

Assignment Docker

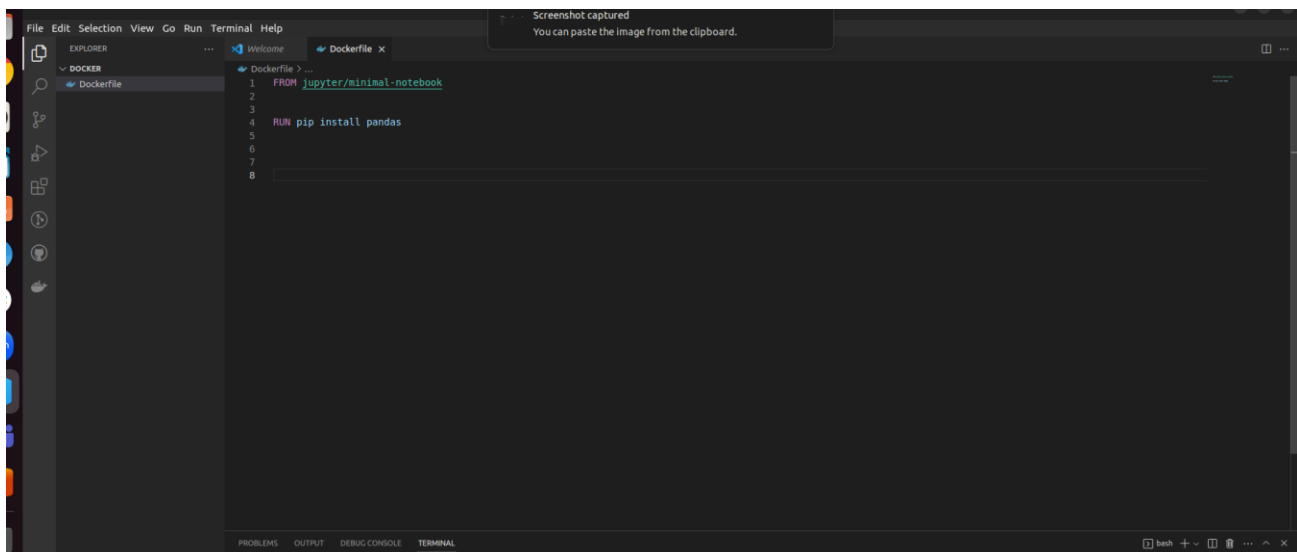
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Problem Statement

- Build an image based on Jupyter Notebook (jupyter/minimal-notebook) with Pandas installed (pip install pandas)
- Create a container from this image and use the NOTEBOOK_ARGS=--port=8889 environment variable to change the port Jupyter is exposed on
- Verify you can access it on port 8889 and that Pandas is installed (type import pandas in a notebook).

Solution

Firstly we have created Dockerfile, to pull image of jupyter minimal notebook from dockerhub and install pandas into that container. The environment variable is NOTEBOOK_ARGS=--port=8889.



The screenshot shows a Visual Studio Code editor interface. On the left, the Explorer sidebar shows a folder named 'DOCKER' containing a file named 'Dockerfile'. The main editor area displays the content of the 'Dockerfile' with the following text:

```
1 FROM jupyter/minimal-notebook
2
3
4 RUN pip install pandas
5
6
7
8
```

Below the editor, the TERMINAL panel is open, showing a 'bash' prompt. A notification bubble at the top right of the editor area states: 'Screenshot captured. You can paste the image from the clipboard.'

