

## Lab Azure MLFlow Deploy - Cloud Computing - M311

I created a workspace in [ml.azure.com](https://ml.azure.com) and downloaded config.json then put it in the project folder

After running the cells i got this in azure ml

The screenshot shows two views of the Azure Machine Learning Studio interface.

**Top View:** The 'Jobs' page. The left sidebar shows 'All workspaces' selected. The main area displays a table of experiments. One experiment, 'diabetes-sklearn', is listed with its status as 'Created' and a creation date of 'Nov 16, 2025 6:07 PM'. A search bar at the top is empty, and there are buttons for 'Refresh', 'Archive experiment', and 'Reset view'.

**Bottom View:** A detailed view of the 'diabetes-sklearn' experiment. The left sidebar shows 'Data' selected. The main area shows a table with one row. The row details a 'Command job' named 'tidy\_monkey\_6mwwmcbt' in the experiment 'diabetes-sklearn'. The job is currently 'Running'. A tooltip provides more information about the job. The table has columns for 'Display name (I visualized)', 'Parent job name', 'Status', 'Created on', 'Duration', 'Created by', and 'Comments'.

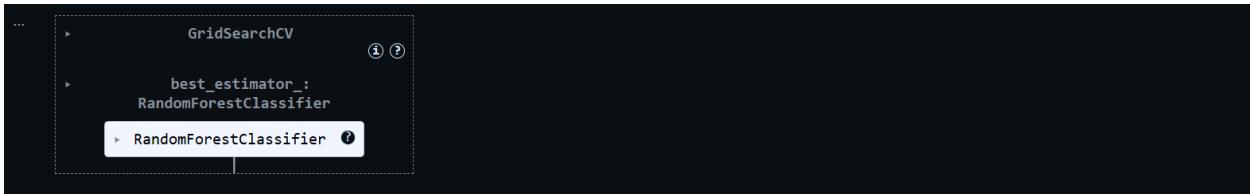
**Code Cell:** A code cell in a Jupyter-like environment shows Python code for fitting a grid search cross-validation model to training data. The output indicates the process took 57.5 seconds. The code cell is labeled '[20]' and has a 'Python' language indicator.

```

1 gridcv.fit(x_train, y_train)
[20]   ✓ 57.5s
...
2025/11/16 18:11:02 INFO mlflow.utils.autologging_utils: Created MLflow autologging
  ↗ View run tender_kite_f5t329ff at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run gray_shampoo_84y7ng65 at: https://switzerlandnorth.api.azureml.ms/mlfl
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run red_key_brdw29mn at: https://switzerlandnorth.api.azureml.ms/mlflow/v2
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run nice_flower_14v2jh34 at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run zen_tangelo_h37klb5r at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run gifted_pillow_mmqndrqc at: https://switzerlandnorth.api.azureml.ms/mlf
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run gentle_squash_xg56l67n at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run dynamic_pot_52qfk80f at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run yellow_rain_xq680v40 at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri
  ↗ View run tidy_monkey_6mwwmcbt at: https://switzerlandnorth.api.azureml.ms/mlflc
  ↗ View experiment at: https://switzerlandnorth.api.azureml.ms/mlflow/v2.0/subscri

```

# Zakaria CHOUKRI



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### diabetes-sklearn

+ Create job Refresh Export Cancel Delete View options Default

Search

Display name (1 visualized)	Parent job name	Status	Created on	Duration	Created by	Cor
tidy_monkey_6mwwmcbt (8)		Completed	Nov 16, 2025 6:11 PM	56s	ZAKARIA CHOUKRI	

Only my jobs Filter Columns

Command job "tidy\_monkey\_6mwwmcbt" in experiment "diabetes-sklearn" Completed Job details

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### tidy\_monkey\_6mwwmcbt

Completed

Overview Metrics Images Child jobs Outputs + logs Code Monitoring

#### Properties

Status	Script name
Completed	--
Created on	Created by
Nov 16, 2025 6:11 PM	ZAKARIA CHOUKRI
Start time	Experiment
Nov 16, 2025 6:11 PM	diabetes-sklearn
Duration	Arguments
56.24s	None
Compute duration	Registered models
56.24s	None
Compute target	See all properties
None	Raw JSON
Name	c9858afc-2957-4347-840b-67fe9646b343

