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LINUX ON WINDOWS

# How to install Windows Subsystem for Linux (WSL) on Windows 10

Yes, you can run Linux alongside Windows 10 without the need for a second device or virtual machine using the Windows Subsystem for Linux, and here's how to set it up.

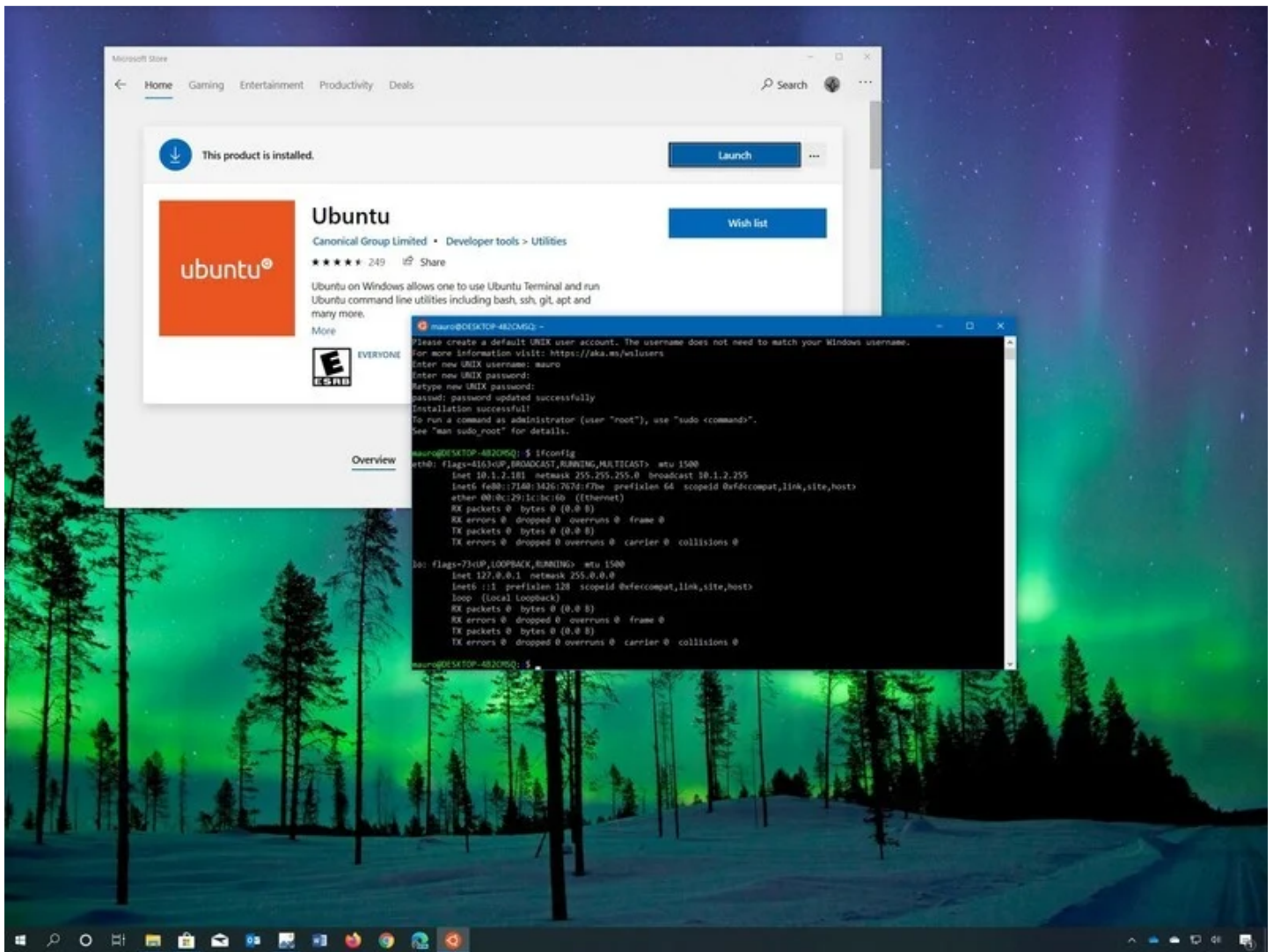
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MAURO HUCULAK

9 Dec 2019

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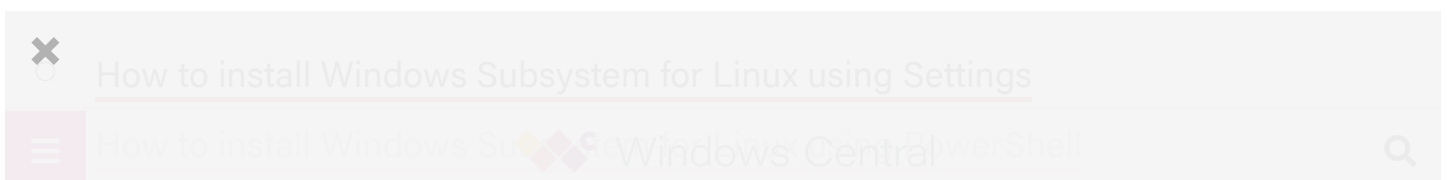


Source: Windows Central

On Windows 10, the Windows Subsystem for Linux (WSL) is a feature that creates a lightweight environment that allows you to install and run supported versions of Linux (such as Ubuntu, OpenSuse, Debian, etc.) without the complexity of setting up a virtual machine or different computer.

Although you won't get a graphical interface, this approach enables developers and network administrators to use a long list of command tools and services (such as vim, tmux, andemacs, sshd, Apache, and MySQL), and run Bash shell scripts written in Python, Ruby, C#, F#, and many others using a command console.

In this Windows 10 guide, we'll walk you through the steps to install the Windows Subsystem for Linux using the Settings app as well as PowerShell. Also, we'll show you the instructions to download and install Linux distros, and the steps to properly remove all the components when you no longer need the open-source environment.



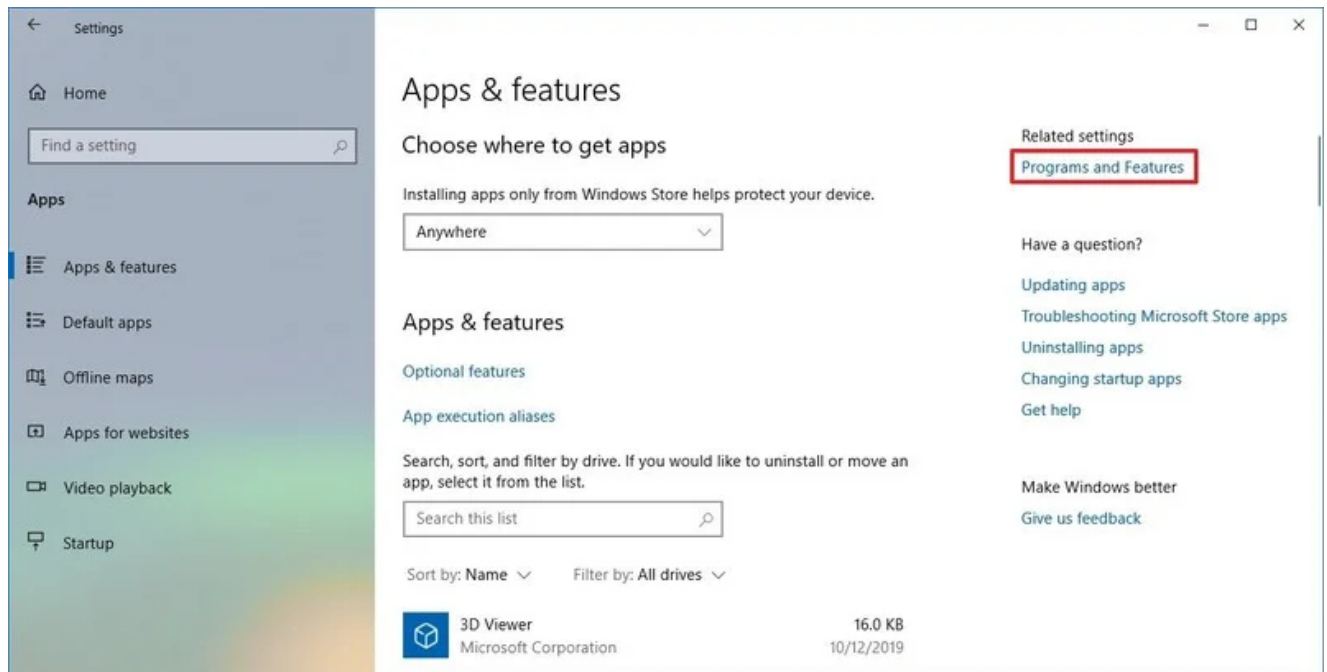
# How to install Windows Subsystem for Linux using Settings

If you want to run distros of Linux on Windows 10, you must first enable the Windows Subsystem for Linux feature before you can download and install the flavor of Linux that you want to use.

