LFD440 – Linux Kernel Debugging and Security (EN)

Course: LFD440 Linux Kernel Debugging and Security

About this Course:

- This instructor-led course focuses on the important tools used for debugging and monitoring the kernel, and how security features are implemented and controlled.

Course Goals/Skills:

- This four day course includes extensive hands-on exercises and demonstrations designed to give you the necessary tools to develop and debug Linux kernel code.
- Introduction
  Preliminaries
  How to Work in OSS Projects **

Kernel Features
Monitoring and Debugging
Printk
The proc Filesystem **
kprobes
Ftrace
Perf
eBPF
Crash
kexec
Kernel Core Dumps
Virtualization**
QEMU
Linux Kernel Debugging Tools
Embedded Linux**
Notifiers**
CPU Frequency Scaling**
Netlink Sockets**
Kernel Deprecated Interfaces
Introduction to Linux Kernel Security
Linux Security Modules (LSM)
SELinux
AppArmor
Netfilter
The Virtual File System
Filesystems in User-Space (FUSE)**
Journaling Filesystems**
Closing and Evaluation Survey
Kernel Architecture I
Kernel Programming Preview
Modules
Kernel Architecture II
Kernel Configuration and Compilation
Kernel Style and General Considerations
Race Conditions and Synchronization Methods
Memory Addressing
Memory Allocation

Audience:

- This course is for experienced developers who need to understand the methods and internal infrastructure of the Linux kernel.

Course Format:

Присъствен (Classroom) Курс в Учебната ни зала или В Офис на Клиент	**Онлайн (Online/Virtual) Курс във виртуална зала с инструктор**

Course Language Option

Български (Bulgarian)	**Английски (English)**

You can choose the language in which the training will be conducted – Bulgarian or English. All our instructors are fluent in English.

Student Guides:

The training materials are available in electronic format. They can be used online / offline on any device. Lifetime access.

Lab Environment:

Each student has their own lab environment where the exercises are conducted, part of the course. You do not need to install software on a computer or special hardware requirements.
Participants in a face-to-face format in our Training Center have an individual computer during the training.

At Course Completion:

Lifetime Access - Video Archive 24/7	Certificate of Course Completion

Lifetime access to a video archive with recording of each individual lecture.
Official internationally recognized certificate for completed training course.

Course Duration:

- 4 working days (09:00 – 17:00)
  or
- 32 hours training (theory and practice) in non-working hours lasting 4 weeks
  Saturday and Sunday 10:00 – 14:00, 14:00 – 18:00, 18:00 – 22:00
  Monday and Wednesday 19:00 – 23:00
  Tuesday and Thursday 19:00 – 23:00

Payments:

An application for an invoice is accepted at the time of enrollment in the respective course.

An invoice is issued within 7 days of confirming the payment.

Next Class:

Notice
There are no upcoming events.
For more information, use the contact format. We will contact you to confirm the data.

Prerequisites:

- To make the most of this course, you should:
  - Be proficient in the C programming language.
  - Be familiar with basic Linux (UNIX) utilities such as ls, grep and tar.
  - Be comfortable using any of the available text editors (e.g. emacs, vi, etc.).
  - Experience with any major Linux distribution is helpful but not strictly required.
  - Have experience equivalent to having taken LFD420: Linux Kernel Internals and Development.

  Pre-class preparation material will be provided before class.

This Class will teach you how to pass the following exams: