To set up a virtual environment for a Python project using requirements.txt on Windows, follow these steps:

### 1. Install Python (if not already installed)

Ensure that Python is installed and added to the system's PATH. You can download Python from the [official site](https://www.python.org/downloads/).

### 2. Install virtualenv (optional)

While Python includes venv for creating virtual environments, you can also use virtualenv for more features:

pip install virtualenv

### 3. Create a Virtual Environment

Navigate to your project directory and create a virtual environment:

Using venv (built-in):

python -m venv venv

Or using virtualenv:

virtualenv venv

This will create a folder named venv in your project directory.

### 4. Activate the Virtual Environment

To activate the virtual environment on Windows, use the following command:

.\venv\Scripts\activate

After activation, you’ll see (venv) at the beginning of your command prompt, indicating that the virtual environment is active.

### 5. Install Dependencies from requirements.txt

Make sure requirements.txt is in the project directory. Install the required packages by running:

pip install -r requirements.txt

### 6. Install Jupyter Notebook (if needed)

If jupyter is not already in requirements.txt, you can install it manually:

pip install jupyter

### 7. Start Jupyter Notebook

Now, you can launch Jupyter Notebook:

jupyter notebook

This will open the Jupyter Notebook interface in your browser.

### 8. Deactivate the Virtual Environment

When you're done, you can deactivate the virtual environment with:

deactivate

Your virtual environment setup is now ready, and Jupyter Notebooks will use the environment with the dependencies specified in requirements.txt.