



IoT Security Essentials

**Begin Your Cybersecurity Journey
with Hands-On, Technical
Foundational Skills in IoT Security**

No IT / Cybersecurity Experience Required

Video Lessons • Hands-on Labs • CTF Challenges • Proctored Exam



EC-COUNCIL ESSENTIALS SERIES

Cybersecurity stands as a critical factor when it comes to safeguarding the digital environment, with a constant demand for skilled professionals in the field. However, navigating this diverse industry and understanding its complexities can be challenging. That's where EC-Council's Essentials Series steps in to provide an opportunity for aspiring cybersecurity professionals to elevate their journey. Whether the candidates are school students, fresh graduates, career switchers, starters, or IT/technology teams with little to no experience, the series is available at a highly affordable price for anyone interested in cybersecurity learning. Designed to equip learners with solid technical foundational skills, this hands-on, immersive program serves as a launching pad for beginners in cybersecurity. Gain skills for your first CTF competition with this Essentials Series Course. The final module of lab capstone project features a simulated CTF to test your skills in a controlled environment. Use live virtual machines, real software, and networks to solve real-world challenges as a hacker or defender.

Focused on developing versatile expertise across the domain, it offers skills such as ethical hacking, network defense, digital forensics, cloud security, IoT security, SOC, threat intelligence, and DevSecOps. Moreover, the EC-Council Essentials Series empowers individuals to discover their core interests, enabling them to determine the area of specialization to advance their expertise.

What Is EC-Council's IoT Security Essentials?

EC-Council's IoT Security Essentials Series provides comprehensive coverage of essential topics in securing Internet of Things (IoT) systems. From understanding the fundamental concepts of IoT to addressing advanced security threats, students will gain the knowledge and skills necessary to design, deploy, and maintain secure IoT solutions. Through a combination of theoretical learning and hands-on exercises, participants will explore IoT fundamentals, networking and communication protocols, cloud integration, threat intelligence, incident response, and security engineering principles. Put your newly acquired abilities to the test with an exhilarating Capture the Flag (CTF) Exercise seamlessly integrated in our Capstone project. This CTF is seamlessly integrated by live virtual machines, genuine software, and real networks, all delivered within a secure and regulated sandbox environment. With these exclusive hands-on, human-versus-machine CTF challenges you will develop the hands-on proficiencies essential for success in your cyber professional role.

Ultimately, students will be equipped with the expertise needed to effectively identify, assess, and mitigate security risks in IoT environments, ensuring the integrity, confidentiality, and availability of IoT systems and data.



IoT Security Essentials Program Information

Course Outline



Module 1: IoT Fundamentals

This module will introduce you to the basics of IoT and the different sectors where IoT is established.



Module 2: IoT Networking and Communication

This module will provide insights into the basics of networking concepts, the OSI Model, and the TCP Model. It will also cover the IEEE IoT Standards List.



Module 3: IoT Processors and Operating Systems

This module will help you understand the hardware devices, processors, and operating systems used in IoT.



Module 4: Cloud and IoT

This module will teach you about cloud computing, its characteristics, and the types of cloud services.



Module 5: IoT Advanced Topics

This module will brief you about web communications, mobile applications, and native applications.



Module 6: IoT Threats

This module will introduce you to some of the common IoT attacks, such as Mirai, BrikerBot, Sybii, and Blackhole attacks.



Module 7: Basic Security

This module will discuss the CIA triangle, Wired Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA), and IoT security measures.



Module 8: Cloud Security

This module will discuss the state of cloud security, cloud vulnerabilities, NSA guidance, and secure cloud computing.



Module 9: Threat Intelligence

This module will start with the topic of the National Vulnerability Database, covering US Cert, Shodan, STRIDE, DREAD, PASTA, and CVSS.



Module 10: IoT Incident Response

This module will provide information on incident response in IoT, including standards, processes, procedures, tools, and indicators of compromise.



