A close-up of a logo

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Java Web Development Project EasyWear App

2025

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Chapter 1: Architecture

**Infrastructure Review –**

The app is hosted on a remote Ubuntu server.

A diagram of a computer

Description automatically generatedAPP server is querying the DB server in a local network.

**Code Architecture Review–**

All classes and interface files are under the respected packages.

A screenshot of a computer screen

Description automatically generatedEach package contains the main Class file, controller, service and repository

A screenshot of a computer

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**Database Architecture Review–**

The Database in connected via the “application.properties” file which configure the IP address, username, Password and the rest of the dependencies.

A screenshot of a computer screen

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We are using 2 main Spring packages to interact with the Database.

1. Hibernate: allow to map a class object into a Database structure (table) and allow Spring to manage the entity. (left)
2. JPA: allow us to execute SQL queries without the need-to-know SQL.

JPA has naming conventions to query and look for data by the “findBy” or “existsBy” keywords. (right)

A screen shot of a computer program

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A screen shot of a computer code

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Chapter 2: Authentication

**Authentication Flow –**

When authenticating to the system the user/employee will undergo the following procedures:

1. AuthenticationManager in SecurityConfig will initiate the authentication process

A screen shot of a computer code

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The AuthenticationManager is calling for “userDetailsService” and “passwordEncoder”

1. combinedUserDetailsService will try to load the username.

It will firstly look up if there is a matching username in the employee’s database

If not, it will check the Users database.

A computer screen shot of text

Description automatically generatedIf no matching username is found the end user will be redirected to “login-failure” page.

A screen shot of a computer program

Description automatically generated3) The combinedUserDetailsService will call the loadUserByUsername public interface which the EmployeeService and UserService both implements

When username is matched, the loadUserByUsername function will check its role.

If the role is matched then the “CustomAuthenticationSuccessHandler”

A screen shot of a computer program

Description automatically generatedWill redirect each entity to its respective page

A screen shot of a computer code

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A screenshot of a computer

Description automatically generatedAdmin user authentication log:

Employee user authentication log:

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Authentication failure log:

A screenshot of a computer

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A computer screen shot of text

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Chapter Two: Security

**Infrastructure Security** **Review –**