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Course: INT 302Kali Linux Tools and System Security – Lab 1: Reconnaissance (Information Gathering)

Lab Steps

Step 1: Get the IP Address of a Domain Using ping

Exercise 1:

Use the ping command to find the IP addresses of the following domains:

- facebook.com
- twitter.com
- amazon.com

Record Your Answers:

- facebook.com: _____ 104.244.42.129

```
File Actions Edit View Help
(kali@kali)-[~]
$ ping facebook.com
PING facebook.com (157.240.214.35) 56(84) bytes of data.
64 bytes from 157.240.214.35: icmp_seq=1 ttl=128 time=282 ms
64 bytes from 157.240.214.35: icmp_seq=2 ttl=128 time=282 ms
64 bytes from 157.240.214.35: icmp_seq=3 ttl=128 time=326 ms
64 bytes from 157.240.214.35: icmp_seq=4 ttl=128 time=284 ms
64 bytes from 157.240.214.35: icmp_seq=5 ttl=128 time=274 ms
```

- twitter.com: _____ 104.244.42.129

```
kali@kali: ~
File Actions Edit View Help
(kali@kali)-[~]
$ ping twitter.com
PING twitter.com (104.244.42.65) 56(84) bytes of data.
64 bytes from 104.244.42.65: icmp_seq=1 ttl=128 time=280 ms
64 bytes from 104.244.42.65: icmp_seq=2 ttl=128 time=242 ms
64 bytes from 104.244.42.65: icmp_seq=3 ttl=128 time=249 ms
64 bytes from 104.244.42.65: icmp_seq=4 ttl=128 time=239 ms
64 bytes from 104.244.42.65: icmp_seq=5 ttl=128 time=232 ms
64 bytes from 104.244.42.65: icmp_seq=6 ttl=128 time=357 ms
```

- amazon.com: _____ 205.251.242.103

```
(kali@kali)-[~]
$ ping amazon.com
PING amazon.com (205.251.242.103) 56(84) bytes of data.
64 bytes from 205.251.242.103: icmp_seq=1 ttl=128 time=279 ms
64 bytes from 205.251.242.103: icmp_seq=2 ttl=128 time=518 ms
64 bytes from 205.251.242.103: icmp_seq=3 ttl=128 time=318 ms
64 bytes from 205.251.242.103: icmp_seq=4 ttl=128 time=434 ms
64 bytes from 205.251.242.103: icmp_seq=5 ttl=128 time=393 ms
```

Exercise 2: Retrieve Domain Registration Details Using whois

Run the whois command for the following domains:

- github.com
- linkedin.com

- apple.com

Answer These Questions:

1. What is the registration expiration date for github.com? 2026-10-09T18:20:50Z

```
(kali@kali)-[~]
$ whois github.com
Domain Name: GITHUB.COM
Registry Domain ID: 1264983250_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.markmonitor.com
Registrar URL: http://www.markmonitor.com
Updated Date: 2024-09-07T09:16:32Z
Creation Date: 2007-10-09T18:20:50Z
Registry Expiry Date: 2026-10-09T18:20:50Z
Registrar: MarkMonitor Inc.
```

2. Who is the registrar for linkedin.com? MarkMonitor, Inc.

```
Registrar: MarkMonitor, Inc.
Registrar IANA ID: 292
Registrar Abuse Contact Email: abusecomplaints@markmonitor.com
Registrar Abuse Contact Phone: +1.2086851750
```

3. What country is the registrant of apple.com from? CA/US

```
Registrant Name: REDACTED FOR PRIVACY
Registrant Organization: Apple Inc.
Registrant Street: REDACTED FOR PRIVACY
Registrant City: REDACTED FOR PRIVACY
Registrant State/Province: CA
Registrant Postal Code: REDACTED FOR PRIVACY
Registrant Country: US
```

Exercise 3: Perform a DNS Lookup Using nslookup

Use nslookup to look up DNS information for the following domains:

- bbc.co.uk
- netflix.com

Answer These Questions:

1. What is the IP address for bbc.co.uk? 192.168.23.2

```
(kali@kali)-[~]
$ nslookup bbc.co.uk
Server:      192.168.23.2
Address:     192.168.23.2#53

Non-authoritative answer:
Name:   bbc.co.uk
Address: 151.101.192.81
Name:   bbc.co.uk
Address: 151.101.0.81
Name:   bbc.co.uk
Address: 151.101.64.81
Name:   bbc.co.uk
Address: 151.101.128.81
Name:   bbc.co.uk
Address: 2a04:4e42:600::81
Name:   bbc.co.uk
Address: 2a04:4e42:200::81
Name:   bbc.co.uk
Address: 2a04:4e42:400::81
Name:   bbc.co.uk
Address: 2a04:4e42::81
```

2. What are the name servers (NS) for netflix.com? 192.168.23.2

```
(kali@kali)-[~]
$ nslookup bbc.co.uk
Server:      192.168.23.2
Address:     192.168.23.2#53

Non-authoritative answer:
Name:   bbc.co.uk
Address: 151.101.192.81
Name:   bbc.co.uk
Address: 151.101.0.81
Name:   bbc.co.uk
```

INT302: Kali Linux Tools and System Security

Lab 2: Website Enumeration and Information Gathering

Exercise 1:

Run the whatweb command to detect technologies for the following targets:

- **example.com**

http://example.com [200 OK] Country [EUROPEAN UNION] [EU], HTML5, HTTPServer [ECCAcc (nyd/D166)], IP [93.184.215.14], Title [Example Domain]

```
File Actions Edit View Help
(kali@kali)-[~]
$ whatweb example.com
http://example.com [200 OK] Country[EUROPEAN UNION][EU], HTML5, HTTPServer[ECCAcc (nyd/D118)], IP[93.184.215.14], Title[Example Domain]
```

- **stackoverflow.com**

http://stackoverflow.com [301 Moved Permanently] Cookies[__cf_bm,_cfuid], Country[UNITED STATES][US], HTTPServer[cloudflare], HttpOnly[__cf_bm,_cfuid], IP[104.18.32.7], RedirectLocation[https://stackoverflow.com/], Title[301 Moved Permanently], UncommonHeaders[x-dns-prefetch-control,cf-ray]

https://stackoverflow.com/ [200 OK] Cookies[__cf_bm,__cfbm,_cfuid,prov], Country[UNITED STATES][US], Email[apple-touch-icon@2.png], HTML5, HTTPServer[cloudflare], HttpOnly[__cf_bm,__cfbm,_cfuid,prov], IP[104.18.32.7], JQuery[3.7.1], Open-Graph-Protocol, OpenSearch[/opensearch.xml], Script[application/json,text/uri-list,true], StackExchange, Strict-Transport-Security[max-age=15552000], Title[Stack Overflow - Where Developers Learn, Share, & Build Careers], UncommonHeaders[cf-ray,cf-cache-status,content-security-policy,feature-policy,x-request-guid,x-dns-prefetch-control], X-Frame-Options[SAMEORIGIN]

```
(kali@kali)-[~]
$ whatweb stackoverflow.com
http://stackoverflow.com [301 Moved Permanently] Cookies[__cf_bm,_cfuid], Country[UNITED STATES][US], HTTPServer[cloudflare], HttpOnly[__cf_bm,_cfuid], IP[104.18.32.7], RedirectLocation[https://stackoverflow.com/], Title[301 Moved Permanently], UncommonHeaders[x-dns-prefetch-control,cf-ray]
https://stackoverflow.com/ [200 OK] Cookies[__cf_bm,__cfbm,_cfuid,prov], Country[UNITED STATES][US], Email[apple-touch-icon@2.png], HTML5, HTTPServer[cloudflare], HttpOnly[__cf_bm,__cfbm,_cfuid,prov], IP[104.18.32.7], JQuery[3.7.1], Open-Graph-Protocol, OpenSearch[/opensearch.xml], Script[application/json,text/uri-list,true], StackExchange, Strict-Transport-Security[max-age=15552000], Title[Stack Overflow - Where Developers Learn, Share, & Build Careers], UncommonHeaders[cf-ray,cf-cache-status,content-security-policy,feature-policy,x-request-guid,x-dns-prefetch-control], X-Frame-Options[SAMEORIGIN]
```

- **github.com**

http://github.com [301 Moved Permanently] Country[UNITED STATES][US], IP[140.82.121.3], RedirectLocation[https://github.com/]

https://github.com/ [200 OK] Content-Language[en-US], Cookies[_gh_sess,_octo,logged_in], Country[UNITED STATES][US], HTML5, HTTPServer[GitHub.com], HttpOnly[_gh_sess,logged_in], IP[140.82.121.3], Open-Graph-Protocol[object][1401488693436528], OpenSearch[/opensearch.xml], Script[application/javascript,application/json,text/javascript], Strict-Transport-Security[max-age=31536000; includeSubdomains; preload], Title[GitHub · Build and ship software on a single, collaborative platform · GitHub], UncommonHeaders[x-content-type-options,referrer-policy,content-security-policy,x-github-request-id], X-Frame-Options[deny], X-XSS-Protection[0]

```
(kali@kali)-[~]
$ whatweb github.com
http://github.com [301 Moved Permanently] Country[UNITED STATES][US], IP[140.82.121.3], RedirectLocation[https://github.com/]
https://github.com/ [200 OK] Content-Language[en-US], Cookies[_gh_sess,_octo,logged_in], Country[UNITED STATES][US], HTML5, HTTPServer[GitHub.com], HttpOnly[_gh_sess,logged_in], IP[140.82.121.3], Open-Graph-Protocol[object][1401488693436528], OpenSearch[/opensearch.xml], Script[application/javascript,application/json,text/javascript], Strict-Transport-Security[max-age=31536000; includeSubdomains; preload], Title[GitHub · Build and ship software on a single, collaborative platform · GitHub], UncommonHeaders[x-content-type-options,referrer-policy,content-security-policy,x-github-request-id], X-Frame-Options[deny], X-XSS-Protection[0]
```

Exercise 2: Perform Aggressive Scanning Using whatweb

Perform an aggressive scan on the following targets:

- **google.com**

- WhatWeb http://google.com
- Status : 301 Moved Permanently
- Title : 301 Moved
- IP : 172.217.17.14
- Country : UNITED STATES, US
- Summary : HTTPServer[gws], RedirectLocation[http://www.google.com/], UncommonHeaders[content-security-policy-report-only], X-Frame-Options[SAMEORIGIN], X-XSS-Protection[0]
- Detected Plugins:
- [HTTPServer]
 - HTTP server header string. This plugin also attempts to
 - identify the operating system from the server header.
 - String : gws (from server string)
- [RedirectLocation]
 - HTTP Server string location. used with http-status 301 and 302
 - String : http://www.google.com/ (from location)
- [UncommonHeaders]
 - Uncommon HTTP server headers. The blacklist includes all the standard headers and many non standard but common ones. Interesting but fairly common headers should have their own plugins, eg. x-powered-by, server and x-aspnet-version. Info about headers can be found at www.http-stats.com
 - String : content-security-policy-report-only (from headers)
- [X-Frame-Options]

