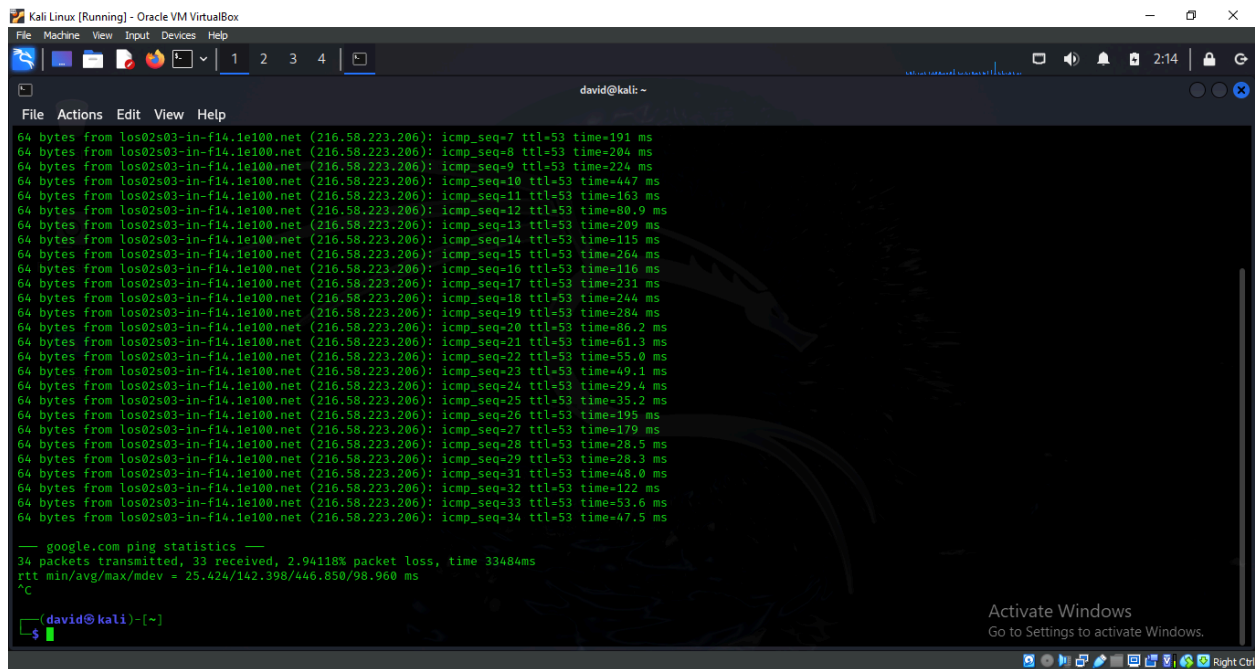


LAB 12:

