

Switching & Routing in Industrial Networks with SCALANCE (IC-SWIROS)

Type

Instructor-led Learning

Duration and Continuing Education Units (CEU)

5 Days
0 CEUs

Target Group

- Engineer
- Commissioning
- Maintenance
- Operator
- Programmer
- Reliability
- Sales
- Other

Short Description

An industrial or industry-related environment without Ethernet is no longer conceivable. A high degree of reliability and sufficient capacities are demanded from hard-wired industrial networks. At the same time, a secure connection of these Ethernet networks to an existing network structure as well as the seamless integration into a corporate network is highly required. In the Switching part of the course you will learn Switched Network solutions and how they connect to real-time-capable systems in theory and in practice. The Routing section will teach you the fundamentals and knowledge required for planning, configuring, and operating network solutions in industrial environments, which are structured by routing, and their connection to company networks. You will become familiar with the special requirements of routing solutions in industry and the required fundamentals of IP communication, static routing, routing protocols, and redundancy mechanisms. The course includes ample time for practical exercises, diagnostics, and troubleshooting.

Objectives

- At the end of the course, you are familiar with the special requirements of industrial network solutions and will have the knowledge to plan, implement, and provide support for plain networks in an industrial or industry-related environment.

Content

- Comparison of Ethernet and Industrial Ethernet
- Typical topologies
- Redundancy mechanisms (MRP, HRP, Standby Redundancy, Protocol, RSTP, Passive Listening, HSR, PRP)
- Network segmentation with VLANs
- Special industrial functions
- Diagnostics and troubleshooting
- IPv4 basics (addressing, data exchange, important protocols)
- Static routing
- Router redundancy (VRRP)

- Dynamic routing (RIP, OSPF)
- Practical exercises using the SCALANCE products

Recommended Prerequisites

[IC-ETHFU: IC-ETHFU](#)

Language

English

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