- This plugin retrieves the X-Frame-Options value from the
- HTTP header. - More Info:
- <http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>
-
- String : SAMEORIGIN
-
- [X-XSS-Protection]
- This plugin retrieves the X-XSS-Protection value from the
- HTTP header. - More Info:
- <http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>
-
- String : 0
-
- HTTP Headers:
- HTTP/1.1 301 Moved Permanently
- Location: <http://www.google.com/>
- Content-Type: text/html; charset=UTF-8
- Content-Security-Policy-Report-Only: object-src 'none';base-uri 'self';script-src 'nonce-lk7kWABEWk8muHd2D5qllg' 'strict-dynamic' 'report-sample' 'unsafe-eval' 'unsafe-inline' https: http;;report-uri https://csp.withgoogle.com/csp/gws/other-hp
- Date: Sat, 02 Nov 2024 19:40:55 GMT
- Expires: Mon, 02 Dec 2024 19:40:55 GMT
- Cache-Control: public, max-age=2592000
- Server: gws
- Content-Length: 219
- X-XSS-Protection: 0
- X-Frame-Options: SAMEORIGIN
- Connection: close
-
- WhatWeb report for <http://www.google.com/>
- Status : 200 OK
- Title : Google
- IP : 142.250.178.164
- Country : UNITED STATES, US
-
- Summary : Cookies[AEC,NID], HTML5, HTTPServer[gws], HttpOnly[AEC,NID], Script, UncommonHeaders[content-security-policy-report-only], X-Frame-Options[SAMEORIGIN], X-XSS-Protection[0]
-
- Detected Plugins:
- [Cookies]
- Display the names of cookies in the HTTP headers. The
- values are not returned to save on space.
-
- String : AEC
- String : NID
-
- [HTML5]
- HTML version 5, detected by the doctype declaration
-

-
- [HTTPServer]
- HTTP server header string. This plugin also attempts to
- identify the operating system from the server header.
-
- String : gws (from server string)
-
- [HttpOnly]
- If the HttpOnly flag is included in the HTTP set-cookie
- response header and the browser supports it then the cookie
- cannot be accessed through client side script - More Info:
- http://en.wikipedia.org/wiki/HTTP_cookie
-
- String : AEC,NID
-
- [Script]
- This plugin detects instances of script HTML elements and
- returns the script language/type.
-
-
- [UncommonHeaders]
- Uncommon HTTP server headers. The blacklist includes all
- the standard headers and many non standard but common ones.
- Interesting but fairly common headers should have their own
- plugins, eg. x-powered-by, server and x-aspnet-version.
- Info about headers can be found at www.http-stats.com
-
- String : content-security-policy-report-only (from headers)
-
- [X-Frame-Options]
- This plugin retrieves the X-Frame-Options value from the
- HTTP header. - More Info:
- <http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>
-
- String : SAMEORIGIN
-
- [X-XSS-Protection]
- This plugin retrieves the X-XSS-Protection value from the
- HTTP header. - More Info:
- <http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>
-
- String : 0
-
- HTTP Headers:
- HTTP/1.1 200 OK
- Date: Sat, 02 Nov 2024 19:40:57 GMT
- Expires: -1
- Cache-Control: private, max-age=0
- Content-Type: text/html; charset=ISO-8859-1

- Content-Security-Policy-Report-Only: object-src 'none';base-uri 'self';script-src 'nonce-mk9ZD562ADjFOMytzt4mjw' 'strict-dynamic' 'report-sample' 'unsafe-eval' 'unsafe-inline' https: http;;report-uri https://csp.withgoogle.com/csp/gws/other-hp
- P3P: CP="This is not a P3P policy! See g.co/p3phelp for more info."
- Content-Encoding: gzip
- Server: gws
- Content-Length: 9038
- X-XSS-Protection: 0
- X-Frame-Options: SAMEORIGIN
- Set-Cookie: AEC=AVYB7coGaxNT5aA0F5qg9CUVoTXvocvUkOu1nw3nR4Rxxxy357sIM7H67tw; expires=Thu, 01-May-2025 19:40:57 GMT; path=/; domain=.google.com; Secure; HttpOnly; SameSite=lax
- Set-Cookie: NID=518=kXLNMvC5qMkixoOjof3UPEyTApzOrNKllqSr3hIX2B6rsUjHibpBZi8A0nD_9FSAewrzKkHbbnxgKhZiAqzdjigtXb9mw2Azul5y4IX7zdareglRw3ZaccVVgPTZg5IYVBLmZRpB2kSqZn7e53bF_joP7GWmKR3_ckZxi-qkyheJdPct28jljyFcvaPu0ezyDZit; expires=Sun, 04-May-2025 19:40:57 GMT; path=/; domain=.google.com; HttpOnly
- Connection: close

- **facebook.com**

WhatWeb report for http://facebook.com

Status : 301 Moved Permanently

Title : <None>

IP : <Unknown>

Country : <Unknown>

Summary : HTTPServer[proxygen-bolt], RedirectLocation[https://facebook.com/]

Detected Plugins:

[HTTPServer]

HTTP server header string. This plugin also attempts to identify the operating system from the server header.

String : proxygen-bolt (from server string)

[RedirectLocation]

HTTP Server string location. used with http-status 301 and 302

String : https://facebook.com/ (from location)

HTTP Headers:

HTTP/1.1 301 Moved Permanently

Location: <https://facebook.com/>

Content-Type: text/plain

Server: proxygen-bolt

Date: Tue, 05 Nov 2024 12:00:08 GMT

Connection: close

Content-Length: 0

WhatWeb report for <https://facebook.com/>

Status : 301 Moved Permanently

Title : <None>

IP : <Unknown>

Country : <Unknown>

Summary : RedirectLocation[<https://www.facebook.com/>], Strict-Transport-Security[max-age=15552000; preload], UncommonHeaders[x-fb-debug,x-fb-connection-quality,alt-svc]

Detected Plugins:

[RedirectLocation]

HTTP Server string location. used with http-status 301 and 302

String : <https://www.facebook.com/> (from location)

[Strict-Transport-Security]

Strict-Transport-Security is an HTTP header that restricts a web browser from accessing a website without the security of the HTTPS protocol.

String : max-age=15552000; preload

[UncommonHeaders]

Uncommon HTTP server headers. The blacklist includes all the standard headers and many non standard but common ones.

Interesting but fairly common headers should have their own plugins, eg. x-powered-by, server and x-aspnet-version.

