

Assignment

A human mission to MARS is not very far, considering the technological advances humans have achieved in 21st century. Many scientists from across the globe are collectively working to shortlist candidates who are fit for such travel. Nasa in collaboration with global space agencies like ESA and ISRO have launched a website for everyone to apply. Shortlisted candidates will go through extensive training of 2 years. However contrary to expectations, millions have applied and people involved in shortlisting process are finding it difficult to process such large information and shortlist candidates.

Fortunately, they have you.

Your task is to design a service which will take such large data as input and process it and provide results based on filter that they apply. They have dumped all the data into a file and sent you with following requirements.

INPUT:

Input file (provided along with this problem) contains Name, Age, Country, height, weight, exercise, and fitness of a person who has applied.

OUTPUT:

Project should be able to provide shortlisted results based on filters like age, height, weight etc.

Request: [Http://localhost:8080/filter?country=india](http://localhost:8080/filter?country=india)

Response:

```
{ "Result" : [  
  { "Name": "Aabid", "Age" : 31, "Weight": 85, "Height": 170, "Fitness":"FIT", "Exercise":"Yes"},  
  { "Name": "Aachal", "Age" : 45, "Weight": 59, "Height": 170, "Fitness":"UNFIT", "Exercise":"No"},  
  .  
  .  
  .So on  
]}
```

Requirement:

- Design a **REST API based** microservice which can filter the data and provide result as json output.
- Only **authenticated** employees should be able to access these APIs. Every employee will have login and password created through registration. After login, same HTTP session can be used for further REST queries.

- You can design your own APIs based on the requirements presented. Should follow REST guidelines.

Keep in mind that filters can be applied based on

- A range (example AGE = between 30-50 years) or
- Without range (example COUNTRY = India)
- A combination of parameters like (FITNESS = "Fit" and AGE = between 30-50)

Your REST API requests should accommodate all the above in its body.

- Use **spring microservice framework** and any **NOSQL databases** for your storage requirements.
- Design your project with **MVC architecture** in place.
- Ensure that enough **logging** is in place for troubleshooting purposes.
- Maturity of your solution will be judged based on object oriented and / or functional programming design and your ability to write clean, modular, extensible, maintainable, and testable code.
- Projects should be platform independent, and we should be able to deploy it using docker or any other containerization framework to any platform.