Vardhan Khara (vkhara)

95702 – Distributed Systems for ISM

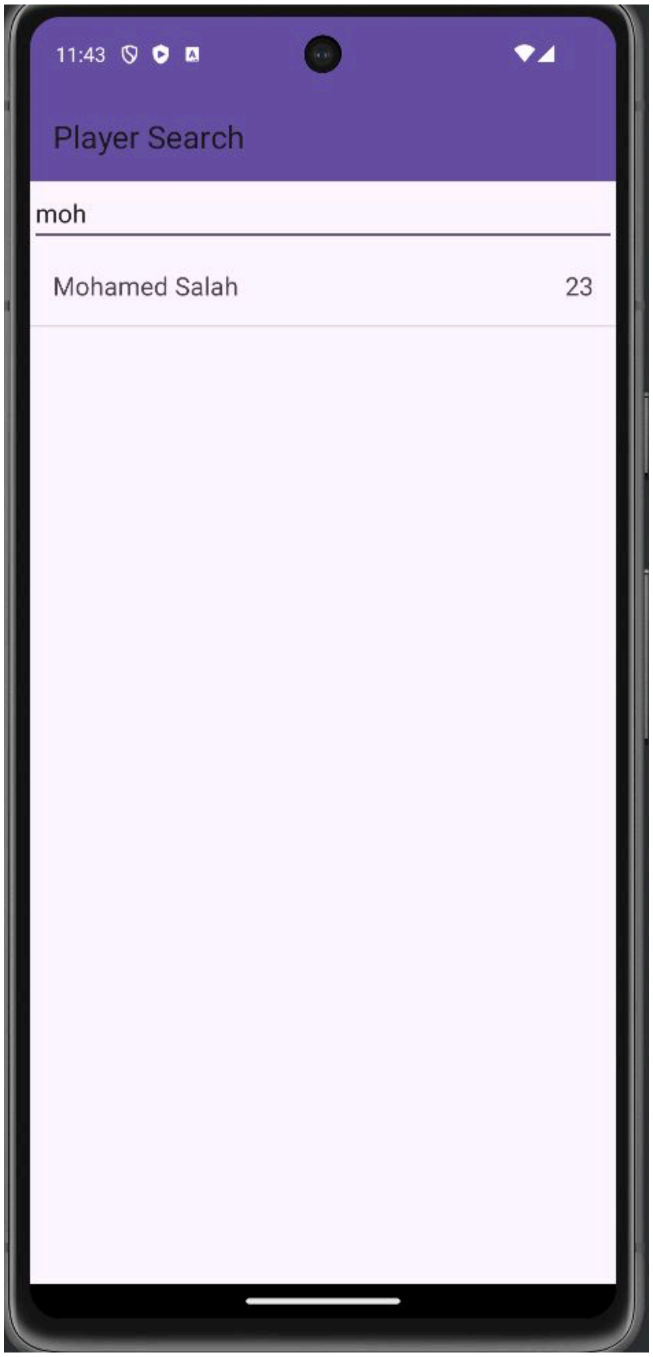
Project 4 Task 2

1. **a.Has at least three different kinds of Views in your Layout (TextView, EditText, ImageView, or anything that extends android.view.View). In order to figure out if something is a View, find its API. If it extends android.view.View then it is a View.**

   Name of my application is FootballData App.

   The different types of views are:
   Text view
   EditText
   Button
   Scroll View

