Web Vulnerability Scanning with Nikto

Background / Scenario

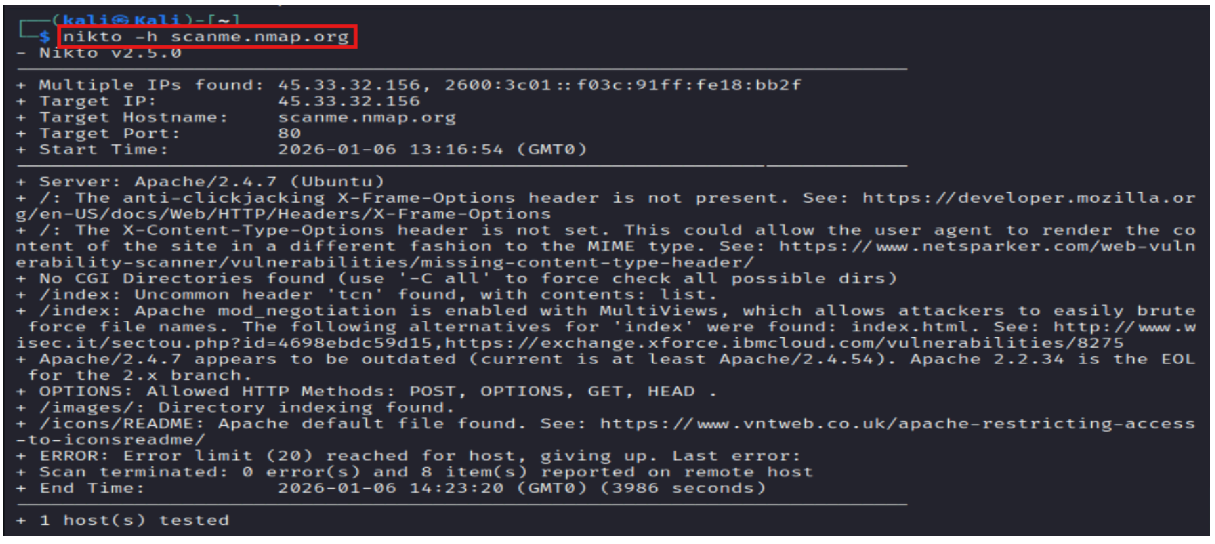
Nikto is a popular web vulnerability scanner that can find SQL injection, XSS, and other common vulnerabilities in websites. It can identify installed software using page headers and files. Nikto supports both HTTP and HTTPS protocols.

Objectives

In this lab, you will complete the following objectives:

- Part 1: Launch Nikto and Perform a Basic Scan
- Part 2: Use Nikto to Scan Multiple Web Servers
- Part 3: Investigate Web Site Vulnerabilities
- Part 4: Export Nikto Results to a File

Part 1: Launch Nikto and Perform a Basic Scan



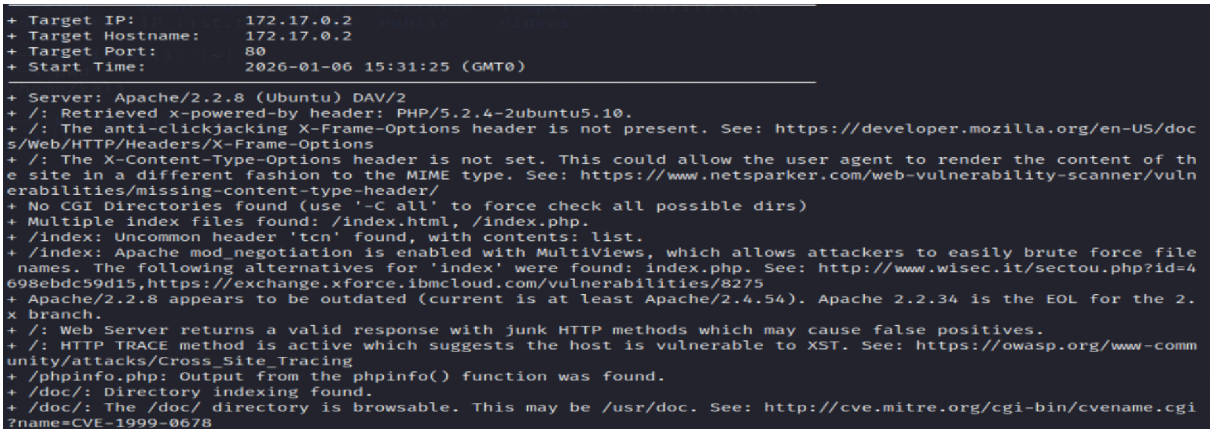
Nikto scans for port 80 web services. To scan domains with HTTPS enabled, you must specify the **-ssl** flag to scan port 443:**Part 2: Use Nikto to Scan Multiple Web Servers**

