

CSC 314, Software Installation

Overview

In this class we will use Python and Biopython to write bioinformatics programs. In particular, we will work with the following, which are all installed from the Anaconda Individual Distribution (see next section):

1. *Python* (<https://www.python.org/>), a general purpose programming language
2. *Jupyter Notebooks* (<https://jupyter.org/>), a web-based platform for creating, explaining, and sharing code.
3. *Biopython* (<https://biopython.org/>), a set of tools for biological computation in Python.

Installing the Anaconda Individual Distribution

Install the Anaconda Distribution for your system by following the directions at the following link: <https://www.anaconda.com/products/individual>

The Anaconda Distribution comes with both *Python* and *Jupyter Notebook*.

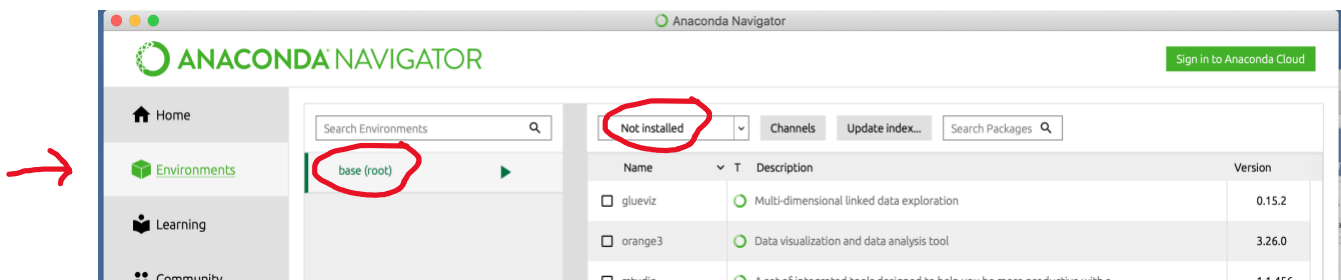
Running Jupyter Notebook

Open Anaconda Navigator, and then click Launch under the Jupyter Notebook app.

Installing Python modules

Your Python installation comes with hundreds of modules, such as the *math* module. In addition to some of the modules that are included, we will use *Biopython* for working with biological data.

To install *Biopython*, first click on “Environments”, and make sure that the “base (root)” environment is selected. Then change the dropdown from “Installed” to “Not installed”.



You can install a module by typing the module name in the “Search Packages” box to find the module, then checking the check box next to the module name. In general, you may select multiple modules for installation at the same time. When ready for installation, click “Apply” on the bottom right., and click “Apply” again following the notification of the packages that will be installed. Note that the installation process may take some time. However, if it takes more than 10 minutes, or if you have any other trouble installing packages let me know!

Follow the above instructions to install the *biopython* module.

In order to test whether BioPython has been installed successfully, you can create a code cell in Jupyter Notebook containing the statements below. If you can run the cell without any errors, then BioPython has been installed successfully.

```
from Bio.Seq import Seq
s = Seq('ATGA')
s
```