

With this post we are starting a new blog series focused on **bug bounty tips** found on Twitter – the number one social platform for people interested in information security, penetration testing, vulnerability research, bug hunting and ultimately **bug bounties**.

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#### Introduction

There are many security researchers and bug hunters around the world who publish their valuable tips on Twitter, trying to help all of us to find more vulnerabilities and collect bug bounties.

This blog series is meant to capture these bug bounty tips, collect them in one place for the future so that they will never vanish in the seemingly never-ending flow of the Twitterverse.

This is the 1st part and, in each part, we will be publishing 10 or more tips. Here we go...

### 1. Heartbleed vulnerability

By: @imranparray101

Source: link

Here's a useful one-liner to check a list of hostnames for OpenSSL Heartbleed vulnerability:

cat list.txt | while read line ; do echo "QUIT" | openssl s\_client -connect \$line:443
2>&1 | grep 'server extension "heartbeat" (id=15)' || echo \$line: safe; done

```
Malikali:=$ cat list.txt
google.com
facedbook.com
example.com
target.com
target.com
tarlakali:=$
taliakali:=$ cat list.txt | while read line ; do echo "QUIT" | openssl s_client -connect $line
:443 2>61 | grep 'server extension "heartbeat" (id=15)' || echo $line: safe; done
google.com: safe
facedbook.com: safe
example.com: safe
example.com: safe
target.com: safe
target.com: safe
target.com: safe
target.com: safe
```

Note that the <u>Heartbleed</u> (CVE-2014-0160) leads to a leak of server memory content and disclosure of sensitive information.

#### 2. Use grep to extract URLs

By: @imranparray101

Source: link

Here's a handy command to extract URLs from junk / assorted data:

```
cat file | grep -Eo "(http|https)://[a-zA-Z0-9./?=_-]*"*curl \frac{http://host.xx/file.js}{prep -Eo} "(http|https)://[a-zA-Z0-9./?=_-]*"*
```

The grep '-o' parameter will print only the matched parts. This will result in having each URL printed out nicely on a single line one by one:

```
kaliakals:=$ curl https://www.target.com/ | grep -Eo "(http|https)://[a-zA-Z0-9./?=_-]*"*
https://gmpg.org/xfn/11
https://www.target.com/
https://www.target.com/
https://www.target.com/
https://www.target.com/wp-content/uploads/2020/03/target.jpg
https://schema.org
https://schema.org
https://www.target.com/comments/feed/
https://www.target.com/comments/feed/
https://www.target.com/wp-content/themes/astra/assets/js/minified/flexibility.min.js?ver=2.4.5
https://api.w.org/
https://api.w.org/
https://www.target.com/wp-json/
https://www.target.com/wp-includes/wlwmanifest.xml
https://www.target.com/wp-json/oembed/1.0/embed?url=https
https://www.target.com/wp-json/oembed/1.0/embed?url=https
https://www.target.com/wp-json/oembed/1.0/embed?url=https
https://www.target.com/wp-json/oembed/1.0/embed?url=https
https://www.target.com/wp-content/uploads/2020/03/target-150×150.jpg
https://www.target.com/wp-content/uploads/2020/03/target.jpg
https://schema.org/WPHeader
https://schema.org/WPHeader
https://schema.org/WPHeader
```

Super useful for visual analysis and for further processing!

### 3. Extract information from APK

By: <u>@MrR0Y4L3</u> Source: <u>link</u>

Here's a tip to extract interesting (potentially sensitive) information from unpacked APK files (Android App):

```
grep -EHirn
```

"accesskey|admin|aes|api\_key|apikey|checkClientTrusted|crypt|http:|https:|password|pinnin
g|secret|SHA256|SharedPreferences|superuser|token|X509TrustManager|insert into"
APKfolder/

With this one-liner we can identify URLs, API keys, authentication tokens, credentials, certificate pinning code and much more.

