Práctica 3: Enumeración DNS con Amass y Subfinder

Objetivo: Utilizar herramientas modernas para identificar subdominios, relaciones DNS y estructuras internas de una organización, lo cual es fundamental en la fase de reconocimiento de un pentest profesional.

1. Entorno virtualizado recomendado

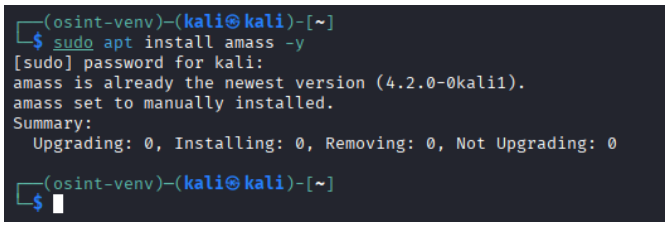
Máquina atacante

- **SO**: *Kali Linux 2025.2*
- **RAM**: *2 GB*
- **Red**: *NAT (si se hacen consultas reales), o Interna (para entorno controlado)*
- **Herramientas**: `Amass, Subfinder, dnsx` (*opcional, para validación*)

2. Instalación de herramientas

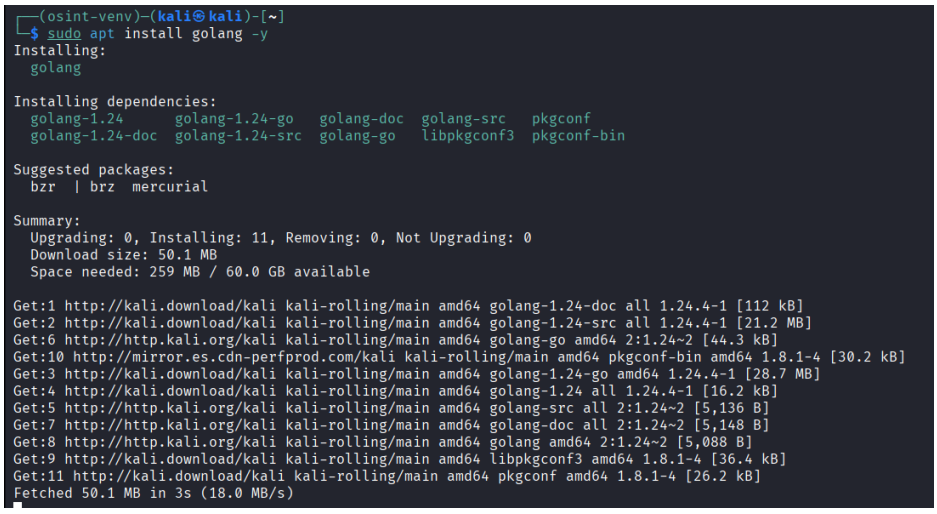
Instalar Amass (ya incluido en Kali normalmente)

```
sudo apt install amass -y
```



Instalar Subfinder (de ProjectDiscovery)

```
sudo apt install golang -y
```



```
go install -v github.com/projectdiscovery/subfinder/v2/cmd/subfinder@latest
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ go install -v github.com/projectdiscovery/subfinder/v2/cmd/subfinder@latest
go: downloading github.com/projectdiscovery/subfinder/v2 v2.8.0
go: downloading github.com/projectdiscovery/subfinder v2.8.0+incompatible
go: downloading github.com/projectdiscovery/fdmax v0.0.4
go: downloading github.com/projectdiscovery/gologger v1.1.54
go: downloading github.com/hako/durafmt v0.0.0-20210316092057-3a2c319c1acd
go: downloading github.com/json-iterator/go v1.1.12
go: downloading github.com/projectdiscovery/chaos-client v0.5.2
go: downloading github.com/projectdiscovery/dnsx v1.2.2
go: downloading github.com/projectdiscovery/goflags v0.1.74
go: downloading github.com/projectdiscovery/utils v0.4.20
go: downloading golang.org/x/exp v0.0.0-20250106191152-7588d65b2ba8
go: downloading gopkg.in/yaml.v3 v3.0.1
go: downloading github.com/modern-go/concurrent v0.0.0-20180306012644-bacd9c7ef1dd
go: downloading github.com/modern-go/reflect2 v1.0.2
go: downloading github.com/logrusorgru/aurora v2.0.3+incompatible
go: downloading github.com/projectdiscovery/ratelimit v0.0.81
```

```
export PATH=$PATH:$(go env GOPATH)/bin
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ export PATH=$PATH:$(go env GOPATH)/bin

┌──(osint-venv)─(kali㉿kali)-[~]
```