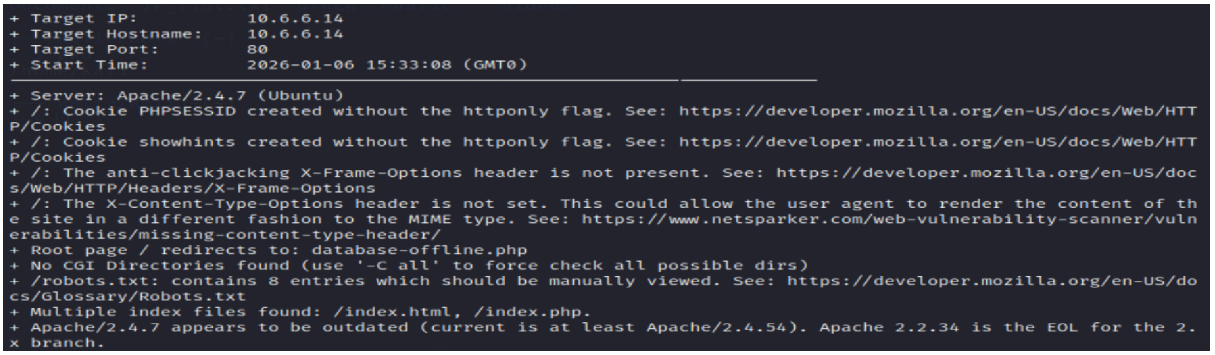
```
┌──(kali㉿Kali)-[~]
└─$ nikto -h https://nmap.org -ssl
- Nikto v2.5.0
---------------------------------------------------------------------------
+ Multiple IPs found: 50.116.1.184, 2600:3c01:e000:3e6::6d4e:7061
+ Target IP:          50.116.1.184
+ Target Hostname:    nmap.org
+ Target Port:        443
---------------------------------------------------------------------------
+ SSL Info:        Subject:  /CN=insecure.com
                   Ciphers:  ECDHE-RSA-AES128-GCM-SHA256
                   Issuer:   /C=US/O=Let's Encrypt/CN=R12
+ Start Time:         2026-01-06 14:47:37 (GMT0)
---------------------------------------------------------------------------
+ Server: Apache/2.4.6 (CentOS)
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ /robots.txt: Entry '/search.html?*' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/mailman/listinfo/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: Entry '/search/?*/' is returned a non-forbidden or redirect HTTP code (200). See: https://portswigger.net/kb/issues/00600600_robots-txt-file
+ /robots.txt: contains 5 entries which should be manually viewed. See: https://developer.mozilla.org/en-US/docs/Glossary/Robots.txt
+ ERROR: Error limit (20) reached for host, giving up. Last error:
+ Scan terminated: 0 error(s) and 6 item(s) reported on remote host
+ End Time:           2026-01-06 15:13:55 (GMT0) (1578 seconds)
---------------------------------------------------------------------------
+ 1 host(s) tested
```

