

## TRACEROUTE

### TOOL: KALI LINUX

Traceroute is a network diagnostic tool used in cybersecurity and network management to trace the path that data packets take from a source (usually your computer) to a destination (like a server or website). It helps identify the various routers or hops the packets pass through along the way.

#### Uses of Traceroute:

1. **Network Path Analysis:** It shows the route and the time taken for each hop, which helps in understanding network topology and performance.
2. **Latency Measurement:** By measuring the time taken for each hop, traceroute helps identify points of high latency that may be causing slow connections.
3. **Troubleshooting:** It aids in diagnosing network issues, such as identifying where a connection fails or where packet loss occurs.
4. **Performance Monitoring:** Regularly using traceroute can help monitor network performance over time and detect any changes.
5. **Security Assessment:** It can reveal information about network configurations and potential vulnerabilities, such as open ports or misconfigured routers.
6. **Routing Issues:** It helps in identifying routing problems, such as loops or incorrect routing tables.

Traceroute is a valuable tool for network administrators and cybersecurity professionals for both diagnostics and planning.

```
kali@kali: ~  
File Actions Edit View Help  
update-alternatives: using /usr/bin/traceroute6.db to provide /usr/bin/traceroute6 (traceroute6) in auto mode  
update-alternatives: using /usr/bin/lft.db to provide /usr/bin/lft (lft) in auto mode  
update-alternatives: using /usr/bin/traceproto.db to provide /usr/bin/traceproto (traceproto) in auto mode  
update-alternatives: using /usr/sbin/tcptraceroute.db to provide /usr/sbin/tcptraceroute (tcptraceroute) in auto mode  
Processing triggers for kali-menu (2024.3.1) ...  
Processing triggers for man-db (2.12.1-2) ...  
  
(kali@kali)-[~]  
$ traceroute facebook.com  
traceroute to facebook.com (102.132.101.35), 30 hops max, 60 byte packets  
 1 192.168.147.2 (192.168.147.2)  5.798 ms  5.395 ms  4.520 ms  
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(kali@kali)-[~]  
$ traceroute eheheueueu.com  
eheheueueu.com: Name or service not known  
Cannot handle "host" cmdline arg 'eheheueueu.com' on position 1 (argc 1)  
  
(kali@kali)-[~]  
$
```