

# Laptop Prep for “Hands-on: Visual Data Analysis with Python”

## Overview

Laptop preparation for the class consists of four steps, with detailed instructions below:

1. Download course files from GitHub
2. Installation of Anaconda Python
3. Package downloads
4. Verify installation

NOTE – Administrator permission may be required to complete laptop prep. Also, often it is necessary to disable anti-virus software to allow for the installation. As such, disabling any anti-virus is recommended before laptop prep. Lastly, installing the latest version of Anaconda Python is recommended – even if you have Python already installed.

The GitHub repository with all required course files is located here:

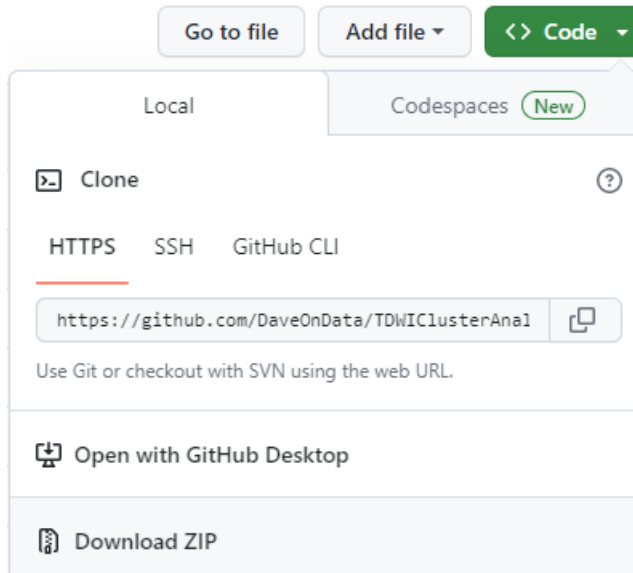
- <https://github.com/DaveOnData/TDWIVisualDataAnalysisWithPython>

## Hardware Requirements

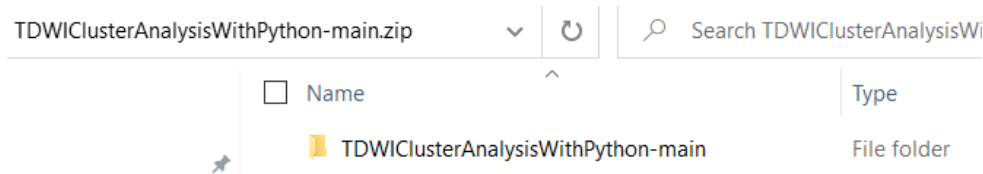
1. Windows or Mac OS X preferred (instructors have no experience with Linux)
2. 64-bit operating system
3. 8GB of RAM, 16GB preferred
4. 4GB of free drive space

## Step 1 - Download the files from GitHub

1. Within the GitHub repository page, click on the “Code” button and select “Download ZIP”:



2. Copy the file folder within the downloaded ZIP to a well-known location on your laptop (e.g., the Desktop):



3. Open the file folder. You should see the following files:

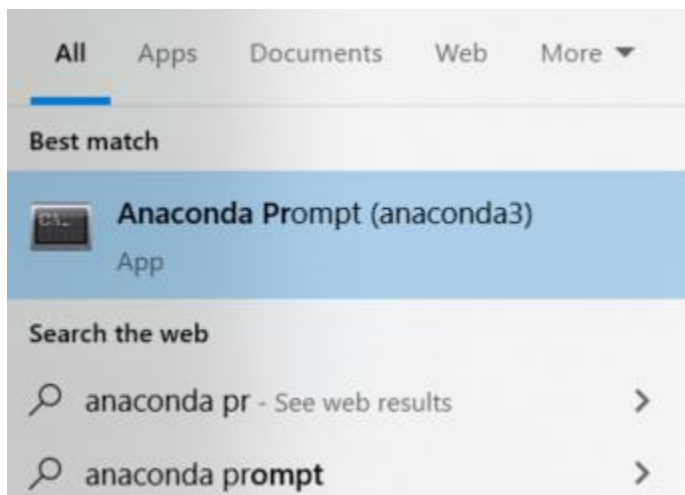
- Hands-On Lab 1 - K-Means.ipynb
- Hands-On Lab 2 - Optimizing K-Means.ipynb
- Hands-On Lab 3 - DBSCAN.ipynb
- Hands-On Lab 4 - PCA.ipynb
- Hands-On Lab 5 - Categorical Data.ipynb
- Heart.csv
- LaptopPrepClusterAnalysisWithPython.pdf
- README.md
- Verify Installation.ipynb

## Step 2 – Anaconda Python Installation

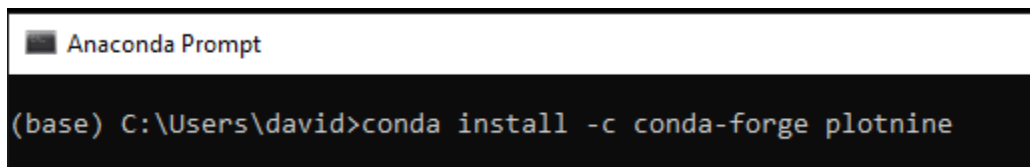
1. Open your browser and navigate to: <https://www.anaconda.com/products/distribution>
2. Click the download button.
3. When the installer has downloaded, start the installer and follow the instructions (accepting defaults) to complete the installation.

