

# Internet of Things

## Essentials of Industrial Ethernet Networks for an OT Professional

### Course Agenda

#### Day 1

- Interpreting an Ethernet network hardware layout
- Verifying communications between two Ethernet devices
- Interpreting basic data flow of host-to-host Ethernet communications
- Recognizing Ethernet data transmission types
- Recognizing Layer 2 switching functions on an Ethernet network

#### Day 2

- Recognizing Ethernet network loop avoidance protocols
- Interpreting the Network Address Translation (NAT) scheme for an Ethernet network
- Accessing Ethernet switch information using CLI commands
- Recognizing Layer 3 switching functions on an Ethernet network
- Copying and removing IOS configuration files on an Ethernet switch



**COURSE NUMBER: CCP182**

### Course Purpose

After completing this course, you should be able to:

- Demonstrate understanding of basic Ethernet networking skills, terminology and concepts
- Apply these skills when performing advanced network specification, configuration and troubleshooting tasks

In this course, you will learn how to verify communications between devices, recognize data transmission types and differentiate between OSI Model Layer 2 and Layer 3 switching functions.

You will also identify the routing process, monitor a switch using Device Manager and CLI commands and work with IOS configuration files.

This course prepares you to more clearly understand key IT terms and concepts for communicating with other professionals on projects in support of The Connected Enterprise.

### Who Should Attend

Operations Technology (OT) professionals (such as control engineers) and others responsible for installing, configuring and/or maintaining industrial devices on an Ethernet network should attend this course.

LISTEN.  
THINK.  
SOLVE.

## Prerequisites

To successfully complete this course, the following prerequisite is required:

- Ability to perform basic Windows® operating system tasks

## Technology Requirements

All technology is provided for student use in the classroom by Rockwell Automation. It is not necessary for students to bring any technology with them when attending this course.

## Student Materials

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

- Student Manual
  - Includes the key concepts, definitions, examples and activities
  - Labs provide learning activities and hands-on practice
- EtherNet/IP Procedures Guide
  - Provides the steps required to complete tasks common to configuring devices that communicate over an EtherNet/IP network
- Cisco IOS Configuration Fundamentals Command Reference
  - Contains frequently used commands

## Hands-On Practice

Throughout this course, you will have the opportunity to apply the Ethernet concepts and skills you have learned through a variety of hands-on exercises:

- Exercises focus on and reinforce the skills introduced in each lesson
- Exercises are performed on an EtherNet/IP™ workstation and/or use a variety of software tools

## Next Learning Level

This course expands your skill set and acts as a bridging course for other offerings, such as the *Managing Industrial Networks with Cisco Networking Technologies* (IMINS) course.

## Course Length

This is a two-day course.

## Course Number

The course number is CCP182.

## IACET CEUs

CEUs Awarded: 1.4



## To Register

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley distributor or your local sales/support office for a complete listing of courses, descriptions, prices and schedules.

You can also access course information via the web at <http://www.rockwellautomation.com/training>

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