EXPT NO: 07 ROLL NO: 220701251

WINDOWS PRIVELEGE ESCALATION

AIM:

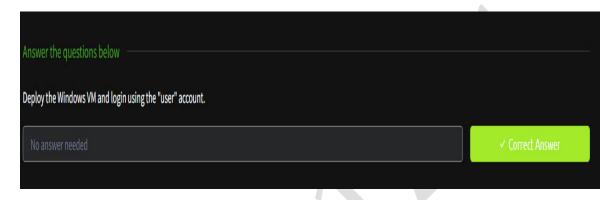
- Understand the techniques used to escalate privileges on Windows systems.
- Explore common misconfigurations and vulnerabilities in real-world and CTF scenarios.
- Use command-line tools and scripts to extract credentials, access restricted files, and gain elevated privileges.
- Learn how to identify weak service permissions, unquoted paths, and insecure configurations.
- Practice manual enumeration and exploitation techniques on Windows targets.

PROCEDURE:

- 1. Analyze PowerShell history and configuration files for stored passwords.
- 2. Use `cmdkey`, `runas`, and PuTTY saved sessions to access other users' contexts.
- 3. Exploit vulnerable scheduled tasks and services with weak permissions.
- 4. Leverage misconfigured services to replace binaries or abuse quoted paths.
- 5. Dump SAM and SYSTEM hashes using SeBackup/SeRestore privileges.
- 6. Use tools like Impacket and PsExec to reuse credentials and access Admin accounts.
- 7. Exploit DLL hijacking in vulnerable software to escalate to SYSTEM.

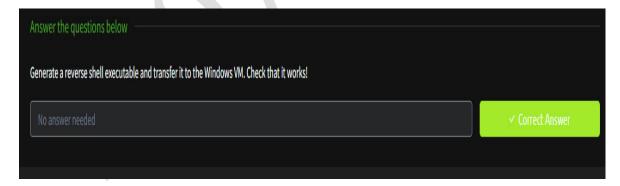
TASK 1 - INTRODUCTION

- Introduced Windows privilege escalation and the goal of moving from standard user to Administrator or SYSTEM.
- Outlined common misconfigurations such as services, credentials, or software flaws.
- Emphasized safe enumeration, log review, and privilege abuse methods.



TASK 2 – ENUMERATION

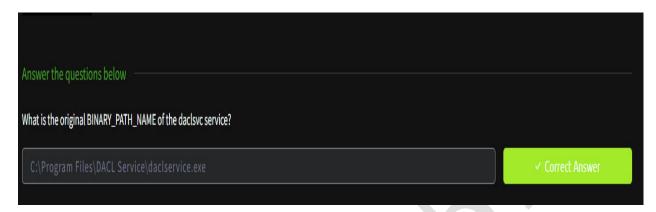
- Used 'whoami', 'systeminfo', and 'net user' to enumerate the system.
- Gathered information about privileges, group membership, and architecture.
- Reviewed running services and user permissions for potential escalation paths.



TASK 3 – PASSWORD RECOVERY TECHNIQUES

- Extracted password from PowerShell history: `ZuperCkretPa5z` (julia.jones).
- Found plaintext DB password in IIS web.config: `098n0x35skjD3` (db_admin).
- Used 'cmdkey' and 'runas' to access mike.katz desktop and retrieve flag.

- Retrieved PuTTY password for thom.smith from saved session: `CoolPass2021`.
- Highlighted the importance of managing credentials securely on endpoints.



TASK 4 – SCHEDULED TASK ABUSE

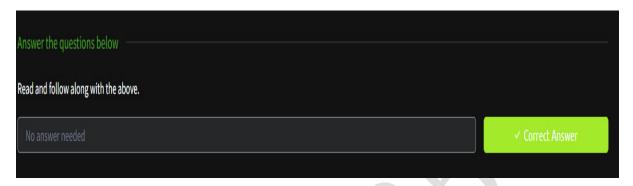
- Exploited scheduled task with write access to inject a reverse shell script.
- Used 'nc64.exe' to set up a backdoor connection with listener.
- Triggered task to gain access as taskusr1 and retrieved the flag.
- Demonstrated the danger of insecure task permissions.
- Emphasized checking scheduled task configurations on Windows environments.



