2019 HeLP Challenge

2019년 12월 18일

대회 진행 순서

User

- Docker image build
- Docker image save (.tar.gz)
- Docker image upload

System

- run ./train.sh && ./inference.sh

train & validation set

System

- run ./inference.sh

test set

Data path

Path	Description
/data/train	training data set (image & label) RO
/data/test	test data set (test용 image) RO
/data/output	task의 inference 결과 저장용 (score 산정시 사용) RW
/data/volume	개인별 작업 폴더 RW

./train.sh

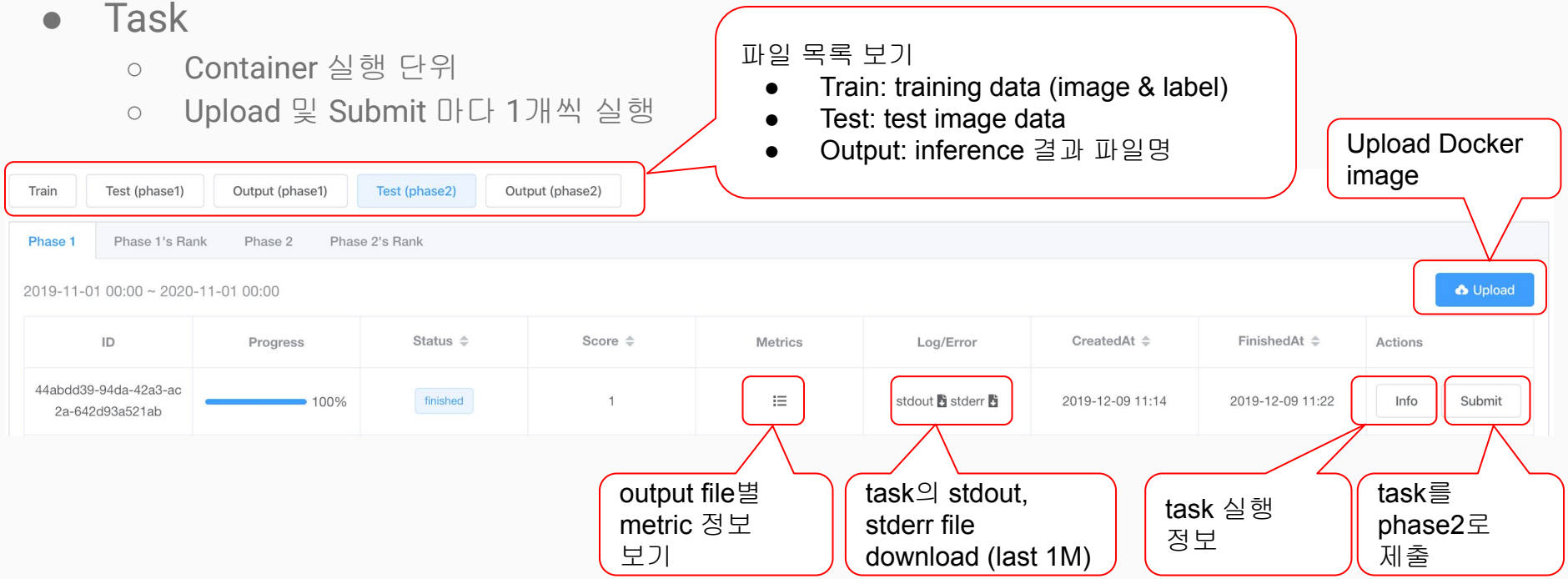
- **/data/train** 의 training data로 학습
- 학습 모델등 파일을 **/data/volume** 에 저장
- training이 동작 중인 task id가 **ID** 환경변수로 전달

./inference.sh

- **/data/volume** 에서 저장된 model load
- **/data/test** data로 inference
- 결과 파일을 **/data/output** 에 저장

