

# Installing Jupyter Notebook with Mamba

What is Mamba?

- Mamba is a **fast**, cross-platform **package manager** designed to improve the speed of environment creation and package management compared to Conda.
- Built on Conda, it provides the same powerful tools but is optimized for **performance**.
- Works seamlessly with **Conda-forge channels** and supports all CPU architectures, including Apple Silicon.

Why Use Mamba Instead of Anaconda?

- **Licensing Issues** with Anaconda: (ref: [https://www.theregister.com/2024/08/08/anaconda\\_puts\\_the\\_squeeze\\_on/](https://www.theregister.com/2024/08/08/anaconda_puts_the_squeeze_on/))
  - Anaconda now requires academic/non-profit institutions with over 200 employees to pay for the software.
  - Mamba provides a **free and open-source alternative**, offering the same features without licensing problems.

Advantages of Using Mamba

- **Faster Installation:** Significantly faster than Conda for creating environments and installing packages.
- **Free for All Users:** No restrictions for academic or non-profit users, unlike Anaconda.
- **Minimal and Efficient:** Focuses on only the necessary tools, without the bloat of larger distributions like Anaconda.

## Mamba Installation: Fresh Install (Recommended)

### Start with the Miniforge Distribution:

- **Miniforge** comes preconfigured with the **Conda-forge channel**, simplifying package management.
- It includes **Mamba by default** and supports various CPU architectures like **x86\_64**, **aarch64**, and **Apple Silicon**.

### Why Miniforge?

- **Lightweight:** A minimal installer without unnecessary extras.
- **Flexible:** You can modify the configuration to use any Conda channels.
- **Compatible:** Fully supports the latest versions of Python (including Python 3.12).

## Steps to Install Mamba with Miniforge

Download Miniforge: (<https://github.com/conda-forge/miniforge?tab=readme-ov-file>)

OS	Architecture	Download Link
Linux	x86_64 (amd64)	Miniforge3-Linux-x86_64
Linux	aarch64 (arm64)	Miniforge3-Linux-aarch64
OS X	x86_64	Miniforge3-MacOSX-x86_64
OS X	arm64 (Apple)	Miniforge3-MacOSX-arm64
Win	x86_64	Miniforge3-Windows-x86_64

### Installation Commands:

1. **Make the installer executable:**

```
chmod +x Mambaforge-MacOSX-arm64.sh
```

```
./Mambaforge-MacOSX-arm64.sh
```

## 2. Follow Installation Prompts:

- Accept the license agreement.
- Confirm installation to the default location.

## 3. Restart Terminal and verify installation:

```
mamba --version
```

# Installing Jupyter Notebook with Mamba

## Install Mamba:

- Run the installer for your platform (Linux, macOS, or Windows).
- Activate Mamba using:

```
mamba init
```

## Create a New Environment for Jupyter Notebook:

### 1. Create environment with JupyterLab:

```
mamba create -n myenv jupyterlab
```

### 2. Activate the environment:

```
mamba activate myenv
```

### 3. Install Jupyter Notebook:

```
mamba install jupyter notebook
```

#### 4. **Start Jupyter Notebook:**

jupyter notebook