SIEMENS

PCS7 SIMATIC Batch

General Information

Course Code: SCT-PCBATP1B
Length: 4½ Days

Audience

This course is for PCS7 system design engineers, configuration engineers, programmers, commissioning personnel, and OEMs working with the SIMATIC Batch option.

Prerequisites

- PCS7 System Engineering 1 (In-class or Virtual)

Profile

2.9 CEUs (Continuing Education Credits)

This course is an introduction to Siemens SIMATIC Batch processing. Using the same project created during the prerequisite PCS 7 System Engineering training courses, students will review a typical batch process model to understand process elements and terminology. Students will then use the same sample batch process to learn batch tools, management and control skills. Security, system administration and batch control techniques topics are included. Recipe generation and planning considerations are also discussed.

Recommended Additional Prerequisite: PCS7 System Engineering 2

Objectives

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

- Use available PCS 7 / SIMATIC Batch documentation and online support.
- Define the terms and procedural model according to the ISA S88.01
- Set up the hardware configuration.
- Define SIMATIC Batch structure.
- Define a P-Cell, Unit, Functions in Plant View and CFC
- Properly compile and download a Batch project.
- Navigate file structures on BATCH Server.
- Utilize BATCH faceplates and other OS Batch controls in the OS.
- Execute all configuration steps on the ES to start up a BATCH server successfully

- Create a new P-cell, handle materials, write/edit/release master recipes.
- Create new users and set up user rights.
- Set up batches based on the quantity of the order.
- Decide about dependencies between batches.
- Access batch data of finished and archived batches.
- Perform Online Structure Changes.

Topics

1. Introduction
   a. Course concept
   b. Course roadmap
   c. Training equipment
   d. Network access
2. Documentation and Online Support
   a. Installed PCS 7/ SIMATIC Batch documents
   b. Additional sources of information
   c. Industry Online Support Internet Portal
   d. Functions of the Industry Online Support Portal
   e. Communication in the Industry Online Support Portal
3. Functional Process Description
   a. Brief Johnsson Batch Project description
   b. Review Process Diagram
   c. Functional Batch process description
4. Batch Systems Basics
   a. ISA-88 models
   b. Introduction to process-related terms
   c. Basic structure of a recipe
   d. Material and production data (formula)
   e. Master recipe, Formula and Control recipe
   f. Status changes of equipment phases
5. SIMATIC Batch in SIMATIC Manager
   a. SIMATIC Batch in the PCS 7 project
   b. Hardware configuration and plant hierarchy
   c. SFC types as equipment modules
   d. SIMATIC Batch configuration dialog
6. SIMATIC Batch in the Operating System
   a. Compiling and downloading the Batch data
   b. SIMATIC Batch in the OS - Offline
   c. SIMATIC BATCH in OS Runtime
   d. Introduction of Batch OS controls
   e. Configuration of Batch OS Controls in Graphics Designer
   f. Operation of Batch OS Controls in process mode
7. SIMATIC Batch offline
   a. Access protection using SIMATIC - Logon
   b. Creating a process cell
   c. Materials
   d. Master recipes
   e. Logical structures of master recipes

      f.   Unit class
      g.   Libraries
      h.   Formula categories/formulas
      i.   Overview of formula category - formula - master recipe
      j.   Validation and release of master recipes and formulas

8. SIMATIC Batch online
      a.   Batch planning
      b.   Basics of batch control
      c.   Starting the batch control
      d.   Operator input during batch control
      e.   Changes during batch execution
      f.   Electronic signature
      g.   Online structure changes (OSC)
      h.   Batch data logging and archiving
      i.   Backup - Reset server - Restore