Module 11: IoT Security Engineering

This module will cover the 12 practices of the Microsoft Secure Development Lifecycle and Threat Modeling.

What Skills Will You Learn

- Gain insights into the emergence of the Internet of Things (IoT).
 - Learn about the devices that make your home a smart home.
 - Dive deep into IoT communication models.
 - Gain a deep understanding of IoT networking and communication.
 - Understand cloud computing in depth.
 - Learn about the different types of threats to IoT.
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Who Is it For

- School students, graduates, professionals, career starters and changers, IT / Technology / Cybersecurity teams with little or no work experience.
- Individuals who want to start a career in cybersecurity and are interested in IoT Security.
- Anyone interested in gaining in-depth knowledge on safeguarding their smart devices or those within their organization.

Training & Exam

Training Details: Self-paced in-demand lecture videos led by world-class instructors and hands-on labs.

Pre-requisite: No prior cybersecurity knowledge or IT work experience required.

Exam Details:

- Exam Code: 112-58
- Duration: 2 hours
- Number of Questions: 75
- Test Format: Multiple Choice

Key Features

- Engage in 5 lab practical exercises in modules that provide you with a practical understanding of how you can secure your smart devices.
- Get 8+ hours of premium self-paced video training.
- 900+ pages of ecourseware.
- Capstone Projects with Real-World CTF Challenges
- Gain a year-long access to courseware and 6-month access to labs.
- Acquire a proctored exam voucher with one-year validity.
- Enhance your relevancy in the job market to advance your career.
- Gain the globally recognized EC-Council's certification.



Why EC-Council's Essentials Series is the Most Popular and Fastest Growing Beginner Level Training Program for Career Starters and Career Changers




213,000+ Learners
Trust EC-Council's
Essentials Series




150+ Countries



85+ Million Minutes
Watched



4.95/5.0 Average
Ratings



96.46% of Learners
Gave a 5* Rating

Why Do Professionals, Students, Career Starters and Changers Worldwide Choose the EC-Council's Essentials Certification?

Gene (USA)

Strong Cybersecurity Foundation.

★★★★★

It has given me a solid foundation in the basics of cybersecurity. I now have a better understanding of the different types of cyberattacks, the tools and techniques that attackers use, and the ways to protect myself and my organization from these attacks.



Taylor Cooper (USA)

Career Advancement through Ethical Hacking.

★★★★★

This has helped me enhance my knowledge and skills in tech. I will be able to showcase my knowledge by certifying myself as an ethical hacker and adding it to my resume, which will give me an opportunity to advance in my career and opt for higher-paying roles.

Deeptankshu (USA)

Top Notched Cyber Investigation Skills.

★★★★★

It helped by teaching me how to collect data and evidence to solve crimes and prevent wrongdoers in the Cyber realm. As a Security and Intelligence major, I want to be well-versed in the Cyber realm as well as other realms.

Samuel Tetteh (USA)

Strong Foundation for Digital Forensics

★★★★★

After completing this course, I had the foundation I needed. It assisted me in completing my MS Cybersecurity course in digital forensics, which expanded my knowledge even further. This foundation is perfect for a start in Digital forensics.

Brian (USA)

Rebuilding Network Defense Knowledge.

★★★★★

This course helped rebuild my baseline knowledge of network defense, which I required before progressing toward more advanced studies in the field.

Nicolas Ntibaziyaremye (USA)

