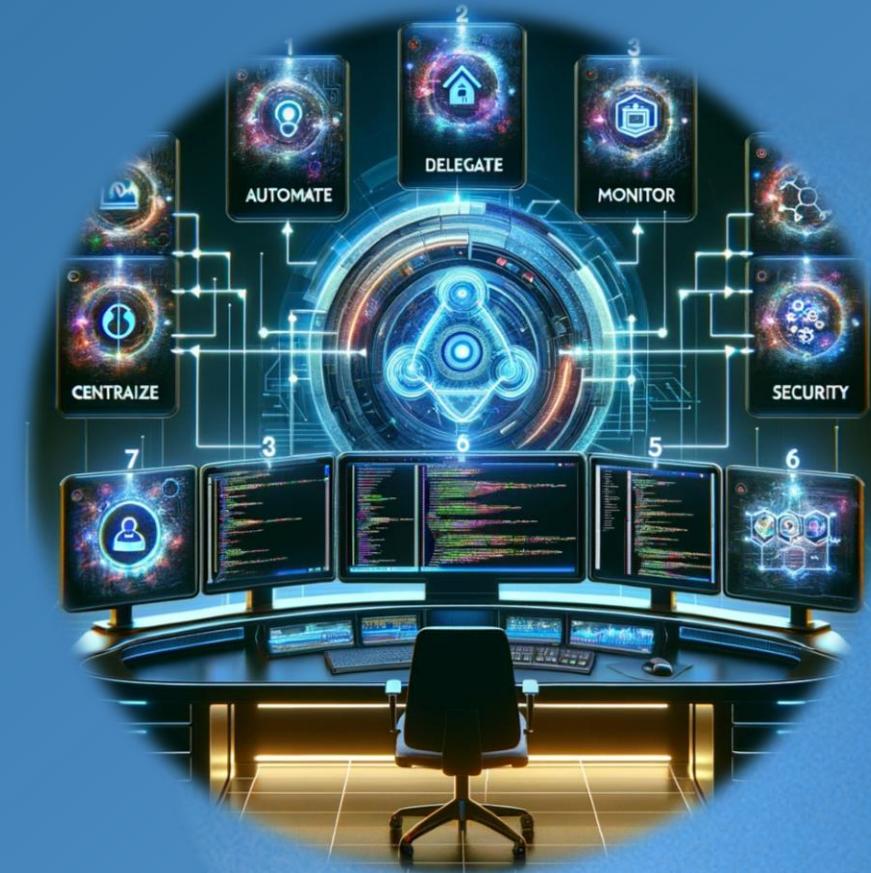


# Next-Level PowerShell Automation In Six Easy Steps

Heiko Brenn | @HeikoBrenn  
Head of International Business



# ABOUT ME

---

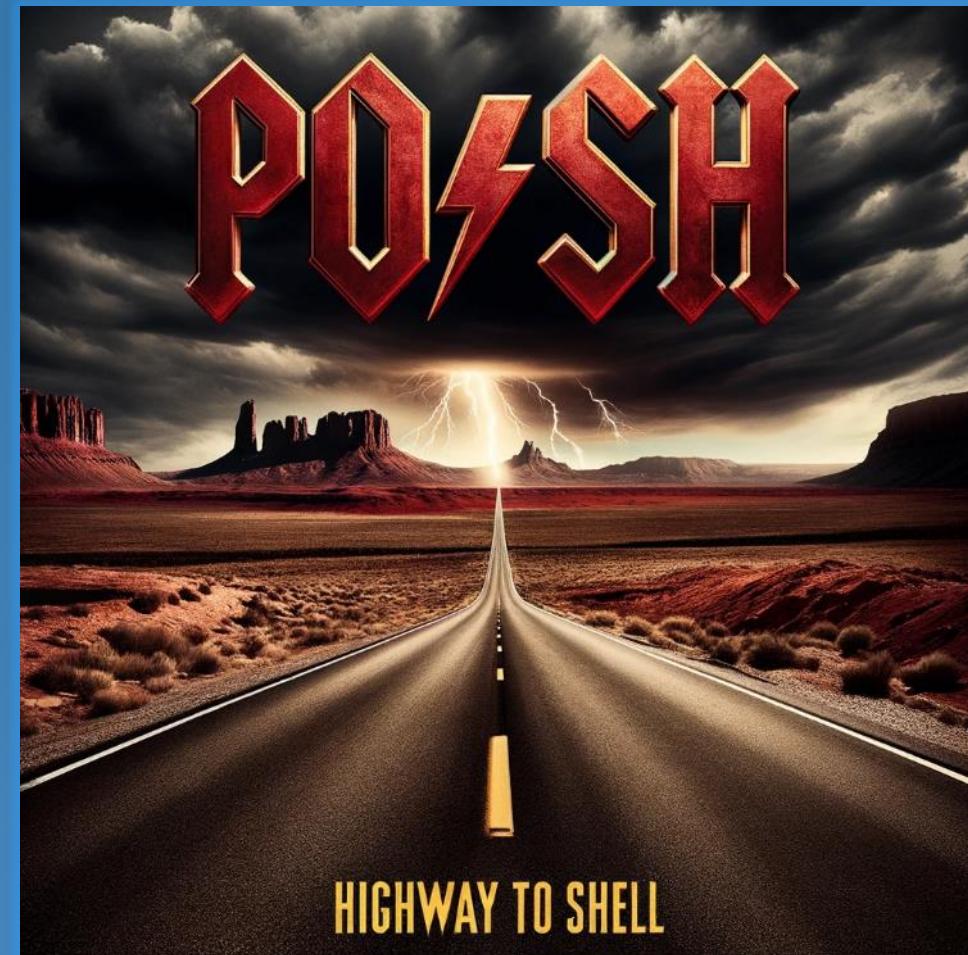
Head of International Business

In the IT industry for 25+ years  
IT Admin | Consultant | PM | BD | ...

