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How to install WSL2 (Windows Subsystem for Linux 2) on Windows 10

Windows Subsystem for Linux 2 is now available on Windows 10 with various improvements, and this is how you can install and start using it.

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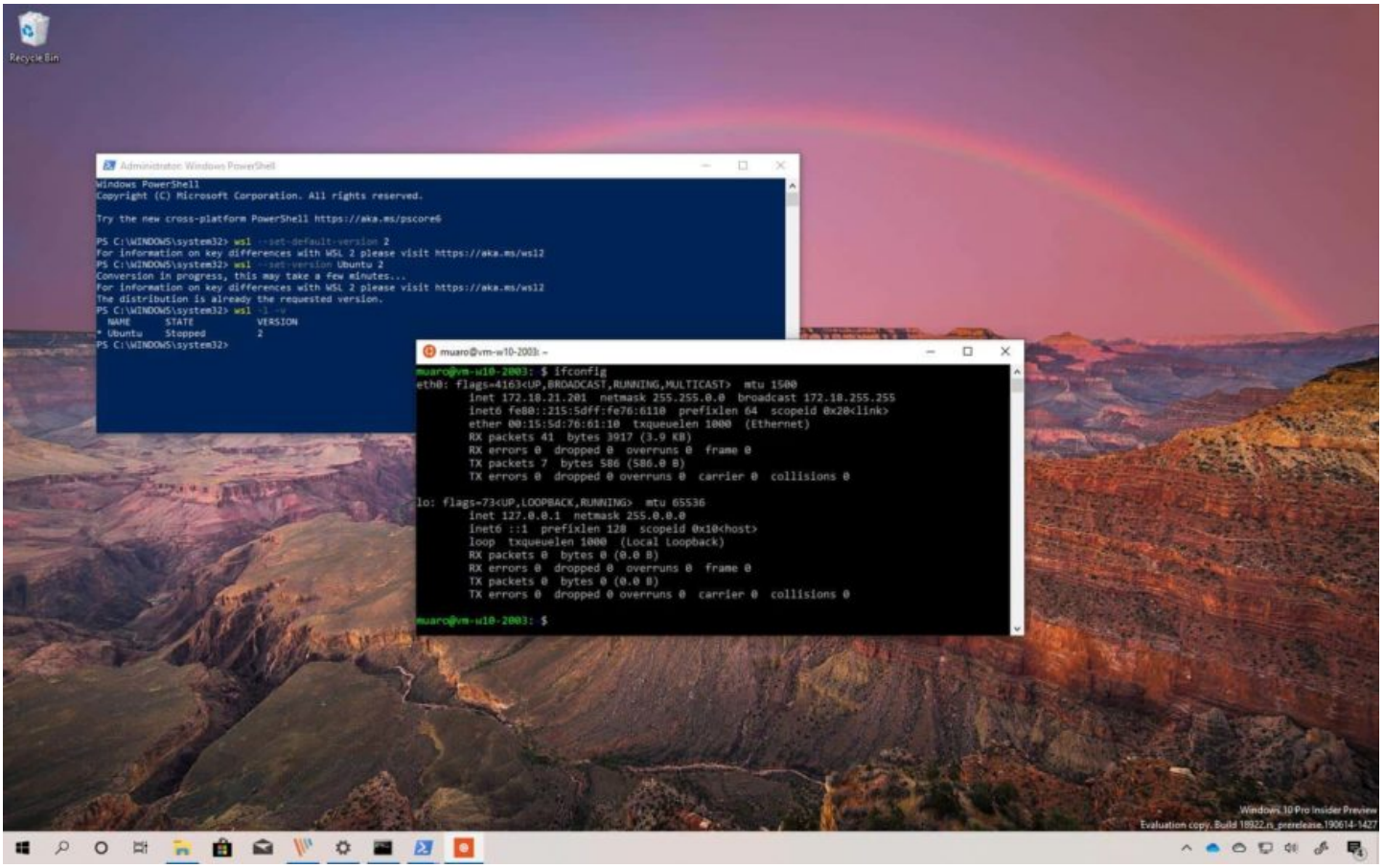

WSL2 (Windows Subsystem for Linux version 2) is a new version of the architecture that allows you to use Linux on top of Windows 10 natively (using a lightweight virtual machine) and replaces WSL.

