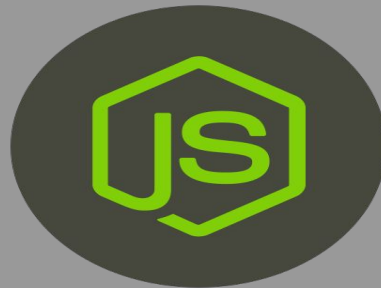




# Javascript

**secretKEY - Endpoints - Subdomains**



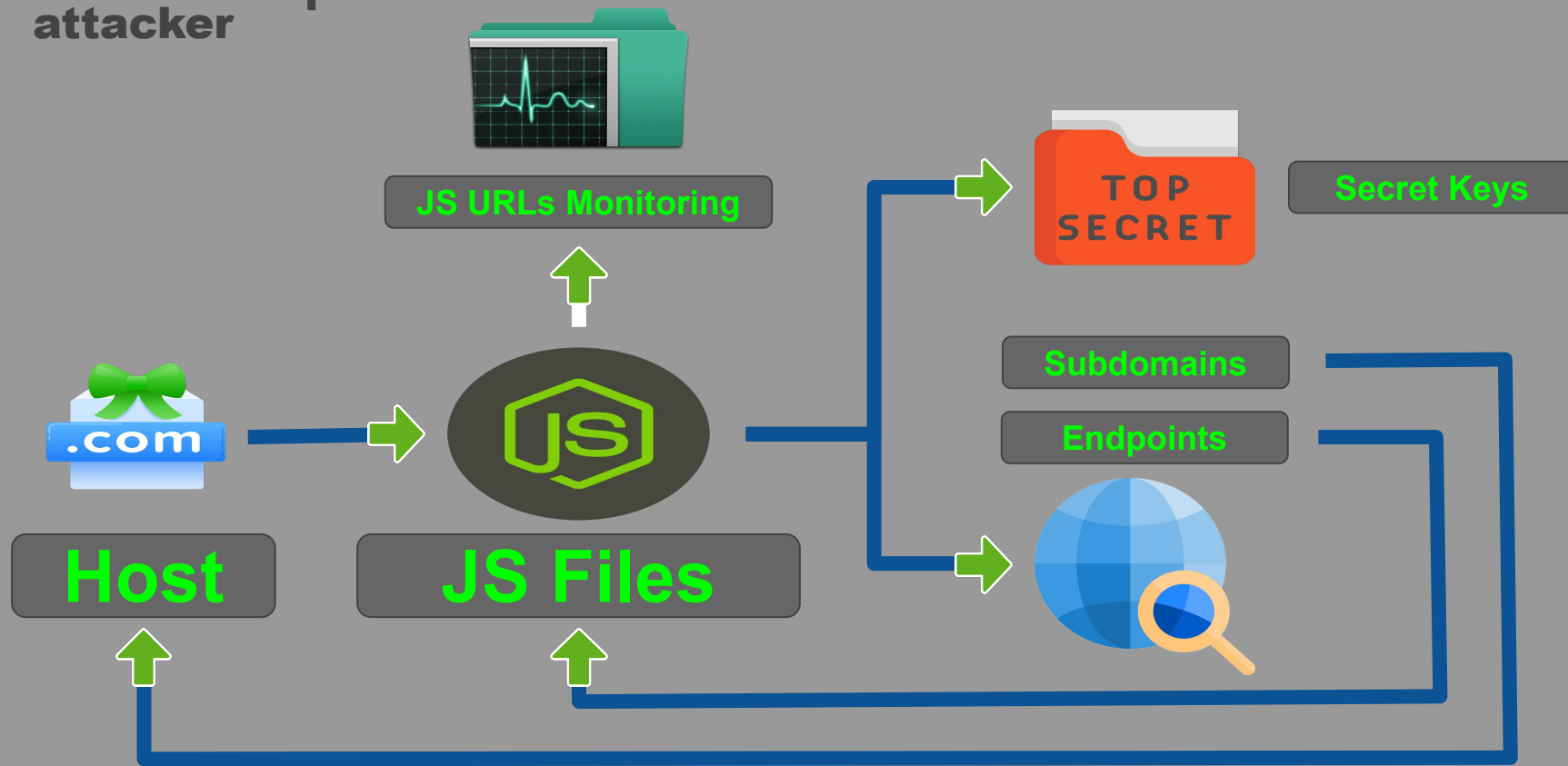
**Mahmoud M. Awali**

 **@0xAwali**



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## Workflow Of Javascript Files





