Section 1 – Course Overview

In this section, you will review the InBatch course.

Course Description

The InBatch Batch Management 2014 R3 course is a 5-day, instructor-led class designed to provide a fundamental understanding of the features and functionality of the InBatch software. The course provides lectures and hands-on labs to supply and reinforce the knowledge necessary to apply InBatch to a batch processing application. This includes creating the plant model, creating recipes and simulating their execution.

Objectives

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

- Define and configure a process model
- Create recipes and simulate their execution against a process model
- Schedule and run batches
- Configure InBatch security
- Use System Platform to connect InBatch to field I/O
- Use InBatch graphics to build user interfaces to InTouch

Target Audience

System administrators, system integrators, plant floor operators and managers, and other individuals who work with batch systems and use InBatch software in their manufacturing environment

Prerequisites

- Manufacturing industry experience
- Basic knowledge of batch systems
- Experience using Microsoft Windows
- Basic knowledge of Application Server and InTouch for System Platform (Recommended if connecting to Wonderware System Platform)
- Basic knowledge of InTouch (Recommended if connecting to InTouch standalone)

Course Outline

Module 1 – Introduction

Section 1 – Course Overview

In this section, you will review the InBatch course.

Section 2 – InBatch Overview

In this section, you will explore the fundamentals of batch systems, capabilities, and interaction with InBatch software. This section explains the fundamentals of batch systems, processes, and process modeling. It also describes the InBatch configuration and runtime editors, as well as the directory structure for InBatch files and InBatch application maintenance.

Section 3 – Installation, Components & System Requirements

In this section, will review the system requirements for the software, discuss the software components and the InBatch Configuration Utility.

Section 4 – Architecture and Licensing

In this section, you will be introduced to a typical InBatch system architecture and the InBatch database architecture. You will receive a brief orientation to license requirements for InBatch.

Module 2 – The Environment Display

Section 1 – Environment Manager Overview and Operation

In this section, you will receive a thorough orientation to the Environment Manager, including what icons it contains and when to use them

Module 3 – Process Modeling

Section 1 – Process Modeling

In this section, you will gain knowledge of the batch system's processing and transfer capabilities. You will perform functions using the Process Model Editor and build a model using the labs provided.

Section 2 – Process Model Editor

In this section, you will gain knowledge of the use and functionality of the Process Model Editor.

Section 3 – Equipment Status

In this section, you will learn how to define the status for Units and Segments.

Section 4 – Classes

In this section, you will learn to group units into process classes, add unit attributes and group connections into transfer classes.

Section 5 – Phases

In this section, you will learn the types of Phases used in InBatch and when to use the Phases. You will then learn to add Process Phases and Transfer Phases.

Section 6 – Enumeration

In this section you will learn to create an Enumeration alphanumeric display associated with a process variable in the back system.

Section 7 – Units of Measure

In this section, you will learn to define Units of Measure that can later be assigned to process variable formula parameters.

Section 8 – Tags and Parameters for Phases

In this section, you will learn how tags work in InBatch, what parameters are and how they are used in InBatch, what tags are required for which phases and parameters, and how to create and assign tags to phases and parameters.

Section 9 – Interlock and Control Buttons

In this section, you will learn to create interlocks in order to prevent the start of a particular phase block based on a set of conditions. You will also learn to create Control Buttons that will be operated from the batch control system screen.

Section 10 – Model Validation and Database Synchronization

In this section, you will learn to validate a process model and synchronize the runtime database with the process model.

Module 4 – Trains

Section 1 – Use and Definition of Trains

In this section you will understand the usefulness and functionality of Trains, define Trains using the proper equipment for the specified criteria, assign Units to Trains.

Module 5 – Materials

Section 1 – Materials and Characteristics

In this section, you will discuss the types of material used in InBatch the **Materials Editor** interface to add raw materials inputs and outputs including characteristics to distinguish materials from one another.

Section 2 – Assigning Materials and Receiving Materials

In this section, you will assign materials to units, use the Material Location Assignment Editor and receive materials manually.

Module 6 – Recipes

Section 1 – Recipes and the Recipe Editor

In this section, you will define the procedures needed to create a recipe, including Unit Procedures, Operations, and Phases.

Section 2 – Recipe Validation and Approval

In this section, you will learn the concept of validating and approving a recipe. You will then validate and approve a recipe for production.

Module 7 – Batch Management

Section 1 – Batch Scheduling

In this section, you will obtain a working knowledge of the Batch Manager. You will also use the Batch Scheduler to schedule batches.

Section 2 – Batch Display Operation

In this section, you will use the Batch Display options to manage batches.

Module 8 – Advanced Topics on Recipes and Batches

Section 1 – Formula Management

In this section, you will export a formula from a recipe, modify it and use it in the recipe while scheduling and running batches.

Section 2 – Reusing a Recipe

In this section, you will use the Unit Procedure Library, the Operations Library and the Export/Import option to create a recipe.

Section 3 – Equipment Availability and Allocations

In this section, you will learn about equipment availability, and allocation and release, including Automatic, Recipe, and Manual.

Section 4 – Equipment Instances in Recipes

In this section, you will learn about the functionality and use of Process and Transfer Instances. You will define process and transfer instances in a recipe.

Section 5 – Recipe Transitions and Loopbacks

In this section, you will learn to use Transitions, use the Execute One branch, and use Loopbacks.

Section 6 – Batch Synchronization at Restart

Learn how to configure the system for Restart in case of downtime.

Module 9 – History and Reporting

Section 1 – History

In this section, you will gain knowledge and understanding about the Batch History Server and how information is stored and archived.

Section 2 – Process Logger System

In this section, you will edit a Process Logger configuration. You will also add and configure the Log Manager in the Environment.

Section 3 – Reporting System

In this section you will navigate through the InBatch Reporting System, explore the Reporting System components, configure reports, execute reports, schedule reports, configure PDF copies of reports and view them.

Module 10 – InBatch Data Connections

Section 1 – Overview

Use the InTouch Tag Browser to remotely reference InBatch tags.

Section 2 – InBatch Connection to Control System Using IBCLI

In this section, you will learn to add and configure an IBCli application and connect to a control system through a device integration server. You will also learn how to use the Phase Logic Testing Tool to test the execution of phases in the process model.

Module 11 – Security System

Section 1 – InBatch Security System Overview

In this section, you will learn about the available security types in InBatch and the differences between them.

Section 2 – InBatch Standard Security

In this section, you will learn how to configure InBatch Standard Security by creating Roles, Operator Stations, users and restrictions in applications and functions.

Section 3 – InBatch Security Using Operating System

In this section, you will learn to use OS users in InBatch and configure security based on those users.

Module 12 – InBatch Integration with InTouch

Section 1 – InBatch Data in InTouch

In the section you will learn to export tags from InBatch to connect to InTouch and import the tags into InTouch to use on a window to display information.

Module 13 – InBatch Integration with System Platform

Section 1 – Connecting InBatch to a Galaxy

In this section, you will learn to import the InBatch model into the ArchestrA IDE and connect InBatch to the Galaxy using the IBMX application.

Section 2 – ArchestrA Security with InBatch

In this section, you will learn to use ArchestrA security in InBatch and configure security based on the user/groups defined in ArchestrA.

Module 14 – InBatch GUI Controls

Section 1 – Introduction

In this section, you explore the different types of GUI Controls available with InBatch.

Section 2 – InBatch .NET GUI Controls

In this section, you will use the InBatch .NET GUI Controls in an InTouch application and create an working HMI application to run batches in InBatch.