SIEMENS

Online Training - SIMATIC S7-1500 with TIA Portal (Advance Course) (AS-OL1500A)

Objectives

To make participants aware and familiar with:
- SIMATIC S7-1500 automation system
- Advance programming concepts in TIA
- Digitalization topics in TIA Portal along with use cases

Target Group

- Service engineers
- Programmers
- Commissioning engineers
- Maintenance engineers

Content

Hardware
- System overview of SIMATIC controller families
- SIMATIC S7-1500 family in detail
- Hardware configuration of S7-1500 controller in TIA

TIA portal
- TIA portal products and scope
- Automation planning - TIA selection tool and configuration using AML files* **new**
- License management for TIA
- Overview of framework
- PLM integration with TIA Portal – explanation* **new**

Software and advance programming concepts
- Effective programming using function and function blocks
- Multiple and parameter instance programming
- Working with data blocks(DB)
- Snapshot and download without reinitialization in DB
- Standardization in programming as a basis for enabling digitalization* **new**
- Working with complex data types
- Programming of Real Time Clock(RTC), jump instructions
- Concept of Organization blocks
- Introduction to indirect addressing
- Compact PID controller configuration using Technology Object(TO) new
- SIMATIC security services for machine and plant security*
- TIA portal options for efficient engineering: overview of Openness* **new**
- Multi-user team engineering - Collaborative working with teams in TIA* **new**
- Integrated energy management in TIA portal – Energy Suite* **new**

Communication
- Integrated engg. of kinematics: SINAMICS G120 drive integration with S7-1500 using Motion Control - explanation and demo only*
- S7-1500 controller with remote station on Profinet(PN)/Profibus DP protocol - Explanation and demo only
- S7-1500 controller with HMI panel
- Introduction to cloud connectivity using S7-1500 – explanation* **new**

Troubleshooting and diagnostic topics
- Significance of LED indication on different modules
- Diagnosis using diagnostic buffer
- Cross-references, call structure, assignment list, dependency structure
- Memory resource allotment
- Memory overlap identification
- Trace configuration tool
- Project backup and comparison
- Forcing, renaming, and rewiring concepts
- Remote diagnostics using web server with user defined webpages*
- Fault tracing using PRODiag* **new**

HANDS ON
- Application example-based exercises after each topic.

Prerequisites

- Basic know how about automation technology is must
- Basic knowledge of electrical technology and digital electronics
- SIMATIC S7-1500 Basic course is highly recommended

Note

SOFTWARE VERSION:
- STEP7 TIA v16 Professional
- TIA portal options/required tools:
o Test Suite
o Openness tool (Openness scripter)
o PRODiag tool
o Energy suite
TECHNICAL REQUIREMENT:
- A computer or laptop with Windows 7/10 OS and a stable internet
connection. (We recommend a data transfer rate of 16 Mbit/s.)
- Microsoft Teams platform for technical presentations and demo.
(We recommend using desktop app for best possible use of all functions).
- Goggle Chrome internet browser for assessing virtual lab solution for hands-on

Type

Online-Training

Duration

5 days

Language

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