Note

When Parsing JS For Endpoints , Please Keep Your Eyes Open

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```
/      Root Directory
.      This Location
..     Up A Directory
./     Current Directory
../    Parent Of Current Directory
../../ Two Directories Backwards
```



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My Methodology

Try To Extract All The Javascript Files From A Set Of Given Urls  
By Using Tools e.g. **getJS**

```
root@mine:~# ./getJS --complete --header "Auth: token" --input domains.txt --output out.txt
```

" --complete " Complete The URLs e.g. https://www.company.com/api/file.js

" --header "Auth: token" " Custom Request Header

" --input domains.txt " Input File With URLs

" -output output.txt " The File Where To Save The Output



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My Methodology

Try To Extract All The Javascript Files From A Set Of Given Urls  
By Integration Tools e.g. **gau** AND **subJS**

```
root@mine:~#cat domains.txt | gau -subs | subjs -ua "Value-User-Agent-Header" | tee -a out.txt
```

" jau -subs " Fetches URLs From AlienVault's And Wayback Machine Include Subdomains Of Target

" -ua "Value-User-Agent-Header" " Value Of User-Agent Header To Send In Requests

" | tee -a out.txt " Save The Output



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My Methodology

Try To Extract All The Javascript Files From A Set Of Given Urls By Using One-Liner Command e.g. Integration Tools e.g. **gospider** , **httpx** , **subJS** AND **anew**



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Steps to produce :-

1 - Open Your Terminal

2 - Write This Command

```
xargs -l@ -a domains.txt -P10 sh -c 'gospider -a -d 4 -t 3 -c 50 -s  
@ | tr "[]" " " | grep -oE "(^*{[^*]}(\\{^*+\\})^\\{^*+\\})(\\.*)/(/\\.*)" | httpx  
-silent -threads 200 | subjs -c 100 -t 5 | anew subjsUrls'
```



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My Methodology

Try To Extract All The Endpoints From Javascript URL OR File  
By Using Tools e.g. [LinkFinder](#)

```
root@mine:~#cat extractEndpoints.sh
#!/bin/bash
for jsFile in `cat out.txt`
do
    Python3 linkfinder.py -o cli -i $jsFile | tee -a newEndpoints.txt
done
root@mine:~#chmod +x extractEndpoints.sh && ./extractEndpoints.sh
```

" -o cli " Print Output to STDOUT "

" -i urlJS OR out.txt " Input a Javascript URL OR File



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My Methodology

Try To Extract All The Endpoints From Javascript URL OR File  
By Integration Tools e.g. **subJS** AND **JSA**

```
root@mine:~#cat domains.txt | subjs -ua "Value-User-Agent-Header" | python3 jsa.py -e -v
```

" -ua "Value-User-Agent-Header" " Value Of User-Agent To Send In Requests

" -e " Exclude 3rd Party JS Files

" -v " Verbose Mode





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My Methodology

Try To Extract All The Endpoints From Any Domain By Using One-Liner Command e.g. One Of Those **Commands**

•  Tweet

•  Tweet

Steps to produce :-

1 - Open Your Terminal

2 - Write This Command

```
curl -L -k -s https://www.comapny.com | tac | sed "s#\\v#/#g" |  
egrep -o "src[\"']?|s*[:]|s*['\"]?{^\"'}+.|s[^\"']> ]*" | awk -F '/'  
'{if(length($2))print "https://"$2}' | sort -fu | xargs -l '%' sh -c "curl  
-k -s \"%|" | sed \"s/[;|>]/\n/g\" | grep -Po  
\"([\"']*)(https?:)?[/{(]{1,2}[^\"']>  
]{5,})|(\.(get|post|ajax|load)|s\"([\"']*)(https?:)?[/{(]{1,2}[^\"']>  
){5,})\" | awk -F \"[\"']\" '{print $2}' | sort -fu
```



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My Methodology

Try To Extract All The Endpoints From Any Javascript File By Integration Tools e.g. **js-beautify** AND **CyberChef**



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Steps to produce :-

- 1 - Open Your Terminal
- 2 - Write This Command  
`wget https://www.comapny.com/app.js`  
`js-beautify file.js > pretty.js`
- 3 - Copy Content Of pretty.js To CyberChef



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My Methodology

Try To Extract All Subdomains From Any Domain By Using Tools e.g. **subscraper**

```
root@mine:~#python3 subscraper.py -u URL -v -o output.txt
```

" -u URL " URL Of Target e.g. https://www.company.com

" -v " Enables Verbosity

" -o output.txt " File Where To Save Subdomains



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My Methodology

Try To Extract All The Endpoints And Subdomains From Any Domain  
By Using Tools e.g. **JSFinder**

