

Networking II

Automated Logic Training Course Description



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AutomatedLogic

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Course Overview

This course is designed for individuals who wish to design complex network systems as well as troubleshoot networks with Wireshark. Students will set up complex Automated Logic networks, troubleshoot networks, and create a secure WebCTRL site. They will also focus on troubleshooting a WebCTRL system by reading and understanding a Wireshark capture. The dynamic BACnet binding process is also featured in this course.

The Networking II course has been developed for individuals that are required to design complex network systems as well as troubleshoot networks with Wireshark®. Learners will efficiently understand the installation, configuration, and be able to troubleshoot IP and serial-based networks.

Traditional Classroom: A live instructor will lead up to 12 students (course dependent) in hands-on exercises with minimal lecture in between. Using the situated learning techniques of the Kirkpatrick Model, this methodology fosters a collaborative learning environment where students are positioned to maximize knowledge retention. This course is a 2-day event.

Instructor-Led eLearning: A live instructor will lead students using video conferencing and remote access software. The student will have remote access to a training station to complete hands-on tasks, giving them a virtual classroom experience from many miles away. This course is hosted in the same 2-day timeframe and manner as the traditional classroom format.

Students must have the following access and hardware requirements:

- Internet access
- Administrative rights on your PC to install Zoom and Connectwise
- Mouse (tablet touch screen or PC touchpad not recommended)
- Audio availability through PC or Phone

To enhance the student experience, we recommend:

- Additional laptop or desktop (one for Zoom Meeting & one for student tasks)
- OR additional monitor attached to your PC
- Printer
- Web Camera

Training Objectives

After successfully completing this course, you will be able to setup complex ALC networks, troubleshoot networks, and create a secure WebCTRL site. Focus is on troubleshooting a WebCTRL system by reading a Wireshark capture.

- IP Networks
 - Traditional
 - Daisy Chain
 - RSTP
- Serial Networks
 - ARC156
 - MS/TP

Class Details

BACnet Bindings

- Binding Process
- Simple Network
- Complex Network

Wireshark

- Use Wireshark to review a capture
- Add Columns to the Wireshark Interface
- Import and apply BACnet® color rules to Wireshark
- Create, save, and use a filter in Wireshark
- Network Issue Case 1 – Max Masters

Network Microblocks

- Setting up Network microblocks Polling Vs. COV
- Network Issue Case 2 – Excessive COV

Subnet Masks

- Addresses, Subnets & Default Gateways
- Network Issue Case 3 – Subnet Mask
- Send BACnet broadcasts across an IP router
- Network Issue Case 4 – BBMDs

NAT Routers / Firewalls

- Enable NAT Routing in a WebCTRL system
- Configure a Whitelist in a BACnet router
- Network Issue Case 5 – Trend Log

Hierarchical Servers

- Create a Parent / Child Server system

Shell Commands

- Command Prompt Functions

Class Requirements

To receive a certificate for this course student must be present for the entire course, complete all workshops and receive a grade of 70% on graded final.

Prerequisite requirements

- Networking I