



# Certification in CYBER SECURITY



**Groot**  
**Academy**  
Build your world through Creativity



# About Groot

Groot Academy, founded in 2002 and based in Jaipur, is more than just an IT training institute. We are a comprehensive skill development and startup incubation center, offering a range of programs designed to equip individuals with the skills they need to thrive in today's competitive world. With a focus on both technical education and entrepreneurship, we prepare our students not only for jobs but also to create and lead successful businesses.



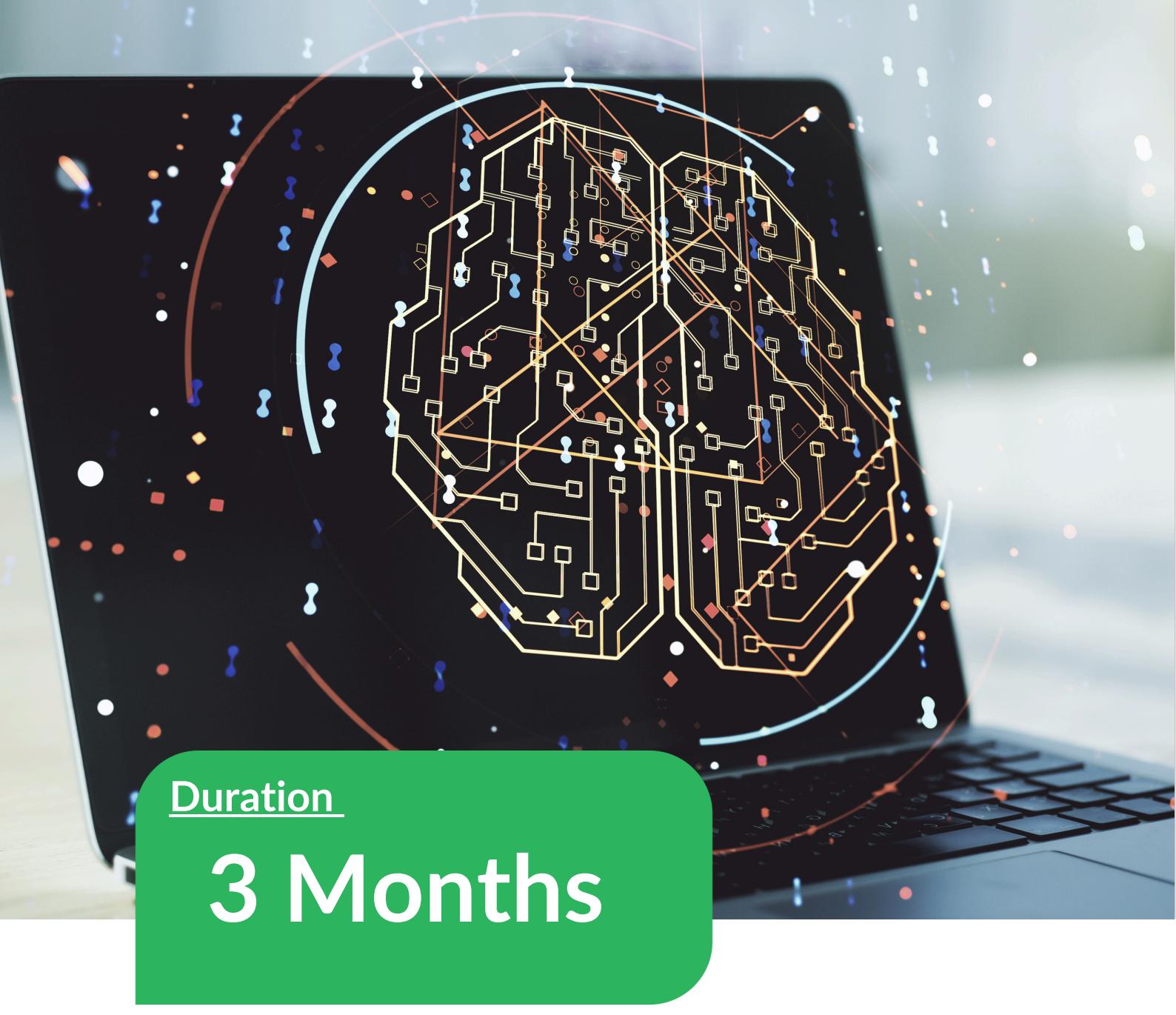
At Groot Academy, we offer specialized training in Web Development, Mobile App Development, Data Science, Digital Marketing, Software Engineering, and much more. Additionally, we have a strong focus on entrepreneurship with dedicated courses such as "Learn Business by Doing Business," which allows aspiring entrepreneurs to gain hands-on experience in running a business while learning the fundamental principles of entrepreneurship.