### Inputs

**Input name:** dataset  
Data asset: [dataset:dfdfb800](#)  
Asset URI: [azureml:dataset:dfdfb800](#)

### Outputs

**Output name:** mlflow\_log\_model\_393199782  
Model: [azureml\\_c9858afc-2957-4347-840b-67fe9646b343\\_output\\_mlflow\\_log\\_model\\_393199782:1](#)  
Asset URI: [azureml:azureml\\_c9858afc...](#)

**Output name:** mlflow\_log\_model\_1109821080  
Model: [azureml\\_c9858afc-2957-4347-840b-67fe9646b343\\_output\\_mlflow\\_log\\_model\\_1109821080:1](#)  
Asset URI: [azureml:azureml\\_c9858afc...](#)

### Tags

estimator\_class : sklearn.model\_selection.\_search.GridSearchCV  
estimator\_name : GridSearchCV mlflow.autologging : sklearn mlflow.user : zczak

### Params

best\_max\_depth : 7 best\_n\_estimators : 30 cv : 10 error\_score : nan  
estimator : RandomForestClassifier() n\_jobs : None  
param\_grid : {'n\_estimators': [10, 20, 30], 'max\_depth': [2, 7, 10]} pre\_dispatch : 2\*n\_jobs  
refit : roc\_auc return\_train\_score : False  
scoring : ['roc\_auc', 'precision', 'recall', 'f1', 'accuracy'] verbose : 0

### Metrics

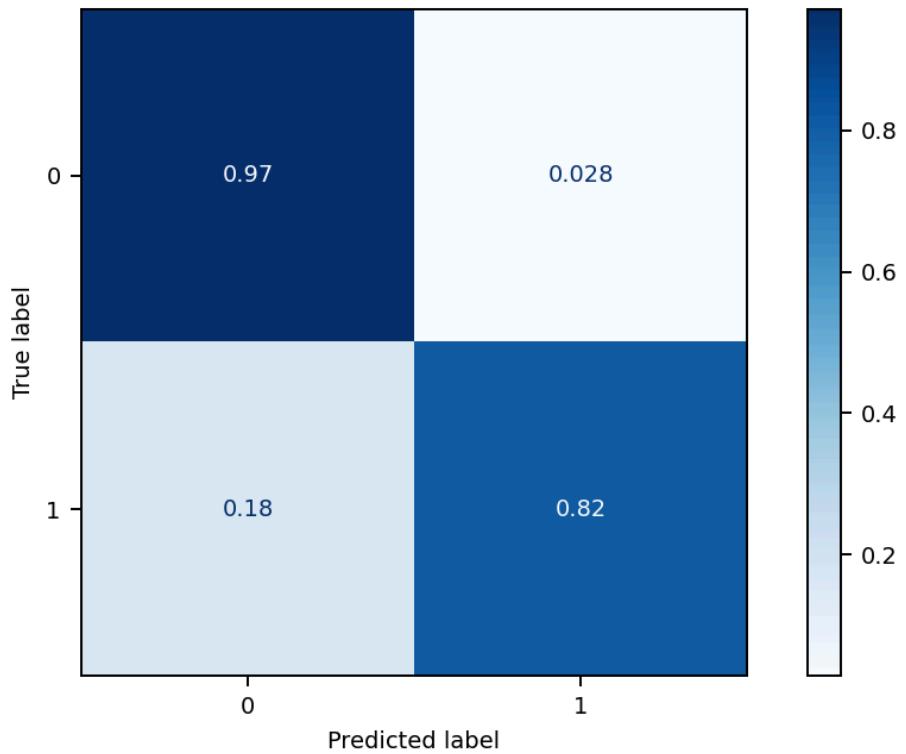
<b>best_cv_score</b> 0.8273932	<b>training_log_loss</b> 0.2867196
<b>training_accuracy_score</b> 0.9169381	<b>training_precision_score</b> 0.9187091
<b>training_f1_score</b> 0.9154997	<a href="#">View all metrics</a>