Ping and its various uses

Tool: Kali Linux or Windows

Task 1: ping google.com



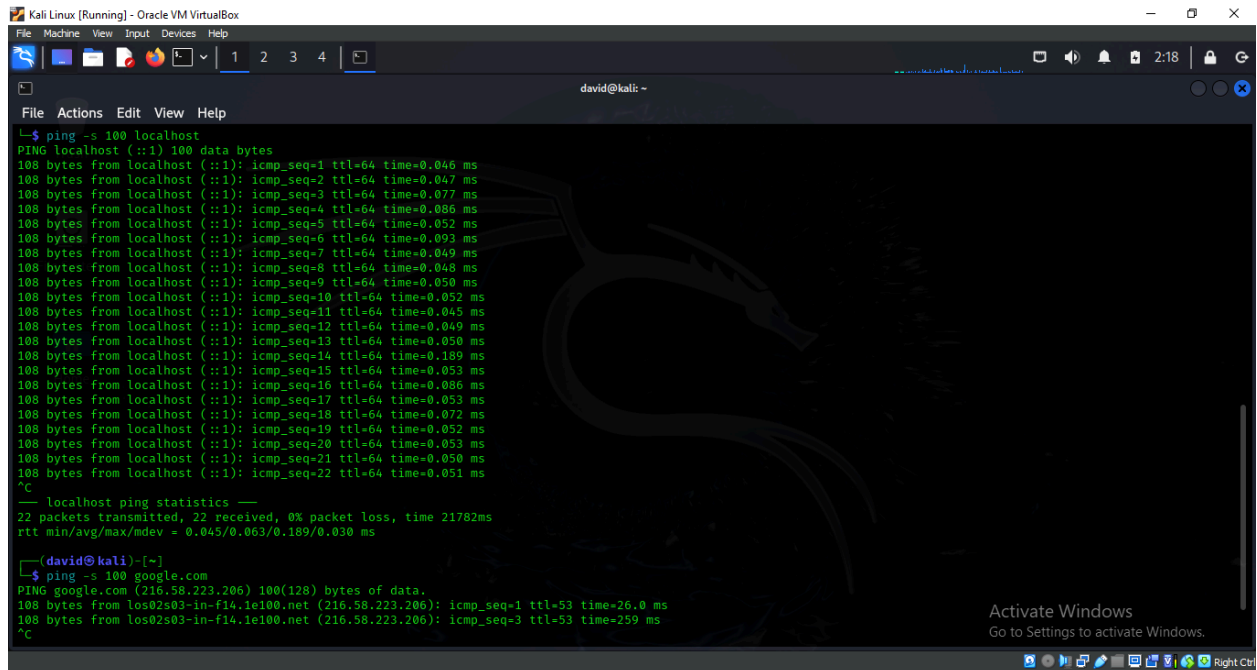
```
Kali Linux [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
1 2 3 4
david@kali: ~
File Actions Edit View Help
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=7 ttl=53 time=191 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=8 ttl=53 time=204 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=9 ttl=53 time=224 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=10 ttl=53 time=447 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=11 ttl=53 time=163 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=12 ttl=53 time=80.9 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=13 ttl=53 time=209 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=14 ttl=53 time=115 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=15 ttl=53 time=264 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=16 ttl=53 time=116 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=17 ttl=53 time=231 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=18 ttl=53 time=244 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=19 ttl=53 time=284 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=20 ttl=53 time=86.2 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=21 ttl=53 time=61.3 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=22 ttl=53 time=55.0 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=23 ttl=53 time=49.1 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=24 ttl=53 time=29.4 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=25 ttl=53 time=35.2 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=26 ttl=53 time=195 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=27 ttl=53 time=179 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=28 ttl=53 time=28.5 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=29 ttl=53 time=28.3 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=31 ttl=53 time=48.0 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=32 ttl=53 time=122 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=33 ttl=53 time=53.6 ms
64 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=34 ttl=53 time=47.5 ms

— google.com ping statistics —
34 packets transmitted, 33 received, 2.94118% packet loss, time 33484ms
rtt min/avg/max/mdev = 25.424/142.398/446.850/98.960 ms
^C
(david@kali)~$
```

Task 2: We can set the packet size using the following commands:

```
ping -s 100 localhost
```

```
ping -s 100 google.com
```



