

## RECON-NG

Project Objective: Learn how to find WHOIS information on a target domain-name with Recon-ng.

Recon-ng is a free web based open-source reconnaissance tool(OSINT). WHOIS information consist of location, registration and expire dates, contact information(email, phone numbers,etc) about the domain. The purpose of this Lab project is to use recon-ng to automate the discovery of this information.

Project Tool: Kali Linux(Recon-ng, WHOIS)

Recon-ng

[illegible]

## Git clone (Recon-ng). Installing Recon-ng

The screenshot shows a Kali Linux terminal window with the following commands and output:

```

(joyce@joyce)-[~/Desktop]
$ git clone https://github.com/lanmaster53/recon-ng.git
Cloning into 'recon-ng'...
remote: Enumerating objects: 9541, done.
remote: Counting objects: 100% (38/38), done.
remote: Compressing objects: 100% (30/30), done.
remote: Total 9541 (delta 11), reused 27 (delta 8), pack-reused 9503 (from 1)
Receiving objects: 100% (9541/9541), 3.08 MiB | 892.00 KiB/s, done.
Resolving deltas: 100% (4966/4966), done.

(joyce@joyce)-[~/Desktop]
$ cd recon-ng

(joyce@joyce)-[~/Desktop/recon-ng]
$ pip3 install -r REQUIREMENTS

```

The terminal window has a dark theme with a dragon logo in the background. The top of the window shows the title bar "Kali Linux 24.2 [Running] - Oracle VirtualBox" and the menu bar "File Machine View Input Devices Help". The bottom of the window shows the taskbar with various application icons and the system clock "8:05 AM 10/31/2024".