## Enabling Windows Subsystem for Linux using Settings

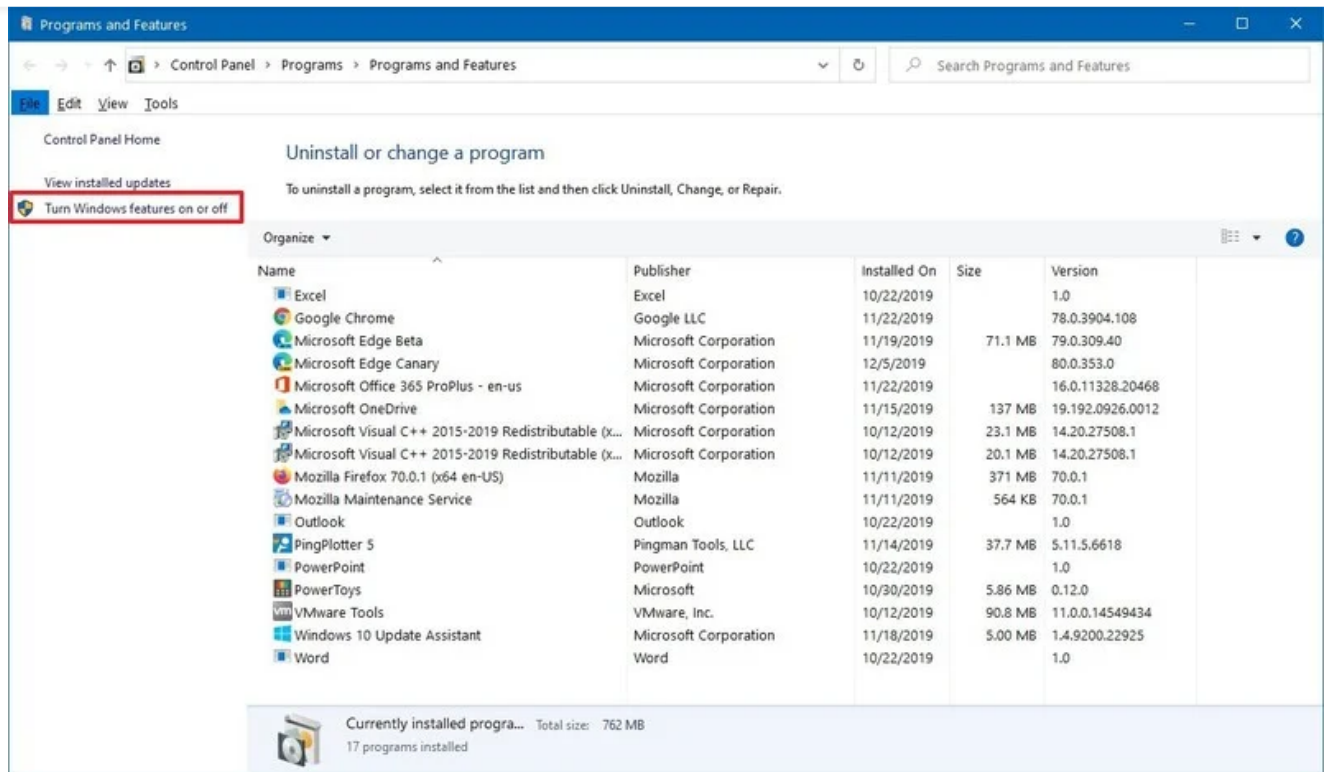
To install WSL using Setting on Windows 10, use these steps:

1. Open **Settings**.
2. Click on **Apps**.
3. Under the "Related settings" section, click the **Programs and Features** option.



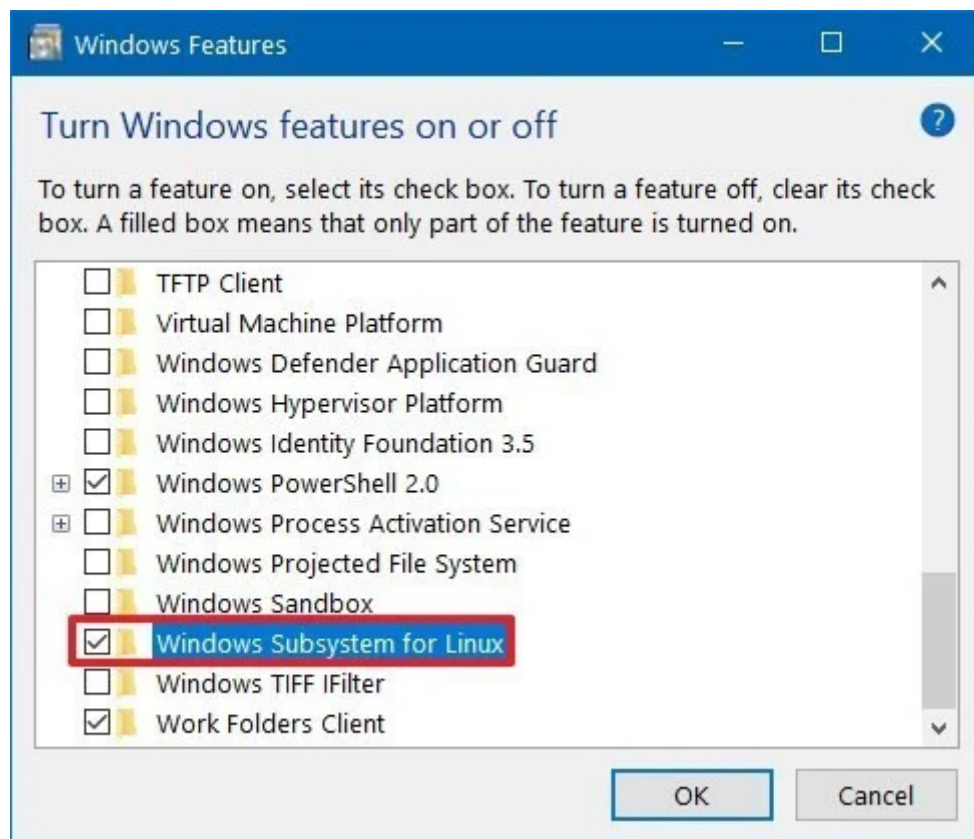
Source: Windows Central

4. Click the **Turn Windows features on or off** option from the left pane.



Source: Windows Central

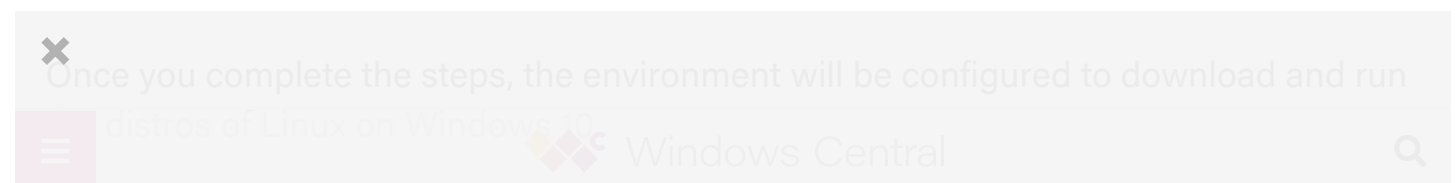
## 5. Check the Windows Subsystem for Linux option.