PowerShell Enthusiast

First PowerShell experience:  
Exchange 2007

Co-Founder of the PowerShell User  
Group Rhein-Neckar



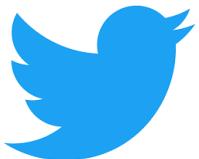
# Follow our PowerShell User Group Rhein-Neckar



[meetup.com/Rhein-Neckar-PowerShell-User-Group](https://www.meetup.com/Rhein-Neckar-PowerShell-User-Group)



[linkedin.com/company/powershell-user-group-rhein-neckar](https://www.linkedin.com/company/powershell-user-group-rhein-neckar)



[twitter.com/PSUGRheinNeckar](https://twitter.com/PSUGRheinNeckar)



**YouTube**

[youtube.com/@HeikoBrennPowerShell](https://youtube.com/@HeikoBrennPowerShell)



1. Virtual Meetup 2024

# PSUG RHEIN NECKAR

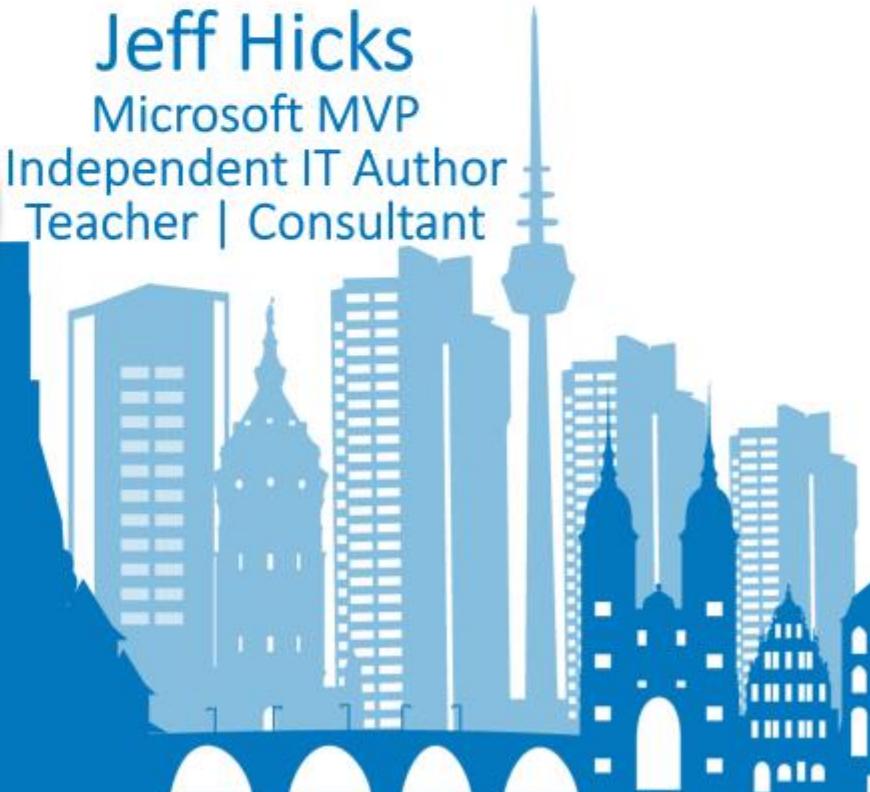
13. März, 18:00 Uhr

March 13th, 18:00 CET | 5 pm GMT | 1 pm EDT



**Jeff Hicks**  
Microsoft MVP  
Independent IT Author  
Teacher | Consultant

PSStyle  
PowerShell with Style



# LET'S CONNECT

---



@HeikoBrenn  
@Script\_Runner



@HeikoBrenn  
@ScriptRunner



heiko.brenn@scriptrunner.com  
info@scriptrunner.com



Github.com/HeikoBrenn  
Github.com/ScriptRunner



@HeikoBrennPowerShell  
@ScriptRunnerPowerShell





“Our mission is to enable you to  
streamline and automate  
all enterprise IT management processes  
using PowerShell.”

