

Get rid of recurring Azure management tasks with PowerShell in 5 steps

Automate. Delegate. Relax.

Heiko Brenn  @heikobrenn



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Windows PowerShell

www.scriptrunner.com

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Make PowerShell a real solution

Help about_WMI

Get-Service | Get-Member

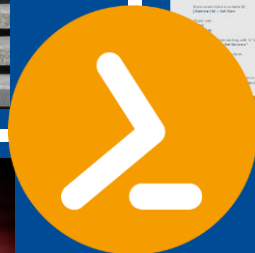
POWERSHELL SCRIPTING LANGUAGE

Condition

```
if ((Get-Date).Year -le 2014) { "Old" } else { "New" }
```

Loops

```
for($i = 1; $i -le 10; $i++) { $i }
while($i -le 10) { $i; $i++ }
do { $i; $i++ } while ($i -le 10)
foreach ($p in (Get-Process iexplore)) { }
```



POWERSHELL

HIGHWAY TO SHELL



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The #1 for PowerShell Management

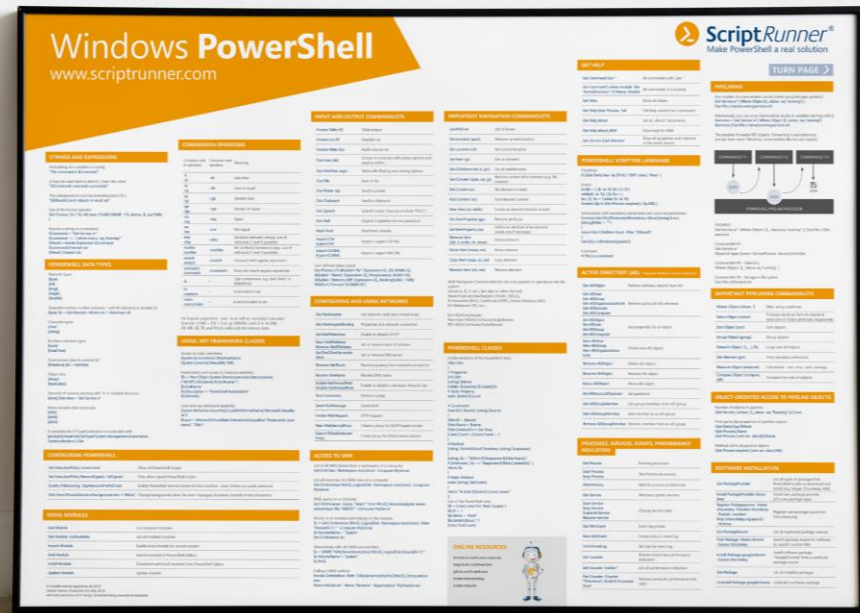


