Tryhackme – Red Team Recon

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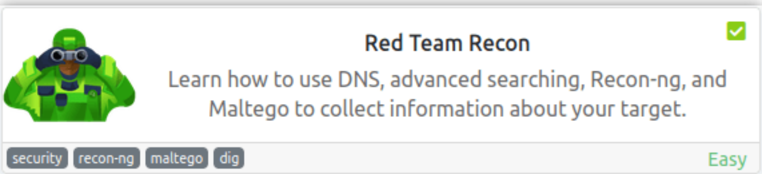
In this walk through, we will be going through the Red Team Recon room from Tryhackme. This room will teach us how to use DNS, advanced searching, Recon-ng, and Maltego to collect information about your target. On that note, let's get started.



Red Team Recon ✓

Learn how to use DNS, advanced searching, Recon-ng, and Maltego to collect information about your target.

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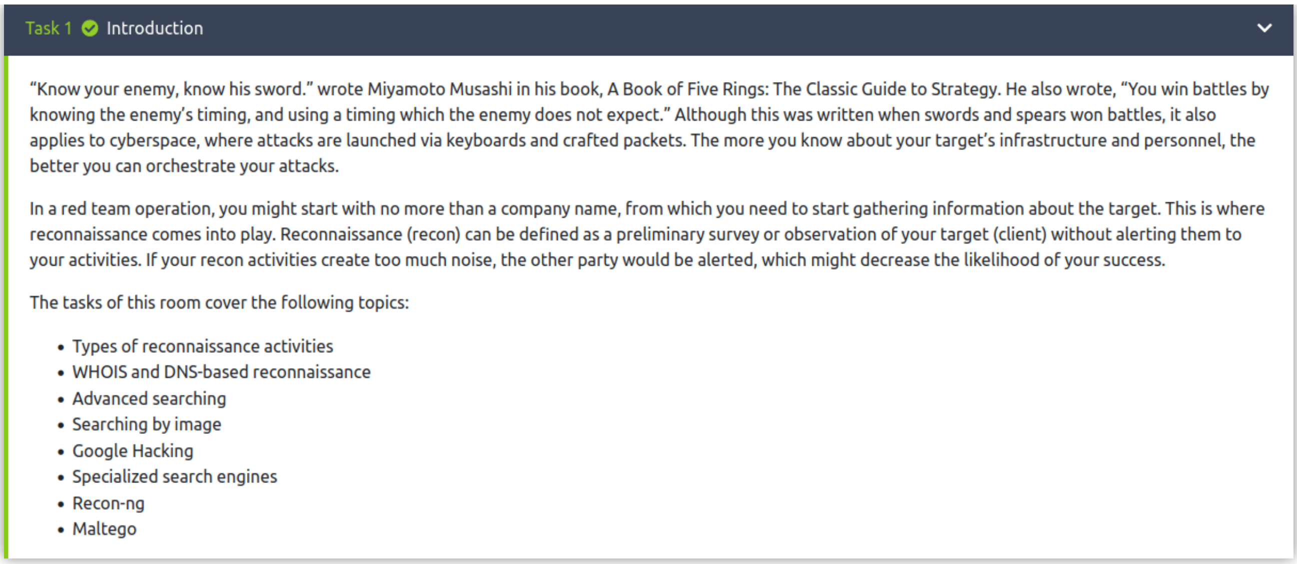
Task 1 – Introduction

