## Creating a Scheduled task to run a PowerShell script

The first thing I need to create a scheduled task to run a Windows PowerShell script is the command line that I will execute. The easy way to find this is to use the Run command. At times, I need to know what the command-line switches are for PowerShell.exe. To see these, I open Windows PowerShell and type *powershell /?* and then I examine the output that displays. The command and the output from the command are shown here.

\_\_\_\_ × **PowerShell 3** PS C:\> powershell /? ~ PowerShell[.exe] [-PSConsoleFile <file> | -Version <version>] [-NoLogo] [-NoExit] [-Sta] [-Mta] [-NoProfile] [-NonInteractive] [-InputFormat {Text | XML}] [-OutputFormat {Text | XML}] [-WindowStyle <style>] [-EncodedCommand <Base64EncodedCommand>] [-File <filePath> <args>] [-ExecutionPolicy <ExecutionPolicy>] [-Command { - | <script-block> [-args <arg-array>] | <string> [<CommandParameters>] }] PowerShell[.exe] -Help | -? | /? -PSConsoleFile Loads the specified Windows PowerShell console file. To create a console file, use Export-Console in Windows PowerShell. -Version Starts the specified version of Windows PowerShell. Enter a version number with the parameter, such as "-version 2.0". -NoLogo Hides the copyright banner at startup. -NoExit Does not exit after running startup commands. -Sta Starts the shell using a single-threaded apartment. Single-threaded apartment (STA) is the default. -Mta Start the shell using a multithreaded apartment. -NoProfile Does not load the Windows PowerShell profile.

When I know which switches to use, I practice my command via Run. The following image illustrates using Run to launch Windows PowerShell and to run a Windows PowerShell script. Keep in mind that this will open, and close Windows PowerShell, which is fine for a script producing a report. In testing, I often use the –noexit switch to see any errors arising from the operation.

| 7   | Type the name of a program, folder, document, or Internet<br>resource, and Windows will open it for you. |
|-----|----------------------------------------------------------------------------------------------------------|
| en: | powershell -file "C:\Fso\HTML_Uptime_FreespaceReport                                                     |
|     | This task will be created with administrative privileges                                                 |

When I know the command line, I use the Task Scheduler tool, and create a new basic task. First, I need to assign a name and a description. I find it useful to provide a good description as well as a decent name because it facilitates performing maintenance on the task.

| Create a Basic Task | sic Task      | ed to quickly schedule a common tack. For more advanced options or settings     |
|---------------------|---------------|---------------------------------------------------------------------------------|
| Trigger             | such as multi | iple task actions or triggers, use the Create Task command in the Actions pane. |
| Action              | Name:         | Run Server Uptime report                                                        |
|                     | Description:  | uptime report.                                                                  |
|                     |               |                                                                                 |

The next pane is the Task Trigger pane. It is pretty basic, and self-explanatory. Because I want to create a daily task, I leave that selected. After it is created, it is easy to edit the scheduled task to make it run the task more often, such as every hour if that is the need. One reason I use the Basic Task Wizard is that it is easy to get through the steps needed to create the basic task. I always edit stuff later. The Task Trigger pane is shown here.

| Create Basic Task Wizard                           |                                                                                                                                                                                                                             |        |        | ×      |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|
| Task Trigger                                       |                                                                                                                                                                                                                             |        |        |        |
| Create a Basic Task<br>Trigger<br>Action<br>Finish | <ul> <li>When do you want the task to start?</li> <li>Daily</li> <li>Weekly</li> <li>Monthly</li> <li>One time</li> <li>When the computer starts</li> <li>When I log on</li> <li>When a specific event is logged</li> </ul> |        |        |        |
|                                                    |                                                                                                                                                                                                                             | < Back | Next > | Cancel |

Now it is time to set the schedule for the task. In this example, the task runs every morning at 7:00 AM beginning on August 11, 2012.

| Create Basic Task Wizard                                    |                                   | ×      |
|-------------------------------------------------------------|-----------------------------------|--------|
| Daily                                                       |                                   |        |
| Create a Basic Task<br>Trigger<br>Daily<br>Action<br>Finish | Start: 8/11/2012     Recur every: |        |
|                                                             | < Back Next >                     | Cancel |

In the Action pane that follows, I select that we want the scheduled task to Start a program, and then click Next.

| Create Basic Task Wizard       |                                              | ×      |
|--------------------------------|----------------------------------------------|--------|
| O Action                       |                                              |        |
| Create a Basic Task<br>Trigger | What action do you want the task to perform? |        |
| Daily                          |                                              |        |
| Action                         | <ul> <li>Start a program</li> </ul>          |        |
| Finish                         | O Send an e-mail                             |        |
|                                | O Display a message                          |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                |                                              |        |
|                                | < Back Next >                                | Cancel |

In the Start a Program pane, I cheat by placing the command I tested previously from the Run box into the Program/script box. I then click Next. The Start a Program pane is shown here.

| Create Basic Task Wizard |                                                                  | ×    |
|--------------------------|------------------------------------------------------------------|------|
| 5tart a Program          |                                                                  |      |
| Create a Basic Task      |                                                                  |      |
| Trigger                  | Program/script:                                                  |      |
| Daily                    | powershell -file "C:\Fso\HTML_Uptime_FreespaceReport.ps1" Browse |      |
| Action                   |                                                                  |      |
| Start a Program          | Add arguments (optional):                                        | _    |
| Finish                   | Start in (optional):                                             |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          |                                                                  |      |
|                          | < Back Next > Ca                                                 | ncel |

Here is where the *cheating* part comes in to play. I used, directly, the command I tested in the Run box for my program. Rather than attempting to break things up, I simply copied the entire line. The Scheduled Task Wizard is smart enough to know what I wanted to do. It prompts, but it knows. The prompt appears here.



