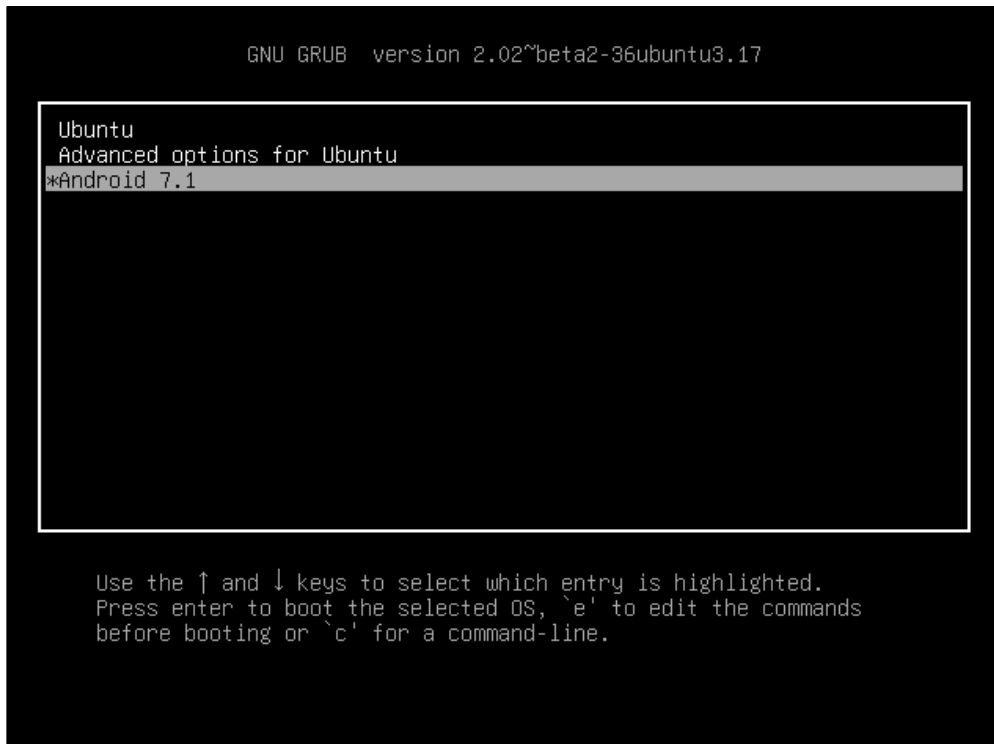


# User Manual for Recovery OS

## 1 Boot into Recovery OS

To boot into recovery OS, you may press and hold left shift button during the booting process (after seeing the VirtualBox splash screen). Then GRUB menu will show up. Use up and down arrow keys to move the highlighted line to “Ubuntu” then press enter.



## 2 Log into Recovery OS

After recovery OS boots up, it will ask for login. There are two accounts predefined in the recovery OS:

Username	Password	Privilege
root	root	root
seed	dees	normal, sudo

```
Ubuntu 16.04.4 LTS recovery tty1
recovery login: root
Password:
Last login: Thu Mar 29 11:47:40 EDT 2018 on tty1
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-116-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage
root@recovery:~# _
```

For most tasks in recovery OS, you will need root privilege. So you may want to login as root user directly. If you are afraid of destroying the system mistakenly, you may login as a normal user. But then you need to add “sudo” before some privileged operations.

After login, a shell prompt will appear.

### 3 Shutdown/Reboot

You could simply close the VM window and choose “power off” to shutdown the recovery OS. Similarly, you could choose Device -> Reset menu item to reboot the machine. No harm is assumed under such operation.

If you are looking for more legitimate way to do this, please use following commands (root or sudo):

Shutdown: `shutdown -P now`

Reboot: `reboot`

### 4 Available Text Editors

There are text editors on this system.

nano: easy to use, recommended for text editing

vi: not recommended, unless you already know what vi is and like to use it.

For more information, please use man pages: `man nano` & `man vi`.

### 5 File Transfer and remote control

You may need to transfer files to or from the recovery OS. We have ssh daemon (sshd) running on the recovery OS, so you may use scp or sftp commands to transfer files. To do the file transfer, you need another VM (e.g. our SEED Ubuntu VM) attached to the same “NAT network”. Please refer to <DOCUMENT> to get how to configure the “NAT Network” adapter on VirtualBox.

Use `ifconfig` command to check the IP address on the recovery OS. We will use <recovery ip> to refer this in following parts.

```
Ubuntu 16.04.4 LTS recovery tty1
recovery login: root
Password:
Last login: Thu Mar 29 11:47:40 EDT 2018 on tty1
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-116-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage
root@recovery:~# ifconfig
enp0s3  Link encap:Ethernet  HWaddr 08:00:27:a4:3d:99
        inet addr:10.0.2.24  Bcast:10.0.2.255  Mask:255.255.255.0
        inet6 addr: fe80::a00:27ff:fea4:3d99/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:12 errors:0 dropped:0 overruns:0 frame:0
        TX packets:21 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:2166 (2.1 KB)  TX bytes:2328 (2.3 KB)

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:65536  Metric:1
        RX packets:160 errors:0 dropped:0 overruns:0 frame:0
        TX packets:160 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1
        RX bytes:11840 (11.8 KB)  TX bytes:11840 (11.8 KB)

root@recovery:~# _
```

Then on the other side (we will use SEED Ubuntu VM here), you can do the followings:  
NOTE: when the first time you attempt to connect the recovery OS through ssh/scp/sftp, a message will show as following

```
$ ssh 10.0.2.24
seed@10.0.2.24's password:
Welcome to Ubuntu 16.04.4 LTS (GNU/Linux 4.4.0-116-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage
seed@recovery:~$
```

You will need to type “yes” and return. This is a normal confirmation when you first connect to some server.

For all these three commands, you will have a Linux Manual Page for each of them. Try “man ssh”, “man scp” and “man sftp” for more information. In this section, some examples are provided to help you use these commands.

## ssh

The ssh command allow you to remotely control the recovery OS. It will provide you a shell prompt on your SEEDUbuntu16.04\_x32 VM. You could type following command to login as “seed” user on recovery OS remotely

```
ssh seed@<recovery ip>
```

Then you will be asked about the password (dees) of recovery account.

You are not allowed to login as root via ssh.

## **scp**

The scp (secure copy) command is the remote version of Unix's cp command. It uses ssh for remote copies.

*Examples:*

1. Copy a.txt from SEEDUbuntu16.04\_x32 to recovery OS (located in /home/seed/, aka home directory for seed)

```
scp ./a.txt seed@<recovery ip>
```

2. Copy b.txt from /home/recovery/test/ on recovery OS to SEEDUbuntu16.04\_x32

```
scp seed@<recovery ip>:/home/seed/test/b.txt ./
```

You will be asked the password (dees) of recovery account when you run these commands.

## **sftp**

The sftp (secure ftp) is an ftp client interface built on ssh. To start, type

```
sftp seed@<recovery ip>
```

Then after login, you could use following commands:

```
cd <directory>
```

change current working directory

```
ls
```

list files under current directory

```
put <file> [destination]
```

upload a file to remote side

<file> is relative to the path where you execute sftp on SEEDUbuntu

If [destination] not specified, it will be current working directory on remote (recovery) side

```
get <file> [destination]
```

download a file from remote side

<file> is relative the current working path on remote side.

If [destination] not specified, it will be the path where you start sftp on SEEDUbuntu.