SIEMENS

Process Automation - PCS7 PCS7 System Service 2

General Information

Course Code: SCT-PCSVCS2B Length: 4 Days

Audience

Plant Engineers, Technicians and Users responsible for operating, optimizing and troubleshooting a PCS7 system should attend this course.

Prerequisites

PCS7 System Service 1

Profile

2.6 CEUs (Continuing Education Credits)

This course is designed for individuals receiving an engineered PCS7 system and are responsible for system sustaining, service and basic modification. The goals of this course are to help the student learn to efficiently use, optimize and troubleshoot their process as well as replacements and additions to it. This course begins with the students learning the key system architecture and operational functions. The course then builds a solid foundation of system fault analysis of software configuration, important basic project settings including physical components, software configuration, basic module parameterization and system networks. Students will then learn how to analyze errors/faults and repair/replace faulty components. Students will also learn how to perform basic expansions and modifications to their system. This hands-on course builds experience with system use, optimization, common troubleshooting and basic service engineering tasks.

Objectives

Upon completion of this course, the student shall be able to:

- Navigate the various types of PCS7 documentation.
- Navigate a PCS 7 OS runtime station including the built-in diagnostics screens.
- Use the system architecture to aid in diagnostics.
- Identify which part of the database is responsible for each part of the configuration.
- Navigate the PCS 7 Multiproject structure for maintenance, diagnostics and modification of the system.
- Identify different causes of errors/faults.
- Analyze problems efficiently.

- View the messaging system in various ways to use in troubleshooting functions.
- Enable/repair OS Simulation for testing.
- Enable/repair the Asset Diagnostics system for use in troubleshooting functions.
- Enable/repair SIMATIC PDM Web Server functionality
- Enable/repair SIMATIC Logon
- Enable/repair OPC Server functionality
- Force block values in run-time
- Use ApDiag.exe
- Use SIMATIC Diagnostics Tool (SDT)
- Implement alarm management techniques
- Use the built-in PID tuner
- Modify basic configurations of CFC and SFC charts
- Add/modify basic DP, PA and HART field devices
- Expand Terminalbus / Plantbus / Profinet networks
- Install Siemens Industrial PC's into your process
- Create/restore Siemens computer images

Topics

- 1. Introduction to training
 - a. Concept of the training
 - b. Schedule through the training
 - c. Overview of the accompanying documentation
 - d. Training equipment
 - e. Access to these systems of other participants
- 2. SIMATIC PCS 7 Documentation and Online Support
 - a. Documents available after PCS 7 Installation
 - b. Additional sources of information
 - c. Industry Online Support Internet Portal
 - d. Working with mySupport
 - e. Support request
 - f. Forum Communication platform for products from Siemens Industry
- 3. Requirements and Functional Process Description
 - a. Overview
 - b. Flowchart
 - c. Functional process description
 - d. Operation of reactor 310
 - e. Rights levels of the user management
- 4. Method for problem analysis
 - a. Causes of errors/faults
 - b. Initial problem analysis
 - c. Typical errors/faults and effects in the message list
 - d. Activities if a problem occurs

Unrestricted

- e. Finding causes of problems
- f. Localization of the cause of the problem
- 5. Diagnostic possibilities with PCS 7
 - a. Message lists in PCS 7
 - b. OS-Simulation
 - c. Asset Management for PDM
 - d. Analyzing A CFC Plan (Continuous Function Chart)
 - e. Script Diagnostics of OS stations
 - f. Siemens Diagnostics Tool (SDT)
- 6. Plant Optimization
 - a. Alarm Management
 - b. Tuning of closed-loop controller
- 7. Plant expansion
 - a. Important CPU settings
 - b. Inserting a new process tag
 - c. Implementation of a PA field device
 - d. Configuration and diagnostics using SIMATIC PDM
 - e. Implementation of a HART field device
 - f. Expansion of Terminalbus Plantbus Fieldbus
 - g. Integration of a PROFINET IO system
 - h. Adding a signal module
 - i. Configuration in RUN (CiR)
- 8. Adding an OS station
 - a. Different roles of PC Stations in PCS 7
 - b. Preparation to install a Siemens Industrial PC
 - c. Installation of Siemens Industrial PC
 - d. Adding a Siemens Industrial PC to an automation system
 - e. Restoring an image to a Siemens Industrial PC
 - f. Creating a PC image with Siemens Image Creator
 - g. Expansion of Terminalbus Plantbus Fieldbus

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