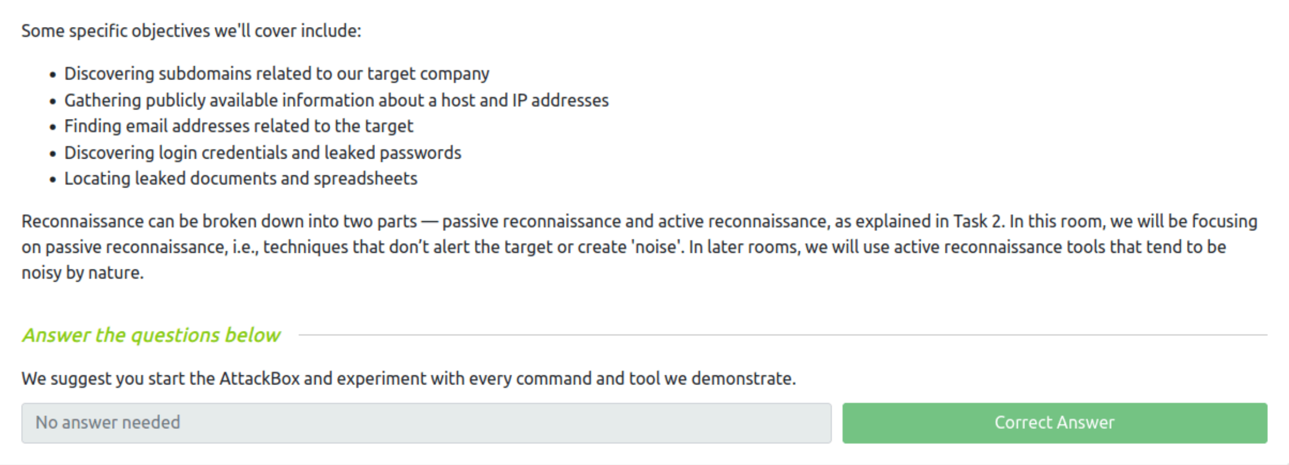


“Know your enemy, know his sword.” wrote Miyamoto Musashi in his book, A Book of Five Rings: The Classic Guide to Strategy. He also wrote, “You win battles by knowing the enemy’s timing, and using a timing which the enemy does not expect.” Although this was written when swords and spears won battles, it also applies to cyberspace, where attacks are launched via keyboards and crafted packets. The more you know about your target’s infrastructure and personnel, the better you can orchestrate your attacks.

In a red team operation, you might start with no more than a company name, from which you need to start gathering information about the target. This is where reconnaissance comes into play. Reconnaissance (recon) can be defined as a preliminary survey or observation of your target (client) without alerting them to your activities. If your recon activities create too much noise, the other party would be alerted, which might decrease the likelihood of your success.

The tasks of this room cover the following topics:

- Types of reconnaissance activities
- WHOIS and DNS-based reconnaissance
- Advanced searching
- Searching by image
- Google Hacking
- Specialized search engines
- Recon-ng
- Maltego



Some specific objectives we'll cover include:

- Discovering subdomains related to our target company
- Gathering publicly available information about a host and IP addresses
- Finding email addresses related to the target
- Discovering login credentials and leaked passwords
- Locating leaked documents and spreadsheets

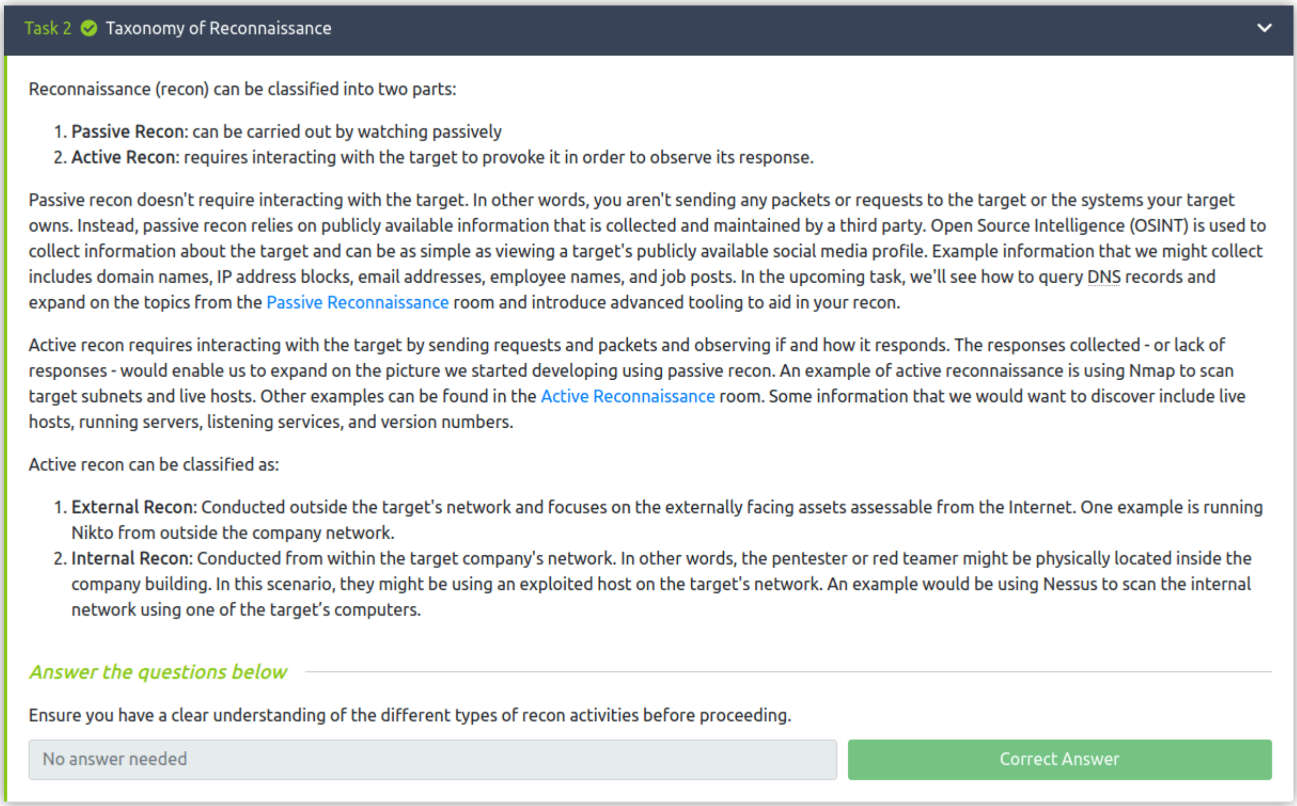
Reconnaissance can be broken down into two parts — passive reconnaissance and active reconnaissance, as explained in Task 2. In this room, we will be focusing on passive reconnaissance, i.e., techniques that don’t alert the target or create 'noise'. In later rooms, we will use active reconnaissance tools that tend to be noisy by nature.