In this part, you will use Nikto to scan servers on the internal virtual networks to look for vulnerable web servers. You will first create a text file to list the IP addresses that you want to scan. In real-life reconnaissance, you can obtain the IP addresses of the servers by doing a DNS lookup of the server name from the URL.

```
┌──(kali㉿Kali)-[~]
└─$ nikto -h IP_list.txt
- Nikto v2.5.0
---------------------------------------------------------------------------
---------------------------------------------------------------------------
+ Target IP:          10.6.6.23
+ Target Hostname:    10.6.6.23
+ Target Port:        80
+ Start Time:         2026-01-06 15:28:53 (GMT0)
---------------------------------------------------------------------------
+ Server: nginx/1.14.2
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ No CGI Directories found (use '-C all' to force check all possible dirs)
+ /admin/: This might be interesting.
+ /admin/index.html: Admin login page/section found.
+ /wp-admin/: Admin login page/section found.
+ /wp-login/: Admin login page/section found.
+ /#wp-config.php#: #wp-config.php# file found. This file contains the credentials.
+ 8082 requests: 0 error(s) and 7 item(s) reported on remote host
+ End Time:           2026-01-06 15:30:01 (GMT0) (68 seconds)
```

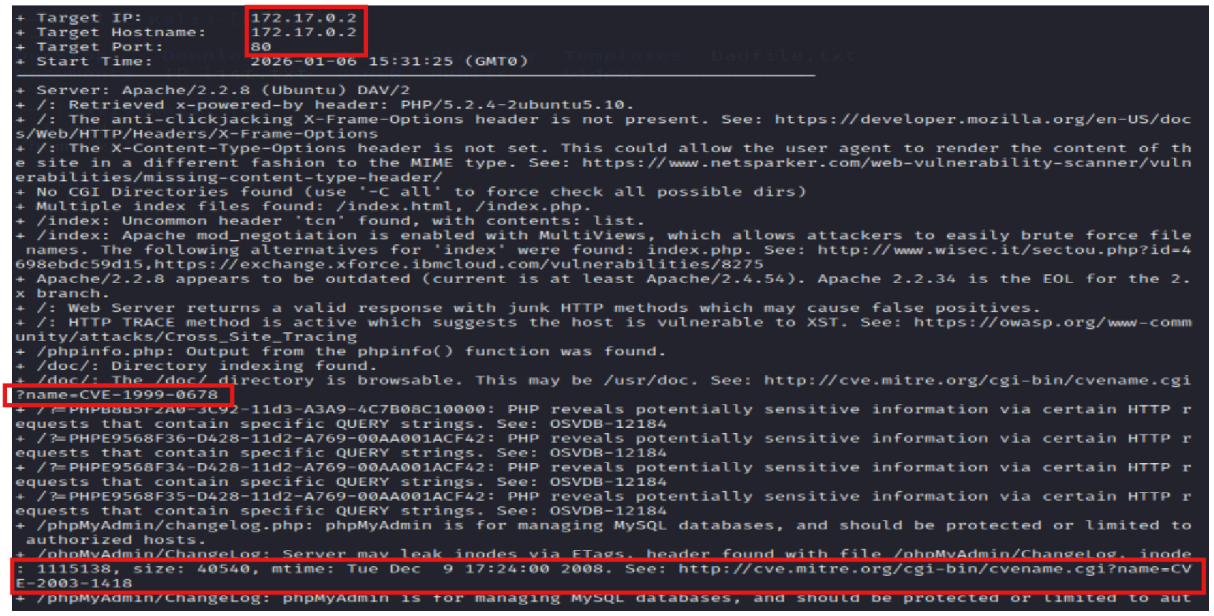
```
---------------------------------------------------------------------------
+ Target IP:          10.6.6.13
+ Target Hostname:    10.6.6.13
+ Target Port:        80
+ Start Time:         2026-01-06 15:30:01 (GMT0)
---------------------------------------------------------------------------
+ Server: Apache/2.4.10 (Debian)
+ /: Cookie PHPSESSID created without the httponly flag. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Cookies
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ Root page / redirects to: login.php
+ No CGI Directories found (use '-C all' to force check all possible dirs)
+ Apache/2.4.10 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.
+ /config/: Directory indexing found.
+ /config/: Configuration information may be available remotely.
+ /docs/: Directory indexing found.
+ /icons/README: Apache default file found. See: https://www.vntweb.co.uk/apache-restricting-access-to-iconsreadme/
+ /login.php: Admin login page/section found.
+ 16132 requests: 0 error(s) and 9 item(s) reported on remote host
+ End Time:           2026-01-06 15:31:25 (GMT0) (84 seconds)
---------------------------------------------------------------------------
```