```
root@mine:~#python3 JSFinder.py -u URL -c "COOKIE-Value" -d -ou url.txt -os subdomains.txt
```

" -u URL " URL Of Target e.g. https://www.company.com

" -c "COOKIE-Value" " Value Of Cookie Header To Send In Requests

" -d " Rescan Every URL You Will Find It aka Deep Find

" -ou url.txt " File To Save Paths                      " -os subdomains.txt " File To Save Subdomains



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My Methodology

Try To Scan Javascript URL File To Extract Tokens By Using  
Tools e.g. **SecretFinder**

```
root@mine:~#python3 SecretFinder.py -i out.txt -H 'Header: Value' -o secrets.txt
```

" -i out.txt " Input a Javascript URL From out.txt

" -H 'Header: Value' " Custom Request Header

" -o secrets.txt " Save Output To secrets.txt



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My Methodology

Try To Scan Javascript URL File By Using Tools e.g. **JScanner**

```
root@mine:~#cat out.txt | JScanner --- -o scan.txt -t 10
```

" --- " Input a Javascript URL From STDIN

" -o scan.txt " Save Output To scan.txt

" -t 10 " Number Of Threads



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My Methodology

Try To Analyze Javascript Files From Your Command Line e.g. js-beautify file.js  
> pretty.js && grep -Eo "(http|https)://[a-zA-Z0-9./?=\_-]\*" pretty.js | sort -u



Tweet

Steps to produce :-

1 - Open Your Terminal

2 - Write This Command

```
wget https://www.comapny.com/app.js  
js-beautify file.js > pretty.js  
grep -Eo "(http|https)://[a-zA-Z0-9./?=_-]*" pretty.js |  
sort -u
```



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My Methodology

Try To **Search For Javascript Manually** To Discover **New parameters , Endpoints And Subdomains** OR **References To More API Calls** OR **Get Dev Comments** OR **Tokens**

-  Video
-  Writeup
-  Writeup

Steps to produce :-

- 1 - Browse Your Target e.g. <https://www.company.com>
- 2 - **Click Right , Choose View Page Source**
- 3 - **Press Ctrl Plus F** To Display Search Box
- 4 - **Search For Javascript Files e.g. .js**
- 5 - Search For Certain Keywords e.g.  
**api , internal , url: , token , var = , // , https:// , company.com , parameter** etc





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## Top 15 DOM Base Open URL Parameter



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```
location
location.host
location.hostname
location.href
location.pathname
location.search
location.protocol
location.assign()
location.replace()
open()
domElem.srcdoc
jQuery.ajax()
$.ajax()
XMLHttpRequest.open()
XMLHttpRequest.send()
```



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My Methodology

Try To **Execute Those Functions** That Contains Sensitive Keywords e.g. key , API Key etc **In Your Browser's Console** To See What They Do



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Steps to produce :-

- 1 - Browse Your Target e.g. <https://www.company.com>
- 2 - **Click Right** , **Choose View Page Source**
- 3 - Search For Functions That Contains Certain Keywords e.g. **api** , **internal** , **url:** , **var =** , **//** , **https://** , **company.com** , **parameter** etc
- 4 - **Click Right** , **Choose Inspect Element (Q)**
- 5 - **Click Console** , Write Your Function e.g. **secret()** Then **Press Enter**



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My Methodology

Try To Monitor Specific Javascript URL To **Get Notification On Slack OR Telegram** If There Are Changes By Using Tools e.g. **JSMon**

Steps to produce :-

1 - Open File .bashrc

2 - **Write Those**

```
export JSMON_NOTIFY_SLACK=True
```

```
export JSMON_SLACK_TOKEN=token
```

```
export JSMON_SLACK_CHANNEL_ID=channel
```

3 - Open Your Terminal

2 - Write This Command

```
source .bashrc
```

```
cd path/to/jsmon/tool
```

```
crontab -e && @daily jsmon.sh
```

```
echo "https://www.company.com/file.js" >> targets/company.com
```

```
python3 jsmon.py
```



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## My Methodology

Try To Use **FileChangeMonitor** To Monitor JavaScript Files And Discover Endpoints When They're Added



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### BUG BOUNTY TIP

“Use **FileChangeMonitor** to detect changes in JavaScript files, and get notified when new API endpoints are added.”

[FileChangeMonitor] Update for <https://filechangemonitor.herokuapp.com/testingFile.js>

no-reply@filechangemonitor.io via sendgrid.net  
to me

3:09 PM (4 hours ago)

An update has been detected for <https://filechangemonitor.herokuapp.com/testingFile.js>.

Changes to relative urls:

```
filechangemonitor.io  
/api/v1  
/api/v2  
/api/v3  
/api/v4  
/api/v5  
/api/v6
```



# Thank You

**Mahmoud M. Awali**

 **@0xAwali**