

# PowerShell REGULAR Expressions

## REGULAR EXPRESSIONS

- Matches are case insensitive by default!
- Use [c] to indicate case sensitivity, i.e. cmatch

### Matching Simple Patterns

# -- test if source string contains "test" pattern  
if ("sample text" -match "test") {...}

# -- test if source string does not contain "test"  
# -- pattern  
if ("sample text" -notmatch "test") {...}

# -- test if source string contains "test" pattern  
if ("sample text" -match "test") {...}

### Matching Alternative Patterns

# -- test if source string contains te or ts pattern  
if ("sample text" -match "te|ts") {...}

# -- simplify matching pattern  
if ("sample text" -match "t(e|s)") {...}

### Working with Regular Expression Characters

Metacharacters : Matches...

.	...single character
[value]	...at least one character in []
[range]	...at least one character in range
[^]	...expect for characters in []
^	...located at beginning of string
\$	...located at end of string
*	...zero or more preceding character
?	...zero or one preceding character
\	...character following () character
+	...one or more character
{n}	...n times
{n,}	...at least n times
{n,m}	...at least n times, not no more than m times

### Examples:

# -- Match with Test, Uest or Vest  
if (\$test -cmatch "[T-V]est") {...}

# -- Match one or more T's  
if (\$test -match "\*T\*") {...}

# -- Does not match with T or t  
if (\$test -match "[^Tt]") {...}

# -- Matches with one or more 123  
if (\$test -match "123+") {...}

# -- Matches with 2x 2's  
if (\$test -match "\w{2}") {...}

# -- Matches with 2 or more 2's  
if (\$test -match "\w{2,}") {...}

# -- Matches with 2,3,4 or 5 x 2's  
if (\$test -match "\w{2,5}") {...}

For more information, call:  
Get-Help about\_Regular\_expressions

Alias	Cmdlet	Cmdlet	Description
ac	Add-Content	Add-Content	Adds content to the specified item(s).
asnp	Add-PSSnapin	Add-History	Appends entries to the session history.
clc	Clear-Content	Add-Member	Adds a user-defined custom member to an instance of a Windows PowerShell object.
clear	Clear-Host	Add-PSSnapin	Adds one or more Windows PowerShell snap-ins to the current console.
cls	Clear-Host	Clear-Content	Deletes the contents of a item, such as deleting the text from a file, but does not delete the item.
cli	Clear-Item	Clear-Item	Deletes the contents of an item, but does not delete the item.
clp	Clear-ItemProperty	Clear-ItemProperty	Deletes the value of a property but it does not delete the property.
clv	Clear-Variable	Clear-Variable	Deletes the value of a variable.
diff	Compare-Object	Compare-Object	Compares two sets of objects.
cvpa	Convert-Path	ConvertFrom-SecureString	Converts a secure string into an encrypted standard string.
cpi	Copy-Item	Convert-Path	Converts a path from a Windows PowerShell path to a Windows PowerShell provider path.
cp	Copy-Item	ConvertTo-Html	Creates an HTML page that represents an object or a set of objects.
copy	Copy-Item	ConvertTo-SecureString	Converts encrypted standard strings to secure strings. It can also convert plain text to secure strings. It is used
cpp	Copy-ItemProperty	Copy-Item	Copies an item from one location to another within a namespace.
epal	Export-Alias	Copy-ItemProperty	Copies a property and value from a specified location to another location.
epcsv	Export-Csv	Export-Alias	Exports information about currently-defined aliases to a file.
foreach	ForEach-Object	Export-Clixml	Creates an XML-based representation of an object or objects and stores it in a file.
%	ForEach-Object	Export-Console	Exports the configuration of the current console to a file so that you can reuse or share it.
fc	Format-Custom	Export-Csv	Creates a comma-separated values (CSV) file that represents the input objects.
fl	Format-List	ForEach-Object	Performs an operation against each of a set of input objects.
ft	Format-Table	Format-Custom	Uses a customized view to format the output.
fw	Format-Wide	Format-List	Formats the output as a list of properties in which each property appears on a new line.
gal	Get-Alias	Format-Table	Formats the output as a table.
gci	Get-ChildItem	Format-Wide	Formats objects as a wide table that displays only one property of each object.
ls	Get-ChildItem	Get-Acl	Gets the security descriptor for a resource, such as a file or registry key.
dir	Get-ChildItem	Get-Alias	Gets the aliases for the current session.
