PowerShell

To Get The Job Done

Legal Notice:

Disclaimer Notice:

Please note the information contained within this document is for education and entertainment purposes only. All effort has been executed to present accurate, up to date, and reliable, complete information. No warranties of any kind are declared or implied. Readers acknowledge that the author is not engaging in the rendering of legal, financial or professional advice. The content within this book has been derived from various sources. Please consult a licensed professional before attempting any techniques outlined in this book.

By reading this document the reader agrees that under no circumstances is the author responsible for any losses, direct or indirect, which are incurred as a result of the use of information contained within this document, including not limited to errors, omissions or inaccuracies.

Table of content

What is PowerShell?

PowerShell is a task automation and configuration management framework from Microsoft, consisting of a command-line shell and associated scripting language. Initially a Windows component only, known as Windows PowerShell, it was made open-source and cross-platform with the introduction of PowerShell Core. The former is built on the .NET Framework, the latter on .NET Core.

In PowerShell, administrative tasks are generally performed by cmdlets (pronounced command-lets), which are specialized .NET classes implementing a particular operation. These work by accessing data in different data stores, like the file system or registry, which are made available to PowerShell via providers. Third-party developers can add cmdlets and providers to PowerShell. Cmdlets may be used by scripts and scripts may be packaged into modules.

PowerShell provides full access to COM and WMI, enabling administrators to perform administrative tasks on both local and remote Windows systems as well as WS-Management and CIM enabling management of remote Linux systems and network devices. PowerShell also provides a hosting API with which the PowerShell runtime can be embedded inside other applications. These applications can then use PowerShell functionality to implement certain operations, including those exposed via the graphical interface.

PowerShell v2.0 was completed and released to manufacturing, as an integral part of Windows 7 and Windows Server 2008 R2. Versions of PowerShell for Windows XP, Windows Server 2003, Windows Vista and Windows Server 2008 were released in October 2009 and are available for download for both 32-bit and 64-bit platforms. Windows 10 shipped a testing framework for PowerShell.