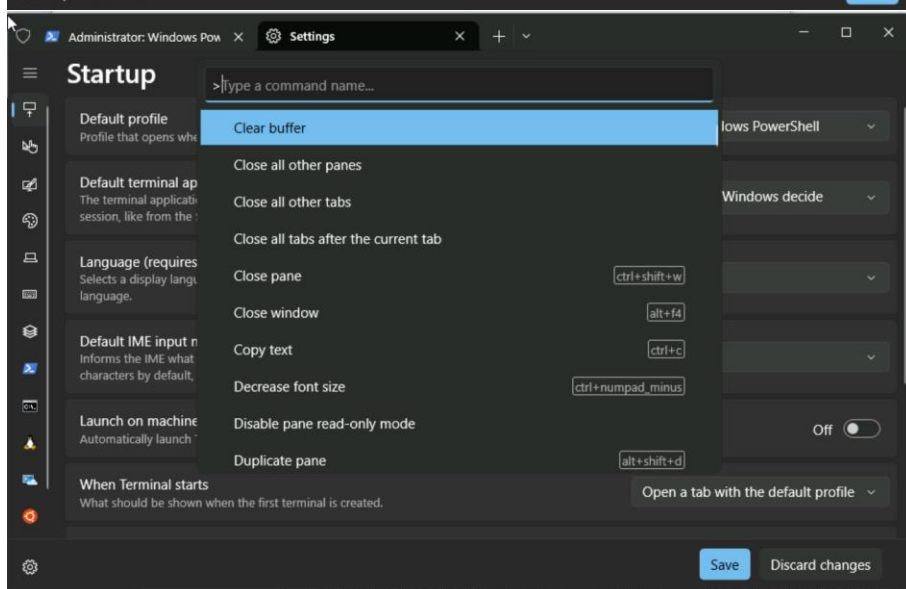
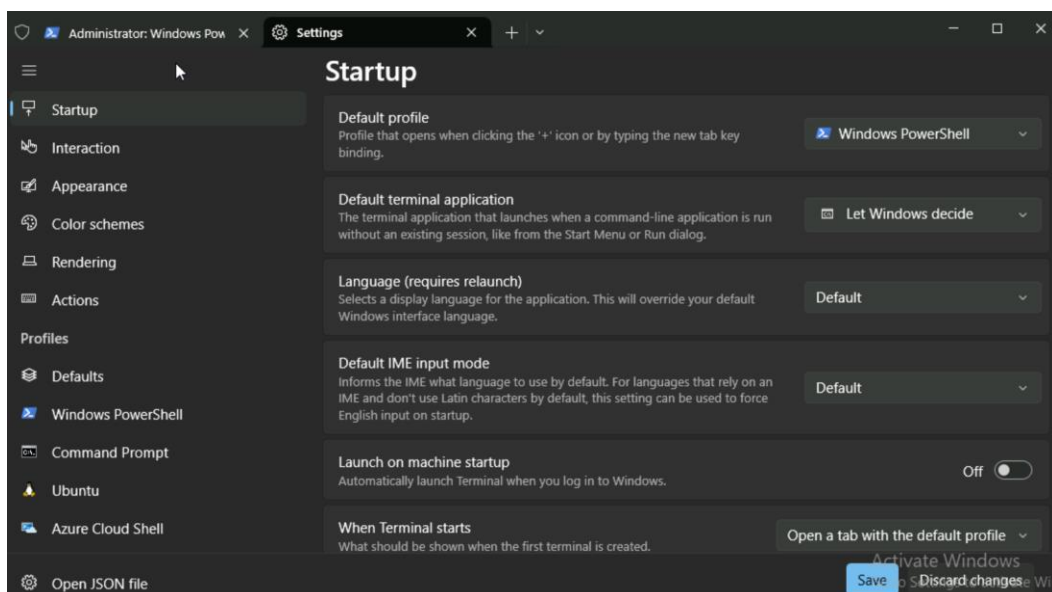
