



**DALHOUSIE  
UNIVERSITY**

## CSCI 3130 - Software Engineering

### Project Deliverable-1 Instructions

**TA:**

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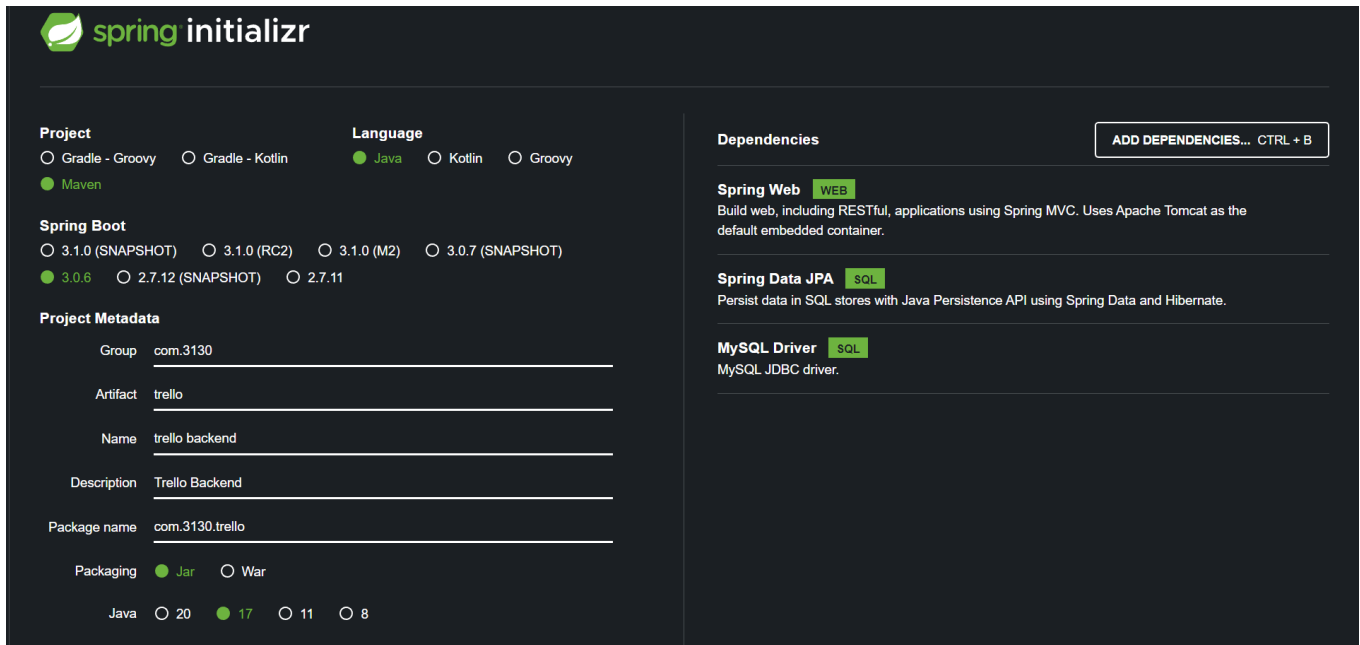
**Professor:**

Dr. Tushar Sharma

## Spring boot Starter Project:

Step 1: Make sure you have an ide preferably IntelliJ and java installed. I am using java version 17 you can use the latest version but choose the one present in spring initialize website. Open the Spring initializr using the url: [Spring Initializr](https://start.spring.io).

Step 2: Provide the values as seen in figure 1. You need to choose the java version that is present in your system or your IDE. You can find your java version by following the instructions provided [Here](#).



The screenshot shows the Spring Initializr web application interface. It is divided into several sections for configuring a new Spring Boot project:

- Project:** Includes radio buttons for **Gradle - Groovy**, **Gradle - Kotlin**, **Java** (selected), **Kotlin**, and **Groovy**. Below this is a radio button for **Maven** (selected).
- Spring Boot:** Includes radio buttons for **3.1.0 (SNAPSHOT)**, **3.1.0 (RC2)**, **3.1.0 (M2)**, **3.0.7 (SNAPSHOT)**, **3.0.6** (selected), **2.7.12 (SNAPSHOT)**, and **2.7.11**.
- Project Metadata:** A form with input fields for:
  - Group:** com.3130
  - Artifact:** trello
  - Name:** trello backend
  - Description:** Trello Backend
  - Package name:** com.3130.trello
  - Packaging:** **Jar** (selected) and **War**
  - Java:** **20**, **17** (selected), **11**, and **8**
- Dependencies:** A section on the right with a button **ADD DEPENDENCIES... CTRL + B**. It lists three selected dependencies:
  - Spring Web** (WEB): Build web, including RESTful, applications using Spring MVC. Uses Apache Tomcat as the default embedded container.
  - Spring Data JPA** (SQL): Persist data in SQL stores with Java Persistence API using Spring Data and Hibernate.
  - MySQL Driver** (SQL): MySQL JDBC driver.

