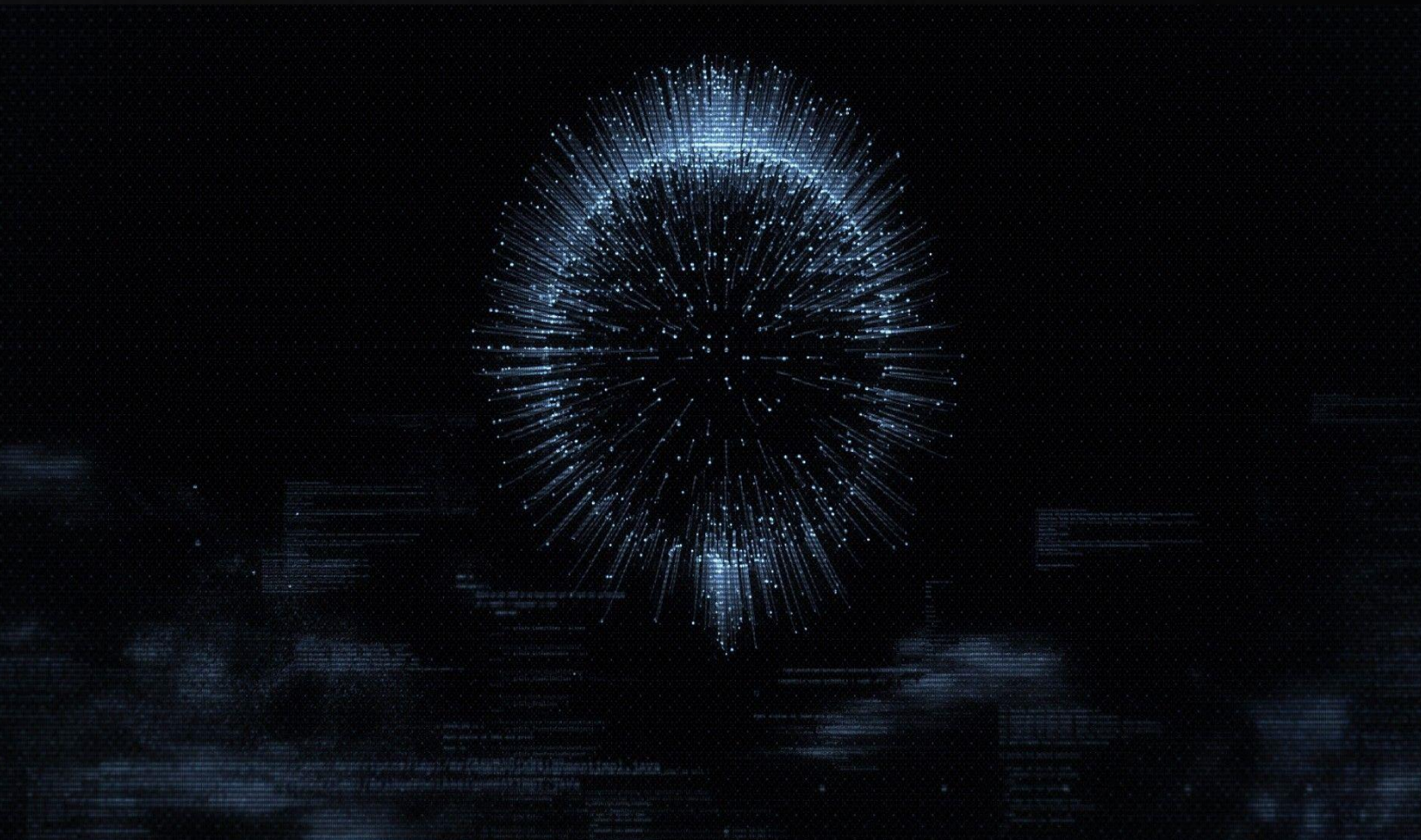

Dark Web
DarkNets
Recon
Lab Guide
VERSION 2



Introduction

This lab guide is a collection of exercises for the Darknets and Dark Web O'Reilly Live Training Hands-on

Learning Path: Additional Cybersecurity Training (Free with your O'Reilly Subscription)

This training is part of a learning path that has numerous live training sessions and video courses that are available with your O'Reilly subscription. Also check out the "Cyber Learning Path .org" for additional courses and resources.

Lab Setup

Setup your lab using Debian, Kali Linux or Parrot OS Linux systems, and then use the scripts provide at the Setup page on Darknets.org -> https://darknets.org/setup/

1. Step 1: Download Debian, Debian tiny, (remember less is more) install on a VM (*see below)
2. Step 1b: Optionally you can Download Kali or Parrot (remember they have lots of unnecessary tools)
3. Step 2: After you have installed Debian lite run the following command from a terminal window to setup your environment: https://darknets.org/setup/

4. Virtualization software: Virtual Box - https://www.virtualbox.org/ oVirt: https://www.ovirt.org/ vmware: https://www.vmware.com/products/workstation-player.html and Microsoft Hyper-V https://learn.microsoft.com/en-us/virtualization/hyper-v-on-windows/about/ Xen https://xenproject.org/ another bare metal hypervisor is Proxmox https://www.proxmox.com

5. Cloud Virtual (VPS)

Day 1

LAB 1 Demo – Using Shodan and ZoomEye.

Try for yourself: https://www.shodan.io/

Selectors: html:"tor" html:"market" **https://www.zoomeye.org/**

Selectors: "Dark Web" +"Tor"

Activity 1: Introduction to Dark Nets (surface websites)

Deep Web Search: https://darkweb.sh/resources/

Dark Web Terminology: https://DarkWeb.sh/terminology/

Dark Web Tools by Category: https://darkweb.sh/tools/

Tor Exit Nodes: https://metrics.torproject.org/ & https://metrics.torproject.org/rs.html#search/flag:Exit

Tor Entry - Guard Nodes: https://metrics.torproject.org/rs.html#search/flag:Guard Class

Research Machine Template: https://DarkWeb.sh/research/

Lab 2: The Tor Network

Installing Tor, Tor Browser, and Tor Tools

The Long way around:

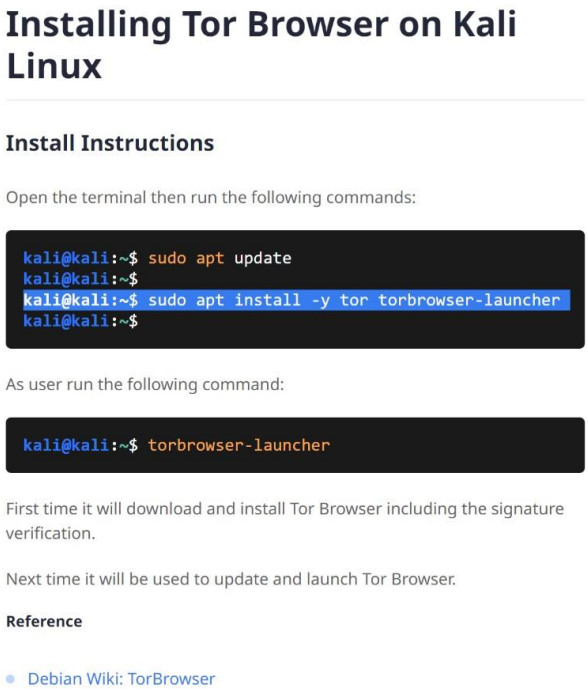
Download the tar file: tor-browser-linux64-11.5.2_en-US.tar.xz

tar –xf [tor_filename] chmod +x start-tor-browser.desktop

Or

Easy mode:

apt-get install tor torbrowser-launcher –y



LAB 3 - Build & Manage your Cloud based Recon Systems

Cloud Based Research Systems:

Management: RDP to Cloud Debian based Systems:

You can RDP from your Windows or Linux host to an Cloud based Linux or windows host.

