

2. Windows-only: can you find any cmdlets capable of converting other cmdlets' output into HTML?

Ans.

ConvertTo-Html

```
PS C:\Users\Administrator\Documents> Get-Command -Noun *html*

CommandType      Name                      Version      Source
-----
Cmdlet            ConvertTo-Html           3.1.0.0      Microsoft.PowerShell.Utility

PS C:\Users\Administrator\Documents> |
```

3. Partially Windows-only: are there any cmdlets that can redirect output into a file, or to a printer?

Ans.

Out-File

```
cmdlet            Get-AppLockerFileInformation 2.0.0.0      AppLocker
cmdlet            New-ADDCloneConfigFile      1.0.1.0      ActiveDirectory
cmdlet            New-FileCatalog             3.0.0.0      Microsoft.PowerShell.Security
cmdlet            New-PSRoleCapabilityFile    3.0.0.0      Microsoft.PowerShell.Core
cmdlet            New-PSSessionConfigurationFile 3.0.0.0      Microsoft.PowerShell.Core
cmdlet            Out-File                    3.1.0.0      Microsoft.PowerShell.Utility
cmdlet            Set-AppXProvisionedDataFile 3.0          Dism
cmdlet            Set-UefiTemplateProfile     2.1.639.0    UEFI
cmdlet            Test-FileCatalog            3.0.0.0      Microsoft.PowerShell.Security
cmdlet            Test-PSSessionConfigurationFile 3.0.0.0      Microsoft.PowerShell.Core
cmdlet            Unblock-File                3.1.0.0      Microsoft.PowerShell.Utility
```

Out-Printer

```
Function          Rename-Printer              1.1          PrintManagement
Function          Set-Printer                 1.1          PrintManagement
Function          Set-PrinterProperty         1.1          PrintManagement
Function          Write-PrinterNfcTag         1.1          PrintManagement
Cmdlet            Out-Printer                 3.1.0.0      Microsoft.PowerShell.Utility
```

4. How many cmdlets are available for working with processes?

Ans.

5 commands

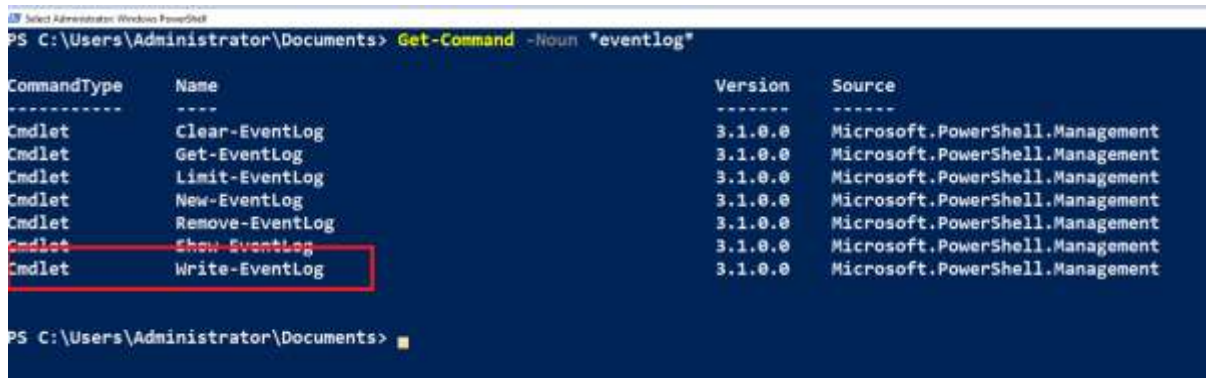
```
PS C:\Users\Administrator\Documents> Get-Command -Noun *process*

CommandType      Name                      Version      Source
-----
Function          Get-AppVVirtualProcess     1.0.0.0      AppvClient
Function          Start-AppVVirtualProcess   1.0.0.0      AppvClient
Cmdlet            ConvertTo-ProcessMitigationPolicy 1.0.12      ProcessMitigations
Cmdlet            Debug-Process              3.1.0.0      Microsoft.PowerShell.Management
Cmdlet            Enter-PSHostProcess        3.0.0.0      Microsoft.PowerShell.Core
Cmdlet            Exit-PSHostProcess         3.0.0.0      Microsoft.PowerShell.Core
Cmdlet            Get-Process                3.1.0.0      Microsoft.PowerShell.Management
Cmdlet            Get-ProcessMitigation      1.0.12      ProcessMitigations
Cmdlet            Get-PSHostProcessInfo      3.0.0.0      Microsoft.PowerShell.Core
Cmdlet            Set-ProcessMitigation      1.0.12      ProcessMitigations
Cmdlet            Start-Process              3.1.0.0      Microsoft.PowerShell.Management
Cmdlet            Stop-Process               3.1.0.0      Microsoft.PowerShell.Management
Cmdlet            Wait-Process               3.1.0.0      Microsoft.PowerShell.Management

PS C:\Users\Administrator\Documents> Get-Command -Noun *process*
```

