

InTouch for System Platform – Part 1

Course Description

The InTouch for System Platform 2014 – Part 1 course is a 5-day, instructor-led class designed to provide a fundamental understanding of how Wonderware Application Server provides visualization for your plant Galaxy data using ArcestrA symbols within the Wonderware InTouch for System Platform software.

The focus of this course is to illustrate the use of visualization tools in Wonderware Application Server to provide a Human Machine Interface (HMI) utilizing connectivity to the Galaxy, graphic symbols, animations, and scripting features and functionality found in InTouch WindowMaker, ArcestrA symbols, the ArcestrA symbol editor, and QuickScript .NET.

The course provides lectures and hands-on labs to supply and reinforce the knowledge necessary to use alarm, trending, and history controls for visualization, and how to secure an InTouch application.

Objectives

Upon completion of this course, you will be able to:

- Create and deploy Managed InTouch applications using the ArcestrA IDE
- Create ArcestrA symbols
- Embed ArcestrA symbols in Automation objects and reference the object's attributes
- Use ArcestrA symbols in a containment relationship
- Work with the ArcestrA Alarm Client control for alarm visualization
- Work with the ArcestrA Trend Client control for real-time trending
- Work with the Historian Client Trend control for historical trending
- Apply ArcestrA security in a Managed InTouch application

Audience

Application developers, engineers, system integrators, consultants, and other individuals who need to develop InTouch HMI applications for use with System Platform.

Prerequisites

- Attendance of an Application Server course
- Attendance of a Historian Client course is recommended to obtain knowledge of the Historian Client Trend component
- Manufacturing industry experience
- Some graphical design experience is helpful

Course Outline

Module 1 – Introduction

Section 1 – Course Introduction

This section identifies the objectives and agenda for the InTouch for System Platform course.

Section 2 – System Platform Review

This section provides an overview of the components of Wonderware System Platform and the benefits of an integrated ArcestrA architectural environment.

Section 3 – ArcestrA Visualization Overview

This section introduces ArcestrA graphics and creation of a managed InTouch application.

Section 4 – System Requirements and Licensing

This section provides a detailed explanation of the system requirements necessary for the Wonderware System Platform and the Licensing model.

Module 2 – Application Design Basics

Section 1 – Development Environment and InTouch Windows

This section provides a brief overview of the features of the WindowMaker environment and its settings, describes InTouch windows, and explains how to use the Show and Hide Window animations.

Section 2 – ArcestrA Symbols Overview

This section provides an overview of ArcestrA symbols, the library where they are contained, and explains how to embed them into InTouch windows.

Section 3 – Runtime Environment and Application Deployment

This section provides a brief overview of the InTouch WindowViewer and the ViewEngine, and describes some WindowViewer settings.

Module 3 – ArcestrA Symbols Basics

Section 1 – ArcestrA Objects and Symbols

This section provides a brief overview of text tools and value display animations.

Section 2 – ArcestrA Symbol Editor

This section covers the creation and manipulation of graphic objects, lines and outlines, text objects, images, and bitmaps using the ArcestrA symbol editor.

Section 3 – Basic Tools and Animations

This section provides a brief overview of the text element, working with text, and basic animation.

Section 4 – ArcestrA Symbols in Contained Objects

This section provides a brief overview of how to use ArcestrA symbols in a contained object within a symbol in the container object.

Section 5 – Basic Windows Controls

This section provides a brief overview of various controls used in basic window functions.

Section 6 – The OwningObject Property

This section introduces the OwningObject property.

Module 4 – ArcestrA Symbols Creation

Section 1 – Tools and Animations

This section provides a brief overview of the graphic tools in the ArcestrA symbol editor, visualization animations, and interaction animations.

Section 2 – Custom Properties

This section provides a brief overview of Custom Properties in an ArcestrA symbols and describes how to link Custom Properties to external sources.

Section 3 – Scripts in ArcestrA Symbols

This section provides a brief overview of the scripting environment and explains the execution types and triggers.

Section 4 – Quality and Status Display

This section provides a brief overview of the status element and its application in monitoring data status and quality in runtime, as well as the quality and status display overrides for the Galaxy.

Module 5 – Alarm Visualization

Section 1 – ArcestrA Alarming

This section provides a brief review of the concept of alarms and events and how ArcestrA handles them. An introduction to Alarm Border animation and Alarms aggregation is also provided.

Section 2 – Live Alarms Visualization

This section provides a brief overview of how to visualize live alarms by using the ArcestrA Alarm control available from within the ArcestrA symbol editor.

Section 3 – Logged Alarms Visualization

This section provides a brief overview of how to visualize logged alarms in the alarm database.

Module 6 – Trend Visualization

Section 1 – Historization Review

This section provides a brief overview of the concepts of historization covered in the Wonderware Application Server course.

Section 2 – Historian Client Trend Control

This section provides a brief overview of the Historian Client .NET controls available for use in ArchestrA symbols.

Section 3 – ArchestrA Trend Client Control

This section provides a brief overview of the ArchestrA Trend control available from within the ArchestrA symbol editor.

Module 7 – Security

Section 1 – Security Overview

This section provides a brief review of ArchestrA Security, Authentication Modes, General and Operational permissions, Security classifications, the security audit trail, and InTouch security-related tags and script functions.

Section 2 – Signed Writes

This section provides a brief discussion of the Secured and Verify Write Security classifications, the Can Verify Writes Operational permission, and the Secured and Verified Write dialog boxes.

Section 3 – Signed Alarms

This section provides a brief discussion of how to configure the Alarm Client control to require Ack Signature and how to use the Alarm dialog boxes.

Section 4 – Customization of the Runtime Environment

This section provides a brief review of the customization of the runtime environment to more fully secure and protect the application.