

Comprehensive Cybersecurity Threat Analysis Report

1. Malware Analysis Using VirusTotal

Malware Sample:

c089fc08539fccaa31fc8f355b0e407e46371ca6f9c5feff06827cb99f48a4

Detection Results:

Antivirus Engine	Detection Name
AhuLab-V3	Trojan/Win.PowerShell.C5728745
Arcabit	Trojan.Zmutzy.67
Avast	Win32.MalwareK-gen [Trj]
AVG	Win32.MalwareK-gen [Trj]
BitDefender	Gen.Variant.Zmutzy.67
CTX	Rar.trojan.msil
DeepInstinct	MALICIOUS
ESET-NOD32	Win32/FormBook.AA
Fortinet	MSLI/GenKryptik.GYFZttr
Kaspersky	UDS:Trojan-Spy.MSIL.Noon.gen
Malwarebytes	Trojan.MalPack

Behavioral Indicators:

- Execution:** Uses PowerShell scripts for execution.
- Persistence:** Creates registry entries or scheduled tasks to run at startup.
- Data Exfiltration:** Collects and sends sensitive data to a remote server.

- **Evasion:** Employs obfuscation techniques to avoid detection.

Potential Impact:

- **Data Theft:** Steals sensitive information such as credentials and financial data.
 - **System Compromise:** Allows attackers to gain control over the system.
 - **Financial Loss:** Potential financial losses due to stolen data or ransomware.
 - **Reputation Damage:** Leak of sensitive data can harm an organization's reputation.
-

2. Phishing Template Creation Using Social Engineering Toolkit (SET)

Phishing Template: HTA Attack Method

Steps:

1. **Launch SET:** Open the Social Engineering Toolkit in Parrot OS.
2. **Select Attack Vector:** Choose "Social-Engineering Attacks" from the main menu.
3. **Choose Web Attack:** Select "Website Attack Vectors."
4. **Select HTA Attack:** Choose "HTA Attack Method."
5. **Import Website:** Use the "Custom Import" option to import a phishing website.
6. **Generate Payload:** SET generates a malicious HTA file.
7. **Deploy:** Distribute the HTA file via email or other means to potential victims.

Example:

- **Website Cloned:** Fake login page for a popular service (e.g., Gmail, Office 365).
- **Payload:** Malicious HTA file that executes a PowerShell script to download and execute additional malware.
- **Delivery Method:** Email attachment appearing to be from a trusted source.

Screenshots:

- **SET Interface:** Screenshot of the SET menu showing the HTA attack method selection.
- **Cloned Website:** Screenshot of the fake login page used in the phishing attack.

Phishing Template Output:

- **Captured Credentials:**
 - **Username:** spad@gmail.com

- **Password:** mypassword
 - **Parameters Captured:**
 - GALX=SJLCKfgaqoM
 - continue=https://accounts.google.com/o/oauth2/auth?zt=ChRsWFBw d2JmV1hICDh
 - service=lso
 - dsh=-7381887106725792428
 - utf8=a
 - bgresponse=js_disabled
 - pstMsg=1
 - drConn=
 - checkConnection=
 - checkedDomains=youtube
 - signIn=Sign+in
 - PersistentCookie=yes
-

3. Mapping a Real APT Campaign to MITRE ATT&CK Framework

APT Campaign: FormBook Malware

MITRE ATT&CK Mapping:

Technique ID	Technique Name	Description
T1566.001	Phishing - Spear Phishing Attachment	Attackers send emails with malicious attachments to gain initial access.
T1059.001	Command and Scripting Interpreter - PowerShell	The malware uses PowerShell scripts for execution.
T1547.001	Boot or Logon Autostart Execution - Registry Run Keys / Startup Folder	The malware creates registry entries to ensure it runs at startup.

T1027	Obfuscated Files or Information	The malware uses obfuscation to evade detection.
T1003	Credential Dumping	The malware extracts credentials from the system.
T1041	Exfiltration Over C2 Channel	The malware sends stolen data to a remote server.

Campaign Overview:

- **Target:** Primarily Windows users, often targeting organizations with valuable data.
- **Techniques:** Utilizes phishing emails with malicious attachments, PowerShell for execution, and registry modifications for persistence.
- **Impact:** Significant data theft and potential system compromise, leading to financial and reputational damage.

