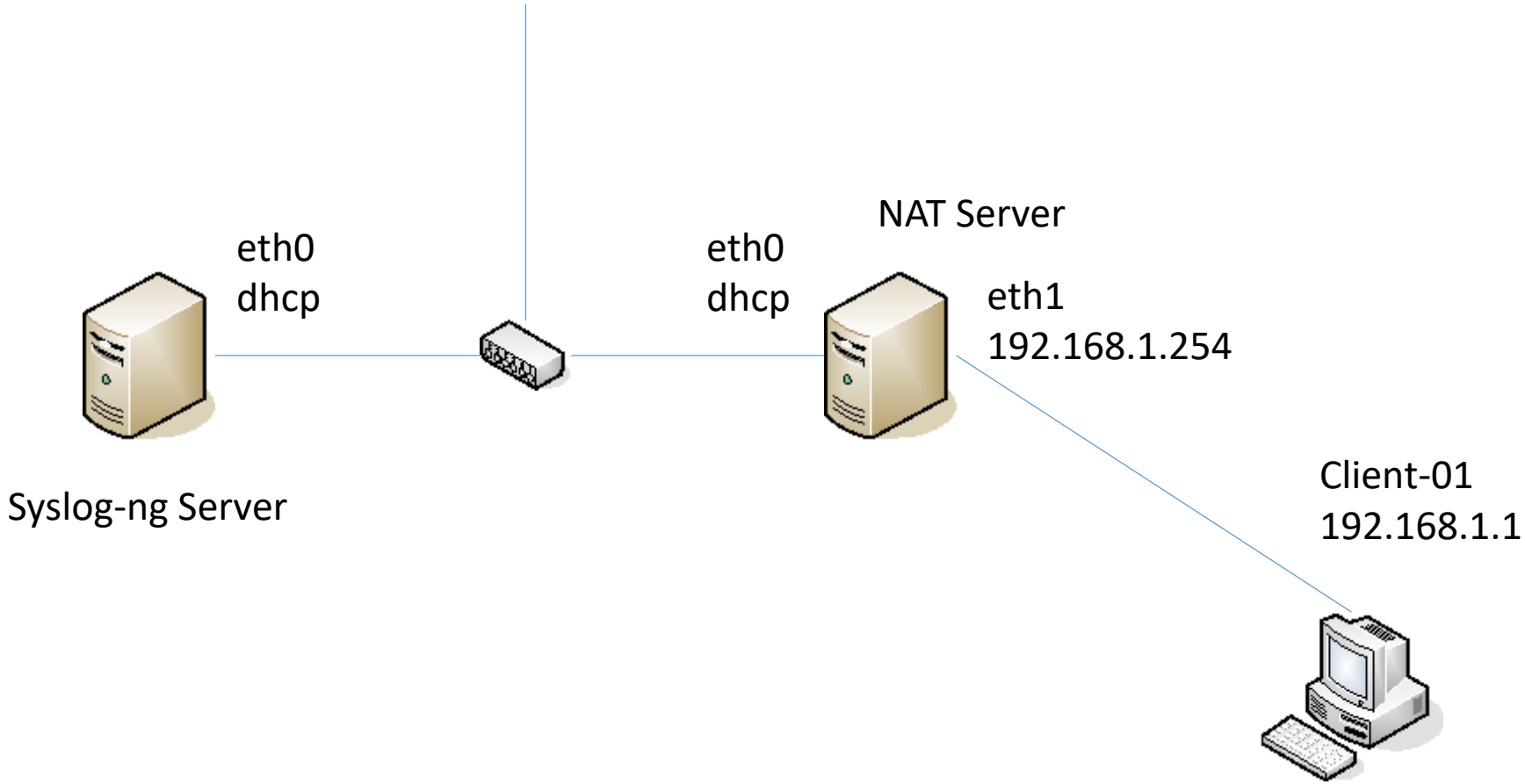
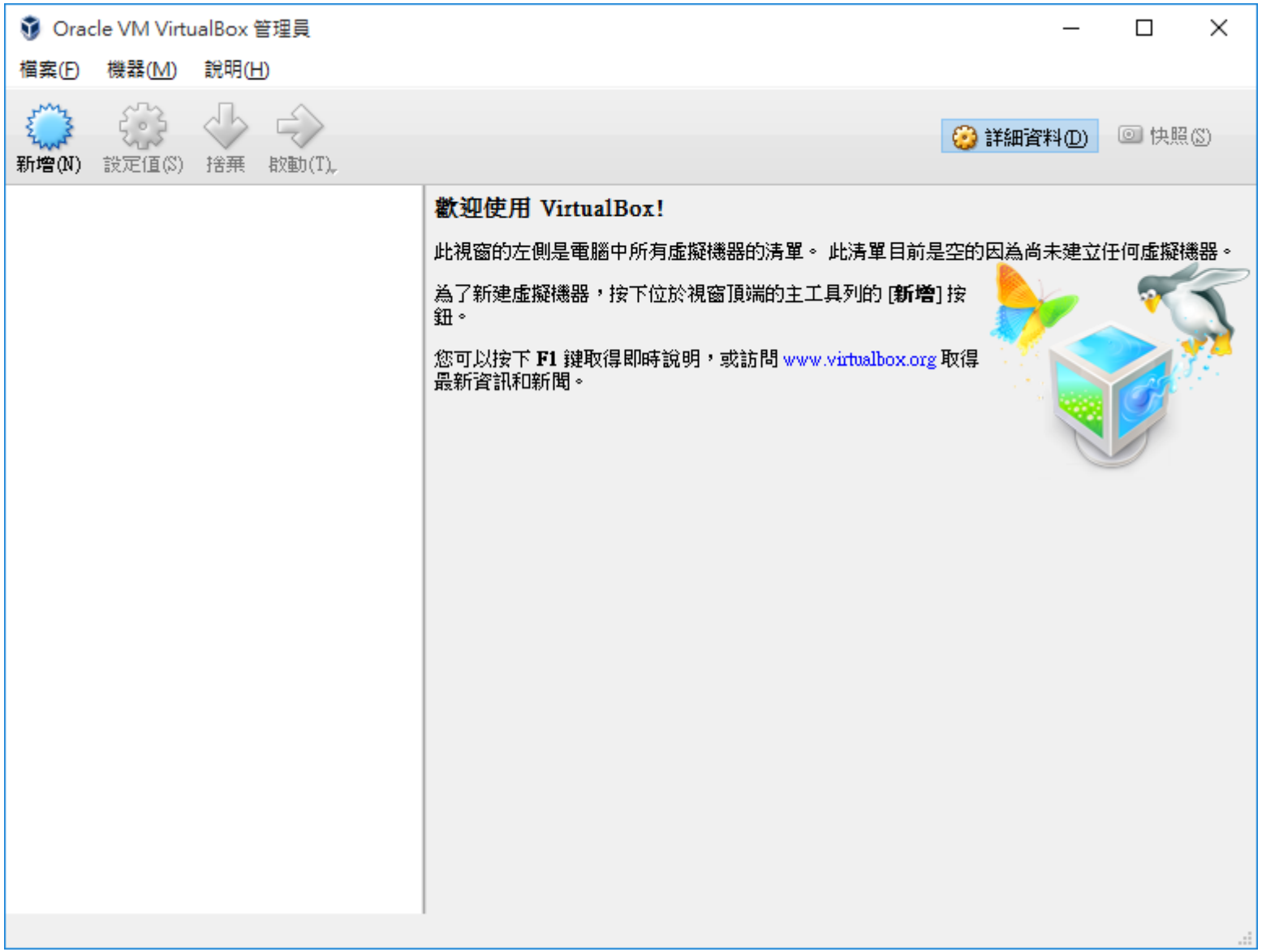
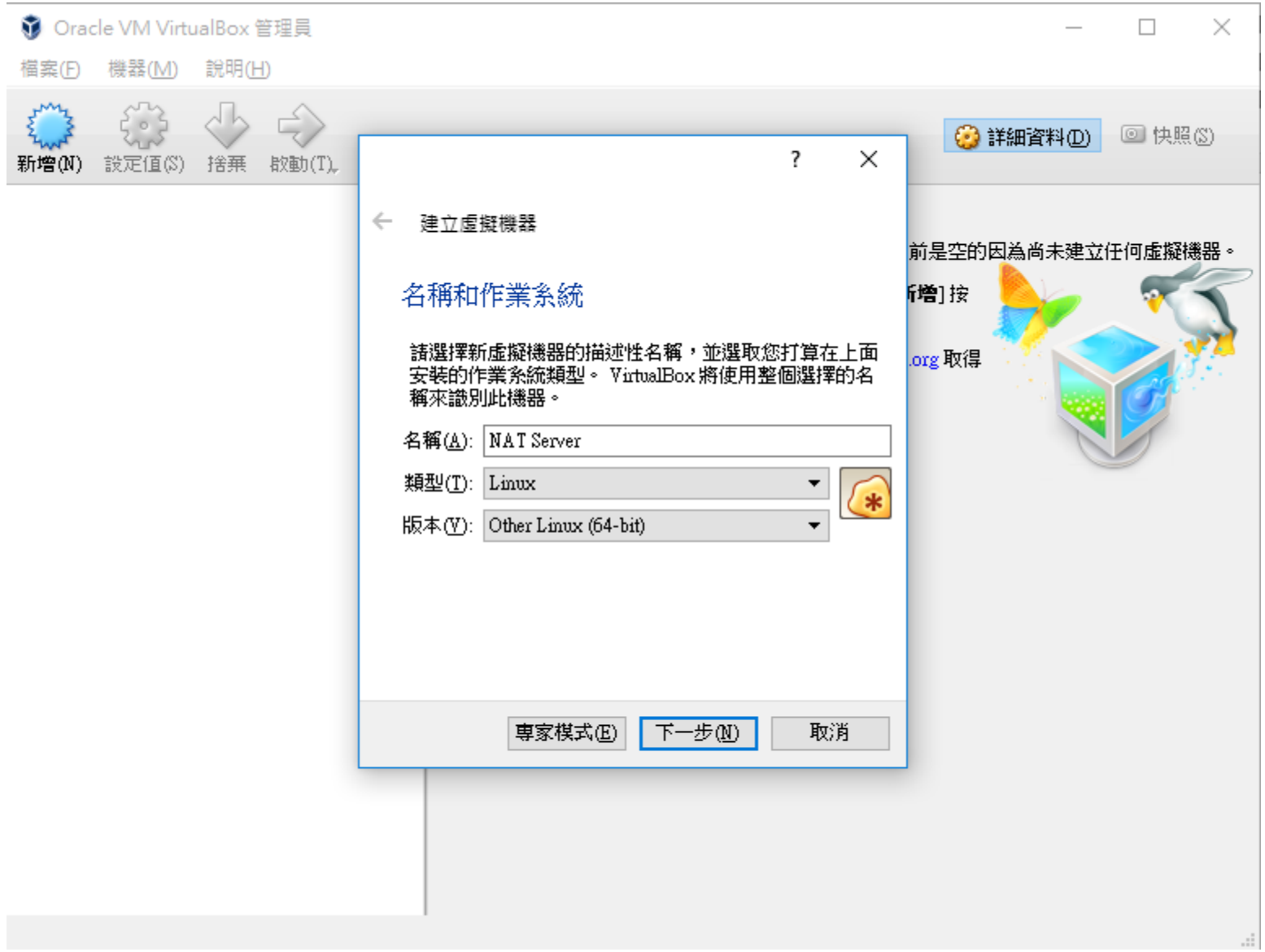
課程大綱

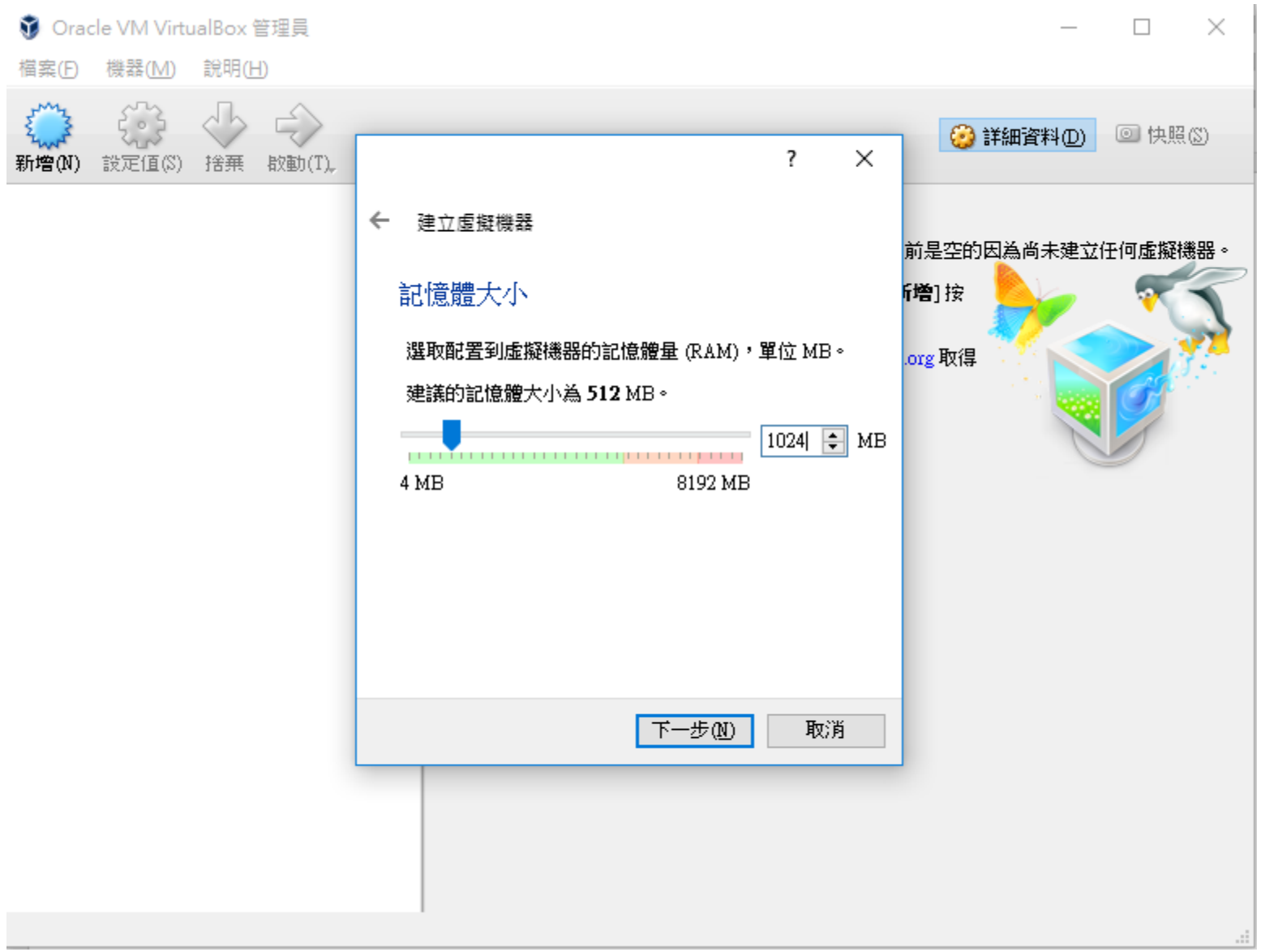
網路拓樸圖
Oracle VM VirtualBox 設定
CentOS 安裝
CentOS 設定之前的調整
系統安全
網路卡 設定
安裝 Client-01
設定 Client-01
開始設定NAT
手動設定NAT
Syslog-ng 的安裝與設定
將LOG 儲存於 本機
將LOG 儲存於 遠端
如何設定轉 port

