

Unlock the Power of PowerCLI

Automate. Delegate. Relax.

Heiko Brenn

PowerShell Enthusiast & Product Expert
Head of International Business

www.scriptrunner.com







ScriptRunner®

The #1 for PowerShell Management

Unlock the Power of PowerShell

+49

2014

24

1819

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

github.com/scriptrunner/ActionPacks



200+ PowerShell scripts for VMware.

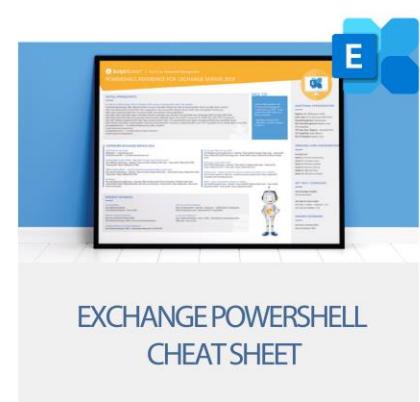
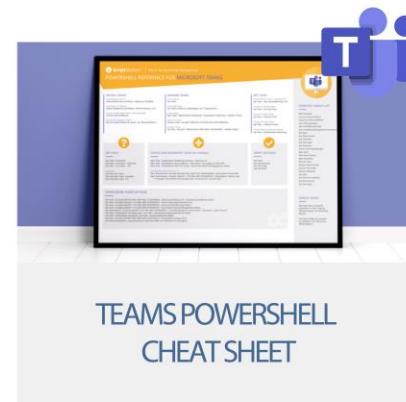
[github.com/scriptrunner/ActionPacks/tree/
master/VMware](https://github.com/scriptrunner/ActionPacks/tree/master/VMware)



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Let's get in touch



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STANDARDIZATION, AUTOMATION AND DELEGATION OF RECURRING TASKS



AUTO-CREATED
USER FRIENDLY
WEB FORMS

SECURE
CREDENTIAL
ADMINISTRATION

CENTRALIZED SCRIPTS AND
MODULES MANAGEMENT

INTERACTIVE, SCHEDULED
AND EVENT-DRIVEN
SCRIPT EXECUTION

COMPREHENSIVE
MONITORING AND
REPORTING



Automating
VMware
with
PowerCLI

-
Use Cases and
Challenges

Standardize,
automate & delegate
VMware
management tasks
with ScriptRunner

Automate VMware with PowerCLI



"...a powerful command-line tool that lets you automate all aspects of vSphere management, including network, storage, VM, guest OS and more..."

<https://blogs.vmware.com/PowerCLI>



Available for 10+ years

Automate and manage
VMware environments

More than 800 Cmdlets

Windows PowerShell

PowerShell 7



Example Use Cases

Get-VM/New-VM

Start/Stop/Restart/Set VMs

Get-Snapshot/New-Snapshot

Move-VM

Invoke-VMScript



Demo

PowerCLI Examples





Automating and Managing VMware vSphere with PowerShell

9 MIN READ

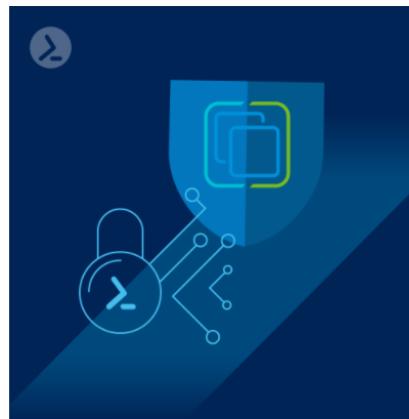
MAY 10, 2022

By: Guy Leech

[SCRIPTRUNNER](#) [POWERSHELL](#) [POWERSHELL & SYSTEMS](#) [VMWARE](#)

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Perhaps it is because I began my professional coding career writing device drivers for Unix systems in C, back in the 1980s on character based green screens (80 columns x 24 lines!), that I prefer managing IT systems from a command line over a GUI. I am not a masochist, I really do find a lot of operations easier and quicker from a PowerShell prompt than by using a (proprietary) user interface, even if it does run in a web browser.

