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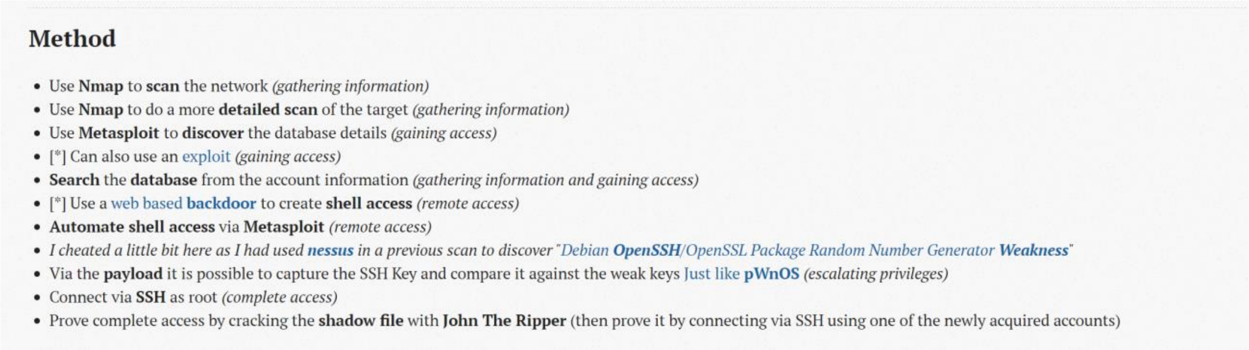
10/13/2019

