

# Guide to Setting Up VS Code with Miniconda and Python

This guide will walk you through:

1. Downloading and installing **VS Code**
2. Downloading and installing **Miniconda**
3. Installing **Python extensions** and **Jupyter Notebook** in VS Code
4. Creating a **Python environment** using Conda in VS Code

If you have any questions or need help with any of the steps, do not hesitate to contact the instructor at sever741 at umn dot edu. There are also multiple tutorial videos available on Youtube.

## 1. Download and Install VS Code

### Step 1: Download VS Code

- Visit the official VS Code website: <https://code.visualstudio.com/>
- Click the **Download** button for your operating system (Windows, macOS, or Linux).

### Step 2: Install VS Code

- **Windows:** Run the downloaded `.exe` file and follow the installer prompts.
- **macOS:** Open the `.dmg` file and drag VS Code into the Applications folder.
- **Linux:**
  - For `.rpm` (Fedora/RHELL) use:
    - `sudo dnf install ./<filename>.rpm`
  - For `.deb` (Ubuntu/Debian), use:
    - `sudo dnf install ./<filename>.rpm\`

### Step 3: Open VS Code

- Launch VS Code from your Start Menu (Windows), Applications folder (macOS), or terminal (`code`).
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## 2. Download and Install Miniconda

### Step 1: Download Miniconda

- Visit <https://docs.conda.io/en/latest/miniconda.html>
- Choose the installer for your OS (Python 3.x recommended).

### Step 2: Install Miniconda

- **Windows:** Run the `.exe` and follow the prompts. Check **"Add Miniconda to PATH"** during installation. **This step is very important otherwise you might have issues with VSCode identifying conda as your python installation!**
- **macOS/Linux:** Open a terminal and run:
  - `Miniconda3-latest-<OS>-x86_64.sh`
- Follow the prompts and allow it to initialize Conda.

### Step 3: Verify Installation

- Open a new terminal and run:
    - `conda --version`
  - If installed correctly, it will display the Conda version.
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## 3. Install Python Extensions and Jupyter Notebook in VS Code

### Step 1: Install Python Extension

- Open VS Code.
- Go to the **Extensions** tab (Ctrl+Shift+X / Cmd+Shift+X).
- Search for **"Python"** (by Microsoft) and click **Install**.

### Step 2: Install Jupyter Extension

- In the Extensions tab, search for **"Jupyter"** (by Microsoft) and install it.

### Step 3: Install Jupyter Notebook

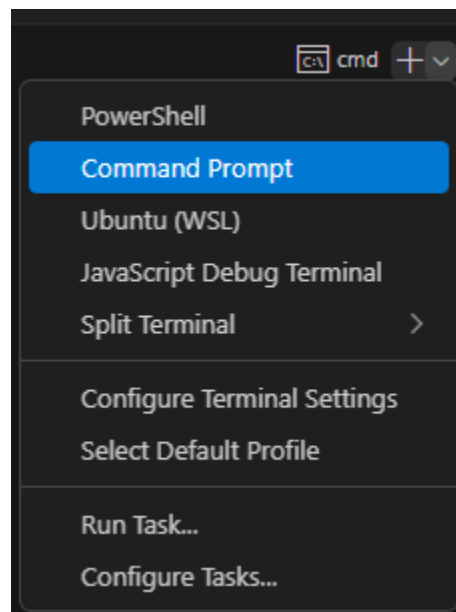
- Open a terminal in VS Code (Ctrl+ / Cmd+).
- Run:
  - `pip install jupyter`

- (or use Conda: `conda install jupyter`)
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## 4. Create a Python Environment Using Conda in VS Code

### Step 1: Open VS Code Terminal

- Press `Ctrl+` (Windows/Linux) or `Cmd+` (macOS) to open the terminal.
- If you are on Windows, please make sure to open a "Command Prompt" or "cmd" terminal instead of a "Powershell" terminal. It should look like this:



### Step 2: Create a Conda Environment

- Run:  
`conda create --name myenv python=3.10`  
(Replace `myenv` with your preferred environment name and `3.10` with your Python version.)

### Step 3: Activate the Environment

- Run:
  - **Windows:**
    - If using Miniconda
      - `conda activate myenv`
    - If using regular Python

- `source activate myenv`
- If the virtual environment was activated successfully, its name should appear in the command line like this (in my case, my virtual environment is called `summer_school_2025`)

```
(summer_school_2025) C:\Users\sever741>
```

#### Step 4: Select the Environment in VS Code

- Open a Python file (`.py`) or Jupyter Notebook (`.ipynb`).
- Click the Python version in the bottom-left corner of VS Code.
- Select the Conda environment (`myenv`) from the list.

#### Step 5: Install Packages (Optional)

- Install additional packages using:  
`conda install numpy pandas matplotlib scipy`

or

- `pip install numpy pandas matplotlib scipy`
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