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Inventor of AppSense Application
Manager. PowerShell addict.

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PowerCLI and ScriptRunner



Two ways of using PowerShell



PowerShell challenges

Let's face it.
Not everyone is a scripting expert

„De-centralized“ PowerShell landscape

How to enable support teams &
LOB users to use PowerShell?

Know-how bottlenecks
Security concerns

PowerShell is only used by
a few IT experts



Unlock the power of PowerCLI and more in 5 steps



Centralized script and module management

Secure credential and permission management

Great user experience
Easy-to-use interface

Flexible & secure delegation

Comprehensive monitoring and reporting



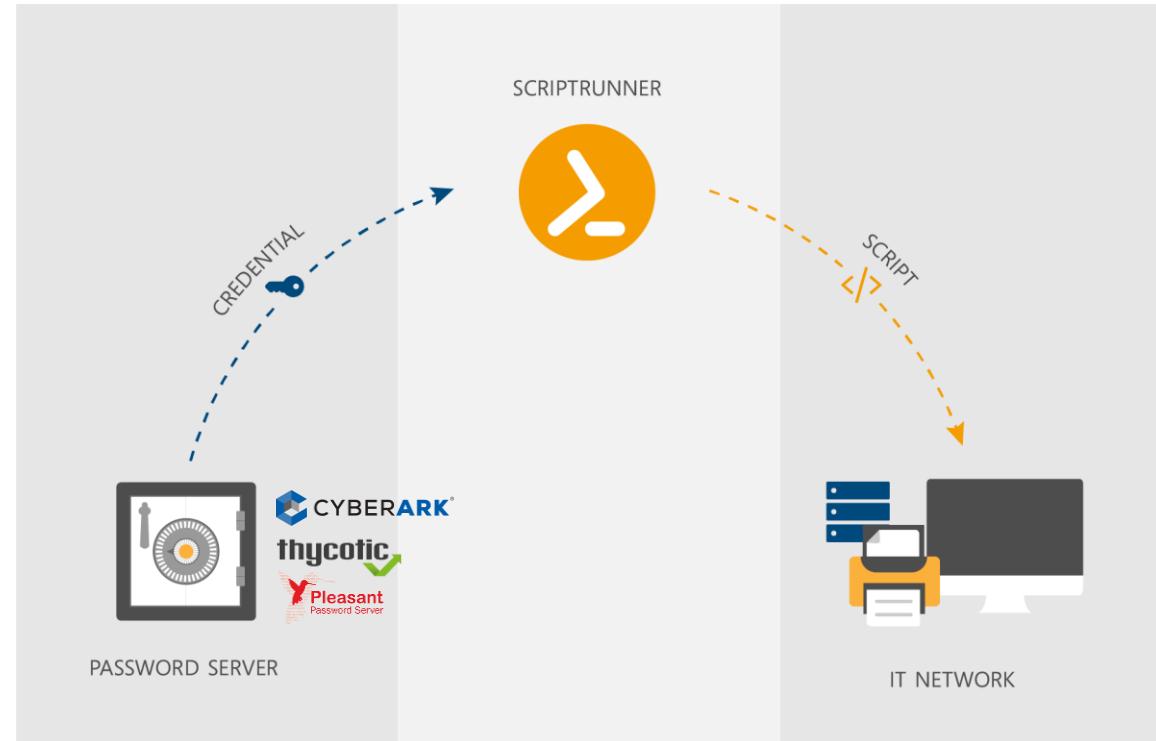
Centralized script and module management



