Integration Pack for PowerShell Script Execution 1.1 – User Guide

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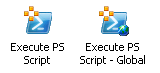
[Functionality 11](#_Toc307933478)

# Introduction

The Orchestrator Integration Pack for PowerShell Script Execution provides extended PowerShell Scripting capability for Orchestrator and PowerShell (executed from and against both x86 and x64 OSs).

This Integration Pack adds the following activities to Orchestrator:

* Execute PS Script
* Execute PS Script - Global



***Figure A:*** Activity Images for the activities in the Integration Pack.

# System Requirements

* System Center 2012 Orchestrator (RC or later)
* System Center 2012 Orchestrator Integration Toolkit (library included)
* Microsoft .NET 3.0 Framework
* PowerShell 2.0
* **winrm quickconfig** command executed on local and target machines where PS Scripts will be executed

# Installation

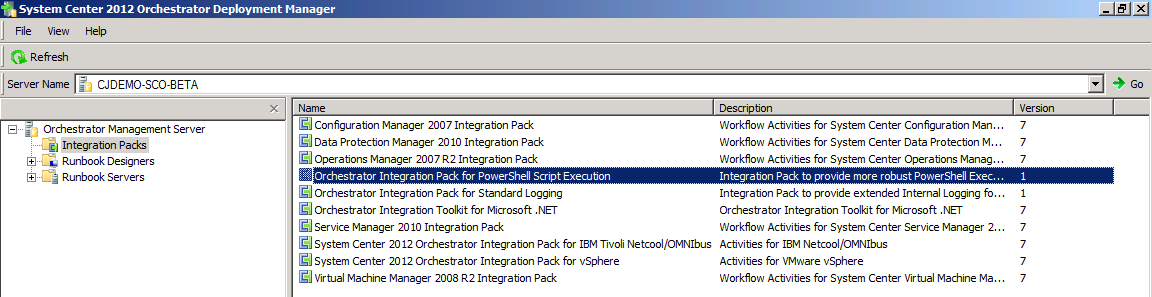
Install the Integration Pack using the Orchestrator Deployment Manager according to the instructions on TechNet (<http://technet.microsoft.com/en-us/library/hh420346.aspx>).

# Removal

Uninstall the Integration Pack using the Orchestrator Deployment Manager according to the instructions on TechNet. The following link is for 6.3 (the steps are fundamentally the same): <http://technet.microsoft.com/en-us/library/gg440809.aspx>

# Post-Installation Configurations

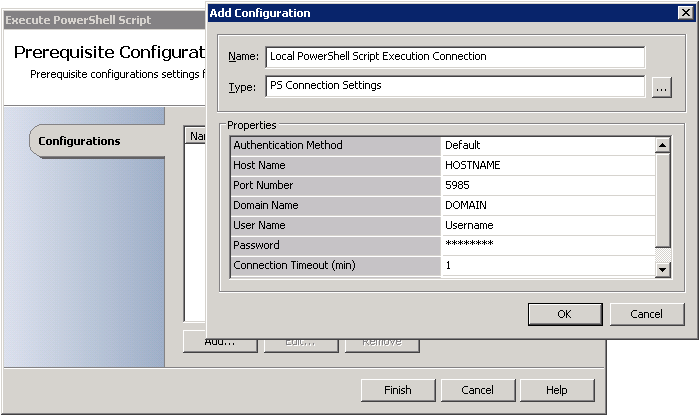
The following illustrates what Post-Installation Configurations are required to execute all the activities within this Integration Pack.



***Figure B:*** Successful Installation of the Orchestrator Integration Pack for PowerShell Script Execution 1.0.

## Configuring Orchestrator for PowerShell Script Execution Connection

Configure this Integration Pack the same way as all others, in the Options Menu: Execute PowerShell Script. This configuration is OPTIONAL and will be accessible by the “Execute PS Script - Global” activity. If you choose not to set up a configuration, you can use the “Execute PS Script” activity which has activity-level configuration fields.



***Figure C:*** Configured “PS Connection Settings” within Orchestrator.

As many connections that are needed can be configured here. Each connection is specific to a single Host and Authentication Credentials/Methods. Both Local and Remote Hosts can be configured here. Ensure to run the **winrm quickconfig** command on any local or remote target hosts before attempting PowerShell Script execution with these activities.

The Connection has four different available winrm Authentication Methods:

* Basic
* Default
* Kerberos
* Negotiate

NOTE: See <http://msdn.microsoft.com/en-us/library/aa384295(VS.85).aspx> for more information about winrm’s Authentication Methods.