Smart | Simple | Secure



+49

Headquarters  
Ettlingen  
Germany

2014

First  
ScriptRunner  
Release

25

The  
ScriptRunner  
Team

1900+

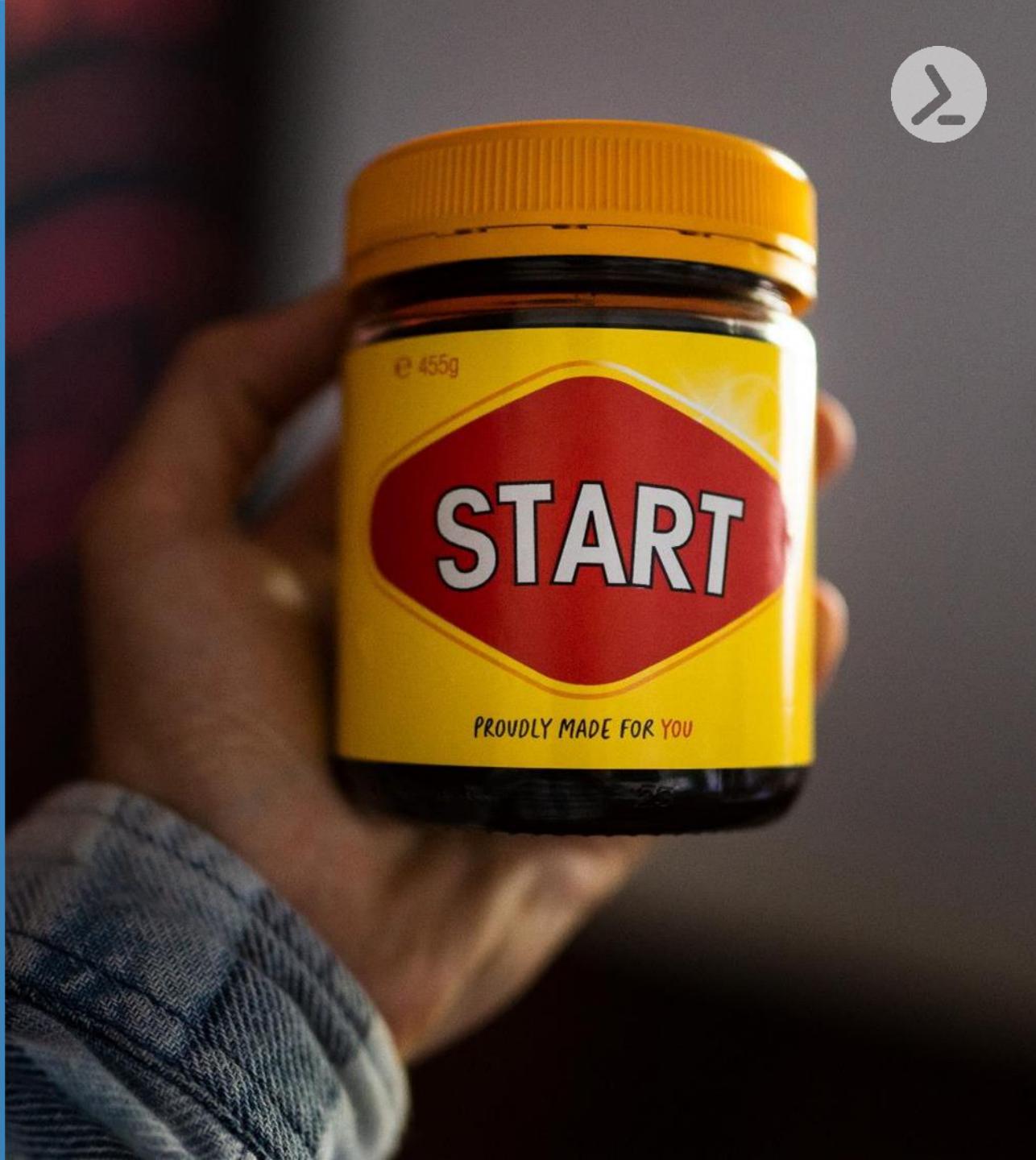
Ready-to-use  
PowerShell  
Scripts





1900+  
READY-TO-USE  
POWERSHELL  
SCRIPTS

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

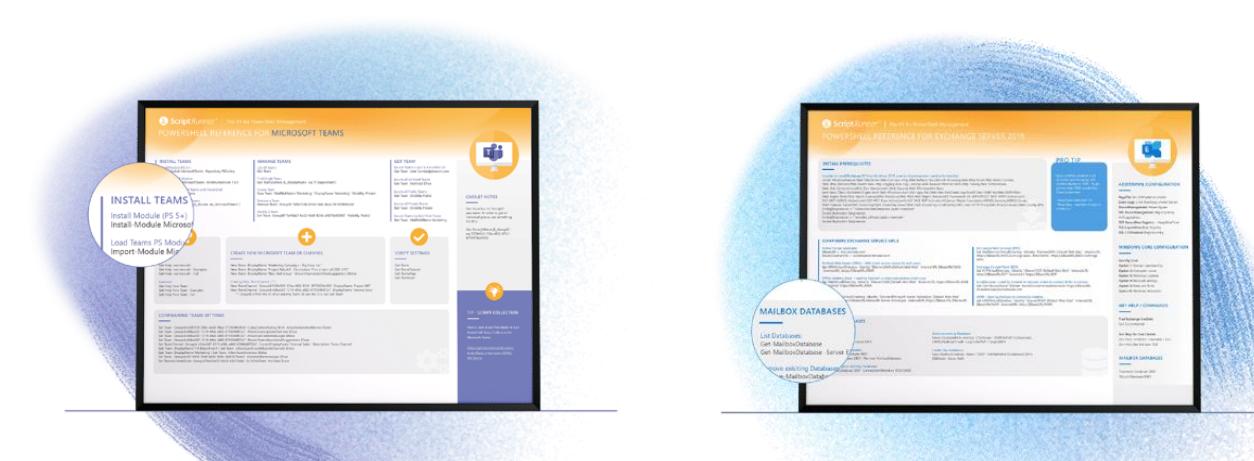


# GET YOUR FREE POWERSHELL GOODIES

[lp.scriptrunner.com/en/powershell-goodies](http://lp.scriptrunner.com/en/powershell-goodies)