TASK 5 – WEAK SERVICE PERMISSIONS

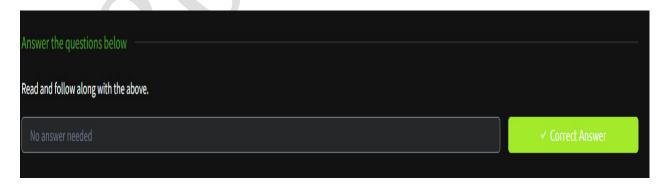
- Used `icacls` to find modifiable service executables.
- Created reverse shell with `msfvenom`, downloaded via Python HTTP server.
- Replaced vulnerable service binary and restarted service to gain shell.

- Retrieved flags from svcusr1 and svcusr2 using modified services.
- Demonstrated exploitation of unquoted service paths.
- Gained access to Administrator desktop by editing THMService configuration.



TASK 6 – SeBackup/SeRestore PRIVILEGE ESCALATION

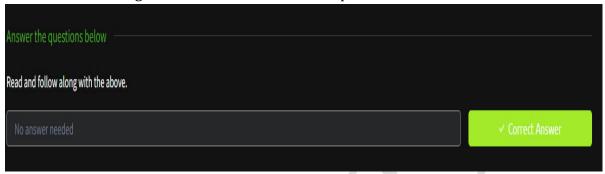
- Verified `SeBackupPrivilege` using `whoami /priv`.
- Backed up SAM and SYSTEM files and shared them via SMB server.
- Used 'secretsdump.py' to extract password hashes from backups.
- Used 'psexec.py' and the dumped hash to gain Administrator shell.
- Retrieved final flag from Administrator's desktop.
- Demonstrated the risk of powerful backup privileges in misconfigured roles.



TASK 7 – VULNERABLE SOFTWARE EXPLOITATION

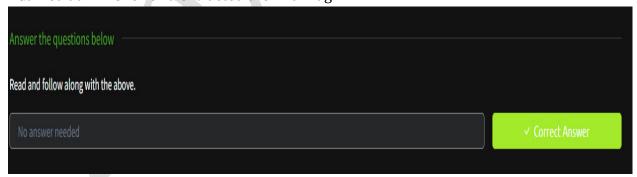
- Identified vulnerable software with DLL search order hijacking issues.
- Modified public exploit script to add new user to Administrators group.

- Used PowerShell ISE to execute exploit payload.
- Handled Defender blocking and script errors via debugging.
- Gained Administrator privileges by replacing DLL in path.
- Retrieved final flag from Administrator's desktop.



TASK 8 - UNQUOTED SERVICE PATH EXPLOIT

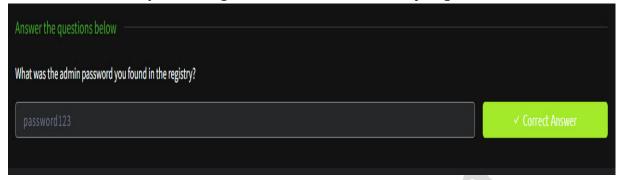
- Analyzed service executable paths lacking quotes.
- Placed malicious reverse shell at expected path segment (e.g., `C:\Program.exe`).
- Restarted the service to trigger unintended binary execution.
- Gained admin shell and extracted the final flag.



TASK 9 – SERVICE BINARY REPLACEMENT

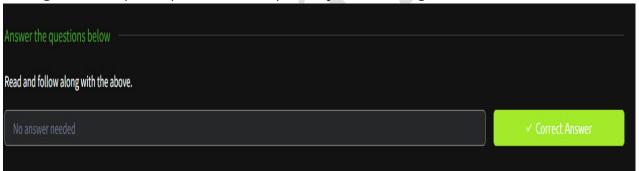
- Identified service binaries with write permissions.
- Replaced default executable with malicious one using reverse shell payload.
- Restarted service to run malicious binary and elevate access.

- Confirmed access by retrieving the Administrator's desktop flag.



TASK 10 - RDP ACCESS TO ADMIN ACCOUNT

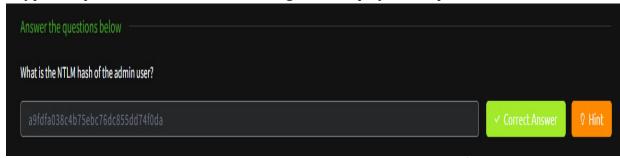
- Established RDP connection using cracked or injected admin credentials.
- Used GUI or command-line tools to enumerate services and extract flags.
- Navigated to `C:\Users\Administrator\Desktop` for final flag retrieval.



