

Integrate Windows PowerShell

EventTracker Enterprise

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Abstract

This guide provides instructions to enable Microsoft PowerShell logging for EventTracker.

Scope

The configurations detailed in this guide are consistent with **EventTracker Enterprise** version 7.X and later, and **PowerShell 3.0 and later**.

Audience

Administrators, who wish to monitor PowerShell command or script execution using EventTracker.

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What is PowerShell?

Windows PowerShell is a task automation and configuration management framework from Microsoft, consisting of a command-line shell and associated scripting language built on the .NET Framework. PowerShell comes in two versions: Console and Integrated Scripting Environment (ISE). PowerShell also features SSH like remote shell capability through **Windows Remote Management** (WinRM).

EventTracker amasses and examines logs generated by PowerShell to help an administration to monitor remote session's establishment and execution of rogue scripts or commands.

Enable PowerShell logging

Enable PowerShell logging

1. Open **Group Policy Editor** in Windows.

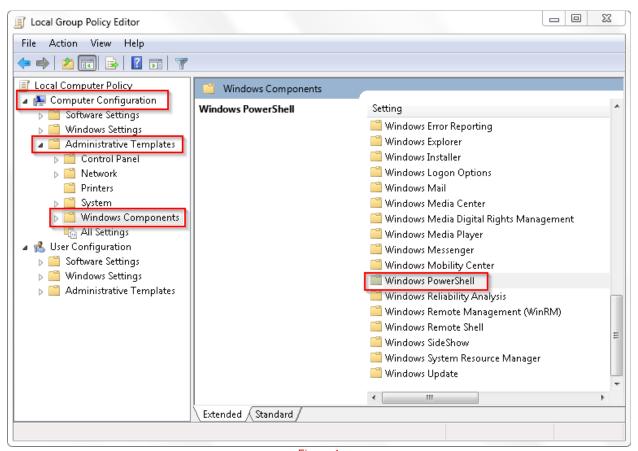


Figure 1



2. Navigate to Computer Configuration>Administrative Templates>Windows Components>Windows PowerShell.

For **PowerShell 3.0 and 4.0**, settings are shown as follows:

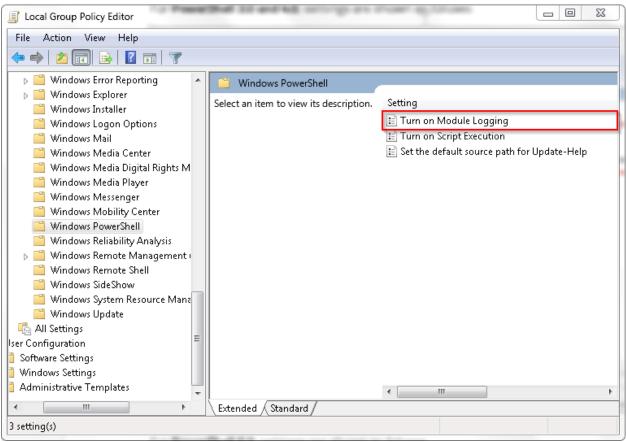


Figure 2

For **PowerShell 5.0**, settings are shown as follows:



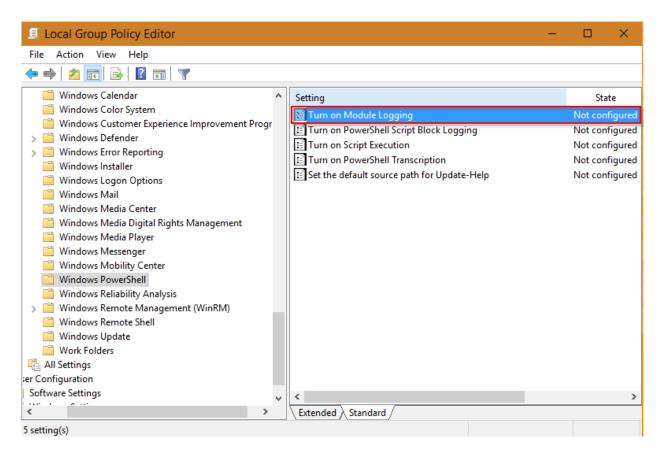


Figure 3

3. Click Turn on Module Logging setting.



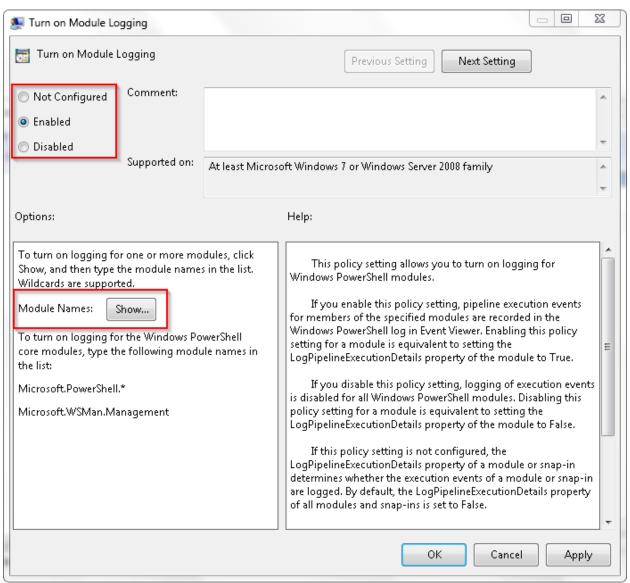


Figure 4

- 3. Select **Enabled**.
- 4. In **Module Names** section, select **Show** to enable logging for selected modules.
- 5. Configure **Module Names** as shown below.