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

joyce@joyce: ~/Desktop/recon-ng

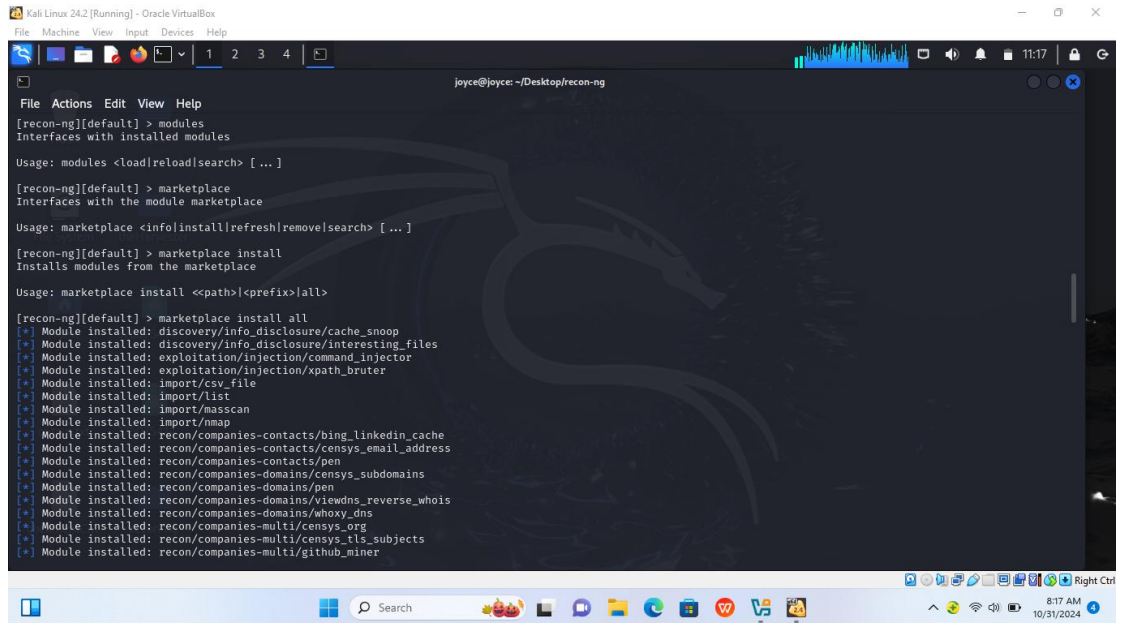
File Actions Edit View Help
[+] joyce@joyce: ~/Desktop/recon-ng
[+] pip3 install -r REQUIREMENTS
Defaulting to user installation because normal site-packages is not writeable
Requirement already satisfied: pyyaml in /home/joyce/.local/lib/python3.11/site-packages (from -r REQUIREMENTS (line 2)) (6.0.2)
Requirement already satisfied: dnspython in /home/joyce/.local/lib/python3.11/site-packages (from -r REQUIREMENTS (line 3)) (2.7.0)
Requirement already satisfied: lxml in /home/joyce/.local/lib/python3.11/site-packages (from -r REQUIREMENTS (line 4)) (5.3.0)
Requirement already satisfied: mechanize in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 5)) (0.4.10)
Requirement already satisfied: requests in /home/joyce/.local/lib/python3.11/site-packages (from -r REQUIREMENTS (line 6)) (2.32.3)
Requirement already satisfied: flask in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 8)) (3.0.3)
Requirement already satisfied: flask-restful in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 9)) (0.3.10)
Requirement already satisfied: flasgger in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 10)) (0.9.7.2.dev2)
Requirement already satisfied: dicttoxml in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 11)) (1.7.16)
Requirement already satisfied: Mxswriter in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 12)) (3.1.9)
Collecting unicodcsv (from -r REQUIREMENTS (line 13))
  Downloading unicodcsv-0.14.1.tar.gz (10 kB)
  Preparing metadata (setup.py) ... done
Requirement already satisfied: rq in /usr/lib/python3/dist-packages (from -r REQUIREMENTS (line 14)) (1.16.2)
Requirement already satisfied: charset-normalizer<4, >=2.5 in /usr/lib/python3/dist-packages (from requests->r REQUIREMENTS (line 6)) (3.3.2)