The feature runs an actual Linux kernel in this new version, which improves performance and app compatibility over the previous version while maintaining the same experience as the first release.

In this guide, you will learn the steps to install the Windows Subsystem for Linux 2 on Windows 10.

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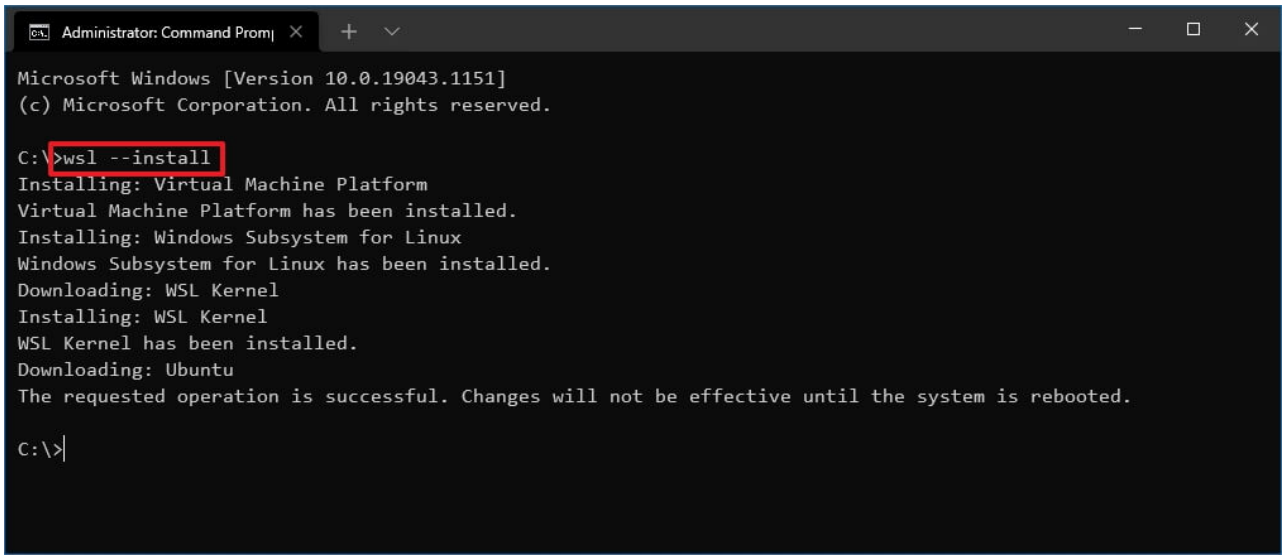
Install WSL2 on Windows 10

Microsoft has simplified the installation process of the WSL on Windows 10 2004 and higher releases (including version 21H2 and 21H1) to only one command that downloads and installs all the required components, including the virtual machine platform and Ubuntu Linux by default.

To install Windows Subsystem for Linux on Windows 10, use these steps:

1. Open **Start** on Windows 10.
2. Search for **Command Prompt**, right-click the top result, and select the **Run as administrator** option.
3. Type the following command to *install the WSL on Windows 10* and press **Enter**:

```
wsl --install
```



4. Restart your computer to finish the WSL installation on Windows 10.
5. Continue with the Linux distro setup as necessary.

Once you complete the steps, the required Linux components will automatically install the latest version of the Ubuntu Linux distribution.

