Tricentis

3 savvy strategies for speeding up Salesforce testing

Over 150,000 businesses worldwide rely on the Salesforce platform to help them become more agile and customer-focused. A key driver in Salesforce's popularity is its extensibility. Not only is it easy for organizations to customize their own Salesforce solutions, but Salesforce has a thriving AppExchange marketplace with over 4,000 applications that customers can download to extend their Salesforce solutions. These include industry-specific applications such as **nCino** for banking and **Veeva** for pharmaceutical and life science companies and category-specific applications such as **CloudSense** for digital commerce and **ServiceMax** for field service management.

While Salesforce's cloud-based architecture and easy extensibility make it a powerful tool for innovation, there is also a catch. Because Salesforce focuses on an organization's most critical data and processes, any update, extension, or customization must be thoroughly tested.

There are three categories of Salesforce updates that testers need to account for:

- **Releases from Salesforce**. These include the company's three major annual releases (Winter, Spring, Fall) and many additional patches throughout the year. Salesforce gives customers a window before each major release in which to conduct testing, but patches are applied directly to the customer's production environments.
- **Releases from Salesforce AppExchange vendors**. Over 86% of Salesforce customers (and 100% of Fortune 100 companies) have at least one app from the AppExchange. These apps are updated according to the timeline of their third-party vendor.
- **In-house customizations.** These include customizations deployed through your development process as well as ad-hoc changes implemented by business users with the right permissions.

The challenge for Salesforce teams is that most Salesforce testing is performed manually, which leads to bottlenecks that slow down innovation. A recent GitLab survey confirms what you may already see in your own organization – that testing is the #1 bottleneck in the software delivery process.

What impedes the delivery of innovative software?

Testing

Planning

Code Dev

Code Review
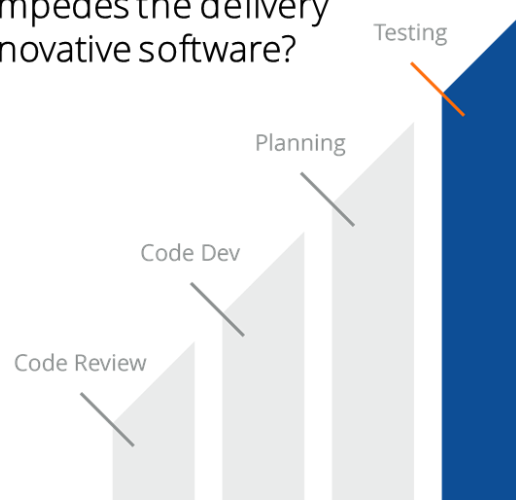
Source: Gitlab, Global Developer Report, 2019

Some teams have tried to break this bottleneck by automating Salesforce testing using script-based tools such as Selenium. This has proven to be a less-than-ideal strategy. First, it restricts test automation to technical resources who can code. Given that Salesforce's codeless solutions make it easy for non-technical users to innovate on the platform, limiting test automation to technical resources is a step backwards. Secondly, Salesforce has made strategic architectural decisions that make script-based tests extremely brittle, often causing them to break with each release.

Despite the shortcomings of script-based testing, the need for Salesforce test automation is clear. As a company's Salesforce ecosystems grows, so do the frequency and criticality of updates to applications within (and connected to) that ecosystem. With this high pace of change comes the potential for testing to miss defects that wreak havoc on an organization's business processes. Testing has to be fast enough – and effective enough – to ensure that these updates get deployed on-time and with minimal risk to the business.

So what can you do to improve the speed and efficiency of your Salesforce testing? In this paper, we'll reveal three strategies that savvy Salesforce customers are already employing to dramatically accelerate testing time, improve the quality of their Salesforce releases, and shrink their overall testing costs.

Read on to discover these strategies for yourself and learn how your organization can safely accelerate Salesforce innovation.

1. Ditch dead testing weight by focusing on business risk

One reason testing is such a bottleneck for Salesforce teams is the quantity of regression tests that accumulate over time. With each release, the number of test cases grows as new tests are created to test the release's new functionality. Given the frequency of Salesforce updates, the amount of test cases can quickly exceed the critical limit of what a team can execute in a given sprint or schedule.

