

## 1. Introduction

This report documents a penetration testing exercise conducted on **Metasploitable 2**, a deliberately vulnerable virtual machine designed for security training.

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## 2. Scope & Environment

- Target: Metasploitable 2 (Lab environment)
  - Attacker: Kali Linux
  - Tools: Nmap, Searchsploit, Metasploit
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## 3. Scanning & Enumeration

A service version scan was conducted using Nmap:

```
nmap -sV <target-ip>
```

Results revealed multiple exposed services including FTP (vsftpd 2.3.4), SSH, Telnet, and MySQL.

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## 4. Vulnerability Identification

The FTP service running **vsftpd 2.3.4** was identified as vulnerable to a known backdoor vulnerability. Research was conducted using Searchsploit.

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## 5. Exploitation

The vulnerability was exploited using Metasploit Framework, resulting in successful bind shell access to the target system.

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## 6. Impact Assessment

- Remote unauthorized access
  - High risk of data exposure and system compromise
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## **7. Remediation & Recommendations**

- Upgrade or remove vulnerable services
  - Disable insecure protocols (FTP / Telnet)
  - Enforce firewall and access control policies
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## **9. Video Demonstration (Unlisted):**

<https://youtu.be/ZePNo5Xdfv8>

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## **9. Conclusion**

This exercise demonstrates the importance of regular vulnerability scanning, patch management, and secure system configuration to reduce attack surfaces.