

NFJS: MLOps Half Day

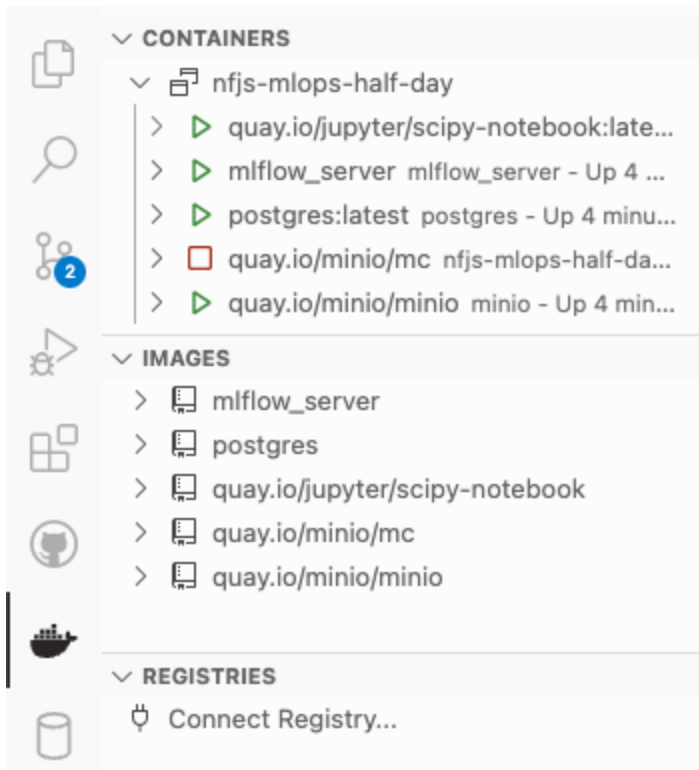
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MLFlow

MLFlow

1. When opening the project `nfjs-mlops-half-day`, you will see the `docker-compose` run your application
2. Review the `docker-compose.yml` and take a look at the components that we are using. We are creating an MLFlow application
3. You can ignore the warning for `mlflow`, we are building the application from a scratch.
4. When completed you can view the applications that are running at the docker window in your VSCode. The `mc` container is stopped because it was an initial container



5. Open the Jupyter Server notebook called `scipy-notebook` in the *Containers* box, right click and select "Open in Browser"

Password or token:

Token authentication is enabled

If no password has been configured, you need to open the server with its login token in the URL, or paste it above. This requirement will be lifted if you [enable a password](#).

The command:

```
jupyter server list
```

will show you the URLs of running servers with their tokens, which you can copy and paste into your browser. For example:

```
Currently running servers:  
http://localhost:8888/?token=c8de56fa... :: /Users/you/notebooks
```

or you can paste just the token value into the password field on this page.

See [the documentation on how to enable a password](#) in place of token authentication, if you would like to avoid dealing with random tokens.

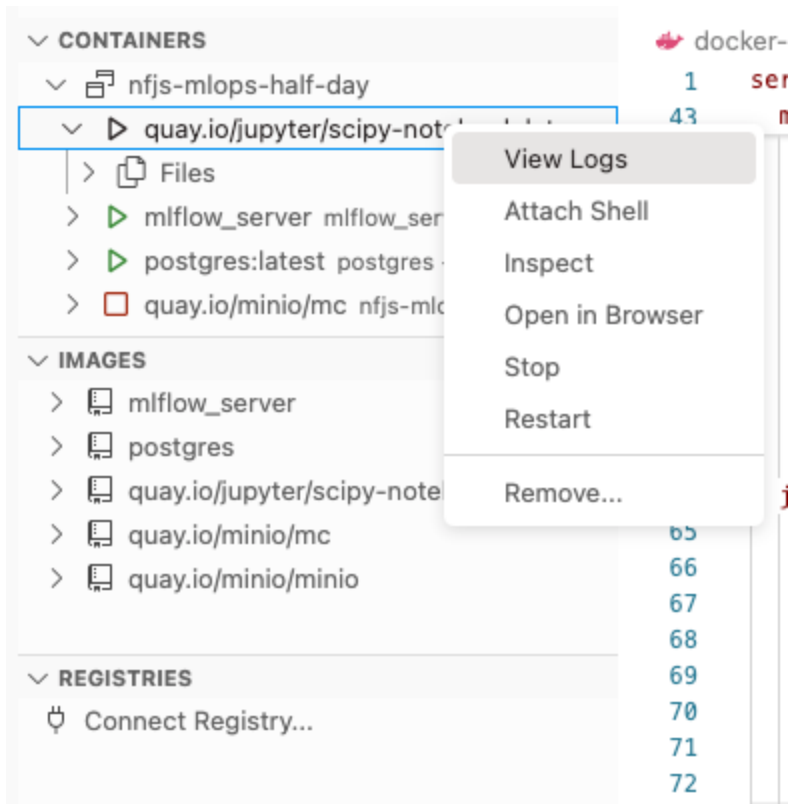
Cookies are required for authenticated access to the Jupyter server.