Answer the questions below

We suggest you start the AttackBox and experiment with every command and tool we demonstrate.

No answer needed

Task 2 – Taxonomy of Reconnaissance



Reconnaissance (recon) can be classified into two parts:

1. **Passive Recon**: can be carried out by watching passively
2. **Active Recon**: requires interacting with the target to provoke it in order to observe its response.

Passive recon doesn't require interacting with the target. In other words, you aren't sending any packets or requests to the target or the systems your target owns. Instead, passive recon relies on publicly available information that is collected and maintained by a third party. Open Source Intelligence (OSINT) is used to collect information about the target and can be as simple as viewing a target's publicly available social media profile. Example information that we might collect includes domain names, IP address blocks, email addresses, employee names, and job posts. In the upcoming task, we'll see how to query DNS records and expand on the topics from the Passive Reconnaissance room and introduce advanced tooling to aid in your recon.

Active recon requires interacting with the target by sending requests and packets and observing if and how it responds. The responses collected - or lack of responses - would enable us to expand on the picture we started developing using passive recon. An example of active reconnaissance is using Nmap to scan target subnets and live hosts. Other examples can be found in the Active Reconnaissance room. Some information that we would want to discover include live hosts, running servers, listening services, and version numbers.

Active recon can be classified as:

1. **External Recon**: Conducted outside the target's network and focuses on the externally facing assets assessable from the Internet. One example is running Nikto from outside the company network.
2. **Internal Recon**: Conducted from within the target company's network. In other words, the pentester or red teamer might be physically located inside the company building. In this scenario, they might be using an exploited host on the target's network. An example would be using Nessus to scan the internal network using one of the target’s computers.

Answer the questions below

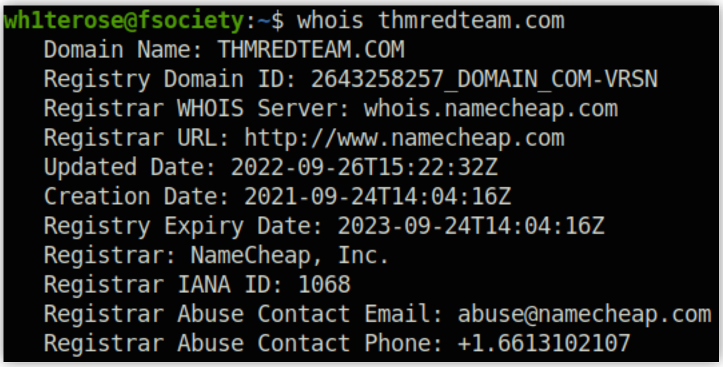
Ensure you have a clear understanding of the different types of recon activities before proceeding.

No answer needed

Task 3 – Built-in Tools

Question 1 – When was `thmredteam.com` created (registered)? (YYYY-MM-DD)

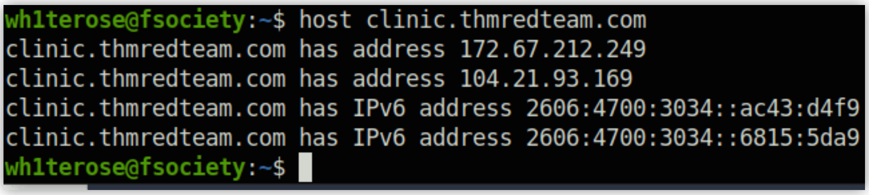
```
1.  whois thmredteam.com
```



```
wh1terose@fsociety:~$ whois thmredteam.com
   Domain Name: THMREDTEAM.COM
   Registry Domain ID: 2643258257_DOMAIN_COM-VRSN
   Registrar WHOIS Server: whois.namecheap.com
   Registrar URL: http://www.namecheap.com
   Updated Date: 2022-09-26T15:22:32Z
   Creation Date: 2021-09-24T14:04:16Z
   Registry Expiry Date: 2023-09-24T14:04:16Z
   Registrar: NameCheap, Inc.
   Registrar IANA ID: 1068
   Registrar Abuse Contact Email: abuse@namecheap.com
   Registrar Abuse Contact Phone: +1.6613102107
```

`2021-09-24`

Question 2 – To how many IPv4 addresses does `clinic.thmredteam.com` resolve?