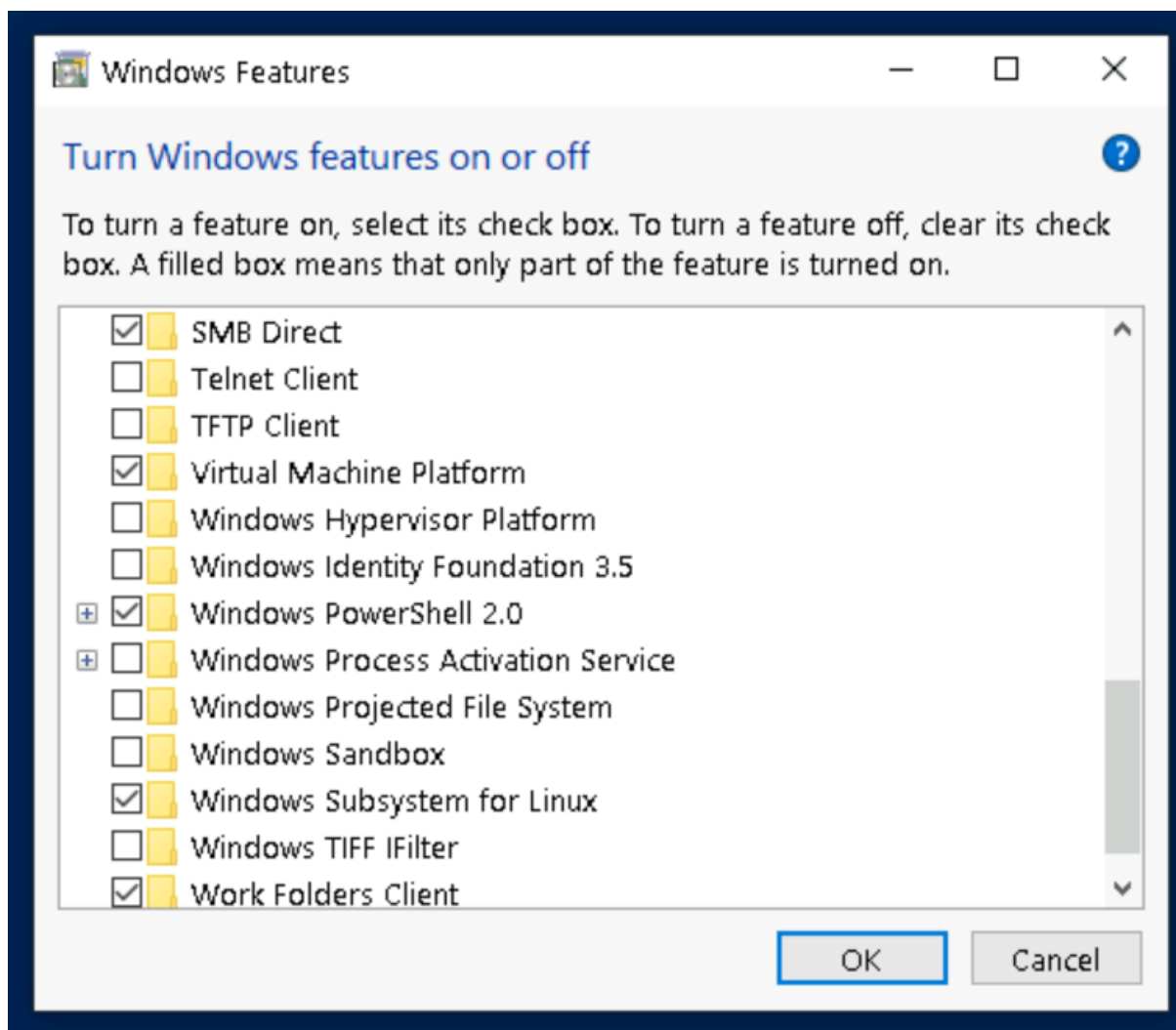


