
LIGHTHOUSE LABS

Week 1 Day 2
Cyber Security Bootcamp

Linux Overview

We are making time to answer questions! Please don't worry!

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Today . . .

Questions (from yesterday, from . . . ?)

What to expect

Virtualization

EVE Sandbox exercise

What is Linux?

Yesterday - Questions ?

To start . . .

Does anyone have any questions they have not had answered yet?

Your days . . .

Lecture, 12:00pm - 2:00pm ET each day, Monday to Friday

Even on holidays!

Self-study time for you to work on your day's tasks for that day

Mentors available on Rudder:

Monday - Thursday, 2:00pm - 12:00am ET

Friday, 2:00pm - 9:00pm ET

Each lecture will include a review of prep learning you have completed before the lecture and an introduction to what you will be working on after lecture.

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Your tasks . . .

Reading

Research

Activities, labs, case studies

Sometimes in groups, sometimes as individuals

Working, discussing, and practicing/learning with others is always a good idea, even if you are not assigned to. You will learn much more if you are actively working with the content you are trying to learn and talking about it and working on it with others will help this happen naturally. Besides, it's more fun that way! :)

A few suggestions . . .

Feeling overwhelmed? Take a breath, step back, calm down, and clear your mind.

When you are feeling calmer, come back, and try a fresh approach. Don’t discount the value of at least reviewing what you have done, One Step At A Time, from the beginning!

Break your tasks down into bite sized steps you can handle, and approach it one small step at a time. You will get to the end, with your sanity, if you don’t try to do it all at once!

Having issues?

Try coming at it with a fresh mind and/or approach.

Do some research, search engines, forums, and information websites can be your friend. Just make sure you are using authoritative sources for your information.

Ask a friend! That is what Discord is all about. Talk to your classmates, discuss with them, work with them. This is a learning experience, and teamwork is part of the learning you are here to practice.

If all else fails, Rudder and our team of mentors is here to give you a hand.

Secret to success . . .

Expect to succeed!

Prepare your workspace, include all the tools you will need. Use it every time you are working on your studies.

Use your preferred learning style to your advantage!

Understanding, not memorization! The long haul is the only road to success in IT and Security!

Take care of your body and your mind, and they will take care of you!

One Step At A Time!

Any other suggestions?

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Virtualization

Bare-metal machine vs Bare-metal Virtualization

- Happens directly on real hardware
- Bare-metal machine - 1 OS on the hardware, like your PC or laptop
- Bare-metal virtualization - small, limited functionality OS for managing VMs and their access to the hardware

Type 2 Hypervisor

- Host OS runs directly on the hardware
- Guest OS runs in a Virtual Machine (VM) that is set up and runs inside Hypervisor software running on the Host OS

Containerization

- Host OS runs directly on the hardware
- Virtualization software runs on Host OS
- Software or service and everything it requires to work runs in its own container managed by the Virtualization software (eg. Dockers, Kubernetes, etc)

Break Time

Any questions or thoughts before we stop?

Please be back by _____

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Exploring EVE

https://cyber.compass.lighthouselabs.ca/days/w01d1/activities/2703

Let’s get into our lab environment and try some of these items together

Be prepared with your questions so we can try to help out.

What is Linux?

OS (allows hardware to communicate with each other and run so it can fulfill our requests

Multi-user OS

Command line based and Graphical User Interface compatible

Modular

Hundreds of distributions (https://en.wikipedia.org/wiki/List_of_Linux_distributions, https://distrowatch.com/)

Fully customizable, including software, capabilities, major languages available and used, User Interface used, etc

Simple permissions set (Owner, Group, Other)

A server at its heart

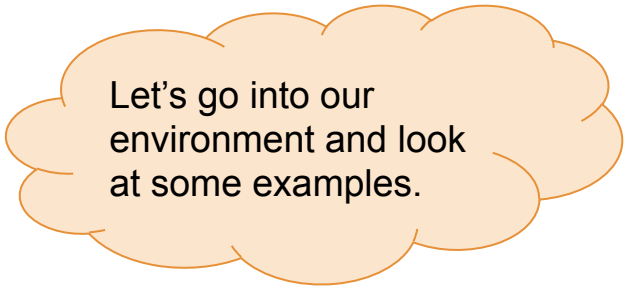
Linux Permissions

3 sets of permissions for each object (file, folder)

- The User that owns the object
- The Group that the owner belongs to, this group is the group owner of the object
- All Others, anyone outside of the owner user, and the owner group

3 types of permissions

- Read (R)
- Write (W)
- Execute (E)



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Linux Permissions con’t

Interested in getting a better picture of permissions on a Linux system, try this article, it has some really great information in it.

https://www.linuxfoundation.org/blog/blog/classic-sysadmin-understanding-linux-file-permissions

Let’s explore some Linux basics

https://cyber.compass.lighthouselabs.ca/days/w01d1/activities/2707

man

ip (-a address)

ls (-a, -l)

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Linux Process Management

What is a process?

ps

kill

top

Ctrl+c

Where you can learn some more . . .

https://www.makeuseof.com/linux-process-management/

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Linux Software Management

Debian vs Redhat based systems

Software packages & dependencies

APT vs DPKG

https://cyber.compass.lighthouselabs.ca/days/w01d2/activities/2711

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Interested in learning more about Linux?

https://training.linuxfoundation.org/training/introduction-to-linux/

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Linux Processes and Software Task

Let’s review it . . .

https://cyber.compass.lighthouselabs.ca/days/w01d2/activities/2712

What is nmap?