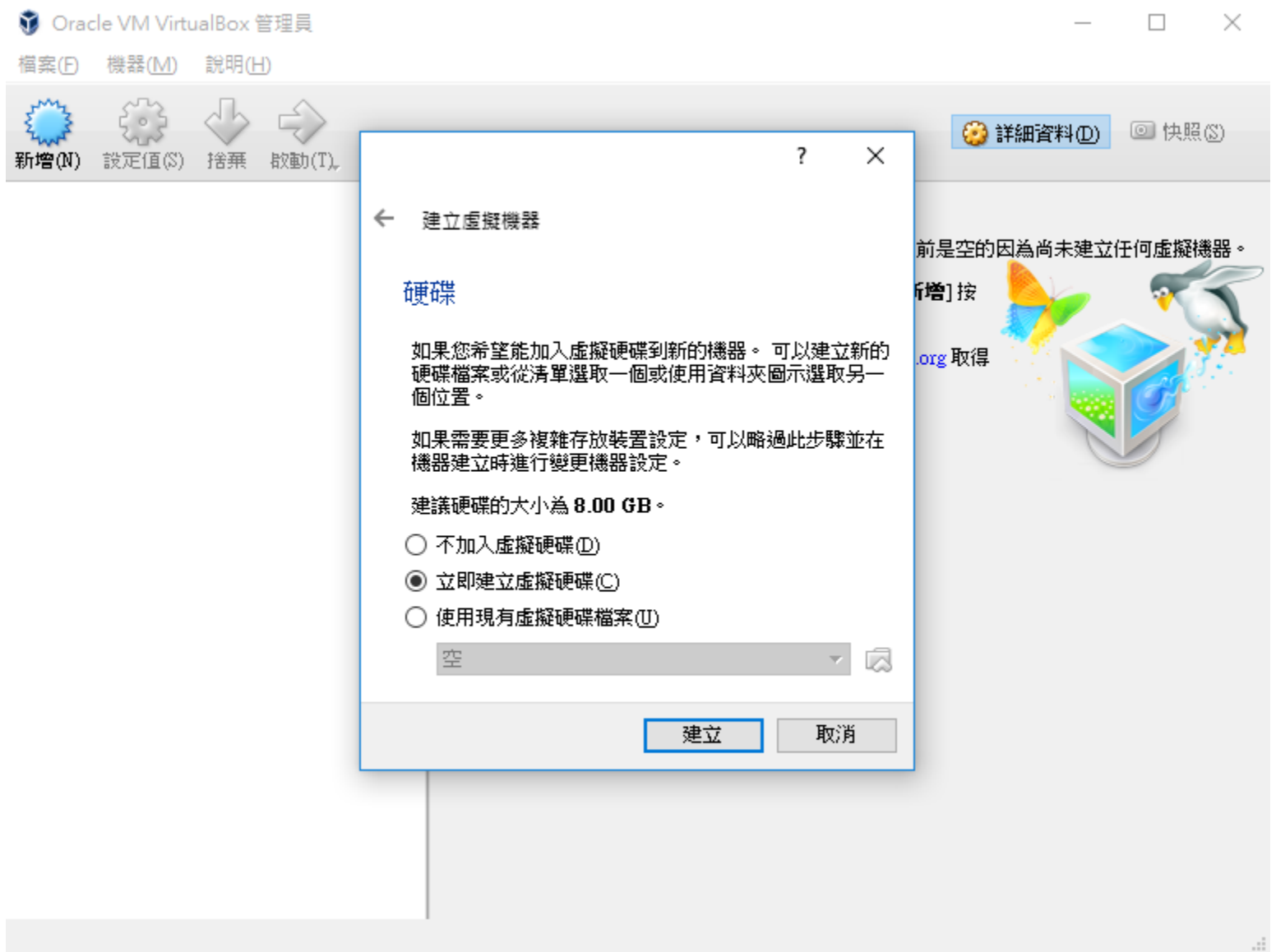

eth0
dhcp
NAT Server
eth0
dhcp
eth1
192.168.1.254
Syslog-ng Server
Client-01
192.168.1.1

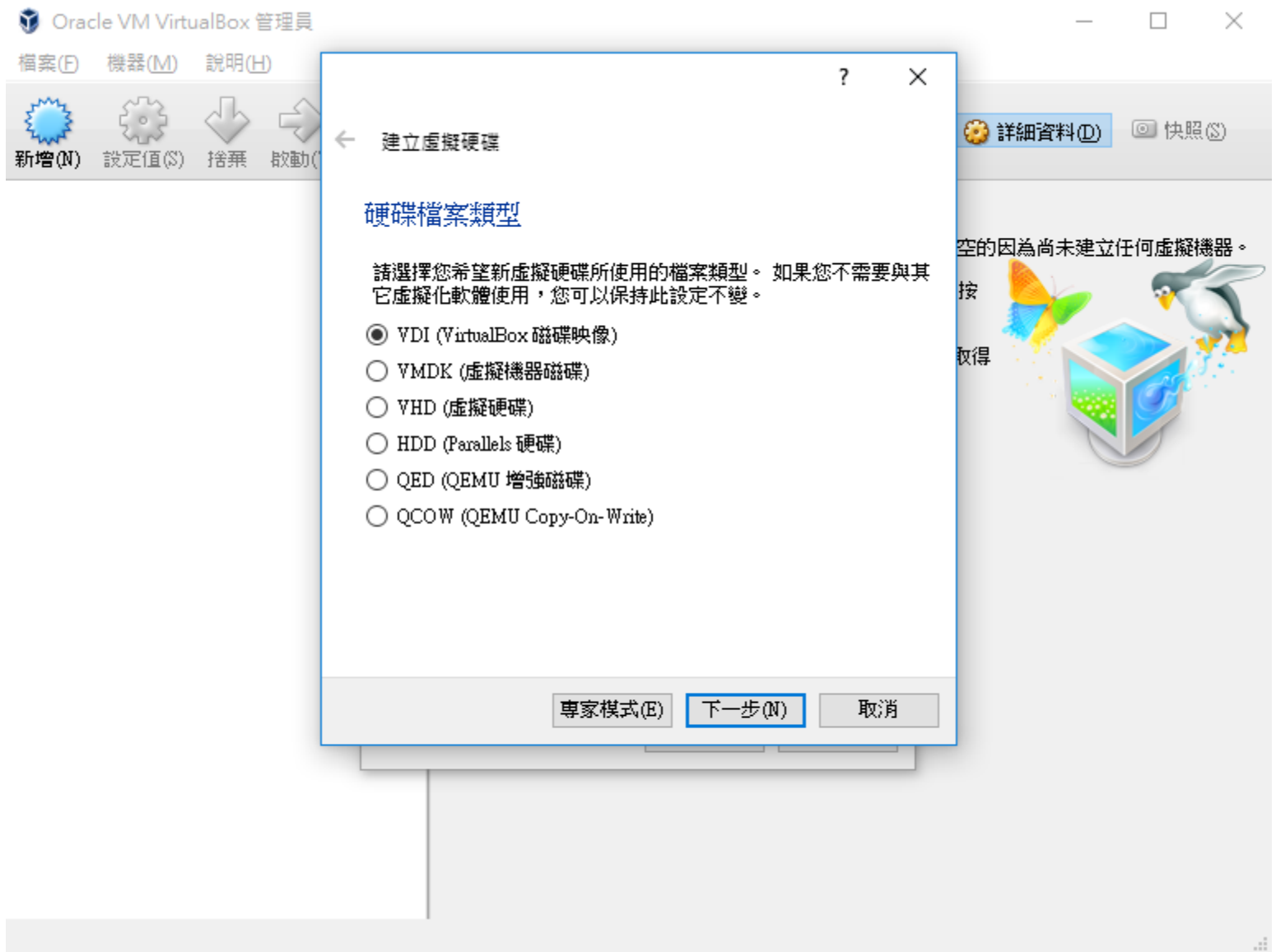
Oracle VM VirtualBox 設定

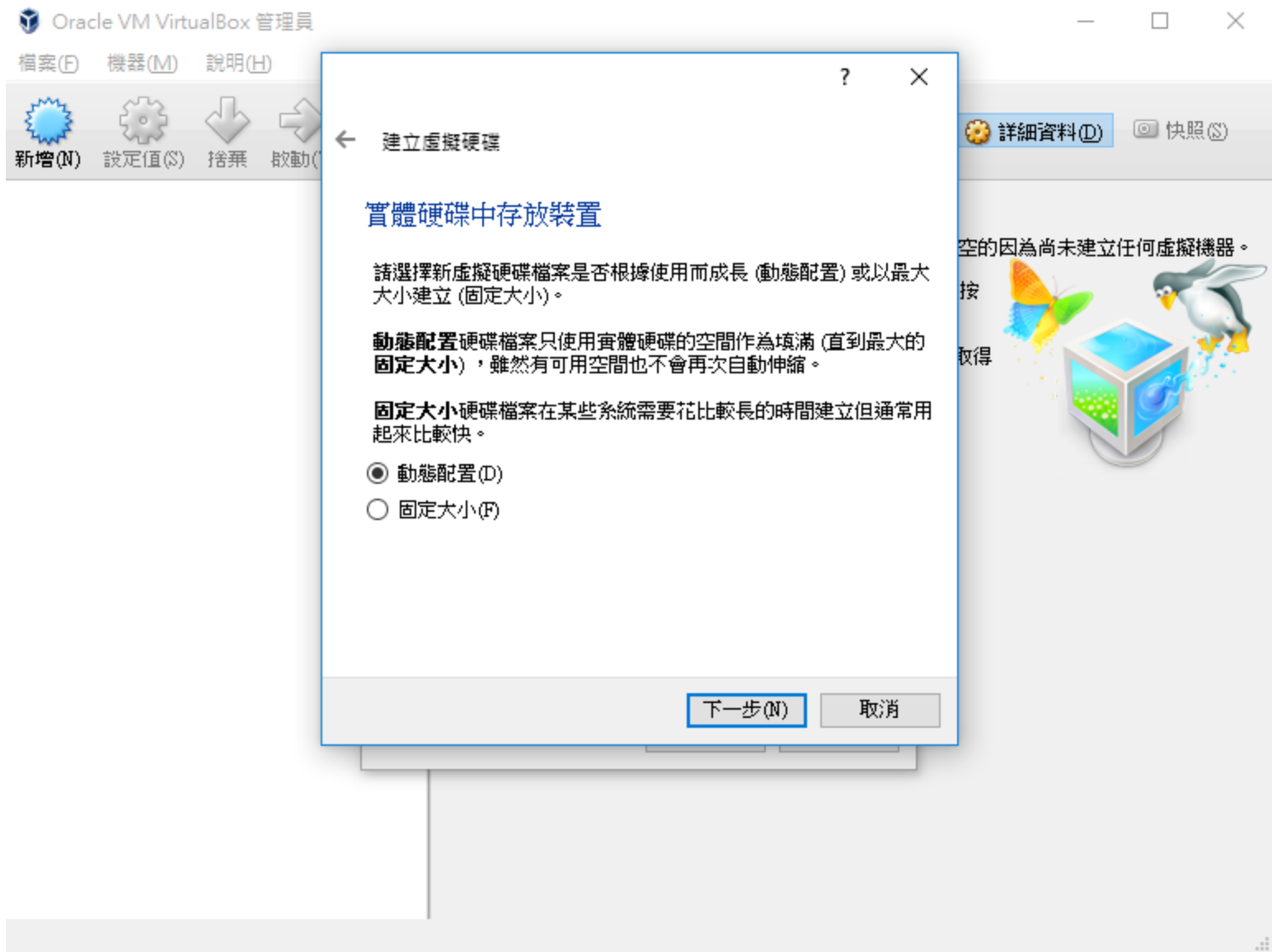

Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
歡迎使用 VirtualBox!
此視窗的左側是電腦中所有虛擬機器的清單。 此清單目前是空的因為尚未建立任何虛擬機器。
為了新建虛擬機器，按下位於視窗頂端的主工具列的 [新增] 按鈕。
您可以按下 F1 鍵取得即時說明，或訪問 www.virtualbox.org 取得最新資訊和新聞。

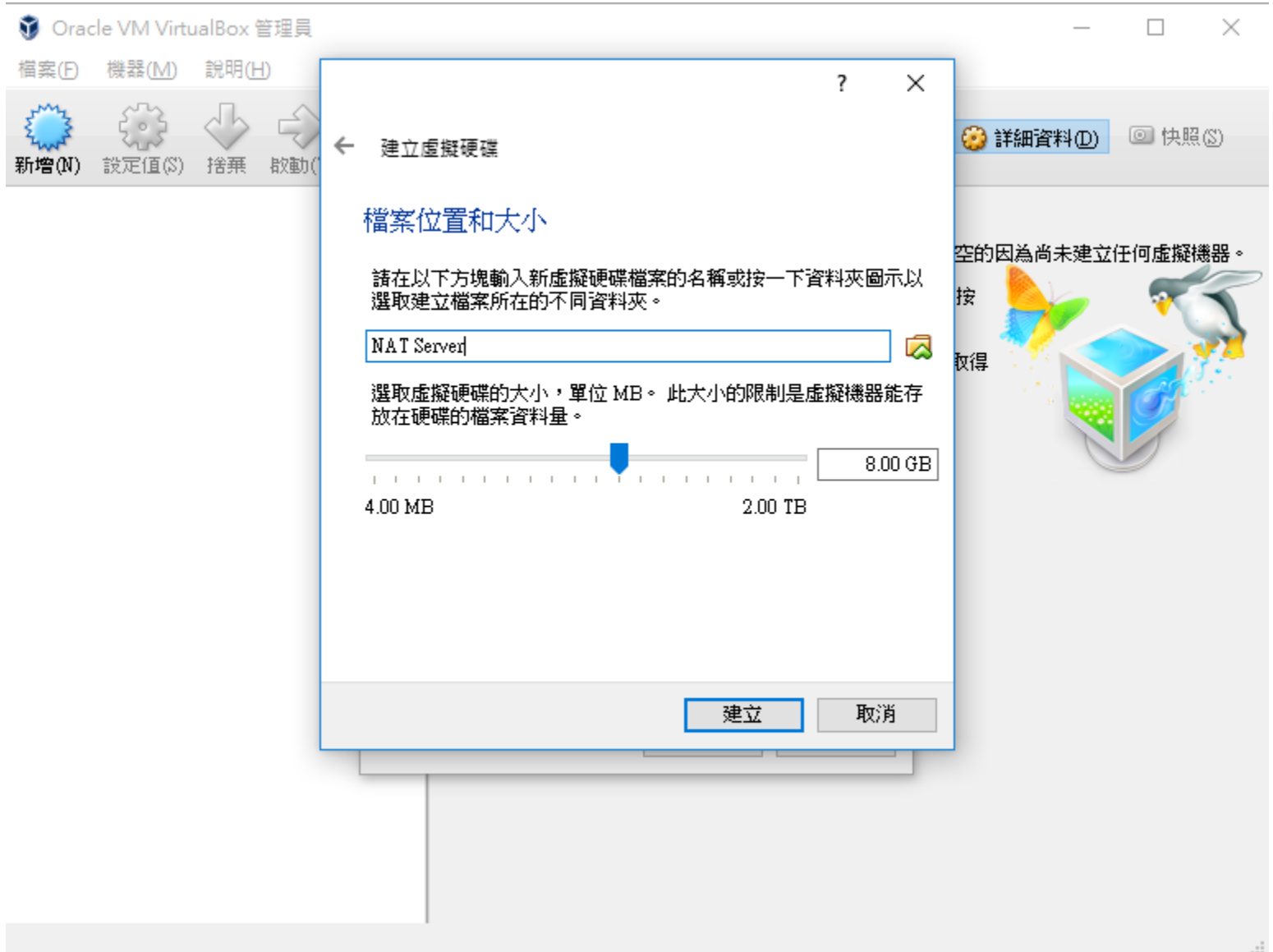

Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
前是空的因為尚未建立任何虛擬機器。
新增] 按
.org 取得
建立虛擬機器
名稱和作業系統
請選擇新虛擬機器的描述性名稱，並選取您打算在上面安裝的作業系統類型。 VirtualBox 將使用整個選擇的名稱來識別此機器。
名稱(A): NAT Server
類型(T): Linux
版本(V): Other Linux (64-bit)
專家模式(E)
下一步(N)
取消

