Penetration Testing Report

Client: Home Project - 3

Engagement Period: October 20 – October 22 ,2025

Prepared By: Ahnaf Abid Mahi
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1. Executive Summary

Objective of the Test

The objective of the penetration test was to identify security vulnerabilities in an OffSec lab (DC-1), internal network, and external-facing infrastructure, ensuring compliance with regulatory standards and protecting sensitive user data.

Scope

- **Web Application**: http://192.168.119.193
- **Network**: IP range : 192.168.119.193

High-Level Findings

- Total vulnerabilities: 5
  - Critical: 4
  - High: 1

Overall Risk Rating: Critical

Recommendations

- Immediately address critical vulnerabilities, such as Drupal exploit, use high cryptography for password protection and Update to the Latest Version.
- Implement a robust patch management process.
- Conduct employee security awareness training.

2. Introduction

Purpose of the Test

To evaluate the security posture of the DC-1 lab from OffSec web application, ensuring protection against potential cyber threats.

Methodology Used

I followed the **OWASP Testing Guide** and **PTES (Penetration Testing Execution Standard)**. The engagement included both manual and automated testing.

Scope of Work

- **Web Application**: http://192.168.119.193

Limitations

- Testing was not conducted during business hours to avoid disruption.
- Certain DDoS techniques were not used due to the risk of system instability.

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3. Methodology

1. **Reconnaissance**
    - Identified open ports with Nmap.
2. **Scanning**
    - Used Nmap and Nikto for vulnerability scanning.
3. **Exploitation**
    - Used Drupal exploit for initial access .
4. **Post-Exploitation**
    - Used SUID misconfiguration for Privilege Escalation(root)
5. **Reporting**
    - Documented all findings with PoC evidence.

4. Findings

Summary of Findings

Severity	Count	Example Vulnerabilities
Critical	4	Mysql database dumped, Admin credentials disclosed , SUID misconfiguration ,Admin panel access.
High	1	Initial access through bash session.

Detailed Findings

Finding 1: *SUID misconfiguration (Root access)*

- **Severity**: Critical
- **Description**: Privilege Escalation
- **Affected Asset**: http://192.168.119.193
- **Proof of Concept (PoC)**:

Endpoint:

```
www-data@DC-1:/var/www/sites/default$ /usr/bin/find  . -exec /bin/sh \; -quit
/usr/bin/find  . -exec /bin/sh \; -quit
# id
id
uid=33(www-data) gid=33(www-data) euid=0(root) groups=0(root),33(www-data)
# pwd
pwd
/var/www/sites/default
# whoami
whoami
root
# |
```

- **Impact**: Full system compromised with root access, leading to potential data theft.
- **Recommendation**: Update SUID system binary permission.

Finding 2: *Mysql Database Access.*

- **Severity**: Critical
- **Description**: Using Weak creadentials to access mysql database, allowing unauthorized access to the database.
- **Affected Asset**: wwww-data)DC1:/var/www/sites/default/settings.php
- **Proof of Concept (PoC)**:

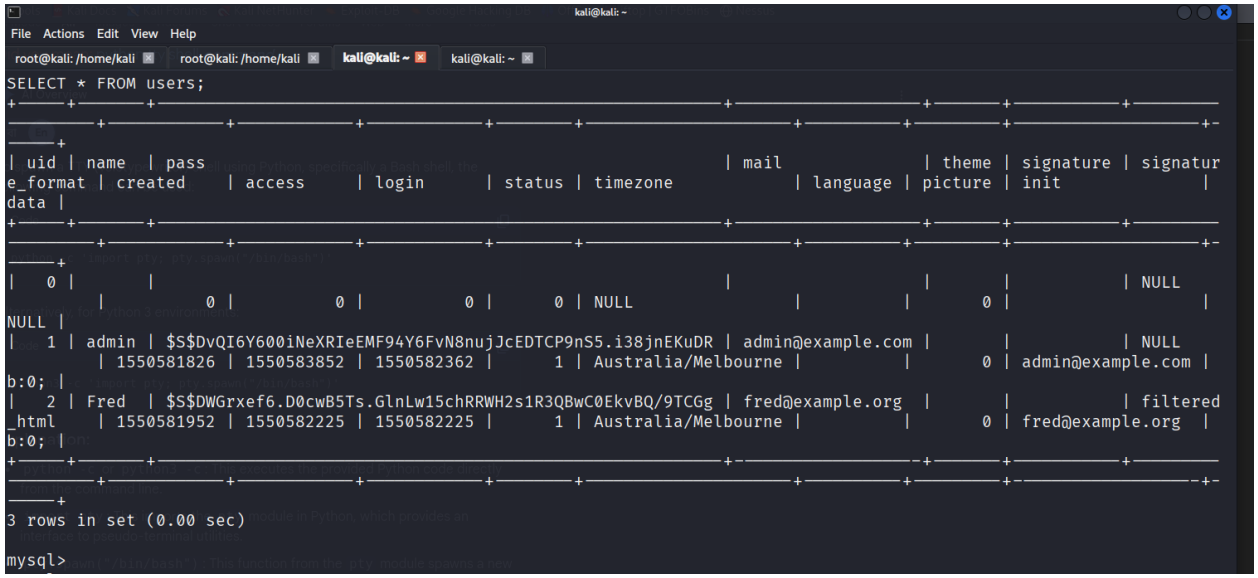
Endpoint:

```
$databases = array (
  'default' =>
  array (
    'default' =>
    array (
      'database' => 'drupaldb',
      'username' => 'dbuser',
      'password' => 'R0ck3t',
      'host' => 'localhost',
      'port' => '',
      'driver' => 'mysql',
      'prefix' => '',
    ),
  ),
);
```

- **Impact**: Full database compromised, leading to potential data theft.
- **Recommendation**: Use Strong credentials for mysql database.

Finding 3: *Weak hashing algorithm and guess password used.*

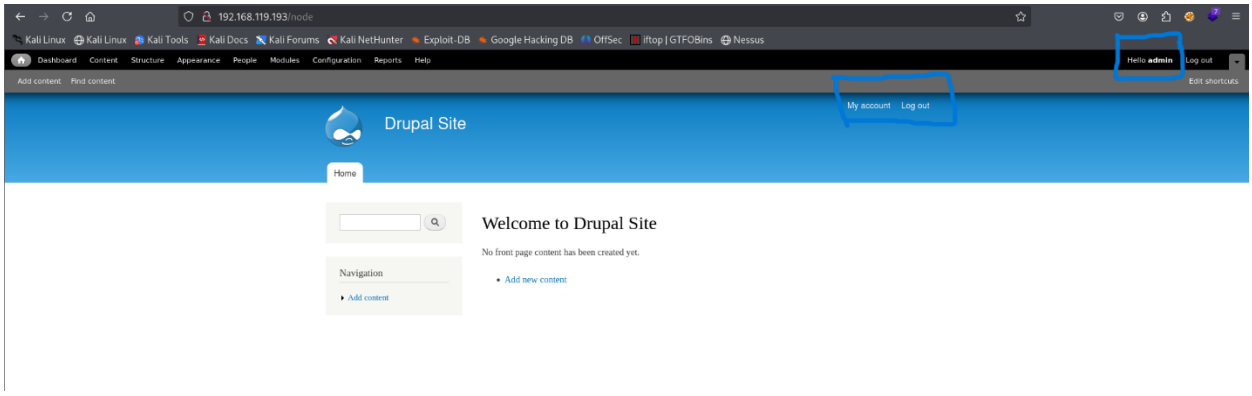
- **Severity**: Critical
- **Description**: Guess password used and weak hashing algorithm.
- **Affected Asset**: http://192.168.119.193
- **Proof of Concept (PoC)**:



- **Impact**: Full database compromised, leading to potential data theft.
- **Recommendation**: Use non guessable passwords and strong hashing algorithm like SHA-2, SHA-3 etc.