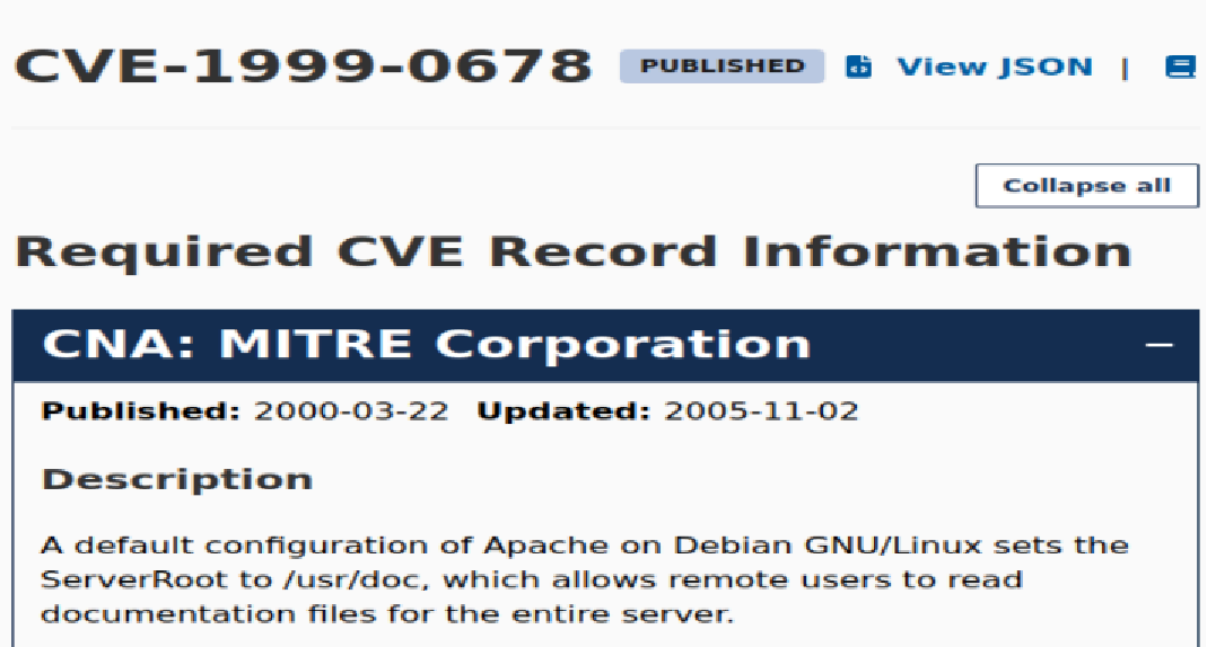




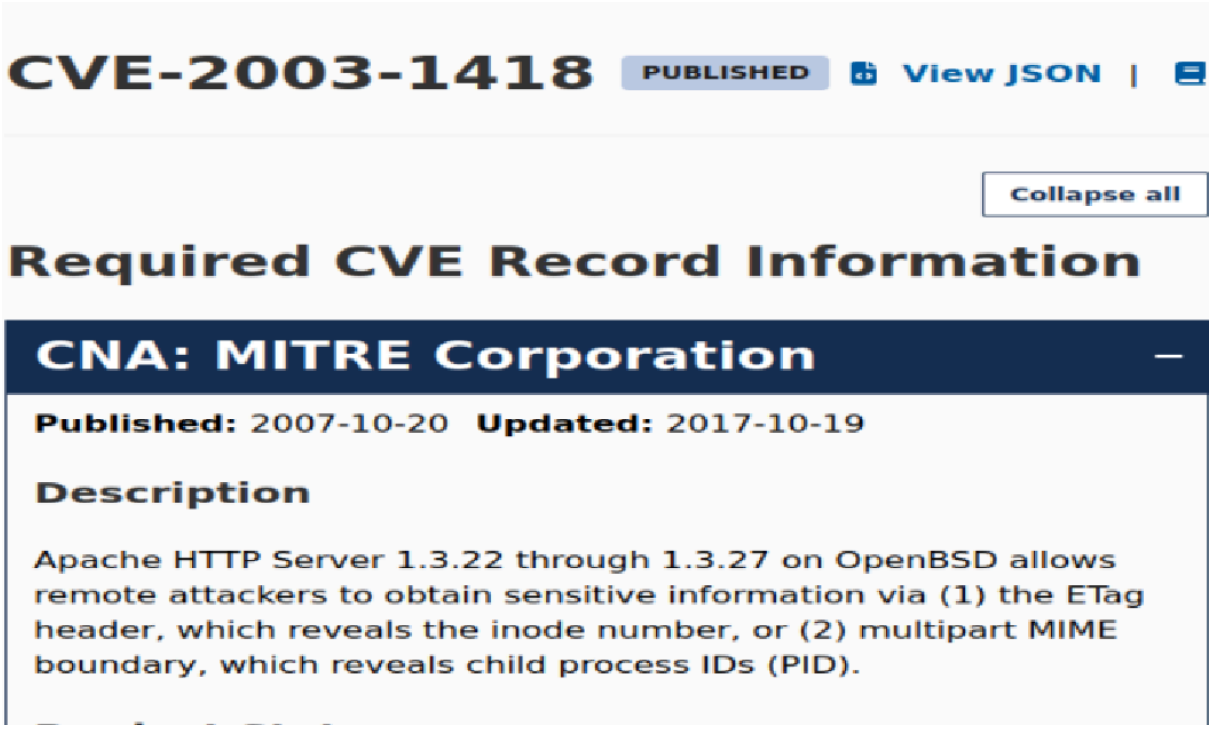
Part 3: Investigate Web Site Vulnerabilities

Nikto provides some information about the vulnerabilities that it uncovers during its scans. Some vulnerabilities are associated with an OSVDB number (an older Open Source Vulnerability Database), a CWE (Common Weakness Enumeration), or a CVE (Common Vulnerabilities and Exposures). OSVDB was discontinued in 2016. You can use the CVE reference tool to translate the OSVDB identifier to a CVE entry so you can research the vulnerability further.