Install WSL with specific distro

To install WSL with a specific distro on Windows 10, use these steps:

1. Open **Start**.

2. Search for **Command Prompt**, right-click the top result, and select the **Run as administrator** option.

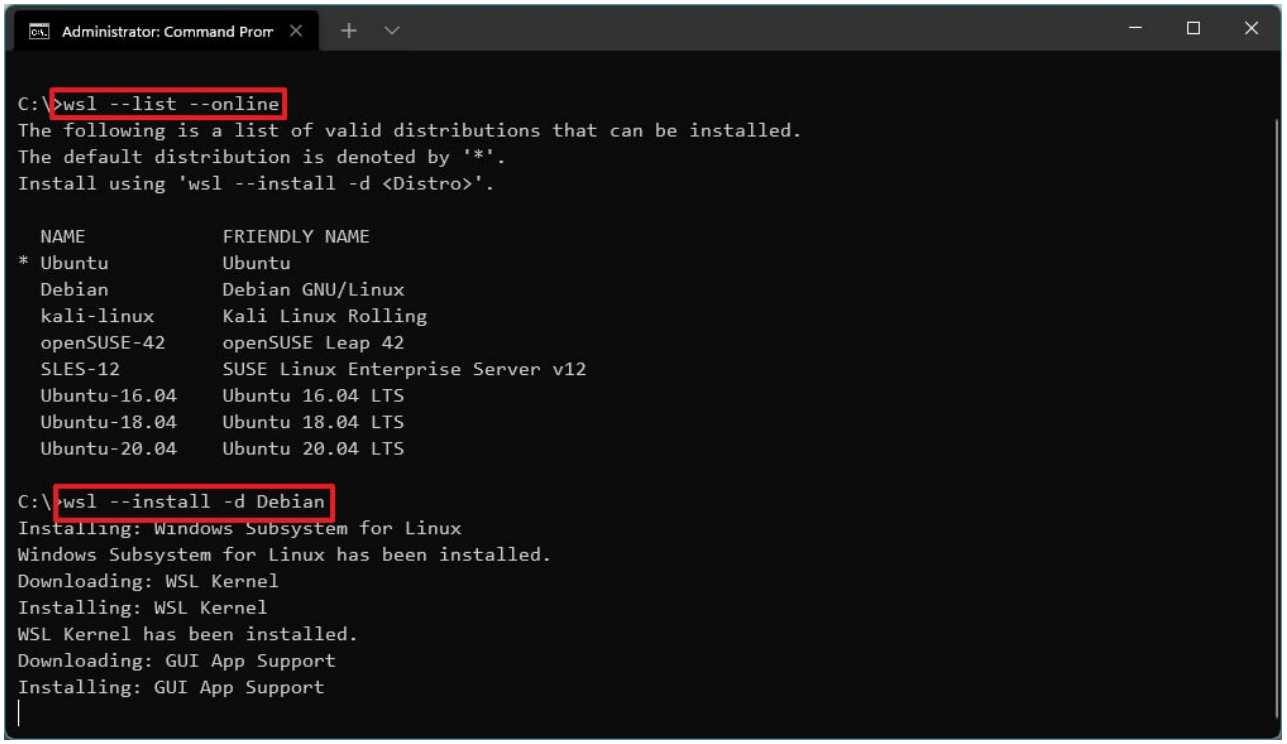
3. Type the following command to view a list of available WSL distros you can install on Windows 10 and press **Enter**:

```
wsl --list --online
```

> **Quick note:** At the time of this writing, you can install Ubuntu, Debian, Kali Linux, openSUSE, and SUSE Linux Enterprise Server.

4. Type the following command to install the *WSL with a specific distro on Windows 10* and press **Enter**:

```
wsl --install -d DISTRO-NAME
```



In the command, remember to replace **"DISTRO-NAME"** for the name of the distro you want to install, such as **Debian**.

