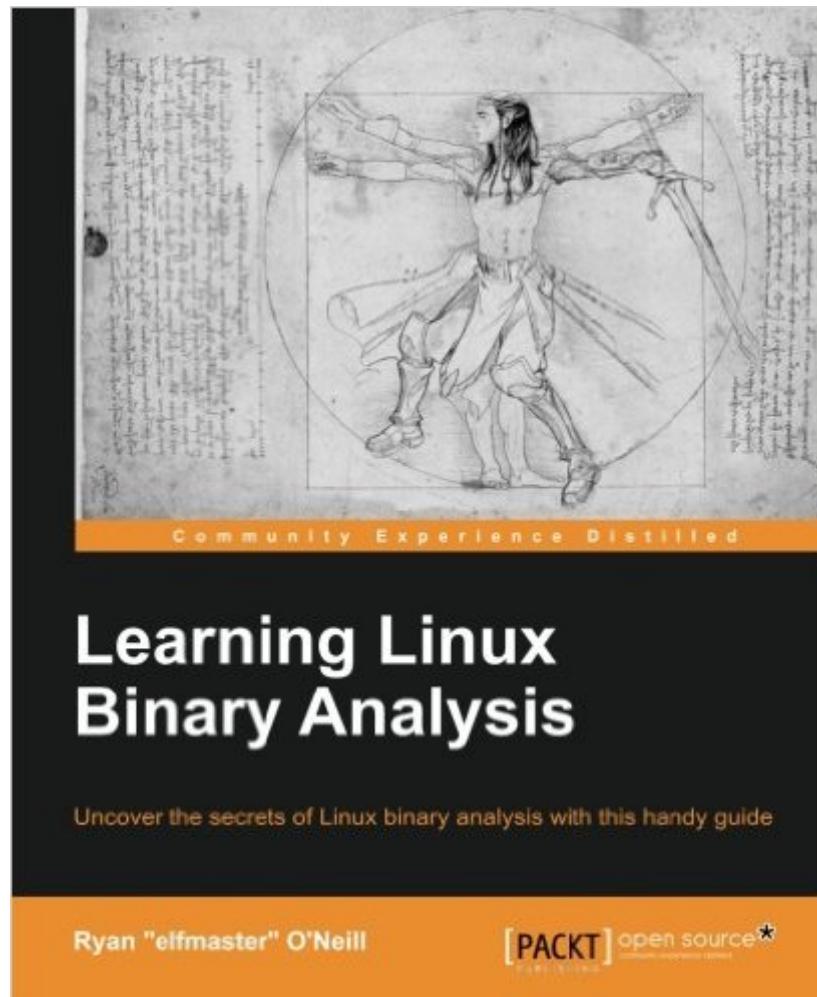


The book was found

# Learning Linux Binary Analysis



## Synopsis

Key Features

- Grasp the intricacies of the ELF binary format of UNIX and Linux
- Design tools for reverse engineering and binary forensic analysis
- Insights into UNIX and Linux memory infections, ELF viruses, and binary protection schemes

**Book Description**

Learning Linux Binary Analysis is packed with knowledge and code that will teach you the inner workings of the ELF format, and the methods used by hackers and security analysts for virus analysis, binary patching, software protection and more. This book will start by taking you through UNIX/Linux object utilities, and will move on to teaching you all about the ELF specimen. You will learn about process tracing, and will explore the different types of Linux and UNIX viruses, and how you can make use of ELF Virus Technology to deal with them. The latter half of the book discusses the usage of Kprobe instrumentation for kernel hacking, code patching, and debugging. You will discover how to detect and disinfect kernel-mode rootkits, and move on to analyze static code. Finally, you will be walked through complex userspace memory infection analysis. This book will lead you into territory that is uncharted even by some experts; right into the world of the computer hacker. What you will learn

- Explore the internal workings of the ELF binary format
- Discover techniques for UNIX Virus infection and analysis
- Work with binary hardening and software anti-tamper methods
- Patch executables and process memory
- Bypass anti-debugging measures used in malware
- Perform advanced forensic analysis of binaries
- Design ELF-related tools in the C language
- Learn to operate on memory with ptrace

**About the Author**

Ryan "elfmaster" O'Neill is a computer security researcher and software engineer with a background in reverse engineering, software exploitation, security defense, and forensics technologies. He grew up in the computer hacker subculture, the world of EFnet, BBS systems, and remote buffer overflows on systems with an executable stack. He was introduced to system security, exploitation, and virus writing at a young age. His great passion for computer hacking has evolved into a love for software development and professional security research. Ryan has spoken at various computer security conferences, including DEFCON and RuxCon, and also conducts a 2-day ELF binary hacking workshop. He has an extremely fulfilling career and has worked at great companies such as Pikewerks, Leviathan Security Group, and more recently Backtrace as a software engineer. Ryan has not published any other books, but he is well known for some of his papers published in online journals such as Phrack and VXHeaven. Many of his other publications can be found on his website at <http://www.bitlackeys.org>.

**Table of Contents**

- The Linux Environment and Its Tools
- The ELF Binary Format
- Linux Process Tracing
- ELF Virus Technology
- Linux/Unix Viruses
- Linux Binary Protection
- ELF Binary Forensics
- Linux Process Memory Forensics
- ECFS – Extended Core File Snapshot Technology
- Linux

## Book Information

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## Customer Reviews

The book contains information that cannot be found in any one place on the internet. It is a unique book in the sense that it covers information on the ELF binary format, Linux virus infection techniques, process memory forensics, kernel hacking, reverse engineering concepts, hot patching, binary encryption, and more. In some places the formatting of the code (As in tabs/indentation etc.) is not so great, but overall the book gives a very good presentation and summarizes knowledge that cannot be found from very many sources. The author is very experienced in his knowledge of ELF, security, virus design, forensics analysis and much more. It is great for a wide spectrum of people, from software engineers who are building ELF linkers, to security analysts who are designing Virus detection, and binary protection software. The author has also left a note on his web page describing some of the problems with the book: (...)

great introduction to ELF file format and linux malware techniques (there's not too many books on the topic). Overall very good, useful and to the point book filled with practical code examples.

Chapter 2 is worth the price alone. Engaging discussion of a subject that can be difficult to make interesting.

Great book

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