

# ETHICAL HACKING

SUBMITTED  
TO:  
MBilal

**Topic**

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# Network Scanning Fundamentals

# Network Scanning Fundamentals

Network scanning involves systematically scanning a computer network to identify active hosts, open ports, and other vital information. It helps assess network security, detect vulnerabilities, and maintain network health and performance.

# Example

## WHOIS Lookup


```
kali@kali: ~  
File Actions Edit View Help  
(kali@kali)-[~]  
$ whois aumc.edu.pk  
# WHOIS .PK Domains (PKNIC)  
  
Domain: aumc.edu.pk  
Status: Domain is Registered  
  
Creation Date: 2013-06-11  
Expiry Date: 2025-06-11  
Name Server: ns1.stackdns.com  
Name Server: ns2.stackdns.com  
Name Server: ns3.stackdns.com  
Name Server: ns4.stackdns.com
```

# Example

## Angry IP Scanner

.....

IP Range - Angry IP Scanner			
Scan Go to Commands Favorites Tools Help			
IP Range: 192.168.100.0 to 192.168.100.255		IP Range ⌵ ⚙	
Hostname: DESKTOP-D1TP9IH	IP↑	Netmask ⌵	▶ Start ≡
IP	Ping	Hostname	Ports [3+]
🔴 192.168.100.1	[n/a]	[n/s]	[n/s]
🔴 192.168.100.2	[n/a]	[n/s]	[n/s]
🔴 192.168.100.3	[n/a]	[n/s]	[n/s]
🔴 192.168.100.4	[n/a]	[n/s]	[n/s]
🔵 192.168.100.5	1834 ms	[n/a]	[n/a]
🔴 192.168.100.6	[n/a]	[n/s]	[n/s]
🔴 192.168.100.7	[n/a]	[n/s]	[n/s]
🔴 192.168.100.8	[n/a]	[n/s]	[n/s]
🔴 192.168.100.9	[n/a]	[n/s]	[n/s]
🔴 192.168.100.10	[n/a]	[n/s]	[n/s]
🔴 192.168.100.11	[n/a]	[n/s]	[n/s]
🔴 192.168.100.12	[n/a]	[n/s]	[n/s]
🔴 192.168.100.13	[n/a]	[n/s]	[n/s]
🔵 192.168.100.14	1997 ms	[n/a]	[n/a]
🔴 192.168.100.15	[n/a]	[n/s]	[n/s]
🔴 192.168.100.16	[n/a]	[n/s]	[n/s]
🔴 192.168.100.17	[n/a]	[n/s]	[n/s]
🔵 192.168.100.18	939 ms	[n/a]	[n/a]
🔴 192.168.100.19	[n/a]	[n/s]	[n/s]
🔵 192.168.100.20	1852 ms	[n/a]	[n/a]
🔴 192.168.100.21	[n/a]	[n/s]	[n/s]
🔴 192.168.100.22	[n/a]	[n/s]	[n/s]
🔴 192.168.100.23	[n/a]	[n/s]	[n/s]
🔴 192.168.100.24	[n/a]	[n/s]	[n/s]
🔴 192.168.100.25	[n/a]	[n/s]	[n/s]
🔴 192.168.100.26	[n/a]	[n/s]	[n/s]
🔴 192.168.100.27	[n/a]	[n/s]	[n/s]
🔴 192.168.100.28	[n/a]	[n/s]	[n/s]
🔴 192.168.100.29	[n/a]	[n/s]	[n/s]
🔵 192.168.100.30	3 ms	[n/a]	[n/a]



Scan Statistics

Scanning completed

Total time: 27.8 sec  
Average time per host: 0.26 sec

IP Range  
192.168.100.0 - 192.168.100.255

Hosts scanned: 105  
Hosts alive: 12

Close

# Other tools

Packet Sniffers

Network Scanners

Network Analyzers

Network Firewalls

Network Intrusion Detection and Prevention  
Systems

Network Encryption



The background of the image is a low-angle, upward-looking shot of a modern skyscraper. The building's facade is composed of a grid of windows and structural elements, creating a strong geometric pattern. The lighting is very dark, with the building appearing almost entirely black against a slightly lighter, cloudy sky. The overall mood is dramatic and professional.

**THANK YOU**