Info about headers can be found at www.http-stats.com

String : x-fb-debug,x-fb-connection-quality,alt-svc (from headers)

HTTP Headers:

HTTP/1.1 301 Moved Permanently

Location: <https://www.facebook.com/>

Strict-Transport-Security: max-age=15552000; preload

Content-Type: text/html; charset="utf-8"

X-FB-Debug:

x7cEOEN6lcRKqeNkjD0by7uDQH6oehEU5OLqObV+gv9qkVbpi45p6vpvDDK1CMXNoafa6m+1U8uIR2VuII7i+g==

Date: Tue, 05 Nov 2024 12:00:11 GMT

X-FB-Connection-Quality: EXCELLENT; q=0.9, rtt=15, rtx=0, c=10, mss=1392, tbw=2526, tp=-1, tpl=-1, uplat=120, ullat=0

Alt-Svc: h3=":443"; ma=86400

Connection: close

Content-Length: 0

WhatWeb report for <https://www.facebook.com/>

Status : 302 Found

Title : <None>

IP : <Unknown>

Country : <Unknown>

Summary : RedirectLocation[https://web.facebook.com/?_rdc=1&_rdr], Strict-Transport-Security[max-age=15552000; preload], UncommonHeaders[reporting-endpoints,report-to,cross-origin-opener-policy,x-fb-zr-redirect,x-fb-debug,x-fb-connection-quality,alt-svc]

Detected Plugins:

[RedirectLocation]

HTTP Server string location. used with http-status 301 and 302

String : https://web.facebook.com/?_rdc=1&_rdr (from location)

[Strict-Transport-Security]

Strict-Transport-Security is an HTTP header that restricts a web browser from accessing a website without the security of the HTTPS protocol.

String : max-age=15552000; preload

[UncommonHeaders]

Uncommon HTTP server headers. The blacklist includes all the standard headers and many non standard but common ones.

Interesting but fairly common headers should have their own plugins, eg. x-powered-by, server and x-aspnet-version.

Info about headers can be found at www.http-stats.com

String : reporting-endpoints,report-to,cross-origin-opener-policy,x-fb-zr-redirect,x-fb-debug,x-fb-connection-quality,alt-svc (from headers)

HTTP Headers:

HTTP/1.1 302 Found

Location: https://web.facebook.com/?_rdc=1&_rdr

reporting-endpoints:

coop_report="https://www.facebook.com/browser_reporting/coop/?minimize=0"

report-to:

{"max_age":2592000,"endpoints":[{"url":"https://www.facebook.com/browser_reporting/coop/?minimize=0"}],"group":"coop_report","include_subdomains":true}

cross-origin-opener-policy: unsafe-none

x-fb-zr-redirect: 02|1730894413|

Strict-Transport-Security: max-age=15552000; preload

Content-Type: text/html; charset="utf-8"

X-FB-Debug:
G6oNb6ufM7QsliWsECC70ge+znI4hoCUdyX0rhuyhM/n4aUd6udUHmmsgBkJiCZB7IRHJAdSK5Kpl5resyZH
zNg==

Date: Tue, 05 Nov 2024 12:00:13 GMT

X-FB-Connection-Quality: EXCELLENT; q=0.9, rtt=14, rtx=0, c=10, mss=1392, tbw=2526, tp=-1, tpl=-1, uplat=128, ullat=0

Alt-Svc: h3=":443"; ma=86400

Connection: close

Content-Length: 0

WhatWeb report for https://web.facebook.com/?_rdc=1&_rdr

Status : 200 OK

Title : <None>

IP : <Unknown>

Country : <Unknown>

Summary : Cookies[fr,sb], HTML5, HttpOnly[fr,sb], Meta-Refresh-Redirect[/?_rdc=1&_rdr&_fb_noscript=1], PasswordField[pass], Script[application/ld+json,text/javascript], Strict-Transport-Security[max-age=15552000; preload], UncommonHeaders[reporting-endpoints,report-to,content-security-policy-report-only,content-security-policy,document-policy,permissions-policy,cross-origin-resource-policy,cross-origin-opener-policy,x-content-type-options,x-fb-debug,x-fb-connection-quality,alt-svc], X-Frame-Options[DENY], X-XSS-Protection[0]

Detected Plugins:

[Cookies]

Display the names of cookies in the HTTP headers. The values are not returned to save on space.

String : fr

String : sb

[HTML5]

HTML version 5, detected by the doctype declaration

[HttpOnly]

If the HttpOnly flag is included in the HTTP set-cookie response header and the browser supports it then the cookie cannot be accessed through client side script - More Info:
http://en.wikipedia.org/wiki/HTTP_cookie

String : fr,sb

[Meta-Refresh-Redirect]

Meta refresh tag is a deprecated URL element that can be used to optionally wait x seconds before reloading the current page or loading a new page. More info:
https://secure.wikimedia.org/wikipedia/en/wiki/Meta_refresh

String : /?_rdc=1&_rdr&_fb_noscript=1

[PasswordField]

find password fields

String : pass (from field name)

[Script]

This plugin detects instances of script HTML elements and returns the script language/type.

String : application/ld+json,text/javascript

[Strict-Transport-Security]

Strict-Transport-Security is an HTTP header that restricts a web browser from accessing a website without the security of the HTTPS protocol.

String : max-age=15552000; preload

[UncommonHeaders]

Uncommon HTTP server headers. The blacklist includes all the standard headers and many non standard but common ones.

Interesting but fairly common headers should have their own plugins, eg. x-powered-by, server and x-aspnet-version.