Instalar dnsx (validación)

```
go install -v github.com/projectdiscovery/dnsx/cmd/dnsx@latest
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ go install -v github.com/projectdiscovery/dnsx/cmd/dnsx@latest
go: downloading github.com/projectdiscovery/gologger v1.1.42
go: downloading github.com/miekg/dns v1.1.56
go: downloading github.com/projectdiscovery/asnmap v1.1.1
go: downloading github.com/projectdiscovery/clistats v0.1.1
go: downloading github.com/projectdiscovery/goconfig v0.0.1
go: downloading github.com/projectdiscovery/goflags v0.1.65
go: downloading github.com/projectdiscovery/hmap v0.0.77
go: downloading github.com/projectdiscovery/mapcidr v1.1.34
go: downloading github.com/projectdiscovery/ratelimit v0.0.69
go: downloading github.com/projectdiscovery/retryabledns v1.0.94
go: downloading github.com/projectdiscovery/utils v0.4.7
go: downloading golang.org/x/net v0.33.0
go: downloading github.com/projectdiscovery/cdncheck v1.1.0
go: downloading github.com/projectdiscovery/freeport v0.0.7
go: downloading golang.org/x/exp v0.0.0-20230420155640-133eef4313cb
go: downloading golang.org/x/sys v0.28.0
go: downloading gopkg.in/ini.v1 v1.67.0
go: downloading github.com/projectdiscovery/retryablehttp-go v1.0.97
go: downloading golang.org/x/term v0.27.0
```

3. Guía paso a paso: Enumeración con Amass

1 - Enumeración pasiva

```
amass enum -passive -d tesla.com
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ amass enum -passive -d tesla.com
tesla.com (FQDN) --> mx_record --> tesla-com.mail.protection.outlook.com (FQDN)
mobile.tesla.com (FQDN) --> cname_record --> mobile.tesla.com.edgekey.net (FQDN)
cx.tesla.com (FQDN) --> cname_record --> cx.tesla.com.edgekey.net (FQDN)
origin-auth.tesla.com (FQDN) --> cname_record --> clsiamp.tesla.com.akadns.net (FQDN)
akamai-apigateway-stg-shipmentplanningapi.tesla.com (FQDN) --> cname_record --> akamai-apigateway-stg-shipmentplanningapi.tes
la.com.edgekey.net (FQDN)
view.email.tesla.com (FQDN) --> cname_record --> view.virt.s7.exacttarget.com (FQDN)
origin-assets-contactus.tesla.com (FQDN) --> cname_record --> origin-assets-contactus.tesla.com.edgekey.net (FQDN)
accounts.tesla.com (FQDN) --> cname_record --> accounts.tesla.com.edgekey.net (FQDN)
solarbonds.tesla.com (FQDN) --> cname_record --> solarbonds.tesla.com.edgekey.net (FQDN)
static-assets-pay.tesla.com (FQDN) --> cname_record --> static-assets-pay.tesla.com-v1.edgekey.net (FQDN)
mobile.tesla.com.edgekey.net (FQDN) --> cname_record --> e1792.dscx.akamaiedge.net (FQDN)
origin-assets-contactus.tesla.com.edgekey.net (FQDN) --> cname_record --> e1792.dscx.akamaiedge.net (FQDN)
static-assets-pay.tesla.com-v1.edgekey.net (FQDN) --> cname_record --> e1792.dscx.akamaiedge.net (FQDN)
link.tesla.com (FQDN) --> cname_record --> link.tesla.com.edgekey.net (FQDN)
akamai-apigateway-captiveunderwriting.tesla.com (FQDN) --> cname_record --> akamai-apigateway-captiveunderwriting.tesla.com.e
dgekey.net (FQDN)
static-assets-profile-settings.tesla.com (FQDN) --> cname_record --> external-na-pop1.edgekey.net (FQDN)
pub.email.tesla.com (FQDN) --> cname_record --> pub.s7.exacttarget.com (FQDN)
forums.tesla.com (FQDN) --> cname_record --> site-6030136.onvanilla.net (FQDN)
errlog.tesla.com (FQDN) --> cname_record --> errlog.tesla.com.edgekey.net (FQDN)
proteus-api.eng.usw2.vn.cloud.tesla.com (FQDN) --> cname_record --> dpupr-eng.usw2.vn.cloud.tesla.com (FQDN)
fleet-api.prd.eu.vn.cloud.tesla.com (FQDN) --> cname_record --> epuca-prd.euw1.vn.cloud.tesla.com (FQDN)
```

