EtherNet/IP Design and Configuration

Course Code: CCP174
Duration: 2 Days

Course Purpose:
This course prepares you to successfully design and configure an efficient EtherNet/IP (Industrial Protocol) network by managing both the bandwidth requirements for a project and the number of connections on the network. The course focuses on integrating Logix5000™ controllers and EtherNet/IP modules in the design and configuration of an EtherNet/IP network for optimal performance.

You will configure the 9300-8EDM Ethernet diagnostic module for viewing and controlling network traffic, restricting traffic overload, and protecting against unauthorized device access. You will also modify Logix5000 projects to use an EtherNet/IP network as the communications link between a Logix5000 controller and the local and remote digital and analogue devices it controls.

Who Should Attend:
Individuals responsible for designing and configuring a new EtherNet/IP network or managing and modifying an existing EtherNet/IP network should attend this course. This course is not intended for individuals who want to maintain and troubleshoot an existing EtherNet/IP network.

Topic Outline:
Day 1
- Designing an EtherNet/IP Cable System
- Optimizing an EtherNet/IP Network
- Pinging a Module’s EtherNet/IP Address
- Configuring and Modifying EtherNet/IP Addresses Using BOOTP-DHCP Server© Software
- Configuring and Modifying EtherNet/IP Addresses Using RSLinx® Software
Day 2
- Configuring and Modifying EtherNet/IP Addresses Using RSLogix™ 5000 Software
- Establishing EtherNet/IP Connections to Remote Devices
- Producing and Consuming Data over an Ethernet/IP Network
- Communicating between Multiple Controllers on an Ethernet/IP Network Using a Message Instruction
- Configuring the 9300-8EDM Ethernet Diagnostic Module
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Hands-On Practice:
Hands-on practice is a necessary part of learning and this course offers hands-on opportunities to configure a project that will optimise network communications. Students will design a cable system in accordance with established EtherNet/IP requirements that support fictional application requirements. Students will assign IP and gateway addresses and subnet masks, configure a controller and local and remote I/O devices for messaging and control, and optimize network performance. Students will have the opportunity to practice the skills presented in class using the following Rockwell Automation products:

- 1756 ControlLogix® controller, EtherNet/IP and digital I/O modules
- 1769 CompactLogix™ controller, EtherNet/IP and digital I/O modules
- 1794 FlexLogix™ EtherNet/IP adapter and analogue module
- 9300-8EDM Ethernet Diagnostic Module
- PanelView™ Plus 600 terminal

Prerequisites:
To successfully complete this course, students must be able to perform basic Microsoft® Windows tasks such as using a mouse, opening and saving files, and moving windows. Students should also have successfully completed one or more of the following courses (or demonstrate equivalent experience):

- RSLogix™ 5000 Level 2: Basic Ladder Logic Programming (Course No. CCP151)
- Level 3: RSLogix 5000 Development & Programming of ControlLogix Projects (Course No. CCPAUS143)

Student Materials:
To enhance and facilitate your learning experience, the following materials are provided as part of the course package:

- Student manual, which contains the key concepts, definitions, and examples presented in the course and includes several hands-on exercises.
- EtherNet/IP Procedures Guide, which provides all of the steps required to complete task common to designing and configuring devices to communicate over an EtherNet/IP network. By following the procedures in this job aid, students can immediately apply what is learned in the course to their own job.
- EtherNet/IP Documentation Reference Guide, which contains several relevant technical publications. This searchable, electronic resource contains the most frequently referenced information and is a quick and efficient on-the-job resource.