

Link to src/

<https://github.com/karimnihal/603MLO/tree/main/src>

Screenshot 1: Terminal output showing the end of trainingflowgcp.py run on k8s

```
501d with R2: 0.8794
2025-04-22 20:29:36.695 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] Registering model 'ames_housing_final_model' from URI: run
s:/666241ac5fa0418e99dc133edb07501d/model
2025-04-22 20:29:36.972 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] ✅ Successfully registered model 'ames_housing_final_model'
version 1
2025-04-22 20:29:36.853 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] Successfully registered model 'ames_housing_final_model'.
2025-04-22 20:29:36.970 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] 2025/04/23 03:29:36 INFO mlflow.store.model_registry.abstr
act_store: Waiting up to 300 seconds for model version to finish creation. Model name: ames_housing_final_model, version 1
2025-04-22 20:29:36.971 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] Created version '1' of model 'ames_housing_final_model'.
2025-04-22 20:29:46.827 [9/choose_model/23 (pid 17685)] [pod t-863e8c0b-6bg52-5jq95] Task finished with exit code 0.
2025-04-22 20:29:47.726 [9/choose_model/23 (pid 17685)] Task finished successfully.
2025-04-22 20:29:48.523 [9/end/24 (pid 19502)] Task is starting.
2025-04-22 20:29:50.399 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Task is starting (Pod is pending, Container is waiting - ContainerC
reating)...
2025-04-22 20:29:50.553 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Setting up task environment.
2025-04-22 20:30:07.818 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Downloading code package...
2025-04-22 20:30:10.182 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Code package downloaded.
2025-04-22 20:30:10.311 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Task is starting.
2025-04-22 20:30:14.373 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Bootstrapping virtual environment...
2025-04-22 20:31:15.758 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Environment bootstrapped.
2025-04-22 20:31:32.038 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] 🚀 Training flow completed on Kubernetes!
2025-04-22 20:31:40.183 [9/end/24 (pid 19502)] [pod t-3904fa01-w6pn8-zqjkz] Task finished with exit code 0.
2025-04-22 20:31:41.093 [9/end/24 (pid 19502)] Task finished successfully.
2025-04-22 20:31:41.747 Done!
(mlops) 20:32:32 nk13:~/gitRepos/mlops-msds603-nk/src %
```

Screenshot 2: MLflow UI showing registered model version.

The screenshot shows the MLflow web interface in a browser. The URL is `mlflow-server-931658252548.us-west2.run.app/#/models/ames_housing_final_model`. The page title is "Registered Models" and the model name is "ames\_housing\_final\_model". The "Created Time" is "2025-04-22 20:29:36" and the "Last Modified" time is "2025-04-22 20:29:36". There are tabs for "Description" and "Tags". Under the "Versions" tab, there is a "Compare" button. A table lists the model versions:

Version	Registered at	Created by	Tags	Aliases	Description
Version 1	2025-04-22 20:29:36		Add	@ champion	

At the bottom right, there is a "New model registry UI" toggle switch.

Extra screenshots (optional)

Terminal output showing the end of scoringflowgcp.py run on k8s

```
2025-04-22 21:03:50.250 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Bootstrapping Virtual Environment...
2025-04-22 21:03:48.965 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Environment bootstrapped.
2025-04-22 21:03:50.338 1 task is running: end (1 running; 0 done).
2025-04-22 21:03:50.338 No tasks are waiting in the queue.
2025-04-22 21:04:02.502 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Setting MLflow tracking URI to: https://mlflow-server-931658252548.us-west2.run.app
2025-04-22 21:04:02.604 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Setting MLflow experiment to: ames-housing-scoring
2025-04-22 21:04:02.897 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Starting MLflow run 'Model_Scoring_Run_11' to log metrics...
2025-04-22 21:04:04.564 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Metrics logged to MLflow.
2025-04-22 21:04:04.652 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] 🚀 Scoring flow completed on Kubernetes!
2025-04-22 21:04:04.611 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] 2025/04/23 04:04:04 INFO mlflow.tracking._tracking_service.client:
  View run Model_Scoring_Run_11 at: https://mlflow-server-931658252548.us-west2.run.app/#/experiments/4/runs/3668cbe68ea44fa6a7e412b27db5ebba
2025-04-22 21:04:04.611 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] 2025/04/23 04:04:04 INFO mlflow.tracking._tracking_service.client:
  View experiment at: https://mlflow-server-931658252548.us-west2.run.app/#/experiments/4.
2025-04-22 21:04:09.743 [11/end/32 (pid 49304)] [pod t-43eeae76-jqjgq-6cwtq] Task finished with exit code 0.
2025-04-22 21:04:10.669 [11/end/32 (pid 49304)] Task finished successfully.
2025-04-22 21:04:10.985 Done!
(mlops) 21:04:49 nkl3:~/gitRepos/mlops-msds603-nk %
```

MLflow UI showing scoring run and metrics.

The screenshot shows the MLflow web interface in a browser. The URL is `mlflow-server-931658252548.us-west2.run.app/#/experiments/4/runs/3668cbe68ea44fa6a7e412b27db5ebba`. The page title is "Model\_Scoring\_Run\_11". The "Overview" tab is selected, showing a table with the following details:

Property	Value
Created by	root
Experiment ID	4
Status	Finished
Run ID	3668cbe68ea44fa6a7e412b27db5ebba
Duration	0.6s
Datasets used	—
Tags	Add
Source	scoringflowgcp.py
Logged models	—
Registered models	—

Below the table, there are two sections: "Parameters (3)" and "Metrics (2)".

**Parameters (3):**

Parameter	Value
requested_model_alias_or_version	champion
loaded_model_version	1
scored_model_name	ames_housing_final_model

**Metrics (2):**

Metric	Value
test_r2	0.8794241713090775
test_mse	809268473.7371501