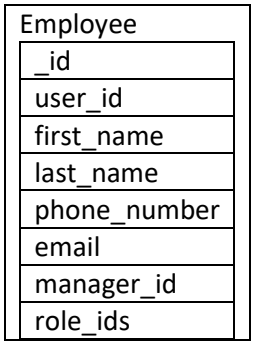
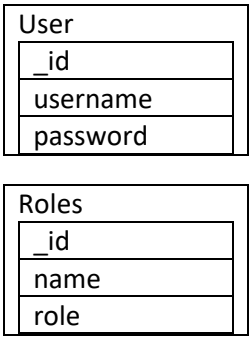
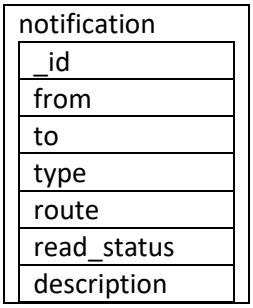
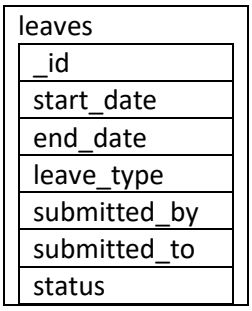
1. Propose a detailed design to add notification in HRMS. Detail design should include:
    a. Design for the database.









    b. Design for code (Class design and relation between the classes).

1. Code structure Backend
    a. Model:
        i. Employee
        ii. Leave
        iii. Notification
        iv. Roles
        v. User
    b. Route:
        i. Auth
        ii. Leave
        iii. Notification
        iv. Roles
        v. Seeder
        vi. User
    c. Controller:

        i. leaveController
        ii. notificationController
        iii. rolesController
        iv. userController
    d. Middleware:
        i. Auth (check token and role wise route access)
    e. Notification:
        i. pushNotification
            1. socketPushNotification (socket)
            2. emailNotification (nodemailer)
            3. smsNotification (twilio)
2. Code structure Frontend
    a. AuthService (signin, logout, token store)
    b. Components
        i. navbar
            1. AppTopBar
        ii. PushNotification
            1. Notification
        iii. Sideabar
            1. sidebarLeft
        iv. User
            1. EmployeeLeaveApplication
            2. EmployeeLeaveApplicationList
            3. UserList
            4. UserProfile
        v. Dashboard
        vi. Login
        vii. Signup
    c. AppWrapper (restrict routing GUEST and Auth)
    d. App

3. Propose technologies to implement the solution:
    a. Nodejs (express) for backend
    b. MongoDB for database
    c. React for frontend
    d. JWT for rest API
    e. Socket for push notification
    f. Email (nodemailer) use google
    g. SMS (Twilio)
4. Prepare a plan to develop this notification system. The plan should include milestones.
    a. Design Database
    b. Backend socket, nodemailer and twilio implementation
    c. Frontend socket implementation