Azure
Management
Tools

Manage Azure
with PowerShell

Manage &
delegate
Azure tasks with
PowerShell &
ScriptRunner

ip.scriptrunner.com/en/powershell-poster



Tools for Azure Management and Automation

Azure Portal

ARM
Templates

Azure
Cloud Shell

Azure
Automation

Azure
Bicep

Azure CLI

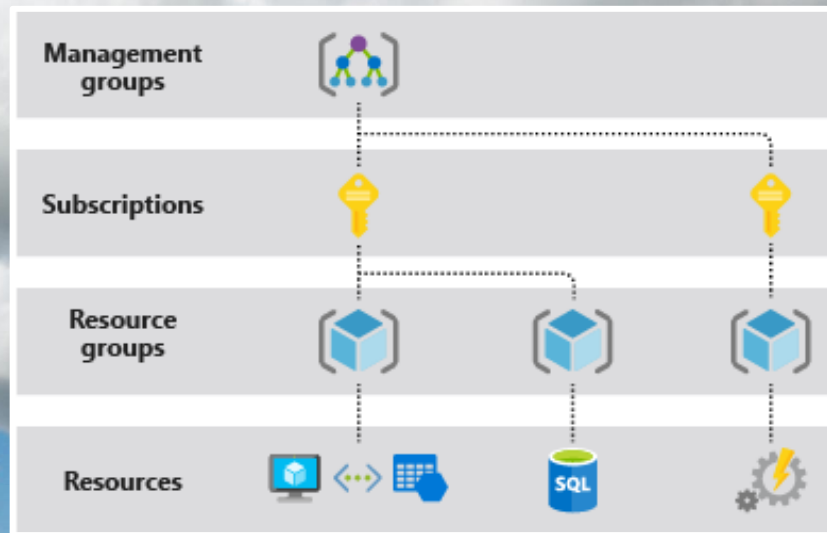
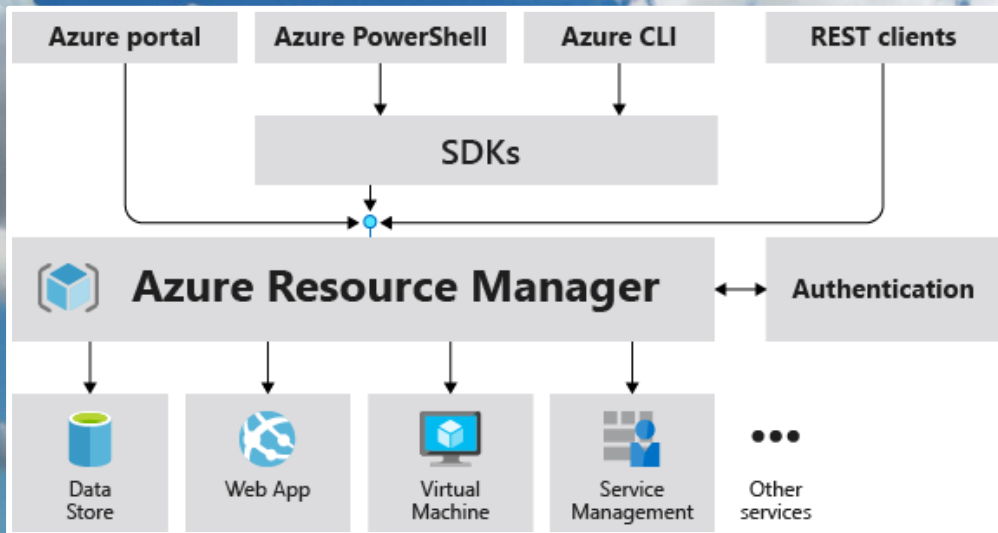
Azure
PowerShell
Module

Azure
Functions

Azure
Runbooks

Microsoft
Graph

Tools for Azure Management and Automation



Manage Azure with PowerShell



The Potential of PowerShell

Very mature command-line shell
and scripting language for IT automation

Great framework to automate
recurring tasks consistently

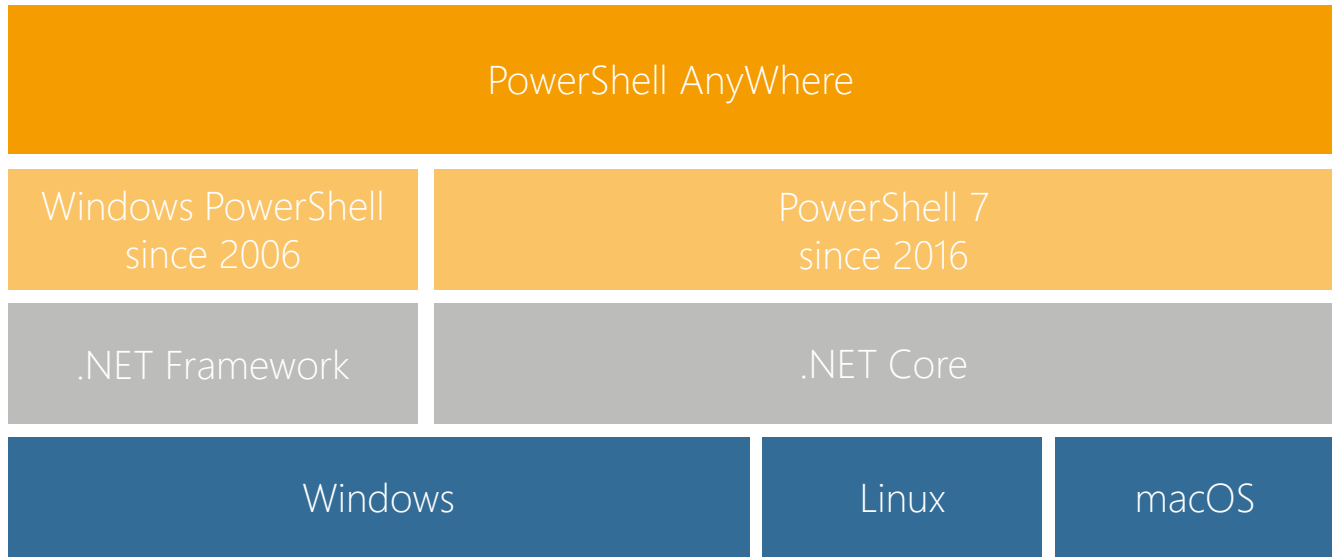
Simplifies administration of your
entire IT infrastructure