Setup a Password

You can also setup a password by entering your token and a new password on the fields below:

Token

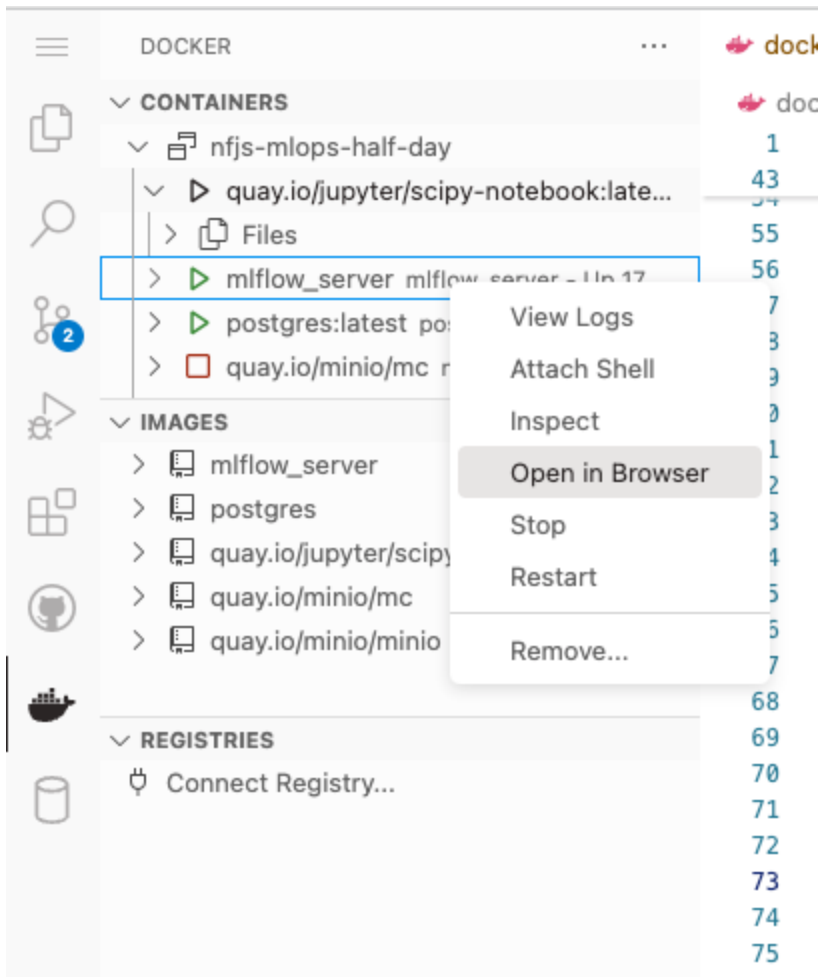
New Password



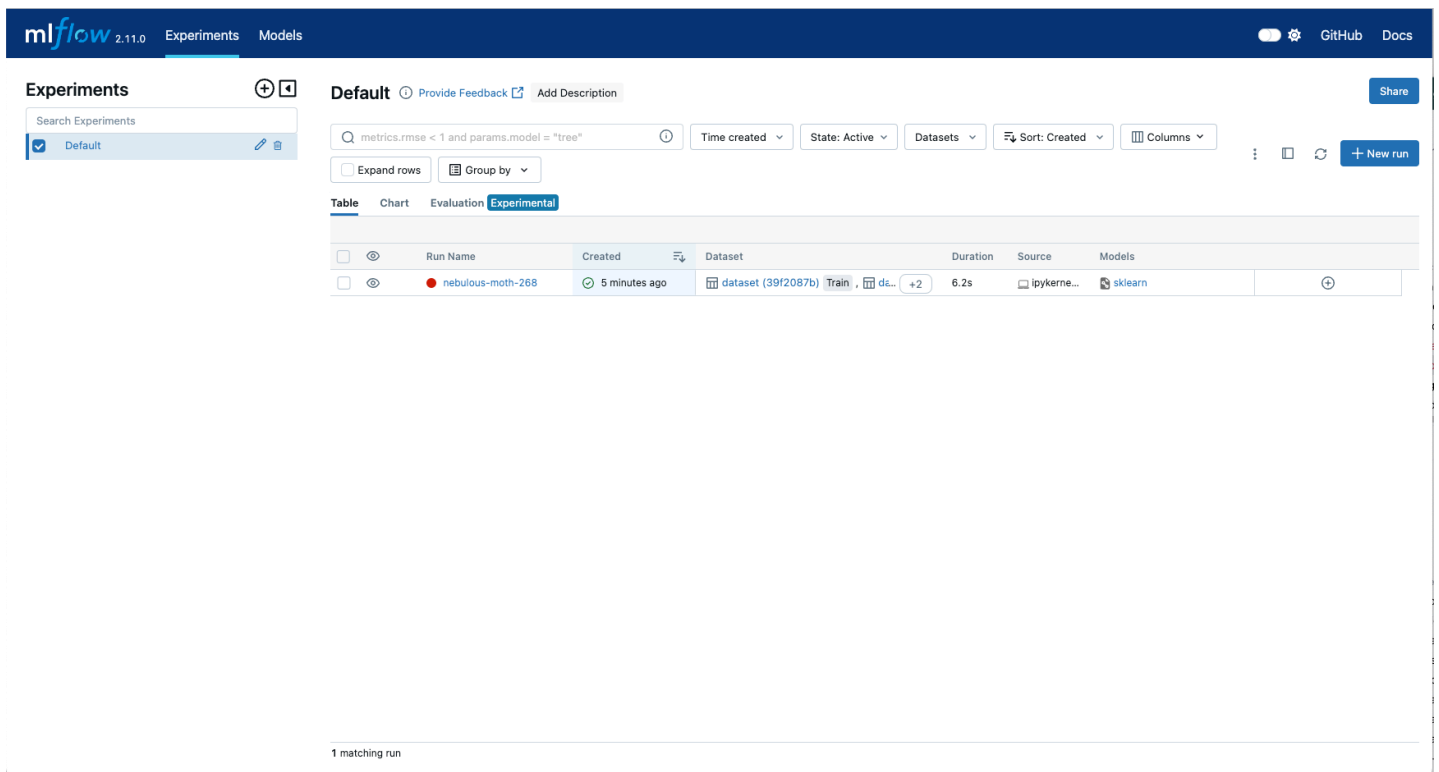
7. Locate the token in the logs, copy the token and use it in the notebook where it asks for the token

```
To access the server, open this file in a browser:  
file:///home/jovyan/.local/share/jupyter/runtime/jpserver-1-open.html  
Or copy and paste one of these URLs:  
http://be85fe5932e7:8888/lab?token=35c975720527af87ef537d30a75bbe0e64f9d492b987684d  
http://127.0.0.1:8888/lab?token=35c975720527af87ef537d30a75bbe0e64f9d492b987684d
```

8. Open the *work* folder, and open the *LogisticRegression.ipynb* and we will describe what we are doing in this particular notebook. Be sure to use `kbd:CTRL+ENTER`
9. Go back to gitpod environment and open the ML Flow Web Application



10. View the experiments in the MLflow Website



11. Open the Experiment we just ran, yours may be in a different name and click on the run name. This will show the properties of the model. Look around

mlflow
2.11.0
Experiments
Models

Default >
nebulous-moth-268

Register model

OverviewModel metricsSystem metricsArtifacts

Description

No description

Details

Created at	2024-10-22 06:33:49