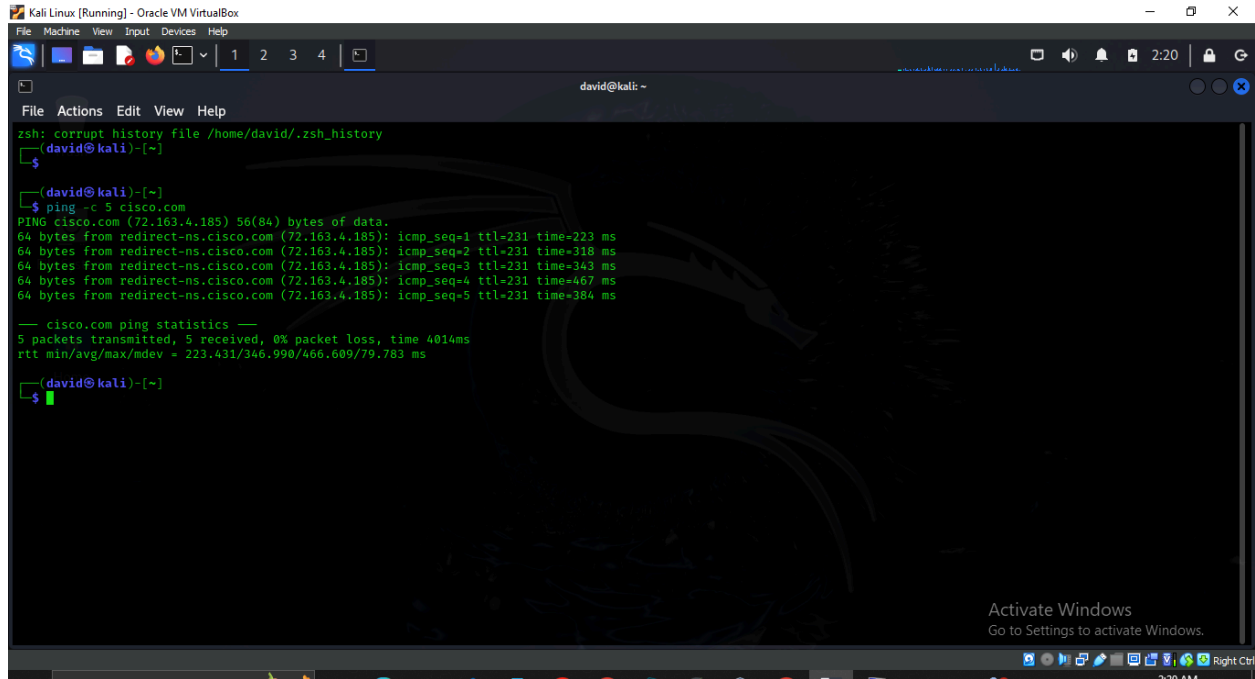
The screenshot shows a Kali Linux terminal window titled "Kali Linux [Running] - Oracle VM VirtualBox". The terminal displays the output of two ping commands. The first command is `ping -s 100 localhost`, which shows 22 successful pings to localhost with a packet size of 100 bytes. The second command is `ping -s 100 google.com`, which shows two successful pings to google.com with a packet size of 100 bytes. The terminal also displays a watermark of a dragon in the background.

```
File Actions Edit View Help
david@kali: ~
$ ping -s 100 localhost
PING localhost (::1) 100 data bytes
108 bytes from localhost (::1): icmp_seq=1 ttl=64 time=0.046 ms
108 bytes from localhost (::1): icmp_seq=2 ttl=64 time=0.047 ms
108 bytes from localhost (::1): icmp_seq=3 ttl=64 time=0.077 ms
108 bytes from localhost (::1): icmp_seq=4 ttl=64 time=0.086 ms
108 bytes from localhost (::1): icmp_seq=5 ttl=64 time=0.052 ms
108 bytes from localhost (::1): icmp_seq=6 ttl=64 time=0.093 ms
108 bytes from localhost (::1): icmp_seq=7 ttl=64 time=0.049 ms
108 bytes from localhost (::1): icmp_seq=8 ttl=64 time=0.048 ms
108 bytes from localhost (::1): icmp_seq=9 ttl=64 time=0.050 ms
108 bytes from localhost (::1): icmp_seq=10 ttl=64 time=0.052 ms
108 bytes from localhost (::1): icmp_seq=11 ttl=64 time=0.045 ms
108 bytes from localhost (::1): icmp_seq=12 ttl=64 time=0.049 ms
108 bytes from localhost (::1): icmp_seq=13 ttl=64 time=0.050 ms
108 bytes from localhost (::1): icmp_seq=14 ttl=64 time=0.189 ms
108 bytes from localhost (::1): icmp_seq=15 ttl=64 time=0.053 ms
108 bytes from localhost (::1): icmp_seq=16 ttl=64 time=0.086 ms
108 bytes from localhost (::1): icmp_seq=17 ttl=64 time=0.053 ms
108 bytes from localhost (::1): icmp_seq=18 ttl=64 time=0.072 ms
108 bytes from localhost (::1): icmp_seq=19 ttl=64 time=0.052 ms
108 bytes from localhost (::1): icmp_seq=20 ttl=64 time=0.053 ms
108 bytes from localhost (::1): icmp_seq=21 ttl=64 time=0.050 ms
108 bytes from localhost (::1): icmp_seq=22 ttl=64 time=0.051 ms
^C
--- localhost ping statistics ---
22 packets transmitted, 22 received, 0% packet loss, time 21782ms
rtt min/avg/max/mdev = 0.045/0.063/0.189/0.030 ms

david@kali: ~
$ ping -s 100 google.com
PING google.com (216.58.223.206) 100(128) bytes of data.
108 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=1 ttl=53 time=26.0 ms
108 bytes from los02s03-in-f14.1e100.net (216.58.223.206): icmp_seq=3 ttl=53 time=259 ms
^C
```