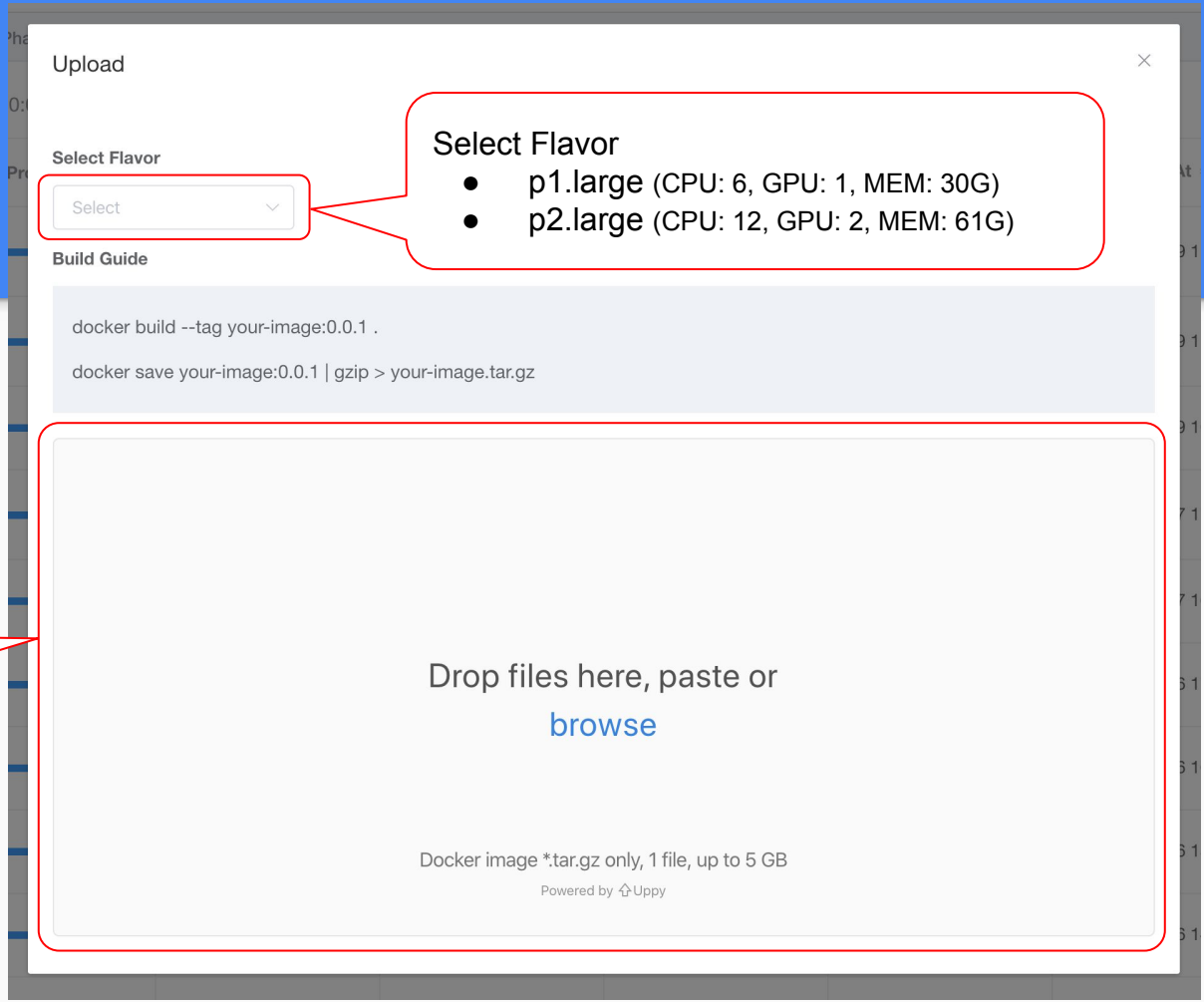
화면 설명

- Task
  - Container 실행 단위
  - Upload 및 Submit 마다 1개씩 실행



화면 설명

- Task
  - Upload Docker image