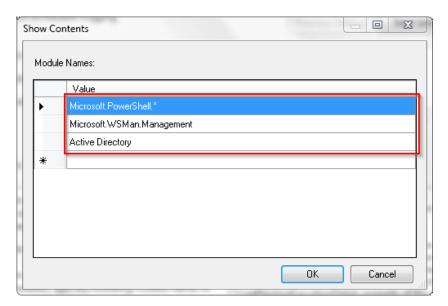


Figure 5

6. Select **OK** and **Apply** to save the changes.

NOTE-

- It is not advised to enable script logging options as it might result into high log volume.
- Select value as '*' in Module Names pane to enable logging for all available modules.

Configure Event viewer

1. Open **Event Viewer** in Windows.



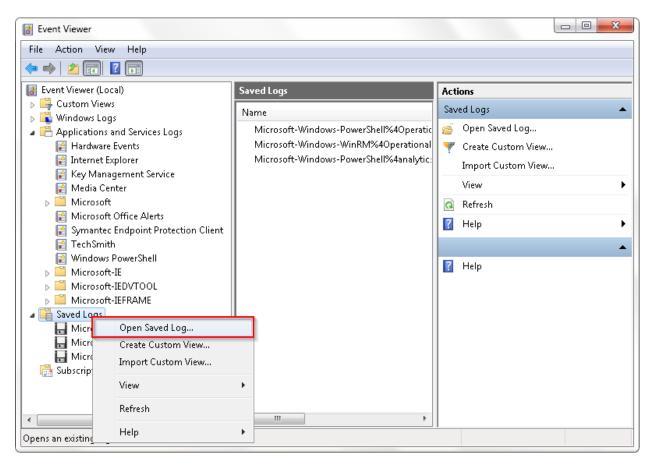


Figure 6

- 2. Right-click **Saved Logs** and select **Open Saved Log...** option.
- 3. Navigate to C:\Windows\System32\winevt\Logs and select following logs.
 - a. Microsoft-Windows-PowerShell%4Operational.evtx
 - b. Microsoft-Windows-WinRM%4Operational.evtx



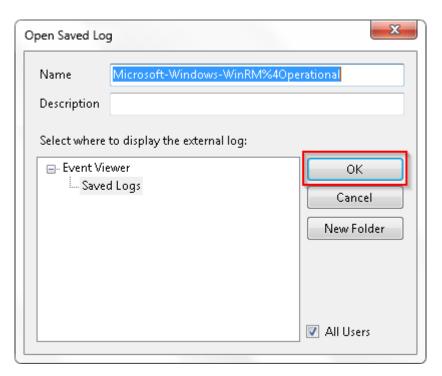


Figure 7

- 4. For both log types, compose **Open Saved Log** dialog settings per convenience.
- 5. Select **OK** to confirm.

