

## SIMATIC AX-LCE Programming Fundamentals (AX-LCE-PROFUND)

### 简要介绍

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.

### 培训目的

After this face to face 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.

### 培训对象

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

### 课程内容

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.

Included in the course price: Free access to the digital learning platform [SITRAIN access](#). Here you will find web-based trainings on [SIMATIC AX - Introduction to modern PLC development](#) 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.

### 必备条件

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

### 注意事项

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.

### 课程类型

标准课程

### 培训天数

5 天

### 培训语言

en

培训费用

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0 EUR

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