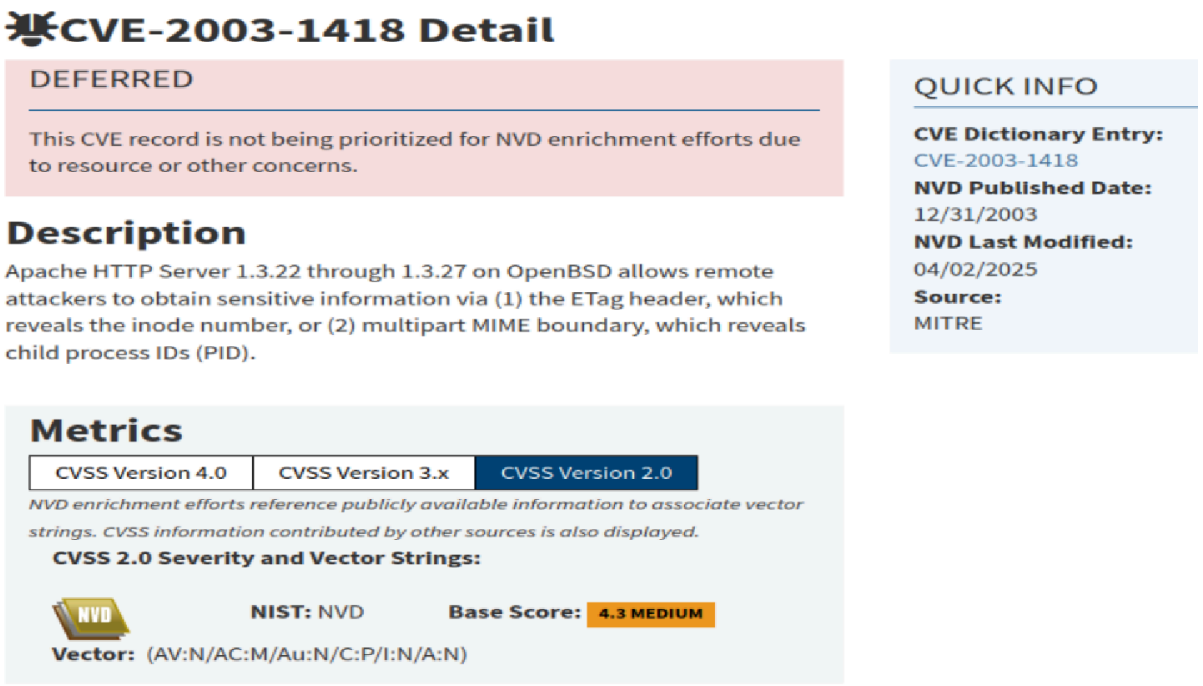




Run a search on https://www.cve.org/



Did a cross reference on NIST NVD https://nvd.nist.gov/vuln/detail/CVE-2003-1418



Have a look at the advisory and solutions.

References to Advisories, Solutions, and Tools

By selecting these links, you will be leaving NIST webspace. We have provided these links to other web sites because they may have information that would be of interest to you. No inferences should be drawn on account of other sites being referenced, or not, from this page. There may be other web sites that are more appropriate for your purpose. NIST does