.1.2 platform packages

- Windows hosts
- OS X hosts
- Linux distributions
- Solaris hosts

The binaries are released under the terms of the GPL version 2.

See the [changelog](#) for what has changed.

You might want to compare the checksums to verify the integrity of downloaded packages. *The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!*

- [SHA256 checksums](#), [MD5 checksums](#)

**Note:** After upgrading VirtualBox it is recommended to upgrade the guest additions as well.

#### VirtualBox 6.1.2 Oracle VM VirtualBox Extension Pack

- [All supported platforms](#)

Support for USB 2.0 and USB 3.0 devices, VirtualBox RDP, disk encryption, NVMe and PXE boot for Intel cards. See [this chapter from the User Manual](#) for an introduction to this Extension Pack. The Extension Pack binary is included in the VirtualBox packages above. *Please install the same version extension pack as your installed version of VirtualBox.*

#### VirtualBox 6.1.2 Software Developer Kit (SDK)

- [All platforms](#)

#### User Manual

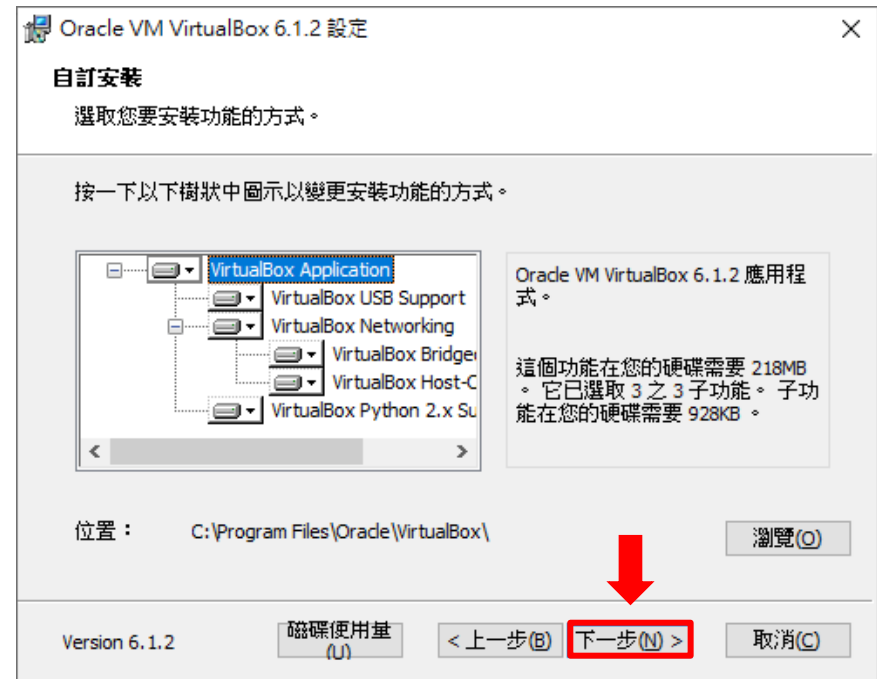
The VirtualBox User Manual is included in the VirtualBox packages above. If, however, you would like to take a look at it without having to install the whole thing, you also access it here:



# VirtualBox Installation (2/6)

- ❑ Execute “VirtualBox-6.1.2-135663-Win.exe”

名稱	修改日期	類型	大小
今天 (1)			
VirtualBox-6.1.2-135663-Win	2020/2/9 下午 02:46	應用程式	110,102 KB
上週 (1)			







# VirtualBox Installation (3/6)

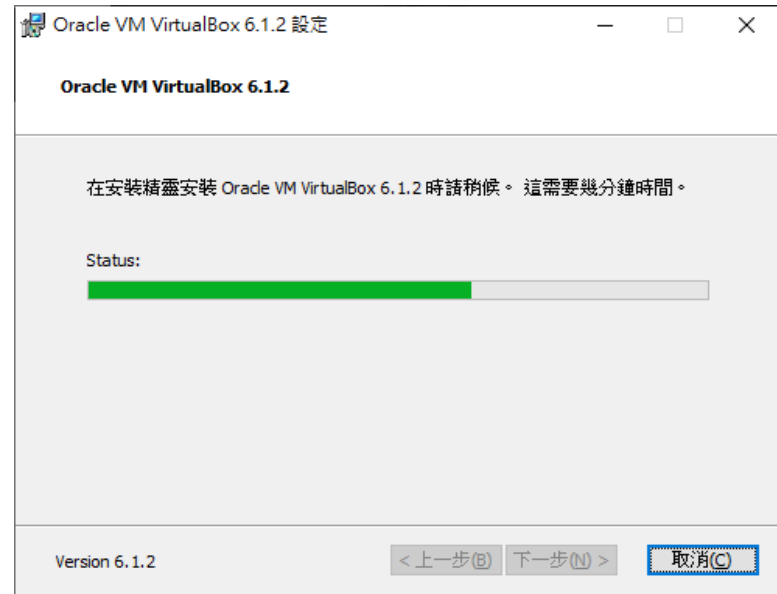
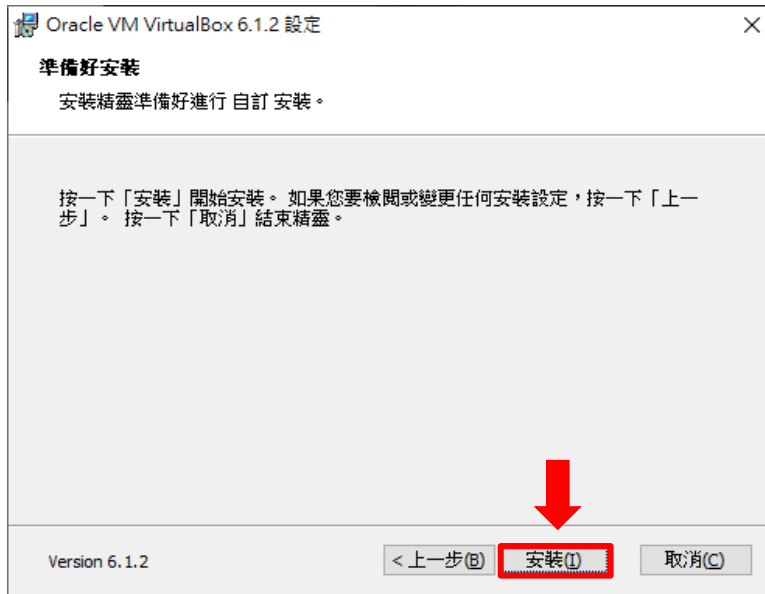
- ❑ Choose how you want to install





# VirtualBox Installation (4/6)

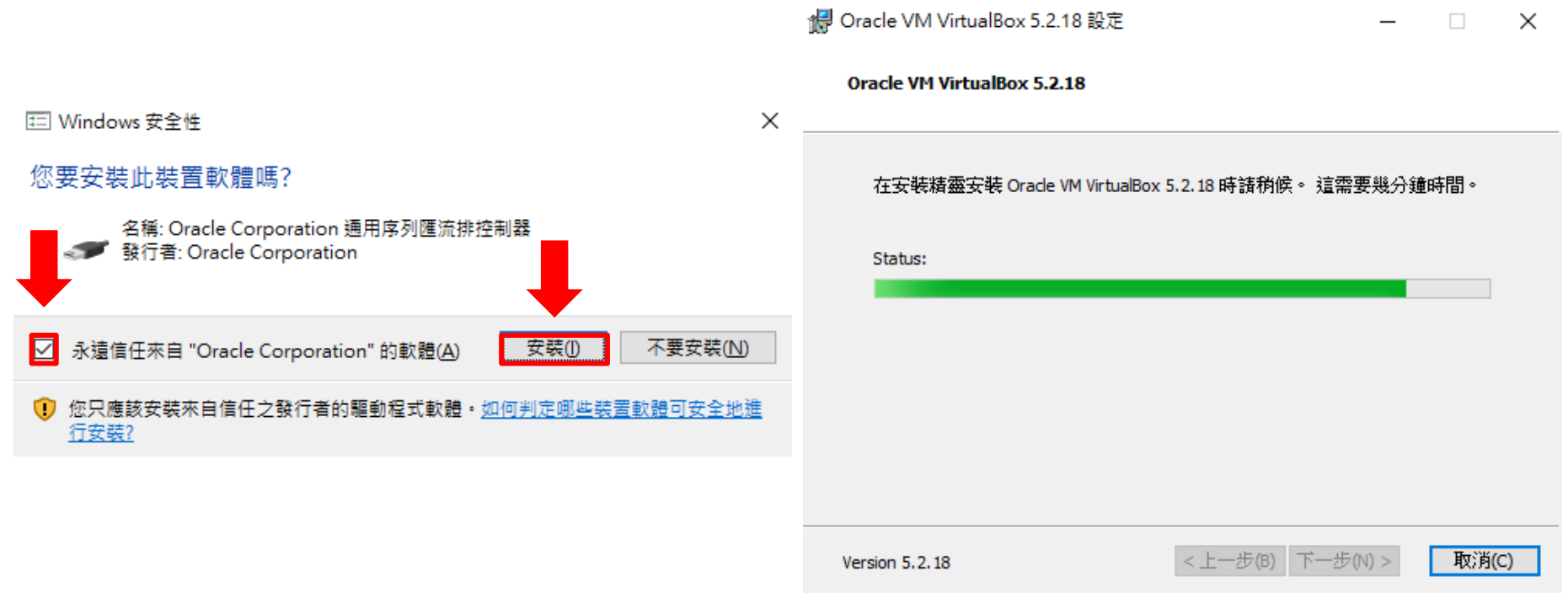
1. Click "Yes"
2. Click "Install"
3. Wait for installing





# VirtualBox Installation (5/6)

- ☐ Click "Always trust software from 'Oracle Corporation'"
- ☐ Waiting





# VirtualBox Installation (6/6)

- Click “Finish”





# Outline

- ❑ Experiment Environment
- ❑ Installation
  - VirtualBox 6.1.2
  - Add VM
    - Download image file
    - Virtual machine setting
  - Ubuntu 18.04