1. Install xfce and xrdp on your linux host

2. Install RDP on linux
3. Create an account and enable auto start.

A. Xfce or KDE is a lightweight desktop environment for UNIX-like operating systems. It aims to be fast and low on system resources, while still being visually appealing and user friendly.
B. XRDP/RDP is the Remote Desktop Protocol which operates on Port 3389, xrdp provides a graphical login to remote Windows and Linux machines using Microsoft Remote Desktop Protocol (RDP). xrdp accepts connections from a variety of RDP clients.

Installing XRDP and XFCE on Linux:

Prepare the System

1. sudo apt-get update -y
2. sudo DEBIAN_FRONTEND=noninteractive apt-get -y install xfce4
3. sudo apt install xfce4 xfce4-goodies xfce4-session xorg dbus-x11 x11-xserver-utils
4. sudo apt update && apt install tasksel -y

Setup

1. sudo apt-get -y install xrdp
2. sudo systemctl enable xrdp
3. sudo adduser xrdp ssl-cert <- ubuntu requires a certificate
4. sudo passwd azureuser <-create a local user, used to access
5. echo xfce4-session >~/.xsession <-tell xrdp what desktop environment to use.

Start xrdp

1. sudo service xrdp restart
2. sudo service xrdp status

Check the Status:

```
root@researcher001:~# service xrdp status
● xrdp.service - xrdp daemon
     Loaded: loaded (/lib/systemd/system/xrdp.service; enabled; vendor preset: enabled)
     Active: active (running) since Tue 2022-10-11 06:11:18 UTC; 36s ago
       Docs: man:xrdp(8)
             man:xrdp.ini(5)
```

RDP on Windows 10 & 11:

You do not need to setup RDP on your local system, however if your cloud system is windows you will follow these instructions:

① Set up the PC you want to connect to so it allows remote connections:

- Make sure you have Windows 10 Pro. To check, go to **Start** > **Settings** > **System** > **About** and look for **Edition**. For info on how to get it, go to Upgrade Windows 10 Home to Windows 10 Pro.
- When you're ready, select **Start** > **Settings** > **System** > **Remote Desktop**, and turn on **Enable Remote Desktop**.
- Make note of the name of this PC under **How to connect to this PC**. You'll need this later.

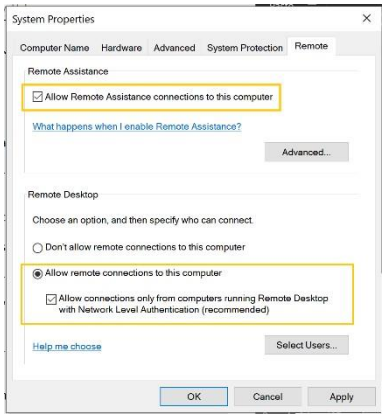
② Use Remote Desktop to connect to the PC you set up:

- **On your local Windows 10 PC:** In the search box on the taskbar, type **Remote Desktop Connection**, and then select **Remote Desktop Connection**. In Remote Desktop Connection, type the name of the PC you want to connect to (from Step 1), and then select **Connect**.
- **On your Windows, Android, or iOS device:** Open the Remote Desktop app (available for free from Microsoft Store, Google Play, and the Mac App Store), and add the name of the PC that you want to connect to (from Step 1). Select the remote PC name that you added, and then wait for the connection to complete.

Click here to go to the tab in Windows: Enable Remote Desktop

You can also enable Remote Desktop using the **System Properties.** Press the Windows Key and Type: **advanced system**. Click View advanced system settings. This gives you similar screens "Remote Assistance" and a check box "Allow Remote Assistance connections to this computer", and Remote Desktop select radio button "Allow Remote Connections to this Computer" and check Allow Connections.

You can also go to Settings > connection settings in the app and configure the appearance, devices and make other adjustments that work for you



Cloud Based Systems

Demo the Azure Cloud based – Cloud Desktop

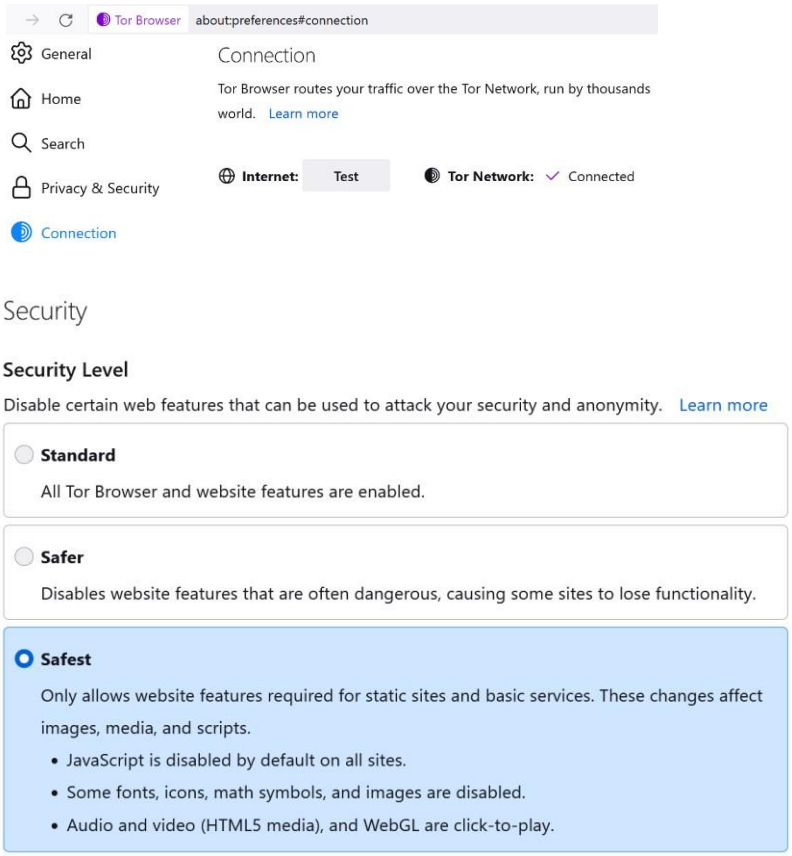
Amazon Workspaces – Amazon Workstation Google – Cloud Based Virtual

Workstation https://cloud.google.com/architecture/creating-a-virtual-

windows-workstation LAB 4 – Configuring your Tor Browser for Optimal

Protections

Tor Browser Settings Lab



LAB 5 - Messaging and Email Exercise

- **Tor Mail** http://tormailpout6wplxlrkkhjj2ra7bmqaij5iptdmhhnnep3r6f27m2yid.onion/mail/src/login.php

- **MegaChat –** http://ylmjp76zk4ndvgpncbtgzrfsrzpblvlzgtuoduqgvgwdlexou64iwfqd.onion/

LAB 5 - Configuring Socks, Sock Proxy's and Browser Socks

Three Options

---

1. Use FoxyProxy add to Firefox
2. Change manually in each browser setting
3. Configure in Proxychains

---

https://addons.mozilla.org/en-US/firefox/addon/foxyproxy-standard/

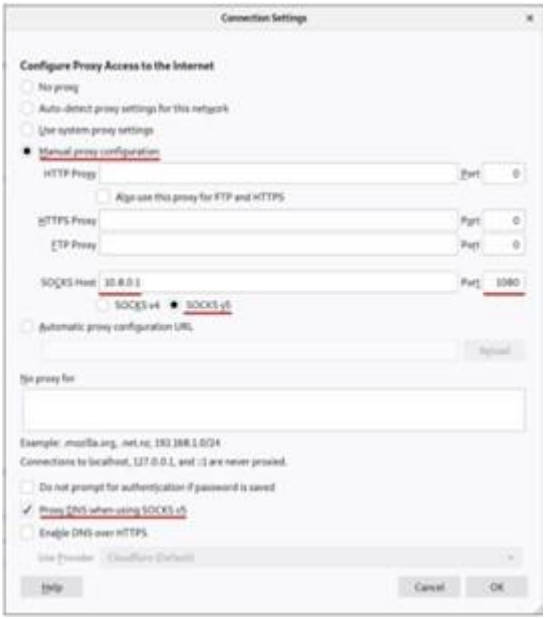
2. Browser Proxy Settings

Tor Firefox under: Settings > Connection >Advanced >

Configure how Tor > Settings

Regular Firefox under: Settings > Network Settings > Settings >

Manual Proxy Configuration



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spys.one

SPYS.ONE/EN/ | Free proxy list | Proxy list by country | Anonymous free proxy | HTTPS/SSL proxy | SOCKS proxy list

Proxy by ASN/ORG | Proxy by cities | Proxy by ports | HTTP proxy list | Transparent proxy list | IPinfo

HTTPS SSL proxy servers list. Free HTTP proxies with SSL support.