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Duration

**3 Months**

## Program Overview:

This comprehensive course provides a thorough understanding of cybersecurity principles, practices, and technologies essential for safeguarding digital assets against evolving cyber threats.

Participants will explore various aspects of cybersecurity, including network security, cryptography, secure software development, incident response, and risk management.

## Course Curriculum

### **Module 1: Ethical Hacking & Cyber Security Overview**

- Overview of Information security
- Cyber security vs Ethical hacking
- What is ethical hacking
- Pre - requirements to become a successful security expert
- Roadmap

## Module 2: Foot printing and Reconnaissance

- Foot printing vs Reconnaissance
- information gathering Rules
- IP LookUp, Whois & Grabify
- Enumeration
- Google Dorks
- open-source intelligence (OSINT) tools
- Domain Name System (DNS) Footprinting
- Network Reconnaissance
- Countermeasures and Defense

## Module 3: Networking

- Computer networks and the OSI model
- Understanding networking devices
- Type of internet
- IP Address
- Ip subnetting
- Mac Adress
- LAN, MAN & WAN
- Network Topologies
- Network Protocols and Services
- DHCP
- Network Security and Threats
- VPN vs Proxy

## Module 4: Website Pen Testing

- Website working and core concepts
- Understanding HTML,CSS & JavaScript
- Php with Mysql
- CMS
- Virtualization
- Test environment setup (XAMPP, BeWapp, DVWA)
- VAPT
- Black Box, Grey Box vs White Box
- Identifying and prioritizing vulnerabilities
- Phishing Attacks And password Creaking
- XSS, CSRF, LFI and RFI And other attacks
- SQL Injections
- Nmap, Nessus & Nikto
- OWASP top 10 & SANS Top 25
- Session Hijacking & Denial-of-Service
- Malwares
- Social engineering
- Evading IDS, Firewalls, and Honeypots
- Clickjacking, Remote Code Execution & API Abuse
- BurpSuite
- Vulnerability assessment and analysis
- Report Writing and Documentation
- Remediation and Risk Management
- Legal and Compliance Considerations
- Privilege escalation, lateral movement
- Data exfiltration and Tempting



## Module 5: Cryptography

- Cryptography and its role in securing information.
- Basic concepts: plaintext, ciphertext, encryption, decryption
- Encryption (Symmetric Key, Asymmetric Key )
- Hashes (MD5, Sha1, Sha256)
- Hashes generator
- Digital certificates and certification authorities
- kerberos

## Module 7: System & Mobile Pentesting

- How Computer Works
- System Arch
- Processor and memory management
- Scanning Ports
- Exploitation Techniques
- Metasploit
- Exploitation Techniques
- Android Testing
- Dictionary & Brute force attacks
- Post-Exploitation
- Buffer overflow
- Data Execution Prevention
- privilege exclusion
- CTF



## Module 8: Network Security & WiFi

- Network security concepts, objectives, and methodologies
- Ethical considerations in network security
- Network Threats and Attacks
- Secure communication Like SSL/TLS, IPsec
- Firewalls and Intrusion Detection Systems
- Network Access Control
- Sniffing Spoofing
- Wifi Hacking
- Security information and event management (SIEM)