b. Requires input from the user



c. Makes an HTTP request (using an appropriate HTTP method) to your web service

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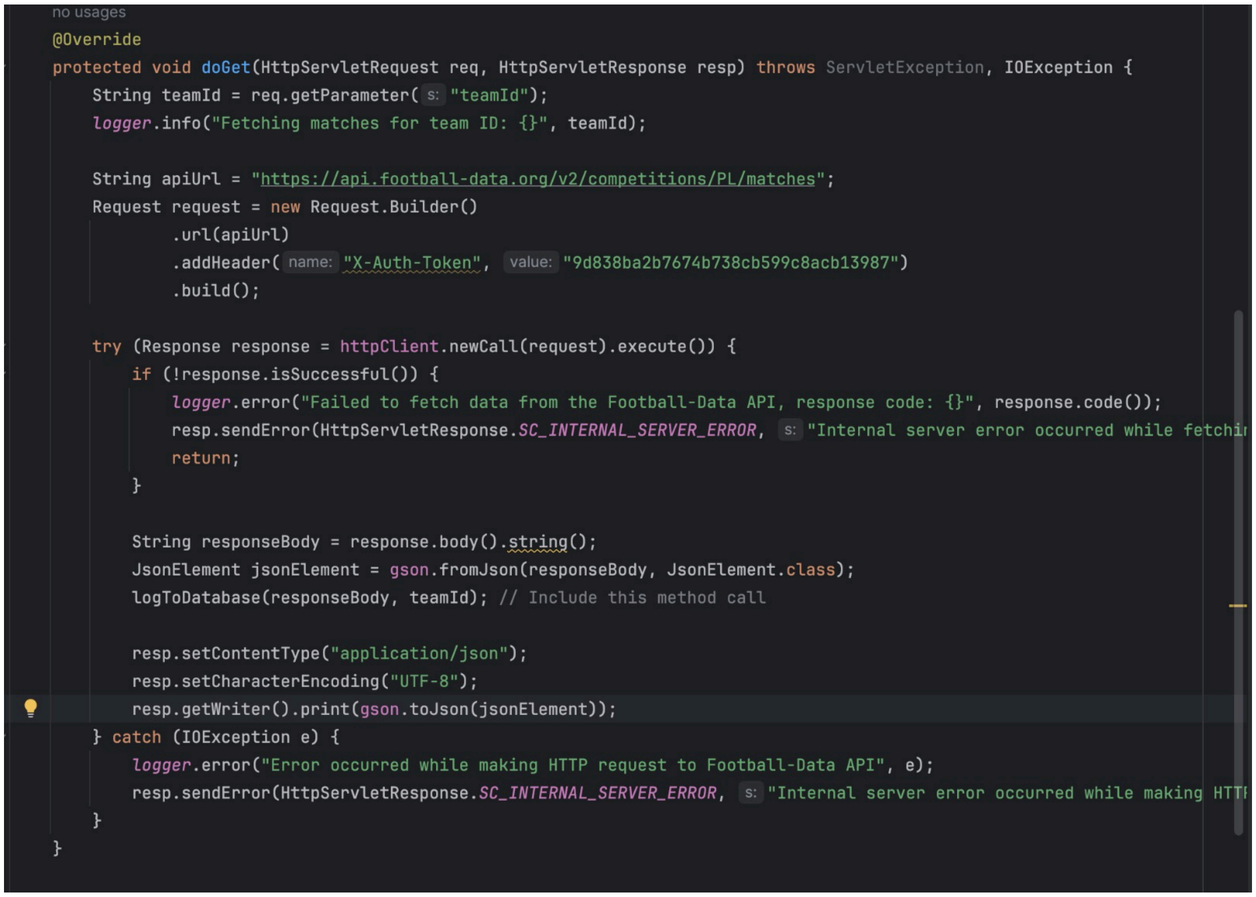
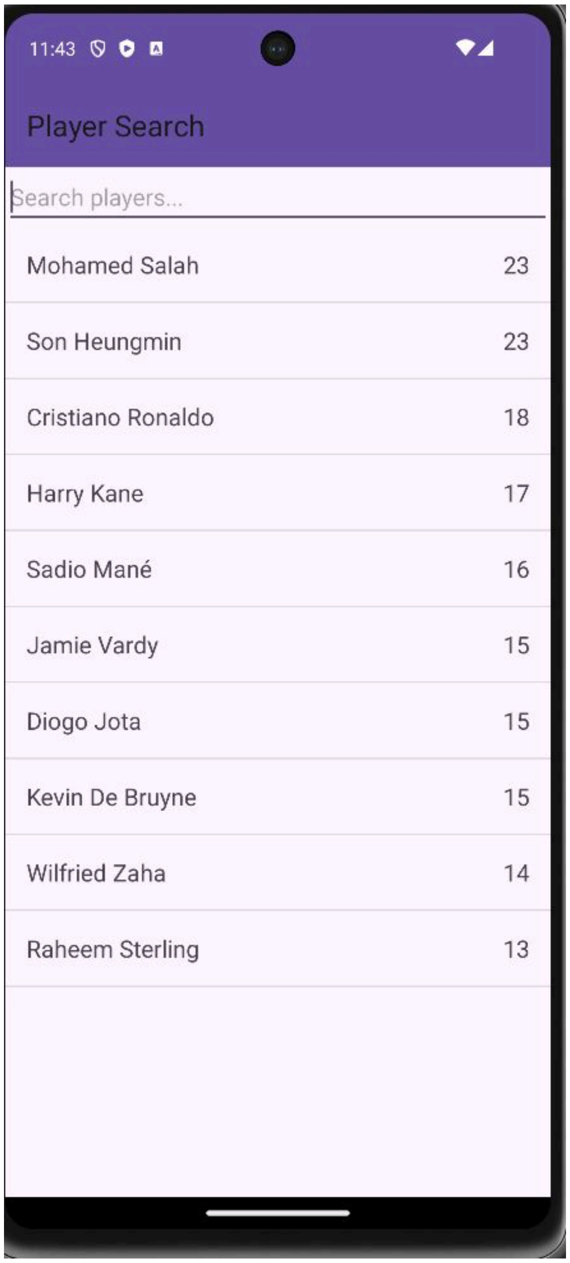


```
no usages
@Override
protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws ServletException, IOException {
    String teamId = req.getParameter( s: "teamId");
    logger.info("Fetching matches for team ID: {}", teamId);

    String apiUrl = "https://api.football-data.org/v2/competitions/PL/matches";
    Request request = new Request.Builder()
            .url(apiUrl)
            .addHeader( name: "X-Auth-Token",  value: "9d838ba2b7674b738cb599c8acb13987")
            .build();

    try (Response response = httpClient.newCall(request).execute()) {
        if (!response.isSuccessful()) {
            logger.error("Failed to fetch data from the Football-Data API, response code: {}", response.code());
            resp.sendError(HttpServletResponse.SC_INTERNAL_SERVER_ERROR,  s: "Internal server error occurred while fetchi
            return;
        }

        String responseBody = response.body().string();
        JsonElement jsonElement = gson.fromJson(responseBody, JsonElement.class);
        logToDatabase(responseBody, teamId); // Include this method call

        resp.setContentType("application/json");
        resp.setCharacterEncoding("UTF-8");
        resp.getWriter().print(gson.toJson(jsonElement));
    } catch (IOException e) {
        logger.error("Error occurred while making HTTP request to Football-Data API", e);
        resp.sendError(HttpServletResponse.SC_INTERNAL_SERVER_ERROR,  s: "Internal server error occurred while making HTT
    }
}
```