Strong commitment from Microsoft
and many other vendors

Very vital worldwide community





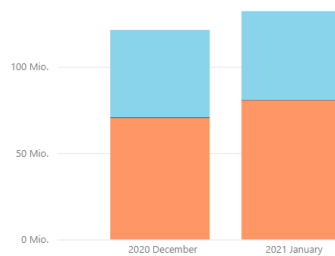


Cross-platform PowerShell



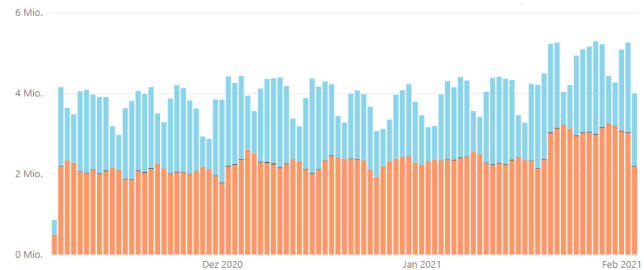
Monthly Usage by OS (90 Day)

userAgent ● Linux ● macOS ● Windows



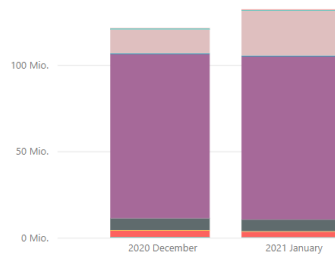
Daily Usage by OS (30 Day)

userAgent ● FreeBSD ● Linux ● macOS ● Windows



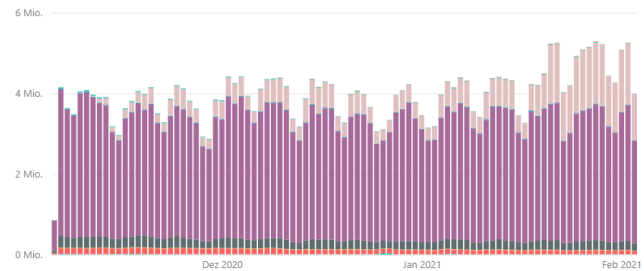
Monthly Usage by Version (90 Day)

version ● 6.0 ● 6.0-preview ● 6.1 ● 6.1-preview ● 6.2 ● 6.2-preview ● 6.9-preview ● 7.0 ● 7.0-preview ● 7.1 ▶

