

TP: Python Virtual Environment

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September 26, 2024

Instructions

Follow the tasks below to practice working with Python virtual environments. Ensure you execute the commands in your terminal or command prompt.

Problem Set

P1: Python Installation:

- a) Download and install the latest version of Python.
- b) Download and install the latest version of Anaconda.

P2: Creating a Virtual Environment:

- a) Create a virtual environment named 'my_project_env' using the 'venv' module.
- b) Activate the virtual environment.

P3: Installing Packages:

- a) Install the packages 'requests' and 'beautifulsoup4' in your activated environment.
- b) Verify that the packages have been installed by listing the installed packages.

P4: Using Requirements File:

- a) Create a 'requirements.txt' file that includes the packages you just installed. Use the command to freeze the current environment's packages into the file.
- b) Create a new virtual environment named 'test_env' and install the packages from 'requirements.txt'.

P5: Deactivating and Reactivating:

- a) Deactivate the 'my_project_env'.
- b) Reactivate 'my_project_env' and confirm that the installed packages are still accessible.

P6: Uninstalling Packages:

- a) Uninstall the package 'beautifulsoup4' from your activated environment.
- b) List the installed packages again to confirm the uninstallation.

P7: Using Conda:

- a) Create a new conda environment named 'data_analysis_env' with Python version 3.8.
- b) Activate this environment and install the 'numpy' package.

P8: Exporting and Importing Environments (Conda):

- a) Export the 'data_analysis_env' to a file named 'data_analysis.yml'.
- b) Create a new environment named 'data_analysis_clone' from 'data_analysis.yml'.

P9: Environment Cleanup:

- a) After completing your tasks, deactivate any active environments.
- b) Delete the virtual environments 'my_project_env', 'test_env', and 'data_analysis_env'.

P10: Troubleshooting Scenario:

- a) If you try to run a Python script in your virtual environment and get an import error for 'requests', what troubleshooting steps would you take?

P11: Documentation:

- a) Write a brief documentation (in a text file) describing the steps you took to manage your virtual environments in this exercise. Include commands used and any issues encountered.