Source: Windows Central

## 6. Click the OK button.

## 7. Click the Restart now button.



## Installing Linux distros using Microsoft Store

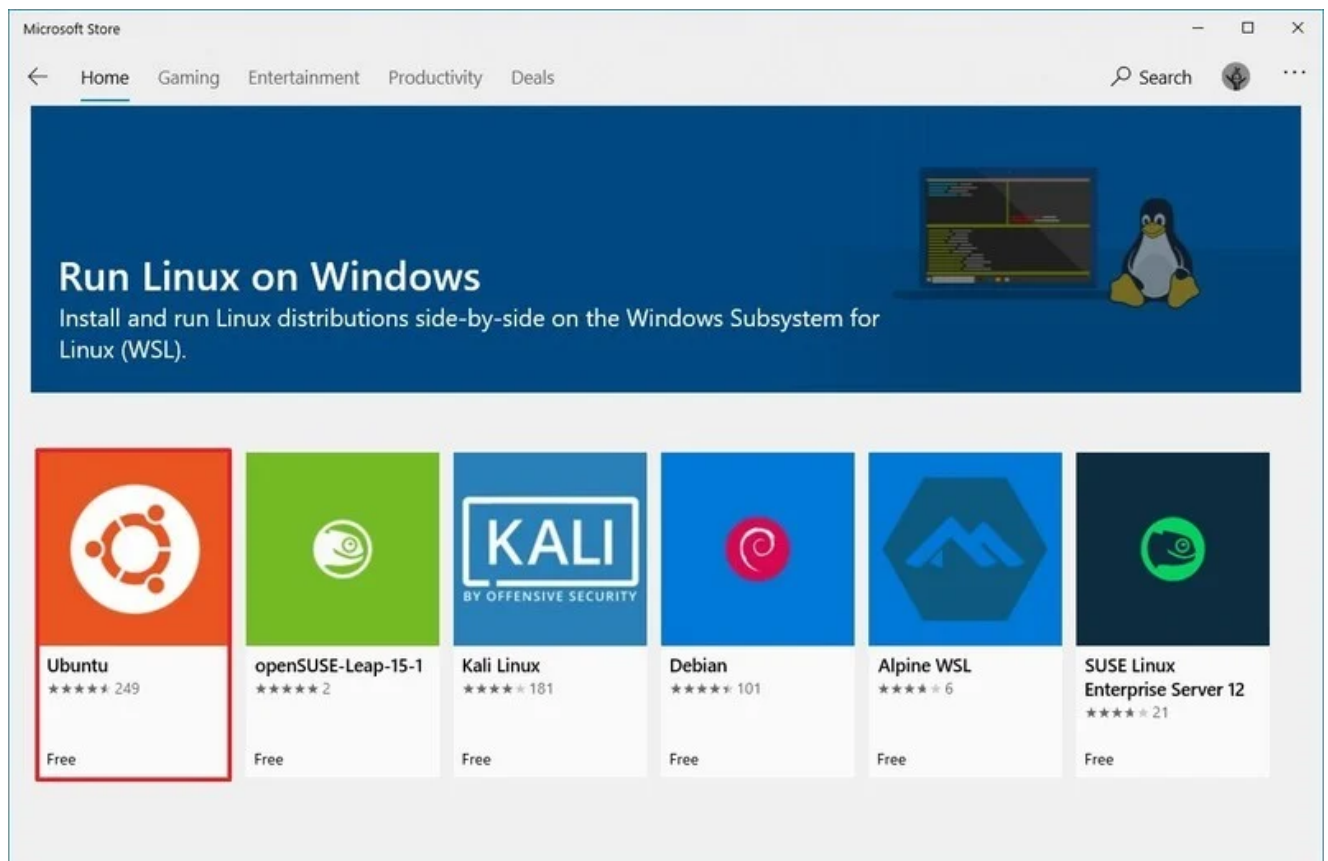
To install a distribution of Linux on Windows 10, use these steps:

1. Open **Microsoft Store**.
2. Search for the Linux distribution that you want to install.

Some of the distros available include:

- Ubuntu.
- OpenSuse Leap 15.
- Kali Linux.
- Debian.
- Alpine WSL.
- Suse Linux Enterprise 12.

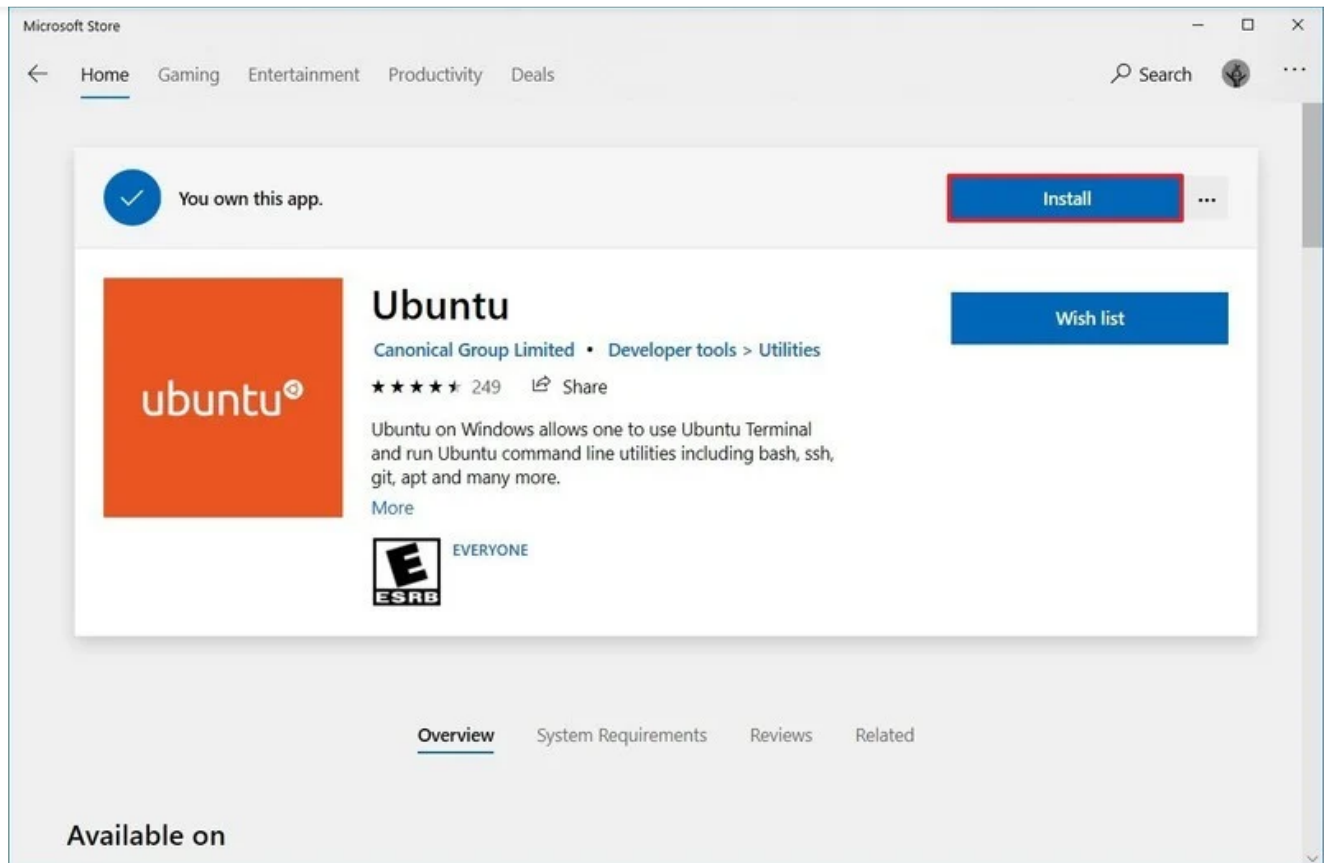
3. Select the distro of Linux to install on your device.



