JHipster is a development platform to quickly generate, develop, & deploy modern web applications & microservice architectures.

JHipster CLI

Configuration

In order to generate a JHipster project, the JHipster CLI is used. For this project JHipster has been configured with the following settings (can be found **in yo-rc.json** in the root directory):

- **Application type – monolith**
  A classical, one-size-fits-all application, easy to use and develop – the default.
- **Authentication type – JWT**
  JSON Web Token is used to securely transmit information between parties in a JSON format. Commonly used to authorise access to resources and services.
- **Build tool – Maven**
  Maven is a build automation tool used primarily for Java projects. It makes use of a **pom.xml** file to determine which dependencies to install and resolves them automatically. The file **mvnw** / **mvnw.cmd** is a maven wrapper which allows developers to run a maven project using the correct version of maven, without having it installed and present on the path.

Commands

jhipster : generate a new JHipster application, answer questions about type of application, authentication method, database, etc.
jhipster ci-cd : generate a ci and cd pipelines JHipster answer questions about type of ci pipeline needed
jhipster entity : Generates a single new entity along with associated files: entity classes, database migration scripts, REST API endpoints, and Angular/React components.
jhipster jdl myapp.jdl : generate all the entities and relationships specified in the file myapp.jdl
./mvnw : Runs the application in development mode on a laptop

Dependency Management and Bundling

NPM

Node.js is a cross-platform, open-source JavaScript runtime environment, which enables developers to execute JavaScript code outside of the web browser. Node.js is often used to build highly-scalable back-end JavaScript APIs. NPM is the package manager that comes preinstalled with Node.js.

Package.json

NPM references the information in package.json to start the project, run scripts, and install dependencies. Some attributes include:

Scripts: keys are script-names which can be run using npm run 'SCRIPT_NAME', with values being the corresponding shell code. This helps automate repetitive terminal tasks. For example:

"app:start": "./mvnw"

Dependencies: contains the external dependencies, with key=dependency name, value=version. NPM uses this list to fetch the dependencies and their versions when building the system.

devDependencies: contains the external dependencies only to be used during the development of the project, not kept for deployment. For example: **jest-junit**, a JavaScript unit testing framework.

Using NPM to manage dependencies

You can manage dependencies by specifying them in package.json, or by running `npm update` and `npm install`.

For example, to add the 'Leaflet' library as a runtime dependency of your application, you would run following command:

npm install --save --save-exact leaflet

Webpack

Webpack is a module bundler. It takes code which might be composed of multiple files and formats, and bundles it into one or more output files. This way, we can reduce the number of requests, improve loading speed, and manage dependencies.

File Structure

Root

In the project root, JHipster generates configuration files for tools like git, prettier, eslint, husky, and others. Here are some important examples:

.yo-rc.json: contains the settings used to generate JHipster
.jhipster/*.json: JHipster entity configuration files
npmw: JHipster installs Node and npm locally using the build tool by default. This wrapper makes sure npm is installed locally and uses it avoiding some differences different versions can cause.
gitlab-ci.yml: a ci pipeline using docker
src/main/docker/app.yml : the docker compose script to start the app and postgres on a the server in development mode.
src/main/docker/prd.yml : the docker compose script to start the app and postgres on a the server in development mode.

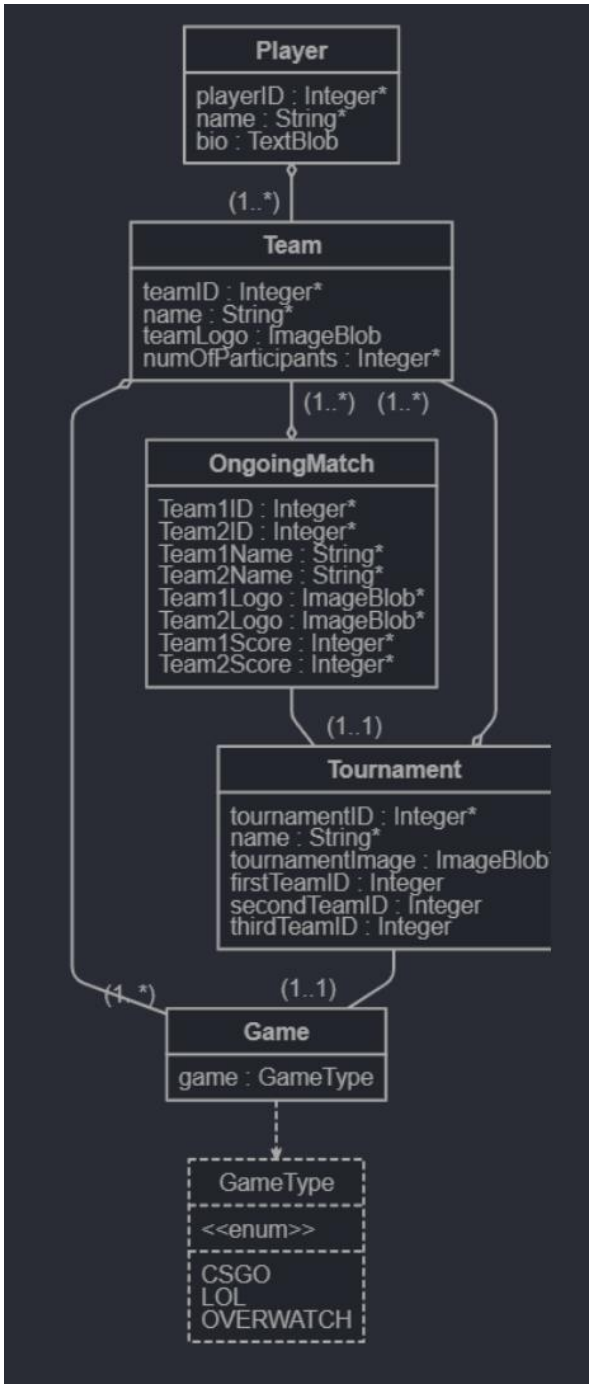
Frontend (Angular)