The screenshot shows the ScriptRunner web application interface. On the left, a sidebar navigation includes links for Dashboard, Run, Authorize & Delegate, Monitoring, Configuration (selected), Actions, Queries, Targets, Scripts (selected), Credentials, and Settings. The main content area is titled 'Scripts' and shows a list of 1282 scripts. One script, 'Set-EOOutOfOffice.ps1', is selected and displayed in a detailed view. This view includes tabs for Configuration, General, Header information, and Code editor (which is currently active). The code editor displays PowerShell script code for managing auto-replies. The top right of the interface shows a user session (COMPANYAdministrator(Kerberos)), a language dropdown (en), and a filter for 'All owners'.

```
param([Parameter(Mandatory = $true, ParameterSetName="Schedule Auto Reply")]
      [datetime]$EndDate,
      [Parameter(ParameterSetName="Disable Auto Reply")]
      [Parameter(ParameterSetName="Enable Auto Reply")]
      [Parameter(ParameterSetName="Schedule Auto Reply")]
      [switch]$GenerateReport
)
try{
[string[]]$Properties = @('Identity','AutoReplyState','StartTime','EndTime','ExternalAudience',''
[string[]]$resultMessage = @()
[string]$msg = "Mailbox {0}"
[string]$replyType = 'All'
[hashtable]$cmdArgs = @{'ErrorAction' = 'Stop'
                      'Confirm' = $false
}
if($PSCmdlet.ParameterSetName -eq "Disable Auto Reply"){
    $cmdArgs.add('AutoReplyState', 'Disabled')
    $msg += "disabled"
}
else{
    if($AutoReplyType -eq 'Only contact list members'){
        $replyType = 'Known'
    }
    if($AutoReplyType -eq 'Internal only'){
        $replyType = 'None'
    }
}
```

- Centralized password safes
 - CyberArk Password Vault
 - Pleasant Password Server
 - Thycotic Secret Server
- No credentials are stored locally
- Automatic password rotation
- One single secure password repository for multiple ScriptRunner instances

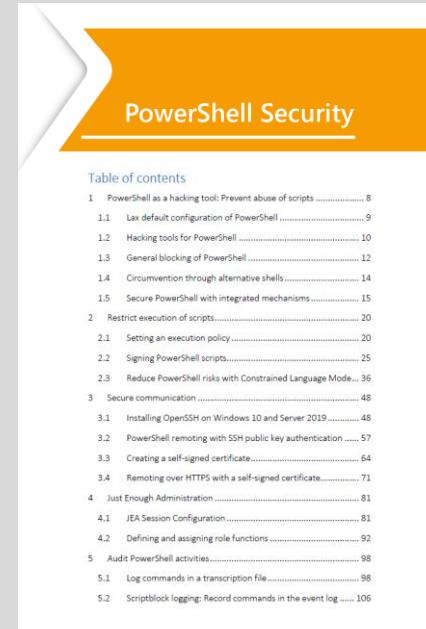
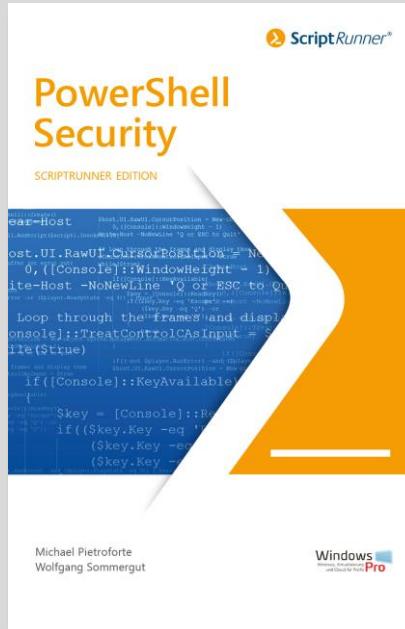


Don't store credentials in PowerShell scripts!
Don't store credentials in PowerShell scripts!