Figure 1 Project Creation using Spring Initializr

Step 3: Add the following dependencies shown in the screenshot. Spring web (For the backend server), Spring Data JPA (For ORM), Mysql Driver (driver to connect to MySQL).

Step 4: After providing the necessary details click on generate and download the project in zipped format. Extract in your PC location of your choice but remember the location where you extracted.

Step 5: Open IntelliJ and click on Open when the initial windows appear.

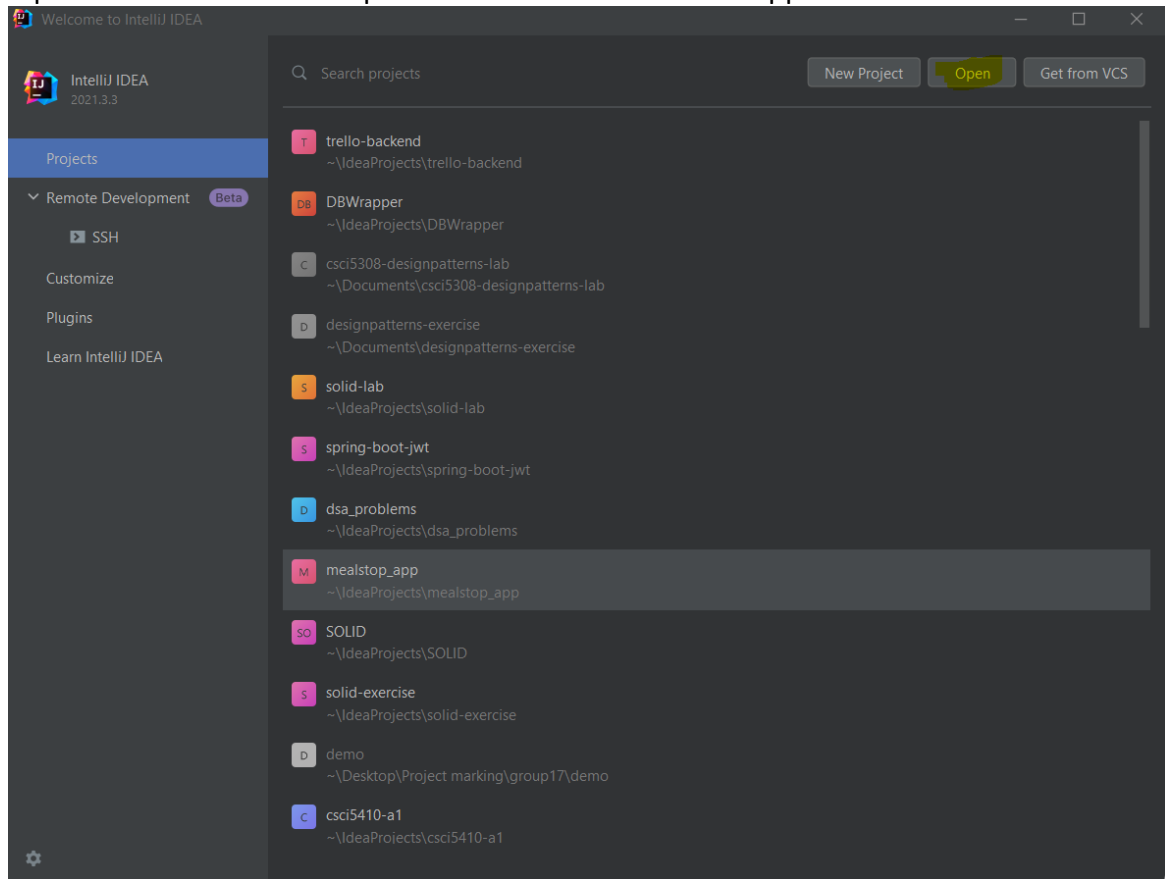


Figure 2 IntelliJ Start screen

Step 6: Choose the project which you had extracted from the downloaded zip file. Once the project opens IntelliJ will parse the Pom.XML and download the required dependencies, let it run and wait for it to finish. You can check the status on the right bottom.