## Step 3 – Package Downloads

1. NOTE – Some packages are used across multiple TDWI classes. If you are taking multiple classes as part of the same training (e.g., conference or bootcamp), you only need to install the packages once.
2. With Anaconda Python installed, start the Anaconda Prompt:



3. At the command prompt type the following without quotes and hit <enter>:
  - a. "conda install -c conda-forge plotnine"



4. If prompted, hit the “y” key and <enter> to proceed:

```
Anaconda Prompt - conda install -c conda-forge plotnine

## Package Plan ##

environment location: C:\Users\david\anaconda3

added / updated specs:
- plotnine

The following packages will be downloaded:

package | build | size | channel
-----|-----|-----|-----
backports.zoneinfo-0.2.1 | py310h5588dad_7 | 6 KB | conda-forge
ca-certificates-2023.5.7 | h56e8100_0 | 145 KB | conda-forge
certifi-2023.5.7 | pyhd8ed1ab_0 | 149 KB | conda-forge
mizani-0.9.1 | pyhd8ed1ab_0 | 204 KB | conda-forge
openssl-1.1.1t | hcfcfb64_0 | 5.0 MB | conda-forge
plotnine-0.12.1 | pyhd8ed1ab_1 | 4.6 MB | conda-forge
python_abi-3.10 | 2_cp310 | 4 KB | conda-forge
statsmodels-0.14.0 | py310h9b08ddd_1 | 9.3 MB | conda-forge
ucrt-10.0.22621.0 | h57928b3_0 | 1.2 MB | conda-forge
vc14_runtime-14.34.31931 | h5081d32_16 | 709 KB | conda-forge
vs2015_runtime-14.34.31931 | hed1258a_16 | 16 KB | conda-forge
-----|-----|-----|-----
Total: | | 21.4 MB |

The following NEW packages will be INSTALLED:

backports.zoneinfo conda-forge/win-64::backports.zoneinfo-0.2.1-py310h5588dad_7
mizani conda-forge/noarch::mizani-0.9.1-pyhd8ed1ab_0
plotnine conda-forge/noarch::plotnine-0.12.1-pyhd8ed1ab_1
python_abi conda-forge/win-64::python_abi-3.10-2_cp310
ucrt conda-forge/win-64::ucrt-10.0.22621.0-h57928b3_0
vc14_runtime conda-forge/win-64::vc14_runtime-14.34.31931-h5081d32_16

The following packages will be UPDATED:

ca-certificates pkgs/main::ca-certificates-2023.01.10~ --> conda-forge::ca-certificates-2023.5.7-h56e8100_0
certifi pkgs/main/win-64::certifi-2022.12.7-p~ --> conda-forge/noarch::certifi-2023.5.7-pyhd8ed1ab_0
statsmodels pkgs/main::statsmodels-0.13.5-py310h9~ --> conda-forge::statsmodels-0.14.0-py310h9b08ddd_1
vs2015_runtime pkgs/main::vs2015_runtime-14.27.29016~ --> conda-forge::vs2015_runtime-14.34.31931-hed1258a_16

The following packages will be SUPERSEDED by a higher-priority channel:

openssl pkgs/main::openssl-1.1.1t-h2bfff1b_0 --> conda-forge::openssl-1.1.1t-hcfcfb64_0

Proceed ([y]/n)?
```