5. What cmdlet might you use to write to an event log?

Ans. Write-EventLog



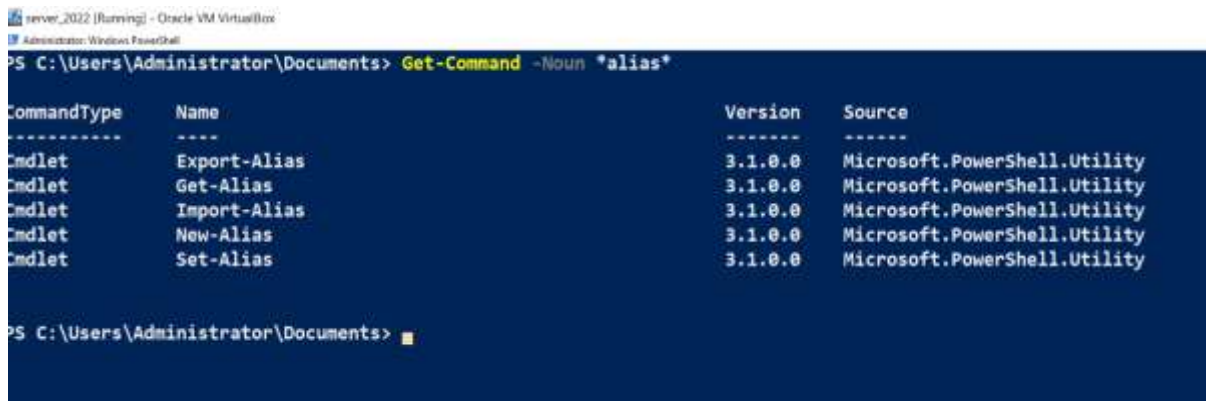
```
PS C:\Users\Administrator\Documents> Get-Command -Noun *eventlog*
```

CommandType	Name	Version	Source
Cmdlet	Clear-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Get-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Limit-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	New-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Remove-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Show-EventLog	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Write-EventLog	3.1.0.0	Microsoft.PowerShell.Management

```
PS C:\Users\Administrator\Documents>
```

6. You've learned that aliases are nicknames for cmdlets; what cmdlets are available to create, modify, export, or import aliases?

Ans.



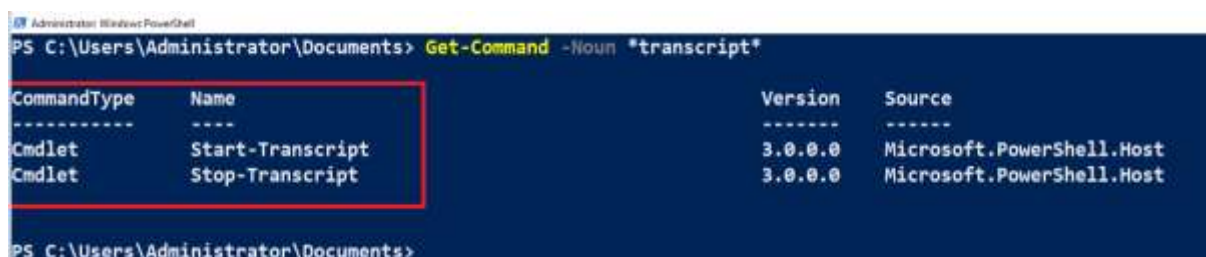
```
PS C:\Users\Administrator\Documents> Get-Command -Noun *alias*
```

CommandType	Name	Version	Source
Cmdlet	Export-Alias	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Get-Alias	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Import-Alias	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	New-Alias	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Set-Alias	3.1.0.0	Microsoft.PowerShell.Utility

```
PS C:\Users\Administrator\Documents>
```

7. Is there a way to keep a transcript of everything you type in the shell, and save that transcript to a text file?

Ans.



```
PS C:\Users\Administrator\Documents> Get-Command -Noun *transcript*
```

CommandType	Name	Version	Source
Cmdlet	Start-Transcript	3.0.0.0	Microsoft.PowerShell.Host
Cmdlet	Stop-Transcript	3.0.0.0	Microsoft.PowerShell.Host

```
PS C:\Users\Administrator\Documents>
```

8. Windows-only: it can take a long time to retrieve all of the entries from the Security event log. How can you get only the 100 most recent entries?