CSC 154

Lab 2

Metasploit Tikiwiki exploit

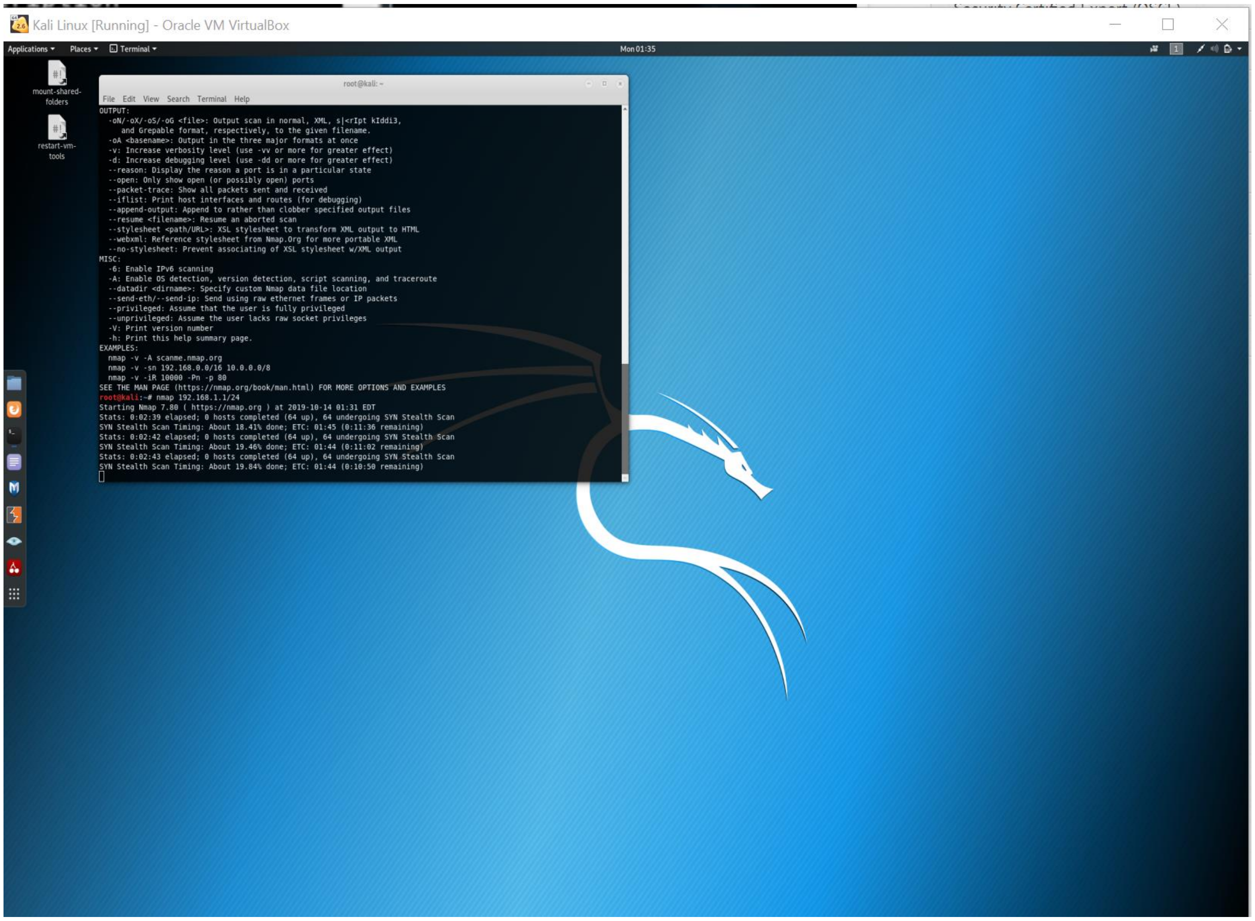
The entire method consists of this



Method

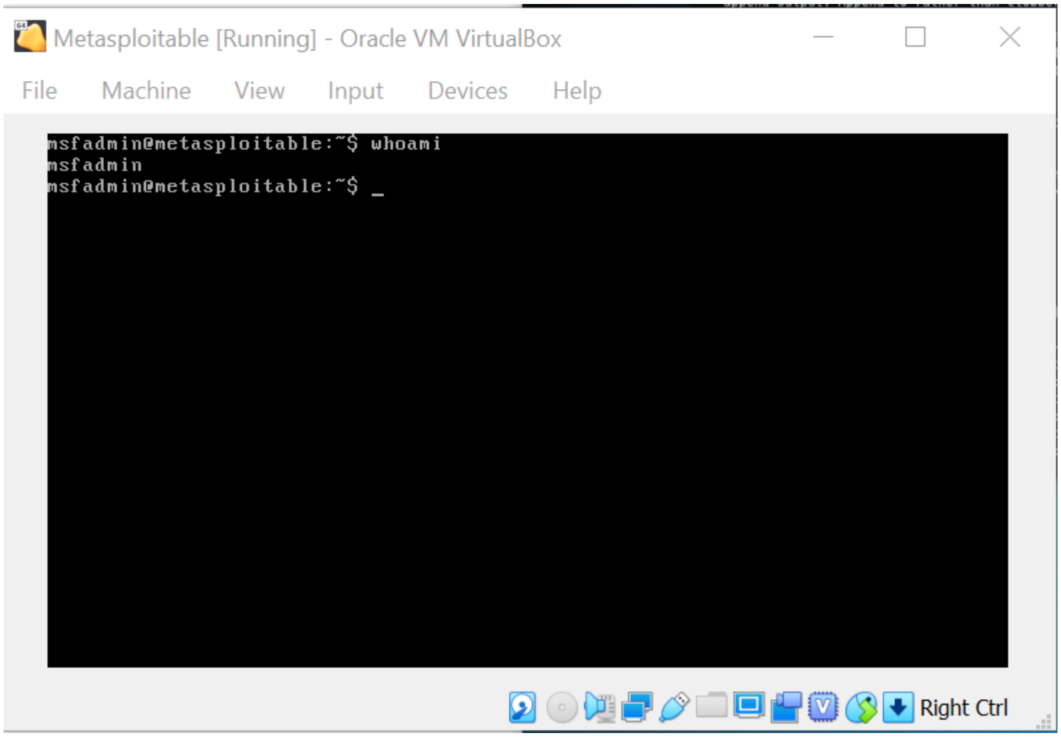
- Use **Nmap** to **scan** the network *(gathering information)*
- Use **Nmap** to do a more **detailed scan** of the target *(gathering information)*
- Use **Metasploit** to **discover** the database details *(gaining access)*
- [*] Can also use an exploit *(gaining access)*
- **Search** the **database** from the account information *(gathering information and gaining access)*
- [*] Use a web based **backdoor** to create **shell access** *(remote access)*
- **Automate shell access** via **Metasploit** *(remote access)*
- *I cheated a little bit here as I had used **nessus** in a previous scan to discover "Debian **OpenSSH**/OpenSSL Package Random Number Generator **Weakness**"*
- Via the **payload** it is possible to capture the SSH Key and compare it against the weak keys Just like **pWnOS** *(escalating privileges)*
- Connect via **SSH** as root *(complete access)*
- Prove complete access by cracking the **shadow file** with **John The Ripper** (then prove it by connecting via SSH using one of the newly acquired accounts)