## YOUR ULTIMATE POWERSHELL CHEAT SHEET



## TEAMS POWERSHELL CHEAT SHEET

## EXCHANGE POWERSHELL CHEAT SHEET

# AUTOMATE ALL YOUR IT SYSTEMS WITH ONE PLATFORM



# SCRIPTRUNNER: YOUR COMPREHENSIVE IT AUTOMATION PLATFORM



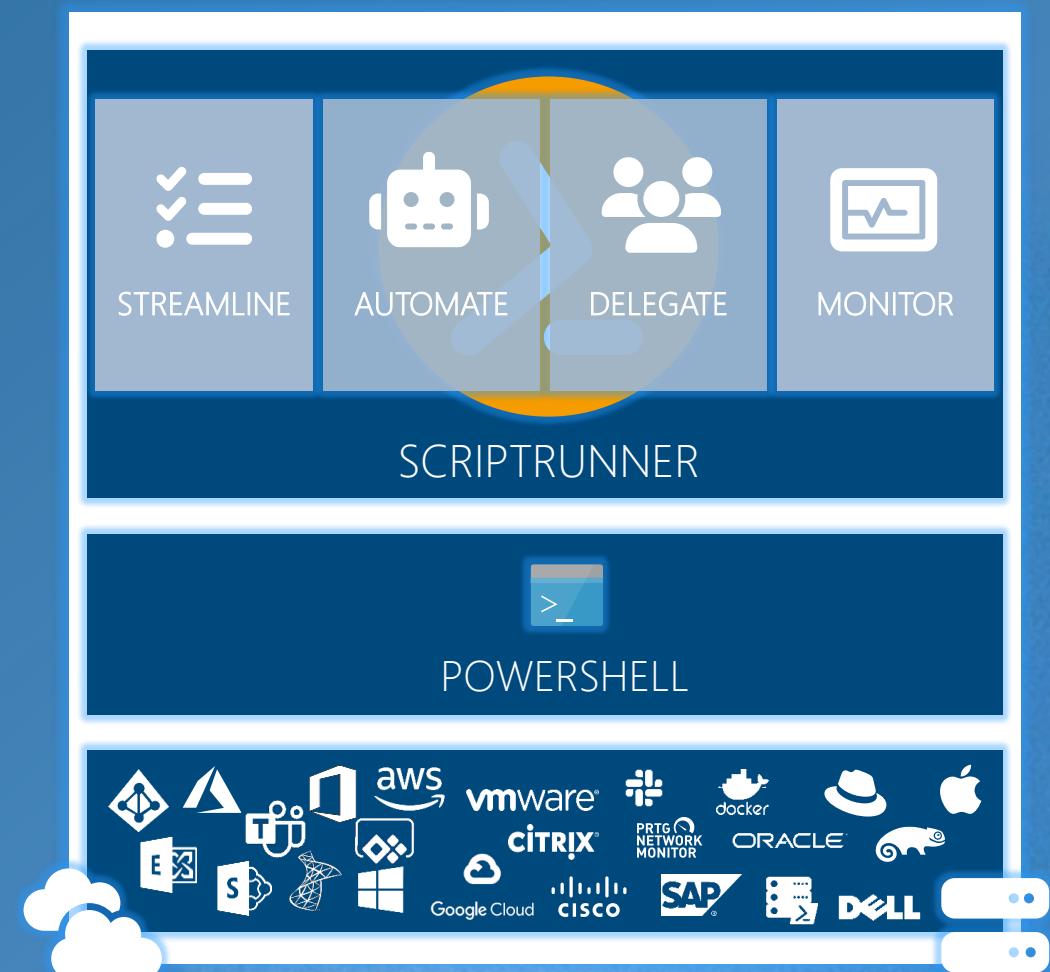
Multi-Platform Management

Versatile And Strong Foundation

One IT Automation Solution  
Reduce Complexity

Covers All Enterprise  
IT Automation Processes

Highly Customizable



# TWO WAYS OF AUTOMATING WITH POWERSHELL

---



NON-MANAGED  
PowerShell



MANAGED  
PowerShell  
With  
ScriptRunner



## CENTRALIZED SCRIPTS AND MODULES MANAGEMENT

STREAMLINE  
AUTOMATE  
DELEGATE  
MONITOR

COMPREHENSIVE  
MONITORING AND  
REPORTING

INTERACTIVE | SCHEDULED  
EVENT-DRIVEN

SECURE  
MANAGEMENT  
AND  
DELEGATION

AUTO-CREATED  
USER FRIENDLY  
WEB FORMS



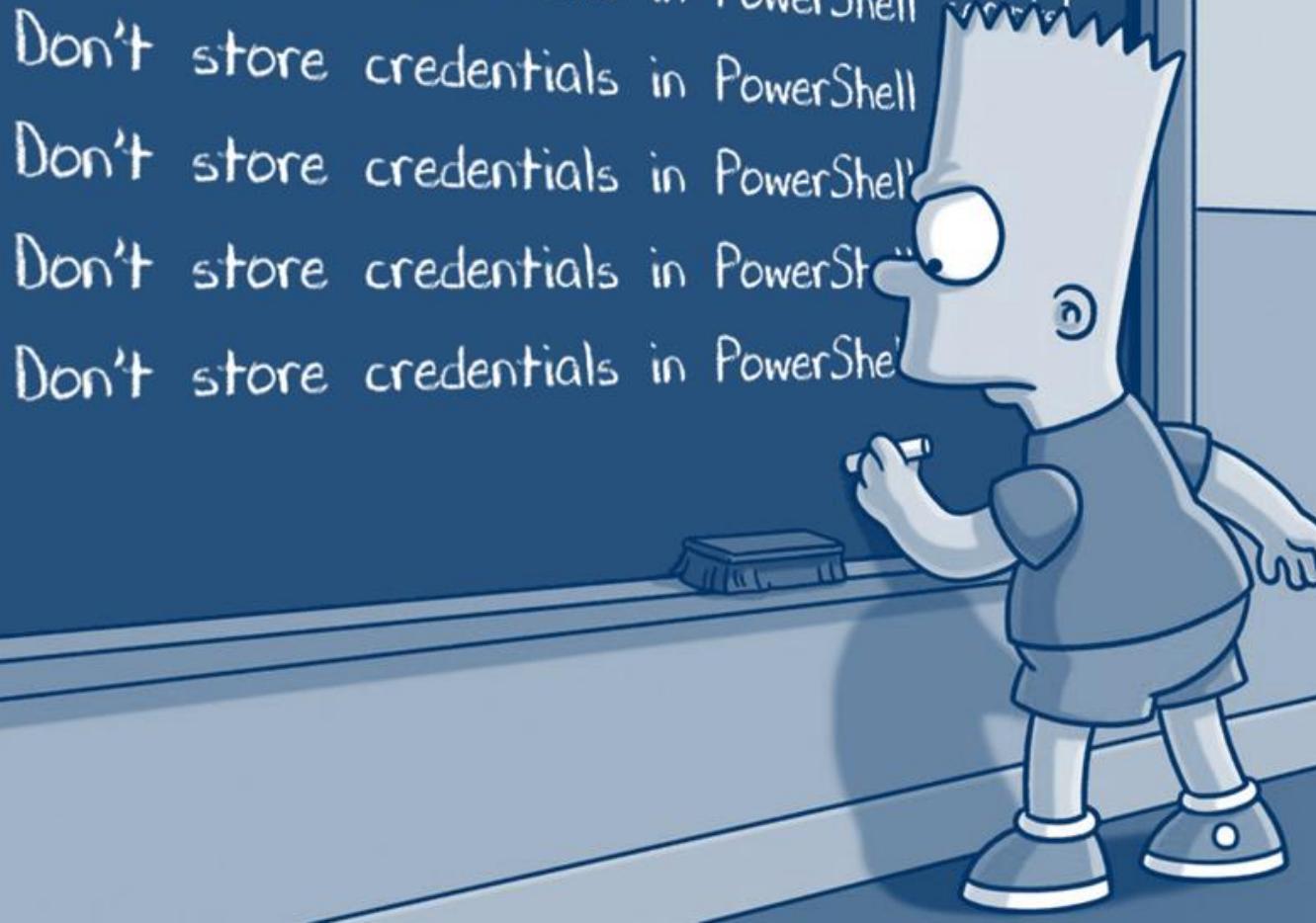
# CENTRALIZED SCRIPT MANAGEMENT



The screenshot displays the ScriptRunner web application interface. On the left, a sidebar navigation includes: Dashboard, Run, Authorize & Delegate, Monitoring, Configuration (selected), Actions, Queries, Targets, Scripts (selected), Credentials, and Settings. The main content area shows a list of scripts under 'Scripts' (Showing 9 of 1282 Scripts). The list includes: Get-EOOutOfOffice.ps1, Set-EOOutOfOffice - Copy (2).ps1, Set-EOOutOfOffice - Copy.ps1, Set-EOOutOfOffice.ps1 (checked out by me), Set-EOOutOfOffice\_orig.ps1, TeamsWithOutOwner-Scheduled.ps1, TeamsWithOutOwner.ps1, and Webinar\_Set-ExOutOfOffice.ps1. A modal window is open for the script 'Set-EOOutOfOffice.ps1'. The modal has tabs for Configuration, General, Header information, and Code editor (selected). The code editor contains the following PowerShell script:

```
61 [datetime]$start Date,
62 [Parameter(Mandatory = $true, ParameterSetName="Schedule Auto Reply")]
63 [datetime]$endDate,
64 [Parameter(ParameterSetName="Disable Auto Reply")]
65 [Parameter(ParameterSetName="Enable Auto Reply")]
66 [Parameter(ParameterSetName="Schedule Auto Reply")]
67 [switch]$generateReport
68 )
69
70 try{
71 [string[]]$properties = @('Identity','AutoReplyState','StartTime','EndTime','ExternalAudience','')
72 [string[]]$resultMessage = @()
73 [string]$msg = "Mailbox {0} "
74 [string]$replyType = 'All'
75
76 [hashtable]$cmdArgs = @{
77     'ErrorAction' = 'Stop'
78         'Confirm' = $false
79     }
80
81 if($PSCmdlet.ParameterSetName -eq "Disable Auto Reply"){
82     $cmdArgs.add('AutoReplyState' , 'Disabled')
83     $msg += "disabled"