Info about headers can be found at www.http-stats.com

String : reporting-endpoints,report-to,content-security-policy-report-only,content-security-policy,document-policy,permissions-policy,cross-origin-resource-policy,cross-origin-opener-policy,x-content-type-options,x-fb-debug,x-fb-connection-quality,alt-svc (from headers)

[X-Frame-Options]

This plugin retrieves the X-Frame-Options value from the

HTTP header. - More Info:

<http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>

String : DENY

[X-XSS-Protection]

This plugin retrieves the X-XSS-Protection value from the

HTTP header. - More Info:

<http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>

String : 0

HTTP Headers:

HTTP/1.1 200 OK

Vary: Accept-Encoding

Content-Encoding: gzip

Set-Cookie: fr=0WvkSR9EqIKfwmT3y..BnKgJQ..AAA.0.0.BnKgJQ.AWX0WluA3pA; expires=Mon, 03-Feb-2025 12:00:16 GMT; Max-Age=7776000; path=/; domain=.facebook.com; secure; httponly

Set-Cookie: sb=0AgqZ4rhfLquxeP7fYx0ZEO6; expires=Wed, 10-Dec-2025 12:00:16 GMT; Max-Age=34560000; path=/; domain=.facebook.com; secure; httponly

reporting-endpoints:

coop_report="https://web.facebook.com/browser_reporting/coop/?minimize=0",
default="https://web.facebook.com/ajax/browser_error_reports/?device_level=unknown&bsid=7433763825315766298", permissions_policy="https://web.facebook.com/ajax/browser_error_reports/"

report-to:

```
{"max_age":2592000,"endpoints":[{"url":"https://web.facebook.com/browser_reporting/coop/?minimize=0"}],"group":"coop_report","include_subdomains":true},  
{"max_age":259200,"endpoints":[{"url":"https://web.facebook.com/ajax/browser_error_reports/?device_level=unknown&bsid=7433763825315766298"}]},  
{"max_age":21600,"endpoints":[{"url":"https://web.facebook.com/ajax/browser_error_reports/"}]}  
,"group":"permissions_policy"}
```

content-security-policy-report-only: default-src data: blob: 'self' https://*.fbcdn.net *.facebook.com *.fbcdn.net 'unsafe-eval';script-src 'report-sample' *.facebook.com *.fbcdn.net *.facebook.net 127.0.0.1:*.facebook.net 'unsafe-inline' blob: data: 'self' connect.facebook.net 'unsafe-eval' https://*.google-analytics.com *.google.com;style-src *.fbcdn.net data: *.facebook.com 'unsafe-inline' https://fonts.googleapis.com;connect-src *.facebook.com facebook.com *.fbcdn.net *.facebook.net wss://*.facebook.com:*.wss://*.whatsapp.com:*.wss://*.fbcdn.net attachment.fbsbx.com ws://localhost:*.blob: *.cdninstagram.com 'self' http://localhost:3103 wss://gateway.facebook.com wss://edge-chat.facebook.com wss://snaptu-d.facebook.com wss://kaio-d.facebook.com/v.whatsapp.net *.fbcdn.net *.fb.com https://*.google-analytics.com;font-src data: *.facebook.com *.fbcdn.net *.fbcdn.net https://fonts.gstatic.com;img-src *.fbcdn.net *.facebook.com data: https://*.fbcdn.net facebook.com *.cdninstagram.com fbsbx.com fbcdn.net connect.facebook.net *.carriersignal.info blob: android-webview-video-poster: *.whatsapp.net *.fb.com *.oculuscdn.com *.tenor.co *.tenor.com *.giphy.com https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net https://*.google-analytics.com;media-src *.cdninstagram.com blob: *.fbcdn.net *.fbcdn.net www.facebook.com *.facebook.com data: *.tenor.co *.tenor.com https://*.giphy.com;frame-src *.facebook.com *.fbcdn.net fbsbx.com data: www.instagram.com *.fbcdn.net https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net https://www.google.com https://td.doubleclick.net *.google.com *.doubleclick.net;worker-src blob: *.facebook.com data:;report-uri https://web.facebook.com/csp/reporting/?minimize=0;

content-security-policy: default-src data: blob: 'self' https://*.fbcdn.net *.facebook.com *.fbcdn.net 'unsafe-eval';script-src 'report-sample' *.facebook.com *.fbcdn.net *.facebook.net 127.0.0.1:*.facebook.net 'unsafe-inline' blob: data: 'self' connect.facebook.net 'unsafe-eval' https://*.google-analytics.com *.google.com;style-src *.fbcdn.net data: *.facebook.com 'unsafe-inline' https://fonts.googleapis.com;connect-src *.facebook.com facebook.com *.fbcdn.net *.facebook.net wss://*.facebook.com:*.wss://*.whatsapp.com:*.wss://*.fbcdn.net attachment.fbsbx.com ws://localhost:*.blob: *.cdninstagram.com 'self' http://localhost:3103 wss://gateway.facebook.com wss://edge-chat.facebook.com wss://snaptu-d.facebook.com wss://kaio-d.facebook.com/v.whatsapp.net *.fbcdn.net *.fb.com https://*.google-analytics.com;font-src data: *.facebook.com *.fbcdn.net *.fbcdn.net https://fonts.gstatic.com;img-src *.fbcdn.net *.facebook.com data: https://*.fbcdn.net facebook.com *.cdninstagram.com fbsbx.com fbcdn.net connect.facebook.net *.carriersignal.info blob: android-webview-video-poster: *.whatsapp.net *.fb.com *.oculuscdn.com *.tenor.co *.tenor.com *.giphy.com https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net https://*.google-analytics.com;media-src *.cdninstagram.com blob: *.fbcdn.net *.fbcdn.net www.facebook.com *.facebook.com data: *.tenor.co *.tenor.com https://*.giphy.com;frame-src *.facebook.com *.fbcdn.net fbsbx.com data: www.instagram.com *.fbcdn.net https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net

https://www.google.com https://td.doubleclick.net *.google.com *.doubleclick.net;worker-src blob:
*.facebook.com data:;block-all-mixed-content;upgrade-insecure-requests;

document-policy: force-load-at-top

permissions-policy: accelerometer=(), attribution-reporting=(self), autoplay=(), bluetooth=(),
browsing-topics=(self), camera=(self), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-ect=(), ch-
rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-
width=(), clipboard-read=(self), clipboard-write=(self), compute-pressure=(), display-capture=(self),
encrypted-media=(self), fullscreen=(self), gamepad=*, geolocation=(self), gyroscope=(), hid=(), idle-
detection=(), interest-cohort=(self), keyboard-map=(), local-fonts=(), magnetometer=(),
microphone=(self), midi=(), otp-credentials=(), payment=(), picture-in-picture=(self), private-state-
token-issuance=(), publickey-credentials-get=(self), screen-wake-lock=(), serial=(), shared-storage=(),
shared-storage-select-url=(), private-state-token-redemption=(), usb=(), unload=(self), window-
management=(), xr-spatial-tracking=(self);report-to="permissions_policy"

cross-origin-resource-policy: same-origin

cross-origin-opener-policy: unsafe-none

Pragma: no-cache

Cache-Control: private, no-cache, no-store, must-revalidate

Expires: Sat, 01 Jan 2000 00:00:00 GMT

X-Content-Type-Options: nosniff

X-XSS-Protection: 0

X-Frame-Options: DENY

Strict-Transport-Security: max-age=15552000; preload

Content-Type: text/html; charset="utf-8"

