

Folder share between Host Win7 and Guest Ubuntu 18.04 LTS

1. Outline

Sometimes, we are used to use Windows as host OS and need to deploy service or develop software system on Linux OS. For this goal, VirtualBox is one of good option. VirtualBox is a powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. It allows us to run multiple guest operating systems on one host computer. We maybe need to back up some file during constructing system architecture, one of simple way of back up is synchronize the file from host OS to guest OS. Therefore, folder share between host OS and guest OS will be useful. This article will provide the steps of how to build shared folder between windows 7 (Host OS) and Ubuntu 18.04 LTS (Guest OS).

In this article, we assume that an Ubuntu 18.04 LTS had created as the virtual machine (VM) named as 'U1804S', and a non-root account 'user' had added.

2. The steps of folder share on Windows

(1). Open 'settings' window of VM, as Fig.1.

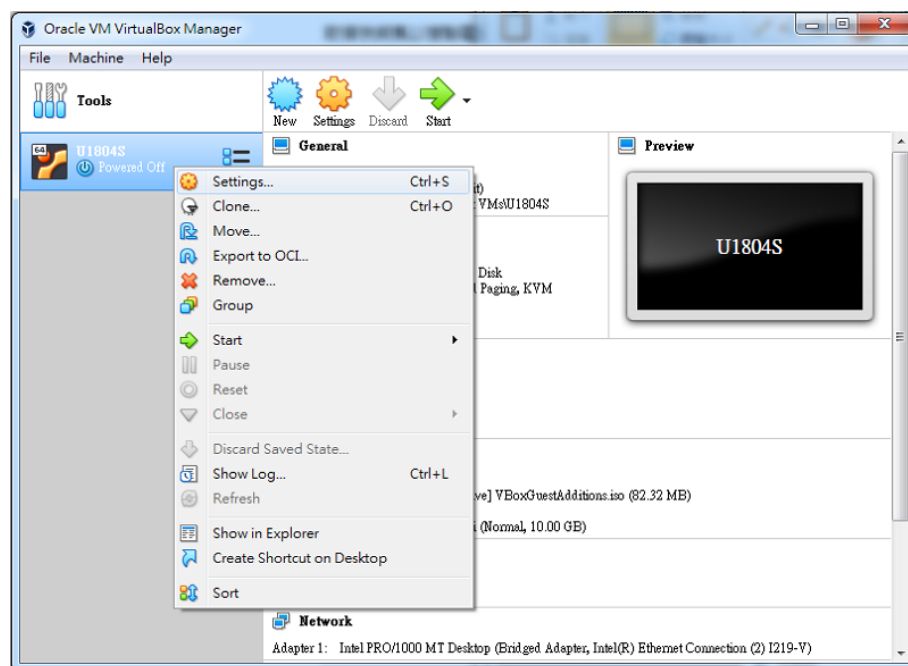


Fig 1 Open 'settings' window

(2). Select 'Shared Folders' item, as Fig 2.

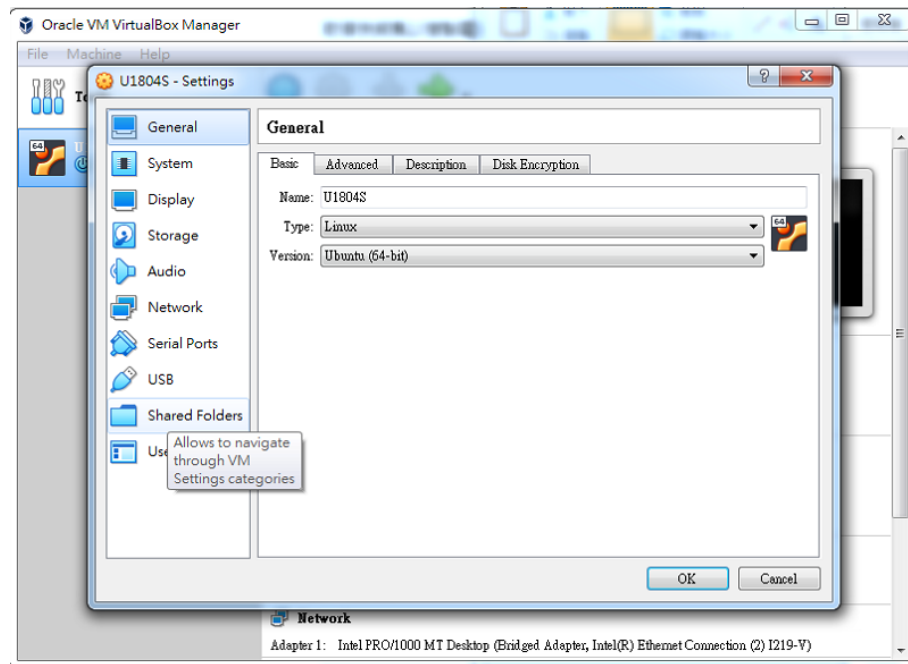


Fig 2 Select 'Shared Folders' item

(3). Adds new shared folder, as Fig 3. Then 'Add Share' window appears, as Fig 4.

