



Note on Creating the CalmAn Environment

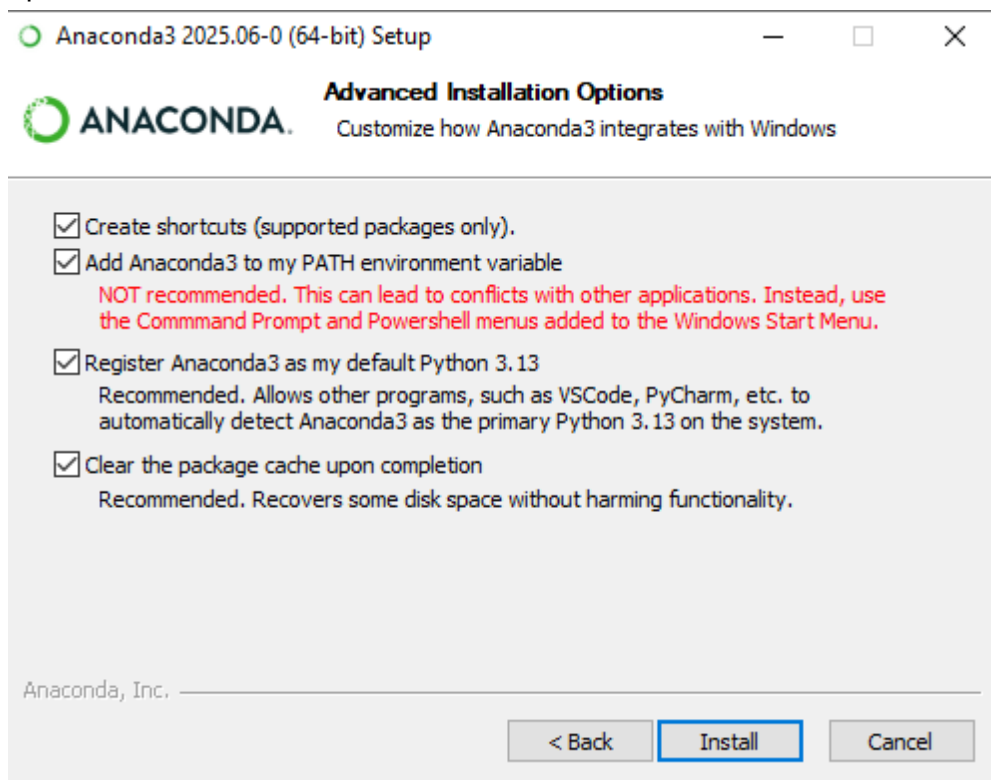
Last updated: 2025.09.29.

The goal of this document is to provide a step-by-step guide for installing CalmAn (1.11.4.) on a Windows PC. A Windows 10 or 11 system is required, with at least a few gigabytes of free space on the C: drive. We assume that no programming tools have been installed on the system before. Instructions may change with future software releases.

Installing the Anaconda Distribution:

The Anaconda Distribution includes the Anaconda Prompt, a command-line interface that provides direct access to the conda package manager and makes it easy to create and manage environments.

- Installation steps:
 1. Download the installer from the following link:
<https://www.anaconda.com/download/success>
 2. Launch the installer and follow the on-screen instructions; Select all options here:



- The installer will create a folder named `anaconda3` inside your user directory (typically `C:\Users\<username>\`). All environments and setting files will be placed in this folder.



Installing Mamba

Mamba is a faster drop-in replacement for conda, but it is not included in the Anaconda Distribution by default.

- Open the **Anaconda Prompt** with the "Run as administrator" option and then copy and run the following command:
`conda install mamba -n base -c conda-forge`
(When prompted for confirmation, type **y** and press Enter to continue.)

Creating the CalmAn Environment and Installing the CalmAn Package

Pluvianus depends on CalmAn and uses its function to handle CalmAn data.

