

In order to work on your CSE 533 project you need to do the following:

### A. Set up your Environment

- 1) ssh to minix.cs.stonybrook.edu and logon with your department username and password, as you would on the compserv and compute nodes.
- 2) mkdir .ssh (if it does not already exist)
- 3) chmod 700 .ssh
- 4) cd .ssh
- 5) cp /users/cse533/Fall2014/ssh/id\_rsa .
- 6) chmod 700 id\_rsa
- 7) cd ..
- 8) mkdir cse533
- 9) cd cse533
- 10) cp -p /users/cse533/Fall2014/\*\_vms .
- 11) cp -p /users/cse533/Fall2014/\*\_app .
- 12) cp -p /users/cse533/Fall2014/kill\_apps .
- 13) cp -p /users/cse533/Fall2014/rm\_file .
- 14) ./setup\_vms (answer "yes" as needed to continue connecting)

Note: If this is the first time you are connecting to the VMs then you will need to answer **yes** to questions of the following form for each of the ten vm machines:

```
vmN The authenticity of host 'vmNN (130.245.156.NN)' can't be established.  
ECDSA key fingerprint is 63:84:03:ca:6a:aa:d5:b6:46:fc:ac:de:dc:a5:63:ae.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added 'vmN,130.245.156.NN' (ECDSA) to the list of known hosts.
```

### B. Work on your Assignment

You are now ready to begin your CSE 533 project.

Do all of your code writing and compiling in your home directory on minix. The VMs are shared among the entire class and so your assignments are not protected there as they are in your own home directory on minix. Therefore you should not keep any source code or other assignment related files on the VMs except for compiled applications.

Once your code is compiled you can use the scripts below to deploy and run your assignment.

Note that executing the setup\_vms script (Part A, step 14 above) should have created a subdirectory called <username> in the /home directory on each of the ten VMs. <username> is the login name you use to log into minix (thus, in my case for example, /home/ellenyliu).

- 1) ~/cse533/deploy\_app <list of files needed to run your project>

Copies the named files to your /home/<username> subdirectories on all ten VMs.  
Note: This script does not copy directories.

- 2) ~/cse533/start\_app <application name>  
Starts execution of the named application (assumed to be located in your /home/<username> subdirectories) on all ten VMs.

Apart from deploy\_app and start\_app, there are three other scripts available to you:

- 3) ~/cse533/rm\_file <file name>  
will delete the named file from your /home/<username> subdirectories on all ten VMs.  
It can only remove one file per evocation.
- 4) ~/cse533/cleanup\_vms  
will delete your entire /home/<username> subdirectory on all ten VMs.
- 5) ~/cse533/kill\_apps  
will kill your running apps on all ten VMs.

So as not to bog down the VMs, you should indeed make sure to kill off all your running applications when you are finished testing them. Another way to do this is to use the command:

```
killall -s TERM ssh
```

though you might find that that the kill\_apps script works somewhat better than this killall command.

## C. Use of Individual VMs

If you wish to access a VM from minix, the command to use in the minix window is:

```
ssh root@vmN
```

where N is a number in the range of 1 to 10. You should not be prompted for a password.  
If you are asked for a password, go back to section A and redo the setup and copy of ssh/id\_rsa.

On login you will be in the /root directory.  
Change directories into /home/<username>, where <username> is your minix login name.  
If there is no such directory, go back to section A and redo the setup\_vms script.

An alternative way to access the VMs from minix is to use the command:

```
ssh vmN
```

In this case, you will be prompted for a password, which should be the same password you used to ssh into minix.  
But note that, here, you are logging into the VM as yourself (i.e., as user <username>) and not as "root".

You can, if needed, use scp or sftp to move files back and forth between minix and the VMs.  
However, keep in mind that your files are not protected when on the VM, and any other user has full access to them.

## D. Problems or Questions

If you encounter problems or have questions about the correct functioning of the VMware system, please send me an email with cc to brian AT cs dot stonybrook dot edu .