84 }
85 else{
86     if($AutoReplyType -eq 'Only contact list members'){
87         $replyType = 'Known'
88     }
89     if($AutoReplyType -eq 'Internal only'){
90         $replyType = 'None'
91     }
92 }
```

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



MATT GROENING

# SECURE CREDENTIAL MANAGEMENT



Credentials Showing 23 of 23 Credentials

+ Create

Create credential x

User credential or client secret  
Use name and password or secret

WinRM client certificate  
Use a WinRM client certificate from the local certificate store

Password server  
Retrieve the secret from a central password server

PowerShell Secret Management  
Retrieve the secret from the Secret Management vault (experimental)

SSH key  
Use an existing SSH key file or create a new one

AzureVM Credentials

Exchange Service Account

Exchange Service Account (Pleasant)

GitHub

Hyper-V Service Account

Microsoft Graph Target

MyActiveDirectory

O365 Tenant Service Account

Type Username Owner Tags

Search...

MS Graph Target 007

Save Run test Delete

Microsoft services

General

Microsoft services

Advanced settings

INFORMATION

Used by

Activate service

Microsoft Graph

Sign-in method

Certificate Client secret

Tenant ID

Application ID

Credential

Uses the credential selected above which must contain the client secret as password.

PowerShell module

Microsoft.Graph.Mail

Must be installed on the execution host

Deactivate service

The screenshot shows the ScriptRunner 'Credentials' interface. On the left, a sidebar lists various credential types: User credential or client secret, WinRM client certificate, Password server, PowerShell Secret Management, and SSH key. Below this are checkboxes for AzureVM Credentials, Exchange Service Account, Exchange Service Account (Pleasant), GitHub, Hyper-V Service Account, Microsoft Graph Target, MyActiveDirectory, and O365 Tenant Service Account. The main area displays a table of credentials with columns for Type, Username, Owner, and Tags. A search bar is at the top right. A modal window for 'MS Graph Target 007' is open, showing configuration details for Microsoft services, including General, Advanced settings, and Information sections. It also includes tabs for Microsoft Graph (Sign-in method: Certificate, Client secret), Credential (Tenant ID, Application ID), and PowerShell module (Microsoft.Graph.Mail). A note states 'Must be installed on the execution host'. At the bottom of the modal are 'Activate service' and 'Deactivate service' buttons.