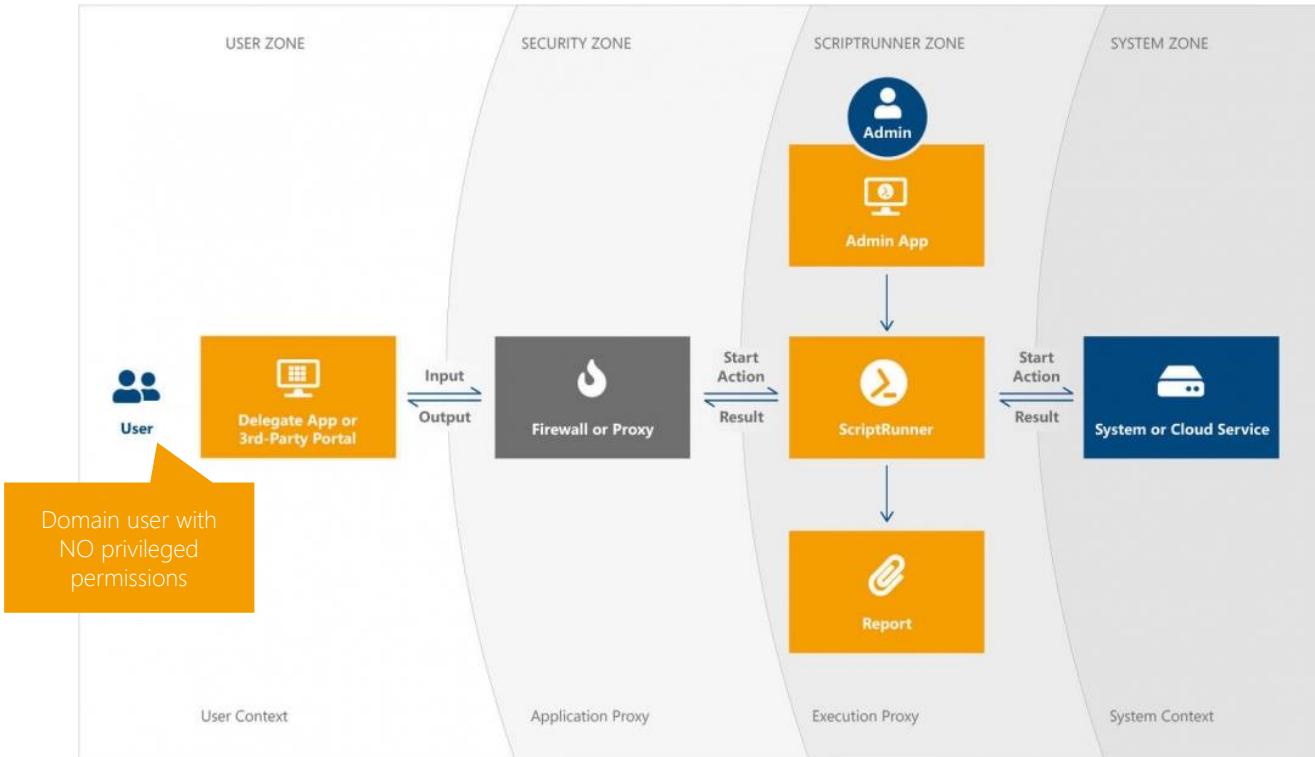


Free ebook: PowerShell Security

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



ScriptRunner – Secure Delegation



PowerShell for Everyone



The Script

A screenshot of the Windows PowerShell ISE interface. It shows two tabs: "PowerShell 1" and "PowerShell 2". The "PowerShell 2" tab is active and contains a PowerShell script named "Invoke-VMVirtualMachineCommand.ps1". The script uses the VMware.PowerCLI module to manage virtual machines. It includes logic to connect to a vSphere server, identify a target VM based on ID or name, and perform actions like Start, Stop, Suspend, or Restart. It also handles error handling and logs results. A yellow arrow points from the "The User Experience" text on the right towards this screenshot.

```
Administrator: Windows PowerShell ISE
File Edit View Tools Debug Add-ons Help
PowerShell 1 PowerShell 2

Invoke-VMVirtualMachineCommand.ps1

67 Import-Module VMware.PowerCLI
68
69 try{
70     $Script:vmServer = Connect-VIServer -Server $VIserver -Credential $VICredential -
71
72     if($PSCmdlet.ParameterSetName -eq "byID"){
73         $Script:machine = Get-VM -Server $Script:vmServer -Id $VMID -ErrorAction Stop
74     }
75     elseif($PSCmdlet.ParameterSetName -eq "byName"){
76         $Script:machine = Get-VM -Server $Script:vmServer -Name $VMName -ErrorAction Stop
77     }
78
79     switch($Command){
80         "Start"{ $null = Start-VM -VM $Script:machine -Server $Script:vmServer -Confirm:$false
81         }
82         "Stop"{ $null = Stop-VM -VM $Script:machine -Server $Script:vmServer -Kill:$skip
83         }
84         "Suspend"{ $null = Suspend-VM -VM $Script:machine -Server $Script:vmServer -Confirm:$false
85         }
86         "Restart"{ $null = Restart-VM -VM $Script:machine -Server $Script:vmServer -Confirm:$false
87         }
88
89     }
90
91     if($$RxEvn) {
92         $$RxEvn.ResultMessage = "Command -> $($Command) <- successfully executed on the virtual machine"
93         $$RxEvn.ResultHTML = $$RxEvn.ResultMessage | ConvertTo-HTML -Body $$RxEvn.ResultMessage
94     }
95     else{
96         Write-Output "Command $($Command) successfully executed on the virtual machine"
97     }
98 }
99
100 } catch{
101     throw
102 }

PS C:\Users\administrator.COMPANY>
