

- 1) Snapshot of terminal (reran it twice for a smaller output for the first pic, second pic is the original run but just the ending part)

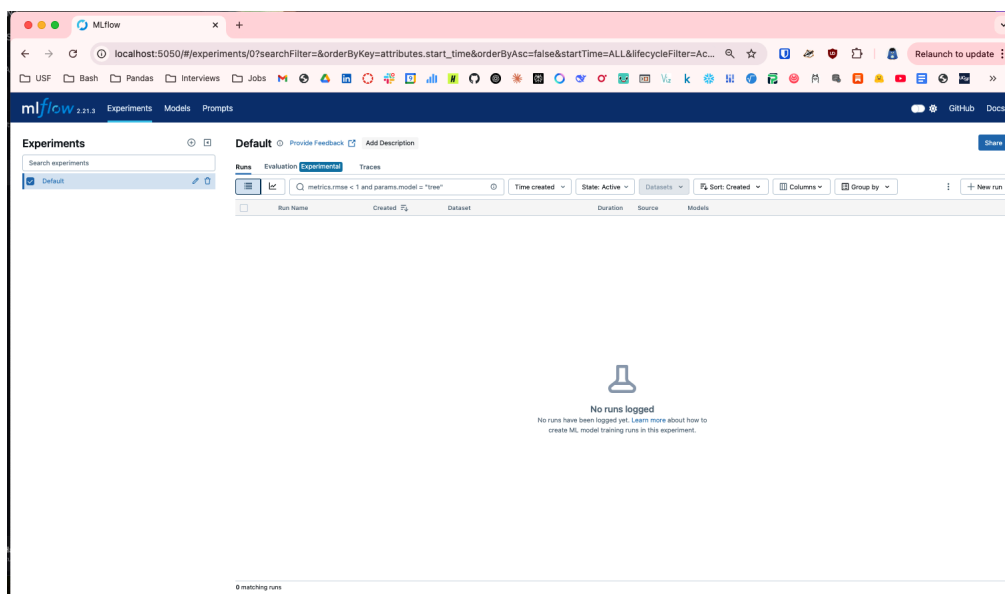
```
(mlops) jfuent02 cd ~/Documents/USFDS/Spring2025-02/ML0ps/mlops/mlflow_test % $ docker build -t mlflow-server .
[+] Building 0.6s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 318B
=> [internal] load metadata for docker.io/library/python:3.12-slim
=> [internal] load .dockerignore
=> => transferring context: 2B
[1/3] FROM docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8afb593b1b45b7cb4180f57
=> => resolve docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8afb593b1b45b7cb4180f57
T=3s CACHED [2/3] WORKDIR: /app, your team, and even your CI, try Docker Build Cloud now
=> CACHED [3/3] RUN pip install mlflow
=> exporting to image
=> exporting layers
=> => exporting manifest sha256:8588f1a17aad06e648376a26486fda50ceb8d56325617ad5345ef256edc3397b
=> => exporting attestation manifest sha256:486a2bd60f0f8b81d9d52fdbcef3c538abc914667e8d852ebd3f5318b0d25e97
=> => exporting manifest list sha256:fee2fe548ad11fbe01cc0d1f96432efabb2ec91b484036340c3357ca9016660b
=> => exporting manifest list sha256:5ff158938485debc701fe726fd2b2fe01fa6b0c4575e7e91057fce942c5f1e95
=> naming to docker.io/library/mlflow-server:latest
=> unpacking to docker.io/library/mlflow-server:latest
```

```
=> => sha256:426290db15737ca92fe1ee6ff4f450dd43dfc093e928047857d8925dd27b11d7 13.57MB / 13.57MB [+] Building 96.6s (7/8)
docker:desktop-linux4861072f9099a06d78ca983d7172d7bb8b23
6008c7c3 3.33MB / 3.33MB
=> [internal] load build definition from Dockerfile
3efbb42a473740e8d50d74d35e6aedd04ff69fe161f 28.07MB / 28.07MB
=> => transferring dockerfile: 318B
eef856231273efbb42a473740e8d50d74d35e6aedd04ff69fe161f
=> [internal] load metadata for docker.io/library/python:3.12-slim
93889b2e134861072f9099a06d78ca983d7172d7bb8b236008c7c3
=> [auth] library/python:pull token for registry-1.docker.io
737ca92fe1ee6ff4f450dd43dfc093e928047857d8925dd27b11d7
=> [internal] load .dockerignore
21e0c114aa94b28237721d66087c2bb5393296b8b44b3e13676ebe
=> => transferring context: 2B

=> [1/3] FROM docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8afb593b1b45b7cb4180f57
=> => resolve docker.io/library/python:3.12-slim@sha256:85824326bc4ae27a1abb5bc0dd9e08847aa5fe73d8afb593b1b45b7cb4180f57
=> => sha256:e8b685ab0b21e0c114aa94b28237721d66087c2bb5393296b8b44b3e13676ebe 251B / 251B

=> => sha256:426290db15737ca92fe1ee6ff4f450dd43dfc093e928047857d8925dd27b11d7 13.57MB / 13.57MB [+] Building 96.8s (7/8)
docker:desktop-linux4861072f9099a06d78ca983d7172d7bb8b23
6008c7c3 3.33MB / 3.33MB
=> [internal] load build definition from Dockerfile
3efbb42a473740e8d50d74d35e6aedd04ff69fe161f 28.07MB / 28.07MB
=> => transferring dockerfile: 318B
eef856231273efbb42a473740e8d50d74d35e6aedd04ff69fe161f
=> [internal] load metadata for docker.io/library/python:3.12-slim
93889b2e134861072f9099a06d78ca983d7172d7bb8b236008c7c3
=> [auth] library/python:pull token for registry-1.docker.io
737ca92fe1ee6ff4f450dd43dfc093e928047857d8925dd27b11d7
[+] Building 107.9s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 318B
=> [internal] load metadata for docker.io/library/python:3.12-slim
```