Mon Feb 10, 21:51

VirusTotal - Home | MalwareBazaar | Download

Import bookmarks... Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

URL, IP address, domain or file hash

VIRUSTOTAL

Analyse suspicious files, domains, IPs and URLs to detect malware and other breaches, automatically share them with the security community.

FILE URL SEARCH

Choose file

By submitting data above, you are agreeing to our Terms of Service and Privacy Notice, and to the sharing of your sample submission with the security community. Please do not submit any personal information; we are not

Menu VirusTotal - Home — ParrotTerminal Progress

Mon Feb 10, 22:31

VirusTotal - File - c089f6... | MalwareBazaar | Download

Import bookmarks... Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

URL, IP address, domain or file hash

AhnLab-V3	! Trojan/Win.PowerShell.C5728745	AliCloud	! Trojan[spy]!Win/Noon.gyf
Arcabit	! Trojan.Zmutzy.67	Avast	! Win32:MalwareX-gen [Trj]
AVG	! Win32:MalwareX-gen [Trj]	BitDefender	! Gen:Variant.Zmutzy.67
CTX	! Rar!trojan.msi!	DeepInstinct	! MALICIOUS
Emsisoft	! Gen:Variant.Zmutzy.67 (B)	eScan	! Gen:Variant.Zmutzy.67
ESET-NOD32	! Win32/Formbook.AA	Fortinet	! MSIL/GenKryptik.GYZlitr
GData	! MSIL.Malware.Injector.D1WRAE	Gridinsoft (no cloud)	! Ransom.Win32.Wacatac.sa
Huorong	! HEUR:TrojanSpy/MSIL.AgentTesla.sl	Ikarus	! Trojan.MSIL.Inject
K7AntiVirus	! Riskware (00584baa1)	K7GW	! Riskware (00584baa1)
Kaspersky	! UDS:Trojan-Spy.MSIL.Noon.gen	Lionic	! Trojan.ZIP.Noon.ltc
Malwarebytes	! Trojan.MalPack	MaxSecure	! Trojan.Malware.300983.susgen
QuickHeal	! Trojan.Ghanarava.17391626225cf828	Sangfor Engine Zero	! Suspicious.Win32.Save.a

Menu VirusTotal - File - c08... ParrotTerminal Progress

Applications Places System VirusTotal - File - c089f608639fcc31fc8f355b0e407e46371ca6f9c5fef106827cb99f48a4 MalwareBazaar | Download + Mon Feb 10, 22:31

Import bookmarks... Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

URL, IP address, domain or file hash Sign in Sign up

33/62 security vendors flagged this file as malicious

c089f608639fcc31fc8f355b0e407e46371ca6f9c5fef106827cb99f48a4 Size 689.18 KB Last Analysis Date 7 hours ago RAR

Detection Details Relations Associations Behavior Community 1

Join our Community and enjoy additional community insights and crowdsourced detections, plus an API key to automate checks.

Popular threat label trojan.msil.zmutzy Threat categories trojan pua Family labels msil zmutzy noon

Security vendors' analysis

Vendor	Signature	Vendor	Signature
AhnLab-V3	Trojan/Win.PowerShell.C5728745	AliCloud	Trojan[spy]!Win/Noon.gyf
Arcabit	Trojan.Zmutzy.67	Avast	Win32:MalwareX-gen [Trj]

Do you want to automate checks?

Menu VirusTotal - File - c089f608639fcc31fc8f355b0e407e46371ca6f9c5fef106827cb99f48a4 Parrot Terminal Progress

Applications Places System VirusTotal - File - c089f608639fcc31fc8f355b0e407e46371ca6f9c5fef106827cb99f48a4 MalwareBazaar | Download + Mon Feb 10, 22:31

Import bookmarks... Parrot OS Hack The Box OSINT Services Vuln DB Privacy and Security Learning Resources

URL, IP address, domain or file hash Sign in Sign up

Vendor	Signature	Vendor	Signature
Varist	W32/MSIL_Agent.JDM.gen Eldorado	VBA32	TrojanLoader.MSIL.DaVinci.Heur
VIPRE	Gen:Variant.Zmutzy.67	Acronis (Static ML)	Undetected
ALYac	Undetected	Anti-AVL	Undetected
Avira (no cloud)	Undetected	Baidu	Undetected
Bkav Pro	Undetected	ClamAV	Undetected
CMC	Undetected	CrowdStrike Falcon	Undetected
Cynet	Undetected	DrWeb	Undetected
Jiangmin	Undetected	Kingsoft	Undetected
Microsoft	Undetected	NANO-Antivirus	Undetected
Panda	Undetected	Rising	Undetected
SUPERAntiSpyware	Undetected	TACHYON	Undetected
Tencent	Undetected	TrendMicro	Undetected