```

A screenshot of the "Manage VMs" interface from ScriptRunner. The title bar says "Manage VMs". Below it is a sub-header "Manage VMs". A note box says "Note the reason you run this action now." A search bar labeled "Search..." has a dropdown menu showing "DC0_H0_VM1 - PoweredOn". A section titled "Select the command you want to execute" shows a list of options: "Start", "Stop", "Suspend" (which is highlighted in green), and "Restart". A green button at the bottom right says "Press enter to select". A large green play button is at the bottom right of the interface. A yellow arrow points from the "The User Experience" text on the right towards this screenshot.

Manage VMs

Manage VMs

Note the reason you run this action now.

Select the virtual machine

Search...

DC0_H0_VM1 - PoweredOn

Select the command you want to execute

4 values available

Start

Stop

Suspend

Press enter to select

Restart

Play

The User Experience

Great User Experience



The screenshot shows the ScriptRunner interface with a central dialog box titled "Simple VM Creation". The dialog contains the following fields:

- Enter name of VM (NOTE: Must start with "TEST-")
TEST-VM0010
- Select an operating system
UbuntuTS
- Specs: 1 CPU, 3.5 GB RAM, 50 GB HDD (100 \$ per month)
- Specs: 4 CPU, 16GB RAM, 200 GB HDD (390\$ p. Press enter to select)
- Specs: 16 CPU, 64 GB RAM (900 \$ per month)

At the bottom right of the dialog is a large green "Run" button with a play icon.

Flexible & secure delegation



The screenshot shows the ScriptRunner web application interface. The left sidebar has a dark blue header with the ScriptRunner logo and navigation links: Dashboard, Run, Authorize & Delegate (which is highlighted in blue), Monitoring, Configuration, and Settings. The main content area has a light blue header with the title "User Helpdesk - EMEA" and a breadcrumb trail: Help desk users > Authorize & Delegate. Below the header are buttons for Save and Delete. The main content is divided into sections: CONFIGURATION (General, Memberships, Delegations, which is also highlighted in blue), and Delegations. The Delegations section contains a heading "Assigned actions (More ...)" and a grid of 20 action cards, each with a small icon and a descriptive text:

- ▶ Test-Cascaded ADQueries
- ▶ Azure Consumption Report
- ▶ Manage your VMs
- ⊕ VMwareWebinar: Create New VM
- ▶ Create VMware Snapshot
- ▶ Advanced Active Directory Report
- ▶ Create a Teams Report
- ▶ Clients: Clear DNS cache on this computer
- ▶ Clients: Show firewall rules
- ▶ Manage O365 Out-of-Office notifications
- ▶ Clients: Clean DNS cache
- ▶ Teams: Clear local Teams cache
- ▶ Manage Azure VMs
- ▶ Create New Azure VM based on company standards
- ▶ Select a VMware Snapshot
- ▶ Report of all VMware VMs
- ▶ Create a report for selected Teams
- ▶ Show all Teams memberships for a specific user
- ▶ Create Active Directory Report
- ▶ Trigger Azure Runbooks
- ▶ Report: Office 365 User Licenses
- ▶ Create VMware Snapshot report

Comprehensive monitoring and reporting



ScriptRunner®

Live Monitor

Running scripts
3

Advanced Active Directory Report

Cancel execution

```
99: WARNING: Cannot resolve the manager, on the group 'Bass-AU'.
100: Done!
101: Working on Organizational Units Report...
102: Done!
103: Working on Users Report...
104: Done!
105: Working on Group Policy Report...
106: Done!
107: Working on Computers Report...
108: Done!
109: Compiling Report...
110:
```

Actions Scheduled Queued Queries

Action or scripted query Started Target Runtime Started by Server

Action or scripted query	Started	Target	Runtime	Started by	Server
Simple Active Directory Report	a few seconds ago	AD local	Running...	COMPANY\tina	ScriptRunner

Filter by servers... ▾

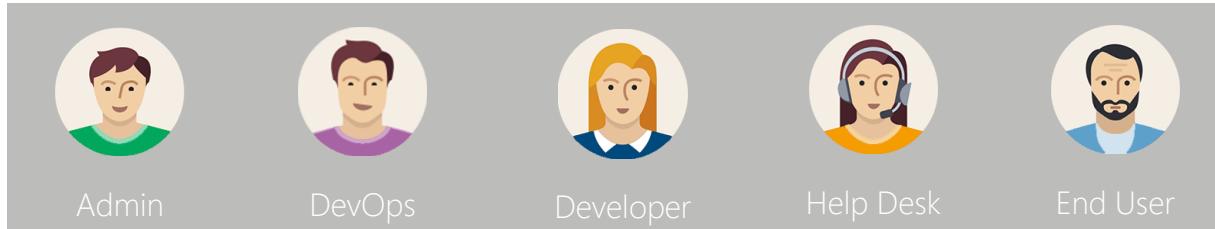
1 en COMPANY\Administrator(Kerberos) 🔍 ?