# Download image file (1/10)

## ❑ Download image file (.iso) first

- <https://www.ubuntu-tw.org/modules/tinyd0/>
- **Ubuntu Desktop 18.04**

### 下載 Ubuntu

#### 發行版

☒ Ubuntu 桌面版本  
☐ Ubuntu 伺服器版本

不同發行版具備不同的圖形環境與配套軟體。如果您不知道如何選擇，請選擇 Ubuntu 桌面版本。

#### 版本

☐ 20.10 (半年支援)  
☐ 20.04 LTS (5年支援)  
☒ 18.04 LTS (5年支援)  
☐ 16.04 LTS (5年支援)

20.04 LTS (2020/04 - 2025/04) 為最新 LTS 版 (長期支援, 穩定, 五年支援)。16.04 (及之前版本) 的預設桌面為經典 Unity, 18.04 開始為 Gnome 3, 但您仍可手動安裝 Unity 並進行切換。詳細資訊請參考 [Release End of Life](#)

#### 電腦架構

☐ 32 位元版本  
☒ 64 位元版本

目前一般電腦大多使用 64 位元架構, 故從 18.04 開始, 桌面版也將不再提供 32 位元版本。另外, 目前在下載區無 Mac 版本可下載。

#### 下載選項

☐ 下載 BitTorrent 種子

**開始下載**

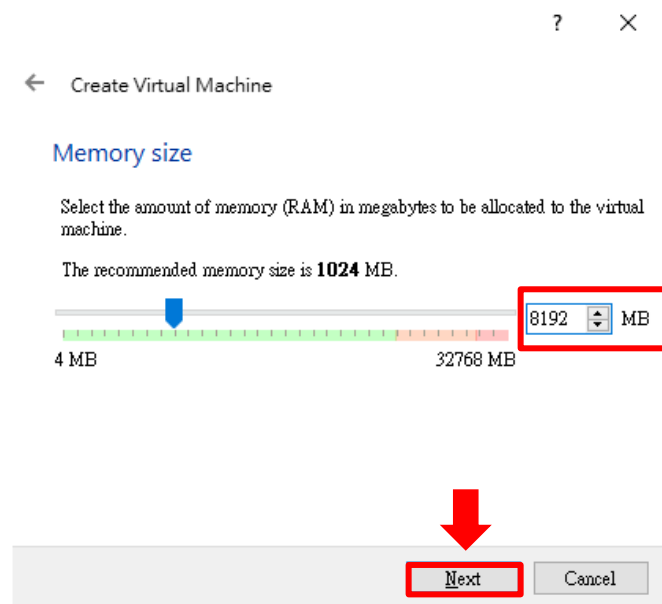
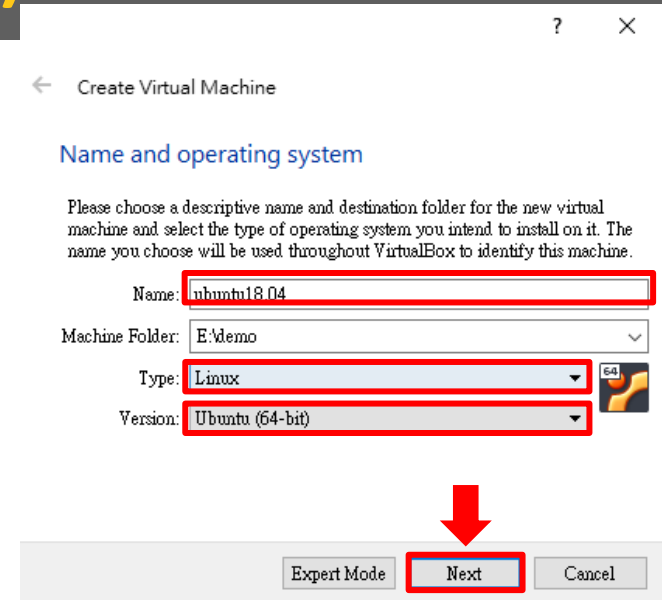
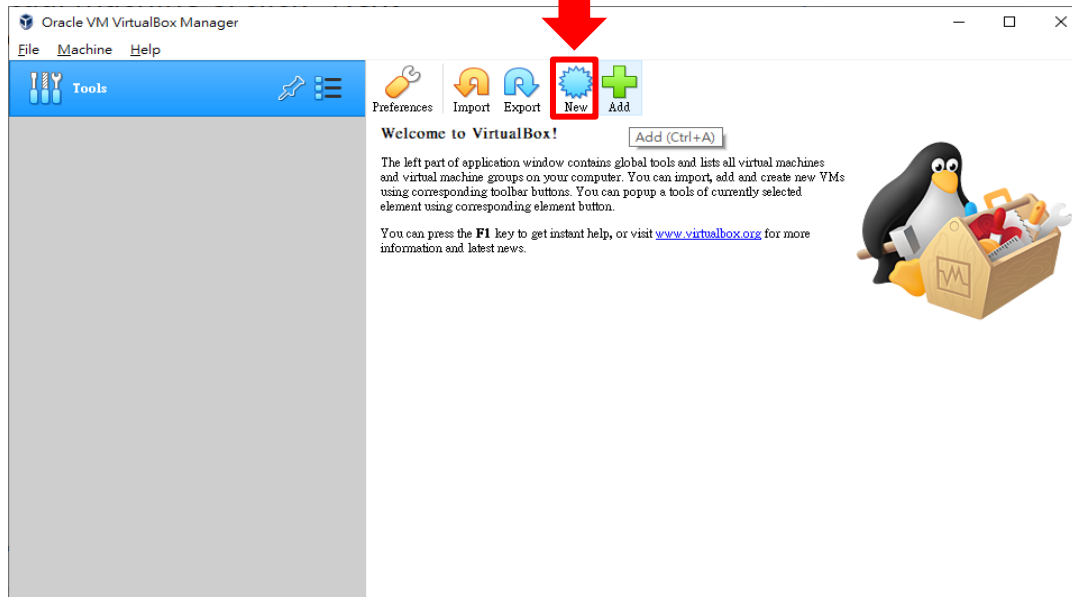
或是 [至此瀏覽所有版本及檔案](#)





# Virtual machine setting (2/10)

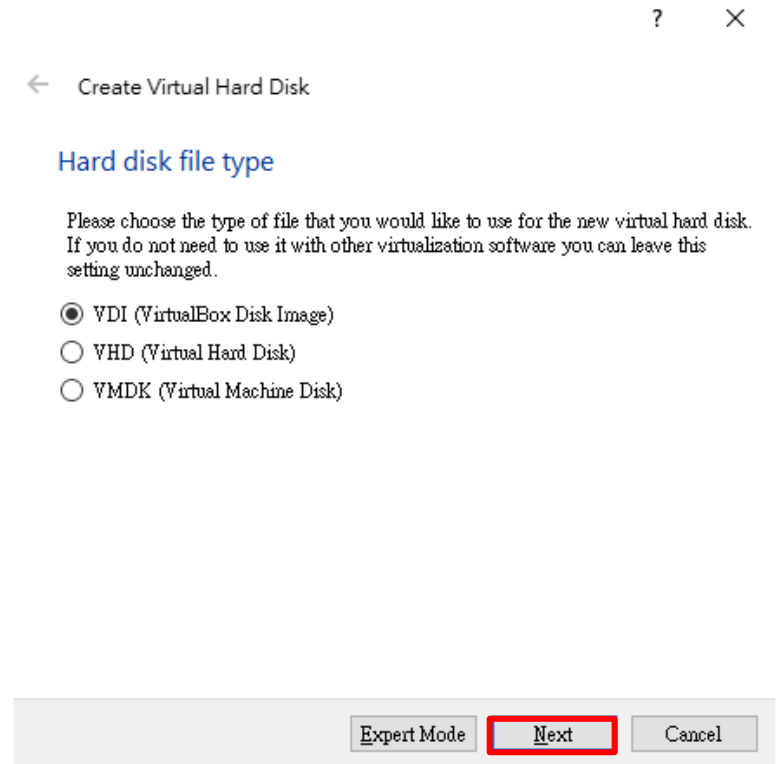
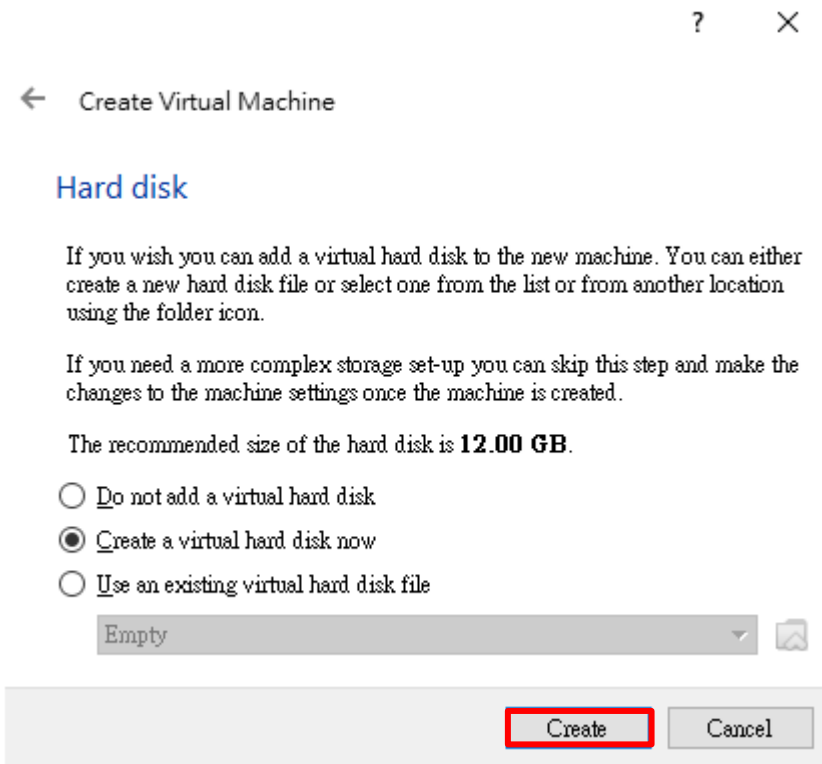
1. Start VirtualBox & Click “New”
2. Name the virtual machine (**SDN-NFV**), then click “Next”
3. Adjust the memory size to **8192MB**, then click “Next”





# Virtual machine setting (3/10)

1. Click “Create”
2. Click “Next”







# Virtual machine setting (4/10)

1. Click “Next”
2. Adjust the size of virtual HD to **20GB**, then click “Create”

← Create Virtual Hard Disk

### Storage on physical hard disk

Please choose whether the new virtual hard disk file should grow as it is used (dynamically allocated) or if it should be created at its maximum size (fixed size).

