



**QUALITY ASSURANCE**

# STRATEGIC ASSURANCE FOR LAUNCHING RESILIENT SOFTWARE

Elevate Your Software & Data Engineering Standards with  
**Expert QA & Testing Solutions**

When you need to deliver reliable, high-quality software that meets the needs of both your businesses and end-users, Quality Assurance is a step you can't afford to skip or skimp on. And if you must move from code to confidence quickly, your software needs a testing dream team.

QA services and software testing solutions are crucial aspects of the software development lifecycle. Focus on this specialized process ensures software meets specified requirements, functions correctly and delivers a positive user experience. Not only is it critical to minimize risks and improve efficiency, but it can also expedite product release cycles.

Whether your requirements call for a select group of QA engineers or an entire automation team, adaptable engagement models from Growth Acceleration Partners (GAP) guarantee a seamless and collaborative partnership. Improve your software development lifecycle with the precision and efficiency GAP's top-tier technical experts bring to the table.

# Quality Engineering Services for Software



Software QA is vital for successful software development and deployment, ensuring high-quality outcomes and improved business results. If this is a process you need to outsource, it's important to work with experts well-versed in diverse QA domains, encompassing manual and automated testing, while prioritizing product security and reliability. You'll also want certified engineers who follow industry best practices.

This leads to:

- **Improving user satisfaction** by releasing a product on time and with the highest quality standards — not focusing only on how the software functions, but also by making sure it provides a positive user experience.
- **Saving time and money** by anticipating and preventing potential issues before they escalate. Great teams find bugs earlier in the process, which avoids re-work, legal issues and damage to the brand's reputation.
- **Mitigating risks** associated with software development, deployment and maintenance by reducing the likelihood of critical failures, security breaches and other issues that could negatively impact the company's operations.
- **Implementing robust QA processes** to ensure the software meets these regulatory compliance and standards, thereby reducing the risk of legal issues and penalties associated with non-compliance.
- **Minimizing delays** caused by unexpected defects and issues that slow down product launches, creating faster time-to-market with solid processes to help expedite the release of software.
- **Fostering a quality mindset** that transcends boundaries and enhances the overall quality of products, services and processes to deliver excellence.

— Overlooking QA is a great way to ensure you will spend a ton of time and money putting out fires in the near future. —

QUALITY  
ASSURANCE

## Partner with with a Trusted Expert for Quality Assurance

Adaptability is at the core of GAP's agile philosophy and fundamental values. Our QA engineers excel in adjusting to diverse project scenarios and challenges, embracing change as a catalyst for continuous improvement and growth. Learning from setbacks is a cornerstone of our approach, driving us to constantly refine and enhance our practices for the better.

Collaborative QA engineers will closely engage with your development team to comprehend feature requirements, priorities, timelines and associated risks for efficient feature development or modifications. And critical areas are prioritized with precision to highlight essential testing focus points. Here's what our process looks like:



### Performing Multiple Testing Types

Quality engineers play a crucial role in a highly-competitive market by offering a wide range of services, spanning from functional testing (which evaluates the functions a component or system should perform) and non-functional testing (which evaluates attributes other than functional characteristics of a component or system, e.g., performance, compatibility, usability, security, etc.), to exploration and concept testing tailored to incorporate the latest market technologies, such as artificial intelligence (AI). This significantly contributes to helping you achieve your goal of standing out among competitors.



### Defining Processes and Strategies Based on Your Needs

A frequently encountered demand in projects is the need for an adaptable testing process that aligns with the release implementation, ensuring that what goes live is promptly tested and meets the desired standards.

In order to implement streamlined processes that optimize your QA team's operations, you need strategies perfectly aligned with your unique requirements, taking into account your organization's culture, goals and challenges.

Our approach involves a deep understanding of your software product, business goals and challenges. We start by conducting a comprehensive analysis of your current QA processes, identifying bottlenecks, inefficiencies, and areas for improvement. This diagnostic phase allows us to create a roadmap for enhancing your operations.

After gaining a comprehensive understanding of your specific requirements, we craft highly targeted-strategies designed to accomplish your objectives. This involves collaboration with your team to ensure our solutions are not just theoretically sound, but also practical and actionable.

To streamline your operations, we introduce optimized workflows and agile methodologies. GAP also leverages cutting-edge technology and tools to automate repetitive tasks and enhance productivity. Continuous monitoring and feedback loops are established to adapt to changing circumstances and ensure sustained improvements.



## Leading Expert Teams

Our QA engineers are not only highly-proficient technically, but also adept at leading teams and fostering positive change within your organization. They possess essential soft skills such as effective communication, empathy, conflict resolution, delegation and adaptability, which are integral to successful leadership.

Mastering team leadership is pivotal in reaching organizational objectives, cultivating a harmonious work environment, and advancing the growth and contentment of team members. This, in turn, fuels a positive shift, driving success and desired outcomes for your business.



