COMS W4187 Security Architecture and Engineering

Fall 2007

Handout 1 VMware How To

1 Things you need know before getting started

- Your CS account used on CLIC machines;

- VMware machine assigned to you;
  An email has been sent to you containing the following information:

  <div align="center"><code>username machine_name /vmware_folder</code></div>

  For example, `zhao rabat /vmware1` means that user `zhao` is assigned to CLIC machine `rabat.clic.cs.columbia.edu` with vmware folder `/vmware1` and '1' is your `vmware` number. Each of you is assigned to a different machine in CLIC lab. Note that this username (UNI) may differ from your CS account username.

- A valid VMware license;
  This should have been distributed to you.

- The root account for VMware: `user = root, passwd = osw4118`;
  Please change your `passwd` for `root` immediately as you log into the vmware machine by typing `passwd root`, if you do not want your homework to be tampered by others.

2 How to start VMware in CLIC Lab

The easiest way to start VMware is to sit in front of any machine in CLIC lab and work from there directly. Each CLIC machine has a unique name, say `paris.clic.cs.columbia.edu`. It is not necessary to choose the physical machine that has been assigned to you since you can always run SSH through the high-speed network.

Step 1
Log into the CLIC machine with your CS account username and passwd. By now, you should be able to do that through the practice of homework assignment 1.

Step 2
Type `hostname` to check which machine you are sitting at.
zhao@amman /home/zhao: hostname
amman.clic.cs.columbia.edu
If it is the same as the machine assigned to you, skip step 3 and go to step 4 directly.

Step 3

Run SSH to log into the vmware machine assigned to you.

`zhao@amman /home/zhao:  ssh -X zhao@rabat.clic.cs.columbia.edu`

Try `ssh -Y zhao@rabat.clic.cs.columbia.edu` if **Step 4** or **Step 6** fails .

Step 4

Type `startx` to initialize a session of X window system which allows to view GUI.

`zhao@rabat /home/zhao:  startx`

Step 5

To open a terminal, right click anywhere on the desktop and select `Open Terminal` as in Figure 1.
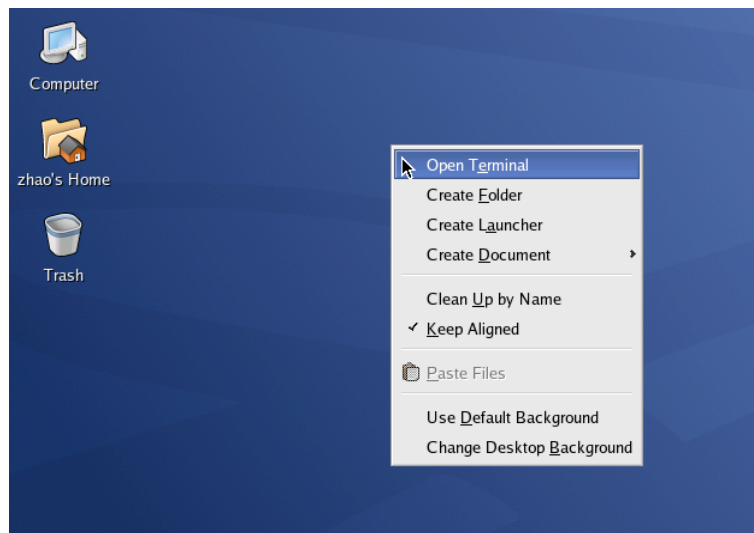

Figure 1: Open a terminal in Linux

Step 6

Type `vmware /vmware#/linux.vmx` in terminal, where '#' is your vmware number.

`bash-3.00$ vmware /vmware1/linux.vmx`

Then you will see the vmware window popped out as in Figure 2.

Step 7

If you are required to supply a valid license for VMware, click `Help` button on the `VMware Workstation` window, select `Enter Serial Number` and type the `Serial Number`, `Name` and `Company Name` as emailed to you (see Figure 3).

Step 8

Click the `Power On` button (press `Ctrl + Alt` to release cursor if you want), and hit the `enter` key from your keyboard to boot the Red Hat Linux kernel. The login window is displayed as in Figure 4.