Source: Windows Central

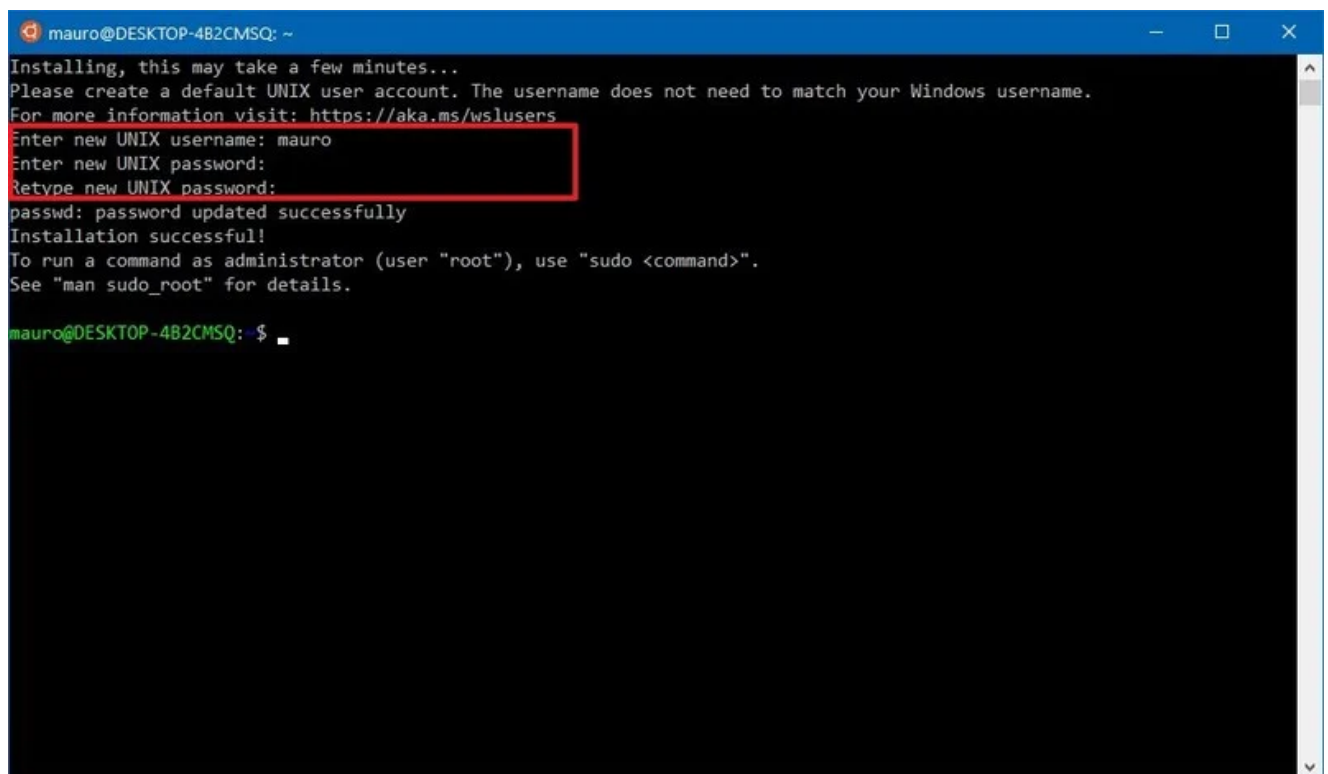
4. Click the **Get** (or **Install**) button.





Source: Windows Central

5. Click the **Launch** button.
6. Create a username for the Linux distro and press **Enter**.
7. Specify a password for the distro and press **Enter**.



Source: Windows Central

8. Repeat the password and press **Enter** to confirm.

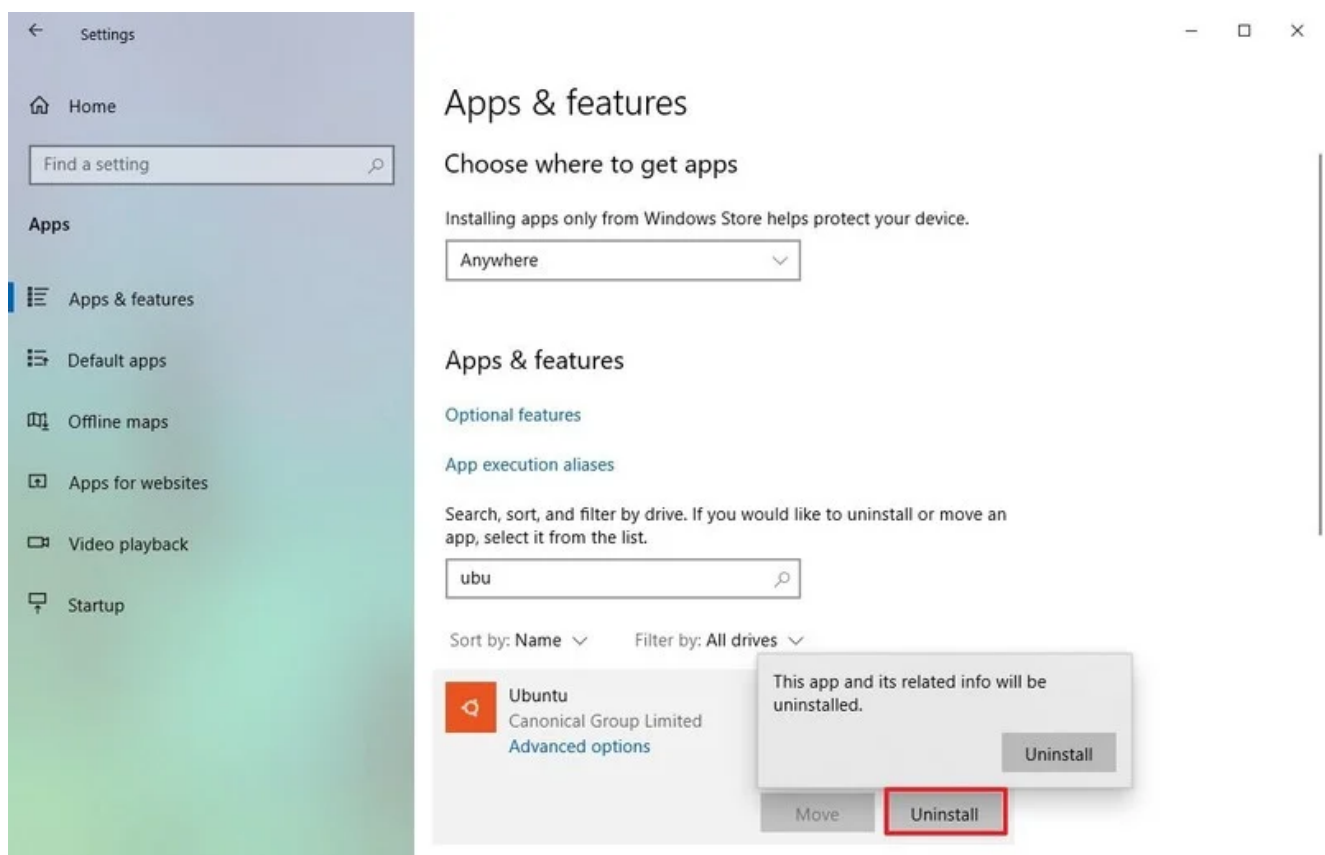
After you complete the steps, you can start using the distro as any other flavor of Linux (without the graphical user interface, of course).

## Uninstalling Linux distros using Settings

If you no longer need to run Linux on your device, it's recommended to remove the distros, and then disable WSL.

To uninstall a Linux distribution, use these steps:

1. Open **Settings**.
2. Click on **Apps**.
3. Click on **Apps & features**.
4. Under the "Apps & features" section, select the distribution — for example, **Ubuntu**.
5. Click the **Uninstall** button.



