EECS Tutorial: Routing & Switching Lab

FAQ for accessing the Routing & Switching Lab in EE 328C and 328D

What is the default login username and password for Arista switches?

```
Username: student
Password: arista
```

How do I access rslab equipment from a mobile Linux terminal in EE 328C?

1. In EE 327C turn on a mobile Linux terminal. Computer will network boot from the rslab LTSP server and automatically log into a GUI desktop environment.

2. Open *PAC Manager* from the Desktop or the *applications* menu.

3. On left side, double-click the terminal server for the rack # assigned to you by GTA. A new session tab window will open and connect into the terminal server.

4. Once connected to the terminal server for your assigned rack, use the menu options to connect into and disconnect from the Arista switches and Cisco router in the EE 328D networking rack.

5. At any time you can return to the terminal server menu by pressing CTRL+SHIFT+7.

6. To view all open connections in the session, return to the menu and press 16.

7. To exit from the terminal server, return to the menu and press 18.

NOTE: You can open more than one tabbed session within *PAC Manager* to access the same rack terminal server and connect to multiple network devices concurrently, but each switch or router can only be accessed by one terminal server session at a time.

Figure 1: Example of connecting with *PAC Manager* from a mobile Linux terminal
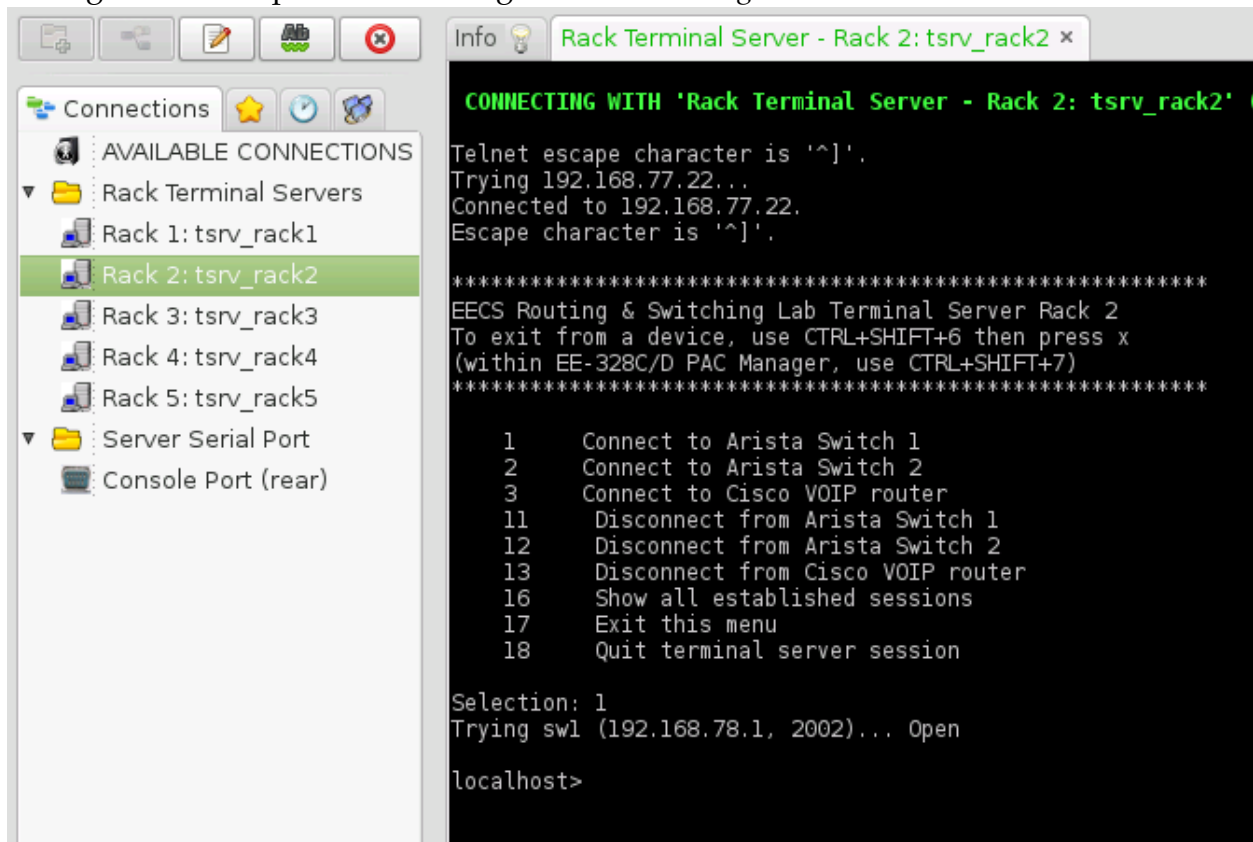
How do I access rslab equipment from a computer outside of EE 328C?

