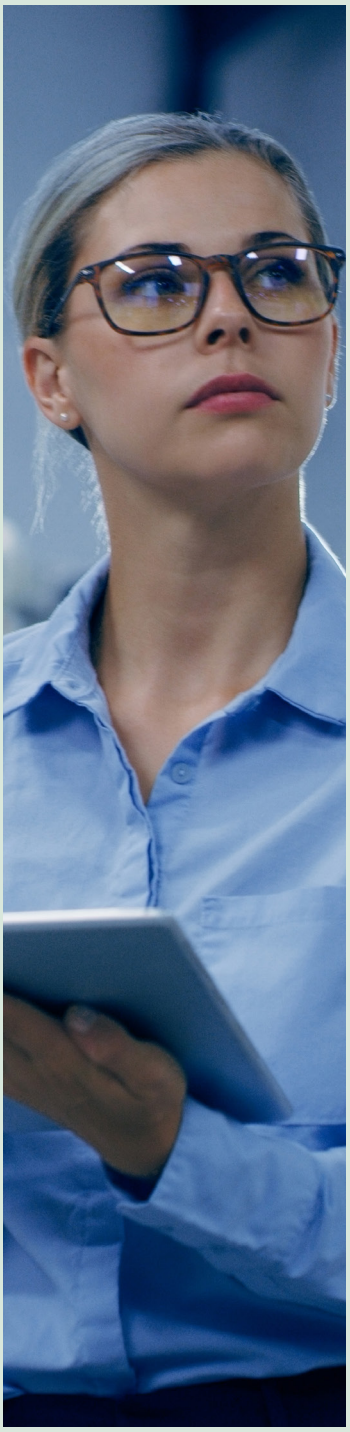
WHITE PAPER



IN-SPRINT AUTOMATION

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Introduction

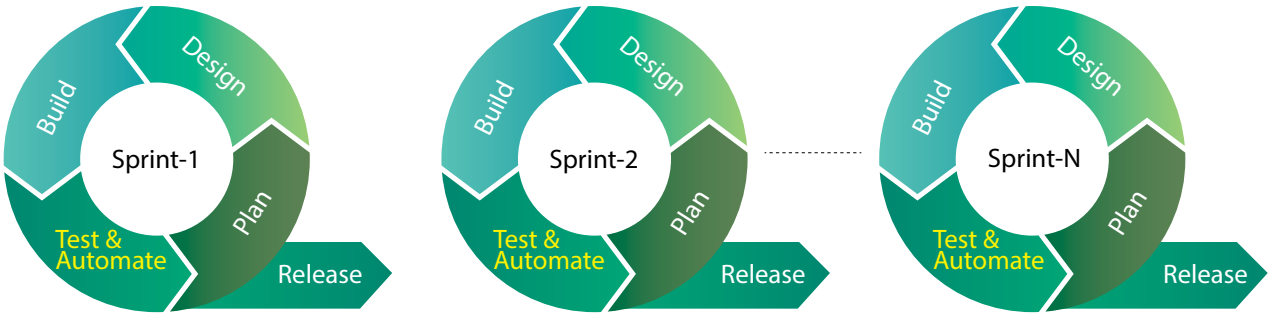
In-sprint automation is critical in modern digital application development lifecycles as it enables QA teams to achieve scale with fewer risks and at a faster pace. In modern software development, testers work in compressed cycles and automate regression tests to save costs, time and effort. In-sprint test automation provides an ideal scenario wherein the entire process, from creation to software product implementation, happens in one sprint. Here, automation is utilized for end-to-end testing, including test case planning, creation, execution, and reporting, all in a single sprint.

In-sprint test automation fills the gap between development sprint and test automation by incorporating QA early in the life cycle. The process becomes smoother, and communication with the development team for the items in scope is highly efficient. In-sprint automation adequately addresses some of the inherent issues of the more traditional one-step-behind test automation techniques by eliminating delays and making testing and test automation more consistent. In most software development projects, the Scrum Master divides work into sprints with a fixed time box during which all tasks for a deliverable are planned and executed. After each sprint, the target is to complete as many planned tasks as possible and develop a deliverable. A recommended approach for considering a user story complete is when the corresponding feature that was being developed is tested and automated.

If you want to start (or) improve the In-Sprint automation efficiency, this whitepaper is for you. It presents a detailed view of In-Sprint automation, its importance in SDLC, the benefits a team can gain from it, and the execution process with a few best practices to overcome challenges.