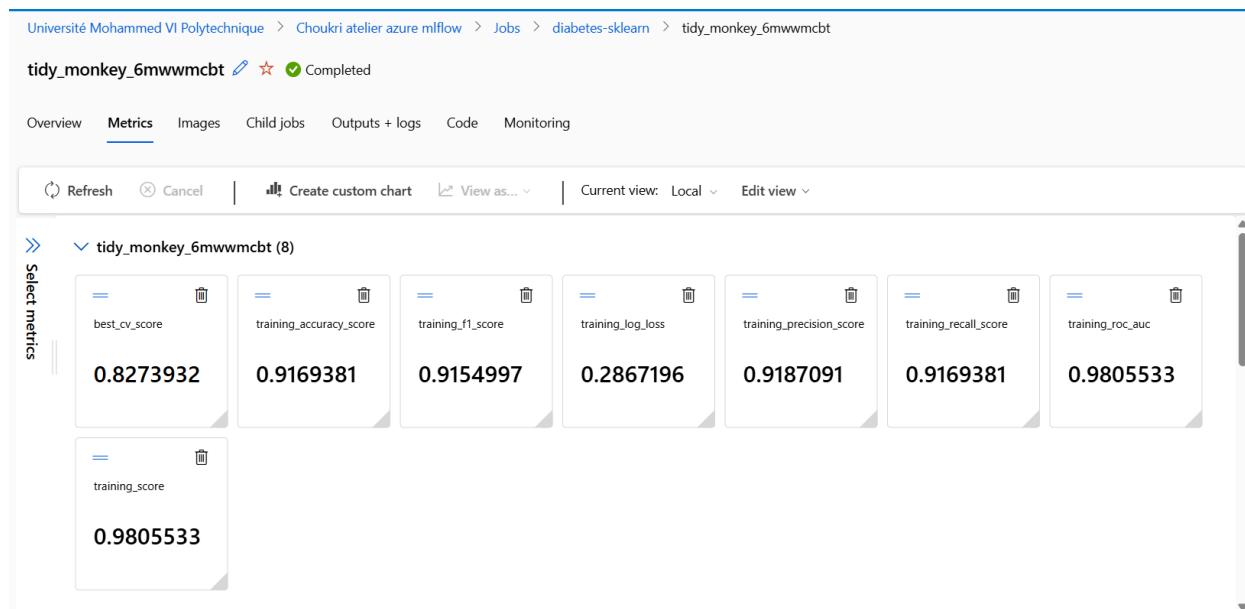
### Description

[\(i\)](#) Click edit icon to add a description



Normalized confusion matrix

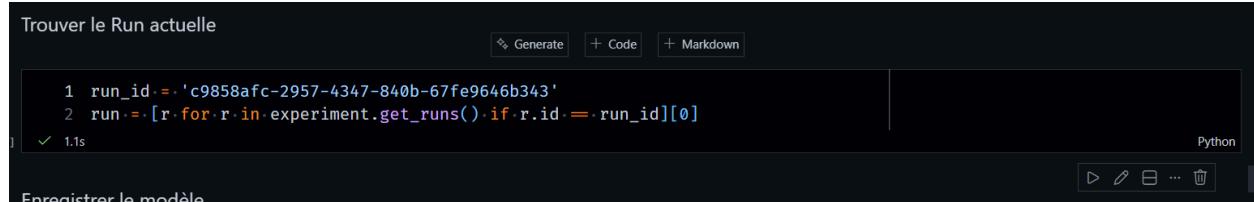




```
artifact_path: model
flavors:
python_function:
env:
  conda: conda.yaml
  virtualenv: python_env.yaml
loader_module: mlflow.sklearn
model_path: model.pkl
predict_fn: predict
python_version: 3.12.3
sklearn:
  code: null
  pickled_model: model.pkl
  serialization_format: cloudpickle
  sklearn_version: 1.7.2
is_signature_from_type_hint: false
mlflow_version: 2.22.2
model_size_bytes: 255596
model_uuid: 88414e8d94d242cd956d9c6ed914519e
prompts: null
run_id: c9858afc-2957-4347-840b-67fe9646b343
signature:
  inputs: '[{"type": "long", "name": "Pregnancies", "required": true}, {"type": "long", "name": "Glucose", "required": true}, {"type": "long", "name": "BloodPressure",
```

