

UNIT :1.4

ASSIGNMENT 1:

- *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).*

Pair member:

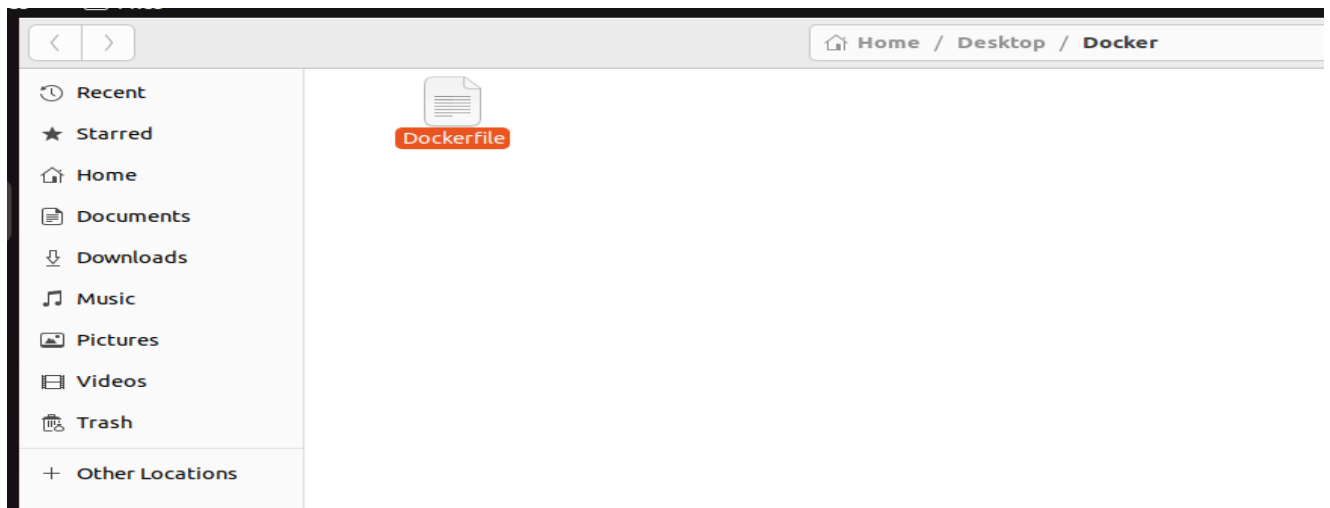
Rahimasiddiqui(2303.KHI.DEG.030)

M Humza Moeen (2303.KHI.DEG.019)

Explanation:

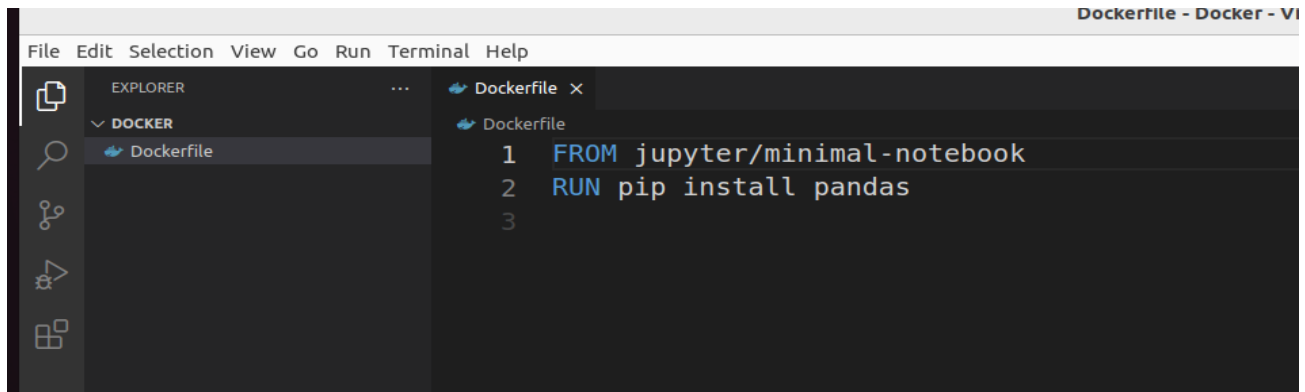
Step 1:

First we create a docker folder in which we create a file name docker file .

