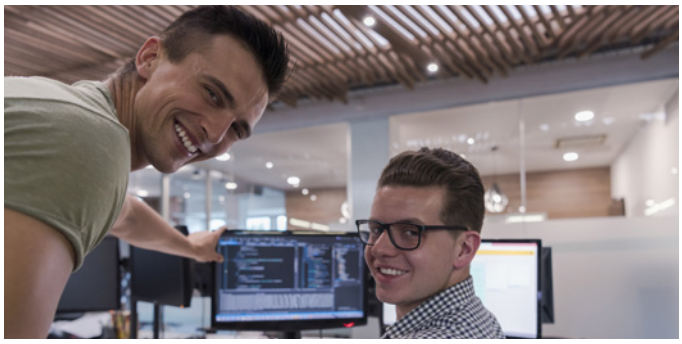
ScriptRunner®

ScriptRunner: PowerShell for teams

FROM TIMOTHY WARNER



Okay, let me draw up a good use case for ScriptRunner. You and your colleagues form the IT infrastructure operations team at your business. Over the past year, your team embraced PowerShell for administrative automation.

However, you've identified several problems with your team working with their PowerShell scripts individually:

- No centralized management
- Uncontrolled changes to scripts shared among colleagues
- No script test/approval process
- Difficult script discovery (email being the chief, and inefficient, culprit)
- Lack of script versioning
- Tough to prevent erratic script usage and accompanying execution errors
- Limited transparency (who runs which scripts when)

Today I'd like to introduce you to ScriptRunner. I will explain how to obtain the software, install it, and configure it to solve all the above problems.

Oh, before we begin, a quick but important side note: AppSphere ScriptRunner is not related in any way, shape, or form to Adaptavist ScriptRunner. I wanted to make this clear because of Adaptavist's high search engine ranking. Here's a protip: include 'powershell' in your web searches for ScriptRunner. *Onward!*

PRODUCT INSTALLATION NOTES

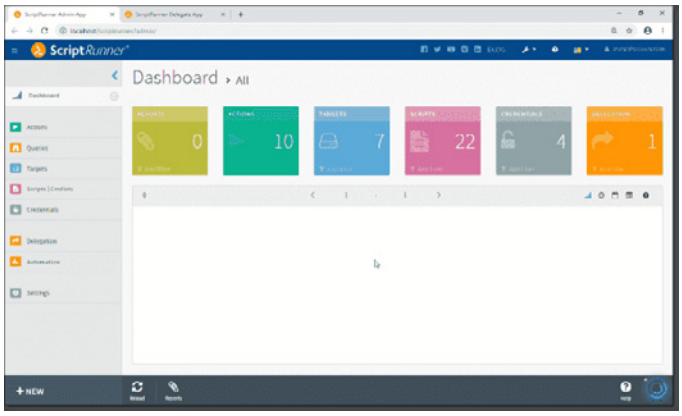
You can download an evaluation version of ScriptRunner from their website, but they don't make the process as clear as they could. Instead, AppSphere really wants you to participate in a live, interactive demo.

Anyway, I followed the ScriptRunner installation instructions and set up my environment in under one hour. Specifically, I installed the ScriptRunner service on a Windows Server 2016 domain member server with the Web Server role already installed. Configuration choices include selecting a TCP port for the web service to listen on, designating an Active Directory group for ScriptRunner admins, and enabling PowerShell remoting on the server – not a big deal in most cases.

Next, I installed the ScriptRunner Web Apps: you interact with the back-end service with these web front-ends. The note here is that you may want or need to configure the web app to use your company's internal or public TLS/SSL digital certificate to support HTTPS.