1. First step is correctly setting up Kali Backtrack Linux on system



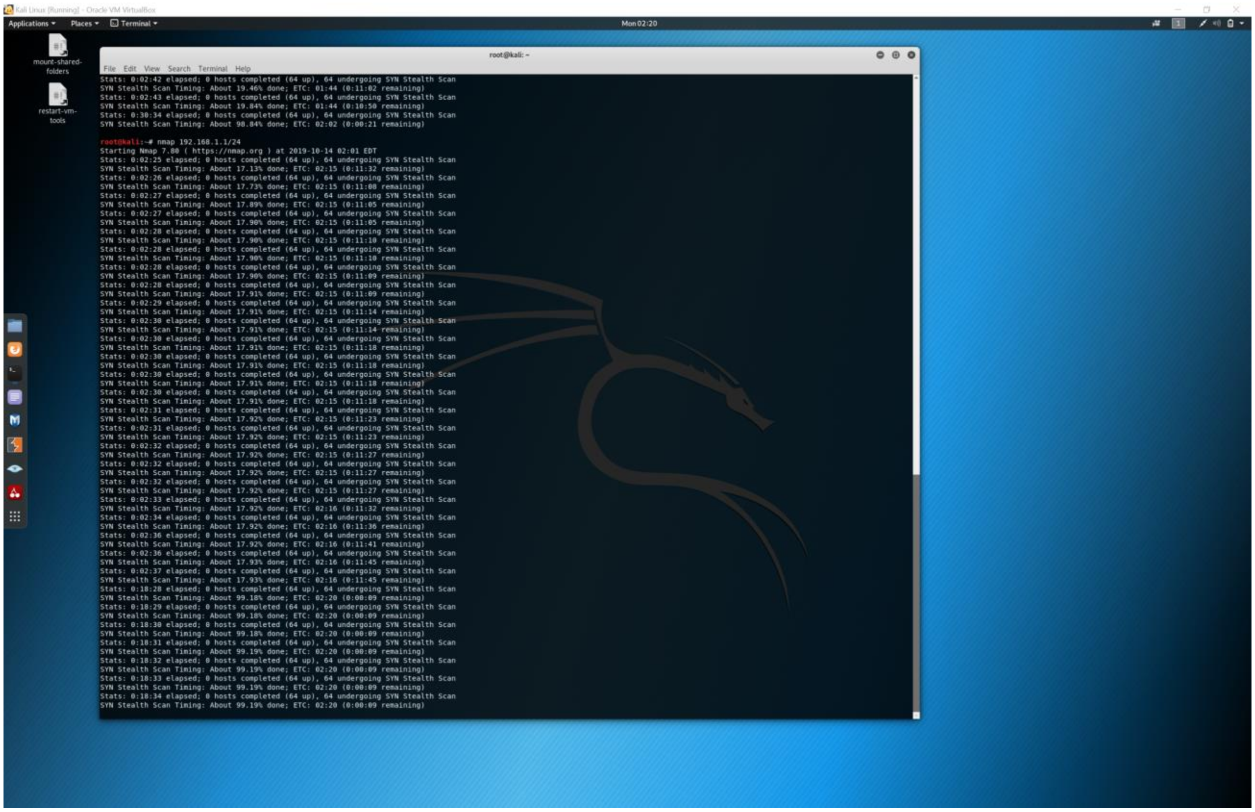
```
OUTPUT:
  -oN/-oX/-oS/-oG <file>: Output scan in normal, XML, s|<rIpt kIddi3,
     and Grepable format, respectively, to the given filename.
  -oA <basename>: Output in the three major formats at once
  -v: Increase verbosity level (use -vv or more for greater effect)
  -d: Increase debugging level (use -dd or more for greater effect)
  --reason: Display the reason a port is in a particular state
  --open: Only show open (or possibly open) ports
  --packet-trace: Show all packets sent and received
  --iflist: Print host interfaces and routes (for debugging)
  --append-output: Append to rather than clobber specified output files
  --resume <filename>: Resume an aborted scan
  --stylesheet <path/URL>: XSL stylesheet to transform XML output to HTML
  --webxml: Reference stylesheet from Nmap.Org for more portable XML
  --no-stylesheet: Prevent associating of XSL stylesheet w/XML output
MISC:
  -6: Enable IPv6 scanning
  -A: Enable OS detection, version detection, script scanning, and traceroute
  --datadir <dirname>: Specify custom Nmap data file location
  --send-eth/--send-ip: Send using raw ethernet frames or IP packets
  --privileged: Assume that the user is fully privileged
  --unprivileged: Assume the user lacks raw socket privileges
  -V: Print version number
  -h: Print this help summary page.
EXAMPLES:
  nmap -v -A scanme.nmap.org
  nmap -v -sn 192.168.0.0/16 10.0.0.0/8
  nmap -v -iR 10000 -Pn -p 80
SEE THE MAN PAGE (https://nmap.org/book/man.html) FOR MORE OPTIONS AND EXAMPLES
root@kali:~# nmap 192.168.1.1/24
Starting Nmap 7.80 ( https://nmap.org ) at 2019-10-14 01:31 EDT
Stats: 0:02:39 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 18.41% done; ETC: 01:45 (0:11:36 remaining)
Stats: 0:02:42 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 19.46% done; ETC: 01:44 (0:11:02 remaining)
Stats: 0:02:43 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 19.84% done; ETC: 01:44 (0:10:50 remaining)
```