d. Receives and parses an XML or JSON formatted reply from your web service

e. Display new information to the user



Mohamed Salah	23
Son Heungmin	23
Cristiano Ronaldo	18
Harry Kane	17
Sadio Mané	16
Jamie Vardy	15
Diogo Jota	15
Kevin De Bruyne	15
Wilfried Zaha	14
Raheem Sterling	13

f. Is repeatable (I.e. the user can repeatedly reuse the application without restarting it.)

2. Implement a web service

a. Implement a simple (can be a single path) API.

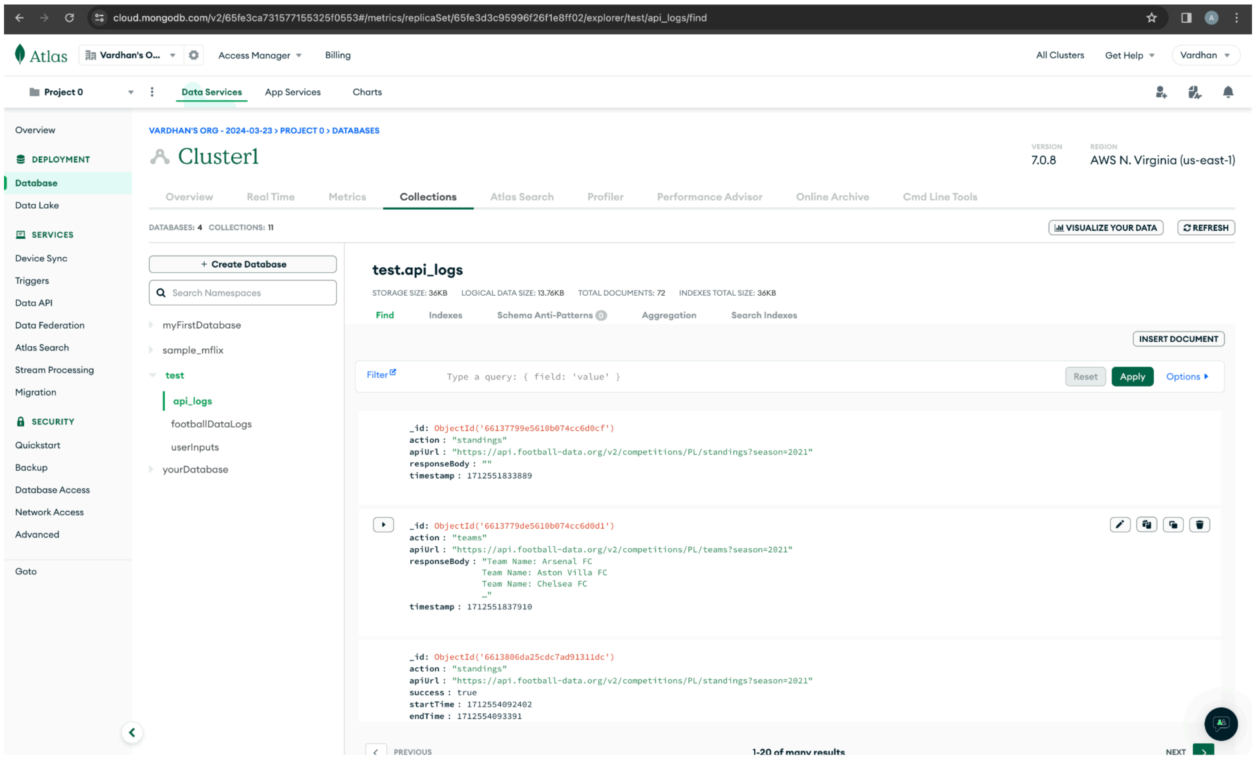
b. Receives an HTTP request from the native Android application

c. Executes business logic appropriate to your application. This includes fetching XML or JSON information from some 3rd party API and processing the response.

d. Replies to the Android application with an XML or JSON formatted response. The schema of the response can be of your own design.

4. Log useful information

5. Store the log information in a database



```
_id: ObjectId('66137799e5610b074cc6d0cf')
action : "standings"
apiUrl : "https://api.football-data.org/v2/competitions/PL/standings?season=2021"
responseBody : ""
timestamp : 1712551833889
```

```
_id: ObjectId('6613779de5610b074cc6d0d1')
action : "teams"
apiUrl : "https://api.football-data.org/v2/competitions/PL/teams?season=2021"
responseBody : "Team Name: Arsenal FC
               Team Name: Aston Villa FC
               Team Name: Chelsea FC
               …"
timestamp : 1712551837910
```

