

TAKING AUTOMATION TO TASK

STEVEN JUDD

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#PSHSummit



WHO AM I?

- Steven Judd
 - Multi-year, multi-discipline IT Pro
 - PowerShell enthusiast
 - Dad joke enthusiast
 - Fashion icon
 - Maybe not...



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THE BASICS

- We are talking about Task Scheduler in Windows
 - I hope you stick around after hearing this
 - If not, then “be-cron” you haters!
- Task Scheduler is not cross platform
- Therefore, we will be using Windows PowerShell
 - Well, sort of...
- Note: we will not be discussing Clustered Tasks for Windows Clusters

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OUR FOCUS

- PowerShell cmdlets from the ScheduledTasks module
 - Version 1.0.0.0
- Updates? Nope!
- Bug fixes? Nope!
- Security issues fixed? Probably...
 - There haven't been any since the 1.0.0.0 release?

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WHO USES SCHEDULED TASKS?

- Get-ScheduledTask
 - The object is, um, interesting
 - Not all tasks are returned
 - Nor are they if you use schtasks.exe
 - But they are visible in the UI (wut?)
- To the prompt!

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THE BASICS: CREATING A SCHEDULED TASK

- Let's create some scheduled tasks
 - This is where things start to get interesting
 - Similar to using the New-AzVM cmdlet from the Az module, you have to build your object using other cmdlets
- To the code!

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WHAT'S MISSING

- Monthly Triggers
- Daily Trigger repetition (the UI allows it)
- Event Trigger options, like ExecutionTimeLimit
- And more... (foreshadowing)
 - [schtasks create | Microsoft Learn](#)
- Recommendation: use the One Time (Once) trigger type with parameters RepetitionInterval and RepetitionDuration (don't set for indefinite duration) and don't setup multiple triggers per task

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TASK MASTER

- Enable Task History
 - Disabled by default
 - Use GPO or any configuration management tool to enforce Task History is set to enabled
- Use the Event Viewer for task status
 - Microsoft-Windows-TaskScheduler/Operational
 - Increase the size of the file from the default of 10MB

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TASK MASTERER

- May I see some ID, please?
 - ID107 – Task Triggered
 - ID129 – Create Task Process
 - This event has the Process ID
 - ID100 – Task Started
 - ID200 – Action Started
 - ID201 – Action Completed
 - ID102 – Task Completed

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HEY JOB! ARE YOU OK?

- I see you still have your wife and 3 friends...
 - ID322 – Launch Request Ignored
 - ID325 – Launch Request Queued
 - ID329 – Task Stopping Due To Timeout
 - ID332 – Launch Condition Not Met
- [Task Monitoring and Control | Microsoft Learn](#) (2008R2)
 - Where is the current documentation?

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TRUST NO I

- IDI0T events?
 - IDI41 – Task Registration Deleted
 - IDI42 – Task Disabled
 - IDI40 – Task Registration Updated
- To the events!

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ANALYSIS TO AVOID PARALYSIS

- Welcome to the rabbit hole
- Check all of your tasks
- Build execution correlations and durations
- Load balance your tasks across multiple servers
- Ensure that your Tasks are properly handling issues
 - ExecutionTimeLimit is your friend
 - Which one though?
- Follow the white rabbit, Neo!

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GETTIN' FANCY

- See when your tasks run and how long they run
 - Focus is on time based triggers
 - Would be nearly impossible to map event-driven tasks
 - On idle (should your servers be “idle”?)
 - On an event (could be powerful to run a task based on an event in the Event Log, but impossible to predict)
- Since PowerShell is like the sea, let's see shells!

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CONCLUSION

- Pay attention to your tasks
- Setup triggers for tasks that don't complete
- Don't use the default durations
- Setup Restart Intervals and Counts
- Analyze how long your tasks take to run on average
- Enforce Task History
- Be consistent

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YOU KNEW IT WAS COMING...

- Now that you are an expert at making your tasks do what you want them to do when you want them to do it, get those tasks to work for you and have your leaders come and ask you how you are getting so much accomplished.
- And you'll say, "it's because you're a Task Master"
 - **Disclaimer:** I am not responsible for CLMs or RGEs

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STAY IN TOUCH

- Twitter: @stevenjudd
- LinkedIn: <https://www.linkedin.com/in/stevenjudd/>
- PowerShell Bridge Channel
 - <http://poshcode.org/>
 - Discord: <https://discord.gg/Ju25cw6> << use this one
 - Slack: <https://tinyurl.com/sm3by7m>
- Discord: @juddmissile#7741 (does anyone understand the numbers?)
- ICQ: 340799 🌸 (I'm not actually on ICQ...)
- <http://blog.stevenjudd.com> (needs CSS help...)
- <https://github.com/stevenjudd>

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