System Platform Syllabus

Course Description

Teaches the essence of System Platform. From this class the student will gain the ability or improve upon their ability to maintain system platform.

Objectives

- Learn to successfully do in-place upgrades
- Learn to add a graphic to a screen
- Know how to enable an alarm and historize a tag
- Learn to troubleshoot I/O
- Know how to send a logger to Tech Support
- Know how to backup the application
- Learn how to use the situational awareness library

Audiences

Anyone with less than 3 system platform implementation/upgrade projects completed.

Prerequisites

Know what a PLC is.

Course Outline

Module 1 – App Server Introduction

A general introduction to the course, definition of what system platform is, go over system requirements.

Lab 1 – Create a Galaxy – follow the instructor

Lab 2 – Create Globally derived objects – follow the instructor

Module 2 – Planning

Go over the fictional factory that will be used throughout the class.

Module 3 – Infrastructure

Covers how a system platform project models a plan. Both logically and computer deployment. Also covers backing up the project (galaxy), looking at runtime values with a diagnostic tool (SMC), and simulating data with a communication server.

Lab 3 – Creating the plant and deployment models – follow the instructor

Lab 4 – Using Object Viewer – follow the instructor

Lab 5 – Configuring Data Simulation – skip

Module 4 – Application Objects

Define templates, instances, attributes, $UserDefined, locking. These are the basic building blocks for building an application. The key concept is to be able to define something like a valve once in a "templates" then any changes made spread to all "instances" of the valve template.

Lab 6 - Modeling Meters – follow the instructor

Lab 7 – Change Control and Propagation - follow the instructor

Lab 8a – Modeling the Mixer – student reads steps in book

Lab 8b – Mixer components – student reads steps in book

Module 5 – I/O

Explain how the communication software works. Explain how the system platform project (galaxy) connect to the communication software which in turn connects to the PLC. Show how system platform can automatically set all I/O references.

Lab 9 – Configuring Comm Server - follow the instructor

Lab 10 – Configuring the Device Integration Objects - follow the instructor

Lab 11 – Connecting the mixer to the field- follow the instructor- follow the instructor

Lab 12 – Configuring the Redundant Device Integration Object - skip

Module 6 – History

Shows general configuration for connecting a galaxy to historian. Also instructor shows the specific configuration for historizing a tag.

Lab 13 – Configuring and Retrieving History – student reads steps in book

Module 7 – Alarms and Events

Shows how to configure an alarm then view it in the database.

Lab 14 – Configuring and interacting with alarms - follow the instructor

Module 8 – Object Management

Covers importing/exporting objects plus creating objects instances with a CSV

file. Lab 15 – Exporting and Importing Objects – watch instructor

Lab 16 – Configuring Instances Using a .CSV file – watch instructor

Module 9 – Security

Details how security is configured in the System Platform IDE. Features like disabling access

to development tools or preventing an operator from changing a setpoint.

Lab 17 – Configuring Security – watch instructor

Module 10 - Scripting

A basic coverage of scripting.

Lab 19 – Adding Auto Reconnect to the DDESuitelink Client Object – students reads steps in book

Lab 20 – Scripting Valve Status – student reads steps in book

Lab 21 – Scripting custom alarms – import CustomAlarmsLabAccelerator.aaPKG

Module 11 – Galaxy Backup

Show how to backup a galaxy.

Module 101 – IT4SP Introduction

Talks about graphics, InTouchs Apps, System Requirements,

Licensing. Lab 101 – Creating and Deploying the Galaxy - skip

Module 102 – Getting Started

Shows how to make a runtime copy of the InTouch application (InTouch instance). And shows the infrastructure object (ViewEngine) that is needed to send the InTouch app to another computer through a deployment tool.

Gives an overview of the InTouch development tool window

maker. Brief overview of the intouch runtime tool WindowViewer.

Lab 102 – Creating a managed InTouch application - follow the instructor

Lab 103 – Building the application layout – student follows steps in book

Lab 104 – Deploying an InTouch application - follow the instructor

Module 103 – ArchestrA Symbols

Covers how to use ArchestrA Symbols, create ArchestrA Symbols, use Situational Awareness graphics. Also covers concept of embedding ArchestrA graphics into reusable templates so they only need to be modified in one place. Goes over animations in detail. Covers feature of "OwningObject" so graphics can be pointed at different data at runtime easily. Covers feature of "Custom Properties" so that graphics be made reusable for different pieces of equipment. For example an analog faceplace graphic could be used for a temperature display or pressure display. Covers how to make graphics consistent with "Galaxy Styles", for example an equipment headers having the same style of font.

Lab 105 - Building a Process Overview – import ProcessOverviewLabAccelerator.aaPKG

Lab 106 - Creating the Mixer Components – import

MixerComponentsLabAccelerator.aaPKG Lab 107 - Creating the Mixer Display – student

Promoting technical solutions to ensure your success with automation

reads steps in book

Lab 108 - Switching Between Mixers – import SwitchMixersLabAccelerator.aaPKG

Lab 109 - Creating Command Displays – students reads steps in book

Lab 110 - Creating a Navigation Symbol – import NavigationSymbolLabAccelerator.aaPKG

Module 104 – Alarms

Covers a number of topis:

- Alarm border – shows a red/yellow/custom border around equipment on screen to indicate alarm
- Alarm aggregation – how to show how many, severity, and state of alarms by an area. For example, Line1 has 3 high alarms unack'd and 1 critical alarm that has been ack'd.
- Alarm shelving – The ability to stop an alarm from occurring for a period of time, maybe maintenance work is being done on equipment.
- Live Alarm Viewer – A special control embedded inside intouch to interact with live alarms. Ack them for example.
- Historical Alarm Viewer – Same special alarm control but configured different to only be able to see past alarms that have occurred. The advantage is it can see alarm stored on disk instead of just what is in RAM.

Lab 111 - Applying Alarm Border Animation – import AlarmBorderLabAccelerator.aaPKG

Lab 112 - Building an Alarm Aggregation Overview – import

AlarmAggregationLabAccelerator.aaPKG Lab 113 - Building a Live Alarm Display – student follow

steps

Lab 114 - Creating an Alarm Popup Symbol – import AlarmPopupLabAccelerator.aaPKG

Lab 115 - Building a Historical Alarm Display – import HistoricalAlarmLabAccelerator.aaPKG

Module 106 – Security

Topics covered:

- Authentication mode - Whether users and/or passwords are created in a windows domain or the wonderware project (Galaxy)
- Operational security – limit what operators can do. Change a setpoint for example.
- Security classification – mark tags as being for operators or maintenance or controls person
- InTouch security system tags – see how to make a custom logon screen using intouch's system tags keeping track of who is signed in
- Locking down intouch – they settings to make intouch nearly impossible for the operator to get behind intouch to run another application like solitar

Lab 119 - Using Security features in Graphics – import

GraphicSecurityLabAccelerator.aaPKG Lab 120 - Signing writes from InTouch - skip

Lab 121 - Locking Down the Application - skip

Module 107 – Web Client

Shows how to enable, launch, and navigate the web client. Also covers when this would be used vs other technologies like insight or ITAA.

Lab122 - Using Web Client – student reads book