



We respect your time; please do not spend more than 2-3 hours on this. We care more about your thought process than the exact answer.

Your primary role at Cesium will be developing features for our platform and its applications, this is often in the form of reusable components on the frontend and REST APIs for our Node.js-based servers.

For this exercise, we would like you to implement a materials management component for our Smart Construction Dashboard, which allows users to create and edit a catalog of materials, such as sand, gravel, and dirt, for construction projects. At a high level, this feature will:

- Display the current list of materials
- Allow the user to create, edit, and delete materials
- Select a material's color through a color picker
- Calculate and display the total value of materials listed

Below you will find a high level UI mock-up for a Material Catalog component. Your job is to implement this mock-up as a reusable component and basic "hello world" application that uses it. We typically follow an optimistic UX pattern and changes should take effect without a strict apply or cancel (as long as input is valid). If there are any aspects of the design that are unclear, implement what makes sense to you and keep a list of these questions/choices for discussion. While we currently use lit to create Web Components, for the sake of this exercise you can use whatever JS framework or library you are most comfortable with.

Your component must call into a REST API server. This should be in the form of a Node.js server but implementation details are completely up to you. The same server can be used for REST API and client if desired. You are free to use a simple in-memory representation of the data or any other solution or database you are comfortable with. The emphasis is on clean, well thought out code and API, not which particular tool you choose.

Finally, we would like you to provide unit tests. We typically use jasmine, but you are again free to use whatever you are most comfortable with.

Implement as much as you can in the time allotted, but if you don't get to it all, that's okay. Decide which parts you think are most important and concentrate on those. Include a README.md that describes how to run the project, how long you spent on it, any questions you had, what tradeoffs you may have made along the way, and any other info you feel is relevant.

You can provide your project via a zip file or link to a publicly accessible source repository, such as GitHub, Bitbucket, or GitLab.



Material Catalog UI Mockup

Materials

+ Add

🗑 Delete

● Sand

102,234 m³

● Gravel

10,000 m³

Name

Sand

Color

● #F7B500

Volume (m³)

102,234

Cost (USD per m³)

0.1

Delivery Date

12/10/2023

Total Cost:
\$15,223.40

Material Catalog UI Mockup - Empty

Materials

+ Add

🗑 Delete

No Materials

Name

Color

●

Volume (m³)

Cost (USD per m³)

Delivery Date

mm/dd/yyyy

Total Cost:
\$15,223.40