Requirement already satisfied: idna<4, >=2.5 in /usr/lib/python3/dist-packages (from requests->r REQUIREMENTS (line 6)) (3.6)
Requirement already satisfied: urllib3<3, >=1.21.1 in /usr/lib/python3/dist-packages (from requests->r REQUIREMENTS (line 6)) (2.0.7)
Requirement already satisfied: certifi>2017.4.17 in /home/joyce/.local/lib/python3.11/site-packages (from requests->r REQUIREMENTS (line 6)) (2024.8.30)
Requirement already satisfied: Werkzeug>=3.0.0 in /usr/lib/python3/dist-packages (from flask->r REQUIREMENTS (line 8)) (3.0.3)
Requirement already satisfied: Jinja2>=3.1.2 in /usr/lib/python3/dist-packages (from flask->r REQUIREMENTS (line 8)) (3.1.3)
Requirement already satisfied: itsdangerous>=2.1.2 in /usr/lib/python3/dist-packages (from flask->r REQUIREMENTS (line 8)) (2.2.0)
Requirement already satisfied: click>=8.1.3 in /usr/lib/python3/dist-packages (from flask->r REQUIREMENTS (line 8)) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in /usr/lib/python3/dist-packages (from flask->r REQUIREMENTS (line 8)) (1.8.2)
Requirement already satisfied: redis>=3.5 in /usr/lib/python3/dist-packages (from rq->r REQUIREMENTS (line 14)) (4.3.4)
Requirement already satisfied: MarkupSafe>=2.1.1 in /usr/lib/python3/dist-packages (from Werkzeug>=3.0.0->flask->r REQUIREMENTS (line 8)) (2.1.5)
Building wheels for collected packages: unicodcsv
  Building wheel for unicodcsv (setup.py) ... done
  Created wheel for unicodcsv: filename=unicodcsv-0.14.1-py3-none-any.whl size=10746 sha256=2e50584053bd06ad24fa3936004028640e3a4e9d0c5eebdad8ba1a9ce9b1fa67
  Stored in directory: /home/joyce/.cache/pip/wheels/ec/03/6f/d2e0162d94c0d451556fa43dd4d5531457245c34a36b41ef4a
Successfully built unicodcsv
Installing collected packages: unicodcsv
```

## INSTALLING MODULES

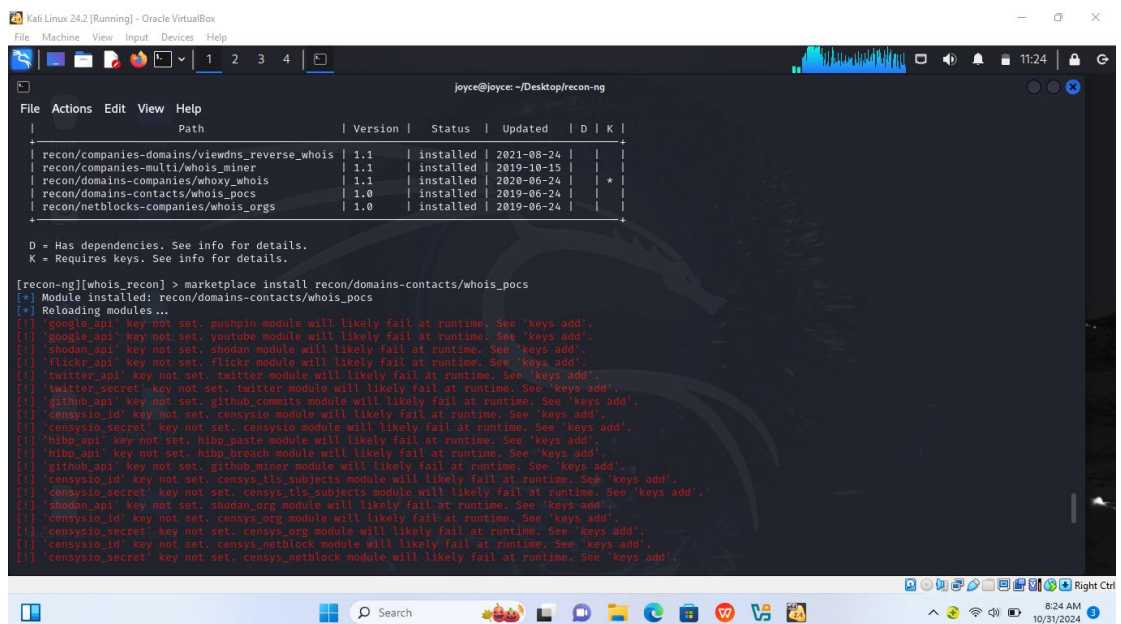
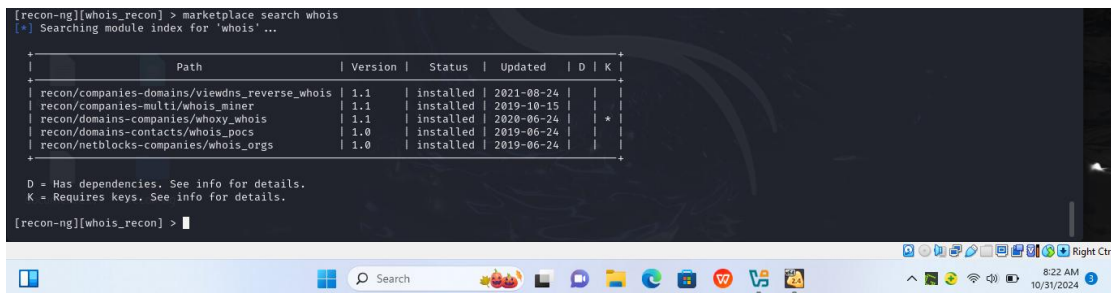
```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