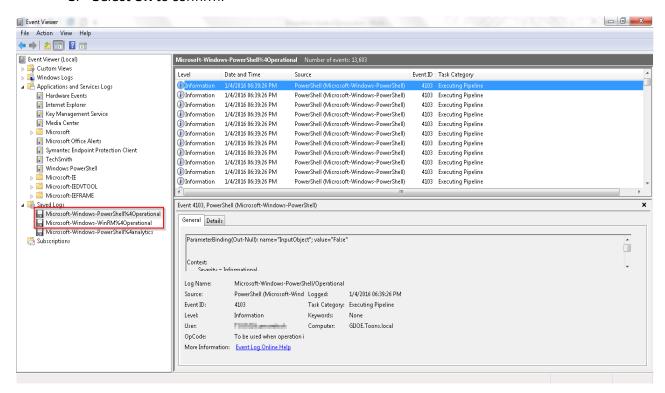


Figure 8



6. PowerShell and WinRM logs can be observed in the right pane.

Configure EventTracker Event Filter

1. Launch EventTracker Control Panel.



Figure 9

2. Double click **EventTracker Agent Configuration**.



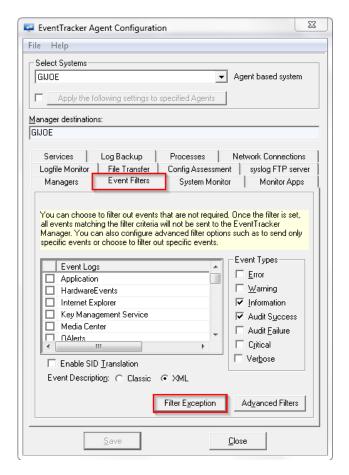


Figure 10

3. Navigate to **Event Filters>Filter Exception**.

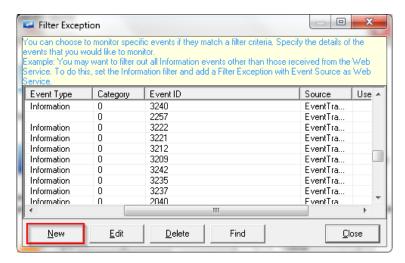


Figure 11

4. Click **New** and compose **Edit Event Details**. Configure settings for relevant events as shown below.



Event ID - **4103**

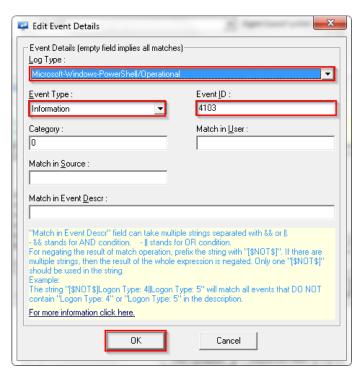


Figure 12

Event ID - 4100

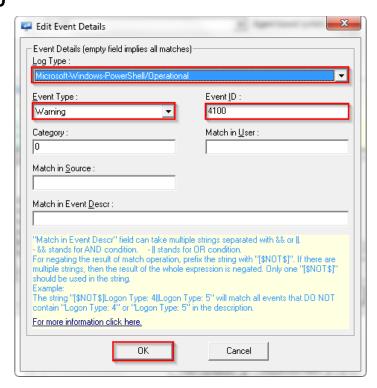


Figure 13



Event ID - 6

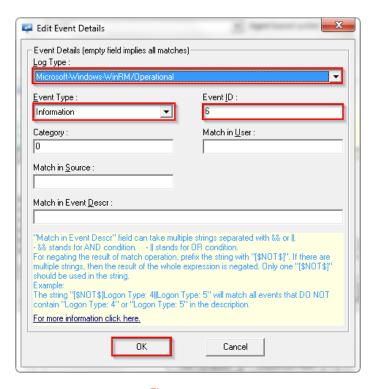


Figure 14

Event ID - 8

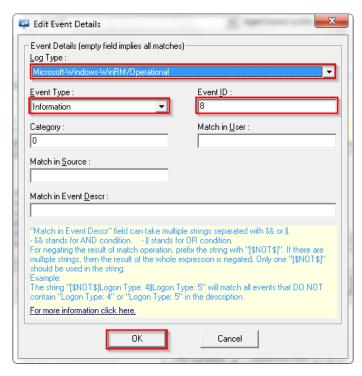


Figure 15



Event ID - 161

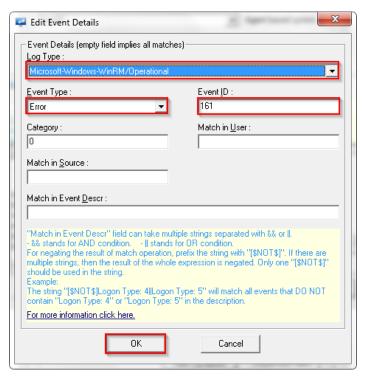


Figure 16

Event ID - 169

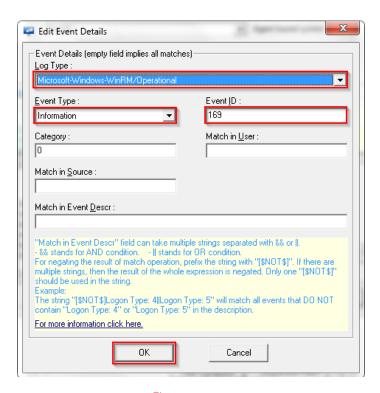


Figure 17



23 EventTracker Agent Configuration File Help Select Systems GIJOE ▼ Agent based system Apply the following settings to specified Agents Manager destinations: Filter Exception You can choose to monitor specific events if they match a filter criteria. Specify the details of the events that you would like to monitor. Example: You may want to filter out all Information events other than those received from the Web. Service. To do this, set the Information filter and add a Filter Exception with Event Source as Web Event ID Event Type Category Log Type Audit Success n 516 513 Audit Success n Audit Success 0 512 Microsoft-Windows-WinRM/Operational Information Microsoft-Windows-WinRM/Operational Error 0 161 Microsoft-Windows-WinRM/Operational Information Ω 169 Microsoft-Windows-WinRM/Operational Information 0 Microsoft-Windows-PowerShell/Operational Warning 0 4100 Microsoft-Windows-PowerShell/Operational Information 4103 <u>E</u>dit Find <u>N</u>ew <u>D</u>elete Close ☐ Ver<u>b</u>ose Enable SID Translation Event Description: C Classic @ XML Filter Exception Advanced Filters Close Save

5. Review the changes and click **OK** to confirm.

Figure 18

6. Click Close and Save to apply the changes.

EventTracker Knowledge Pack (KP)

Once logs are received in to EventTracker, Alerts, Reports and Dashboards can be configured into EventTracker. The following Knowledge Packs are available in EventTracker to support Windows PowerShell monitoring.