gcm	Get-Command	Get-AuthenticodeSignature	Gets information about the Authenticode signature in a file.
gc	Get-Content	Get-ChildItem	Gets the items and child items in one or more specified locations.
cat	Get-Content	Get-Command	Gets basic information about cmdlets and about other elements of Windows PowerShell commands.
type	Get-Content	Get-Content	Gets the content of the item at the specified location.
ghy	Get-History	Get-Credential	Gets a credential object based on a user name and password.
h	Get-History	Get-Culture	Gets information about the regional settings on a computer.
history	Get-History	Get-Date	Gets the current date and time.
gi	Get-Item	Get-EventLog	Gets information about local event logs or the entries stored in those event logs.
gp	Get-ItemProperty	Get-ExecutionPolicy	Gets the current execution policy for the shell.
gl	Get-Location	Get-Help	Displays information about Windows PowerShell cmdlets and concepts.
pwd	Get-Location	Get-History	Gets a list of the commands entered during the current session.
gm	Get-Member	Get-Host	Gets a reference to the current console host object. Displays Windows Powershell version and regional inform
gps	Get-Process	Get-Item	Gets the item at the specified location.
ps	Get-Process	Get-ItemProperty	Retrieves the properties of a specified item.
gdr	Get-PSDrive	Get-Location	Gets information about the current working location.
gsnp	Get-PSSnapin	Get-Member	Gets information about objects or collections of objects.
gsv	Get-Service	Get-PfxCertificate	Gets information about .pfx certificate files on the computer.
gu	Get-Unique	Get-Process	Gets the processes that are running on the local computer.
gv	Get-Variable	Get-PSDrive	Gets information about Windows PowerShell drives.
gwmi	Get-WmiObject	Get-PSProvider	Gets information about the specified Windows PowerShell provider.
group	Group-Object	Get-PSSnapin	Gets the Windows PowerShell snap-ins on the computer.
ipal	Import-Alias	Get-Service	Gets the services on the local computer.
ipcsv	Import-Csv	Get-TraceSource	Gets the Windows PowerShell components that are instrumented for tracing.
iex	Invoke-Expression	Get-UICulture	gets information about the current user interface culture for Windows PowerShell.
ihy	Invoke-History	Get-Unique	Returns the unique items from a sorted list.
r	Invoke-History	Get-Variable	Gets the variables in the current console.
ii	Invoke-Item	Get-WmiObject	Gets instances of WMI classes or information about available classes.
mi	Move-Item	Group-Object	Groups objects that contain the same value for specified properties.
mv	Move-Item	Import-Alias	Imports an alias list from a file.
move	Move-Item	Import-Clixml	Imports a CLIXML file and creates corresponding objects within Windows PowerShell.
mp	Move-ItemProperty	Import-Csv	Imports comma-separated value (CSV) files in the format produced by the Export-CSV cmdlet and returns obje
nal	New-Alias	Invoke-Expression	Runs a Windows PowerShell expression that is provided in the form of a string.
ni	New-Item	Invoke-History	Runs commands from the session history.
ndr	New-PSDrive	Invoke-Item	Invokes the provider-specific default action on the specified item.
mount	New-PSDrive	Join-Path	Combines a path and child-path into a single path. The provider supplies the path delimiters.
nv	New-Variable	Measure-Command	Measures the time it takes to run script blocks and cmdlets.
oh	Out-Host	Measure-Object	Measures characteristics of objects and their properties.
lp	Out-Printer	Move-Item	Moves an item from one location to another.
popd	Pop-Location	Move-ItemProperty	Moves a property from one location to another.
pushd	Push-Location	New-Alias	Creates a new alias.
ri	Remove-Item	New-Item	Creates a new item in a namespace.
rm	Remove-Item	New-ItemProperty	Sets a new property of an item at a location.
rmdir	Remove-Item	New-Object	Creates an instance of a .Net or COM object.
del	Remove-Item	New-PSDrive	Installs a new Windows PowerShell drive.
erase	Remove-Item	New-Service	Creates a new entry for a Windows Service in the registry and the Service Database.
rd	Remove-Item	New-TimeSpan	Creates a TimeSpan object.
rp	Remove-ItemProperty	New-Variable	Creates a new variable.
rdr	Remove-PSDrive	Out-Default	Sends the output to the default formatter and the default output cmdlet. This cmdlet has no effect on the form
rsnp	Remove-PSSnapin	Out-File	Sends output to a file.
