PATHAHEAD · FREE ROADMAP

Become a Cybersecurity Analyst from Scratch

One of the fastest-growing, highest-paid tech fields. Go from zero to job-ready in about five months — with hands-on labs, CTFs, and cert prep.

22	5	4	₹0
weeks · ~10–12 hrs/wk	hands-on projects	phases · to job-ready	free labs & tools

A free PathAhead learning resource · adjust the pace to your life — the order matters more than the dates.

THE ONE RULE

Learn → practice in a lab → document it

Security is a hands-on craft. Everything below is practiced in your own legal lab (TryHackMe, HackTheBox). Only ever test systems you own or are authorized to test.

> **Legal & ethical use only.** Legal & ethical use only. Everything here is for authorized testing, your own lab, or educational platforms. Never attack systems you do not own or have explicit written permission to test — unauthorized access is a crime.

THE ROADMAP

Four phases, step by step

0 Foundations

Weeks 1–5

How computers, networks, and systems actually work.

WEEK 1
Networking
TCP/IP, DNS, HTTP, ports, packets.

WEEK 2
Linux basics
Command line, permissions, bash.

WEEK 3
Windows & systems
Processes, Active Directory basics.

WEEK 4
Security fundamentals
CIA triad, threats, attack surface.

WEEK 5
Cryptography basics
Hashing, encryption, certificates.

1 Offensive Basics

Weeks 6–11

Think like an attacker — ethically and legally.

WEEK 6
Recon & scanning
Nmap, footprinting, enumeration.

WEEK 7
Web vulnerabilities
The OWASP Top 10 hands-on.

WEEK 8
Exploitation basics
Metasploit and common payloads.

WEEK 9
Password attacks
Hashcat, John the Ripper, wordlists.

WEEK 10
Network attacks
Sniffing, MITM, wireless basics.

WEEK 11 · PROJECT ▶
Lab writeup
Compromise a vulnerable VM and document it.

2 Defensive & Tooling

Weeks 12–17

Detect, respond, and defend — the blue team.

WEEK 12

Blue team & SIEM

Log analysis, Splunk/ELK basics.

WEEK 13

Firewalls & IDS/IPS

Network defense fundamentals.

WEEK 14

Incident response

Detect, contain, eradicate, recover.

WEEK 15

Malware analysis

Safe static analysis basics.

WEEK 16

Security scripting

Python for automation and tooling.

WEEK 17 · PROJECT ▶

Home SOC lab

Set up log monitoring and catch an attack.

3 Practice & Certs

Weeks 18–22

Build proof and prepare for your first cert.

WEEK 18

Guided rooms

TryHackMe / HackTheBox learning paths.

WEEK 19

Capture The Flag

CTF challenges to sharpen skills.

WEEK 20

Cert prep

Study for CompTIA Security+.

WEEK 21

Reporting

Professional vulnerability reports.

WEEK 22 · CAPSTONE ▶

Pentest report

A full assessment writeup on a lab network.

BUILD A PORTFOLIO

Five projects that get you hired

Projects beat certificates. Do them in order — each builds on the last. Put every one on GitHub with a clear README: problem → approach → result.

Start here

1 · Home Lab Setup

VirtualBox + Kali + a vulnerable VM. Your legal practice range.

Offensive

2 · Vulnerability Writeup

Exploit a TryHackMe box and document every step.

Practice

3 · CTF Walkthroughs

Solve Capture-The-Flag challenges and publish your solutions.

In demand

4 · Home SOC / Monitoring

Collect logs, build alerts, and detect a simulated attack.

Capstone

5 · Full Pentest Report

A professional penetration-test report on your lab network.

ROLES YOU CAN APPLY FOR

Security Analyst · SOC Analyst · Penetration Tester · Security Engineer

TYPICAL STARTING SALARY · INDIA

₹5–12 LPA

LEARN IT

Learning resources

Every item links to the real source (clickable in this PDF).

BOOKS

- The Web Application Hacker Handbook by Dafydd Stuttard and Marcus Pinto
- Hacking The Art of Exploitation by Jon Erickson
- Practical Malware Analysis by Michael Sikorski and Andrew Honig

COURSES

- Introduction to Cyber Security by NPTEL (free)
- Google Cybersecurity Certificate by Coursera
- Cybersecurity Fundamentals by freeCodeCamp (free)
- Ethical Hacking Essentials by EC-Council

YOUTUBE

- NetworkChuck
- John Hammond
- The Cyber Mentor

PRACTICE

- TryHackMe
- Hack The Box
- PicoCTF

DO THIS TODAY

Your first step (takes 30 minutes)

1

Install VirtualBox + Kali

Free virtualization + the standard security Linux distro.

2

Get a TryHackMe account

tryhackme.com — guided, legal, beginner-friendly hacking labs.

3

Finish one room

Complete the 'Intro to Cyber Security' path today. You've started.

> **Job-ready checklist:** 3–5 solid projects on GitHub (≥1 deployed or documented) · can explain your work in an interview · comfortable with the core tools of the field · a portfolio or profile recruiters can find.

PathAhead — India's premium career guidance platform. This roadmap is a free educational resource; timelines are a guide and everyone learns at a different pace. Referenced third-party resources (TryHackMe, HackTheBox, freeCodeCamp, Professor Messer, OWASP) are for learning only and are not affiliated with PathAhead.