

# Comprehensive Training for Wonderware System Platform Application Server and InTouch for System Platform



## *Course Outline*

The Wonderware System Platform Comprehensive course is a 5-day, instructor-led course that provides lectures and hands-on labs designed to provide a fundamental understanding of the basic principles of ArcestrA and supply the knowledge necessary to develop and support applications for Wonderware Application Server.

Part 1 (Application Server) illustrates the use of ArcestrA tools and services in the System Platform to develop a project utilizing connectivity to the field, data processing, scripts, alarms and history, using features and functionality such as Automation Objects, templates, template instances, ArcestrA Integrated Development Environment and QuickScript .NET.

Part 1 also provides a fundamental understanding of how to utilize the InTouch Alarm DB Logger for real-time alarm recording as well as the security settings available for securing the applications.

Part 2 (InTouch for System Platform) teaches the basic principles of how Wonderware Application Server provides visualization of your plant galaxy data using ArcestrA Symbols within the InTouch software. The focus of this course is to illustrate the use of visualization tools in the System Platform 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.

Part 2 also provides you with a fundamental understanding of how to utilize the alarm controls for alarm visualization, ActiveFactory controls for history visualization, and how to secure the application.

## **Objective**

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

- Create new projects using ArcestrA Integrated Development Environment
- Model the plant floor using automation objects
- Work with the alarm and history configuration in the Galaxy
- Configure ArcestrA security in the Galaxy
- Troubleshoot Wonderware Application Server applications
- Create new InTouch Managed Applications
- Create new ArcestrA Symbols
- Work with the alarm controls for alarm visualization
- Apply the Historian Client .NET controls for real-time and history trending
- Use ArcestrA security in an InTouch Managed Application

## **Audience**

This training class is targeted to engineers, application developers, system integrators, and other individuals whose jobs include creating and/or maintaining a Galaxy for use with the Wonderware System Platform.

## Prerequisites

Manufacturing industry experience

## Course Outline

### ***Part 1 (Application Server):***

#### Module 1 - Introduction

- Section 1 - Course Introduction
- Section 2 - Wonderware System Platform
- Lab 1 - Creating a Galaxy
- Section 3 - The ArchestrA IDE
- Section 4 - Automation Objects
- Section 5 - System Requirements, Licensing and Support
- Section 6 - Application Planning
- Lab 2 - Identifying the Mixer

#### Module 2 - Application Infrastructure

- Section 1 - The Plant Model
- Lab 3 - Creating the Plant Model
- Section 2 - The Deployment Model
- Lab 4 - Creating the Deployment Model
- Section 3 - The Runtime Environment Lab 5 - Using Object Viewer
- Section 4 - Connecting to the Field Lab 6 - Connecting to the Field

#### Module 3 - Application Objects

- Section 1 - Templates and Instances
- Section 2 - The \$UserDefined Object
- Lab 7 - Modeling the Heat Exchanger
- Section 3 - Change Control and Propagation
- Lab 8 - Configuring Change Control and Propagation
- Section 4 - The \$AnalogDevice Object
- Lab 9 - Modeling a Meter
- Section 5 - The \$DiscreteDevice Object
- Lab 10 - Modeling a Valve, Pump, and Motor
- Section 6 - Containment

- Lab 11 - Creating the Mixer

#### Module 4 - Extending the Objects

- Section 1 - UDAs
- Section 2 - Extensions
- Lab 12 - Configuring the Motor Speed
- Section 3 - Introduction to QuickScript.NET
- Lab 13 - Adding Auto Reconnect to DDESuiteLinkClient
- Lab 14 - Configuring Automatic Reference

#### Module 5 - Alarms and History

- Section 1 - Alarms
- Lab 15 - Configuring Alarms
- Section 2 - Historization
- Lab 16 - Configuring History

#### Module 6 - Security

- Section 1 - Security Overview
- Lab 17 - Security

#### Module 7 - Galaxy Maintenance

- Section 1 - Exporting and Importing Objects
- Section 2 - Configuring Instances Through a .CSV File
- Section 3 - System Management Console (SMC)
- Section 4 - Network Account Utility
- Module 8 - Device Integration Products
- Section 1 - Wonderware I/O Servers
- Section 2 - Wonderware Data Access Servers
- Section 3 - Device Integration Objects

#### Module 9 - Multi-Node Applications

- Section 1 - Application Redundancy
- Lab 18 - Configuring Application Redundancy
- Section 2 - DI Redundancy
- Lab 19 - Configuring the Redundant DI Object
- Section 3 - Multi Node Application
- Lab 20 - Convert to Network Environment

## ***Part 2 (InTouch for System Platform):***

### Module 1 - Introduction

- Section 1 - Course Introduction
- Section 2 - Wonderware System Platform Review
- Lab 1 - Creating and Deploying a Galaxy
- Section 3 - ArchedrA Visualization
- Lab 2 - Creating a New InTouch Application
- Section 4 - System Requirements, Licensing and Support

### Module 2 - InTouch

- Section 1 - Development Environment
- Section 2 - ArchedrA Symbols
- Lab 3 - Building the Application Layout
- Section 3 - Runtime Environment
- Lab 4 - Deploying an InTouch Application

### Module 3 - ArchedrA Symbols

- Section 1 - ArchedrA Symbol Editor
- Section 2 - Animation
- Lab 5 - Creating a new ArchedrA Symbol
- Section 3 - Custom Properties
- Lab 6 - Using Custom Properties
- Section 4 - Scripts
- Lab 7 - Creating a Resizable Analog Meter
- Section 5 - Advanced Features
- Lab 8 - Creating a Web Browser
- Section 6 - ArchedrA Objects and Symbols
- Lab 9 - Creating a \$DiscreteDevice Two-State Command
- Lab 10 - Creating the Mixer Display
- Section 7 - Advanced Editing
- Lab 11 - Switching between Mixers using a Tabbed Display
- Lab 12 - Creating a Popup Symbol
- Lab 13 - Using Dynamic Reference for Custom Properties
- Section 8 - Quality and Status Display
- Lab 14 - Adding Status Display to the TemperatureMeter

### Module 4 - Alarm Visualization

- Section 1 - ArchedrA Alarming Review
- Section 2 - Alarm View Controls

- Lab 15 - Building a Live Alarm Display
- Lab 16 - Building a Historical Alarm Display
- Lab 17 - Creating a Live Popup Alarm Display

#### Module 5 - History Visualization

- Section 1 - ArcestrA Historization Review
- Section 2 - ActiveFactory Controls
- Lab 18 - Building a Historical Trend Display
- Section 3 - ArcestrA Trend Client
- Lab 19 - Creating a Live Popup Trend Display

#### Module 6 - Security

- Section 1 - ArcestrA Security Review
- Lab 20 - Use Security Features in Graphics
- Section 2 - Bulletproofing the Application