2. Second step is to correctly set up Metasploit on Virtualbox



```
msfadmin@metasploitable:~$ whoami
msfadmin
msfadmin@metasploitable:~$ _
```

3. Third step is to use Nmap to scan network through terminal on Kali

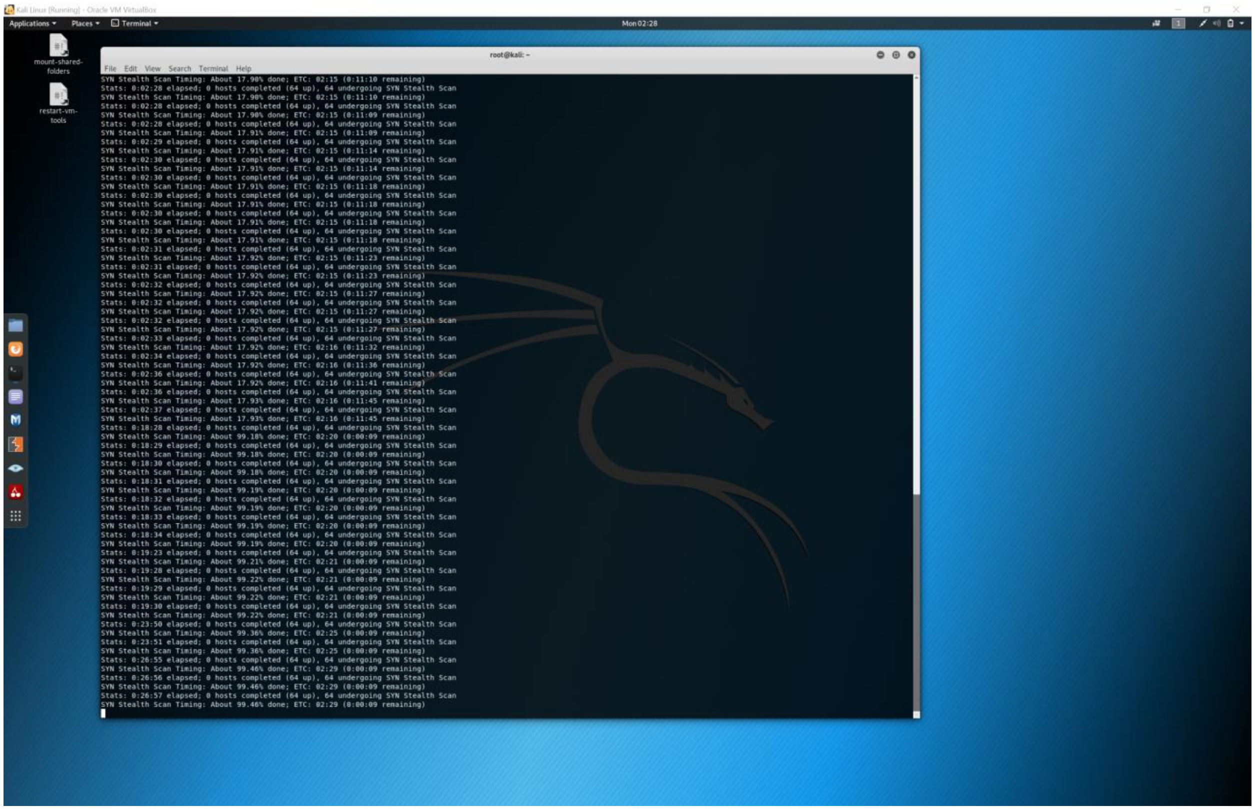


```
Stats: 0:02:42 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 19.46% done; ETC: 01:44 (0:11:02 remaining)
Stats: 0:02:43 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 19.84% done; ETC: 01:44 (0:10:50 remaining)
Stats: 0:30:34 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 98.84% done; ETC: 02:02 (0:00:21 remaining)

root@kali:~# nmap 192.168.1.1/24
Starting Nmap 7.80 ( https://nmap.org ) at 2019-10-14 02:01 EDT
Stats: 0:02:25 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.13% done; ETC: 02:15 (0:11:32 remaining)
Stats: 0:02:26 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.73% done; ETC: 02:15 (0:11:08 remaining)
Stats: 0:02:27 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.89% done; ETC: 02:15 (0:11:05 remaining)
Stats: 0:02:27 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:05 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:10 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:10 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:09 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:09 remaining)
Stats: 0:02:29 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:14 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:14 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:23 remaining)
Stats: 0:02:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:23 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:33 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:32 remaining)
Stats: 0:02:34 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:36 remaining)
Stats: 0:02:36 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:41 remaining)
Stats: 0:02:36 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.93% done; ETC: 02:16 (0:11:45 remaining)
Stats: 0:02:37 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.93% done; ETC: 02:16 (0:11:45 remaining)
Stats: 0:18:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:29 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:33 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:34 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
```