Menu VirusTotal - File - c089f608639fcc31fc8f355b0e407e46371ca6f9c5fef106827cb99f48a4 Parrot Terminal Progress

Engine	Detection Status	Engine	Detection Status
CMC	Undetected	CrowdStrike Falcon	Undetected
Cynet	Undetected	DrWeb	Undetected
Jiangmin	Undetected	Kingssoft	Undetected
Microsoft	Undetected	NANO-Antivirus	Undetected
Panda	Undetected	Rising	Undetected
SUPERAntiSpyware	Undetected	TACHYON	Undetected
Tencent	Undetected	TrendMicro	Undetected
TrendMicro-HouseCall	Undetected	ViRobot	Undetected
Webroot	Undetected	WithSecure	Undetected
Xcitium	Undetected	Yandex	Undetected
Zillya	Undetected	Zoner	Undetected
Alibaba	Unable to process file type	Avast-Mobile	Unable to process file type

```
File Edit View Search Terminal Help
pen-source application.

Feel free to modify, use, change, market, do whatever you want with it as long as you give the appropriate credit where credit is due (which means giving the authors the credit they deserve for writing it).

Also note that by using this software, if you ever see the creator of SET in a bar, you should (optional) give him a hug and should (optional) buy him a beer (or bourbon - hopefully bourbon). Author has the option to refuse the hug (most likely will never happen) or the beer or bourbon (also most likely will never happen). Also by using this tool (these are all optional of course!), you should try to make this industry better, try to stay positive, try to help others, try to learn from one another, try stay out of drama, try offer free hugs when possible (and make sure recipient agrees to mutual hug), and try to do everything you can to be awesome.

The Social-Engineer Toolkit is designed purely for good and not evil. If you are planning on using this tool for malicious purposes that are not authorized by the company you are performing assessments for, you are violating the terms of service and license of this toolset. By hitting yes (only one time), you agree to the terms of service and that you will only use this tool for lawful purposes only.

Do you agree to the terms of service [y/n]:
```

Applications Places System  Wed Feb 12, 21:25

Parrot Terminal

```
$ifconfig
bash: ifconfig: command not found
[x]-[user@parrot]-[~]
$sudo ifconfig
The Social-Engineer Toolkit is a product of TrustedSec.
enp0s1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
      inet 10.138.16.239  netmask 255.255.255.0  broadcast 10.138.16.255
        ether c6:40:d5:ff:3f:6f  txqueuelen 1000  (Local Loop)
          RX packets 36615  bytes 24528554  (23.3 MiB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 5924  bytes 599881  (585.8 KiB)
          TX errors 0  dropped 0  overruns 0  unable to check for new version of SET (is your network up?)

password.txt
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 16 Select from the menu:
      inet 127.0.0.1  netmask 255.0.0.0
        ether 00:00:00:00:00:00  txqueuelen 1000  (Local Loop)
          RX packets 1517  bytes 203414  (198.3 KiB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 1517  bytes 203414  (198.3 KiB)
          TX errors 0  dropped 0  overruns 0  unable to check for new version of SET (is your network up?)

[x]-[user@parrot]-[~]
99) Exit the Social-Engineer Toolkit
$
```

