

tzNOG 2015

Track R&S

Routing and Switching

**Introduction,
Logistics,
Schedule,
etc.**

What You Will Learn

- Internet Protocol stack
- IP addressing (IPv4 & Ipv6)
- Static routing
- Dynamic routing with IS-IS
- Exterior routing with BGP
- Internet exchange points

Your Instructors

- Maina Noah (Tanzania)
- Frank Habicht (Tanzania)
- Simon Mayoye (Kenya)
- Nishal Goburdhan (South Africa)

Participants

- Entire workshop:
- Has about 70 participants from different regions in .tz, all in 3 different tracks.
- This track has <20 participants.
- Please introduce yourselves now.
- Please wear your name tags at all times.

Let Us Know!

- If we speak too fast, please say so!
- If you can't see, please say so!
- If you don't understand, please ask!
- The only stupid question is one you don't ask.

You Should Have Received...

- Name badges.
- Folder with:
- A notepad.
- A pen.
- Information pack (Agenda).

You Will Receive...

- Workshop materials will be available on the wiki.
- Download and take them back home and teach others!

Extra Room Charges

- tzNOG will not pay for any extra charges to your hotel room, such as:
- Phone calls.
- Room service.
- Bar.
- Mini-bar in your hotel room
- Anything in the fridge costs extra, even the water
- Laundry.
- Etc.

Internet Access at the Hotel

- Free WiFi in hotel
- SSID: tznog

Internet Access in Classrooms

- WiFi access should work on your personal laptop or other device
- SSID "tznog"
- WPA password "tznog!"
- But please, no large torrents
- If you make it slow for others, you may be blocked

Internet Use in Class

- Please don't read e-mail or browse the web during sessions.
- You can download most of the training materials from the workshop web site
 - wiki.tznog.or.tz
 - Track 2 – Routing and Switching
 - Detailed timetable
- Feel free to follow along on your laptop during presentations

Daily Schedule

06:30 – 08:30	Breakfast
09:00 – 11:00	Classroom session (2 h)
11:00 – 11:30	<i>Tea/Coffee</i>
11:30 – 13:00	Classroom session (1.5 h)
13:00 – 14:00	<i>Lunch</i>
14:00 – 16:00	Classroom session (2 h)
16:00 – 16:30	<i>Tea/Coffee</i>
16:30 – 18:00	Classroom session (1.5 h)

Time Keeping

- Please be on time.
- We have a lot of material to cover, and we will not get through it all if breaks are longer than scheduled.