## Module 9: Cyber Security - 1

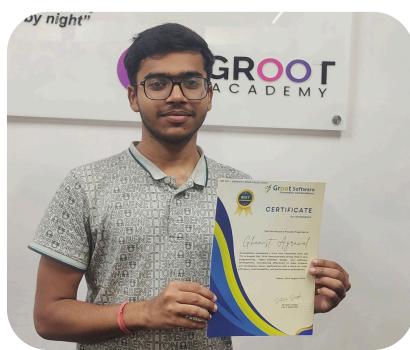
- Threat Detection and Incident Response
- Secure software development lifecycle (SDLC)
- Incident Response and Forensics
- Forensic investigation techniques and tools
- Digital evidence collection and preservation
- Post-incident analysis and lessons learned
- Threat hunting and proactive threat detection
- Cyber threat information sharing and collaboration
- Threat Intelligence and Analysis
- Risk management frameworks (NIST, ISO)

## Module 10: Cyber Security -2 (End Game)

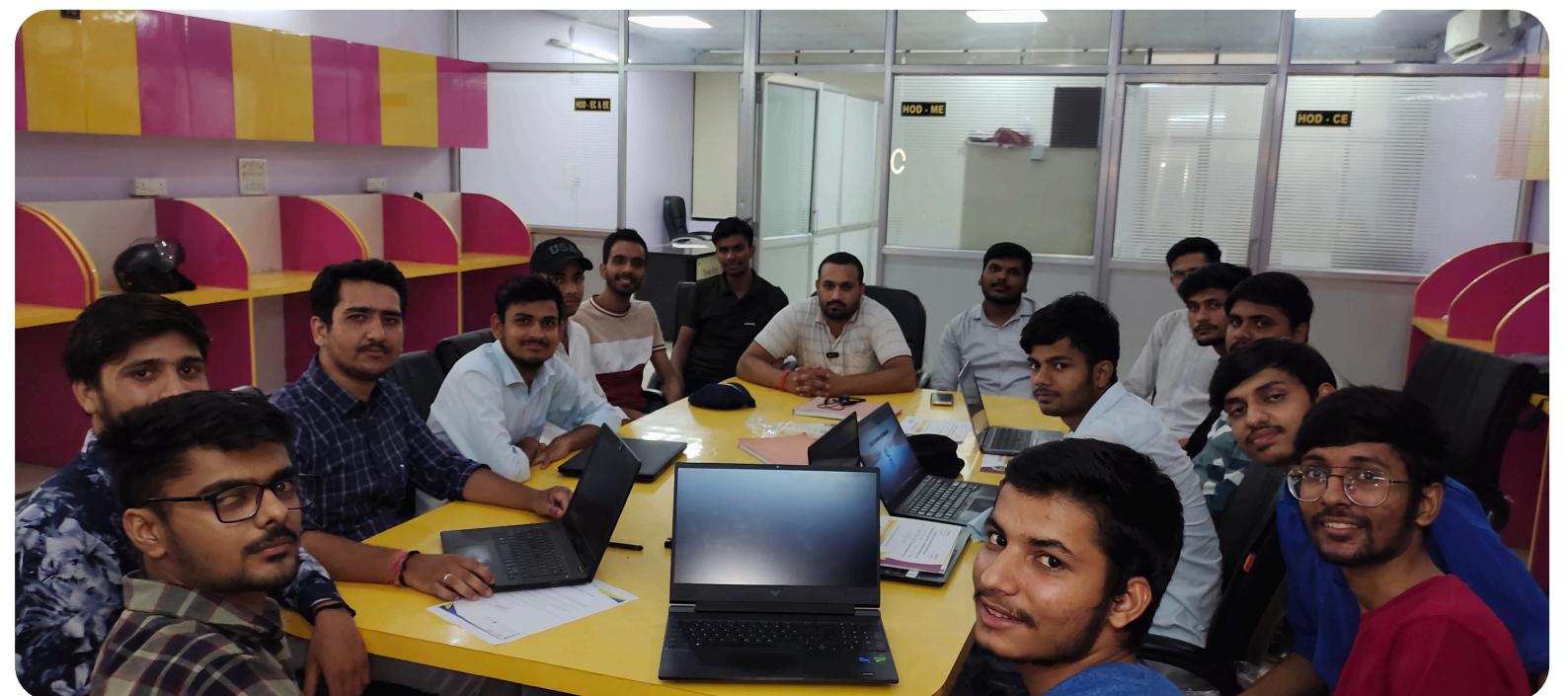
- Compliance requirements and regulations
- Emerging cybersecurity technologies
- Future trends and challenges in cybersecurity
- Cyber Laws
- Red Team
- Mobile arch
- Mobile hacking
- IoT Hacking
- Cloud security
- Malware analysis
- Security Audits and Working environment
- Hack The Box
- Bug Bounty



