Introduction to Anaconda

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What is Anaconda?

Anaconda is a Python distribution that is popular for data analysis and scientific computing.

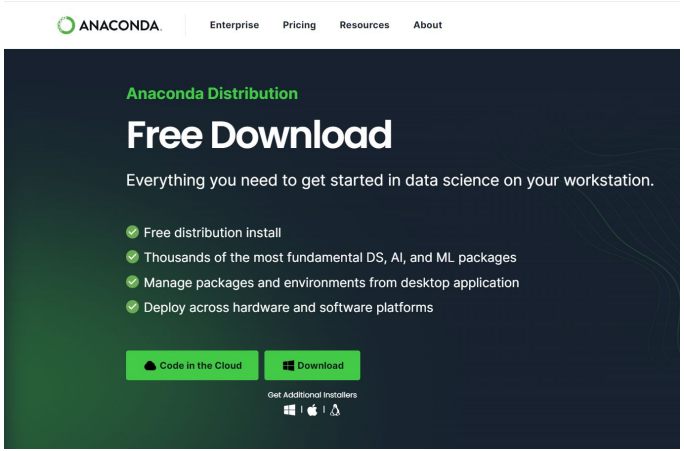
- Available for Windows, Mac OS X and Linux.
- Included many popular packages: Numpy, SciPy, Matplotlib, Pandas, IPython, Cython.
- Includes Spyder, a Python development environment.
- Includes conda, a platform-independent package manager.

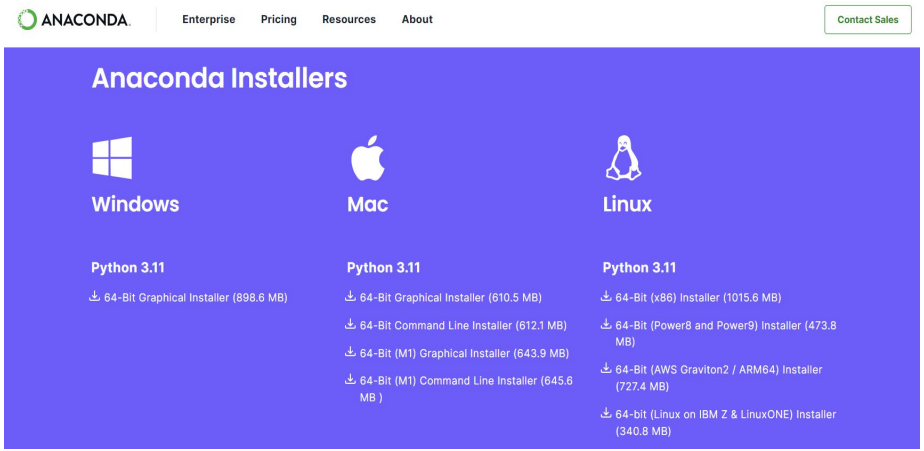
Source: https://research.computing.yale.edu/sites/default/files/files/anaconda.pdf

Install Anaconda

Anaconda is easy to install

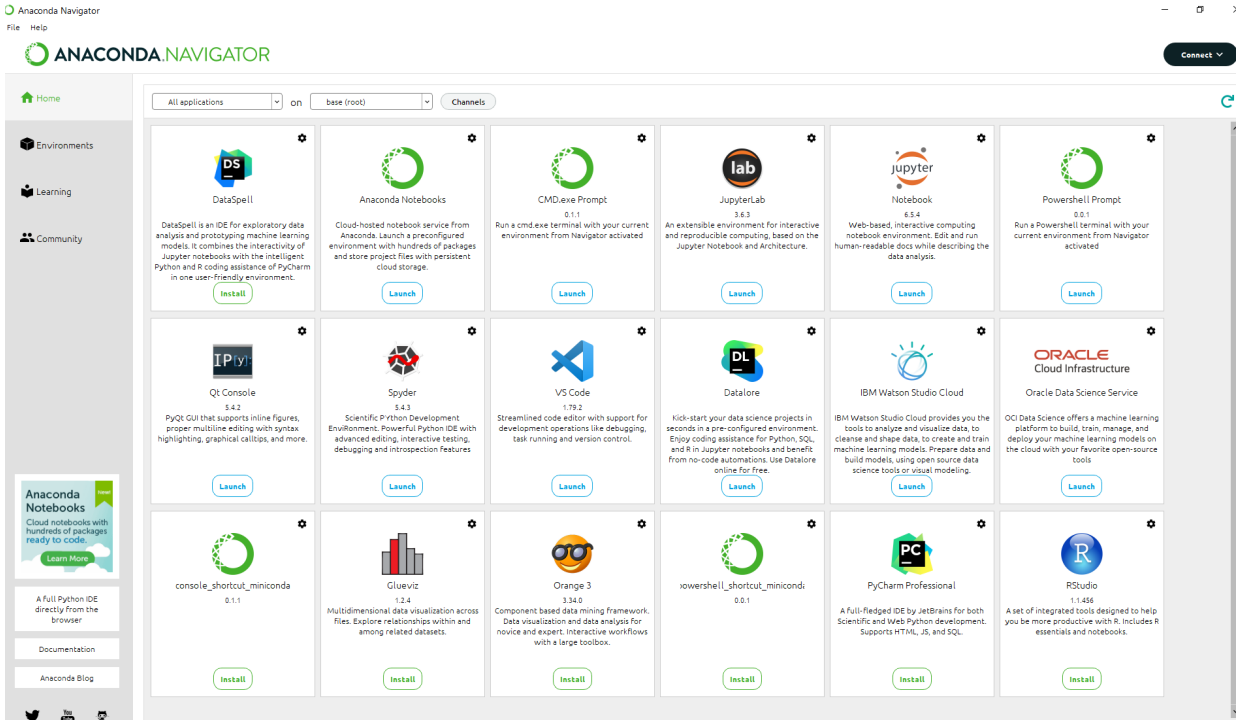
- Download installer from *https://www.anaconda.com/download*.
- Execute the installer and follow the instructions.





