

# Automate ALL THE THINGS

w/ PowerShell App Deployment Toolkit

[GOO.GL/3tW4qd](https://goo.gl/3tW4qd)

MAEDS 51 • October 14 - 16, 2015

# Session Description

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Even if you're just starting to learn PowerShell, come learn how you can use this powerful toolkit to automate and self-document your application installations or workstation tweaks. Sure, SCCM can take an MSI and make your life easier, but what if that teacher wants the shortcut moved or the uninstaller removed from the start menu. PADT can help make your life easier.

# Introduction

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Chris Thomas

Desktop Engineer

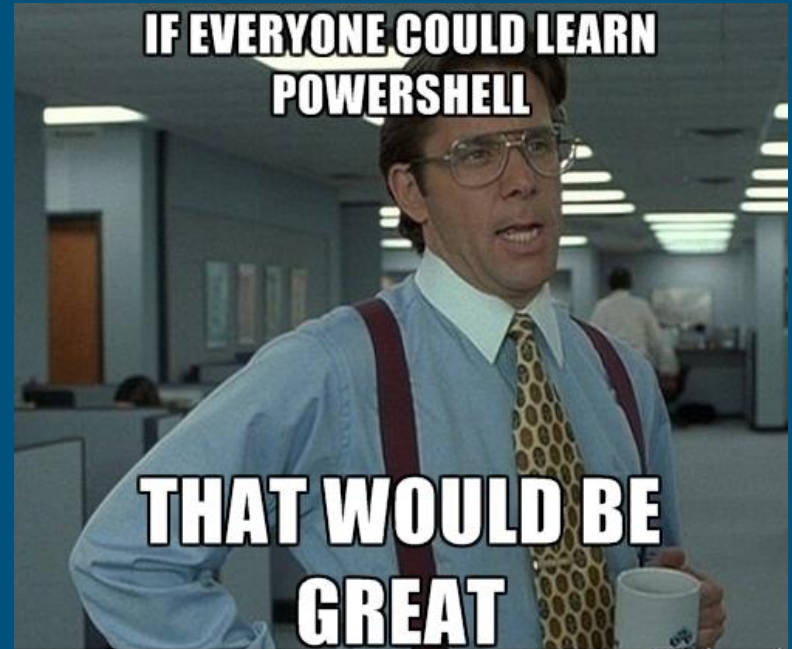
Ingham ISD

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15 Years in K-12 Education

SCCM/SCSM Nerd

PowerShell Evangelist



# Previous MAEDS Presentations

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## Spring 2015

### SCCM Spring PD Slides

<http://www.maeds.org/resources/downloads/2015/spring/MAEDS%20Spring%20PD%202015%20-%20SCCM.pdf>

## Fall 2014

### MAEDS 50 - PADT and SCCM Slides

<http://www.maeds.org/resources/downloads/2014/fall/MAEDS%2050%20-%20PADT%20and%20SCCM.pdf>

