**Steps to Create an Executable with Dependencies Using PyInstaller**

1. **Install PyInstaller (if you haven't already):**
   * Open your terminal or command prompt.
   * Run the following command:  
     pip install pyinstaller
2. **Prepare Your Script and Data File(s):**
   * Make sure your Python script (your\_script.py) and any data files (e.g., config.txt, image.png, etc.) are in the same directory, or that you know their exact paths.
   * For this example, let's assume your\_script.py and config.txt are in the same directory.
3. **Navigate to Your Script's Directory:**
   * Use the cd command to change the current directory to the location of your Python script.
   * Example:  
     cd /path/to/your/script  
       
     (Replace /path/to/your/script with the actual path.)
4. **Run PyInstaller with the --add-data Option:**
   * This is the crucial step where you create the executable and bundle your data file(s) in one command.
   * Here's the basic command to include config.txt in the same directory as the executable:  
     pyinstaller --onefile --add-data "config.txt:config.txt" your\_script.py
   * **Explanation:**
     + pyinstaller: The command to run PyInstaller.
     + --onefile: Creates a single executable file.
     + --add-data "config.txt:config.txt": This is where you specify the data file:
       - config.txt: The path to your data file (in this case, relative to where you're running the command).
       - config.txt: The destination path *within* the executable where the file will be placed. Using the same name here puts it in the same directory as the executable.
     + your\_script.py: The name of your Python script.
5. **More Complex Examples for --add-data:**
   * **Different Destination Directory**
     + If you want to put the config file in a folder named "configuration"

pyinstaller --onefile --add-data "config.txt:configuration" your\_script.py

* + **Multiple Data Files**
    - To include multiple data files, separate each source:destination pair with a comma:

pyinstaller --onefile --add-data "config.txt:config.txt,image.png:image.png,data/info.csv:data" your\_script.py

1. **Adding Other Options:**
   * You can combine --add-data with other PyInstaller options:
     + --windowed or -w: For GUI applications to prevent a console window from appearing.
     + --icon=your\_icon.ico: To add a custom icon to your executable.

Example:pyinstaller --onefile --windowed --icon=myicon.ico --add-data "config.txt:config.txt" your\_script.py

1. **Locate Your Executable:**
   * PyInstaller places the output in a folder named dist, located in the same directory where you ran the command.
   * Your executable will be inside the dist folder.
2. **Run Your Executable:**
   * **Windows:**
     + Double-click the .exe file in the dist folder.
     + Or, open a command prompt, navigate to the dist folder, and type the executable's name, then press Enter.
   * **macOS/Linux:**
     + Double-click the executable file in the dist folder.
     + If you get a "permission denied" error:
       - Open a terminal.
       - Navigate to the dist folder: cd /path/to/dist (replace with the actual path).
       - Make the executable runnable: chmod +x your\_executable\_name (replace with the actual name).
       - Run it: ./your\_executable\_name