ADMIN APP SETUP

Point your web browser to server-name/scriptrunner/admin to load up the ScriptRunner Admin App. I show you the interface next, and I'll explain each navigational node afterward:



- **Actions:** An Action defines the entire context of a managed PowerShell script
- **Queries:** Create and edit reports that may or may not use a library script for logic
- **Targets:** Your Actions run on these systems – choices include local execution, PowerShell remoting execution, Docker container, Office 365 service, or Azure Resource Manager service
- **Scripts | Cmdlets:** View your centralized PowerShell script library – you need to use PowerShell to change the library location (such as to a Git repository)
- **Credentials:** An internal credential safe for use in your scripts
- **Delegation:** Give non-administrators the ability to run Actions
- **Automation:** Lets you connect ScriptRunner to an external IT service management/monitoring platform, such as ServiceNow or Nagios.
- **Settings:** Verify your license status, tag settings, and ScriptRunner library location.

Let me say that the ScriptRunner Documentation site appeared to be incomplete. As of this writing in February 2019, I could view only the **Installing & Updating** document. The **Configuring and Using Apps** guides would have been especially helpful, were they actually present. Yes, I get that AppSphere wants to walk you through the software personally, but I'm a "read the manual" kind of guy, you know?

As I mentioned, you can configure some tasks only via the ScriptRunnerSettings module. Run the following command to see the available commands:

```
Set-ASRSettings -ScriptLibraryPath 'D:\script-library' -Restart
```

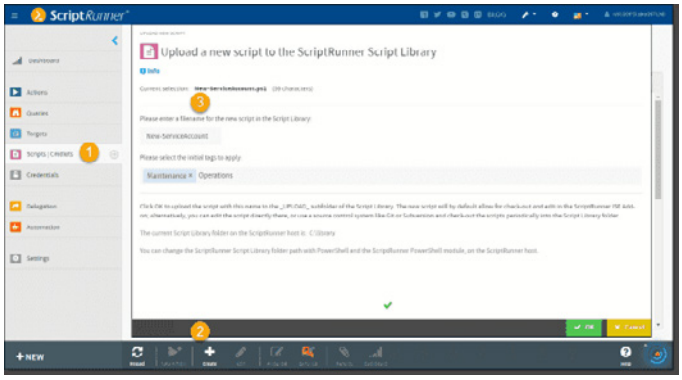
Another big disappointment was when I ran Get-Help against the ScriptRunner cmdlets, and they came up empty. The AppSphere documentation team really has their work cut out for them!

The idea with the central script library is you can point it to a location you're tracking with Git version control (or another source code version control system). After some experimentation, I found this worked to customize the library store:

```
Get-Command -Module ScriptRunnerSettings
```

In case you need it, the default library path is **C:\ProgramData\AppSphere\ScriptMgr\.** You're welcome!

Now you can work in the **Scripts | Cmdlets page** of the Admin App. I suggest your team adds their scripts to the library through the Admin App interface so you can add taxonomic tags as shown in the following composite screenshot.



You will also want to mosey over to the **Credentials** page and populate the table with any domain and/or local credentials for use with your scripts. By default, ScriptRunner uses Windows Credential Manager on your ScriptRunner service host server. Alternatively, you can use an external password server such as Thycotic Secret Server or CyberArk Password Vault. Finally, it's a good idea to populate the **Targets** table with the remote servers and services that will be the target of your PowerShell administration scripts. Again, you can assign taxonomic tags to these resources to make your queries and reports more effective.

