System Center Operations Manager 2012: Advanced Management Pack Authoring

Number of Days: Four (4)

Prerequisites:

Before attending this course, students must have:

- Experience with Operations Manager 2007 or 2012 management packs
- A requirement to develop a standalone management pack for a product or application
- Basic development skills including object oriented concepts such as classes and inheritance
- Proficiency with VBScript language

Instructors:

The instructors that deliver this course are experienced, enterprise consultants who are familiar with the challenges encountered in the deployment of Operations Manager and how to overcome them. All of our instructors have real-world expertise and are both accomplished consultants and excellent presenters that make the delivery interesting and are able to share their insights around real world issues.

Description:

This course provides students with the knowledge and skills to design and author a professional management pack. The course is structured into three progressive modules. Day 1 introduces basic approaches around designing and instrumenting an application for monitoring. Day 2 is implementing discoveries and monitoring scenarios. Day 3 presents advanced information to help the author effectively troubleshoot common conditions and implement complex monitoring scenarios. Day 4 is for implementing the presentation layer with views, dashboards and reports. Together, the four days provide guidance on how to best define and implement logic for effectively measuring the health of a product or service and lowering its operational costs for end customers. This course is intended for developers and IT professionals responsible for designing and authoring management packs.

After completing this course, students will be able to:

- Design a scalable management pack supporting a variety of application structures
- Define an appropriate health facade for centrally managing a product or application
- Understand and implement the Operations Manager concept of discovery
• Define monitoring requirements on a variety of aspects of service availability and health
• Implement these requirements in a management pack
• Provide application administrators with information in a manner that lowers the ownership cost of the product or application
• Demonstrate a mastery of management pack development

This class consists of the following sessions:

Session 1: Planning your Management Pack
Session 2: Defining Your Application
Session 3: Discoveries
Session 4: Monitoring
Session 5: Composition
Session 6: Cookdown
Session 7: Workflow Debugging
Session 8: Diagnostics and Recoveries
Session 9: Interacting with Operator (Tasks and Views)
Session 10: Reporting

Session 1: Planning your Management Pack (Day 1)

This session will cover how to design and instrument your application for monitoring.

<table>
<thead>
<tr>
<th>Session Objectives</th>
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<tr>
<td>• Learn how to use Failure Mode Analysis to drive your design</td>
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<tr>
<td>Takeaways:</td>
</tr>
<tr>
<td>• Why are we doing this?</td>
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<tr>
<td>• IT Operators face concerns that are not well addressed in software today</td>
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<tr>
<td>• A manageable application is the first step to creating a useful management pack</td>
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<td>• Failure Mode Analysis is designed to increase manageability</td>
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After completing this module, students will be able to:
• Use the Failure Mode Analysis to drive management pack development in their organization
• Understand the basic building blocks of a management pack
Session 2: Defining Your Application (Day 1)

This session will cover how to model your application using the new MP Authoring tools in System Center 2012 (Visual Studio).

### Session Objectives

- Using a sample application you will define the application monitoring model
- Introduction to MP Authoring tools
- Creating classes
- Creating relationships

**Takeaways:**
- How to model your application
- How to create classes and relationships using Visual Studio Authoring Extensions (VSAE)

After completing this module, students will be able to:

- Use Visual Studios to create a management pack, classes and relationships
- Understand the basic concepts for modeling your application

Session 3: Discoveries (Day 2)

This session will cover how to properly discover the application you modeled in session 2.

### Session Objectives

- Learn about the different strategies
- Be familiar with the different types
- Understand the tradeoffs

**Takeaways:**
- Understand why we use a seed discovery
- Understand the best practices

After completing this module, students will be able to:

- Use Visual Studio to create a seed based and script based discoveries
- Understand the tradeoffs between using different types of discoveries

Session 4: Monitoring (Day 2)

This session will cover how to monitor the application you discovered in session 3.
Session Objectives

- Understand a Monitors vs. Rules
- Understanding State
- Best Practices

Takeaways:
- Follow your monitoring plan

After completing this module, students will be able to:
- Use Visual Studio to create different kinds of monitors
- Understand when to use rules verses monitors

Session 5: Composition (Day 2)

This session will cover how to build your own workflows to meet your custom monitoring scenarios

Session Objectives

- Understand workflow basics
- Understand Module types
- Understand how to combine workflows into a new module

Takeaways:
- How to build a new module

After completing this module, students will be able to:
- Use Visual Studio to build your own modules
- Understand workflow and module basics

Session 6: Cookdown (Day 3)

This session will cover how to use the SCOM platform to make your workflows work more efficient.

Session Objectives

- Understand how to address multi-instances on the same device
- Understand the potential CPU impact by poorly authored workflows

Takeaways:
- How to use Cookdown
After completing this module, students will be able to:
- Understand how Cookdown works and when to use it
- Use the Cookdown Analyzer tool in Visual Studio

**Session 7: Workflow Debugging (Day 3)**

This session will cover how to debug a workflow that is not behaving as expected.

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<td>• Troubleshooting a workflow</td>
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<tr>
<td>• Troubleshooting relationships</td>
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<td>• How to find references in an MP</td>
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<td><strong>Takeaways:</strong></td>
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<tr>
<td>• How to debug a workflow</td>
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**Session 8: Diagnostics and Recoveries (Day 3)**

This session will cover best practices for using both diagnostics and recoveries

<table>
<thead>
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After completing this module, students will be able to:
- Use Visual Studio to create both diagnostic and recovery tasks

**Session 9: Interacting with the Operator (Tasks and Views) (Day 4)**

This session will cover the presentation layer of the management pack and how to provide useful tasks to you users (operators).
Session Objectives

- Understand the types of Tasks
- Understand the types of Views

Takeaways:
- How to create Tasks and Views

After completing this module, students will be able to:
- Use Visual Studio to create different types of Tasks and Views

Session 10: Reporting (Day 4)

This session will cover the basics of getting started with Reports and Dashboards.

Session Objectives

- Understanding the DW Schema
- Understanding the different types of Reports

Takeaways:
- How to create a linked report

After completing this module, students will be able to:
- Use Visual Studio to create a linked report
- Understand how to find information on the data warehouse schema