Make sure to first unpack the APK file using apktool like this:

```
apktool d app_name.apk
```

## 4. Extract zip file remotely

By @el\_vampinio

Source: link

Did you find a very big zip file accessible on a remote web server and want to inspect its contents, but you don't want to wait for downloading it? No problem..

```
pip install remotezip# list contents of a remote zip fileremotezip -1
"http://site/bigfile.zip"# extract file.txt from a remote zip fileremotezip
"http://site/bigfile.zip" "file.txt"
```

Note that for this to work, the remote web server hosting the zip file has to support the <u>range</u> HTTP header.

#### 5. Top 25 open redirect dorks

By @lutfumertceylan

Source: <u>link</u>

Here are the top 25 dorks to find Open Redirect vulnerabilities (aka. "Unvalidated Redirects and Forwards"):

```
/{payload}
?next={payload}
?target={payload}
?rurl={payload}
?dest={payload}
?destination={payload}
?redir={payload}
?redirect_uri={payload}
?redirect_url={payload}
?redirect={payload}
/redirect/{payload}
/cgi-bin/redirect.cgi?{payload}
/out/{payload}
/out?{payload}
```

Let's remind ourselves that a website is vulnerable to Open Redirect when the URL parameter (payload) is not properly validated on the server-side and causes the user to be redirected to an arbitrary website.

Although this doesn't posses any major imminent threat to the user, this vulnerability makes phishing so much easier.

#### 6. JWT token bypass

By <u>@HackerHumble</u> Source: <u>link1</u>, <u>link2</u>, <u>link3</u>

Here are 3 tips to bypass JWT token authentication.

## Tip #1:

- 1. Capture the JWT.
- 2. Change the algorithm to None.
- 3. Change the content of the claims in the body with whatever you want e.g.: email: attacker@gmail.com
- 4. Send the request with the modified token and check the result.

#### Tip #2:

- 5. Capture the JWT token.
- 6. If the algorithm is RS256 change to HS256 and sign the token with the public key (which you can get by visiting jwks Uri / mostly it will be the public key from the site's https certificate)
- 7. Send the request with the modified token and check the response.

8. You can party with the bounty if the backend doesn't have the algorithm check.

Tip #3: Check for proper server-side session termination (OTG-SESS-006):

- 9. Check if the application is using JWT tokens for authentication.
- 10. If so, login to the application and capture the token. (Mostly web apps stores the token in the local storage of the browser)
- 11. Now logout of the application.
- 12. Now make a request to the privileged endpoint with the token captured earlier.
- 13. Sometimes, the request will be successful as the web apps just delete the token from browser and won't blacklist the tokens in the backend.

## 7. Finding subdomains

By <u>@TobiunddasMoe</u>

Source: link

Here's a quick and basic recon routine for finding subdomains while doing bug bounty:

```
#!/bin/bash# $1 => example.domainamass enum --passive -d $1 -o domains_$1assetfinder --
subs-only $1 | tee -a domains_41subfinder -d $1 -o domains_subfinder_$1cat
domains_subfinder_$1 | tee -a domains_$1sort -u domains_$1 -o domains_$1cat domains_$1 |
filter-resolved | tee -a domains $1.txt
```

In order for this to work, we have to install couple of additional tools, very useful not just for bug bounty hunting:

- <a href="https://github.com/OWASP/Amass">https://github.com/OWASP/Amass</a>
- https://github.com/tomnomnom/assetfinder
- https://github.com/projectdiscovery/subfinder
- https://github.com/tomnomnom/hacks/tree/master/filter-resolved

### 8. Curl + parallel one-liner

By <u>@akita\_zen</u> Source: link

Here's a super useful recon one-liner to quickly validate list of hostnames and subdomains:

```
cat alive-subdomains.txt | parallel -j50 -q curl -w 'Status:%{http_code}\t
Size:%{size_download}\t %{url_effective}\n' -o /dev/null -sk
```

This one-liner will spawn 50 instances of curl in parallel and display the HTTP status code and response size in bytes for each host in a beautiful way:

```
ash-3,2$ cat alive-subdomains.txt | parallel -j50 -q curl -w 'S
t Size:%{size download}\t %{url effective}\n' -o /dev/null -sk
                                                                             'Status:%{http code
                                   http://apps.tesla.com/
                 Size:0
Status:301
                                       http://forums.tesla.com/
Status:301
Status:307
Status:307
Status:301
                                        https://forums.tesla.com/
Status: 403
                                        https://logcollection.tesla.com/
                                        http://logcollection.tesla.com/
Status: 403
Status:301
Status:302
                                        https://errlog.tesla.com/
Status:302
                                        http://energysupport.tesla.com/
http://envoy-partnerleadsharing.tesla.com/
Status:301
```

