

Module Title : Certified IoT Security Analyst (CISA)

Duration : 3 days

Overview

This training exposes participants with skills to assess IoT environment which includes robotic technology, web application, wireless network, and cloud. Participants will be able to identify, perform and mitigate security issues as part of securing IoT environment.

Objective

1. To analyse the main components in IoT environment and technology
2. To understand the capabilities of components in IoT environment
3. To conduct Network Security Assessment involving assessing the security protocol
4. To identify possible mitigation processes
5. To defend the communication in IoT environment
6. To perform application security assessment
7. To provide remediation strategies
8. To defend the applications in IoT environment
9. To determine security risk and incident management plan of IoT environment

Target Audience

IT developer, security analyst, engineer, and cloud security analyst.

Agenda

Module 1: Introduction to IoT

Module 1.1: Introduction to IoT Security

1. Component of IoT Security
 1. Robotic
 2. Wireless
 3. Web Application
 4. Cloud Computing
 5. IoT Security Guideline
 6. Outcome from IoT Security

Module 1.2: IoT Technology

1. History of IoT Technology
2. Current IoT Technology
3. IoT In Security
4. Previous Incident in IoT

Module 2: Robotic Technology

Module 2.1: Introduction to Robotic Technology

1. Introduction to robotic components
2. Introduction to robotic communications

Module 2.2: Case Study

1. Case Study 1: Manufacturing
2. Case Study 2: Autonomous System

Module 2.3: Introduction to type of robotics

1. Collaborative Robot
2. Industrial Robot

Module 3: Wireless Network Assessment

Module 3.1: Introduction to Wireless Network

1. Wi-Fi network fundamentals
2. Wireless network standard and organization
3. Wireless threats and attacks
4. Module 3.2: Information Gathering
5. Active and Passive Scanning
6. Using tool: Kismet

Module 3.3: Penetration Testing

1. Wired equivalent privacy (WEP)
2. Wi-Fi Protected Access (WPA)
3. Wi-Fi Protected Access 2 (WPA2)
4. Cracking WEP & WPA
5. Wi-Fi protected setup (WPS)

Module 3.4: Wireless Network Defense

Mitigation process

Module 4: Web Application Security

Module 4.1: Introduction to Web Application Security

1. Use of web applications

2. Importance of web applications in IoT

Module 4.2: Web Application Threat in IoT

1. OWASP Top 10 2019
2. SQL Injection
3. Cross Site Scripting (XSS)

Module 4.3: Penetration Testing

1. SQL Injection on Vulnerable Web Site
2. Cross Site Scripting on Vulnerable Web Site

Module 4.4: Web Application Defense

Mitigation process

Module 5: Cloud

Module 5.1 Introduction to Cloud

1. Introduction to Cloud
2. Type of Cloud Computing
3. Public, Private vs Hybrid Cloud

Module 5.2 Cloud as a Services

1. Infrastructure as a Services
2. Platform as a Services
3. Software as a Services

Module 5.3 Concept and Architecture

1. Importance of Cloud Computing in IoT
2. Secure Cloud Architecture
3. Secure Cloud Implementation

Module 6: Security in IoT

Module 6.1 Introduction to IoT Security Guideline

The importance of IoT Security

Module 6.2 Introduction to IoT Security Infrastructure

Module 6.3 Introduction to IoT Security layer

Module 6.4 IoT Security Requirement

Guideline on IoT Security Requirement

Exam

The CISA examination is certified by the Global ACE Certification. The examination framework is designed to align with a set of relevant Knowledge, Skills and Attitudes (KSA) that are necessary for a Secure Application Professional. Candidates will be tested via a combination of either continual assessment (CA), multiple choice (MC), theory/underpinning knowledge assessment (UK), practical assessment (PA), assignments (AS) and case studies (CS) as required.

Candidates can take the examination at authorized examination centres in participating member countries. Candidates who have successfully passed the CISA examination will be eligible to apply as an associate or professional member by fulfilling the membership criteria defined under the Global ACE Certification.