

Practical Foundations of Arm64 Linux Debugging: Disassembling, Reversing, and Mastering the Linux Kernel

The relentless rise of Arm64-based embedded systems and the increasing complexity of the Linux kernel demand highly skilled engineers who can effectively debug, disassemble, and reverse Arm64 Linux systems. This comprehensive guide empowers you with the knowledge and techniques to tackle these challenges head-on.

Chapter 1: A Crash Course in Arm64 Linux

* Understand the basics of the Arm64 architecture and its key features * Explore the structure and operation of the Linux kernel * Familiarize yourself with essential debugging tools like GDB and strace



Practical Foundations of ARM64 Linux Debugging, Disassembling, Reversing: Training Course (Practical Foundations of Debugging, Disassembling, Reversing)

by Alex Abramovici

★★★★★ 5 out of 5

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Chapter 2: Mastering Arm64 Disassembly

* Discover the fundamental principles of Arm64 assembly language * Learn to disassemble Arm64 binaries using IDA Pro and GDB * Analyze instruction sequences and identify key program logic

Chapter 3: Demystifying Arm64 Reversing

* Understand the techniques used for reversing Arm64 binaries * Apply practical methods to extract function calls, data structures, and control flow * Reverse real-world examples to uncover hidden functionality

Chapter 4: Debugging the Linux Kernel

* Explore advanced kernel debugging techniques using GDB and KGDB * Understand kernel boot process and debugging kernel panics * Analyze kernel modules and identify root causes of system issues

Chapter 5: Advanced Disassembly and Reversing

* Delve into advanced disassembly techniques for complex code * Learn to identify and analyze function prologues and epilogues * Discover reverse engineering strategies for optimizing performance

Chapter 6: Case Studies and Real-World Applications

* Apply your skills to practical case studies involving kernel debugging and binary reversing * Analyze real-world binaries to uncover vulnerabilities and exploit mitigation techniques * Gain insights into the latest advancements in Arm64 security and malware analysis

Benefits of Mastering Arm64 Linux Debugging, Disassembling, and Reversing

* Enhance your ability to diagnose and resolve complex system issues *
Develop advanced reversing skills to analyze malicious software and uncover vulnerabilities * Improve your understanding of the Linux kernel and low-level system architecture * Gain a competitive edge in the field of embedded systems engineering

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Author Biography

John Doe is a renowned expert in Arm64 Linux debugging and reverse engineering. With extensive experience in both academia and industry, he has made significant contributions to the field. His passion for sharing his knowledge has led to the creation of this comprehensive guide, empowering engineers and researchers to master the complexities of Arm64 Linux systems.

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