Importance of In-Sprint Automation

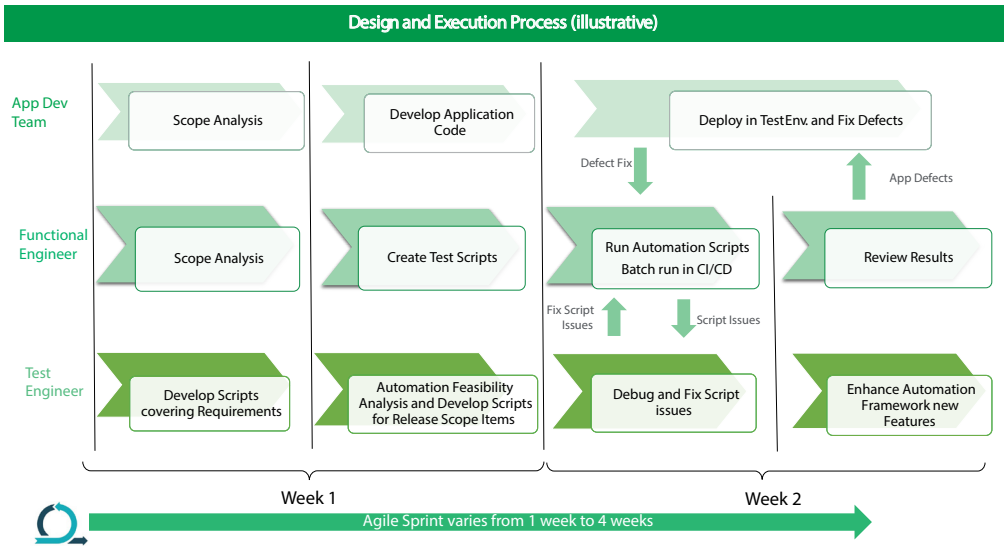
In-sprint automation is critical in modern digital application development lifecycles as it enables QA teams to achieve scale with fewer risks and at a faster pace. In modern software development, testers work in compressed cycles and automate regression tests to save costs, time, and effort. In-sprint test automation provides an ideal scenario wherein the entire process, from creation to software product implementation, happens in one sprint. Here, automation is utilized for end-to-end testing, including test case planning, creation, execution, and reporting, all in a single sprint. While many forms of automation exist for software testing, deploying QA processes at the end of the SDLC is common. Due to this, problems can occur that could affect the entire process, regardless of the creation or execution stage.



In-sprint test automation is becoming a key driver in modern agile software development practices as the entire development and testing happen in the sprint model. More and more organizations prefer In-Sprint automation testing to accelerate their software delivery process. Product teams should not be waiting to automate the functionalities until sprint is completed. Besides manual testing, the tested functionalities need to be automated in parallel. A separate team often automates the manual 'test cases' and transforms them into an automated regression suite. In this model, a lack of collaboration within the team creates an unwanted automation backlog. In-sprint automation provides an opportunity to maximize automation return potential by automating the functionality developed within the same sprint. In-Sprint Automation is important because it helps in 'Accelerated Development', which Ensures faster development cycles by identifying defects early and optimizing code quality. 'Increased Productivity', which maximizes team productivity by streamlining the testing process and minimizing manual intervention. 'Enhanced Collaboration' which promotes collaboration between development and QA teams, fostering a cohesive work environment.

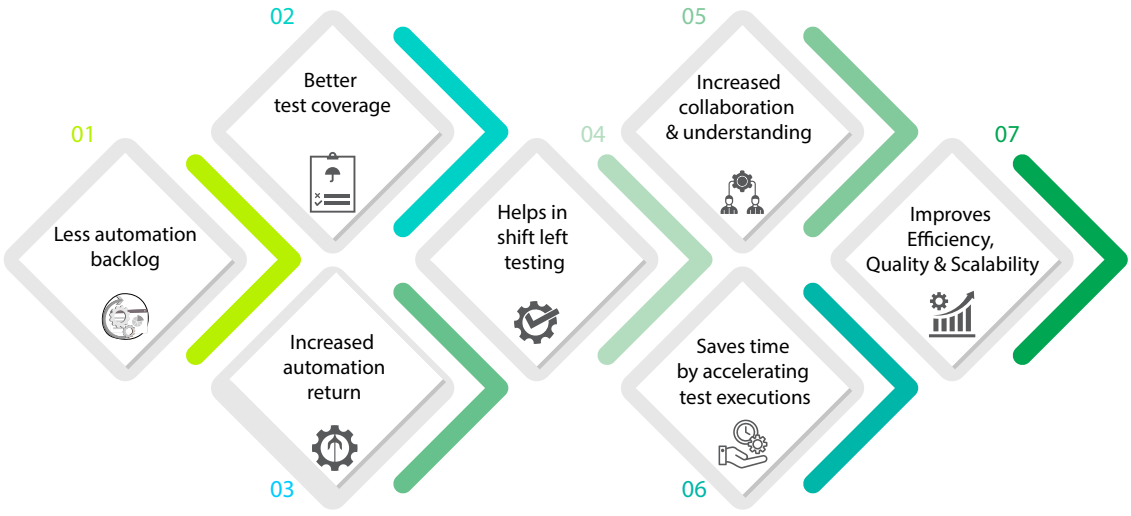
How does In-Sprint Automation help in SDLC?

