

Windows Subsystem for Linux Installation Guide for Windows 10

Install the Windows Subsystem for Linux

Before installing any Linux distros for WSL, you must ensure that the "Windows Subsystem for Linux" optional feature is enabled:

1. Open PowerShell as Administrator and run:

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

2. Restart your computer when prompted.

Install your Linux Distribution of Choice

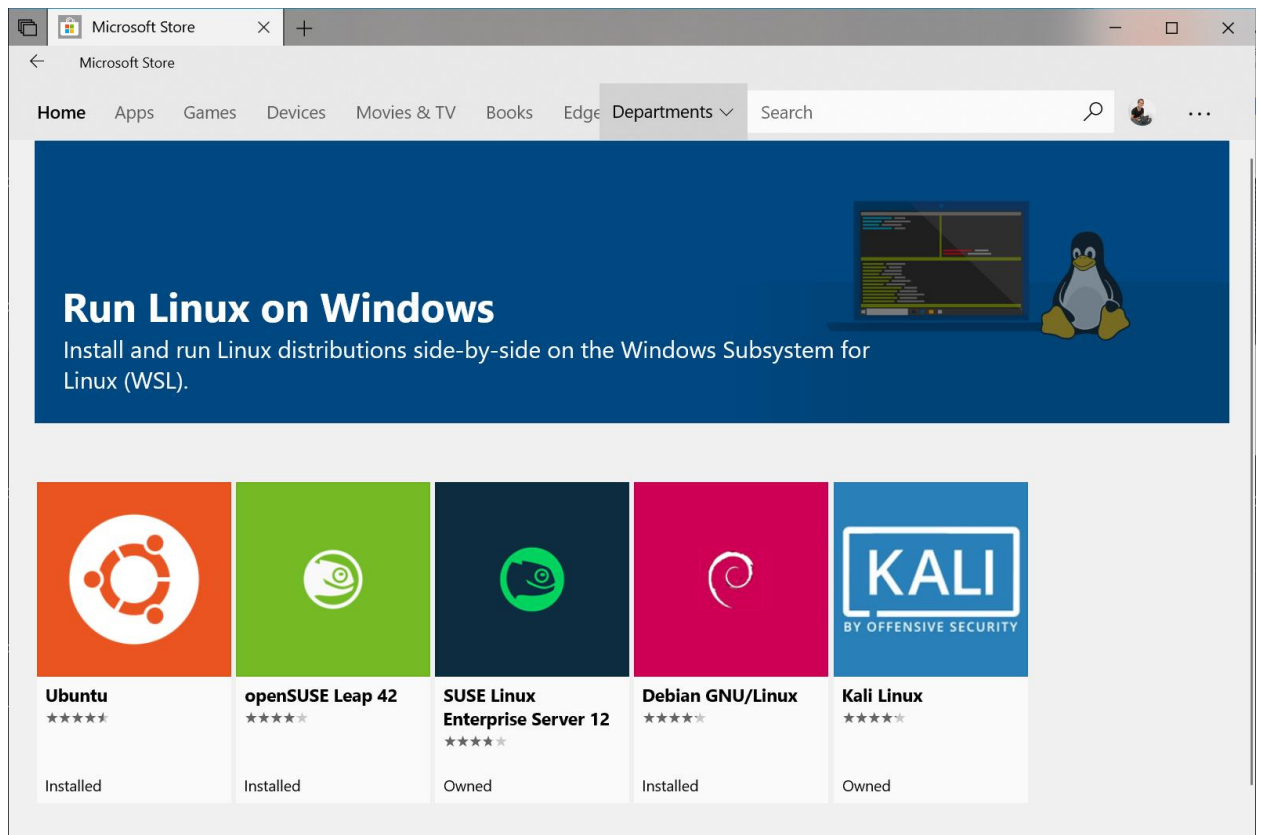
To download and install your preferred distro(s), you have three choices:

1. Download and install from the Microsoft Store (see below)
2. Download and install from the Command-Line/Script ([read the manual installation instructions](#))
3. Download and manually unpack and install (for Windows Server - [instructions here](#))

Windows 10 Fall Creators Update and later: Install from the Microsoft Store

This section is for Windows build 16215 or later. Follow these steps to [check your build](#).

