

CDAC Project Report

Project Title: **Hotel Reservation**

Course: **E-DAC**

Team Details:

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Purpose of Project

1. Hotel Reservation is a web-based Spring boot MVC project that simulates Hotel Booking System. In this web application user can sign up and get registered for new account of their own.
And they can login, every account can able to book, update and delete reservations.
2. We are trying to showcase CRUD features with login
 - a. Login: User can register / login
 - b. Create: Reservation Form filled by user
 - c. Read: Display past Reservations done by user
 - d. Update: Update previous booking
 - e. Delete: Delete bookings any time
 - f. Logout
3. We are using
 - a. Spring Framework in Java
 - b. Spring Boot in back-end
 - c. Thyme leaf template engine for front-end
 - d. CSS: Bootstrap
 - e. Spring Security for authentication and authorization
 - i. Pattern
 - ii. Matcher
 - f. Java Persistence API (JPA)
 - i. Entity manager to handle MySQL connector with database
 - g. Maven build tool to manage
 - i. Project architecture
 - ii. Classes
 - iii. Resources
 - iv. Dependencies.

Work Flow of Project

1. Let's take a scenario of Updating a Reservation for Logged user.

2. Presentation layer

- a. When 'update' button is clicked on your-reservations.html page
- b. A request goes to controller using thyme leaf template "`@{/reservation-update}`" with method = "POST"
- c. It activates a method "updateReservation" in controller
- d. `model.addAttribute` send control to `reservationService.reservationToCurrentReservationById(resId)`
- e. Controller function finally returns "reservation-page" with desired output.

3. Service layer

- a. Control goes to "ReservationService" interface
 - i. An abstract method : `getReservationForLoggedUserById()`
- b. "ReservationServiceImpl" implements "ReservationService"
 - i. Function: `getReservationForLoggedUserById ()`
 - ii. Parameter: `int reservationId`
 - iii. Return Type: `Reservation (Entity, table name 'reservation')`
 - iv. Calls `findById` method of `ReservationRep`

4. DAO layer

- a. Control goes to "ReservationDao" interface
 - i. An abstract method: `getReservationForLoggedUserById ()`
- b. "ReservationDaoImpl" implements "ReservationDao"
 - i. Function: `getReservationForLoggedUserById ()`
 - ii. Parameter: `int reservationId`
 - iii. Return Type: `Reservation (Entity, table name 'reservation')`
 - iv. Executing required HQL command
 - v. Return: `query.getSingleResult()`

Scenarios where we got stuck & how did we overcome

- **Where we got stuck: -**

- **While doing End to end Connection in our project.**
- **GitHub:** Face lot of challenges and issues while working with GitHub because we all are not familiar with this earlier. Issue like some technical glitch while performing merge operation from our branch to master.

- **What we did to overcome this: -**

- **Taking References:** We did R&D, taking references online from various reference websites and running projects.
- **Team Meetings:** We did team meetings to discuss where we are going wrong.
- **Summarize the Problems:** From Team meetings we summarize the problems that arises while working on it.
- **Different Strategies:** Everyone in team came up with different ideas and solutions putting all together, we are able to successfully complete it.

Learning During Project

- **Agile methodology:** We learned how to use Agile method in our project as follows: -
 - **To support a consistent development pace:** We have used Asana Scrum board for managing our work and assigning task in teams in given time frames to maintain the development pace during project.
 - **Simplicity:** It makes it simple to maintain status of our work like what has been done and what were still left because we as a team were working remotely from our own places.
 - **Plan & Execute:** It allow us to execute our project as we have planned by creating and reviewing sprint and track the progress of our project.
- **Team work:** One of the great aspects for a successful completion of project is team work and because of current pandemic situation we are not physically present at one place so it's very challenging to work remotely from our places and contribute our work as a team for project completion but we have divided our roles and responsibilities in team and did team meetings to discuss and manage our project.
- **Implementing what we have learned during the Course:** Another key learning is how we can implement and apply practical approaches what we have learned during the course for developing our project effectively.
- **Version control:** We have learned how we can deploy our project on GitHub and manage it using their features like dividing into branches and retrieving through pull request and update it using push operations
- **Time management:** We have learned time management during our project, Here Scrum board places an important role through which we were able to assign task and complete it timely.