Windows Subsystem for Linux 2 (WSL2): A Complete Guide for Windows 10 & 11

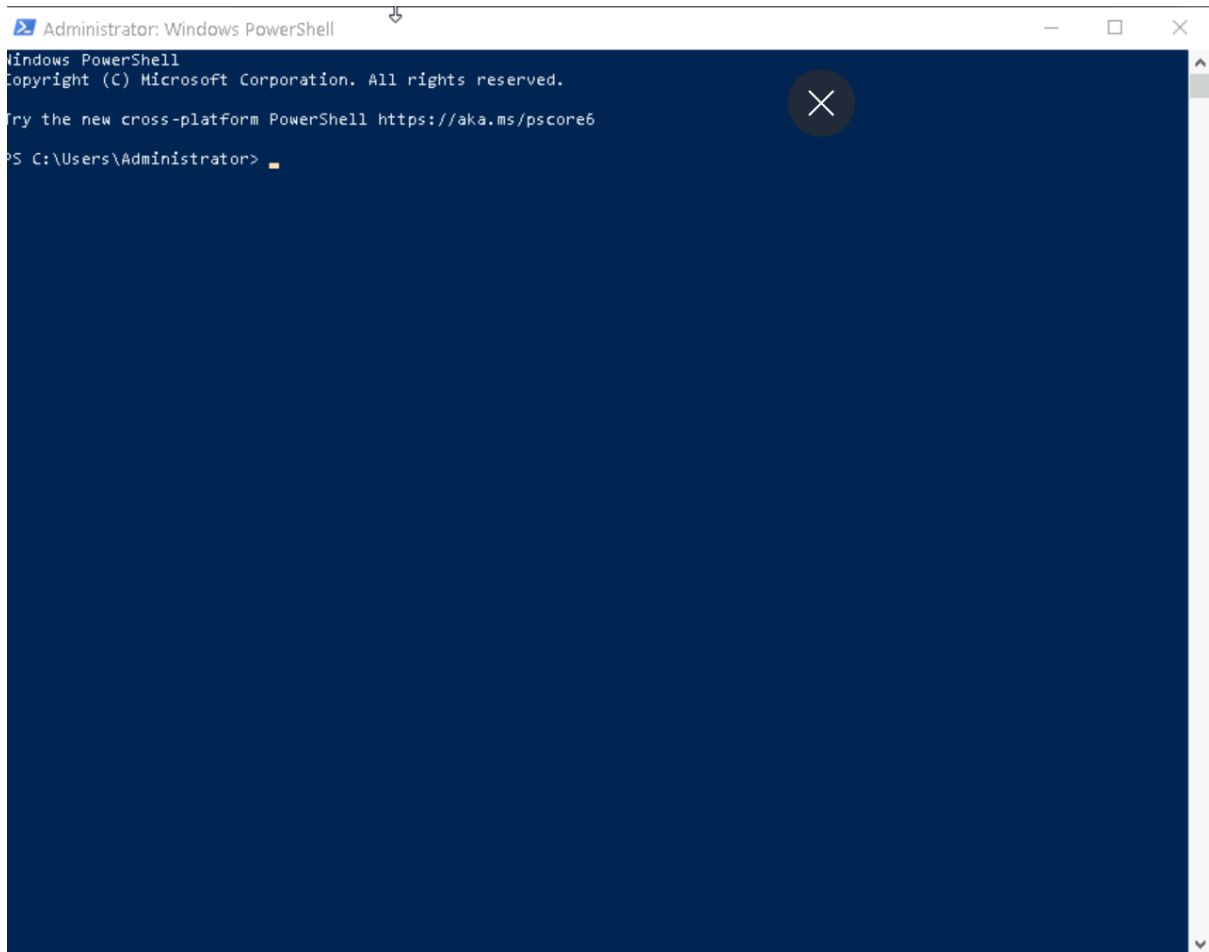
1. Create a wsl.bat file to control WSL startup/shutdown



2.Enable Virtual Machine Platform & WSL features



3. Install and update WSL distros



```
PS C:\Users\Administrator> dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart
Deployment Image Servicing and Management tool
Version: 10.0.19041.3636
Image Version: 10.0.19045.4291
Enabling feature(s)
[=====100.0%=====]
The operation completed successfully.
```

```
PS C:\Users\Administrator> dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all
Deployment Image Servicing and Management tool
Version: 10.0.19041.3636
Image Version: 10.0.19045.4291
Enabling feature(s)
[=====100.0%=====]
The operation completed successfully.
```

```
the operation completed successfully.  
PS C:\Users\Administrator> wsl --set-default-version 2  
For information on key differences with WSL 2 please visit https://aka.ms/wsl2  
The operation completed successfully.  
PS C:\Users\Administrator>
```

```
PS C:\Users\Administrator> wsl --list -online  
Copyright (c) Microsoft Corporation. All rights reserved.  
For privacy information about this product please visit https://aka.ms/privacy.
```

Usage: wsl.exe [Argument] [Options...] [CommandLine]

Arguments for running Linux binaries:

If no command line is provided, wsl.exe launches the default shell.

--exec, -e <CommandLine>

Execute the specified command without using the default Linux shell.

--shell-type <standard|login|none>

Execute the specified command with the provided shell type.

--

Pass the remaining command line as-is.

