

## What is PowerShell?

- PowerShell is Microsoft's command-line shell and scripting language.
- we can use powershell for automation, system administration and configuration management.
- it is based on .NET -> works with objects, not just text
- Provides cmdlet (command-lets) -> small, built-in commands with a standard format  
verb-noun (ex. Get-Process, Get-Help, Get-Process)
- It supports scripting with loops, functions and error handling
- works with windows and other OS where PowerShell core is available.
- You can manage local and remote systems using PowerShell

Get-Help            Shows Help for cmdlets  
Get-Command       Lists all available cmdlets/functions.  
Get-Member        Shows properties & methods of objects.

## SYSTEM/PROCESS MANAGEMENT

-----  
Get-Process       List running processes  
Stop-Process -Id <PID>       Kills a process  
Start-Process notepad.exe       Starts a program (ex. here it will start notepad)

## SERVICE MANAGEMENT

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Get-Service            View System Services  
Start-Service SERVICE\_NAME    To start service  
Stop-Service SERVICE\_NAME    To stop service  
Restart-Service Service\_name    To restart service

## FILE & FOLDER MANAGEMENT

-----  
Get-ChildItem    (alias:ls,dir)    List files/folders  
Set-Location     (alias:cd)     Change Directory  
Copy-Item        Copy file/folder  
Move-Item        Move file/folder  
Remove-Item      Remove File/folder  
New-Item -ItemType File -Name "Tinku.txt"    To create new tinku.txt  
Get-Content tinku.txt       View file content  
Set-Content tinku.txt "Tinku"    Write to file  
Add-Content tinku.txt "Pinky"    Append to file.

## USER & GROUP MANAGEMENT

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Get-LocalUser            List local users  
New-LocalUser -Name "gabbar" -Password (ConvertTo-SecureString 'Admin@123')    To create a user  
Get-LocalGroup           List local Groups  
Add-LocalGroupMember -Group "Administrators" -Member "gabbar"    -> Add gabbar to Administrator Group

## EVENT LOGS & SYSTEM INFO

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Get-EventLog -LogName System -Newest 10       Show last 10 system logs  
Get-EventLog -LogName Security -Newest 50      Show last 50 Security Logs  
Get-ComputerInfo                                Get Full system Info

## NETWORKING

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Test-Connection google.com       (alias: ping)  
Get-NetIPAddress               Shows IP details  
Get-NetAdapter                Show Network Adapters

## PACKAGE MANAGEMENT

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Find-Module                Search for Modules (like apt search)  
Install-Module -Name NAME    Install particular module on Windows Server  
Get-WindowsFeature        Check the status  
Install-WindowsFeature -Name 'DHCP'    To install feature on Windows Server

IncludeManagementTools  
Roles

Management tools will get installed along with Windows Feature or

Install with using Configuration Deployment File

Install-WindowsFeature -ConfigurationFilePath PATH