Welcome to week 2; introduction to linux

Welcome back! We have another important topic to explore.
Previously, you learned aboutoperating systems and user interfaces.
You learned how operating systems work and how resources are allocated in computers.
We also reviewed several common operating systems.
You may already have a favorite operating system.
It's common to hear that people are fans of one over another, but in the security world,
Linux is commonly used.
In this section, you'll be learning more about the Linux operating system and how
it's used in everyday tasks in security.
First, you'll learn about the architecture of Linux.
After this, we'll compare the different distributions of Linux that are available.
Lastly, you'll explore the shell, a key Linux component that allows you to communicate with the system.
I remember when I first learned about the Linux OS, and I'm really happy to explore it with you now.

Introduction to Linux

You might have seen or heard the name Linux in the past.
But did you know Linux is the most-used operating system in security today?
Let's start by taking a look at Linux and how it's used in security.

Linux is an open-source operating system.
It was created in two parts.
In the early 1990s, two different people were working separately on projects to improve computer engineering.
The first person was Linus Torvalds.
At the time, the UNIX operating system was already in use.
He wanted to improve it and make it open source and accessible to anyone.
What was revolutionary was his introduction of the Linux kernel.
We're going to learn what the kernel does later.

Around the same time, Richard Stallman started working on GNU.
GNU was also an operating system based on UNIX.
Stallman shared Torvalds' goal of creating software that was free and open to anyone.

After working on GNU for a few years, the missing element for the software was a kernel.
Together, Torvalds' and Stallman's innovations made what is commonly referred to as Linux.

Now that you've learned the history behind Linux, let's take a look at what makes Linux unique.
As mentioned before, Linux is open source, meaning anyone can have access to the operating system and the source code.
Linux and many of the programs that come with Linux are licensed under the terms of the GNU Public License, which allow you to use, share, and modify them freely.
Thanks to Linux's open-source philosophy as well as a strong feature set, an entire community of developers has adopted this operating system.
These developers are able to collaborate on projects and advance computing together.
As a security analyst, you'll discover that Linux is used at different organizations.
More specifically, Linux is used in many security programs.
Another unique feature about Linux is the different distributions, or varieties, that have been developed.
Because of the large community contribution, there are over 600 distributions of Linux.
Later you'll learn more about distributions.

Finally, let's take a look at how you would use Linux in an entry-level security position.
As a security analyst, you'll use many tools and programs in everyday work.
You might examine different types of logs to identify what's going on in the system.
For example,
you might find yourself looking at an error log when investigating an issue.
Another place where you will use Linux is to verify access and authorization in an identity and access management system.
In security, managing access is key in order to ensure a secure system.
We'll take a closer look into access and authorization later.

Finally, as an analyst, you might find yourself working with specific distributions designed for a particular task.
For example, you might use a distribution that has a digital forensic tool to investigate what happened in an event alert.
You might also use a distribution that's for pen testing in offensive security to look for vulnerabilities in the system.
Distributions are created to fit the needs of their users.
I hope you're excited to learn more about Linux.
This will be a very useful skill in the security field.