Offensive Security

Penetration Test Report for PWK Internal Labs

v.3.2

Labple@Labple.Labple

OSID: XXXXX



**©**

All rights reserved to Offensive Security, 2014

No part of this publication, in whole or in part, may be reproduced, copied, transferred or any other right reserved to its copyright owner, including photocopying and all other copying, any transfer or transmission using any network or other means of communication, any broadcast for distant learning, in any form or by any means such as any information storage, transmission or retrieval system, without prior written permission from Offensive Security.

**Table of Contents**

[1.0 Offensive Security Lab Penetration Test Report 4](#_Toc17358163)

[1.1 Introduction 4](#_Toc17358164)

[1.2 Objective 4](#_Toc17358165)

[1.3 Requirements 4](#_Toc17358166)

[2.0 High-Level Summary 5](#_Toc17358167)

[2.1 Recommendations 6](#_Toc17358168)

[3.0 Methodologies 6](#_Toc17358169)

[3.1 Information Gathering 6](#_Toc17358170)

[3.2 Penetration 7](#_Toc17358171)

[System IP: 192.168. () 7](#_Toc17358172)

[Service Enumeration 7](#_Toc17358173)

[Privilege Escalation 7](#_Toc17358174)

[System IP: 192.168. () 9](#_Toc17358175)

[Service Enumeration 9](#_Toc17358176)

[Privilege Escalation 9](#_Toc17358177)

[System IP: 192.168. () 10](#_Toc17358178)

[Service Enumeration 10](#_Toc17358179)

[Privilege Escalation 10](#_Toc17358180)

[System IP: 192.168. () 11](#_Toc17358181)

[Service Enumeration 11](#_Toc17358182)

[Privilege Escalation 11](#_Toc17358183)

[System IP: 192.168. () 12](#_Toc17358184)

[Service Enumeration 12](#_Toc17358185)

[Privilege Escalation 12](#_Toc17358186)

[System IP: 192.168. () 13](#_Toc17358187)

[Service Enumeration 13](#_Toc17358188)

[Privilege Escalation 13](#_Toc17358189)

[System IP: 192.168. () 14](#_Toc17358190)

[Service Enumeration 14](#_Toc17358191)

[Privilege Escalation 14](#_Toc17358192)

[System IP: 192.168. () 15](#_Toc17358193)

[Service Enumeration 15](#_Toc17358194)

[Privilege Escalation 15](#_Toc17358195)

[System IP: 192.168. () 16](#_Toc17358196)

[Service Enumeration 16](#_Toc17358197)

[Privilege Escalation 16](#_Toc17358198)

[System IP: 192.168. () 17](#_Toc17358199)

[Service Enumeration 17](#_Toc17358200)

[Privilege Escalation 17](#_Toc17358201)

[3.3 Maintaining Access 18](#_Toc17358202)

[3.4 House Cleaning 18](#_Toc17358203)

[4.0 Additional Items 19](#_Toc17358204)

[Appendix 1 - Proof and Local Contents: 19](#_Toc17358205)

[Appendix 2 – PWK Course Exercises 20](#_Toc17358206)

# 1.0 Offensive Security Lab Penetration Test Report

## 1.1 Introduction

The Offensive Security Lab penetration test report contains all efforts that were conducted in order to pass the Offensive Security Lab. This report will be graded from a standpoint of correctness and fullness to all aspects of the Lab. The purpose of this report is to ensure that the student has a full understanding of penetration testing methodologies as well as the technical knowledge to pass the qualifications for the Offensive Security Certified Professional.

## 1.2 Objective

The objective of this assessment is to perform an internal penetration test against the Offensive Security Lab network. The student is tasked with following a methodical approach in obtaining access to the objective goals. This test should simulate an actual penetration test and how you would start from beginning to end, including the overall report. An Labple page has already been created for you at the latter portions of this document that should give you ample information on what is expected to pass this course. Use the sample report as a guideline to get you through the reporting.

## 1.3 Requirements

The student will be required to fill out this penetration testing report fully and to include the following sections:

* Overall High-Level Summary and Recommendations (non-technical)
* Methodology walkthrough and detailed outline of steps taken
* Each finding with included screenshots, walkthrough, sample code, and proof.txt if applicable.
* Any additional items that were not included

# 

# 2.0 High-Level Summary

I was tasked with performing an internal penetration test towards Offensive Security Lab. An internal penetration test is a dedicated attack against internally connected systems. The focus of this test is to perform attacks, similar to those of a hacker and attempt to infiltrate Offensive Security’s internal Lab systems – the THINC.local domain. My overall objective was to evaluate the network, identify systems, and exploit flaws while reporting the findings back to Offensive Security.

