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# What's new in PowerShell V3 for Windows 8

Glen Gordon  
Developer Evangelist  
Microsoft Corporation  
<http://glengordon.name>  
@glengordon

Robert Cain  
Sr. BI Consultant  
Pragmatic Works  
[arcanecode.com](http://arcanecode.com)  
@ArcaneCode

# What's new?

- The new ISE
- Language Enhancements
- Cmdlet and Provider Changes
- Default Parameters
- Workflow
- PowerShell Web Access
- Management OData Web Services

# The New ISE

- IntelliSense!
- Command pane
- Snippets
- Collapsible regions

# Language Improvements

- Where-Object
  - Old: Where-Object { \$\_.<property name> }
  - New: Where-Object <property name>
- Select-String
  - `sls -path c:\test.txt -pattern 'Hello'`
- -in and -notin
  - `$value = 3`  
`if ($value -in (1,2,3)) {"The number $value is a member of the array"}`
  - `4 -notin (1,2,3) #prints True`

# Cmdlet and Provider Changes

- New Parameters for Get-ChildItem
  - -Directory [<SwitchParameter>]
  - -File [<SwitchParameter>]
  - -Attributes <FileAttributes>
  - -Hidden, -ReadOnly, -System
- Get-Command
  - Adds by command capability (Unknown, Cmdlet, Script...)
- Restart-Computer
  - -Wait
  - Delay, Timeout and For parameters

# Cmdlet and Provider Changes

- Get-Content
  - -Raw
- Export-CSV
  - -Append
- Out-GridView enhancements
  - -Wait
  - -PassThrough
  - -OutputMode (Single, Multiple, None)

# Default Parameters

- `$PSDefaultParameterValues`
  - `$PSDefaultParameterValues = @{  
"Out-GridView:Outputmode" = "Multiple"  
}`
  - `$PSDefaultParameterValues = @{  
"get-eventlog:logname" = "system";  
"get-eventlog:newest" = 5  
}`
  - `$PSDefaultParameterValues."get-eventlog:newest" = 10`
  - `$PSDefaultParameterValues.Remove("get-eventlog:newest")`
  - `$PSDefaultParameterValues.Clear()`

# Workflow

- Directs scripting to Windows Workflow Foundation
- Allows for longer, more complex scripts
  - Different tasks
  - Specific sequence
  - Over time
- Tasks may be interrupted
- Language constraints
  - Can't use *Switch*, must use *parallel foreach*

