COMPUTER SCIENCE DEPARTMENT
CS 319 OBJECT-ORIENTED SOFTWARE ENGINEERING
DELIVERABLE 5
SPRING 2025
GROUP 2 SECTION 1
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1. User’s Guide – Bilkent University TA Management System

1.1 Development Environment

- Install Java JDK 17+ for the backend.

- Install Node.js (v16 or higher) and npm for the frontend.

- Install a database tool like MySQL Workbench to connect to the database.

- Install Maven (optional) for building the backend if not using the built-in wrapper.

- Install an IDE (e.g., IntelliJ IDEA for backend, VS Code for frontend).

- Install Docker and Docker Compose to containerize and manage the application services.

1.2 Database Configuration

- Set up a MySQL instance (local or remote).

- Configure your database connection string in the backend's application.properties file.

- If using Docker, define the MySQL service in the docker-compose.yml file with appropriate environment variables and port bindings.

1.3 Environment Variables

- Ensure you have configured any sensitive environment variables like JWT keys, SMTP credentials, or database passwords.

- Use a .env file in both backend and frontend projects to manage these variables securely.

- For React, prefix all variables with REACT_APP_ (e.g., REACT_APP_API_URL=http://localhost:8080/api).

- Add .env to .gitignore to prevent committing sensitive data to version control.

- Docker Compose can also load environment variables from the .env file automatically during build and deployment.

1.4 Step-by-Step Setup

1. Clone the Repository:

git clone https://github.com/simay-uygur/Bilkent-University-TA-Management-System.git

cd Bilkent-University-TA-Management-System

2. Create a .env file in the project root with the following content:

SPRING_DATASOURCE_URL=jdbc:mysql://13.61.71.195:3307/bilkentta
SPRING_DATASOURCE_USERNAME=admin
SPRING_DATASOURCE_PASSWORD=carmakarisik#@&%+532

SPRING_JPA_HIBERNATE_DDL_AUTO=update
SPRING.JPA.SHOW-SQL=true

REACT_APP_API_URL=http://13.61.71.195:8080
#REACT_APP_API_URL=http://localhost:8080

SPRING_MAIL_HOST=smtp.gmail.com
SPRING_MAIL_PORT=587
SPRING_MAIL_USERNAME=tamanagementsystembilkent@gmail.com
SPRING_MAIL_PASSWORD=pgjuebpebxshudrl
SPRING_MAIL_PROPERTIES_MAIL_SMTP_AUTH=true
SPRING_MAIL_PROPERTIES_MAIL_SMTP_STARTTLS_ENABLE=true

SPRING_SERVLET_MULTIPART_ENABLED=true
SPRING_SERVLET_MULTIPART_MAX_FILE_SIZE=100MB
SPRING_SERVLET_MULTIPART_MAX_REQUEST_SIZE=100MB

COMPOSE_BAKE=true

3. Create and edit the following file: backend/src/main/resources/application.properties

Add the following lines:

jwt.secret=lujtS5jX/U1VgHXxEj4pOeCtRNy1bnLN95MEDTj6NehynABVEHUPdYz0T8XTilvVrz0G1UjX9OsypppnspEiQg==

jwt.expirationMs=3600000

4. Build and run the project using Docker:

docker-compose up --build

1.5 Access the Application

Frontend: http://localhost:5173

Backend API: http://localhost:8080

1.6 Testing and Logs

To view logs:

docker logs <container_name>

To stop all containers:

docker-compose down

1.7 Troubleshooting

Problem: Port already in use

Solution: Make sure no other application is using ports 5173 or 8080

Problem: DB connection errors

Solution: Check the IP, port, and credentials in the .env file

Problem: Email issues

Solution: Ensure Gmail allows app passwords or less secure access

Problem: JWT issues

Solution: Ensure jwt.secret is the same in every environment

2. Workload Distribution:

- **Backend Development:** Simay Uygur, Perhat Amanlyyev, İlmay Taş
- **Database & Docker Setup:** Simay Uygur
- **Frontend Development:** Emiralp İlgen, Anıl Keskin
- **Backend Support (Later Stages):** Emiralp İlgen, Anıl Keskin

Deliverables:

- **Deliverable 1:** Completed collaboratively by all group members
- **Deliverable 2:**
    - Class Diagram: Perhat Amanlyyev

    - State Diagram: Simay Uygur
    - Mock-up: Emiralp İlgen and Anıl Keskin
    - Sequence Diagram: Anıl Keskin
    - Activity Diagram: İlmay Taş
- **Deliverable 3:**
    - Diagram: Emiralp İlgen (Reviewed and revised by other group members)
    - Final Documentation: İlmay Taş and Emiralp İlgen
- **Deliverable 4:**
    - Class Diagram: Perhat Amanlyyev
    - Design Pattern Section: İlmay Taş