not necessarily endorse the views expressed, or concur with the facts presented on these sites. Further, NIST does not endorse any commercial products that may be mentioned on these sites. Please address comments about this page to nvd@nist.gov.

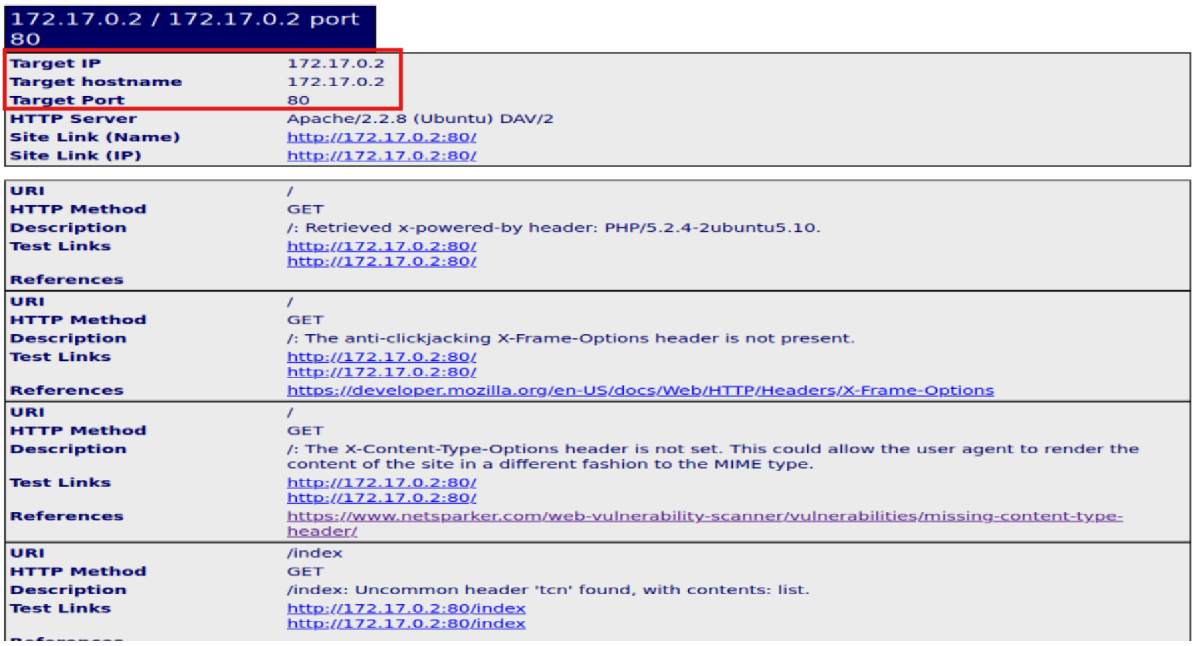
URL	Source(s)	Tag(s)
http://www.openbsd.org/errata32.html	CVE, MITRE	
http://www.oracle.com/technetwork/security-advisory/cpuoct2017-3236626.html	CVE, MITRE	
http://www.securityfocus.com/bid/6939	CVE, MITRE	
http://www.securityfocus.com/bid/6943	CVE, MITRE	Patch
https://exchange.xforce.ibmcloud.com/vulnerabilities/11438	CVE, MITRE	

