NOVA IMS Information Management School

Data Visualization
Practical Lecture

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March, 2023

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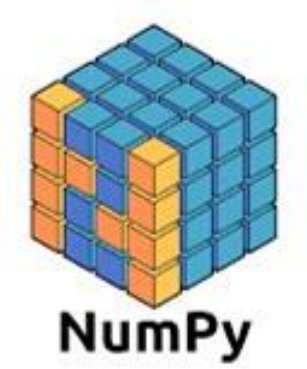
INTRODUCTION

Course Prerequisites:

a. Understanding of required python programming level
   i. Python Standard Library
   ii. Basic numpy usage
   iii. Pandas Library and DataFrame manipulation



INTRODUCTION

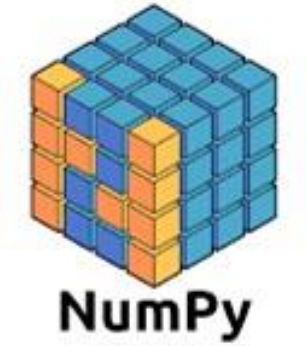
From the Python Standard Library:

a. Variable types and assignments
b. Lists and list operations
c. Dictionaries
d. If statements
e. For loops
f. Function construction

INTRODUCTION

For basic numpy usage and Pandas library:

a. Numpy arrays and their manipulations (slice, append, …)
b. Pandas DataFrame and their exploration
c. Pandas DataFrame filters (loc, iloc)
d. Pandas DataFrame operations



INTRODUCTION

So what is plotly? (https://plot.ly/python/)

a. Open source library made for interactive visualizations
b. Offers a wide variety of plotting options
c. Highly customizable
d. Dictionary based

And Dash? (https://dash.plot.ly/)

a. Open source library made for building web applications
b. Built on top of plotly
c. Low code needed to produce complex interactive apps Course Objectives:

INTRODUCTION

Example project submission in terms of interactive possibilities (to be done in class)

- https://dash.gallery/Portal/?search=ims

- **https://dash-gallery.plotly.host/dash-uber-rides-demo/**

Getting Started

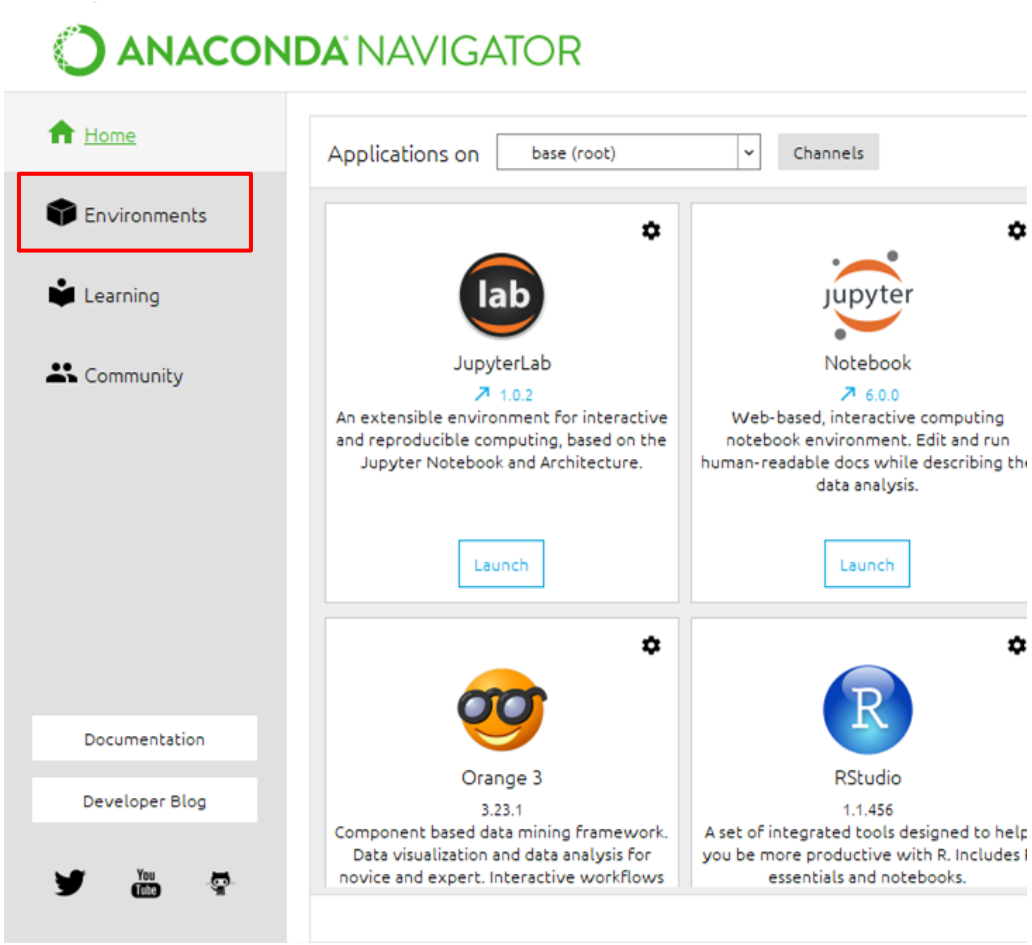
1. Create an Anaconda Environment

With console commands:

1. Open conda command prompt
2. `conda create --name myenv`
3. `activate myenv`

Getting Started

With Anaconda Navigator:



Getting Started

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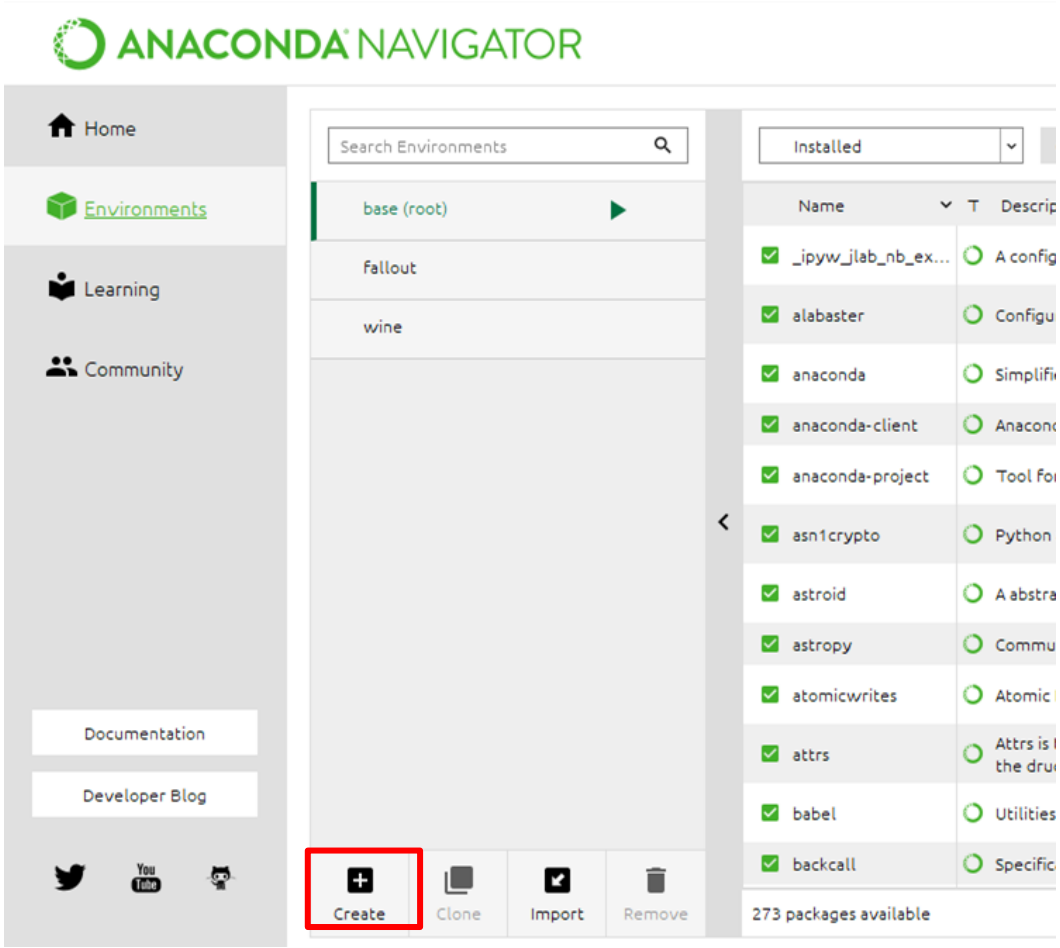

