

# Setting Up VS Code, Jupyter, and R Kernel on Windows

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### Step 1: Install Python and Jupyter

```
# Download and install Python:  
# Visit [Python.org] (https://www.python.org/downloads/).  
# Download the latest version and ensure to check the box "Add Python to PATH" during  
# installation.  
  
# Open Command Prompt and install Jupyter:  
pip install notebook jupyterlab
```

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### Step 2: Install Visual Studio Code

```
# Download and install Visual Studio Code:  
# Visit [Visual Studio Code] (https://code.visualstudio.com/).  
# Download the Windows version and follow the installation instructions.  
  
# Add VS Code to the system PATH:  
# During installation, check the option to add VS Code to PATH.
```

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### Step 3: Install the Jupyter Notebook Extension in VS Code

```
# Open Visual Studio Code:  
# 1. Press Ctrl + Shift + X to open the Extensions view.  
# 2. Search for "Jupyter" in the Extensions Marketplace.  
# 3. Install the extension by Microsoft.
```

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### Step 4: Install IRkernel for Jupyter

```
# Open R (via RStudio, R GUI, or Terminal) and run the following commands:

# Install the IRkernel package:
install.packages('IRkernel')

# Register the R kernel in Jupyter:
IRkernel::installspec(user = TRUE) # Registers R globally
```

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### Step 5: Verify R Kernel in Jupyter

```
# Open Jupyter Notebook and check if the R kernel is available:
jupyter notebook

# In the Jupyter interface, ensure "R" is listed as an available kernel.
```

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### Step 6: Run Jupyter Notebooks in VS Code

```
# Open Visual Studio Code:
# 1. Open or create a .ipynb file.
# 2. Select the "R" kernel from the kernel selector at the top-right.
```

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Now you are all set to use Jupyter Notebooks with the R kernel inside Visual Studio Code on Windows!