

IoT and EKS&SCADA Security

Description

IoT and EKS&SCADA Security Training is prepared for participants who are interested in the Internet of Things, Industrial Control Systems and SCADA Systems and security issues in these systems. You will be informed about the security measures that should be taken into consideration in the design of IoT and EKS&SCADA systems.

Delegates will learn

- Internet of Things Fundamentals IoT Security Requirements
 - Risks, Threats and Precautions
 - EKS&SCADA Systems
 - EKS&SCADA Security Requirements, Risks, Threats and Precautions
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Outline

Internet of Things (IoT)

- **Overview of the Internet of Things**
- **IoT Technology Architecture**
- **Analyzing the Relationship Between IoT and Similar Technologies**
 - M2M, Industrial IoT, Internet of Everything, Artificial Intelligence of Things, etc.
- **Use Cases of the Internet of Things**
- **Advantages and Disadvantages of IoT**
- **Technical Challenges in the Field of IoT**
- **Exploring Technologies Used in IoT Application Development (Trends)**

- Supporting Technologies (WiFi, Bluetooth, BLE, RFID, NFC, GSM, GPRS, 3G/4.5G, GPS, etc.)
- Software Preferences (Programming Languages, IDEs, etc.)
- IoT Cloud Platforms (Blynk, ThingSpeak, Firebase, etc.)
- **Messaging/Communication Protocols in IoT Application Layer**
 - Restful, MQTT, AMQP, CoAP, SoAP, WebSocket, etc.
- **IoT and Big Data Technologies**

IoT and Security

- **Security in IoT Applications**
 - End-to-End Security Considerations for IoT Systems
 - OWASP IoT Top 10 Security Risks
 - IoT Security Requirements
 - Security in IoT Communication Protocols
- **Threats Targeting IoT Applications**
- **Security Solutions for IoT Applications**
 - Selecting IoT Security Solutions
 - Protocol Security
 - Device and Device Configuration Security
 - Software Update Security
 - Communication Security
- **Security in IoT Architecture and Standards**

Industrial Control Systems and SCADA Systems

- **Fundamental Concepts and Core Components of ICS**
 - Sensors, Actuators, Control Units, PLCs, HMI (Human-Machine Interface)
- **SCADA System Components**
- **Industrial Networks and Communication Protocols**
 - Industrial Networks
 - Computer Integrated Manufacturing (CIM) Architecture
 - PROFIBUS
 - Controller Area Network (CAN)
 - ModBus (RTU - TCP/IP)
 - Open Platform Communications - Unified Architecture (OPC-UA)
- **Critical Infrastructures**

ICS & SCADA Security

- **ICS Vulnerabilities**
- **Threats and Risks in ICS**
- **ICS Penetration Testing Methodology**
 - Analyzing ICS Network and Architectural Structure
 - Vulnerability Scanning in ICS Networks
 - Malware Analysis in ICS Networks
- **Security Solutions in ICS & SCADA Systems**

Prerequisites

Basic Electrical & Electronics and Programming Knowledge is expected.