# Activities in Depth

The following illustrates an in-depth look at all the activities and configuration options within this Integration Pack.

## PS Connection Settings

**Input/Output Properties:**

**Authentication Method** (*Enum Browser*): Basic, Default, Kerberos, or Negotiate. As mentioned in the last section, please refer to the winrm Authentication Methods for more information (Default = Default).

**Host Name** (*Text Field*): Field where the name of the Host Server is entered.

**Port Number** (*Text Field*): Field where the Port Number for the connection to the target Host Server is entered (Default = 5985).

**Domain Name** (*Text Field*): Field where the name of the Domain to be used as account credentials is entered.

**User Name** (*Text Field*): Field where the name of the User to be used as account credentials is entered.

**Password** (*Password Protected Text Field*): Field where the Password associated with the User Name and Domain is entered.

**Connection Timeout (min)** (*Text Field*): Number of minutes the connection open action will be attempted (Default = 1).

**Script Timeout (min)** (*Text Field*): Number of minutes the operation (script execution) action will be attempted (Default = 4).

**Include Write-Host Script 01 Data Output** (*Boolean Browser*): True or False to determine if the Results from the PS Script 01 Execution will include additional Write-Host output data (Default = False).

NOTE: See ***Figure C*** above for an image of a configured PS Connection Settings screen.

Once again, it is important to note that this configuration is OPTIONAL and will be accessible by the “Execute PS Script - Global” activity only. If this configuration is completed, then the only fields left to configure are the PS Script 01-05 (where 02 - 05 are optional) fields (in the “Execute PS Script - Global” activity). Alternatively, the “Execute PS Script” activity gives you the option to enter these same configuration settings at the activity level.

## Execute PS Script - Global

This activity is used to Execute a specified PowerShell Script against a local or remote target host server. This particular activity used the configuration created and stored in the Global Configuration (Options Menu) within Orchestrator. There is only one required field (PS Script 01) which can contain a single-line or multi-line PowerShell script (with or without “;”). There are four optional fields (PS Script 02 - 05), which are available if more than one script (up to five) execution is desired.

**Input Properties:**

**PS Script 01** (*Text Field*): Used to enter the desired PowerShell Script to be executed. It is best viewed using the Right-Click - Expand functionality, as it can contain a single-line or multi-line PowerShell script. If this field contains “Write-Host” commands, you have the option (set in the configuration settings) to enable output for these commands. If the script in this field has “Write-Host” commands and the “Include Write-Host Script 01 Data Output” field is set to “False”, the “Write-Host” commands will be ignored and will not be available in the output.

**PS Script 02 - 05** (*Text Fields - Optional*): Optionally used to enter desired PowerShell Scripts to be executed. They are best viewed using the Right-Click - Expand functionality, as it can contain a single-line or multi-line PowerShell script. These fields do not have the option to output “Write-Host” data. If the scripts entered in these fields contain “Write-Host” commands, they will be ignored. Only the PS Script 01 field has this option.

**Published Data:**

Account

Authentication Method

Connection Timeout (min)

Domain Name

Host Name

Include Write-Host Script 01 Data Output

PS Execution 01 Result (with Write-Host) Count

PS Execution 01 Results (with Write-Host)

PS Execution 01 - 05 Result Count

PS Execution 01 - 05 Results

PS Script 01 (with Write-Host)

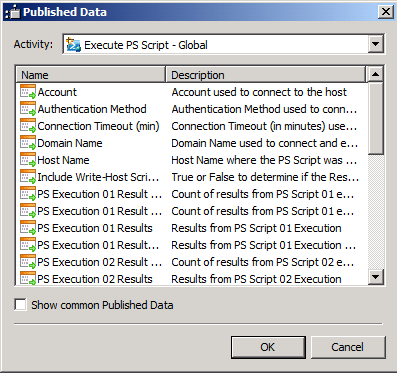
PS Script 01 - 05

Port Number

Script Timeout (min)

