



Using VBA with Proficy™ HMI/SCADA - iFIX

Course Description

The **Using VBA with Proficy HMI/SCADA - iFIX** course is designed for those who wish to acquire a basic knowledge of Visual Basic for Applications (VBA) within iFIX. This knowledge will allow the student to generate VBA based solutions for their special system requirements. The course begins with an introduction to VBA and why VBA is so important in today's applications. Lectures, coding examples, and labs are included in this course on the important aspects of VBA, as well as reference to Visual Basic syntax. This course will demonstrate to the student how to enhance runtime operation to solve special problems.



Who Should Attend?

This course is principally designed for process, automation, or instrumentation engineers and system integrators who will be developing, configuring, and using applications created with iFIX.

Are There Any Prerequisites?

Completion of Proficy HMI/SCADA - iFIX Fundamentals course (154) is a must! Participants should have a working knowledge of Windows 2000, Windows NT 4.0, and/or Windows XP operating systems. Familiarity with some programming language would be helpful, but not required.

What Tasks Will Be Taught in This Class?

Upon completion of this Course, the student will be able to:

- Understand how VBA functions inside of iFIX.
- Create VBA procedures (functions and sub-procedures).
- Understand and create (declare) variables of various data types (including arrays) and use them to make expressions.
- Use simple VBA code structures including decisions, loops, and collections.
- Use the VBA MessageBox and InputBox commands and create VBA Forms.
- Access iFIX data and use iFIX Subroutines and Methods
- Create and use Error Handlers in VBA and use VBA debugging tools.
- Access Relational Databases using ADO (ActiveX Data Object).
- Use VBA Automation to make References to other applications.

Course Length: 4 days

Suggested Class Size: 8 students

Course Hours: 9:00 am – 5:00 pm



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Course Agenda *(Schedule and content may vary.)*

Day 1

Morning:

VBA Overview

VBA terminology and an introduction to the VBE (Visual Basic Editor).

VBA and iFIX

Details on how VBA functions within iFIX and how to use VBA Help.

Afternoon:

Procedures and Code Locations

Create procedures and use procedure arguments.

VBA and iFIX

Using iFIX subroutines and methods.

Day 2

Morning:

Variables

Understand and create (declare) variables of various data types.

Decision Code

Use If Then Else and other decision code.

Afternoon:

Functions

Use pre-built functions (Message Box and Input Box) and create new functions.

Expression

Use functions and variable to make complex expressions.

Day 3

Morning:

Forms

Create and use Forms, including unloading and hiding Forms.

VBA Debugging Tools

Using VBA tools, like Watch Window and Locals Window, to debug code.

Afternoon:

VBA and iFIX

Code with iFIX Globals and use VBA to access Process Database data.

Looping Code and Arrays

Use For loops and Do loops. Create and populate array variables.

Day 4

Morning:

Error Handlers

Use error handlers to create better code.

VBA Automation

Use VBA Automation to make References to other applications.

Afternoon:

Accessing Relational Databases

Access Relational Databases using ADO (ActiveX Data Object).

Collection Object

Create and use collections to enhance an application.