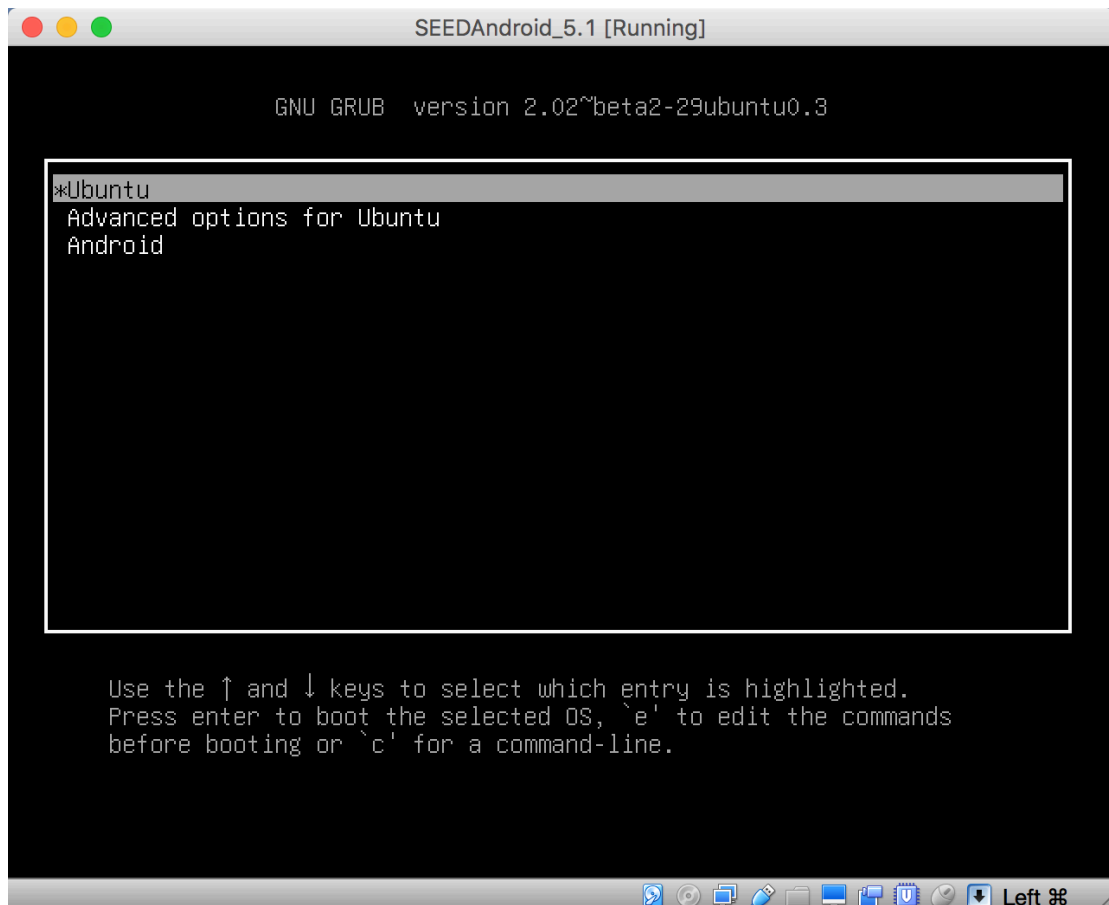


# User Manual for Android Recovery OS

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## 1 Boot into Recovery OS

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