A **dynamically allocated** hard disk file will only use space on your physical hard disk as it fills up (up to a maximum **fixed size**), although it will not shrink again automatically when space on it is freed.

A **fixed size** hard disk file may take longer to create on some systems but is often faster to use.

☒ Dynamically allocated  
☐ Fixed size

**Next** Cancel

← Create Virtual Hard Disk

### File location and size

Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.

C:\Users\Stan\VirtualBox VMs\SDN\_NFV\SDN\_NFV.vdi

Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.

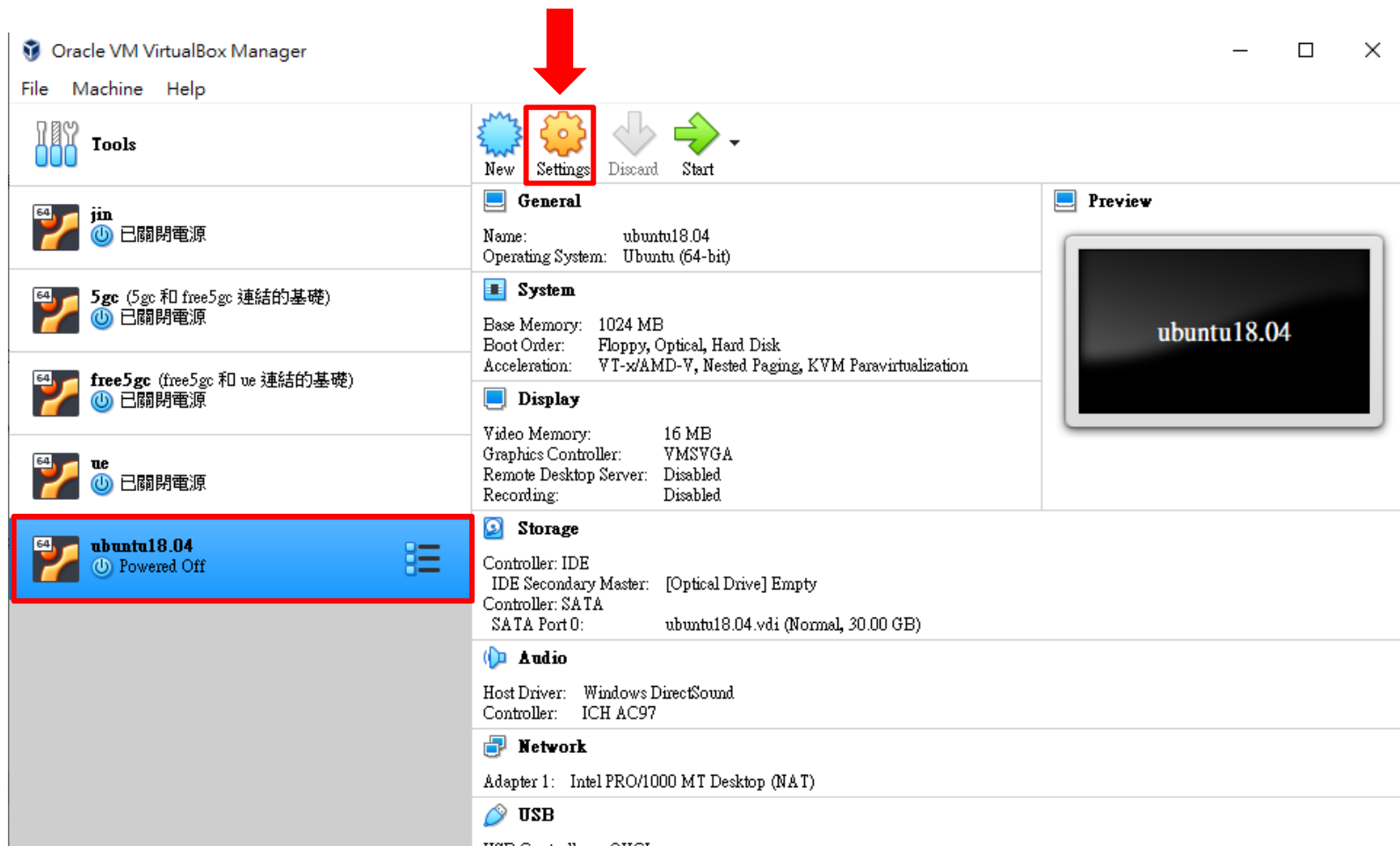
4.00 MB 2.00 TB **20 GB**

**Create** Cancel



# Virtual machine setting (5/10)

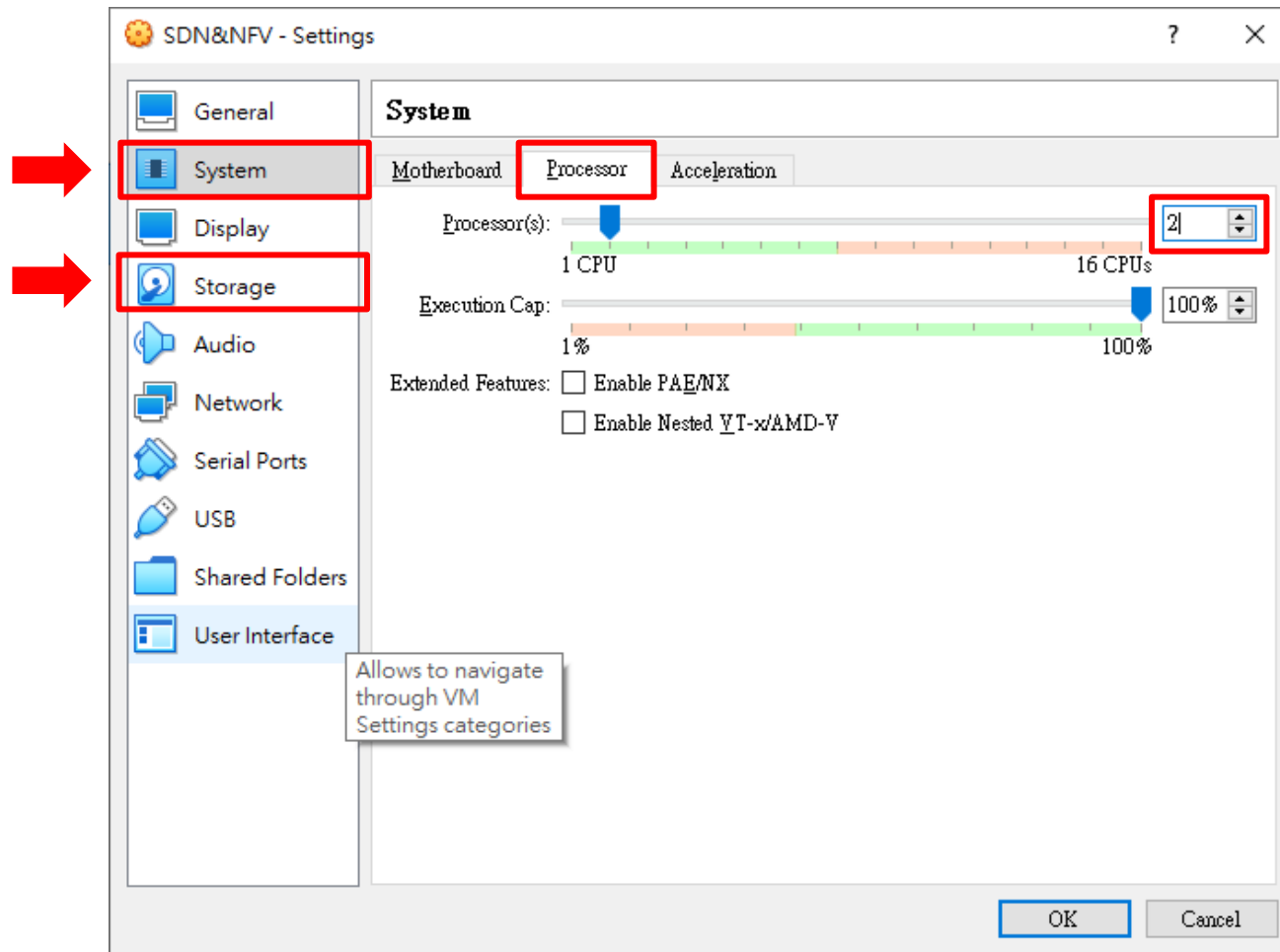
Click “Settings”