Step 7: Go to src->main->resources->application. Properties to provide database connection details. If you have received the dal database details, you can provide it here or you can run MySQL Locally and provide the details. To run MySQL locally follow the instructions [here](#). Provide the following values in the application. Properties file.

```
# Database properties
spring.jpa.hibernate.ddl-auto=update
spring.datasource.url=jdbc:mysql:///${MYSQL_HOST:localhost}:3306/test_db
spring.datasource.username=root
spring.datasource.password=root
```

Here the test\_db is the schema that is already present in my database. You need to provide a schema that is present in your database. If not create a schema first and provide it. Provide your username and password for the database. If you want to use the dal database, you need to change the localhost to the ip of the dal database server and update the schema name, username and password.

Step 8: right click on src->main->java->TrelloBackendApplication.java and click run as and choose springboot application.

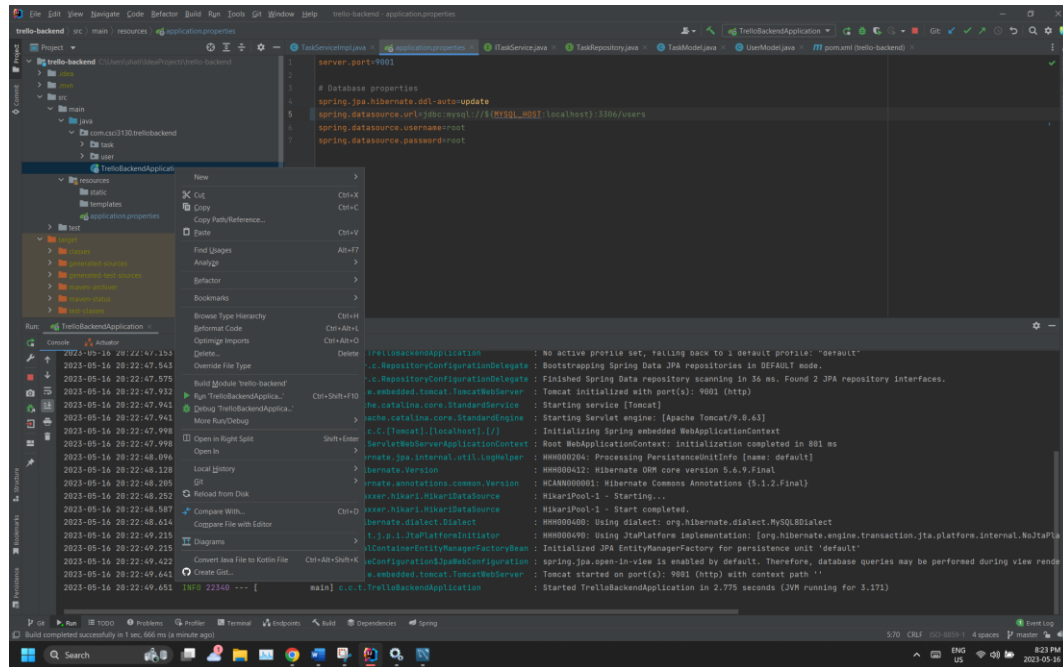


Figure 3 Run as Spring boot project

Step 9: If your java version and database properties are configured properly. Your application should start correctly, and you should get the following log output.

```
2023-05-16 20:22:47.998 INFO 22340 --- [main] w.s.c.ServletWebServerApplicationContext : Root WebApplicationContext: Initialization completed in 801 ms
2023-05-16 20:22:48.096 INFO 22340 --- [main] o.hibernate.jpa.internal.util.LogHelper : HH0000284: Processing PersistenceUnitInfo [name: default]
2023-05-16 20:22:48.128 INFO 22340 --- [main] org.hibernate.Version : HH0000412: Hibernate ORM core version 5.6.9.Final
2023-05-16 20:22:48.205 INFO 22340 --- [main] o.hibernate.annotations.common.Version : HCANN000081: Hibernate Commons Annotations {5.1.2.Final}
2023-05-16 20:22:48.252 INFO 22340 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Starting...
2023-05-16 20:22:48.587 INFO 22340 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool-1 - Start completed.
2023-05-16 20:22:48.614 INFO 22340 --- [main] org.hibernate.dialect.Dialect : HH0000400: Using dialect: org.hibernate.dialect.MySQL8Dialect
2023-05-16 20:22:49.215 INFO 22340 --- [main] o.h.e.t.j.p.i.JtaPlatformInitiator : HH0000490: Using JtaPlatform implementation: [org.hibernate.engine.transaction.jta.platform.internal.NoJtaPlatform]
2023-05-16 20:22:49.215 INFO 22340 --- [main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'
2023-05-16 20:22:49.422 WARN 22340 --- [main] JpaBaseConfiguration$JpaWebConfiguration : spring.jpa.open-in-view is enabled by default. Therefore, database queries may be performed during view render
2023-05-16 20:22:49.641 INFO 22340 --- [main] o.s.b.w.embedded.tomcat.TomcatWebServer : Tomcat started on port(s): 9001 (http) with context path ''
2023-05-16 20:22:49.651 INFO 22340 --- [main] c.c.t.TrelloBackendApplication : Started TrelloBackendApplication in 2.775 seconds (JVM running for 3.171)
```

