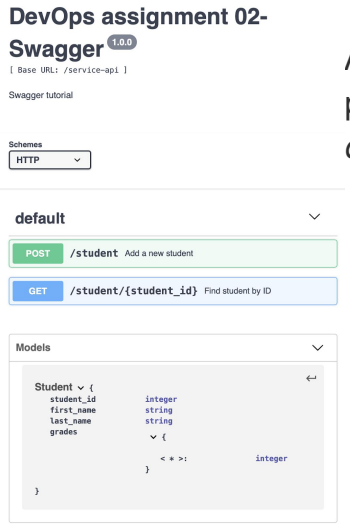
# DevOps Assignment 2 - Bonaventura Pacileo

- Docker: **goodadventure/devops_assignment_02:final**
- GitHub: https://github.com/bonaventura-p/devops_assignment_02

## DevOps stages

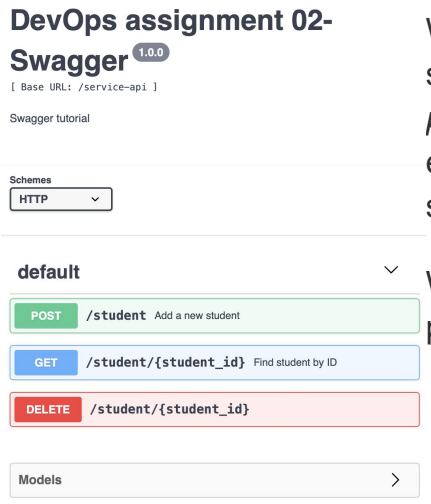
- **Plan**: Following plan as developed in the assignment
- **Code:** Editing swagger, service, controller, and travis files
- **Build:** Using Git and TravisCI to create Docker images and containers to run
- **Test:** Executing the unit tests on the Docker container
- **Release:** Pushing the tested images to Docker Hub

## Exercise 2.1a




At first,t he Swagger throws an error code because the object properties are not defined for Student. We add that in the *definitions* and we can successfully preview it.

## Exercise 2.1b




While we try to add the DELETE method to the path student/{student_id} it throws an error because the *path parameters* 'student_id' needs to be defined in every method. Once we incorporate that, we can successfully add the DELETE method.

We also update the GET method and include the quert parameter "subject".

# Exercise 2.5

```
(base) bonaventuras-MacBook-Pro:devops_assignment_02 bonaventurapacileo$ docker build -t swagger_server .

Sending build context to Docker daemon  38.22MB
Step 1/9 : FROM python:3-alpine
3-alpine: Pulling from library/python
c9b1b535fdd9: Pull complete
2cc5ad85d9ab: Pull complete
61614c1a5710: Pull complete
0522d30cde10: Pull complete
938854eeb444: Pull complete
Digest: sha256:50c60fffe5451e18af2c53d75b6864b5a0fcb458e239302cc218064ce4946ce7
Status: Downloaded newer image for python:3-alpine
 ---> a1cd5654cf3c
Step 2/9 : RUN mkdir -p /usr/src/app
 ---> Running in b49d0d1e1dfa
Removing intermediate container b49d0d1e1dfa
 ---> 60e4a3a12497
Step 3/9 : WORKDIR /usr/src/app
 ---> Running in a2e1a9ec693a
Removing intermediate container a2e1a9ec693a
 ---> 87b4f973eeef
Step 4/9 : COPY requirements.txt /usr/src/app/
 ---> 60557ddf6cfd
Step 5/9 : RUN pip3 install --no-cache-dir -r requirements.txt
 ---> Running in 4a40c890b665
Collecting connexion==1.1.15
  Downloading connexion-1.1.15-py2.py3-none-any.whl (1.0 MB)
Collecting python_dateutil==2.6.0
  Downloading python_dateutil-2.6.0-py2.py3-none-any.whl (194 kB)
Requirement already satisfied: setuptools>=21.0.0 in /usr/local/lib/python3.8/site-packages (from -r requirements.txt (line 3
)) (45.1.0)
Collecting PyYAML>=3.11
  Downloading PyYAML-5.3.tar.gz (268 kB)
Collecting clickclick>=1.2
  Downloading clickclick-1.2.2-py2.py3-none-any.whl (9.8 kB)
Collecting swagger-spec-validator>=2.0.2
  Downloading swagger_spec_validator-2.4.3-py2.py3-none-any.whl (26 kB)
Collecting jsonschema>=2.5.1
```

We build,tag and push the image using the Dockerfile in our repo.

# Service granularity

student_service.py performs a granular service, in that it takes input parameters from the API and returns the API response. This is a very specific function.

Separating the the database from the service could break the lock-in to the database. This could be achieved by  creating another package to create a more agnostic database that student_service.py would then interact with. On the other hand, this creates overhead, so there is a need to strike a balance between these two options. MySQL would be a good choice, given the relational nature of the data and could be seamlessy integrated in the cloud while allowing for local development.

# Agile

The main risk of an agile approach is that since it requires a high level of collaboration in development. Also documentation could be scattered. On the other hand, it accomodates varying timescales and allows for iterative development where bugs are found before final deployment.