Demo

Manage VMware with ScriptRunner



ScriptRunner – Make PowerShell A Real Solution



ScriptRunner: One Solution – Many Benefits



My teams
become
more
productive

Deliver great scripts in a
secure environment

Delegate recurring tasks
and save time



DevOps



Administrator



Help Desk

Deliver more & better
services in less time



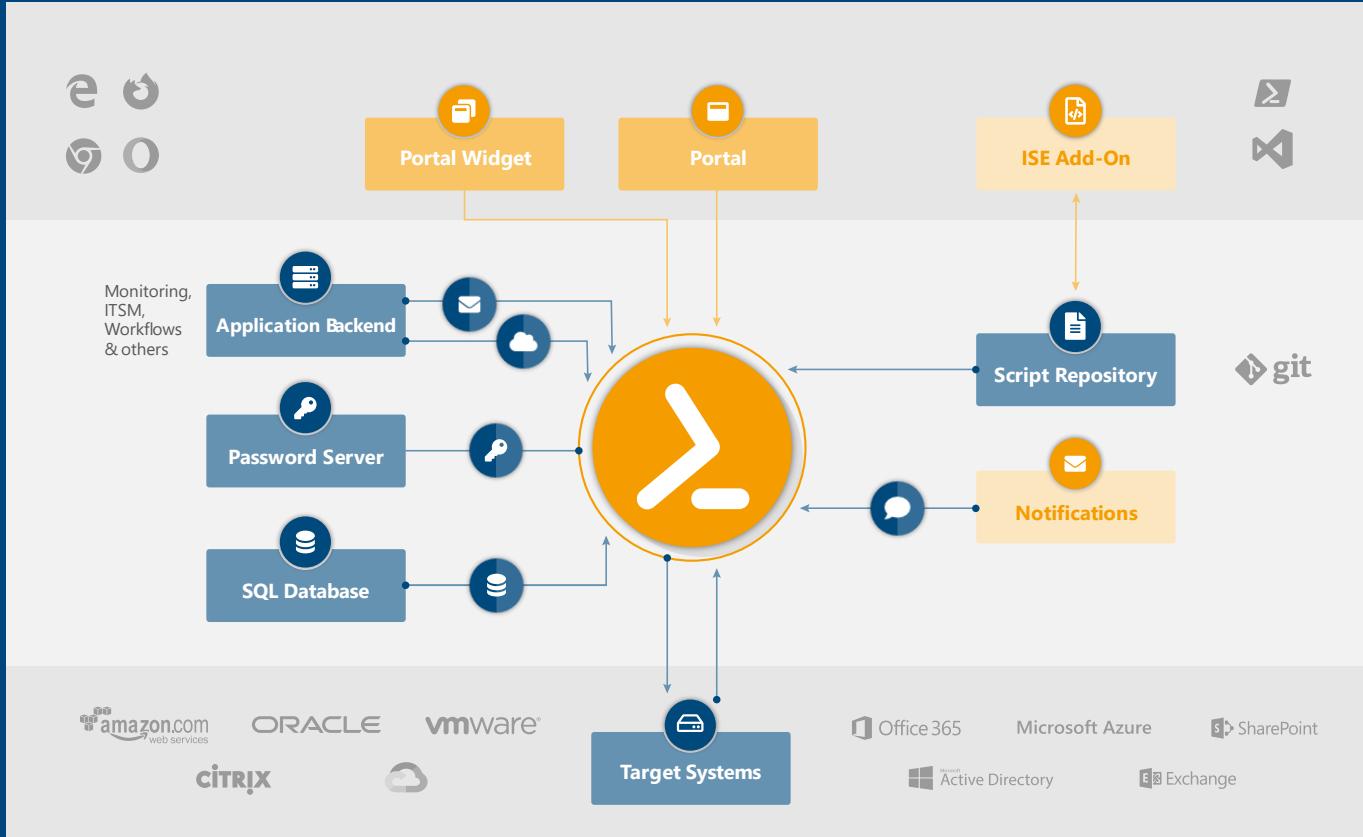
Developer

Develop scripts for
more use cases/users



End User

Faster task completion
with self-services





Trial Guide

SEARCH...



How to read this guide

- Introduction
- Installation and Basic Setup
- User Configuration
- Basic Examples
- Advanced Examples

Registering ScriptRunner with Azure AD

Setting up a VMware vSphere PowerCLI Module

Connecting to Exchange on-premise

Connecting to Exchange Online

Connecting to Microsoft Teams

Setting up a VMware vSphere PowerCLI Module

In this chapter, you'll learn how to set up the VMware PowerCLI module.

First, you'll set up the VMware PowerCLI and establish a test connection to the VMware vCenter. Second, you'll create Credentials in ScriptRunner and import a sample script from the library of ScriptRunner ActionPacks.

Install the VMware PowerCLI and set up a test connection

First, you need to install the PowerCLI module in the Scope AllUsers. The command is:

Code

```
Install-Module -Name "VMware.PowerCLI" -Scope AllUsers
```

```
Install-Module -Name "VMware.PowerCLI" -Scope AllUsers
```