# Virtual machine setting (6/10)

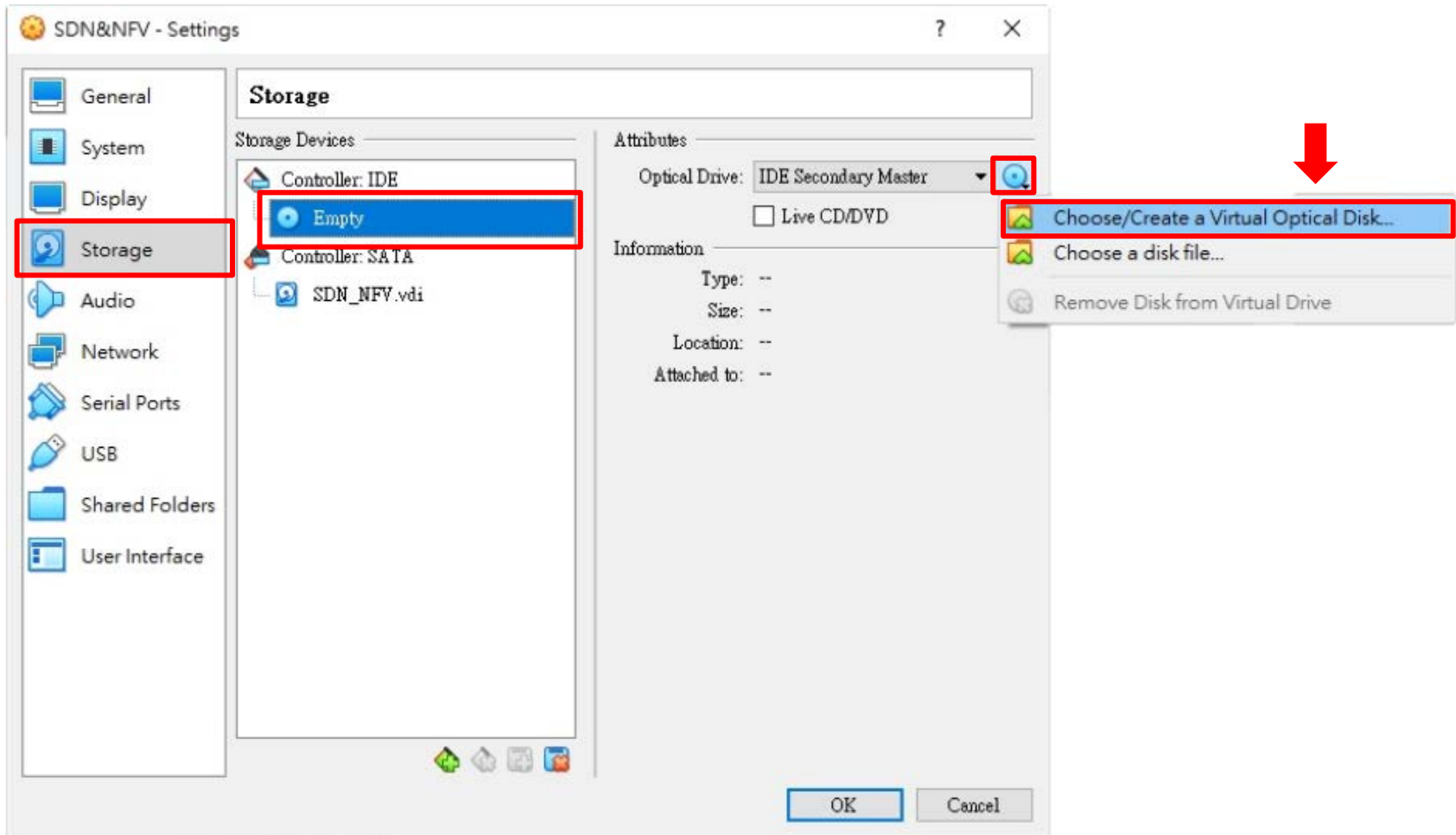
- ❑ System > Processor
  - Set **2 CPUs**, then click “Storage”





# Virtual machine setting (7/10)

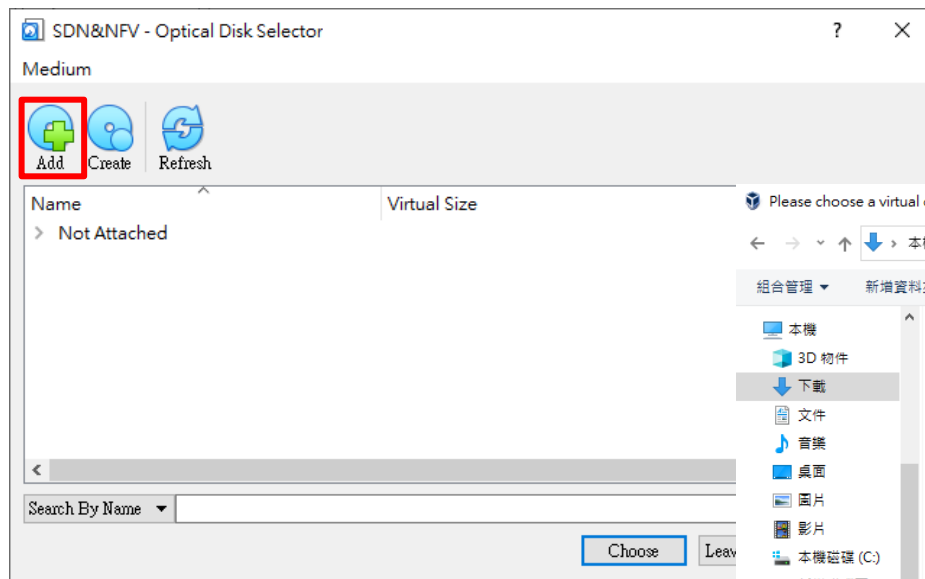
□ Storage > Controller: IDE





# Virtual machine setting (8/10)

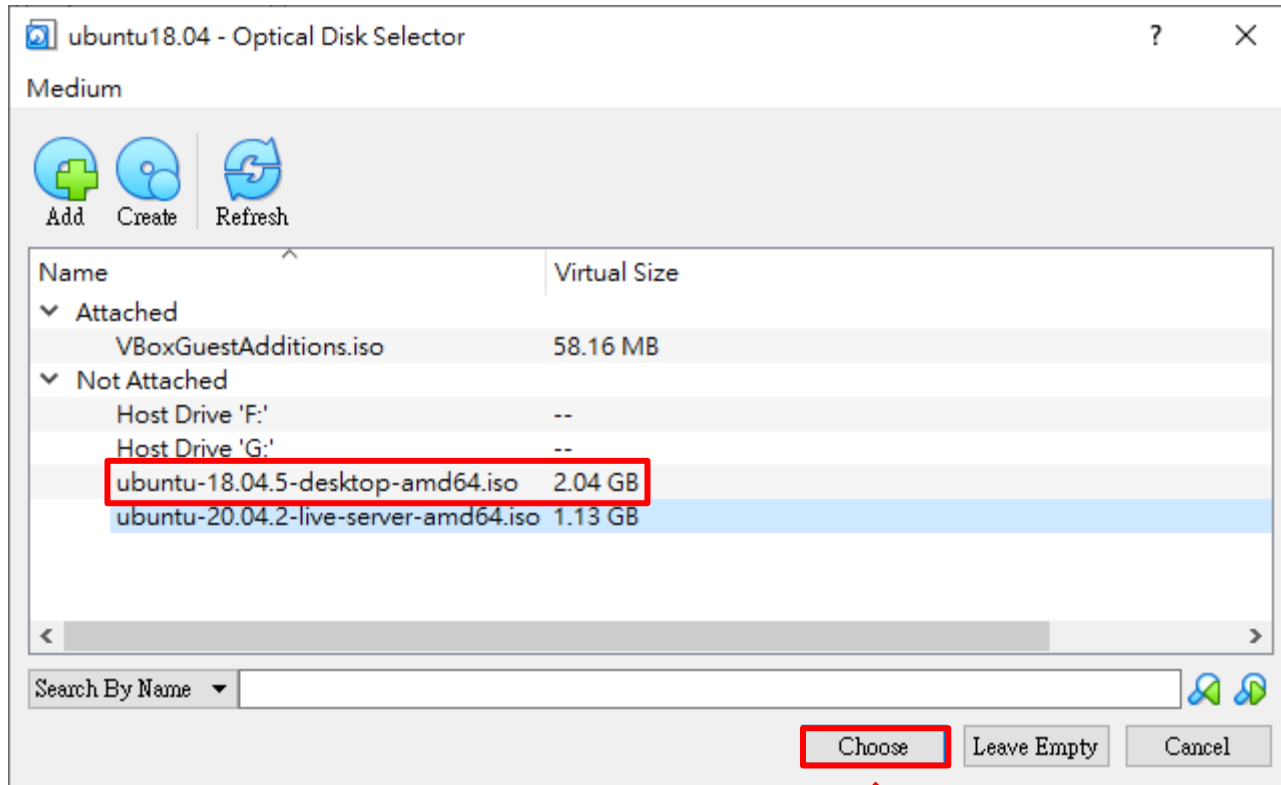
1. Click “Add”
2. Choose the previously downloaded image file (.iso)
3. Click “Open”





# Virtual machine setting (9/10)

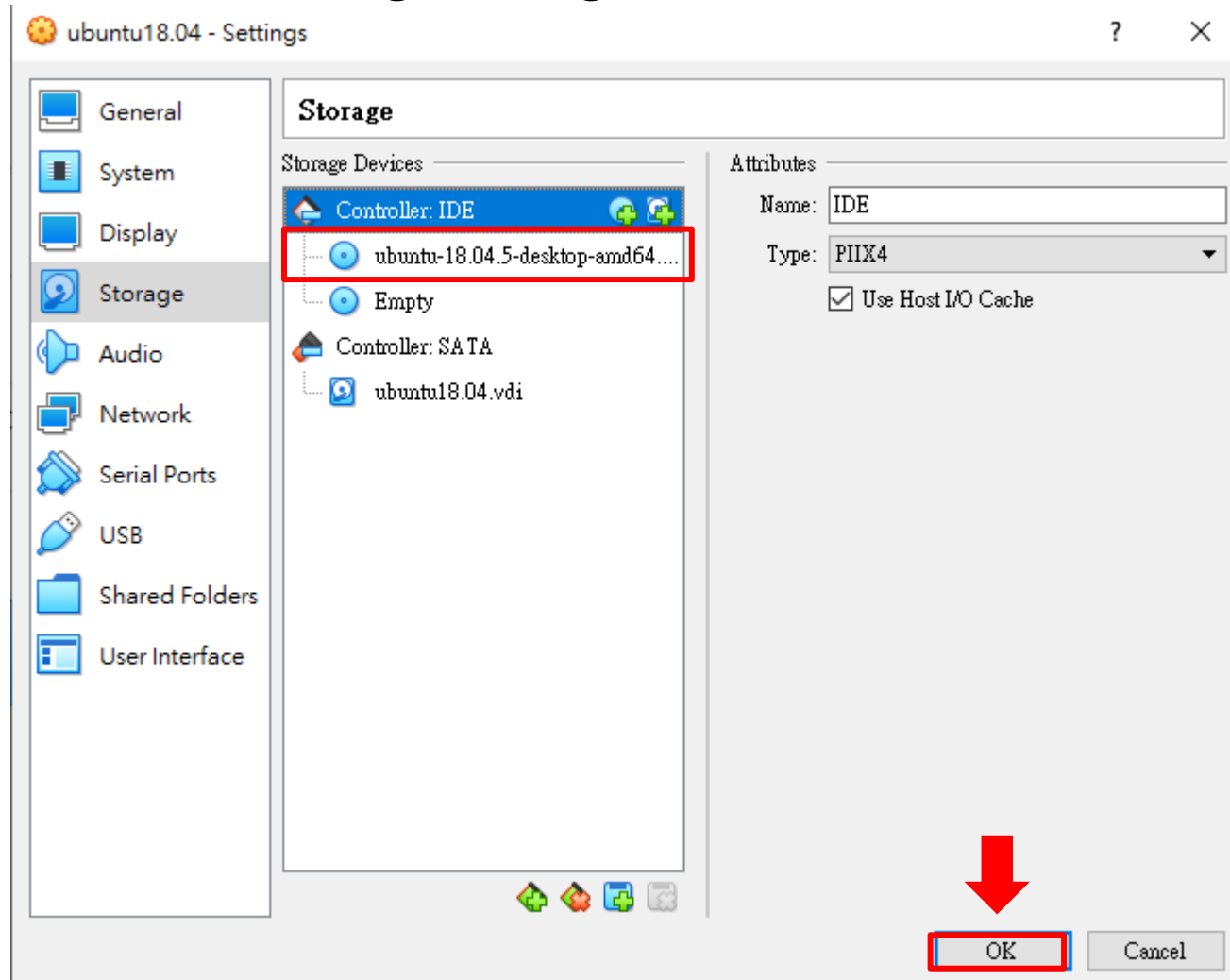
- Click “Choose”