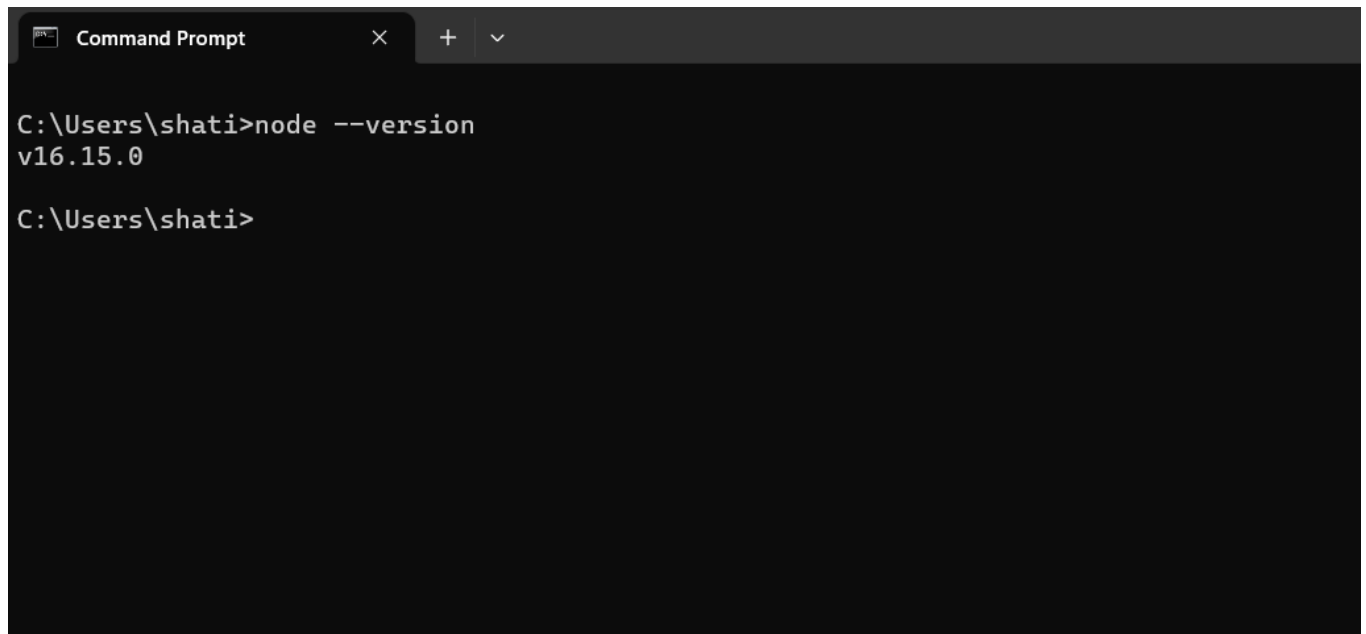
Figure 4 Successful log of spring boot application.

## React JS Starter Project:

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Step 1: Download and install Node.js for your corresponding operating system. Follow the instructions provided [here](#).

Step 2: After installation execute the following command in your terminal or command prompt to verify that the Node.js is installed successfully. “node --version”

A screenshot of a Windows Command Prompt window. The title bar says "Command Prompt". The command prompt shows the user's current directory as "C:\Users\shati". The user has entered the command "node --version" and the output is "v16.15.0". The prompt is now waiting for the next command.

```
C:\Users\shati>node --version
v16.15.0
C:\Users\shati>
```

*Figure 5 Node successful Installation confirmation*

Step 3: Once the node.js is installed then go to the folder where you want to create your react project. Its better to create it in the folder where you have your backend application as well. The reason is you can manage both front end and backend in the same git repository.