5. Restart your computer.

6. Continue with the Linux distro setup as necessary.

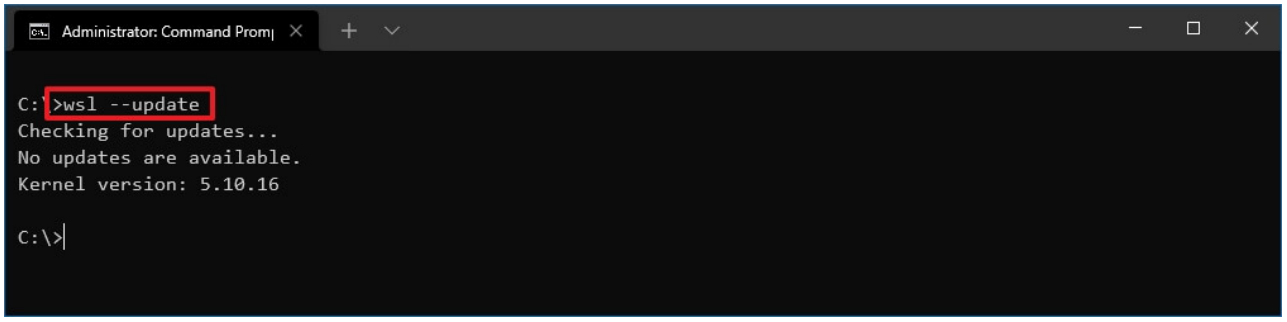
After you complete the steps, the Windows Subsystem for Linux 2 components will install with the distro of Linux you specified.

Update WSL kernel

To update the WSL kernel to the latest version, use these steps:

1. Open **Start**.
2. Search for **Command Prompt**, right-click the top result, and select the **Run as administrator** option.
3. Type the following command to *update the WSL kernel* and press **Enter**:

```
wsl --update
```



Once you complete the steps, if an update is available, then it will download and install on the device.

If the update command doesn't work, open **Settings** > **Update & Security** > **Windows Update** > **Advanced options**, and turn on the **"Receive updates for other Microsoft products when you update Windows"** toggle switch.

Install WSL2 on Windows 10 1909 or older

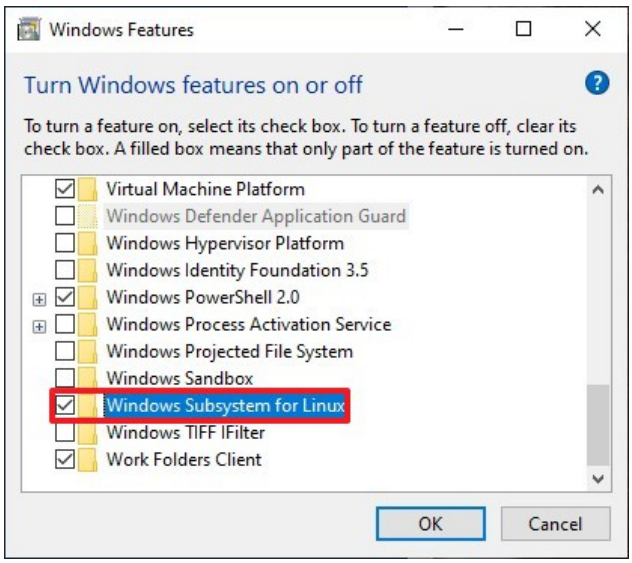
Alternatively, you can still install WSL on Windows 10 version 1909 and older versions using the legacy processes. The process requires enabling WSL1, the Virtual Machine Platform, converting existing distros (if applicable), and configuring the Windows Subsystem for Linux 2 as the new default for future distro installations.

If you have an ARM64 system, the Linux integration is supported on version 2004 and higher.

Enable Windows Subsystem for Linux

If you are not already using Linux on Windows 10, you must enable the Windows Subsystem for Linux (version 1) with these steps:

1. Open **Start** on Windows 10.
2. Search for **Turn Windows features on or off** and click the top result to open the experience.
3. Check the **"Windows Subsystem for Linux"** option.



4. Click the **OK** button.

5. Click the **Restart** button.

Once you complete the steps, you need to enable the Virtual Machine Platform feature.