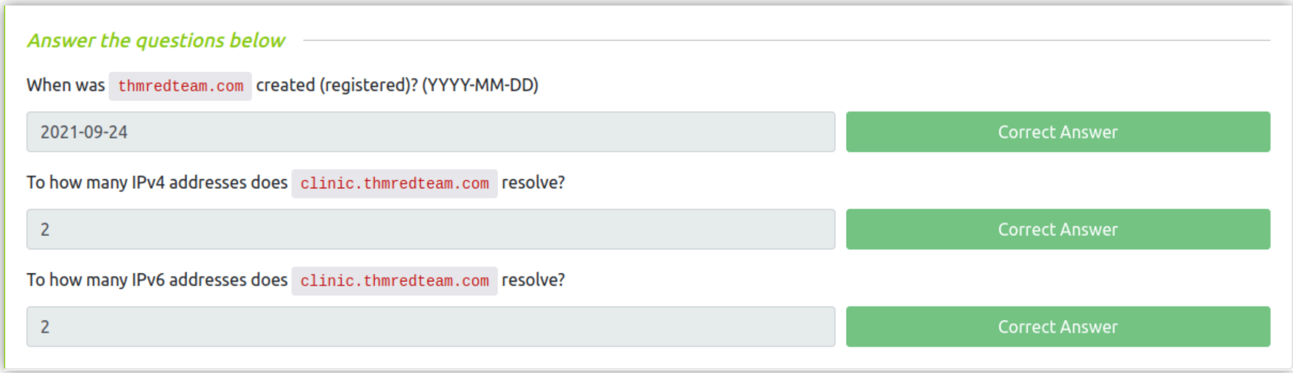


```
wh1terose@fsociety:~$ host clinic.thmredteam.com
clinic.thmredteam.com has address 172.67.212.249
clinic.thmredteam.com has address 104.21.93.169
clinic.thmredteam.com has IPv6 address 2606:4700:3034::ac43:d4f9
clinic.thmredteam.com has IPv6 address 2606:4700:3034::6815:5da9
wh1terose@fsociety:~$
```

`2`

Question 3 – To how many IPv6 addresses does `clinic.thmredteam.com` resolve?

`2`



Answer the questions below

When was `thmredteam.com` created (registered)? (YYYY-MM-DD)

2021-09-24

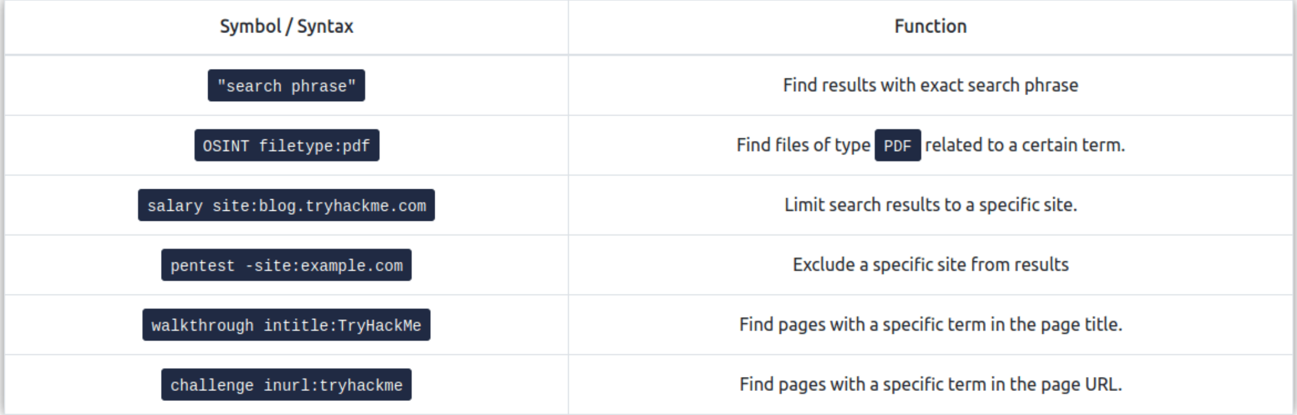
To how many IPv4 addresses does `clinic.thmredteam.com` resolve?

2

To how many IPv6 addresses does `clinic.thmredteam.com` resolve?

2

Task 4 – Advanced Searching



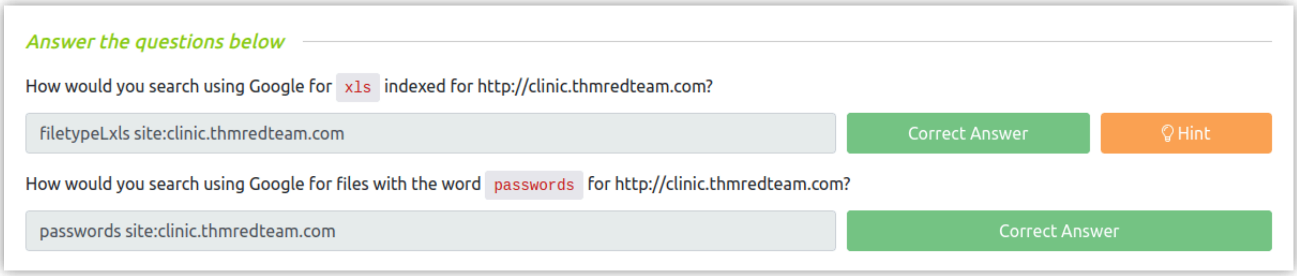
Symbol / Syntax	Function
`"search phrase"`	Find results with exact search phrase
`OSINT filetype:pdf`	Find files of type `PDF` related to a certain term.
`salary site:blog.tryhackme.com`	Limit search results to a specific site.
`pentest -site:example.com`	Exclude a specific site from results
`walkthrough intitle:TryHackMe`	Find pages with a specific term in the page title.
`challenge inurl:tryhackme`	Find pages with a specific term in the page URL.

