

Online-Training SIMATIC Programming 2 with S7-SCL in the TIA Portal (TIA-SCL2)

Short Description

The Totally Integrated Automation Portal (TIA Portal) provides the working environment for end-to-end engineering with SIMATIC STEP 7 and SIMATIC WinCC. Select this course if you want to program SIMATIC S7-1500 using a high-level programming language. Using complex examples, we will show you the advantages offered by a high-level programming language. The course aims to inform participants about the complete language and performance scope of the Structured Control Language (SCL) development environment. During the training, you will create your own SCL programs, commission and test them.

Objectives

Following the course, you will be able to:

Significantly reduce the amount of time spent creating and maintaining programs through the use of a high-level programming language (SCL) instead of using a Statement List (STL) as well as LAD/FBD (ladder logic/function block diagram)

Create, commission and test complex programs in SCL

You put your theoretical knowledge of a TIA system model consisting of an automation system SIMATIC S7-1500 and a tape model directly into practice and thereby increase your learning success.

Target Group

Programmers
Commissioning engineers
Configuration engineers
Maintenance engineer
Maintenance personnel
Service personnel

Content

Complex data types
Error handling in the block
Handling of SCL sources
Create SCL blocks for optimized performance
Create blocks that are compatible with libraries
Working with array DBs
Working with multi-instance arrays in SCL
Working with tags and symbolic block names
Creating enclosed functions and function blocks in SCL
Introduction to the extended SCL command set
Strings and string processing in SCL
Use of the data types DB-ANY, ARRAY[*] & VARIANT in SCL
Universal block creation using indirect addressing with the help of the VARIANT data type
Creating, commissioning and testing your own SCL programs
Reinforcement of the content using practical exercises on the SIMATIC S7-1500 system model

Prerequisites

Knowledge of SIMATIC S7 based on the TIA Portal corresponding to TIA-SCL1 or extensive experience with related high-level languages such as Pascal, C or Basic. For the latter, experience with SIMATIC STEP 7 based on TIA Portal corresponding to TIA-SYSSUP or TIA-PRO2 is mandatory.

Note

In this course you will work with the SIMATIC STEP 7 software based on TIA Portal.

To take part in this course you will require access to a PC/Laptop with capability to use the following software, microphone and speakers or headset, good Wi-Fi or cabled internet connection, an additional visual display unit, and also a separate device to access the pdf course notes:-

- MS Teams Tenant – required to facilitate instructor presentation and interaction via the Virtual Classroom.
 - Invitation to access the DI Virtual Lab (VLAB) – all TIA Portal software will be hosted in the Virtual environment.
- VLAB is a digital training and learning platform that provides expert knowledge content as courses that can be used for live hands-on learning experiences and better user experience. VLAB is a cloud-based platform to provide any kind of hardware/software environment.

Host System Requirements

The following are the minimum system requirements that must be set up to work with VLAB.

- PC with internet access and a minimum data transfer rate of 15 Mbit/s.

Note: It is recommended to set up screen with a resolution of 1920*1080 pixels (full HD) to display the course document material and environment system in parallel.

If required, you can also use two screens.

- Firewall must not block access to VLAB.

Note: Your firewall must allow Websockets (wss:// connections over TCP and HTTPS over port 443).

- HTML5-capable web browser (such as Chrome, Safari, or Firefox).

- Siemens login credentials for both internal employees and external participants.

Again, as there will be at least two active sessions of software being utilised on this course, you will find it convenient to connect an additional external monitor to your PC/Laptop. The second device could be used to host the pdf course files.

Type

Online-Training

Duration

3 days

Language

en

Fee

1,380 GBP