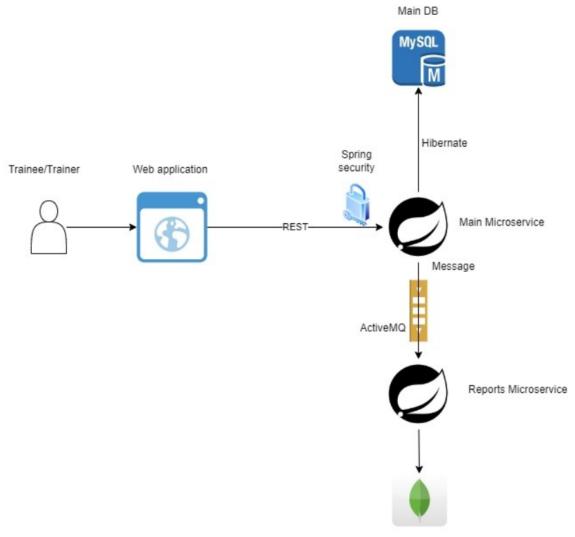
General description

- The main objective of this task is to develop a gym application.
- The application should enable gym trainees and trainers to register their profile, giving trainees the option to select one or more trainers.
- Users should be able to log their activities and view them both as trainers and as trainees.
- The application should also provide the functionality to modify profile information and activate or deactivate profiles.
- To access the application (except Registration page), login credentials will be required for both trainers and trainees.
- For each trainer calculated info their trainings duration on weekly base.

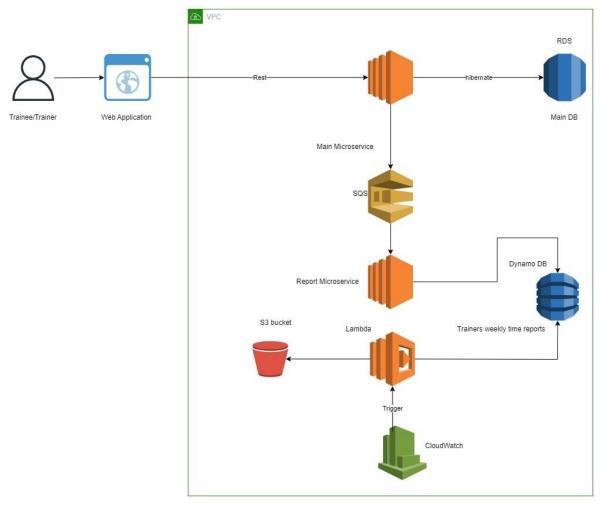
Component diagram

I) On premise version



Trainers weekly time reports

II) Cloud version

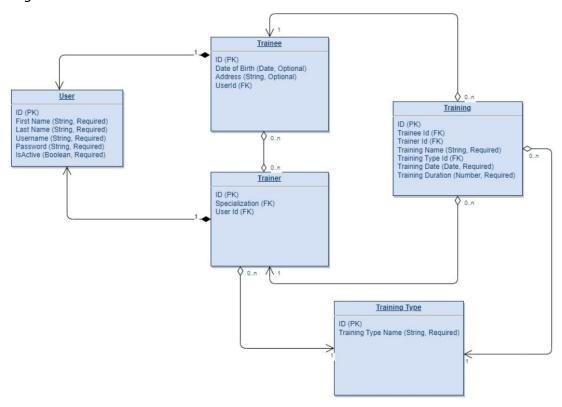


DB Schema

I) RDNMS

- 1. User
 - a. ID (PK)
 - b. First Name (String, Required)
 - c. Last Name (String, Required)
 - d. Username (String, Required)
 - e. Password (String, Required)
 - f. Is Active (Boolean, Required)
- 2. Trainee
 - a. ID (PK)
 - b. User Id (FK, Required)
 - c. Date of Birth (Date, Nullable)
 - d. Address (String, Nullable)
- 3. Trainer
 - a. ID (PK)
 - b. User Id (FK, Required)
 - c. Specialization Id (Training type Id) (FK, Required)
- 4. Trainee2Trainer
 - a. ID (PK)
 - b. Trainee Id (FK, Required)
 - c. Trainer Id (FK, Required)
- 5. Training
 - a. ID (PK)
 - b. Trainee Id (FK, Required)
 - c. Trainer Id (FK, Required)
 - d. Training Name (String, Required)
 - e. Training Type Id (FK, Required)
 - f. Training Date (Date, Required)
 - g. Training Duration (Number, Required)
- 6. Training Type
 - i. ID (PK)
 - ii. Training Type Name (String, Required, from List: fitness, yoga, Zumba, stretching, resistance)