1. Open the Microsoft Store and choose your favorite Linux distribution.



The following links will open the Microsoft store page for each distribution:

- [Ubuntu 16.04 LTS](#)
- [Ubuntu 18.04 LTS](#)
- [OpenSUSE Leap 15](#)
- [OpenSUSE Leap 42](#)
- [SUSE Linux Enterprise Server 12](#)
- [SUSE Linux Enterprise Server 15](#)
- [Kali Linux](#)
- [Debian GNU/Linux](#)
- [Fedora Remix for WSL](#)
- [Pengwin](#)
- [Pengwin Enterprise](#)
- [Alpine WSL](#)

2. From the distro's page, select "Get"

Store

Home

Apps

Games

Music

Movies & TV

Books

Microsoft

Search

Search

ubuntu

Canonical Group Limited

★★★★☆ 22

Free

Get

Share

Everyone

Screenshots

Description

Ubuntu on Windows allows one to use Ubuntu Terminal and run Ubuntu command line utilities including bash, ssh, git, apt and many more.

To use this feature, one first needs to use "Turn Windows features on or off" and select "Windows Subsystem for Linux", click OK, reboot, and use this app.

The above step can also be performed using Administrator PowerShell prompt: `Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux`

...

More

Available on

PC

What's new in this version

20170619.1 build of Ubuntu 16.04 LTS

Features

Ubuntu

bash

ssh

Complete initialization of your distro

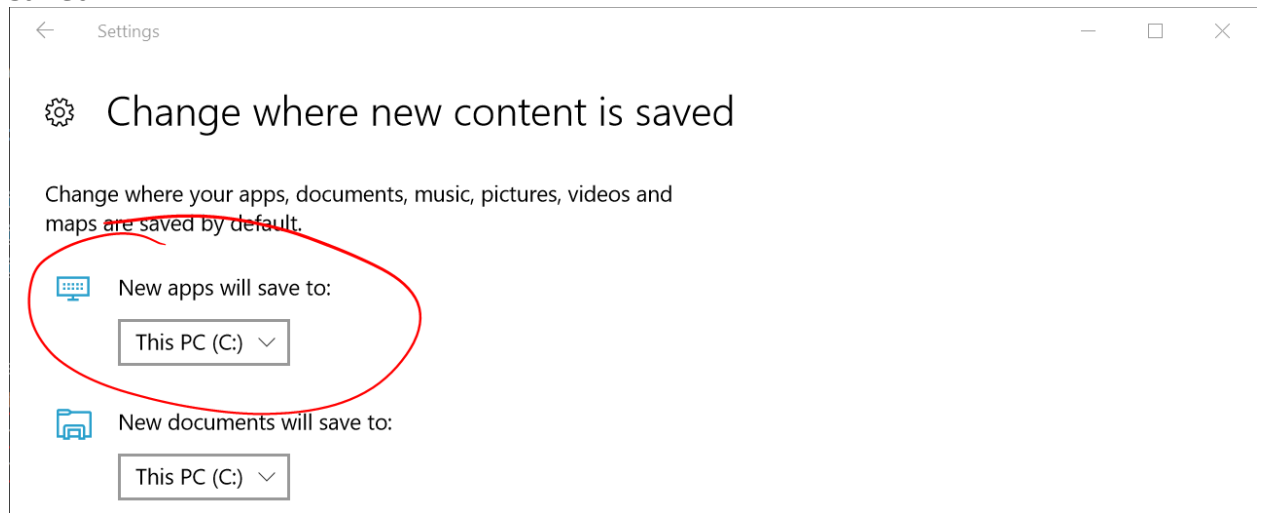
Now that your Linux distro is installed, you must [initialize your new distro instance](#) once, before it can be used.