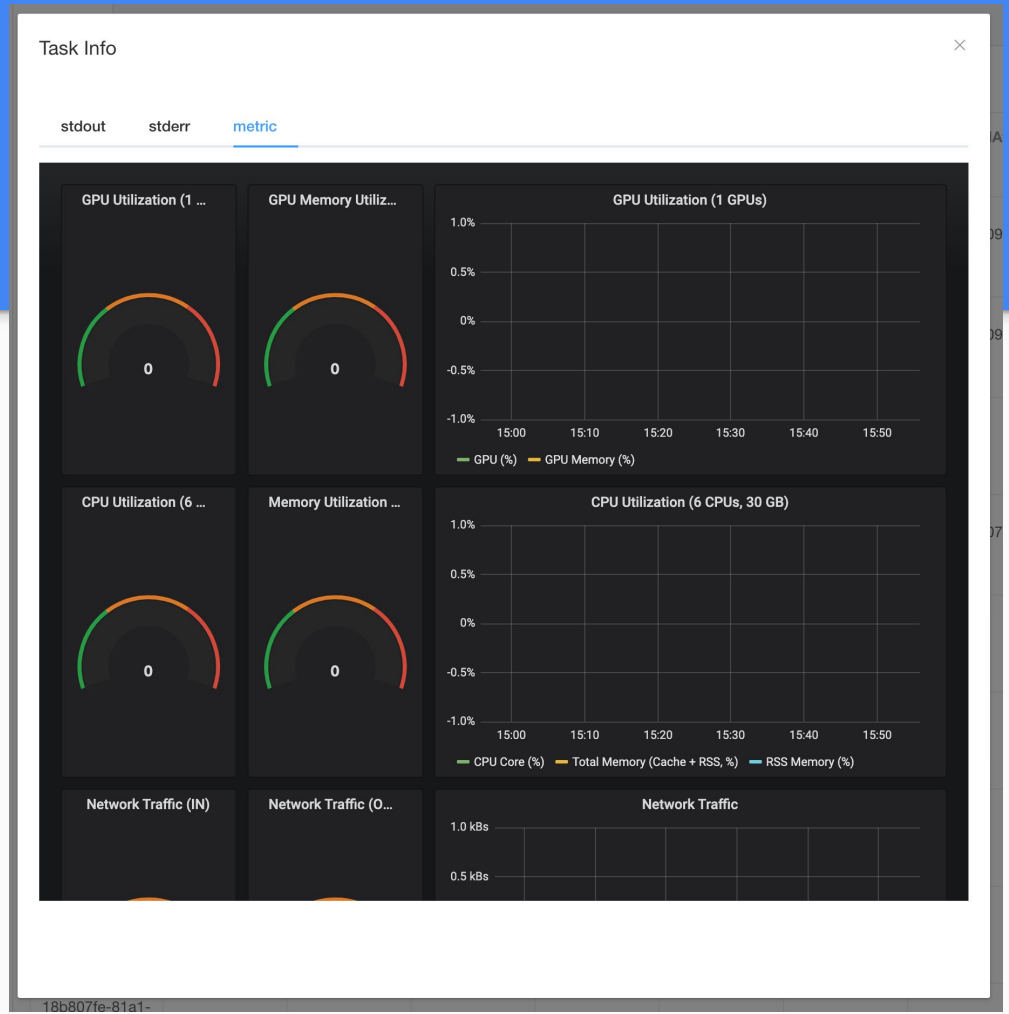


Select Flavor
- p1.large (CPU: 6, GPU: 1, MEM: 30G)
- p2.large (CPU: 12, GPU: 2, MEM: 61G)

Upload Docker image file (.tar.gz)

