

Red Hat

Enterprise

Linux 9

RHCSA – SA 1 LAB BOOK

Chapter 1 – Introduction & Getting Started **with Red Hat Enterprise Linux**

1969:- Birth of **C & UNIX OS**

1970s

Growth because open source collaboration

Commercial Sale of UNIX

Free BSD, Paid UNIX

1980s

IBM (AIX), Solaris (SUN OS), HP (HP-UX)

Richard Stallman: GNU Project

1990s

Linus Torvalds: Linux kernel code online

POSIX 386. 'Linux + GNU'

What is Linux?

- Critical technology for IT professional to understand.
- Linux is a kernel, core component of any OS. It interact with the hardware.
- OS is an interface between hardware and software.
- As a user we interact with the software's. Kernel interact with the hardware.

Why to choose Linux?

1. Linux is open Source.

- ✓ Open source software is a software with source code that anyone can use, study, modify, and share.
- ✓ Source code is a set of human-readable instructions that are used to make a program.

- ✓ Upon creating source code, it gets copyrighted, and the copyright holder controls the terms under which the software can be copied, adapted, and distributed.
- ✓ We can use this software under a software license.

2. There are two types of licenses.

a) Copy left =

When the copyright holder provides software under an open source license, they grant the user the right to run the program and also to view, modify, compile and redistribute the source royalty-free to others.

E.g.: GNU GPL

b) Permissive =

Permissive licenses are intended to maximize the reusability of source code. Users can use the source for any purpose including reusing that code under more restrictive or even proprietary licenses.

E.g.: Apache Software license 2.0

3. The Open-Source Security Advantage

Linux source code undergoes constant, thorough review by members of open-source community and, as a result of this scrutiny, Linux security vulnerabilities are generally identified and eliminated very rapidly.

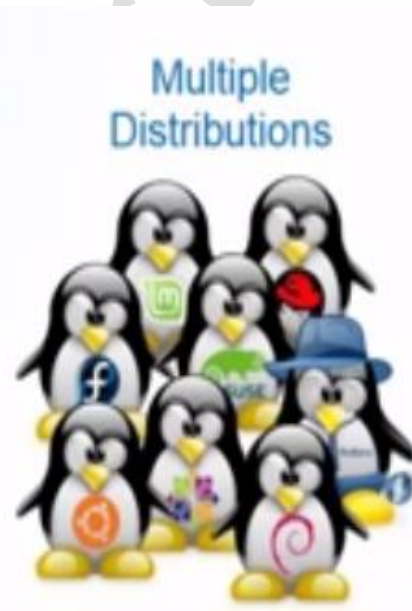
4. A Superior User Privilege Model

Unlike Windows where “everyone is an admin”, Linux greatly restricts root access through a strict user privilege model. On Linux, the super user owns all the privileges, and ordinary users are only granted enough permissions to accomplish common tasks.

5. Built-In Kernel Security Defences

The Linux kernel has an array of built-in security defense including firewalls that use packet filters in the kernel and SELinux.

6. A complete Linux operating system is developed by a collection of independent open source development communities working with individual software components.
7. A distribution provides an easy way for users to install and manage a working Linux system.



8. Red Hat Enterprise Linux is Red Hat's commercialized Linux distribution.
9. Linux provides easy access to a powerful and scriptable command-line interface (CLI).
10. It is very fast and effective.
11. Linux was built around the basic design philosophy that users can perform all administration tasks from the CLI. It enables easier automation, deployment, and provisioning, and simplifies both local and remote system administration.

What is RHEL?

Red Hat Enterprise Linux (RHEL) is Red Hat's enterprise-ready, commercially-supported Linux distribution. It is the leading platform for open source computing.

Red Hat Enterprise Linux uses a subscription-based distribution model.

Subscription is not a license fee. Instead, it pays for support, maintenance, updates, security patches, and access to the Knowledgebase on the Red Hat Customer Portal and certifications.

Red Hat helps vendors and customers engage with the open source community, and to work with upstream development to develop solutions and fix issues.

END