Question 1 – How would you search using Google for `xls` indexed for http://clinic.thmredteam.com?

```
filetypeLxls site:clinic.thmredteam.com
```

Question 2 – How would you search using Google for files with the word `passwords` for http://clinic.thmredteam.com?

```
passwords site:clinic.thmredteam.com
```



Answer the questions below

How would you search using Google for `xls` indexed for http://clinic.thmredteam.com?

filetypeLxls site:clinic.thmredteam.com

How would you search using Google for files with the word `passwords` for http://clinic.thmredteam.com?

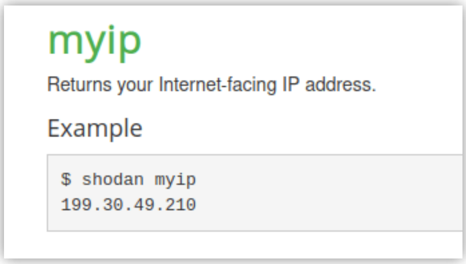
passwords site:clinic.thmredteam.com

Trending

Hacking Android pin password using Lockphish

Task 5 – Specialized Search Engines

Question 1 – What is the `shodan` command to get your Internet-facing IP address?



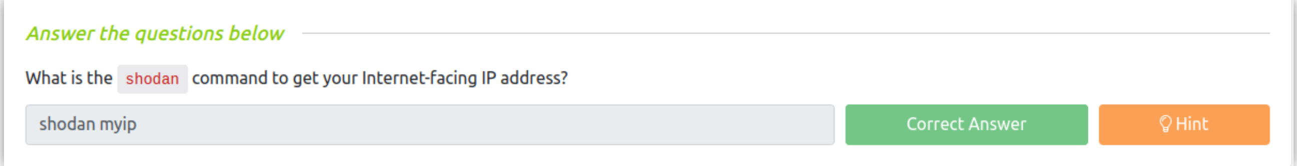
myip

Returns your Internet-facing IP address.

Example

```
$ shodan myip
199.30.49.210
```

```
shodan myip
```



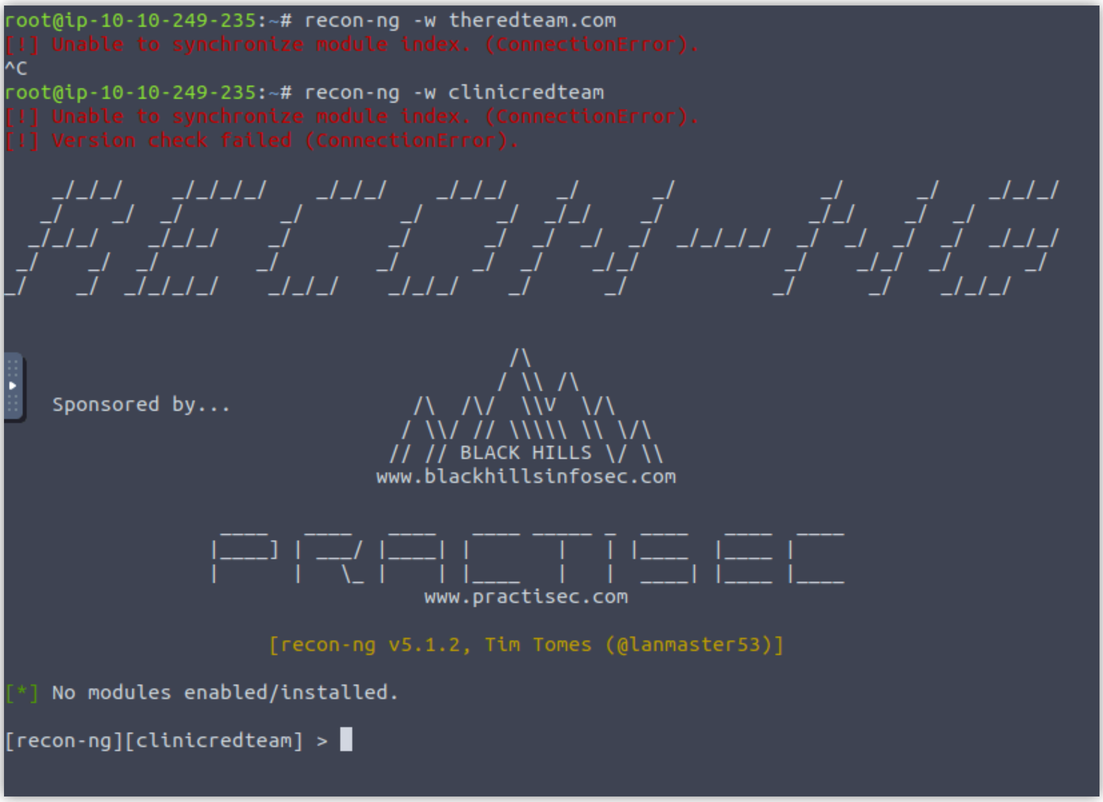
Answer the questions below

What is the `shodan` command to get your Internet-facing IP address?