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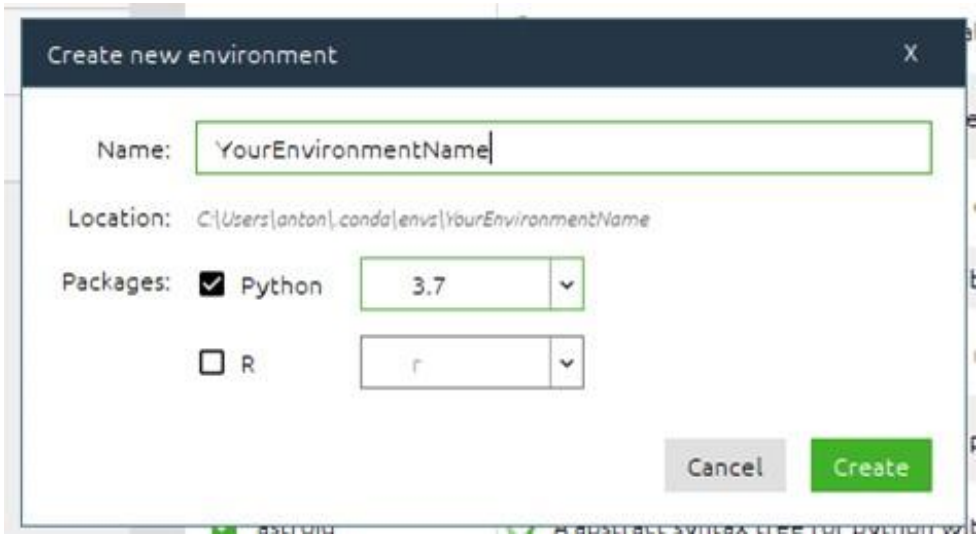


2. Install packages:

Open anaconda prompt activate your environment and type:

```
pip install plotly
pip install dash
```

You should already have:

```
numpy
pandas
```

3. Download PyCharm (or any python text editor)

Version: 2019.2.4

Build: 192.7142.42

11/1/2019

System requirements

Installation Instructions

Other versions

Download PyCharm

Windows macOS Linux

Professional

For both Scientific and Web Python development. With HTML, JS, and SQL support.

DOWNLOAD

Free trial

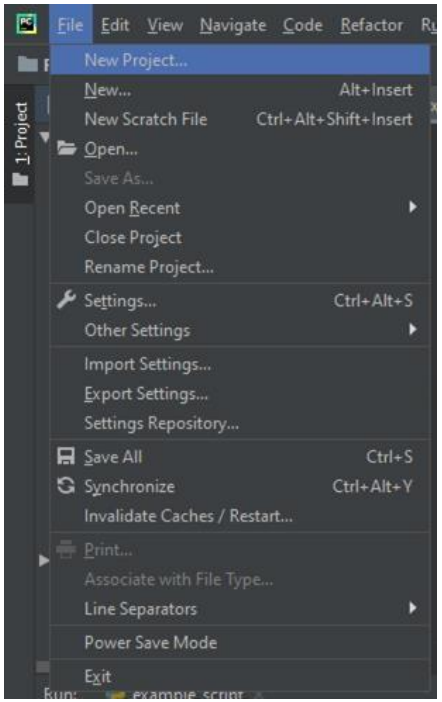
Community

For pure Python development

DOWNLOAD

Free, open-source

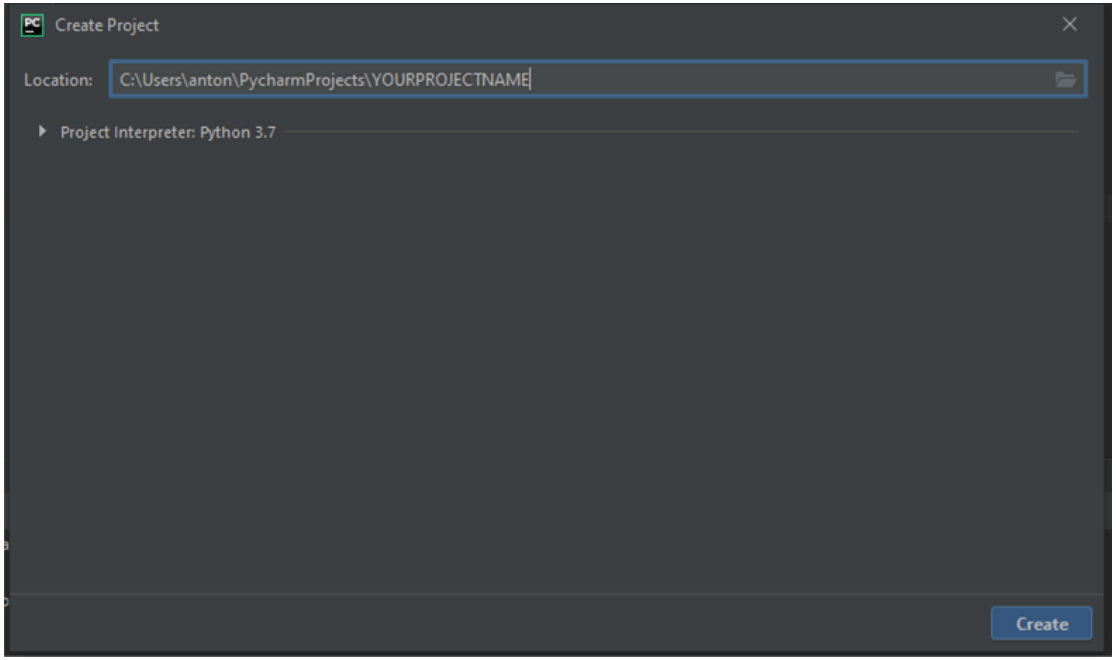
4. Link your text editor to you conda environment



Create a new project

4. Link your text editor to you conda environment

Define your project location.