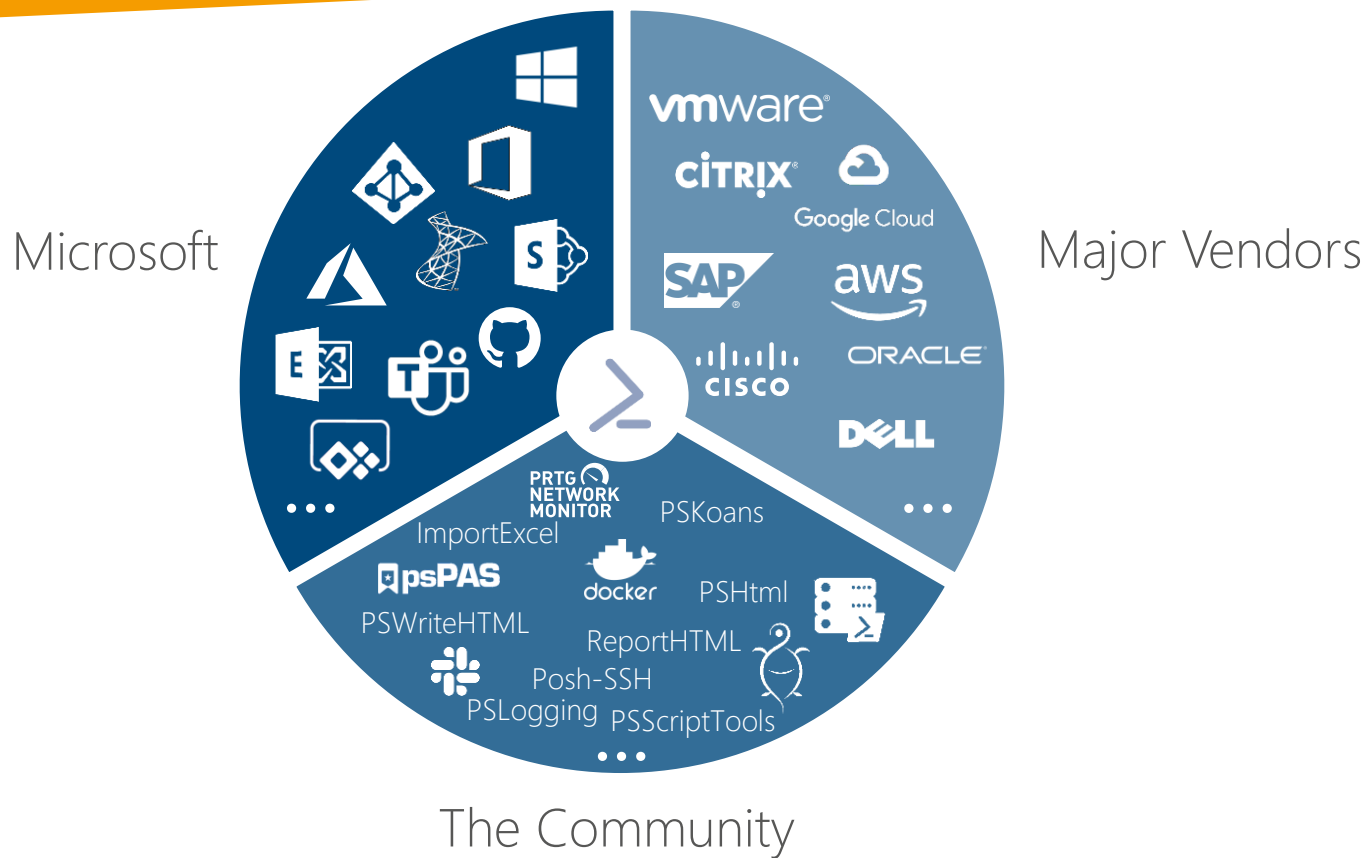


Daily Usage by Version (30 Day)

version ● 6.0 ● 6.0-preview ● 6.1 ● 6.1-preview ● 6.2 ● 6.2-preview ● 6.9-preview ● 7.0 ● 7.0-preview ● 7.1 ● 7.1-preview ● 7.2 ▶



The PowerShell Ecosystem



Azure Cloud Shell – PowerShell Anywhere



- <https://shell.azure.com>
- No installation required
- Temporary Linux VM (Ubuntu)
- 20 minute timeout (not customizable)
- Azure mobile app support
- Automatically authenticated per user account
- Supports Bash and PowerShell 7
- Integration with docs.microsoft.com, Windows Terminal and VS Code
- Running one-liners and scripts ad-hoc
- „Editor“
- Limited module support
- Requires Azure file share -> cost

```
PS /home/heiko> .\get_azvm.ps1
```

ResourceGroupName	Name	Location	VmSize	OsType	NIC	Provisioning	Zone	PowerState	Maintenanc
IGNITETHETOUR	ScriptRunner1	westeurope	Standard_DS3_v2	Windows	scriptrunner1459	Succeeded		deallocated	

```
PS /home/heiko> get-module
```