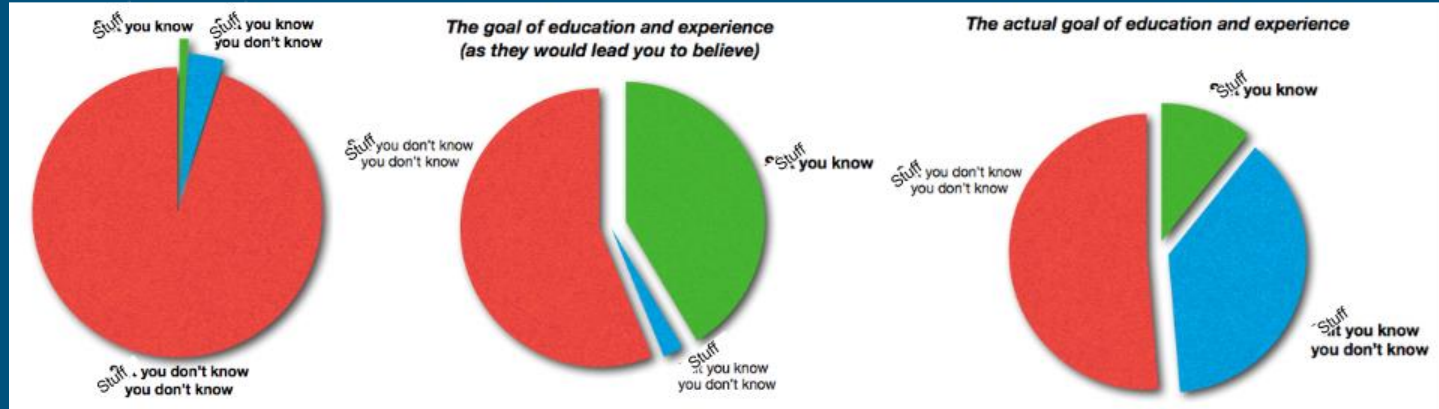
## Spring 2014

### SCCM Spring PD Notes

<http://www.maeds.org/resources/downloads/2014/spring/SCCMSpringPDNotes.pdf>



# Wisdom and the Art of Being *Not Dangerous*



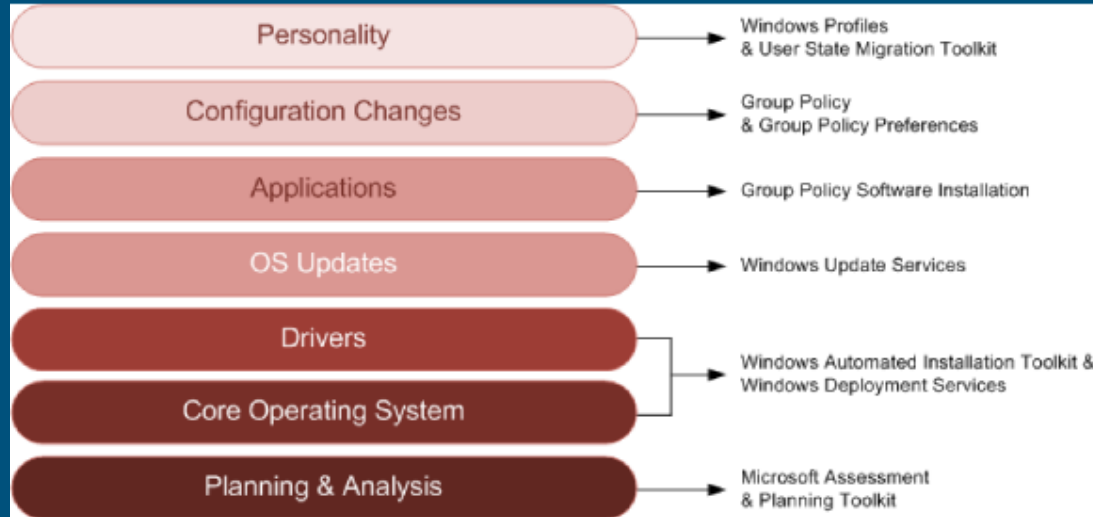
No One Knows What the F\*\*\* They're Doing (or "The 3 Types of Knowledge")

Steve Schwartz • February 9, 2010

<https://www.bridge-global.com/blog/3-types-of-knowledge/>

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# A Case for a Layered Approach to Deploying...



TechNet Magazine: A Case for a Layered Approach to Deploying Windows Desktops

Greg Shields • December 2009

<https://technet.microsoft.com/en-us/magazine/ee835710.aspx>

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# Bro, Do You Even PowerShell?