Task 3: To specify the number of echo request packages to be sent after pings exit, use the `-c` option followed by the number of packages:

ping -c 5 cisco.com

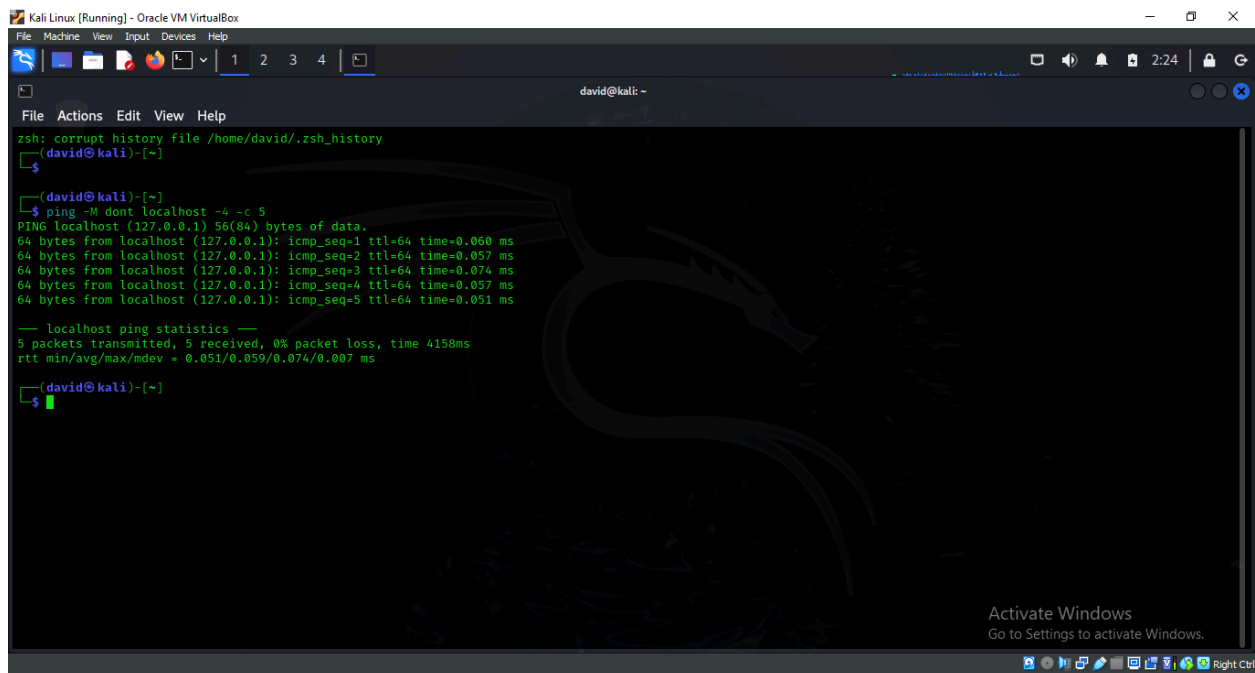


```
zsh: corrupt_history file /home/david/.zsh_history
(david@kali)~$
(david@kali)~$ ping -c 5 cisco.com
PING cisco.com (72.163.4.185) 56(84) bytes of data:
64 bytes from redirect-ns.cisco.com (72.163.4.185): icmp_seq=1 ttl=231 time=223 ms
64 bytes from redirect-ns.cisco.com (72.163.4.185): icmp_seq=2 ttl=231 time=318 ms
64 bytes from redirect-ns.cisco.com (72.163.4.185): icmp_seq=3 ttl=231 time=343 ms
64 bytes from redirect-ns.cisco.com (72.163.4.185): icmp_seq=4 ttl=231 time=467 ms
64 bytes from redirect-ns.cisco.com (72.163.4.185): icmp_seq=5 ttl=231 time=384 ms

--- cisco.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4014ms
rtt min/avg/max/mdev = 223.431/346.990/466.609/79.783 ms

(david@kali)~$
```

