RHD221 Red Hat Linux Device Drivers

Course Summary

Description

This course is designed to teach experienced programmers how to develop device drivers for Linux systems. Upon completion of the course, students will understand the Linux architecture, hardware and memory management, modularization, and the layout of the kernel source, and will have practiced key concepts and skills for development of character, block, and network drivers.

Objectives
At the end of this course, students will be able to:

- Build concepts and skills in kernel essentials
- Build practical skills in developing device drivers for various types of hardware

Topics

- How device drivers work with the Linux Kernel
- How to configure and install the kernel
- Compiling and loading a module and exporting symbols
- Working with character and block device drivers
- Memory Management
- IOCTLs
- Data Transfer Between User and Kernel Space

- Memory Management
- Tracing and Debugging
- Time Management, Wait and Task Queues
- Dealing with I/O ports and Interrupts
- Accessing PCI hardware
- Network drivers
- SMP issues
- Virtual File System and the ext2/ext3 filesystems

Audience

This course is designed for developers of hardware device drivers who need to ramp up quickly on how to develop drivers for Linux.

Prerequisites

Students should have experience in C programming or Linux Programming Essentials or the equivalent

Duration

Five days