Step 9
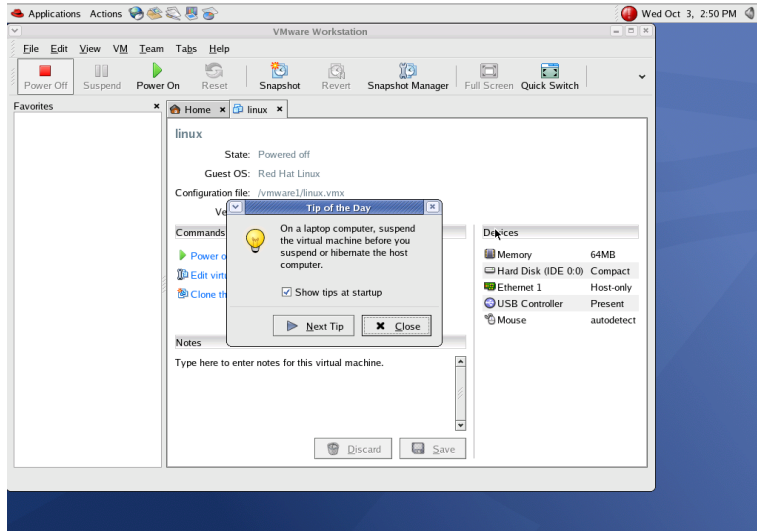
Log in with user `root` and passwd `osw4118`.

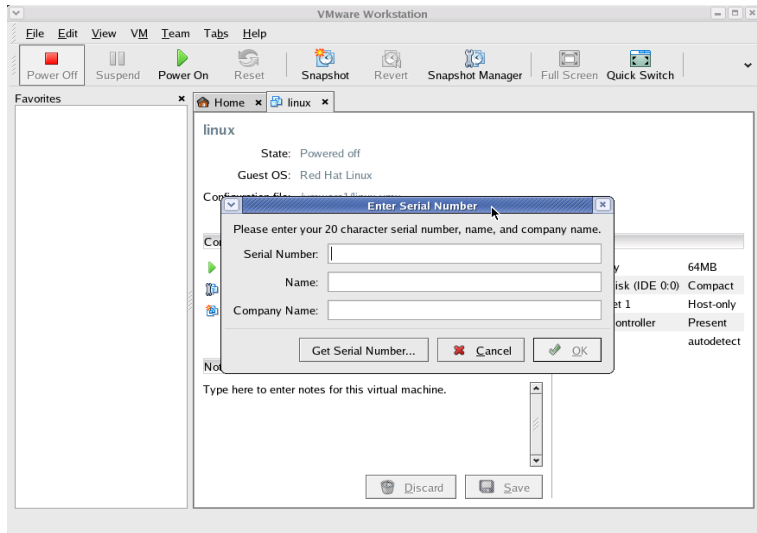Figure 2: Open the vmware window
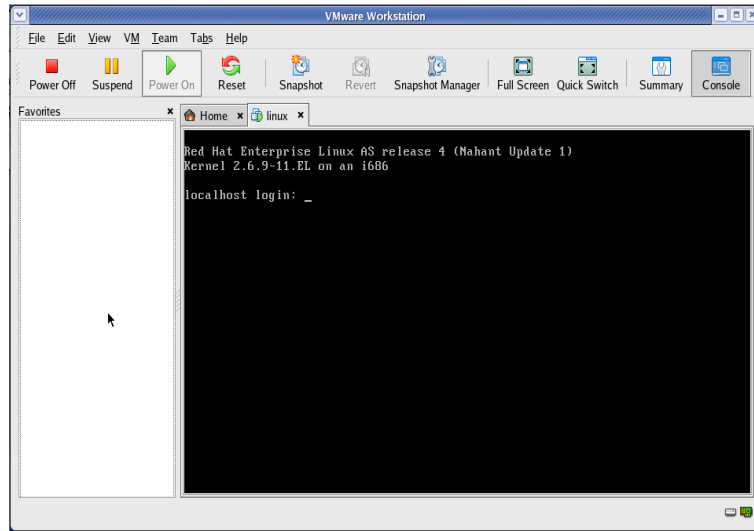

Figure 3: VMware registration

Figure 4: Power on vmware and boot kernel

Step 10

Type `useradd user1` to add the first user, and use `passwd user1` to setup a password for `user1`. Do it repeatedly for user2 (see Figure 5).
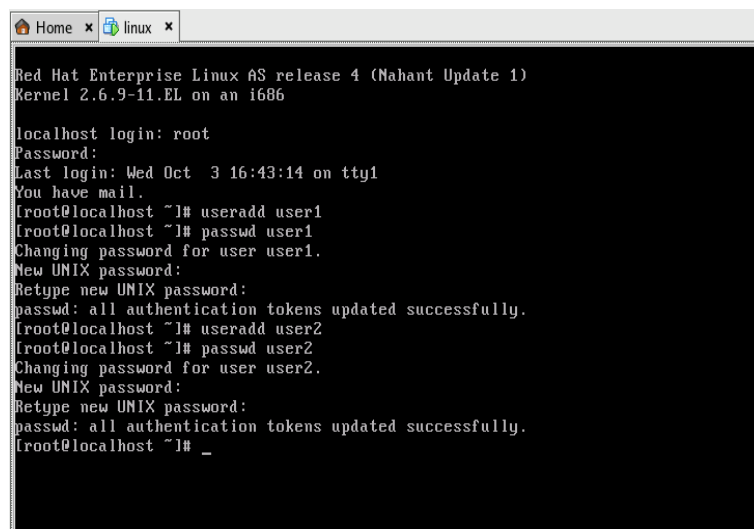

Figure 5: Adding users

Step 11

Make sure to change `root` passwd by typing `passwd root` for security. Now you have two valid users `user1` and `user2` on this vmware machine.