HOW LONG CAN YOU WORK ON MAKING A ROUTINE TASK MORE EFFICIENT BEFORE YOU'RE SPENDING MORE TIME THAN YOU SAVE?  
(ACROSS FIVE YEARS)

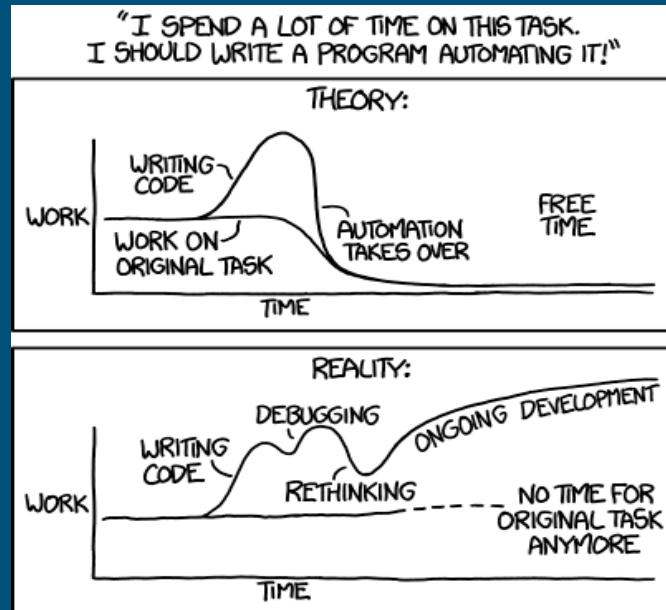
	HOW OFTEN YOU DO THE TASK					
	50/DAY	5/DAY	DAILY	WEEKLY	MONTHLY	YEARLY
1 SECOND	1 DAY	2 HOURS	30 MINUTES	4 MINUTES	1 MINUTE	5 SECONDS
5 SECONDS	5 DAYS	12 HOURS	2 HOURS	21 MINUTES	5 MINUTES	25 SECONDS
30 SECONDS	4 WEEKS	3 DAYS	12 HOURS	2 HOURS	30 MINUTES	2 MINUTES
1 MINUTE	8 WEEKS	6 DAYS	1 DAY	4 HOURS	1 HOUR	5 MINUTES
5 MINUTES	9 MONTHS	4 WEEKS	6 DAYS	21 HOURS	5 HOURS	25 MINUTES
30 MINUTES		6 MONTHS	5 WEEKS	5 DAYS	1 DAY	2 HOURS
1 HOUR		10 MONTHS	2 MONTHS	10 DAYS	2 DAYS	5 HOURS
6 HOURS				2 MONTHS	2 WEEKS	1 DAY
1 DAY					8 WEEKS	5 DAYS

Is It Worth the Time?

xkcd • April 29, 2013

<http://xkcd.com/1205/>

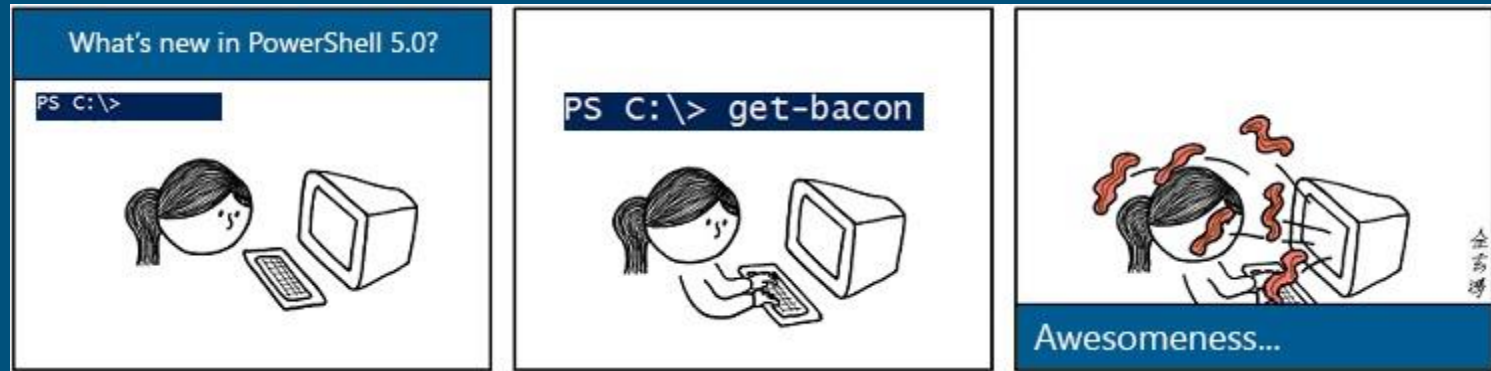
# Woah Now... Let's Not Get Carried Away!