joyce@joyce: ~/Desktop/recon-ng

File Actions Edit View Help
[+] Module installed: recon/companies-domains/pen
[+] Module installed: recon/companies-domains/viewdns_reverse_whois
[+] Module installed: recon/companies-domains/whoxy_dns
[+] Module installed: recon/companies-multi/censys_org
[+] Module installed: recon/companies-multi/censys_tls_subjects
[+] Module installed: recon/companies-multi/github_miner
[+] Module installed: recon/companies-multi/shodan_org
[+] Module installed: recon/companies-multi/whois_miner
[+] Module installed: recon/contacts-contacts/abc
[+] Module installed: recon/contacts-contacts/mailtester
[+] Module installed: recon/contacts-contacts/mangle
[+] Module installed: recon/contacts-contacts/unmangle
[+] Module installed: recon/contacts-credentials/hibp_breach
[+] Module installed: recon/contacts-credentials/hibp_paste
[+] Module installed: recon/contacts-domains/migrate_contacts
[+] Module installed: recon/contacts-domains/censys_email_to_domains
[+] Module installed: recon/contacts-profiles/fullcontact
[+] Module installed: recon/credentials-credentials/adobe
[+] Module installed: recon/credentials-credentials/boxocrack
[+] Module installed: recon/credentials-credentials/hashe.org
[+] Module installed: recon/domains-companies/censys_companies
[+] Module installed: recon/domains-companies/pen
[+] Module installed: recon/domains-companies/whoxy_whois
[+] Module installed: recon/domains-contacts/hunter_io
[+] Module installed: recon/domains-contacts/metacrawler
[+] Module installed: recon/domains-contacts/pen
[+] Module installed: recon/domains-contacts/pgp_search
[+] Module installed: recon/domains-contacts/whois_pocs
[+] Module installed: recon/domains-contacts/wikileaker
[+] Module installed: recon/domains-domains/brute_suffix
[+] Module installed: recon/domains-hosts/binaryedge
[+] Module installed: recon/domains-hosts/bing_domain_api
[+] Module installed: recon/domains-hosts/bing_domain_web
```



## Marketplace search whois



To set the source and load the module load recon/dmains-contacts /whois\_pocs

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

joyce@joyce: ~/Desktop/recon-ng

[!] 'hashes_api' key not set, hashes_org module will likely fail at runtime. See 'keys add'.
[!] 'ipinfo_api' key not set, ipinfo module will likely fail at runtime. See 'keys add'.
[!] 'virustotal_api' key not set, virustotal module will likely fail at runtime. See 'keys add'.
[!] 'censysio_id' key not set, censys_ip module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_ip module will likely fail at runtime. See 'keys add'.
[!] 'ipstack_api' key not set, ipstack module will likely fail at runtime. See 'keys add'.
[!] 'bing_api' key not set, bing_ip module will likely fail at runtime. See 'keys add'.
[!] 'censysio_id' key not set, censys_hostname module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_hostname module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_query module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_query module will likely fail at runtime. See 'keys add'.
[!] 'github_api' key not set, github_repos module will likely fail at runtime. See 'keys add'.
[!] 'google_api' key not set, reverse_geocode module will likely fail at runtime. See 'keys add'.
[!] 'google_api' key not set, geocode module will likely fail at runtime. See 'keys add'.
[!] 'censysio_id' key not set, censys_netblock_company module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_netblock_company module will likely fail at runtime. See 'keys add'.
[!] 'censysio_id' key not set, censys_email_address module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_email_address module will likely fail at runtime. See 'keys add'.
[!] 'bing_api' key not set, bing_linkedin_cache module will likely fail at runtime. See 'keys add'.
[!] 'bing_api' key not set, bing_domain_api module will likely fail at runtime. See 'keys add'.
[!] 'censysio_id' key not set, censys_domain module will likely fail at runtime. See 'keys add'.
[!] 'censysio_secret' key not set, censys_domain module will likely fail at runtime. See 'keys add'.
[!] 'spysse_api' key not set, spysse_subdomains module will likely fail at runtime. See 'keys add'.
[!] 'binaryedge_api' key not set, binaryedge module will likely fail at runtime. See 'keys add'.
[!] 'builtwith_api' key not set, builtwith module will likely fail at runtime. See 'keys add'.
[!] 'shodan_api' key not set, shodan_hostname module will likely fail at runtime. See 'keys add'.
[recon-ng][whois_recon] > options set SOURCE microsoft.com
[!] Invalid option name.
[recon-ng][whois_recon] > options set SOURCE facebook.com
[!] Invalid option name.
[recon-ng][whois_recon] > modules load recon/domains-contacts/whois_pocs
[recon-ng][whois_recon][whois_pocs] > options set SOURCE microsoft.com
SOURCE => microsoft.com
[recon-ng][whois_recon][whois_pocs] >
```

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help

joyce@joyce: ~/Desktop/recon-ng

[!] 'censysio_secret' key not set, censys_domain module will likely fail at runtime. See 'keys add'.
[!] 'spysse_api' key not set, spysse_subdomains module will likely fail at runtime. See 'keys add'.
[!] 'binaryedge_api' key not set, binaryedge module will likely fail at runtime. See 'keys add'.
[!] 'builtwith_api' key not set, builtwith module will likely fail at runtime. See 'keys add'.
[!] 'shodan_api' key not set, shodan_hostname module will likely fail at runtime. See 'keys add'.
[recon-ng][whois_recon] > options set SOURCE microsoft.com
[!] Invalid option name.
[recon-ng][whois_recon] > options set SOURCE facebook.com
[!] Invalid option name.
[recon-ng][whois_recon] > modules load recon/domains-contacts/whois_pocs
[recon-ng][whois_recon][whois_pocs] > options set SOURCE microsoft.com
SOURCE => microsoft.com
[recon-ng][whois_recon][whois_pocs] > info