Step 4: Once you are in the location where your backend application exists execute the following command “npx create-react-app trello-frontend”. As you can see from the below screenshot the Trello folder is my springboot backend project and the node js has created a new folder trello-frontend for the react project. If you create a git repository in this location where both frontend and backend project is present you can manage them both in a single repository.

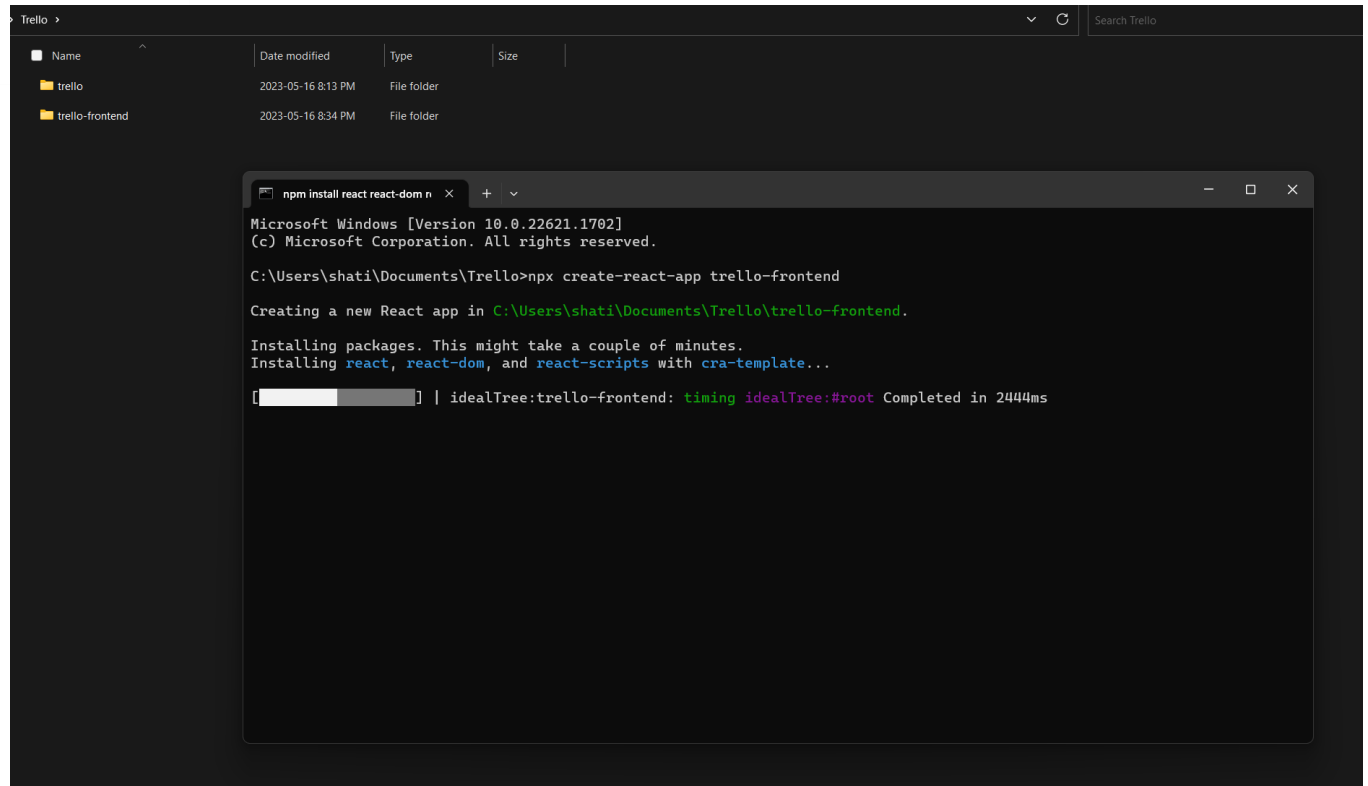


Figure 6 create new react js project.

