* **Project Overview**
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* **Installation Instructions**
* **Usage Instructions**
* **Key Components / Modules**
* **APIs / Endpoints (if applicable)**
* **Database Structure (if applicable)**
* **Contribution Guidelines (optional)**
* **Known Issues / Future Improvements**

**📝 Project Summary (Preliminary)**

* **Project Name:** Apple
* **Technology Stack:** Java, Maven
* **Project Type:** Likely a Spring Boot or Java CLI/Web application
* **Folder Path:** Apple/Apple/ is the core directory containing the main source and configuration files.

**📁 Folder Structure Overview (Key Parts Identified)**

| **Path** | **Description** |
| --- | --- |
| Apple/Apple/ | Main project directory |
| Apple/Apple/pom.xml | Maven project configuration file |
| Apple/Apple/.idea/ | IntelliJ IDEA configuration files |
| Apple/Apple/bin/ | Likely contains build artifacts or copied resources |
| Apple/Apple/HELP.md | Project help or README file |
| Apple/Apple/mvnw, mvnw.cmd | Maven wrapper scripts |
| .classpath, .project | Eclipse project configuration files |

Next, I’ll inspect the pom.xml, HELP.md, and source directories (likely under src/) to provide a **detailed documentation** with:

* Project purpose
* Setup instructions
* Technologies/libraries used
* Component/module breakdown
* Instructions for building and running the application

Let me now parse and analyze the core project files.

Based on the contents of your project ZIP file, here is a comprehensive documentation you can present to your team:

**📘 Project Documentation: Apple**

**🧾 Overview**

**Apple** is a demo Spring Boot web application designed to demonstrate core features of Java web development. It uses Spring Boot 3.4.5 and integrates key modules like Spring MVC, Spring Data JPA, Thymeleaf, and email services. The app supports both H2 (in-memory) and MySQL databases, providing flexibility for development and deployment.

**⚙️ Technologies Used**

| **Technology** | **Purpose** |
| --- | --- |
| Java 17 | Programming Language |
| Spring Boot 3.4.5 | Web framework for building REST/MVC apps |
| Maven | Project build and dependency management |
| Spring Data JPA | ORM for database interaction |
| H2 Database | In-memory DB for development/testing |
| MySQL | Optional persistent DB |
| Thymeleaf | Templating engine for server-side views |
| Spring Boot Mail | Email sending support |
| IntelliJ / Eclipse | Supported IDEs (.idea/, .classpath present) |

**🗂️ Project Structure**

pgsql

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Apple/

└── Apple/

├── .idea/ # IntelliJ project configuration

├── bin/ # Binary artifacts (likely empty)

├── mvnw, mvnw.cmd # Maven wrapper

├── pom.xml # Maven configuration file

├── HELP.md # Project reference documentation

└── src/ # Main source code (TBD, will inspect next)

**🧪 Dependencies from pom.xml**

* spring-boot-starter-web: For creating web applications, including RESTful services.
* spring-boot-starter-data-jpa: For JPA and Hibernate ORM.
* spring-boot-starter-thymeleaf: For server-side rendering using HTML templates.
* spring-boot-starter-mail: To enable email features.
* h2: Embedded database for dev/testing.
* mysql-connector-j: Driver for MySQL connectivity.
* spring-boot-starter-test: Testing support with JUnit.

**📦 Build and Run Instructions**

**Prerequisites**

* Java 17+
* Maven 3.6+
* (Optional) MySQL Database

**Build**

bash

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./mvnw clean install

**Run**

bash

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./mvnw spring-boot:run

**🧰 Development Tips**

* You can switch between **H2** and **MySQL** by adjusting the application.properties or application.yml (TBD).
* Use IntelliJ or Eclipse for IDE support—.idea/ and .project files are present.
* Helpful references can be found in HELP.md, linking to:
  + [RESTful Web Service Guide](https://spring.io/guides/gs/rest-service/)
  + [MySQL Access Guide](https://spring.io/guides/gs/accessing-data-mysql/)

**📬 Email Integration**

Spring Boot Mail dependency is included. To enable, configure the following in application.properties:

properties

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spring.mail.host=smtp.example.com

spring.mail.port=587

spring.mail.username=your\_email

spring.mail.password=your\_password

spring.mail.properties.mail.smtp.auth=true

spring.mail.properties.mail.smtp.starttls.enable=true

**📈 Future Improvements (Suggestions)**

* Add Swagger for API documentation
* Include test cases with JUnit/Mockito
* Create a Dockerfile for containerization
* Set up a CI/CD pipeline (e.g., GitHub Actions)

Next, I’ll inspect the src/ folder to identify core business logic, controllers, and other components to complete the documentation. Proceeding with that now.

Great — the project includes a complete Spring Boot application with MVC architecture. Here's the next section of the documentation based on the contents of the src directory:

**🔍 Detailed Project Breakdown**

**📁 Key Packages and Files**

**com.sumanth.Apple**

* **AppleApplication.java**: Main entry point for the Spring Boot application.

java

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@SpringBootApplication

public class AppleApplication {

public static void main(String[] args) {

SpringApplication.run(AppleApplication.class, args);

}

}

**🧩 MVC Components**

**📂 Controllers (com.sumanth.Apple.controllers)**

* **UsersController.java**: Manages user-related API or view routes.
* **UserViewController.java**: Likely handles page navigation (Thymeleaf templates).
* **Mysqlconnection.java**: Possibly used for manual JDBC-based MySQL connection (not recommended with Spring Data).

**📂 Models (com.sumanth.Apple.models)**

* **User.java**: Domain model representing a user entity. Likely includes fields like id, username, email, etc.

**📂 Repository (com.sumanth.Apple.repository)**

* **UserRepository.java**: Interface for CRUD operations on User using Spring Data JPA.

**🛠 Configuration**

**application.properties**

Contains app settings, DB credentials, mail config, and port settings. Notable configs may include:

properties

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server.port=8080

spring.datasource.url=...

spring.datasource.username=...

spring.datasource.password=...

**🌐 Frontend (Thymeleaf)**

Templates under resources/templates:

* index.html: Likely landing/login page
* login.html, login\_success.html
* employee\_dashboard.html, manager\_dashboard.html
* forgot-password.html, enter\_otp.html: Password recovery flow

Static assets (under resources/static) include images used in the UI: logo.png, profile.jpg, etc.

**🔄 User Flow (Assumed)**

1. **Login Page (index.html)**
2. **Authentication by UsersController**
3. **Redirect to Role-based Dashboard**:
   * Employee → employee\_dashboard.html
   * Manager → manager\_dashboard.html
4. **Password Recovery** using OTP:
   * forgot-password.html → enter\_otp.html
5. **Post-login handling** by UserViewController

**🧪 Testing**

The project includes spring-boot-starter-test in the POM, but no test files were found in the source. Consider adding:

* Unit tests for UserRepository
* Integration tests for controller routes
* UI tests (optional) using Selenium or similar tools

**📄 Summary**

This Spring Boot project is a structured web application with login and dashboard views, password recovery, email integration, and a user data model connected to a MySQL or H2 database.

You’re now ready to:

* Build and run the app
* Extend user features (e.g., registration, roles)
* Deploy it locally or to the cloud (Heroku, AWS, etc.)