

WSL Installation:

(<https://learn.microsoft.com/en-us/windows/wsl/install>)

Developers can access the power of both Windows and Linux at the same time on a Windows machine. The Windows Subsystem for Linux (WSL) lets developers install a Linux distribution (such as Ubuntu, OpenSUSE, Kali, Debian, Arch Linux, etc) and use Linux applications, utilities, and Bash command-line tools directly on Windows, unmodified, without the overhead of a traditional virtual machine or dual boot setup.

Install WSL Command

```
wsl --install
```

This command will enable the features necessary to run WSL and install the Ubuntu distribution of Linux. (This default distribution can be changed).

**** The above command only works if WSL is not installed at all.**

**** Please try running `wsl --list --online` to see a list of available distros and run `wsl --install -d <DistroName>` to install a distro.**

Checking list of available distributions

```
PS C:\Users\amish> wsl --list --online
The following is a list of valid distributions that can be installed.
Install using 'wsl.exe --install <Distro>'.

NAME                                FRIENDLY NAME
Ubuntu                              Ubuntu
Debian                              Debian GNU/Linux
kali-linux                          Kali Linux Rolling
Ubuntu-18.04                         Ubuntu 18.04 LTS
Ubuntu-20.04                         Ubuntu 20.04 LTS
Ubuntu-22.04                         Ubuntu 22.04 LTS
OracleLinux_7_9                      Oracle Linux 7.9
OracleLinux_8_7                      Oracle Linux 8.7
OracleLinux_9_1                      Oracle Linux 9.1
openSUSE-Leap-15.5                   openSUSE Leap 15.5
SUSE-Linux-Enterprise-Server-15-SP4  SUSE Linux Enterprise Server 15 SP4
SUSE-Linux-Enterprise-15-SP5         SUSE Linux Enterprise 15 SP5
openSUSE-Tumbleweed                  openSUSE Tumbleweed
PS C:\Users\amish>
```

Install other distributions.

```
PS C:\Users\amish> wsl --list --online
The following is a list of valid distributions that can be installed.
Install using 'wsl.exe --install <Distro>'.

NAME                                FRIENDLY NAME
Ubuntu                              Ubuntu
Debian                              Debian GNU/Linux
kali-linux                          Kali Linux Rolling
Ubuntu-18.04                         Ubuntu 18.04 LTS
Ubuntu-20.04                         Ubuntu 20.04 LTS
Ubuntu-22.04                         Ubuntu 22.04 LTS
OracleLinux_7_9                      Oracle Linux 7.9
OracleLinux_8_7                      Oracle Linux 8.7
OracleLinux_9_1                      Oracle Linux 9.1
openSUSE-Leap-15.5                   openSUSE Leap 15.5
SUSE-Linux-Enterprise-Server-15-SP4  SUSE Linux Enterprise Server 15 SP4
SUSE-Linux-Enterprise-15-SP5         SUSE Linux Enterprise 15 SP5
openSUSE-Tumbleweed                  openSUSE Tumbleweed
PS C:\Users\amish> wsl --install -d Ubuntu-22.04
```

Change the default Linux distribution installed.

By default, the installed Linux distribution will be Ubuntu. This can be changed using the `-d` flag.

- To change the distribution installed, enter: `wsl --install -d <Distribution Name>`. Replace `<Distribution Name>` with the name of the distribution you would like to install.

- To see a list of available Linux distributions available for download through the online store, enter: `wsl --list --online` or `wsl -l -o`.
- To install additional Linux distributions after the initial install, you may also use the command: `wsl --install -d <Distribution Name>`.

Once you have installed WSL, you will need to create a user account and password for your newly installed Linux distribution. See the [Best practices for setting up a WSL development environment](#) guide to learn more.

Check which version of WSL you are running.

