



HACKERSPREY

A PLATFORM BUILT TO SUPERCHARGE YOUR HACKING SKILLS



StackXploit

Exploiting Stacks in Linux

| Section | Topics To Be Covered |
|---|---|
| Assembly Language | <ul style="list-style-type: none">• Introduction to Assembly Language• Assembly Instruction Format• Basic Assembly Instructions• Addressing Modes |
| Fundamentals of Program Execution Flow | <ul style="list-style-type: none">• Calling Convention• Memory Layout of a C Program• Understanding Call Stack and Stack Frame |
| Reversing the Code | <ul style="list-style-type: none">• Getting Familiar with IDA• Reversing to System Shell with IDA• Analyzing and Exploiting RAND Function• Cracking the seed |
| Insights into Integer Overflow Vulnerabilities | <ul style="list-style-type: none">• Understanding Integer Overflow• Integer Overflow In Action |
| Arbitrary Memory Exploitation | <ul style="list-style-type: none">• Arbitrary Read• Exploiting Arbitrary Write |
| Buffer Overflow | <ul style="list-style-type: none">• Understanding Buffer Overflow• Controlling RIP Register |





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| Bypassing Stack Canary Defenses | <ul style="list-style-type: none">• Understanding Stack Canaries• Defeating Stack Canaries |
| Shellcoding | <ul style="list-style-type: none">• Understanding System Calls & Generating a Custom Shell Code• Exploiting Binary Using Shellcode• Seccomp Bypass Tactics for Shellcode Execution• Buffer Size Dynamics in Shellcode Execution |
| Format Strings | <ul style="list-style-type: none">• Introduction to Format Strings• Arbitrary Read Using Format String Vulnerability• Arbitrary Write Using Format String Vulnerability• Overwriting GOT using Format String Vulnerability• Exploiting Format String Vulnerability• Exploiting Format String Vulnerability with FINI_ARRAY |
| Return Oriented Programming | <ul style="list-style-type: none">• Understanding Return-Oriented Programming• Hands-on ROP: From Gadget Hunt to Shell Access• Bypassing PIE using ROP gadgets• Leveraging Ret2libc in ROP Exploits• Understanding Stack Pivoting• Stack Pivoting in Action |
| RET2CSU | <ul style="list-style-type: none">• RET2CSU |
| SIGRETURN Oriented Programming | <ul style="list-style-type: none">• Understanding SROP |

