# Complete Linux vs PowerShell Command Reference (DevOps Edition)

This document combines basic and advanced Linux commands with their PowerShell equivalents for cross-platform DevOps use.

## 📘 Basic Linux vs PowerShell Commands

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Command |
| Current directory | pwd | Get-Location |
| List files | ls | Get-ChildItem |
| Change directory | cd /path | Set-Location path |
| Create file | touch file.txt | New-Item file.txt |
| Create directory | mkdir dir | New-Item -ItemType Directory -Name dir |
| Remove file | rm file.txt | Remove-Item file.txt |
| Copy file | cp src dest | Copy-Item src dest |
| Move file | mv src dest | Move-Item src dest |
| List processes | ps aux | Get-Process |
| Kill process by PID | kill <pid> | Stop-Process -Id <pid> |
| Kill process by name | pkill nginx | Stop-Process -Name nginx |
| Check open ports | netstat -tuln | Get-NetTCPConnection |
| Ping a host | ping google.com | Test-Connection google.com |
| Test port connectivity | nc -zv host port | Test-NetConnection -ComputerName host -Port port |
| Check IP address | ip a | Get-NetIPAddress |
| Disk usage summary | df -h | Get-PSDrive |
| Free memory | free -m | Get-CimInstance Win32\_OperatingSystem | Select FreePhysicalMemory |
| Add scheduled job | crontab -e | Register-ScheduledTask |
| List scheduled jobs | crontab -l | Get-ScheduledTask |
| Remove scheduled job | crontab -r | Unregister-ScheduledTask -TaskName 'MyTask' |
| Uptime | uptime | (Get-CimInstance Win32\_OperatingSystem).LastBootUpTime |
| OS info | uname -a | Get-ComputerInfo |
| View file content | cat file.txt | Get-Content file.txt |
| Search in file | grep 'text' file | Select-String -Pattern 'text' -Path file.txt |
| Create zip | zip -r file.zip folder | Compress-Archive -Path folder -DestinationPath file.zip |
| Extract zip | unzip file.zip | Expand-Archive -Path file.zip -DestinationPath . |

## 🧑‍💻 User & Permission Management

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| Add user | sudo adduser raj | New-LocalUser -Name 'raj' -NoPassword |
| Delete user | sudo deluser raj | Remove-LocalUser -Name 'raj' |
| Change ownership | chown user:group file | icacls file /setowner 'user' |
| Change permissions | chmod 755 file.sh | icacls file.sh /grant Everyone:F |

## 🖥️ Services & Systemd

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| Start service | sudo systemctl start nginx | Start-Service -Name 'nginx' |
| Stop service | sudo systemctl stop nginx | Stop-Service -Name 'nginx' |
| Enable service | sudo systemctl enable nginx | Set-Service -Name 'nginx' -StartupType Automatic |
| Service status | systemctl status nginx | Get-Service -Name 'nginx' |

## 📦 Package Management

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| Install package | sudo apt install nginx | winget install nginx or choco install nginx |
| Update packages | sudo apt update && apt upgrade | winget upgrade --all or choco upgrade all |
| Remove package | sudo apt remove nginx | winget uninstall nginx or choco uninstall nginx |

## 🧠 System Monitoring

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| System logs | journalctl -xe | Get-WinEvent -LogName System |
| Memory usage | free -m | Get-CimInstance Win32\_OperatingSystem | Select FreePhysicalMemory, TotalVisibleMemorySize |
| Disk usage | df -h | Get-PSDrive |
| Uptime | uptime | (Get-CimInstance Win32\_OperatingSystem).LastBootUpTime |

## 🌐 Networking

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| List IPs | ip a | Get-NetIPAddress |
| Check port | nc -zv host port | Test-NetConnection -ComputerName host -Port port |
| Firewall config | ufw allow 22 | New-NetFirewallRule -DisplayName 'Allow SSH' -Direction Inbound -LocalPort 22 -Protocol TCP -Action Allow |
| Show open ports | netstat -tuln | Get-NetTCPConnection |

## 🗂️ File & Archive Utilities

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| Zip folder | zip -r folder.zip folder | Compress-Archive -Path folder -DestinationPath folder.zip |
| Unzip file | unzip file.zip | Expand-Archive -Path file.zip -DestinationPath . |
| Find files | find . -name '\*.log' | Get-ChildItem -Recurse -Filter \*.log |
| Search in files | grep 'error' file | Select-String -Pattern 'error' -Path file |

## 📅 Scheduling Tasks

|  |  |  |
| --- | --- | --- |
| Task | Linux Command | PowerShell Equivalent |
| Edit cron | crontab -e | Use Task Scheduler GUI or Register-ScheduledTask |
| List cron | crontab -l | Get-ScheduledTask |
| @reboot job | @reboot command | Use Task Trigger: AtStartup in PowerShell |

RunScriptAt5\_30PM (create file and add req commands like (Write-Output "This script ran at $(Get-Date)" > script.ps1)

$taskName = "RunScriptAt5\_30PM"

$action = New-ScheduledTaskAction -Execute "powershell.exe" `

-Argument "-NoProfile -WindowStyle Hidden -Command `"& 'C:\Users\91913\script.ps1' \*> 'C:\Users\91913\output.txt'`""

$trigger = New-ScheduledTaskTrigger -Daily -At 5:30PM

Register-ScheduledTask -TaskName $taskName -Action $action -Trigger $trigger -Description "Run script.ps1 daily at 5:30 PM"

Get-ScheduledTask

Unregister-ScheduledTask -TaskName "RunScriptAt5\_15PM" -Confirm:$false

Get-ScheduledTask

Get-ScheduledTask | Where-Object {$\_.TaskName -eq "RunScriptAt5\_30PM"}

icacls .\folder2\file2 /setowner raj

processed file: .\folder2\file2

Successfully processed 1 files; Failed processing 0 files