Checking Install WSL Version:

```
wsl -v -l
```



```

PS C:\Users\amish> wsl -v -l
WSL version: 2.0.14.0
Kernel version: 5.15.133.1-1
WSLg version: 1.0.59
MSRDC version: 1.2.4677
Direct3D version: 1.611.1-81528511
DXCore version: 10.0.25131.1002-220531-1700.rs-onecore-base2-hyp
Windows version: 10.0.22631.3296
PS C:\Users\amish>

```

You can list your installed Linux distributions and check the version of WSL each is set to by entering the command: `wsl -l -v` in PowerShell or Windows Command Prompt.

```
wsl -l -v
```

It will give you list of all install distribution, version and running status. Here In my case I have installed *two distribution which is **Ubuntu** and **Ubuntu-22.04*** and default distribution is **Ubuntu**.



```

PS C:\Users\amish> wsl -l -v
  NAME                STATE      VERSION
  * Ubuntu             Running    2
  Ubuntu-22.04         Stopped    2
  wsl-vpnkit           Running    2
  docker-desktop       Running    2
  docker-desktop-data  Running    2
PS C:\Users\amish>

```

To set the default version to WSL 1 or WSL 2 when a new Linux distribution is installed, use the command: `wsl --set-default-version <Version#>`, replacing `<Version#>` with either 1 or 2.

To set the default Linux distribution used with the `wsl` command, enter: `wsl -s <DistributionName>` OR `wsl --set-default <DistributionName>`, replacing `<DistributionName>` with the name of the Linux distribution you would like to use. For example, from PowerShell/CMD, enter: `wsl -s Debian` to set the default distribution to Debian.

To Set Defaults distribution: *from **Ubuntu** to **Ubuntu-22.04***

```
wsl -s Ubuntu-22.04
```

Before executing the command check the list of install distribution in wsl. By entering in PowerShell/CMD: `wsl -l -v`

Initial It default distribution was set to Ubuntu. After running the command `wsl -d Ubuntu-22.04` in terminal default distribution will be changed from **Ubuntu** to **Ubuntu-22.04**

```
PS C:\Users\amish> wsl -l -v
NAME                STATE      VERSION
* Ubuntu             Running    2
  Ubuntu-22.04        Stopped    2
  wsl-vpnkit          Running    2
  docker-desktop      Running    2
  docker-desktop-data Running    2
PS C:\Users\amish> wsl -s Ubuntu-22.04
The operation completed successfully.
PS C:\Users\amish> wsl -l -v
NAME                STATE      VERSION
* Ubuntu-22.04       Stopped    2
  wsl-vpnkit          Running    2
  docker-desktop      Running    2
  docker-desktop-data Running    2
  Ubuntu              Running    2
PS C:\Users\amish> |
```

Before

Change distribution from ubuntu to Ubuntu-22.04

After

To run a specific wsl distribution from within PowerShell or Windows Command Prompt without changing your default distribution, use the command: `wsl -d <DistributionName>`, replacing `<DistributionName>` with the name of the distribution you want to use.

Run a specific Distribution:

State Before running a distribution.

```
PS C:\Users\amish> wsl -l -v
NAME                STATE      VERSION
* Ubuntu             Stopped    2
  Ubuntu-22.04        Stopped    2
  wsl-vpnkit          Stopped    2
  docker-desktop      Running    2
  docker-desktop-data Running    2
PS C:\Users\amish> |
```

Installed Distribution but both are stopped state.

Running a distribution

`wsl -d Ubuntu-22.04`

```
PS C:\Users\amish> wsl -d Ubuntu-22.04
Welcome to Ubuntu 22.04.3 LTS (GNU/Linux 5.15.133.1-microsoft-standard-WSL2 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

 * Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
   just raised the bar for easy, resilient and secure K8s cluster deployment.

   https://ubuntu.com/engage/secure-kubernetes-at-the-edge

This message is shown once a day. To disable it please create the
/home/amish/.hushlogin file.
```

State after running a distribution.

```
PS C:\Users\amish> wsl -l -v
NAME                STATE      VERSION
* Ubuntu             Stopped    2
  Ubuntu-22.04        Running    2
  wsl-vpnkit          Stopped    2
  docker-desktop      Running    2
  docker-desktop-data Running    2
PS C:\Users\amish> |
```

Installed Distribution but only selected is running.