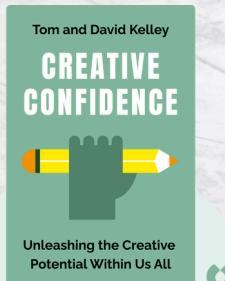
# Student Corner



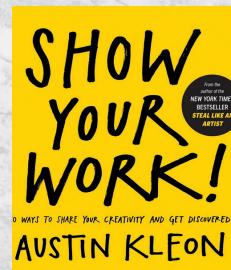
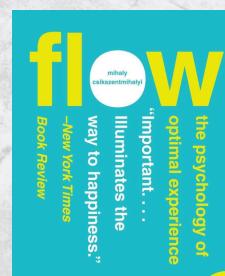
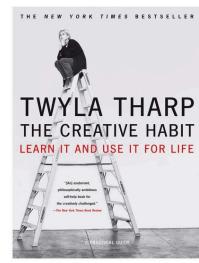
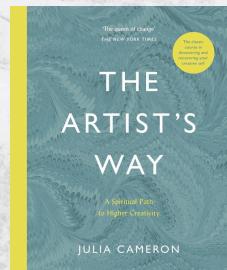
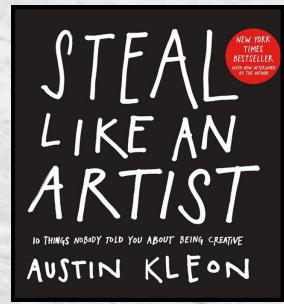
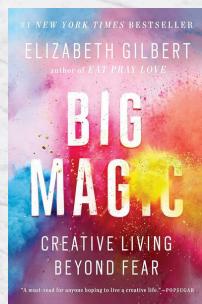
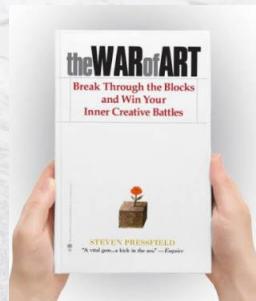




## MUST READ



Unleashing the Creative Potential Within Us All



“  
Great UI is what users see, but  
great UX is what they  
remember.

—By I am Groot



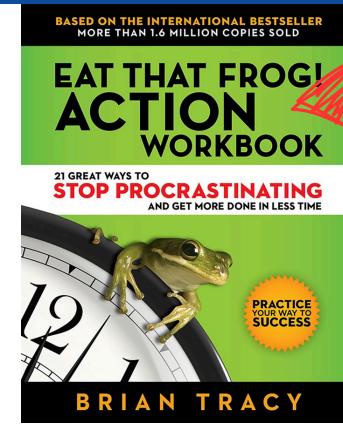
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Be Guardians of the Galaxy