- When the install is completed, you should see something like the following:

```
Proceed ([y]/n)? y

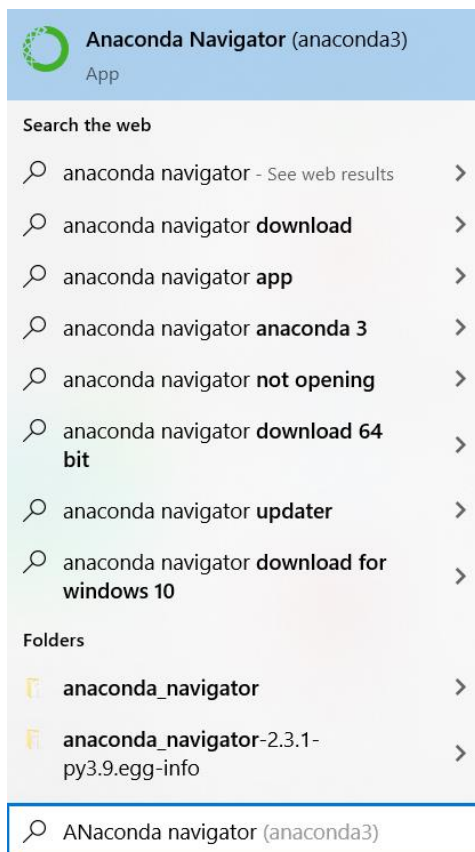
Downloading and Extracting Packages

Preparing transaction: done
Verifying transaction: done
Executing transaction: done

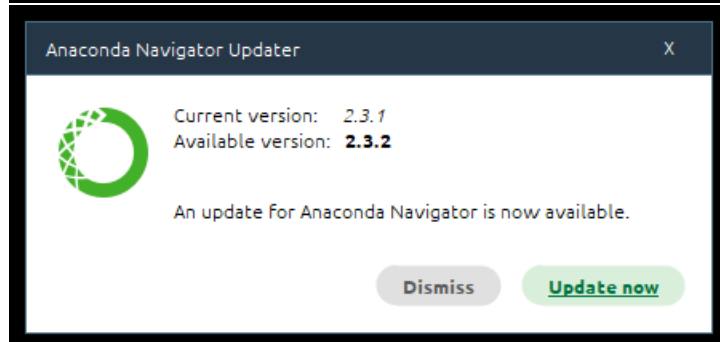
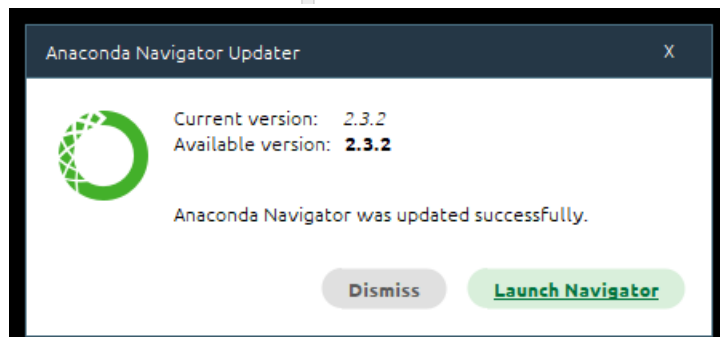
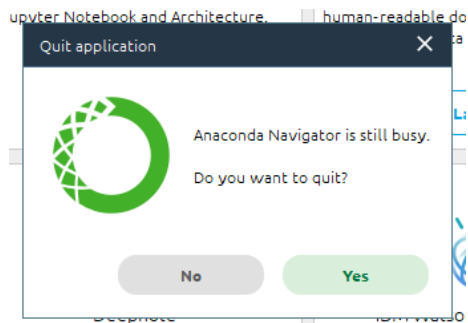
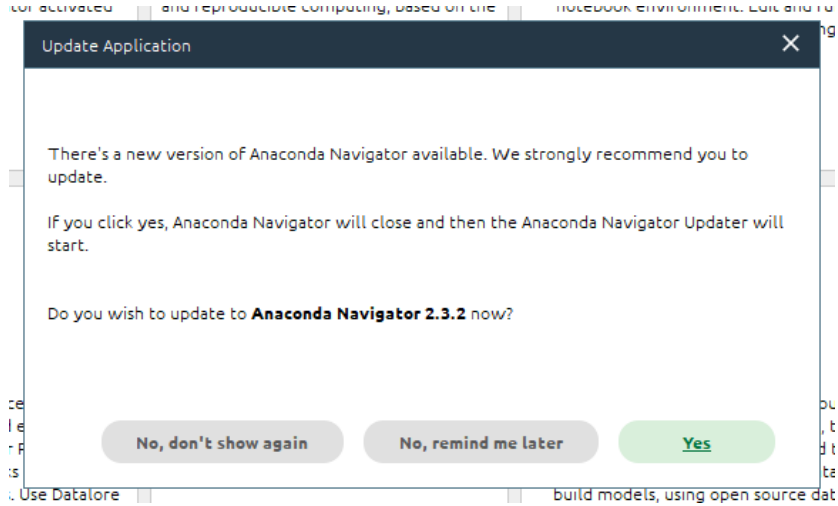
(base) C:\Users\david>
```