URI

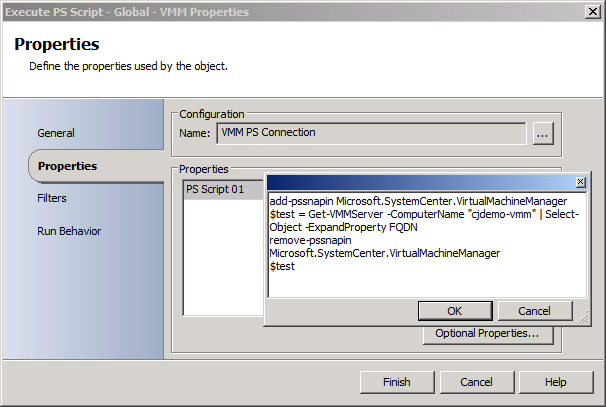
User Name



***Figure D:*** Published Data for “Execute PS Script - Global” Activity

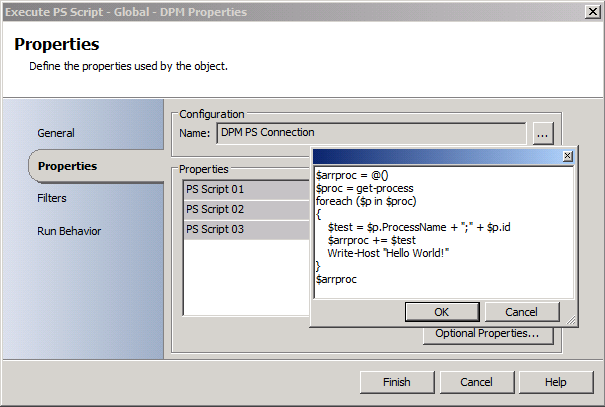
### Functionality

Simply use the available PS Script 01 - 05 fields (Expand recommended) to enter the desired PS Script(s).



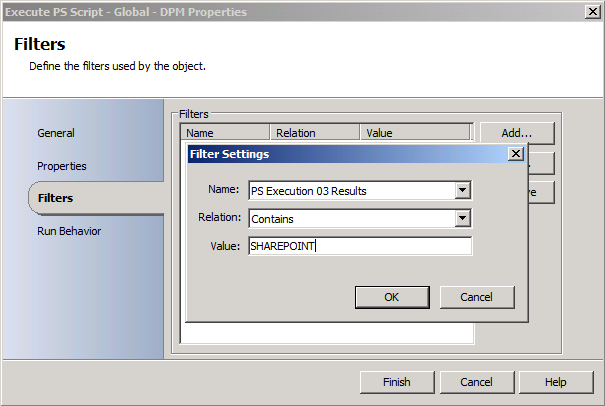
***Figure E:*** Configured “Execute PS Script - Global” Activity. In this example, a connection to VMM has been selected.

The output style will vary depending on the contents of your script. The data will be published either as one blob text field, or if you use arrays, will be published as multi-value output in the Published Data.

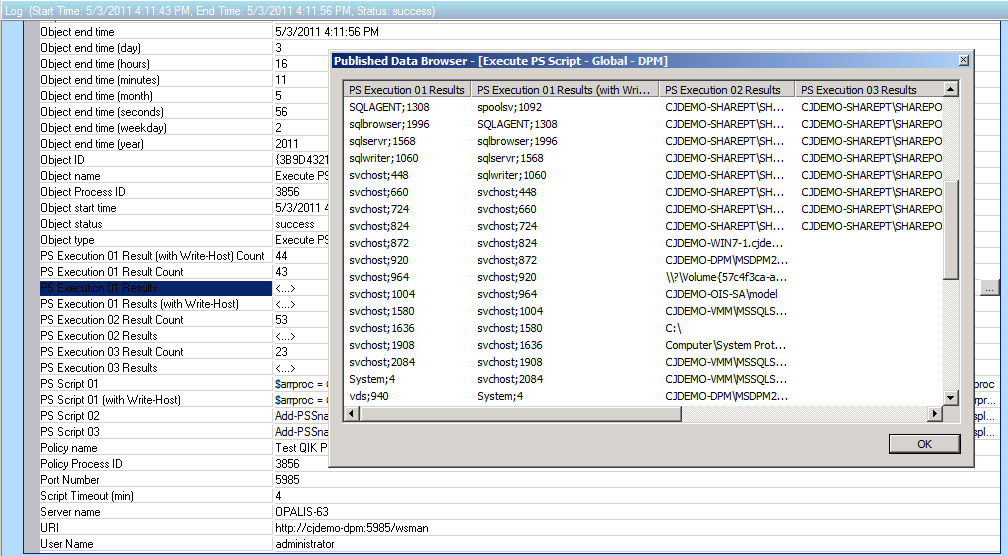


***Figure F:*** Configured “Execute PS Script - Global" Activity. In this example, a connection to DPM has been selected.

Filtering is also available. On the Filters Tab, you can filter the “PS Execution 01 - 05 Results” output. Filtering on “Write-Host” output is also an option if using “Include Write-Host Script 01 Data Output”.



***Figure G:*** Configured Filter for the “Execute PS Script - Global” Activity. In this example, a connection to DPM has been selected.