Enable Virtual Machine Platform

To enable the Virtual Machine Platform on Windows 10, use these steps:

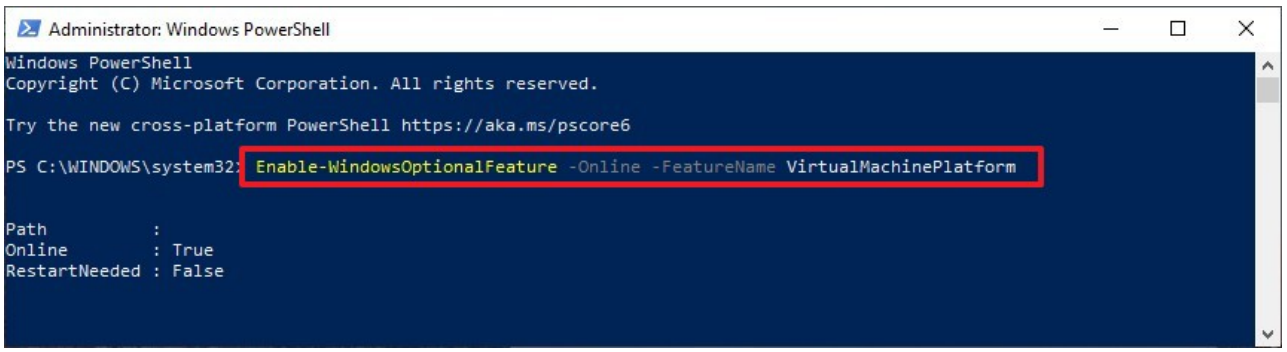
> **Important:** The motherboard and processor must support virtualization, and the option has to be enabled on the Basic Input/Output System (BIOS) or Unified Extensible Firmware Interface (UEFI).

1. Open **Start**.

2. Search for **PowerShell**, right-click the top result, and select the **Run as administrator** option.

3. Type the following command to enable the Virtual Machine Platform feature and press **Enter**:

```
Enable-WindowsOptionalFeature -Online -FeatureName VirtualMachinePlatform
```



4. Restart your computer.

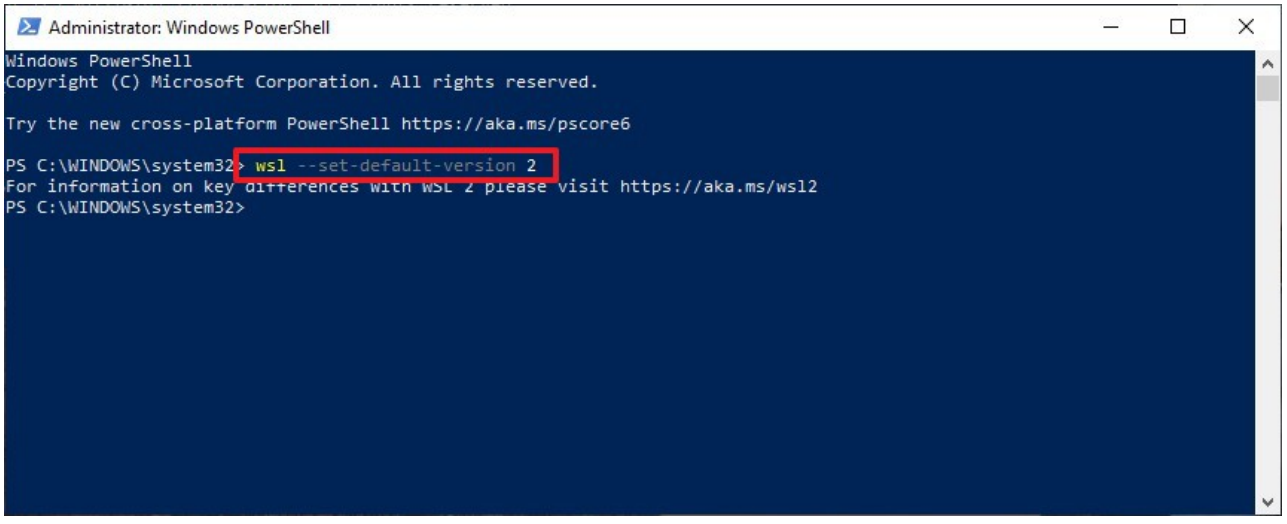
After you complete the steps, you can set the Windows Subsystem for Linux version 2 as the new default architecture and convert existing distros.