2 - Modo activo con brute forcing

```
amass enum -brute -d tesla.com
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ amass enum -brute -d tesla.com

tesla.com (FQDN) --> mx_record --> tesla-com.mail.protection.outlook.com (FQDN)
tesla.com (FQDN) --> ns_record --> a1-12.akam.net (FQDN)
tesla.com (FQDN) --> ns_record --> edns69.ultradns.com (FQDN)
tesla.com (FQDN) --> ns_record --> a9-67.akam.net (FQDN)
tesla.com (FQDN) --> ns_record --> a12-64.akam.net (FQDN)
tesla.com (FQDN) --> ns_record --> a7-66.akam.net (FQDN)
tesla.com (FQDN) --> ns_record --> a10-67.akam.net (FQDN)
tesla.com (FQDN) --> ns_record --> a28-65.akam.net (FQDN)
akamai-apigateway-stg-shipmentplanningapi.tesla.com (FQDN) --> cname_record --> akamai-apigateway-stg-shipmentplanningapi.tes
la.com.edgekey.net (FQDN)
origin-bolt-forms.tesla.com (FQDN) --> cname_record --> origin-bolt-forms.tesla.com.akadns.net (FQDN)
ir.tesla.com (FQDN) --> cname_record --> ir.tesla.com.edgekey.net (FQDN)
cua-help-me-charge-ui.tesla.com (FQDN) --> cname_record --> cua-help-me-charge-ui.tesla.com.edgekey.net (FQDN)
sso.tesla.com (FQDN) --> cname_record --> tslaso.edgekey.net (FQDN)
```

3 - Salida a archivo

```
amass enum -d tesla.com -o subdomains.txt
cat subdomains.txt
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ cat subdomains.txt
tesla.com (FQDN) ⟶ mx_record ⟶ tesla-com.mail.protection.outlook.com (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a1-12.akam.net (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ edns69.ultradns.com (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a9-67.akam.net (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a12-64.akam.net (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a7-66.akam.net (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a10-67.akam.net (FQDN)
tesla.com (FQDN) ⟶ ns_record ⟶ a28-65.akam.net (FQDN)
mobile.tesla.com (FQDN) ⟶ cname_record ⟶ mobile.tesla.com.edgekey.net (FQDN)
mobile.tesla.com.edgekey.net (FQDN) ⟶ cname_record ⟶ e1792.dscx.akamaiedge.net (FQDN)
origin-assets-contactus.tesla.com (FQDN) ⟶ cname_record ⟶ origin-assets-contactus.tesla.com.edgekey.net (FQDN)
origin-assets-contactus.tesla.com.edgekey.net (FQDN) ⟶ cname_record ⟶ e1792.dscx.akamaiedge.net (FQDN)
```

4. Subfinder

1 - Configurar claves para APIs externas (opcional)