- 2) Mlflow server ui, port at 5050 (5000 is a background macos application)



3) Minikube dashboard with deployments, pods, and services

Deployments					
Name	Images	Labels	Pods	Created ↑	
mlflow-deployment	mlflow-minikube	-	1 / 1	a minute ago	⋮
kubernetes-bootcamp	gcr.io/google-samples/kubernetes-bootcamp:v1	app: kubernetes-bootcamp	0 / 0	4 days ago	⋮

Pods								
Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created ↑
mlflow-deployment-655dcb78c7-c5nsh	mlflow-minikube	app: mlflow pod-template-hash: 655dcb78c7	minikube	Running	0	-	-	a minute ago

Services						
Name	Labels	Type	Cluster IP	Internal Endpoints	External Endpoints	Created ↑
mlflow-service	-	NodePort	10.99.237.21	mlflow-service:5000 TCP mlflow-service:30000 TCP	-	6 minutes ago
kubernetes-bootcamp	app: kubernetes-bootcamp	NodePort	10.108.234.123	kubernetes-bootcamp:8080 TCP kubernetes-bootcamp:30804 TCP	-	4 days ago
kubernetes	component: apiserver provider: kubernetes	ClusterIP	10.96.0.1	kubernetes:443 TCP kubernetes:0 TCP	-	4 days ago

4) Mlflow server at 127.0.0.1:55693, running locally outside of kubernetes

5) Pods with 3 replicas now (before it was just 1)

Pods								
Name	Images	Labels	Node	Status	Restarts	CPU Usage (cores)	Memory Usage (bytes)	Created ↑
mlflow-deployment-655dcb78c7-2r18k	mlflow-minikube	app: mlflow pod-template-hash: 655dcb78c7	minikube	Running	0	-	-	23 seconds ago
mlflow-deployment-655dcb78c7-zzqmf	mlflow-minikube	app: mlflow pod-template-hash: 655dcb78c7	minikube	Running	0	-	-	23 seconds ago
mlflow-deployment-655dcb78c7-c5nsh	mlflow-minikube	app: mlflow pod-template-hash: 655dcb78c7	minikube	Running	0	-	-	6 minutes ago

6) Mlflow server at 127.0.0.1:5000 (port forwarding inside kubernetes cluster, minikube mlflow server)