Make sure to install 'parallel' to your Kali box before running the one-liner:

apt-get -y install parallel

## 9. Simple XSS check

By <u>@TobiunddasMoe</u>

Source: link

Check out this shell script to identify XSS (Cross-Site Scripting) vulnerabilities using a number of open-source tools chained together:

```
#!/bin/bash# $1 => example.domainsubfinder -d $1 -o domains_subfinder_$1amass enum --
passive -d $1 -o domains_$1cat domains_subfinder_$1 | tee -a domain_$1cat domains_$1 |
filter-resolved | tee -a domains_$1.txtcat domains_$1.txt | ~/go/bin/httprobe -p http:81
-p http:8080 -p https:8443 | waybackurls | kxss | tee xss.txt
```

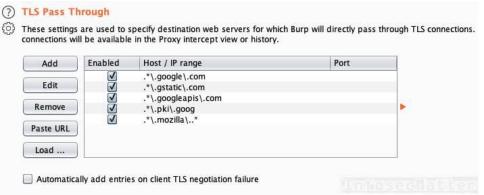
This is another combo which requires having several additional tools installed:

- https://github.com/projectdiscovery/subfinder
- https://github.com/OWASP/Amass
- https://github.com/tomnomnom/hacks/tree/master/filter-resolved
- https://github.com/tomnomnom/httprobe
- https://github.com/tomnomnom/waybackurls
- https://github.com/tomnomnom/hacks/tree/master/kxss

#### 10. Filter out noise in Burp Suite

By <u>@sw33tLie</u> Source: link

While you are testing with Burp Suite, you may want to add these patterns into the Burp Suite > Proxy > Options > TLS Pass Through settings:



.\*\.google\.com.\*\.gstatic\.com.\*\.googleapis\.com.\*\.pki\.goog.\*\.mozilla\..\*

Now all underlying connections to these hosts will go to them directly, without passing through the proxy.

No more noise in our proxy logs!

#### Conclusion

That's it for this part of the bug bounty tips.

Big thanks to all the authors:

- @imranparray101
- @MrR0Y4L3
- @el vampinio
- @lutfumertceylan
- @HackerHumble
- @TobiunddasMoe
- @akita\_zen
- @sw33tLie

Make sure to follow them on Twitter to stay ahead of the bug bounty game. And while you are at it, follow also <a href="mailto:@InfosecMatter">@InfosecMatter</a>, or <a href="mailto:subscribe">subscribe</a> to our mailing list to never miss a new addition.

# **Bug Bounty Tips #2**

2020-06-30



This is another dose of bug bounty tips from the bug hunting community on Twitter, sharing knowledge for all of us to help us find more vulnerabilities and collect bug bounties.

This is the 2nd part and in each part we are publishing 10 or more tips. Here we go..

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# 1. Find subdomains with SecurityTrails API

By <u>@lfrahlman</u> Source: <u>link</u> Want to find some new subdomains for your target? Use this handy one-liner with SecurityTrails API to enumerate:

Note that for this to work, we need a SecurityTrails API key. We can get a free account which comes with 50 API queries per month (at the time of writing of this post). See here for other options.

# 2. Access hidden sign-up pages

By @thibeault\_chenu

Source: <u>link</u>

Sometimes, developers think that hiding a button is enough. Try accessing the following sign-up URIs:

Sign-up URI	CMS platform
/register	Laravel
/user/register	Drupal
/wp-login.php?action=register	WordPress
/register	eZ Publish

Chances are that we will be able to register a new user and access privileged areas of the web application, or at least get a foothold into it.

