

Md Raihanul Alam

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U. S. Citizen | Active Public Trust Clearance (MBI)

Professional Summary

- Over **12 years of experience** in **Software Quality Assurance**, supporting key federal agencies including the **IRS**, **U.S. Department of Labor**, and **U.S. Department of Transportation**.
- Proficient in **Agile** and **SAFe Agile** environments, actively participating in **PI Planning**, **Sprint Planning**, **Stand-ups**, **Reviews**, and **Retrospectives**.
- Expertise in both **manual** and **automated testing**, designing and executing **functional**, **regression**, **UAT**, **GUI**, and **integration** test cases across staging and production environments.
- Developed and maintained automation frameworks using **Java**, **Rational Functional Tester (RFT)**, **Selenium WebDriver**, **TestNG**, and **Cucumber BDD**, following the **Page Object Model (POM)**.
- Applied **data-driven** techniques and dynamic **XPath/CSS selectors** to ensure robust and reusable test automation across changing UI components.
- Managed automation version control and collaboration via **Git** and **GitHub**, and integrated test suites into **CI/CD pipelines** using **Jenkins** and **Azure DevOps**.
- Created and maintained **Requirement Traceability Matrices (RTMs)**, aligning test coverage with business and technical requirements.
- Strong experience with **test case and defect management** using tools like **IBM Rational RQM/RTC**, **Microsoft Azure DevOps (ADO)**, **ServiceNow**, **JIRA**, and **Zephyr**.
- Conducted **REST API testing** using **Postman**, validating endpoints, payloads, status codes, headers, and backend integrations.
- Performed **backend testing** and wrote complex **SQL queries** on **MySQL** and **MongoDB** to ensure data accuracy and integrity.
- Executed **508 Compliance Testing** using **WAVE**, **Axe**, and **NVDA**, supporting accessibility standards and federal compliance mandates like **FISMA**, **OMB A-130**, and **NIST 800-53**.
- Provided mentorship to junior QA engineers, contributed to process improvements, and played a key role in ensuring audit-readiness and secure, high-quality software releases.
- Worked with RPA (**Robotic Process Automation**) development team for enhancing AI automation capabilities

Technical Skills

- **Testing Methodologies:** Manual Testing, Automation Testing, Functional, Regression, Smoke, UAT, GUI, Integration, System, 508 Accessibility Testing
- **Agile Frameworks:** Scrum, SAFe Agile – PI Planning, Sprint Planning, Daily Stand-ups, Retrospectives
- **Test Management Tools:** IBM RQM/RTC, Microsoft Azure DevOps (ADO), JIRA, Zephyr, ServiceNow
- **Automation Tools & Frameworks:** Rational Functional Tester (RFT), Selenium WebDriver, Cucumber BDD, TestNG, Maven, Apache POI, UI Path
- **AI Automation:** RPA UI Path, Ui Assistance, Ui Orchestra
- **Programming Languages:** Java (for both RFT and Selenium), Gherkin (for BDD Scenarios)
- **CI/CD & Version Control:** Jenkins, Azure DevOps Pipelines, Git, GitHub
- **Web Technologies & Locators:** HTML, CSS, DOM, XPath, CSS Selectors, Dynamic Waits
- **API Testing:** Postman, RESTful Web Services, JSON, Authentication Tokens

- **Database & Backend Validation:** SQL – MySQL, MongoDB, Data Verification & Query Writing
- **Accessibility Compliance:** 508 Testing using WAVE, NVDA, Axe, Chrome DevTools
- **Defect Tracking & Reporting:** JIRA, IBM RTC, ServiceNow – with detailed logging, triage participation, and resolution follow-ups
- **Test Documentation:** Requirement Traceability Matrix (RTM), Test Plans, Test Scripts, Test Cases, Release Readiness Reports
- **Tools & Utilities:** SecureFX, CRT, Splunk, LDAP, PUMAS Logs, Rational Suite, Apache POI

Professional Experience

Grep Solutions LLC – Internal Revenue Service (IRS), Washington DC

QA Automation Engineer

February 2020 – Present

- Participated in **SAFe Agile ceremonies** including PI Planning, Sprint Planning, Stand-ups, Reviews, and Retrospectives to align testing with program goals and stakeholder expectations.
- Collaborated with Business Analysts and Developers to review **user stories and acceptance criteria**, ensuring comprehensive coverage in manual and automated testing.
- Maintained a **Requirement Traceability Matrix (RTM)** to ensure end-to-end visibility from business requirements to validated test cases and defects.
- Authored and executed detailed **manual test cases** for System, Functional, Regression, Smoke, and UAT testing across secure IRS platforms.
- Managed **test artifacts** using **IBM Rational Quality Manager (RQM)**, including test plans, execution cycles, and test result documentation.
- Logged and tracked defects in **IBM Rational Team Concert (RTC)**, collaborating with developers for resolution and retesting prior to release.
- Led **defect triage meetings**, providing reproduction steps, screenshots, and root cause details to ensure clarity and rapid issue resolution.
- Developed and executed **automated test scripts** using **Java-based Rational Functional Tester (RFT)** within a data-driven framework, applying reusable shared libraries and dynamic test inputs.
- Maintained modular automation code using **Page Object Model (POM)** structure principles adapted to RFT's object repository model.
- Applied **XPath and CSS selectors** in RFT scripts to reliably interact with dynamic UI components across evolving secure access systems.
- Performed **cross-browser testing** across Chrome, Firefox, and Edge to ensure accessibility and consistency across platforms.
- Integrated automated tests with **Git and GitHub**, managing version control, pull requests, and collaborative updates to automation assets.
- Participated in automation pipeline discussions and monitored **CI/CD test executions** across distributed environments.
- Conducted **508 Compliance Testing** using tools such as **WAVE, Axe, and NVDA**, identifying accessibility issues and recommending improvements for visually impaired users.
- Performed **REST API testing** using **Postman**, validating headers, tokens, JSON payloads, and response codes to ensure backend service integrity.
- Validated backend behavior using **SQL queries** on **MongoDB**, confirming data accuracy, inserts, updates, and consistency post-UI actions.
- Interpreted and translated **functional requirements** into automation use cases and test logic to support RPA integration and enhance AI-driven automation.