shodan myip

Task 6 – Recon-ng

Question 1 – How do you start `recon-ng` with the workspace `clinicredteam`?



```
root@ip-10-10-249-235:~# recon-ng -w theredteam.com
[!] Unable to synchronize module index. (ConnectionError).
^C
root@ip-10-10-249-235:~# recon-ng -w clinicredteam
[!] Unable to synchronize module index. (ConnectionError).
[!] Version check failed (ConnectionError).

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                                   www.practisec.com

                      [recon-ng v5.1.2, Tim Tomes (@lanmaster53)]

[*] No modules enabled/installed.

[recon-ng][clinicredteam] >
```
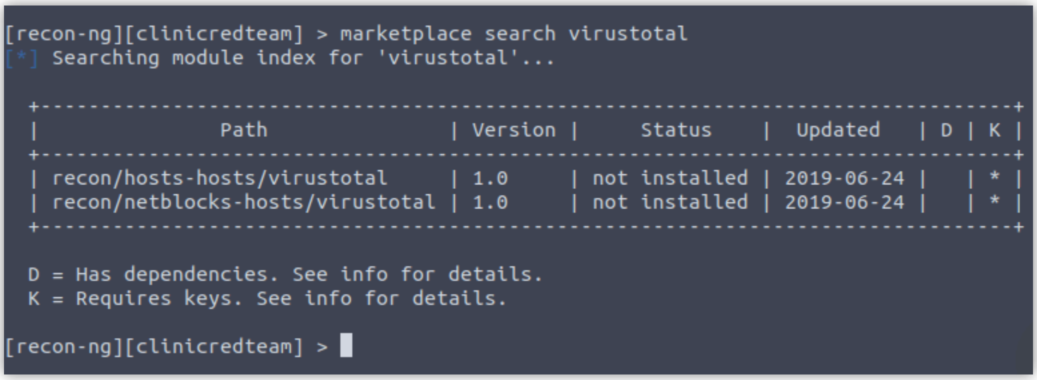

recon-ng -w clinicredteam

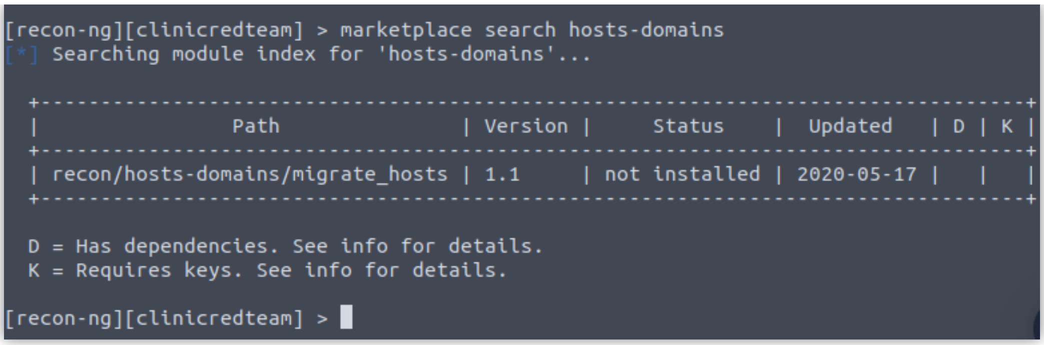
Question 2 – How many modules with the name `virustotal` exist?



```
[recon-ng][clinicredteam] > marketplace search virustotal
[*] Searching module index for 'virustotal'...

  +---------------------------------------------------------------------------------+
  |                Path                | Version |     Status    |  Updated   | D | K |
  +---------------------------------------------------------------------------------+
  | recon/hosts-hosts/virustotal       | 1.0     | not installed | 2019-06-24 |   | * |
  | recon/netblocks-hosts/virustotal   | 1.0     | not installed | 2019-06-24 |   | * |
  +---------------------------------------------------------------------------------+

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

[recon-ng][clinicredteam] >
```