When I have completed the Create Basic Task Wizard, I want to open the task and make a couple of additional changes. The easy way to do this is to select the Open the Properties dialog for this task when I click Finish, as shown here.

| Create Basic Task Wizard                     |                                                   |                                                                                                                                               |                                                             |                                 | ×                           |
|----------------------------------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------------|-----------------------------|
| Create a Basic Task                          | Name                                              | Run Server Uptime report                                                                                                                      |                                                             |                                 |                             |
| Daily<br>Action<br>Start a Program<br>Finish | Name:<br>Description:                             | Launches PowerShell script, ca                                                                                                                | .fso\ServerUptime                                           | .ps1, that gene                 | rates the                   |
|                                              | Trigger:<br>Action:<br>☑ Open the<br>When you cli | Daily; At 7:00 AM every day<br>Start a program; powershell -fil<br>Properties dialog for this task wh<br>ick Finish, the new task will be cre | e "C:\Fso\HTML_U<br>en I click Finish<br>eated and added to | Jptime_Freespa<br>o your Window | ceReport.ps1<br>s schedule. |
|                                              |                                                   |                                                                                                                                               | < Back                                                      | Finish                          | Cancel                      |

Because the task runs on a server, and because one might not be logged on to the server at the time the task is to run, it makes sense to tell the task to run whether or not the user is logged on. This opens a credential dialog, and allows me to set the password for the task. This option appears on the General tab of the scheduled job as shown in the image here.

| Name:                                                      | Run Server Uptime report                         |                                                  |  |
|------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--|
| ocation:                                                   | X                                                |                                                  |  |
| Author:                                                    | IAMMRED\administrator                            |                                                  |  |
| )escription:                                               | Launches PowerShell script, c:\fso\ServerUpti    | me.ps1, that generates the server uptime report. |  |
| Security op                                                | tions                                            |                                                  |  |
| When runn                                                  | ing the task, use the following user account:    |                                                  |  |
| IAMMRED                                                    | administrator                                    | Change User or Group                             |  |
| C Run onl                                                  | y when user is logged on                         |                                                  |  |
|                                                            | ther user is logged on or not                    |                                                  |  |
| Run who                                                    | not store password. The task will only have acce | ess to local computer resources.                 |  |
| Run who<br>Do r                                            |                                                  |                                                  |  |
| <ul> <li>Run who</li> <li>Do r</li> <li>Run wit</li> </ul> | h highest privileges                             |                                                  |  |

When I have completed configuring the scheduled task, I always right-click the job and select Run. Then I examine the job history to ensure that the task completed properly. The History tab of the scheduled job is shown here.

| 🕑 Task Scheduler                     |                                                                                            | - D ×                       |
|--------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------|
| File Action View Help                |                                                                                            |                             |
| 🗢 🔿 🖄 🗖 🔽 🗖                          |                                                                                            |                             |
| Task Scheduler (Local)               | Name Status Triggers Next Run Time Last Run Time Last Run Result Author Created            | Actions                     |
| Task Scheduler Library     Microsoft | Run Server U Ready At 7: 8/11/2012 7:00:00 8/10/2012 The operatio IAM 8/10/2012 5:06:42 PM | Task Scheduler Library 🔺    |
|                                      |                                                                                            | Oreate Basic Task           |
|                                      |                                                                                            | 🕙 Create Task               |
|                                      |                                                                                            | Import Task                 |
|                                      |                                                                                            | Display All Running Tasks   |
|                                      |                                                                                            | 🛃 Disable All Tasks History |
|                                      |                                                                                            | Mew Folder                  |
|                                      |                                                                                            | View                        |
|                                      | General Triggers Actions Conditions Settings History                                       | G Refresh                   |
|                                      | V Number of events: 10                                                                     | Help                        |
|                                      | Level Date a Even Task Category Operational Code Correlation Id                            |                             |
|                                      | Inf 8/10/2 140 Task registratio Info                                                       | Selected Item 🔺             |
|                                      | (i)Inf 8/10/2 102 Task completed (2) e0853a20-4                                            | Run                         |
|                                      | () Inf 8/10/2 201 Action completed (2) e0853a20-4                                          | End                         |
|                                      | i) Inf 8/10/2 200 Action started (1) e0853a20-4                                            | Disable                     |
|                                      | Inf 8/10/2 100 Task Started (1) e0853a20-4                                                 | Export                      |
|                                      | (i) Inf 8/10/2 319 Task Engine rec (1)                                                     | Properties                  |
|                                      | Inf 8/10/2 110 Task triggered Info e0853a20-4      Inf 8/10/2 140 Task registratio Info    |                             |
|                                      | Emet 140 Task Calendaria                                                                   |                             |
|                                      |                                                                                            | M Help                      |
|                                      | General Details                                                                            |                             |
|                                      |                                                                                            |                             |
|                                      | User "IAMMRED\administrator" updated Task Scheduler task "\Run Server Uptime report"       |                             |
| <b>/</b>                             |                                                                                            | L                           |
| 1                                    |                                                                                            |                             |

Well, that is about all there is to creating a scheduled job to run a Windows PowerShell script. In Windows 8 and Windows Server 2012, there are Windows PowerShell cmdlets to create the scheduled job and to create the job triggers and actions—but that will be the subject of a later Hey, Scripting Guy! Blog post.