ANM All SSL SSL+ Port All Type All Sort Date

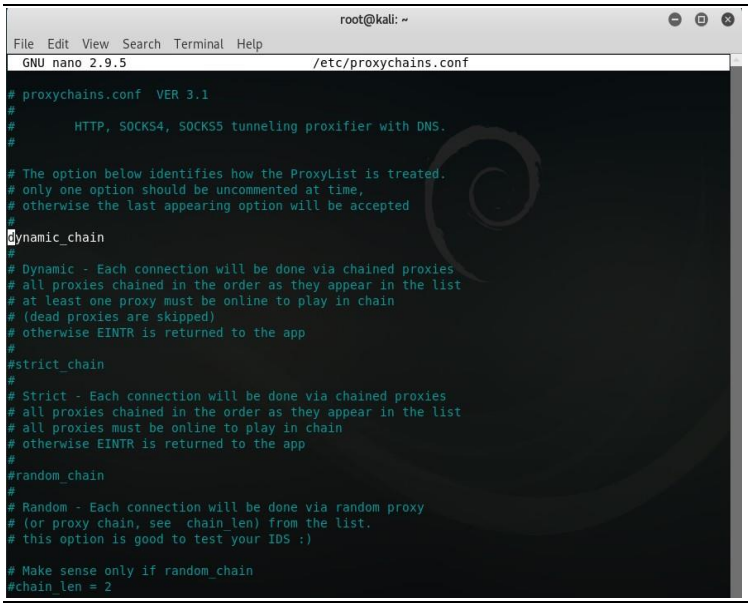
Proxy address:port	Proxy type	Anonymity*	Country (city)	Hostname/ORG	Latency**	Speed***	Uptime	Check date (GMT+03)
200.94.142.220:999	HTTPS (Mikrotik)	NOA	Mexico (Jalpa de Mendez)	static-200-94-142-220.alestra.net.mx (Alestra, S. de R.L. de C.V.)	6.127		new -	23-oct-2022 23:43 (18 mins ago)
185.252.28.98:9090	HTTPS (Mikrotik)	NOA	Iran	185.252.28.98 (Shabakeh Ertebatat Artak Towseeh LTD)	4.74		10% (8) -	23-oct-2022 23:41 (20 mins ago)
188.133.153.227:1256	HTTPS (Mikrotik)	NOA	Russia (Moscow)	227.153.133.188.msk.enforta.com (JSC ER-Telecom Holding)	8.482		33% (9) -	23-oct-2022 23:17 (44 mins ago)
159.65.63.209:8888	HTTPS	HIA	United Kingdom (London)	159.65.63.209 (DIGITALOCEAN-ASN)	12.346		29% (20) -	23-oct-2022 23:13 (48 mins ago)
40.129.203.4:8080	HTTPS	HIA	United States (Holtwood) !!!	h4.203.129.40.static.ip.windstream.net (WINDSTREAM)	1.048		77% (41) +	23-oct-2022 23:10 (52 mins ago)

LAB 6 – Proxy Chains CONFIGURATION, USAGE

A. The proxychains configuration file is located under /etc/ directory. We will open the **proxychains4.conf** file - first open a terminal - the enter the following sudo (using VI, View or Nano) edit -> **/etc/proxychains4.conf**

B. **Strict_Chain**, this chains the ip's you list in order so that the final ip address is the last one on your list, if a chain is unresponsive the chain fails and you get nothing. ii. **Dynamic Chain** works similar to strict chain, only it does not require all proxies in the Chain configuration file to work, if a proxy is down then the connection jumps to the next proxy in the list, you will see these on the command line, this lets you remove unresponsive proxies.

C. **Random Chain** adds randomness proxy select ability to the list and the chain will look different each time its used.



apt-get install proxychains tor -y
edit /etc/proxychains4.conf Comment out #strict_ chain
Uncomment - dynamic_chain

Make sure that your proxy_dns is uncommented

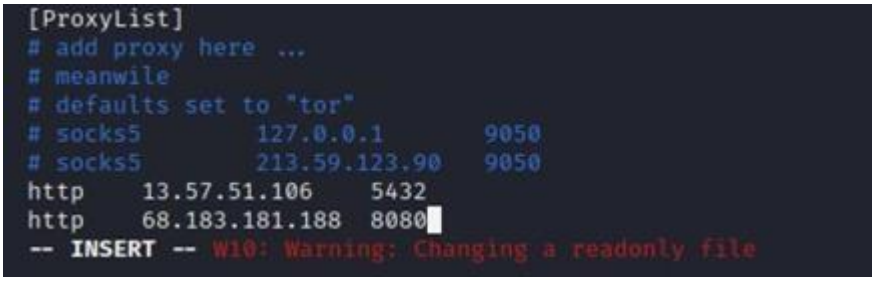
To use one of the three selected methods, comment (#) out two and leave the one you want to use uncommented.

We are going to select **dynamic_chain** and comment out the others. Its the best for speed and skips offline or non responsive proxies

Make sure you uncomment #proxy_dns this protects your dns requests so that they appear to be coming from the same source ip (and not yours)

Next we will locate and place all of our proxies in the file, to find a list of open proxies, there are a couple sites, for this exercise we will use “freeproxylists.net”

https://www.freeproxylists.net or https://spys.one has a nice layout, there are lots of proxies and a google search can help you find even more.



Now lets launch proxy chains and see if it works:

From a terminal window enter:

proxychains firefox duckduckgo.com,

You will need a socks5 proxy(s) to perform the nmap scan mentioned below:

proxychains nmap -sT -p 80,443 1.1.1.1

If you see something like this or a yellow box around your page, know that they are trying to snoop on you with a man in the middle. Close, and locate another proxy server.

Now lets add Tor to the configuration and even further anonymize our traffic You

should first stop tor -

LAB 7 – VPN SETUP, CONFIGURATION, USAGE

VPN – Linux, Debian, Kali, Ubuntu (install openvpn)

