**Microservice Focused – Sign Up and Sign In Functionality on Spring Boot**

**Overview:**

This project focuses on implementing a microservices-based architecture to provide sign-up and sign-in functionality using Spring Boot. The system is divided into two services, namely the sign-up and sign-in services, each deployed on different ports to facilitate separation of concerns and scalability.

**Dependencies Used:**

* Spring Boot 3.2.3
* Java 17
* Maven Build
* Spring Dev Tools
* Spring Data JPA
* Spring Web
* MySQL Driver
* Lombok
* Javax
* Jstl
* Jasper

**Project Structure:**

* Application Properties:
  + Sign In (Port: 8080)
  + Sign up Service (Port: 8081)
  + Data Source Configuration
  + MVC configuration
* Pom.xml – dependencies
* Model:
  + Created User model class to represent user data.
* Repository:
  + Used Extends JPARepository of Spring Data JPA
  + Added List to find username and password.
* Controllers:
  + Implemented controllers for sign-up and sign-in functionalities.
  + Implemented validation checks for duplicate usernames, password matching, etc.
* Views:
  + Created JSP pages for sign-up and sign-in forms.
* Microservice Communication done by **RestTemplate** to enabled communication between services.

**Key Features:**

* RESTful APIs for sign-up and sign-in functionalities.
* Input validation to ensure data integrity.
* Separation of concerns through microservices architecture.
* Utilization of Spring Boot for rapid application development.

**Learning Points:**

* Understanding the benefits of microservices architecture.
* Utilizing Spring Boot to accelerate development.
* Implementing communication between microservices.
* Handling data validation and error handling effectively.

**Next Steps:**

* Implement additional security features (e.g., JWT authentication).
* Enhance error handling and logging mechanisms.
* Integrate with a centralized configuration server for better manageability.
* Containerize services using Docker for easier deployment and scalability.

**Conclusion:**

This project provided valuable insights into microservices architecture and Spring Boot development. By implementing sign-up and sign-in functionalities, I gained hands-on experience in building scalable and efficient systems. I look forward to applying these learnings to future projects and seeking advice for further improvements.