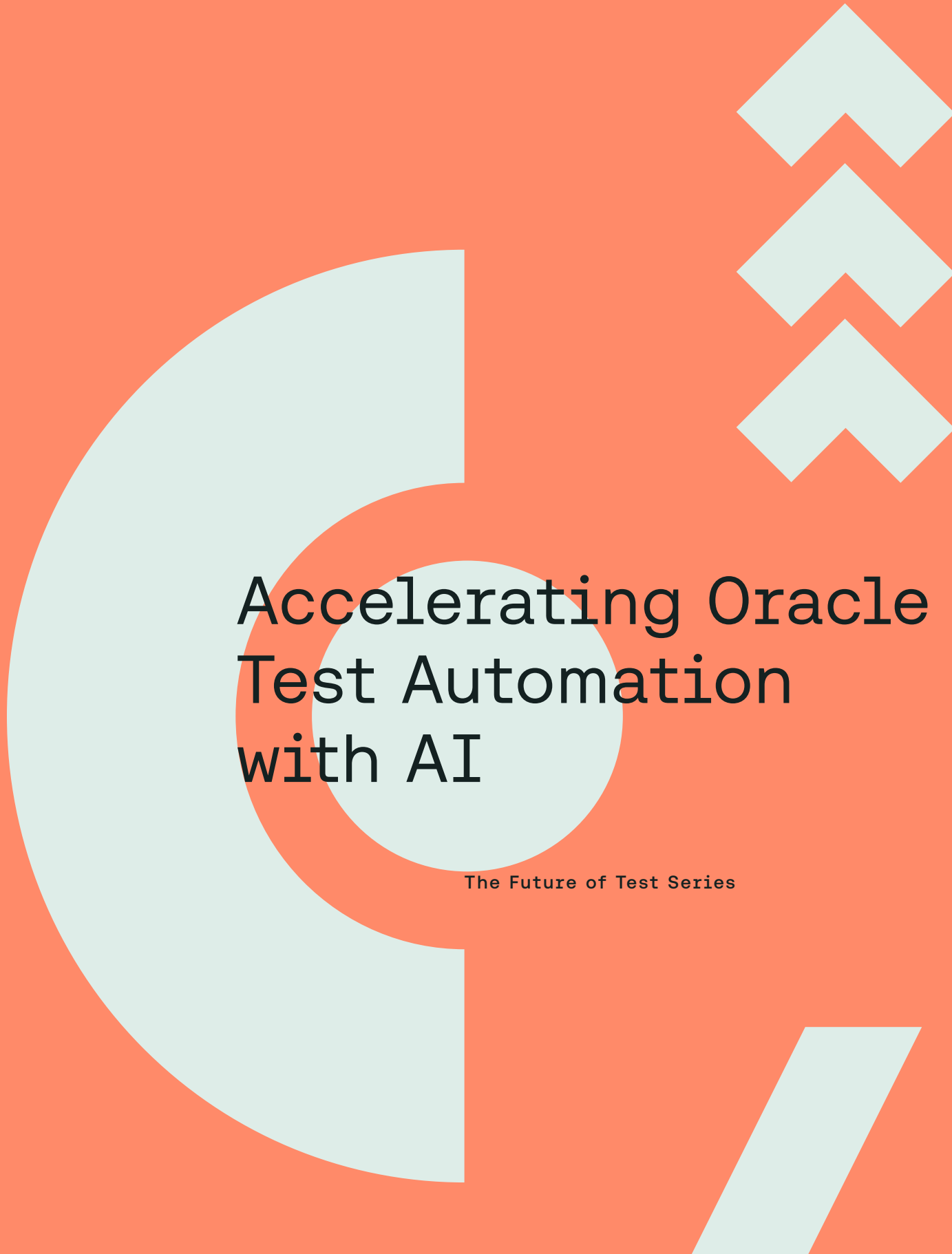




Accelerating Oracle Test Automation with AI

The Future of Test Series

Introduction

Oracle is one of the largest enterprise software vendors in the world, providing businesses worldwide with databases, ERPs, and other solutions for core business processes to run on.

Ensuring that these processes run efficiently and error-free is of utmost importance and has only become more critical with the market pressures caused by Covid-19 and the digitization of more business operations.

Testing is a crucial part of safeguarding the digital confidence provided by Oracle-based products. Challenges with testing the Oracle infrastructure arise during the following:

- Product changes happen quickly that need to reflect customer demand. The more changes, the higher risk of breakages and the crucial need to run consistent tests
- Software updates happen at multiple levels opening up significant risk if not tested continuously
- Oracle Forms are developed on Java applet technology and sit just one object inside the DOM, making it difficult for scripts to identify the form's individual elements
- Integrations in a network of other applications via APIs or the Oracle Cloud Marketplace are limited by traditional and Oracle's native testing frameworks
- A high dependency on developers dedicating valuable time on repetitive tasks instead of them focusing on higher impact problems

Low-code test automation is a solution that can help mitigate risk, accelerate innovation, and increase efficiency when maintaining complex technology systems like Oracle.