Enable Windows Subsystem for Linux 2

To start using WSL2 or covert WSL distros to WSL2, use these steps:

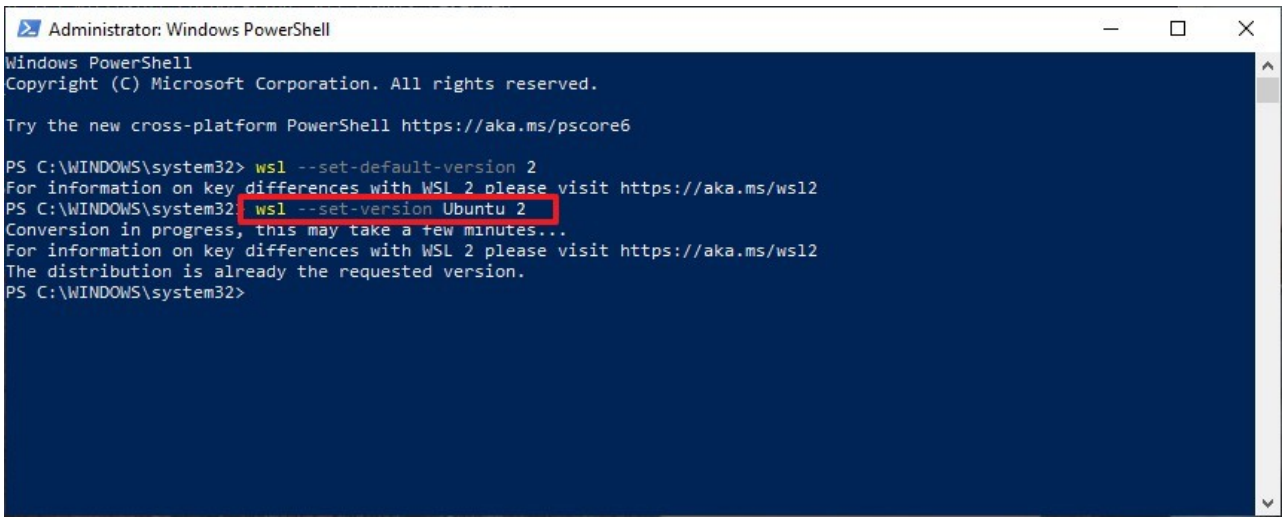
1. Download this **WSL 2 kernel** update (required).
2. Double-click the **wsl_update_x64.msi** file and apply the update.
3. Open **Start**.
4. Search for **PowerShell**, right-click the top result, and select the **Run as administrator** option.
5. Type the following command to set **Windows Subsystem for Linux 2** your default architecture for new distros that you install, and press **Enter**:

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



6. (Optional) Type the following command to convert the distro from WSL to WSL 2 and press **Enter**:

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



In the command, change **"Ubuntu"** for the distro's name you want to convert. If you do not know the distro's name, use the `wsl -l -v` command.

Once you complete the steps, your device will start using the new version of Windows Subsystem for Linux as the default architecture. (See video tutorial on the Pureinfotech YouTube channel.)

Confirm distro platform

To confirm distros are using the Windows Subsystem for Linux 2, use these steps:

1. Open **Start**.
2. Search for **PowerShell**, right-click the top result, and select the **Run as administrator** option.
3. Type the following command to verify the version of the distro and press **Enter**:

```
wsl --list --verbose
```

4. Confirm the distro version is **2**.

After you complete the steps, you will know if the process was successful or if you need to troubleshoot any of the steps.

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