Python brushup Docker and Azure

2022 - Tue Hellstern

Agenda

- GitHub
- Virtual Environment
- MySQL
- Dashboard - Dash - Python

GitHub

Millions of developers and companies build, ship, and maintain their software on GitHub—the largest and most advanced development platform in the world.

70 to 80% of programmer uses Git for version control and Github repository, both public and private, for storing their source codes

GitHub

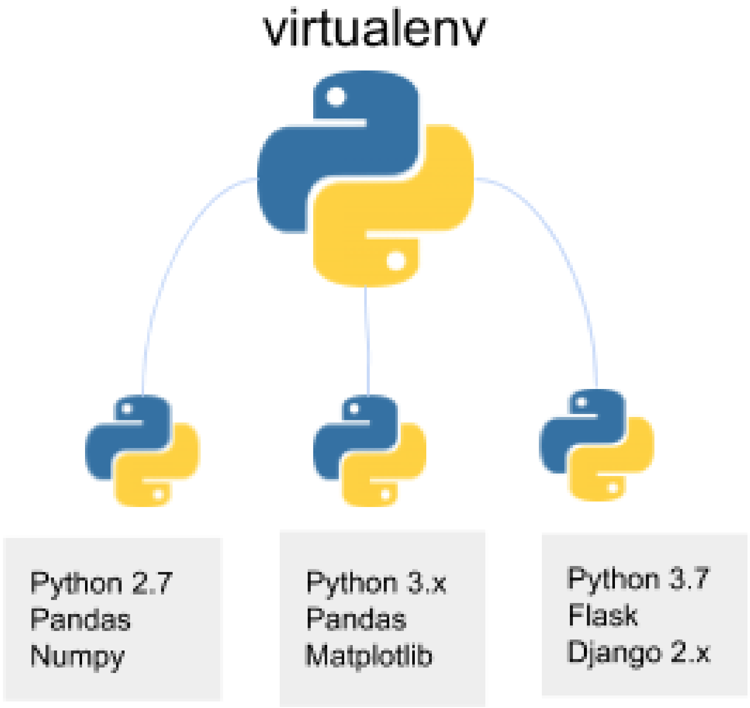
A Programmer should also understand the basic concepts of source control like why and how and also Git fundamentals like local vs. remote commit, pushing change, pull requests, and code review.

Virtual Environment

Using Virtual Environment

Virtual environments help you to:

- Resolve dependency issues by allowing you to use different versions of a package for different projects. *For example, you could use Package A v2.7 for Project X and Package A v1.3 for Project Y.*
- Make your project self-contained and reproducible by capturing all package dependencies in a requirements file.
- Install packages on a host on which you do not have admin privileges.
- Keep your global site-packages/directory tidy by removing the need to install packages system-wide which you might only need for one project.



Step by Step

2. **Create a new virtual environment**
    - *python3 -m venv venv-name*
3. **Activate the virtual environment**
    - macOS - *source env/bin/activate*
    - Windows - *.\Scripts\activate*
4. **Packages**
    - Install
        - *pip3 install name*
    - requirements.txt
        - *pip3 install -r requirements.txt*

Opgave

- Create a new Virtual Environment with the name - **northwind**
- Activate the Virtual Environment
- Create 2 folders inside **northwind**: *data* and *assets*
- Download and place thise 2 files:
  - *data* - northwind_data.xlsx
  - *assets* - Northwind-Logo.gif
- Create and run a **requirements.txt** file with thise packages:
  - *dash*
  - *plotly*
  - *pandas*
  - *openpyxl*
  - *dash_bootstrap_components*

Dashboard - Dash

Dash apps give a point-&-click interface to models written in Python, vastly expanding the notion of what's possible in a traditional "dashboard".

With Dash apps, data scientists and engineers put complex Python analytics in the hands of business decision-makers and operators.

Dash Introduction video

```
<iframe width="1100" height="600" src="https://player.vimeo.com/video/458223712?h=ac77255d72"> </iframe>
```

Demo Dashboard - Northwind

Northwind Dashboard

MySQL

Make sure that you have:

- MySQL installed as a local server
- MySQL Workbench installed

Views

A view is a **virtual table** based on the resultset of an SQL statement.

A view contains rows and columns, just like a real table. The fields in a view are fields from one or more real tables in the database.

You can add SQL statements and functions to a view and present the data as if the data were coming from one single table.

A view is created with the **CREATE VIEW** statement.

Stored Procedure

A stored procedure is a **prepared SQL code** that you can save, so the code can be reused over and over again.

You can **pass parameters** to a stored procedure, so that the stored procedure can act based on the parameter value(s) that is passed.

A stored procedure is createde with the **CREATE PROCEDURE** statement.