Task 4: To send 5 packets which “will not fragment the flag (IPv4 only)” pass “-M dont” option with the following command:
ping -M dont localhost -4 -c 5

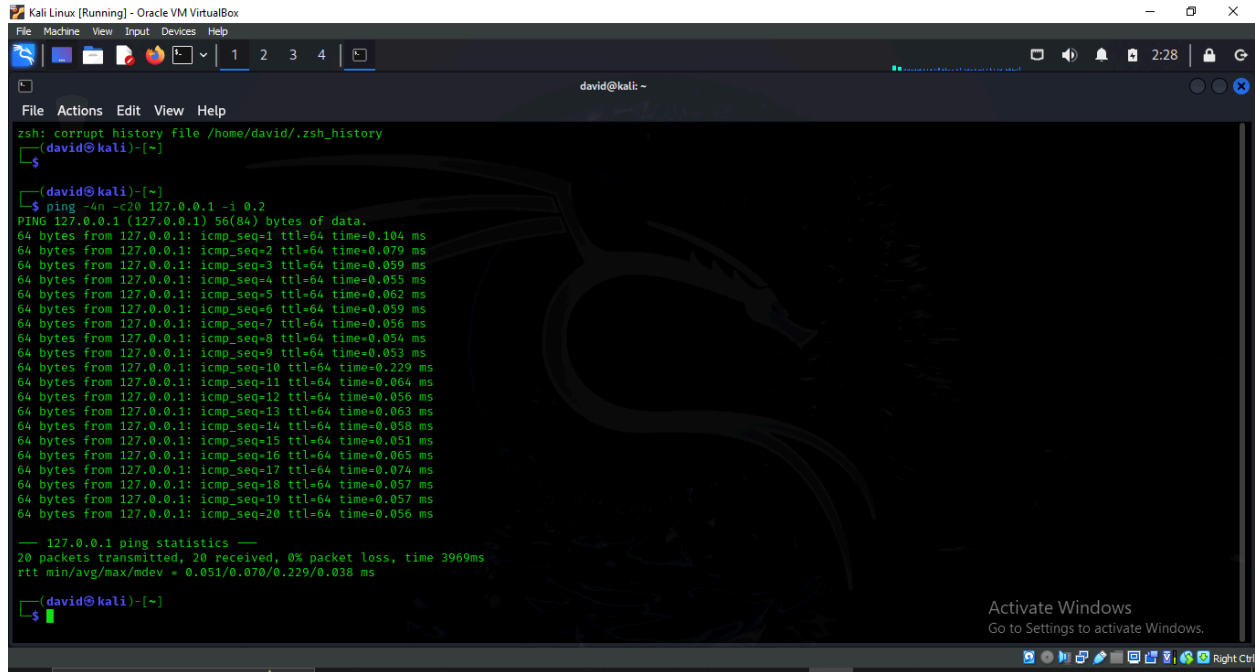


```
zsh: corrupt_history file /home/david/.zsh_history
(david@kali)~$
(david@kali)~$ ping -M dont localhost -4 -c 5
PING localhost (127.0.0.1) 56(84) bytes of data:
64 bytes from localhost (127.0.0.1): icmp_seq=1 ttl=64 time=0.060 ms
64 bytes from localhost (127.0.0.1): icmp_seq=2 ttl=64 time=0.057 ms
64 bytes from localhost (127.0.0.1): icmp_seq=3 ttl=64 time=0.074 ms
64 bytes from localhost (127.0.0.1): icmp_seq=4 ttl=64 time=0.057 ms
64 bytes from localhost (127.0.0.1): icmp_seq=5 ttl=64 time=0.051 ms

--- localhost ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4158ms
rtt min/avg/max/mdev = 0.051/0.059/0.074/0.007 ms

(david@kali)~$
```