## 3. Top 5 bug bounty Google dorks

By @JacksonHHax

Source: link

Here are Top 5 Google dorks for identifying interesting and potentially sensitive information about our target:

```
inurl:example.com intitle:"index of"
inurl:example.com intitle:"index of /" "*key.pem"
inurl:example.com ext:log
inurl:example.com intitle:"index of" ext:sql|xls|xml|json|csv
inurl:example.com "MYSQL_ROOT_PASSWORD:" ext:env OR ext:yml -git
```

With these dorks we are looking for open directory listing, log files, private keys, spreadsheets, database files and other interesting data.

Pro tip: While you are at it, have a look also on the <u>Google Hacking Database</u> (on <u>exploit-db.com</u>) to find even more dorks!

### 4. Find hidden pages on Drupal

By @adrien jeanneau

Source: <u>link</u>

If you are hunting on a Drupal website, fuzz with Burp Suite Intruder (or any other similar tool) on '/node/\$' where '\$' is a number (from 1 to 500). For example:

- https://target.com/node/1
- https://target.com/node/2
- https://target.com/node/3
- ..
- https://target.com/node/499
- https://target.com/node/500

Chances are that we will find hidden pages (test, dev) which are not referenced by the search engines.

## 5. Find sensitive information with gf

By @dwisiswant0

Source: link

Find sensitive information disclosure using special gf-secrets patterns collected by @dwisiswant0. Here's how to use them:

```
# Search for testing point with gau and fffgau target -subs | cut -d"?" -f1 | grep -E
"\.js+(?:on|)$" | tee urls.txtsort -u urls.txt | fff -s 200 -o out/
# After we save responses from known URLs, it's time to dig for secretsfor i in `gf -
list`; do [[ ${i} =~ "_secrets"* ]] && gf ${i}; done
```

In order for this combo to work, we have to install following additional tools, very useful not just for bug bounty hunting:

- <a href="https://github.com/lc/gau">https://github.com/lc/gau</a>
- https://github.com/tomnom/fff
- https://github.com/tomnom/gf
- The patterns: https://github.com/dwisiswant0/gf-secrets

## 6. Find Spring Boot servers with Shodan

By <u>@sw33tLie</u> Source: link

Search for the following favicon hash in <u>Shodan</u> to find Spring Boot servers deployed in the target organization:

```
org:YOUR_TARGET http.favicon.hash:116323821
```

Then check for exposed actuators. If /env is available, you can probably achieve RCE. If /heapdump is accessible, you may find private keys and tokens.

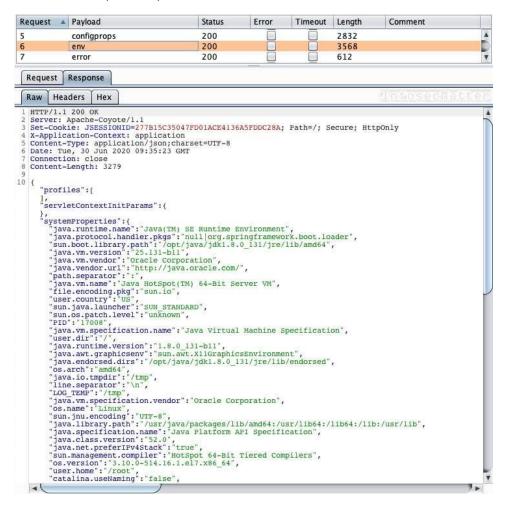
In case you are unfamiliar with Spring Boot technology, do not worry. Here's a quick 101.

<u>Spring Boot</u> is an open source Java-based framework used to build stand-alone spring applications based on the concepts of micro services.

<u>Spring Boot Actuator</u> is a mechanism of interacting with them using a web interface. They are typically mapped to URL such as:

- https://target.com/env
- https://target.com/heapdump
- etc

Here's an example of exposed /env actuator:



Pro tip: Check for all <u>these</u> default built-in actuators. Some of them may be exposed and contain interesting information.