2

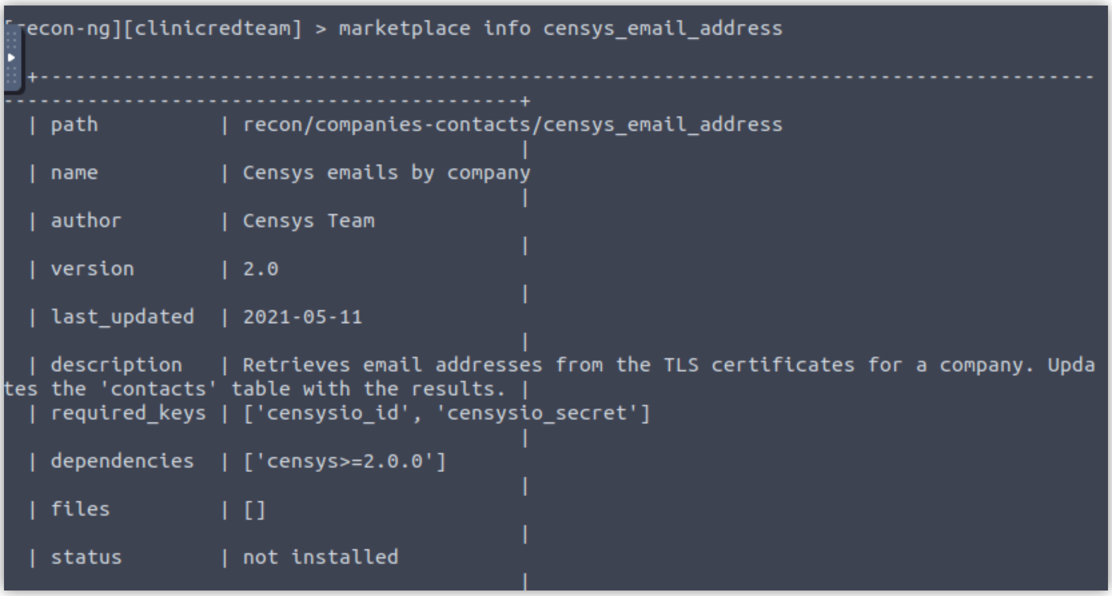
Question 3 – There is a single module under `hosts-domains`. What is its name?



```
[recon-ng][clinicredteam] > marketplace search hosts-domains
[*] Searching module index for 'hosts-domains'...

  +---------------------------------------------------------------------------------------+
  |                 Path                | Version |     Status    |  Updated   | D | K |
  +---------------------------------------------------------------------------------------+
  | recon/hosts-domains/migrate_hosts | 1.1     | not installed | 2020-05-17 |   |   |
  +---------------------------------------------------------------------------------------+

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

[recon-ng][clinicredteam] >
```

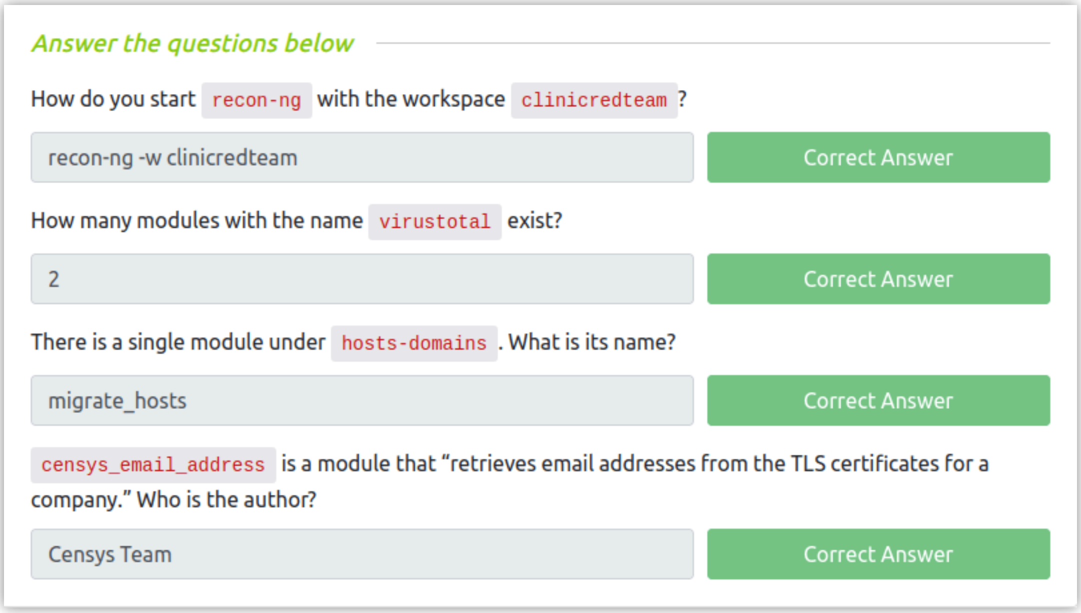
`migrate_hosts`

Question 4 – `censys_email_address` is a module that "retrieves email addresses from the TLS certificates for a company." Who is the author?



```
[recon-ng][clinicredteam] > marketplace info censys_email_address

  +-----------------------------------------------------------------------------------------
-----------------------------------------+
  | path          | recon/companies-contacts/censys_email_address
                                         |
  | name          | Censys emails by company
                                         |
  | author        | Censys Team
                                         |
  | version       | 2.0
                                         |
  | last_updated  | 2021-05-11
                                         |
  | description   | Retrieves email addresses from the TLS certificates for a company. Upda
tes the 'contacts' table with the results. |
  | required_keys | ['censysio_id', 'censysio_secret']
                                         |
  | dependencies  | ['censys>=2.0.0']
                                         |
  | files         | []
                                         |
  | status        | not installed
                                         |
```

`Censys Team`



Answer the questions below

How do you start `recon-ng` with the workspace `clinicredteam`?

recon-ng -w clinicredteam

Correct Answer

How many modules with the name `virustotal` exist?

