Assignment 2: Vulnerability Assessment

Due Date: Week 10
Total Marks: 100

Description:

Vulnerability assessment is a comprehensive process aimed at identifying, quantifying, and prioritising vulnerabilities within a system. This system can range from a computer network to a building, a supply chain, a health system, or any other entity that faces potential risks. The concept revolves around understanding and uncovering weaknesses that threats could exploit.

The importance of vulnerability assessment is manifold. It serves as a crucial element in risk management, providing insights that guide the development of strategies to protect assets and ensure continuity. By conducting regular assessments, organisations can stay ahead of emerging threats and maintain operational integrity. Additionally, vulnerability assessments are pivotal in compliance with regulatory standards, ensuring that organisations meet required security benchmarks and avoid penalties.

This assignment is in two parts.

First, you are required to conduct a vulnerability assessment on MySQL database and the HTTP protocol on port 80. Identify and record their vulnerabilities (provide a list), take screenshots of your findings as evidence.

In the second part, propose a method(s) and technologies that can be employed to secure these systems.

Instructions

Testbed:

1. Install **Virtual Box**
2. Set up **Kali Linux**
3. Install **Windows Server 2016**, and Configure **Active Directory (AD)** and **DNS** for MySQL vulnerability assessment.
4. Use the link below to download **Metasploitable 2** for the HTTP vulnerability assessment. (https://docs.rapid7.com/metasploit/metasploitable-2/)

Testbed Set-up

Install Virtual Box
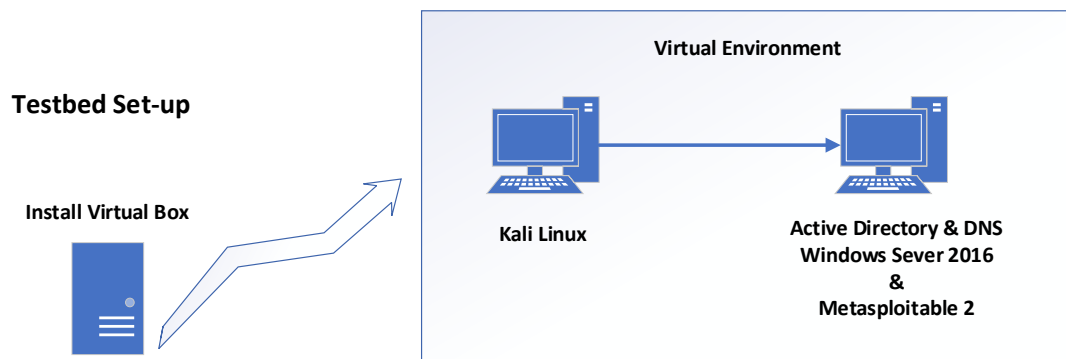
Tasks:

1. **MySQL Vulnerability Assessment: [Total 50 Marks]**

   Question 1-1: How many vulnerabilities can be identified on MySQL database? Provide a list of the vulnerabilities. Provide screenshots to support your findings.   [20 Marks]

   Question 1-2: What technologies/methods can be used to prevent/secure an attack on MySQL database?   [30 Marks]

2. **HTTP Protocol Vulnerability Assessment: [Total 50 Marks]**

   Question 2-1: How many vulnerabilities can be identified on http protocol on port 80? Provide a list of the vulnerabilities. Provide screenshots to support your findings.   [20 Marks]

   Question 2-2: What technologies/methods can be used to prevent/secure an attack on http protocol on port 80?   [30 Marks]

Submission:

Please submit your report with all findings, screenshots, and discussions by the due date via Canvas. Please make sure to put the names of your team members on the submitted report.