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```
"required": true}, {"type": "long", "name": "SkinThickness",
"required": true},
 {"type": "long", "name": "Insulin", "required": true}, {"type":
"double", "name":
 "BMI", "required": true}, {"type": "double", "name":
"DiabetesPedigreeFunction",
 "required": true}, {"type": "long", "name": "Age", "required": true}]'
outputs: '[{"type": "tensor", "tensor-spec": {"dtype": "int64", "shape":
[-1]}}]'
params: null
type_hint_from_example: false
utc_time_created: '2025-11-16 17:11:14.748694'
```

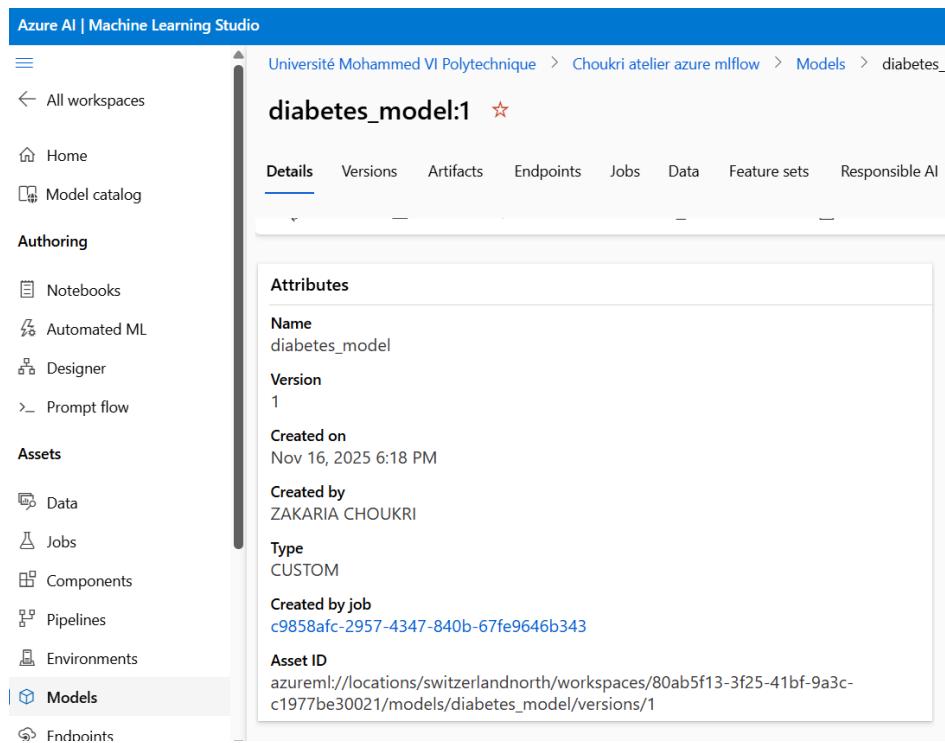


The screenshot shows a Jupyter Notebook cell with the following code:

```
1 run_id = 'c9858afc-2957-4347-840b-67fe9646b343'
2 run = [r for r in experiment.get_runs() if r.id == run_id][0]
```

The cell has a green checkmark icon and a duration of 1.1s. There are buttons for 'Generate', '+ Code', and '+ Markdown'. The language is set to Python. Below the cell, there are standard Jupyter notebook controls for running, saving, and deleting.

## On visualise le modèle



The screenshot shows the Azure AI | Machine Learning Studio interface. The left sidebar shows navigation options like 'All workspaces', 'Home', 'Model catalog', 'Authoring' (selected), 'Assets', 'Data', 'Jobs', 'Components', 'Pipelines', 'Environments', 'Models' (selected), and 'Endpoints'. The main area displays the details of a model named 'diabetes\_model:1'. The 'Details' tab is selected, showing the following attributes:

- Name: diabetes\_model
- Version: 1
- Created on: Nov 16, 2025 6:18 PM
- Created by: ZAKARIA CHOUKRI
- Type: CUSTOM
- Created by job: c9858afc-2957-4347-840b-67fe9646b343
- Asset ID: azureml://locations/switzerlandnorth/workspaces/80ab5f13-3f25-41bf-9a3c-c1977be30021/models/diabetes\_model/versions/1

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The screenshot shows the Azure AI | Machine Learning Studio interface. On the left, there's a sidebar with 'Shared assets' and 'Environments' selected. The main area displays the properties of the environment 'mlflow-py312-inference'. Key details include:

- Name:** mlflow-py312-inference
- Created by:** azureml
- Creation date:** Nov 15, 2025 9:44 PM
- Version:** 25
- Environment operating system:** Linux
- Azure container registry:** mcr.microsoft.com/azureml/curated/mlflow-py312-inference:25
- Asset ID:** azureml://registries/azureml/environments/mlflow-py312-inference/versions/25

I have a problem with the Docker code as it takes forever to run and at the end it just crashes