X-FB-Debug:

8mf7+K2Kuxo5VUPwrTYeG7ZAJgWPxmw9xTlsmUoReCbRhXRP2IrdOQKAH6bNtq95PpEa7Qfl/gT12Xmn
VsqaA==

Date: Tue, 05 Nov 2024 12:00:16 GMT

X-FB-Connection-Quality: EXCELLENT; q=0.9, rtt=15, rtx=0, c=10, mss=1392, tbw=2524, tp=-1, tpl=-
1, uplat=207, ullat=0

Alt-Svc: h3=":443"; ma=86400

Transfer-Encoding: chunked

Connection: close

WhatWeb report for https://web.facebook.com/?_rdc=1&_rdr&_fb_noscript=1

Status : 200 OK

Title : <None>

IP : <Unknown>

Country : <Unknown>

Summary : Cookies[fr,noscript,sb], HTML5, HttpOnly[fr,sb], PasswordField[pass], Script[application/ld+json,text/javascript], Strict-Transport-Security[max-age=15552000; preload], UncommonHeaders[reporting-endpoints,report-to,content-security-policy-report-only,content-security-policy,document-policy,permissions-policy,cross-origin-resource-policy,cross-origin-opener-policy,x-content-type-options,x-fb-debug,x-fb-connection-quality,alt-svc], X-Frame-Options[DENY], X-XSS-Protection[0]

Detected Plugins:

[Cookies]

Display the names of cookies in the HTTP headers. The values are not returned to save on space.

String : fr

String : noscript

String : sb

[HTML5]

HTML version 5, detected by the doctype declaration

[HttpOnly]

If the HttpOnly flag is included in the HTTP set-cookie response header and the browser supports it then the cookie cannot be accessed through client side script - More Info:

http://en.wikipedia.org/wiki/HTTP_cookie

String : fr,sb

[PasswordField]

find password fields

String : pass (from field name)

[Script]

This plugin detects instances of script HTML elements and returns the script language/type.

String : application/ld+json,text/javascript

[Strict-Transport-Security]

Strict-Transport-Security is an HTTP header that restricts a web browser from accessing a website without the security of the HTTPS protocol.

String : max-age=15552000; preload

[UncommonHeaders]

Uncommon HTTP server headers. The blacklist includes all the standard headers and many non standard but common ones.

Interesting but fairly common headers should have their own plugins, eg. x-powered-by, server and x-aspnet-version.

Info about headers can be found at www.http-stats.com

String : reporting-endpoints,report-to,content-security-policy-report-only,content-security-policy,document-policy,permissions-policy,cross-origin-resource-policy,cross-origin-opener-policy,x-content-type-options,x-fb-debug,x-fb-connection-quality,alt-svc (from headers)

[X-Frame-Options]

This plugin retrieves the X-Frame-Options value from the HTTP header. - More Info:

<http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29.aspx>

String : DENY

[X-XSS-Protection]

This plugin retrieves the X-XSS-Protection value from the HTTP header. - More Info:

<http://msdn.microsoft.com/en-us/library/cc288472%28VS.85%29>.

aspx

String : 0

HTTP Headers:

HTTP/1.1 200 OK

Vary: Accept-Encoding

Content-Encoding: gzip

Set-Cookie: fr=09rB0ndQYtabCMws3..BnKgJU..AAA.0.0.BnKgJU.AWVML7ceENA; expires=Mon, 03-Feb-2025 12:00:20 GMT; Max-Age=7776000; path=/; domain=.facebook.com; secure; httponly

Set-Cookie: noscript=1; path=/; domain=.facebook.com; secure

Set-Cookie: sb=1AgqZymh_nGa91XjeYot_r7r; expires=Wed, 10-Dec-2025 12:00:20 GMT; Max-Age=34560000; path=/; domain=.facebook.com; secure; httponly

reporting-endpoints:

coop_report="https://web.facebook.com/browser_reporting/coop/?minimize=0",
default="https://web.facebook.com/ajax/browser_error_reports/?device_level=unknown&bsid=7433763843639071437", permissions_policy="https://web.facebook.com/ajax/browser_error_reports/"

report-to:

{"max_age":2592000,"endpoints":[{"url":"https://web.facebook.com/browser_reporting/coop/?minimize=0"}],"group":"coop_report","include_subdomains":true},
{"max_age":259200,"endpoints":[{"url":"https://web.facebook.com/ajax/browser_error_reports/?device_level=unknown&bsid=7433763843639071437"}]},
{"max_age":21600,"endpoints":[{"url":"https://web.facebook.com/ajax/browser_error_reports/"}]},
{"group":"permissions_policy"}