This drives many teams to consider automating their regression suites, but this can create a lot of wasted effort if you don't first align your testing with business priorities. Why? By learning which business processes and capabilities are most important to your business users, you can prioritize testing based on business risk.

A risk-based approach also makes it easier to optimize your regression suite, which probably includes a lot of dead weight. Research conducted by Tricentis shows that, on average, over 60% of tests in an enterprise regression suite are redundant, and these suites cover only 40% of their company's actual business risk. By working with your business teams to assign relative risk levels to your organization's Salesforce processes and capabilities, you can optimize your test suite to cover more than 80% of your business risk with about 20% of your current testing effort.
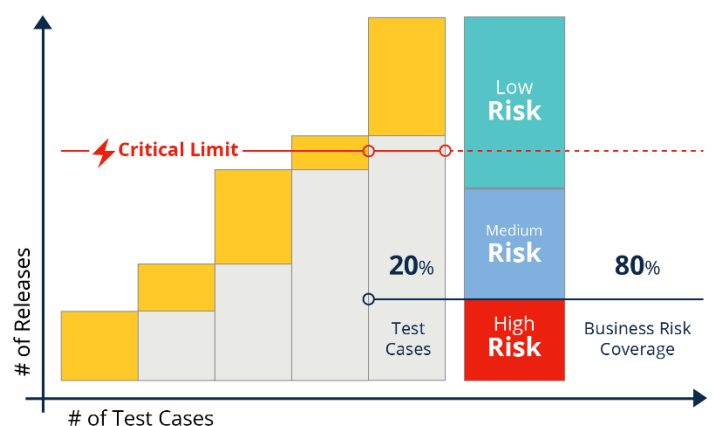
So your first step toward speeding up Salesforce innovation is to get your Salesforce admins, developers, testers, and users together. You'll find you have lots to talk about!

2. Blaze a broad and fast testing trail with codeless test automation

Once you've optimized your test suite based on business risk, the next step is to start automating your highest-risk tests. This requires choosing an automation tool. There are many automation tools available, but for best results choose a codeless solution. There are practical as well as technical reasons why codeless test automation makes the most sense for Salesforce testing.

Democratize automation to rapidly scale testing

As mentioned earlier, Salesforce democratizes innovation by providing codeless, point-and-click customization capabilities to admins and business users. But as the saying goes, with great power comes great responsibility. A business user may think that changes they made are safe because they "work" on their screen, not realizing that the changes break an integration to the company's ERP system. A codeless, business-friendly test automation platform would enable the businesser to incorporate their changes into the broader testing suite and discover the defect before it does any damage.

This democratization also relieves business users of the burden of repetitious manual testing. Because QA staff often lack the domain knowledge required to test Salesforce applications, business users are frequently pressed into testing duty. Some codeless tools include an automation recorder, which means the business user can simply record a business process once, after which an automated test can be created. This lets organizations rapidly scale test automation, speeding up Salesforce testing while sparing business users from the drudgery of repetitive testing tasks.

Avoid Shadow DOM and other scripting headaches

Salesforce components can be difficult to test with script-based test automation, slowing down an organization's ability to test Salesforce updates in a timely manner. Well-documented challenges for script-based Salesforce testing include:

- Hidden element identifiers
- Use of Shadow Document Object Model (Shadow DOM)
- Migrating from Aura to Lightning Web Components

These and similar isssues cause massive headaches for developers and test engineers using Selenium and other code-based tools. These tests these tools create are so brittle, they result in a "maintenance trap" where more time is spent fixing tests each Salesforce release than is saved by automating them! This is why Salesforce says codeless testing tools "can be a really great choice for UI test automation."

Create reusable, release-agnostic tests that work across Classic and Lightning UIs

The whole point of automation is to create reusable artifacts that require minimal maintenance over time. This is especially true for Salesforce. Not only should tests be resilient enough to work across different Salesforce releases, they should be reusable across both Classic and Lightning UIs. When choosing a codeless test automation platform, make sure to choose a solution that builds truly release- and platform-agnostic tests.