Reports

- 1. **Windows PowerShell-Command execution details** This report provides information related to command execution on PowerShell which includes User Name, Host Type, Command Executed and Command Parameters fields.
- 2. **Windows PowerShell-Script execution details** This report provides information related to command execution through script on PowerShell which includes User Name, Host Type, Script Path, Command Executed and Command Parameters fields.
- 3. **Windows PowerShell-Command execution error details** This report provides information related to command execution errors by script or CLI on PowerShell which includes User Name, Host Type, Script Path, Command Executed and Command Parameters fields.
- 4. **Windows PowerShell-Remote session creation details** This report provides information related to PowerShell remote session initialization which includes Computer, User Name and Remote Host fields.
- 5. **Windows PowerShell-Remote session authentication success details** This report provides information related to successful PowerShell remote session authentication which includes Computer, Remote User Name and Authentication Method fields.
- 6. **Windows PowerShell-Remote session authentication failure details** This report provides information related to unsuccessful PowerShell remote session authentication which includes Computer, Event User and Reason fields.

Alerts

- 1. **Windows PowerShell: Command execution failed** This alert is generated when command execution on PowerShell fails.
- 2. **Windows PowerShell: Remote session initiated** This alert is generated when PowerShell remote session is initialized.
- 3. **Windows PowerShell: Remote session user authentication failed** This alert is generated when PowerShell user authentication fails.

Filter

 Windows PowerShell-EventTracker script filter- This filter excludes events generated by EventTracker scripts.



Import Windows PowerShell Knowledge Pack into EventTracker

- 1. Launch EventTracker Control Panel.
- 2. Double click **Import Export Utility**, and then click the **Import** tab.



Figure 19

Import Parsing Rules, Alerts, Reports and Filter as given below.

Import Parsing Rules

- 1. Click **Token Value** option, and then click the browse button.
- 2. Locate **All Windows PowerShell group of tokens.istoken** file, and then click the **Open** button.



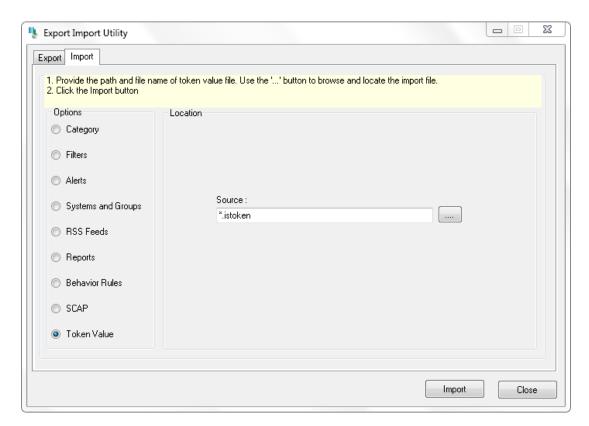


Figure 20

3. To import token value, click the **Import** button.

EventTracker displays success message.

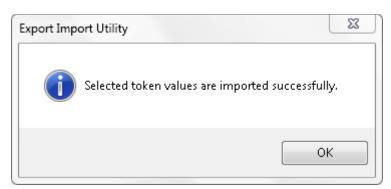


Figure 21

4. Click **OK**, and then click the **Close** button.

Import Alerts

1. Click **Alerts** option, and then click the 'browse' button.



2. Locate **All Windows PowerShell group alerts.isalt** file, and then click the **Open** button.

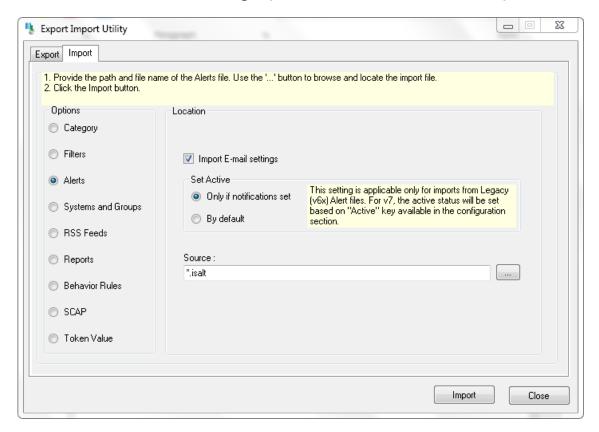


Figure 22

3. To import alerts, click the **Import** button.

EventTracker displays success message.