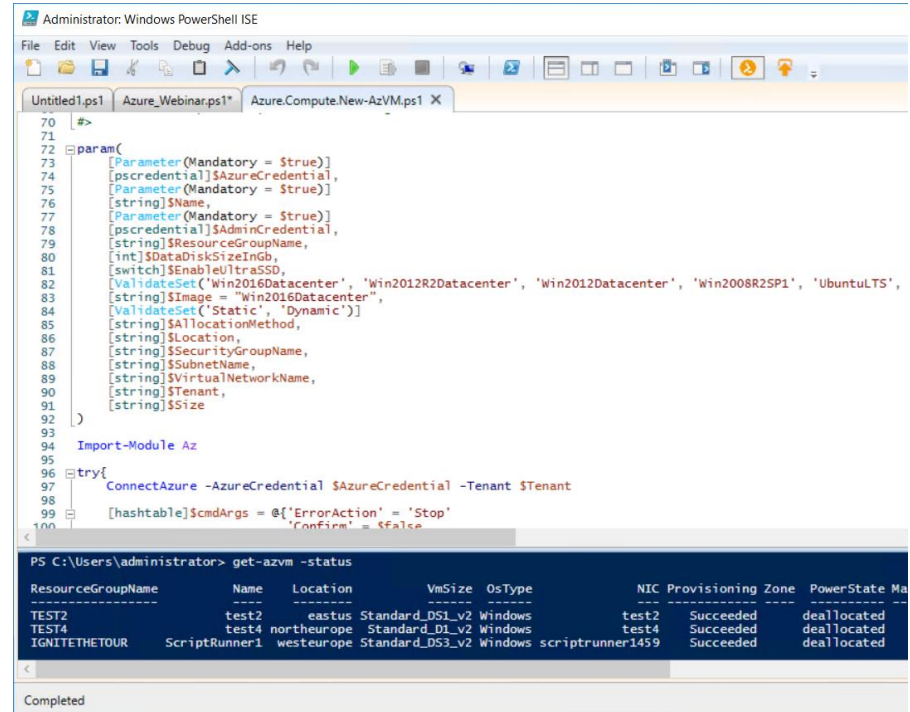
ModuleType	Version	Name	ExportedCommands
Script	1.5.1	Az.Accounts	{Add-AzEnvironment, Clear-AzContext, Clear-AzDefault, Connect-AzAc
Script	1.8.0	Az.Compute	{Add-AzContainerServiceAgentPoolProfile, Add-AzImageDataDisk, Add-
Script	1.7.0	Az.Network	{Add-AzApplicationGatewayAuthenticationCertificate, Add-AzApplicat
Script	1.3.1	Az.Resources	{Add-AzADGroupMember, Export-AzResourceGroup, Get-AzADAppCredentia
Script	1.2.0	Az.Storage	{Add-AzRmStorageContainerLegalHold, Add-AzStorageAccountManagement

Demo

Azure Cloud Shell



- Azure AZ module
 - First release Dec 2018
 - Current version: 6.2.1
 - PowerShell Gallery
- Many Az.* „sub-“ modules
- Module installation required
 - Install-module Az
 - Install-module Az.Compute
- Windows PowerShell
- PowerShell 7
- Full PowerShell experience
- Combine with all available PS modules



The screenshot shows the Windows PowerShell ISE interface. The top pane displays the PowerShell script for installing and connecting to Azure. The bottom pane shows the output of the `get-azvm -status` command, which lists the status of virtual machines in the Azure subscription.

```
70 #>
71
72 param(
73     [Parameter(Mandatory = $true)]
74     [pscredential]$AzureCredential,
75     [Parameter(Mandatory = $true)]
76     [string]$Name,
77     [Parameter(Mandatory = $true)]
78     [pscredential]$AdminCredential,
79     [string]$ResourceGroupName,
80     [int]$DataDiskSizeInGb,
81     [switch]$EnableUltraSSD,
82     [ValidateSet('Win2016Datacenter', 'Win2012R2Datacenter', 'Win2012Datacenter', 'Win2008R2SP1', 'UbuntuTS',
83     [string]$Image = 'Win2016Datacenter',
84     [ValidateSet('Static', 'Dynamic')]
85     [string]$AllLocationMethod,
86     [string]$Location,
87     [string]$SecurityGroupName,
88     [string]$SubnetName,
89     [string]$VirtualNetworkName,
90     [string]$Tenant,
91     [string]$Size
92 )
93
94 Import-Module Az
95
96 try{
97     Connect-Azure -AzureCredential $AzureCredential -Tenant $Tenant
98 }
99 [hashtable]$cmdArgs = @{ 'ErrorAction' = 'Stop'
100     'Confirm' = $false
```

```
PS C:\Users\administrator> get-azvm -status
ResourceGroupName Name Location VmSize OsType NIC Provisioning Zone PowerState Ma
-----
TEST2 test2 eastus Standard_DS1_v2 Windows test2 Succeeded deallocated
TEST4 test4 northeurope Standard_D1_v2 Windows test4 Succeeded deallocated
IGNITETHETOUR ScriptRunner1 westeurope Standard_DS3_v2 Windows scriptrunner1459 Succeeded deallocated
```

Completed

- Install Az module
- Connect-AzAccount
- Start with first Az Commandlets
- From One-Liner to Scripts



Demo

PowerShell AZ module





Home

Azure services



Virtual
machines



Web Apps



SQL
databases



Application
Insights

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No alerts in the last 24 hours

Recent resources

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Home



Subscriptions



Resources



Notifications



Cloud Shell

Manage & delegate Azure tasks with ScriptRunner



Does this remind you of the way PowerShell is used in your organization today?

