# How to Install Jupyter Notebook on Windows, Linux, and macOS

This guide provides step-by-step instructions for installing Jupyter Notebook on Windows, Linux, and macOS.

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## Step 1: Install Python

Jupyter Notebook requires Python. Make sure Python is installed on your system.

### Windows

1. Download the Python installer from the official website (https://www.python.org/).

2. Run the installer and select "Add Python to PATH" during installation.

3. Complete the installation process.

### Linux

Install Python using your package manager:

sudo apt update  
sudo apt install python3 python3-pip -y

### macOS

macOS comes with Python pre-installed. You can check the version:

python3 --version

If you need to upgrade, use Homebrew:

brew install python3

## Step 2: Verify pip Installation

`pip` is the Python package manager used to install Jupyter.

Check if pip is installed:

pip --version

If pip is not installed, install it:

python3 -m ensurepip --upgrade

## Step 3: Install Jupyter Notebook

Use pip to install Jupyter Notebook:  
  
pip install notebook

## Step 4: Verify the Installation

Ensure that Jupyter Notebook is installed by checking its version:  
  
jupyter notebook --version

## Step 5: Start Jupyter Notebook

Launch Jupyter Notebook using the following command:  
  
jupyter notebook  
  
This will open Jupyter Notebook in your default web browser. If it doesn’t, copy the URL shown in the terminal and paste it into your browser.

## Step 6: Optional - Install JupyterLab

JupyterLab is a modern alternative to Jupyter Notebook.  
  
Install JupyterLab:  
  
pip install jupyterlab  
  
Start JupyterLab:  
  
jupyter lab

## Step 7: Use a Virtual Environment (Recommended)

To avoid dependency issues, use a virtual environment for your project:  
  
Windows:  
python -m venv myenv  
myenv\Scripts\activate  
pip install notebook  
  
Linux/macOS:  
python3 -m venv myenv  
source myenv/bin/activate  
pip install notebook

## Step 8: Troubleshooting

If you encounter issues, try upgrading pip and setuptools:  
  
pip install --upgrade pip setuptools  
  
If Jupyter Notebook does not start, ensure all dependencies are installed:  
  
pip install notebook --upgrade