### 7. Forgotten database dumps

By @TobiunddasMoe

Source: <u>link</u>

Here's a quick tip to find forgotten database dumps using this small but quick fuzz list:

```
/back.sql
/backup.sql
/accounts.sql
/backups.sql
/clients.sql
/customers.sql
/data.sql
/database.sql
/database.sqlite
/users.sql
/db.sql
/db.sqlite
/db_backup.sql
/dbase.sql
/dbdump.sqlsetup.sqlsqldump.sql
/dump.sql
/mysql.sql
/sql.sql
/temp.sql
```

Old database dumps may contain all kinds of interesting information – user credentials, configuration settings, secrets and api keys, customer data and more.

## 8. E-mail address payloads

By @securinti (compiled by @intigriti)

Source: <u>link</u>

The following payloads are all valid e-mail addresses that we can use for pentesting of not only web based e-mail systems.

XSS (Cross-Site Scripting):

test+(<script>alert(0)</script>)@example.com

test@example(<script>alert(0)</script>).com

## "<script>alert(0)</script>"@example.com

• Template injection:

"<%= 7 \* 7 <u>%>"@example.com</u>

 $test+(\{\{7*7\}\})@example.com$ 

• SQL injection:

"' OR 1=1 -- '"@example.com

"mail'); DROP TABLE users;--"@example.com

• SSRF (Server-Side Request Forgery):

john.doe@abc123.burpcollaborator.netjohn.doe@[127.0.0.1]

• Parameter pollution:

victim&email=attacker@example.com

(Email) header injection:

"%0d%0aContent-Length:%200%0d%0a%0d%0a"@example.com

"recipient@test.com>\r\nRCPT TO:<victim+"@test.com</pre>

This is pure gold!

#### 9. From employee offers to ID card

By @silentbronco

Source: link

Registering as an Employee leads to claim of Employee Only Private Offers and ultimately getting an "Identification Card".

Here's what @silentbronco did exactly:

- Searched for Target's employee offers on Google: inurl: "Target Name" employee offers
- 2. Found website which provides offers to the **Target**.
- 3. Found that offers were restricted to employees only.
- 4. Tried registering with random numbers in the "Employee ID" field
- 5. Successfully registered as an employee because of no verification of the "Employee ID".
- 6. Registering as an employee leads to claim of private offers.
- 7. The website also provides an "**Identification Card**" which can be used to show that we are a legitimate employee of the **Target**.

Next time when you are struggling with getting a foothold into an organization, try looking for their employee offers like @silentbronco.

# 10. Find RocketMQ consoles with Shodan

By @debangshu\_kundu

Source: link

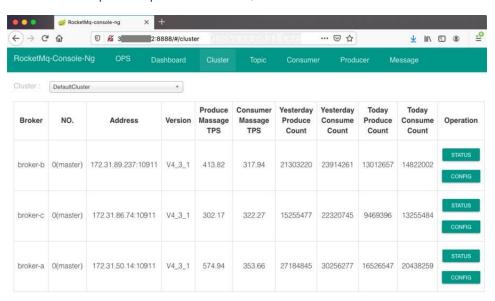
Here's another small <u>Shodan</u> dork, this time to pull up RocketMQ console which often has quite confidential production information disclosed:

org:target.com http.title:rocketmq-console

From the exposed RocketMQ consoles we can for example find out:

- Additional hostnames and subdomains
- Internal IP addresses
- Log file locations
- Version details
- etc.

Here's an example of exposed RocketMQ:



# 11. HTTP Accept header modification

By <u>@jae\_hak99</u> Source: <u>link</u>

Here's a tip to find information disclosure vulnerabilities in some web servers by changing the Accept header:

Accept: application/json, text/javascript, \*/\*; q=0.01

Some vulnerable web servers may reveal server version information, stack and route information.

### Conclusion

That's it for this part of the bug bounty tips.

Big thanks to all the authors:

- @Ifrahlman
- @thibeault chenu
- @JacksonHHax

- @adrien\_jeanneau
- @dwisiswant0
- @sw33tLie
- <u>@TobiunddasMoe</u>
- @securinti
- @intigriti
- @silentbronco
- @debangshu\_kundu
- @jae hak99

Make sure to follow them on Twitter to stay ahead of the bug bounty game. And while you are at it, follow also <a href="mailto:@InfosecMatter">@InfosecMatter</a>, or <a href="mailto:subscribe">subscribe</a> to our mailing list to never miss a new addition.