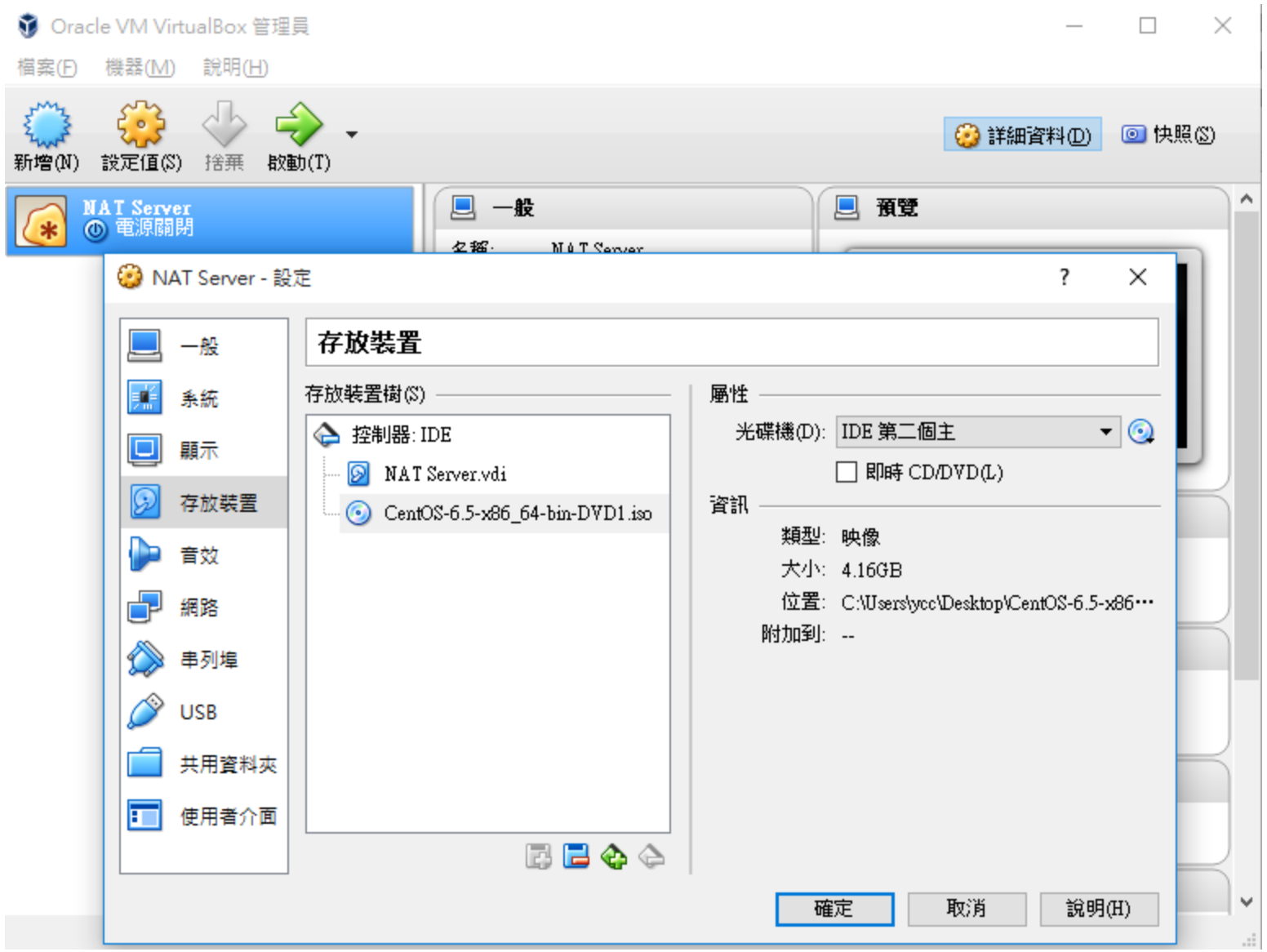

Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
前是空的因為尚未建立任何虛擬機器。
新增] 按
.org 取得
建立虛擬機器
記憶體大小
選取配置到虛擬機器的記憶體量 (RAM)，單位 MB。
建議的記憶體大小為 512 MB。
1024
MB
4 MB
8192 MB
下一步(N)
取消

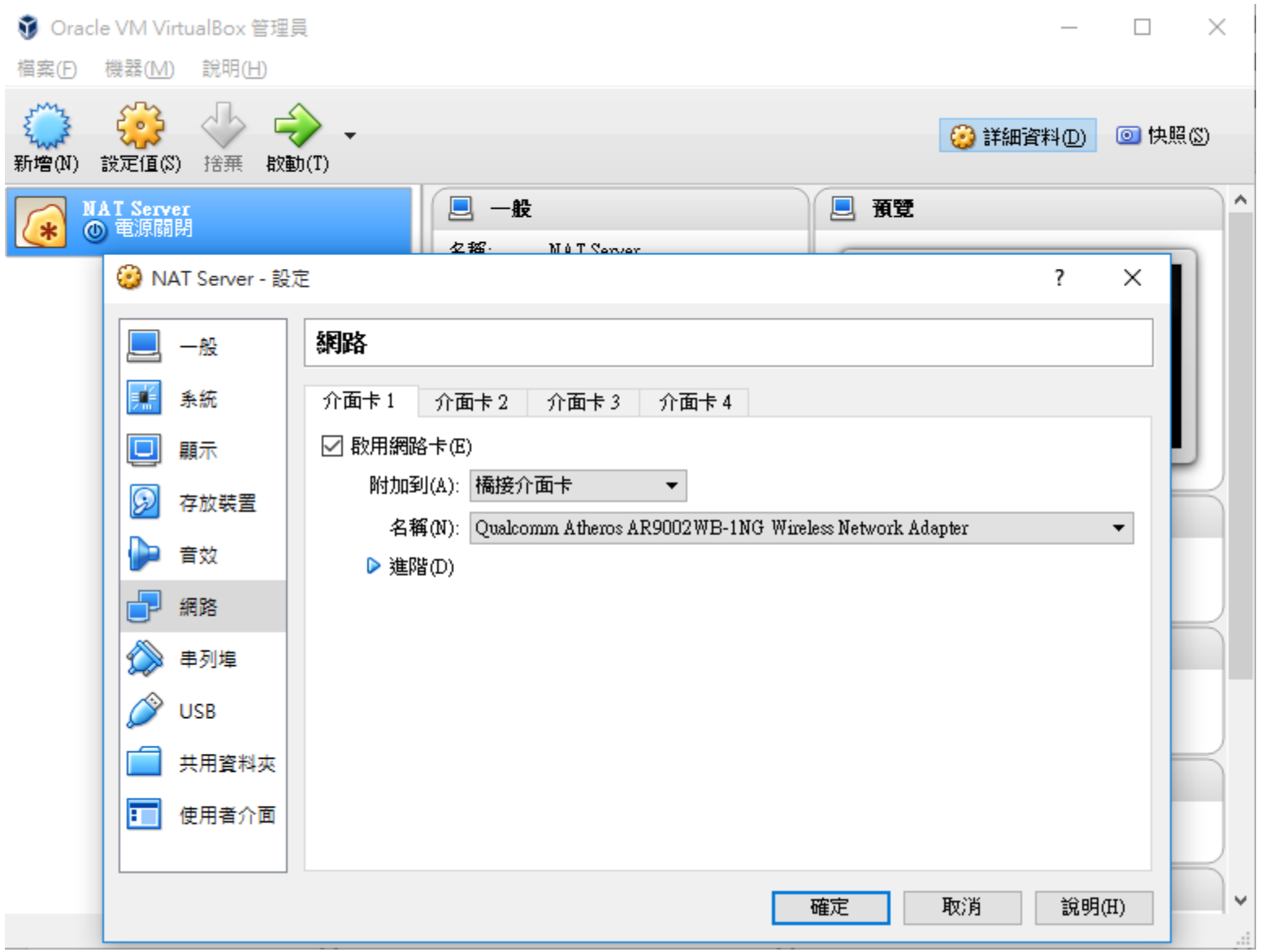

Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
前是空的因為尚未建立任何虛擬機器。
新增] 按
.org 取得
建立虛擬機器
硬碟
如果您希望能加入虛擬硬碟到新的機器。 可以建立新的硬碟檔案或從清單選取一個或使用資料夾圖示選取另一個位置。
如果需要更多複雜存放裝置設定，可以略過此步驟並在機器建立時進行變更機器設定。
建議硬碟的大小為 8.00 GB。
不加入虛擬硬碟(D)
立即建立虛擬硬碟(C)
使用現有虛擬硬碟檔案(U)
空
建立
取消

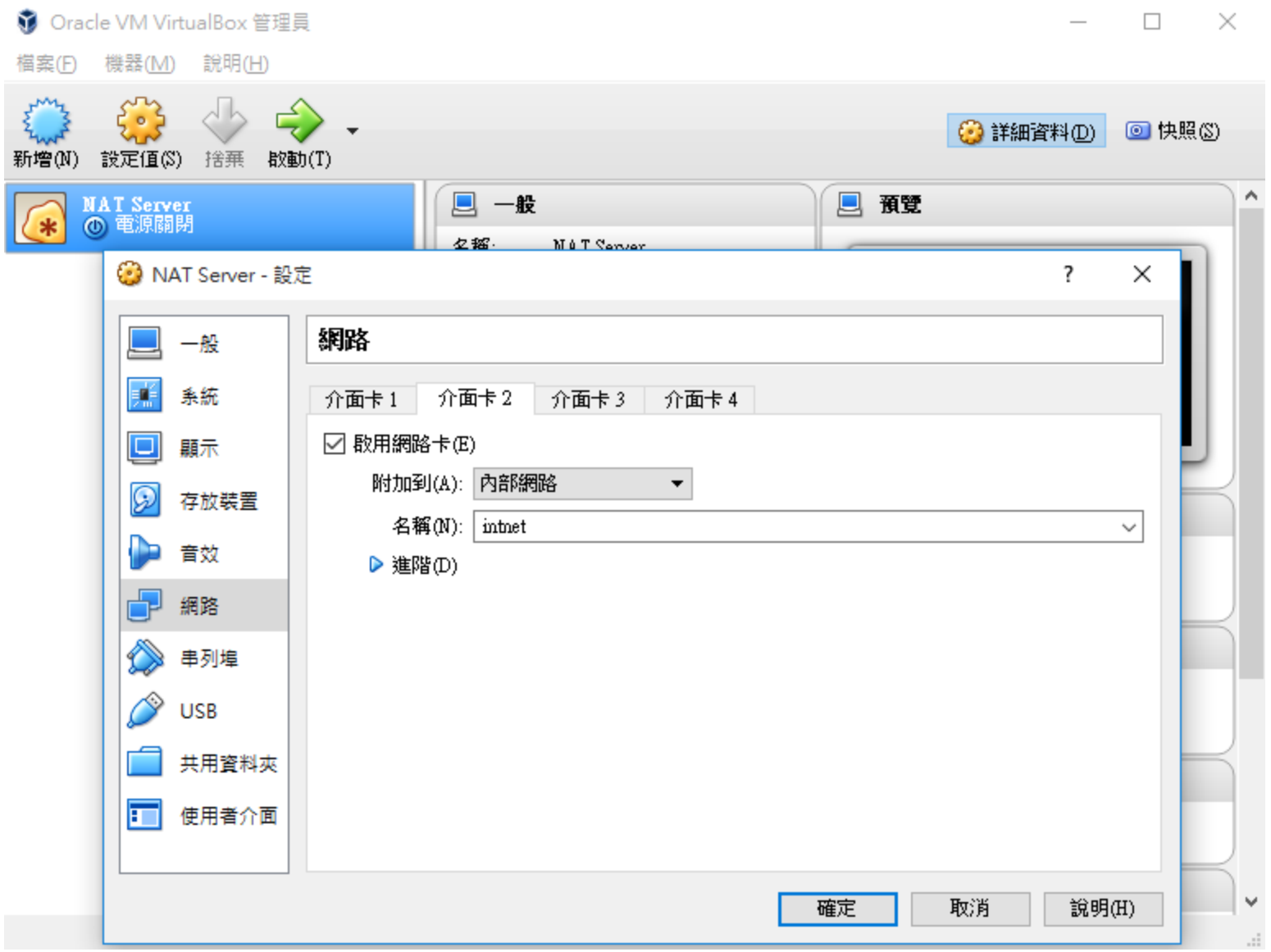

Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
詳細資料(D)
快照(S)
空的因為尚未建立任何虛擬機器。
按
取得
建立虛擬硬碟
硬碟檔案類型
請選擇您希望新虛擬硬碟所使用的檔案類型。 如果您不需要與其它虛擬化軟體使用，您可以保持此設定不變。
VDI (VirtualBox 磁碟映像)
VMDK (虛擬機器磁碟)
VHD (虛擬硬碟)
HDD (Parallels 硬碟)
QED (QEMU 增強磁碟)
QCOW (QEMU Copy-On-Write)
專家模式(E)
下一步(N)
取消


Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
詳細資料(D)
快照(S)
空的因為尚未建立任何虛擬機器。
按
取得
建立虛擬硬碟
實體硬碟中存放裝置
請選擇新虛擬硬碟檔案是否根據使用而成長 (動態配置) 或以最大大小建立 (固定大小)。
動態配置硬碟檔案只使用實體硬碟的空間作為填滿 (直到最大的固定大小)，雖然有可用空間也不會再次自動伸縮。
固定大小硬碟檔案在某些系統需要花比較長的時間建立但通常用起來比較快。
動態配置(D)
固定大小(F)
下一步(N)
取消


Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
詳細資料(D)
快照(S)
空的因為尚未建立任何虛擬機器。
按
取得
建立虛擬硬碟
檔案位置和大小
請在以下方塊輸入新虛擬硬碟檔案的名稱或按一下資料夾圖示以選取建立檔案所在的不同資料夾。
NAT Server
選取虛擬硬碟的大小，單位 MB。 此大小的限制是虛擬機器能存放在硬碟的檔案資料量。
8.00 GB
4.00 MB
2.00 TB
建立
取消


Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
NAT Server
電源關閉
一般
預覽
NAT Server - 設定
一般
系統
顯示
存放裝置
音效
網路
串列埠
USB
共用資料夾
使用者介面
存放裝置
存放裝置樹(S)
控制器: IDE
NAT Server.vdi
CentOS-6.5-x86_64-bin-DVD1.iso
屬性
光碟機(D):
IDE 第二個主
即時 CD/DVD(L)
資訊
類型: 映像
大小: 4.16GB
位置: C:\Users\ycc\Desktop\CentOS-6.5-x86…
附加到: --
確定
取消
說明(H)


Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
設定值(S)
捨棄
啟動(T)
詳細資料(D)
快照(S)
NAT Server
電源關閉
一般
預覽
NAT Server - 設定
一般
系統
顯示
存放裝置
音效
網路
串列埠
USB
共用資料夾
使用者介面
網路
介面卡 1
介面卡 2
介面卡 3
介面卡 4
啟用網路卡(E)
附加到(A):
橋接介面卡
名稱(N):
Qualcomm Atheros AR9002WB-1NG Wireless Network Adapter
進階(D)
確定
取消
說明(H)