```
1 service.= Model.deploy(
2 ... workspace.= ws,
3 ... name.= 'diabetes-prediction-service5',
4 ... models.= [model],
5 ... inference_config.= inference_config,
6 ... deployment_config.= deployment_config,
7 ... overwrite=True)
8 ...
9 service.wait_for_deployment(show_output=True)

1m 6.5s
Python

Tips: You can try get_logs(): https://aka.ms/debugimage#dockerlog or local deployment: https://aka.ms/debugimage#debug-log
Running
2025-11-16 18:56:25+01:00 Creating Container Registry if not exists.
2025-11-16 18:56:26+01:00 Building image.
```

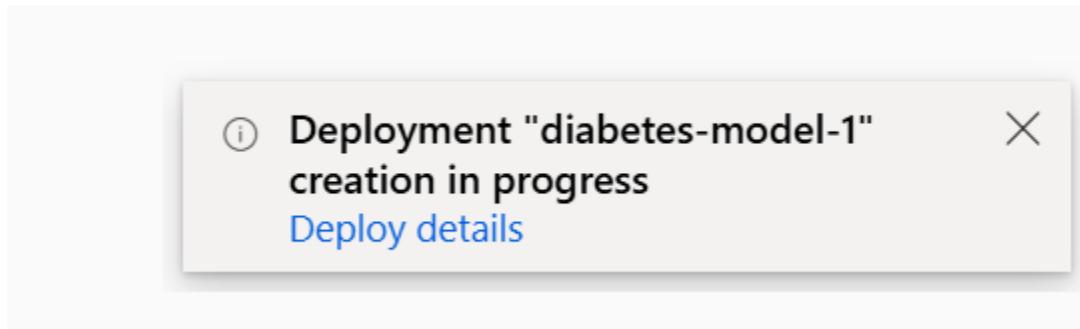
The screenshot shows the Azure AI | Machine Learning Studio interface. On the left, there's a sidebar with 'Endpoints' selected. The main area displays the details of the endpoint 'diabetes-prediction-service5'. Key details include:

- Endpoint attributes:**
  - Service ID: diabetes-prediction-service5
  - Description: --
  - Deployment state: Transitioning
  - Compute type: Container instance
  - Created by: ZAKARIA CHOUKRI
  - Model ID: diabetes\_model:1
  - Created on: Nov 16, 2025 6:56 PM
  - Last updated on: Nov 16, 2025 6:56 PM
- Properties:**
  - azureml.git.repository\_uri: https://github.com/zakariaCHOUKRI/LAB\_CLOUD\_COMPUTING\_M311.git
  - mlflow.source.git.repoURL: https://github.com/zakariaCHOUKRI/LAB\_CLOUD\_COMPUTING\_M311.git
  - azureml.git.branch: main
  - mlflow.source.git.branch: main
  - azureml.git.commit: d9bbe5167c2d3296353dd07f8494cd3a0e635018
  - mlflow.source.git.commit: d9bbe5167c2d3296353dd07f8494cd3a0e635018

## Creating the endpoint

Deploy diabetes\_model:1

The screenshot shows the 'Review' step of creating a new endpoint. The left sidebar lists steps: Endpoint, Model, Deployment, Code + environment, Compute, Traffic, and Review. The main area has tabs for Endpoint, Deployment, and Environment. Under Endpoint, details include Name: choukri-atelier-azure-mlf-asgof, Description: --, Compute type: Managed, Authentication type: Key, Public network access: Enabled, and Tags: No tags. Under Deployment, details include Name: diabetes-model-1, Scoring timeout: 60, Application Insights enabled: false, Egress public network access: Enabled, and Tags: No tags. The status bar at the bottom says 'Creating endpoint. This operation may take a while....'



Endpoint attributes

<b>Service ID</b>	choukri-atelier-azure-mlf-asgof
<b>Description</b>	--
<b>Provisioning state</b>	Succeeded

And finally here is my endpoint:

<https://choukri-atelier-azure-mlf-asgof.switzerlandnorth.inference.ml.azure.com/score>