Windows Vulnerabilities and Network Scanners: A Comprehensive Security Analysis

Er. Waheeda Dhokley, Ansari Fardeen Shaheen, Bushra Attarwala, Sajid Ali Sayed

Computer Engineering

M.H..Saboo Siddik College of Engineering, Byculla, India

waheeda.dhokley@mhssce.ac.in, fardeen.211204.co@mhssce.ac.in

bushra.211212.co@mhssce.ac.in, sajidali.211245.co@mhssce.ac.in

Abstract: *Cybersecurity remains a critical challenge for Win- dows systems, which are frequently targeted by cybercriminals exploiting vulnerabilities for unauthorized access and data theft. This paper examines Windows OS vulnerabilities, including soft- ware flaws, misconfigurations, and outdated security protocols, along with tools designed to detect and mitigate these weaknesses. It explores network scanners' role in identifying security flaws and the foundation for designing a Windows Vulnerability Scanner. Through a controlled virtual environment, the study simulates real-world scenarios to analyze system vulnerabilities, referencing established research and detection tools. The findings aim to enhance detection accuracy and scalability, emphasizing proactive vulnerability research for improved system security*

Keywords: network vulnerabilities, windows vulnerabilities, existing tools study, basic understanding of working of scanners

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