Name: Whois POC Harvester
Author: Tim Tomes (@lanmaster53)
Version: 1.0

Description:
Uses the ARIN Whois RWS to harvest POC data from whois queries for the given domain. Updates the
'contacts' table with the results.

Options:


| Name   | Current Value | Required | Description                              |
|--------|---------------|----------|------------------------------------------|
| SOURCE | microsoft.com | yes      | source of input (see 'info' for details) |



Source Options:
default SELECT DISTINCT domain FROM domains WHERE domain IS NOT NULL
<string> string representing a single input
<path> path to a file containing a list of inputs
query <sql> database query returning one column of inputs

[recon-ng][whois_recon][whois_pocs] >
```



```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
joyce@joyce: ~/Desktop/recon-ng
File Actions Edit View Help
[*] Country: United States
[*] Email: abuse@microsoft.com
[*] First_Name: None
[*] Last_Name: Microsoft Abuse Contact
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: Redmond, WA
[*] Title: Whois contact
[*]
[*] URL: http://whois.arin.net/rest/poc/SINGH683-ARIN
[*] Country: United States
[*] Email: p.singh@microsoft.com
[*] First_Name: Poochi
[*] Last_Name: Singh
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: Redmond, WA
[*] Title: Whois contact
[*]
[*] URL: http://whois.arin.net/rest/poc/NN097-ARIN
[*] Country: United States
[*] Email: nno97@microsoft.com
[*] First_Name: None
[*] Last_Name: NOC for Network Operations
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: San Francisco, CA
[*] Title: Whois contact
[*]
[*] URL: http://whois.arin.net/rest/poc/AM0106-ARIN
```

WHOIS gathers open source information on the above.

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
joyce@joyce: ~/Desktop/recon-ng
File Actions Edit View Help
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: Redmond, WA
[*] Title: Whois contact
[*]
[*] URL: http://whois.arin.net/rest/poc/DELE0109-ARIN
[*] Country: United States
[*] Email: v-mdele@microsoft.com
[*] First_Name: v-mdele
[*] Last_Name: DE LEON
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: Redmond, WA
[*] Title: Whois contact
[*]
[*] URL: http://whois.arin.net/rest/poc/CHINN6-ARIN
[*] Country: United States
[*] Email: v-chinn@microsoft.com
[*] First_Name: v-m
[*] Last_Name: CHINN
[*] Middle_Name: None
[*] Notes: None
[*] Phone: None
[*] Region: Redmond, WA
[*] Title: Whois contact
[*]
SUMMARY
[*] 137 total (1 new) contacts found.
[recon-ng][whois_recon][whois_pocs] >
```

Recon-ng searches the marketplace for “hackertarget”

```
[recon-ng][whois_recon][whois_pocs] > back
[recon-ng][whois_recon] > marketplace search hackertarget
Interfaces with the module marketplace
Usage: marketplace <info|install|refresh|remove|search> [...]
[recon-ng][whois_recon] > marketplace search hackertarget
[*] Searching module index for 'hackertarget' ...
+-----+-----+-----+-----+-----+
| Path | Version | Status | Updated | D | K |
+-----+-----+-----+-----+-----+
| recon/domains-hosts/hackertarget | 1.1 | installed | 2020-05-17 | | |
+-----+-----+-----+-----+-----+
D = Has dependencies. See info for details.
K = Requires keys. See info for details.
[recon-ng][whois_recon] >
```

The information for the domains-hosts.

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
joyce@joyce: ~/Desktop/recon-ng
CPU usage: 48.8%

[recon-ng][whois_recon] > marketplace search hackertarget
[*] Searching module index for 'hackertarget' ...