1. Due to WSU security, rslab devices can only be accessed via an EECS Linux server.

2. Follow *Remote Access EECS Linux Servers.pdf* first to log into an EECS Linux Server.

3. Once logged into an EECS Linux server, use SSH to access the rslab proxy server, by typing into a shell window (where # is the rack number assigned to you by GTA):

   ```
   ssh -t rslab telnet rack#
   ```

4. Enter your myWSU password when prompted to do so.

5. You may see a "`Could not chdir...`" error message when you open a connection to the rslab proxy server. Disregard this message. The proxy server does not need access to your user home directory for access to the rslab terminal servers in EE 328D.

6. Once connected to the terminal server for your assigned rack, use the menu options to connect into and disconnect from the Arista switches and Cisco router in the EE 328D networking rack.

7. At any time you can return to the terminal server menu by pressing CTRL+SHIFT+6 and then x.

8. To view all open connections in the session, return to the menu and press 16.

9. To exit from the terminal server and close the remote SSH connection to the rslab proxy server, return to the menu and press 18.

NOTE: You can open multiple command-line/shell windows from your client machine to access the same rack terminal server and connect to multiple network devices concurrently, but each switch or router can only be accessed by one terminal server session at a time. You can also use a terminal multiplexer such as *tmux* or *screen* within any of the EECS Linux servers to open multiple, simulaneous SSH sessions to an rslab terminal server.

Figure 2: Example of SSH remote connection via rslab proxy server

```
bcroose@kirk:~$ ssh -t rslab telnet rack2
bcroose@rslab's password:
Could not chdir to home directory /opt/homes/grader01/bcroose: No such file or directory
Trying 192.168.77.22...
Connected to rack2.
Escape character is '^]'.


************************************************************
EECS Routing & Switching Lab Terminal Server Rack 2
To exit from a device, use CTRL+SHIFT+6 then press x
(within EE-328C/D PAC Manager, use CTRL+SHIFT+7)
************************************************************

    1       Connect to Arista Switch 1
    2       Connect to Arista Switch 2
    3       Connect to Cisco VOIP router
    11      Disconnect from Arista Switch 1
    12      Disconnect from Arista Switch 2
    13      Disconnect from Cisco VOIP router
    16      Show all established sessions
    17      Exit this menu
    18      Quit terminal server session

Selection: 1
Trying sw1 (192.168.78.1, 2002)... Open


localhost login: student
Password:
Last login: Mon May  8 21:31:04 on ttyS0
localhost>
```

Why do I sometimes see "`% Connection refused by remote host`"?

Though you can open multiple connection sessions to the terminal server controlling each rack, you can only access each network switch or router device within the rack from a single terminal server session.

This access restriction is caused by limitations of the serial communication protocol between the terminal server and each network device in the rack. The access restriction also acts as a security failsafe, since it reduces the possibility of more than one person or lab group attempting to make changes to a switch or router configuration concurrently.

If you see the "`% Connection refused by remote host`" error, then either you already have opened a connection to this network device in another terminal server session or another person/lab group has an open connection to this network device. Check you do not already have an open connection in another terminal server session first, then speak with the lab GTA if you cannot resolve the connection refused error yourself.

How do I create a screenshot of my lab session?

EE 328C Linux Terminals

Within the EE 328C mobile Linux terminals there are three screenshot tools: pressing `Print Screen` key, using *Take Screenshot* located on the Desktop, or using *PAC Manager's* **Take Screenshot** menu option.

Remote Access Clients

Most Windows, Linux and Mac client systems have screenshot tools, which can be used to screenshot the remote access terminal window. Please see your system's documentation for further help.

EE 328C Linux Terminals

Within the EE 328C Linux terminals, *PAC Manager* can log all session data to a text file.

1. Right-click on the session title tab and select **Save session log...** from the menu.

2. Enter a name for the log file and click **Enter** button to save.

Remote Access Clients: Linux

When accessing the rslab remotely from a Linux terminal window, a session log can be specified at the start of the remote SSH session by typing into a terminal window:

```
ssh -t rslab telnet rack# | tee log_filename
```

where # is the rack number assigned to you by GTA and log_filename is the path and filename for the log, i.e.

```
ssh -t rslab telnet rack2 | tee cs764_lab/assignment1_log.txt
```

Remote Access Clients: Windows

When accessing the rslab remotely with PuTTY on a Windows client, a session log can be specified at the start of the remote SSH session by configuring PuTTY's logging function:

1. In the *PuTTY Configuration* window, click on **Logging** category on the left.

2. Select **All session output** and click on **Browse** button.

3. Enter a name for the log file and click **Save** button to save.

4. *Optional:* Logging options can be saved as part of a host connection session in the *PuTTY* **Saved Sessions** list.

5. For further help on configuring logging in *PuTTY*, see:
   SiRu's guide on tricksguide.com