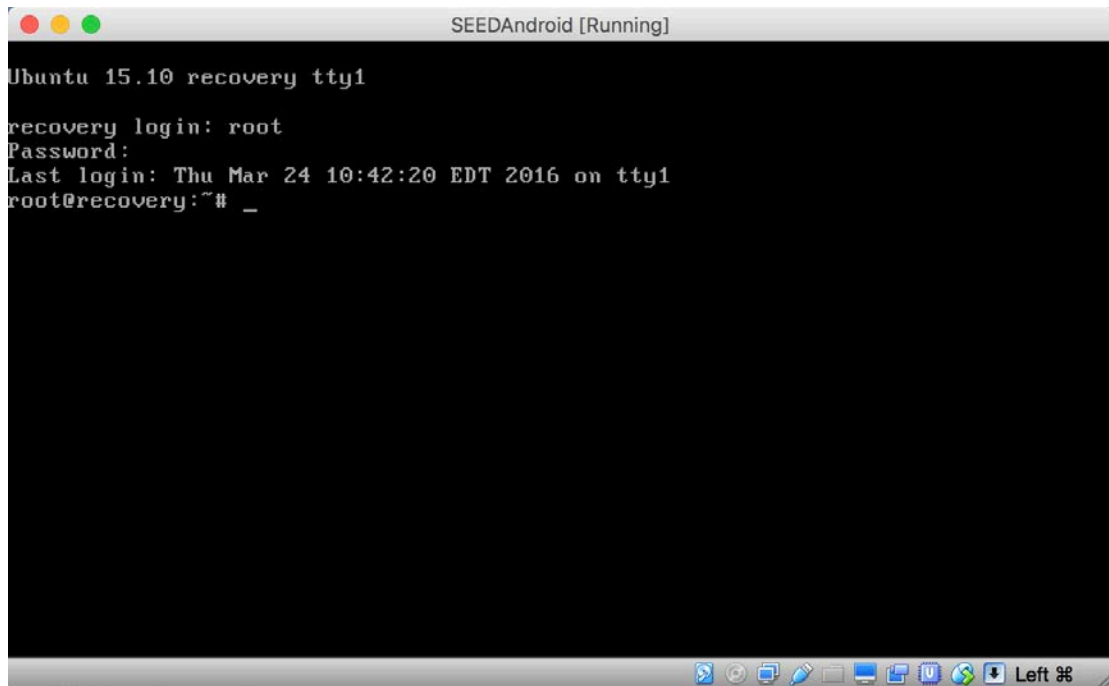


## 2 Log into the Recovery OS

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

Username	Password	Privilege
root	root	root
seed	dees	normal, but can run commands as root using sudo