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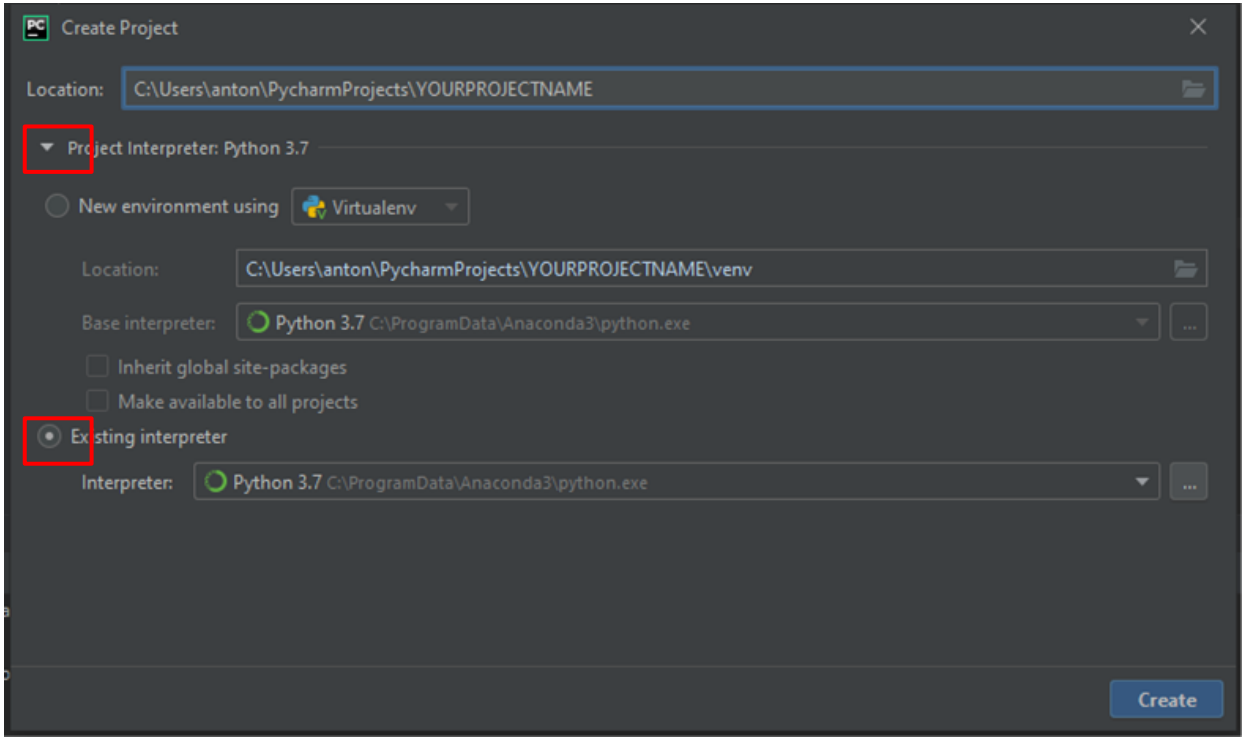

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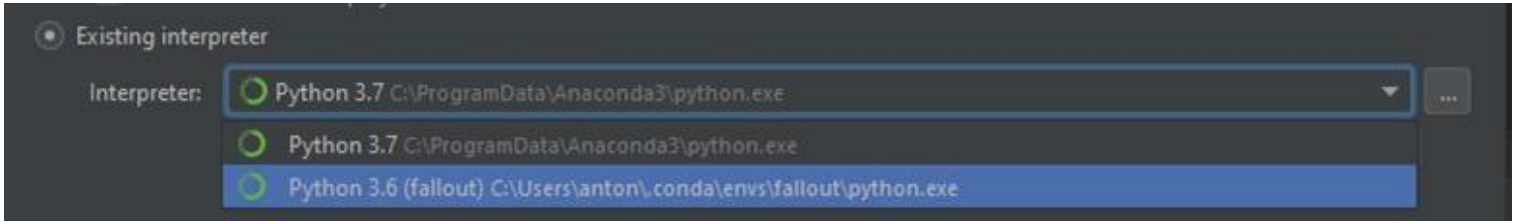

Select your Anaconda Environment and create the project