Source: Windows Central

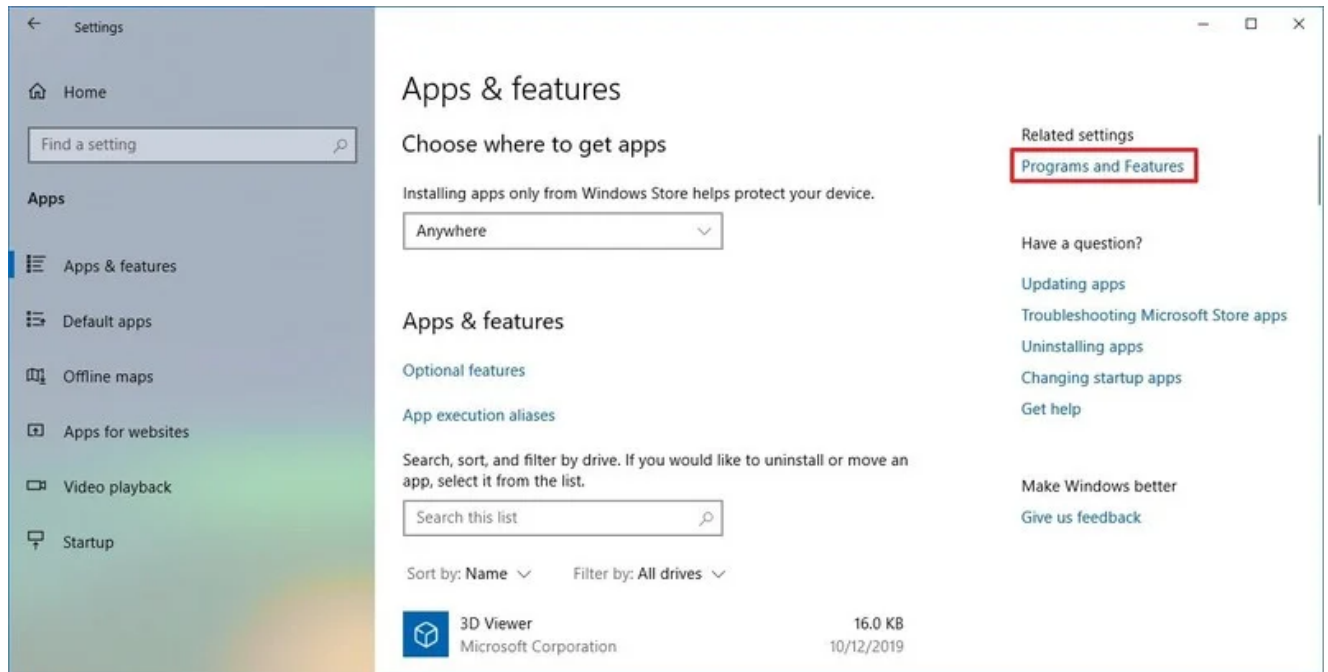
6. Click the **Uninstall** button again to confirm.

Once you complete the steps, the installation of Linux will be removed, and you can

Proceed with the steps to disable WSL.

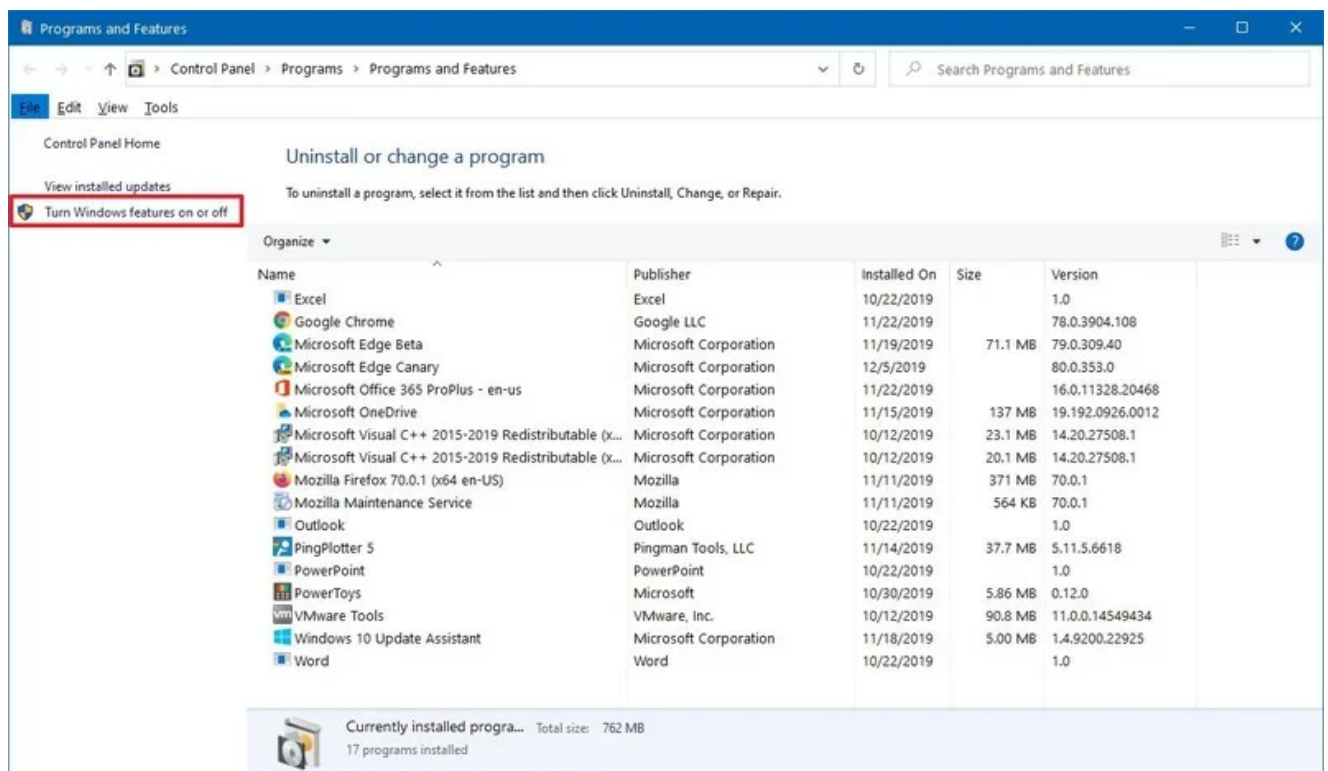
To disable the WSL on Windows 10, use these steps:

1. Open **Settings**.
2. Click on **Apps**.
3. Under the "Related settings" section, click the **Programs and Features** option.



Source: Windows Central

4. Click the **Turn Windows features on or off** option from the left pane.



Source: Windows Central

✗. Clear the Windows Subsystem for Linux option.



Windows Central







Source: Windows Central

6. Click the **OK** button.

7. Click the **Restart now** button.

After you complete the steps, the Windows Subsystem for Linux will be removed from your device.

## How to install Windows Subsystem for Linux using PowerShell

Alternatively, if you don't have access to the Windows graphical interface, or you're comfortable using command lines, you can also use PowerShell to enable the Windows Subsystem for Linux, download and install distros of Linux, and revert all the changes.

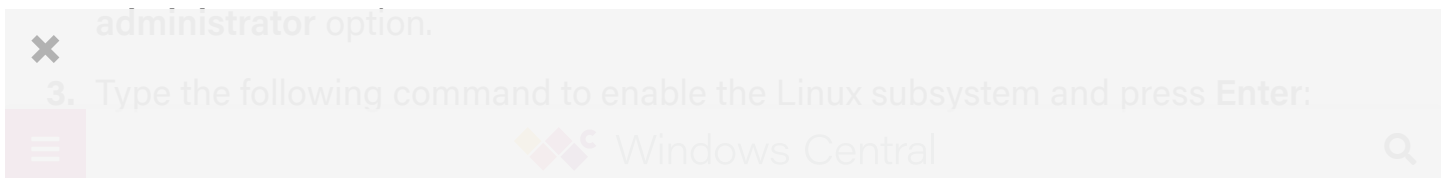
## Enabling Windows Subsystem for Linux using PowerShell

To install the Windows Subsystem for Linux using PowerShell, use these steps:

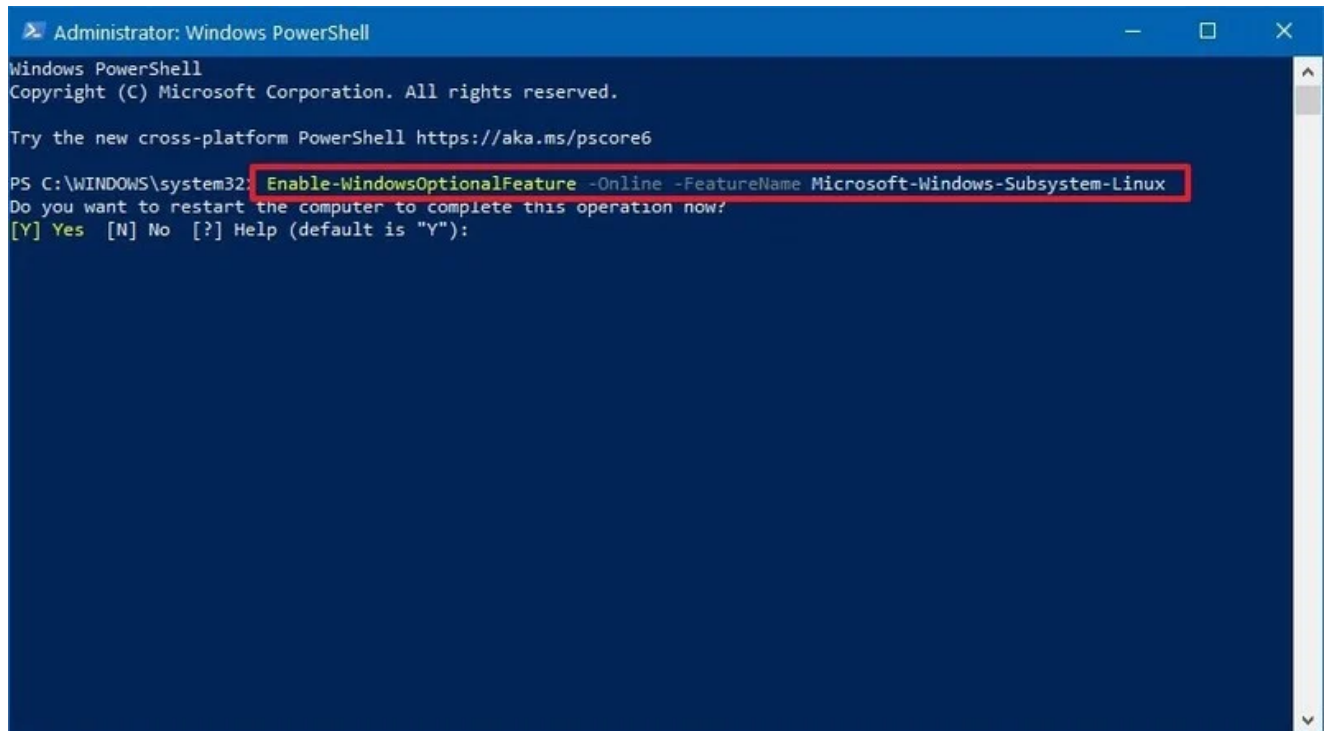
1. Open **Start**.
2. Search for **PowerShell**, right-click the top result, and select the **Run as**

administrator option.

3. Type the following command to enable the Linux subsystem and press Enter:



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



Source: Windows Central

4. Type **Y** and press **Enter** to confirm and restart your computer.

Once you complete the steps, you can proceed with the instructions to download and install any compatible distribution of Linux available through the Microsoft Store.

## Installing Linux distros using PowerShell

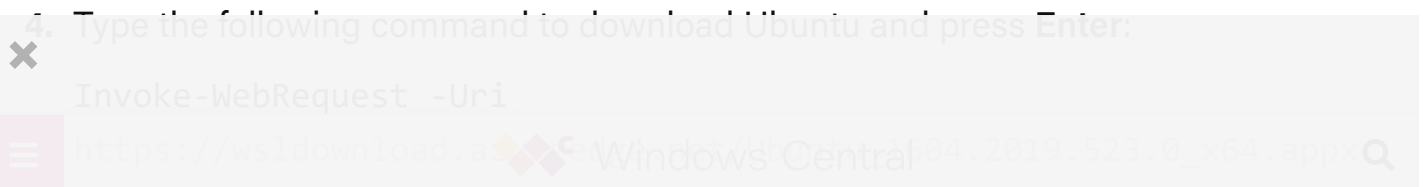
To download and install a distro of Linux (such as Ubuntu) with PowerShell, use these steps:

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 select the download folder and press Enter:

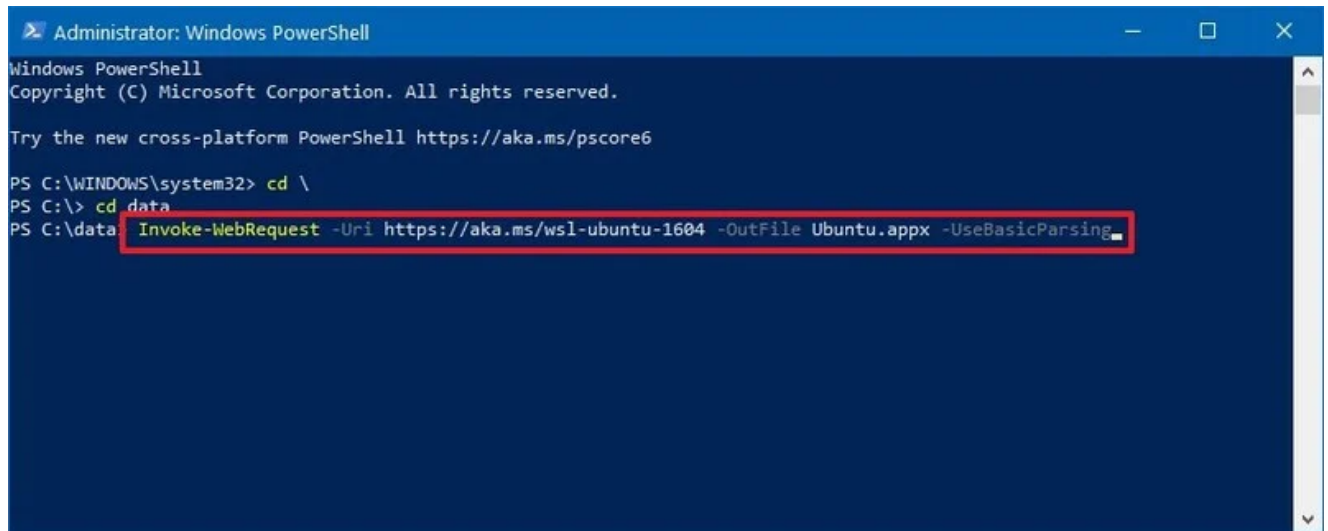
```
cd c:\PATH\TO\DESTINATION-FOLDER
```

This example navigates to the data folder in the root of the main drive:

```
cd c:\data
```



## -OutFile Ubuntu.appx -UseBasicParsing



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> cd \
PS C:\> cd data
PS C:\data> Invoke-WebRequest -Uri https://aka.ms/wsl-ubuntu-1604 -OutFile Ubuntu.appx -UseBasicParsing
```

Source: Windows Central

The above command downloads the Ubuntu version 16.04, but you may need to update the command with name and version of the distro that you're trying to download.

**Quick note:** Although the link in this step and the one in the screenshot look different, they are actually the same. The one in the screenshot is just the short version.

5. Type the following command to view the actual name of the installer and press **Enter**:

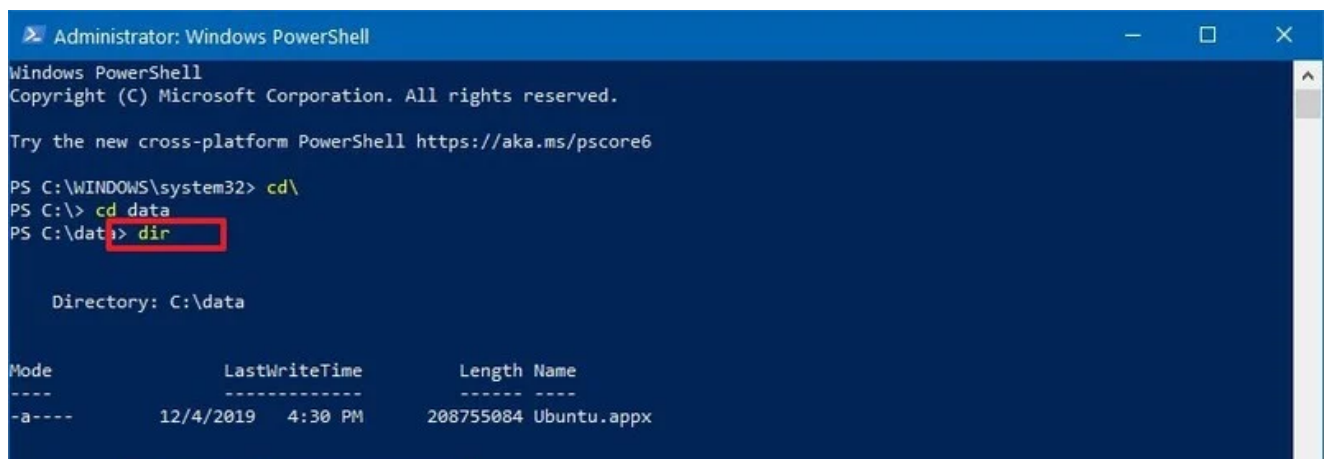
```
dir
```

6. Type the following command to install Ubuntu version 16.04 and press **Enter**:

```
Add-AppxPackage .\APP-NAME.appx
```

This example installs the Ubuntu distro on Windows 10:

```
Add-AppxPackage .\Ubuntu.appx
```



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> cd \
PS C:\> cd data
PS C:\data> dir

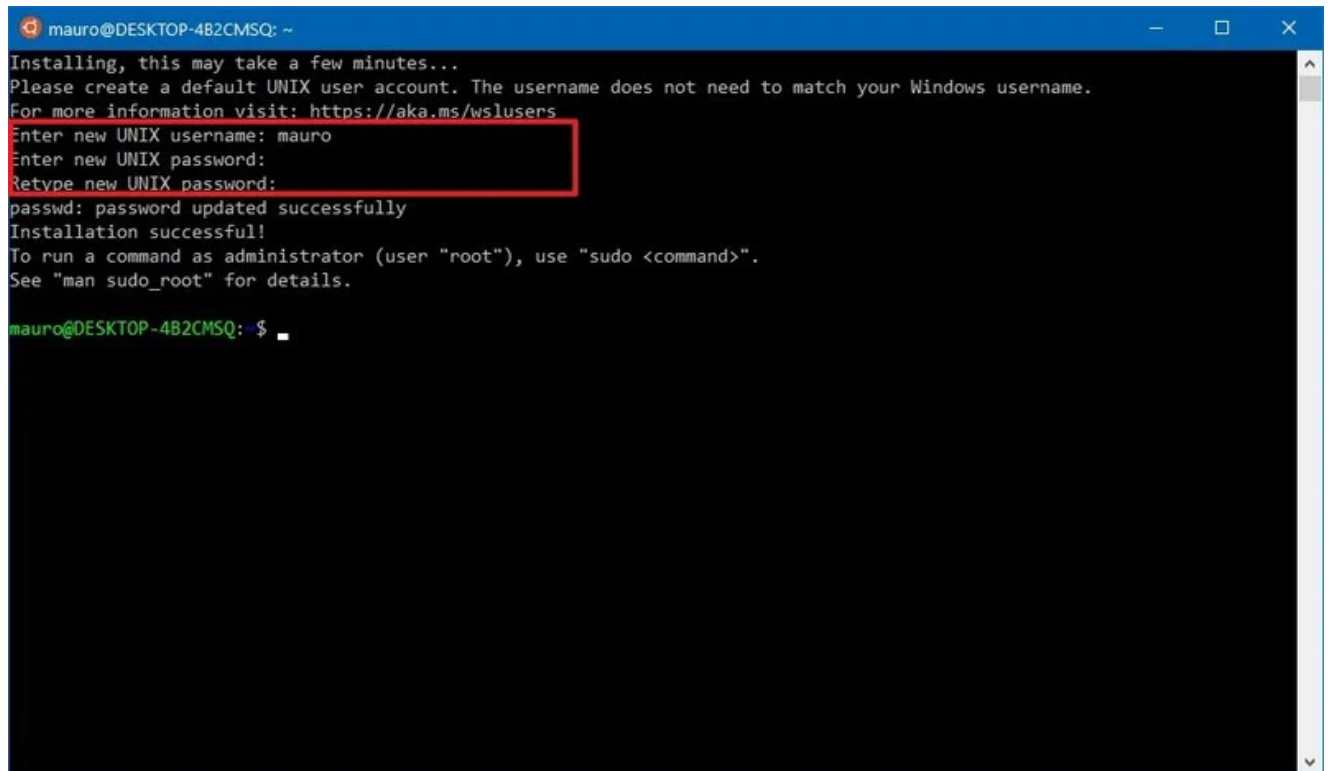
Directory: C:\data

Mode                LastWriteTime         Length Name
----                -
-a----           12/4/2019   4:30 PM       208755084 Ubuntu.appx
```

```
PS C:\data> Add-AppxPackage .\Ubuntu.appx
PS C:\data>
```

Source: Windows Central

7. Open **Start**.
8. Search for the recently distribution Linux distribution (for example, **Ubuntu**), click the top result to launch the experience.
9. Create a username for the Linux distro and press **Enter**.
10. Specify a password for the distro and press **Enter**.



```
mauro@DESKTOP-4B2CMSQ: ~
Installing, this may take a few minutes...
Please create a default UNIX user account. The username does not need to match your Windows username.
For more information visit: https://aka.ms/wslusers
Enter new UNIX username: mauro
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

mauro@DESKTOP-4B2CMSQ: ~$
```

Source: Windows Central

11. Repeat the password and press **Enter** to confirm.

After you complete the steps, you can start using Ubuntu or any other distro as you would on a full installation of Linux without a graphical interface.

## Uninstalling Linux distro using PowerShell

If you want to revert the changes, you first want to remove any distros of Linux before disabling WSL.

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

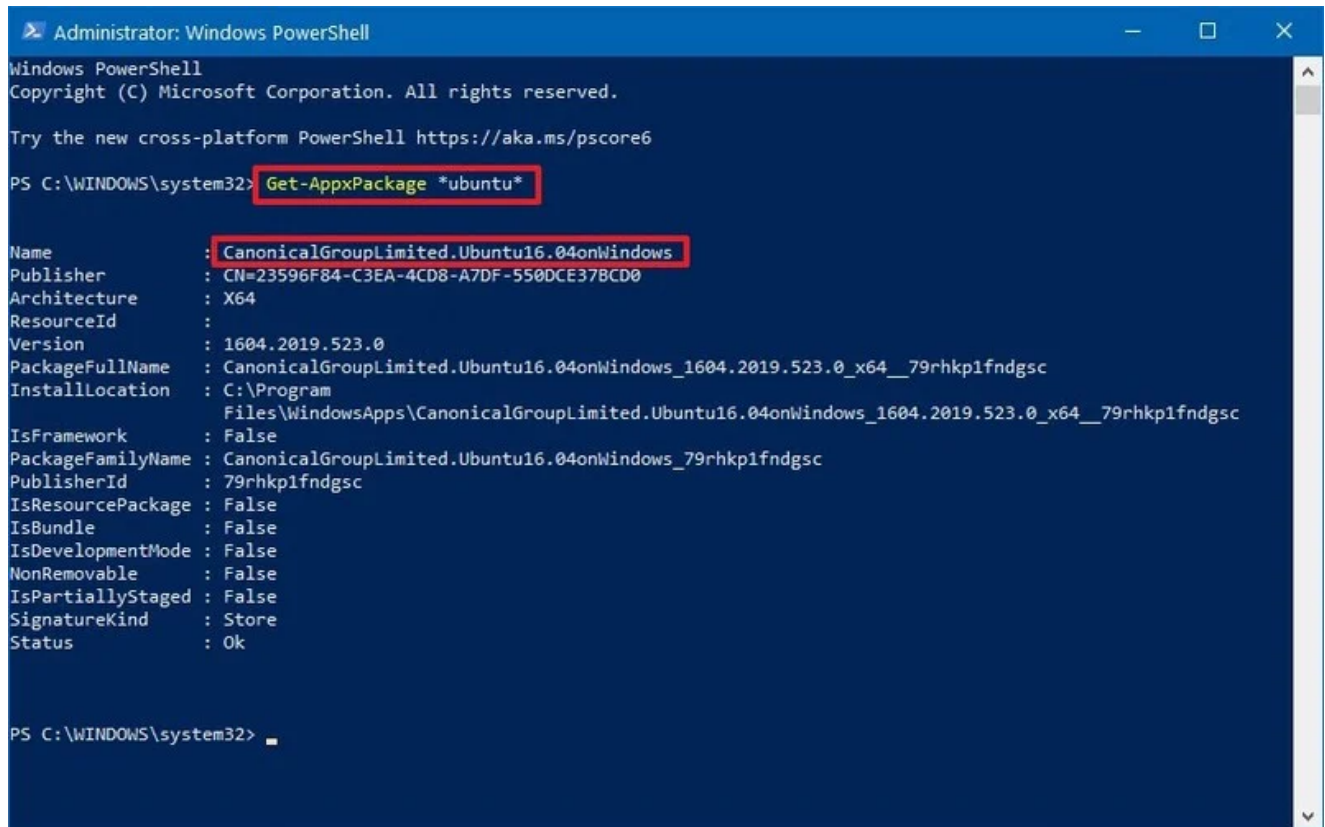
3. Type the following command to find out the distro name and press Enter:

```
Get-AppxPackage *PARTIAL-DISTRO-NAME*
```