When performing the internal penetration test, there were several alarming vulnerabilities that were identified on Offensive Security’s network. When performing the attacks, I was able to gain access to multiple machines, primarily due to outdated patches and poor security configurations. During the testing, I had administrative level access to multiple systems. All systems were successfully exploited and access granted. These systems as well as a brief description on how access was obtained are listed below:

* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*
* 192.168.xx.xx (hostname) - *Name of initial exploit*

## 2.1 Recommendations

I recommend patching the vulnerabilities identified during the testing to ensure that an attacker cannot exploit these systems in the future. One thing to remember is that these systems require frequent patching and once patched, should remain on a regular patch program to protect additional vulnerabilities that are discovered at a later date.

# 3.0 Methodologies

I utilized a widely adopted approach to performing penetration testing that is effective in testing how well the Offensive Security Lab environments is secured. Below is a breakout of how I was able to identify and exploit the variety of systems and includes all individual vulnerabilities found.

## 3.1 Information Gathering

The information gathering portion of a penetration test focuses on identifying the scope of the penetration test. During this penetration test, I was tasked with exploiting the Lab network. The specific IP addresses were:

**Lab Network**

* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.
* 192.168.

## 

## 3.2 Penetration

The penetration testing portions of the assessment focus heavily on gaining access to a variety of systems. During this penetration test, I was able to successfully gain access to ***X*** out of the ***X*** systems.

### System IP: 192.168. ()

#### Service Enumeration

The service enumeration portion of a penetration test focuses on gathering information about what services are alive on a system or systems. This is valuable for an attacker as it provides detailed information on potential attack vectors into a system. Understanding what applications are running on the system gives an attacker needed information before performing the actual penetration test. In some cases, some ports may not be listed.

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### 

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

### System IP: 192.168. ()

#### Service Enumeration

|  |  |
| --- | --- |
| **Server IP Address** | **Ports Open** |
| 192.169. | TCP: |
| UDP: |

**Nmap Scan Results:**

**Initial Shell Vulnerability Exploited**

***Additional info about where the initial shell was acquired from***

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Proof of Concept Code Here:**

**Initial Shell Screenshot:**

#### Privilege Escalation

***Additional Priv Esc info***

**Vulnerability Exploited:**

**Vulnerability Explanation:**

**Vulnerability Fix:**

**Severity:**

**Exploit Code:**

**Proof Screenshot Here:**

**Proof.txt Contents:**

## 3.3 Maintaining Access

Maintaining access to a system is important to us as attackers, ensuring that we can get back into a system after it has been exploited is invaluable. The maintaining access phase of the penetration test focuses on ensuring that once the focused attack has occurred (i.e. a buffer overflow), we have administrative access over the system again. Many exploits may only be exploitable once and we may never be able to get back into a system after we have already performed the exploit.

## 3.4 House Cleaning

The house cleaning portions of the assessment ensures that remnants of the penetration test are removed. Often fragments of tools or user accounts are left on an organization's computer which can cause security issues down the road. Ensuring that we are meticulous and no remnants of our penetration test are left over is important.

After collecting trophies from the Lab network was completed, the student removed all user accounts and passwords as well as the Meterpreter services installed on the system. Offensive Security should not have to remove any user accounts or services from the system.

# 

# 4.0 Additional Items

##### Appendix 1 - Proof and Local Contents:

|  |  |
| --- | --- |
| **IP (Hostname)** | **Proof.txt Contents** |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |
| 192.168. () |  |

##### 

##### Appendix 2 – PWK Course Exercises

**1.3.13 - Exercises**

**2.2.1 - Exercises**

**2.3.5 - Exercises**

**2.4.3 - Exercises**

**3.1.3 - Exercises**

**3.2.1 – Exercises**

**3.3.3 – Exercises**

**4.1.7 - Exercises**

**4.2.8 - Exercises**

**4.3.4 – Exercises**

**4.4.1 – Exercise**

**4.5.4 – Exercises**

**5.2.2 – Exercises**

**6.1.4 – Exercises**

**7.2.3 – Exercises**

**7.4.1 – Exercises**

**7.5.2 – Exercises**

**7.7.1 – Exercises**

**7.8.1 – Exercises**

**8.2.1 – Exercise**

**8.6.1 – Exercises**

**8.8.1 – Exercise**

**9.2.3 – Exercises**

**11.2.3 – Exercises**

**12.2.3 – Exercises**

**12.3.1 – Exercises**

**13.2.3 – Exercises**

**13.3.1.3 – Exercises**

**13.3.2.1 – Exercise**

**13.4.1.1 – Exercises**

**13.4.5.1 – Exercises**

**13.4.6.1 – Exercises**

**13.5.1 – Exercises**

**13.6.1 – Exercises**

**14.1.5 – Exercises**

**14.2.3 – Exercises**

**14.3.6 – Exercises**

**15.5.1 – Exercises**

**16.4.3 – Exercises**

**16.5.1 – Exercises**

**16.6.8 – Exercises**

**16.7.1 - Exercise**