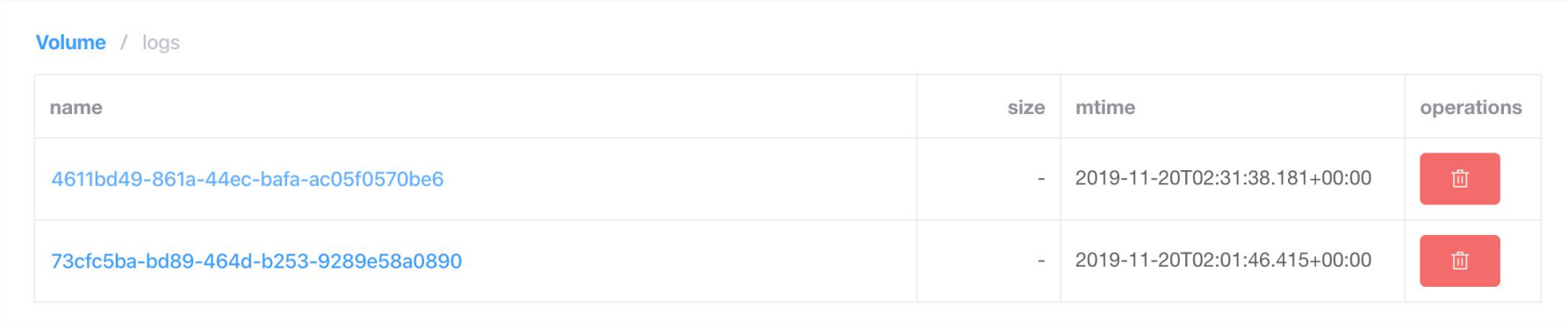
화면 설명

- Task
  - task 실행 정보
  - stdout / stderr
    - 마지막 1K
    - 1분간 caching
  - metric
    - GPU, CPU 실시간 사용 정보



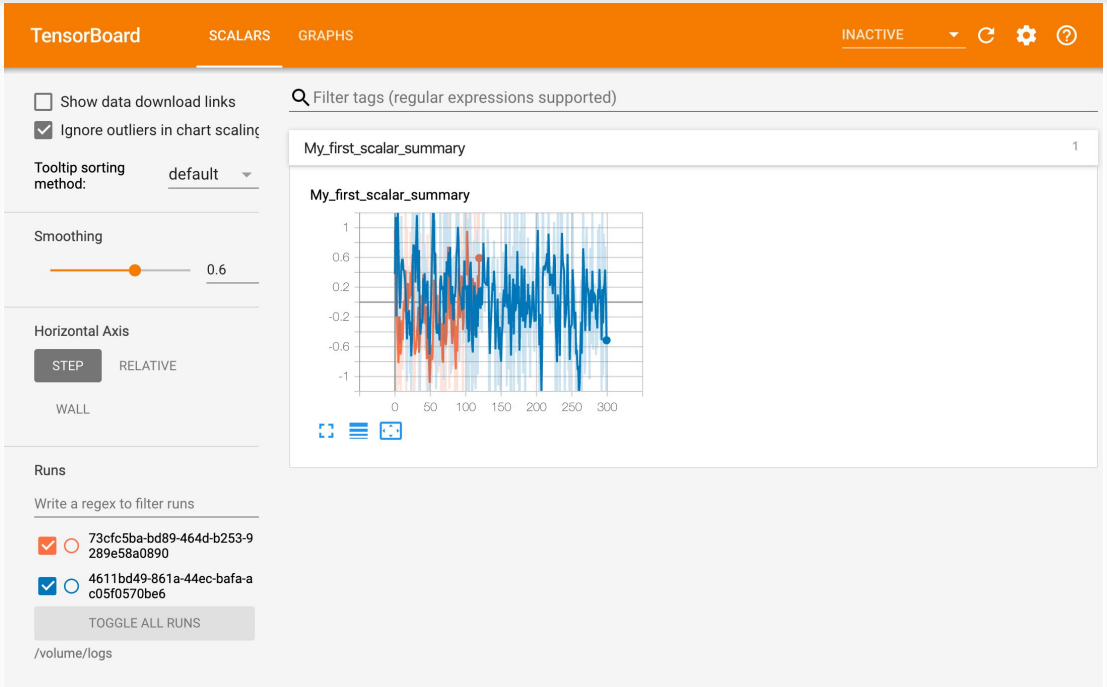
화면 설명

- Volume
  - /data/volume
  - folder browsing 및 삭제 기능 제공
  - file download 기능은 제공하지 않음