## Step 4 – Verify Installation

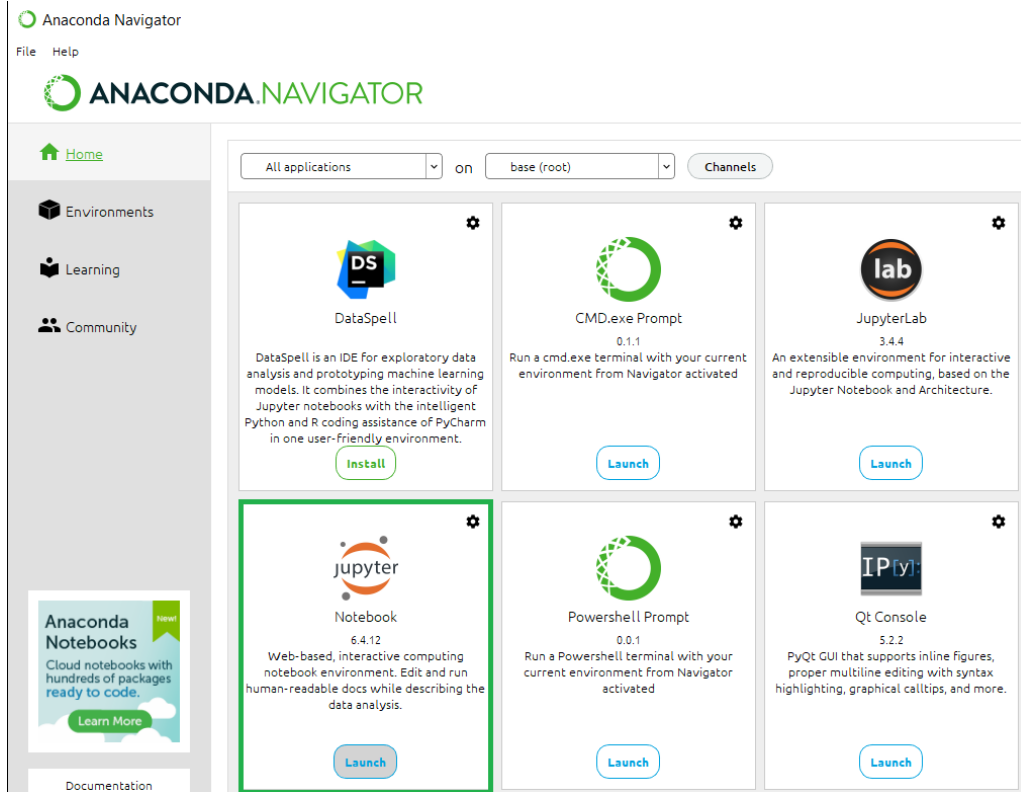
- With Anaconda Python installed, start the Anaconda Navigator application:



2. You may be prompted to upgrade Anaconda Navigator. Follow the dialogs to do so:



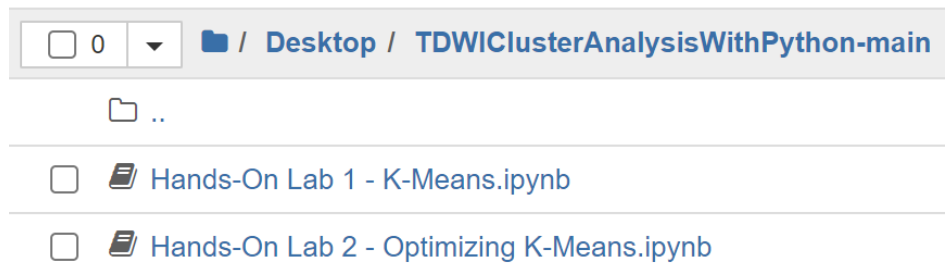
3. If needed, relaunch Anaconda Navigator
4. NOTE – Your Anaconda Navigator window might not look exactly like the following. Within Anaconda Navigator, launch Jupyter Notebook:



5. Within the Jupyter browser, navigate to where you copied the course file folder:



Select items to perform actions on them.

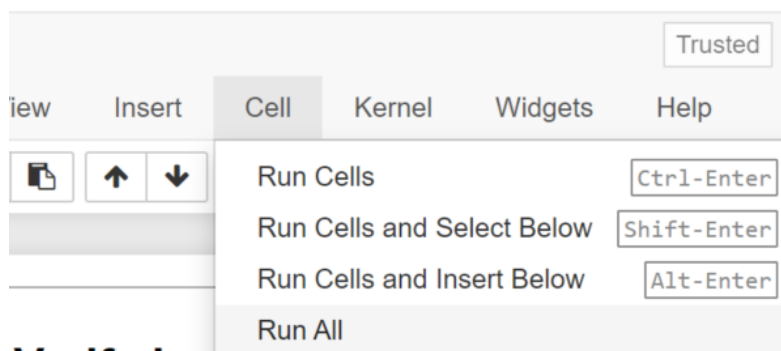


6. Click on the “Verify Installation.ipynb” entry:



7. Run all the cells in the notebook:

## Verify Installation





8. Your output should look like the following, with no errors:

## Verify Installation

Run the following code cell you should see no errors as a result of the running the code.

---

```
In [1]: ▶ from plotnine import ggplot
```

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**Congratulations! You are now ready for the class!**