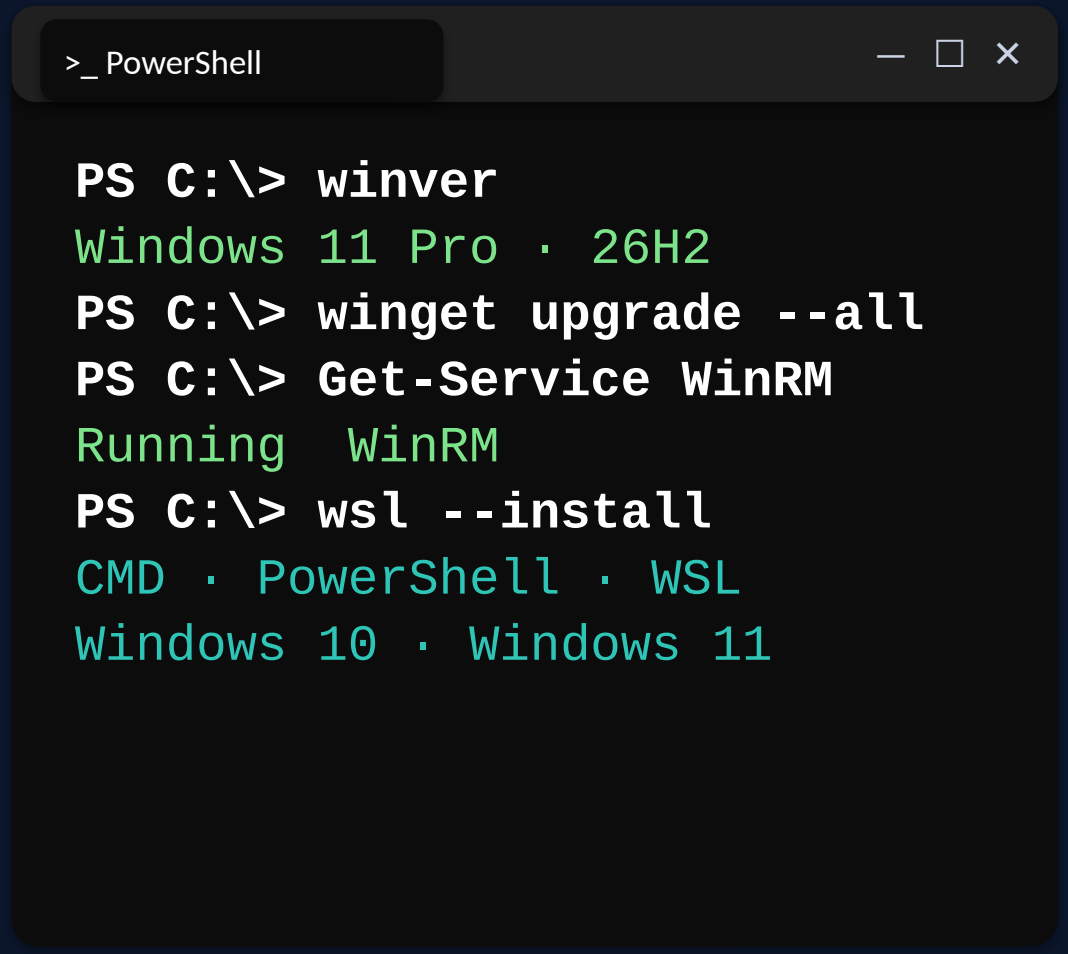


LESSON 2 OF 12

Windows 10 & 11

Desktop · Workstation · Laptop

Installing, Upgrading & Recovering Windows

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

What You Will Learn in Lesson 2

- Ways to get Windows 11 and the checklist before you start
- Creating and checking bootable installation media
- A clean install: boot menu, partitions and first-time setup (OOBE)
- Upgrading from Windows 10, and between Windows 11 versions
- Activation: digital licenses and product keys
- Windows Recovery Environment (WinRE), System Restore and Reset this PC
- Repairing system files with SFC and DISM

Ways to Get Windows 11

Method	When to use it
Windows Update	Eligible Windows 10 PCs: free upgrade offer in Settings
Installation Assistant	Upgrade one PC now, keeping files and apps
Media Creation Tool	Make a bootable USB drive (8 GB or larger)
ISO download	Virtual machines, in-place repair, or your own USB tool
New PC (OEM)	Preinstalled and activated by the manufacturer
Enterprise deployment	Windows Autopilot and Intune for many devices

Before You Install: The Checklist

- Back up your files, and test that the backup opens
- Save the BitLocker recovery key (account.microsoft.com/devices/recoverykey)
- Know your license: digital license, product key, or work account
- Download network and storage drivers from the PC maker
- Update the BIOS/UEFI firmware; enable TPM 2.0 and Secure Boot
- Laptops: plug in the charger; desktops: disconnect extra drives