content-security-policy-report-only: default-src data: blob: 'self' https://*.fbcdn.net *.facebook.com *.fbcdn.net 'unsafe-eval';script-src 'report-sample' *.facebook.com *.fbcdn.net *.facebook.net 127.0.0.1: * 'unsafe-inline' blob: data: 'self' connect.facebook.net 'unsafe-eval' https://*.google-analytics.com *.google.com;style-src *.fbcdn.net data: *.facebook.com 'unsafe-inline' https://fonts.googleapis.com;connect-src *.facebook.com facebook.com *.fbcdn.net *.facebook.net wss://*.facebook.com: * wss://*.whatsapp.com: * wss://*.fbcdn.net attachment.fbsbx.com ws://localhost: * blob: *.cdninstagram.com 'self' http://localhost:3103 wss://gateway.facebook.com wss://edge-chat.facebook.com wss://snaptu-d.facebook.com wss://kaio-d.facebook.com/ v.whatsapp.net *.fbsbx.com *.fb.com https://*.google-analytics.com;font-src data: *.facebook.com *.fbcdn.net *.fbsbx.com https://fonts.gstatic.com;img-src *.fbcdn.net *.facebook.com data: https://*.fbsbx.com facebook.com *.cdninstagram.com fbsbx.com fbcdn.net connect.facebook.net *.carriersignal.info blob: android-webview-video-poster: *.whatsapp.net *.fb.com *.oculuscdn.com *.tenor.co *.tenor.com *.giphy.com https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net https://*.google-analytics.com;media-src *.cdninstagram.com blob: *.fbcdn.net *.fbsbx.com www.facebook.com *.facebook.com data: *.tenor.co *.tenor.com https://*.giphy.com;frame-src *.facebook.com *.fbsbx.com fbsbx.com data: www.instagram.com *.fbcdn.net https://paywithmybank.com/ https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net

https://www.google.com https://td.doubleclick.net *.google.com *.doubleclick.net;worker-src blob:
*.facebook.com data:;report-uri https://web.facebook.com/csp/reporting/?minimize=0;

content-security-policy: default-src data: blob: 'self' https://*.fbcdn.net *.facebook.com *.fbcdn.net
*.facebook.com *.fbcdn.net 'unsafe-eval';script-src 'report-sample' *.facebook.com *.fbcdn.net
.facebook.net 127.0.0.1:. 'unsafe-inline' blob: data: 'self' connect.facebook.net 'unsafe-eval'
https://*.google-analytics.com *.google.com;style-src *.fbcdn.net data: *.facebook.com 'unsafe-inline'
https://fonts.googleapis.com;connect-src *.facebook.com facebook.com *.fbcdn.net *.facebook.net
wss://*.facebook.com:*. wss://*.whatsapp.com:*. wss://*.fbcdn.net attachment.fbcdn.net
ws://localhost:*. blob: *.cdninstagram.com 'self' http://localhost:3103 wss://gateway.facebook.com
wss://edge-chat.facebook.com wss://snaptu-d.facebook.com wss://kaios-d.facebook.com/
v.whatsapp.net *.fbcdn.net *.fb.com https://*.google-analytics.com;font-src data: *.facebook.com
*.fbcdn.net *.fbcdn.net https://fonts.gstatic.com;img-src *.fbcdn.net *.facebook.com data:
https://*.fbcdn.net facebook.com *.cdninstagram.com fbcdn.net connect.facebook.net
*.carriersignal.info blob: android-webview-video-poster: *.whatsapp.net *.fb.com *.oculuscdn.com
*.tenor.co *.tenor.com *.giphy.com https://paywithmybank.com/ https://*.paywithmybank.com/
https://www.googleadservices.com https://googleads.g.doubleclick.net https://*.google-
analytics.com;media-src *.cdninstagram.com blob: *.fbcdn.net *.fbcdn.net www.facebook.com
*.facebook.com data: *.tenor.co *.tenor.com https://*.giphy.com;frame-src *.facebook.com
*.fbcdn.net fbcdn.net data: www.instagram.com *.fbcdn.net https://paywithmybank.com/
https://*.paywithmybank.com/ https://www.googleadservices.com https://googleads.g.doubleclick.net
https://www.google.com https://td.doubleclick.net *.google.com *.doubleclick.net;worker-src blob:
*.facebook.com data:;block-all-mixed-content;upgrade-insecure-requests;

document-policy: force-load-at-top

permissions-policy: accelerometer=(), attribution-reporting=(self), autoplay=(), bluetooth=(),
browsing-topics=(self), camera=(self), ch-device-memory=(), ch-downlink=(), ch-dpr=(), ch-ect=(), ch-
rtt=(), ch-save-data=(), ch-ua-arch=(), ch-ua-bitness=(), ch-viewport-height=(), ch-viewport-width=(), ch-
width=(), clipboard-read=(self), clipboard-write=(self), compute-pressure=(), display-capture=(self),
encrypted-media=(self), fullscreen=(self), gamepad=*, geolocation=(self), gyroscope=(), hid=(), idle-
detection=(), interest-cohort=(self), keyboard-map=(), local-fonts=(), magnetometer=(),
microphone=(self), midi=(), otp-credentials=(), payment=(), picture-in-picture=(self), private-state-
token-issuance=(), publickey-credentials-get=(self), screen-wake-lock=(), serial=(), shared-storage=(),
shared-storage-select-url=(), private-state-token-redemption=(), usb=(), unload=(self), window-
management=(), xr-spatial-tracking=(self);report-to="permissions_policy"

cross-origin-resource-policy: same-origin

cross-origin-opener-policy: unsafe-none

Pragma: no-cache

Cache-Control: private, no-cache, no-store, must-revalidate

Expires: Sat, 01 Jan 2000 00:00:00 GMT

X-Content-Type-Options: nosniff

X-XSS-Protection: 0

X-Frame-Options: DENY

Strict-Transport-Security: max-age=15552000; preload

Content-Type: text/html; charset="utf-8"

X-FB-Debug:
q57WJhf9FXh5f+iLoR0+mpplZZLLifrC2XgMHU5II/epEWLjqG1XUUAganAW5YYdAA3pgjeqLrLkn7e4ujOE6
A==

Date: Tue, 05 Nov 2024 12:00:20 GMT

X-FB-Connection-Quality: EXCELLENT; q=0.9, rtt=21, rtx=0, c=10, mss=1392, tbw=2524, tp=-1, tpl=-1, uplat=216, ullat=0

Alt-Svc: h3=":443"; ma=86400

Transfer-Encoding: chunked

Connection: close

INT302: Kali Linux Tools and System Security – Lab 3: Subdomain Hunting

Exercise 1:

Run the sublist3r command for the following domains:

- **github.com**

[-] Total Unique Subdomains Found: 95

www.github.com

atom-installer.github.com

branch.github.com

brandguide.github.com

camo.github.com

central.github.com

cla.github.com

classroom.github.com

cloud.github.com

f.cloud.github.com

codespaces.github.com

codespaces-dev.github.com

codespaces-ppe.github.com

communication.github.com

www.communication.github.com

m.communication.github.com

res.communication.github.com

t.communication.github.com

community.github.com
docs.github.com
docs-front-door.github.com
dodgeball.github.com
edu.github.com
education.github.com
emails.github.com
enterprise.github.com
support.enterprise.github.com
www.support.enterprise.github.com
examregistration.github.com
examregistration-api.github.com
examregistration-uat.github.com
examregistration-uat-api.github.com
fast.github.com
garage.github.com
gist.github.com
graphql.github.com
www.graphql.github.com
graphql-stage.github.com
www.graphql-stage.github.com
help.github.com
helpnext.github.com
hq.github.com
vpn-ca.iad.github.com
id.github.com
import.github.com
import2.github.com
importer2.github.com
jira.github.com
www.jira.github.com
jobs.github.com
lab.github.com
lab-sandbox.github.com

learn.github.com
mac-installer.github.com
maintainers.github.com
www.maintainers.github.com
octostatus-production.github.com
offer.github.com
partnerportal.github.com
www.partnerportal.github.com
pkg.github.com
porter.github.com
porter2.github.com
proxima-review-lab.github.com
raw.github.com
registry.github.com
render.github.com
render-lab.github.com
www.render-lab.github.com
review-lab.github.com
octocaptcha.review-lab.github.com
rs.github.com
schrauger.github.com
api.security.github.com
www.api.security.github.com
skyline.github.com
www.skyline.github.com
slack.github.com
smtp.github.com
www.smtp.github.com
staging-lab.github.com
api.stars.github.com
www.api.stars.github.com
status.github.com
stg.github.com
styleguide.github.com

ws.support.github.com
www.ws.support.github.com
talks.github.com
visualstudio.github.com
www.visualstudio.github.com
vscode-auth.github.com
workspaces.github.com
workspaces-dev.github.com
workspaces-ppe.github.com

- **google.com**

[-] Total Unique Subdomains Found: 97

www.google.com
accounts.google.com
freezone.accounts.google.com
adwords.google.com
qa.adz.google.com
answers.google.com
apps-secure-data-connector.google.com
audioads.google.com
checkout.google.com
mtv-da-1.ad.corp.google.com
ads-compare.eem.corp.google.com
da.ext.corp.google.com
m.guts.corp.google.com
m.gutsdev.corp.google.com
login.corp.google.com
mtv-da.corp.google.com
mygeist.corp.google.com
mygeist2010.corp.google.com
proxyconfig.corp.google.com
reseed.corp.google.com
twdsalesgsa.twd.corp.google.com

uberproxy.corp.google.com
uberproxy-nocert.corp.google.com
uberproxy-san.corp.google.com
ext.google.com
cag.ext.google.com
cod.ext.google.com
da.ext.google.com
eggroll.ext.google.com
fra-da.ext.google.com
glass.ext.google.com
glass-eur.ext.google.com
glass-mtv.ext.google.com
glass-twd.ext.google.com
hot-da.ext.google.com
hyd-da.ext.google.com
ice.ext.google.com
meeting.ext.google.com
mtv-da.ext.google.com
soaproxyprod01.ext.google.com
soaproxytest01.ext.google.com
spdy-proxy.ext.google.com
spdy-proxy-debug.ext.google.com
twd-da.ext.google.com
flexpack.google.com
www.flexpack.google.com
accounts.flexpack.google.com
gaiastaging.flexpack.google.com
mail.flexpack.google.com
plus.flexpack.google.com
search.flexpack.google.com
freezone.google.com
www.freezone.google.com
accounts.freezone.google.com
gaiastaging.freezone.google.com

mail.freezone.google.com
news.freezone.google.com
plus.freezone.google.com
search.freezone.google.com
gmail.google.com
hosted-id.google.com
jmt0.google.com
aspmx.l.google.com
alt1.aspmx.l.google.com
alt2.aspmx.l.google.com
alt3.aspmx.l.google.com
alt4.aspmx.l.google.com
gmail-smtp-in.l.google.com
alt1.gmail-smtp-in.l.google.com
alt2.gmail-smtp-in.l.google.com
alt3.gmail-smtp-in.l.google.com
alt4.gmail-smtp-in.l.google.com
gmr-smtp-in.l.google.com
alt1.gmr-smtp-in.l.google.com
alt2.gmr-smtp-in.l.google.com
alt3.gmr-smtp-in.l.google.com
alt4.gmr-smtp-in.l.google.com
vp.video.l.google.com
m.google.com
freezone.m.google.com
mail.google.com
freezone.mail.google.com
misc.google.com
misc-sni.google.com
mtalk.google.com
mx.google.com
ics.prod.google.com
sandbox.google.com
cert-test.sandbox.google.com

ecc-test.sandbox.google.com

services.google.com

talk.google.com

upload.google.com

dg.video.google.com

upload.video.google.com

wifi.google.com

onex.wifi.google.com

Step 2: Directory Discovery Using dirb

Exercise 2:

Perform a directory discovery scan on the following targets:

- <http://example.com>

```
└─$ dirb http://example.com
```

DIRB v2.22

By The Dark Raver

START_TIME: Tue Nov 5 07:11:24 2024

URL_BASE: http://example.com/

WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt

- <http://example.org>

```
─$ dirb http://example.org
```

DIRB v2.22

By The Dark Raver

START_TIME: Tue Nov 5 07:12:40 2024

URL_BASE: http://example.org/

WORDLIST_FILES: /usr/share/dirb/wordlists/common.txt

Step 3: Information Gathering Using theHarvester

Exercise 3:

Use theHarvester to gather information on the following domain:

- example.com

INVALID SOURCE