3 How to start VMware remotely

As many of you may want to work on your vmware machines remotely, you need to:

1. Start the `vncserver` on your assigned machine;

2. Install and run appropriate `vncclient` on your personal computer.

All the CLIC machines have `vncserver` installed already. You just need to start the server by typing the command `vncserver&` on your assigned machine. You only need to start the server once even you may remote login many times, and watch out the display number assigned to you. You will be also asked for a `passwd` by running the `vncserver` for the first time (it can be differerent from your CS account passwd). Both the `display` number and `passwd` are required when you run `vncclient` on your PC.

```
zhao@rabat /home/zhao:  vncserver&
...  ...
New 'rabat.clic.cs.columbia.edu:2 (zhao)' desktop is rabat.clic.cs.columbia.edu:2
Starting applications specified in /home/zhao/.vnc/xstartup
Log file is /home/zhao/.vnc/rabat.clic.cs.columbia.edu:2.log
...  ...
```

In case you forget your `display` number, you can always check it by logging into the CLIC machine assigned to you, and type the following command, and 2 is the display number to you by VNC server in this example.

```
zhao@rabat /home/zhao:  ps -ef | grep vnc
zhao 11518 1 0 00:19 ?  00:00:19 Xvnc :2
```

The `vncclient` is platform dependent. We will describe them for Window user, Linux user and MAC user respectively.

3.1 For Linux Users

Remote login from your own Linux machine is quite similar as using any machines in CLIC lab. Make sure you have `SSH` installed for your Linux system. Run `SSH` as specified in **Step 3** Section 2, and the rest just follows.

3.2 For Windows Users

One of the available `vncclient` for Windows users is `VNC Viewer` from `RealVNC`, which can be downloaded here: http://www.realvnc.com/products/free/4.0/winvncviewer.html.

Run `VNC Viewer`, enter the `Server` address as `machine_name:display_number`, and then type your `vncserver Password`. Note that both `display_number` and `Password` can be obtained through the first start of `vncserver` on your assignment machine. You do not need to supply a `username` since your identification is bounded with the assigned `display_number` (see Figure 6, 7).

Figure 6: VNC Viewer login

Figure 7: VNC Viewer authentication

Once you are remotely connected to your assigned machine, the rest just follows from **Step 5** in Section 2.

3.3 For MAC Users

One of the available `vncclient` for MAC users is `Chicken VNC`, which can be downloaded here: `http://sourceforge.net/projects/cotvnc/`.

Run `Chicken VNC`, enter correct `Host`, `Display` and `Password`, then click `Connect` button (see Figure 8). `Host` is the machine assigned to you. `Display` and `Password` can be obtained through the first start of `vncserver` on your assignment machine. Once you are remotely
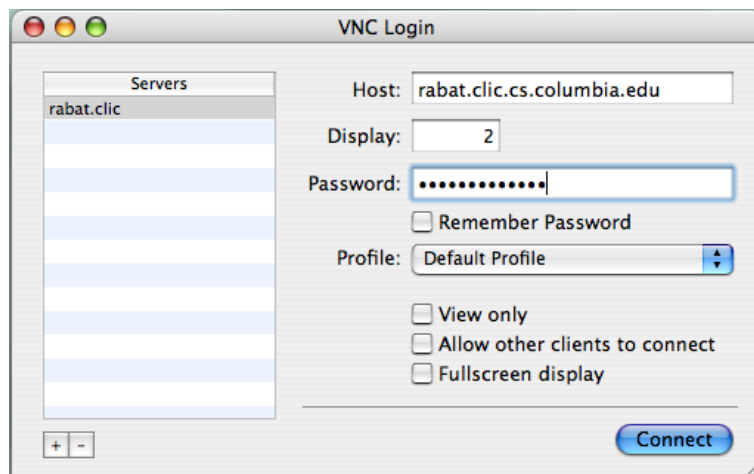

Figure 8: Chicken VNC login

connected to your assigned machine, the rest just follows from **Step 5** in Section 2.