

# Installing and Using WSL2 on Windows

Setting up **WSL2** (Windows Subsystem for Linux 2) on Windows.

# Tools Installation

1. Install WSL2 → so you have Linux running on Windows.
2. Install Windows Terminal → so you have a modern terminal app to manage multiple shells.
3. Use WSL2 on Windows Terminal → so you can run your Linux environment inside the terminal with tabs, customization, etc.

## Prerequisites

- Windows 10 (Version 2004+) or Windows 11
- Administrator access
- PowerShell
- Windows Terminal
- Internet connection

## WSL2

- Allows you to run a **Linux environment on Windows**
- WSL2 is the second version with:
  - Full Linux kernel
  - Improved performance
  - Better compatibility with Docker and tools

# Install WSL2

## Step 1: Enable WSL

Open PowerShell as Administrator and run:

```
wsl --install
```

## Just in case (Not recommended)

On older versions, enable features manually:

```
dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart  
dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart
```

## **Step 2: Restart Your Computer**

After enabling features, restart your system.

## Step 3: Install a Linux Distro

Install a distro from Microsoft Store:

- Ubuntu (Recommended, all explanations are based on Ubuntu)
- Debian
- Kali Linux
- Alpine WSL

Example:

```
wsl --install -d Ubuntu
```

## Step 4: Set WSL2 as Default Version

```
wsl --set-default-version 2
```

You can also set it per distro:

```
wsl --set-version Ubuntu 2
```



## Step 5: Verify Installation

Check installed distros and versions:

```
wsl -l -v
```

Expected output:

NAME	STATE	VERSION
* Ubuntu	Running	2



# Windows Terminal

- **Tabs & Multiple Profiles**

Run Linux (WSL2), PowerShell, and Command Prompt in one window

- **Customizable Themes & Fonts**

Make your terminal match your style

- **Better Text Rendering**

Smooth, clear output with GPU acceleration

- **Split Panes**

Work in multiple shells side-by-side

## 1. Microsoft Store (Recommended)

1. Open **Microsoft Store**.
2. Search for "**Windows Terminal**".
3. Click **Install**.

## 2. PowerShell

You can use Command Prompt (cmd.exe) or Windows PowerShell.

- Some installs need system-level changes, so opening PowerShell or cmd.exe as Administrator avoids permission errors.

```
winget install --id Microsoft.WindowsTerminal -e
```

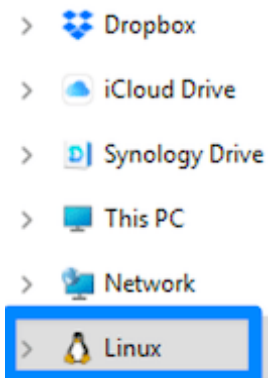
## Using WSL2

Use WSL2 in Windows Terminal

1. Open Windows Terminal
2. Click the ▼ menu → Select your Linux distro (e.g., Ubuntu)
3. Start running Linux commands inside Windows Terminal!

## File System Access

- (From WSL2) Windows files available at `/mnt/c/`
- (From Windows) Linux drive can be accessed from "Linux" in the File Explorer sidebar.
- You can access the directory using UNC path (for example, `\\wsl.localhost\Ubuntu-22.04`) in the File Explorer.



## Just in Case (Not Recommended)

If you need to mount the .vhdx in Disk Management, ensure the Linux drive is attached.

- (From Windows) Linux files at:  
"%USERPROFILE%\AppData\Local\Packages...\LocalState\ext4.vhdx"
  - That ... is your WSL Linux distribution's package folder name.
  - For Ubuntu, it starts with  
"CanonicalGroupLimited.Ubuntu"

1. Close all WSL2 (`wsl --shutdown`).
2. Press Windows + R, type `diskmgmt.msc`, press Enter (Run as Administrator).
3. In Disk Management, go to Action → Attach VHD.
4. Browse to the `.vhdx` file and open it.
5. Windows will mount it as a network drive.



## Summary

- WSL2 brings a whole Linux kernel to Windows
- Great for dev workflows, scripting, Docker, and tools
- Easy to install and use

 **You're Ready**

Enjoy Linux on Windows 

Explore your dev workflow with the best of both worlds.