ECE2800J RC0 WSL and Linux

WSL (Windows Subsystem for Linux)

Windows Subsystem for Linux (WSL) is a feature of Windows that allows you to run a Linux environment on your Windows machine, without the need for a separate virtual machine or dual booting. WSL is designed to provide a seamless and productive experience for developers who want to use both Windows and Linux at the same time.
— Microsoft

Installation

Before installation

For Windows users, you may install Linux using WSL (Windows Subsystem for Linux). Before installing any Linux distributions, you must first enable its optional feature. Open PowerShell as Admin and run:

```
dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart
```

Restart your computer to activate the feature.
Check if WSL is installed successfully:

```
wsl -l -v
```

Online guides

- Best practices for setting up a WSL development environment
- More detailed version

Summary

1. Open PowerShell or Command Prompt as administrator
2. Run `wsl --install`
   The `-install` command performs the following actions:
   - Enables the WSL and related components
   - Downloads and installs the latest Linux kernel
   - Sets WSL 2 as the default

- Downloads and installs the Ubuntu Linux distribution (reboot may be required)
  Alternatively, `wsl --list --online` or `wsl -l -o` to list available distros
  Running the above command for the first time will prompt you to install wsl first. Just follow the prompts.
  A list of available distros will be displayed. You can install any of them by running `wsl --install -d <distro>` (Ubuntu by default)

3. Open wsl/Ubuntu from start menu (hit win key). Follow the instructions to set up a user account and password.
4. And you are in Linux

Daily use

- **Start**: Click on wsl or Ubuntu from start menu.
- **Shutdown**: Open a new tab in the windows terminal and run `wsl --shutdown` to end the session
- **Files**: Files in wsl can be accessed from windows in from `Linux-<distro>-home<name>` folder

wsl-related commands (from windows cmd or powershell)

- `wsl --shutdown` : Shutdown all running wsl instances. Note that closing the window will not shut down wsl (check it with `wsl --list --verbose`)
- `wsl --list --verbose` : List installed distros with details (running or not)
- `wsl --status` : General information about wsl configuration, such as default distro, kernel version, etc.
- `wsl --unregister <distro>` : Uninstall a distro (check with `wsl --list`)

  > **Caution**: Once unregistered, all data, settings and software associated with that distro will be permanently deleted.

Other options

Other options include dual booting, switching to Linux completely, etc. They are much more challenging and time-consuming than wsl. However, setting them up is a very rewarding process. Of course, they also provide a more native and powerful Linux environment.
Before you decide to proceed, **BACKUP YOUR DATA**.

Dual booting

- **Pros**: Native performance for both systems;
- **Cons**: Inconvenient to switch between systems, difficult to share files.

What is dual booting?

Just Linux

Google `<distro> installation guide` (e.g. Ubuntu, Arch Linux)

Open WSL on your VScode

wsl-vscode(English-page)
wsl-vscode(Chinese-page)

Interesting Setup

ranger
powerlevel10k

References

- Microsoft Docs
- A Chinese Resource(From Zhihu)
- ECE2800J-25sp RC0