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```
SEEDAndroid [Running]
Ubuntu 15.10 recovery tty1
recovery login: root
Password:
Last login: Thu Mar 24 10:42:20 EDT 2016 on tty1
root@recovery:~# _
```

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

### 3 Shutdown/Reboot

You can simply use the “Machine -> Close -> Power Off” menu in VirtualBox to shut down the recovery OS. From inside the recover OS, you can use the following commands to achieve the same goal:

- Shutdown command: `shutdown -P now`
- Reboot command: `reboot`

### 4 Text Editors

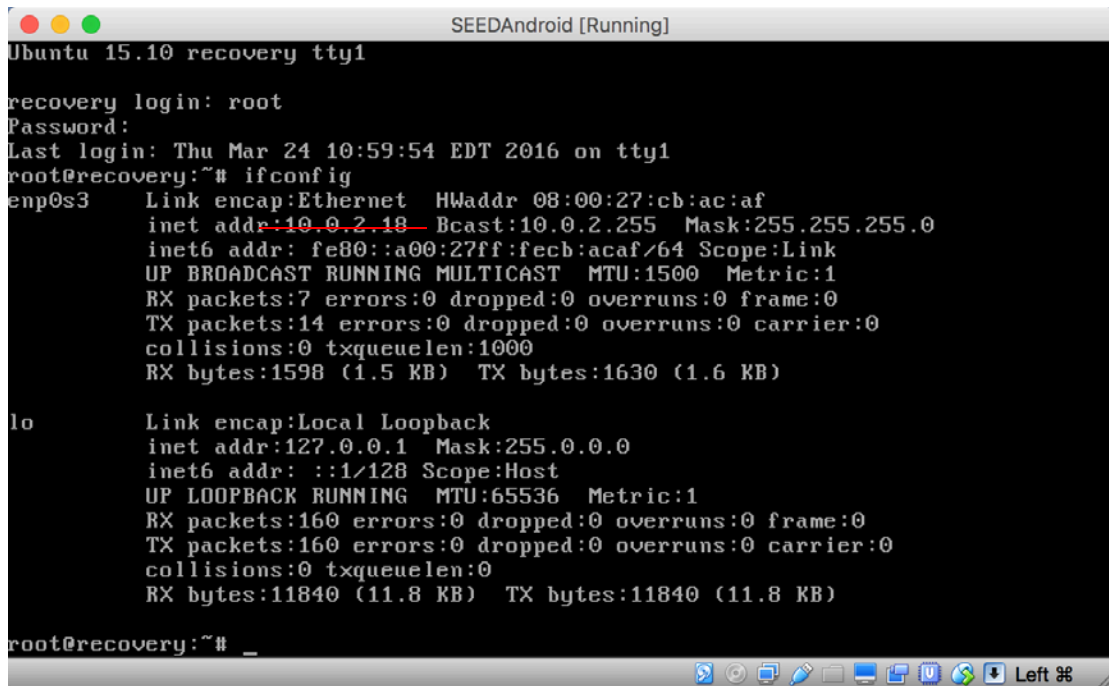
There are text editors on this system.

- `nano`: easy to use, recommended for text editing
- `vi`: not recommended, unless you already know what vi is and like to use it.

### 5 File Transfer and remote control

You may need to transfer files to and from the recovery OS. We have `ssh` daemon (`sshd`) running on recovery OS, so you can use `scp` or `sftp` command to transfer files. We will do the file transfer from another VM (e.g. `MobiSEEDUbuntu14.04_x64`). You need to get the IP address of the recover OS first; you can use `ifconfig` to get the IP address. We will use `<recovery ip>` to refer to it.

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```
Ubuntu 15.10 recovery tty1
recovery login: root
Password:
Last login: Thu Mar 24 10:59:54 EDT 2016 on tty1
root@recovery:~# ifconfig
enp0s3  Link encap:Ethernet  HWaddr 08:00:27:cb:ac:af
        inet addr:10.0.2.18  Bcast:10.0.2.255  Mask:255.255.255.0
        inet6 addr: fe80::a00:27ff:feeb:acaf/64  Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:7 errors:0 dropped:0 overruns:0 frame:0
        TX packets:14 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:1598 (1.5 KB)  TX bytes:1630 (1.6 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:0
        RX bytes:11840 (11.8 KB)  TX bytes:11840 (11.8 KB)

root@recovery:~# _
```

NOTE: when you attempt to connect the recovery OS through `ssh/scp/sftp` the first time, a message will show as the following. You will need to type “yes” and “return”. This is a normal confirmation when you first connect to some servers.



```
seed@seed-VirtualBox:~$ ssh 10.0.2.18
The authenticity of host '10.0.2.18 (10.0.2.18)' can't be established.
ECDSA key fingerprint is e9:18:42:ad:39:f4:69:78:78:0a:94:ad:01:3b:20:1c.
Are you sure you want to continue connecting (yes/no)? yes
```

**ssh:** The `ssh` command allow you to remotely control the recovery OS. It will provide you a shell prompt on your MobiSEEDUbuntu VM. You can type the following command to login as “seed” on recovery OS remotely:

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

**scp:** The `scp` (secure copy) command is the remote version of Unix’s `cp` command. It uses `ssh` for remote copies. Here are two examples:

- Copy `a.txt` from MobiSEEDUbuntu to recovery OS (the file will be copied to `/home/seed/`, which is the home directory for seed)  

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

- Copy `b.txt` from `/home/seed/` on recovery OS to MobiSEEDUbuntu VM  

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

**sftp:** The `sftp` (secure ftp) is an `ftp` client interface built on top of `ssh`. To start, type  

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

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After login, you can use the following `ftp` commands:

- `cd <directory>`: change current working directory
- `ls`: list files under current directory
- `put <file> [destination]`: upload a file to the remote side
- `get <file> [destination]`: download a file from the remote side