COURSEWARE

Linux Distributions

Contents

Overview

In this module, you will learn about Linux distributions and some of the differences between the more popular Linux distributions.

What is a Linux Distribution?

A Linux distribution, or distro, is a version of the Linux operating system.

Think of distributions as different flavours of Linux - it's the same base kernel with differences in packages, libraries and tools.

There are hundreds of Linux distributions, all of which can be used for different purposes; some could be for home computing, whilst others are scaled for enterprise.

Some distributions are entirely community-driven, such as Debian and Arch Linux, whilst others are commercially supported, such as Red Hat and Ubuntu.

Linux Packages

The Linux Operating System works with packages, which are bundles of software with all of the binaries, libraries and tools required for it to run.

A Linux distribution will come with many pre-installed packages on the operating system, typically required for the OS to run. Users can then install their own packages onto the system through a package manager and repository.

Package Managers

Linux OS' use package managers to install, configure, update and delete packages from an operating system.

These package managers drastically reduce the need for manual installs and updates of packages; when a user runs an update command through their package manager, the package manager will automatically update it.

The package manager typically works with a sources list. This is a file that tells the package manager where to download packages for installs and updates for your operating system.

For example, in Ubuntu, the sources file can be found in the below by default: `/etc/apt/sources.list`

Red Hat and Debian

Two of the more popular distributions you'll see in Linux are RedHat and Debian.

RedHat is a Linux distribution that is commercially supported, whilst Debian is a Linux distribution that is community supported.

They are quite similar in their structure (they are both based on the same Linux kernel, after all!), but they differ in their package manager.

Red Hat uses the YUM package manager, whilst Debian uses APT. Both of these package managers serve the same purpose, but use different binaries and libraries to run.

Red Hat and Debian also differ in their design purpose; Red Hat is designed to be used at an enterprise level, whilst Debian can be adopted at both personal and enterprise level.

Tutorial

There are no tutorials for this module.

Exercises

Try to answer the following questions in order to check your knowledge.

If you have trouble answering the question, you can check the answer below.

Is Red Hat a Linux distribution that is commercially or community supported?

▶ Show Solution

What is a Linux package?

▶ Show Solution

What is the purpose of package managers?

▶ Show Solution

What is the purpose of the sources list?

▶ Show Solution