

# Assignment

For the position of (Senior) Software Engineer, Constellations Modelling  
September 2022

We want to give you the opportunity to show your talent and convince us why you would be a great fit to our team! As part of the selection process for the position of “(Senior) Software Engineer, Constellations Modelling” we ask you to build a small application where you can show your skills and share the reasoning behind your approach. The assignment has some basic requirements, but you are free to expand and show off your skills beyond the requirements. We recommend you to use languages & frameworks that you are familiar with. We want to see how you think and what you can build in a limited time starting from a list of not very detailed requirements.

## Background:

SES serves thousands of customers worldwide with varying connectivity requirements through a network of over 70 satellites in GEO and MEO. Most of the simulations we run deal with a large amount of geospatial data. Satellites move at high speeds in various orbits, our customers can be in airplanes or ships that move across the entire globe and our antennas need to be installed in the most challenging of environments. Building applications to simulate such environments is what we do in the team!

## Assignment:

Create a web application with a clear separation between front-end, back-end and a data management system

- Available data:
  - Countries.geojson contains the shape of countries
  - Earthquakes.geojson contains historic data of Earthquakes in the last 60 years
  - (optional) You are free to find a dataset to complement the application with as you see fit
- Features of the app:
  - User interface that allows a user to:
    - View and edit the Earthquake data (CRUD)
    - Combine & present the data in a single dashboard that offers the user useful insights
  - (optional) You are free to add extra features that could be useful as you see fit

## Presentation & Deliverables:

- Share the src code with us and include instructions how we can run/access the application.
- Present your solution as part of your interview. You have complete freedom in the way you (re-)formulate, approach, analyze, resolve the problem and present your solution

Please share the material you will present at the time of the scheduled interview.

## Tips:

- See this as a chance to show off your skills (if you have amazing UI building skills, elaborate on that in your solution; if you are an expert at scraping from the web, include it in your solution; if you are an expert in optimizing for speed, show us)
- Be pragmatic and make assumptions
- The dataset is open-source and can be freely used
- Use languages & frameworks that you are familiar with. (Our current stack consists of Python (Django/Flask), Angular, Elasticsearch, Kibana, PostgreSQL & PostGIS, but we emphasize you are free to use what you are comfortable with for this assignment.)

Good luck and enjoy!