Module 2 Introduction: Back-end APIs and Services

Estimated time needed: 5 minutes

In this module, you will complete the code belonging to the back-end, which handles gift listings and the search functionality. This means you need to write several APIs with appropriate endpoints. You will write the middleware to handle requests from the front end.

In the third lab, you develop an Express server that performs sentiment analysis by calling an external service. The sentiment analysis service analyzes language to categorize the language as positive, negative, or neutral.

Design and Implement Gift Listings

In this lab, you develop the gifts API. The gifts API handles the routes and endpoints for retrieving all gifts or specific gifts by their ID. In this lab, you will:

Write the function `connectToDatabase()` by completing these tasks:

1. Connect to MongoDB
2. Assign database instance
3. Return the database instance

You will Implement the `/api/gifts` endpoint so it retrieves the gifts stored with a `get()` function, which requires:

1. Connecting to MongoDB
2. Accessing the collections
3. Fetching all gifts
4. Returning the gifts array

Similarly, you implement the `/api/gifts/:id` endpoint so it fetches the gifts stored in the database using its ID. You will need to complete another `get()` function to find gifts by their ID.

You will also integrate the gift routes into the main Express application by configuring the middleware.

Design and Implement the Search API

In this lab, you will develop the search API. The search API will contain the search endpoint that allows filtering gifts by name, category, condition, and age. You will complete the `get()` function in the `searchRoutes.js` file by completing these steps:

1. Connecting to MongoDB
2. Adding the name filter to the query
3. Adding other filters to the query such as category, condition, and age.
4. Fetching the filtered gifts
5. Integrating the search routes in the Express application
6. Importing searchRoutes
7. Using searchRoutes for the `api/search` path

Build a Sentiment Analysis Service Lab

In this lab, you develop an Express server that performs sentiment analysis by calling an external service. Note that the labs in this project will not require you to connect this server to the application, though we encourage you to explore this on your own. You can use this service in conjunction with user comments on the gift detail pages.

In the first step, you install the **natural** library using the node package manager (npm).

In the second step, you implement the server to connect to the service by completing these tasks:

1. Initialize an Express server with the necessary middleware
2. Create a POST /sentiment endpoint
3. Extract the sentence parameter from the request body
4. Call the external sentiment analysis service using Axios
5. Process the external service's response and return the analysis result
6. Implement error handling for the Axios request
7. Add logging for request processing and errors

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