Figure 23

4. Click **OK**, and then click the **Close** button.



Import Flex Reports

- 1. Click **Reports** option, and then click the 'browse' button.
- 2. Locate All Windows PowerShell group reports.issch file, and then click the Open button.

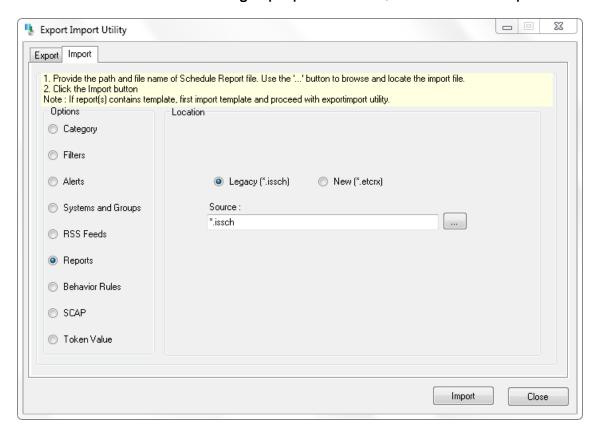


Figure 24

3. To import scheduled reports, click the **Import** button.

EventTracker displays success message.



Figure 25

4. Click **OK**, and then click the **Close** button.



Import Filters

- 1. Click **Reports** option, and then click the 'browse' button.
- 2. Locate Windows PowerShell Filter.isfil file, and then click the Open button.

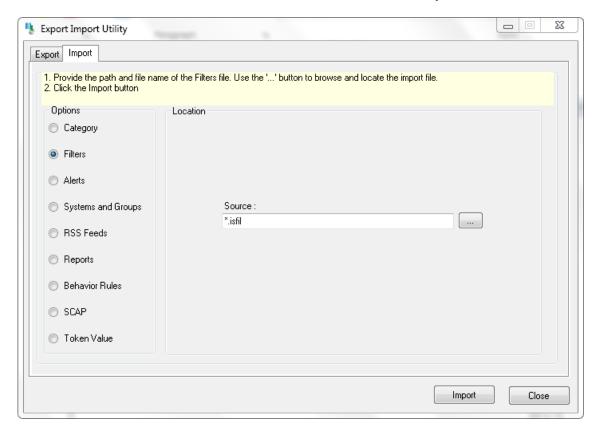


Figure 26

3. To import filters, click the **Import** button.

EventTracker displays success message.



Figure 27

4. Click **OK**, and then click the **Close** button.



Verify Windows PowerShell knowledge pack in EventTracker

Verify Parsing Rules

- 1. Logon to EventTracker Enterprise.
- 2. Click the **Admin** menu, and then click **Parsing Rule**.
- 3. In **Token Value Group Tree** to view imported token values, scroll down and click **Windows PowerShell group** folder.

Token values are displayed in the token value pane.

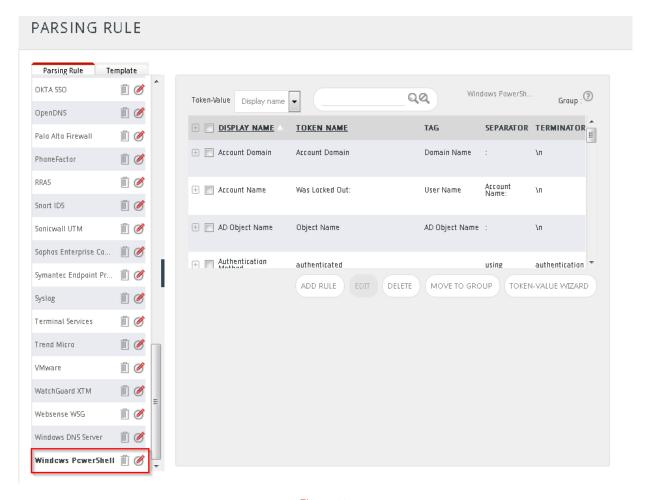


Figure 28



Verify Alerts

- 1. Logon to **EventTracker Enterprise**.
- 2. Click the Admin menu, and select Alerts.
- 3. In **Search** field, type **'powershell'**, and then click the Sutton.

Alert Management page will display all the imported PowerShell alerts.

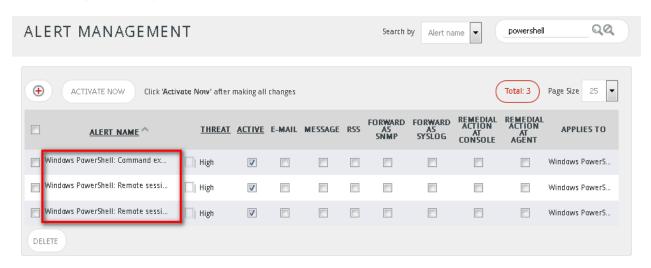


Figure 29

4. To activate the imported alerts, select the respective checkbox in the **Active** column.

EventTracker displays message box.

