



LINUX TRAINING

Embedded Linux Development

Master Embedded Linux development. Learn to build and deploy custom Linux solutions for various embedded devices and real-world applications.

DURATION

2 hours

LEVEL

Intermediate

FORMAT

Instructor-Led

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- Globally Recognized Certification
 - Expert-Led Hands-On Training
 - Flexible Scheduling

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COURSE OVERVIEW

This accelerated, intermediate-level "Embedded Linux Development" course provides a comprehensive introduction to building and deploying Linux-based solutions on embedded systems. Participants will rapidly acquire the foundational knowledge and practical skills necessary to navigate the complex world of embedded Linux, from understanding core components like the kernel and bootloader to setting up cross-development environments and deploying basic applications. This course emphasizes a hands-on, conceptual approach to jumpstart your journey into creating robust and efficient embedded devices.

You'll delve into critical technologies, including the Linux kernel, bootloaders such as U-Boot, and essential build systems like Buildroot and Yocto (conceptually). The curriculum is designed to demystify embedded systems programming, giving you the confidence to configure, compile, and deploy custom Linux images for resource-constrained hardware. By the end of this intensive training, you will be equipped to understand and initiate embedded Linux projects, laying a strong groundwork for further specialization and career growth in the rapidly expanding IoT and embedded device markets.

The professional benefits are immediate: gain a significant edge in specialized hardware development, contribute to cutting-edge IoT initiatives, and solve real-world challenges in device management and optimization. This course is ideal for developers looking to pivot into embedded systems or hardware engineers aiming to deepen their software expertise with Linux.

Duration	2 hours
Level	Intermediate
Vendor	Linux

COURSE CURRICULUM

01 Module 1: Embedded Linux Fundamentals & Setup

- Defining Embedded Linux Systems and their Architecture
- Overview of Linux Kernel, Bootloader, and Root Filesystem
- Introduction to Cross-Compilation Toolchains and Development Environments
- Basic interaction with embedded target boards (e.g., via serial console)

02 Module 2: Building Core Embedded Systems

- Understanding the Embedded Linux Boot Process
- Introduction to Build Systems: Buildroot and Yocto Project (conceptual overview)
- Creating a simple custom Root Filesystem using BusyBox (conceptual)
- Cross-compiling and deploying a basic user-space application to a target

03 Module 3: Hardware Interaction & Debugging Essentials

- Overview of Linux Device Drivers (Character drivers, GPIO access)
- Basic hardware interaction from user space (sysfs, mmap concepts)
- Essential debugging techniques for embedded Linux (remote GDB conceptual overview)
- Next steps for continuous learning and practical project development

CAREER PATHWAYS

Graduates of this program are prepared for the following roles:

- > **Entry-Level Embedded Software Engineer focusing on Linux-based systems**
- > **IoT Device Developer specializing in Linux-powered edge devices**
- > **Linux Systems Programmer for Custom Hardware Platforms**

FREQUENTLY ASKED QUESTIONS

Q: What prior experience or technical background is recommended to get the most out of this accelerated Embedded Linux Development course?

To thrive in this intermediate course, participants should have a foundational understanding of C programming, a working knowledge of Linux command-line operations, and familiarity with basic operating system concepts. Previous exposure to microcontrollers or basic hardware concepts would be beneficial but is not strictly required.

Q: How will this specific 2-hour course enable me to contribute to actual embedded Linux projects or career opportunities?

This intensive course is designed to provide you with a rapid, foundational understanding of the entire Embedded Linux ecosystem. You'll gain the conceptual framework and initial practical steps needed to confidently set up development environments, understand the boot process, and deploy simple applications. This prepares you to tackle entry-level embedded Linux roles or serve as a strong stepping stone for more advanced training and hands-on project work in IoT and custom hardware development.

Q: What specific development tools and environments will I be introduced to during this course, and can I practice with them afterwards?

During the course, you will be introduced to the concepts of cross-compilation toolchains (like GNU ARM Embedded Toolchain), basic terminal utilities for Linux, and gain an overview of build systems like Buildroot and Yocto. While the 2-hour format focuses on conceptual understanding and setup, we will provide guidance on how to set up virtual environments or use open-source hardware platforms to continue practicing these tools and techniques independently after the course.

ABOUT COMPUTER PRIDE



East Africa's Premier IT Training Center

With over 15 years of excellence, Computer Pride delivers globally recognized certification programs from leading technology vendors. Located on Kenyatta Avenue in Nairobi's CBD, our state-of-the-art facilities and expert instructors have empowered thousands of professionals across East Africa.

15+

Years of Excellence

10,000+

Professionals Trained

50+

Vendor Certifications

READY TO ENROL?

Take the next step in your technology career.

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