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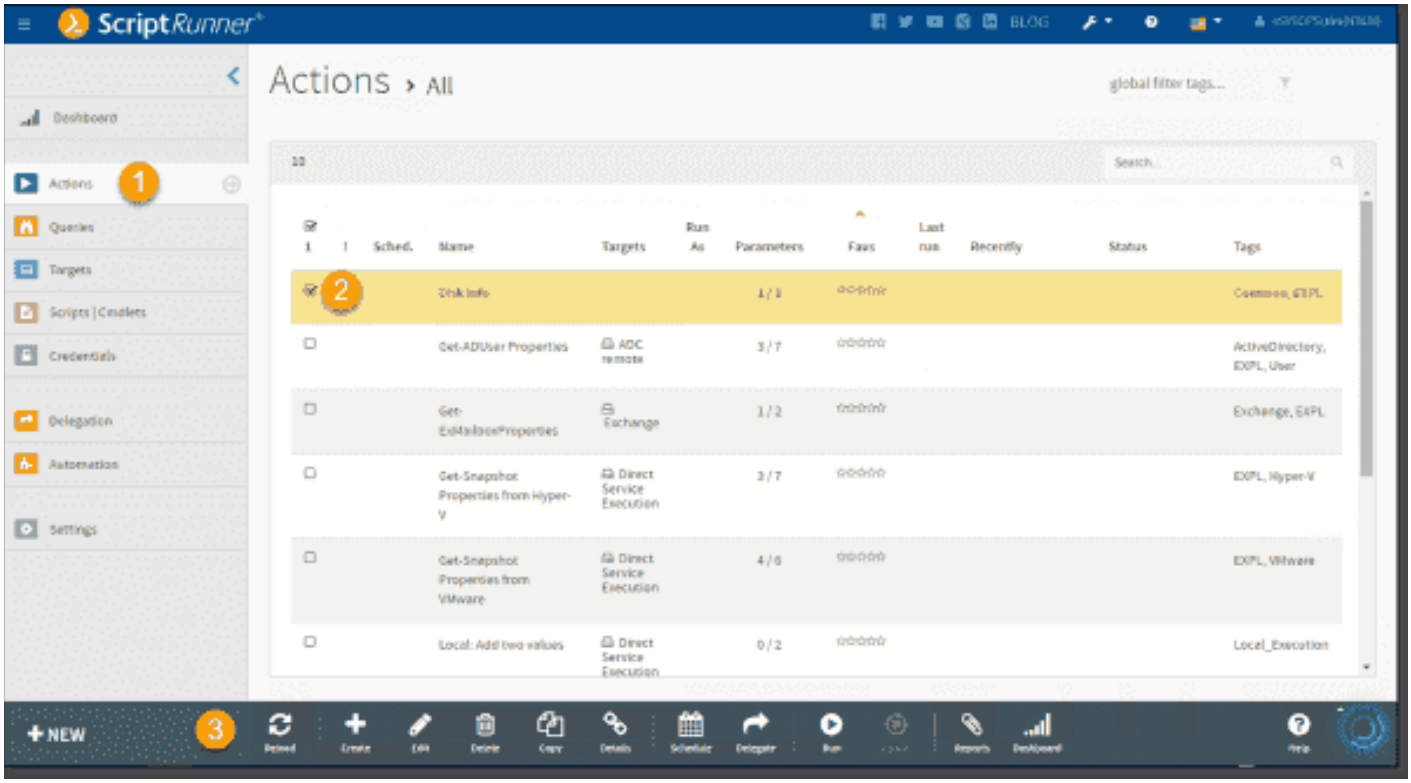

CONFIGURING ACTIONS

Okay, let's go to the Action where you tie all the aforementioned ScriptRunner resources together. Let's say, for example, you have a PowerShell script that gathers disk metrics from one or more hosts defined by a parameter value.

You can create an action that runs that script on a schedule, supplying particular parameter values to send a notification, and optionally, delegated personnel (for instance, support staff) can run it ad hoc.

In the Admin App, go to Actions and click Create. Building a new action requires supplying the following information:

- assign parameter values at runtime
- add taxonomic tags and descriptions
- select target(s)
- customize PowerShell execution properties (module loads, timeout values, etc.)
- configure email notification if you specified an SMTP server in your settings
- define a schedule
- delegate the action to a sub-administrative group or identity

You can then use the bottom toolbar in Admin App to customize pre-existing actions as shown in the next screenshot.

DELEGATE APP SETUP

One cool selling point of ScriptRunner is you can control who can run your centrally managed PowerShell scripts. A delegation is authorized either by Active Directory, a local identity store (on a workgroup computer, for instance), or through claims-based single sign-on (SSO) identity. Specifically, your delegation gives a sub-administrative identity the permission to run one of your stored scripts or actions without having to elevate their permissions. This feature supports DevOps and today's self-service cloud computing lifecycle.