What is Apache?

How do you complete steps you have not learned about yet?

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Thoughts, Comments . . .

?

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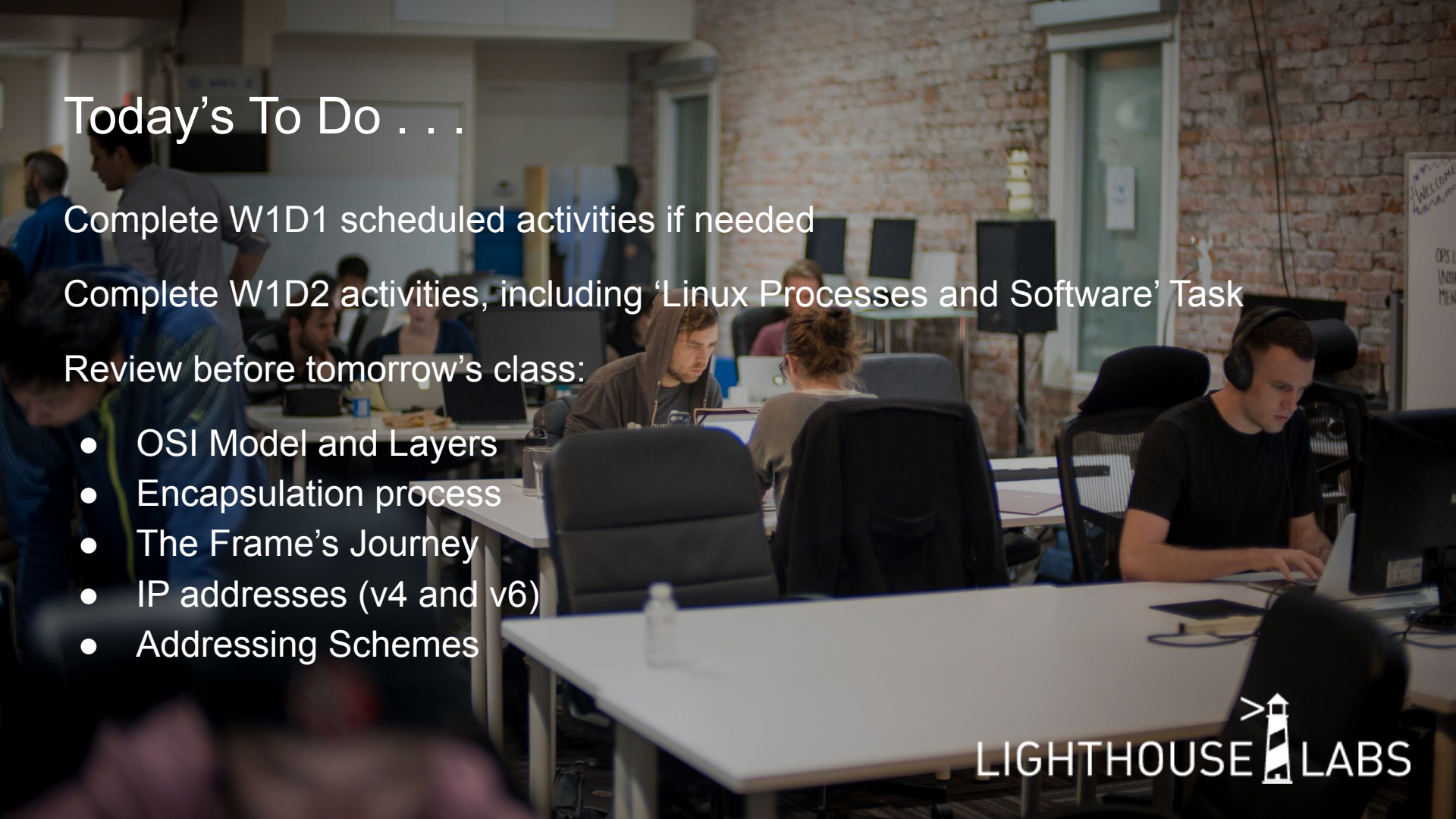

Today's To Do . . .

Complete W1D1 scheduled activities if needed

Complete W1D2 activities, including 'Linux Processes and Software' Task

Review before tomorrow's class:

- OSI Model and Layers
- Encapsulation process
- The Frame's Journey
- IP addresses (v4 and v6)
- Addressing Schemes

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