
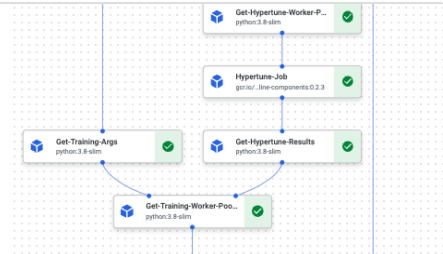


A General Framework for Machine Learning Pipelines on GCP

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The goal of this blogpost is to provide a general framework for developing Vertex AI pipelines. Independent of the domain and specifics of the use-case you are working on, this is a blueprint for

 <https://blog.ml6.eu/a-general-framework-for-machine-learning-pipelines-on-gcp-b57e234f7d12>



▼ Setup

- ▼ Requirements install : package 설치
- ▼ Configuration : 프로젝트 ID, Region, Service_account_name, Container_registry_base, gcsfuse 등 설정

▼ Pipeline Preparation

- ▼ Prepare Data : flower_data download
- ▼ Define Training Script
 - ▼ training/src 내 파일 작성 # utils, trainer, requirements.txt, Dockerfile까지 + build & push to container registry
- ▼ Define Components
 - ▼ Reusable Components
 - ▼ Get Worker Pool Spec : 각 container별 spec 추가
 - ▼ Get Custom Job Results : job의 결과를 artifact bucket, metric artifact를 output으로 전달 # metadata.json, metrics.json 가정
 - ▼ Get Hyperparameter-Tuning Job Results : best hyperparameter를 dict로 출력
 - ▼ Add Serving Config : model metadata와 전달

- ▼ Pipeline Specific Components
 - ▼ Data Processing : dataset uri를 받고, train, test 출력
 - ▼ Evaluation : test, model을 받고, metrics 출력
 - ▼ Training Args : Kubeflow 한계 때문에(component간 요소 전달이 어려움) 중간 부분 요소
- ▼ Pipeline Definition
 - ▼ 변수 세팅
 - ▼ dataset loading
 - ▼ preprocessing data
 - ▼ hyperparameter tuning
 - ▼ Training
 - ▼ Evaluating
 - ▼ Model Upload(if good model)
 - ▼ Model Deploy(if want deploy)
- ▼ Compile and Run Pipeline
 - ▼ tensorboard log bucket + pipeline parameter