1. Open the terminal from the menu or ctrl + Alt + t at the same time
2. Install OpenVPN network manager by entering (copy/paste) into the terminal:
   `sudo apt-get install network-manager-openvpn` and

hit Return or Enter

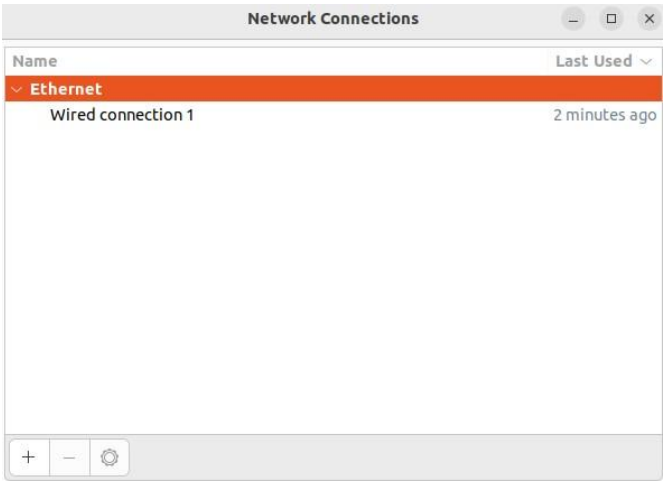
`sudo apt-get install network-manager-openvpn-gnome` and

hit Return or Enter

3. Restart the Network Manager

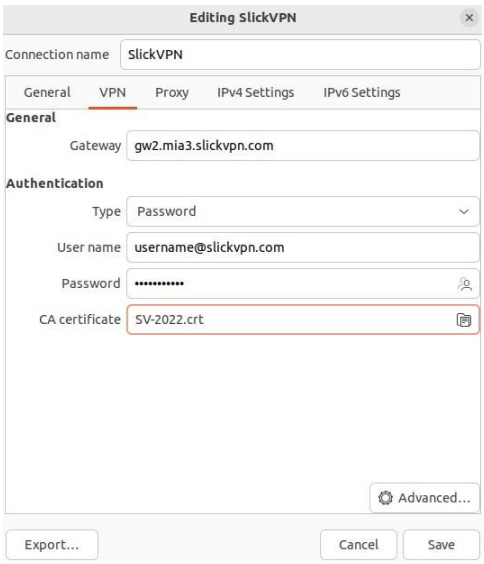
```
systemctl restart NetworkManager
```

4. *Go to Network Manager, click Network Connections. Click the '+' button in the Network Connections window and choose OpenVPN from the dropdown menu*



5. *In the Editing VPN connection window, Enter the following details:*

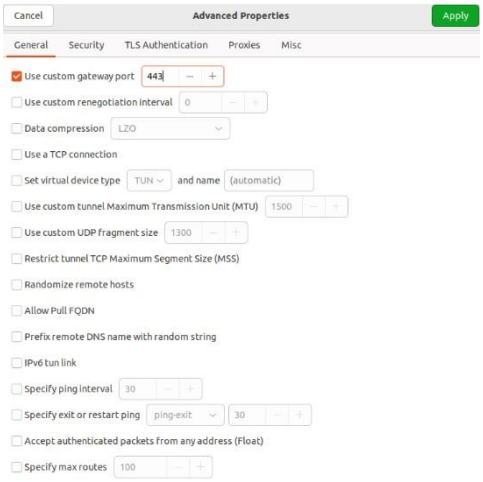
1. ***Connection name:*** SlickVPN, IPVanish, NordVPN, OVPN, ETC
2. ***Gateway:*** see.your.provider.com or choose a gateway
3. ***Type:*** Password
4. ***Username:*** Username
5. ***Password:*** Main Password
6. ***CA Certificate:*** vpn.crt



6. Click Advanced near the bottom of the window.

In the General tab

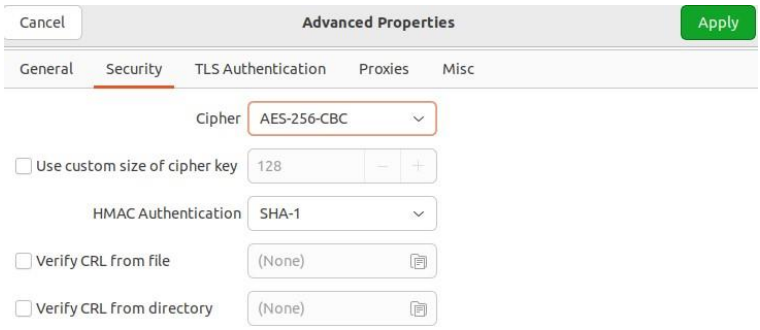
1. ***Custom gateway port:*** 443 or 8888
2. ***[Optional]***: Use TCP connection



The Security tab

Cipher: AES-256-CBC

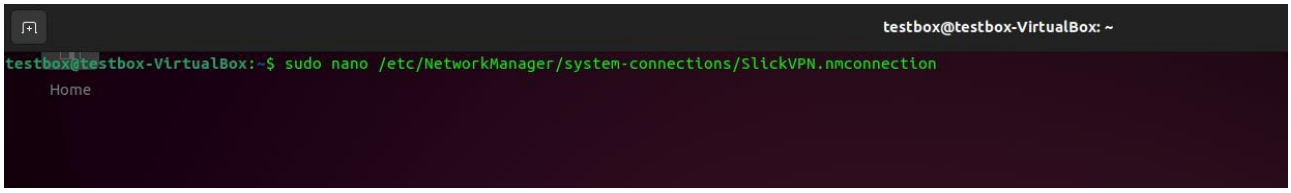
HMAC Authentication: SHA-1



Click Apply; and Click Save

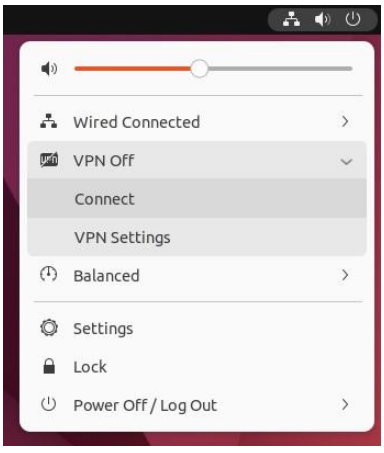
7. Go back to Terminal and enter the following

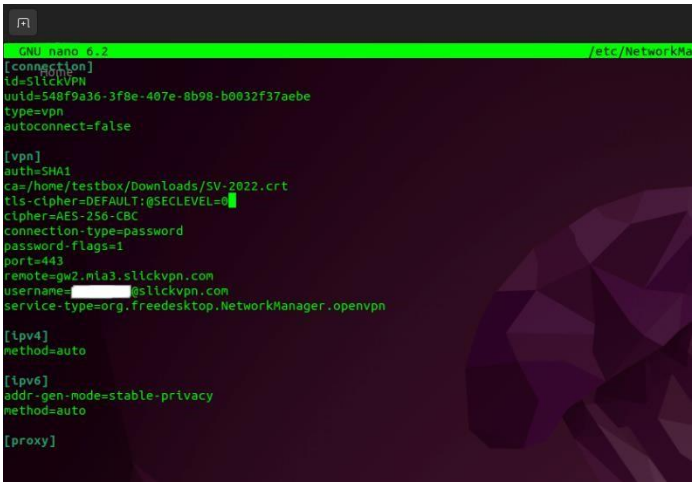
```
sudo nano /etc/NetworkManager/system-connections/VPN.connection
```



add this line under ca

```
tls-cipher=DEFAULT:@SECLEVEL=0
```





8. Restart Network Manager

```
systemctl restart NetworkManager
```

9. Start the connection to the VPN from Network Manager

LAB 7b – VPN SETUP Using Private VPN

```
sudo apt-get install -y openvpn network-manager-openvpn  sudo apt-get install -y network-manager-openvpn-gnome
```

Select your VPN of yoru choice, I selected ipvanish (not a recommendation)