Task 5: Send 20 ping packages within 0.2 ms interval to target system:
`ping -4n -c20 127.0.0.1 -i 0.2`



The screenshot shows a Kali Linux terminal window titled "Kali Linux [Running] - Oracle VM VirtualBox". The terminal displays the output of the command `ping -4n -c20 127.0.0.1 -i 0.2`. The output shows 20 ping requests, each receiving 64 bytes of data with varying response times. A summary line at the bottom indicates that 20 packets were transmitted and received with 0% packet loss and a total time of 3969ms. The terminal also shows a message about a corrupted history file and a Windows activation watermark in the bottom right corner.

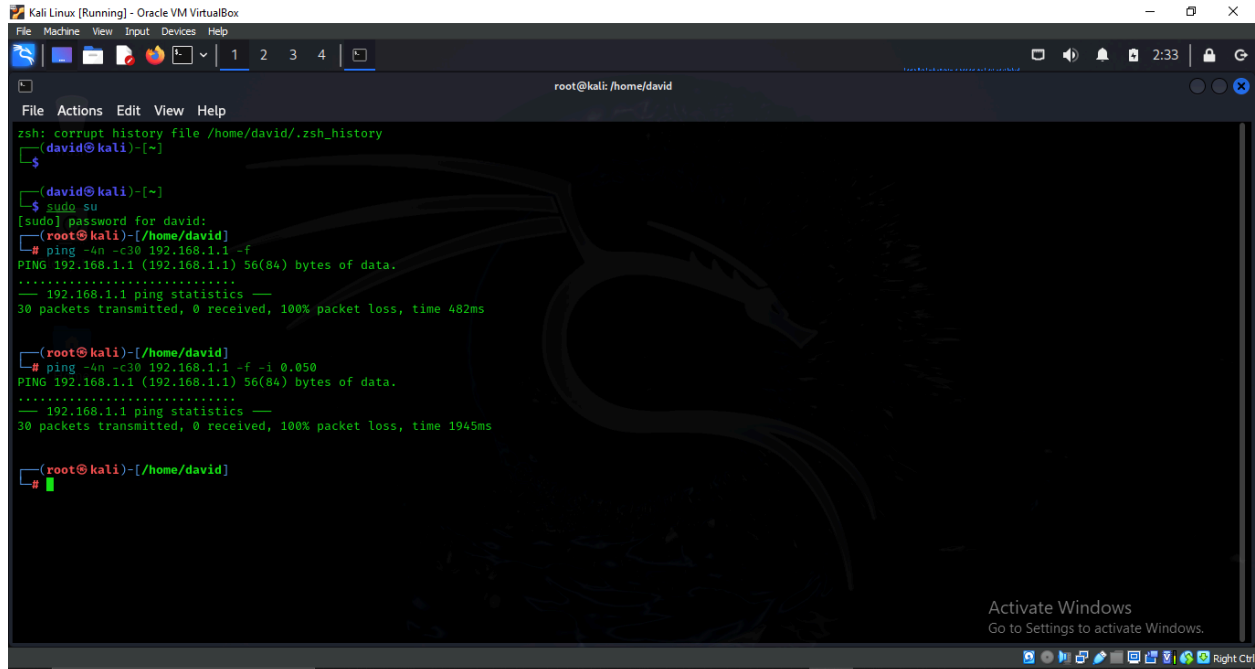
```
zsh: corrupt history file /home/david/.zsh_history
(david@kali)~$
(david@kali)~$
$ ping -4n -c20 127.0.0.1 -i 0.2
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data:
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.104 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.079 ms
64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.059 ms
64 bytes from 127.0.0.1: icmp_seq=4 ttl=64 time=0.055 ms
64 bytes from 127.0.0.1: icmp_seq=5 ttl=64 time=0.062 ms
64 bytes from 127.0.0.1: icmp_seq=6 ttl=64 time=0.059 ms
64 bytes from 127.0.0.1: icmp_seq=7 ttl=64 time=0.056 ms
64 bytes from 127.0.0.1: icmp_seq=8 ttl=64 time=0.054 ms
64 bytes from 127.0.0.1: icmp_seq=9 ttl=64 time=0.053 ms
64 bytes from 127.0.0.1: icmp_seq=10 ttl=64 time=0.229 ms
64 bytes from 127.0.0.1: icmp_seq=11 ttl=64 time=0.064 ms
64 bytes from 127.0.0.1: icmp_seq=12 ttl=64 time=0.056 ms
64 bytes from 127.0.0.1: icmp_seq=13 ttl=64 time=0.063 ms
64 bytes from 127.0.0.1: icmp_seq=14 ttl=64 time=0.058 ms
64 bytes from 127.0.0.1: icmp_seq=15 ttl=64 time=0.051 ms
64 bytes from 127.0.0.1: icmp_seq=16 ttl=64 time=0.065 ms
64 bytes from 127.0.0.1: icmp_seq=17 ttl=64 time=0.074 ms
64 bytes from 127.0.0.1: icmp_seq=18 ttl=64 time=0.057 ms
64 bytes from 127.0.0.1: icmp_seq=19 ttl=64 time=0.057 ms
64 bytes from 127.0.0.1: icmp_seq=20 ttl=64 time=0.056 ms

--- 127.0.0.1 ping statistics ---
20 packets transmitted, 20 received, 0% packet loss, time 3969ms
rtt min/avg/max/mdev = 0.051/0.070/0.229/0.038 ms
(david@kali)~$
```

