## **Online Job Portal Project Report**

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**Project Title:- Online Job Portal Project (Spring boot base)**

### ****1) Introduction****

The **Online Job Portal** is a web-based platform designed to bridge the gap between job seekers and employers. With digital recruitment becoming the norm, this portal allows companies to post job vacancies and applicants to apply online, thereby simplifying the hiring process. The project is developed using **Core Java**, **Advanced Java**, **Hibernate for ORM**, **SQL for database**, and **Spring Boot** as the primary backend framework under a **Maven** project structure.

This portal streamlines job management, registration, login, application tracking, and job listing functionalities in a user-friendly interface.

### ****2) Abstract****

The objective of the Online Job Portal is to offer a centralized, user-accessible job recruitment system for both recruiters and job seekers. Recruiters can register and post job opportunities while job seekers can register, view job listings, and apply to relevant positions. The platform handles dynamic data exchange through **Spring Boot MVC architecture**, ensures persistence using **Hibernate**, and maintains application data in a **MySQL** database.

The use of **Core Java** and **Advanced Java** ensures strong object-oriented principles and robust web application capabilities such as servlets and JSP (if used). This project is a practical implementation of full-stack Java web development.

### ****3) Tools Used****

| **Tool/Technology** | **Purpose** |
| --- | --- |
| **Core Java** | Base programming for business logic and structure |
| **Advanced Java** | For handling web technologies (Servlets, JSP, etc.) |
| **Spring Boot** | Rapid backend development, REST API, MVC structure |
| **Hibernate ORM** | Object-Relational Mapping for database interaction |
| **SQL (MySQL)** | Database to store users, jobs, applications, etc. |
| **Maven** | Project build and dependency management |
| **Thymeleaf** (if used) | Server-side rendering of HTML templates |
| **Postman** | Testing APIs (optional) |
| **STS / IntelliJ IDEA** | IDE for Java Spring development |
| **Git** (optional) | Version control |

### ****4) Steps Involved in Building the Project****

#### ****Step 1: Requirements & Planning****

* Identified core modules: User Management, Job Management, Application Process.
* Decided technology stack: Java, Spring Boot, Hibernate, MySQL.

#### ****Step 2: Project Setup****

* Created a Spring Boot Maven project using Spring Initializr.
* Integrated dependencies: Spring Web, Spring Data JPA, MySQL Driver, Thymeleaf (optional).

#### ****Step 3: Database Design****

* Designed MySQL tables:
  + users – Stores job seeker and recruiter info
  + jobs – Stores job listings
  + applications – Tracks job applications

#### ****Step 4: Entity & ORM Configuration****

* Created entity classes (User, Job, Application) with JPA annotations.
* Used Hibernate for ORM to map entities to the database.

#### ****Step 5: Backend Development****

* Developed service and repository layers for CRUD operations.
* Implemented controllers for user actions: register, login, view jobs, apply for jobs.

#### ****Step 6: Frontend Integration****

* Designed dynamic pages using Thymeleaf or JSP.
* Linked with controllers using Spring MVC.

#### ****Step 7: Authentication & Validation****

* Used Spring Security or custom logic for login/authentication.
* Added server-side validation for forms.

#### ****Step 8: Testing****

* Tested all modules (registration, job posting, applying).
* Used Postman for API testing (if REST APIs are exposed).

#### ****Step 9: Deployment****

* Packaged the project using Maven.
* Ran the project locally using embedded Tomcat server.

### ****5) Conclusion****

The **Online Job Portal** project effectively showcases the integration of core backend technologies such as **Spring Boot**, **Hibernate**, and **MySQL** to build a real-world application. It demonstrates the application of object-oriented principles, web architecture, and database connectivity. The system not only provides job seekers with a simple interface to browse and apply for jobs but also allows recruiters to manage their job postings efficiently.

This project has enhanced the understanding of full-stack Java development and laid a solid foundation for building scalable enterprise-level applications in the future.