SIMATIC S7 PLC Programming - Advanced Level based on S7-300400

Course Methodology

- The course is hands on with great emphasis on the practical aspects of Programmable Logic Controller applications. The course is based around Siemens S7-300 / 400 range of PLCs using SIMATIC Manager

Course Objectives

By the end of the course, participants will be able to:

- The course objectives are to provide the participants with the knowledge and skills to enable them to work with Siemens S7 (300 / 400 Series)
- On completion of this course the participant will be able to:
- Be familiar with ways you can use different block types (FC, FB, OB, and DB).
- Become familiar with the principles of analogue value processing
- Eliminate software errors that lead to a CPU stop.
- Eliminate logical software errors, such as multiple assignments.
- Save and document program changes that have been made.
- Access and use the processed analog values.
- Write advanced programs, use program breakpoints to test the operation of the program and diagnose errors using the Step7 V5.5 software package on S7-300 or S7-400 PLC's

Target Audience

- Electrical and instrumentation technicians and engineers

Target Competencies

- Oil & Gas
- Food & Beverage
- Cement
- Chemical Industry
- Mining
- Fertilizers
- Pharmaceutical Factories.
- Water and Waste Water station
- Customers who already have in their plants S7-300 / 400

This course involves practical and hands-on training on real PLC stands.

Quick Revision on Basic Course

Hardware and Software Commissioning - review

Installation and maintenance of a PLC

Data Storage in Blocks

Functions and function blocks

Organization Blocks

Analogue processing and programming

Troubleshooting using:

Module Datasheet

Hardware Configuration Tool

CPU Messages

System information

MPI Network Commissioning

MPI Global Data Communications

Tags and HMI Messages

Drive to PLC Configuration

Each of the above topic areas will be tested through practical exercises using simulator / system model.

Open-loop control and closed loop control

PID control algorithm with flow and level control applications

Open Discussion…