# Virtual machine setting (10/10)

- Make sure all settings are right, then click “OK”





# Outline

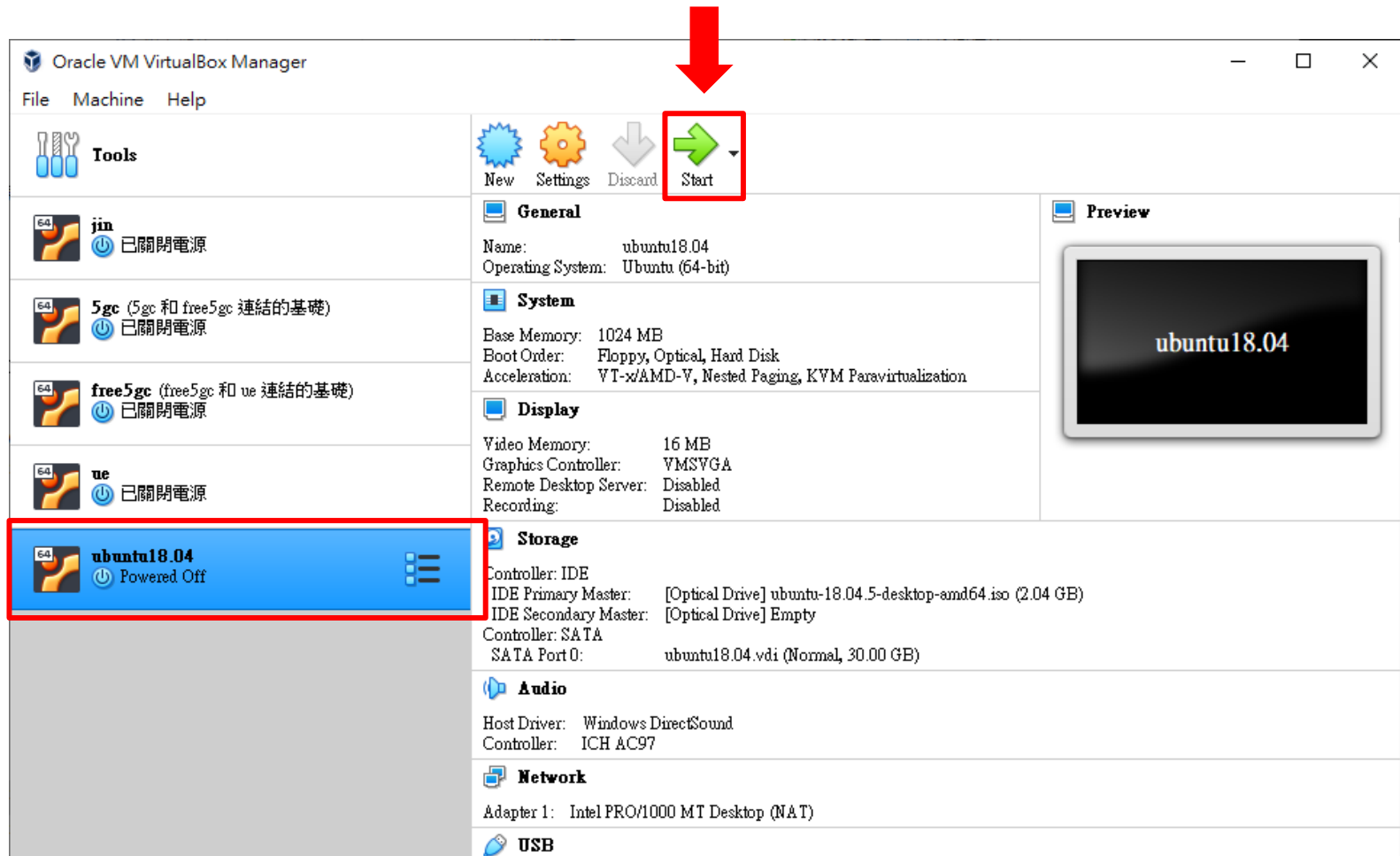
- ❑ Experiment Environment
- ❑ Installation
  - VirtualBox 6.1.2
  - Add VM
  - **Ubuntu 18.04**





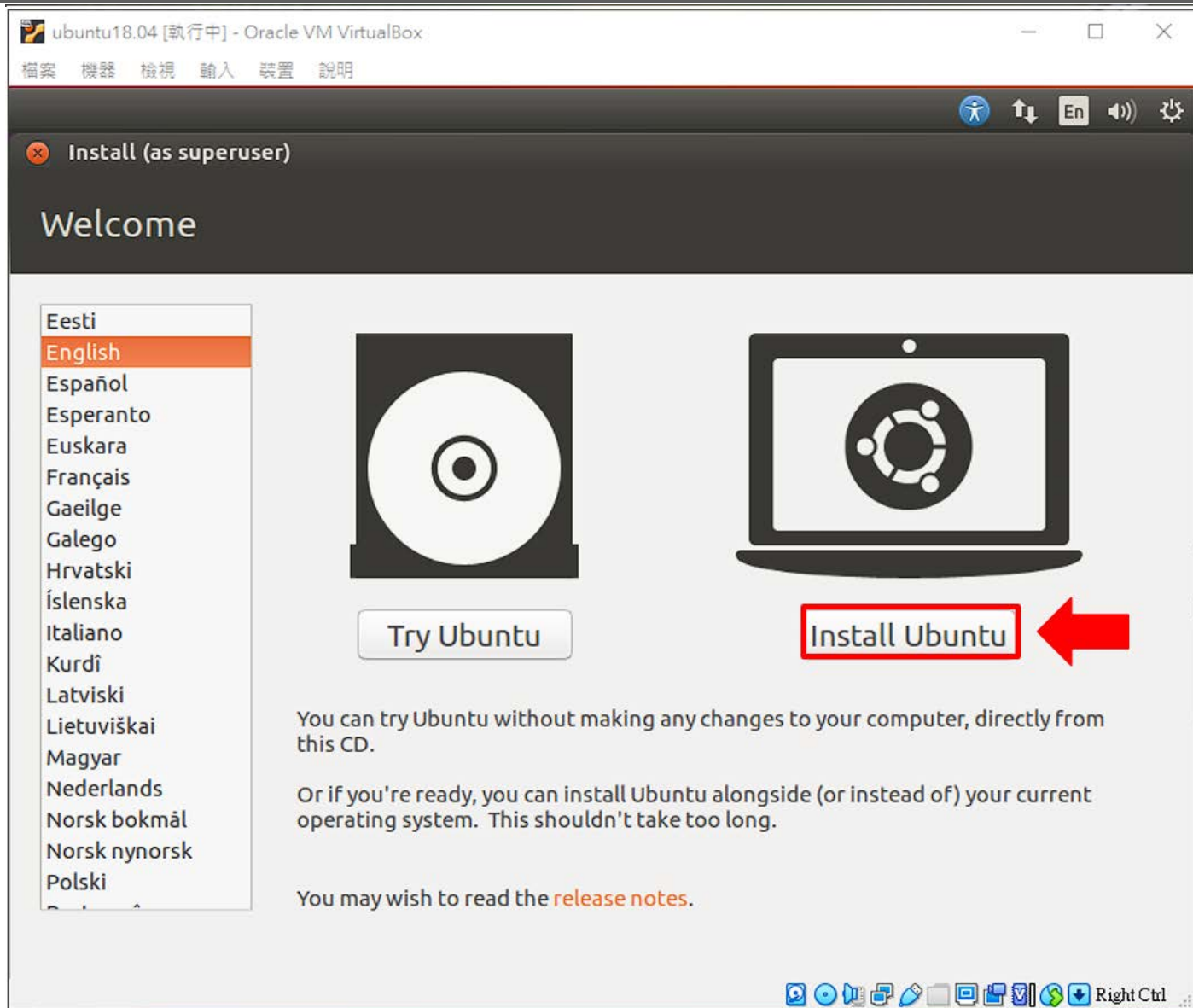
# Ubuntu Installation (1/12)

Click “Start”