However, after countless attempts, I was unable to get nmap to complete on my machine. It would continuously get stuck at 99.99% after taking hours to get to that percentage.

4. Fourth step is to use firefox to confirm existence of the Metasploit server.
5. Fifth step is to then compile and run the DirBuster file against the server.
6. You then use firefox to access the tikiwiki director
7. You then open up the Metasploit console and search for tikiwiki
8. You set the admin permissions for the tikiwiki file
9. You have to then go through and change the default SQL admin password.
10. After that, we use the web based backdoor to gain shell remote access.
11. We automate that shell access through use of our remote Metasploit access.
12. We then capture that SSH key being used to connect and compare it to known weak keys. Once we have the SSH key, we can connect as root and have full access to the system.



```
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:10 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:10 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.90% done; ETC: 02:15 (0:11:09 remaining)
Stats: 0:02:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:09 remaining)
Stats: 0:02:29 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:14 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:14 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.91% done; ETC: 02:15 (0:11:18 remaining)
Stats: 0:02:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:23 remaining)
Stats: 0:02:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:23 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:15 (0:11:27 remaining)
Stats: 0:02:33 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:32 remaining)
Stats: 0:02:34 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:36 remaining)
Stats: 0:02:36 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.92% done; ETC: 02:16 (0:11:41 remaining)
Stats: 0:02:36 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.93% done; ETC: 02:16 (0:11:45 remaining)
Stats: 0:02:37 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 17.93% done; ETC: 02:16 (0:11:45 remaining)
Stats: 0:18:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:29 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.18% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:31 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:32 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:33 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:18:34 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.19% done; ETC: 02:20 (0:00:09 remaining)
Stats: 0:19:23 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.21% done; ETC: 02:21 (0:00:09 remaining)
Stats: 0:19:28 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.22% done; ETC: 02:21 (0:00:09 remaining)
Stats: 0:19:29 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.22% done; ETC: 02:21 (0:00:09 remaining)
Stats: 0:19:30 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.22% done; ETC: 02:21 (0:00:09 remaining)
Stats: 0:23:50 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.36% done; ETC: 02:25 (0:00:09 remaining)
Stats: 0:23:51 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.36% done; ETC: 02:25 (0:00:09 remaining)
Stats: 0:26:55 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.46% done; ETC: 02:29 (0:00:09 remaining)
Stats: 0:26:56 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.46% done; ETC: 02:29 (0:00:09 remaining)
Stats: 0:26:57 elapsed; 0 hosts completed (64 up), 64 undergoing SYN Stealth Scan
SYN Stealth Scan Timing: About 99.46% done; ETC: 02:29 (0:00:09 remaining)
```

13.