

Unit 1.4 Graded Assignment: Docker

Instructions:

- **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).**

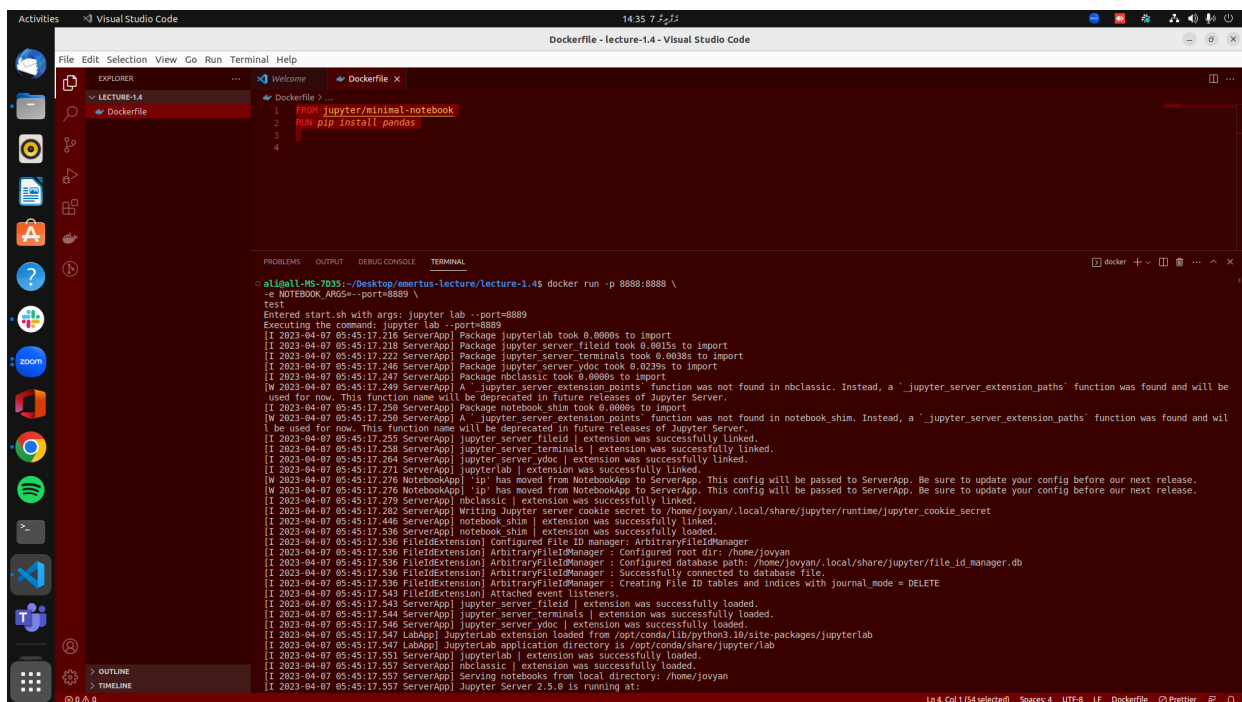
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Solution:

In this assignment we have implemented Docker exercise

1. First we call Jupyter Notebook by writing “From jupyter/minimal-notebook”.

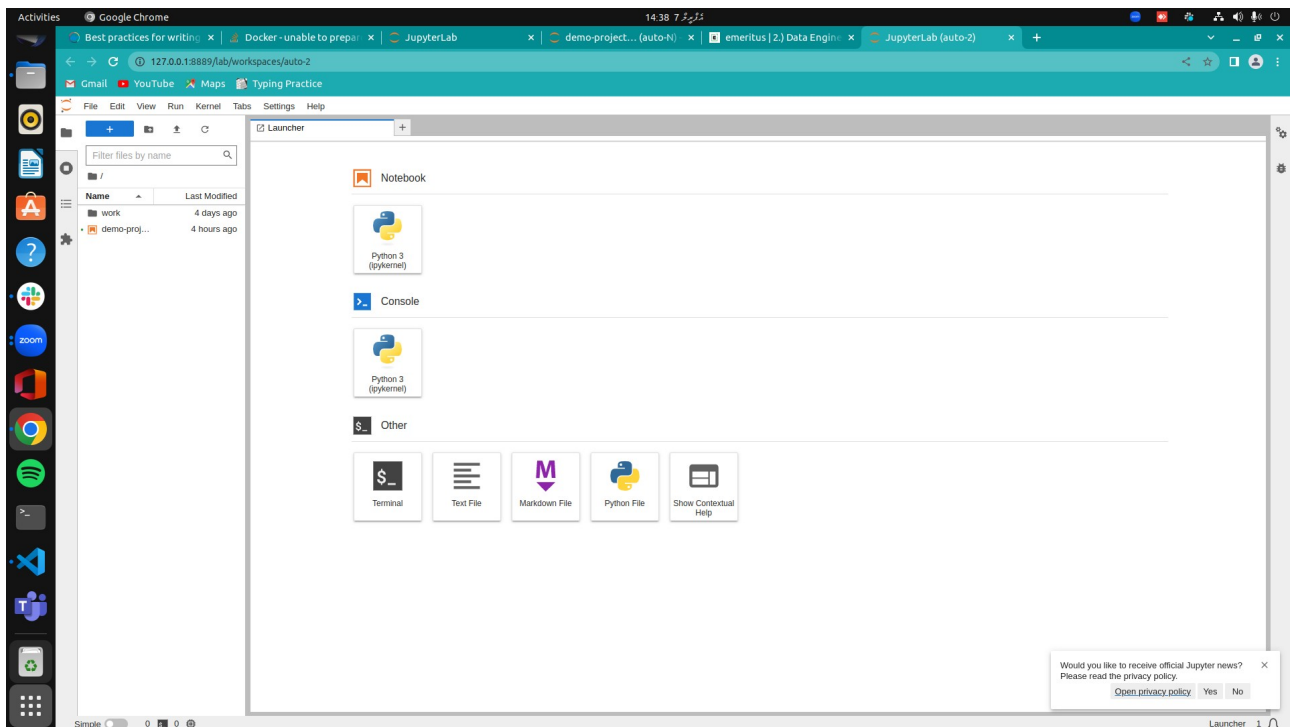


```
FROM jupyter/minimal-notebook
RUN pip install pandas
```

```
alibali@MS-7B35:~/Desktop/emertus-lecture/lecture-1.4$ docker run -p 8888:8888 \
-e NOTEBOOK_ARGS="--port=8889" \
test
Entered start.sh with args: jupyter lab --port=8889
Executing the command: jupyter lab --port=8889
[I 2023-04-07 05:45:17.216 ServerApp] Package jupyterlab took 0.0000s to import
[I 2023-04-07 05:45:17.218 ServerApp] Package jupyter_server_fileid took 0.0015s to import
[I 2023-04-07 05:45:17.222 ServerApp] Package jupyter_server_terminals took 0.0038s to import
[I 2023-04-07 05:45:17.246 ServerApp] Package jupyter_server_ydoc took 0.0239s to import
[I 2023-04-07 05:45:17.247 ServerApp] Package nbclassic took 0.0000s to import
[W 2023-04-07 05:45:17.249 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 05:45:17.250 ServerApp] Package notebook_shim took 0.0000s to import
[W 2023-04-07 05:45:17.255 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 05:45:17.255 ServerApp] jupyter_server_fileid | extension was successfully linked.
[I 2023-04-07 05:45:17.258 ServerApp] jupyter_server_terminals | extension was successfully linked.
[I 2023-04-07 05:45:17.264 ServerApp] jupyter_server_ydoc | extension was successfully linked.
[I 2023-04-07 05:45:17.271 ServerApp] jupyterlab | extension was successfully linked.
[W 2023-04-07 05:45:17.276 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 05:45:17.279 ServerApp] nbclassic | extension was successfully linked.
[I 2023-04-07 05:45:17.282 ServerApp] Writing Jupyter server cookie secret to /home/jovyan/.local/share/jupyter/runtime/jupyter_cookie_secret
[I 2023-04-07 05:45:17.446 ServerApp] notebook_shim | extension was successfully linked.
[I 2023-04-07 05:45:17.536 ServerApp] notebook_shim | extension was successfully loaded.
[I 2023-04-07 05:45:17.536 FileExtension] Configured file ID manager: ArbitraryFileIDManager
[I 2023-04-07 05:45:17.536 FileExtension] ArbitraryFileIDManager - Configured root dir: /home/jovyan
[I 2023-04-07 05:45:17.536 FileExtension] ArbitraryFileIDManager : Configured database path: /home/jovyan/.local/share/jupyter/file_id_manager.db
[I 2023-04-07 05:45:17.536 FileExtension] ArbitraryFileIDManager : Successfully connected to database file.
[I 2023-04-07 05:45:17.536 FileExtension] ArbitraryFileIDManager : Creating file ID tables and indices with journal_mode = DELETE
[I 2023-04-07 05:45:17.543 FileExtension] Attached event listeners.
[I 2023-04-07 05:45:17.543 ServerApp] jupyter_server_fileid | extension was successfully loaded.
[I 2023-04-07 05:45:17.544 ServerApp] jupyter_server_terminals | extension was successfully loaded.
[I 2023-04-07 05:45:17.546 ServerApp] jupyter_server_ydoc | extension was successfully loaded.
[I 2023-04-07 05:45:17.547 LabApp] JupyterLab extension loaded from /opt/conda/lib/python3.10/site-packages/jupyterlab
[I 2023-04-07 05:45:17.547 LabApp] JupyterLab application directory is /opt/conda/share/jupyter/lab
[I 2023-04-07 05:45:17.551 ServerApp] jupyterlab | extension was successfully loaded.
[I 2023-04-07 05:45:17.557 ServerApp] nbclassic | extension was successfully loaded.
[I 2023-04-07 05:45:17.557 ServerApp] Serving notebooks from local directory: /home/jovyan
[I 2023-04-07 05:45:17.557 ServerApp] Jupyter Server 2.5.0 is running at:
```

2. Second we write on terminal “docker build -t <filename> . “
3. in end we write this command on teminal “docker run -p 8889:8889 \ -e NOTEBOOK_ARGS=--port=8889 \ test”

4. after running above command we get jupyter window open in our system.



5. In jupyter notebook write command “import pandas as pd” and run.

