

Short Answer

Answer the following questions with complete sentences in your own words. You are encouraged to conduct your own research online or through other methods before answering the questions. If you research online, please consult multiple sources before you write down your answers. You are expected to be able to explain your answers in detail

1. What is a Marker interface?
2. How is caching achieved in Spring applications?
3. How can RESTful APIs be documented?
4. What is Docker, container, and images?
5. Describe the differences between SQL vs NoSQL databases?
6. What are the two types of scaling?

Coding Questions

Write code in Java to solve the following problems. Please write your own answers. You are highly encouraged to present more than one way to answer the questions. Please follow best practice when you write the code so that it would be easily readable, maintainable, and efficient. Clearly state your assumptions if you have any. You may discuss the questions with others, but please write your own code.

1. In your personal project, which RESTful API requests take a relatively long time to process? Try to improve it with Caching
 - a. Note down the time improvement after caching is incorporated and include which request(s) you improved in a PDF.
2. Create a RESTful API with MongoRepository and Spring Boot
 - a. Create two classes
 - i. Owner: String id, String name, List<Pet> pets
 - ii. Pet: String name, String species
 - b. Use MongoRepository to retrieve/save/update information to MongoDB
 - c. Create the following endpoints
 - i. GET "/api/owners", get all owners along with their pets
 - ii. GET "/api/owner/{id}", get an owner by id

- iii. POST `"/api/owner"`, save an owner to MongoDB, along with any possible pets
 - iv. PUT `"/api/owner/{id}/pet"`, add a pet to an existing owner with the path variable id.
 - v. DELETE `/api/owner/{id}`, delete an owner by the id
- d. Test your endpoints with Postman and take screenshots.