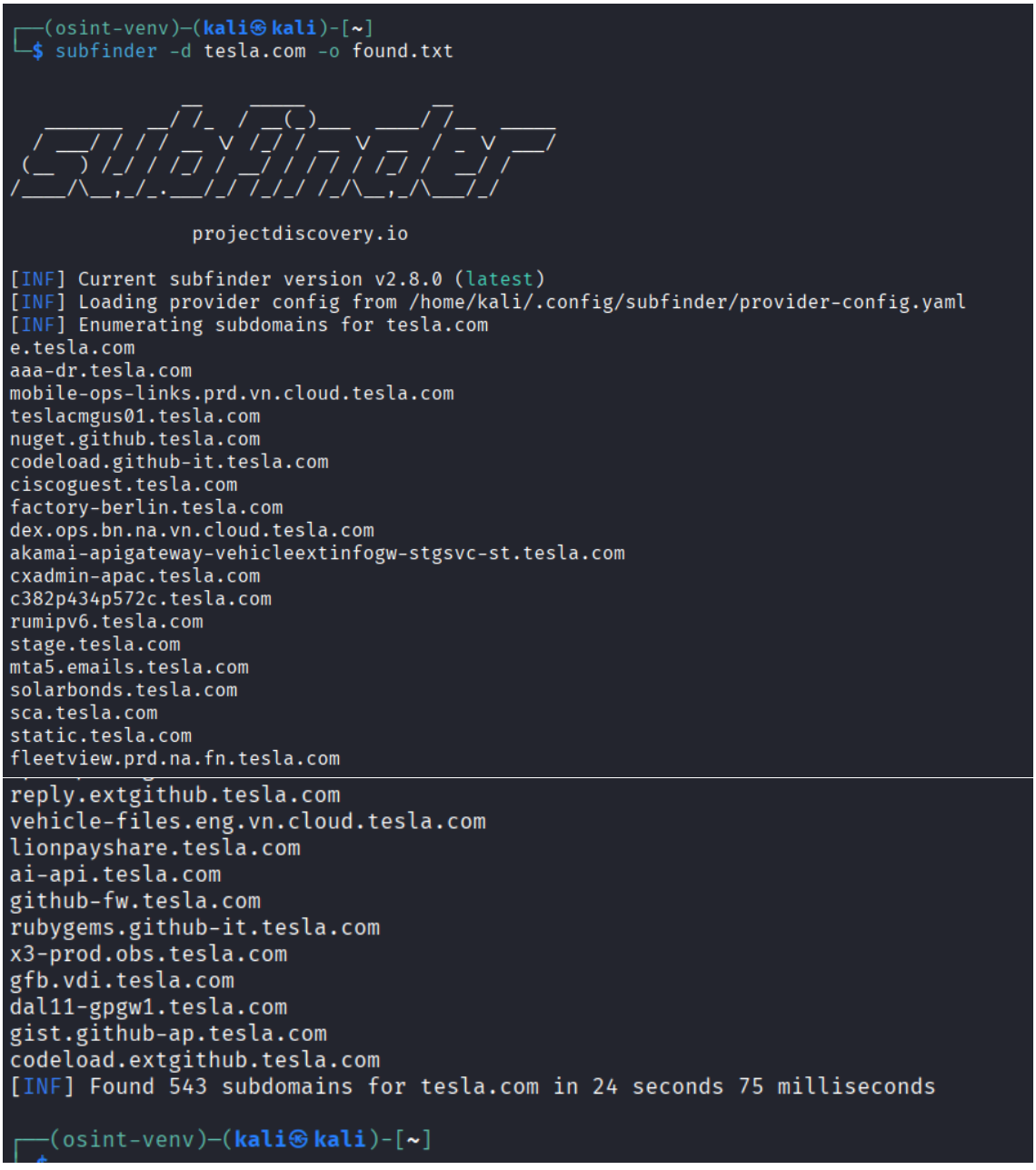
Puedes usar claves para mejorar resultados (Shodan, Censys, etc.), configurando `~/.config/subfinder/provider-config.yaml`.

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ cat /home/kali/.config/subfinder/provider-config.yaml

bevigil: []
bufferover: []
builtwith: []
c99: []
censys: []
certspotter: []
chaos: []
chinaz: []
digitalyama: []
dnsdb: []
dnsdumpster: []
dnsrepo: []
facebook: []
fofa: []
fullhunt: []
github: []
hunter: []
intelx: []
leakix: []
netlas: []
pugrecon: []
quake: []
redhuntlabs: []
robtex: []
rsecloud: []
securitytrails: []
shodan: []
threatbook: []
virustotal: []
whoisxmlapi: []
zoomeyeapi: []
```

2 - Ejecutar subfinder