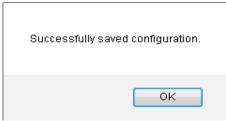


Figure 30

5. Click **OK**, and then click the **Activate Now** button.

NOTE: Please specify appropriate **systems** in **alert configuration** for better performance.

Verify Flex Reports

1. Logon to EventTracker Enterprise.



- 2. Click the **Reports** menu and select **Configuration**.
- 3. Select **Defined** in report type.
- 4. To view imported flex reports In **Report Groups Tree**, scroll down and click **Windows PowerShell group** folder.

Imported reports are displayed in the Reports Configuration pane.

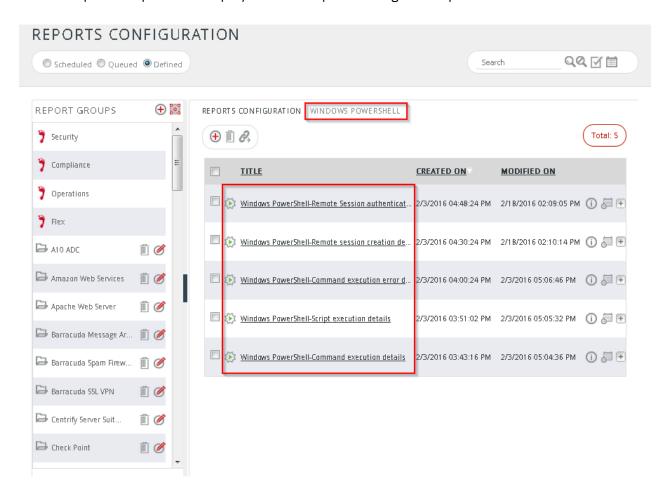


Figure 31

Verify Event Filters

- 1. Logon to EventTracker Enterprise.
- 2. Click the Admin menu, and select Event Filters.

Event Filters page will display all the imported PowerShell filter.



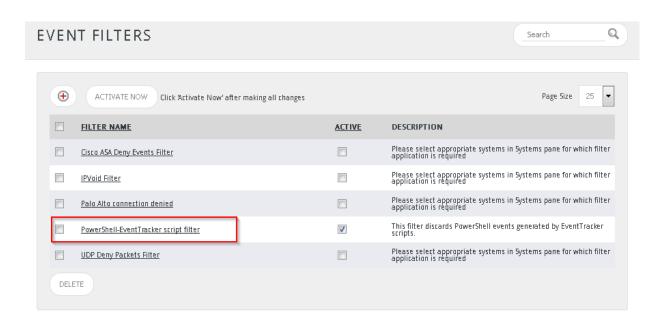


Figure 32

4. To activate the imported alerts, select the respective checkbox in the **Active** column.

EventTracker displays message box.

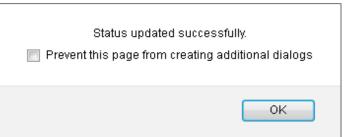


Figure 33

5. Click **OK**, and then click the **Activate Now** button.

NOTE: Please specify appropriate **systems** in **filter wizard** for better performance.

Create Dashboards in EventTracker Schedule Reports

1. Open **EventTracker** in browser and logon.



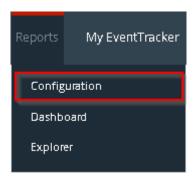


Figure 34

2. Navigate to **Reports>Configuration**.

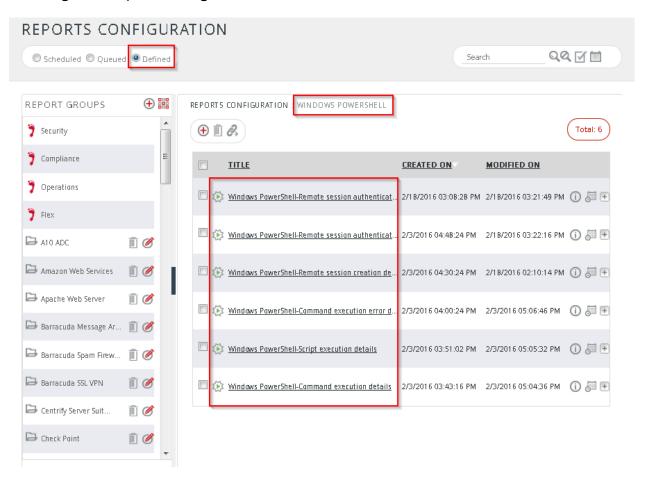


Figure 35

- 3. Select 'Windows PowerShell' in report groups. Check defined dialog box.
- 4. Click on 'schedule' to plan a report for later execution.



