Let's Build a Kernel

Week 2 Lab

Presentation

- Push the idea that virtualized hardware can change, before, after, and even while use

Background – Not for Students!

- There is a ticking time bomb in this lab, during the compile they will run out of space and need to adjust the image.
  - There are lots of solutions to this, the simplest being adding a new drive the to VM, and mapping it to the lab1 folder and moving the contents of their work to the new larger space.
  - Resizing the root partition volume can cause problems, but is also possible – some external tools will do it for them

Marking

	0 Points	**1 Point**	**2 Points**
Requirements Met	Unfortunately, nothing was completed as specified in the Requirements section.	Some of the requirements were met, but not all.	All requirements were met and followed

0 Points

- This is reserved for those instances where the student does not do anything, or does not attempt to do anything.
- In the case of this lab, if the student doesn't meet the GIT download requirement (#3), they should be awarded a 0.
- If the students [bash] history is empty or has been cleared, a mark of 0 must be awarded.

1 Point

- This mark is a discretional mark. Markers may evaluate the merits of the effort.
- Part marks can be awarded based on the students [bash] history.

2 Points

- Awarded by verifying the students name is present in the kernel signature (uname/dmesg)
- This will serve as a future check for cheating as well, as all kernels will be tagged with the student's name

Skillsets Demonstrated During Lab

- Disseminating good vs bad information
  - Google
  - Stack Overflow
- Troubleshooting
  - Network device names changing
- Linux
  - Further enforces/refreshes system administrator type functionality
  - Package systems
- Git
  - Introduction to industry standard
- Device Management
  - Introduction to file system types and functional purposes
- Virtualization
  - Customization of hardware for drive space
  - Customization of hardware for processing power
  - General overview of virtualization and what it means
- Make System
  - Introduction to make / configure open source practices
- Kernel Compilation
  - Configuring and simple modifications
  - Building
  - Installing
  - Verifying

Additional Postmortem Talking Points

- Virtualization overview
- Operating system components
- Hardware components
- Introduction to Block Storage / ISCSI / etc.
- Primer/Mention of OpenStack
- Primer/Mention of Docker
- Git protocol differences
- Git performances optimizations