```
subfinder -d tesla.com -o found.txt
```



Con API de Shodan

```
energy-firmware-stage.tesla.com
stream.tesla.com
akamai-apigateway-roaming-stg.tesla.com
apigateway-hrosappapi.tesla.com
errlog.tesla.com
vpn2.tesla.com
apigateway-vfx-relay.tesla.com
origin-tcc-gw-stg.tesla.com
origin-warpcxml-uat.tesla.com
url4211.tesla.com
tss.tesla.com
akamai-apigateway-stg-warpassetapi.tesla.com
logcollection.tesla.com
[INF] Found 1207 subdomains for tesla.com in 12 seconds 239 milliseconds
```

3 - Validar con dnsx

```
dnsx -l found.txt -silent
```

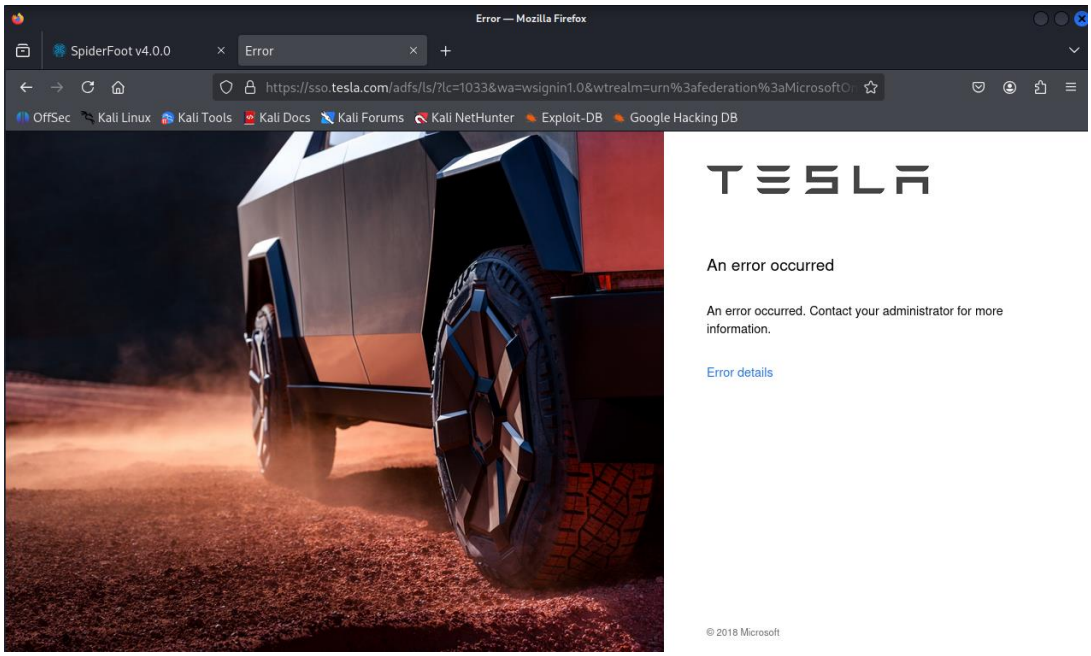
```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ dnsx -l found.txt -silent
akamai-apigateway-deliveryopsvitu.tesla.com
akamai-apigateway-stg-finplateng.tesla.com
akamai-apigateway-bender.tesla.com
akamai-apigateway-deliveryopsapi1.tesla.com
accounts.tesla.com
akamai-apigateway-stg-packaging2.tesla.com
akamai-apigateway-clmapi-uat.tesla.com
akamai-apigateway-deliveryopsapi.tesla.com
akamai-apigateway-stg-inventorytxnextapi.tesla.com
akamai-apigateway-charging-ownership-stage.tesla.com
akamai-apigateway-clmapi.tesla.com
akamai-apigateway-bolt-forms.tesla.com
akamai-apigateway-ehs-stg.de.tesla.com
akamai-apigateway-chargebackapi.tesla.com
akamai-apigateway-automation-billing.tesla.com
advent-gfbb-dev.tesla.com
akamai-apigateway-stg-materials.tesla.com
akamai-apigateway-gallagher-external-api.tesla.com
akamai-apigateway-claims-integration-api.tesla.com
13494342.tesla.com
```