Step 5: Once the project creating is done go to the created project folder “cd trello-frontend”. And issue the command “npm start” to start the react JS project. This will take some time to compile and start the application. Your terminal will provide you the URL of the running react project.

```
C:\Users\shati\Documents\Trello>cd trello-frontend
C:\Users\shati\Documents\Trello\trello-frontend>npm start

> trello-frontend@0.1.0 start
> react-scripts start

(node:9520) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
(Use 'node --trace-deprecation ...' to show where the warning was created)
(node:9520) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBeforeSetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
Starting the development server...
Compiled successfully!

You can now view trello-frontend in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://10.0.0.160:3000

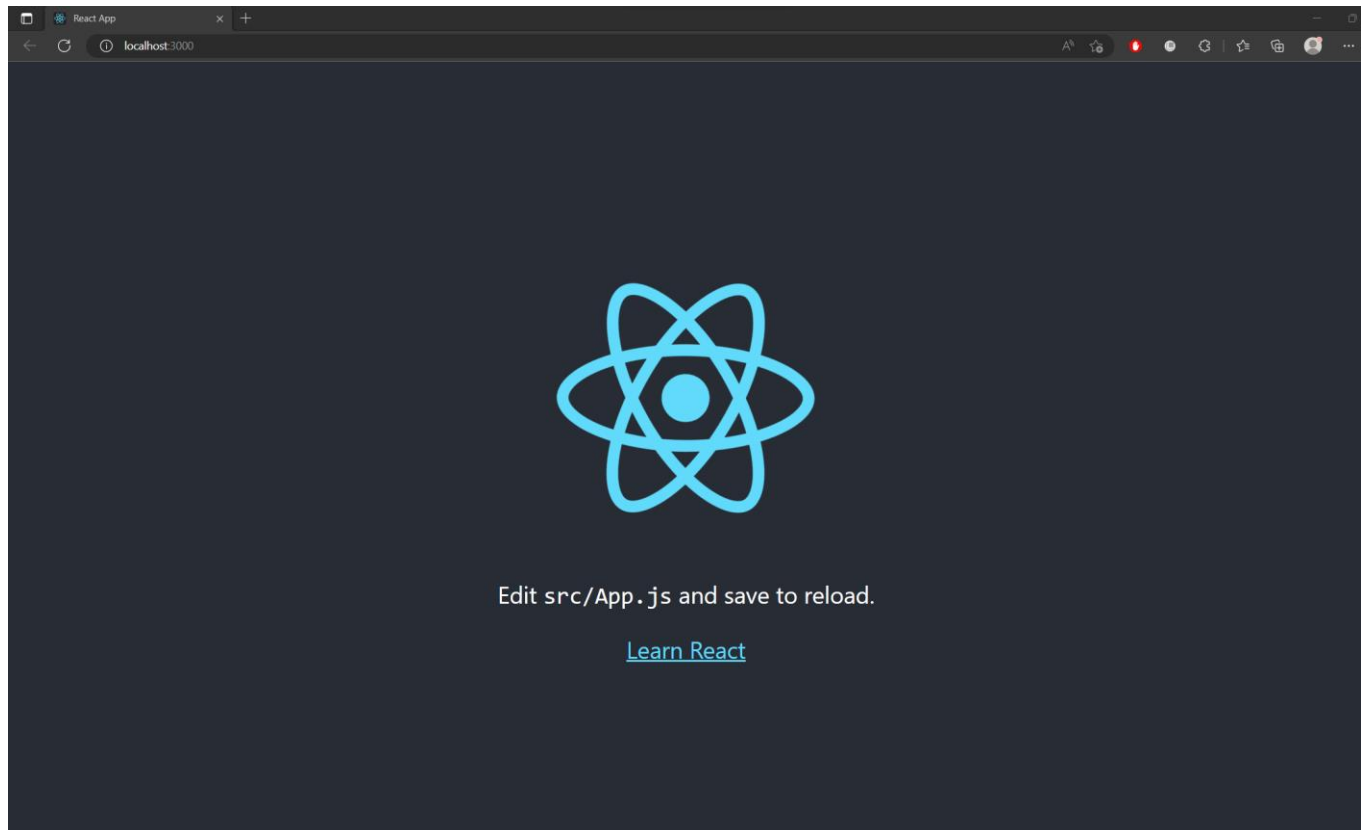
Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

Figure 7 Successful compilation of react project.

Step6: now your project must have opened in your default browser if not copy the link in the terminal <http://localhost:3000> and paste in your browser. Your URL might be different so take it from the terminal.

Step 7: You should successfully see this starter page. You can commit both the frontend and backend files to your project repository. You will receive instructions on how to commit and push changes to your project repository in the lab session for git.



*Figure 8 Successfully tuning react project.*

## Useful Resources:

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- 1.) [Installing Java on any OS](#)
- 2.) [Installing Intelli J](#)
- 3.) [Installing MySQL](#)
- 4.) [Installing Node JS](#)
- 5.) Ask any questions related to setting up project in the teams general channel for detailed instructions from one of the TA.