



## Quoality

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# Full-Stack Developer Take Home Challenge

## About Quoality

**Quoality: An Ancillary Services Management platform** for Hotels, Hostels, and Vacation Homes to help them improve the guest experience and generate additional revenue.

Following is the [link](#) to the product demo for your reference.

We have a multi-tenant architecture with a single database. However, the following are the different types of customers we are observing coming on the platform:

1. Single hotel
2. Hotel Chain with multiple hotels under a single account

This leads to the following challenges in the long term while scaling:

1. **Segregation of data:** Within different hotels and within hotels under chain
2. **Performance issue** while scaling and
3. **High probability of logical error** during data storing, retrieval, and modification

There are 2 possible approaches to solve this problem:

1. Having different DBs for each client (*especially for hotel chains*)
2. Having a single DB with multiple schemas for every hotel and chain

## **Hence, here's the challenge for you.**

Build a NodeJs server to accomplish the above use case. Following are the expectations:

1. Architecture diagram
2. DB Design(*You are free to choose from suggested solutions or can come up with your own: BONUS POINTS for this*)
3. APIs to achieve the following:
  - a. Hotel CRUD(Single and Hotel Chain)
  - b. Services CRUD
  - c. Add guest CRUD
4. APIs to fetch the following:
  - a. List of the hotels
  - b. List of chains
  - c. List of all the services
  - d. Count of all the guests in the system
5. A minimalistic Frontend. Don't spend much time and effort on this.

You need to make sure that every hotel can create its own custom Services and Items catalog.

## Platform Choice

You have to create a web application using the following stack: in any of the following platforms

- **Backend:** NodeJs
- **Frontend:** ReactJs
- **Database:** Upto you

## Task requirements

In order to successfully apply for the position, the following requirements have should have:

- Architecture diagram: **MUST**
- DB design: **MUST**
- APIs:
  - Hotel CRUD(*Single and Hotel Chain*): **MUST**
  - Services CRUD: **MUST**
  - Add guest CRUD: **MUST**
  - List of the hotels: **MUST**
  - List of chains: **GOOD TO HAVE**
  - List of all the services: **GOOD TO HAVE**
  - Count of all the guests in the system: **GOOD TO HAVE**
- It should be easy to add new services. Monolithic architecture is not preferred.
- You are allowed to use whatever libraries/packages you like.
- You can use whatever third-party technology you want.

## Acceptance criteria

- Design choices
- Solution architecture
- Your code should compile and run in one step.

## Technical questions

Please answer the following questions in a markdown file called Answers.md to technical questions.

1. How long did you spend on the coding test?
2. What would you add to your solution if you had more time? If you didn't spend much time on the coding test then use this as an opportunity to explain what you would add.
3. What was the most useful feature that was added to the latest version of your chosen language/framework? Please include a snippet of code that shows how you've used it.
4. How would you track down a performance issue in production? Have you ever had to do this?

## Timeline

3-5 days. You are advised to message us on the hiring platform once you pick up the assignment so that we can keep a track of it and avoid back and forth.

## Submission

In order to avoid bounced emails, we would like you to submit your results by hosting them on Github. And share the link with us on the hiring platform. Note that you have to **HOST it on Github**.