# Windows PowerShell

## What is PowerShell?

* Task Automation Framework
* Command-Line Shell **and** Scripting Language for Windows
* Based on the .NET Framework



## Terminology: Shell- vs. Scripting-Languages

### (Command-Line) Shell

“A shell is a piece of software that lets you access the functionality provided by the operating system.”  
− Bruce Pyette: PowerShell in Action

Common Features:

* Read-Evaluate-Print loop (REP)
* Aliases/Shortcuts for long command names
* Wildcard matching, so you don’t have to type the full names of everything
* Call external programs
* Command History

UNIX Shells

* Bourne-Again Shell (bash)
* Korn Shell (ksh)

Windows Shells

* Command.com
* Cmd.exe



* PowerShell
* Cygwin



Others

* Chrome Console



* Firebug Command Line



### Scripting Languages

* Scripting languages typically provide more sophisticated features for debugging your scripts and they provide mechanisms for developing larger scripts by letting you break a script into components or modules
* Scripting Language syntax is oriented more towards writing an application than toward interactively issuing commands

## Why PowerShell?

* “When comparing the command-line manageability of a Windows system to a UNIX system, Windows was found to be limited”
* Windows command line is an inferior technology which cannot compete with the known UNIX Shells
* Windows is known for its Management UIs but lacked an automation framework 🡪 “Point and click does not scale”

## Version History

* Designed from scratch in 2005
* Version 1.0 was released in 2006 for Windows XP, Windows Server 2003 and Windows Vista. Only optional for Windows Server 2008.
* Version 2.0 is the current version and was released in 2009 for Windows 7, Winder Server 2008 R2

## What is special about Windows PowerShell?

* Object Oriented and not String-Based
* Command-Line Shell AND Scripting Language in one product – PowerShells goal is to be both a good scripting language and a good interactive shell