



Basic Navigation & File Management

Command Prompt (CMD) - Navigation

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| <code>cd directory</code> | Change directory to the specified directory. |
| <code>cd ..</code> | Move up one directory level. |
| <code>cd \</code> | Change to the root directory. |
| <code>dir</code> | List files and subdirectories in the current directory. |
| <code>tree</code> | Display the directory structure graphically. |
| <code>pushd directory</code> | Saves the current directory for use later and changes to specified directory. |
| <code>popd</code> | Returns to the directory most recently saved by the <code>pushd</code> command. |

PowerShell - Navigation

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| <code>Set-Location directory</code> | Change directory to the specified directory. |
| <code>Set-Location ..</code> | Move up one directory level. |
| <code>Get-ChildItem</code> | List files and subdirectories in the current directory (alias: <code>ls</code> , <code>dir</code>). |
| <code>Push-Location directory</code> | Saves the current location to a stack and changes to the specified location. |
| <code>Pop-Location</code> | Retrieves the last location from the location stack. |
| <code>Get-Location</code> | Displays the current directory. |

File Management (CMD)

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| <code>mkdir directory</code> | Create a new directory. |
| <code>rmdir directory</code> | Remove an empty directory. |
| <code>del filename</code> | Delete a file. |
| <code>copy source destination</code> | Copy a file. |
| <code>ren oldname newname</code> | Rename a file. |

File Management & System Info

File Management (PowerShell)

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| <code>New-Item directory -ItemType Directory</code> | Create a new directory. |
| <code>Remove-Item directory</code> | Remove a directory (can also remove files). |
| <code>Copy-Item source destination</code> | Copy a file or directory. |
| <code>Rename-Item oldname newname</code> | Rename a file or directory. |
| <code>Move-Item source destination</code> | Move a file or directory. |
| <code>New-Item filename -ItemType File</code> | Creates a new file. |

System Information (CMD)

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| <code>systeminfo</code> | Display detailed system configuration information. |
| <code>tasklist</code> | Display a list of currently running processes. |
| <code>ipconfig</code> | Display IP configuration information. |
| <code>hostname</code> | Displays the hostname of the machine. |

System Information (PowerShell)

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|-------------------------------------|---|
| <code>Get-ComputerInfo</code> | Display comprehensive computer information. |
| <code>Get-Process</code> | Display a list of currently running processes. |
| <code>Get-NetIPConfiguration</code> | Display IP configuration information. |
| <code>Get-Host</code> | Displays information about the current PowerShell host. |
| <code>Test-Path path</code> | Check if the specified path exists. |

Process Management & Networking

Process Management (CMD)

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| <code>taskkill /IM processname.exe /F</code> | Forcefully terminate a process by image name. |
| <code>taskkill /PID processID /F</code> | Forcefully terminate a process by process ID. |
| <code>start program</code> | Start a program. |

Process Management (PowerShell)

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| <code>Stop-Process -Name processname -Force</code> | Forcefully terminate a process by name. |
| <code>Stop-Process -Id processID -Force</code> | Forcefully terminate a process by process ID. |
| <code>Start-Process program</code> | Start a program. |
| <code>Get-Service</code> | Get a list of the services available on the computer. |
| <code>Stop-Service servicename</code> | Stop a service. |
| <code>Start-Service servicename</code> | Start a service. |

Networking (CMD)

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| <code>ping hostname</code> | Ping a hostname or IP address. |
| <code>tracert hostname</code> | Trace route to a hostname. |
| <code>netstat -a</code> | Display active TCP connections, listening ports, etc. |

Advanced Commands & Scripting

Networking (PowerShell)

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| <code>Test-Connection hostname</code> | Ping a hostname or IP address. |
| <code>Test-Path -Path 'TCP:hostname:port'</code> | Test a specific TCP port. |
| <code>Get-NetTCPConnection</code> | Get active TCP connections. |
| <code>Resolve-DnsName hostname</code> | Query DNS for hostname. |

CMD Scripting

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| <code>@echo off</code> | - Disable command echoing. |
| <code>echo message</code> | - Display a message. |
| <code>set variable=value</code> | - Define a variable. |
| <code>%variable%</code> | - Access a variable. |
| <code>if condition (commands) else (commands)</code> | - Conditional execution. |
| <code>for %i in (set) do (command)</code> | - Loop through a set of items. |

PowerShell Scripting

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| <code>\$variable = value</code> | - Define a variable. |
| <code>\$variable</code> | - Access a variable. |
| <code>if (condition) { commands } elseif (condition) { commands } else { commands }</code> | - Conditional execution. |
| <code>foreach (\$i in \$collection) { commands }</code> | - Loop through a collection. |
| <code>function functionName { commands }</code> | - Define a function. |
| <code>Write-Host message</code> | - Display a message. |
| <code>Get-Help command</code> | - Get help for a command. |