How to Setup WSL2 for Students

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⊙ Type	👷 How To
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Installing WSL2

Windows Update

Check for any windows updates and if any updates, update the machine to the latest version of windows.

Install WSL2

Open PowerShell as an administrator and enter the command `wsl --install` This installs WSL and Ubuntu.

If they want a different distro, enter the command `wsl --list --online` This will pull up all the active WSL distros online and available to install. To install a different distro enter the command `wsl --install -d <distro-name>` This will install the chosen distro.

After the install is completed you will be asked to restart the machine. Restart the machine and CMD will pop up automatically and finish the install.

Setting Up Linux User

Username and Password

After the distro is finished installing, it will ask for you to enter a "New UNIX Username". This is your user account name, I recommend that you chose the same name as your login for windows in all lowercase i.e. `user`

Next it will ask for a password, this is the password to run SUDO commands. Enter the password you would like, it will then ask for you to reenter the password to make sure it is correct.

Update and Upgrading Packages

Updating and Upgrading

To update and upgrade the packages on the machine enter in the command `sudo apt update && sudo apt upgrade` for Ubuntu. Do this often to keep your machine updated.

Suggested Packacges

build-essential, for cmake libssl-dev

Setting WSL Up in VS Code

Installing Extensions

Open VS code and navigate to extensions, search up WSL and then install the "Remote - WSL" extensions. In the bottom left hand corner a green square should appear. This is how you open WSL up in VS code. Click on the green square, select "New WSL Window" and it should open you right up into your WSL environment.

When you open up the extensions bar again you will see "Local" extensions and then "WSL" extensions. In order for some extensions to work they must be installed onto WSL. This can be done through here.