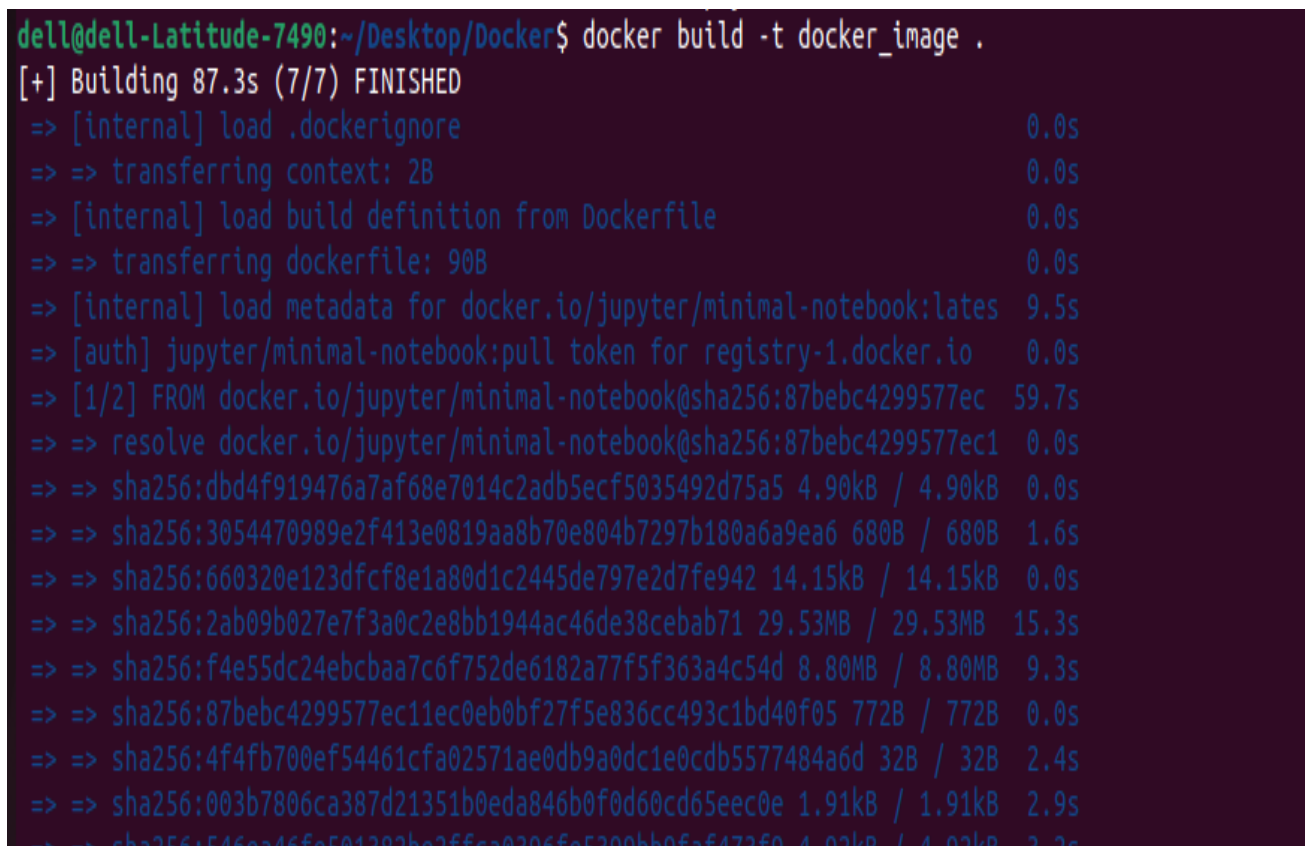


Step 2:

Build an image based on Jupyter Notebook (jupyter/minimal-notebook) with Pandas installed (pip install pandas)



```
File Edit Selection View Go Run Terminal Help
EXPLORER
  DOCKER
    Dockerfile
Dockerfile x
Dockerfile
1 FROM jupyter/minimal-notebook
2 RUN pip install pandas
3
```



```
dell@dell-Latitude-7490:~/Desktop/Docker$ docker build -t docker_image .
[+] Building 87.3s (7/7) FINISHED
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 90B 0.0s
=> [internal] load metadata for docker.io/jupyter/minimal-notebook:lates 9.5s
=> [auth] jupyter/minimal-notebook:pull token for registry-1.docker.io 0.0s
=> [1/2] FROM docker.io/jupyter/minimal-notebook@sha256:87bebc4299577ec 59.7s
=> => resolve docker.io/jupyter/minimal-notebook@sha256:87bebc4299577ec1 0.0s
=> => sha256:dbd4f919476a7af68e7014c2adb5ecf5035492d75a5 4.90kB / 4.90kB 0.0s
=> => sha256:3054470989e2f413e0819aa8b70e804b7297b180a6a9ea6 680B / 680B 1.6s
=> => sha256:660320e123dfcf8e1a80d1c2445de797e2d7fe942 14.15kB / 14.15kB 0.0s
=> => sha256:2ab09b027e7f3a0c2e8bb1944ac46de38cebab71 29.53MB / 29.53MB 15.3s
=> => sha256:f4e55dc24ebcbaa7c6f752de6182a77f5f363a4c54d 8.80MB / 8.80MB 9.3s
=> => sha256:87bebc4299577ec11ec0eb0bf27f5e836cc493c1bd40f05 772B / 772B 0.0s
=> => sha256:4f4fb700ef54461cfa02571ae0db9a0dc1e0cdb5577484a6d 32B / 32B 2.4s
=> => sha256:003b7806ca387d21351b0eda846b0f0d60cd65eec0e 1.91kB / 1.91kB 2.9s
=> => sha256:546e246fe501392be25f5c20206fe5200bb0fa5472f0 4.92kB / 4.92kB 3.2s
```

