



First Select

## SCADA system & HMI Programming

Date	Venues	(\$ )Fees	Book your seat
21 Dec -25 Dec 2025	Bahrain	2900	<a href="#">Register Now</a>

### Objectives

- Understand how SCADA system work
- How to make GUI for SCADA system
- Make SCADA database
- Make system alarm data base
- Plot all variables and store the values
- Make security for the system
- Make the system animation with visual basic script
- Connect scada with any PLC
- Connect scada with internet
- Deal with HMI
- Remote control management
- Control from mobile

### Course Outline

#### 1- Introduction

- What is scada system?
- Scada system content
- Difference between scada and DCS
- Indusoft web studio Overview
- Installation and register of the software

#### 2- Graphic Design editor

- Build a simple application
- Slider, bar graph, button, lamp
- Ribbon
- Quick Access Toolbar
- Project Explorer
- Database Spy
- Output Window

### 3- Tags

- What is a Tag
- Internal Structure and Data Flow
- Boolean, Integer, Real, String
- Array, Class, Pointer
- Tag Properties

### 4- Screen Groups

- Creating Screen Groups
  - Header
  - Navigation
  - Main
- Displaying Logo in Header

### 5- Shapes and Formatting

- Shapes
- Formatting tools
  - Height and Width
  - X,Y Position
  - Layer
  - Alignment

### 6- Active Objects

- Text
- Button
- Push Button
- Check Box
- Radio Button
- Combo Box
- List Box
- Smart Message
  - Message Display
  - Multistate Indicator
  - Multistate Pushbutton
- Text Box

### 7- Animations

- Command
- Hyperlink
- Bargraph
- Text Data Link
- Color
- Position
- Resize
- Rotation
- Command Config
- Hyperlink Options
- Stacked Bargraph
- Text
- Color (By Limit, By Color)
- Position Reference
- Custom Rotation point
  - Rotating imported graphic

## Grid Object

- Data Source
  - Class Tag
  - Text File
- Columns
- Conditional Filtering
- Inserting New information

## 9- Trends

- Real-Time
- Historical
  - Trend Worksheet
- Numerical (X/Y plot)
- SPC (Statistical Process Control)

## 10- Alarms

- Alarm/Event Control Object
- Alarm Worksheet
- Tag Properties
- History
  - File Location
  - File Format

## 11- Symbols

- Linked Symbols
- Project vs. System Symbols
- Custom Properties/Categories
- Creating Your Own Symbols

## 12- Built-in Scripting

- Math and Logic Functions
- Interfaces
- Overview of Common Functions

## 13- VBScript Interfaces

- Interfaces
- Sub and Functions
- Variables and Scope
- Additional Resources

## 14- ActiveX and .NET Controls

- Active-X Slider and Web Browser
- .Net Progress Bar
- Interacting with the Controls

## 15- Scheduler

- Event Types
  - Calendar
  - Clock
  - Change
- What Fields to Use
- Example Uses

## 16- Tank Demo

- Adding Tags and Class
- Tank, Valves and Selection
- Simulation VBScript
- Contents of Tanks

## 17- Recipes

- Functions
  - Save
  - Load

- Delete
- Init
- VBScript to Select
- .XML

## 18- Reports

- Worksheet
- Function
  - Disk
  - Prn
  - PDF
- Printing as TXT, RTF, HTML, CSV, and PDF

## 19- Web Thin Client

- One of 3 Thin Clients
- Topology
- Publish Screens as HTML
- Configure Settings
- Configuring Microsoft IIS

## 20- Secure Viewer

- One of 3 Thin Clients
- Installation
- Configuration using:
  - Microsoft IIS
  - Shared Folder
  - Tag to Determine if Client or Server

## 21- Mobile Access

- One of 3 Thin Clients
- 2 Parts
- Tabular
- MA (HTML5)
- Configuration
- Alarms, Process Tags, and Trends
- Webinar Video

## 22- Events

- Event Settings
- Alarm/Event Control Object
- File Format
- Proprietary or Database Selection

## 23- Access Database

- Default Database Configuration
- Creating an Access Database
- Configuring Alarm and Events
- Additional DB Interfaces

## 24- SQL Database

- Default Database Configuration
- Creating an MS SQL Express Database
- Configuring the Grid Object
- Configure Connection
- Create VBScript with SQL Statements
- Using Output Window
- Database Worksheet

## 25- Translation

- Development Environment
- Runtime
  - Translation Table
  - Set Language Function
- Web Thin Clients and Secure Viewer Can Use Different Languages

## 26- Security

- Security Overview
- Configure Groups/Users
- Security with Objects
- Password Protecting Screens and Documents
- Security Webinar Video Online

## 27- OPC

- What is OPC?
- What Technologies Does IWS Support?
- Optional
- OPC Foundation Member since 1998
- See OPC Webinar Online

## 28- Remote Management

- Remote Agent
- Remote Management Connection
- Downloading to a Remote Runtime
- Remote DBSpy and Log win

## 29- Driver

- Driver Worksheets
  - Main Driver Sheet
  - Standard Driver Sheet(s)
  - Status
  - Manual
- Scan and Scaling
- Priority
- Troubleshooting
- Import Wizards
- Tag Integration

## WORKSHOP STYLE

The workshop will be of five day's duration consisting of interactive learning sessions, videos, examples and role-play exercises to provide the delegates with the knowledge and experience of using the key learning issues and techniques.



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