Oracle VM VirtualBox 管理員
檔案(F)
機器(M)
說明(H)
新增(N)
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捨棄
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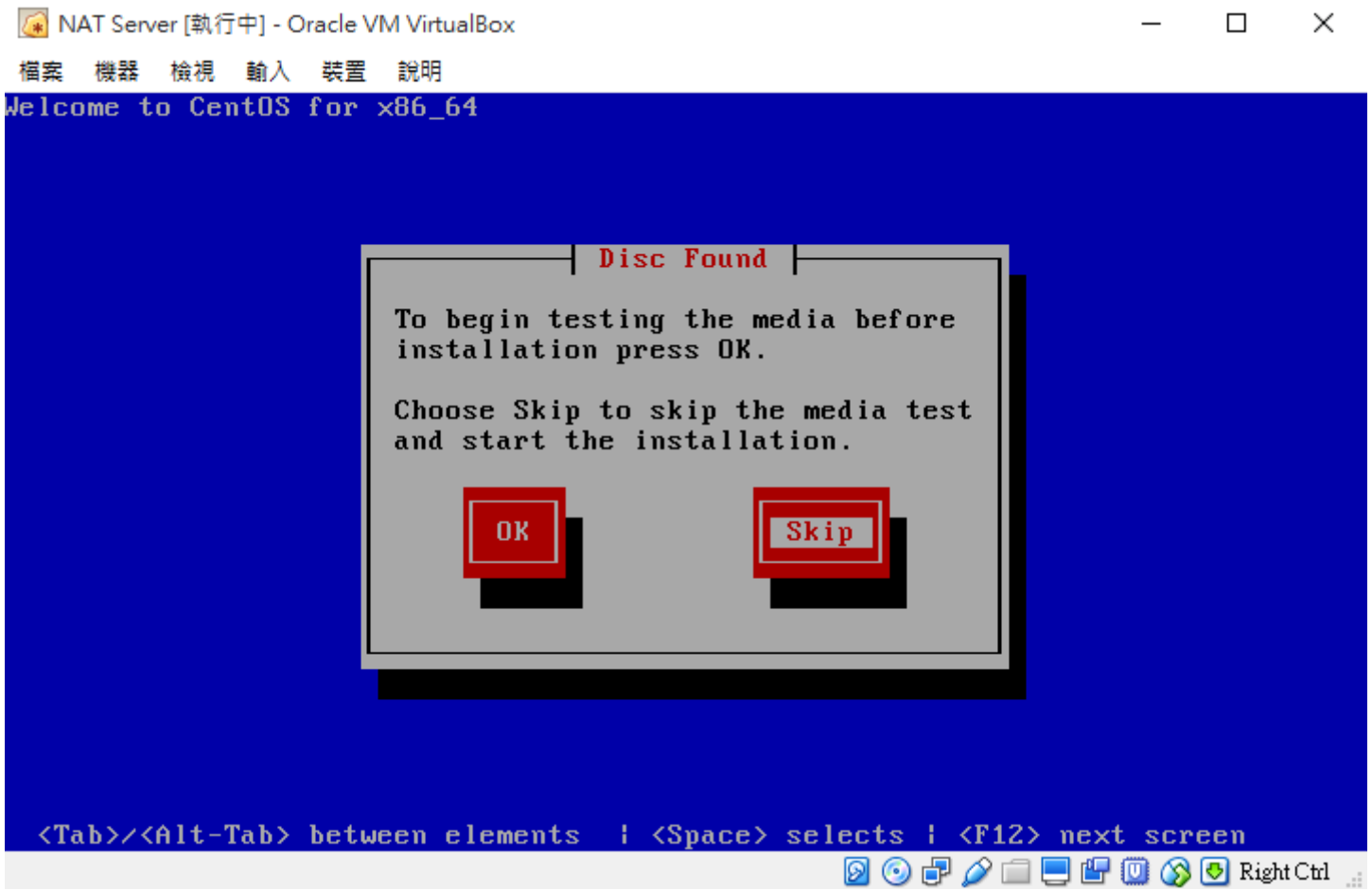
NAT Server
電源關閉
一般
預覽
NAT Server - 設定
一般
系統
顯示
存放裝置
音效
網路
串列埠
USB
共用資料夾
使用者介面
網路
介面卡 1
介面卡 2
介面卡 3
介面卡 4
啟用網路卡(E)
附加到(A):
內部網路
名稱(N):
intnet
進階(D)
確定
取消
說明(H)

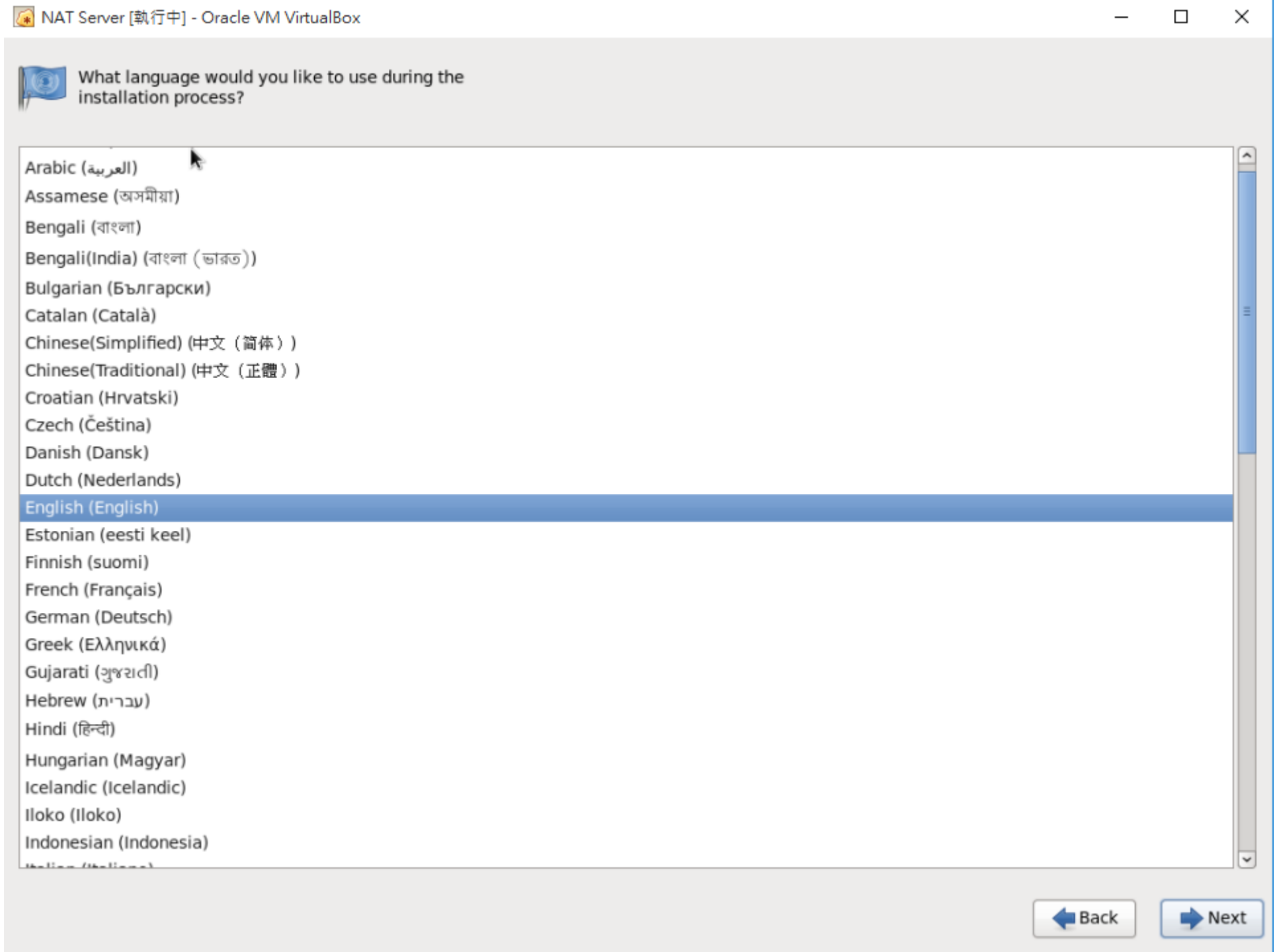
CentOS 安装

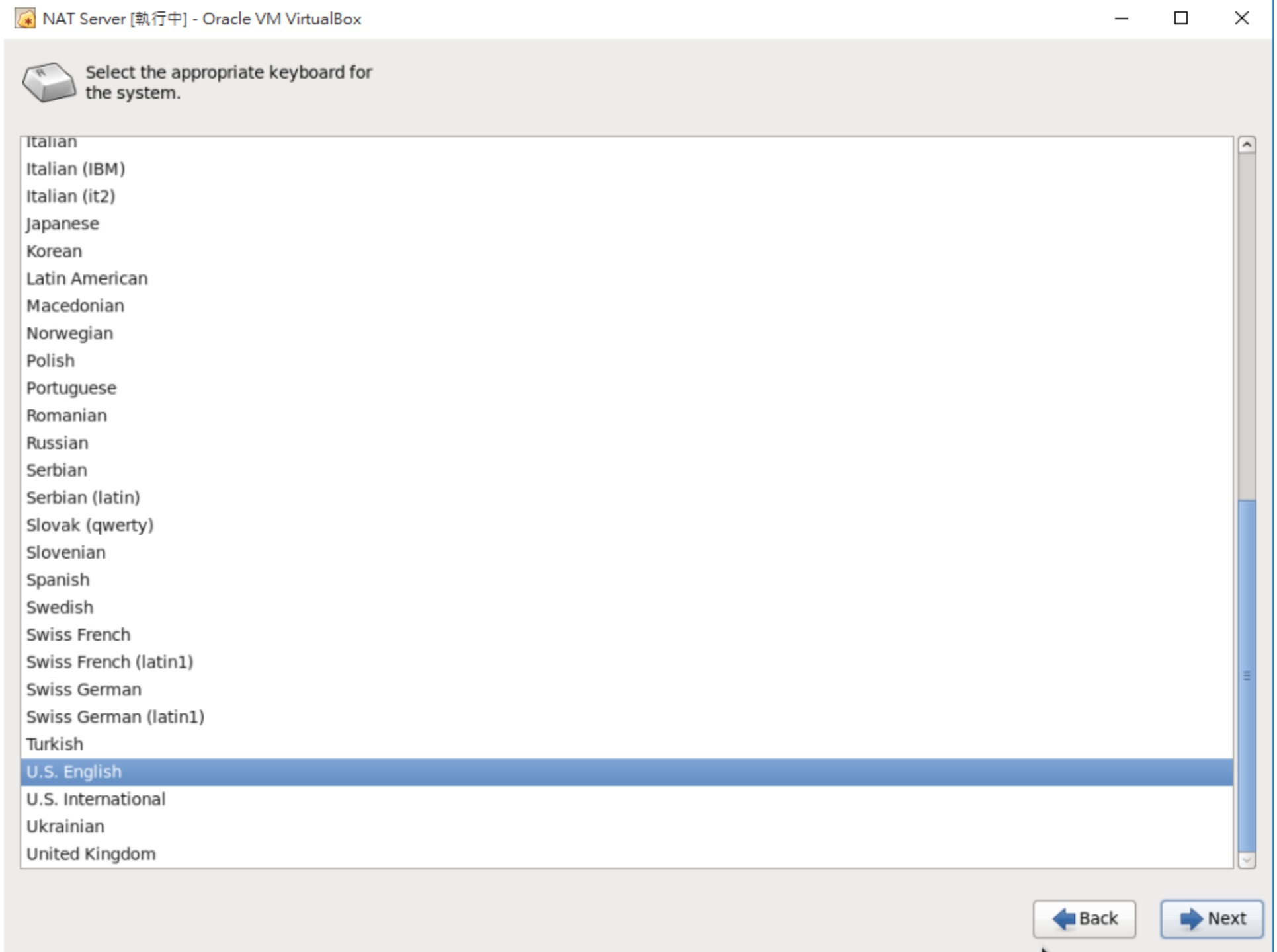

NAT Server [執行中] - Oracle VM VirtualBox
檔案 機器 檢視 輸入 裝置 說明
Welcome to CentOS 6.5!
Install or upgrade an existing system
Install system with basic video driver
Rescue installed system
Boot from local drive
Memory test
Press [Tab] to edit options
Automatic boot in 52 seconds...
CentOS 6
Community ENTerprise Operating System
Right Ctrl


NAT Server [執行中] - Oracle VM VirtualBox
檔案 機器 檢視 輸入 裝置 說明
Welcome to CentOS for x86_64
Disc Found
To begin testing the media before installation press OK.
Choose Skip to skip the media test and start the installation.
OK
Skip
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen
Right Ctrl

NAT Server [執行中] - Oracle VM VirtualBox

Back Next


NAT Server [執行中] - Oracle VM VirtualBox
What language would you like to use during the installation process?
Arabic (العربية)
Assamese (অসমীয়া)
Bengali (বাংলা)
Bengali(India) (বাংলা (ভারত))
Bulgarian (Български)
Catalan (Català)
Chinese(Simplified) (中文（简体）)
Chinese(Traditional) (中文（正體）)
Croatian (Hrvatski)
Czech (Čeština)
Danish (Dansk)
Dutch (Nederlands)
English (English)
Estonian (eesti keel)
Finnish (suomi)
French (Français)
German (Deutsch)
Greek (Ελληνικά)
Gujarati (ગુજરાતી)
Hebrew (עברית)
Hindi (हिन्दी)
Hungarian (Magyar)
Icelandic (Icelandic)
Iloko (Iloko)
Indonesian (Indonesia)
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
Select the appropriate keyboard for the system.
Italian
Italian (IBM)
Italian (it2)
Japanese
Korean
Latin American
Macedonian
Norwegian
Polish
Portuguese
Romanian
Russian
Serbian
Serbian (latin)
Slovak (qwerty)
Slovenian
Spanish
Swedish
Swiss French
Swiss French (latin1)
Swiss German
Swiss German (latin1)
Turkish
U.S. English
U.S. International
Ukrainian
United Kingdom
Back
Next