II) Table Diagram



III) MongoDB

- 1. Trainings Summary Duration
 - i. Trainer Username (ID)
 - ii. Trainer First Name
 - iii. Trainer Last Name
 - iv. Trainee Status (Active, Inactive)
 - v. Years List
 - 1. Months List
 - a. Trainings summary duration

Lambda logic description

Scope:

An idea is to implement AWS Lambda function that triggered on weekly base by CloudWatch trigger.

The AWS Lambda function should implement the follow logic:

- 1. Connect to Dynamo DB Trainings Duration Summary table.
- 2. Extract data from the table.
- 3. Generate report in csv format with follow structure:
 - a. Trainer First Name.
 - b. Trainer Last Name.
 - c. Current month trainings duration summary time.
- 4. Upload the result file to the S3 bucket.

Notes:

- 1. Report should contain both active and inactive trainers.
- 2. Report name should be as a template "Trainers_Trainings_summary_YYYY_MM".
- 3. Inactive trainer with training duration summary equals to 0 should not be included into the report.

Dynamo DB table Trainings duration summary structure

- 1. Trainer Username (ID)
- 2. Trainer First Name
- 3. Trainer Last Name
- 4. Trainee Status (Active, Inactive)
- 5. Years list
 - a. Months List
 - i. Trainings duration summary

REST API Endpoints

- 1. Trainee Registration
 - a) Request
 - First Name (required)
 - Last Name (required)
 - Date of Birth (optional)
 - Address (optional)
 - b) Response
 - Username
 - Password
- 2. Trainer Registration
 - a) Request
 - First Name (required)
 - Last Name (required)
 - Specialization (required)
 - b) Response
 - Username
 - Password
- 3. Login
 - a) Request
 - Username (required)
 - Password (required)
 - b) Response
 - 200 OK
- 4. Change Login
 - a) Request
 - Username (required)
 - Old Password (required)
 - New Password (required)
 - b) Response
 - 200 OK
- 5. Get Trainee Profile
 - a) Request
 - Username (required)
 - b) Response
 - First Name
 - Last Name
 - Date of Birth
 - Address
 - Is Active
 - Trainers List
 - 1. Trainer Username
 - 2. Trainer First Name
 - 3. Trainer Last Name
 - 4. Trainer Specialization
- 6. Update Trainee Profile
 - a) Request
 - Username (required)
 - First Name (required)
 - Last Name (required)
 - Date of Birth (required)

- Address (required)
- Is Active (required)
- b) Response
 - Username
 - First Name
 - Last Name
 - Date of Birth
 - Address
 - Is Active
 - Trainers List
 - 1. Trainer Username
 - 2. Trainer First Name
 - 3. Trainer Last Name
 - 4. Trainer Specialization
- 7. Delete Trainee Profile
 - a) Request
 - Username (required)
 - b) Response
 - 200 OK
- 8. Get Trainer Profile
 - a) Request
 - Username (required)
 - b) Response
 - First Name
 - Last Name
 - Specialization
 - Is Active
 - Trainees List
 - 1. Trainee Username
 - 2. Trainee First Name
 - 3. Trainee Last Name
- 9. Update Trainer Profile
 - a) Request
 - Username (required)
 - First Name (required)
 - Last Name (required)
 - Specialization (read only)
 - Is Active (required)
 - b) Response
 - Username
 - First Name
 - Last Name
 - Specialization
 - Is Active
 - Trainees List
 - 1. Trainee Username
 - Trainee First Name
 - 3. Trainee Last Name
- 10. Get not assigned on trainee active trainers.
 - a) Request
 - Username (required)