# PASSWORD SERVER SUPPORT



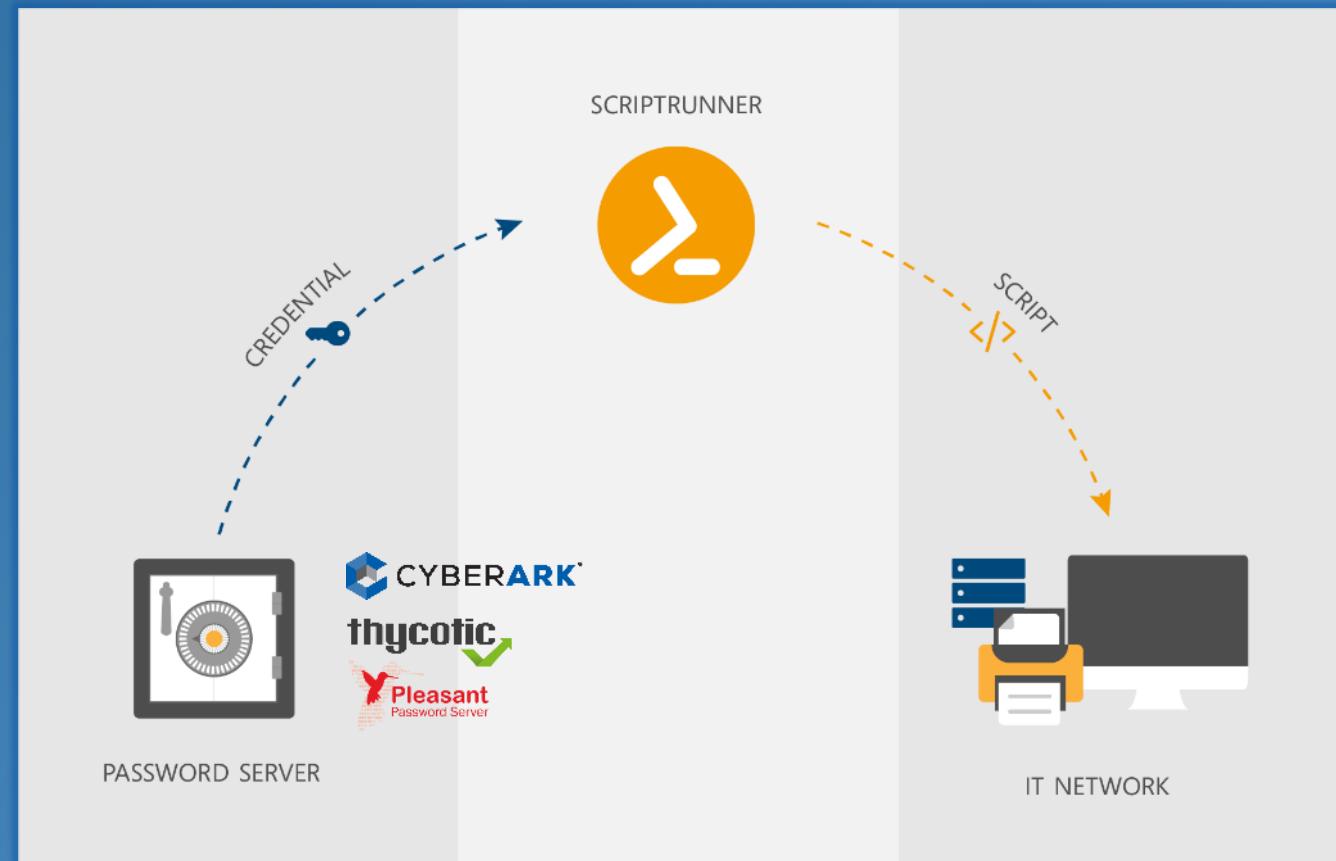
Connectors for CyberArk, Pleasant and Thycotic

No local credentials

Automatic password rotation

Single secure password repository in multi-server scenarios

Support for Azure KeyVault (planned)



# SECURE DELEGATION



ScriptRunner executes scripts and connects to backend systems

No user access to backend systems  
No privileged permissions

Flexible and secure tasks delegation to help desk teams and end-users

Easy access via ScriptRunner Portal and Self-Service Portals

Complete separation of PowerShell environment and user context



# POWERSHELL FOR EVERYONE | NO EXTRA CODING



The Script

A screenshot of the Windows PowerShell ISE interface. The title bar says "Administrator: Windows PowerShell ISE". The menu bar includes File, Edit, View, Tools, Debug, Add-ons, Help. The tabs show Untitled3.ps1, Exchange\_Webinar.ps1, and Set-EOOutOfOffice.ps1 (which is the active tab). The code editor contains approximately 150 lines of PowerShell script. A large orange arrow points from the "The User Experience" column towards this window.

```
118     $cmdArgs.Add('ExternalAudience', $replyType)
119     $cmdArgs.Add('InternalMessage', $internalText )
120     $cmdArgs.Add('ExternalMessage', $externalText )
121     if($PSCmdlet.ParameterSetName -eq "Schedule Auto Reply"){
122         $cmdArgs.Add('AutoReplyState', 'Scheduled')
123         $cmdArgs.Add('EndTime', $endDate)
124         $cmdArgs.Add('StartTime', $startDate)
125         $msg += "scheduled"
126     }
127     else{
128         $cmdArgs.Add('AutoReplyState', 'Enabled')
129         $msg += "enabled"
130     }
131
132     $Script:resHtml = @()
133     foreach($item in $MailboxIds){
134         try{
135             $box = Get-Mailbox -Identity $item -ErrorAction Stop
136             if($null -ne $box){
137                 try{
138                     $null = Set-MailboxAutoReplyConfiguration @cmdArgs -Identity $item
139                     if($GenerateReport -eq $true){
140                         $Script:resHtml += Get-MailboxAutoReplyConfiguration -
141                         -Identity $item
142                     }
143                     $resultMessage += [System.String]::Format($msg,$box.UserPr
144
145                 }
146                 catch{
147                     Write-Output "Error occurred at set Mailbox $($item)"
148                 }
149             }
150             catch{
151                 Write-Output "Error occurred at get Mailbox $($item)"
152             }
153         }
154     }
155 }
```

PS C:\Users\administrator.COMPANY>

Completed Ln 1 Col 36 120%

A screenshot of the "OutOfOffice" web application. The title is "OutOfOffice" and the subtitle is "Create OOF Notifications With ScriptRunner Integration". On the right, there is a note: "Note the reason you run this action now." Below it, there are fields for selecting mailboxes (Angus Young, Shania Twain, Phil Collins), choosing a notification template (Sick leave), selecting the start of absence (Jul 26, 2022), selecting the end of absence (Jul 31, 2022, 10:22 AM), and a checkbox for "Generate a report". A green play button is at the bottom right.

Create OOF Notifications With ScriptRunner Integration

Note the reason you run this action now.

Please select mailbox(es):

Search...