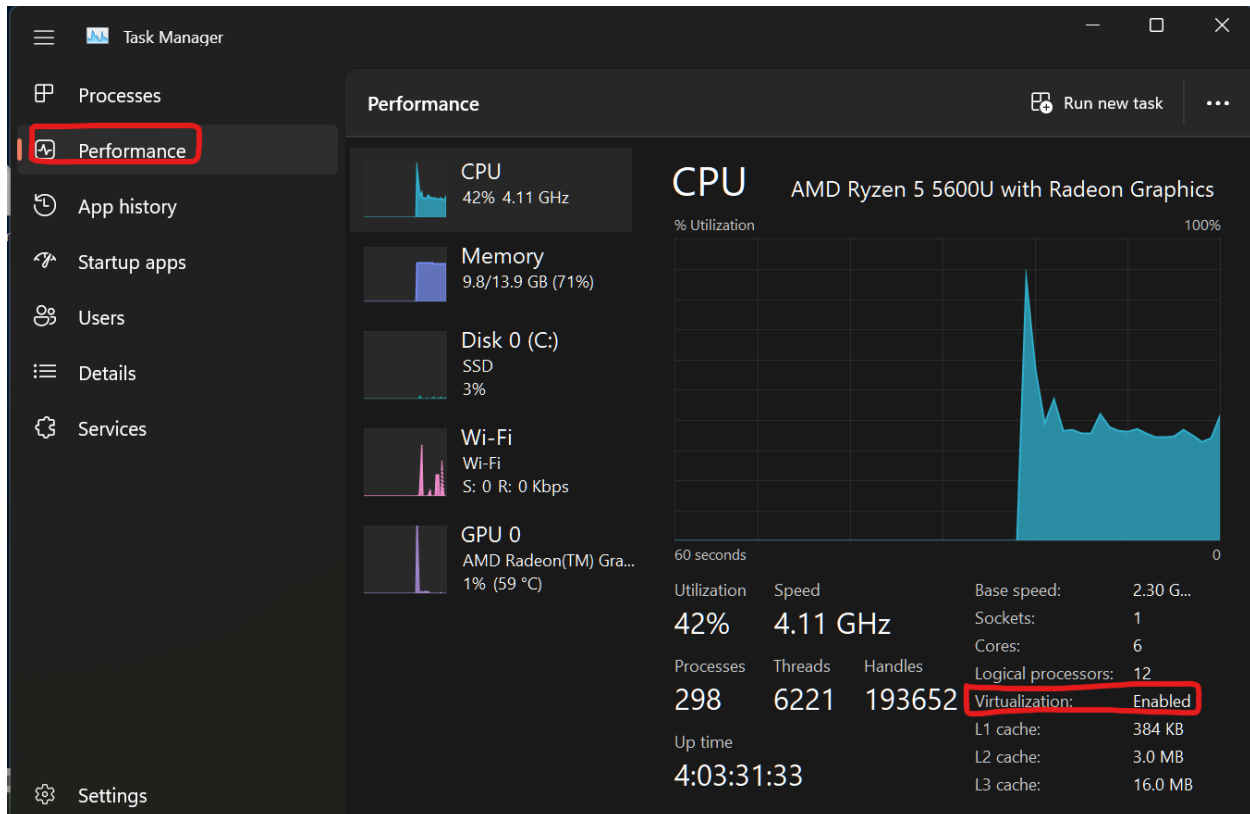# Additional Information

Enabling Automatic Updates

To enable automatic updates for WSL, go to "Windows Update", "Advanced options", then select "Receive updates for other Microsoft products". This allows WSL to be updated automatically.
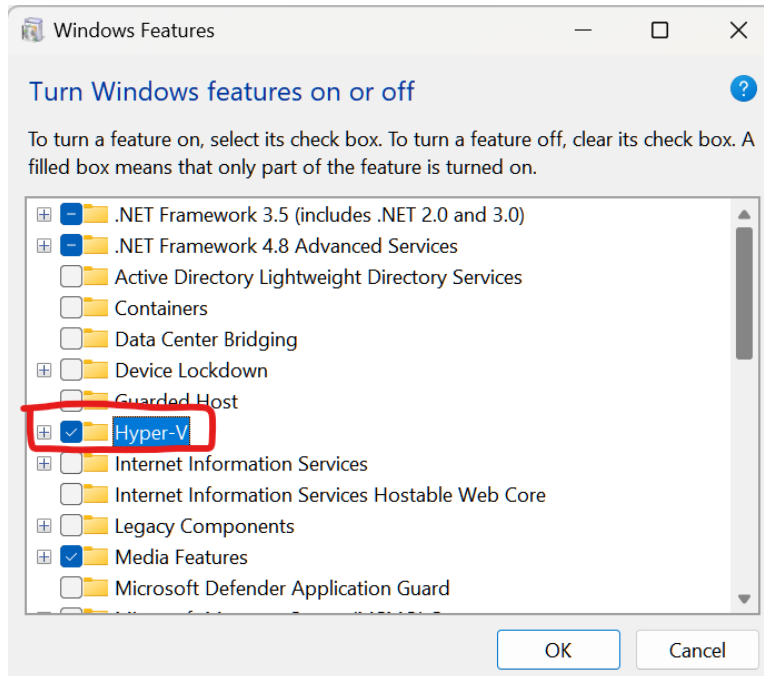
Errors

0x80270102

Checking for Virtualization

Error states the virtual machine could not be started. Open up Task Manager and make sure that under Performance and then CPU that Virtualization is enabled.

If virtualization is not checked you must restart your machine, enter the bios, and then change settings in there to enable virtualization. Please check with your machines manufacture for how to enter the BIOS and what settings to change.

Next check that Hyper V is installed on the machine. This can be done by going to "Control Panel", "Programs and Features", and then "Turn Windows features on and off." Make sure that Hyper-V is checked.

WSL Downgrade then Upgrade

Another solution is to downgrade WSL from version 2 to version one. This can be done by opening PowerShell as an administrator then running the following command `wsl --set-default-version 1` Next run the install command again with the distro you are trying to install i.e. `wsl --install -d <distro-name>`. Once the distro has finished installing change it to version to 2 by running the command `wsl --set-version <distro-name> 2` Next verify the that the install is okay with the command `wsl -l -v` You should see the following output:

```
NAME STATE VERSION

<distro-name> Running 2
Ubuntu Running 2
```