3. Use smart tools that accelerate and extend automation across your enterprise

The final strategy we'll cover in this paper is to choose a testing platform that is smart enough to give your Salesforce teams a head-start in automation and extensible enough to connect testing across your enterprise.

Take advantage of lightning-fast Salesforce scanning

Some tools require users to go screen by screen, field by field, button by button to capture all of the pages and elements to incorporate into automated tests. A faster, more comprehensive, and less error-prone alternative is to choose a tool that can scan your entire Salesforce org for you. This can save hundreds of hours of test case creation and maintenance by creating a model of your Salesforce org with all of the screens, elements, and valid field values pre-populated. The example below shows the results of such a scan, focusing on the Sales cloud's Opportunity Details screen. In the example, the model is shown on the left and the corresponding Salesforce screen is shown on the right.
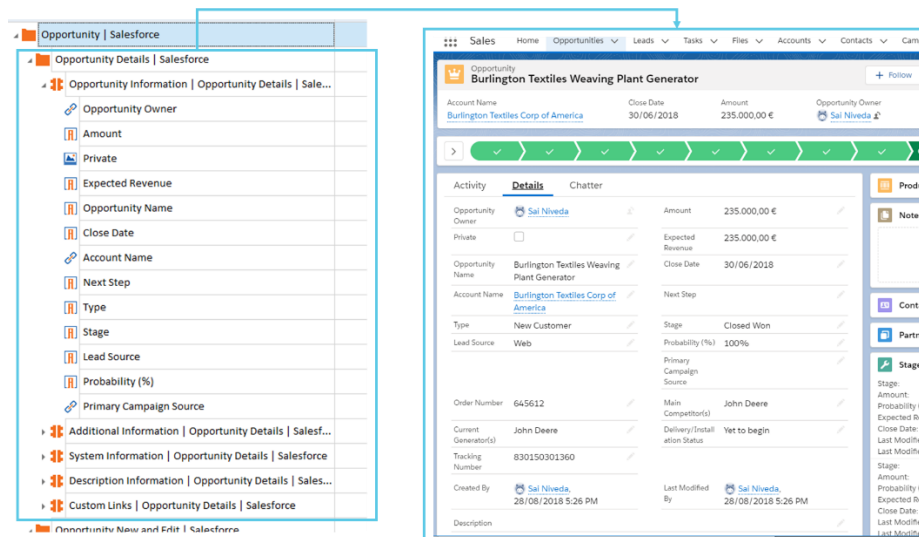
Using this model, any Salesforce tester, admin, or business user can start creating or modifying test cases by simply clicking and dragging the desired screen element into the test. And because the model in the example uses business-friendly labels instead of technical identifiers, the resulting tests will be release-agnostic as well as reusable across Classic and Lightning UIs.

Salesforce scanning technology lets your organization quickly scale resilient test automation, giving your teams a triple-boost of speed:

1) Faster automated test creation
2) Reduced time spent on test maintenance
3) Accelerated testing times due to high rates of test automation

Extend testing across integrations and connected apps

While Salesforce teams are necessarily focused on Salesforce test automation, many business processes involving Salesforce extend beyond the borders of Salesforce to other applications in your enterprise. To ensure these business processes remain working as updates occur up and down the enterprise application chain, we recommend choosing a Salesforce testing solution that can easily extend across your other enterprise applications and technologies. This will reduce the overall time and complexity of your enterprise testing efforts and ensure that your Salesforce innovation does not break (and isn't broken by) other teams in your organization.

About Tricentis

Tricentis is the global leader in enterprise continuous testing, widely credited for reinventing software testing and delivery for DevOps and Agile environments. The Tricentis AI-based, continuous testing platform provides automated testing and real-time business risk insight across your DevOps pipeline. This enables enterprises to accelerate their digital transformation by dramatically increasing software release speed, reducing costs, and improving software quality. Tricentis has been widely recognized as the leader by all major industry analysts, including being named the leader in Gartner's Magic Quadrant five years in a row. Tricentis has more than 1,800 customers, including the largest brands in the world, such as Accenture, Coca-Cola, Nationwide Insurance, Allianz, Telstra, Dolby, RBS, and Zappos.

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