SIEMENS

Edge – Virtual

General Information

Course Code	SCT-TIAOILEDGE
Global Code	TIA-EDGEON
Length	3 Days
CEUs	1.5

Audience

- Commissioning Engineers
- Project Planners
- IT / OT Professionals

Prerequisites

Participants should have basic knowledge of IT standards and application and be familiar with the principles of factory automation, machine data analysis, and cyber-security.

Profile

The goal of this course is to provide experienced users, familiar with Automation system environments, with hands-on knowledge and skills training on the TIA Industrial Edge System.

The course begins with an overview of the TIA Edge architecture and how it can bridge the gap between automation and cloud. Followed by in-depth discussions and hands-on exercises covering … Installation, Management, Engineering and Deployment of the Industrial Edge Management (IEM) and Industrial Edge Device (IED) components.

The course will cover using a preconfigured TIA Portal Project running in PLCSIM Advanced as the automation system. The key Industrial Edge learning subjects will include the content in the Objectives section.

Objectives

Upon completion of this course, the student shall be able to:

- Create an Industrial Edge Management (IEM) system.
- Connect to the Industrial Edge Hub (IEH) to download apps, documents, and updates.
- Add Industrial Edge Devices (IED) to the IEM system for management.
- Configure and download apps to IEDs for automation data collection.
- Prepare analytical automation data for display in graphical Widgets.
- Prepare analytical automation data for use in cloud applications.
- Analyze data with Edge Apps locally on the field level using Edge Devices.
- Transfer data to IT/Cloud infrastructures for further processing.

Topics

1. Introduction to Industrial Edge
   a. Analysis of Large Amounts of Data in Manufacturing.
   b. System Flexibility with Continuous Updates.
   c. Closing the Gap between Automation & Cloud.
   d. Industrial Edge offers Three Components which Create a Simple Workflow to Manage Distributed IT Infrastructure.
   e. Advantages with Industrial Edge.
2. EH-IEM-IED
   a. Industrial Edge Hub (IEH).
   b. Industrial Edge Management (IEM).
   c. Industrial Edge Device (IED).
3. Commissioning – Onboarding Industrial Edge Devices
   a. Onboarding Web UI.
   b. Onboarding Web USB stick.
   c. Management / Settings / Debugging.
4. Reference Application
   a. TIA Portal.
   b. PLCSIM Advanced.
   c. CPU1500 project.
5. Industrial Edge Apps
   a. Overview Industrial Edge Apps.
   b. Installing Apps.
   c. Deploying apps to IEDs
6. IE Flow Creator Edge App
   a. Launching the App IE Flow Creator.
   b. Overview IE Flow Creator.
   c. Task Card.
   d. S7 Communication.
   e. Functions / Dashboard / Button.
7. SIMATIC S7 Connector System App
   a. Commissioning / Installing.
   b. Overview SIMATIC S7 Connector.
   c. Configurator: SIMATIC S7 protocol (300/400/1200/1500) controller, SIMATIC S7.
   d. Configurator: OPC UA (1200/1500) server.
8. IE Databus System App
   a. Commissioning / Installing.
   b. Overview IE Databus.
   c. MQTT Broker.
   d. Using the IE Databus.

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9. Data Service Edge App
    a. Commissioning / Installing.
    b. Overview Data Service.
    c. Edit Asset (Hierarchy) / Data Storage / Variable / Aspect.
10. IE Cloud Connector System App
    a. Commissioning / Installing.
    b. IE Cloud Connector Configurator.
    c. Topics
11. Prospects for Custom Apps
    a. Publisher / IEM Documentation.
    b. Docker Hub App import.
    c. Sharing Applications.
12. Training & Support
    a. SITRAIN personal.
    b. SITRAIN access.
    c. SITRAIN open.
    d. Siemens Technical Support.
    e. Contacts.
    f. Link collection.

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