Part 4: Export Nikto Results to a File

Nikto can output the results of a scan in various formats including CSV, HTML, SQL, txt, and XML. In addition, Nikto can be paired with Metasploit to launch exploits against the vulnerabilities that you uncover.

```
┌──(kali㉿Kali)-[~]
└─$ nikto -h 172.17.0.2 -o scan_results.htm
- Nikto v2.5.0
---------------------------------------------------------------------------
+ Target IP:          172.17.0.2
+ Target Hostname:    172.17.0.2
+ Target Port:        80
+ Start Time:         2026-01-06 18:42:04 (GMT0)
---------------------------------------------------------------------------
+ Server: Apache/2.2.8 (Ubuntu) DAV/2
+ /: Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10.
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ /index: Uncommon header 'tcn' found, with contents: list.
+ /index: Apache mod_negotiation is enabled with MultiViews, which allows attackers to easily brute force file names. The following alternatives for 'index' were found: index.php. See: http://www.wiretsec.it/sectou.php?id=4698ebdc59d15,https://exchange.xforce.ibmcloud.com/vulnerabilities/8275
+ Apache/2.2.8 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.
```

Locate the file in the /home/kali directory and open it in your browser to view the report format.



172.17.0.2 / 172.17.0.2 port 80	
Target IP	172.17.0.2
Target hostname	172.17.0.2
Target Port	80
HTTP Server	Apache/2.2.8 (Ubuntu) DAV/2
Site Link (Name)	http://172.17.0.2:80/
Site Link (IP)	http://172.17.0.2:80/

URI	/
HTTP Method	GET
Description	/: Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10.
Test Links	http://172.17.0.2:80/ http://172.17.0.2:80/
References	

URI	/
HTTP Method	GET
Description	/: The anti-clickjacking X-Frame-Options header is not present.
Test Links	http://172.17.0.2:80/ http://172.17.0.2:80/
References	https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options

URI	/
HTTP Method	GET
Description	/: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type.
Test Links	http://172.17.0.2:80/ http://172.17.0.2:80/
References	https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/

URI	/index
HTTP Method	GET
Description	/index: Uncommon header 'tcn' found, with contents: list.
Test Links	http://172.17.0.2:80/index http://172.17.0.2:80/index

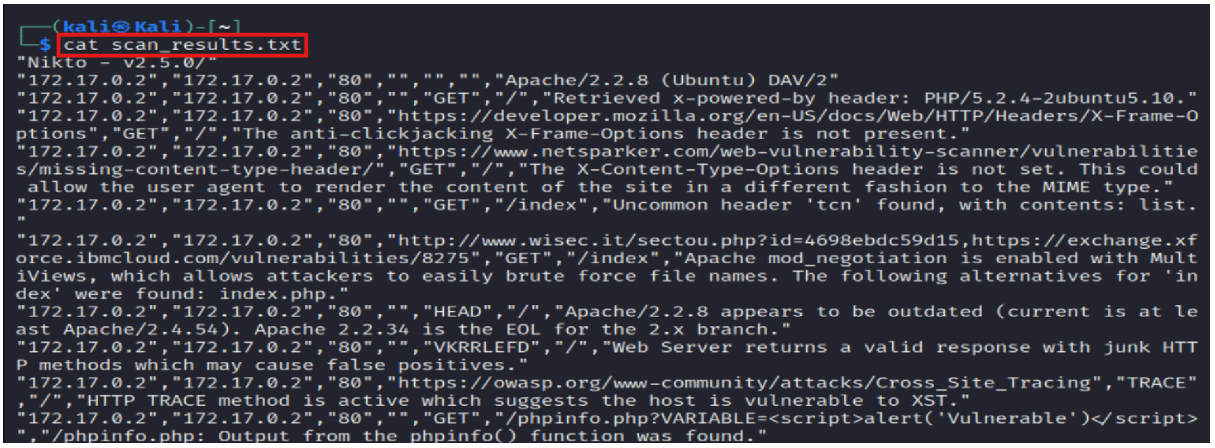
Host Summary	
Start Time	2026-01-06 18:42:04
End Time	2026-01-06 18:42:35
Elapsed Time	31 seconds
Statistics	8910 requests, 0 errors, 27 findings

