



LIFT OFF!

Small assignment V

We have been put in a tight spot! **Apollo 28** is now heading towards Mars and the programmers behind the launch have noticed that a vital information source which the space shuttle depends on has gone down. In order to save the crusade we need to deploy a web service containing essential information for the space shuttle. May the best of luck be with you!

Template

The assignment comes with a really simple template which can be downloaded from **Canvas**, the template includes:

- data_service/
- seed/
 - seed.js
 - Run node ./seed.js —connectionString <your-connection-string>
- Procfile
- heroku_commands

Prerequisites

You should have already setup a **Heroku** account and **Heroku CLI**.

Assignment description

Here below is a description of the functionality that should be provided:

Create a web service and worker in your language of choice (as long as Heroku supports it)

1. **(15%)** The web service should expose three endpoints:
 - 1.1. **(5%)** /api/planets - which returns a list of all planets [GET]
 - 1.2. **(5%)** /api/planets/:planetId/coordinates - which returns all coordinates for various locations within a planet [GET]
 - 1.3. **(5%)** /api/planets/:planetId/coordinates - which adds coordinates for a location within a planet [POST]
2. **(30%)** A MongoDB database should be setup using **mLab**. The structure of the documents can be found within the **Models** section below. There should be one database per environment.
3. **(30%)** There should be a data service setup as a worker which adds coordinates to Mars on an even interval (*different based on the environment*). The coordinates should be picked on random, but the longitude must be in the range: -180 to 180 and latitude must be in the range: -90 and 90.
4. **(25%)** There should be three environments setup
 - 4.1. **(8,33%)** DEV
 - 4.1.1. Database connection string
 - 4.1.2. Interval for worker **(1m)**
 - 4.2. **(8,33%)** TEST
 - 4.2.1. Database connection string
 - 4.2.2. Interval for worker **(2m)**
 - 4.3. **(8,33%)** PROD
 - 4.3.1. Database connection string
 - 4.3.2. Interval for worker **(5m)**

Models

Planet

- name : String, required
- diameter : Number, required
- color : String

Coordinate

- latitude : Number, required
- longitude : Number, required
- planetId : ObjectId, required

Submission

You should submit a single compressed file (*.zip, *.rar). The **heroku_commands** file within the template should be properly populated, where the commands used to setup your application in **Heroku** should be declared. If you choose to use **NodeJS** for your programming language, remember to remove **node_modules/** before submitting. Don't forget to comment the names of your group members (*excluding the one who submitted*).