Verify and Mount an ISO

```
PS C:\> Get-FileHash .\Win11_26H2_English_x64.iso -Algorithm SHA256
Algorithm  Hash                                   Path
SHA256     5E1A...C9F2                            C:\Users\wahid\Downloads\Win11...
# Compare with the SHA256 value published on the Microsoft download page

PS C:\> Mount-DiskImage -ImagePath C:\ISO\Win11_26H2_English_x64.iso
PS C:\> Get-Volume | Where-Object DriveType -eq CD-ROM     # find the drive letter
PS C:\> Dismount-DiskImage -ImagePath C:\ISO\Win11_26H2_English_x64.iso
```

The file name and hash above are examples — always use the values from your own download.

A Clean Install, Step by Step

Step	What you do
1. Boot from USB	Use the one-time boot menu (often F12, F11, F9 or Esc)
2. Setup screens	Language, keyboard, then 'Install Windows 11'
3. Product key	Enter it, or choose 'I don't have a product key'
4. Choose a disk	Select the drive; delete old partitions only if you are sure
5. Copy files	Setup copies Windows and restarts several times
6. OOBE	Region, network, account, privacy — the out-of-box experience

The Partitions Windows Creates (UEFI/GPT)

```
# During Setup press Shift+F10 for a command prompt
X:\Sources> diskpart
DISKPART> list disk
DISKPART> select disk 0
DISKPART> list partition
  Partition 1    System     100 MB     # EFI system partition (FAT32, boot files)
  Partition 2    Reserved    16 MB     # Microsoft Reserved (MSR)
  Partition 3    Primary    475 GB     # C: Windows (NTFS)
  Partition 4    Recovery   750 MB     # Windows Recovery Environment
DISKPART> exit
```

Careful: 'clean' in diskpart erases the selected disk immediately.

First-Time Setup (OOBE) and Accounts

- Home: setup needs internet and a Microsoft account
- Pro: 'Set up for work or school' joins Microsoft Entra ID
- Pro, Enterprise: can also join a classic Active Directory domain later
- Choose privacy settings carefully: location, diagnostics, ads ID
- Create a Windows Hello PIN; add local accounts later in Settings
- After OOBE: Windows Update, drivers, then your apps

Upgrading: Windows 10 → 11, and 24H2 → 26H2

Path	How	Keeps files and apps?
Windows 10 22H2 → 11	Windows Update or Installation Assistant	Yes
In-place upgrade	Run setup.exe from the mounted ISO	Yes (choose 'Keep files and apps')
24H2 / 25H2 → 26H2	Small enablement package, one restart	Yes
Go back	Settings > System > Recovery > Go back	Within 10 days of a feature upgrade
Clean install	Boot from USB, delete partitions	No — restore from backup

Activation: Check and Fix

```
# GUI: Settings > System > Activation  (Troubleshoot button)
C:\> slmgr /xpr          # is Windows permanently activated?
C:\> slmgr /dli          # license type and partial product key
C:\> slmgr /ipk XXXXX-XXXXX-XXXXX-XXXXX-XXXXX   # install a product key
C:\> slmgr /ato          # activate now

# Digital license: linked to the hardware and your Microsoft account.
# After a motherboard change, use the Activation troubleshooter.
```

Windows Recovery Environment (WinRE)

Tool	Use it when
Startup Repair	Windows will not start after a crash or a bad shutdown
Uninstall Updates	Problems started right after an update
System Restore	Undo driver or software changes to a restore point
Command Prompt	Manual repairs: diskpart, bcdboot, sfc, chkdsk
UEFI Firmware Settings	Change boot order, TPM, Secure Boot
Reset this PC	Reinstall Windows: keep my files, or remove everything

Recovery and Repair Commands

```
C:\> reagentc /info                    # is WinRE enabled? where is it?
C:\> shutdown /r /o /t 0               # restart straight into WinRE
C:\> rstrui                            # System Restore wizard
C:\> RecoveryDrive                     # create a USB recovery drive

# Repair damaged system files (run as Administrator, in this order):
C:\> DISM /Online /Cleanup-Image /RestoreHealth
C:\> sfc /scannow
C:\> chkdsk C: /scan                   # check the file system online
```

Summary & Homework

- Back up and save the BitLocker recovery key before any install
- Verify ISOs with Get-FileHash; know the four UEFI partitions
- In-place upgrade keeps files and apps — and repairs Windows
- WinRE: Startup Repair, System Restore, Uninstall Updates, Reset this PC
- Repair order: DISM /RestoreHealth, then sfc /scannow
- Homework: install Windows 11 in a VM; create a recovery drive

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.