

Python Backend Developer - DevOps

The objective of this test is to evaluate the candidate's ability developing Python backends and DevOps with geospatial data. You are asked to build a Python web API to work with the provided [Sentinel 2](#) satellite image and fulfill the following requirements:

1. An `/attributes` endpoint that receives the image as an input parameter, reads the image and returns the following `attributes` as a JSON object: image size (width and height), number of bands, coordinate reference system and georeferenced bounding box.
2. A `/thumbnail` endpoint that receives the image as an input parameter and returns an RGB thumbnail of the image as a PNG. Consider accepting also the target resolution of the thumbnail as an additional optional parameter.

You can download the satellite image from [here](#).

Additionally:

1. Dockerize the application.
2. Write Kubernetes manifests to deploy the application.

You are encouraged to use the following libraries:

1. [FastAPI](#) as a Python API framework.
2. [Rasterio](#) for working with the satellite image.
3. [NumPy](#), [Matplotlib](#) and [PIL](#) for handling the data and visualizations.
4. [Minkube](#) for running Kubernetes locally.

The test is designed to be completed in 2-3 of hours at maximum. Past this time, provide a link to a Github repository with your solution (if the repository is private, make sure to share it with us). The repository should contain a README file with instructions on how to run the application and additional considerations on topics such as scaling, monitoring, etc.

Be creative and don't hesitate to show off your skills!

If you have any doubt, send an email to careers@earthpulse.es.