Automation  
xkcd • January 20, 2014  
<http://xkcd.com/1319/>



# Why should I care about PowerShell?



COMIC RELIEF: POWERSHELL 5.0

OpsConfig • November 07, 2014

<http://www.opsconfig.com/comic-relief-powershell-5-0/>

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# There's a struggle to it and that's normal

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**Don Jones:** "If you're not willing to play a little bit you'll probably not be successful at PowerShell."

**Jeffrey Snover:** "I'm a Distinguished Engineer, I'm the Lead Architect with Windows Server and System Center Datacenter, and I invented the dang thing and still there's a struggle to it and that's normal."

Windows PowerShell Unplugged with Jeffrey Snover & Don Jones  
TechEd North America 2014 • (1hr 16min • quotes @ 3:15)  
<https://www.youtube.com/watch?v=t4a2l0ryU5Y>



# Why PowerShell?

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- Discoverability
  - Verb-Noun Structure
  - Update-Help
  - Get-Help vs Get-Command
- Object-Oriented scripting
- Consistent Syntax
- PSDrives
- Parameters
- Functions

- Modules
  - VMWare (PowerCLI)
  - GAFE (gShell - I use GAM now)
  - IE (AutoBrowse)
  - GUI Creation (ShowUI)
  - GUI Automation (WASP)
  - SCCM
  - OAUTH & REST API

Access

# Why PADT?

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- Consistent Deployments
  - Self-Documenting
  - Pre-Built Logging
  - Pre-Built User Interface
  - Custom Branding
  - Pre-Built Functions and Variables
  - Extensible With Custom Functions
- Over 10,000 Lines Of Code, FREE!
  - Responsive Developers
  - Good Documentation
  - Active Release Schedule

# PADT Functions

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Block-AppExecution	Get-ObjectProperty	Refresh-Desktop	Show-InstallationPrompt
Close-InstallationProgress	Get-PEFileArchitecture	Refresh-SessionEnvironmentVariables	Show-InstallationRestartPrompt
Convert-RegistryPath	Get-PendingReboot	Register-DLL	Show-InstallationWelcome
ConvertTo-NTAccountOrSID	Get-RegistryKey	Unregister-DLL	Show-WelcomePrompt
Copy-File	Get-RunningProcesses	Remove-File	Start-ServiceAndDependencies
Disable-TerminalServerInstallMode	Get-ScheduledTask	Remove-Folder	Stop-ServiceAndDependencies
Enable-TerminalServerInstallMode	Get-ServiceStartMode	Remove-MSIApplications	Test-Battery
Execute-MSI	Get-UniversalDate	Remove-RegistryKey	Test-IsMutexAvailable
Execute-Process	Get-UserProfiles	Resolve-Error	Test-MSUpdates
Execute-ProcessAsUser	Get-WindowTitle	Send-Keys	Test-NetworkConnection
Exit-Script	Install-MSUpdates	Set-ActiveSetup	Test-PowerPoint
Get-DeferHistory	Install-SCCMSoftwareUpdates	Set-DeferHistory	Test-RegistryValue
Get-FileVersion	Invoke-HKCURegistrySettingsForAllUsers	Set-IniValue	Test-ServiceExists
Get-FreeDiskSpace	Invoke-ObjectMethod	Set-MsiProperty	Unblock-AppExecution
Get-HardwarePlatform	Invoke-RegisterOrUnregisterDLL	Set-PinnedApplication	Update-GroupPolicy
Get-IniValue	Invoke-SCCMTask	Set-RegistryKey	Write-FunctionHeaderOrFooter
Get-InstalledApplication	New-Folder	Set-ServiceStartMode	Write-Log
Get-LoggedOnUser	New-MsiTransform	Show-BalloonTip	
Get-MsiExitCodeMessage	New-Shortcut	Show-DialogBox	
Get-MsiTableProperty	New-ZipFile	Show-InstallationProgress	

