SIEMENS

TIA Portal Programming 1 - Virtual (SCT-PTOILTIAP1A)

Global Reference

SIMATIC Programming 1 in the TIA Portal (TIA-PRO1)

Type

Virtual Instructor-led Learning

Duration and Continuing Education Units (CEU)

25 Hours (Schedule varies)
2.5 CEUs

Target Group

- Programmer
- Maintenance

Short Description

This course is the first in a three-part series which builds basic programming skills with Siemens STEP7 TIA Portal software. Students will learn S7 project management, program design, and application development. This aggressively paced curriculum covers the S7 programming editor with Ladder, Function Block Diagram, and Statement List programming languages, as well as key software tools. This course takes a systems approach using the S7-1500 PLC, plus basic connectivity and functionality of a KP700 HMI and ET200SP, PROFINET I/O.

Objectives

- Complete a system hardware configuration
- Build, document, test and troubleshoot a structured STEP7 program
- Program using multiple address types
- Use symbolic addressing
- Use core app
- Program using processed analog values
- Generate data blocks
- Install PROFIBUS DP connectors onto PROFIBUS cables and test the cables for correct installation
- Establish communication to an HMI

Content

- System Overview
- Engineering Software "TIA Portal"
- Training Devices and Addressing
- Devices and Networks
- PLC Tags
- Program Blocks
- Binary Operations
- Digital Operations
- Data Blocks

- Distributed I/O
- Human Machine Interface (HMI)
- Functions (FCs) and Function Blocks (FBs)
- Organization Blocks (OBs)
- Troubleshooting

Recommended Prerequisites

Introduction to TIA Portal and Diagnostics: SCT-PTBADIA

OR

Introduction to TIA Portal and Diagnostics - Virtual: SCT-PTOILBADIA

Note

During the virtual session, students will build a STEP7 project from the beginning, learning proper program structure and documenting. Software diagnostic tools will be used for debugging both hardware and code. Various instruction sets, memory areas, program blocks, and libraries will be introduced to provide the student with solid concepts of structured programming. The course format consists of instruction and exercises. Access to fully functional TIA Portal programming software, a virtual conveyor, and exercises are provided through a cloud-based application.

Language

English