Scan Summary	
Software Details	Nikto 2.5.0
CLI Options	-h 172.17.0.2 -o scan_results.htm
Hosts Tested	1
Start Time	Tue Jan 6 18:42:02 2026
End Time	Tue Jan 6 18:42:35 2026
Elapsed Time	33 seconds

To specify a text file output format that is independent of the file extension, use the **-Format** flag. Use the **-Format csv** option to save the file in .csv format to import into other analysis applications.

```
┌──(kali㉿Kali)-[~]
└─$ nikto -h 172.17.0.2 -o scan_results.txt -Format csv
- Nikto v2.5.0
---------------------------------------------------------------------------
+ Target IP:          172.17.0.2
+ Target Hostname:    172.17.0.2
+ Target Port:        80
+ Start Time:         2026-01-06 18:55:45 (GMT0)
---------------------------------------------------------------------------
+ Server: Apache/2.2.8 (Ubuntu) DAV/2
+ /: Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10.
+ /: The anti-clickjacking X-Frame-Options header is not present. See: https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options
+ /: The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type. See: https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/
+ /index: Uncommon header 'tcn' found, with contents: list.
+ /index: Apache mod_negotiation is enabled with MultiViews, which allows attackers to easily brute force file names. The following alternatives for 'index' were found: index.php. See: http://www.wiretsec.it/sectou.php?id=4698ebdc59d15,https://exchange.xforce.ibmcloud.com/vulnerabilities/8275
+ Apache/2.2.8 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch.
```

Use the **cat** command to view the saved **scan_results.txt** file.


(kali㉿Kali)-[~]
$ cat scan_results.txt
"Nikto - v2.5.0/"
"172.17.0.2","172.17.0.2","80","","","","Apache/2.2.8 (Ubuntu) DAV/2"
"172.17.0.2","172.17.0.2","80","","GET","/","Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10."
"172.17.0.2","172.17.0.2","80","https://developer.mozilla.org/en-US/docs/Web/HTTP/Headers/X-Frame-Options","GET","/","The anti-clickjacking X-Frame-Options header is not present."
"172.17.0.2","172.17.0.2","80","https://www.netsparker.com/web-vulnerability-scanner/vulnerabilities/missing-content-type-header/","GET","/","The X-Content-Type-Options header is not set. This could allow the user agent to render the content of the site in a different fashion to the MIME type."
"172.17.0.2","172.17.0.2","80","","GET","/index","Uncommon header 'tcn' found, with contents: list."
"172.17.0.2","172.17.0.2","80","http://www.wisec.it/sectou.php?id=4698ebdc59d15,https://exchange.xforce.ibmcloud.com/vulnerabilities/8275","GET","/index","Apache mod_negotiation is enabled with MultiViews, which allows attackers to easily brute force file names. The following alternatives for 'index' were found: index.php."
"172.17.0.2","172.17.0.2","80","","HEAD","/","Apache/2.2.8 appears to be outdated (current is at least Apache/2.4.54). Apache 2.2.34 is the EOL for the 2.x branch."
"172.17.0.2","172.17.0.2","80","","VKRRLEFD","/","Web Server returns a valid response with junk HTTP methods which may cause false positives."
"172.17.0.2","172.17.0.2","80","https://owasp.org/www-community/attacks/Cross_Site_Tracing","TRACE","/","HTTP TRACE method is active which suggests the host is vulnerable to XST."
"172.17.0.2","172.17.0.2","80","","GET","/phpinfo.php?VARIABLE=<script>alert('Vulnerable')</script>","/phpinfo.php: Output from the phpinfo() function was found."