# PADT Variables

## Datetime and Culture

\$currentDateTime  
\$currentTime  
\$currentDate  
\$currentTimeZoneBias  
\$culture  
\$currentLanguage

## Environment Variables

\$envHost  
\$envAllUsersProfile  
\$envAppData  
\$envArchitecture  
\$envCommonProgramFiles  
\$envCommonProgramFilesX86  
\$envComputerName  
\$envComputerNameFQDN  
\$envHomeDrive  
\$envHomePath  
\$envHomeShare  
\$envLocalAppData  
\$envLogicalDrives  
\$envProgramFiles  
\$envProgramFilesX86

\$envProgramData  
\$envPublic  
\$envSystemDrive  
\$envSystemRoot  
\$envTemp  
\$envUserCookies  
\$envUserDesktop  
\$envUserFavorites  
\$envUserInternetCache  
\$envUserInternetHistory  
\$envUserMyDocuments  
\$envUserName  
\$envUserProfile  
\$envUserSendTo  
\$envUserStartMenu  
\$envUserStartMenuPrograms  
\$envUserStartup  
\$envSystem32Directory  
\$envWinDir

## Domain Membership

\$IsMachinePartOfDomain  
\$envMachineWorkgroup  
\$envMachineAddDomain  
\$envLogonServer  
\$MachineDomainController  
\$envMachineDNSDomain  
\$envUserDNSDomain  
\$envUserDomain

## Operating System

\$envOS  
\$envOSName  
\$envOSServicePack  
\$envOSVersion  
\$envOSVersionMajor  
\$envOSVersionMinor  
\$envOSVersionBuild  
\$envOSVersionRevision  
\$envOSProductType  
\$IsServerOS  
\$IsDomainControllerOS  
\$IsWorkStationOS

\$envOSProductTypeName  
\$Is64Bit  
\$envOSArchitecture

## Current Process Architecture

\$Is64BitProcess  
\$psArchitecture

## Permissions/Accounts

\$CurrentProcessToken  
\$CurrentProcessSID  
\$ProcessNTAccount  
\$ProcessNTAccountSID  
\$IsAdmin  
\$IsLocalSystemAccount  
\$IsLocalServiceAccount  
\$IsNetworkServiceAccount  
\$IsServiceAccount  
\$IsProcessUserInteractive  
\$LocalSystemNTAccount  
\$SessionZero

## Script Directories

\$dirFiles  
\$dirSupportFiles  
\$dirAppDeployTemp

## Log File

\$logName  
\$logTempFolder  
\$logDirectory  
\$DisableScriptLogging  
\$RevertScriptLogging

## Logged On Users

\$LoggedOnUserSessions  
\$usersLoggedOn  
\$CurrentLoggedOnUserSession  
\$CurrentConsoleUserSession  
\$RunAsActiveUser

# PADT Resources

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## PowerShell App Deployment Toolkit Main Page

<http://psappdeploytoolkit.com/>

## PSAppDeployToolkit 3.6.7 Direct Download

[https://github.com/PSAppDeployToolkit/PSAppDeployToolkit/releases/download/3.6.7/PSAppDeployToolkit\\_v3.6.7.zip](https://github.com/PSAppDeployToolkit/PSAppDeployToolkit/releases/download/3.6.7/PSAppDeployToolkit_v3.6.7.zip)