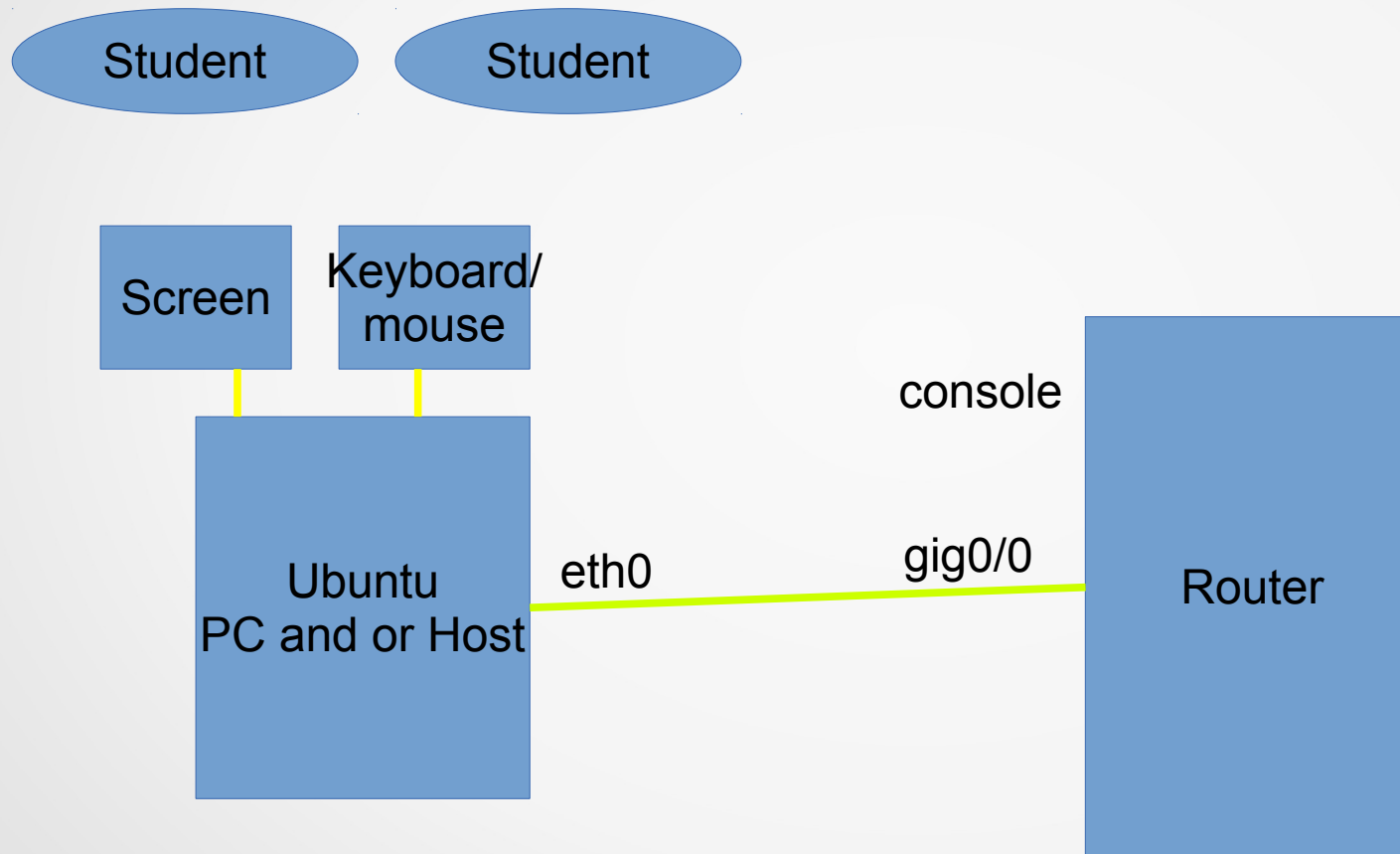
Evening Sessions

- There might be optional evening sessions.
- Let us know if you are interested in some topics not covered

Classroom Layout

- 10 "groups" -
labelled A B C D E F G H I J K etc
- Each group has:
 - 1 or 2 participants with laptops.
 - 1 PC with ubuntu and/or host
 - Virtual machine in "the cloud"
 - 1 Cisco router

Logical structure of each "cell"



