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Coding exercise

HTTP web service

This coding exercise requires you to implement an HTTP API web service. It can be written in any language, but please ask us first.

Bonus if you can write it in NodeJS, a functional language is always welcome.

Here are the functionalities that the web server must provide:

User account

A single HTTP route `/users` that allows to create user accounts by providing a JSON payload containing the fields `username` and `password`.

Login

A simple HTTP route `/auth/login` requiring a valid JSON payload containing the fields `username` and `password`.

In case of successful request, returns a token that is valid for 48 hours.

Resource

Another HTTP route that allows CRUD commands on the resource hosted by the web service. The commands must use standard HTTP verbs.

The access to the resource requires a valid token to be provided in the `Authorization` header.



Input and output must be in JSON format.

A resource has the following properties:

- **id**: a CUID string, that is provided by the server, but also accepts the client to provide it on creation
- **data**: an object that contains at most 10 fields of type integers or strings of max length 512
- **created**: a unix timestamp in seconds indicating when the resource was created, provided by the server upon creation
- **modified**: same as created, but is updated on each update or deletion.

Delete

Upon deletion, the **data** property of the resource must be deleted and a **deleted** field must be added indicating the deletion timestamp.

Storage

The server must store its data in a SQL or NoSQL database. You are free to choose one you are most comfortable with. Please tell us which DB you intend to use.

Bonus if you use SQLite, MongoDB, PostgreSQL or anything close to this.

Testing

Please provide a test suite for verifying the normal function of these API routes. One error case should be covered for each API method, there is no need to test all edge cases.

Deliverable

The web service source code should be hosted on a git repository for which you will provide an access.

It should be accompanied with a README file describing the following:

- Prerequisite software to run it
- Script to run the server
- Script to run the tests