Software Setup

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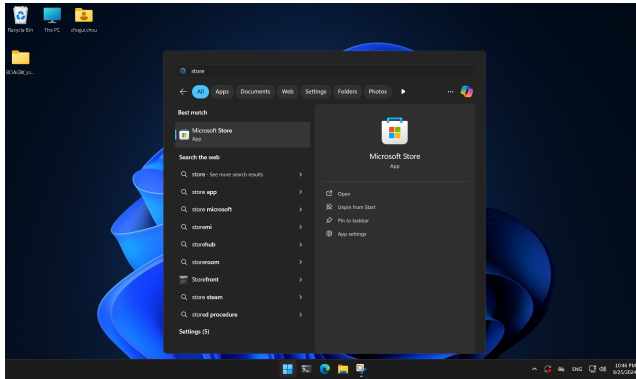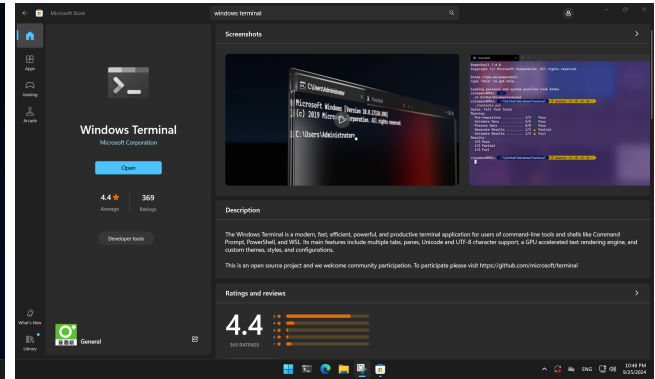
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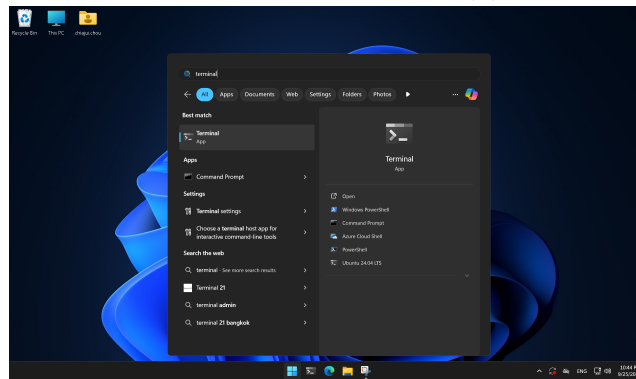
1.1 Using Windows Terminal

We will use **Windows Terminal** to install Windows Subsystem for Linux (WSL). Open **Start Menu** and search for Windows Terminal. If it's not there, please installed Windows Terminal using **Microsoft Store**.

<div align="center">(a) Microsoft Store   (b) Install Windwos Terminal</div>

<div align="center">(c) Launch Windows Terminal</div>

1.2 Installing WSL 2

References:

1. https://learn.microsoft.com/en-us/windows/wsl/install,

2. https://learn.microsoft.com/en-us/windows/wsl/install-manual.

Here are the steps to install the Linux subsystem under Windows 10/11:

1. Enable the Windows Subsystem for Linux and the Virtual Machine feature:

   - Open **Control Panel** → **Uninstall a program** → **Turn Windows features on or off**.

   - Check the following items (You can skip some of the items if you don't see it on your computer.):

- **Hyper-V**
- **Virtual Machine Platform**
- **Windows Hypervisor Platform**
- **Windows Subsystem for Linux**

2. Install WSL 2 Linux kernel:

   - Download the latest package from here: here (this link can be found in **Step 4** on the second reference).
   - Update the Linux kernel by running the msi file.
   - Reboot computer.

3. Set WSL 2 as default version:

   - Open **Windows Terminal**.
   - Type the command in the terminal: `wsl --set-default-version 2` and press **Enter key**.

4. Install a Linux distribution:

   - Look for available Linux distributions:

     ```
     wsl -l -o
     ```

   - Install **Ubuntu-22.04**:

     ```
     wsl --install -d Ubuntu-22.04
     ```

   - Launch WSL by `wsl` and set **username** and **password**.
   - Check the distribution and version of the Linux system we install:

     ```
     ~$ cat /etc/*release
     ```

1.3 Visual Studio Code

It's recommanded to use Visual Studio Code as our Integrated Development Environment. You can follow the instructions here https://code.visualstudio.com/ to install Visual Stuido Code.

After installation, we need to install several extensions:

1. Python

2. Jupyter
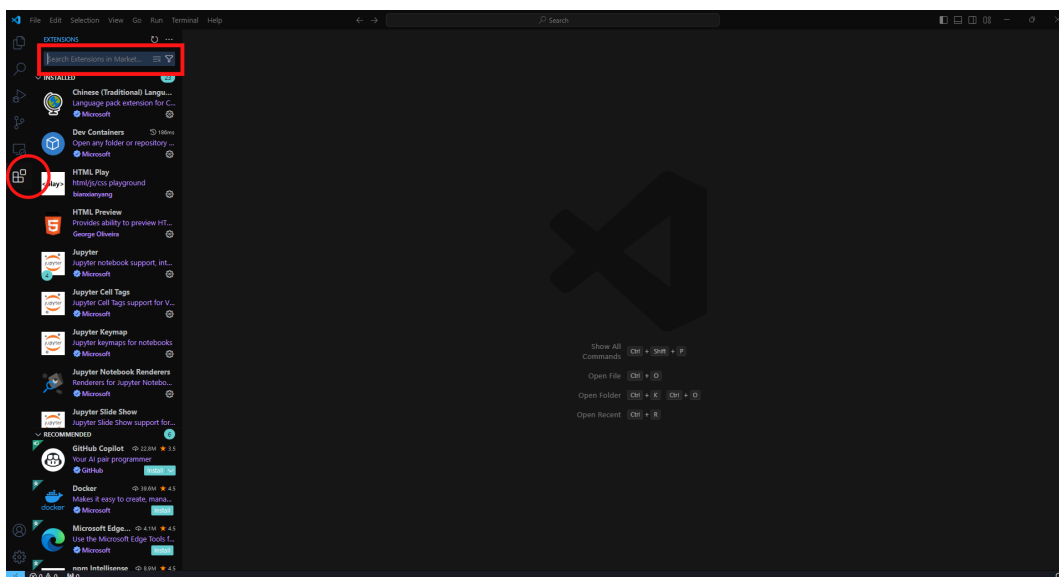
3. Remote Development

4. WSL

Figure 2: To install extensions, we click the extension icon and search for the extensions in the search bar.

1.4 Google Colab

You can also use Google Colab https://colab.research.google.com/ to edit and run jupyter notebooks.

2 Python Environment

2.1 Installing Mamba

https://mamba.readthedocs.io/en/latest/installation/mamba-installation.html
https://github.com/conda-forge/miniforge

2.2 Installing IGWN Environment