Ans.

```
server_2022 [Running] - Oracle VM VirtualBox
Administrator: Windows PowerShell
PS C:\Users\Administrator\Documents> Get-EventLog -LogName Security -Newest 100 | ft -AutoSize
```

Index	Time	EntryType	Source	InstanceID	Message
25297	Feb 27 19:34	SuccessAudit	Microsoft-Windows-Security-Auditing	4634	An account was logged off....
25296	Feb 27 19:34	SuccessAudit	Microsoft-Windows-Security-Auditing	4624	An account was successfully logged on....
25295	Feb 27 19:34	SuccessAudit	Microsoft-Windows-Security-Auditing	4672	Special privileges assigned to new logon....
25294	Feb 27 19:33	SuccessAudit	Microsoft-Windows-Security-Auditing	4634	An account was logged off....
25293	Feb 27 19:33	SuccessAudit	Microsoft-Windows-Security-Auditing	4624	An account was successfully logged on....
25292	Feb 27 19:33	SuccessAudit	Microsoft-Windows-Security-Auditing	4672	Special privileges assigned to new logon....

```
PS C:\Users\Administrator\Documents> Get-EventLog -LogName Security -Newest 100 | measure
```

```
Count      : 100
Average    :
Sum        :
Maximum    :
Minimum    :
Property   :
```

```
PS C:\Users\Administrator\Documents>
```

9. Windows-only: is there a way to retrieve a list of the services that are installed on a remote computer?

Ans.

```
server_2022 [Running] - Oracle VM VirtualBox
Administrator: Windows PowerShell
PS C:\Users\Administrator\Documents> Get-Service -ComputerName WORKSTATION01$
```

10. Is there a way to see what processes are running on a remote computer? (You can find the answer on non-Windows operating systems, but the command itself might not work for you.)

Ans.

```
server_2022 [Running] - Oracle VM VirtualBox
Administrator: Windows PowerShell
PS C:\Users\Administrator\Documents> Get-Process -ComputerName
```

11. Examine the help file for the Out-File cmdlet. The files created by this cmdlet default to a width of how many characters? Is there a parameter that would enable you to change that width?

Ans.

```
Accept pipeline input?      False
Accept wildcard characters?  false

-width <System.Int32>
    Specifies the number of characters in each line of output. Any additional characters are truncated, not
    wrapped. If this parameter is not used, the width is determined by the characteristics of the host. The
    default for the PowerShell console is 80 characters. If you want to control the width for all
    invocations of 'Out-File' as well as the redirection operators ('>' and '>>'), set
    '$PSDefaultParameterValues['out-file:width'] = 2000' before using 'Out-File'.
```

12. By default, Out-File overwrites any existing file that has the same filename as what you specify. Is there a parameter that would prevent the cmdlet from overwriting an existing file?

Ans. -NoClobber is used to prevent overwriting. It will append file.

13. How could you see a list of all aliases defined in PowerShell?

Ans.

```
PS C:\Users\Administrator> Get-Alias

CommandType      Name
-----
Alias             % -> ForEach-Object
Alias             ? -> Where-Object
Alias             ac -> Add-Content
Alias             asnp -> Add-PSSnapin
Alias             cat -> Get-Content
Alias             cd -> Set-Location
Alias             CFS -> ConvertFrom-String
Alias             chdir -> Set-Location
```

14. Using both an alias and abbreviated parameter names, what is the shortest command line you could type to retrieve a list of running processes from a computer named Server1

Ans. Ps -c server1

server_2022 [Running] - Oracle VM VirtualBox

Administrator: Windows PowerShell

```
PS C:\Users\Administrator> Get-Process -ComputerName workstation01
```


15. How many cmdlets are available that can deal with generic objects? (Hint: remember to use a singular noun like object rather than a plural one like objects.)

Ans.

```
PS C:\Users\Administrator> Get-Command -Noun *object*
```

CommandType	Name	Version	Source
Cmdlet	Compare-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	ForEach-Object	3.0.0.0	Microsoft.PowerShell.Core
Cmdlet	Get-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Get-WmiObject	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Group-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Measure-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Move-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	New-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	New-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Register-ObjectEvent	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Remove-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Remove-WmiObject	3.1.0.0	Microsoft.PowerShell.Management
Cmdlet	Rename-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Restore-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Select-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Set-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Sort-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Sync-ADObject	1.0.1.0	ActiveDirectory
Cmdlet	Tee-Object	3.1.0.0	Microsoft.PowerShell.Utility
Cmdlet	Where-Object	3.0.0.0	Microsoft.PowerShell.Core

```
PS C:\Users\Administrator>
```

16. This chapter briefly mentioned arrays. What help topic could tell you more about them?

Ans. help *array*