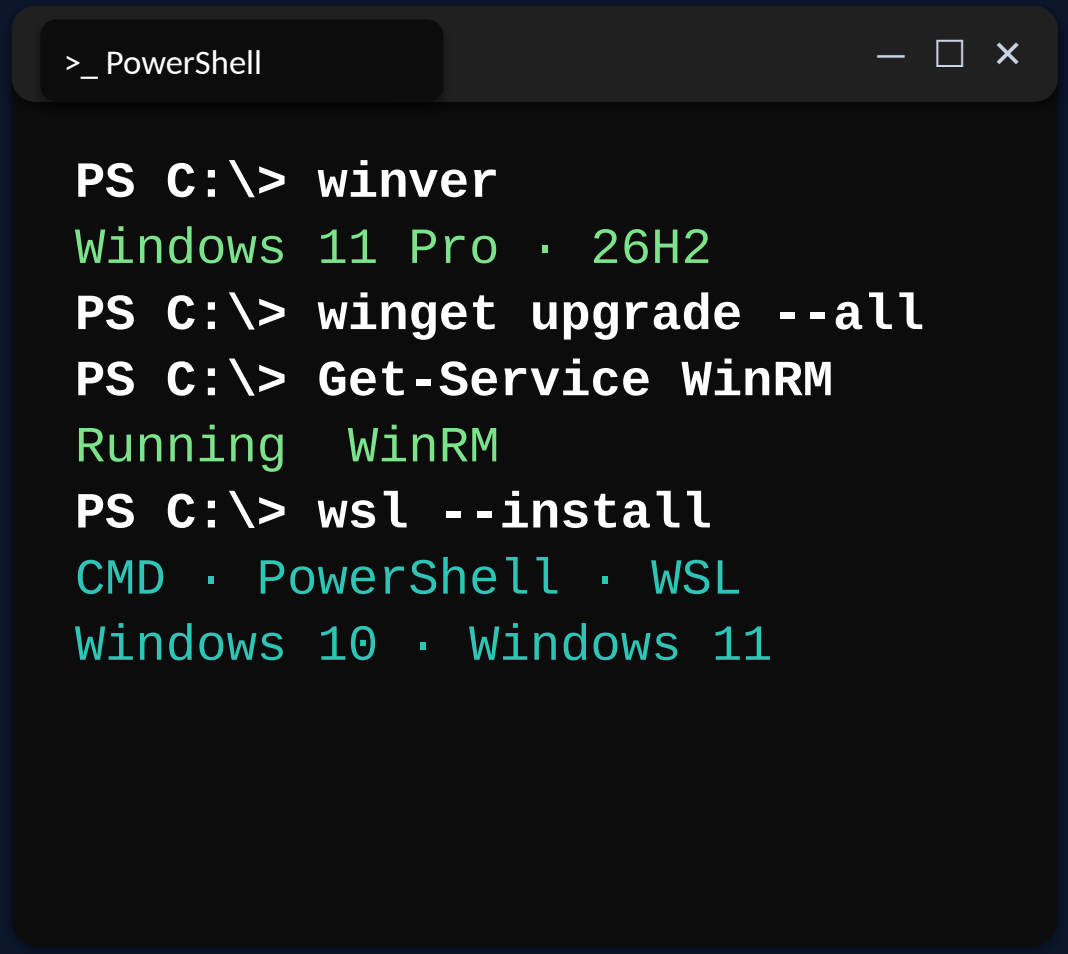


LESSON 12 OF 12

Windows 10 & 11

Desktop · Workstation · Laptop

Administering Windows: Desktop, Workstation & Laptop

Full Course · Windows 11 26H2 · Windows 10 22H2

What You Will Learn in Lesson 12

- Desktop vs workstation vs laptop: what changes for the admin
- Group Policy and the Registry — safely
- Power, battery and sleep on laptops (powercfg)
- Drivers and firmware: Device Manager, pnputil, vendor tools
- Workstation tuning for engineering, video and data science
- Managing many PCs: Intune, Autopilot, LAPS, PowerShell Remoting, Quick Assist
- The Windows 10 → 11 migration and your admin checklist

Desktop vs Workstation vs Laptop

	Desktop	Workstation	Laptop
Typical work	Office, school, home	CAD, video, data science, VMs	Everything, on the move
Edition	Home or Pro	Pro for Workstations / Enterprise	Pro (BitLocker!)
Admin focus	Updates, accounts, backup	Drivers, GPU, RAM, storage speed	Battery, encryption, Wi-Fi, VPN
Biggest risk	Malware, user mistakes	Downtime of expensive work	Loss or theft
Must-have	Standard accounts	Certified drivers, cooling, ECC RAM	BitLocker + recovery key

Group Policy (Pro and higher)

```
C:\> gpedit.msc              # Local Group Policy Editor
#  Computer Configuration > Administrative Templates > Windows Components > Windows Update
#  Computer Configuration > Administrative Templates > System > Removable Storage Access
#  User Configuration     > Administrative Templates > Control Panel

C:\> gpupdate /force                          # apply policies now
C:\> gpresult /r                              # which policies apply to me?
C:\> gpresult /h C:\Reports\gp.html            # full HTML report (admin)
```

The Registry, Safely

Hive	Contains
HKEY_LOCAL_MACHINE (HKLM)	Settings for the whole computer: software, services, drivers
HKEY_CURRENT_USER (HKCU)	Settings for the signed-in user
HKEY_USERS (HKU)	All loaded user profiles
HKEY_CLASSES_ROOT (HKCR)	File associations and COM registration
Rule 1	Export a key before you change it
Rule 2	Prefer Settings or Group Policy; edit the registry only from trusted guides