Angus Young  Shania Twain  Phil Collins

Please select the notification template:

Sick leave

Please select the start of absence

Jul 26, 2022

Please select the end of absence

Jul 31, 2022, 10:22 AM

Generate a report

▶

The User Experience

ScriptRunner Portal X + https://winsrv-poc1.company.net/ScriptRunner/Portal/#/actions/ COMPANY\tina(NTLM)

# ScriptRunner®

Run

All Pinned ActiveDirectory Azure Cloud8 ExchangeOnline O365 SharePointOnline SQLServer + Add tab Search...

Bulk User Onboarding

Change User Properties

Create a new SharePoint Online Site

Manage existing VMs

Out-Of-Office Management

Reset User Password (AD)

Add users to distribution groups

Advanced Active Directory Report

Create a new team based on company guidelines

Create a Teams report

Create new Azure VM based on company standards

Create new VMware VM

Detect Teams with only ONE owner

Reset User Password (Azure AD)

Show Azure Consumption Report

ScriptRunner Portal winsrv-poc1.company.net/scriptrunner/portal/#/actioncfg/ SR Portal SR\_AI O365 Community Edition... ScriptRunner(DE) ScriptRunner(EN) OOF Azure VMWare AD Teams SQL ResetPWD MBXStatistics OOFScript MembersToGroups VMReport ChatGPT NewAZVM

ScriptRunner® en COMPANY\Administrator(Kerberos)

Dashboard Run Authorize & Delegate Monitoring Configuration Actions Queries Targets Credentials Scripts Settings

Actions Actions Showing 16 of 108 actions + Create Search...

Name	Targets	Last run	Delegations	Owner	Tags
Add Users to Distribution Groups	:Exchange Online	11-16-2023 04:16 pm	User Helpdesk - EMEA + 1	Public	_DEV_ O365 + 3
Advanced Active Directory Report	Scheduled AD local	01-23-2024 01:51 pm	User Helpdesk - EMEA + 7	Public	ActiveDirectory HTML + 3
Azure Consumption Report	:Azure Subscription 01	01-12-2024 03:46 pm	User Helpdesk - EMEA + 2	Public	Azure Billing + 1
Bulk OnBoarding	:ADC remote	01-23-2024 01:33 pm	User Helpdesk - EMEA	Public	ActiveDirectory OnOffBoarding + 1
Change User Properties	AD local	05-22-2023 06:17 pm	User Helpdesk - EMEA + 1	Public	ActiveDirectory Splatting + 1
Create a new SharePoint Online Site	:SharePoint Online	01-12-2024 03:22 pm	User Helpdesk - EMEA	Public	O365 SharePointOnline + 3
Create a Teams Report	:Microsoft Teams	01-11-2024 02:10 pm	User Helpdesk - EMEA + 2	Public	O365 MS-Teams + 2
Create New Azure VM based on company standards	:Azure Subscription 01	01-12-2024 03:27 pm	User Helpdesk - EMEA + 3	Public	Azure Compute + 2
Create New VMware VM	Direct Service Execution	01-23-2024 01:59 pm	User Helpdesk - EMEA	Public	VMware VMs + 1
Detect Teams with ONE Owner	:Microsoft Teams	01-23-2024 01:57 pm	User Helpdesk - EMEA	Public	O365 MS-Teams + 1

# FLEXIBLE ROLE-BASED DELEGATION



The screenshot shows the ScriptRunner Active Directory Self-Services interface. The left sidebar has a 'Authorize & Delegate' section selected. The main content area shows the 'Delegations' tab under 'CONFIGURATION'. The 'Delegations' section lists several actions assigned to the user:

- AD: Show Active Directory User Properties (Get-ADUser)
- Advanced Active Directory Report
- Reset password for Active Directory user
- Change Active Directory User Properties

Below this, there is a list of local actions:

- Local: Add two values
- AD: Show Active Directory User Properties (Get-ADUser) (highlighted in orange)
- Simulate Set-ADUserPropertiesDemo
- Test-Cascaded ADQueries
- Get-ExMailboxProperties
- Remove-PrintJob
- Validation possibilities

A message at the bottom right says 'Press enter to remove'.

