

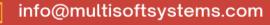
SIMATIC S7-1500 with TIA Portal Basic Training

COURSE CONTENT

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About Multisoft

Train yourself with the best and develop valuable in-demand skills with Multisoft Systems. A leading certification training provider, Multisoft collaborates with top technologies to bring world-class one-on-one and certification trainings. With the goal to empower professionals and business across the globe, we offer more than 1500 training courses, which are delivered by Multisoft's global subject matter experts. We offer tailored corporate training; project Based Training, comprehensive learning solution with lifetime e-learning access, after training support and globally recognized training certificates.

About Course

The SIMATIC S7-1500 with TIA Portal Basic Training by Multisoft Systems is designed to provide participants with a strong foundation in Siemens automation systems. This training focuses on the S7-1500 programmable logic controller (PLC) and the TIA (Totally Integrated Automation) Portal, which is Siemens' integrated engineering framework for programming, configuration, and automation tasks.



Module 1: Hardware

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

Module 2: TIA portal

- ✓ TIA portal products and scope
- ✓ Digitalization in planning phase: TIA selection tool
- ✓ License management for TIA
- ✓ Overview of framework
- ✓ PLM integration with TIA Portal explanation

Module 3: Software and Programming concepts

- ✓ Working with PLC tags
- ✓ Bit logic instructions
- ✓ Concept of RLO
- ✓ Programming rules
- ✓ Elementary data types
- ✓ Standardization in programming as a basis for enabling digitalization
- ✓ Arithmetic and logic operations
- ✓ Working with watch tables
- ✓ Analog value processing
- ✓ Linear v/s structured programming approach
- ✓ Effective programming using function and function blocks
- ✓ Use and need of data blocks
- ✓ Types of data blocks
- ✓ Snapshot and download without reinitialization in DB
- ✓ Concept of Organization blocks



✓ SIMATIC security services for machine and plant security

Module 4: Communication - Explanation and demo only

- ✓ SINAMICS G120 drive integration with S7-1500 controller on Profinet (PN)/Profibus DP protocol
- ✓ S7-1500 controller with remote station on Profinet (PN)/Profibus DP protocol
- ✓ Introduction to cloud connectivity using S7-1500 explanation*new

Module 5: 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
- ✓ Forcing, renaming, and rewiring concepts
- ✓ Project comparison
- ✓ Remote diagnostics using web server with user defined webpages