***Figure H: Example*** Results from the example scripts referenced in **Figures F and G** of the “Execute PS Script - Global” Activity. If you plan your script output, you can have it be something easy to parse with the standard built-in Data Manipulation functions.

**NOTE:** Each of the PS Script 01 – 05 fields execute scripts independently, thus each can be filtered independently and the data can be correlated or not (depending on the specific execution order within each PowerShell Script). It is advised to only use multiple PS Scripts if you can confirm that the output will line up in the output (pulling different fields of a similar query with the same sort order), as the standard Orchestrator published data engine rules apply to these correlated data sets.

## Execute PS Script

This activity is used to Execute a specified PowerShell Script against a local or remote target host server. This particular activity does not use the configuration created and stored in the Global Configuration (Options Menu) within Orchestrator. So, along with the PS Script 01 - 05 input fields (which can contain a single-line or multi-line PowerShell script (with or without “;”)), each of the standard configuration inputs are also available. This makes the activity self-contained (which allows dynamic configuration data to be used - Published Data, Variables, etc.).

**Input Properties:**

**PS Script 01** (*Text Field*): Used to enter the desired PowerShell Script to be executed. It is best viewed using the Right-Click - Expand functionality, as it can contain a single-line or multi-line PowerShell script. If this field contains “Write-Host” commands, you have the option (set in the configuration settings) to enable output for these commands. If the script in this field has “Write-Host” commands and the “Include Write-Host Script 01 Data Output” field is set to “False”, the “Write-Host” commands will be ignored and will not be available in the output.

**PS Script 02 - 05** (*Text Fields - Optional*): Optionally used to enter desired PowerShell Scripts to be executed. They are best viewed using the Right-Click - Expand functionality, as it can contain a single-line or multi-line PowerShell script. These fields do not have the option to output “Write-Host” data. If the scripts entered in these fields contain “Write-Host” commands, they will be ignored. Only the PS Script 01 field has this option.

**Authentication Method** (*Enum Browser*): Basic, Default, Kerberos, or Negotiate. As mentioned in the last section, please refer to the winrm Authentication Methods for more information (Default = Default).

**Host Name** (*Text Field*): Field where the name of the Host Server is entered.

**Port Number** (*Text Field*): Field where the Port Number for the connection to the target Host Server is entered (Default = 5985).

**Domain Name** (*Text Field*): Field where the name of the Domain to be used as account credentials is entered.

**User Name** (*Text Field*): Field where the name of the User to be used as account credentials is entered.

**Password** (*Password Protected Text Field*): Field where the Password associated with the User Name and Domain is entered.

**Connection Timeout (min)** (*Text Field*): Number of minutes the connection open action will be attempted (Default = 1).

**Script Timeout (min)** (*Text Field*): Number of minutes the operation (script execution) action will be attempted (Default = 4).

**Include Write-Host Script 01 Data Output** (*Boolean Browser*): True or False to determine if the Results from the PS Script 01 Execution will include additional Write-Host output data (Default = False).

**Published Data:**

Account

Authentication Method

Connection Timeout (min)

Domain Name

Host Name

Include Write-Host Script 01 Data Output

PS Execution 01 Result (with Write-Host) Count

PS Execution 01 Results (with Write-Host)

PS Execution 01 - 05 Result Count

PS Execution 01 - 05 Results

PS Script 01 (with Write-Host)

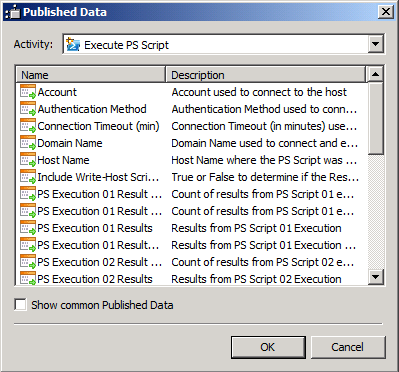
PS Script 01 - 05

Port Number

Script Timeout (min)

URI

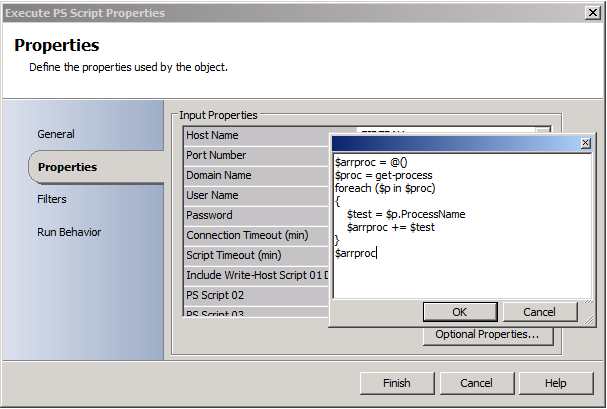
User Name



***Figure I:*** Published Data for “Execute PS Script” Activity

### Functionality

Simply use the available PS Script 01 - 05 fields (Expand recommended) to enter the desired PS Script(s).