## Identifying Areas for Improvement

As part of our commitment to excellence, we collaborate closely with the different stakeholders to identify improvement opportunities or pain points. This is achieved through comprehensive process analysis. Following an assessment, tailored recommendations address and resolve these issues, ensuring everyone's input is respectfully considered in the decision-making process. This results in:

- **Enhanced Product Quality**, as teams can focus on refining and enhancing the quality of the software product, which leads to a reduction in defects, improved functionality, and a more robust and reliable end product.
- **Increased Efficiency** by streamlining processes and eliminating inefficiencies, which often translates to cost savings and quicker time-to-market for software products.
- **Improved Team Collaboration and Morale** to foster a culture of continuous learning and growth within the team, which ultimately contributes to a more positive and productive work environment.

## QA Engineering Services for Data

Data QA ensures you continue to get quality data and meaningful insights. QA-as-a-service prevents headaches and risks caused by human error. As many experienced leaders know, it only takes one mistake to cost you millions to clean up. And when your users are working with complicated applications within a large organization or a company that operates in various regions — the chances of human error are significant.

This presents a huge struggle for companies that don't have the in-house expertise to ensure their data is clean and readily accessible. It's why GAP builds data-minded engineering teams who are experts in navigating these challenges. You'll get QA expertise, data quality engineering and process consulting along with manual functional and regression testing to ensure that your systems and applications are always working with quality data.

### Data Testing Types with QA Teams

Depending on the specific focus and objectives of the testing effort, some relevant types of testing QA teams perform include the following:

- **Data Validation Testing** involves verifying whether data conforms to predefined standards and rules, ensuring it is accurate, consistent and free from errors. Data validation testing often includes checks for data format, data types and permissible values.
- **Data Integrity Testing** is aimed at ensuring data remains intact and reliable throughout its lifecycle. It involves checks to prevent data corruption, unauthorized changes and data loss.
- **Data Migration Testing** is specifically focused on ensuring the accurate and complete transfer of data from one system or environment to another. It validates that data is transformed and moved correctly, maintaining its integrity and structure.
- **Database Testing** encompasses various types of testing, including data validation, data integrity, performance testing (for database operations), and testing of database-related functionality. It ensures the database — and the data stored within it — function correctly and efficiently.



If you don't already have an internal QA team, it's important to work with a partner who will systematically scrutinize data sources so your stakeholders can make informed decisions based on precise and dependable information. Data QA testing is indispensable for organizations seeking to harness the full potential of their data assets. In the rapidly evolving landscape of data-driven decision-making, data QA plays a pivotal role in validating that information is free from errors, adheres to predefined standards, and aligns with business rules.

## Why Do You Need to Test Your Data?

- **Data Accuracy:** Ensuring the utmost accuracy of data used within the system is instrumental in fostering a culture of precision, reliability, and trustworthiness in organizational decision-making and operational processes. With data accuracy testing, businesses can verify the authenticity and completeness of their data, confirming critical information remains free from discrepancies, inconsistencies or inaccuracies that could potentially skew analytical insights and jeopardize the validity of operational outcomes.
- **Data Consistency:** Uniformity of data across modules and components within a system serves as a linchpin for maintaining operational coherence and ensuring seamless functionality. By testing data consistency, organizations can guarantee critical data elements remain synchronized and aligned across diverse operational facets, preventing discrepancies, errors and operational bottlenecks that could potentially impede the system's overall performance.
- **Data Security:** Nowadays, threats continue to evolve and grow more sophisticated. The security of data plays a pivotal role in safeguarding an organization's critical assets and sensitive information. By conducting comprehensive data security testing, businesses can proactively identify, analyze and address potential vulnerabilities or weaknesses within their data infrastructure, bolstering their defense mechanisms and fortifying their resilience against a myriad of cyber threats and malicious attacks.
- **Data Protection and Privacy:** In an era defined by stringent data protection and privacy regulations, the validation of data against industry standards and regulatory requirements serves as the cornerstone of an organization's commitment to safeguarding sensitive information. By testing data to guarantee protection and privacy, businesses can navigate the intricate landscape of data compliance with confidence and precision, mitigating the risk of non-compliance penalties and legal ramifications.



- **Improved Data Quality:** By identifying and rectifying data issues early in the process, you create a seamless and reliable flow of information. This comprehensive approach to data quality enhancement assures the data generated and utilized within the organization is not only accurate, but also consistent and up-to-date.
- **Prevention of Data Loss and Corruption:** With an effective data quality improvement strategy, organizations can establish robust safeguards to prevent data loss, corruption and unauthorized alterations. By implementing comprehensive data testing procedures, businesses can proactively detect vulnerabilities and potential points of failure within their data infrastructure, ensuring the resilience and integrity of their valuable information assets.

## QA Automation Services

QA automation can help — when test plans grow beyond the efficiency of manual processes — by using tools and machines to automate repetitive tests and scripts for front-end and back-end tiers. Whether it's load testing, stress testing or endurance testing, you need QA automation testing specialists to provide software that can manage growing customer use.

With experience in most modern approaches, languages, frameworks and documentation tools, GAP ensures your technology stack is covered. We rely on a strong foundation of experienced QA engineers who have been integral members who have refined their skills through diverse and challenging projects, working with various technologies across a wide-ranging portfolio and conducting testing at multiple levels.