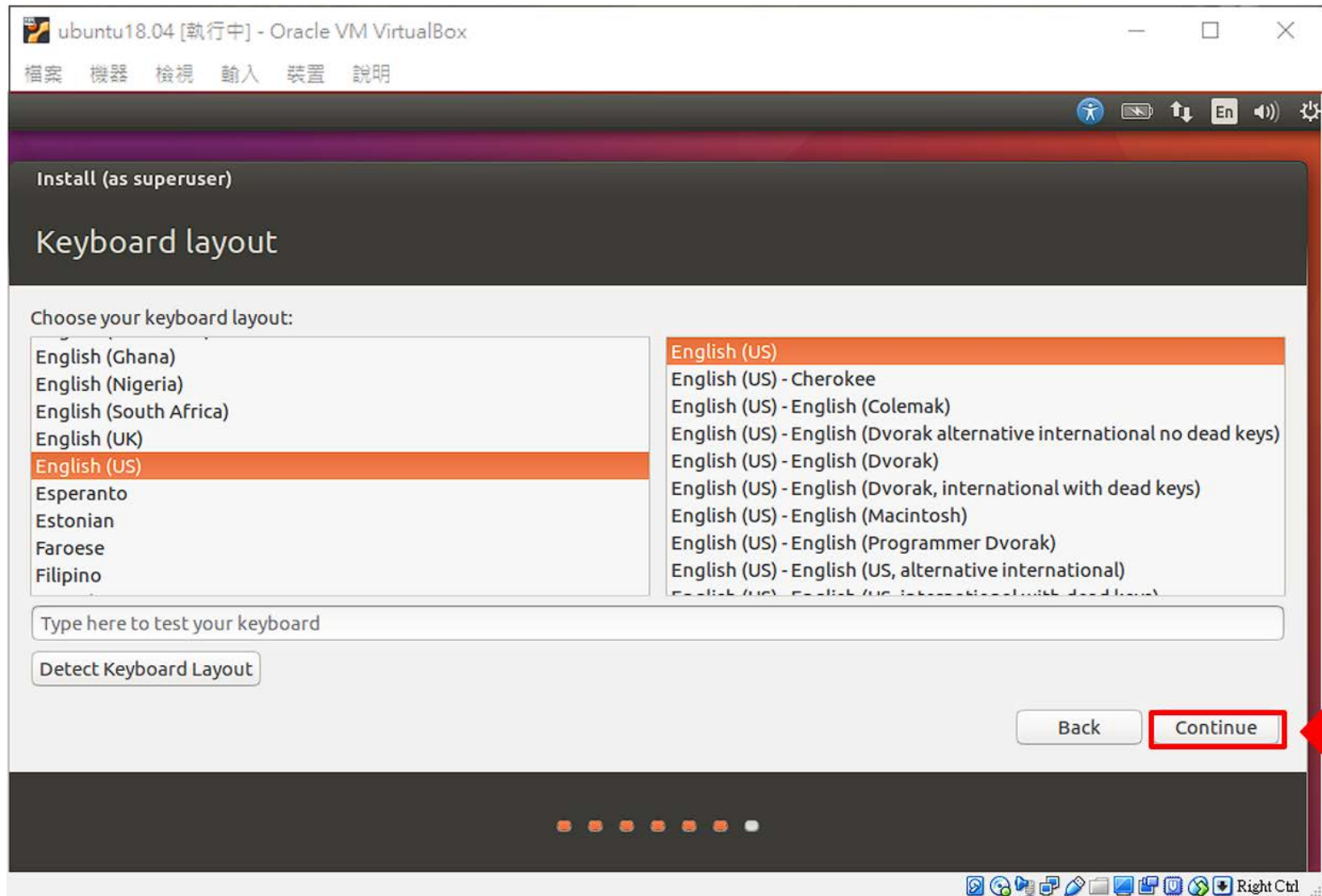


# Ubuntu Installation (2/12)



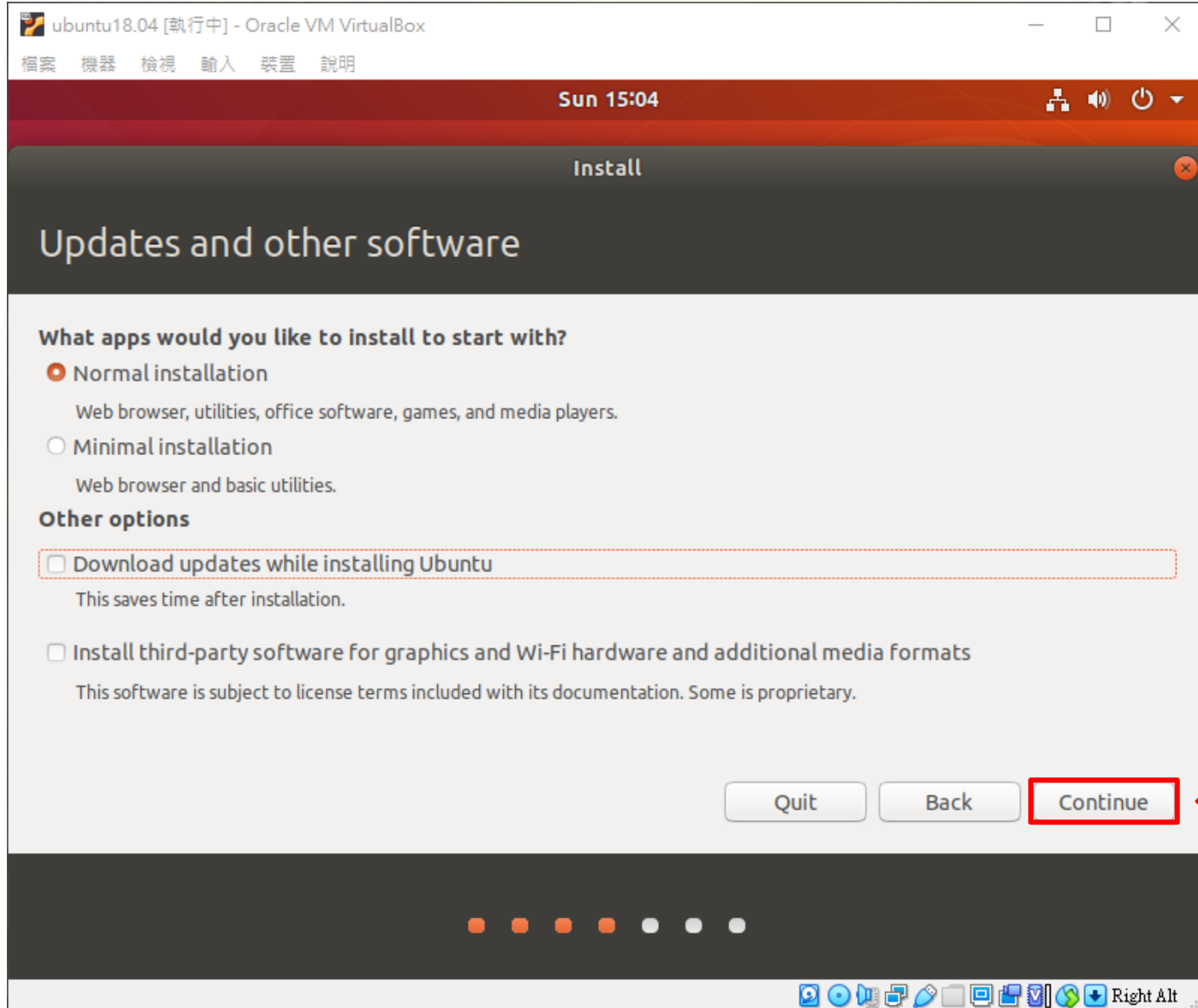


# Ubuntu Installation (3/12)



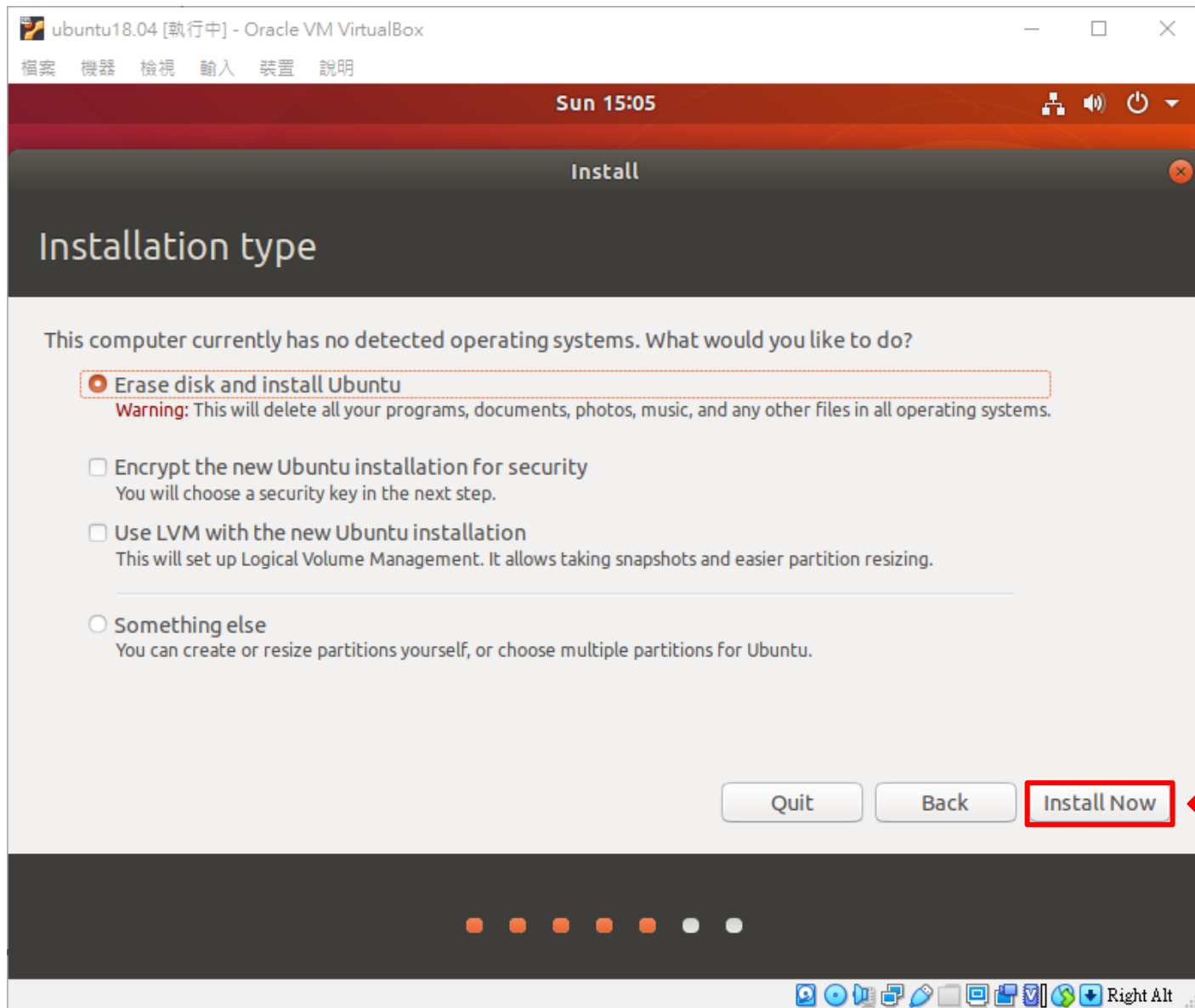


# Ubuntu Installation (4/12)



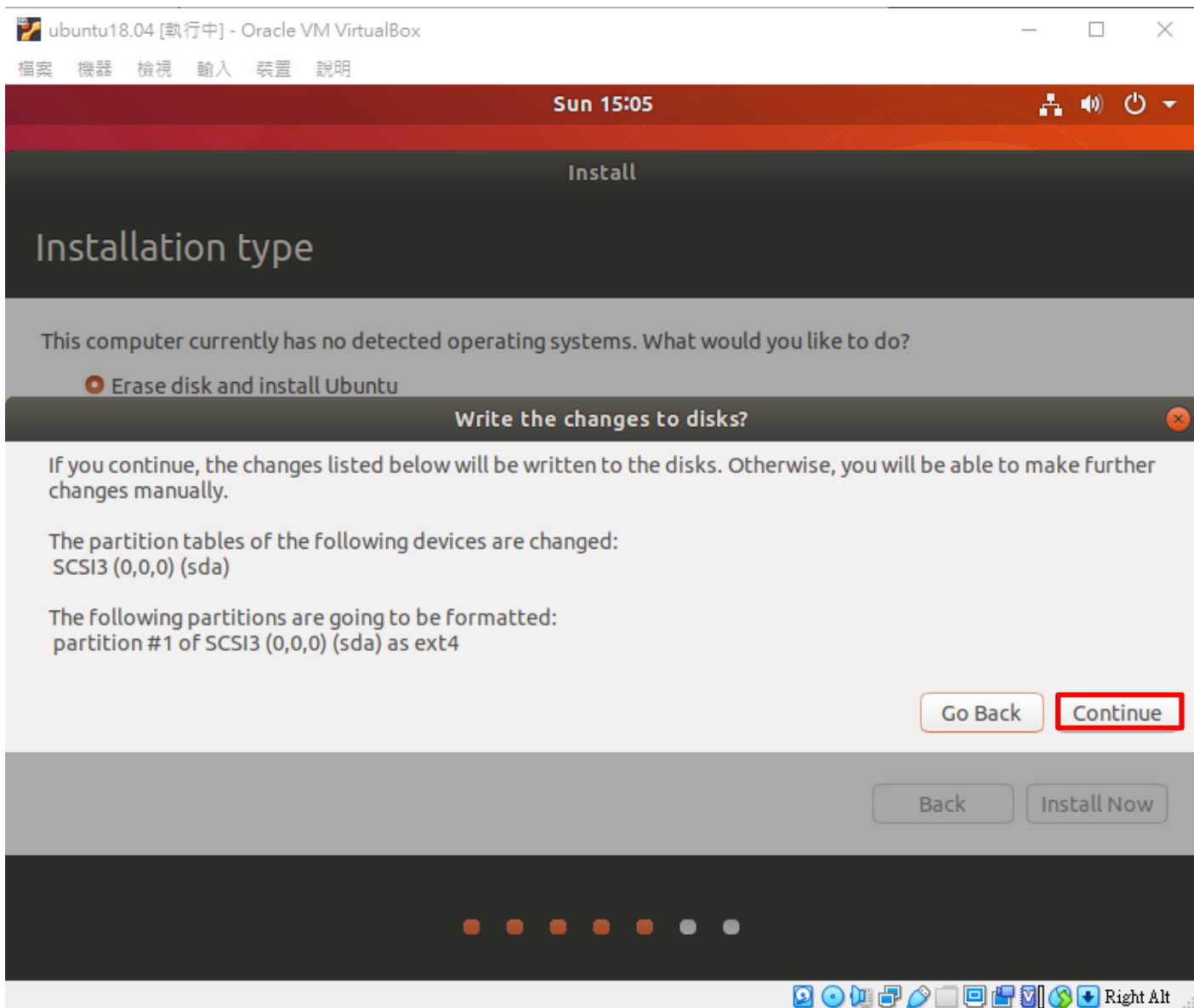


# Ubuntu Installation (5/12)



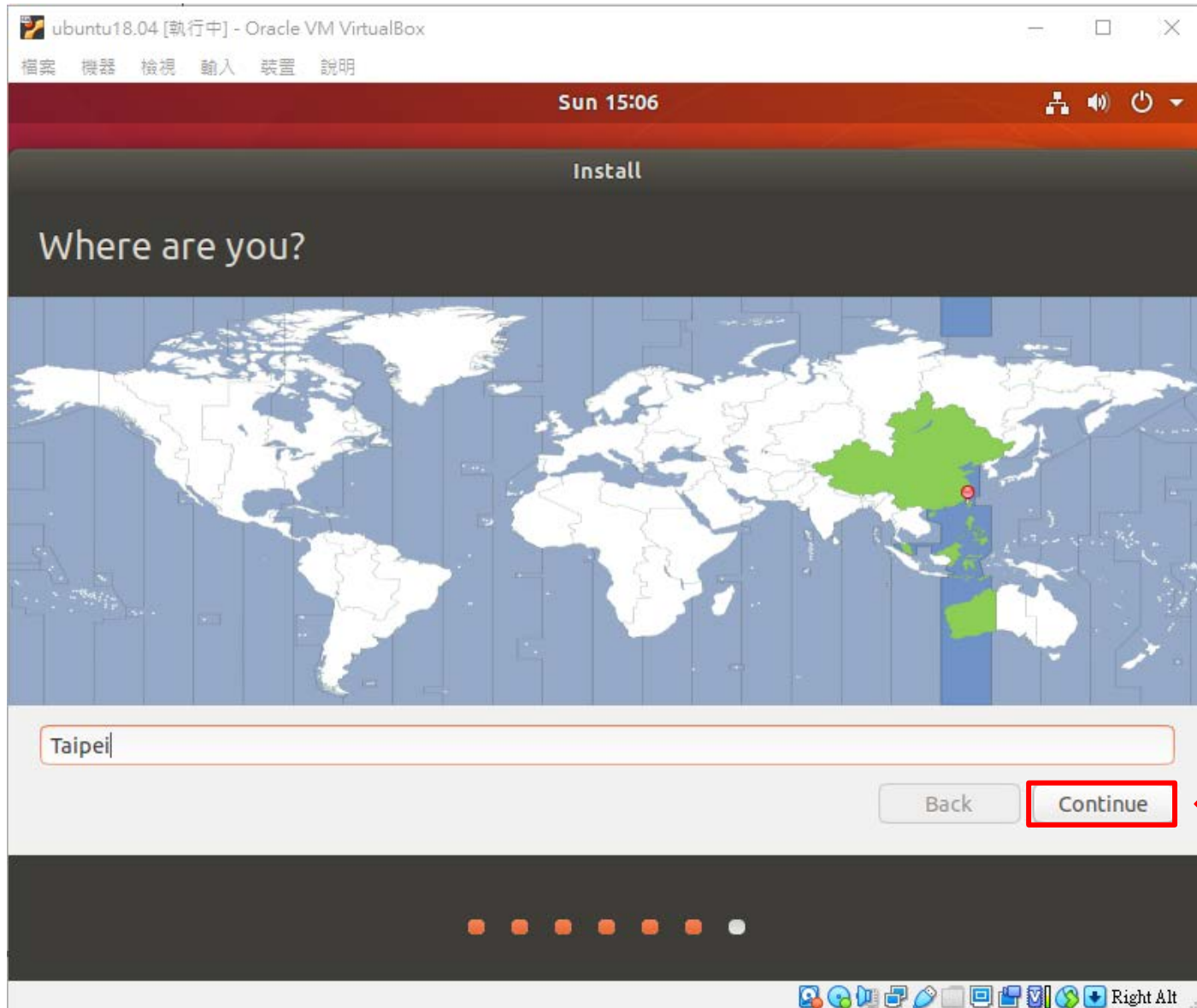


# Ubuntu Installation (6/12)





# Ubuntu Installation (7/12)





# Ubuntu Installation (8/12)

ubuntu18.04 [執行中] - Oracle VM VirtualBox

檔案 機器 檢視 輸入 裝置 說明

Sun 23:08

Install

Who are you?

Your name: demo ✓

Your computer's name: demo ✓  
The name it uses when it talks to other computers.