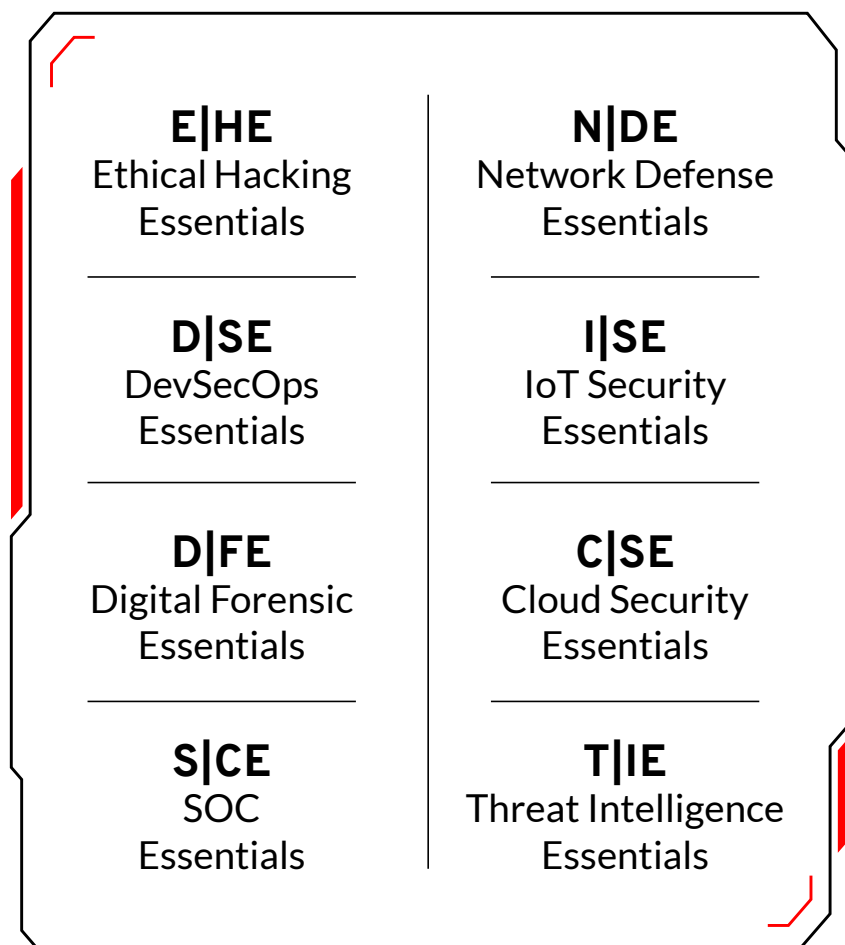
Practical Learning for Career Growth.

★★★★★

The course is project-based. This allows me to apply what I learn in the lectures to real-world problems. I have learned a lot from this course, and I am confident that it will help me in my career.



Learn Foundational Cybersecurity Skills with EC-Council's 8 Essential Series





About EC-Council

EC-Council's sole purpose is to build and refine the cybersecurity profession globally. We help individuals, organizations, educators, and governments address global workforce problems by developing and curating world-class cybersecurity education programs and their corresponding certifications. We also provide cybersecurity services to some of the largest businesses globally. Trusted by 7 of the Fortune 10, 47 of the Fortune 100, the Department of Defence, Intelligence Community, NATO, and over 2,000 of the best Universities, Colleges, and Training Companies, our programs have proliferated through over 140 countries. They have set the bar in cybersecurity education. Best known for the Certified Ethical Hacker programs, we are dedicated to equipping over 2,30,000 information age soldiers with the knowledge, skills, and abilities required to fight and win against the black hat adversaries. EC-Council builds individual and team/organization cyber capabilities through the Certified Ethical Hacker Program, followed by a variety of other cyber programs, including Certified Secure Computer User, Computer Hacking Forensic Investigator, Certified Security Analyst, Certified Network Defender, Certified SOC Analyst, Certified Threat Intelligence Analyst, Certified Incident Handler, as well as the Certified Chief Information Security Officer.

We are an ANAB 17024 accredited organization and have earned recognition by the DoD under Directive 8140/8570 in the UK by the GCHQ, CREST, and various other authoritative bodies that influence the entire profession.

Founded in 2001, EC-Council employs over 400 individuals worldwide with ten global offices in the USA, UK, Malaysia, Singapore, India, and Indonesia. Its US offices are in Albuquerque, NM, and Tampa, FL.

Learn more at www.eccouncil.org



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