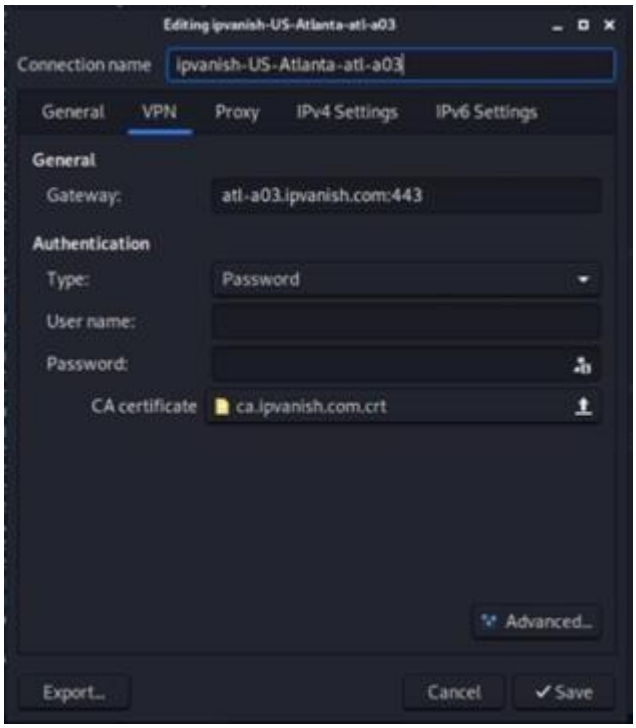
1. `mkdir ~/ipvanish`

   `wget https://www.ipvanish.com/software/configs/configs.zip`

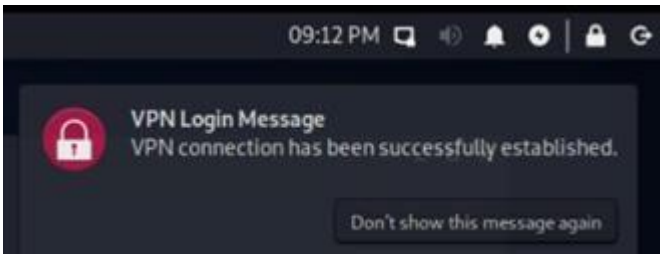
   Unzip the file "unzip" configs.zip

   Select import a saved VPN configuration and then next, create, and locate the file. And save.

5. In the Add VPN window appears that requires you to enter your username and password for your account



6. Next select the network icon again, and you will see the profile for the site you selected, **simply click on it** and you will connect and shortly see the following message confirming you are connected



Note: You do not have an "ipvanish" account so this will not work for you.

LAB 8 – BUILDING A DARK WEB SERVER

1. Lets configure our workstation to host a website on the darkweb, step 1 is already done, installing "TOR" and making sure you can run it as a service, lets check that out.

   a. From a terminal run "Service tor status" if its not running you can start it with running "service tor start" or "service tor restart" or to stop it service tor stop.

   b. Next lets edit the Tor RC file located under /etc/tor/torrc using view, leafpad or nano which ever your comfortable using: From a terminal window enter:

      i. sudo /etc/tor/torrc

```
File  Actions  Edit  View  Help

## HiddenServicePort x y:z says to redirect requests on port x to the
## address y:z.

#HiddenServiceDir /var/lib/tor/hidden_service/
#HiddenServicePort 80 127.0.0.1:80

#HiddenServiceDir /var/lib/tor/other_hidden_service/
#HiddenServicePort 80 127.0.0.1:80
#HiddenServicePort 22 127.0.0.1:22
```

a. You should scroll down until you see the #HiddenServiceDir notice the path to those services /var/lib/tor/other_hidden_service/ Next we will edit the file making the following changes:

```
File  Actions  Edit  View  Help

## HiddenServicePort x y:z says to redirect requests on port x to the
## address y:z.

HiddenServiceDir /var/lib/tor/hidden_service/
HiddenServicePort 80 127.0.0.1:80

HiddenServiceDir /var/lib/tor/other_hidden_service/
HiddenServicePort 80 127.0.0.1:80
HiddenServicePort 22 127.0.0.1:22
```

a. Now lets change to the directory we created to host our website,

cd /var/www/onion And create a simple webpage touch index.html

view index.html (or which ever editor you prefer)

Add content similar to below and save the file

```
File  Actions  Edit  View  Help

<html>
        <title> UNDERWORLD </title>
<body>
<center>
<h1>UNDERWORLD CRIME CINDIKATE </h1>
<BR><BR>
<h3> for access contact an admin </h3>
</center>
</body>
</html>
```

a. Next we can use php to create a simple web server
b. Where the page is execute: **php -S 127.0.0.1:80**
c. Or install nginx as show in the power point

```
┌──(root㉿TH21)-[/var/www/onion]
└─# php -S 127.0.0.1:80
[Tue Feb 23 23:18:49 2021] PHP 7.4.11 Development Server (http://127.0.0.1:
80) started
```

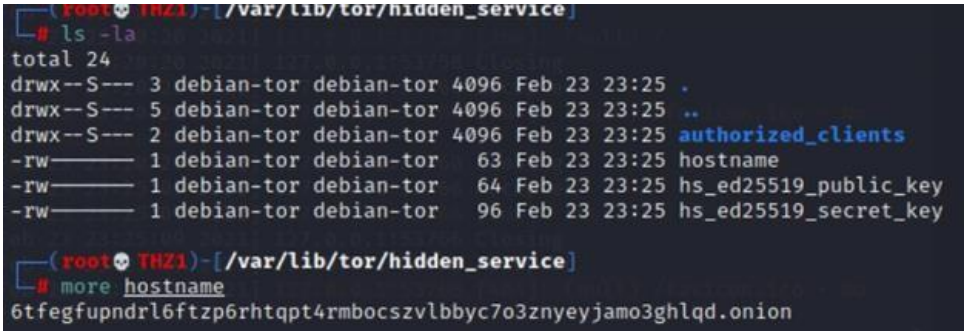
You should receive feedback similar to the above output, showing the service started.

a. Next lets open firefox and browse to http://127.0.0.1:80 with or without the 80 should work, since its the default port, but this is a simple php server so there is no https. You should see a similar page as shown below to confirm your system is working.
b. Now lets see if its accessible from the “Dark Web” so whats our onion address and how can people find it ?

c. Just run this command from a new terminal window, we do not want to close the one hosting the php server so open a new terminal and type in

d. cat /var/lib/tor/hidden_service/hostname

e. Or you can change to the directory and see the key's and the hostname file as shown.



There you have it, your now a webhoster on the Darkweb. Now this is extremely unsafe the way we ran php, and didnt setup rights and such, you can install/run apache or nginx for more robust and secure hosting.

Another option would be to run this: `python3 -m http.server --bind 127.0.0.1 80`

LAB 8 – A Vanity Tor URL

A vanity url, instead of all these weird combo of letters and numbers, no problem there is a tool for that, it's called **mkp224o** and it is a vanity address generator for Tor Onion v3 Hidden Services, created by cathugger and available on Github.

See the Power Point for the full options.,,

How do I make tor use of generated keys?

Copy key folder (though technically only hs_ed25519_secret_key is required) to where you want your service keys to reside: `sudo cp -r onionsite54....onion /var/lib/tor/onionsite` You many need to adjust ownership permissions: `sudo chmod -R u+rwX,og-rwx /var/lib/tor/onionsite`

git clone https://github.com/cathugger/mkp224o.git

apt-get install openssl apt-get install libsodium-dev

apt-get install libboost-all-dev apt-get install

autoconf apt-get install automake

./autogen.sh

./configure

make

Day 2

LAB 15 Crawler - Seed Sites, Hunting for Sites.