Pick a username: demo ✓

Choose a password: ●●●● Short password

Confirm your password: ●●●● ✓

☐ Log in automatically

☒ Require my password to log in

Back Continue

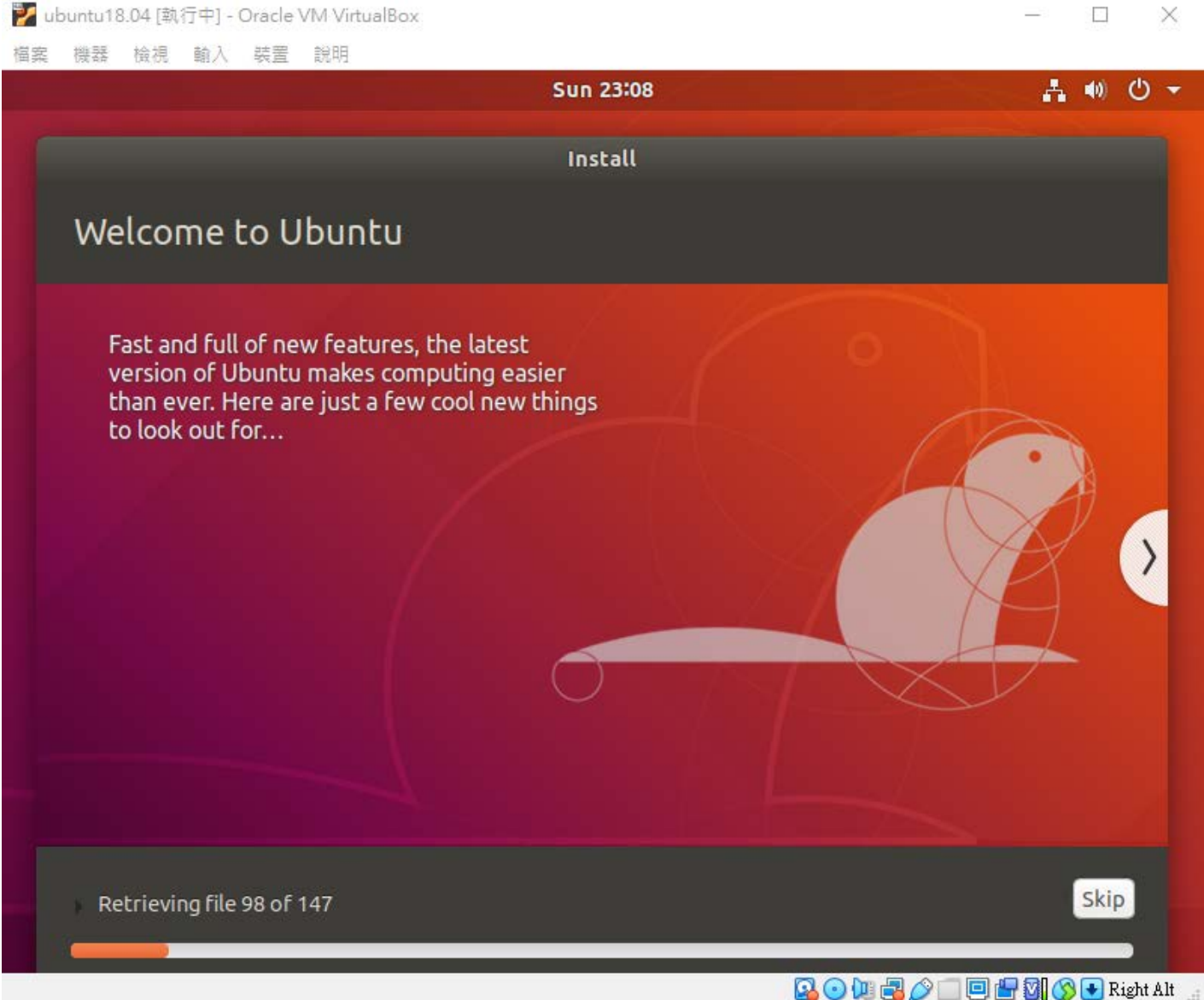
● ● ● ● ● ● ● ●

Right Alt



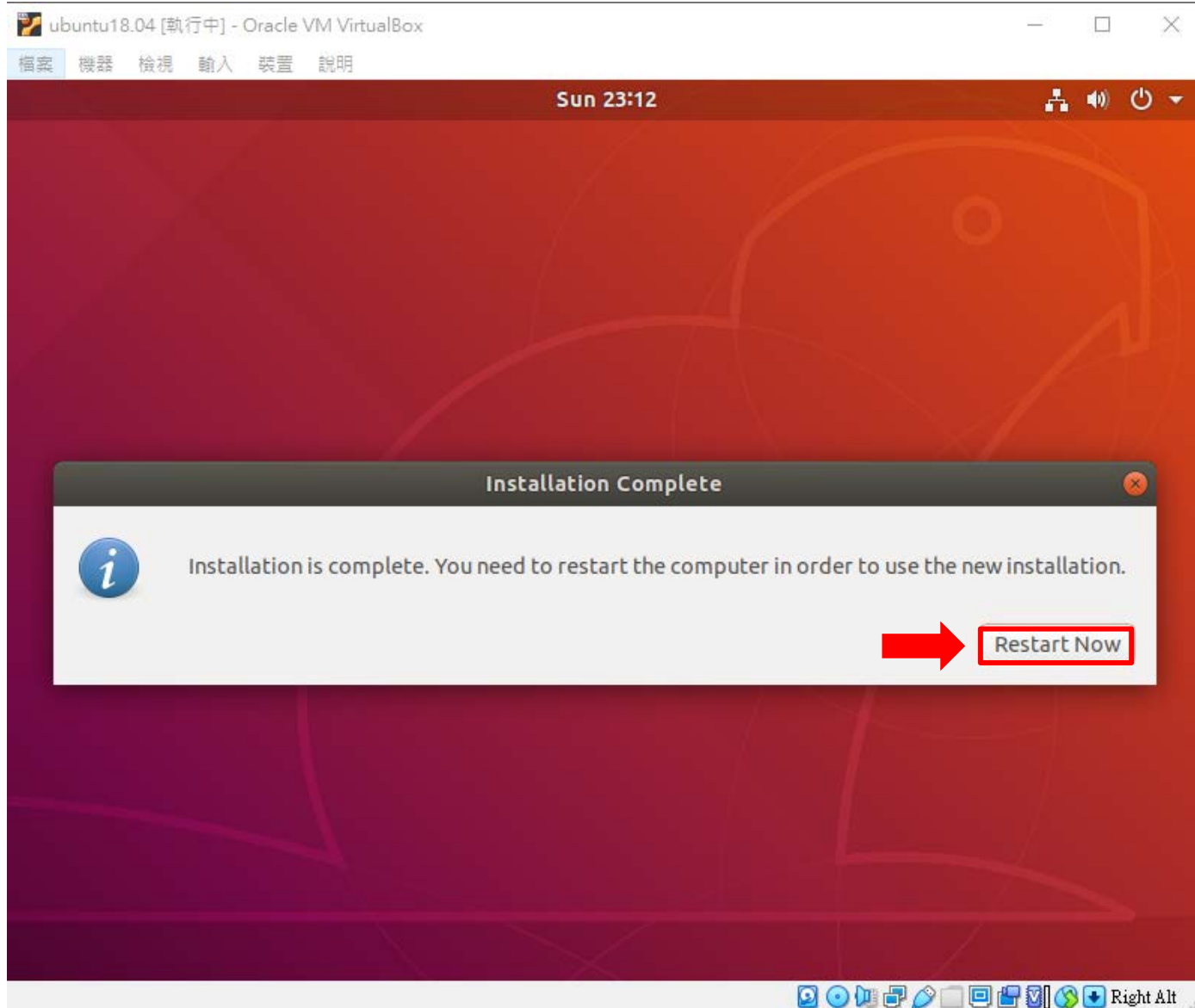


# Ubuntu Installation (9/12)





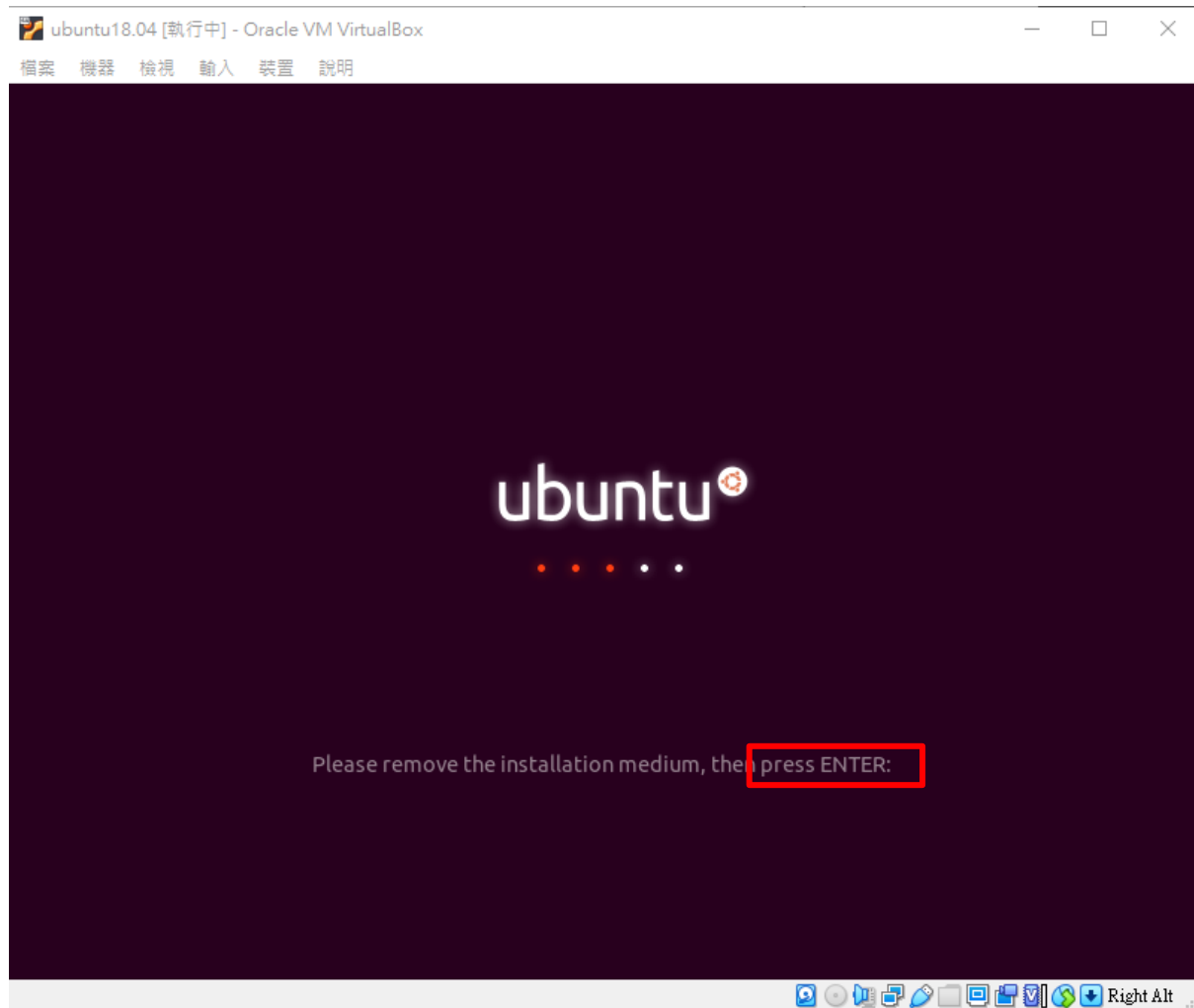
# Ubuntu Installation (10/12)





# Ubuntu Installation (11/12)

- Press “Enter”, then VM will restart





# Ubuntu Installation (12/12)

