Operations Orchestration 9.0
Intermediate and Advanced Authoring

Instructor-Led Training

INTENDED AUDIENCE

- Existing users of HP Operations Orchestration 9.0

DURATION: 2 DAYS

PREREQUISITES

- Familiarity with Operations Orchestration 9.0
- Familiarity with networking terms and concepts
- Familiarity with Web browsers and telnet or SSH connection methods
- Familiarity with different operating system environments

OVERVIEW

In the Intermediate and Advanced Authoring course you will become familiar with all aspects of authoring within Operations Orchestration 9.00. In this course you will learn how to:

- Author new operations to perform various tasks in your flows
- Incorporate subflows to simplify flow design
- Extract data from complex output using filters
- Use looping and iteration, control access to objects in the repository
- Persist data across flow runs
- Practice many advanced flow development techniques that will prepare you for working on a variety of Operations Orchestration deployments

The course consists of focused, task-oriented lectures and detailed hands-on labs. This is the Intermediate and Advanced course for Operations Orchestration.

COURSE OBJECTIVES

By the end of the course, you will be able to:

- Author new operations to perform various tasks
- Incorporate subflows into your flow designs
- Extract data from complex output with filters
- Use looping and iteration content to perform repetitive tasks, compile lists, and other tasks involving iteration
- Control access to OO objects in the Library
- Make flow data persistent across flow runs
- Use Parallel Processing to increase the efficiency of your flows
- Use responses, rules, and transitions to control flow execution
- Use XML Processing content and filters to extract information from XML documents
- Use Remote Action Service to extend HP OO to remote networks
- Work With File Systems
- Work With Email

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Operations Orchestration 9.0 Intermediate and Advanced Authoring

Module 1: Working With Operations
- Authoring an Operation
- Set cmd Properties
- Create a Flow
- Types of Operations

Module 2: Working With Subflows
- What is a Subflow?
- Subflows: Steps in the Parent Flow
- Passing Data from a Subflow to a Parent Flow
- Assigning Results in Subflows
- Assigning Results in Parent Flow
- Using Debug Tools with Subflows

Module 3: Filtering Flow Data
- Filtering Results
- Developing and Testing a Filter
- What is a Regular Expression?
- Testing the Regular Expression
- Regular Expression Filter Options
- Constructing a Regular Expression
- Scriptlets
- Accessing the Scriptlet Editor
- Using Scriptlets
- Scriptlet Methods
- Saving and Reusing Scriptlet Methods

Module 4: Looping and Iteration
- Looping and Iteration in OO
- Working With Iterating Operations
- Working With Lists
- Compiling the List: List Appender
- Assigning the keyName
- Other Iterating OO Content
- Compiling a Selection List

Module 5: Controlling Access to OO Objects
- Assigning Permissions
- Views in Central
- Controlling Flow Runs
- Using Gated Transitions
- Central UI for Gated Transitions
- Continuing the Flow Run
- Handing Off a Flow Run
- Central UI for Handing Off a Flow Run
- Exercise: Control Access to OO Objects and to Steps

Module 6: Persisting Data Across Flow Runs
- Strategies for Persisting Flow Data
- System Properties
- Creating a System Property
- Assigning a System Property to a Flow Variable

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Limitations of System Properties
Using Data Persistence Content
Storing Flow Variables
Retrieving Stored Flow Variables
Running the Flow
Exercise: Persisting Flow Data

Module 7: Parallel Processing
Working with Parallel Processing
Multi-Instance Steps
Using Multi-Instance Steps
Toggling Multi-Instance Steps
Nonblocking Steps
Using Nonblocking Steps
Parallel-Split Steps
Using a Parallel-Split Step
Adding and Changing Lanes
Data Handling in Parallel-Split Steps
Considerations When Using Parallel-Split Steps
Debugging Parallel Processing

Module 8: Using Responses, Rules, and Transitions to Control Flow Execution
Controlling Execution: Responses and Transitions
Responses
Available Responses
Manually Controlling Flow Execution
Using Responses to Direct a Flow Run
Adding Responses to an Operation
Define Rules for a Response
Rule Details Editor
Response Summary and Rule Details
Working with Transitions
Transition Name and Description
Gated Transition
Specifying ROI

Module 9: XML Processing
XML Operations
Iterative Operations
XML Filters
XML Get Attribute
XML Get Element
XML Get Element Value
XPath Query

Module 10: Extending Flows with Remote Action Services
Remote Action Service
RAS Example
How It Works
When to Use RAS
Installing RAS
RAS References
Creating a RAS Reference
Monitoring RAS References
Specifying a Proxy Server in a RAS Reference

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Using a RAS Reference in an Operation
Creating Operations from a RAS
Using Imported RAS Operations in a Flow
Creating a RAS Operation from Scratch
Using the Shell Wizard—Part 1
Using the Shell Wizard—Part 2
Using the Shell Wizard—Part 3
Working with iActions
Implementing an iAction

Module 11: Working with File Systems
Working with File Systems
Reading a File
Listing Contents of a Directory
List Only Subfolders of a Directory
Writing to a File
Write to File Inputs
HTTP Get To File
Inputs

Module 12: Working with Email
Working with Email
OO Content for Handling Email
Configuring Send Mail Inputs
Using System Accounts
Viewing the Report Run
Getting an Email
Get Mail Message Inputs and Results
Configuration Considerations

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