Step 3:

Create a container from this image and use the `NOTEBOOK_ARGS=--port=8889` environment variable to change the port Jupyter is exposed on

```
dell@dell-Latitude-7490:~/Desktop/Docker$ docker run -p 8889:8888 -e "NOTEBOOK_ARGS=--port=8888" docker_image
Entered start.sh with args: jupyter lab --port=8888
Executing the command: jupyter lab --port=8888
[I 2023-04-07 09:24:37.315 ServerApp] Package jupyterlab took 0.0000s to import
[I 2023-04-07 09:24:37.317 ServerApp] Package jupyter_server_fileid took 0.0019s to import
[I 2023-04-07 09:24:37.321 ServerApp] Package jupyter_server_terminals took 0.0034s to import
[I 2023-04-07 09:24:37.336 ServerApp] Package jupyter_server_ydoc took 0.0151s to import
[I 2023-04-07 09:24:37.336 ServerApp] Package nbclassic took 0.0000s to import
[W 2023-04-07 09:24:37.338 ServerApp] A `_jupyter_server_extension_points` function was not found in nbclassic. Instead, this function name will be deprecated in future releases of Jupyter Server.
[I 2023-04-07 09:24:37.338 ServerApp] Package notebook_shim took 0.0000s to import
[W 2023-04-07 09:24:37.338 ServerApp] A `_jupyter_server_extension_points` function was not found in notebook_shim. Instead, this function name will be deprecated in future releases of Jupyter Server.
[I 2023-04-07 09:24:37.341 ServerApp] jupyter_server_fileid | extension was successfully linked.
[I 2023-04-07 09:24:37.344 ServerApp] jupyter_server_terminals | extension was successfully linked.
[I 2023-04-07 09:24:37.347 ServerApp] jupyter_server_ydoc | extension was successfully linked.
[I 2023-04-07 09:24:37.351 ServerApp] jupyterlab | extension was successfully linked.
[W 2023-04-07 09:24:37.352 NotebookApp] 'ip' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp.
[W 2023-04-07 09:24:37.352 NotebookApp] 'ip' has moved from NotebookApp to ServerApp. This config will be passed to ServerApp.
[I 2023-04-07 09:24:37.354 ServerApp] nbclassic | extension was successfully linked.
[I 2023-04-07 09:24:37.355 ServerApp] Writing Jupyter server cookie secret to /home/jovyan/.local/share/jupyter/runtime
[I 2023-04-07 09:24:37.510 ServerApp] notebook_shim | extension was successfully linked.
[I 2023-04-07 09:24:37.587 ServerApp] notebook_shim | extension was successfully loaded.
[I 2023-04-07 09:24:37.587 FileIdExtension] Configured File ID manager: AsynchronousFileIdManager

C 2023-04-07 09:24:37.626 ServerApp]

To access the server, open this file in a browser:
file:///home/jovyan/.local/share/jupyter/runtime/jpserver-7-open.html
Or copy and paste one of these URLs:
http://ad9b0d5ced7d:8888/lab?token=166b8b1890aa0292a8298e91ad7ab9976cee5affe219e382
http://127.0.0.1:8888/lab?token=166b8b1890aa0292a8298e91ad7ab9976cee5affe219e382
I 2023-04-07 09:24:49.860 LabApp] Generating new user for token-authenticated request: 20270cd5b65e44c082f7881233424a95
I 2023-04-07 09:24:52.370 LabApp] Build is up to date
I 2023-04-07 09:24:57.318 ServerApp] Creating new notebook in
I 2023-04-07 09:24:57.409 ServerApp] Writing notebook-signing key to /home/jovyan/.local/share/jupyter/notebook_secret
I 2023-04-07 09:24:57.677 ServerApp] Kernel started: a6a624c4-184f-4636-96e8-e54e4c7f3390
I 2023-04-07 09:24:58.286 ServerApp] Connecting to kernel a6a624c4-184f-4636-96e8-e54e4c7f3390.
I 2023-04-07 09:24:58.303 ServerApp] Connecting to kernel a6a624c4-184f-4636-96e8-e54e4c7f3390.
I 2023-04-07 09:24:58.344 ServerApp] Connecting to kernel a6a624c4-184f-4636-96e8-e54e4c7f3390.
I 2023-04-07 09:26:58.362 ServerApp] Saving file at /Untitled.ipynb
```

Step 4:

We can access on a port 8889 and write `import pandas as pd`.