# COMPREHENSIVE MONITORING AND REPORTING



ScriptRunner®

Live Monitor

Running scripts: 3

Advanced Active Directory Report

Cancel execution

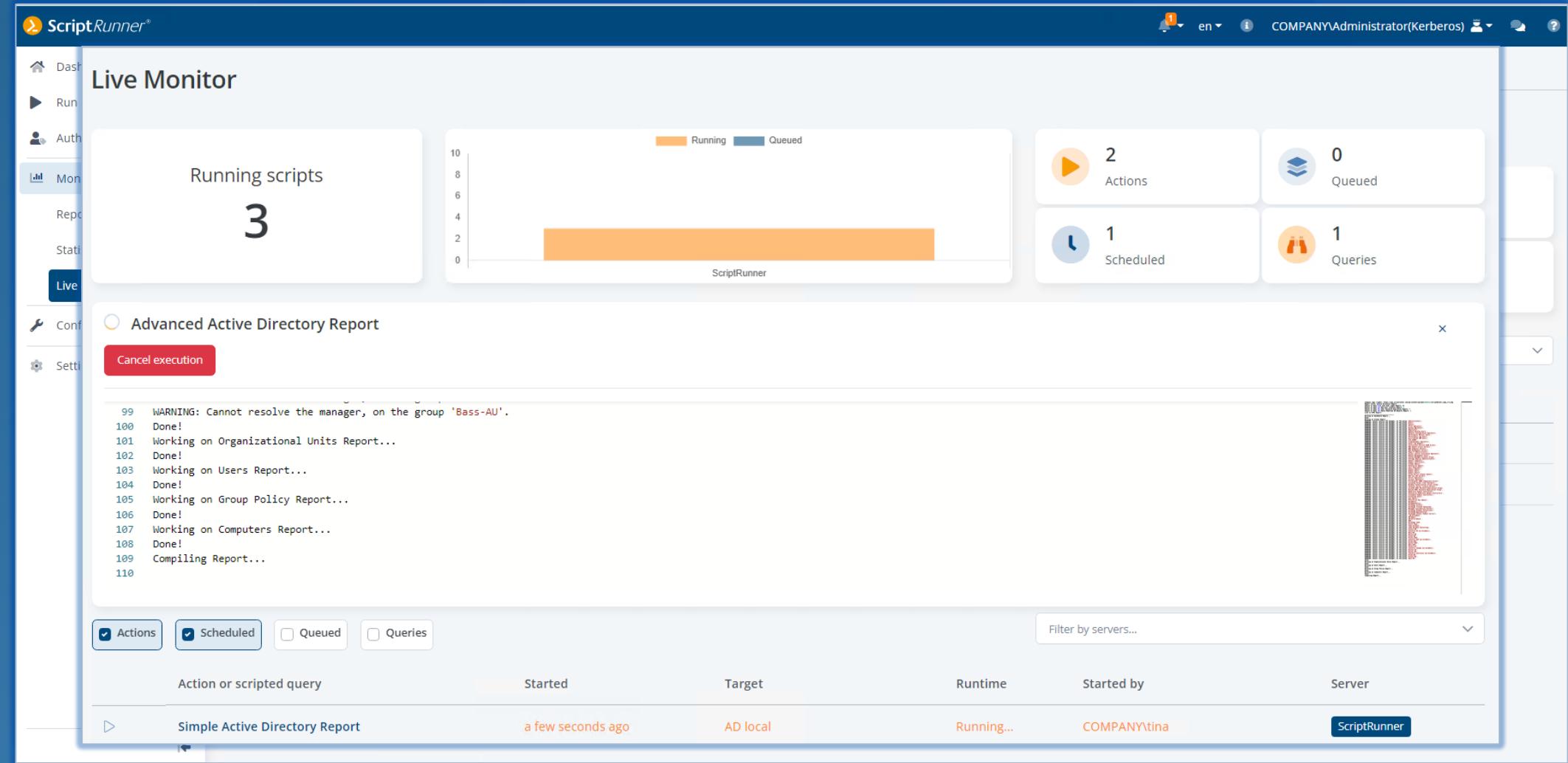
```
99: WARNING: Cannot resolve the manager, on the group 'Bass-AU'.
100: Done!
101: Working on Organizational Units Report...
102: Done!
103: Working on Users Report...
104: Done!
105: Working on Group Policy Report...
106: Done!
107: Working on Computers Report...
108: Done!
109: Compiling Report...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

Actions: 2  
Scheduled: 1  
Queued: 0  
Queries: 1

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...



# UNLOCK THE POWER OF POWERSHELL ACROSS YOUR ORGANIZATION



Manager

Consistent processes  
Better quality  
Saving costs

Deliver great scripts in  
a secure environment



DevOps

Delegate recurring  
tasks and save time



Administrator

Deliver more & better  
services in less time



HelpDesk



Developer

Develop scripts for  
more use cases/users



EndUser

Faster task completion  
with self-services

# AUTOMATE ALL YOUR IT SYSTEMS WITH ONE PLATFORM





1. Virtual Meetup 2024

# PSUG RHEIN NECKAR

13. März, 18:00 Uhr

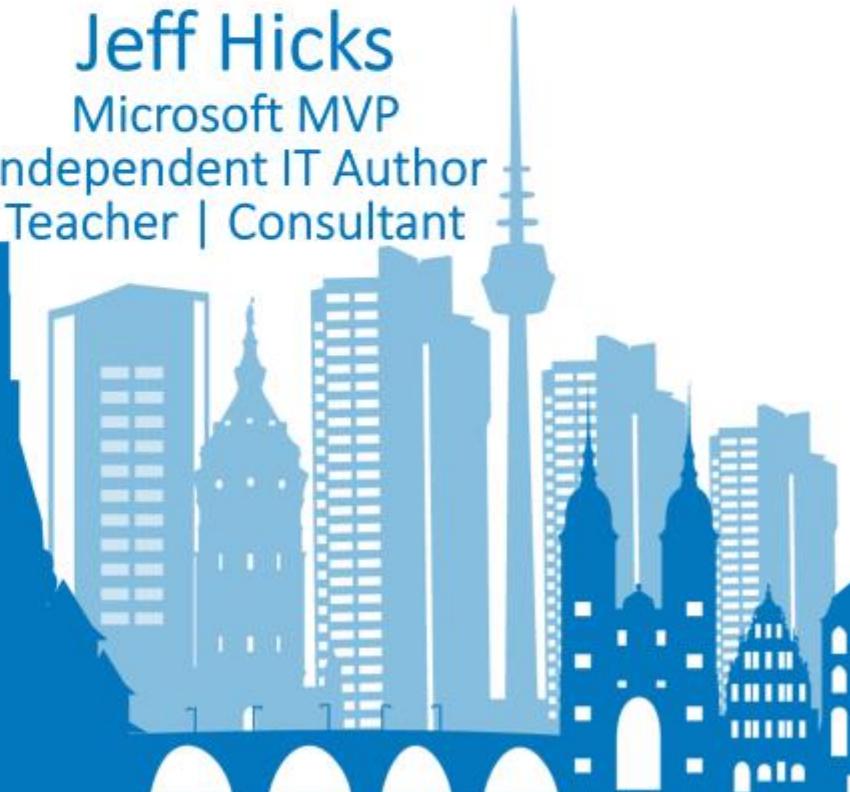
March 13th, 18:00 CET | 5 pm GMT | 1 pm EDT



Jeff Hicks

Microsoft MVP  
Independent IT Author  
Teacher | Consultant

PSStyle  
PowerShell with Style





Put ScriptRunner  
to the test.  
30 days for free.

[lp.scriptrunner.com/en/demo-download](http://lp.scriptrunner.com/en/demo-download)





Let's talk about your  
automation use cases.  
Book an online session  
with me.

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





# THANK YOU FOR ATTENDING