Options:

--cd <Directory>

Sets the specified directory as the current working directory.

If ~ is used the Linux user's home path will be used. If the path begins with a / character, it will be interpreted as an absolute Linux path.

Otherwise, the value must be an absolute Windows path.

--distribution, -d <Distro>

Run the specified distribution.

--user, -u <UserName>

Run as the specified user.

--system

Launches a shell for the system distribution.

Arguments for managing Windows Subsystem for Linux:

--help

Display usage information.

--debug-shell

Open a WSL2 debug shell for diagnostics purposes.

--install [Distro] [Options...]

Install a Windows Subsystem for Linux distribution.

```

PS C:\Users\Administrator> wsl --install
Ubuntu is already installed.
Launching Ubuntu...
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 5.15.167.4-microsoft-standard-WSL2 x86_64)

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

System information as of Tue Feb  4 09:09:54 UTC 2025

System load:  0.0               Processes:            45
Usage of /:   0.2% of 1006.85GB Users logged in:          1
Memory usage: 5%               IPv4 address for eth0: 172.30.10.97
Swap usage:   0%               IPv4 address for eth0: 192.168.1.100

 * 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/kirthik/.hushlogin file.

```

```

kirthik@9176994b7e94573: ~$ sudo apt install wsl
[sudo] password for kirthik:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libxml2-utils libxslt1.1 xsltproc
The following NEW packages will be installed:
  libxml2-utils libxslt1.1 wsl xsltproc
0 upgraded, 4 newly installed, 0 to remove and 61 not upgraded.
Need to get 240 kB of archives.
After this operation, 806 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libxml2-utils amd64 2.9.14+dfsg-1.3ubuntu3.1 [39.4 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 libxslt1.1 amd64 1.1.39-0exp1build1 [167 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/universe amd64 wsl all 0.2.1-3 [18.7 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 xsltproc amd64 1.1.39-0exp1build1 [15.0 kB]
Fetched 240 kB in 3s (80.5 kB/s)
Selecting previously unselected package libxml2-utils.
(Reading database ... 44696 files and directories currently installed.)
Preparing to unpack .../libxml2-utils_2.9.14+dfsg-1.3ubuntu3.1_amd64.deb ...
Unpacking libxml2-utils (2.9.14+dfsg-1.3ubuntu3.1) ...
Selecting previously unselected package libxslt1.1:amd64.
Preparing to unpack .../libxslt1.1_1.1.39-0exp1build1_amd64.deb ...
Unpacking libxslt1.1:amd64 (1.1.39-0exp1build1) ...
Selecting previously unselected package wsl.
Preparing to unpack .../archives/wsl_0.2.1-3_all.deb ...
Unpacking wsl (0.2.1-3) ...
Selecting previously unselected package xsltproc.
Preparing to unpack .../xsltproc_1.1.39-0exp1build1_amd64.deb ...
Unpacking xsltproc (1.1.39-0exp1build1) ...
Setting up libxslt1.1:amd64 (1.1.39-0exp1build1) ...
Setting up libxml2-utils (2.9.14+dfsg-1.3ubuntu3.1) ...
Setting up wsl (0.2.1-3) ...
Setting up xsltproc (1.1.39-0exp1build1) ...
Processing triggers for libc-bin (2.39-0ubuntu8.3) ...
Processing triggers for man-db (2.12.0-4build2) ...

```

Existing WSL1 distros can be converted to WSL2. For that, enter the following command in a Windows Powershell terminal to display the installed Linux distros and their WSL version:

Administrator: Windows PowerShell

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS C:\Users\Administrator> wsl --verbose
Invalid command line argument: --verbose
Please use 'wsl.exe --help' to get a list of supported arguments.
PS C:\Users\Administrator> wsl --list --verbose
  NAME                STATE      VERSION
* docker-desktop     Stopped        2
  Ubuntu              Running        2
PS C:\Users\Administrator>

PS C:\Users\Administrator> wsl --set-version Ubuntu 1
Conversion in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator> wsl --set-version Ubuntu 2
For information on key differences with WSL 2 please visit https://aka.ms/wsl2
Conversion in progress, this may take a few minutes.
The operation completed successfully.
PS C:\Users\Administrator>
```

Clone Linux Disk Image

```
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
docker-desktop (Default)
Ubuntu
PS C:\Users\Administrator> wsl --setdefault Ubuntu
The operation completed successfully.
PS C:\Users\Administrator> wsl --list
Windows Subsystem for Linux Distributions:
Ubuntu (Default)
docker-desktop
PS C:\Users\Administrator> mkdir D:\backup

