HMI/SCADA – iFIX Fundamentals

Course Description

The iFIX Fundamentals course is designed to provide a good working knowledge of iFIX. All major features are covered, from project configuration to data acquisition and visualization. Valuable hands-on lab exercises are provided to guide students through the building and modification of an HMI/SCADA application from top to bottom.

Who should attend?

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

Are there any prerequisites?

Participants should have a working knowledge of Windows operating systems. Control system exposure and experience is recommended.

Course Length
4 days

Suggested Class Size
8 students

Class Hours
9:00 am - 5:00 pm, daily

What topics will be covered in this course?

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

- Understand communication between iFIX SCADA Servers and iFIX iClient nodes.
- Configure iFIX nodes using the System Configuration Utility.
- Configure I/O Drivers to communicate with iFIX.
- Create and modify standard Process Database tags.
- Create graphic screens (pictures) using a wide variety of object types and animations.
- Design and build a picture navigation strategy.
- Create basic scripts using Visual Basic for Applications (VBA).
- Configure alarming and create screens to monitor and acknowledge alarms.
- Use trending to monitor both real-time and historical data.
- Design and build a system-wide security strategy.
- Use a variety of iFIX Utilities and Operating System administrative options to troubleshoot project or system process faults

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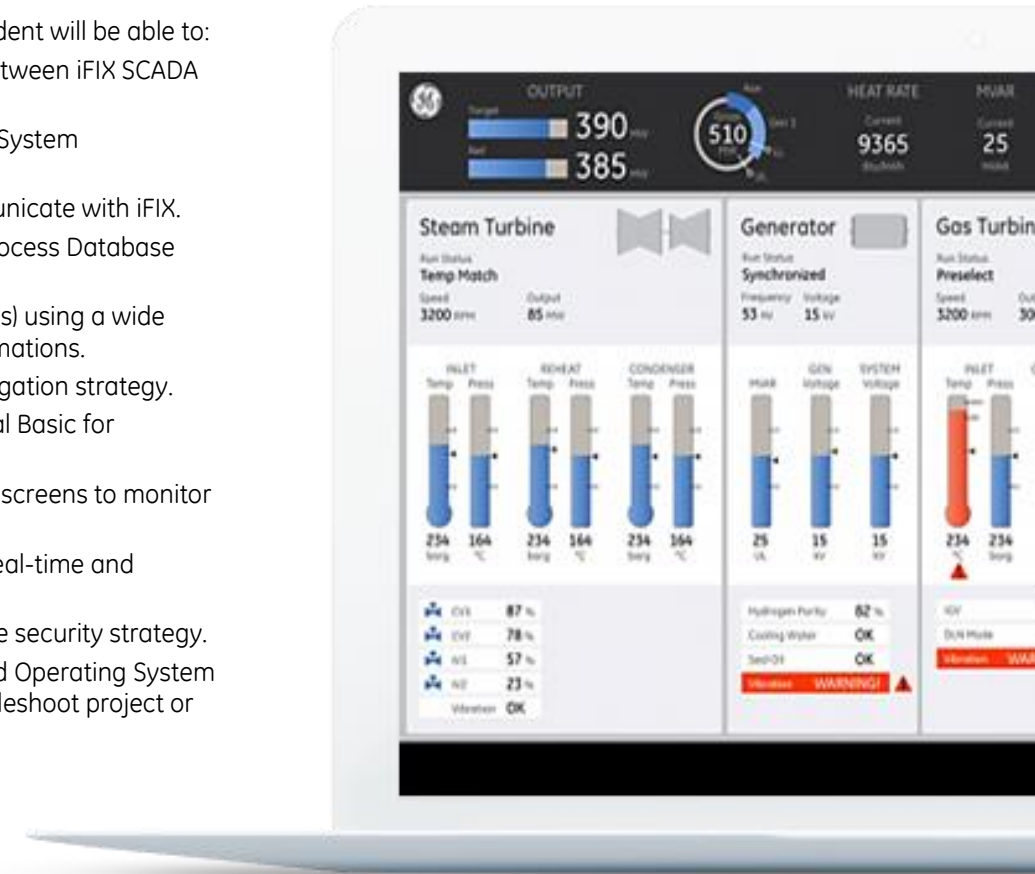
Day 1 - Morning
Introduction to iFIX
System Configuration Utility

Day 1 Afternoon
I/O Drivers
Introduction to Database Manager

Day 2 – Morning
Digital Database Tags
Analog Database Tags

Day 2 – Afternoon
Introduction To the Workspace
Graphic Objects

Day 3 – Morning
Data-Entry and Control
Globals
Animations

Day 3 – Afternoon
Scripting with VBA
Archiving Data
Picture Navigation

Day 4 – Morning
Trending
Tag Groups
Alarming

Day 4 – Afternoon
Security
Troubleshooting

Day 1 – Morning

Introduction to iFIX
Study the basic features and architecture of iFIX software.

System Configuration Utility
Configure an iFIX node, including networking, tasks, and alarm services.

Day 1 – Afternoon

I/O Drivers
Install, configure, and monitor I/O Drivers, especially IGS and v7 OPC Servers.

Introduction to Database Manager
Use the Database Manager to rapidly build a Process Database.

Day 2 - Morning

Digital Database Tags
Use the Database Manager to create Digital Input and Digital Output tags.

Analog Database Tags
Use the Database Manager to create Analog Input and Analog Output tags.

Day 2 - Afternoon

Introduction To the Workspace
Begin with orientation to the iFIX Workspace, picture documents and development tools.

Graphic Objects
Begin building displays using links, shapes, dynamos and other graphic tools.

Day 3 – Morning

Data-Entry and Control
Create user interactive controls in displays.

Globals
Create global variables and tables.

Animations
Create visual cues and enrich information delivery by linking objects to real-time data.

Day 3 - Afternoon

Scripting with VBA
Using Visual Basic for Applications to extend picture functionality.

Archiving Data
Archive process data using a Historian.

Picture Navigation
Create a picture navigation strategy.

Day 4 – Morning

Trending
Create pictures to monitor real-time and historical data.

Tag Groups
Using Tag groups for optimized development.

Alarming
Build displays to monitor alarm information.

Day 4 – Afternoon

Security
Design and implement a security strategy.

Troubleshooting
Use iFIX and Operating System utilities to troubleshoot application elements.