화면 설명

- Tensorboard
  - logdir: /data/volume/logs
  - 2시간 동안 request가 없으면 자동 stop



DEMO

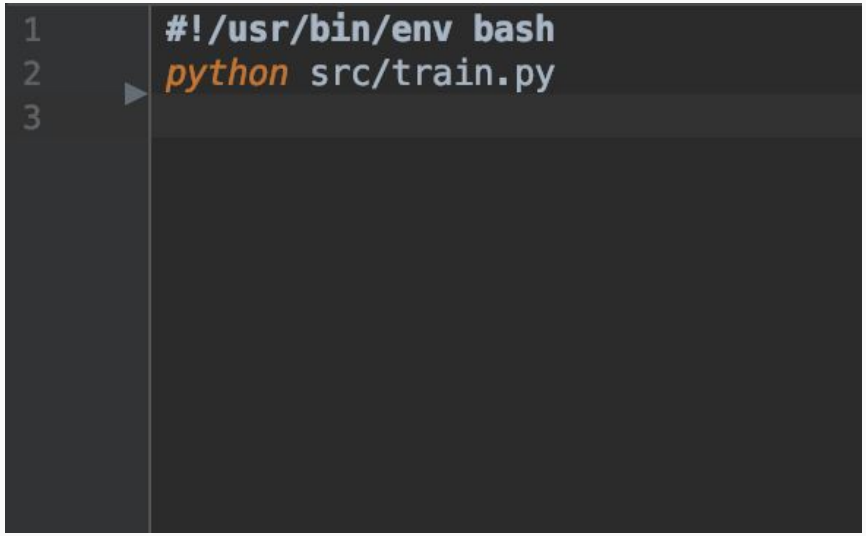
Docker

파일 구조

inference.py: 작성 해야 할 코드

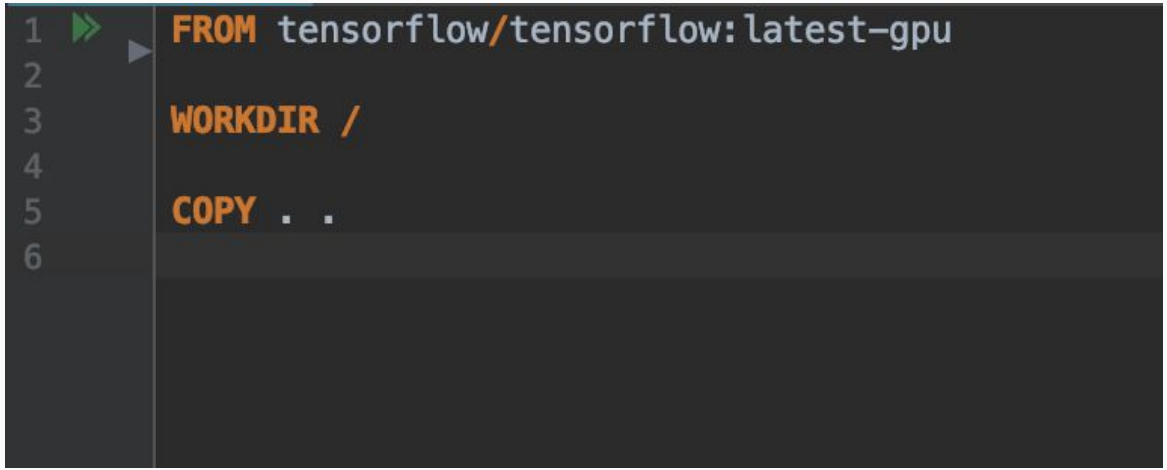
train.py: 작성 해야 할 코드

./train.sh



./inference.sh

Dockerfile



```
FROM tensorflow/tensorflow:latest-gpu

WORKDIR /

COPY . .
```

tensorflow/tensorflow:1.12.0-devel-gpu-py3
pytorch/pytorch:0.4.1-cuda9-cudnn7-devel