```
view.emails.tesla.com
ul.engage.tesla.com
xmail.tesla.com
www.engage.tesla.com
x3-eng.obs.tesla.com
x3-prod.obs.tesla.com
wdm.kronos.tesla.com
web-api.prd.na.vn.cloud.tesla.com
x3-static.obs.tesla.com
vehicle-files.eng.usw2.vn.cloud.tesla.com
vehicle-files.prd.euw1.vn.cloud.tesla.com
wire.tesla.com

┌──(osint-venv)─(kali㉿kali)-[~]
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ ping xmail.tesla.com
PING xmail.tesla.com (204.74.99.100) 56(84) bytes of data.
64 bytes from crs.ultradns.net (204.74.99.100): icmp_seq=1 ttl=128 time=43.4 ms
64 bytes from crs.ultradns.net (204.74.99.100): icmp_seq=2 ttl=128 time=43.7 ms
64 bytes from crs.ultradns.net (204.74.99.100): icmp_seq=3 ttl=128 time=43.3 ms
64 bytes from crs.ultradns.net (204.74.99.100): icmp_seq=4 ttl=128 time=43.8 ms
^C
── xmail.tesla.com ping statistics ──
4 packets transmitted, 4 received, 0% packet loss, time 3016ms
rtt min/avg/max/mdev = 43.321/43.559/43.816/0.198 ms

┌──(osint-venv)─(kali㉿kali)-[~]
└─$
```



```
dnsx -l found.txt -silent -resp-only -o resolved.txt
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ dnsx -l found.txt -silent -resp-only -o resolved.txt
23.1.248.65
104.83.192.56
2.19.200.56
104.83.192.56
104.83.192.56
104.83.192.56
2.19.200.56
104.83.192.56
23.1.248.65
23.1.248.65
54.216.50.79
18.158.228.216
46.51.200.92
3.79.130.38
2.17.152.69
2.19.200.56
23.50.143.85
2.20.100.70
104.83.192.56
104.83.192.56
23.1.248.65
```

```
go install -v github.com/projectdiscovery/httpx/cmd/httpx@latest
export PATH=$PATH:~/go/bin
/home/kali/go/bin/httpx -l resolved.txt -title -tech-detect -o webservices.txt
```

```
┌──(osint-venv)─(kali㉿kali)-[~]
└─$ /home/kali/go/bin/httpx -l resolved.txt -title -tech-detect -o webservices.txt

    __    __  __       _  __
   / /_  / /_/ /_____ | |/ /
  / __ \/ __/ __/ __ \|   /
 / / / / /_/ /_/ /_/ /   |
/_/ /_/\__/\__/ .___/_/|_|
             /_/

                projectdiscovery.io

[INF] Current httpx version v1.7.1 (latest)
[WRN] UI Dashboard is disabled, Use -dashboard option to enable
https://151.101.130.1 [HSTS]
https://104.121.15.206 [Invalid URL]
https://151.101.194.1 [HSTS]
https://104.83.192.56 [Invalid URL]
https://151.101.66.92 [HSTS]
https://151.101.194.92 [HSTS]
https://151.101.130.92 [HSTS]
https://151.101.2.1 [HSTS]
http://104.107.108.211
https://151.101.66.1 [HSTS]
http://104.107.108.68
https://151.101.2.92 [HSTS]
http://18.154.29.109 [ERROR: The request could not be satisfied] [Amazon CloudFront,Amazon Web Services]
http://18.154.48.20 [ERROR: The request could not be satisfied] [Amazon CloudFront,Amazon Web Services]
http://18.154.29.56 [ERROR: The request could not be satisfied] [Amazon CloudFront,Amazon Web Services]
http://18.154.29.96 [ERROR: The request could not be satisfied] [Amazon CloudFront,Amazon Web Services]
```

Ejemplo de resultado esperado

```
vpn.example-corp.com
mail.example-corp.com
intranet.example-corp.com
adminpanel.example-corp.com
```

Puedes usar un DNS simulado o usar `hosts` para reproducir otro escenario.

5. Actividades de evaluación

Actividad	Detalle
Resultado de Amass/Subfinder	Listado de subdominios con evidencia
Comparación de herramientas	¿Cuál da más resultados y por qué?
Detección de patrones	Subdominios sensibles: admin, dev, test...
Validación manual	Confirmar existencia vía navegador o `dig`