

KOENIG SOLUTIONS • COURSE OUTLINE

Integrated Training Program: SCADA, Communication, and Control Systems: Part A

Learn to build and manage SCADA projects, from architecture and visualization to alarms, data logging, recipes and user administration.

7

MODULES

52

TOPICS

5

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This comprehensive training program offers a deep dive into SCADA (Supervisory Control and Data Acquisition) systems, covering fundamental concepts, practical applications, and hands-on exercises. Participants will gain a thorough understanding of SCADA architecture, data acquisition, visualization, alarm configuration, data logging, recipe management, and user administration. The course integrates theoretical knowledge with practical skills, preparing learners to design, implement, and manage SCADA systems effectively.

WHO THIS COURSE IS FOR

This course is designed for professionals and students interested in industrial automation, control systems engineering, and related fields. It is suitable for:

Control system engineers

Automation engineers

Electrical engineers

Instrumentation engineers

System integrators

Technicians

Engineering students

PREREQUISITES

- Participants are expected to have a basic understanding of control systems and industrial automation concepts.
- Familiarity with PLCs (Programmable Logic Controllers) and computer networking fundamentals would be beneficial but not mandatory.

What You Will Learn

Upon completion of this training program, participants will be able to:

- Understand the fundamentals of SCADA systems and their components
- Create, configure, and manage SCADA projects effectively
- Implement data acquisition, visualization, and alarm systems in SCADA
- Set up data logging and trend configuration for monitoring and analysis
- Manage recipe data efficiently for process control and optimization
- Administer user access and permissions within SCADA systems

COURSE SYLLABUS

7 Modules, 52 Topics

01

Introduction to SCADA

TOPICS

SCADA Overview · What is SCADA? · Functions of SCADA · SCADA Architecture · Data Acquisition and Communication · Data Presentation and Visualization · Comparison of PLC and PC · Examples of SCADA Applications

02

Project Creation & Basic Exercises

Basic Exercise

TOPICS

- Creating a SCADA Project
- Adding Devices to the Project
- Establishing Communication Connections
- Setting Ethernet Addresses
- Connecting to Non-Integrated PLCs
- Runtime Settings Configuration
- Configuring Buttons and Outputs

03

Basic Configuration

TOPICS

Configuring Graphic Views · Setting Up Text Displays · Alphanumeric Display for Inputs and Outputs · Configuring Text and Graphic Lists · Movement and Fill Properties

04

Alarm Configuration

Practical Exercise

TOPICS

Steps in Alarm Configuration · Message Blocks for Alarms · Alarm Classes · Discrete Alarm Trigger Settings · Displaying Alarms · Alarm View Properties

05

Practical Exercise

Data Logging & Trend Configuration

TOPICS

Types of Process Value Logging · Configuring Data Logs · Process Value Log Properties · Editing Logging Tags ·
Displaying Data Log Trend Views · Properties of Trend Views

06

Practical Exercise

Recipe Management

TOPICS

- Recipe Structure
- Communication with Controllers using Tags
- Table Representation of WinCC Recipe View
- Sorting in the Recipe View
- Exporting Recipe Data
- Configuring Recipe Views
- Entering and Editing Recipe Data
- Recipe Editor Configuration
- Setting Recipe Properties

07

Practical Exercise

User Administration

TOPICS

- User Administration Structure
- Access Protection Mechanisms
- Configuring User Administration
- Structuring User Authorizations
- Creating Authorizations
- Assigning Authorizations to Objects
- Configuring User Groups
- Configuring Users
- User View Configuration
- Login Dialog Configuration
- Displaying Logged-On Usernames

HANDS-ON ACTIVITIES

Practise What You Learn

#	MODULE	ACTIVITY
02	Project Creation & Basic Exercises	Basic Exercises: Basic Exercises related to Push Buttons and Displays
04	Alarm Configuration	Practical Exercises: Practical Exercises on Alarm Configuration
05	Data Logging & Trend Configuration	Practical Exercises: Practical Exercises on Data Logging and Trend Configuration

#	MODULE	ACTIVITY
06	Recipe Management	Practical Exercises: Practical Exercises on Recipe Management
07	User Administration	Practical Exercises: Practical Exercises on User Administration

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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