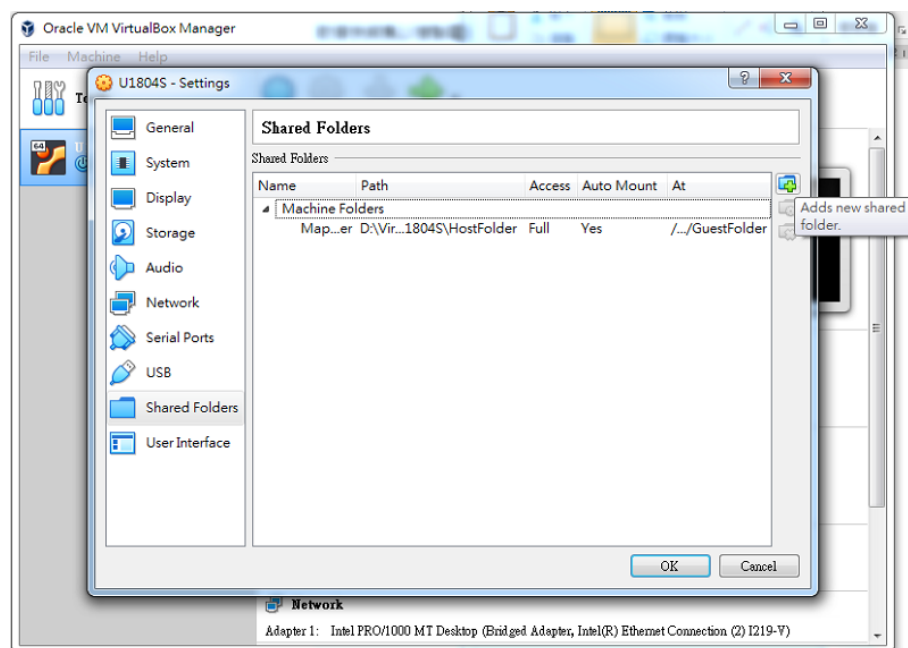


Fig 3 Adds new shared folder

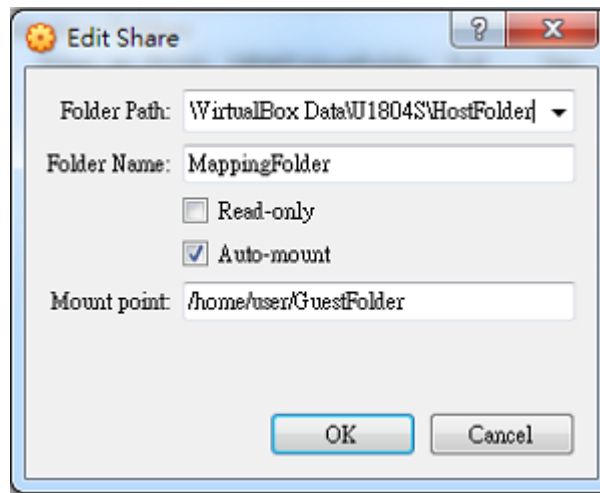


Fig 4 'Add Share' window

(4). Key-in the parameters of 'shared folders'.

There are three parameters need to write which are 'Folder path', 'Folder Name' and 'Mount point'.

'Folder path' means the shared folders on host OS. 'Folder Name' means a alias of host OS shared folder, we will explain later. 'Mount point' means the shared folders on guest OS.

For convenience purposes, we named they as 'HostFolder', 'MappingFolder' and 'GuestFolder' respectively.

After fill out all parameters, also checked 'Auto-mount' item.

Here, we finished the setup steps of shared folders of VirtualBox on Windows environment.

3. The steps of shared folder on Ubuntu

(1). Install 'VirtualBox Guest Additions' package.

There are two ways can use to install 'VirtualBox Guest Additions' package, the first is using 'apt-get' command, the second is using 'guest addition ISO'.

A. Using 'apt-get' command:

Open a terminal window and typing command as below:

```
$ sudo apt-get install virtualbox-guest-utils
```

B. Using 'guest addition ISO'

First, we need to create a folder to mount the 'guest addition ISO' file.

Second, we execute 'VBoxLinuxAdditions.run' file after the 'guest addition ISO' will have mounted.
The detail commands as below:

```
$ sudo mkdir -p /media/cdrom
$ mount /dev/cdrom /media/cdrom
$ cd /media/cdrom
$ sudo ./VBoxLinuxAdditions.run
```

(2). Adds current account to 'vboxsf' group

```
$ sudo usermod -aG vboxsf $(whoami)
```

(3). Mount 'Shared Folder'

Before list the commands of this step, it's worth to mention that the guest OS can't know which folders were shared on the host OS, it is necessary to provide a mapping list in order to the guest OS want to mount its folders to connect with host folders.

Therefore, the Oracle VM VirtualBox Guest Additions provide one command line management interface "VBoxControl". "VBoxControl" have many functions, one of them is listing all shared folders. The "VBoxControl sharedfolder list" command can list all mappings. The list has two columns data in each row, one is index number, the other is the value of "Folder name" in fig 4. This is why we assigned the value of "Folder name" in fig 4 as "MappingFolder".

The example of list all mappings as follow:

A. Show "Shared Folder" list

```
$ sudo VBoxControl sharedfolder list
```

```
Oracle VM VirtualBox Guest Additions Command Line Management Interface Version
5.2.18_Ubuntu
(C) 2008-2019 Oracle Corporation
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```

Shared Folder mappings (1):

01 - MappingFolder

The commands to mount host folders to connect with guest folders is as follows:

B. Mount guest folder to host folder

```
$ cd /home/user/
$ sudo mkdir GuestFolder
```

```
$ sudo chown user:vboxsf GuestFolder
```

```
$ sudo chmod 775 GuestFolder
```

```
$ sudo mount -t vboxsf MappingFolder /home/user/GuestFolder
```

After mounted shared folder, you can touch a new empty file for test.

```
$ cd /home/user/GuestFolder
```

```
$ touch test.txt
```

If you want to unmount shared folders is as below:

```
$ sudo umount -t vboxsf /home/user/GuestFolder
```