

Managing Industrial Networks for Manufacturing with Cisco Technologies (IMINS2)

Duration 5 Days

COURSE CONTENT

This course is a lab-based course which helps students with the foundational skills needed for the management and administration of networked industrial control systems. It helps plant administrators, control system engineers and traditional network engineers understand networking technologies that are needed in today's connected plants and enterprises. This course also helps prepare for the Cisco Industrial Networking Specialist Certification exam (200-401) and earn the Cisco Industrial Networking Specialist certification. This course is job-role specific and enables you to achieve competency and skills to configure, maintain, and troubleshoot industrial network systems while helping to ensure network availability, reliability, and Internet security throughout your company.

Upon completion of this course, you will be able to:

- Understand the functions of the OSI layers and TCP/IP model
- Recognize the difference between enterprise and industrial networks
- Troubleshoot the common issues that are found in Layers 1, 2, and 3 of the OSI model
- Describe the functions and components of EtherNet/IP protocol
- Configure and troubleshoot EtherNet/IP on Cisco and Stratix switches
- Describe the functions and components of the PROFINET protocol
- Configure and troubleshoot PROFINET protocol on Cisco Industrial Ethernet devices
- Identify common network threats and resolutions, and configure basic security components (access lists and AAA features)
- Configure a wireless network within an industrial environment

COURSE OUTLINE

- **Module 1:** Industrial Networking Concepts and Componentets
- **Module 2:** General Troubleshooting Issues
- **Module 3:** EtherNet/IP
- **Module 4:** Troubleshooting EtherNet/IP
- **Module 5:** PROFINET
- **Module 6:** Configuring PROFINET
- **Module 7:** Troubleshooting PROFINET
- **Module 8:** Exploring Security Concerns
- **Module 9:** 802.11 Industrial Ethernet Wireless Networking

WHO SHOULD ATTENT

Plant administrators, control system engineers and traditional network engineers in the manufacturing, process control, and oil and gas industries, who will be involved with the convergence of IT and Industrial networks

PREREQUISITES

It is recommended that a learner has the following knowledge and skills before attending this course:

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage network device security
- Expand small- to medium-sized networks with WAN connectivity
- Describe IP basics
- Identify Cisco industrial networking solutions
- Describe Cisco Industrial Ethernet switches, Rockwell Automation Stratix switches, and Cisco Connected Grid switches and routers
- Interpret design and drawings
- Recognize zone topologies
- Install and deploy industrial network components
- Perform basic maintenance tasks on the network
- Troubleshoot network and control issues