- Participated in **security and system acceptability testing** focused on identity-proofing, login access, and validation of secure cloud-based workflows.
- Supported **FISMA, OMB A-130, and NIST 800-53** compliance efforts by documenting test results and preparing evidence for quality audits.
- Trained and mentored junior QA team members, forecasted QA resource needs, and reported test progress to project leadership.
- Frequently validated **logs from SecureFX, CRT, PUMAS, Splunk, and LDAP directories** to troubleshoot system behaviors during test cycles.

U.S. Department of Labor – Washington, DC

QA Test Engineer

November 2015 – February 2020

- Participated in **Agile Scrum ceremonies**, including Sprint Planning, Daily Stand-ups, Reviews, and Retrospectives, ensuring QA efforts aligned with evolving sprint deliverables.
- Collaborated with Business Analysts and Developers to review and clarify acceptance criteria, define test scope, and ensure shared understanding of application behavior.
- Created and maintained a detailed **Requirement Traceability Matrix (RTM)** to guarantee end-to-end requirement coverage across multiple testing phases.
- Designed and executed **manual test cases** for functional, regression, UAT, and GUI testing, validating critical Department of Labor application workflows.
- Utilized **JIRA and Zephyr** to manage test cases, track execution status, log defects, and maintain test documentation in alignment with release cycles.
- Reviewed and validated requirement documents to ensure that test scenarios covered both happy paths and edge cases across eligibility, claims, and benefits modules.
- Developed **automated test scripts** using **Java, Selenium WebDriver, and Cucumber BDD**, writing Gherkin-style scenarios to simulate real user behavior.
- Applied the **Page Object Model (POM)** to build scalable and modular test components for easier maintenance and reusability across automation suites.
- Incorporated **dynamic XPath strategies** and implicit/explicit waits to stabilize automation across responsive and asynchronous web components.
- Integrated automation tests into **Jenkins CI/CD pipelines** for nightly execution and regression validation before every production deployment.
- Implemented **data-driven automation** using Apache POI to read test data from external sources, allowing broad scenario validation without hardcoded values.
- Conducted **REST API testing using Postman**, verifying endpoint responses, JSON payloads, headers, authentication, and backend integration flows.
- Wrote **SQL queries in MySQL** to validate backend operations such as data creation, updates, and deletions triggered from UI and API layers.
- Worked with developers during defect triage to reproduce issues, retest fixes, and ensure timely closure of critical bugs in the release cycle.
- Participated in regression cycles post-hotfix and release deployments to ensure production stability and coverage of core workflows.

Quality Assurance Analyst

Agile Tech Corporation – U.S. Department of Transportation

February 2013 – October 2015

- Participated in **Agile** sprint ceremonies to stay aligned with evolving business needs, helping shape testing activities from story grooming through sprint closure.

- Carefully reviewed **business rules** and **technical specs** to craft detailed **manual test cases** that covered real-world scenarios, edge conditions, and cross-module interactions.
- Maintained a clear **Requirement Traceability Matrix (RTM)**, making sure each requirement had a corresponding test and nothing fell through the cracks.
- Manually executed **test cases** for **Functional**, **Smoke**, **Regression**, and **System Integration Testing**, working across different environments to ensure quality from staging to **UAT**.
- Managed **test plans**, **execution status**, and **results tracking** directly in **Microsoft Azure DevOps (ADO)**, keeping the **QA lifecycle** visible and traceable.
- Logged bugs and enhancement requests in **ServiceNow** with reproducible steps, screenshots, and impact summaries—then worked closely with developers to validate fixes.
- Ran **508 accessibility tests** using tools like **WAVE**, **NVDA**, and **Axe**, and flagged any usability issues that would hinder users with disabilities—followed up with devs to make sure fixes met **federal compliance**.
- Enhanced a small set of **automated regression scripts** using **Java**, **Selenium WebDriver**, and **TestNG**—applying the **Page Object Model (POM)** to make scripts modular and easy to maintain.
- Used dynamic **XPath** and **CSS selectors** to ensure that even frequently changing web elements were captured and tested reliably.
- Integrated automation into **Azure DevOps CI/CD pipelines** to support nightly **smoke runs** and reduce turnaround for release validation.
- Ran **SQL queries** to confirm that **front-end actions** were reflected accurately in the **MySQL database**, especially for data entry, updates, and deletes.
- Used **Postman** to test **REST APIs**, confirming that **endpoints** returned valid data and handled both happy paths and negative scenarios properly.

Education

- **M.S. in Computer Science**, North South University, Dhaka, Bangladesh, 2013
- **B.S. in Computer Science**, North South University, Dhaka, Bangladesh, 2010