The idea is that you as administrator create your Actions and Delegations, and your support desk executes those script tasks through the ScriptRunner Delegate App, found at the path **servername/scriptrunner/delegate.**

As you would expect I hope, the delegated user sees only those scripts and actions to which he or she was granted access. The delegated user can either choose from pre-created (ValidateSet) parameter values or specify them at runtime. You can see an example of the interactive form in the next screenshot.

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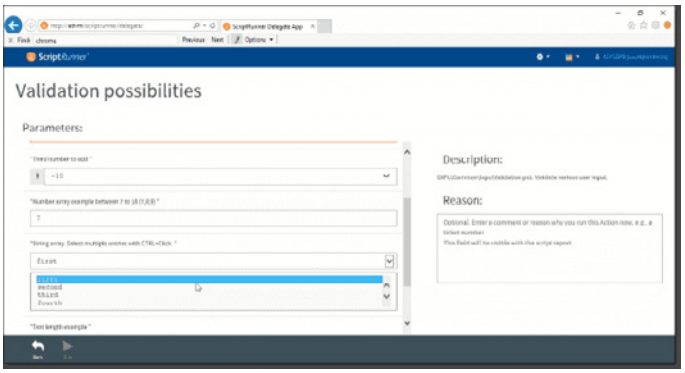
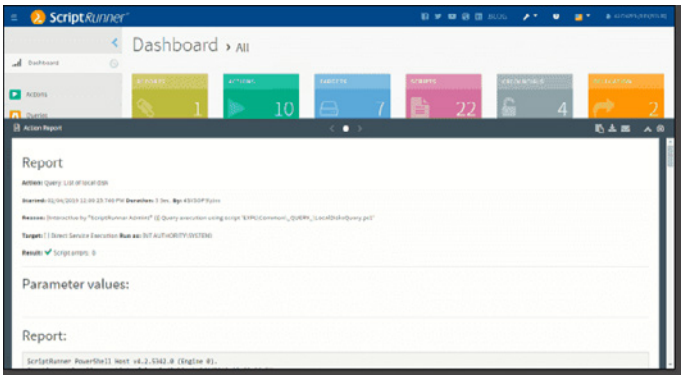


REPORTING CAPABILITY

Clicking **Report** from the bottom toolbar brings up a pane that lists operational details in reverse chronological order. Although the reports do give the basic "who did what, when" details and allow you to download its contents in .txt format, I found that:

- There was no search capability
- It listed the report data in document report format rather than in an easily sortable/scannable tabular format



WRAP-UP

If you've been reading my reviews for a while, you know I "tell it like it is," at least according to my knowledge, experience, and observations.

If you can train your operations team to work with the software and overlook its warts, I think you'll find the team will be on a much more unified orientation in terms of controlling where your scripts are, what they contain, and how to execute them in your environments.

That said, I suggest that AppSphere make the following changes to make ScriptRunner easier to user and more effective:

- Complete the product documentation, especially for the ScriptRunner PowerShell module
- Make it easier to specify the library location, particularly for use with Git or another version control system
- Present reports in tabular format and make them easily filterable and searchable
- Have the Admin App and Delegate App open to a tutorial dashboard with easy 1-2-3 config steps to help ease everyone's learning curve

I would give you licensing and pricing details, but that information isn't available on the ScriptRunner website either. You can contact AppSphere at your convenience though. Genera licensing information can be found at **https://www.scriptrunner.com/en/licensing/**

I hope reading this review has you thinking more about important IT operations questions like "How can our team reduce repetitive efforts and increase both security and efficiency with our PowerShell scripting?" At base, I think AppShere ScriptRunner is a pretty good product for this purpose.

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This article was also published on 4sysops.com in february 2019.

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