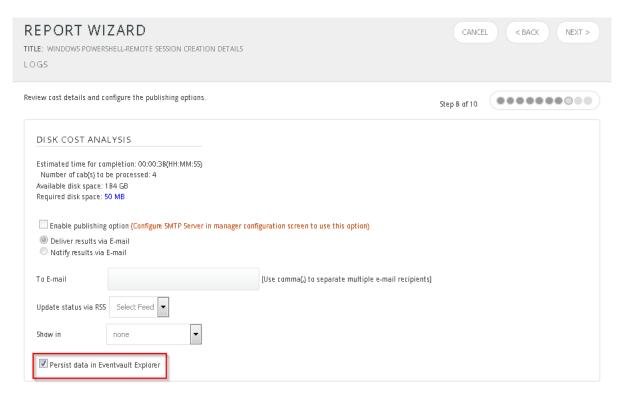


Figure 36

5. Choose appropriate time for report execution and in **Step 8** check **Persist data in Eventvault explorer** box.



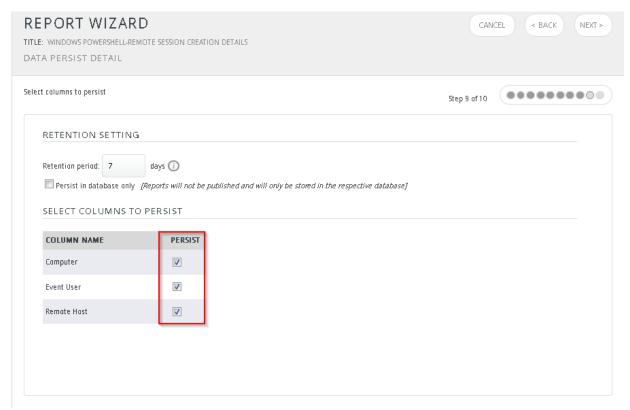


Figure 37

- 6. Check column names to persist using **PERSIST** checkboxes beside them. Choose suitable **Retention period**.
- 7. Proceed to next step and click **Schedule** button.
- 8. Wait for scheduled time or generate report manually.

Create Dashlets

- 1. **EventTracker 8** is required to configure flex dashboard.
- 2. Open **EventTracker** in browser and logon.



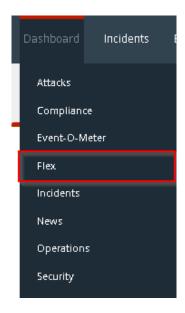


Figure 38

3. Navigate to **Dashboard>Flex**. Flex Dashboard pane is shown.

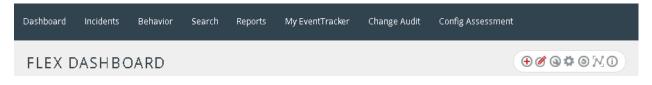


Figure 39

4. Click • to add a new dashboard.
Flex Dashboard configuration pane is shown.

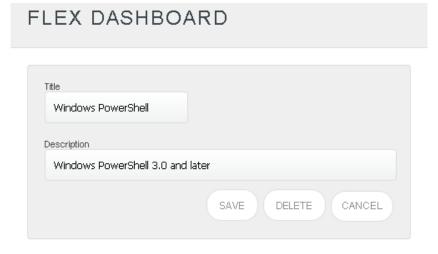


Figure 40



- 5. Fill fitting title and description and click **Save** button.
- 6. Click to configure a new flex dashlet. Widget configuration pane is shown.

WIDGET CONFIGURATION

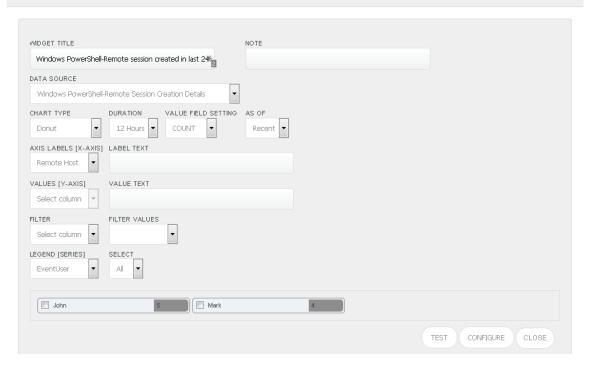


Figure 41

- 7. Locate earlier scheduled report in **Data Source** dropdown.
- 8. Select **Chart Type** from dropdown.
- 9. Select extent of data to be displayed in **Duration** dropdown.
- 10. Select computation type in Value Field Setting dropdown.
- 11. Select evaluation duration in **As Of** dropdown.
- 12. Select comparable values in **X Axis** with suitable label.
- 13. Select numeric values in Y Axis with suitable label.
- 14. Select comparable sequence in Legend.
- 15. Click **Test** button to evaluate. Evaluated chart is shown.