„Unorganized“ PowerShell usage

PowerShell know-how bottleneck

No org-wide secure credential management

PowerShell is only used in expert circles

The potential of PowerShell remains untapped



What it takes to successfully automate with PowerShell in the enterprise



Standardization

Centralization & Security

Easy accessibility for non-IT experts

Monitoring

Integration



Unlock the Power of PowerShell



Centralize your PowerShell scripts and modules



Manage credentials & permissions securely



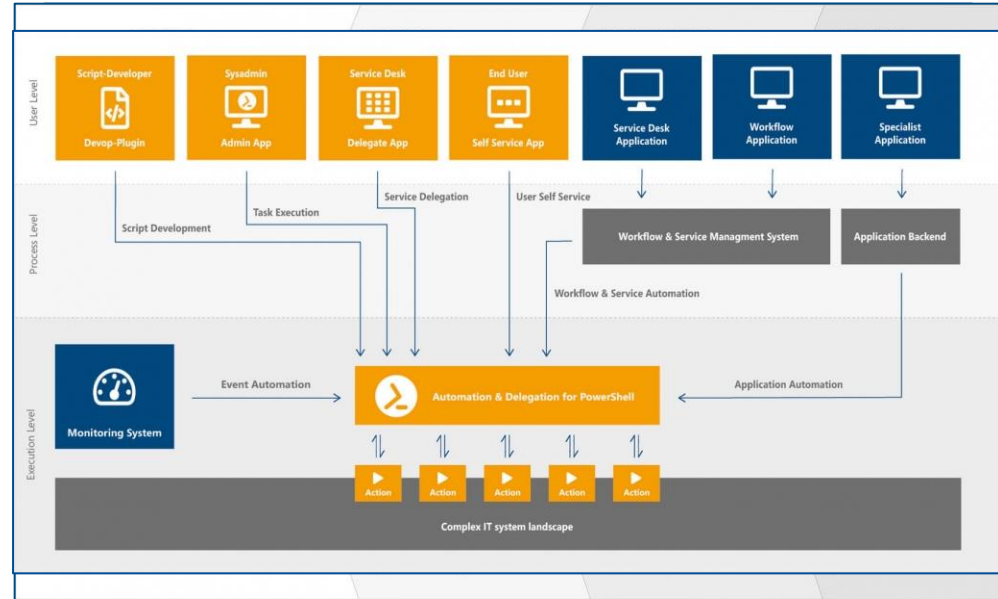
Automatically transform PowerShell scripts into Web GUIs



Delegate recurring tasks to help desk and end users



Integrate with ITSM, Monitoring & Workflow systems and more



Hundreds of free
and ready-to-use
PowerShell scripts.