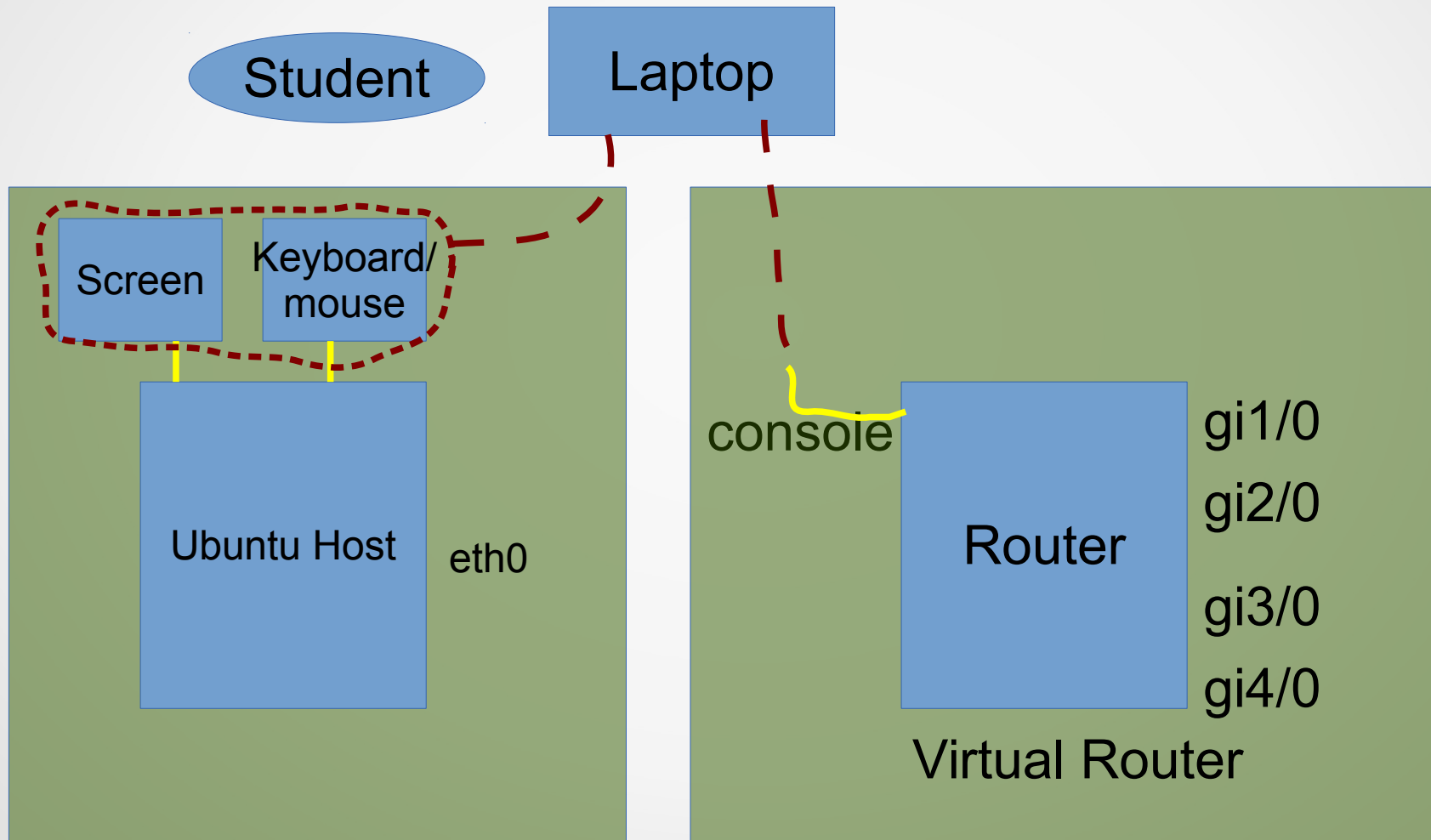
Where are the routers and hosts?

- Virtual devices inside one or two real PCs with a lot of memory.
- Special IP addresses and port numbers connect the outside world to the virtual devices.
- Instructors can do things like connect the ethernet port of two virtual routers together, or connect the ethernet port of a PC to the ethernet port of a router.

Access to virtual host and Routers

- Use VNC to a special hostname and port to bring your virtual PC's keyboard, mouse, screen to your laptop
- Use telnet to a special hostname and port to access the serial console of your virtual router

Physical structure of each "group"



Install VNC and Telnet/SSH clients on your laptop

- Windows:
 - Search for "VNC viewer". TightVNC or RealVNC are both fine.
 - Search for "putty ssh".
- Linux:
 - Install "vinagre" or any other VNC package, if not already there.
 - Telnet and SSH are already built in.
- Mac:
 - VNC, Telnet and SSH are already built in.

Host Configuration

- FreeBSD-10.
- “root”** password is **“afnog”**
- User **“afnog”** password is **“afnog”**
- Don't change passwords.
- Don't install DNS resolvers.
- Don't “close security holes”:
- instructors have left themselves a way to login remotely.

Schedule - Monday

- This introduction.
- IPv4, IPv6 & IP Address Configuration.
- Introduction to Cisco Routers & IOS.
- Introduction to Static
- History of the Internet and OSI Model.

Schedule - Tuesday

- Introduction to Dynamic Routing
- Introduction to ISIS Interior Gateway Protocol
- ISIS Exercise

Schedule - Wednesday

- Introduction to BGP
- Basic BGP Exercise

Open Questions

- Feel free to ask any questions during the sessions.
- Interrupt us if you don't understand anything or if you have a question.
- Please, ask questions!
- List of questions near door. They will be answered on Friday or as time permits.

Overall

WELCOME TO TZNOG 2015
WELCOME TO ZENJ

Learn everything you can,
Have fun,
Take photos,
Network,
Ask questions, make the instructors happy.

Thank You!