Unlike 'Torrent" seeding. We are specifically focused on the Dark Web and Crawling, and we will seed (place a few hosts) in the config that can be crawler and branched from there. We will use several Docker containers, Torproxy, Ache, and Elastic. This exercise will take over one hour to install, test and perform appropriately.

https://github.com/ViDA-NYU/ache
https://ache.readthedocs.io/en/latest/tutorial-crawling-tor.html

Running using Docker

Prerequisite: You will need to install a recent version of Docker. See https://docs.docker.com/engine/installation/ for details on how to install Docker for your platform.

https://hub.docker.com/r/dperson/torproxy/

```
sudo docker run -it -p 8118:8118 -p 9050:9050 -d dperson/torproxy
```

```
git clone https://github.com/ViDA-NYU/ache.git cd
ache
./gradlew installDist
```

1. mkdir config_docker_tor/ cd config_docker_tor/
   curl -O
   https://raw.githubusercontent.com/ViDANYU/ache/master/
   config/config_docker_tor/ache.yml curl -O
   https://raw.githubusercontent.com/ViDA-
   NYU/ache/master/config/config_docker_tor/docker-compose.yml
   curl -O https://raw.githubusercontent.com/ViDA-
   NYU/ache/master/config/config_docker_tor/tor.seeds
2. Cd config_docker_tor
3. docker-compose up -d

How to operate ACHE https://ache.readthedocs.io/en/latest/tutorial-crawling-tor.html

Search Scope: ache.yml:

LAB 16 Passwords

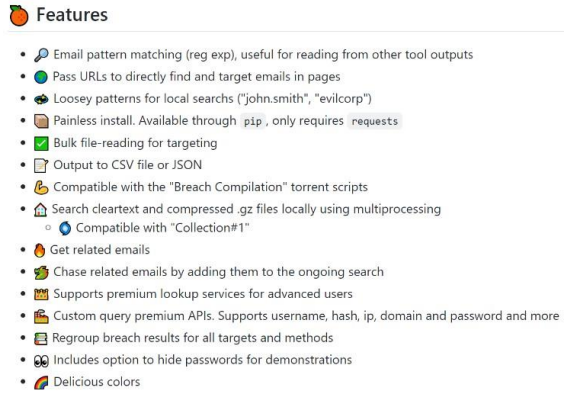
PASSWORDS:
Finding password Dumps

- Combining TheHarvester and Crosslinked tools, you can see if an organizations email address have been compromised. https://github.com/khast3x/h8mail

1. apt install python3-pip
2. Pip3 install h8mail
3. cd /home/kali/.local/bin

Acquire and install API keys, this provides you the option to use premium services.
Python3 h8mail -g (like: haveibeenpwnd)

$> view /home/kali/.local/bin/h8mail_config.ini (enter your api here after hibp)




```
Python3 h8mail -h
Python3 h8mail -t <target email address>
Python3 h8mail -t victim@email.com -c
```

Premium pay-for services such as HaveIbeenpwned.com

https://haveibeenpwned.com/Passwords Pastebin
https://cybernews.com/personal-data-leak-check
https://snusbase.com/

LAB 16b Passwords

PwnedOrNot

PwnedOrNot is a OSINT tool to find passwords for compromised email addresses. pwnedOrNot uses haveibeenpwned v3 api to test email accounts and tries to find the password in Pastebin Dumps.

- Name of Breach
- Domain Name
- Date of Breach
- Fabrication status
- Verification Status
- Retirement status
- Spam Status

And with all this information **pwnedOrNot** can easily find passwords for compromised emails if the dump is accessible and it contains the password.

https://github.com/thewhiteh4t/pwnedOrNot

```
git clone https://github.com/thewhiteh4t/pwnedOrNot.git
cd pwnedOrNot chmod +x install.sh
./install.sh
 Docker: git clone
https://github.com/thewhiteh4t/pwnedOrNot.git docker
build -t pon . docker run -it pon

python3 pwnedornot.py -h
usage: pwnedornot.py [-h] [-e EMAIL] [-f FILE] [-d DOMAIN] [-n] [-l]
[-c CHECK]
```

Complete command line examples: https://github.com/thewhiteh4t/pwnedOrNot

```
# Get only Breach Info, Skip Password Dumps python3
pwnedornot.py -e <email> -n
```

LAB 17 OnionScan

Tools: Lab: OnionScan

1. Remove already installed Go **From a terminal:**

```
sudo apt-get remove golang-go
```

```
sudo apt-get remove --auto-remove golang-go
```

2. Browse to the Go website and download https://golang.org/ version 1.16

Linux

Linux 2.6.23 or later, Intel 64-bit processor

go1.16.linux-amd64.tar.gz (123MB)

OnionScan in a Docker container Based on https://github.com/s-rah/onionscan.

> The purpose of this tool is to make you a better onion service provider. You owe it to yourself and your users to ensure that attackers cannot easily exploit and deanonymize.

Run the container like so:

```
docker run -d --cap-drop=all --name onionscan mpatton/onionscan
```

This will startup the Tor connection and allow you to do the following:

```
docker exec -it onionscan onionscan <options> <onion address>
```

See https://github.com/s-rah/onionscan for further information.

Note: Run the following to make sure Tor has fully started, prior to running your scan:

```
docker logs -f onionscan
```

1. Suggest you reboot after you remove the old version of Go.
2. Go to your downloads directory under your user and open a terminal window

`tar -C /usr/local/ -xzf go1.16.linux-amd64.tar.gz` `export GOROOT=/usr/local/go export GOPATH=/root/go-workspace PATH=$PATH:$GOROOT/bin/:$GOPATH/bin go version`

3. Next we download Onionscan **`go get github.com/s-rah/onionscan`**

a. Next do a “go get” for each of the below packages

`go get golang.org/x/crypto/openpgp/packet` go get golang.org/x/net/proxy - For the Tor SOCKS Proxy connection go get golang.org/x/net/html - For HTML parsing go get

github.com/rwcarlsen/goexif - For EXIF data extraction go get

github.com/HouzuoGuo/tiedot/db - For crawl database

4. To test you can find an .onion address and scan similar to below:

```
onionscan --verbose cardsa2u7pvmdamw.onion onionscan --jsonReport cardsa2u7pvmdamw
```

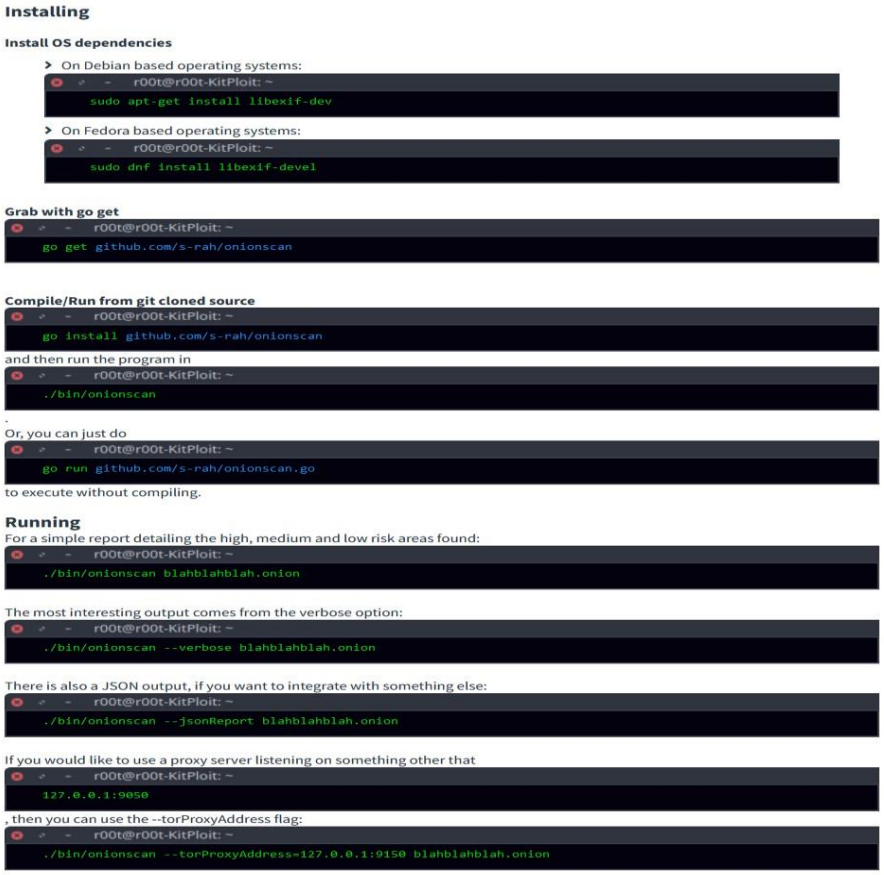
5. There is a OnionScan Correlation Lab you can try out as well depending on where your onionscandb is located you may need to change the path.

```
onionscan --mode analysis --dbdir ~/go/bin/onionscandb
```