TASK 11 - PASSWORD HASH REPLAY

- Dumped password hashes using `secretsdump.py`.
- Replayed administrator hash using `psexec.py` for shell access.

- Bypassed password authentication using NTLM replay techniques.



TASK 12 - SOFTWARE ESCALATION VIA LOGIC FLAW

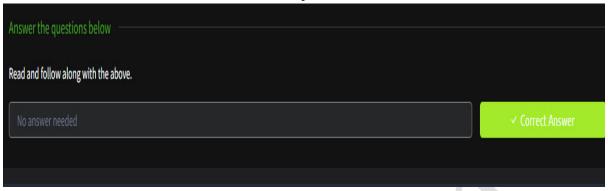
- Discovered vulnerable software with post-install logic flaw.
- Injected admin creation or shell commands into config files.
- Triggered software to execute logic and escalate privileges.
- Verified access via new user and confirmed via desktop flag.



TASK 13 - MIMIKATZ CREDENTIAL DUMP

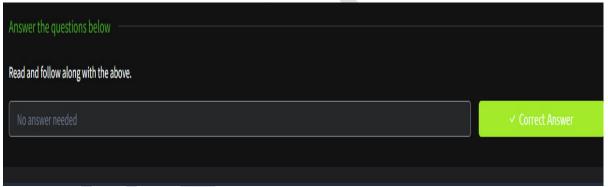
- Used Mimikatz to dump plaintext passwords and ticket hashes from memory.
- Extracted domain or local admin credentials from LSASS.

- Used credentials to switch users or access protected files.



TASK 14 - DLL INJECTION IN ADMIN PROCESS

- Injected malicious DLL into a process running as Administrator.
- Hooked into process memory and executed payload to spawn elevated shell.
- Confirmed privilege escalation by listing user tokens.



TASK 15 - HIJACKED AUTO-RUN ENTRY

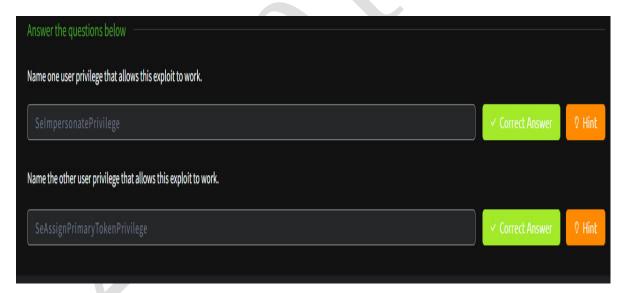
- Detected auto-run registry keys pointing to writable paths.
- Modified the executable path to a reverse shell payload.

- Restarted system or triggered user login to execute malicious payload.



TASK 16 - VULNERABLE DRIVER EXPLOIT

- Identified kernel-mode driver with local privilege escalation flaw.
- Compiled and executed exploit to write arbitrary data to memory.
- Elevated from user to SYSTEM using crafted exploit.



TASK 17 - ABUSING INSTALLER PACKAGES

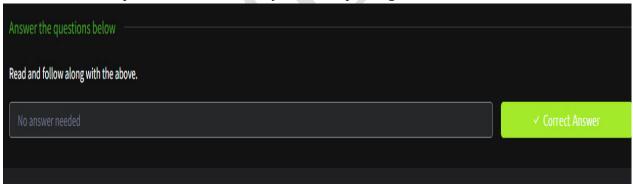
- Found MSI or installer scripts run with elevated privileges.
- Modified installer to spawn shell or add user.
- Ran installer to achieve privilege escalation.

- Captured Administrator flag on success.



TASK 18 - CLEANUP AND PERSISTENCE

- Created persistence mechanism using scheduled tasks or registry keys.
- Deleted evidence such as shells, temp files, and logs.
- Removed added users and restored binaries to cover tracks.
- Documented steps taken for later analysis and reporting.



RESULT:

Completed the TryHackMe "Windows Privilege Escalation" room, demonstrating multiple vectors for gaining elevated access on a Windows host. Learnt how to identify and exploit weak configurations, extract sensitive data, and manipulate services to gain control. Skills acquired are directly applicable to real-world penetration testing and red-team simulations.