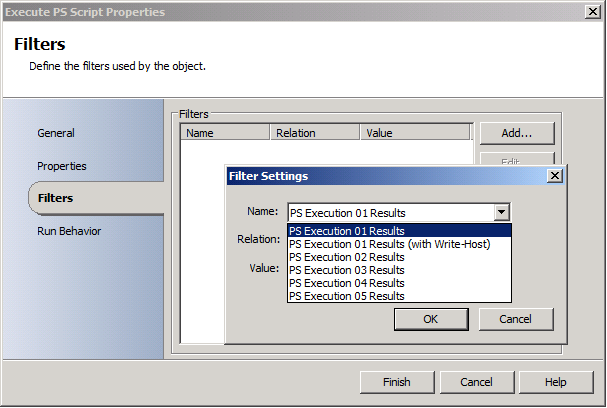


***Figure J:*** Configured “Execute PS Script” Activity.

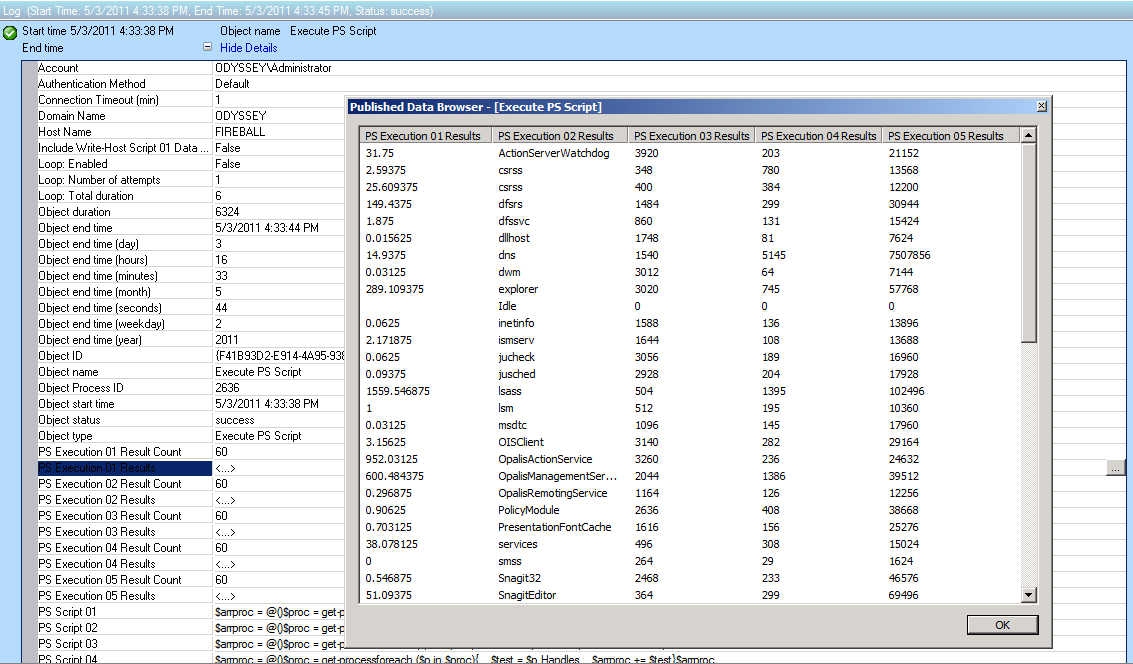
For this activity, you will also have to enter (or subscribe to Published Data/Variables) data in the standard PS connection fields listed above.

The output style will vary depending on the contents of your script. The data will be published either as one blob text field, or if you use arrays, will be published as multi-value output in the Published Data.

Filtering is also available. On the Filters Tab, you can filter the “PS Execution 01 - 05 Results” output. Filtering on “Write-Host” output is also an option if using “Include Write-Host Script 01 Data Output”.



***Figure K:*** Available Filters for the “Execute PS Script” Activity.



***Figure L: Example*** Results from the example script referenced in **Figure J** of the “Execute PS Script” Activity. If you plan your script output, you can have it be something easy to parse with the standard built-in Data Manipulation functions.