

ALGO

- Database Setup: To store information about citizens and immunization centers, create a MySQL database. Take into account the proper relationship mappings when designing and creating tables for the Citizens and Vaccine Center entities.
- Entity Layer: Create the User (Citizen) and Vaccine Center classes/entities in the code in accordance with the database tables. Describe the connections between the User entities and the Vaccine Center.
- Repository Layer: To manage all database actions, create a repository layer.
- Develop functions to engage with the MySQL database and carry out CRUD operations on the Citizen and Vaccine Center entities.
- Service Layer: To manage dependency injection and business logic, design and build the service layer. Establish distinct interfaces for the services provided by the Vaccine Center and the Citizen Center to illustrate the interface segregation principle.
- Controller Layer: Create a controller layer to expose the functionalities of the application using APIs. Establish endpoints for the subsequent functions: Incorporate citizens into the database. Get back each and every citizen. Obtain a certain citizen with their ID. Obtain a list of every immunization center. Obtain a certain immunization facility using ID Get a certain immunization facility and every person living there.
- API Design: For every API endpoint, provide the proper request and response formats. Make sure user inputs are properly validated and handled in error.
- Integration: To ensure that the controller, database, entity, repository, and service layers operate in unison, integrate them.
- Testing: Make sure you fully test all possible scenarios and edge cases for the application's functionality.
- Deployment: Considering scalability and security, deploy the application on an appropriate platform.
- Documentation: Write comprehensive setup instructions and API documentation for the application.
- Assemble optimal performance, best security techniques, and code standards throughout the development process. Work together with pertinent parties to obtain input and implement any required changes.