## Discussion Boards

[http://psappdeploytoolkit.com/?post\\_type=forum](http://psappdeploytoolkit.com/?post_type=forum)

## Authors

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Dan Cunningham • [twitter.com/sintaxasn](https://twitter.com/sintaxasn) • [dcunningham.net](http://dcunningham.net)

# PADT Shoutouts

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## Become the Hero of the Day - Master ConfigMgr 2012 R2 with a Limited Budget and Free Community Tools

*System Center Universe 2014 • (47min • mentioned @ 36:00)*

Kent Agerlund • [twitter.com/agerlund](https://twitter.com/agerlund) • [blog.coretech.dk/author/kea](http://blog.coretech.dk/author/kea)  
[youtube.com/watch?v=9hDFqcPjjSA](https://youtube.com/watch?v=9hDFqcPjjSA)

## Microsoft System Center Configuration Manager Community Jewels

*TechEd North America 2014 • (1hr 6min • mentioned @ 18:20)*

Jörgen Nilsson • [twitter.com/ccmexec](https://twitter.com/ccmexec) • [ccmexec.com](http://ccmexec.com)  
[channel9.msdn.com/Events/TechEd/NorthAmerica/2014/PCIT-B320#fbid=](http://channel9.msdn.com/Events/TechEd/NorthAmerica/2014/PCIT-B320#fbid=)



# PowerShell Resources

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## PowerShell Summit 2014: Snover - Monad Manifesto Revisited

<https://www.youtube.com/watch?v=j0EX5R2nnRI>

## RamblingCookieMonster List

<http://ramblingcookiemonster.github.io/Pages/PowerShellResources.html>

<http://ramblingcookiemonster.github.io/images/Cheat-Sheets/powershell-basic-cheat-sheet2.pdf>

<http://ramblingcookiemonster.github.io/images/Cheat-Sheets/powershell-cheat-sheet.pdf>

## Windows PowerShell Survival Guide

<http://social.technet.microsoft.com/wiki/contents/articles/183.windows-powershell-survival-guide.aspx>

## Hey, Scripting Guy!

<http://blogs.technet.com/b/heyscriptingguy/>

# App Packaging Resources

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## Unattended/Silent Installation Switches for Windows Apps

<http://unattended.sourceforge.net/installers.php>

## Window Development System Error Codes

<https://msdn.microsoft.com/en-us/library/windows/desktop/ms681381.aspx>

## net helpmsg <errorcode>

<http://blog.configmgrftw.com/error-codes/>

## Why the ConfigMgr Package model won't go anywhere

<http://www.david-obrien.net/2014/04/applications-vs-packages-configmgr-package-model-wont-go-anywhere/>

# App Specific Resources

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## Internet Explorer Administration Kit (IEAK)

<https://technet.microsoft.com/en-us/ie/bb219517>

## Adobe Application Manager Enterprise Edition (AAMEE)

<http://www.adobe.com/devnet/creativesuite/enterprisedeployment.html>

## Adobe Flash Player MSI

<https://www.adobe.com/products/flashplayer/distribution3.html>

## Redistribution License Application

<https://www.adobe.com/products/players/flash-player-distribution.html>

# Demo Time

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Old Way (bat, cmd, vbs, gpo)

Arduino (cert)

Firefox (pita)

Lego (post-install cleanup - \$\_.InstallDate)

# Outroduction

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“You basically have choices at this point.  
Choice A, bitch about it. Choice B, bitch  
about it and adapt anyway. Either way, you  
get to bitch about it – but Choice B gives  
you a career in 10 years, and Choice A  
makes you a relic.”

- Don Jones -

<http://donjones.com/2015/03/31/it-ops-career-2015-where-to-point-your-eyes/>