LAB 17b OnionScan Docker Container

1. Make sure Docker is installed
2. Execuite Docker Commands as follows:

```
docker  run -ti --rm --name onionscan -v ${HOME}:/home/onionscan alexandreoda/onionscan```
```



LAB 18 Katana-ds Docker Container

Katana-ds

1. Git clone https://github.com/TebbaaX/Katana.git
2. cd Katana python3 -m pip install -r requirements.txt python3 k cd Katana
3. python3 kds.py -h (for help) Options :
   -g :for google mode
   -s :for scada mode
   -t :for tor mode
   -p :for proxy mode ds.py

Option 2

1. https://github.com/K-Phoen/docker-sabre-katana.git
2. docker run -d -p 8080:80 --name kphoen/sabre-katana
3. Store data elsewhere: docker run -d -p 8080:80 -v $(pwd)/data:/var/www/html/data --name kphoen/sabre-katana
4. python3 kds.py -h (for help) Options :
   -g :for google mode
   -s :for scada mode
   -t :for tor mode
   -p :for proxy mode ds.py

LAB 19 Hunchly Investigative tool

Download for Linux
(SHA-1 Hash)

Optional: You can start with installing a 30 day trial of Hunch.ly , go to the website select free 30 day trial that will take you to the registration page, you must register to get a key.

1. https://www.hunch.ly//try-it-now
2. Select Download for Linux, Download the .deb file
3. After download select “Show in Folder”, it show up as hunchly.deb
4. Next download your key file from email to the same download folder
5. Next open a terminal and type: **sudo apt install gnome-software**

6. Lets install google chrome next, a requirement for Hunchly
   a. Using a **terminal** window type in the below wget to obtain the latest .deb file

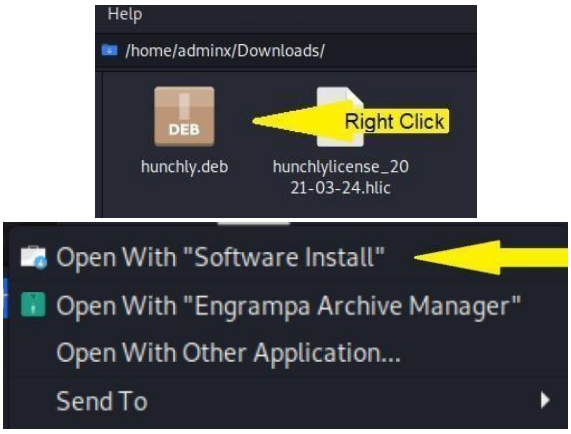
wget https://dl.google.com/linux/direct/google-chrome-stable_current_amd64.deb

7. From the same terminal window, Now lets install Google Chrome **apt install ./googlechromestable_current_amd64.deb**

8. From the same terminal window you can launch chrome by type in **google-chrome --nosandbox**

9. With Chrome browse to the chrome webstore and add the Hunchly 2.0 extension https://chrome.google.com/webstore/detail/hunchly-20/amfnegileeghgikpggcebehdepknalbf?hl=en

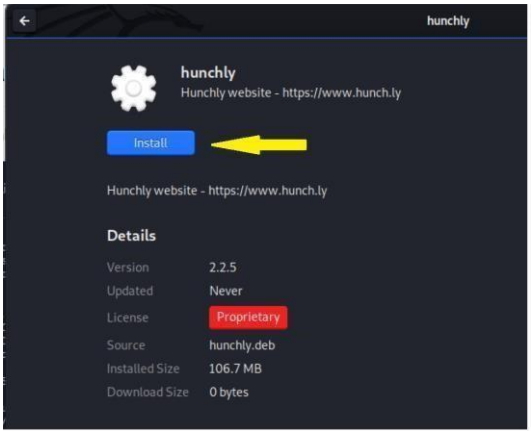
10. Next locate the Hunchly .deb file you downloaded using your file manager, and right click



Select “Open with “Software Install” if this doesn't appear you skipped step 5.

Next screen is the install screen, click the blue “Install” button

Once it says installed you can close the window by the right x

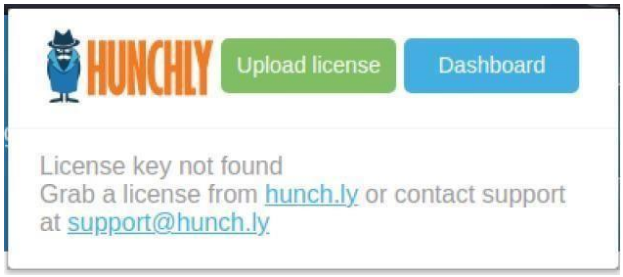


11. Once you close out the installer, you will need to install (if you already haven't) the Chrome extension for Hunchly from step 9.

12. Next “Open Google Chrome” and select the “Extensions”  icon,

13. You can click the Red Hunchly 

2.0 icon and a window with licensing will appear - License Key not found



14. Select “Upload License” and another popup with “license status” and an option to upload a license. Select the green upload license and browse to locate the license file under downloads - Select that file and “okay”

15. Once your product has been licensed, you will see the license status change to green

16. Now lets pin the hunchly icon to your toolbar so you don't need to search for it under extensions again, go to extensions, and notice the thumb-tac icon next to Hunchly 2.0

Select that icon and it should now appear on your main browser window

17. Next let's fix the Kali linux issue with launching Hunchly since Kali main OS is a bit different then Ubuntu we have to edit the “**/usr/lib/hunchly**” parameter file

a. In a terminal window, sudo nano (or view) /usr/lib/hunchly

```
 GNU nano 5.3                          hunchly
#!/bin/sh
# Looks like you're up to something. We want to help! Contact us at suppor>

#launch that 'lil detective!
exec /usr/lib/hunchly/Hunchly --no-sandbox
```

*We will add a space and then **--no-sandbox** (as shown) and then save the file.*

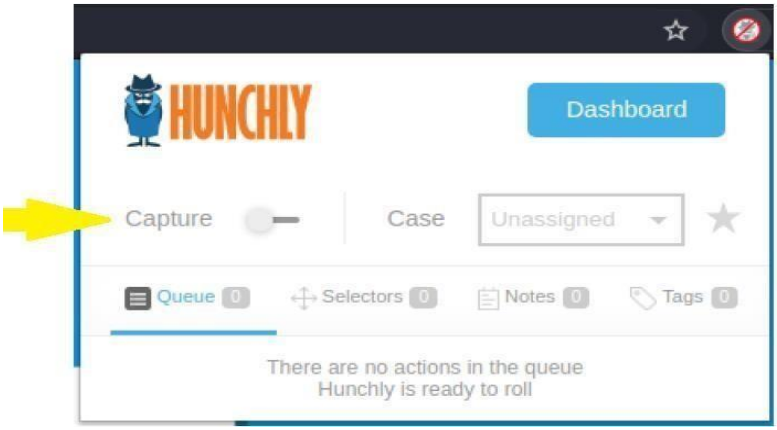
LAB2: Start an Investigation

18. First launch Tor Browser (Required to proxy the Chrome Browser to Tor)

19. Next enter the line below in a terminal window to launch Chrome

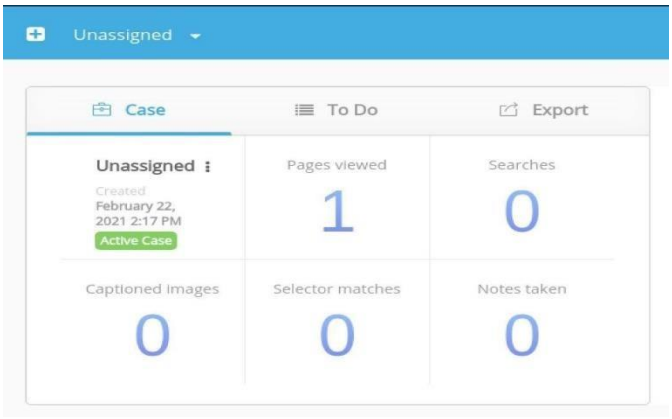
```
google-chrome --proxy-server="socks5://localhost:9150" --host-
resolverrules="MAP * ~NOTFOUND , EXCLUDE localhost"/Applications/Google\
Chrome.app/ Contents/MacOS/Google\ Chrome --proxyserver="socks5://localhost:9150" -
-hostresolverrules="MAP * ~NOTFOUND , EXCLUDE localhost"
```

20. Next Lets start a new case - Select the Hunchly icon from your Chrome Browser 21. Select Capture to to on (blue) then



22. Now you will browse to your questionable site, and review the items you are investigating while Hunchly captures all in the background.

