

Industrial IoT (IIoT) Development and SCADA System Data Acquisition

Learn to build IIoT architectures, acquire and process industrial data, and configure KEPServerEX and SCADA connectivity for cloud reporting.

10

MODULES

33

TOPICS

COURSE OVERVIEW

This comprehensive course delves into the integration of Industrial Internet of Things (IIoT) technologies and the acquisition of Supervisory Control and Data Acquisition (SCADA) systems within industrial environments. Participants will gain a deep understanding of IIoT architecture, data acquisition techniques, communication protocols, and the role of KEPServerEX in industrial automation. Additionally, the course covers SCADA system data acquisition for efficient monitoring and control of industrial processes.

WHO THIS COURSE IS FOR

This course is designed for professionals and enthusiasts in the fields of industrial automation, manufacturing, engineering, and information technology

It is suitable for individuals seeking to enhance their knowledge and skills in IIoT integration, SCADA system acquisition, and industrial connectivity

PREREQUISITES

- Participants are expected to have a basic understanding of industrial automation concepts, including PLCs, industrial communication protocols, and networking fundamentals.

What You Will Learn

By the end of this course, participants will be able to:

- Understand the significance of IIoT in the industrial landscape and distinguish it from IoT
- Identify the architecture, components, and communication protocols of IIoT systems
- Acquire, preprocess, and analyze real-time data in IIoT environments using edge computing techniques
- Implement industrial connectivity solutions, including wired and wireless options and communication protocols
- Utilize KEPServerEX for device connectivity, configuration, and data management
- Explore OPC and OPC UA for secure data transfer and remote communication
- Navigate the KEPServerEX user interface, configure data sources, and manage tags effectively
- Diagnose and troubleshoot common issues in KEPServerEX deployment
- Integrate IIoT technologies with KEPServerEX for efficient industrial connectivity
- Acquire, install, and utilize SCADA systems for monitoring and controlling industrial processes
- Implement IoT data analytics and reporting capabilities, including integration with AWS/Azure Cloud platforms

COURSE SYLLABUS

10 Modules, 33 Topics

01

Introduction to IIoT

TOPICS

- Overview of IIoT and its significance in the industrial landscape
- Key differences between IIoT and IoT
- Evolution of IIoT and its impact on industries

02

Architecture and Components of IIoT

TOPICS

- IIoT architecture and its layers (cloud)
- Sensors, actuators, and embedded systems in IIoT
- Communication protocols and standards for IIoT

03

Data Acquisition and Processing in IIoT

TOPICS

Data collection techniques and devices · Edge computing and data preprocessing · Real-time analytics and data visualization · Best Practices for Data Acquisition

04

Industrial Connectivity and Networking

TOPICS

- Wired and wireless connectivity options
- Industrial Communication protocols (e.g., MODBUS, TCP/IP, OPC, Profinet, Profibus, Industrial Ethernet)

05

Introduction to KEPServerEX

TOPICS

- Understanding the role of KEPServerEX in industrial automation
- Exploring the KEPServerEX ecosystem
- Installing and licensing KEPServerEX

06

Device Connectivity

TOPICS

- Connecting PLCs and various industrial devices
- Configuring drivers and protocols for device communication
- Simulating devices for testing and development
- Quality Data Capture - Current and Voltage Capture

07

OPC and OPC UA

TOPICS

- In-depth exploration of OPC (OLE for Process Control) and OPC UA
- Implementing secure data transfer with OPC UA
- Tunneling data for remote communication

08

KEPServerEX Essentials

TOPICS

Navigating the KEPServerEX user interface · Configuring data sources and tags · Data logging and event handling

09

Diagnostics and Optimization

TOPICS

- Diagnosing and troubleshooting common issues
- Strategies for optimizing KEPServerEX performance
- Real-time and historical data analysis

10

Industrial IoT (IIoT) Integration

TOPICS

Understanding IIoT in the industrial context · Leveraging KEPServerEX for IIoT connectivity · IoT data analytics and reporting · Reporting to AWS/Azure Cloud · SCADA System Data Acquisition

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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