Install Anaconda

After the installation is complete, you will see



Introduction to Conda

Simplifies installation of Python packages

- Platform-independent package manager.
- Provides “virtual environment” capabilities.

conda ≈ pip + virtualenv

(python package manager) (virtual environment manager)

Install Python Packages

Install a package:

- *conda install numpy*

Specific versions of packages can be requested:

- *conda install numpy=1.11*

List packages in current environment:

- *conda list*

Uninstall package:

- *conda uninstall numpy*

Create Virtual Environments

Why we create virtual environments?

- To resolve package conflicts

Create a virtual environment:

- *conda create --name your_env_name*
- *conda create –name your_env_name python=3.10*

Start and close a virtual environment:

- *(conda) activate your_env_name*
- *(conda) deactivate*

Virtual Environments for This Class

1. Create a virtual environment

   conda create --name myML

2. Install ipykernel (Jupyter needs Ipython kernel)

   conda install ipykernel

3. Add the virtual env as a jupyter kenel

   python –m ipykernel install --name “myML”

4. Check if it is installed correctly

   jupyter kernelspec list

Virtual Environments for This Class

5. Install dependent packages

conda install -y numpy pandas matplotlib python-graphviz scikit-learn lightgbm py-xgboost pytorch torchvision

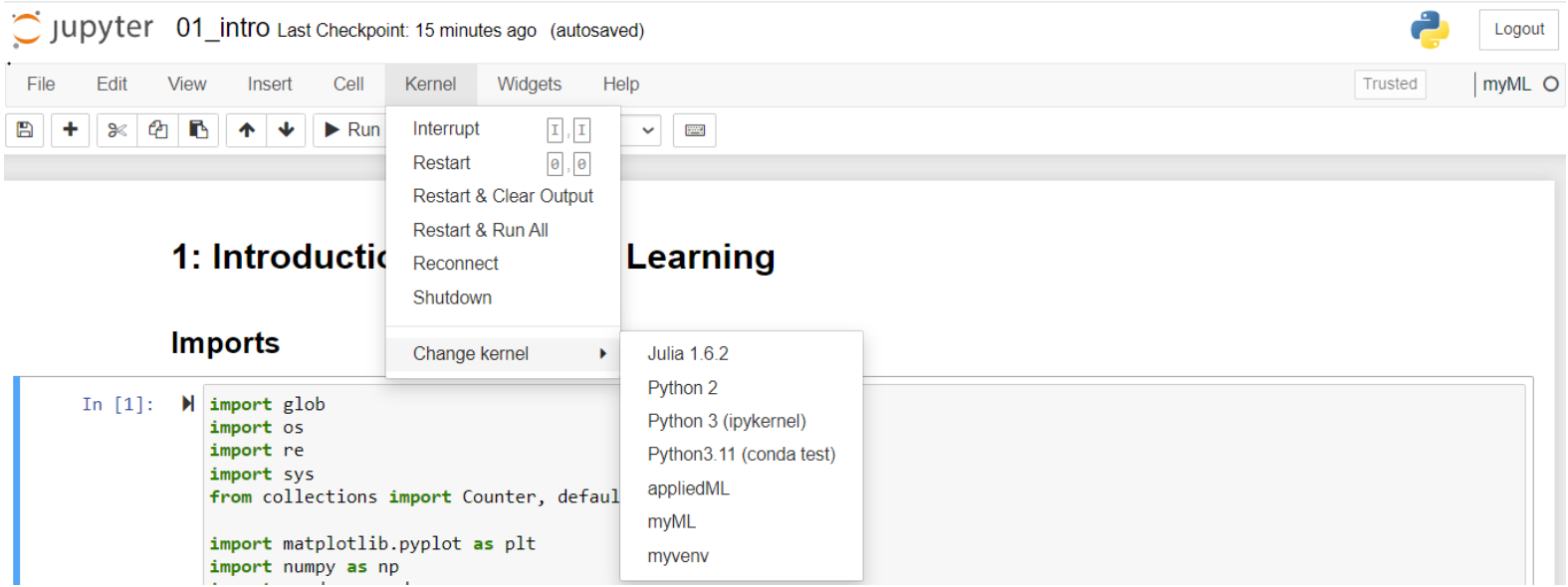
pip install mglearn

6. Launch Jupyter Notebook

jupyter notebook

Virtual Environments for This Class

7. Change kernel in Jupyter Notebook



Virtual Environments for This Class

If you encounter the following issue during the installation of the package:

Issue:

DEBUG:urllib3.connectionpool:Starting new HTTPS connection (1): repo.anaconda.com:443

DEBUG:urllib3.connectionpool:https://repo.anaconda.com:443 "GET /pkgs/main/win-64/current_repodata.json HTTP/1.1" 304 0

Solution:

conda install "conda-build!=3.26.0"