set> 1

Applications Places System  Wed Feb 12, 21:25

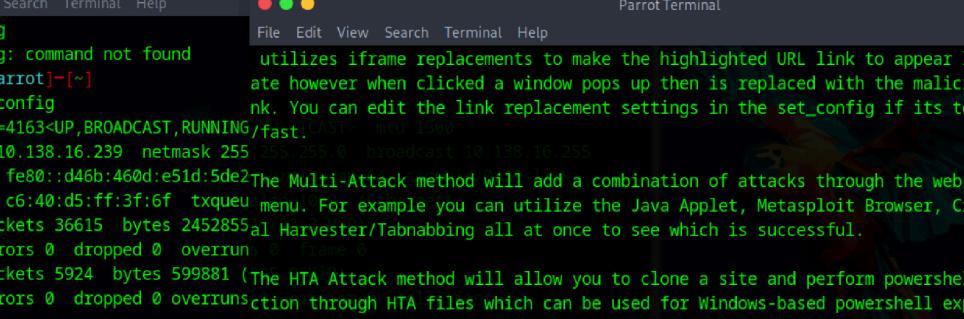
Parrot Terminal

```
$ifconfig
bash: ifconfig: command not found
[x]-[user@parrot]-[~]
$sudo ifconfig
The Social-Engineer Toolkit is a product of TrustedSec.
enp0s1: flags=4163<UP,BROADCAST,RUNNING>  mtu 1500
      inet 10.138.16.239  netmask 255.255.255.0  broadcast 10.138.16.255
        ether c6:40:d5:ff:3f:6f  txqueuelen 1000  (Local Loop)
          RX packets 36615  bytes 24528554  (23.3 MiB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 5924  bytes 599881  (585.8 KiB)
          TX errors 0  dropped 0  overruns 0  unable to check for new version of SET (is your network up?)

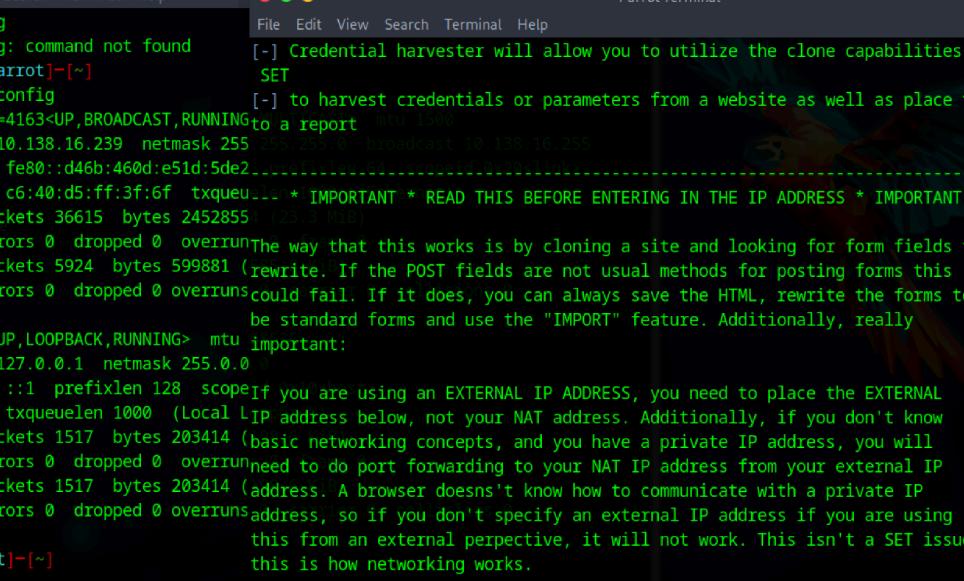
password.txt
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65535 Select from the menu:
      inet 127.0.0.1  netmask 255.0.0.0
        ether 00:00:00:00:00:00  txqueuelen 1000  (Local Loop)
          RX packets 1517  bytes 203414  (198.3 KiB)
          RX errors 0  dropped 0  overruns 0  frame 0
          TX packets 1517  bytes 203414  (198.3 KiB)
          TX errors 0  dropped 0  overruns 0  unable to check for new version of SET (is your network up?)

[x]-[user@parrot]-[~]
99) Return back to the main menu.
$
```