Created by	jovyan
Status	Finished
Run ID	da25d0fbdbdb4e0dbc0614bed937c824
Duration	6.2s
Datasets used	dataset (39f2087b) Train +3
Tags	estimator_name: LogisticRegression estimator_class: sklearn.linear_model_logistic...
Source	ipykernel_launcher.py
Logged models	sklearn
Registered models	—

Parameters (15)

Search parameters

Parameter	Value
C	1.0
class_weight	None
dual	False
fit_intercept	True

Metrics (8)

Search metrics

Metric	Value
training_precision_score	1
training_recall_score	1
training_f1_score	1
training_accuracy_score	1

12. Click on Artifacts and you will see the model, at this point you can click on [**Register**] Model and enter information about your model.

Register model

Model

+ Create New Model

Model Name

Logistic Regression for Number Recognition Scikit Learn

Cancel

Register

13. You can now Click on the Models and view the model. You can even apply tags and identify model that are important or even broken.

mlflow2.11.0ExperimentsModels

Registered Models >numberrecognize

Created Time: 2024-10-22 07:03:12Last Modified: 2024-10-22 07:04:52

> DescriptionEdit

> Tags

> VersionsCompare

New model registry UI

Version	Registered at	Created by	Tags	Aliases	Description
Version 1	2024-10-22 07:04:52		Add	Add	

1

Last updated 2024-10-22 13:21:25 UTC