

Task 2: Networking Toolkit PoC

1. Create the script file

nano netinfo.sh

2. Content into `netinfo.sh`

```
#!/bin/bash
```

```
REPORT="network_report.txt"
```

```
"$REPORT"
```

```
echo "=== Network Configuration ===" >> "$REPORT"
```

```
ip -br addr show >> "$REPORT"
```

```
echo "" >> "$REPORT"
```

```
echo "Default Gateway:" >> "$REPORT"
```

```
ip route | grep default >> "$REPORT"
```

```
echo "" >> "$REPORT"
```

```
echo "=== Open Ports ===" >> "$REPORT"
```

```
ss -tuln >> "$REPORT"
```

```
echo "" >> "$REPORT"
```

```
echo "=== Ping google.com ===" >> "$REPORT"
```

```
ping -c 4 google.com >> "$REPORT"
```

```
echo "" >> "$REPORT"
```

```
echo "=== DNS Lookup for openai.com ===" >> "$REPORT"
```

```
nslookup openai.com >> "$REPORT"
```

```
echo "" >> "$REPORT"
```

```
echo "Network report saved to $REPORT"
```

3. Make the script executable:

```
chmod +x netinfo.sh
```

./netinfo.sh

4. Check the output file:

cat network_report.txt

```

(hari@kali)-[~]
└─$ nano netinfo.sh
(hari@kali)-[~]
└─$ chmod +x netinfo.sh
(hari@kali)-[~]
└─$ ./netinfo.sh

Network report saved to network_report.txt

(hari@kali)-[~]
└─$ cat network_report.txt

=== Network Configuration ===
lo          UNKNOWN      127.0.0.1/8 ::1/128
eth0        UP           10.1.31.210/24 fe80::a00:27ff:fe34:d78f/64

Default Gateway:
default via 10.1.31.1 dev eth0 proto dhcp src 10.1.31.210 metric 100

=== Open Ports ===
Netid State Recv-Q Send-Q Local Address:Port Peer Address:Port

=== Ping google.com ===
PING google.com (142.250.182.78) 56(84) bytes of data.
64 bytes from lcaaaa-ax-in-f14.1e100.net (142.250.182.78): icmp_seq=1 ttl=118 time=12.8 ms
64 bytes from lcaaaa-ax-in-f14.1e100.net (142.250.182.78): icmp_seq=2 ttl=117 time=5.35 ms
64 bytes from lcaaaa-ax-in-f14.1e100.net (142.250.182.78): icmp_seq=3 ttl=117 time=4.93 ms
64 bytes from lcaaaa-ax-in-f14.1e100.net (142.250.182.78): icmp_seq=4 ttl=118 time=9.34 ms

--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3035ms
rtt min/avg/max/mdev = 4.932/8.113/12.833/3.221 ms

=== DNS Lookup for openai.com ===
Server:      8.8.8.8
Address:     8.8.8.8#53

Non-authoritative answer:
Name:   openai.com
Address: 104.18.33.45
Name:   openai.com
Address: 172.64.154.211

(hari@kali)-[~]
└─$
```

Conclusion: Task 2 involved building a basic networking toolkit script to gather essential network diagnostics. The script successfully retrieved the system's IP address, subnet, default gateway, listed open ports, performed a ping test to `google.com`, and resolved the IP of `openai.com`. All output was saved to `network_report.txt`. This task demonstrated practical usage of network commands in Bash scripting and helped validate system connectivity and DNS functionality.