

Lab 4: Build & Run a REST API

Ashesi wishes to develop an electronic voting system for campus elections. You have been contracted to design and build the backend for the system. Design a REST API which enables, at least, the following:

1. Registering a student as a voter.
 - a. It will be necessary for new students to be registered to vote.
2. De-registering a student as a voter.
 - a. A student may need to be de-registered once they leave campus.
3. Updating a registered voter's information.
 - a. A student's year group, major or other information might change.
4. Retrieving a registered voter.
5. Creating an election.
6. Retrieving an election (with its details).
7. Deleting an election.
8. Voting in an election.

1

Write down all the requests your API will accept and respond to for this task. Include sample request body (where applicable) and response with response body (where applicable). We are assuming the Content-Type is application/json. An example of a request and response is shown below. You can use the same simplified request and response format below. Note that I am specifying just the relative path (i.e., from the base URL).

Request

POST /orders

```
{"Id":1,"Name":"Gizmo","Category":"Widgets","Price":1.99}
```

Response

200 (Ok)

```
{"Id":1,"Name":"Gizmo","Category":"Widgets","Price":1.99}
```

2

Run an API server which responds to all the requests provided. Store your data as JSON in text files.

Deliverables

1. Provide a PDF containing:
 - a. The requests and responses
 - b. Screenshots from Postman showing request and responses from your deployed API

- c. Link to a publicly accessible version control containing your code (Use Ashesi's organizational GitHub).

Grading

- **Comprehensiveness (20%):** Are the written API requests sufficient for the task given?
- **Accuracy (20%):** Do the written request and responses align with and show an understanding of REST principles?
- **Implementation (40%):** Has code been successfully implemented to handle the requests? Note that the comprehensiveness and accuracy above will impact the implementation score as well.
- **Deployment & Testing (20%):** Has code been successfully run and tested from Postman?