github.com/scriptrunner/ActionPacks



Free ebook: PowerShell Security

ip.scriptrunner.com/en/powershell-security-guide



PowerShell Security

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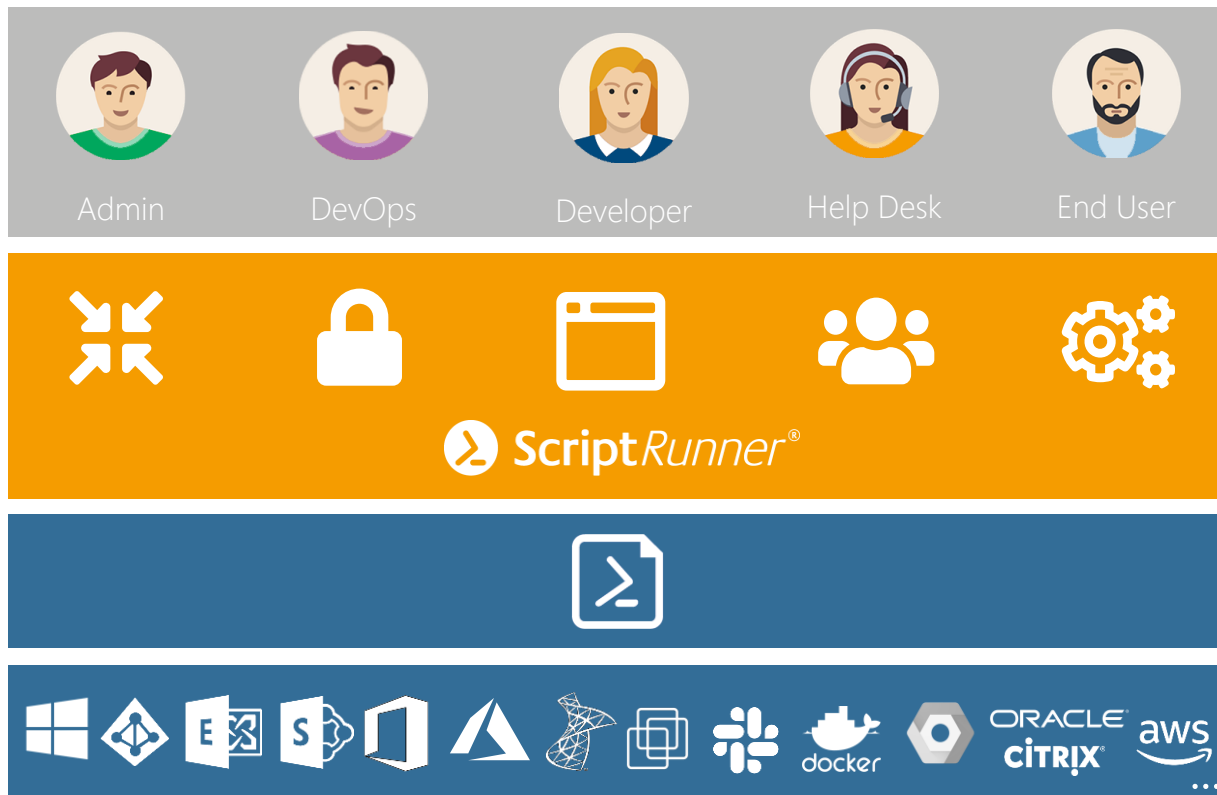
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Demo

Manage CVAD with ScriptRunner

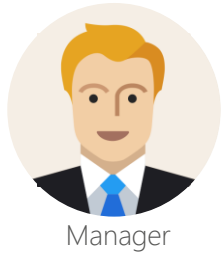


ScriptRunner – Make PowerShell A Real Solution



	Actions	Activate OutOfOffice
	Queries	Select mailbox
	Targets	Exchange, Exchange Online
	Scripts	Set-OutOfOffice.ps1
	Credentials	Service account with necessary permissions
	Delegation	Help desk user, End user

ScriptRunner: One Solution – Many Benefits



My teams
become
more
productive

Deliver great scripts in a
secure environment



Delegate recurring tasks
and save time



Deliver more & better
services in less time



Develop scripts for
more use cases/users



Faster task completion
with self-services

Put ScriptRunner
to the test.
30 days for free.

