Backend & Automation QA Engineer

Job Title: Backend QA
Location: Delhi NCR
Experience: 3–6 Years
Employment Type: Full-Time
Industry: Aviation, Airport Systems & Technology

Job Summary

CorePeelers is seeking a technically rigorous **Senior Backend & Automation QA Engineer** to ensure the resilience, scale, and high performance of our enterprise backend systems, microservices, and aviation integration pipelines. In this role, you will own unit/integration testing excellence (using **JUnit**, **Mockito**, and **SonarQube**), automated end-to-end user journey validation (using **Selenium WebDriver**), and high-throughput performance testing (using **Apache JMeter**). You will simulate real-world traffic, automate robust test suites, and enforce strict code health standards to guarantee mission-critical reliability across our entire technology stack.

Key Responsibilities

Unit Testing, Mocking & Code Quality

- **Unit & Integration Testing:** Design and maintain robust test suites using **JUnit** for Java backend components.
- **Service Isolation:** Leverage **Mockito** to mock external dependencies, databases, and message brokers, ensuring isolated and deterministic unit tests.
- **Code Health & Quality Gates:** Integrate test execution with **SonarQube** pipelines to track code coverage (via JaCoCo), eliminate code smells, and prevent vulnerabilities.

UI & End-to-End Test Automation

- **Test Automation Frameworks:** Build, scale, and maintain automated UI and functional test scripts using **Selenium WebDriver** following robust design patterns (e.g., Page Object Model).
- **Regression Testing:** Automate critical user workflows, cross-browser validation, and end-to-end integration journeys to drastically reduce manual testing cycles.
- **Reusable Methodologies:** Create clean, scalable automated scripts utilizing reusable methods and robust element-locating strategies.

Performance & Load Engineering

- **Load & Stress Testing:** Design, script, and execute complex performance test scenarios using **Apache JMeter** to evaluate system behavior under peak concurrent loads.
- **Bottleneck Analysis:** Measure system response times, throughput, resource utilization, and database performance (**PostgreSQL/MySQL**) during high-stress tests.

- **Scalability Validation:** Validate the performance of RESTful APIs, integration routes, and asynchronous event streams (e.g., ActiveMQ/Artemis) to ensure they meet enterprise SLA requirements.

Collaboration & Pipeline Governance

- **DevOps & CI/CD Integration:** Embed Selenium automation scripts, JMeter performance tests, JUnit test execution, and SonarQube quality gates directly into automated CI/CD pipelines.
- **Cross-Functional Collaboration:** Work closely with backend developers and system architects to review code changes, optimize database queries, and design for high concurrency and testability.
- **Defect Lifecycle Management:** Track, isolate, and report performance degradation, UI inconsistencies, and backend bugs using JIRA.

Required Qualifications & Skills

- **Experience:** 3–6 years of experience in software testing, quality engineering, or automation engineering within a Java ecosystem.
- **Automation Testing:** Strong hands-on expertise in automated UI/functional testing using **Selenium WebDriver**, with proficiency in creating scalable scripts using reusable methods.
- **Performance Testing:** Deep practical experience with **Apache JMeter** for creating load, stress, and spike test scripts, alongside performance metric analysis.
- **Unit Testing & Mocking:** Strong proficiency in **JUnit** and **Mockito** for backend code verification and test isolation.
- **Quality & Metrics:** Familiarity with **SonarQube** code quality analysis and code coverage reporting.
- **Backend & Database Skills:** Solid understanding of object-oriented programming in Java, SQL programming, and relational databases (**PostgreSQL / MySQL**).
- **Debugging & Tooling:** Exceptional troubleshooting skills to diagnose bugs, bottlenecks, and thread contention; proficient with build tools (Maven/Gradle) and JIRA.

Nice-to-Have

- Experience testing event-driven or messaging architectures (e.g., Apache Camel, ActiveMQ, Kafka).
- Familiarity with infrastructure monitoring tools (Prometheus, Grafana) and containerized environments (OpenShift/Kubernetes).

Education & Professional Qualifications

Bachelor of Technology (B.Tech) in Computer Science, Information Technology, or a related engineering discipline