

TIA Portal Service 2 Course (TIA-SERV2)

Short Description

The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC. The second part of the SIMATIC TIA Portal service training is based on the knowledge of the TIA Portal gained in the SIMATIC TIA Portal service 1 course, including SIMATIC STEP 7, HMI, connection of drives, and PROFINET IO. You will expand your troubleshooting and error correction knowledge - using the TIA Portal diagnostic tool during the commissioning and production phase. Alarms are displayed on an operator control and HMI monitoring system. You will be introduced to the functions for controlling, monitoring and editing programs written in Structured Control Language (SCL). You be introduced and make changes to a sequence control written SIMATIC S7-GRAPH. You will thus be able to adapt your plant to new demands and to reduce downtime. You can deepen your theoretical knowledge with numerous practical exercises on a TIA system model. This consists of a SIMATIC S7 automation system, ET 200S distributed I/O, Touchpanel, Drive, and a Conveyor.

Objectives

On completion of this course the participant will be able to do the following:

Understand the interaction of TIA components, link them together to form a project.

Interpret, adapt, change and expand given STEP 7 programs, including with step sequences and analog value processing.

Systematically diagnose and correct hardware and software errors, in the SIMATIC S7 automation system, with the diagnostic tools of the TIA Portal engineering portal.

Use the test functions in Structured Control Language (SCL).

Perform specific commissioning of TIA components.

Adapt your WinCC configuration to new requirements through small modifications or extensions.

Construct a working system by the developing, troubleshooting and integrating of both hardware and software components.

Content

Hardware diagnostic functions of the TIA Portal in the SIMATIC S7 automation system (LED analysis and Fault Connector).

Software diagnostic functions of the TIA Portal in the SIMATIC S7 automation system (monitor modify and cross-reference).

Use of various block types functions (FC), function blocks (FB), organisation blocks (OB) and data blocks (DB).

Principles of analog value processing.

Sequence control with S7-Graph.

Commissioning of Distributed I/O and the G120 Drive, on PROFINET.

Alarm configuration for the HMI using WinCC.

Parameterization of the G120 Drive.

Test functions in Structure Control Language (SCL).

Use of Web Service to Service and Support of the CPU and HMI.

Use of the TRACE Analyser to track and monitor signals.

An Introduction to the use of Organisation Blocks (OBs).

G120 Drive parameterisation and testing using Technology Object (TO)

Further understanding of course contents through practical exercises on TIA system model

Included in the course price: Free access to the digital learning platform [SITRAIN access](#) – starting one week before the start of the course until two weeks after the end of the course. Here you will find web-based trainings on [Diagnostics and Troubleshooting curriculum](#) and many more. With the Learning Membership, you can deepen or repeat the content of this Learning Event as well as continue your education on other interesting topics.

Prerequisites

SIMATIC S7 knowledge equivalent to the Siemens TIA-SERV1.

You can use the online tests below to find out whether you have sufficient prior knowledge to participate effectively in the course you wish to attend. If you answer more than 70 % of the questions correctly you are well prepared to take part in the course.

[Test TIA-SERV2](#)

Note

This course is not a Programming Course (although programming elements exist within), for Programming, please consider the 'TIA Portal Programming 1 Course'.

This course is also suitable for those using S7-1200 based systems. This training course is not appropriate for trainees using S7-200, S7-300 or S7-400 based systems. For more information concerning details of S7-300, and S7-400 please see the section called Simatic S7 PLC

The Learning Membership starts 7 days before the start of the course and ends 14 days after the end of the course. During this period, you have access to all of the more than 480 web-based trainings available.

Type

Face-to-face training

Duration

5 days

Language

en

Fee

2,930 GBP