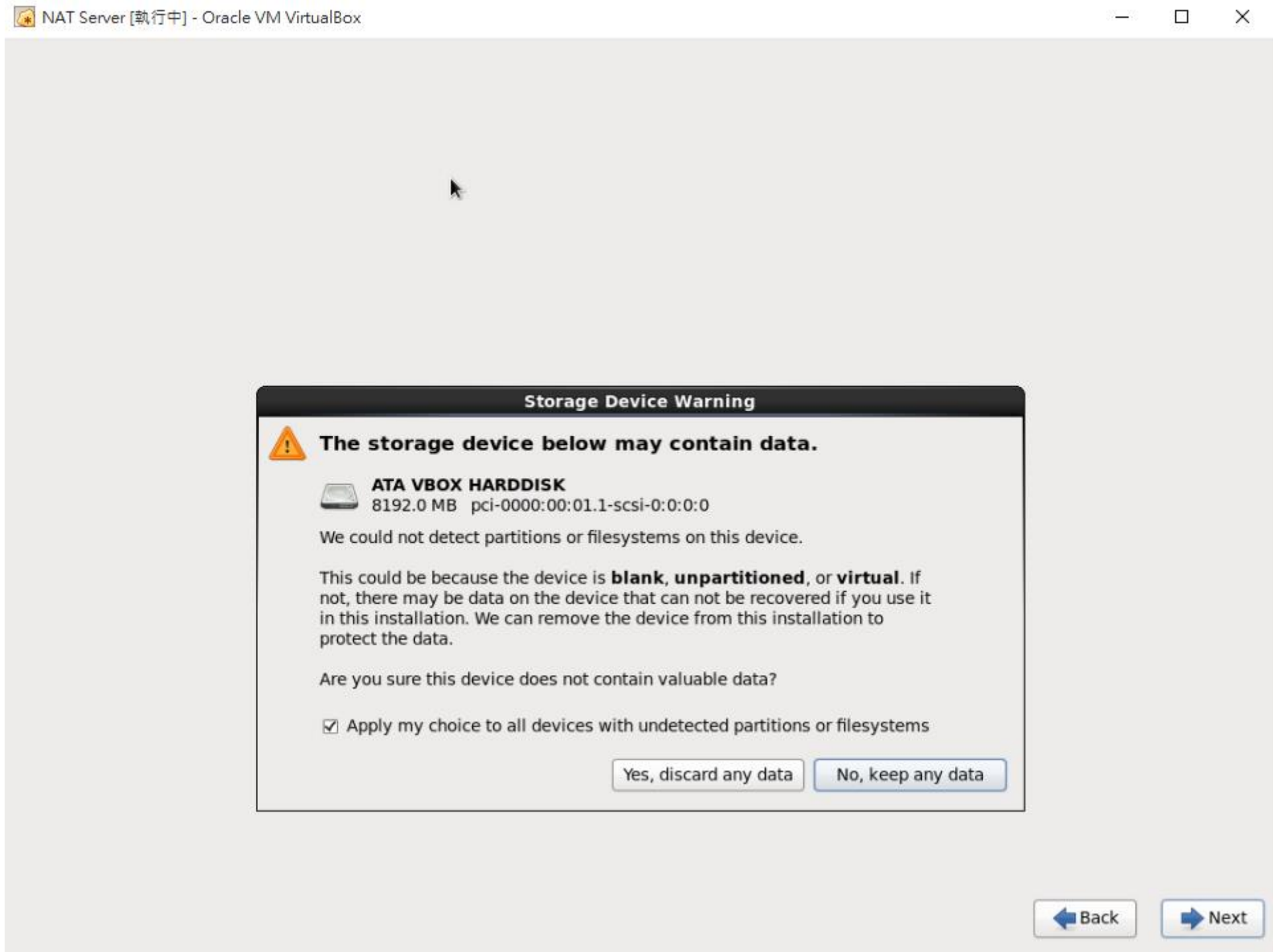
NAT Server [執行中] - Oracle VM VirtualBox

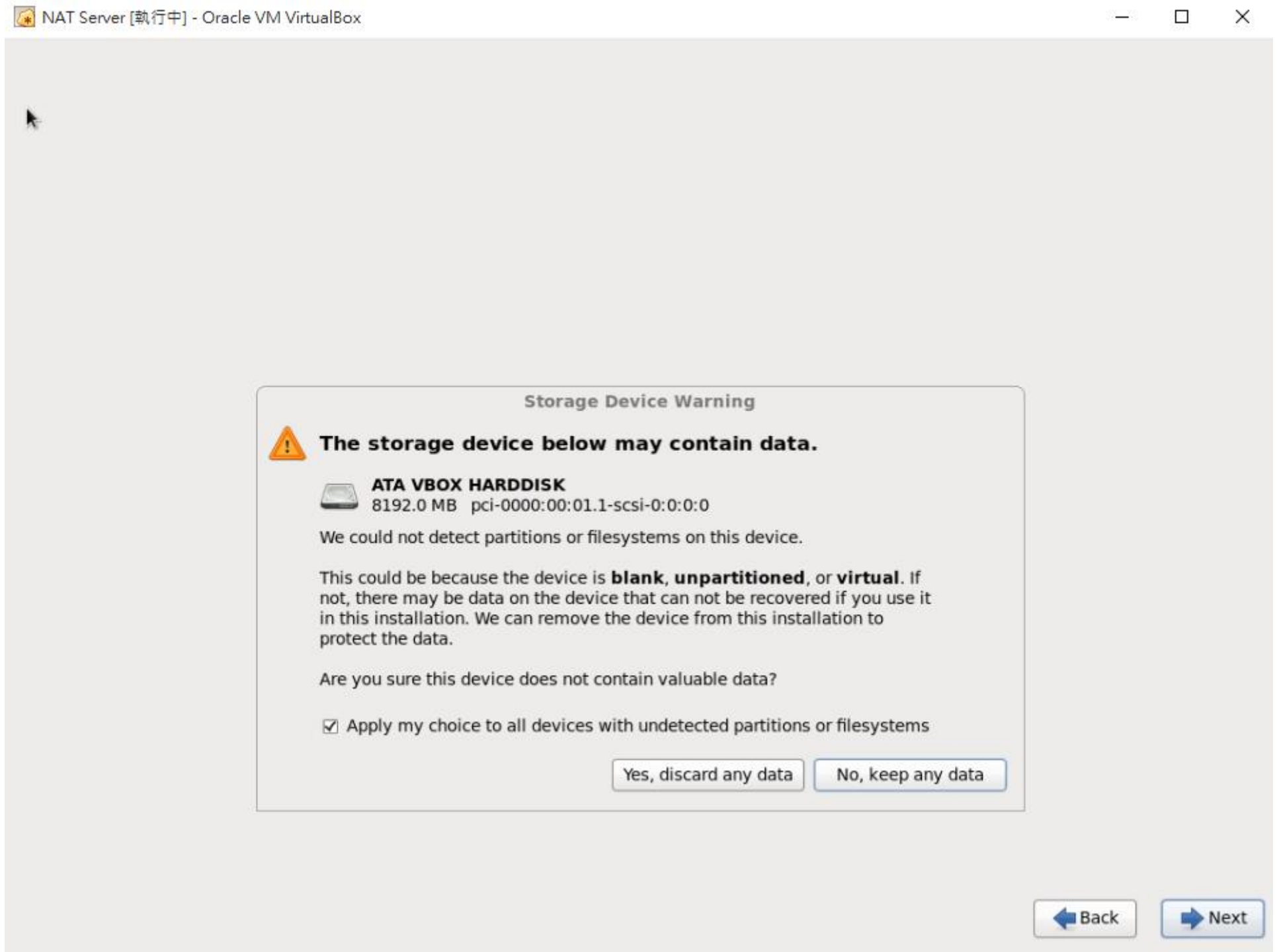
What type of devices will your installation involve?

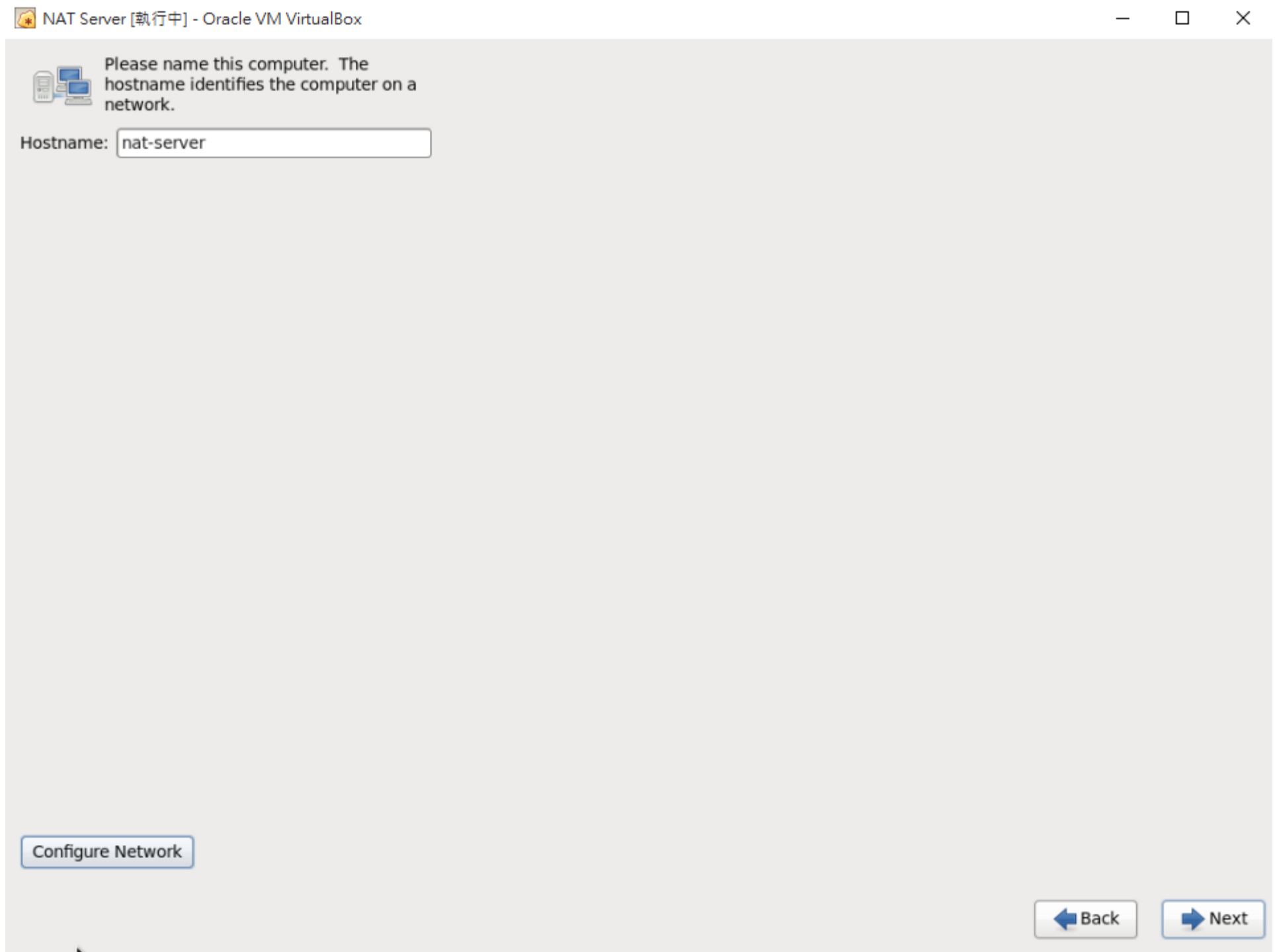
Basic Storage Devices
Installs or upgrades to typical types of storage devices. If you're not sure which option is right for you, this is probably it.

Specialized Storage Devices
Installs or upgrades to enterprise devices such as Storage Area Networks (SANs). This option will allow you to add FCoE / iSCSI / zFCP disks and to filter out devices the installer should ignore.

Back Next


NAT Server [執行中] - Oracle VM VirtualBox
Storage Device Warning
The storage device below may contain data.
ATA VBOX HARDDISK
8192.0 MB pci-0000:00:01.1-scsi-0:0:0:0
We could not detect partitions or filesystems on this device.
This could be because the device is blank, unpartitioned, or virtual. If not, there may be data on the device that can not be recovered if you use it in this installation. We can remove the device from this installation to protect the data.
Are you sure this device does not contain valuable data?
Apply my choice to all devices with undetected partitions or filesystems
Yes, discard any data
No, keep any data
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
Storage Device Warning
The storage device below may contain data.
ATA VBOX HARDDISK
8192.0 MB pci-0000:00:01.1-scsi-0:0:0:0
We could not detect partitions or filesystems on this device.
This could be because the device is blank, unpartitioned, or virtual. If not, there may be data on the device that can not be recovered if you use it in this installation. We can remove the device from this installation to protect the data.
Are you sure this device does not contain valuable data?
Apply my choice to all devices with undetected partitions or filesystems
Yes, discard any data
No, keep any data
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
Please name this computer. The hostname identifies the computer on a network.
Hostname:
nat-server
Configure Network
Back
Next

NAT Server [執行中] - Oracle VM VirtualBox

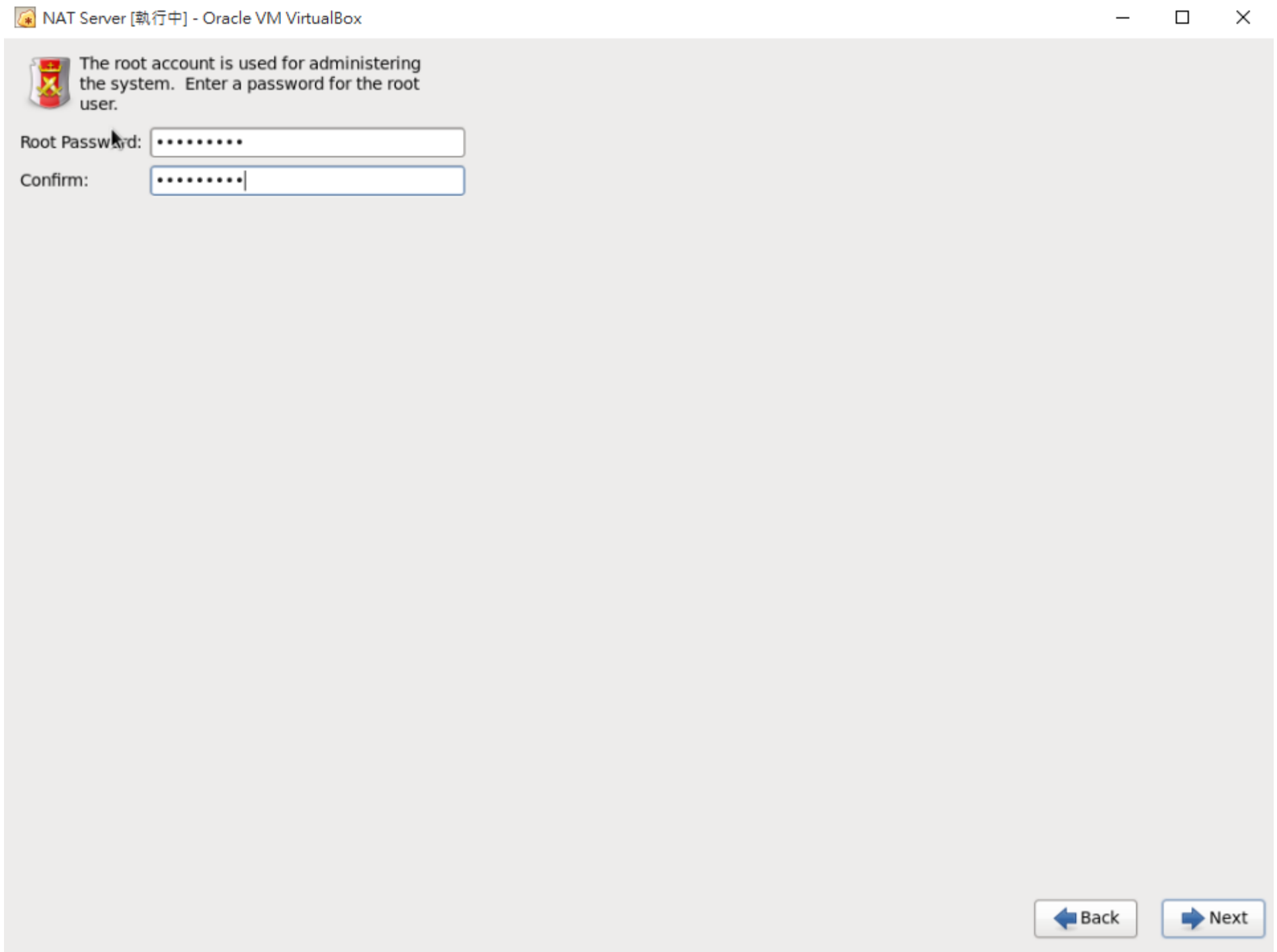
Please select the nearest city in your time zone:

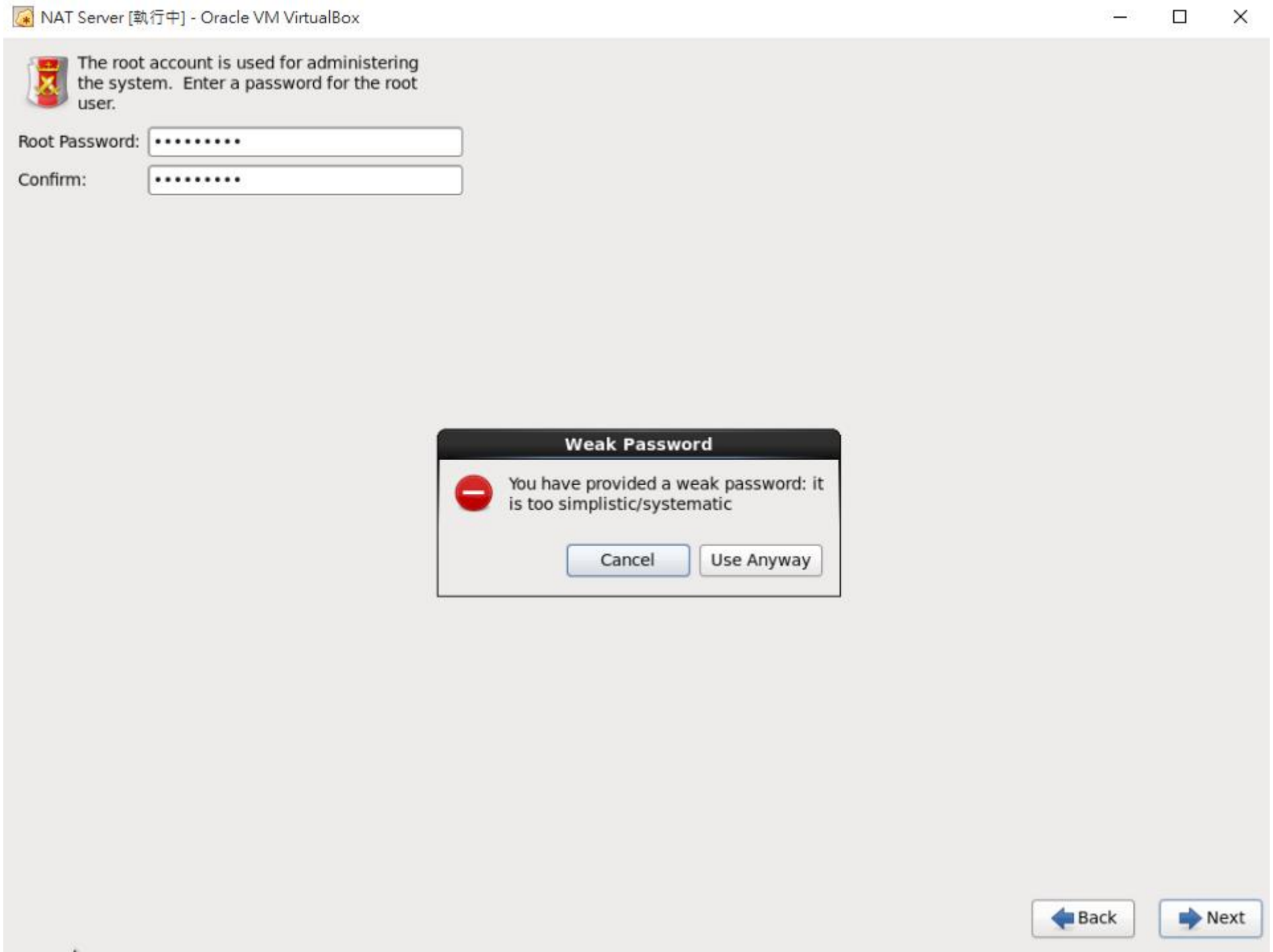
Selected city: Taipei, Asia

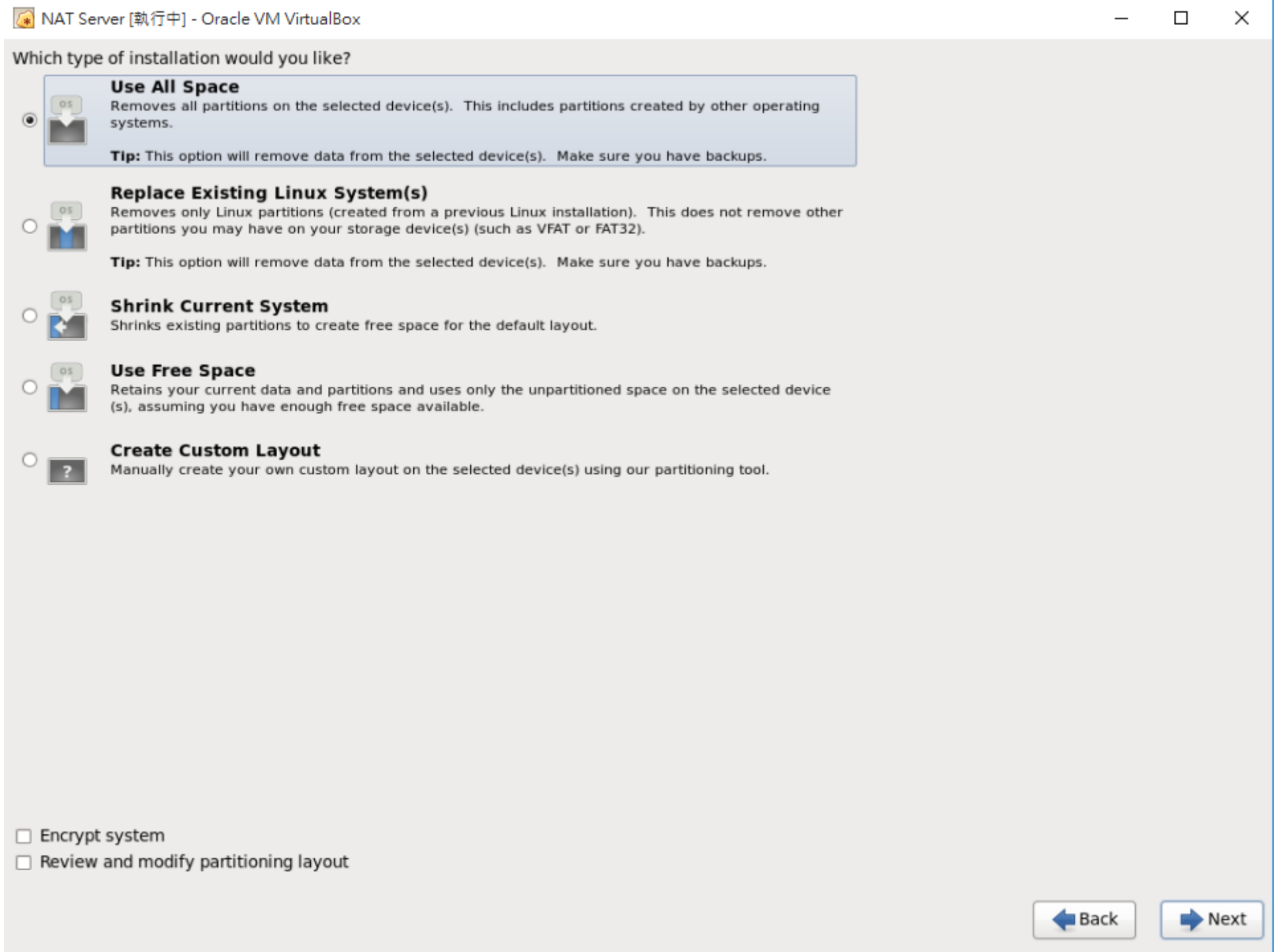
Asia/Taipei

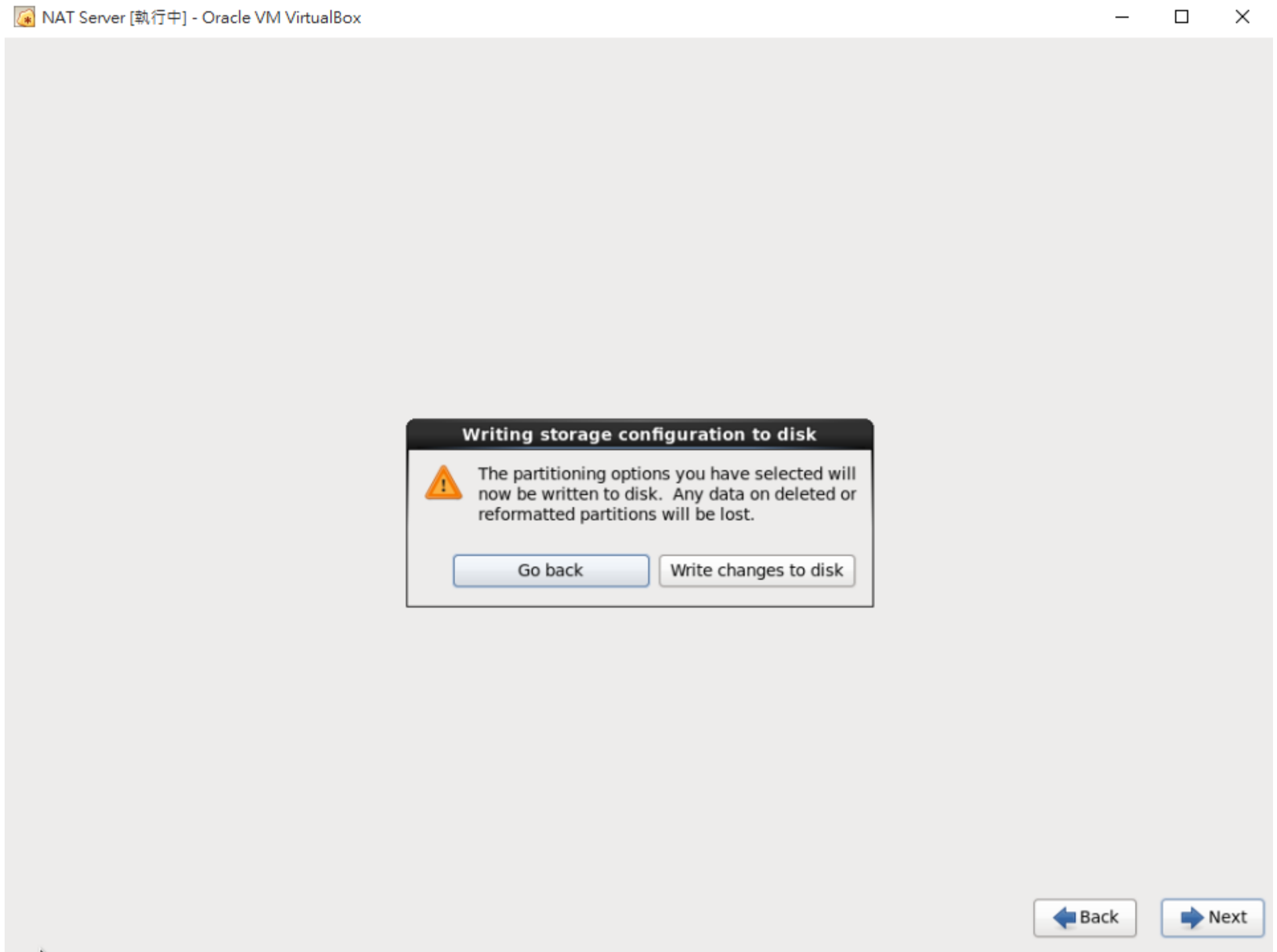
☑ System clock uses UTC

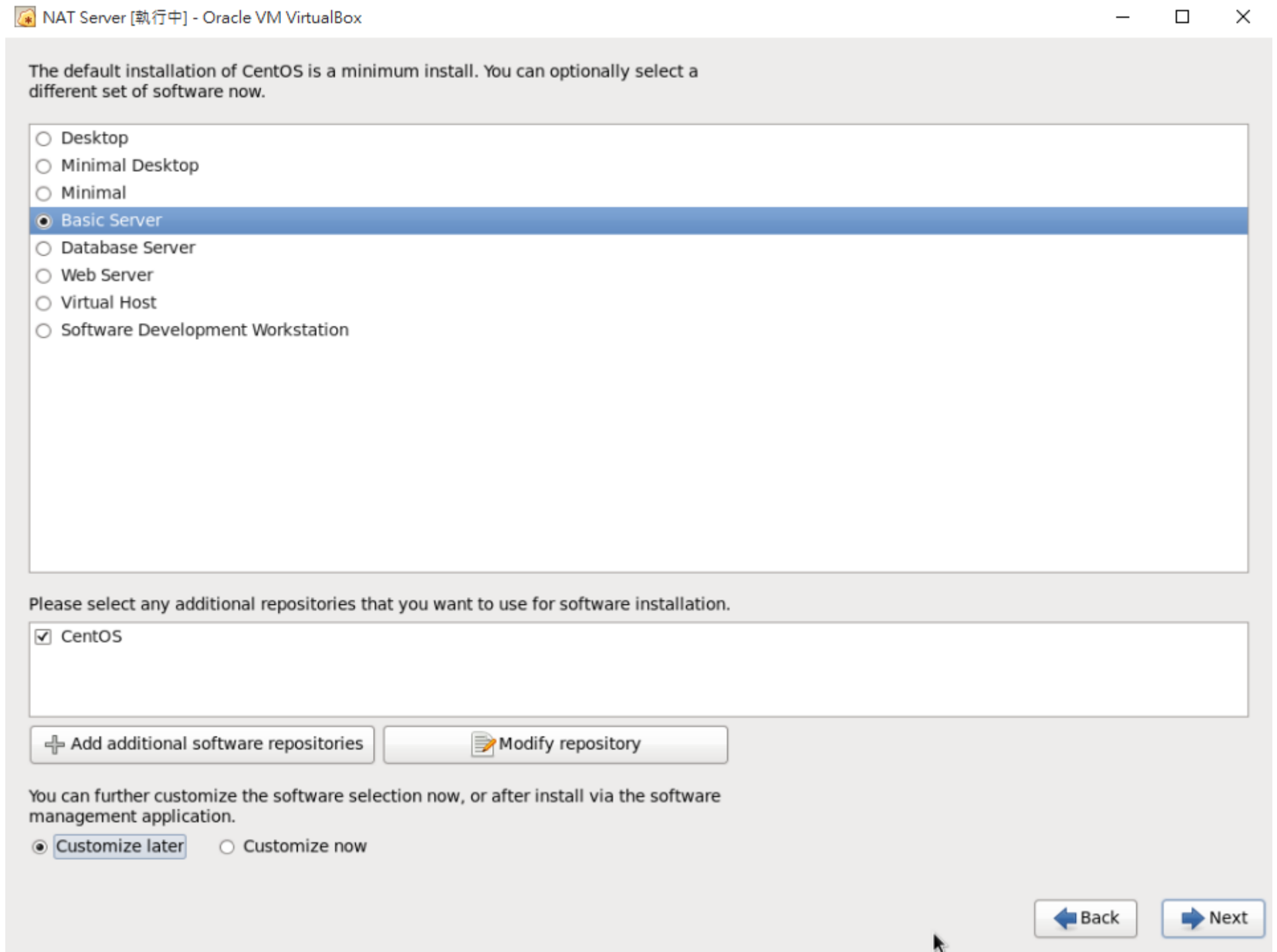
Back Next


NAT Server [執行中] - Oracle VM VirtualBox
The root account is used for administering the system. Enter a password for the root user.
Root Password:
Confirm:
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
The root account is used for administering the system. Enter a password for the root user.
Root Password:
Confirm:
Weak Password
You have provided a weak password: it is too simplistic/systematic
Cancel
Use Anyway
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
Which type of installation would you like?
Use All Space
Removes all partitions on the selected device(s). This includes partitions created by other operating systems.
Tip: This option will remove data from the selected device(s). Make sure you have backups.
Replace Existing Linux System(s)
Removes only Linux partitions (created from a previous Linux installation). This does not remove other partitions you may have on your storage device(s) (such as VFAT or FAT32).
Tip: This option will remove data from the selected device(s). Make sure you have backups.
Shrink Current System
Shrinks existing partitions to create free space for the default layout.
Use Free Space
Retains your current data and partitions and uses only the unpartitioned space on the selected device (s), assuming you have enough free space available.
Create Custom Layout
Manually create your own custom layout on the selected device(s) using our partitioning tool.
Encrypt system
Review and modify partitioning layout
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
Writing storage configuration to disk
The partitioning options you have selected will now be written to disk. Any data on deleted or reformatted partitions will be lost.
Go back
Write changes to disk
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
The default installation of CentOS is a minimum install. You can optionally select a different set of software now.
Desktop
Minimal Desktop
Minimal
Basic Server
Database Server
Web Server
Virtual Host
Software Development Workstation
Please select any additional repositories that you want to use for software installation.
CentOS
Add additional software repositories
Modify repository
You can further customize the software selection now, or after install via the software management application.
Customize later
Customize now
Back
Next


NAT Server [執行中] - Oracle VM VirtualBox
CentOS 6
Community ENTerprise Operating System
Packages completed: 7 of 621
Installing tzdata-java-2013g-1.el6.noarch (270 KB)
Timezone data for Java
Back
Next