src/main/webapp/app: This directory contains the Angular application code.
src/main/webapp/app/shared: Shared components, services, and utilities used across the application.
src/main/webapp/app/entities: Subdirectories for each entity in the application, with components, services, and models specific to that entity.
src/main/webapp/app/layouts: Layout components such as headers, footers, and navigation menus.
src/main/webapp/app/admin: Administrative components and modules.
src/main/webapp/app/core: Core services, interceptors, guards, and modules.
src/main/webapp/app/main.ts: The main entry point for the Angular application.
src/main/webapp/app/app.module.ts: The root module where you define application-wide dependencies and configurations.
src/main/webapp/app/router/router.module.ts: The Angular router module where you define application routes.
src/main/webapp/content/css: CSS stylesheets for styling the application.
src/main/webapp/content/images: Image assets used in the application UI.

Backend (Java/Springboot)

src/main/java: the Java source code for the application, including controllers, services, repositories, security configs, and domain models.
src/main/resources: Configuration files, Liquibase database migrations, i18n files, and static resources.

Class Diagram



JDL

```
 entity Player {
    playerID Integer required
    name String required
    bio TextBlob
}

entity Team {
    teamID Integer required
    name String required
    teamLogo ImageBlob
    numOfParticipants Integer required
}
```

```
entity Tournament {
    tournamentID Integer required
    name String required
    tournamentImage ImageBlob required
    firstTeamID Integer
    secondTeamID Integer
    thirdTeamID Integer
}

entity OngoingMatch {
    Team1ID Integer required
    Team2ID Integer required
    Team1Name String required
    Team2Name String required
    Team1Logo ImageBlob required
    Team2Logo ImageBlob required
    Team1Score Integer required
    Team2Score Integer required
}

enum GameType {
    CSGO,
    LOL,
    OVERWATCH
}

entity Game {
    game GameType
}

relationship ManyToOne {
    Team to OngoingMatch
}

relationship OneToMany {
    Team to Game
}

relationship OneToOne {
    OngoingMatch to Tournament
}

// team relations
relationship OneToMany{
    Player to Team
}

// game relations
relationship OneToOne {
    Tournament to Game
}

relationship OneToMany {
    Tournament to Team
}
```

Kanban Cards

Create Search Bar UI

Front End Talha

#149 Mar 6 1h

Create Search Landing Page UI When Nothing Searched

Front End Talha

#8 Mar 6 2h

Create Filters UIs - Filter By Type & Filter By Game

Front End Talha

#155 Mar 6 2h

Create Search By Input Text Service

Back End Talha

#156 Mar 10 6h

Create Filter By Type Service

Back End Talha

#151 Mar 10 4h

Create Filter By Game Service

Back End Talha

#150 Mar 10 4h

Create Preview UI For Players

Front End Talha

#148 Mar 6 3h

Get Player Name, Image and Bio

Back End Front End Talha

#21 Mar 14 2h

Get Joined Teams Names and Logos

Back End Front End Talha

#22 Mar 14 2h

Create Preview UI Of Teams

Front End Talha

#17 Mar 6 3h

Get Team Name and Logo

Back End Front End Talha

#18 Mar 16 2h

Get Team Capacity

Back End Front End Talha

#24 Mar 16 1h

Create Preview UI Of Tournaments

Front End Talha

#25 Mar 6 4h

Ongoing Tournament - Get Most Recent Match Scores

Back End Front End Talha

#19 Mar 18 2h

Ongoing Tournament - Get Most Recent Match Team Names and Logos

Back End Front End Talha

#152 Mar 18 2h

Completed Tournament - Get Winning Teams Standings

Back End Front End Talha

#153 Mar 18 2h

Completed Tournament - Get Winning Teams Names and Logos

Back End Front End Talha

#154 Mar 18 2h

The Kanban Cards above include a deadline date and an estimated time alongside each issue.

Time Sheets

Team sheet Number/ID: tat155
Team member name: Talha Tariq
Team representative (secrata Talha Tariq **Date from:** 13.02.2024
Team meeting sign off date: 20.02.2024 **Date until:** 20.02.2024

Task	Date	Start time	End time	Total Hours
Team meeting with tutor, discussed tech reports	13.02.2024	2:00 PM	3:00 PM	1:00
Team meeting, discussed progress on tech reports	16.02.2024	12:00 PM	1:30 PM	3:00
Researched Jhipster	20.02.2024	12:00 PM	2:00 PM	3:00

Total Hours **7:00**

Team sheet Number/ID: tat155
Team member name: Talha Tariq
Team representative (secrata Taziba **Date from:** 20.02.2024
Team meeting sign off date: 27.02.2024 **Date until:** 27.02.2024

Task	Date	Start time	End time	Total Hours
Further Jhipster research	21.02.2024	2:00 PM	3:00 PM	1:00
First Tech Report Draft	24.02.2024	12:00 PM	3:00 PM	3:00
Final Tech Report Draft	25.02.2024	3:00 PM	6:00 PM	3:00

Total Hours **7:00**

Team sheet Number/ID: tat155
Team member name: Talha Tariq
Team representative (secrata Mark Elbre **Date from:** 27.02.2024
Team meeting sign off date: 05.03.2024 **Date until:** 05.03.2024

Task	Date	Start time	End time	Total Hours
Team Meeting with tutor, discussing M2	27.02.2024	2:30 PM	4:30 PM	2:00
Finalised S2 Submission	24.02.2024	8:00 PM	11:00 PM	3:00

Total Hours **5:00**