LINUX PRIVILEDGE ESCALATION

EXP.NO: 6 DATE: 04-03-2025

AIM:

The primary aim of the Linux Privilege Escalation is to equip learners with the knowledge and hands-on experience necessary to identify and exploit privilege escalation vulnerabilities in Linux systems. This is crucial for understanding how attackers gain elevated access and how to secure systems against such threats.

OBJECTIVES:

- 1. Understand Privilege Escalation Concepts:
- Learn the difference between vertical and horizontal privilege escalation and their impact on system security.
- Understand the typical attack vectors and misconfigurations that lead to privilege escalation.
- 2. Enumerate System Information:
- Develop skills to systematically gather information about the system, users, environment variables, services, and installed software to identify potential escalation paths.
- 3. Identify Common Vulnerabilities and Misconfigurations:
- Recognize common privilege escalation techniques, including:
- Exploiting SUID/SGID binaries.
- Abusing sudo permissions and misconfigured sudoers files.
- Kernel exploits for outdated or vulnerable kernels.
- Exploiting cron jobs and writable scripts.
- Leveraging environmental variables, PATH misconfigurations, and world-writable files.
- 4. Hands-on Exploitation Techniques:
- Gain practical experience in exploiting these vulnerabilities to escalate privileges on Linux systems in a controlled environment.

- 5. Utilize Enumeration and Exploitation Tools:
- Learn how to use tools like LinPEAS, Linux Exploit Suggester, GTFOBins, and custom scripts to automate the enumeration and privilege escalation process.

6. Post-Exploitation and Persistence Techniques:

- Understand what attackers can do after gaining root access, including establishing persistence, creating backdoors, and covering tracks.

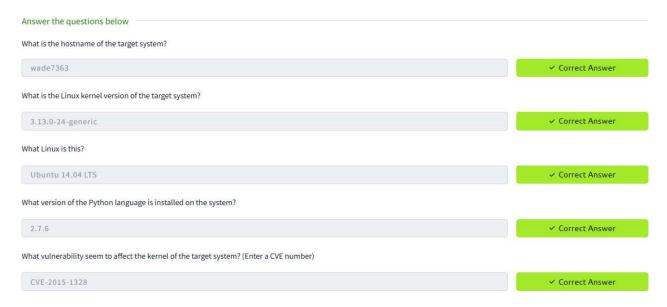
7. Mitigation and Hardening Strategies:

- Learn how to secure Linux systems by identifying and mitigating privilege escalation vulnerabilities.
- Understand best practices for system hardening and monitoring to prevent privilege escalation attacks.

8. Apply Knowledge in Real-World Scenarios:

 Engage in practical exercises and real-world simulations to apply privilege escalation techniques and improve problem-solving skills in ethical hacking and penetration testing contexts.

OUTPUT:



find and use the appropriate kernel exploit to gain root privileges on the target system. No answer needed ✓ Correct Answer 9 Hint What is the content of the flag1.txt file? THM-28392872729920 ✓ Correct Answer How many programs can the user "karen" run on the target system with sudo rights? ✓ Correct Answer What is the content of the flag2.txt file? THM-402028394 ✓ Correct Answer How would you use Nmap to spawn a root shell if your user had sudo rights on nmap? ✓ Correct Answer sudo nmap --interactive What is the hash of frank's password? \$6\$2.sUUDsOLIpXKxcr\$eImtgFExyr2ls4jsghdD3DHLHHP9X50Iv.jNmwo/BJpphrPRJWjeIWEz2HH.joV14aDEwW1c3CahzB1uaqe ✓ Correct Answer Which user shares the name of a great comic book writer? gerryconway ✓ Correct Answer What is the password of user2? ✓ Correct Answer Password1 What is the content of the flag3.txt file? THM-3847834 ✓ Correct Answer Complete the task described above on the target system No answer needed ✓ Correct Answer How many binaries have set capabilities? ✓ Correct Answer What other binary can be used through its capabilities? ✓ Correct Answer view What is the content of the flag4.txt file? THM-9349843 ✓ Correct Answer How many user-defined cron jobs can you see on the target system? ✓ Correct Answer What is the content of the flag5.txt file? THM-383000283 ✓ Correct Answer What is Matt's password? 123456 ✓ Correct Answer

/home/murdoch	✓ Correct Answer	♥ Hint
Exploit the \$PATH vulnerability to read the content of the flag6.txt file.		
No answer needed	✓ Correct Answer	Q Hint
What is the content of the flag6.txt file?		
THM-736628929	✓ Correct Answer	
How many mountable shares can you identify on the target system?		
3	✓ Correct Answer	
How many shares have the "no_root_squash" option enabled?		
3	✓ Correct Answer	
Gain a root shell on the target system		
No answer needed	✓ Correct Ar	nswer
What is the content of the flag7.txt file?		
THM-89384012	✓ Correct Ar	iswer

RESULT:

After completing this exercise, the technical knowledge and practical skills to identify, exploit, and mitigate privilege escalation vulnerabilities in Linux systems—an essential component of ethical hacking, penetration testing, and system administration is learned.