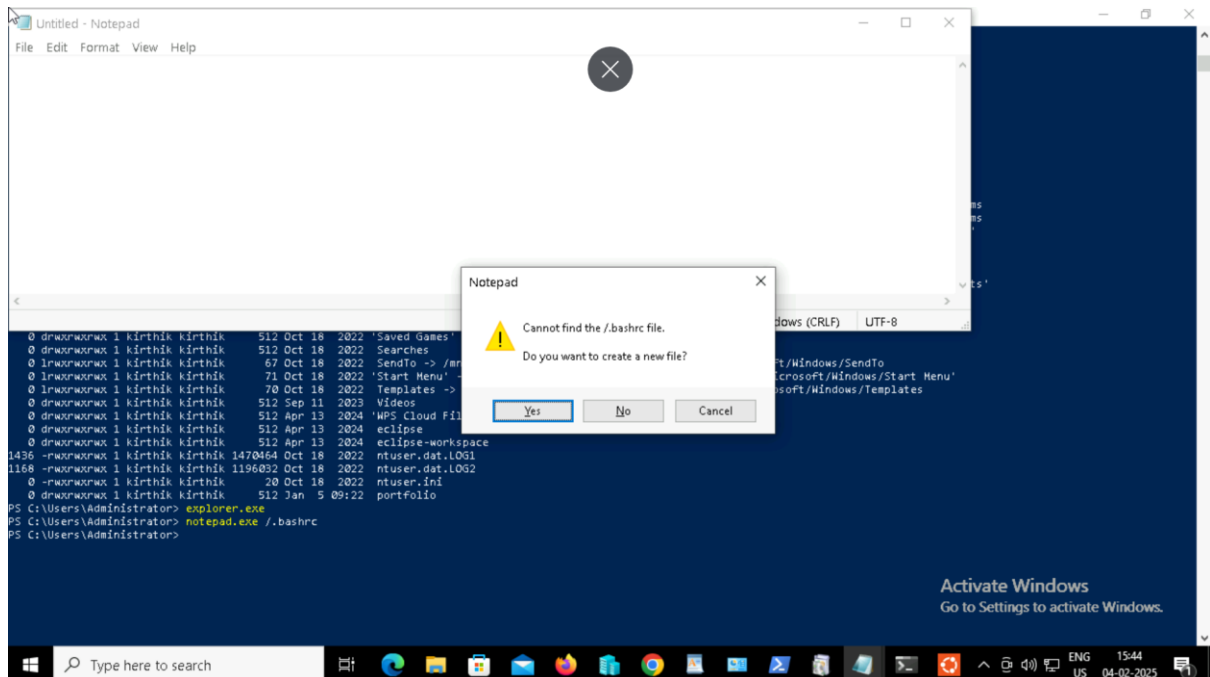
Directory: D:\

Mode                LastWriteTime         Length Name
----                -
d-----          04-02-2025      15:37         backup
```

Accessing the windows files from Linux.

```
kirthik@9176994b7e94573:~$ ls
1:          array4.sh      concatenate.sh      function3.sh      my-working-copy  'ssh-copy-id user@<server-ip>'
1:.save     array5.sh      concatenate2.sh    function4.sh      new-git-repo    'ssh-copy-id user@<server-ip>.pub'
array.sh    array6.sh      concatenate3.sh    function5.sh      on              stringsplit4.sh
array1.sh   array7.sh      concatenate4.sh    function6.sh      practice        stringsplit5.sh
array10.sh  array8.sh      file.txt           function7.sh      script.sh        substring2.sh
array2.sh   array9.sh      function1.sh       index.html        script1.sh       substring3.sh
array3.sh   assignment     function2.sh       my-svn-repo      script2.sh       substring4.sh
kirthik@9176994b7e94573:~$
```

Run Windows commands from Linux



```
kirthik@9176994b7e94573:~/new-git-repo$ sudo apt update
[sudo] password for kirthik:
Hit:1 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:2 http://archive.ubuntu.com/ubuntu noble InRelease
Get:3 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Hit:4 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Fetched 126 kB in 2s (70.4 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
61 packages can be upgraded. Run 'apt list --upgradable' to see them.
kirthik@9176994b7e94573:~/new-git-repo$ sudo apt upgrade
```