- In the **Anaconda Prompt** opened in the previous step, run the following command:
`mamba create -n caiman -c conda-forge caiman`
(When prompted for confirmation, type **y** and press Enter to continue. About 1GB will be downloaded, might take over an hour on lower profile machines)
- Activate the newly created environment:
`conda activate caiman`
- Replace the packages that cause the TensorFlow-related `evaluate_components` command (cell 28 of the `demo_pipeline` notebook) to fail.
Note: this command may be unnecessary or problematic in later releases.
(Verified working on 2025-09-23 with CalmAn 1.11.4.)
`conda remove llvm-openmp -y`
- To install manager for downloading the demo datasets, run:
`caimanmanager install`
This will create a folder named **caiman_data** in your user folder. The terminal output will display the exact location of this folder.

```
(caiman) C:\Windows\system32>caimanmanager install
C:\Users\User\anaconda3\envs\caiman\lib\site-packages\caiman\_init__.py:3: UserWarning: pkg_resources is deprecated as an API. See https://setuptools.pypa.io/en/latest/pkg_resources.html. The pkg_resources package is slated for removal as early as 2025-11-30. Refrain from using this package or pin to Setuptools<81.
  import pkg_resources
Did not use editable fallback
Installed C:\Users\User\caiman_data
```

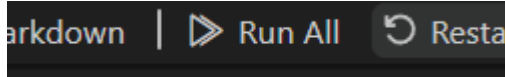
Running the CalmAn Demo in VS Code

We will use VS Code to run the CalmAn demo notebook, to generate the demo data files that can be opened with Pluvianus.

- Download Visual Studio Code from:
<https://code.visualstudio.com/>



- Install VS Code. Run VS Code, skip the tutorials.
- Open the following file from the caiman_data folder:
`caiman_data\demos\notebooks\demo_pipeline.ipynb`
- Click **Run All** in the notebook.

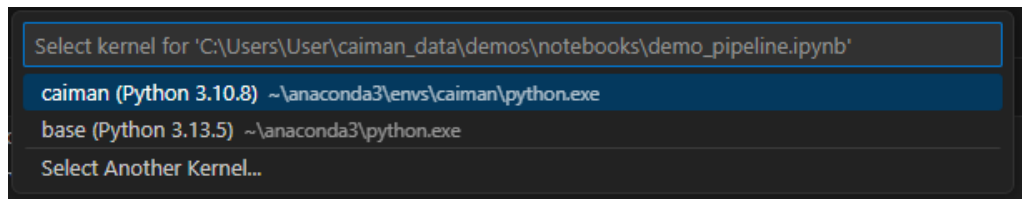


This will trigger some configuration steps displayed in the command bar at the top:

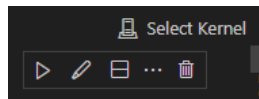
- **Installing necessary extensions:** When prompted, allow the installation of the Python and Jupyter extensions. Wait until their installation is complete, as indicated by the notification bubbles in the lower-right corner. This step can be performed also in the extensions tab.



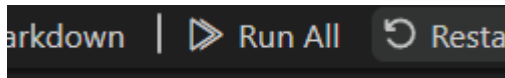
- **Selecting environment/kernel:** Choose the caiman environment as the kernel:



This step can be performed also by selecting kernel selector icon in the upper-right corner of the notebook.



- If prompted for permission, allow both Public and Private network access.
- You can now run the entire notebook.



- You can skip the videos appearing with the **q** button.
- During execution, the demo will download data files (approx. 340 MB) to `C:\Users\<YourUser>\caiman_data\example_movies\` and process them into temporary .mmap files (approx. 340 MB) into: `C:\Users\<YourUser>\caiman_data\temp\`
- Your output is the `demo_pipeline_results.hdf5`



Installing Pluvianus

Now we install and run Pluvianus from the distribution according to the README file.

- In the Anaconda Prompt opened in the previous step (if you happen to have Anaconda Prompt restarted, have the caiman environment activated first with `conda activate caiman`), run the following command:

```
pip install pluvianus
```

- To launch **Pluvianus**, run the following command:

```
pluvianus
```

Opening the demo files

Continue according to the README online:

<https://github.com/katonage/pluvianus#opening-demo-files>