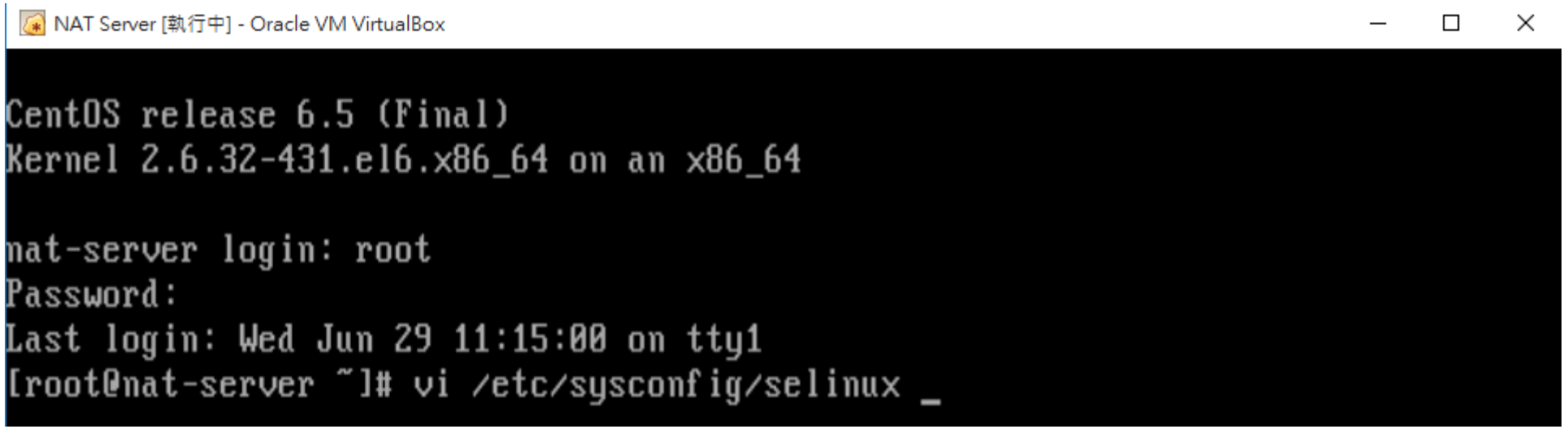
NAT Server [執行中] - Oracle VM VirtualBox

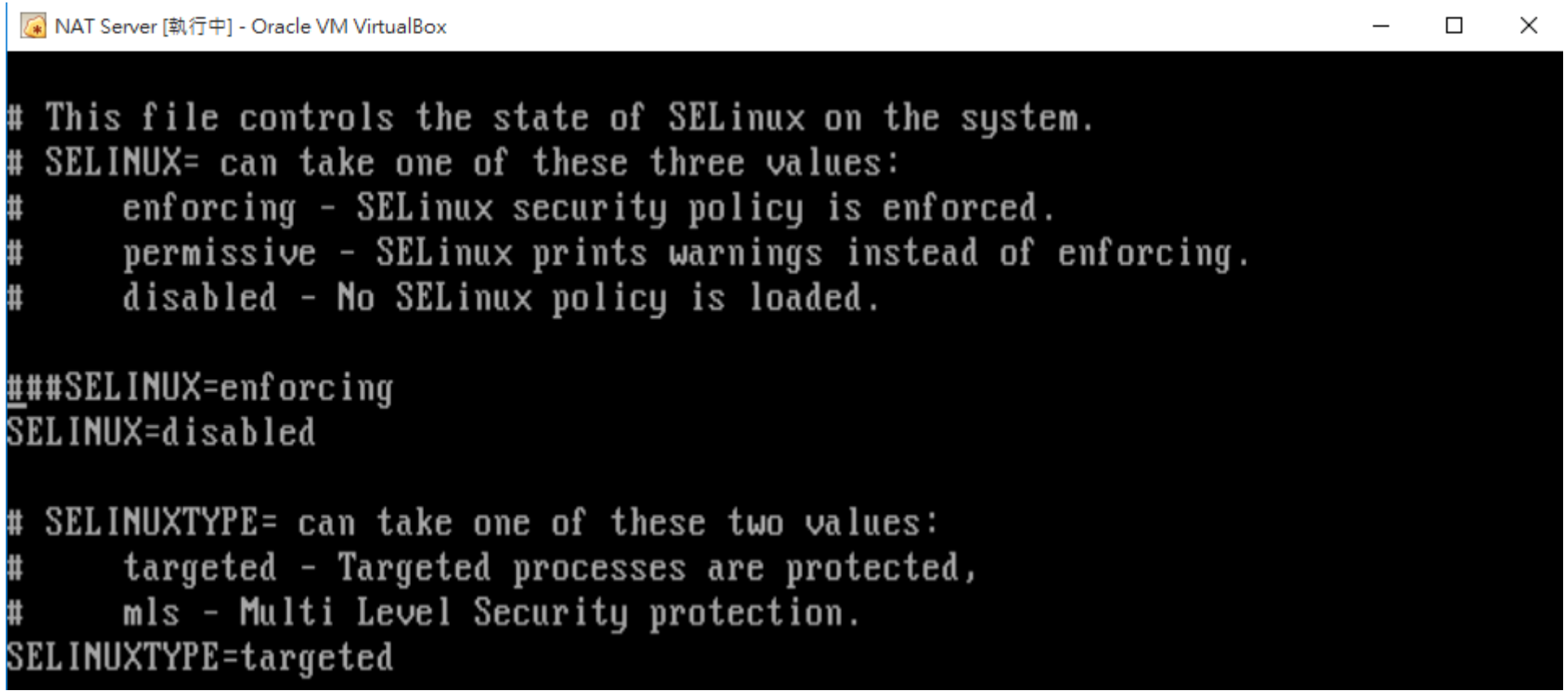
Congratulations, your CentOS installation is complete.

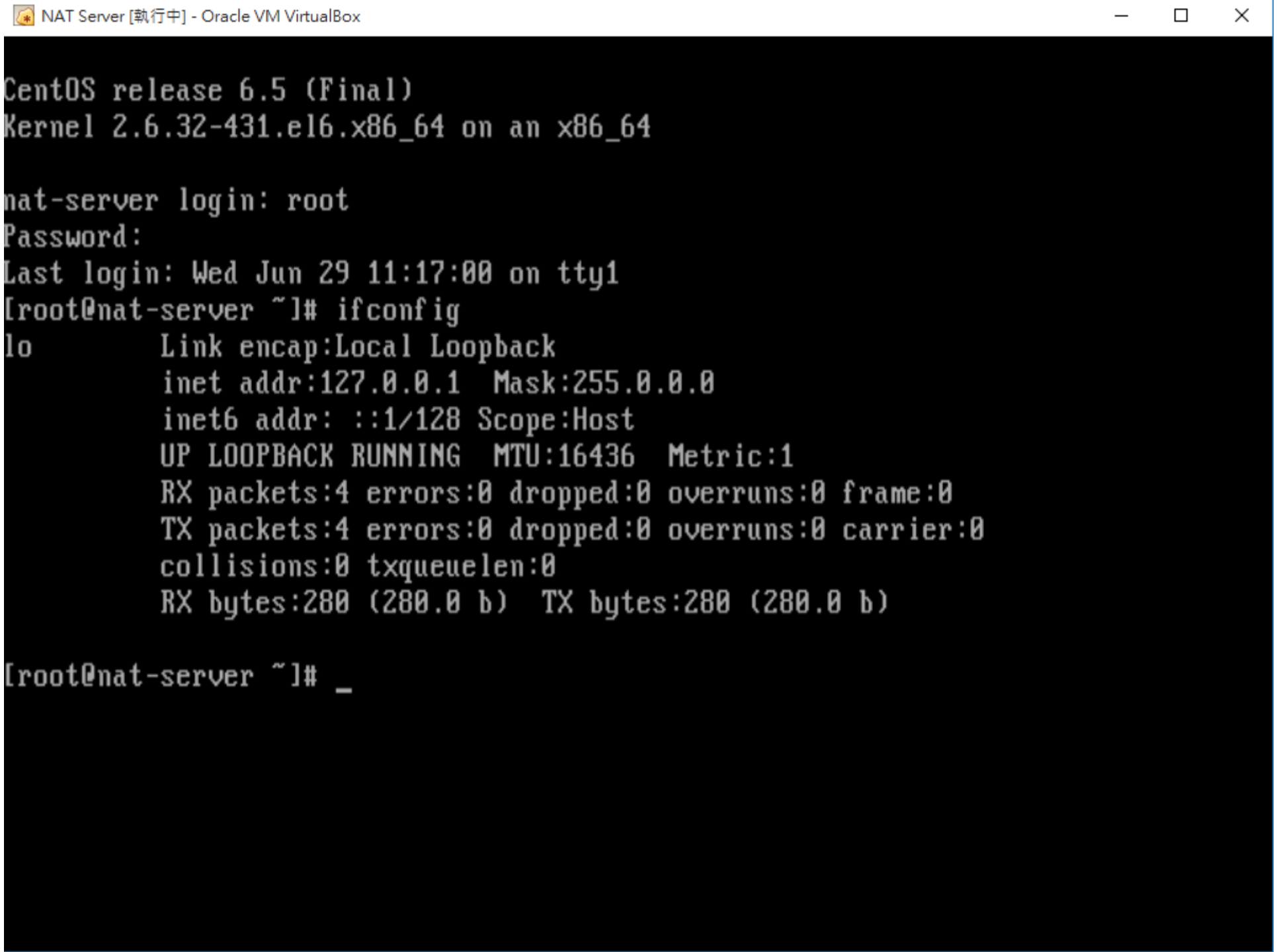
Please reboot to use the installed system. Note that updates may be available to ensure the proper functioning of your system and installation of these updates is recommended after the reboot.

Back Reboot

CentOS 設定之前的調整


NAT Server [執行中] - Oracle VM VirtualBox
CentOS release 6.5 (Final)
Kernel 2.6.32-431.el6.x86_64 on an x86_64
nat-server login: root
Password:
Last login: Wed Jun 29 11:15:00 on tty1
[root@nat-server ~]# vi /etc/sysconfig/selinux _


NAT Server [執行中] - Oracle VM VirtualBox
This file controls the state of SELinux on the system.
SELINUX= can take one of these three values:
enforcing - SELinux security policy is enforced.
permissive - SELinux prints warnings instead of enforcing.
disabled - No SELinux policy is loaded.
###SELINUX=enforcing
SELINUX=disabled
# SELINUXTYPE= can take one of these two values:
#   targeted - Targeted processes are protected,
#   mls - Multi Level Security protection.
SELINUXTYPE=targeted


NAT Server [執行中] - Oracle VM VirtualBox
CentOS release 6.5 (Final)
Kernel 2.6.32-431.el6.x86_64 on an x86_64
nat-server login: root
Password:
Last login: Wed Jun 29 11:17:00 on tty1
[root@nat-server ~]# ifconfig
lo Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:4 errors:0 dropped:0 overruns:0 frame:0
TX packets:4 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0
RX bytes:280 (280.0 b) TX bytes:280 (280.0 b)
[root@nat-server ~]# _

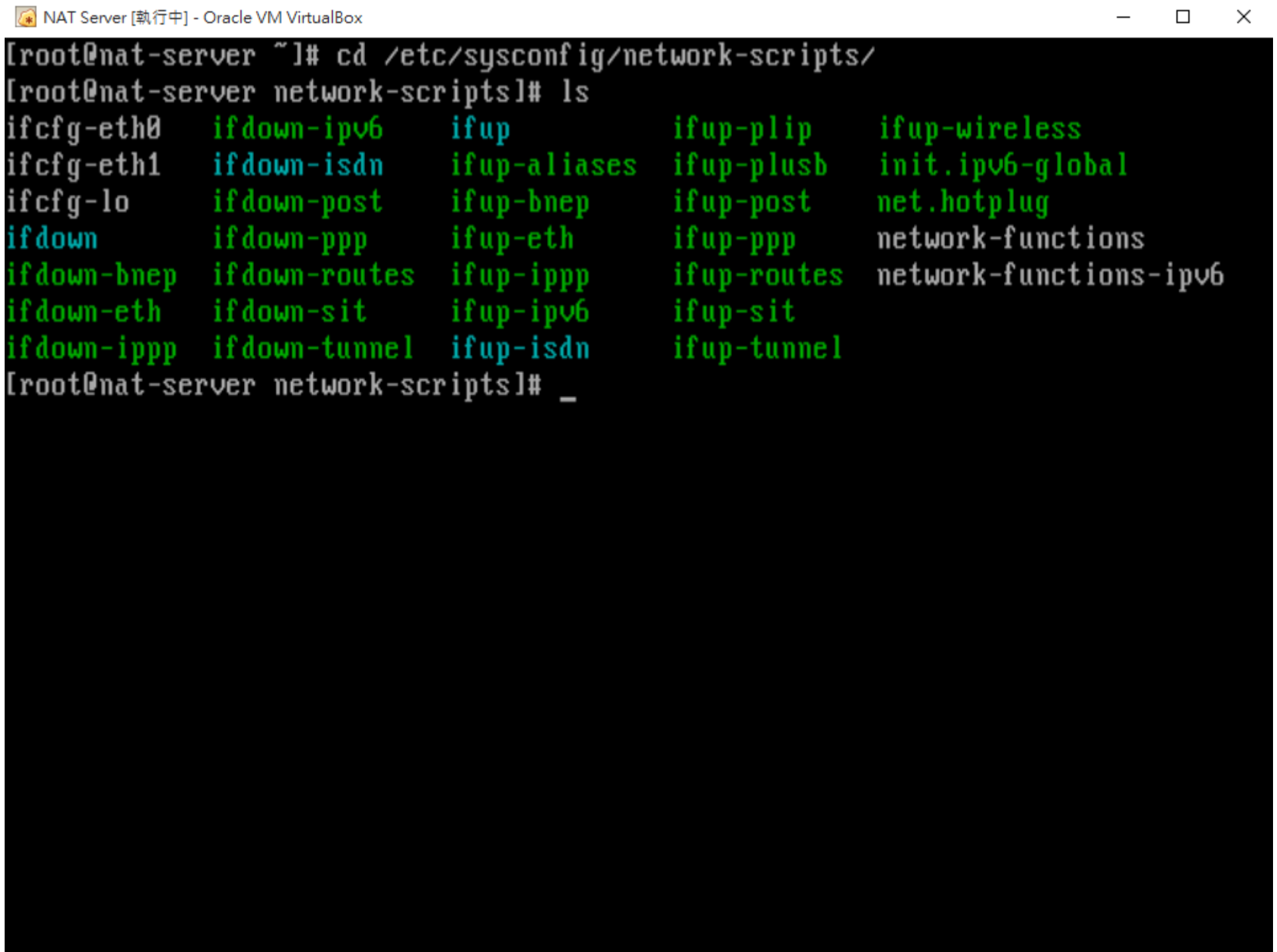
系統安全

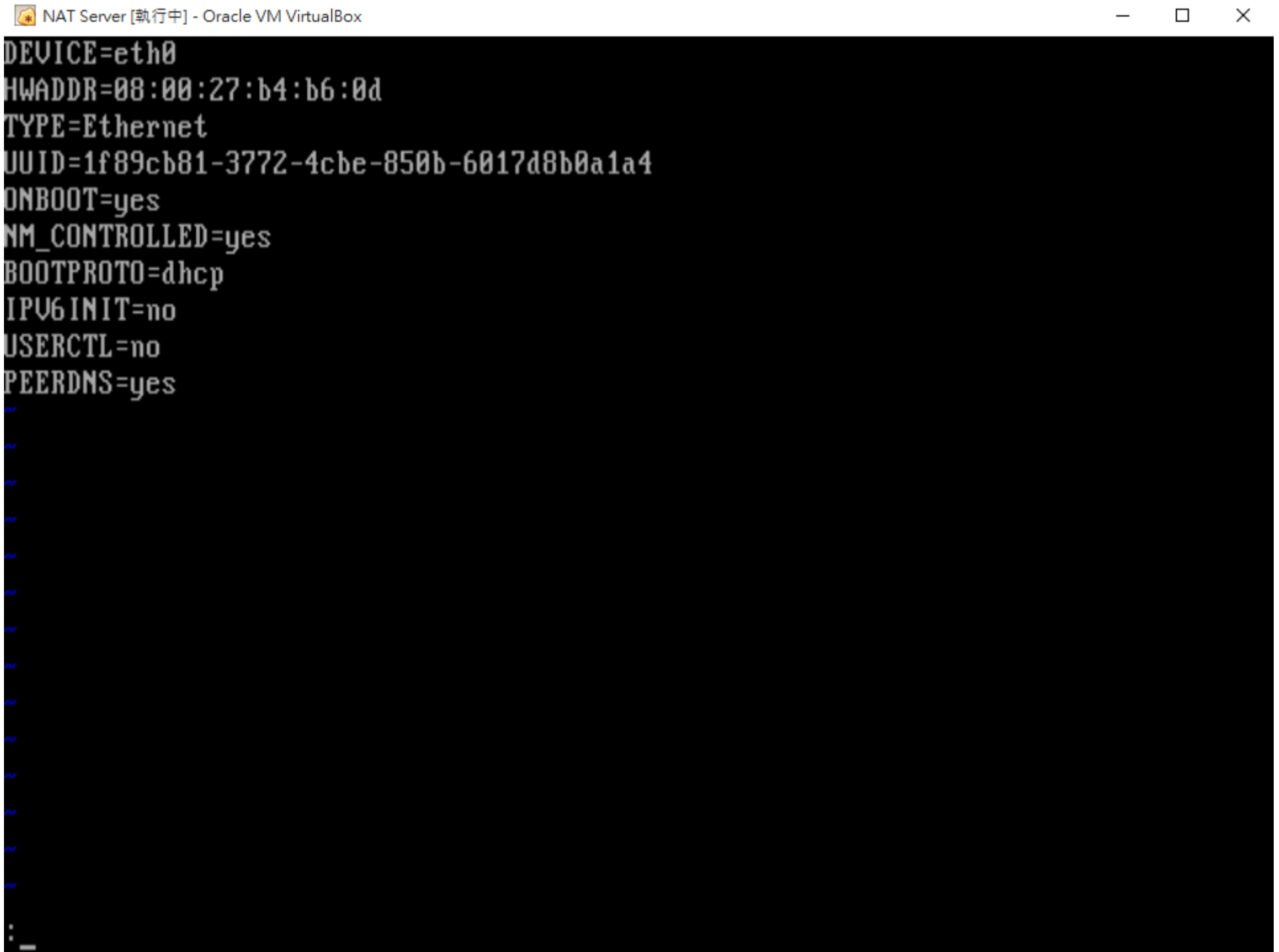

NAT Server [執行中] - Oracle VM VirtualBox
[root@nat-server ~]# vi /etc/ssh/sshd_config _
###Port 22_
Port 2016
#AddressFamily any
#ListenAddress 0.0.0.0
#ListenAddress ::


