**Automated Testing Suites — Unit, Integration, and Security Testing**

**Objective:**  
Ensure software reliability, maintainability, and security through extensive automated testing across the stack.

**Detailed Components:**

* **Unit Testing:**
  + Frontend: Jest/Mocha (React Native), Flutter Test.
  + Backend: PyTest (Python), JUnit (Java/Kotlin), Postman test scripts.
* **Integration Testing:**
  + Testing of interactions between modules (e.g., attendance → payroll).
  + End-to-end test automation with **Selenium**, **Appium**, or **Cypress**.
* **Security Testing:**
  + Static Application Security Testing (SAST) with **SonarQube**, **Brakeman**.
  + Dynamic Application Security Testing (DAST) with **OWASP ZAP**, **Burp Suite**.
* **Test Automation Frameworks:**
  + CI-integrated test execution for every code push (in CI/CD pipeline).
  + Coverage reports and test dashboards auto-published after every build.
* **Test Data Management:**
  + Secure anonymized datasets for realistic testing.
  + Automated test environment reset scripts for consistency.