

datascientest: project2 proof of working screenshots

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Build model and save it locally (buildModels.py):

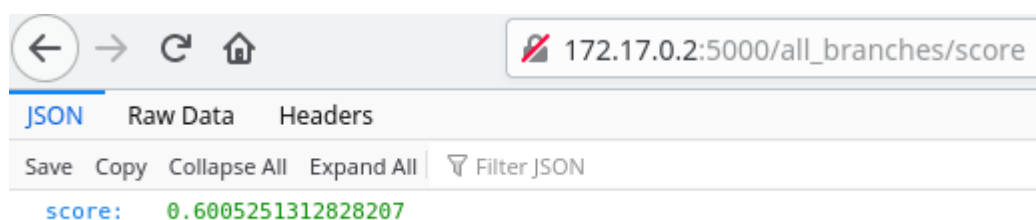
```
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$ python buildModels.py
processing all branches model ...
/home/cyril/.local/lib/python3.7/site-packages/sklearn/linear_model/_logistic.py:764: ConvergenceWarning
STOP: TOTAL NO. of ITERATIONS REACHED LIMIT.

Increase the number of iterations (max_iter) or scale the data as shown in:
  https://scikit-learn.org/stable/modules/preprocessing.html
Please also refer to the documentation for alternative solver options:
  https://scikit-learn.org/stable/modules/linear_model.html#logistic-regression
extra warning msg= LOGISTIC_SOLVER_CONVERGENCE_MSG)
score is 0.6096211552888222
saving model, test data and vectorizer in allBranchesModel.sav
```

Running api as a container (api.py):

```
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$ docker container run api_reviews
loading all branches model ...
score is 0.6005251312828207
testing sentiment on test sentence "this was amazing!": [5]
* Serving Flask app "api" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
/usr/local/lib/python3.7/dist-packages/sklearn/base.py:315: UserWarning: Trying to unpickle
  UserWarning)
/usr/local/lib/python3.7/dist-packages/sklearn/base.py:315: UserWarning: Trying to unpickle
  UserWarning)
* Running on all addresses.
  WARNING: This is a development server. Do not use it in a production deployment.
* Running on http://172.17.0.2:5000/ (Press CTRL+C to quit)
```

Container API working:



Test client targets the container specified address and produces a csv file:

```
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$ python test_score.py -a 172.17.0.2
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$ cat api_test.log
all_branches,score,succes
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$
```

Start API and test script as a docker compose:

```
cyril@hiram:~/ds/projects/P2_FLASK_DOCKER_COMPOSE_K8S$ docker-compose up
Starting api_reviews ... done
Starting score_test ... done
Attaching to api_reviews, score_test
api_reviews | loading all branches model ...
api_reviews | score is 0.6005251312828207
api_reviews | testing sentiment on test sentence "this was amazing!": [5]
api_reviews | * Serving Flask app "api" (lazy loading)
api_reviews | * Environment: production
api_reviews | WARNING: This is a development server. Do not use it in a production deployment.
api_reviews | Use a production WSGI server instead.
api_reviews | * Debug mode: off
api_reviews | /usr/local/lib/python3.7/dist-packages/sklearn/base.py:315: UserWarning: Trying to unpickle
api_reviews | UserWarning)
api_reviews | /usr/local/lib/python3.7/dist-packages/sklearn/base.py:315: UserWarning: Trying to unpickle
api_reviews | UserWarning)
api_reviews | * Running on all addresses.
api_reviews | WARNING: This is a development server. Do not use it in a production deployment.
api_reviews | * Running on http://172.21.0.2:5000/ (Press CTRL+C to quit)
api_reviews | 172.21.0.3 - - [11/Aug/2021 11:59:08] "GET /all_branches/score HTTP/1.1" 200 -
score_test exited with code 0
```

K8S pods

Pods

Name	Namespace	Labels	Node	Status
✓ project2-model-api-deployment-5c677f4c8b-1ngl2	default	app: project2-model-api pod-template-hash: 5c677f4c8b	minikube	Running
✓ project2-model-api-deployment-5c677f4c8b-w4w9z	default	app: project2-model-api pod-template-hash: 5c677f4c8b	minikube	Running
✓ project2-model-api-deployment-5c677f4c8b-zl4zq	default	app: project2-model-api pod-template-hash: 5c677f4c8b	minikube	Running

API responding correctly on exposed IP

```
ubuntu@ip-172-31-34-206:~$ kubectl get ingress
NAME          CLASS  HOSTS      ADDRESS      PORTS      AGE
project2-model-api-ingress  <none>  *          192.168.49.2  80         19h
ubuntu@ip-172-31-34-206:~$
ubuntu@ip-172-31-34-206:~$
ubuntu@ip-172-31-34-206:~$ curl -X GET -i http://192.168.49.2/all_branches/score
HTTP/1.1 200 OK
Date: Wed, 11 Aug 2021 12:11:20 GMT
Content-Type: application/json
Content-Length: 16
Connection: keep-alive

{"score":0.600}
```