

Change Log for 10962C: Advanced Automated Administration with Windows PowerShell

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Purpose of this document

The purpose of this document is to call out the significant changes that have been made to the course over its lifetime. This document is meant to be used by the MCTs/Instructors before delivering the class or during the prep to understand what has changed from the previous version of this course.

This is not an Error Log or a supplement to the Course Materials. This is purely meant to provide additional context between the versions of the course.

What you can expect in this document

There are two types of course changes that you will encounter in this document. You may see one, both or multiple iterations of both depending on the particular course.

- 1) *Full Revision*: Where the letter associated with a course changes, typically from 'A' to 'B' to 'C' i.e. 20410A becomes 20410B. This type of change can result in completely new course structure, new virtual machines, new Labs, new classroom setup requirements and new content. It could also involve significant design changes.
- 2) *Incremental Update*: This is a limited update and involves changes to content or potentially virtual machines but it does **not** involve changes to design or course structure. It is intended for scenarios where there are cumulative bug fixes which need addressing or where there may be a virtual machine update required to get latest content or fixes to partners and MCTs. It is intended to slipstream an updated version over the existing version without significant interruption or interference. It should be transparent to students in that learning objectives or course structure does not change.

The changes will be listed in sequence from the first changes made in a course lifetime at the start of the document to the most recent and latest changes in a course at the end of the document.

This change log captures course changes in the following four main areas; some will be applicable only to one update type:

1. Design (Outline)
2. Lecture and Lab Content (Handbook, PPT, Lab Answer keys (LAK))
3. Labs (VMs)
4. Change Description for Learning Product Spec Changes

The descriptions are intended to be provided at a high-level and not at a detailed level, so that they give you an overall understanding of the topics that have changed and the reasoning behind the change.

For More Information

To view the current Change Log for this product, visit the MCT Download Center, and then browse to the appropriate product folder, and then product name.

For any queries please write to support@mscourseware.com.

Change from 10962A to 10962B – Sept 2014

When did this change take place? The A version, 10962A shipped in August 2014. The B version, 10962B shipped in November 2014, which is what the immediate detail below refers to.

What was the purpose of this change? The update is part of our standard development process when shipping first versions of MOC courses i.e. we ship an A version and subsequently run a class with that content. Based on that first teach and any acquired external feedback we then release a B version which incorporates those changes to address any issues and improve the course overall.

1) Design Changes

The overall design of this course has not changed from 10962A to 10962B.

2) Lecture and Lab Content Changes (Handbook, PPT and LAK)

Various locations

References to the incorrect server name character string “SRV” were changed to the standard “SVR”. This includes references inside PS1 files.

Module 1, *Understanding the If/Elseif/Else Construct*

Wording was added to an incomplete sentence.

Implementing support for –WhatIf and –Confirm will require your script to decide **to execute, or not execute, your command**. For example, if the user is prompted for confirmation and answers negatively, your script must decide not to execute whatever command it was going to run.

Module 1, Lab, Exercise 1, Task 1

A cmdlet name was corrected:

Using the script that contains your ~~Corp-OSInfo~~ **Get-CorpOSInfo** command, create a script module named CorpTools. Save it in the Program Files location that is specified in the PSMODULEPATH environment variable.

Module 1, Lesson 8, Demo 2, Step-01.ps1 - and all subsequent relevant files

Missing single quotes between array members were added.

```
[ValidateSet('PowerOff','Shutdown','Restart','Logoff')]
```

Module 2, Lab

Step 6 in the notes was removed, as well as other references to external access requirements for performing name resolution on the site bing.com.

Task 1 was adjusted to change bing.com to LON-DC1.adatum.com.

Module 3, Lesson 2, Demo

Code references to “/n/n/n” were corrected to “`n`n`n”

Module 4, Lab, LabA - Task2.ps1 and Lab A - Answer.ps1

Moved the following lines of code into the Try area of the script:

```
$properties = @{'ComputerName'=$computer;  
                'OSVersion'    = $os.caption;  
                'SPVersion'    = $os.servicepackmajorversion;  
                'BIOSerial'    = $bios.serialnumber;  
                'Manufacturer' = $compsys.manufacturer;  
                'Model'       = $compsys.model}  
$output = New-Object -TypeName PSObject -Property $properties  
Write-Output $output
```

Module 5, Lab, Exercise 2, Task 9

Corrected a typo:

Task 9: Create disk nodes 1. In your script, add a command that creates a new <disk> ~~node~~ **node** for each object in \$disks. Suppress the output of the command.

Module 5, Lab, Exercise 2, Task 10

Corrected an invalid parameter:

In your script, add a command that sets the InnerText property of the <disk> node to the ~~DeviceID~~ **DriveLetter** property of the disk object.

Corrected line 7 in all affected files.

```
$computer.spversion = [string] $osinfo.spversion
```

Corrected line 21 in all affected files.

```
$disk_node.InnerText = $disk.deviceid $disk.driveletter
```

3) Changes to Virtual Environment

All of the base images, middle tier drives and course differencing drives are unchanged.