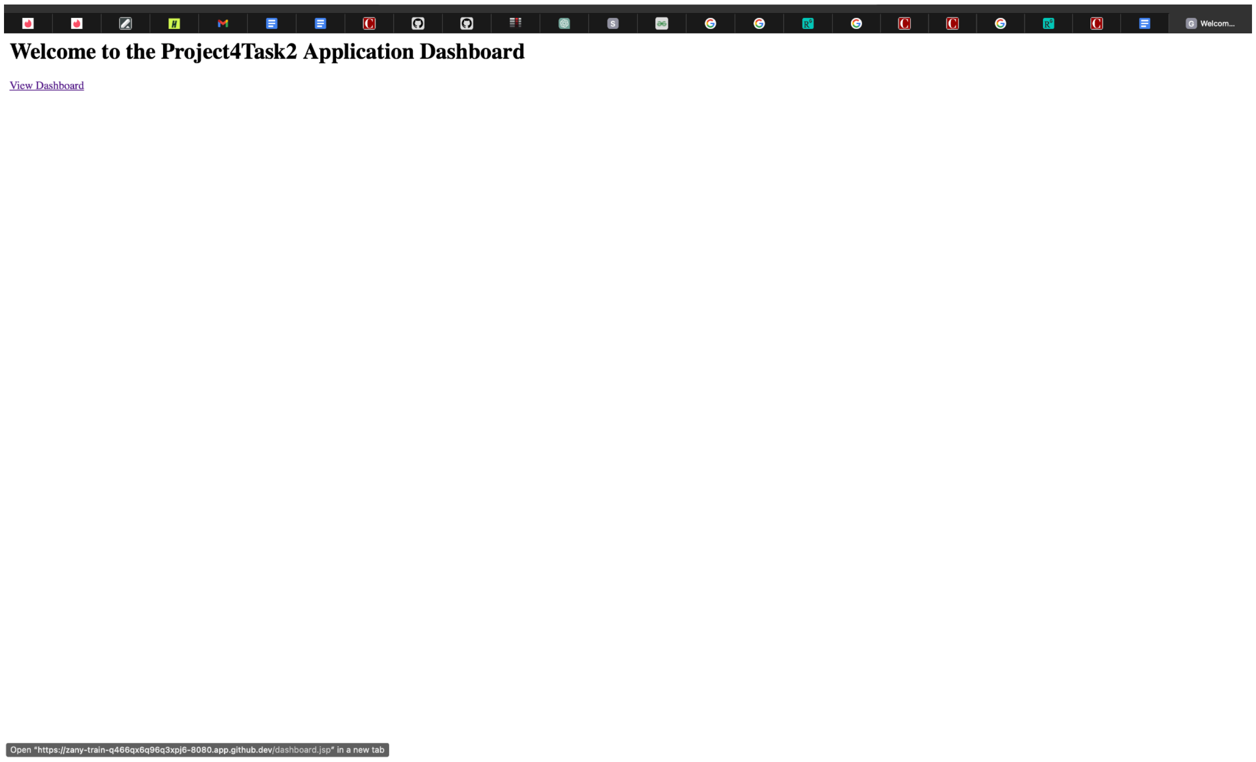
```
_id: ObjectId('6613806da25cdc7ad91311dc')
action : "standings"
apiUrl : "https://api.football-data.org/v2/competitions/PL/standings?season=2021"
success : true
startTime : 1712554092402
endTime : 1712554093391
```

6. Display operations analytics and full logs on a web-based dashboard

a. A unique URL addresses a web interface dashboard for the web service.

https://zany-train-q466qx6q96q3xpj6-8080.app.github.dev/

b. The dashboard displays at least 3 interesting operations analytics.



Welcom...

Welcome to the Project4Task2 Application Dashboard

View Dashboard

Open "https://zany-train-q466qx6q96q3xpj6-8080.app.github.dev/dashboard.jsp" in a new tab

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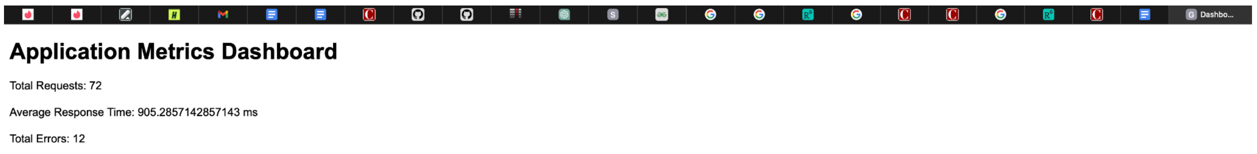

Application Metrics Dashboard

Total Requests: 72

Average Response Time: 905.2857142857143 ms

Total Errors: 12

c. The dashboard displays formatted full logs