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CSE321   Realtime and Embedded Systems   Fall 2013

Instructions for logging into CSE department servers:

1. Download putty application from putty.org for the platform (system) you are working on. Install it. Putty is an ssh client to access the servers.
2. Download filezilla application. Install it. This is for file transferring to any server using sftp protocol. You will need this for transferring files to and from the servers.
3. Start Putty. You will see a dialog box. You are going to be working on the server *timberlake.cse.buffalo.edu* .
4. Enter timberlake.cse.buffalo.edu in the host name. You may want to save the setting for future use. Enter a name for the session "timberlake" or anything else you like and click "save". Then click "open" button.
5. The system will open a terminal (command line interface) and it will request your username and password. Enter your username and password.
6. If everything went alright you should see some messages and then a prompt.
7. Now you are inside timberlake environment.
8. Xinu is a small kernel that will be uploaded on another system of embedded system created out of WRT54GL router hardware modified to serve as host. This hardware is has about 10 servers and is collectively known as nexos (Next Generation Embedded Operating System).
9. This is behind NAT and can be accessed only from timberlake. At the timberlake prompt enter: *ssh nexos*
10. You will see prompts for username and password. Go ahead and enter them. Once they are accepted you are inside the nexos system frontend. The backend servers are the ones made up of the WRT54GL hardware.
11. You may want to change the password: but make sure you remember it. "passwd" is the command for changing the password.
12. Type in *xinu-status*
This script displays whether the embedded systems are busy or free. You will see a list of nexos/xinu servers with their names displayed. If any of them is busy the user's name and time will also be displayed.

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After you login into nexos:

How to copy (or download) xinu baseline code, compile, deploy and run it.

1. Obtain the tarball from home directory
cd /home

2. Copy the tarball to your directory
cp xinu_mips-1.0.2.tar.gz ~

3. Go to your directory and untar the package
cd ~
tar zxf xinu_mips-1.0.2.tar.gz

4. Go to xinu_mips-1.0.2
cd xinu_mips-1.0.2

5. View all the files and folders
ls

6. Go to the compile folder
cd compile

7. Compile all the source files
make

8. View available routers
xinu-status

9. You need the file xinu.boot so stay in the compile folder
mips-console router_name

For example,
mips-console moiz

After a lot of messages a prompt appears. Test the xinu deployment using some of the shell commands.

10. You have to release the router once you are done using it.

Press ctrl + spacebar and then q

Please note that nexos does not have submit capability. After you complete the project2 (a), (b) etc. transfer the files to timberlake (find out now how to do it… don't waste your on the due date) and then submit from timberlake similar to how you submitted project1.

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