SIEMENS

SIMATIC Service 3 in TIA Portal (TIA-SERV3)

Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. The third part of the SIMATIC TIA Portal service training is based on the knowledge of the TIA Portal gained in the SIMATIC S7 TIA Portal service courses 1 and 2, including SIMATIC STEP 7, HMI and PROFINET IO. You will expand your knowledge in terms of program troubleshooting and error handling and learn how to display these errors in an operator control and monitoring system. A HMI will be connected to the realtime process communication. You will set up communication between SIMATIC CPUs (based on Industrial Ethernet) to send process data and status information. You will work with Technology Objects e.g. Motion Control Functions. The basis for this is to also interpret and expand existing programs in the programming languages Ladder Diagram(LAD) / Function BlockDiargram (FBD), Structured Control Language (SCL) and Structur Text Language (STL). Thanks to this comprehensive understanding, you gain new impetus and ideas to optimize your plant and can thus reduce or eliminate downtime in your entire plant.

Objectives

After attending the course, you can do the following:
- Understand the interaction of TIA components
- Interpret, adapt, and expand specified, complex STEP 7 programs including data administration and system function blocks
- Systematically diagnose and fix hardware and software errors in a complex TIA system consisting of SIMATIC S7, HMI, PROFINET IO and drive by means of the diagnostic tools of the TIA Portal engineering platform.
- Read out SIMATIC S7 system diagnostic information using a STEP 7 program and display it on an HMI unit
- Establish CPU – CPU communication via Industrial Ethernet
- Deeper understanding of contents through practical exercises on the SIMATIC S7-1500 and SIMATIC S7-1200 system model

You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7 automation system, distributed I/O ET200, a Touchpanel, a drive, and a belt model.

Target Group

Maintenance personnel
Service personnel

Content

Commissioning a TIA system with software troubleshooting and debugging
Error analysis and handling per SIMATIC STEP 7 program:
- Possible uses for error organization blocks
- Reading out, evaluating, and display of diagnostic messages

Diagnosis of errors in a PROFINET IO system with an HMI device
Diagnosis of SIMATIC S7 system errors with an HMI device
Configuration of CPU – CPU communication via Industrial Ethernet
Working with Ladder Diagram(LAD) / Function BlockDiargram (FBD), Structured Control Language (SCL) and Structur Text Language (STL).
Working with Technology Objects
Deeper understanding of contents through practical exercises on SIMATIC S7-1500 system model

Prerequisites

SIMATIC S7 knowledge corresponding to TIA-SERV2 or TIA-SYSUP and practical experience in using the knowledge
You can use the available online entry test to ensure that the selected course matches your area of expertise.

- Online Assessment Test

Note

In this course you will work with the SIMATIC STEP 7 software based on TIA Portal.
This is the third of three to prepare you for certification as a "Siemens Certified Service Technician Level 2, based on the TIA Portal". Both tests are modules of the "SITRAIN Certification Program".
The examination is a "SITRAIN Certification Program" module.

CPT-FAST2

Type

Face-to-face training

Duration

5 days

Language

en

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