Windows Central

This example search for the app package that includes "ubuntu" in the name:

```
Get-AppxPackage *ubuntu*
```



```
Administrator: Windows PowerShell
Windows PowerShell
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PS C:\WINDOWS\system32> Get-AppxPackage *ubuntu*

Name                : CanonicalGroupLimited.Ubuntu16.04onWindows
Publisher           : CN=23596F84-C3EA-4CD8-A7DF-550DCE37BCD0
Architecture        : X64
ResourceId           :
Version             : 1604.2019.523.0
PackageFullName      : CanonicalGroupLimited.Ubuntu16.04onWindows_1604.2019.523.0_x64__79rhkp1fndgsc
InstallLocation      : C:\Program
                     Files\WindowsApps\CanonicalGroupLimited.Ubuntu16.04onWindows_1604.2019.523.0_x64__79rhkp1fndgsc
IsFramework         : False
PackageFamilyName    : CanonicalGroupLimited.Ubuntu16.04onWindows_79rhkp1fndgsc
PublisherId          : 79rhkp1fndgsc
IsResourcePackage    : False
IsBundle             : False
IsDevelopmentMode    : False
NonRemovable         : False
IsPartiallyStaged    : False
SignatureKind        : Store
Status               : Ok

PS C:\WINDOWS\system32>
```

Source: Windows Central

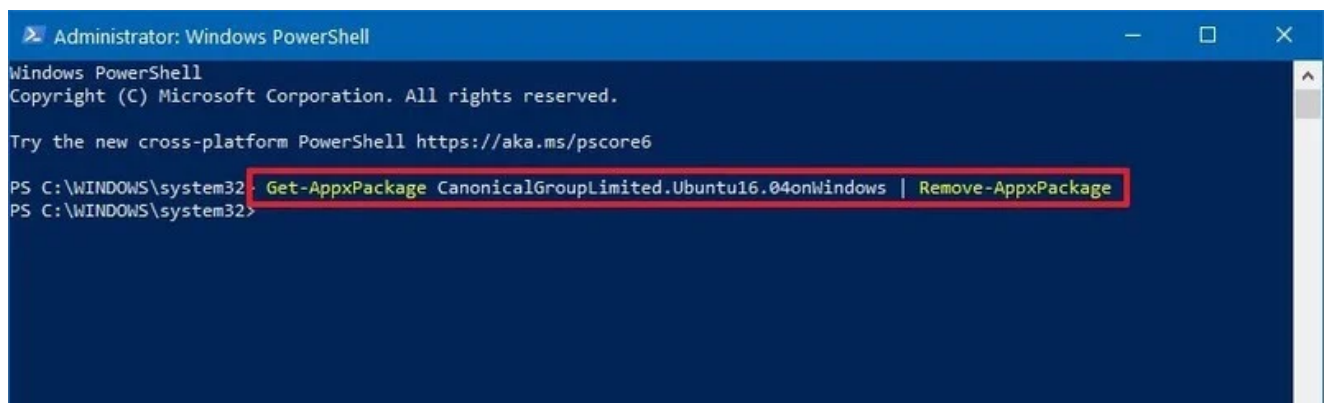
In the command, make sure to change "ubuntu" for the name of the distro you're trying to find.

4. Type the following command to uninstall the version of Linux installed on your computer and press **Enter**:

```
Get-AppxPackag FULL-DISTRO-NAME | Remove-AppxPackage
```

This example removes the Ubuntu package from Windows 10:

```
Get-AppxPackage CanonicalGroupLimited.Ubuntu16.04onWindows |
Remove-AppxPackage
```



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> Get-AppxPackage CanonicalGroupLimited.Ubuntu16.04onWindows | Remove-AppxPackage
PS C:\WINDOWS\system32>
```



In the command, make sure to change "CanonicalGroupLimited.Ubuntu16.04onWindows" for the name of the distro you're trying to remove.

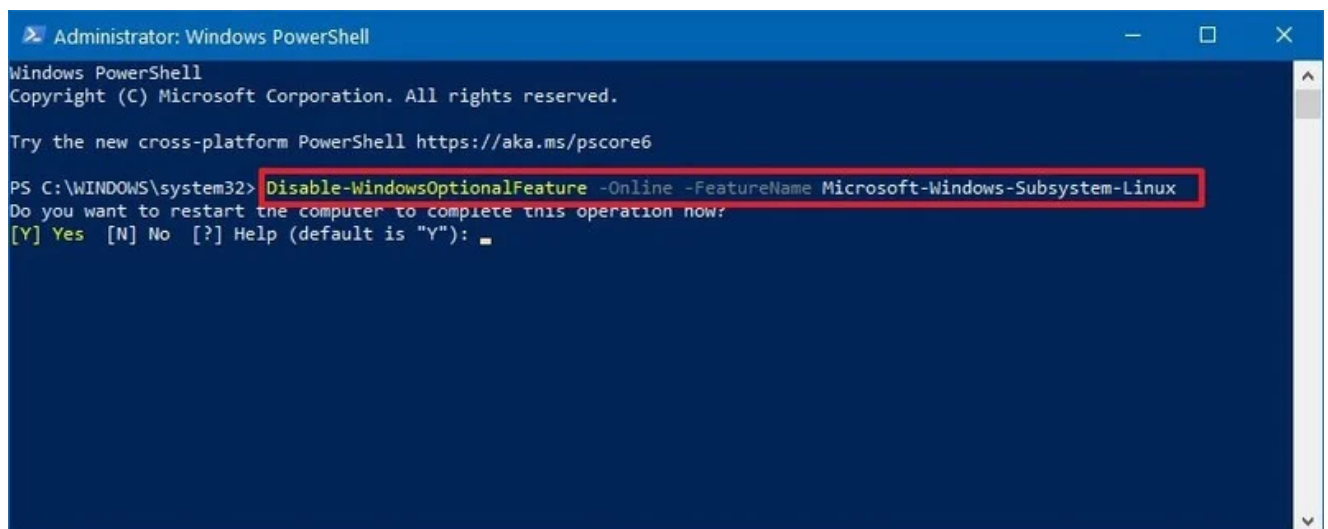
Once you complete the steps, you can proceed to disable the Windows Subsystem for Linux feature on your computer.

## Disabling Windows Subsystem for Linux using PowerShell

To disable WSL using PowerShell, 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 enable the Linux subsystem and press **Enter**:

```
Disable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux
```



Source: Windows Central

4. Type **Y** and press **Enter** to confirm and restart your computer.

After you complete the steps, the Linux environment will be disabled from your computer.

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# How to install Windows Subsystem for Linux (WSL) on Windows 10

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JotaKa





Very well done and thorough article, Mauro. 

Mon Dec 9, 2019 8:45pm

Reply


mythos13







Next can you show us how to make a bathroom using plywood and shovel! Just

ding, to each their own

 Windows Central





Mon Dec 9, 2019 11:48pm

Reply

**gelatus**

WSL works great. I used to run a VirtualBox VM for my Linux dev work. It worked, but it was a memory hog and I had to set up bridged networking, mount drives, etc. Now it's just launching Bash from my taskbar and I'm ready to go. WSL has full access to the Windows filesystem and vice-versa, so you can use VSCode or any Windows IDE to write your code and run it on Linux!

Tue Dec 10, 2019 2:24pm

Reply