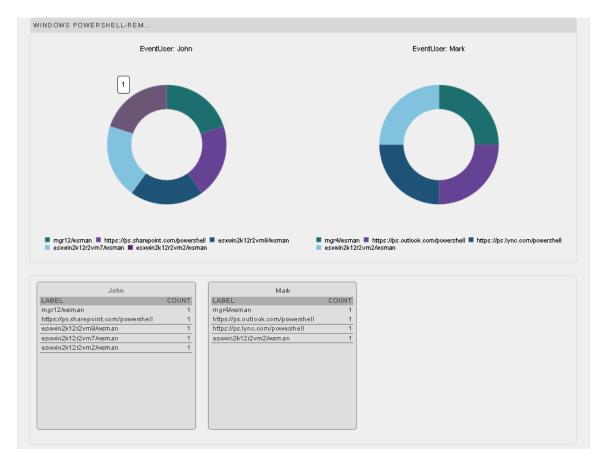


Figure 42

16. If satisfied, click **Configure** button.



Figure 43

- 17. Click 'customize' (a) to locate and choose created dashlet.
- 18. Click 🛨 to add dashlet to earlier created dashboard.



Sample Dashboards

Windows PowerShell-Remote session created in last 24 hrs

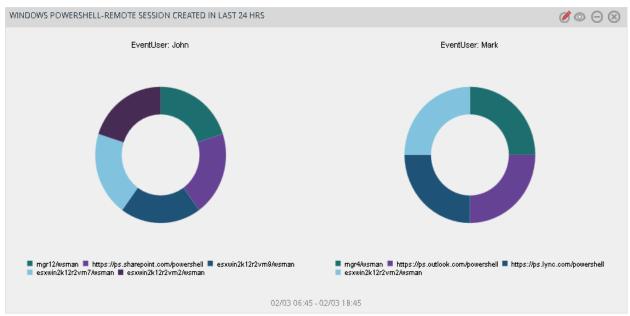


Figure 44



Sample Reports

• Windows PowerShell-Command execution error details

Windows PowerShell-Command execution error details						
LogTime	Computer	User Name	Host Type	Script Path	Command Executed	Error Details
02/29/2016 02:47:59 PM	MGR23	ADMINVim	Windows PowerShell ISE Host	C:\Downloads\Healt hCheck.ps1	Out-File	Error Message = Could not find a part of the path 'C:\Scripts\Test.htm'. Fully Qualified Error ID = FileOpenFailure,Microsoft.Po werShell.Commands.OutFile Command
02/29/2016 02:49:09 PM	MGR23	ADMINVim	Windows PowerShell ISE Host	C:\Downloads\Healt hCheck.ps1	Out-File	Error Message = Could not find a part of the path 'C:\Scripts\Test.htm'. Fully Qualified Error ID = FileOpenFailure,Microsoft.Po werShell.Commands.OutFile Command
02/29/2016 02:53:00 PM	HR43	ADMINVim	RemoteHost		Invoke- WebRequest	Error Message = X Network Access Message: The page cannot be displayed Explanation: There is a problem with the page you are trying to reach and it cannot be displayed.

Figure 45



• Windows PowerShell-Script execution details

	Windows PowerShell-Script execution details							
LogTime					Command	Command Parameters		
02/29/2016 02:41:46 PM	MGR44	ADMINVim	RemoteHost	C:Wsers'tom'Downloads'PowerSpl oit'Recon'PowerView.ps1	New-Object	ParameterBinding(New- Object): name="Property"; value="System.Collectio		
02/29/2016 02:41:47 PM	MGR44	ADMINWim	RemoteHost	C:\Users\tom\Downloads\PowerSpl oit\Recon\PowerView.ps1	New-Object	ParameterBinding(New- Object): name="TypeName";		
02/29/2016 02:47:59 PM	HR23	ADMINWim	Windows PowerShell Host	C:\HealthCheck.ps1	Get-Content	ParameterBinding(Get- Content): name="Path"; value="C:\scripts\test.ht		
02/29/2016 02:47:59 PM	HR23	ADMINWim	Windows PowerShell Host	C:\HealthCheck.ps1	Get-Content	ParameterBinding(Get- Content): name="ErrorAction";		
02/29/2016 02:47:59 PM	HR23	ADMINWim	Windows PowerShell Host	C:\HealthCheck.ps1	Out-File	ParameterBinding(Out- File): name="FilePath"; value="C:\Scripts\Test.h		
02/29/2016 02:47:59 PM	PRO22	MGMTWartha	Windows PowerShell ISE Hos	C:\Users\tom\Downloads\UpdateCh t eck.ps1	New-Object	ParameterBinding(New- Object): name="TypeName";		
02/29/2016 02:47:59 PM	PRO22	MGMTWartha	Windows PowerShell ISE Hos	C:\Scripts\UpdateCheck.ps1 t	New-Object	ParameterBinding(New- Object):		
02/29/2016 02:47:59 PM	PRO22	MGMT\Martha	Windows PowerShell ISE Hos	C:\Scripts\UpdateCheck.ps1 t	Invoke- Expression	ParameterBinding(Invok e-Expression): name="Command":		

Figure 46