Task 6: As a root user, flood target system with sending 30 ping packages. Choose your local router or Access Point as target system. Run this command:

```
ping -4n -c30 192.168.1.1 -f
```

```
ping -4n -c30 192.168.1.1 -f -i 0.050
```



The screenshot shows a Kali Linux terminal window titled "Kali Linux [Running] - Oracle VM VirtualBox". The terminal is running as root at the /home/david directory. The user first runs `sudo su` to become root. Then, they run `ping -4n -c30 192.168.1.1 -f`, which results in a 100% packet loss and a time of 482ms. Next, they run `ping -4n -c30 192.168.1.1 -f -i 0.050`, which also results in a 100% packet loss but with a shorter time of 1945ms. The terminal background features a Kali Linux dragon logo. An "Activate Windows" watermark is visible in the bottom right corner of the terminal window.

```
root@kali: /home/david
File Actions Edit View Help
zsh: corrupt history file /home/david/.zsh_history
(david@kali)-[~]
$
(david@kali)-[~]
$ sudo su
[sudo] password for david:
(root@kali)-[/home/david]
# ping -4n -c30 192.168.1.1 -f
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
.....
--- 192.168.1.1 ping statistics ---
30 packets transmitted, 0 received, 100% packet loss, time 482ms

(root@kali)-[/home/david]
# ping -4n -c30 192.168.1.1 -f -i 0.050
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
.....
--- 192.168.1.1 ping statistics ---
30 packets transmitted, 0 received, 100% packet loss, time 1945ms

(root@kali)-[/home/david]
#
```