Docker 빌드 참조 링크

https://github.com/help-khidi/docker-templates

https://docs.docker.com/engine/reference/builder

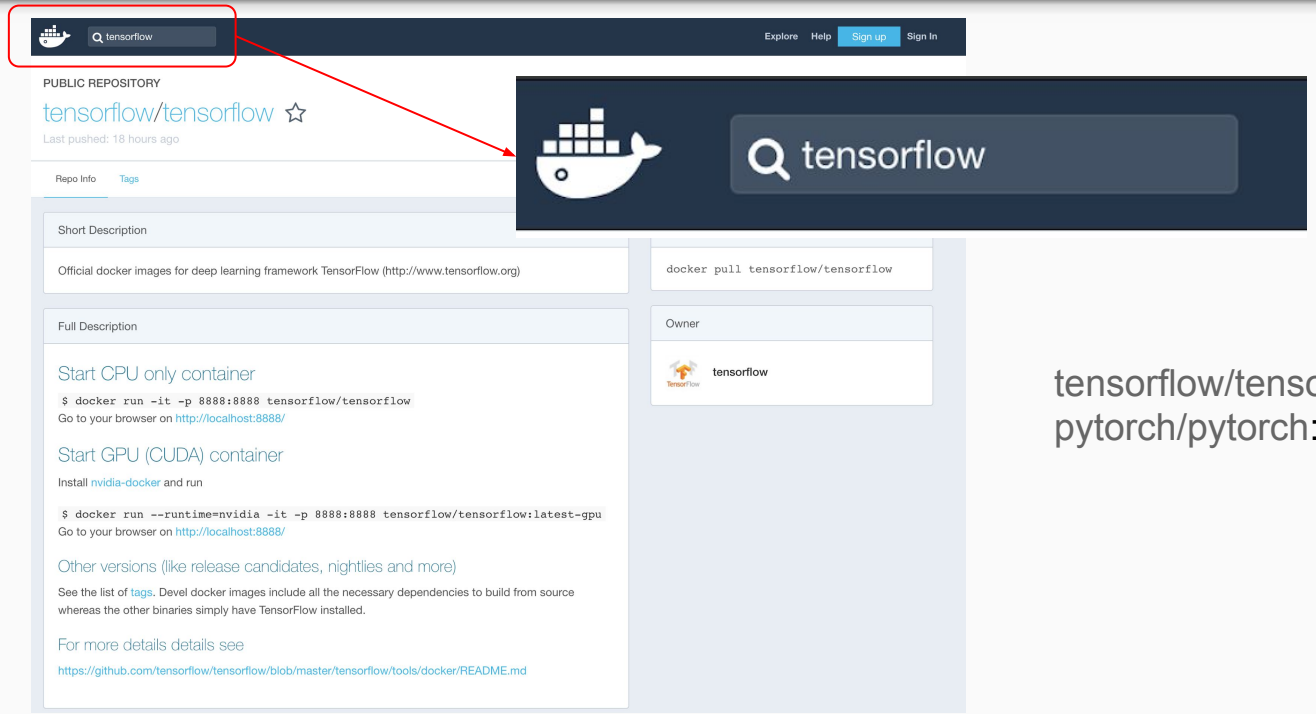
http://pyrasis.com/book/DockerForTheReallyImpatient/Chapter04/02

NVIDIA Driver

CUDA 10.1

cuDNN 7.6

hub.docker.com



tensorflow/tensorflow:1.12.0-devel-gpu-py3
pytorch/pytorch:0.4.1-cuda9-cudnn7-devel

Q&A

https://help-khidi.kakaobrain.com

감사합니다.