lp.scriptrunner.com/en/demo-download



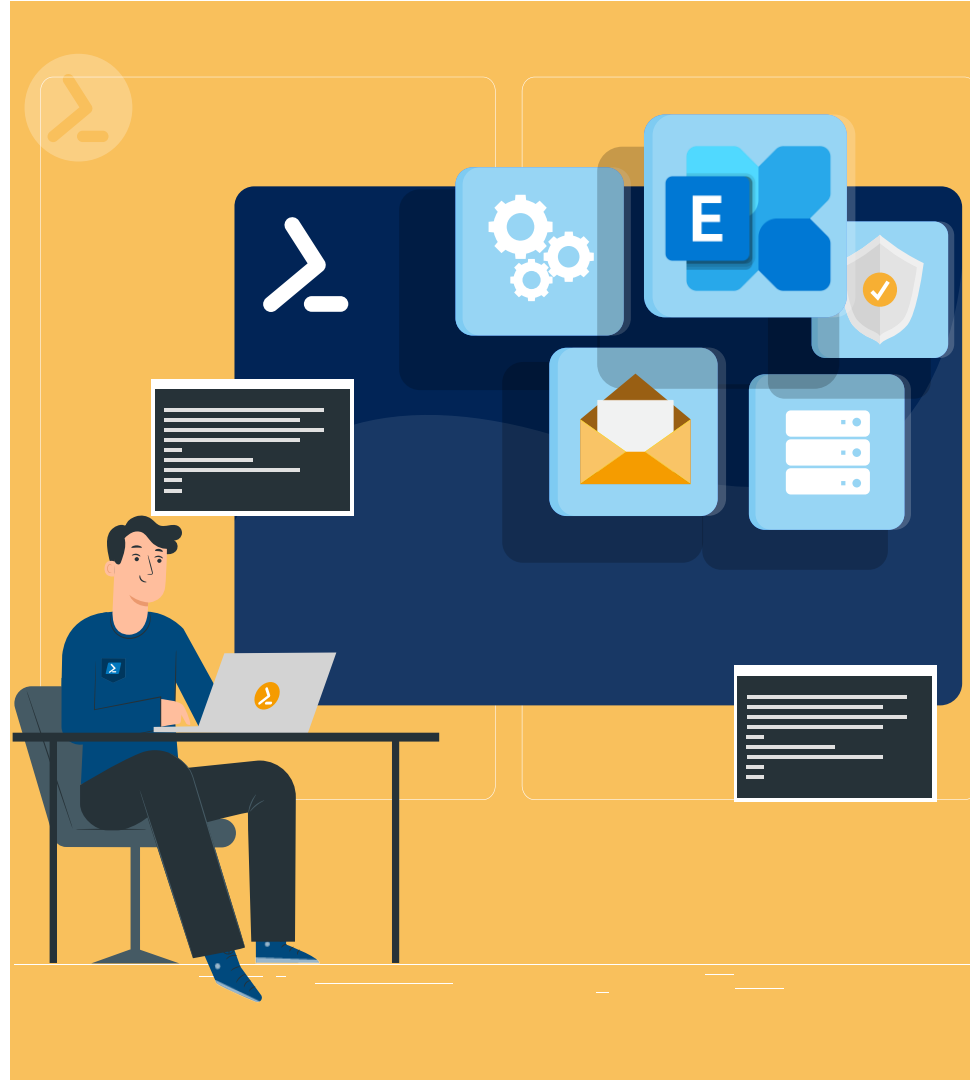
Let's talk about your
automation use cases.
Book a 30 minutes
online session.

[lp.scriptrunner.com/meetings/heiko-
brenn/demo-en](https://lp.scriptrunner.com/meetings/heiko-brenn/demo-en)



Automation and delegation of Exchange / Exchange Online administrative tasks with PowerShell

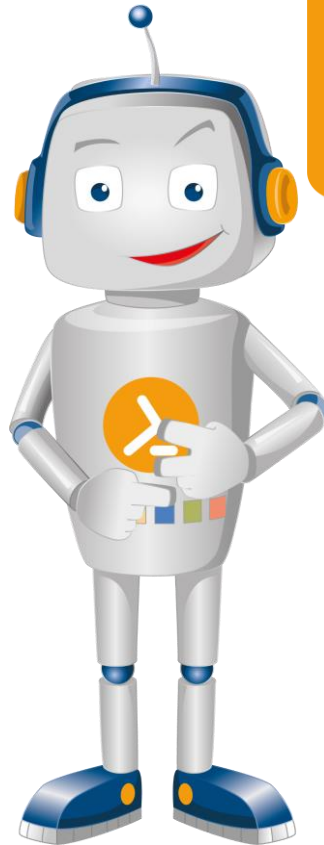
scriptrunner.com/en/webinars/exchange-2021-09



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Thank you!

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- › <https://www.thomasmaurer.ch/2019/01/azure-cloud-shell/>
- › <https://www.hernanjarrea.com/index.php/azure-native-remoting-options-for-your-iaas-resources/>
- › <https://www.c-sharpcorner.com/article/overview-of-azure-cloud-shell-and-log-monitoring/>
- › <https://4sysops.com/archives/mount-an-azure-drive-using-powershell/>
- › <https://www.2ndwatch.com/blog/azure-cloud-shell-hidden-gem/>
- › <http://techgenix.com/azure-portal-cloud-shell/>
- › <https://www.youtube.com/watch?v=EVh0MDpgyhM>