NAT Server [執行中] - Oracle VM VirtualBox
[root@nat-server ~]# vi /etc/sysconfig/iptables_
#-A INPUT -m state --state NEW -m tcp -p tcp --dport 22 -j ACCEPT
-A INPUT -m state --state NEW -m tcp -p tcp --dport 2016 -j ACCEPT_

```
[root@nat-server ~]# /etc/init.d/sshd restart
Stopping sshd:                                             [  OK  ]
Starting sshd:                                             [  OK  ]
[root@nat-server ~]# /etc/init.d/iptables restart
iptables: Setting chains to policy ACCEPT: filter nat      [  OK  ]
iptables: Flushing firewall rules:                         [  OK  ]
iptables: Unloading modules:                               [  OK  ]
iptables: Applying firewall rules:                         [  OK  ]
```

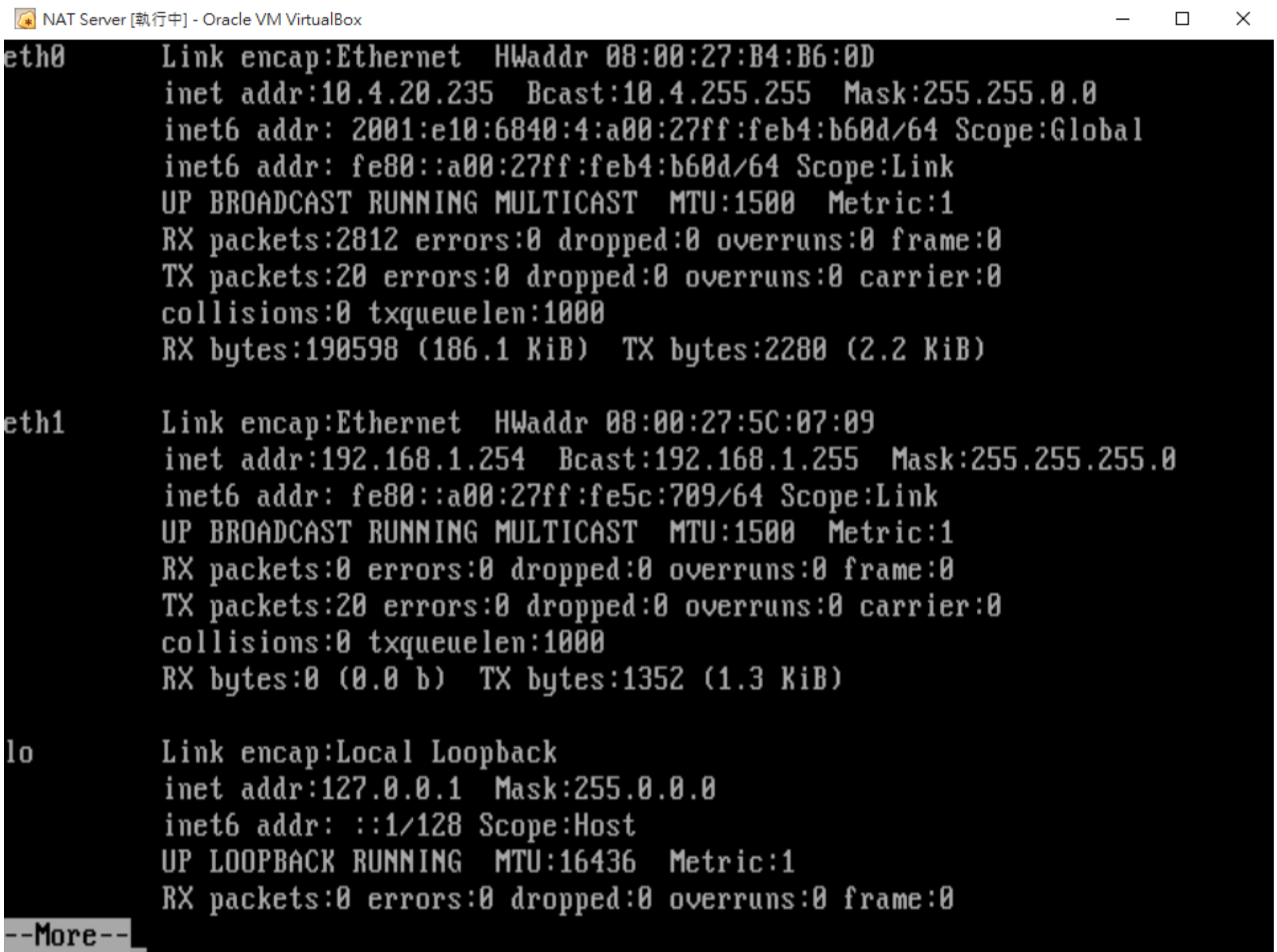
網路卡 設定


NAT Server [執行中] - Oracle VM VirtualBox
[root@nat-server ~]# cd /etc/sysconfig/network-scripts/
[root@nat-server network-scripts]# ls
ifcfg-eth0 ifdown-ipv6 ifup ifup-plip ifup-wireless
ifcfg-eth1 ifdown-isdn ifup-aliases ifup-plusb init.ipv6-global
ifcfg-lo ifdown-post ifup-bnep ifup-post net.hotplug
ifdown ifdown-ppp ifup-eth ifup-ppp network-functions
ifdown-bnep ifdown-routes ifup-ippp ifup-routes network-functions-ipv6
ifdown-eth ifdown-sit ifup-ipv6 ifup-sit
ifdown-ippp ifdown-tunnel ifup-isdn ifup-tunnel
[root@nat-server network-scripts]# _


NAT Server [執行中] - Oracle VM VirtualBox
DEVICE=eth0
HWADDR=08:00:27:b4:b6:0d
TYPE=Ethernet
UUID=1f89cb81-3772-4cbe-850b-6017d8b0a1a4
ONBOOT=yes
NM_CONTROLLED=yes
BOOTPROTO=dhcp
IPV6INIT=no
USERCTL=no
PEERDNS=yes
:_

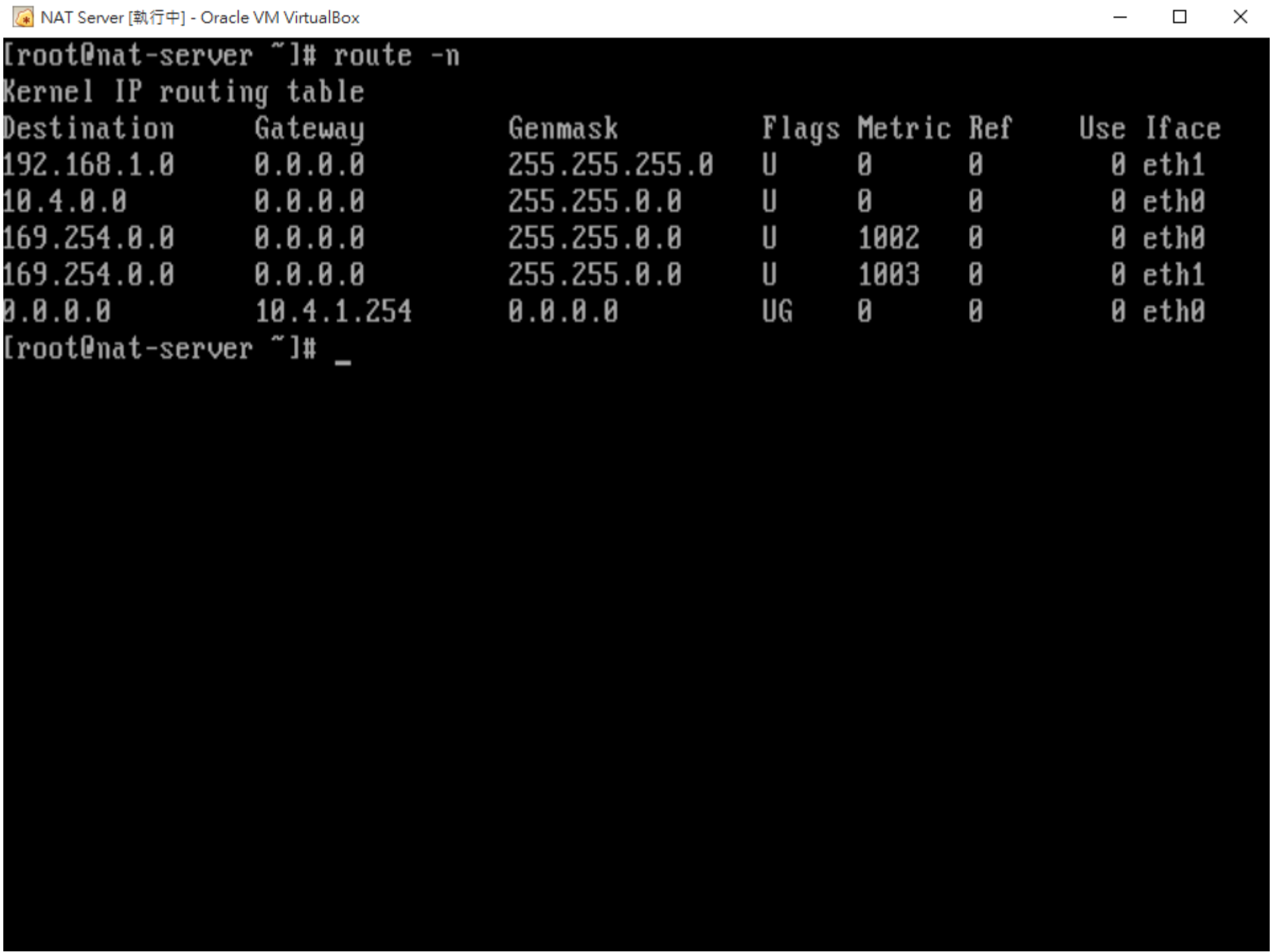
NAT Server [執行中] - Oracle VM VirtualBox

```
DEVICE=eth1
HWADDR=08:00:27:5c:07:09
TYPE=Ethernet
UUID=181f8d48-c909-4c4a-a222-ee67f323ca25
ONBOOT=yes
NM_CONTROLLED=yes
BOOTPROTO=none
IPADDR=192.168.1.254
NETMASK=255.255.255.0
IPV6INIT=no
USERCTL=no
~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
"ifcfg-eth1" 11L, 203C
```


NAT Server [執行中] - Oracle VM VirtualBox
eth0 Link encap:Ethernet HWaddr 08:00:27:B4:B6:0D
inet addr:10.4.20.235 Bcast:10.4.255.255 Mask:255.255.0.0
inet6 addr: 2001:e10:6840:4:a00:27ff:feb4:b60d/64 Scope:Global
inet6 addr: fe80::a00:27ff:feb4:b60d/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:2812 errors:0 dropped:0 overruns:0 frame:0
TX packets:20 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:190598 (186.1 KiB) TX bytes:2280 (2.2 KiB)
eth1 Link encap:Ethernet HWaddr 08:00:27:5C:07:09
inet addr:192.168.1.254 Bcast:192.168.1.255 Mask:255.255.255.0
inet6 addr: fe80::a00:27ff:fe5c:709/64 Scope:Link
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
TX packets:20 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:0 (0.0 b) TX bytes:1352 (1.3 KiB)
lo Link encap:Local Loopback
inet addr:127.0.0.1 Mask:255.0.0.0
inet6 addr: ::1/128 Scope:Host
UP LOOPBACK RUNNING MTU:16436 Metric:1
RX packets:0 errors:0 dropped:0 overruns:0 frame:0
--More--

NAT Server [執行中] - Oracle VM VirtualBox

```
[root@nat-server network-scripts]# ping 10.4.1.254
PING 10.4.1.254 (10.4.1.254) 56(84) bytes of data.
64 bytes from 10.4.1.254: icmp_seq=1 ttl=255 time=0.967 ms
64 bytes from 10.4.1.254: icmp_seq=2 ttl=255 time=1.23 ms
64 bytes from 10.4.1.254: icmp_seq=3 ttl=255 time=1.33 ms
64 bytes from 10.4.1.254: icmp_seq=4 ttl=255 time=1.24 ms
64 bytes from 10.4.1.254: icmp_seq=5 ttl=255 time=1.22 ms
^C
--- 10.4.1.254 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4555ms
rtt min/avg/max/mdev = 0.967/1.199/1.330/0.130 ms
[root@nat-server network-scripts]#
[root@nat-server network-scripts]#
[root@nat-server network-scripts]# ping 192.168.1.254
PING 192.168.1.254 (192.168.1.254) 56(84) bytes of data.
64 bytes from 192.168.1.254: icmp_seq=1 ttl=64 time=0.025 ms
64 bytes from 192.168.1.254: icmp_seq=2 ttl=64 time=0.034 ms
64 bytes from 192.168.1.254: icmp_seq=3 ttl=64 time=0.034 ms
64 bytes from 192.168.1.254: icmp_seq=4 ttl=64 time=0.064 ms
64 bytes from 192.168.1.254: icmp_seq=5 ttl=64 time=0.034 ms
^C
--- 192.168.1.254 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4535ms
rtt min/avg/max/mdev = 0.025/0.038/0.064/0.013 ms
[root@nat-server network-scripts]#
```


NAT Server [執行中] - Oracle VM VirtualBox
[root@nat-server ~]# route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
192.168.1.0 0.0.0.0 255.255.255.0 U 0 0 0 eth1
10.4.0.0 0.0.0.0 255.255.0.0 U 0 0 0 eth0
169.254.0.0 0.0.0.0 255.255.0.0 U 1002 0 0 eth0
169.254.0.0 0.0.0.0 255.255.0.0 U 1003 0 0 eth1
0.0.0.0 10.4.1.254 0.0.0.0 UG 0 0 0 eth0
[root@nat-server ~]# _