ONLINE TRAINING

Data integration for IIoT & Industry 4.0

3 half-day sessions (on three different days)

Overview

Increasing digitalization and a growing demand for IIoT and Industry 4.0 solutions represent the transformation that industrial automation is currently undergoing.

Analyzing and comparing production data increases the availability and efficiency of machines and systems and reduces the consumption of energy and natural resources - both objectives of Industry 4.0.

The key to implementation is provided by open, digital standards for industrial communication which, in addition to data exchange between machines, also enable integration into the higher-level IT.

OPC UA is officially recommended as an IIOT communication standard within the Reference Architecture Model Industry 4.0. In addition, MQTT in particular is used in many IoT and industrial IoT applications!

The 3 half-day online training course outlined below gives you a comprehensive introduction to the digital communication technologies relevant for IIOT and Industry 4.0. In addition, we provide you with valuable knowledge and practical skills for the simple and fast implementation of the production data interface for Industry 4.0 and IIoT use cases that is right for you.

What you can expect during training

- 3 half-days, practice-oriented application training course
- Concentrated introduction to basic technologies of industrial data integration
- Technical possibility for the efficient handling of larger systems or data volumes (aggregation)
- Different approaches for the integration of production data in IT applications
- Practical implementation and configuration of different interfaces
- Typical errors in the implementation of data interfaces

After this training

- you know the relevant communication technologies for the integration of production data in IT applications with IIoT or Industry 4.0 objectives
- you know three different concepts for integrating OT data into higher level IT applications
- know how to activate and use the security mechanisms of OPC UA
- you can set up OPC UA connections with a common address space for different data sources and set them up for targeted use
- you can set up and configure the connection of a data interface
- know the typical causes of errors when integrating production data and how to avoid or rectify them

For available dates and a quotation, please contact your local Softing distributor.

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COURSE AGENDA

Contents

Data integration for IIoT & Industry 4.0

1 Basic technologies

OPC UA

- Data model
- Transport mechanisms
- Security concept

MQTT, REST

- MQTT: basics, communication principles and security
- REST: basics, architectural principles and security
- Application scenarios for secure IoT cloud communication

2 OPC UA data aggregation

- Address space management
- Security Supervision
- Certificates (user)
- Address space and IP filters

3 OPC UA and IoT applications in practice

(extensive practical exercises)

- Commissioning and configuration of OPC servers and OPC clients
- Data acquisition from different controllers (SIMATIC S7-300/400, SIMATIC S7-1500, ...)
- Realization of secure OPC UA connections (handling of certificates)
- Configuration of a secure integration server (filtering)
- Configuration of MQTT and REST connections for cloud applications

4 Troubleshooting

Who should attend

- **Maintenance & service**
- **Installation & commissioning**
- **Automation & plant engineering**
- **OT / IT integration**

Services

- Conducted as interactive online course
- Training documents
- Participant certificate

Duration

3 half-day sessions (on three different days)

Requirements

No specialist knowledge is required. Basic industrial automation and Ethernet knowledge is recommended.

Each participant must have their own computer with mid-range, up-to-date performance and a stable internet connection with a minimum speed of 5 Mbps.

Target group

from OT or IT.

The training is aimed at people who are or will be involved in the integration of production data in IT applications. These are people responsible for the installation, commissioning, maintenance or servicing of industrial communication networks or IT applications that process production data.

This training does not cover any content specifically related to software development!

Contact your local Softing distributor for available dates and a quotation.

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