Registry from the Command Line

```
C:\> reg query "HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion" /v DisplayVersion
    DisplayVersion    REG_SZ    26H2
C:\> reg export "HKCU\Software\MyLabApp" C:\Backup\mylabapp.reg     # back up first

PS C:\> Get-ItemProperty 'HKLM:\SOFTWARE\Microsoft\Windows NT\CurrentVersion' |
          Select-Object ProductName, DisplayVersion, CurrentBuild
PS C:\> New-Item 'HKCU:\Software\MyLabApp' -Force
PS C:\> New-ItemProperty 'HKCU:\Software\MyLabApp' -Name Theme -Value Dark -PropertyType String
PS C:\> Remove-Item 'HKCU:\Software\MyLabApp' -Recurse -WhatIf
```

Laptops: Power, Battery and Sleep

```
C:\> powercfg /batteryreport /output C:\Reports\battery.html   # design vs full charge capacity
C:\> powercfg /sleepstudy /output C:\Reports\sleep.html        # Modern Standby drain
C:\> powercfg /energy /output C:\Reports\energy.html           # 60-second efficiency check (admin)
C:\> powercfg /a                    # available sleep states (S3, S0 Modern Standby, hibernate)
C:\> powercfg /requests             # what is keeping the PC awake?
C:\> powercfg /hibernate on
# GUI: Settings > System > Power & battery: power mode, screen and sleep, lid actions
```

Drivers and Firmware

```
PS C:\> Get-PnpDevice -Status ERROR, DEGRADED, UNKNOWN   # devices with problems
C:\> pnputil /enum-devices /problem                       # same, in CMD
C:\> pnputil /enum-drivers | more                         # third-party driver packages
C:\> driverquery /v /fo table | more
C:\> pnputil /add-driver D:\Drivers\*.inf /subdirs /install

# Updates: Windows Update > Advanced options > Optional updates (drivers)
# Vendors: Dell Command Update, Lenovo Vantage/System Update, HP Support Assistant
# BIOS/UEFI update: plug in power, Suspend-BitLocker first (Lesson 11)
```

Tuning a Workstation

Area	What to do
Edition	Pro for Workstations: up to 4 CPUs, 6 TB RAM, ReFS, SMB Direct
GPU	Certified studio/pro drivers for CAD and video; check GPU in Task Manager
Data science	NVIDIA CUDA drivers on Windows; WSL 2 can use the GPU for ML
Storage	NVMe for active projects, Dev Drive for code, separate disk for data
Power	Best performance mode; disable sleep during long renders or training
Memory	Plenty of RAM (32-128 GB+); ECC where the hardware supports it

Managing Many PCs

Tool	What it does
Microsoft Entra ID	Cloud identity: users sign in with work accounts
Microsoft Intune	Cloud management: policies, apps, updates, compliance
Windows Autopilot	A new laptop configures itself at first sign-in
Windows LAPS	Unique, rotating local admin password on every PC
Active Directory + Group Policy	Classic on-premises management (Windows Server course)
PowerShell Remoting / Quick Assist	Run commands on many PCs / help a user see-and-fix

Remote Management in Practice

```
# On each managed PC (domain or lab network), as Administrator:
PS C:\> Enable-PSRemoting -Force

# From the admin PC:
PS C:\> Invoke-Command -ComputerName PC01, PC02 -ScriptBlock {
           Get-ComputerInfo -Property CsName, OsName, OsVersion }
PS C:\> Invoke-Command -ComputerName PC01 -ScriptBlock { Get-HotFix | Select-Object -Last 3 }
PS C:\> Enter-PSSession -ComputerName PC01       # an interactive remote prompt
[PC01]: PS C:\> Get-Service Spooler ; exit

# Help desk: Start > Quick Assist (user shares a code, you see and fix the screen)
```

Windows 10 → 11 Migration Checklist

Step	Action
1. Inventory	List PCs, CPU, TPM, Secure Boot, RAM (Lesson 1 commands)
2. Decide	Upgrade eligible PCs; ESU for a bridge; replace the rest
3. Prepare	Back up, save BitLocker keys, update firmware and drivers
4. Pilot	Upgrade a few PCs first; test key apps and printers
5. Roll out	Windows Update, Installation Assistant or Intune
6. Verify	winver, activation, Windows Security green, apps work

Your Administrator Checklist

- Daily: read alerts; Windows Security green; respond to user tickets
- Weekly: winget upgrade --all; check backups ran; review failed sign-ins (4625)
- Monthly: Patch Tuesday; Reliability Monitor; disk health; restore test
- Every PC: standard daily accounts, BitLocker key saved, firewall on
- Document everything: changes, passwords in a vault, recovery keys
- Keep learning: Windows Server, PowerShell, Linux, cloud — all free here

Course Summary & Final Project

- Lessons 1-4: history, install, desktop, command line
- Lessons 5-7: software, developer setup, databases
- Lessons 8-11: accounts, processes, networking, security and backup
- Lesson 12: administration of desktops, workstations and laptops
- Final project: build, secure and document a Windows 11 lab PC
- Next course: Windows Server 2025 — coming to MyWebUniversity

Thank You! 🙏

Free videos & PDFs: www.MyWebUniversity.com

Slides for this lesson: MyWebUniversity.com/presentations

YouTube: @MyWebUniversity · @MyWebUniversity-Dari

Wahidullah Lutfy — Founder and Director of IT of MyWebUniversity, and CS teacher

Book: The Direct Path to Linux Ubuntu (Amazon · Barnes & Noble)

Learn it, then pass it on.