SIEMENS

SITRAIN: SIMATIC AX LCE Programming Fundamentals (Online Training) (AX-LCE-PROFUND)

Short Description

This course, introduces you to modern automation development with SIMATIC AX-LCE (Logic Control Engineering), Modern, software-oriented automation development with professional development tools and community integration for future-proof industrial projects. After the course, you can join the open source community and actively contribute to further development. SIMATIC AX-LCE training enables employees to use IT-oriented automation engineering solutions with digital tools and agile methods - a decisive step towards software-defined automation. Targeted further training not only strengthens innovative power, but also promotes employee motivation and loyalty in the long term.

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.

Objectives

After this online course you will be able to ...
- operate the modern SIMATIC AX Logic Control Engineering development environment with confidence
- Understand the basics of SIMATIC AX and its integration into modern development workflows
- solve programming tasks with Structured Text (ST) using modern software development principles
- Perform debugging and other online diagnostics with SIMATIC AX
- Analyze programs with tracing and debugging tools
- Apply the most important object-oriented concepts (classes, inheritance, interfaces)
- Test code based on Unit Testing and implement unit testing with mocking
- Manage dependencies with the Apax Package Manager
- Understand basic CI/CD concepts and their application in automation development
- Create your own libraries and publish them
- Configure hardware with text-based AX HWCN and understand modern configuration approaches

You will deepen your theoretical knowledge through numerous practice-oriented exercises.

Target Group

Software developers with a background in automation
PLC programmers with experience in software engineering tools
DevOps engineers in the automation sector

Content

Modern automation development with SIMATIC AX: Introduction to the future-oriented development environment AX Code and its differences to traditional PLC systems. Package management with Apax and structured text programming.
Object-oriented programming: Basics of OOP in ST with classes, objects, methods, inheritance and interfaces. Development of reusable components and structured code organization.
Professional quality assurance: Testing with AxUnit Framework, creating and debugging unit tests, mocking techniques and Test-Driven Development (TDD) basics.
Library development and modern workflows
Hardware configuration with text-based HWCN,
insight into CI/CD concepts and DevOps practices.
Debugging with tracing, online debugging and other online tools
Focus: Modern, software-oriented automation development with professional development tools and community integration for future-proof industrial projects.
Deepening of the content through practice-oriented exercises in the virtual learning environment.

Prerequisites

Basic knowledge of automation technology
Familiarity with object-oriented programming is an advantage

Note

This training is based on SIMATIC AX Logic Control Engineering
This is a stand-alone course that prepares you for modern automation development with SIMATIC
AX LCE. and gives you access to the open source community.
The Community Membership starts 7 days before the course starts and is permanently available. You receive access to all available community resources and can actively contribute to further development.

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.
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.

Type

Online-Training

Duration

4 days

Language

de

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