set>



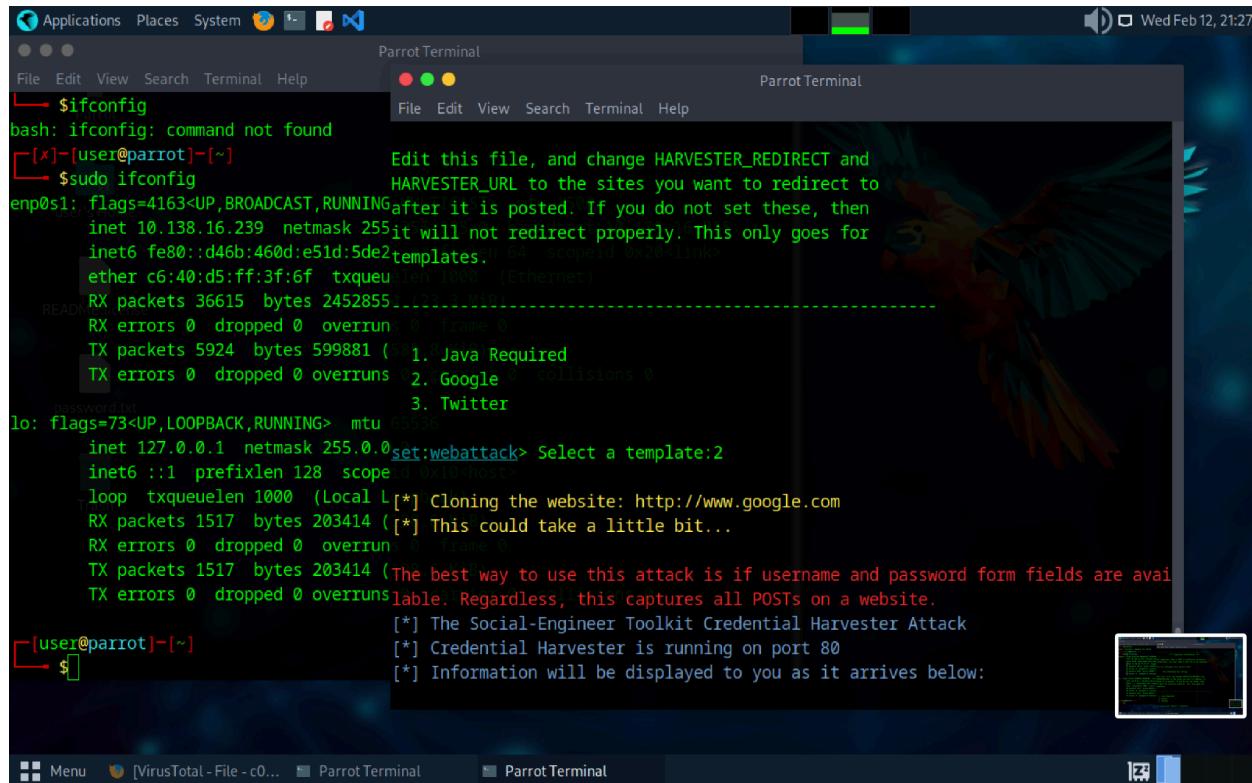
```
$ifconfig
bash: ifconfig: command not found
[x]-[user@parrot]-[~]
$ sudo ifconfig
utilizes iframe replacements to make the highlighted URL link to appear legitimate however when clicked a window pops up then is replaced with the malicious link. You can edit the link replacement settings in the set_config if its too slow
enp0s1: flags=4163<UP,BROADCAST,RUNNING> mtu 1500
    inet 10.138.16.239 netmask 255.255.255.0 broadcast 10.138.16.255
        ether fe80::d46b:460d:e51d:5de2 txqueuelen 1000 (Local Loopback)
        RX packets 36615 bytes 2452855
        RX errors 0 dropped 0 overruns 0
        TX packets 5924 bytes 599881
        TX errors 0 dropped 0 overruns 0
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65535
    inet 127.0.0.1 netmask 255.0.0.0
        ether 00:00:00:00:00:00 txqueuelen 1000 (Local Loopback)
        RX packets 1517 bytes 203414
        RX errors 0 dropped 0 overruns 0
        TX packets 1517 bytes 203414
        TX errors 0 dropped 0 overruns 0
[99] Return to Main Menu
```



```
Applications Places System ↗ ↘ Parrot Terminal
File Edit View Search Terminal Help
$ ifconfig
bash: ifconfig: command not found
[x]-[user@parrot]-[~]
$ sudo ifconfig
enp0s1: flags=4163<UP,BROADCAST,RUNNING>  mtu 1500
    inet 10.138.16.239  netmask 255.255.255.0  broadcast 10.138.16.255
        inet6 fe80::d46b:460d:5e1d:5de2  brd ff02::1  scopeid 0x0<br/>
            ether c6:40:d5:ff:3f:6f  txqueuelen 1000  RX packets 36615  bytes 24528554 (23.3 MiB)<br/>
            RX errors 0  dropped 0  overrun 0  TX packets 5924  bytes 599881 (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:<br/>
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 1500
    inet 127.0.0.1  netmask 255.0.0
        inet6 ::1  prefixlen 128  scopeIf you are using an EXTERNAL IP ADDRESS, you need to place the EXTERNAL loop txqueuelen 1000  (Local IP address below, not your NAT address. Additionally, if you don't know RX packets 1517  bytes 203414 (basic networking concepts, and you have a private IP address, you will TX errors 0  dropped 0  overrunneed to do port forwarding to your NAT IP address from your external IP TX packets 1517  bytes 203414 (address! A browser doesn't know how to communicate with a private IP TX errors 0  dropped 0  overrunso 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.
[x]-[user@parrot]-[~]
$ Parrot Terminal
File Edit View Search Terminal Help
[-] 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 in to a report  mtu 1500
        inet 10.138.16.239  netmask 255.255.255.0  broadcast 10.138.16.255
            inet6 fe80::d46b:460d:5e1d:5de2  brd ff02::1  scopeid 0x0<br/>
                ether c6:40:d5:ff:3f:6f  txqueuelen 1000  RX packets 36615  bytes 24528554 (23.3 MiB)<br/>
                RX errors 0  dropped 0  overrun 0  TX packets 5924  bytes 599881 (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:<br/>
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 1500
        inet 127.0.0.1  netmask 255.0.0
            inet6 ::1  prefixlen 128  scopeIf you are using an EXTERNAL IP ADDRESS, you need to place the EXTERNAL loop txqueuelen 1000  (Local IP address below, not your NAT address. Additionally, if you don't know RX packets 1517  bytes 203414 (basic networking concepts, and you have a private IP address, you will TX errors 0  dropped 0  overrunneed to do port forwarding to your NAT IP address from your external IP TX packets 1517  bytes 203414 (address! A browser doesn't know how to communicate with a private IP TX errors 0  dropped 0  overrunso 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.
[x]-[user@parrot]-[~]
$ Enter the IP address for POST back in Harvester/Tabnabbing: 10.138.16.239
```

