

Key Networking Ports

Service	Port	Protocol	Notes
FTP	20 / 21	TCP	Data / Control – cleartext by default
SSH	22	TCP	Secure remote shell / SCP / SFTP
DNS	53	UDP/TCP	Name resolution (UDP queries, TCP zone xfer)
HTTP	80	TCP	Web traffic – unencrypted
HTTPS	443	TCP	Encrypted web (TLS)
RDP	3389	TCP	Windows Remote Desktop

Essential Windows Commands

ipconfig /all	Full IP, DNS, MAC, DHCP info
ipconfig /release	Release current DHCP lease
ipconfig /renew	Request new DHCP lease
ipconfig /flushdns	Clear DNS resolver cache
ping -t <host>	Continuous ping
tracert <host>	Path to destination
nslookup <name>	DNS query
netstat -ano	Connections + PIDs
sfc /scannow	System File Checker
chkdsk /f /r	Check & repair disk

Essential Linux Commands

ip a / ifconfig	Show interfaces & IPs
ping -c 4 <host>	4 echo requests
traceroute <host>	Path discovery
dig / nslookup	DNS lookup
ss -tuln	Listening sockets
systemctl status	Service status
journalctl -xe	Recent system logs
chmod / chown	Permissions / ownership
df -h / free -h	Disk & memory usage
sudo apt update	Refresh package lists

CompTIA 6-Step Troubleshooting Methodology

1 Identify the problem

Gather info, question users, identify symptoms, determine if anything has changed.

2 Establish a theory

Question the obvious. Consider multiple approaches. Rank likely causes.

3 Test the theory

Confirm or deny. If theory fails, establish a new one. Escalate if needed.

4 Create a plan of action

Implement the solution. Identify potential effects. Prepare a rollback plan.

5 Verify full system functionality

Confirm the fix works. Implement preventive measures if applicable.

6 Document findings

Record actions, outcomes, and lessons. Update knowledge base / tickets.