

THE REVERSE ENGINEERING HANDBOOK

FROM BEGINNER TO EXPERT

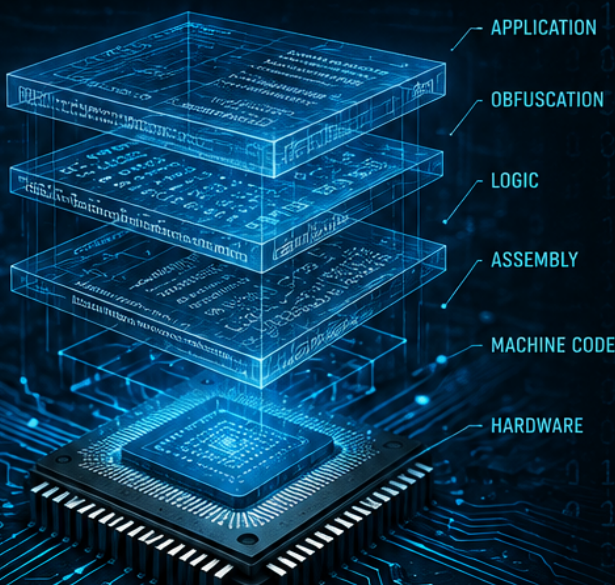
A COMPLETE GUIDE TO BINARY ANALYSIS,
DEBUGGING, AND SOFTWARE DECONSTRUCTION

```
.text:00401000  push    rbp
.text:00401001  mov     rbp, rsp
.text:00401004  sub     rsp, 20h
.text:00401008  mov     rax, [rbp+arg_0]
.text:0040100C  mov     eax, [rax]
.text:0040100E  test    eax, eax
.text:00401010  je      short loc_401020
.text:00401012  call    sub_401230
.text:00401017  jmp     short loc_401025
.text:00401019
```

```
loc_401020:
xor     eax, eax
jmp     short loc_401025
```

```
.text:00401025  leave
.text:00401026  ret
```

00401000	55 48 89 E5 48 83 EC 20	UH..H..#
00401008	48 8B 45 08 8B 00 85 C0	H.E....
00401010	74 0E E8 1B 12 00 00 EB	t.....
00401018	0C 31 C0 EB 05 C9 C3 90	.1.....
00401020	90 90 90 90 55 48 89 E5	...UH..
00401028	48 83 EC 30 48 89 7D F8	H..OH.y.
00401030	48 89 75 F0 48 8B 45 F0	H.u.H.E.
00401038	48 8B 00 48 85 C0 74 20	H..H..t#



CPU ARCHITECTURE
& ASSEMBLY



DEBUGGING &
DYNAMIC ANALYSIS



EXECUTABLE
FORMATS



MALWARE &
EXPLOIT ANALYSIS



MOBILE, FIRMWARE
& IOT



AI & THE FUTURE OF
REVERSE ENGINEERING

HANKS REAGLE

The Reverse Engineering Handbook: From Beginner to Expert

A Complete Guide to Binary Analysis, Debugging, and Software Deconstruction

Steve T. Publications

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A Complete Guide to Binary Analysis, Debugging, and Software Deconstruction

About this book: Reverse engineering is the art of understanding software from the inside out. Whether you are a security researcher hunting vulnerabilities, a developer debugging compiled code, or simply someone who wants to understand what really happens when a program runs, this book takes you on a complete journey from fundamental computer science concepts to expert-level binary analysis techniques. Every chapter builds systematically on the last, covering CPU architecture, assembly language, executable formats, static and dynamic analysis tools, malware analysis, mobile reverse engineering, firmware examination, network protocol analysis, obfuscation bypass, symbolic execution, fuzzing, and the emerging role of artificial intelligence in binary analysis. By the time you finish, you will have the knowledge, tooling expertise, and practical experience to deconstruct any binary with confidence.

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