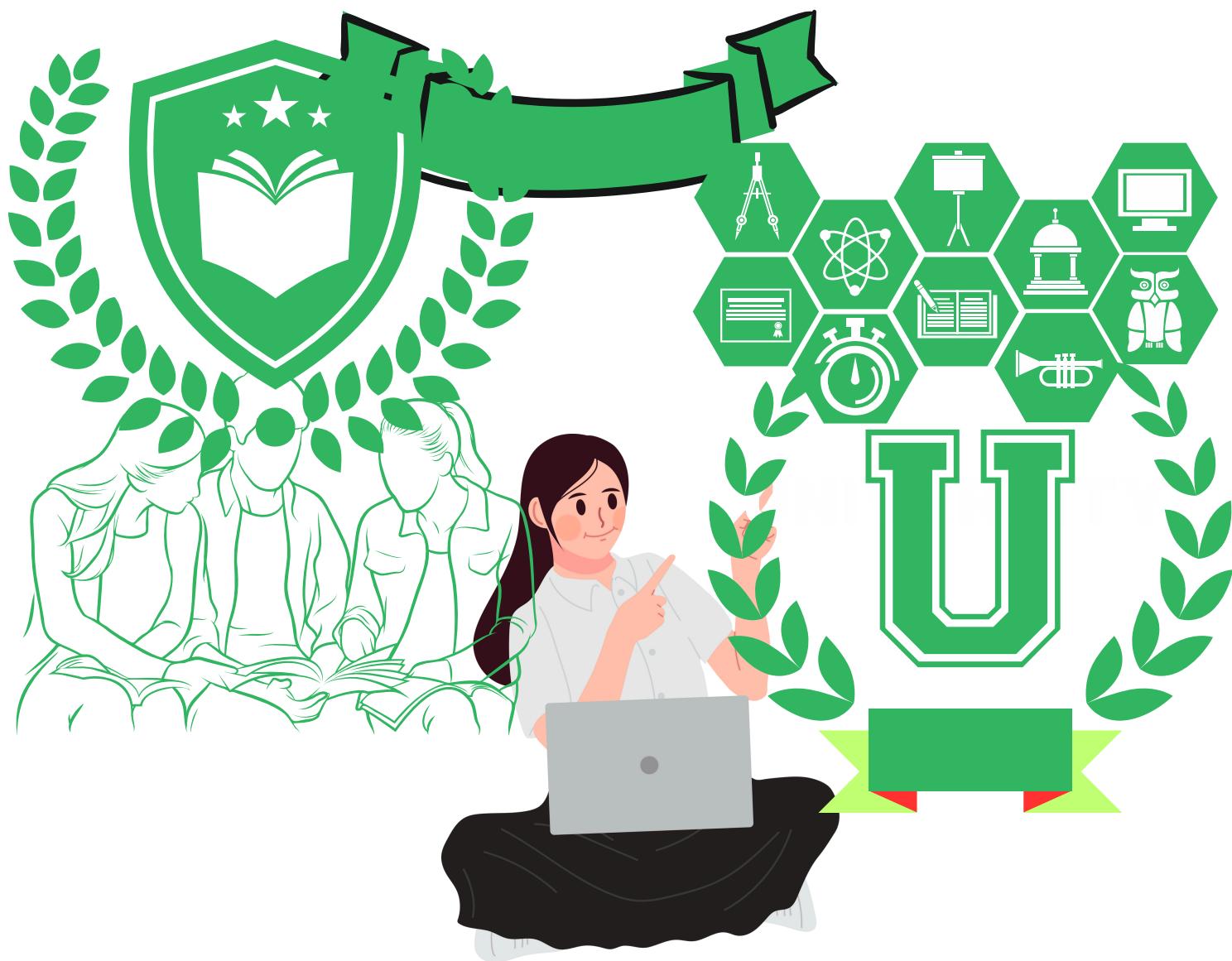
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