

## Online-Training - SIMATIC Service 1 in the TIA Portal (TIA-SERV1)

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### Short Description

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The Totally Integrated Automation Portal (TIA Portal) forms the work environment for integrated engineering with SIMATIC STEP 7 and SIMATIC WinCC.

In this first online training of the SIMATIC TIA Portal service training, we teach you the handling of the TIA Portal, basic knowledge about the structure of the SIMATIC S7 automation system, configuration and parameterization of hardware, and the basics of programming. You also receive an overview of HMI and PROFINET IO. You will learn to diagnose and clear simple hardware faults and software errors. You will thus be capable of reducing downtimes in your plant.

In order to provide you with the best possible support and training in your personal learning environment (own office/home office), we have implemented selected courses as digital online trainings for you. We provide you with live theory lectures from our experts, which convey the course content described in the learning objectives in a practical and comprehensive manner, utilizing our virtual exercise environment for practical exercises. In our virtual classroom, our expert is also available to you at any time during your individual practical exercises for in-depth questions and technical discussions.

[Also available as face-to-face training](#)

### Objectives

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After attending the course, you can do the following:

- Understand the fundamentals of interaction of the TIA components
- Reliably operate the "TIA Portal" engineering platform
- Understand, change, and expand small STEP 7 programs
- Configure, parameterize, and exchange SIMATIC S7 modules
- Diagnose and fix simple hardware faults using the wiring test
- Diagnose and fix simple program errors using the status block
- Perform simple commissioning of TIA components

You will deepen your theoretical knowledge through numerous practice-oriented exercises in our virtual exercise environment on a TIA plant model. This consists of a SIMATIC S7-1500 automation system, Comfort Panel TP700 and a virtual conveyor belt model.

### Target Group

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Maintenance personnel  
Service personnel  
Operators

### Content

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Overview and significant performance characteristics of the SIMATIC S7 system family  
The components of the TIA Portal: STEP 7, WinCC, communication  
Program execution in automation systems  
Binary and digital operations in the function block diagram (FBD)  
Setup and assembly of the automation system  
Addressing and wiring the signal modules  
Hardware and software commissioning of the SIMATIC S7 automation system with the TIA Portal  
SIMATIC S7 hardware configuration and parameterization  
Presentation of a Touchpanel  
Setup and parameterization of PROFINET IO  
Saving and documentation of the implemented program changes with the TIA Portal  
Consolidation of the content through practice-oriented exercises in the virtual exercise environment.

### Prerequisites

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Basic knowledge of automation technology  
You can use the available online entry test to ensure that the selected course matches your area of expertise.

[Link to online entrance test](#)

- [Technical requirements](#) > VE Lab

### Note

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In this course you will work with SIMATIC S7-1500 and software SIMATIC STEP 7 based on TIA Portal.

### Type

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Online-Training

### Duration

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5 days

**Language**

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