Next, use the Import-Module Cmdlet to import the VMWare.PowerCLI module.

```
PS C:\Windows\PowerShell\Modules\VMware.PowerCLI> Import-Module -Name VMware.PowerCLI
WARNING: Please consider joining the VMware Customer Experience Improvement Program, so you can help us make PowerCLI a better product. You can join using the following command:
Set-PowerCLIConfiguration -Scope User -ParticipateInCEP $true
VMware's Customer Experience Improvement Program (CEIP) provides VMware with information that enables VMware to help improve its products and services. Your participation is optional. Anonymized data will be used to detect and fix new problems. As part of the CEIP, VMware collects technical information about your organization (such as use of VMware products and services on behalf of your organization, VMware license key(s), this information does not personally identify any individual).
For more details, type "help about_ceip" to see the related help article.
To disable this warning and set your preference use the following command and restart PowerShell:
Set-PowerCLIConfiguration -Scope User -ParticipateInCEP $false.
Welcome to VMware PowerCLI!
Log in to vCenter Server or ESXi host:
To find out what commands are available, type:
Get-Command
To show searchable help for all PowerCLI cmdlets, type:
Get-PowerCLIHelp
To show help for a specific cmdlet, type:
Get-Help cmdlet-name
If you need more help, visit the PowerCLI community: Get-PowerCLICommunity
Copyright (C) VMware, Inc. All rights reserved.

PS C:\Windows\PowerShell\Modules\VMware.PowerCLI>
```



STANDARDIZATION, AUTOMATION AND DELEGATION OF RECURRING TASKS

AUTO-CREATED
USER FRIENDLY
WEB FORMS

SECURE
CREDENTIAL
ADMINISTRATION

CENTRALIZED SCRIPTS AND
MODULES MANAGEMENT

INTERACTIVE, SCHEDULED
AND EVENT-DRIVEN
SCRIPT EXECUTION

COMPREHENSIVE
MONITORING AND
REPORTING



VMware vSphere

Deploying new VMware VMs based on company guidelines

Creating a VMware virtual machine is a core functionality for VMware. Standardized virtual machines are rolled out by purpose in many organisations.

Additionally, various infrastructure and security settings need to be considered and, depending on enterprise standards, set properly.

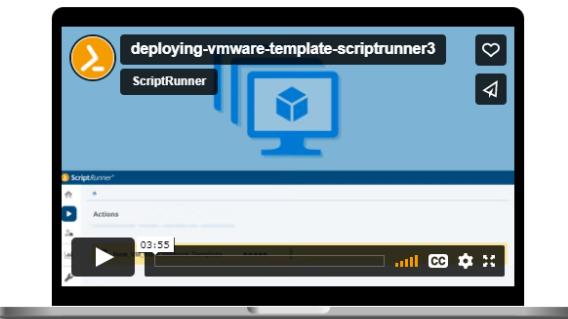
As a result, manually creating and maintaining VMs quickly becomes time-consuming and tedious.

Creating a new VM in VMware requires administrative rights in the respective VMware vCenter. That is why this task has been almost exclusively in the hands of IT administrators.

With PowerShell and the ScriptRunner software platform, you can effortlessly standardize the creation of new VMware. Plus, you can easily delegate the task to your help desk teams and departments via the ScriptRunner Portal.

[Request Demo](#)

[Video: Deploy a new VMware VM from a template and delegate the task in ScriptRunner](#)





ScriptRunner Portal Edition R4: A portal for PowerShell scripts

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Secure connection
Track abuse[Download now!](#)

Brandon Lee Wed, Aug 3 2022 devops, powershell 0

ScriptRunner is a solution that centrally manages the running of PowerShell scripts across the environment. The new **ScriptRunner Portal Edition R4** release provides many new features and capabilities.

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Ability to explain technical matters

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Brandon Lee has been in the IT industry 15+ years and focuses on networking and virtualization. He contributes to the community through various blog posts and technical documentation primarily at [VirtualizationHowto.com](#).

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2. [Installing and configuring ScriptRunner](#)

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Questions?

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automation use cases.
Book a 30 minutes
online session.

lp.scriptrunner.com/meetings/heiko-brenn/demo-en





AMA

Ask Me Anything Session

SPECIAL GUEST
THOMAS MAURER



With Heiko Brenn & Markus Hipp

Live: Friday, October 28th | 10 am EDT | 3 pm BST | 16:00 CEST



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