

VE482 Lab 2: Setting up MINIX 3

Setting up the virtual environment

We need to first download the MINIX 3 (version 3.2.1) image from [MINIX image](#). After download, we can get the `iso` image by unzipping `minix_R3.2.1-972156d.iso.bz2`. We can choose from several popular virtual machines such as VMware. Useful links: [Tutorial on VMware with MINIX 3](#). SJTU offers students with a free license [here](#).

Establish SSH connection

Follow the following steps to setup the system and install openssh:

1. Select the default mode to login MINIX by pressing enter.
2. Use `root` as the login name.
3. Type `passwd` in the terminal to set the password.
4. Type `setup` in the terminal to start setting your virtual machine. You can keep everything as default by repeatedly pressing enter or type "yes".
5. After setup, disconnect your virtual machine with the image. Type `reboot` in the terminal to restart your VM. Now you can see that the IP address appears. Check your IP address by typing `ifconfig`. For example, my IP address is `192.168.130.138`.
6. Type in the terminal the following

```
pkgin update
pkgin install openssh
```

to install openssh on MINIX 3. (You might need to fix the package sources according to the announcement.)

7. Navigate to the openssh configuration file using

```
vi /usr/pkg/etc/ssh/sshd_config
```

On line 13, delete `#` and change the line to `Port 2222`. This step is to increase safety of connection. *This step is optional.*

Hints: Type `i` to insert, type `x` to delete, press `esc` to stop inserting, type `:q` to quit without saving, type `:wq` to write and quit.

8. Use the terminal of your own computer (Mac or Linux). Make sure your terminal has `ssh` working, otherwise install it using

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install openssh-client
```

Try to access the MINIX VM by typing

```
ssh root@192.168.130.138 -p 2222
```

After typing in the password, you should be able to login to MINIX. Try a few commands! Type **exit** to exit to your normal terminal.

9. Now let's make things easier! On your own computer (Mac or Linux) find the file `~/.ssh/config`.

```
cd ~/.ssh/
vim config
```

Add the following to the file

```
Host    minix
      HostName 192.168.130.138
      Port     2222
      User     root
```

Save the file. Now try

```
ssh minix
```

10. However, you still need to type the password. Now we make it even more convenient. We assume you already have a key pair named `id_rsa` and `id_rsa.pub` generated. Now type

```
ssh-copy-id -i ~/.ssh/id_rsa gzh@192.168.130.138 -p 2222
```

or

```
ssh-copy-id minix
```

and type in the MINIX password. Now try `ssh minix` again! You should be able to login without password.

Hint: Do not share the private key `~/.ssh/id_rsa` with others! Share only the public key.

Common Issues

1. During `setup`, check that you do have the `iso` file connected to the VM.
2. If you have problem logging with `ssh`, check the `/usr/pkg/etc/ssh/sshd_config` file that the `#` character before `Port 2222` is deleted.