rv	Remove-Variable	Out-Host	Sends output to the command line.
rni	Rename-Item	Out-Null	Deletes output instead of sending it to the console.
ren	Rename-Item	Out-Printer	Sends output to a printer.
rnp	Rename-ItemProperty	Out-String	Sends objects to the host as a series of strings.
rvpa	Resolve-Path	Pop-Location	Changes the current location to the location most recently pushed onto the stack. You can pop the location fro
select	Select-Object	Push-Location	Pushes the current location onto the stack.
sal	Set-Alias	Read-Host	Reads a line of input from the console.
sc	Set-Content	Remove-Item	Deletes the specified items.
si	Set-Item	Remove-ItemProperty	Deletes the property and its value from an item.
sp	Set-ItemProperty	Remove-PSDrive	Removes a Windows PowerShell drive from its location.
sl	Set-Location	Remove-PSSnapin	Removes Windows PowerShell snap-ins from the current console.
cd	Set-Location	Remove-Variable	Deletes a variable and its value.
chdir	Set-Location	Rename-Item	Renames an item in a Windows PowerShell provider namespace.
sv	Set-Variable	Rename-ItemProperty	Renames a property of an item.
set	Set-Variable	Resolve-Path	Resolves the wildcard characters in a path and displays the path contents.
sort	Sort-Object	Restart-Service	Stops and then starts one or more services.
sasv	Start-Service	Resume-Service	Resumes one or more suspended (paused) services.
sleep	Start-Sleep	Select-Object	Selects specified properties of an object or set of objects. It can also select unique objects from an array of ob
spps	Stop-Process	Select-String	Identifies patterns in strings.
kill	Stop-Process	Set-Acl	Changes the security descriptor of a specified resource, such as a file or a registry key.
svsv	Stop-Service	Set-Alias	Creates or changes an alias (alternate name) for a cmdlet or other command element in the current Windows
tee	tee	Set-AuthenticodeSignature	Uses an authenticode signature to sign a Windows PowerShell script or other file.
where	Where-Object	Set-Content	Writes or replaces the content in an item with new content.
?	Where-Object	Set-Date	Changes the system time on the computer to a time that you specify.
write	Write-Output	Set-ExecutionPolicy	Changes the user preference for the execution policy of the shell.
echo	Write-Output	Set-Item	Changes the value of an item to the value specified in the command.
		Set-ItemProperty	Sets the value of a property at the specified location.
		Set-Location	Sets the current working location to a specified location.
		Set-PSDebug	Turns script debugging features on and off, sets the trace level and toggles strict mode.
		Set-Service	Changes the display name, description, or starting mode of a service.
		Set-TraceSource	Configures, starts, and stops a trace of Windows PowerShell components.
		Set-Variable	Sets the value of a variable. Creates the variable if one with the requested name does not exist.
		Sort-Object	Sorts objects by property values.
		Split-Path	Returns the specified part of a path.
		Start-Service	Starts one or more stopped services.
		Start-Sleep	Suspend shell, script, or runspace activity for the specified period of time.
		Start-Transcript	Creates a record of all or part of a Windows PowerShell session in a text file.
		Stop-Process	Stops one or more running processes.
		Stop-Service	Stops one or more running services.
		Stop-Transcript	Stops a transcript.
		Suspend-Service	Suspends (pauses) one or more running services.
		Tee-Object	Pipes object input to a file or variable, then passes the input along the pipeline.
		Test-Path	Determines whether all elements of a path exist.
		Trace-Command	The Trace-Command cmdlet configures and starts a trace of the specified expression or command.
		Update-FormatData	Updates and appends format data files.
		Update-TypeData	Updates the current extended type configuration by reloading the *.types.ps1xml files into memory.
		Where-Object	Creates a filter that controls which objects will be passed along a command pipeline.
		Write-Debug	Writes a debug message to the host display.
		Write-Error	Writes an object to the error pipeline.
		Write-Host	Displays objects by using the host user interface
		Write-Output	Writes objects to the success pipeline.
		Write-Progress	Displays a progress bar within a Windows PowerShell command window.
		Write-Verbose	Writes a string to the verbose display of the host.
		Write-Warning	Writes a warning message.