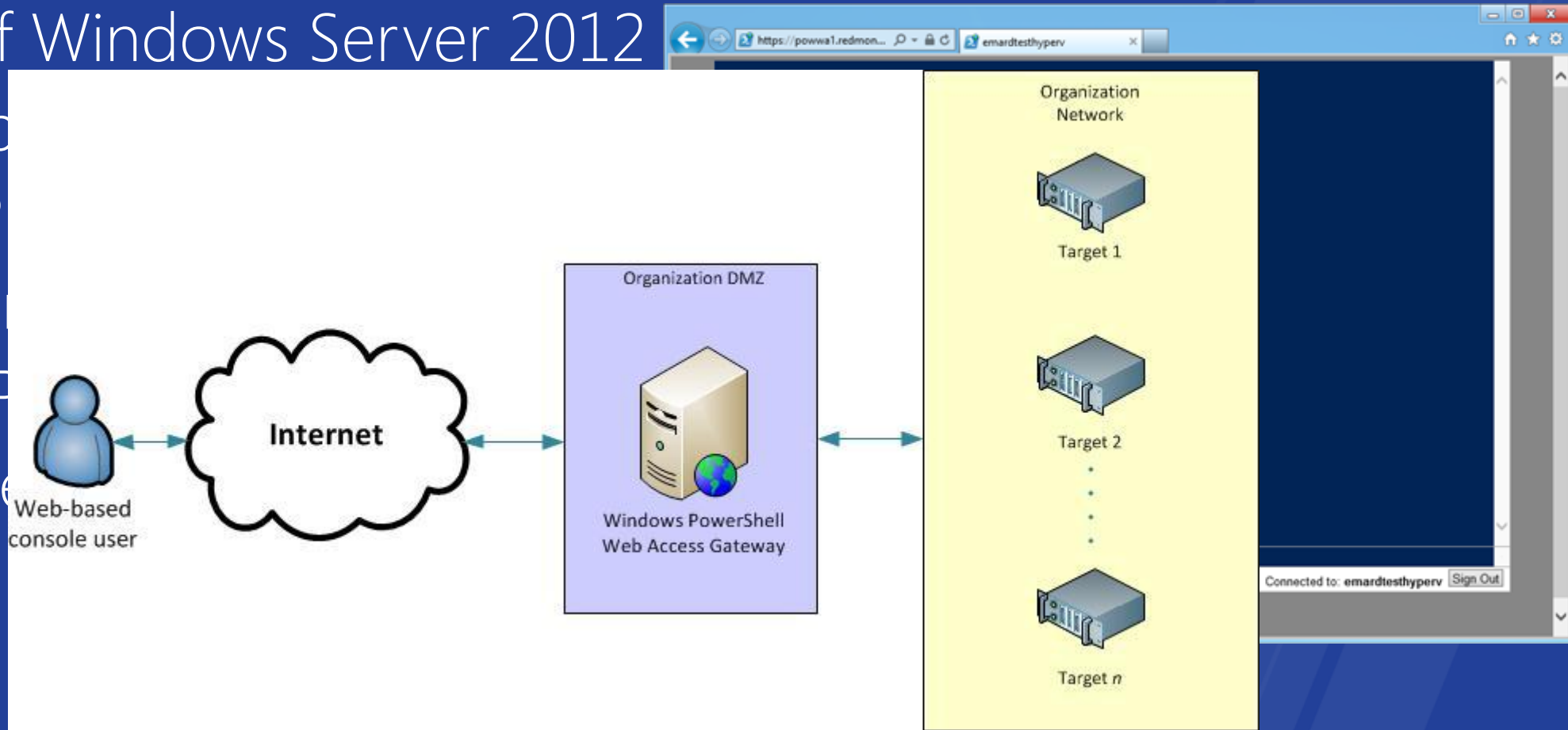


# Workflow Benefits

- Automation of sequenced, long-running tasks
- Remote monitoring of long-running tasks
- Multicomputer management.
- Single task execution of complex processes.
- Persistence
- Robustness
- Disconnect, reconnect, and run in disconnected sessions
- Scheduling
- Workflow and Connection Throttling

# PowerShell Web Access

- Feature of Windows Server 2012
- IIS web application
- Delivers PowerShell
- Supports
- Requires PowerShell
- Multiple sessions



# Management OData Web Services

- Feature of Windows Server 2012
- Web service endpoints
- Provides RESTful access to PowerShell cmdlets and scripts
- Management OData Schema Designer

# Management OData Examples

<http://localhost:7000/MODataSvc/Microsoft.Management.Odata.svc>

```
<?xml version="1.0" encoding="UTF-8"?>
- <service xmlns="http://www.w3.org/2007/app" xmlns:atom="http://www.w3.org/2005/Atom"
xml:base="http://localhost:7000/MODataSvc/Microsoft.Management.Odata.svc/">
  - <workspace>
    <atom:title>Default</atom:title>
    - <collection href="CommandDescriptions">
      <atom:title>CommandDescriptions</atom:title>
    </collection>
    - <collection href="Service">
      <atom:title>Service</atom:title>
    </collection>
    - <collection href="Process">
      <atom:title>Process</atom:title>
    </collection>
    - <collection href="CommandInvocations">
      <atom:title>CommandInvocations</atom:title>
    </collection>
  </workspace>
</service>
```

# Management OData Examples

<http://localhost:7000/MODataSvc/Microsoft.Management.Odata.svc/Process>

[Microsoft.Management.Odata.svc/Process?\\$filter=\(Handles gt 1000\)](http://localhost:7000/MODataSvc/Microsoft.Management.Odata.svc/Process?$filter=(Handles%20gt%201000))

[Microsoft.Management.Odata.svc/Process?\\$format=JSON](http://localhost:7000/MODataSvc/Microsoft.Management.Odata.svc/Process?$format=JSON)

# References

- PowerShell v3 Guide
  - <http://social.technet.microsoft.com/wiki/contents/articles/4725.powershell-v3-guide-en-us.aspx>
- PowerShell v3 New CmdLets
  - <http://social.technet.microsoft.com/wiki/contents/articles/6417.powershell-v3-new-cmdlets.aspx>
- PowerShell v3 Featured Articles
  - <http://social.technet.microsoft.com/wiki/contents/articles/4741.powershell-v3-featured-articles-en-us.aspx>
- PowerShell v3 Web Access
  - <http://technet.microsoft.com/en-us/library/hh847754>