

MINOR–2 PROJECT REPORT

Title: Installation and Configuration of Metasploitable with Mutillidae II

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Project Type: Minor–2

Subject: Cyber Security / Ethical Hacking

1. Introduction

This project focuses on setting up a deliberately vulnerable environment using Metasploitable and configuring the Mutillidae II web application. The aim of this project is to understand common web vulnerabilities, system configuration issues, and their fixes in a controlled lab environment. Metasploitable is widely used for penetration testing practice, and Mutillidae II implements OWASP Top 10 vulnerabilities for learning purposes.

2. Metasploitable Setup

Metasploitable was installed on a virtual machine using VMware. After installation, the system was booted successfully by using credentials msfadmin / msfadmin. All

default services such as Apache, MySQL, Tomcat, and SSH started without errors. This confirms that the Metasploitable virtual machine is running properly.

```
* Starting periodic command scheduler crond [ OK ]
* Starting Tomcat servlet engine tomcat5.5 [ OK ]
* Starting web server apache2 [ OK ]
* Running local boot scripts (/etc/rc.local)
nohup: appending output to `nohup.out'
nohup: appending output to `nohup.out' [ OK ]

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Warning: Never expose this VM to an untrusted network!
Contact: msfdev[at]metasploit.com
Login with msfadmin/msfadmin to get started

metasploitable login: msfadmin
Password:
```

3. User Creation in Metasploitable

A new user was created inside the Metasploitable system using administrative privileges.

The purpose of creating a new user is to demonstrate user management and system access control within the Linux environment.

Command Used: sudo adduser prerna

```
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
No mail.
msfadmin@metasploitable:~$ sudo adduser prerna
[sudo] password for msfadmin:
Adding user 'prerna' ...
Adding new group 'prerna' (1003) ...
Adding new user 'prerna' (1003) with group 'prerna' ...
Creating home directory '/home/prerna' ...
Copying files from '/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for prerna
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [y/N] y
msfadmin@metasploitable:~$
```

4. User Verification

To verify the successful creation of the new user, the cat /etc/passwd file was checked.

The entry for the user 'prerna' confirms that the user account was created correctly with an assigned user ID and home directory.

```
backup:x:34:34:backup:/var/backups:/bin/sh
list:x:38:38:Mailing List Manager:/var/list:/bin/sh
irc:x:39:39:ircd:/var/run/ircd:/bin/sh
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/bin/sh
nobody:x:65534:65534:nobody:/nonexistent:/bin/sh
libuuid:x:100:101::/var/lib/libuuid:/bin/sh
dhcp:x:101:102::/nonexistent:/bin/false
syslog:x:102:103::/home/syslog:/bin/false
klog:x:103:104::/home/klog:/bin/false
sshd:x:104:65534::/var/run/sshd:/usr/sbin/nologin
msfadmin:x:1000:1000:msfadmin,,,:/home/msfadmin:/bin/bash
bind:x:105:113::/var/cache/bind:/bin/false
postfix:x:106:115::/var/spool/postfix:/bin/false
ftp:x:107:65534::/home/ftp:/bin/false
postgres:x:108:117:PostgreSQL administrator,,,:/var/lib/postgresql:/bin/bash
mysql:x:109:118:MySQL Server,,,:/var/lib/mysql:/bin/false
tomcat55:x:110:65534::/usr/share/tomcat5.5:/bin/false
distccd:x:111:65534::/bin/false
user:x:1001:1001:just a user,111,,,:/home/user:/bin/bash
service:x:1002:1002,,,:/home/service:/bin/bash
telnetd:x:112:120::/nonexistent:/bin/false
proftpd:x:113:65534::/var/run/proftpd:/bin/false
statd:x:114:65534::/var/lib/nfs:/bin/false
prerna:x:1003:1003,,,:/home/prerna:/bin/bash
msfadmin@metasploitable:~$ _
```

5. Mutillidae II Database Error Fix

Initially, Mutillidae II was unable to connect to the database due to incorrect database configuration settings. To fix this issue, the configuration file (config.inc) was edited as the database name from metasploit to owasp10 using the Nano text editor. The database credentials were reviewed and saved properly.

```
msfadmin@metasploitable:/var/www/mutillidae$ cd /var/www/mutillidae/
msfadmin@metasploitable:/var/www/mutillidae$ sudo nano config.inc
```

```
GNU nano 2.0.7          File: config.inc          Modified

<?php
    /* NOTE: On Samurai, the $dbpass password is "samurai" rather than blan$ */
    $dbhost = 'localhost';
    $dbuser = 'root';
    $dbpass = '';
    $dbname = 'owasp10_';

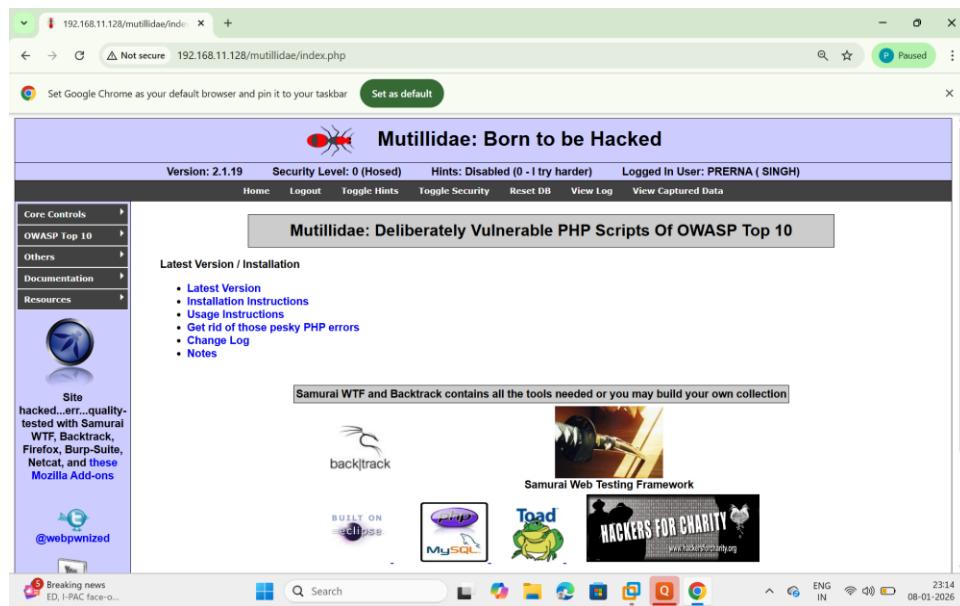
?>

^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit      ^J Justify   ^W Where Is  ^V Next Page ^U UnCut Text ^T To Spell
```

6. Mutillidae II Working Successfully

After fixing the database configuration, Mutillidae II was accessed through the browser.

The application loaded successfully without any database errors, confirming that the issue was resolved. The logged-in user interface was visible and functional.



7. Conclusion

This project successfully demonstrated the installation and configuration of Metasploitable, creation of a new Linux user, fixing the Mutillidae II database issue, and verification of successful deployment. The exercise provided hands-on experience with vulnerable systems and enhanced understanding of real-world security misconfigurations.