In-sprint automation helps to automate the testing of business 'requirements' within the same sprint in which they have been developed, thus leaving no automation backlog. This ensures the functionality delivered in the sprint is tested through automation testing, and with every sprint, the regression suite is updated with the new automation scripts. In-sprint automation enables better collaboration between the business analysts, Scrum Master, Development, and QA Teams, allowing everyone's goal of a good-quality product to be reached. It saves the organization from the immense cost of releasing a product with bugs. Undoubtedly, In-sprint automation will drive speed and efficiency for modern digital ecosystems in enterprises.



Benefits of In-Sprint Automation

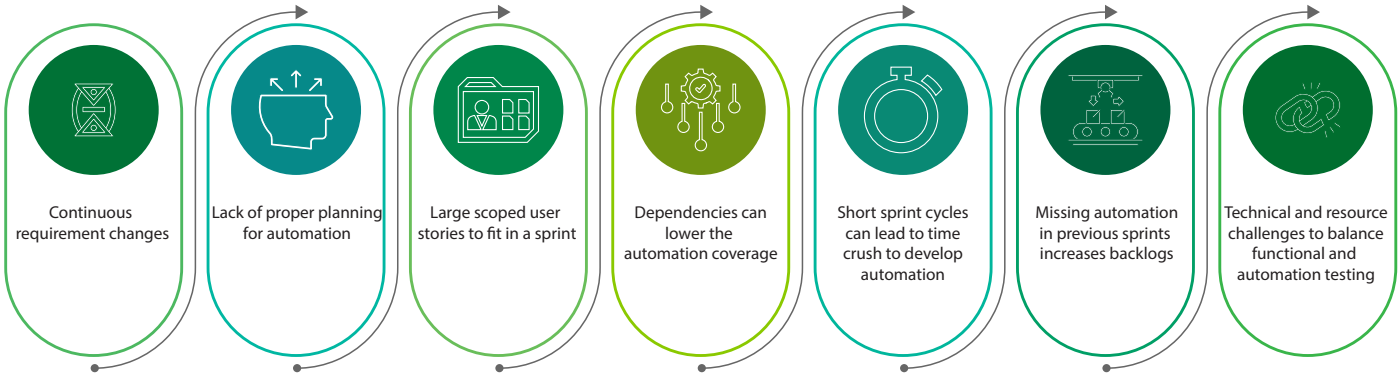
In-sprint automation is central to modern development approaches such as DevOps and Agile. With the help of the right plan and testing framework, achieving In-sprint automation can be easier and much more intuitive. There are multiple benefits, such as:



In-sprint test automation also helps developers address implementation issues as the automated test scripts are developed simultaneously with the development process. The benefits of In-sprint automation greatly depend on the teams' approach while implementing automation testing.

Challenges during In-Sprint Automation

Shifting from a traditional approach to In-sprint automation is a recommended approach to bring modern methodologies like DevOps and Agile. We may encounter a few challenges while planning and executing the move, such as -