4) Changes to the Learning Product Specification

There are no learning product specification changes.

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What was the purpose of this change? The update is part of our standard development process when shipping first versions of MOC courses i.e. we ship an A version and subsequently run a class with that content. Based on that first teach and any acquired external feedback we then release a B version which incorporates those changes to address any issues and improve the course overall.

Change from 10962B to 10962C – July 2017

1) Design Changes

This course covers the new features available in Windows PowerShell 5.1. In addition, this version of the course includes the following additional topics compared with the previous version:

- Extended coverage of DSC and Just Enough Administration. DSC is becoming one of the primary Microsoft configuration management technologies. It currently offers support for both Windows and Linux operating systems.
- Extended coverage of PowerShell Workflow. While this is still considered to be an advanced development topic with relatively limited adoption rate, PowerShell workflows offer a number features (checkpoints, parallel execution, etc.) that deliver a range of unique benefits. In addition, the use of PowerShell workflows is common in Azure Automation, which can be used to administer both cloud and on-premises systems.
- Using REST API. While REST API is rarely used in administering on-premises environments, the knowledge of how to reference it from Windows PowerShell scripts is likely to come handy when interacting with Internet-based services that do not offer direct Windows PowerShell support. This includes services geared towards managing on-premises resources, such as, for example, Microsoft Intune.
- Working with JSON formatted files. JSON is becoming de-facto formatting standard of lightweight data interchange. Due to its popularity, the knowledge of interacting with JSON-formatted data files from Windows PowerShell is likely to be of value to growing numbers of IT Pros.
- Using regular expressions and parsing custom formatted data. This is one of more commonly encountered challenges when dealing with system inventory of on-premises environments or collecting data for monitoring or troubleshooting purposes.

2) Lecture and Lab Content Changes (Handbook, PPT and LAK)

Module 1: Creating advanced functions

- In Lesson 2, a new topic Creating module manifests has been added.
- In Lesson 3, a new topic Understanding the need for object enumeration and a new demonstration Enumerating objects by using the ForEach construct have been added. This content was formerly covered in Lesson 4.
- Lesson 4 has been removed and the content has been merged into Lesson 3. Lab D has also been moved to after Lesson 3.

- In Lesson 7 (formerly Lesson 8), the topics Understanding the If/Else/Else Construct and Understanding the Switch Construct have been removed. This content has been moved to 10961C.

Module 2, Using Microsoft .NET Framework and REST API in Windows PowerShell

- Lesson 1 has been removed from this module. This content has been moved to 10961C.
- Lesson 1 from 10962B is now Lesson 1 in 10961C
- A new lesson, Using REST API in Windows PowerShell has been added. The lesson includes the following topics:
 - REST API
 - The REST API documentation
 - REST API Syntax
 - Invoking REST API methods by using Windows PowerShell
 - Demonstration: Invoking REST API methods by using Windows PowerShell
- Lab B: Using REST API in Windows PowerShell to manage IIS websites has been added.

Module 3, Writing Controller Scripts

- In Lesson 2, the topic Understanding Loops has been removed. This content has been moved to 10961C.

Module 4, Handling script errors

- There are no topic level changes in this module.

Module 5, Using XML, JSON, and custom-formatted data

- Two new lessons have been added to this module. The lesson outlines are:
- Lesson 2: Working with JSON-formatted data
 - Why use JSON?
 - Introduction to JSON syntax
 - Managing JSON data by using Windows PowerShell
 - Demonstration: Managing JSON data by using Windows PowerShell
- Lesson 3: Reading and manipulating custom-formatted data
 - Introduction to regular expressions
 - Basic delimited parsing with ConvertFrom-String
 - Demonstration: Basic delimited parsing with ConvertFrom-String
 - Example-driven parsing with ConvertFrom-String
 - Demonstration: Example-driven Parsing with ConvertFrom-String
 - Manipulating strings with Convert-String

Module 6, Enhancing server management with Desired State Configuration and Just Enough Administration

- Two new topics have been added to Lesson 1, Using DSC on Nano Server and Using DSC on Linux
- Two new topics have been added to the beginning of Lesson 2, Configuring the LCM and Demonstration: Configuring the LCM

- Two new topics have been added to the end of Lesson 2, Implementing partial DSC configuration and Demonstration: Implementing a partial DSC configuration
- Lesson 3, Implementing JEA has been added. The module includes the following topics:
 - Understanding JEA
 - Identifying JEA prerequisites
 - Defining JEA role capabilities
 - Creating JEA session configurations
 - Registering JEA configuration
 - Using JEA
 - Using DSC to deploy JEA
 - Demonstration: Configuring and using JEA
- Lab B, Creating and using JEA has been added.

Module 7, Analyzing and debugging scripts

- There are no topic level changes in this module.

Module 8, Understanding Windows PowerShell workflow

- There are no topic level changes in this module.

3) Changes to Virtual Environment

The virtual machines for this course have been updated to Windows Server 2016 and Windows 10. In addition, server virtual machines are running Server with Desktop Experience rather than Server Core.

4) Changes to the Learning Product Specification

There are no learning product specification changes.