- b) Response
 - Trainer Username
 - Trainer First Name
 - Trainer Last Name
 - Trainer Specialization
- 11. Update Trainee's Trainer List
 - a) Request
 - Trainee Username
 - Trainers List (required)
 - 1. Trainer Username (required)
 - b) Response
 - Trainers List
 - 1. Trainer Username
 - 2. Trainer First Name
 - 3. Trainer Last Name
 - 4. Trainer Specialization
- 12. Get Trainee Trainings List
 - a) Request
 - Username (required)
 - Period From (optional)
 - Period To (optional)
 - Trainer Name (optional)
 - Training Type (optional)
 - b) Response
 - Training Name
 - Training Date
 - Training Type
 - Training Duration
 - Trainer Name
- 13. Get Trainer Trainings List
 - a) Request
 - Username (required)
 - Period From (optional)
 - Period To (optional)
 - Trainee Name (optional)
 - b) Response
 - Training Name
 - Training Date
 - Training Type
 - Training Duration
 - Trainee Name
- 14. Add Training
 - a) Request
 - Trainee username (required)
 - Trainer username (required)
 - Training Name (required)
 - Training Date (required)
 - Training Type (required)
 - Training Duration (required)
 - b) Response
 - 200 OK

Screens

- 1. Home Page
 - a) Logo
 - b) Header
 - Home Page
 - Registration form for trainee
 - Registration form for trainer
 - Login
 - c) Static text
 - d) Footer
 - About us
 - Contact us
 - Terms of use
- 2. Trainee registration screen
 - a) Header
 - b) Registration form for trainee
 - First Name (input field required)
 - Last Name (input field required)
 - Date of Birth (input field optional)
 - Address (input field optional)
 - Send button
 - Username (text label hidden till response)
 - Password (text label hidden till response)
 - c) Footer
- 3. Trainer registration screen
 - a) Header
 - b) Registration form for trainee
 - First Name (input field required)
 - Last Name (input field required)
 - Specialization (combo box required)
 - Send button
 - Username (text label hidden till response)
 - Password (text label hidden till response)
 - c) Footer
- 4. Login Form
 - a) Header
 - b) Login Form
 - Username
 - Password
 - CAPTCHA



- c) Footer
- 5. Trainee profile screen
 - a) Header
 - b) Trainee details (read only)
 - First Name
 - Last Name
 - Username
 - Date of Birth
 - Address
 - Is Active

- Trainers List
 - 1. Trainer's First Name
 - 2. Trainer's Last Name
 - 3. Trainer's Specialization
- View Trainings button
- Update Trainee profile button
- Delete Trainee profile button
- Change Password button
- c) Footer
- 6. Trainer profile screen
 - a) Header
 - b) Trainer details (read only)
 - First Name
 - Last Name
 - Username
 - Specialization
 - Is Active
 - Trainees List
 - 1. Trainee's First Name
 - 2. Trainee's Last Name
 - View Trainings button
 - Update Trainer profile button
 - Change Password button
 - c) Footer
- 7. Change password
 - a) Header
 - b) Change Password Form
 - Username (input field required)
 - Old Password (input field required)
 - New Password (input field required)
 - New Password Confirmation (input field required)
 - c) Footer
- 8. Update Trainee Profile
 - a) Header
 - b) Update Profile Form
 - First Name (input field)
 - Last Name (input field)
 - Date of Birth (input field)
 - Address (input field)
 - Is Active (radio button)
 - Trainers List multiple choose list of active trainers not assigned on trainee.
 - 1. Trainer's First Name
 - 2. Trainer's Last Name
 - 3. Trainer's Specialization
 - Send button.
 - c) Footer
- 9. Update Trainer Profile
 - a) Header
 - b) Update Profile Form
 - First Name (input field)
 - Last Name (input field)

- Is Active (radio button)
- Send button.
- c) Footer
- 10. Trainings Log for trainee
 - a) Header
 - b) Trainings form
 - Search by trainer name (input field, optional)
 - Search by specialization (combo box, optional)
 - Search by date from/to (calendar, optional)
 - Trainings list
 - 1. Training date
 - 2. Training name
 - 3. Training type
 - 4. Trainer's name
 - 5. Training duration
 - Search button
 - c) Footer
- 11. Trainings Log for trainer
 - a) Header
 - b) Trainings form
 - Search by trainee name (input field, optional)
 - Search by date from/to (calendar, optional)
 - Trainings list
 - 1. Training date
 - 2. Training name
 - 3. Training type
 - 4. Trainee's name
 - 5. Training duration
 - Search button
 - c) Footer
- 12. Add Training for Trainee
 - a) Header
 - b) Add Training Form
 - Training date (calendar)
 - Training name (input field, required)
 - Training type (combo box, required)
 - Trainer's name (combo box, required)
 - Training duration (input field, required)
 - c) Footer