The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal window title is 'Parrot Terminal'. The terminal content shows a user attempting to run 'ifconfig' and then using 'sudo ifconfig' to view network interface details. The user then runs 'set:webattack' and selects a template. The desktop background features a large image of a parrot.

```
$ ifconfig
bash: ifconfig: command not found
[x]-[user@parrot]-[~]
$ sudo ifconfig
----- **** Important Information ****
enp0s1: flags=4163<UP,BROADCAST,RUNNING MULTICAST  mtu 1500
    inet 10.138.16.239 netmask 255.255.255.0 brd 10.138.16.255
        ether c6:40:d5:ff:3f:6f txqueuelen 1000 (Ethernet)
        RX packets 36615 bytes 2452855
        RX errors 0 dropped 0 overruns 0 frame 0
        TX packets 5924 bytes 599881 (585.8 /etc/setoolkit/set.config
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
lo: flags=73<UP,LOOPBACK,RUNNING  mtu HARVESTER_URL to the sites you want to redirect to
    inet 127.0.0.1 netmask 255.0.0.0 after it is posted. If you do not set these, then
    inet6 ::1 prefixlen 128 scopeid 0x1 loop txqueuelen 1000 (Local L
        loop txqueuelen 1000 (Local L
        RX packets 1517 bytes 203414 (198.6 KIB)
        RX errors 0 dropped 0 overruns 0
        TX packets 1517 bytes 203414 (198.6 KIB)
        TX errors 0 dropped 0 overruns 0 collisions 0
1. Java Required
2. Google
3. Twitter
set:webattack> Select a template:
```



```
READY [user@parrot] ~$ ifconfig
bash: ifconfig: command not found
[x]-[user@parrot] ~$ sudo ifconfig
Edit this file, and change HARVESTER_REDIRECT and
HARVESTER_URL to the sites you want to redirect to
enp0s1: flags=4163<UP,BROADCAST,RUNNING
inet 10.138.16.239 netmask 255.255.255.0 brd 10.138.16.255
      inet6 fe80::fe80:1ff:fe:239%enp0s1 brd fe80::ff:fe:239
      ether c6:40:d5:ff:3f:6f txqueuelen 1000 (Ethernet)
      RX packets 36615 bytes 24528551 (23.3 MiB)
      RX errors 0 dropped 0 overruns 0 frame 0
      TX packets 5924 bytes 599881 (5.8 KiB)
      TX errors 0 dropped 0 overruns 0 collisions 0
password.txt
lo: flags=73<UP,LOOPBACK,RUNNING mtu 65536
      inet 127.0.0.1 netmask 255.0.0.0
      RX packets 1517 bytes 203414 ([*] Cloning the website: http://www.google.com
      RX errors 0 dropped 0 overruns 0 frame 0
      TX packets 1517 bytes 203414 ([*] This could take a little bit...
      TX errors 0 dropped 0 overruns 0 frame 0
      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:
[x]-[user@parrot] ~$
```

