Course Description

The Historian Server 2014 R2 course is a 2-day, instructor-led class designed to provide a fundamental understanding of the features and functionality of Wonderware Historian Server for both Application Server and InTouch tag-based applications.

The course provides lectures and hands-on labs to supply and reinforce the knowledge necessary to use Wonderware Historian Server for SCADA and factory data. This includes how to configure, historize, and retrieve data using multiple retrieval modes, local and remote summarization, replication, event monitoring, and other features.

Objectives

Upon completion of this course, you will be able to:
- Start and configure Historian Server
- Configure and historize Application Server and InTouch data
- Distinguish between retrieval modes
- Retrieve data with SQL queries
- Use time domain extensions in SQL queries
- Update and insert history data
- Create and configure events and retrieve event data
- Configure Historian tags for local summarization
- Use a Tier-2 Historian for replication and summarization
- Back up and restore Historian data

Audience

Application developers, engineers, system integrators, consultants, and other individuals who need to historize, analyze, and maintain data from Application Server or from a tag-based InTouch application

Prerequisites

- Completion of the Wonderware Application Server or an InTouch course
- Manufacturing industry experience
- Knowledge of Transact-SQL would be helpful

Course Outline

Module 1 – Introduction

Section 1 – Course Introduction

This section describes the Wonderware Historian Server course and outlines Wonderware software solutions.

Section 2 – Introduction to Historian Server

This section describes the main functions and features of Historian Server.

Section 3 – System Requirements and Licensing

This section provides an overview of the general hardware recommendations and software requirements for Historian. It also explains the licensing model.

Module 2 – Historian Configuration

Section 1 – ArchestrA System Management Console

This section describes the ArchestrA System Management Console. It provides an overview of its interface and explains how to use it to register and start Historians. It also describes Historian options and system parameters.

Section 2 – Historian and Application Server

This section explains the basics of how Historian Server integrates with the Galaxy. It also describes how to configure platforms, engines, and object attributes for historization.

Section 3 – IDAS - Historian and InTouch

This section explains the basics of historizing data from tag-based InTouch applications. It describes the Tag Importer Wizard, defines storage options, and explains manual tag configuration.

Module 3 – Data Retrieval

Section 1 – Data Retrieval Subsystem

This section describes the Historian Server data retrieval subsystem, the Wonderware Historian OLE DB provider, and extension tables for history data. It explains the syntax for basic SQL queries and those that include the OPENQUERY function. It also describes wide and narrow formats for retrieved data.

Section 2 – Retrieval Modes

This section describes Historian Server retrieval modes, with a focus on Cyclic, Delta, Full, and BestFit. It also explains how to specify retrieval modes in SQL queries.

Section 3 – Retrieval Options

This section describes Historian Server retrieval options, with a focus on wwCycleCount, wwResolution, wwEdgeDetection, and wwFilter.

Section 4 – Advanced Retrieval Modes

This section defines Historian Server advanced retrieval modes, including Average, Counter, Integral, Interpolated, Maximum, Minimum, RoundTrip, Slope, and ValueState retrieval modes.

Module 4 – Manual Data

Section 1 – Data Definitions

This section defines Historian data categories. It also explains original versus revision data, as well as streamed versus non-streamed original data.

Section 2 – INSERT and UPDATE Query Syntax

This section describes data versioning and explains the INSERT and UPDATE query syntax.

Module 5 – Historian Events

Section 1 – Classic Event Subsystem

This section describes the Historian classic event subsystem and defines event tags, detectors, and actions. It explains how to configure event tags and latency in event configuration.

Section 2 – Event Data Retrieval

This section describes Historian tables related to the classic event subsystem. It also explains how to retrieve event data with SQL queries.

Section 3 – Active Event

This section describes the ActiveEvent ActiveX control and explains methods for triggering an external event using ActiveEvent.

Module 6 – Summaries and Data Replication

Section 1 – Data Summarization

This section defines the concept of summarizing data. It also describes analog and state summary replication and explains naming schemes for the replication process.

Section 2 – Tiered Historians

This section explains the concept of tiered Historians. It describes replication to a Tier-2 Historian, defines simple replication, and reviews naming schemes for the replication process.

Section 3 – Summarized and Replicated Data Retrieval

This section describes how to retrieve summarized and replicated data from Historian. It also reviews AnalogSummaryHistory and StateSummaryHistory views.

Module 7 – Historian Maintenance

Section 1 – History Block Maintenance

This section explains how to back up history blocks.

Section 2 – Historian Database Management

This section explains how and when to back up Historian Server databases.