23. To launch the Hunchly (another Quark of Kali) from a terminal window type in hunchly - enter. You should see Hunchly dashboard come up, as shown below.

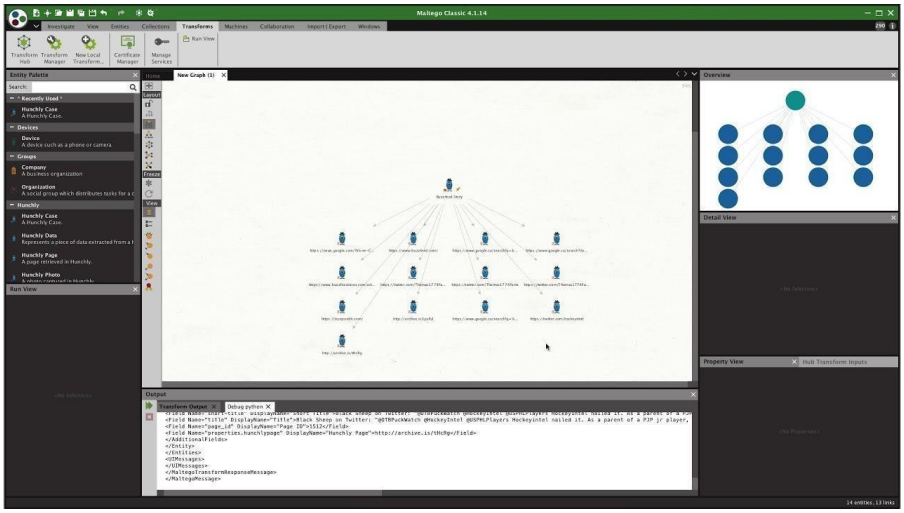


You should see one or more page views, and one unassigned active case, you can review all the details of the browse at the bottom section, or add details of what was found in notes.

Maltego Integration:

24. There is an integration for **Maltego** transforms with Hunchly and data forwarding.
25. You can signup for the Hunchly mailing list where they send a daily “hidden services” spreadsheet each day, it includes a ton of information and can help you with your investigation.

26. If you want to continue with learning the in’s and outs of hunchly which is way beyond what this class teaches - checkout [Hunchly support]



LAB 20 I2P and Garlic

This is an optional exercise to get i2P running on your system, there quite a few debian apps and commands required to get it up and running, and of course do not run as root after you finished installing.

1. From your Debian VM Host open firefox and Download https://geti2p.net/en/download#deb
2. Make sure your Tor demon is stopped - > service tor stop
3. > sudo apt-get install apt-transport-https curl

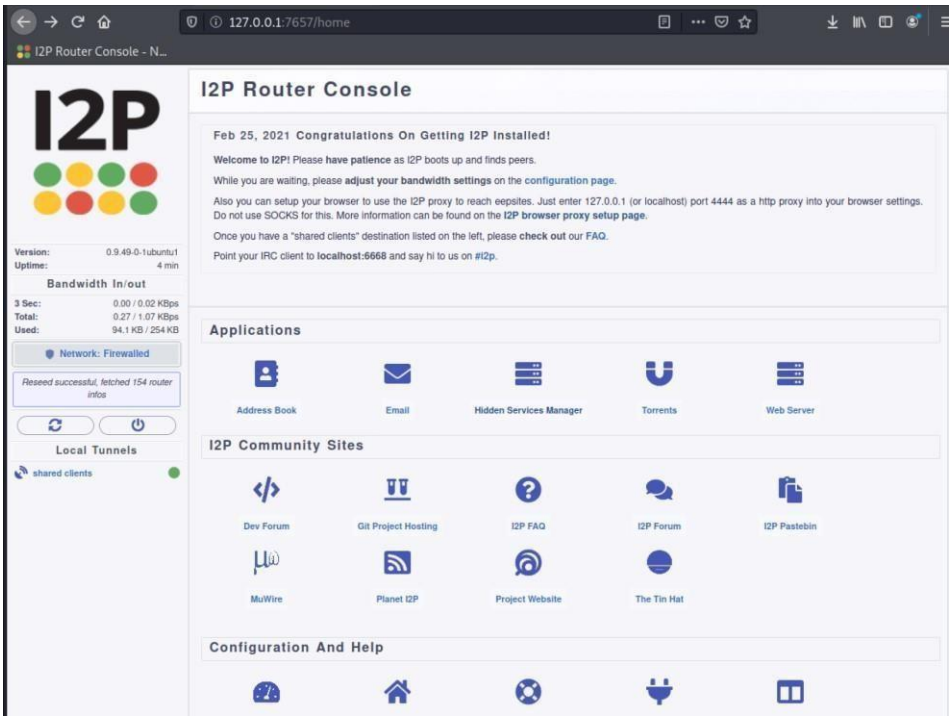
4. Create /etc/apt/sources.list.d/i2p.list (use nano or view) and add the following repos deb https://deb.i2p2.de/ buster main

   deb-src https://deb.i2p2.de/ buster main

5. curl -o i2p-debian-repo.key.asc https://geti2p.net/_static/i2p-debian-repo.key.asc
6. gpg -n --import --import-options import-show i2p-debian-repo.key.asc
7. sudo apt-key add i2p-debian-repo.key.asc
8. sudo apt-get update
9. sudo apt-get install i2p i2p-keyring

Now from a web browser: http://127.0.0.1:7657/welcome

It will test your bandwidth, give it a minute, you wont be able to click next until its finished.



Make sure you setup your browser for the proxy, settings can be found here

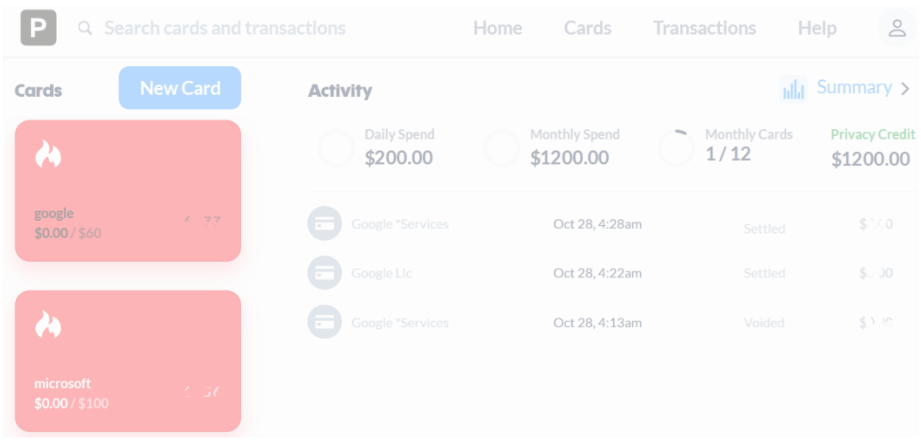
Go to Preferences, Network proxy : In the Connection Settings pop-up, select Manual proxy configuration. Set both the HTTP and SSL Proxy to address 127.0.0.1 with port 4444 as shown in the following screenshot.

Day 2

Protecting your Credit identity, Using Virtual Credit.

Virtual Credit Cards and phone Numbers:

Privacy dot com



NerdWallet,