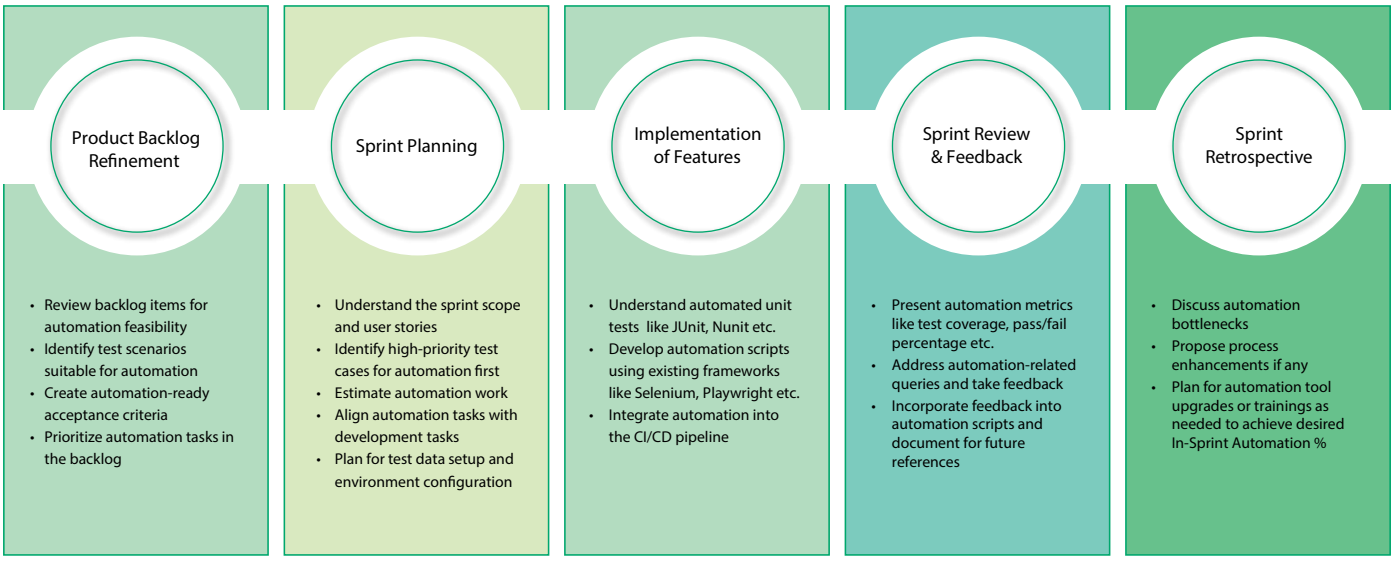


Achieving In-sprint automation is not very easy. It requires multiple teams to change their workflows and processes significantly, but this transition benefits effort, especially in today's Agile practices.

In-Sprint approach ensures that there is no automation backlog, and the functionality delivered in each sprint is thoroughly tested using automation tools and frameworks like Selenium, Playwright, Appium, Katalon Studio, Test Complete, Postman, SoapUI, Rest Assured, JMeter, and Karate.

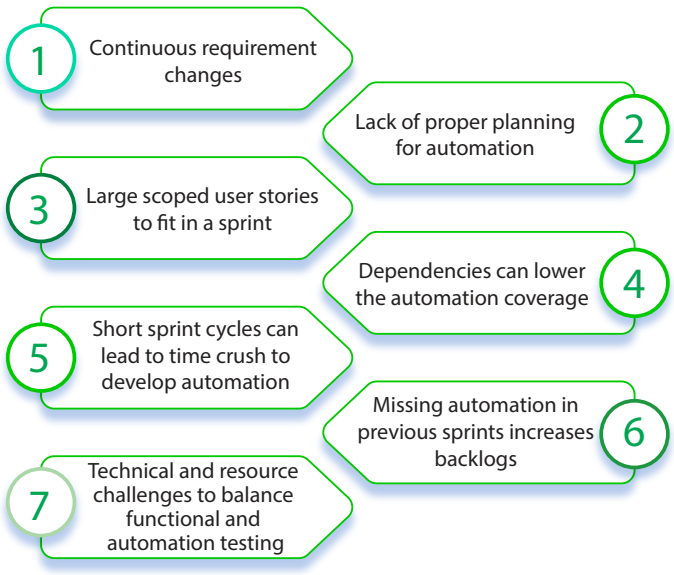
Best Practices in Incorporating In-Sprint Automation

Automation Team needs to effectively contribute at each step of the Sprint to gain effectiveness. Here are some of the best practices for Automation team to follow during In-sprint automation goals.



The core concept of In-sprint automation is to consolidate the entire testing process into one sprint, combining all the fundamental testing functions and aligning them with the development process. TDD and BDD are forms of automation in Agile or DevOps practices that ensure the best quality. Both work well in enabling In-sprint automation, and we can use either to provide a faster process.

Some more Best Practices which Product teams needs to follow at Project level which helps to achieve high success rate in In-Sprint automation:



CONCLUSION

In Agile, software teams have used In-sprint test automation for multiple benefits. In-sprint automation will continue to help transform enterprise technology projects with more agile and digital-friendly evolutionary roadmaps. Achieving it can be challenging and require the whole team to act collaboratively. It needs to be approached with the proper knowledge and expectations to ensure maximum ROI with minimal disruption. Once implemented, it helps teams reach a good state with less automation backlog, minimum manual testing, and consistent software quality with high test coverage. In-sprint test automation is a good practice, and many organizations are adopting it. It is set to be a key driver for speed and efficiency in modern enterprise digital ecosystems. Therefore, it is a must to have the proper planning to identify and with the right roadmap for tremendous success. The results are satisfying, and In-sprint automation has a promising future in the complex SDLC world.

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