2

Correct Answer

There is a single module under `hosts-domains`. What is its name?

migrate_hosts

Correct Answer

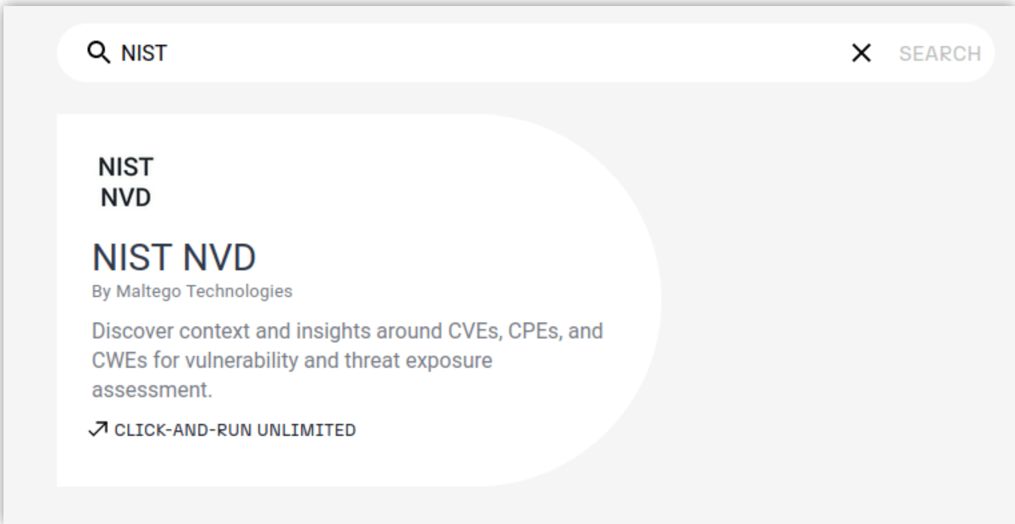
`censys_email_address` is a module that "retrieves email addresses from the TLS certificates for a company." Who is the author?

Censys Team

Correct Answer

Task 7 – Maltego

Question 1 – What is the name of the transform that queries NIST's National Vulnerability Database?



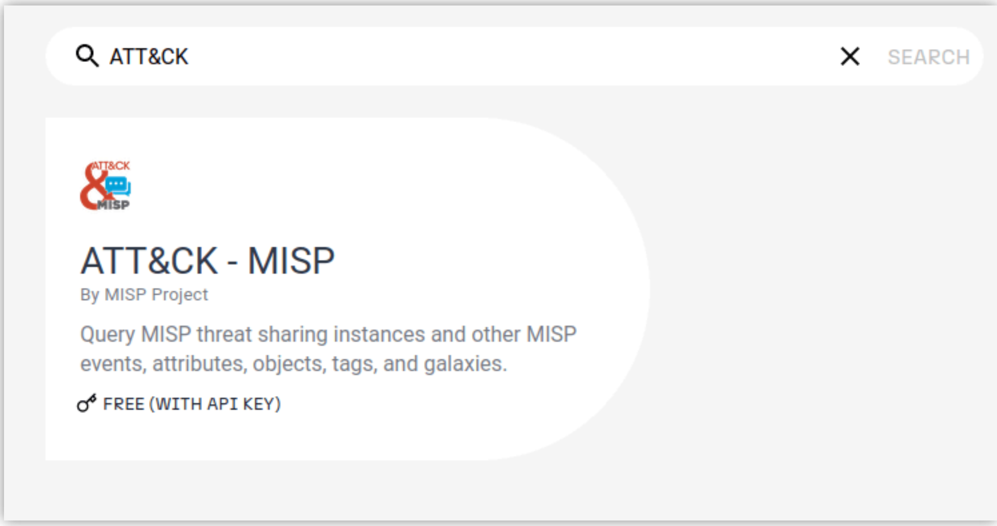
NIST NVD

By Maltego Technologies

Discover context and insights around CVEs, CPEs, and CWEs for vulnerability and threat exposure assessment.

```
NIST NVD
```

Question 2 – What is the name of the project that offers a transform based on ATT&CK?



ATT&CK - MISP

By MISP Project

Query MISP threat sharing instances and other MISP events, attributes, objects, tags, and galaxies.

```
MISP Project
```

Task 7 - Maltego

Task 8 – Summary

Task 8 - Summary

Also Read: Tryhackme – Red Team Engagements

So that was **"Red Team Recon"** for you. In this room, we have learned how to use DNS, advanced searching, Recon-ng, and Maltego to collect information about your target. We have covered the taxonomy of reconnaissance, some built in tools like whois, nslookup and traceroute. Further, we got into some Google Dorking and Shodan Searching. At last, we peeked into some of the famous Red Team Recon framework like Recon-ng and Maltego. On that note, i will take your leave and meet you in next one. So stay tuned and till then, **“Hack the planet”.**

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