Troubleshooting:

Below are related errors and suggested fixes. Refer to the [WSL troubleshooting page](#) for other common errors and their solutions.

- Installation failed with error 0x80070003**
 - The Windows Subsystem for Linux only runs on your system drive (usually this is your c: drive). Make sure that distros are stored on your system drive:
 - Open **Settings** -> **Storage** -> **More Storage Settings: Change where new content is**

saved



- **WslRegisterDistribution failed with error 0x8007019e**
- The Windows Subsystem for Linux optional component is not enabled:
- Open **Control Panel** -> **Programs and Features** -> **Turn Windows Feature on or off** -> Check **Windows Subsystem for Linux** or using the PowerShell cmdlet mentioned at the beginning of this article.

Manually download Windows Subsystem for Linux distro packages

There are several scenarios in which you may not be able (or want) to, install WSL Linux distros via the Microsoft Store. Specifically, you may be running a Windows Server or Long-Term Servicing (LTSC) desktop OS SKU that doesn't support Microsoft Store, or your corporate network policies and/or admins to not permit Microsoft Store usage in your environment.

In these cases, while WSL itself is available, how do you download and install Linux distros in WSL if you can't access the store?

Note: **Command-line shell environments including Cmd, PowerShell, and Linux/WSL distros are not permitted to run on Windows 10 S Mode.** This restriction exists in order to ensure the integrity and safety goals that S Mode delivers: Read [this post](#) for more information.

Downloading distros

If the Microsoft Store app is not available, you can download and manually install Linux distros by clicking these links:

- [Ubuntu 18.04](#)
- [Ubuntu 18.04 ARM](#)
- [Ubuntu 16.04](#)
- [Debian GNU/Linux](#)
- [Kali Linux](#)
- [OpenSUSE Leap 42](#)
- [SUSE Linux Enterprise Server 12](#)
- [Fedora Remix for WSL](#)

This will cause the <distro>.appx packages to download to a folder of your choosing. Follow the [installation instructions](#) to install your downloaded distro(s).

Downloading distros via the command line

If you prefer, you can also download your preferred distro(s) via the command line:

Download using PowerShell

To download distros using PowerShell, use the [Invoke-WebRequest](#) cmdlet. Here's a sample instruction to download Ubuntu 16.04.

PowerShellCopy

```
Invoke-WebRequest -Uri https://aka.ms/wsl-ubuntu-1604 -OutFile Ubuntu.appx -  
UseBasicParsing
```

Tip

If the download is taking a long time, turn off the progress bar by setting \$ProgressPreference = 'SilentlyContinue'

Download using curl

Windows 10 Spring 2018 Update (or later) includes the popular [curl command-line utility](#) with which you can invoke web requests (i.e. HTTP GET, POST, PUT, etc. commands) from the command line. You can use curl.exe to download the above distros:

consoleCopy

```
curl.exe -L -o ubuntu-1604.appx https://aka.ms/wsl-ubuntu-1604
```

In the above example, `curl.exe` is executed (not just `curl`) to ensure that, in PowerShell, the real curl executable is invoked, not the PowerShell curl alias for [Invoke-WebRequest](#)

Note: Using `curl` might be preferable if you have to invoke/script download steps using Cmd shell and/or `.bat` / `.cmd` scripts.

Installing your distro

If you're using Windows 10 you can install your distro with PowerShell. Simply navigate to folder containing the distro downloaded from above, and in that directory run the following command where `app_name` is the name of your distro `.appx` file.

PowershellCopy

```
Add-AppxPackage .\app_name.appx
```

If you are using Windows server you can find the install instructions on the [Windows Server](#) documentation page.

Once your distro is installed please refer to the [Initialization Steps](#) page to initialize your new distro.