### **Automation testing offers many advantages, including:**

- **Regression Testing:** Automation is particularly valuable for regression testing, ensuring new code changes do not break existing functionality.
- **Consistency:** Automated tests follow predefined steps consistently, reducing the chances of human error in testing.
- **Parallel Testing:** Automation allows for running tests in parallel, which can significantly reduce testing time for large projects.
- **Continuous Integration and Continuous Delivery (CI/CD):** Automated tests can be seamlessly integrated into CI/CD pipelines, enabling rapid and automated deployment of code changes.
- **Improved Test Reporting:** Automated testing tools often provide detailed reports and logs, making it easier to identify and debug issues.
- **Resource Allocation:** Manual testers can focus on exploratory testing and more complex scenarios, while repetitive and routine tests are automated.



## Why Work with a Team of QA Automation Engineers?

Through our QA Center of Excellence, GAP provides continuous growth opportunities. This initiative includes imparting automation via testing bootcamps, QA-related festivals and study groups to help GAPsters earn certifications. And in general, it provides the means for engineers to continue learning, while at the same time working together and applying this knowledge into challenging projects.

Furthermore, 48% of GAP engineers have at least the Foundation ISTQB certification, which ensures the quality of the job we do is standard throughout the company. But we also have engineers with advanced-level certifications in automation testing and test management, such as the Test Automation Engineer, Test Analyst and Test Manager certifications.

**Here's how you can save time and money with QA automation testing:**



### Automation UI

In today's world, the use of tools for project automation is a necessity that, far from being a luxury, represents an enhancement in the quality processes of software development projects. This allows QA teams to focus on the quality of new features, leaving automated tests to validate all those repetitive cases that consume a lot of time and have complex execution. This is how GAP has had the opportunity to develop Web automation frameworks for many clients, using competitive tools in the market with a proven track record, stability and long-term support, such as Selenium, WebDriverIO, Cypress and Playwright.



### Automation API

API testing helps to identify early issues and is different from UI testing. API Testing doesn't require the GUI to be ready, and it can be performed way early in the development cycle. The Automated API tests provide much quicker test results and significantly accelerate development workflows; thus, it helps you speed up the feedback loop and catch issues faster. Additionally, API tests are significantly less time-consuming, as these sorts of tests do not need to spend much time rendering and loading the web pages and interface elements, but can be executed in seconds. Some of the most common tools used include Jest, Jasmine, Pytest, RestAssured Postman and Axios.



## Continuous Testing (CI/CD)

QA automation testing is undeniably a powerful tool to enhance the quality of your software. However, the mere creation of test cases doesn't yield as valuable results unless combined with a continuous testing execution process as part of the software development being tested. This is where tools like Jenkins, ADO pipelines, Gitlab, GitHub actions, circleCI, Docker, etc., come into play, enabling the integration of execution of scheduled tests into repetitive processes that can be triggered as soon as a new version of your application is received. This allows us to identify whether changes, improvements or new features have caused regressions. We incorporate scheduled tests into the CI/CD process, adapting to the various tools used by our clients or suggesting the ones that best suit their needs.



## Mobile Testing

Nowadays, mobile automation is growing at a fast pace; mobile apps dominate a large part of people's day-to-day experiences. Thus, developing a great mobile app experience is essential. To ensure apps work seamlessly on Android and iOS, they must be thoroughly tested before getting released to their respective app stores. Using the right tools and implementing a good strategy that includes cloud services can reduce costs. Automation scripts can be created and planned to be executed with nightly builds, getting faster feedback from email reports with the results. It's worth emphasizing that QA automation testing for mobile devices can be employed across hybrid, native and mobile web applications using tools like Appium and webdriverIO.



## Performance Testing

Performance testing assists in evaluating an application's capacity to effectively manage increasing user loads, transactions and data volumes. An optimized application can help ensure a competitive position in the market. By employing appropriate tools such as JMeter, and implementing effective strategies as part of the QA automation services, various forms of performance testing can be executed, including Load Testing, Stress Testing, Spike Testing, Soak Testing and Volume Testing.



## Support for Clients

We not only build QA automation testing solutions, but accompany our partners to select the correct tooling and get the most out of them. This includes uncovering bugs in a timely manner and providing security, confidence and reliability about the whole quality of the products before releases.



## Consulting Projects

Through consulting projects — where the best and most experienced engineers engage with clients to evaluate the maturity of their development life cycle, business needs and applications to be tested, among other needs — we provide recommendations about testing solutions covering everything, from processes and test management to QA automation testing frameworks, that fit the business needs and tech stack of the client.

## In conclusion...

It's time to put your applications through its paces. Whether it's load testing, stress testing or endurance testing, GAP's team works with your in-house developers to ship software that scales with your business and your customers' needs. We also offer many types of data testing, in addition to QA automation services.

When you partner with GAP, you'll get exactly what you need — a team that efficiently leverages software quality engineering services and QA engineers, in combination with our developers' deep knowledge of the software development process.

To find out more, please visit [www.WeAreGAP.com](http://www.WeAreGAP.com) 



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