**Installing WSL2**

*Written July 18, 2021, Updated July 30, 2021*

**Enable the Windows Feature**

# these two commands must be run as an Administrator

Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux -NoRestart

Enable-WindowsOptionalFeature -Online -FeatureName VirtualMachinePlatform

**Download Microsoft's Linux Kernel**

$downloadUrl="https://wslstorestorage.blob.core.windows.net/wslblob/wsl\_update\_x64.msi"

if ((Get-CimInstance Win32\_operatingsystem).OSArchitecture.StartsWith('ARM 64')) {

$downloadUrl="https://wslstorestorage.blob.core.windows.net/wslblob/wsl\_update\_arm64.msi"

}

$ProgressPreference = 'SilentlyContinue'; Invoke-WebRequest -Uri $downloadUrl -OutFile .\Downloads\wsl\_kernel.msi

# run it

.\Downloads\wsl\_kernel.msi

Notice I used $ProgressPreference = 'SilentlyContinue'. It significantly increases the download performance using Invoke-WebRequest. Maybe "increases" is the wrong word, it makes the download performance normal.

**Set the default version for WSL distributions to version 2.**

wsl --set-default-version 2

The original WSL (version 1) was quite an amazing feat. Linux syscalls could execute against a Windows NT Kernel. While it worked with almost everything, it didn't work with everything, thus version 2 was born, when Microsoft decided to bundle Windows (10 and 11) with **TWO** kernels, the Windows NT one, and a real Linux one.

**Install a Linux Distribution**

wsl --list -v

You'll notice while WSL is now installed, you have no Linux distributions in your list, so you need to install one.

There are lots to choose from, but I would recommend Ubuntu 20.04 LTS. Odds of things working using arguably the most popular Linux distribution are higher than not.

$downloadUrl="https://aka.ms/wslubuntu2004"

if ((Get-CimInstance Win32\_operatingsystem).OSArchitecture.StartsWith('ARM 64')) {

$downloadUrl="${downloadUrl}arm"

}

# download it:

$ProgressPreference = 'SilentlyContinue'; Invoke-WebRequest -Uri $downloadUrl -OutFile .\Downloads\wslubuntu2004.appx

# install the exe:

If ($PSVersionTable.PSEdition -eq "Core") {

Import-Module Appx -UseWindowsPowerShell

}

Add-AppxPackage .\Downloads\wslubuntu2004.appx

While you could navigate to the Windows Store, and search for Ubuntu, this method is just a bit faster and nerdier.

# run the exe

ubuntu2004.exe

# when prompted, enter a username of your choice

# when prompted for a password, enter a password of your choice

**Set the root password**

It might be handy to have the root password in case something happens to your sudoers file. Set it like so:

sudo passwd

*# exit when you're done*

**Upgrade all packages**

sudo apt update

sudo apt upgrade

*# clean up later*

sudo apt autoremove

**What could possibly go wrong?**

If you happen to be running Windows on ARM, you might get this error:

Installing, this may take a few minutes... WslRegisterDistribution failed with error: 0x80370109 Error: 0x80370109 The operation timed out because a response was not received from the virtual machine or container.

If you are running Windows 10 on ARM, give up now and install Windows 11. Seriously, on ARM don't even think about running WSL2 on Windows 10. Save yourself a world of pain. Windows 11 has significantly improved support for ARM.