Finding 4: *Admin Panel get accessed.*

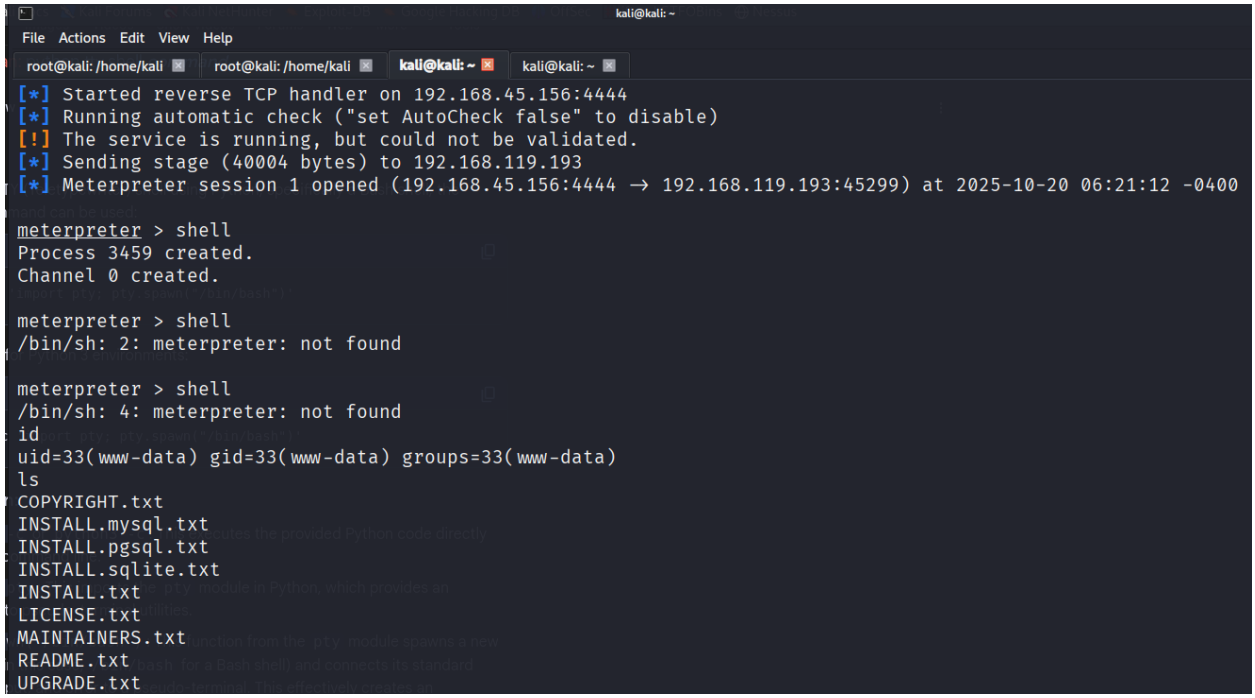
- **Severity**: Critical
- **Description**: Admin panel of this particular website can be accessed.
- **Affected Asset**: http://192.168.119.193/node
- **Proof of Concept (PoC)**:



- **Impact**: Full database compromise, leading to potential data theft.
- **Recommendation**: Use noin guessable passwords and strong hashing algorithm like SHA-2, SHA-3 etc

Finding 5: *Sensitive Data Exposures lead to initial access*

- **Severity**: High
- **Description**: Get bash session through drupal exploit ,allowing unauthorized access to the users files and local files.
- **Affected Asset**: Mysql Database.
- **Proof of Concept (PoC)**:
  Endpoint:



- **Impact**: Initial Access to all www-data user's files, leading to potential data theft.
- **Recommendation**: Update drupal patch .

5. Recommendations

1. **Address Critical Issues**:
    - Update your system regularly.
    - Remove and restrict the system logs.
    - Use strong Cryptography
    - Use WAF & EDR
2. **Patch Management**:
    - Update software regularly to fix known vulnerabilities.
3. **Security Awareness Training**:
    - Train employees on secure practices.
4. **Ongoing Monitoring**:
    - Implement continuous security monitoring tools

6. Conclusion

The penetration test revealed several critical and high vulnerabilities that pose a significant risk to http://192.168.119.193 .Immediate remediation of these issues is required to enhance security. Regular testing and monitoring are recommended.