This tells us that the distro us on WSL version 2. Now change the default WSL version back to version 2 by running the command `wsl --set-default-version 2`
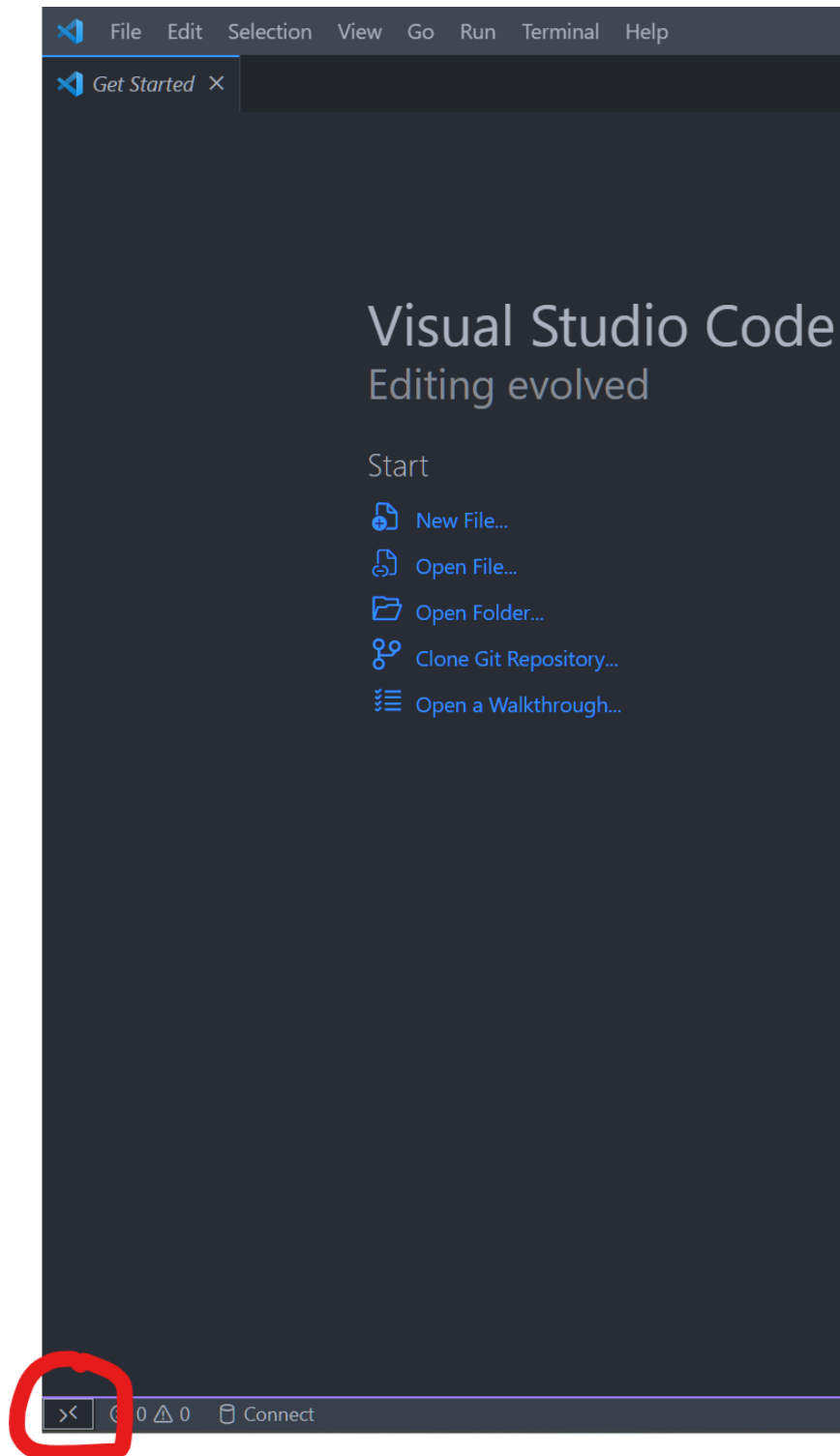
Unable to Open WSL in VSCode
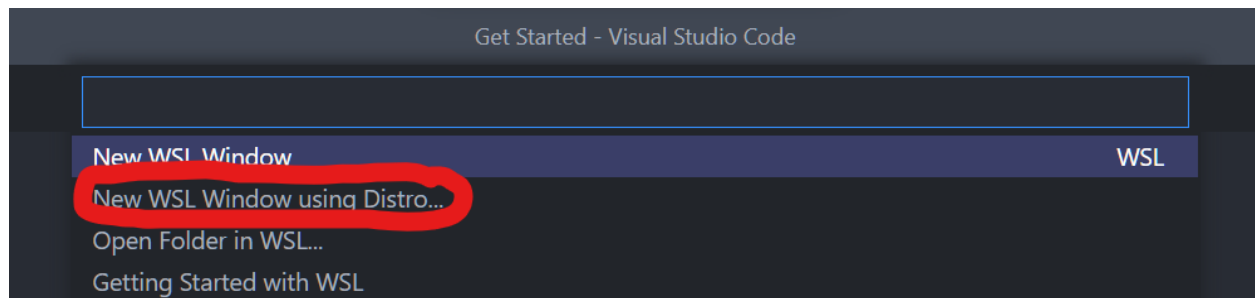
Checking Default WSL

Type in the command `wsl -v -l` and it will return a list of WSL instances on your machine.

```
NAME STATE VERSION

<distro-name> Running 2
Ubuntu Running 2
* docker-desktop Stopped 2
```

If the * is next to an instance other than a linux distro, in this case Ubuntu when you click the connect to WSL instance in VSCode it will try and open the default one.

Which can give you an error that WSL is unable to be opened. To get around this error you can either choose `New WSL Window using Distro...` then selecting the appropriate linux distro.

Or by typing the command