

TIA Portal Advanced Troubleshooting

General Information

Course Code SCT-PTTIATBL
Global Code NA
Length 3 Days
CEUs 2.1

Audience

This course is for experienced TIA Portal-1200/1500 PLC Maintenance Technicians, Service Technicians, and Service Engineers. Learners will expand their knowledge in diagnostic troubleshooting using Siemens TIA Portal Totally Integrated Automation Software.

Prerequisites

- TIA Portal Programming 1 or Virtual OR
- TIA Portal Service 2

Profile

This is an advanced course focused on diagnostic troubleshooting using Siemens TIA Portal Totally Integrated Automation Software. Learners will expand their knowledge on how to troubleshoot, diagnose, and repair programming and hardware configuration issues within Siemens 1200/1500 PLC's. This course includes classroom instruction, demonstration, and considerable hands-on lab work.

Objectives

Upon completion of this course, the student shall be able to:

- Recognize Error classifications.
- Identify the different testing options TIA Portal has for the PLC/CPU diagnostics.
- Determine backup and restoring methods in the PLC and HMI.
- Diagnose hardware configurations and linkups.
- Analyze Online Diagnostics.
- Monitor and Modify programming values.
- Diagnose software and program status and running conditions.
- Retrieve and start backup programs
- Effectively use the CPU and HMI Messaging screens.
- Analyze program block error messages.
- Correct use of the Diagnostic Buffer.

Topics

1. Troubleshooting Overview
 - a. Error categorizing
 - b. Test Functions
 - c. Hardware Diagnostics
 - d. Software Diagnostics
 - e. Communication issues
 - f. LED Status
 - g. Online Diagnostics
2. Troubleshooting Tools
3. Diagnosing Problems
 - a. Program Structure and Languages
 - b. Organization Blocks for Future response
4. Problem Solving
 - a. Hardware Solutions
 - b. Software Solutions
5. Communication Troubleshooting
 - a. Hardware problems
 - b. Topology
 - c. CPU Diagnostics Buffer
 - d. CPU Message Tool
 - e. Using the HMI Diagnostic Messaging Screen