+-----+-----+-----+-----+-----+
| Path | Version | Status | Updated | D | K |
+-----+-----+-----+-----+-----+
| recon/domains-hosts/hackertarget | 1.1 | installed | 2020-05-17 | | |
+-----+-----+-----+-----+-----+

D = Has dependencies. See info for details.
K = Requires keys. See info for details.

[recon-ng][whois_recon] > modules load recon/domains-hosts/hackertarget
[recon-ng][whois_recon][hackertarget] > info

Name: HackerTarget Lookup
Author: Michael Henriksen (@michenriksen)
Version: 1.1

Description:
  Uses the HackerTarget.com API to find host names. Updates the 'hosts' table with the results.

Options:
  Name      Current Value  Required  Description
  SOURCE    default         yes       source of input (see 'info' for details)

Source Options:
  default    SELECT DISTINCT domain FROM domains WHERE domain IS NOT NULL
  <string>   string representing a single input
  <path>     path to a file containing a list of inputs
  query <sql> database query returning one column of inputs

[recon-ng][whois_recon][hackertarget] > 
```

```
Kali Linux 24.2 [Running] - Oracle VirtualBox
File Machine View Input Devices Help
joyce@joyce: ~/Desktop/recon-ng

[recon-ng][whois_recon][hackertarget] > options set SOURCE microsoft.com
SOURCE => microsoft.com
[recon-ng][whois_recon][hackertarget] > info

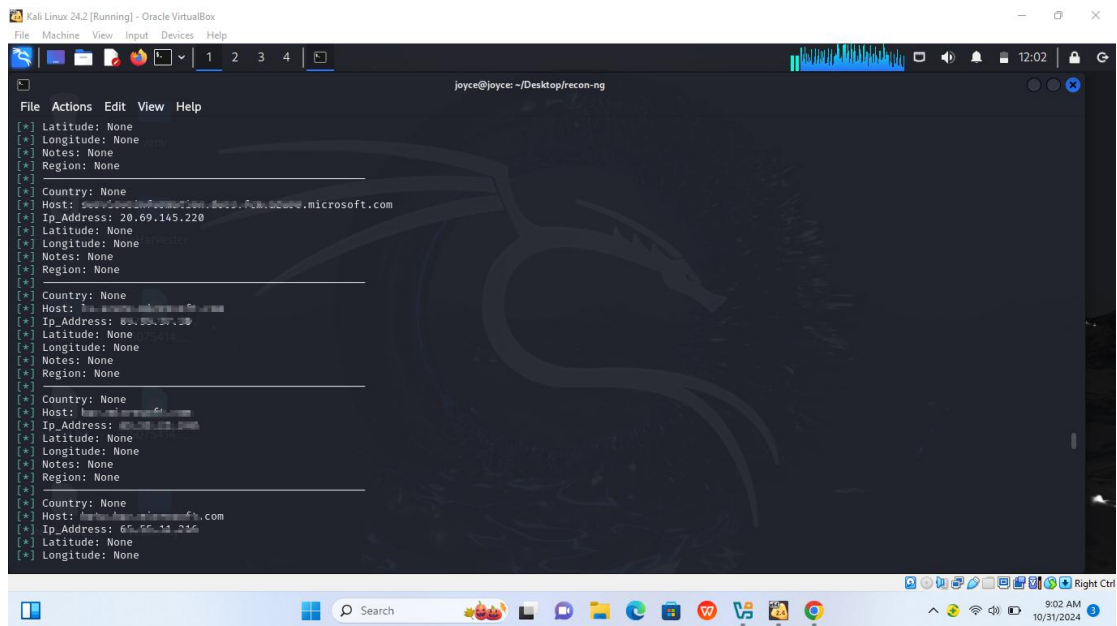
Name: HackerTarget Lookup
Author: Michael Henriksen (@michenriksen)
Version: 1.1

Description:
  Uses the HackerTarget.com API to find host names. Updates the 'hosts' table with the results.

Options:
  Name      Current Value  Required  Description
  SOURCE    microsoft.com  yes       source of input (see 'info' for details)

Source Options:
  default    SELECT DISTINCT domain FROM domains WHERE domain IS NOT NULL
  <string>   string representing a single input
  <path>     path to a file containing a list of inputs
  query <sql> database query returning one column of inputs

[recon-ng][whois_recon][hackertarget] > 
```



The above displays subdomains of the target site.