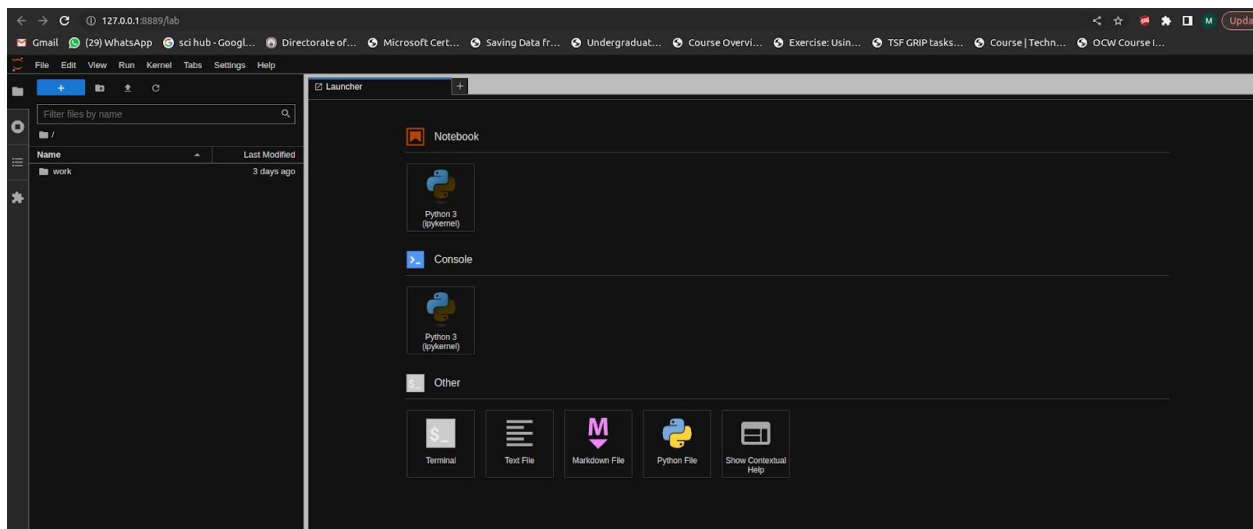
Step 2 Building Docker Container

```
• muzammil@all-MS-7D35:~/Docker$ docker build -t jupyter .
[+] Building 0.2s (6/6) FINISHED
  => [internal] load build definition from Dockerfile
  => => transferring dockerfile: 96B
  => [internal] load .dockerignore
  => => transferring context: 2B
  => [internal] load metadata for docker.io/jupyter/minimal-notebook:latest
  => [1/2] FROM docker.io/jupyter/minimal-notebook
  => CACHED [2/2] RUN pip install pandas
  => exporting to image
  => => exporting layers
  => => writing image sha256:744af07573485e05df2ea013d4d0a8e11d3acbb31106d41b5adc2a993738da25
  => => naming to docker.io/library/jupyter
○ muzammil@all-MS-7D35:~/Docker$
```

Step 3 Running Docker Container

```
• muzammil@all-MS-7D35:~/Docker$ docker run -p 8889:8889 -e NOTEBOOK_ARGS="--port=8889" jupyter
Entered start.sh with args: jupyter lab --port=8889
Executing the command: jupyter lab --port=8889
[I 2023-04-07 07:20:46.932 ServerApp] Package jupyterlab took 0.0000s to import
[I 2023-04-07 07:20:46.936 ServerApp] Package jupyter_server_fileid took 0.0026s to import
[I 2023-04-07 07:20:46.941 ServerApp] Package jupyter_server_terminals took 0.0046s to import
[I 2023-04-07 07:20:46.972 ServerApp] Package jupyter_server_ydoc took 0.0308s to import
[I 2023-04-07 07:20:46.974 ServerApp] Package nbclassic took 0.0000s to import
[W 2023-04-07 07:20:46.977 ServerApp] A `jupyter_server_extension_points` function was not found in nbclassic. Instead, a `_jupyter_server_extension_paths` function was found and will be used for now. This function name will be deprecated in future releases of Jupyter Server.
[I 2023-04-07 07:20:46.978 ServerApp] Package notebook_shim took 0.0000s to import
[W 2023-04-07 07:20:46.978 ServerApp] A `jupyter_server_extension_points` function was not found in notebook_shim. Instead, a `_jupyter_server_extension_paths` function was found and will be used for now. This function name will be deprecated in future releases of Jupyter Server.
[I 2023-04-07 07:20:46.986 ServerApp] jupyter_server_fileid | extension was successfully linked.
[I 2023-04-07 07:20:46.992 ServerApp] jupyter_server_terminals | extension was successfully linked.
[I 2023-04-07 07:20:47.007 ServerApp] jupyter_server_ydoc | extension was successfully linked.
[I 2023-04-07 07:20:47.019 ServerApp] jupyterlab | extension was successfully linked.
[W 2023-04-07 07:20:47.023 NotebookApp] 'ip' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
[W 2023-04-07 07:20:47.023 NotebookApp] 'ip' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp. Be sure to update your config before our next release.
[I 2023-04-07 07:20:47.029 ServerApp] nbclassic | extension was successfully linked.
[I 2023-04-07 07:20:47.030 ServerApp] Writing Jupyter server cookie secret to /home/jovyan/.local/share/jupyter/runtime/jupyter_cookie_secret
[I 2023-04-07 07:20:47.413 ServerApp] notebook_shim | extension was successfully linked.
[I 2023-04-07 07:20:47.596 ServerApp] notebook_shim | extension was successfully loaded.
```

Step 4 Creating Jupyter Notebook



Step 5 Importing Pandas as pd