The operation of test automation is governed by the IT department - however, it is arguably in everyone's interest, from employees to external stakeholders, that critical business processes run as intended and do not take up valuable resources to execute. If this does happen, it can have massive operational and financial consequences for the business.

In the following, we'll dive deeper into low-code test automation for Oracle to gain a deeper understanding of how it contributes to increasing productivity, lowering cost, empowering more employees, and reducing risk.

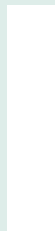
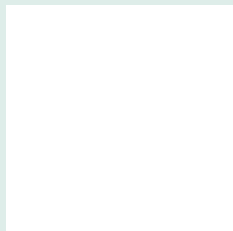


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Low-Code Test Automation for Oracle

While many programming tasks are fairly complex and require creativity, human intelligence, and critical thinking, others are redundant and unnecessarily prone to error when performed by humans. Test automation is one of them. It's riddled with boring, repetitive tasks which often are not a good use of valuable human capital.

Automation—powered by artificial intelligence and machine learning— is not about replacing humans with robots, but rather augmenting the abilities of the workforce and allowing people to focus on high-value tasks that require human capabilities.

For companies that utilize Oracle, testing is of utmost importance to ensure that business-critical processes are uninterrupted and deliver the intended results for the customer. When performed manually, testing the complexity of Oracle's infrastructure is time-consuming and can lead to many errors. This is because tests should be performed every time a new integration is installed, a new process is deployed, a new feature is launched, and every time Oracle updates its system. Although these changes are meant to benefit stakeholders, it is presented with a major drawback: this is a lot of testing for already constrained engineers.

Evaluating Oracle Test Automation Tools

There is a saying “what can be automated will be automated.” This sounds articulate and forward-thinking, but enterprises still need to prioritize and plan because it does not happen overnight. Testing is a crucial part of ensuring the quality of your critical business workflows from day one and managing the rapidly evolving nature of your Oracle instances should take precedence. But where do you start?

For many enterprises, Oracle is part of the greater technology stack that, when stitched together, make up the backbone of the core business operations. This places heavy emphasis on modern test automation tools that are robust and reliable, capable of streamlining between various technologies and can be used and understood by non-technical administrators.

Here are some criteria-evaluating questions that you can ask when considering various test automation tools:

- Is the user interface intuitive and applicable for technical and non-technical users?
- Is there cross-technology workflows that allow the enterprise to easily test multiple integrations and APIs across the Oracle ecosystem?
- Can the tool rapidly maintain all existing test assets without the dependency of engineers and developers?
- Can scripts that execute on complex DOM objects, like the Oracle Form, be maintained as the object identifiers change due to Oracle's adaptive UI?
- Are there artificial intelligence and machine learning capabilities that help augment the tasks being performed across the testing lifecycle? Can these systems learn and make recommendations over time?
- Does implementing this tool foreseeably reduce the manual overhead—especially with the complexity of Oracle Forms—while increasing the velocity and quality of our testing capabilities?
- Does it deliver an ROI you can reliably measure and convince your boss of?

When evaluated and implemented correctly, the benefits of introducing low-code test automation, in

general, include making testing more efficient and speeding up the software development lifecycle without a degradation in quality.

With faster and more accurate testing, teams can collaborate to identify bugs before they enter production and are less costly to fix. This increases the customer experience and overall greater stability that can be achieved.

Oracle Testing Tools Available in the Marketplace

By no means is this a robust list, but it provides a general overview of common tools being used today.

Selenium

Selenium is an essential framework that is widely used to support the testing of various web-based applications including Oracle products. It's free, open-source, and has a thriving community of users.

Challenges arise with Selenium primarily around the need of understanding how to write code to set up and maintain test environments. This can be tedious and time-consuming for your already constrained engineering resources. Selenium also only works with browser-based applications which makes it difficult to automate across desktop-based Oracle applications.

To add, Selenium does not offer any reporting or smart recommendations, making it unmanageable to evaluate and troubleshoot failed tests. Enterprises can also run into hurdles with the open-source nature of the product: there are fewer guarantees in place that ensure the safety, security, and dependability of the tool. This can be a deal-breaker for companies that are responsible for sensitive data and consumer privacy.

Oracle Application Testing Suite

The Oracle Application Testing Suite (OATS) is a comprehensive, integrated testing solution available for purchase for all Oracle users. It comes with a new language framework, OpenScript, and reduces the overhead of manual testing.

The downside of OATS is that it's limited in its cross-technology functionality and it will only allow users to automate Oracle and web-based products. The composition of a company's technology stack includes many other tools which mean they will have to onboard other testing solutions to make end-to-end testing possible.

Although OATS does offer premium features like regression testing and test data creation, it is more favorable to developers who can write and maintain the OpenScript language. For less technical users like citizen testers or business analysts, this can be a challenge. The higher price tag, lower ability for cross-technology testing, and a dependency on a technical workforce make OATS difficult to adopt for modern-day organizations.

Setting the Stage for a New Testing Horizon

The future of Oracle testing has unleashed AI-powered, low-code/no-code testing solutions that enable businesses to reduce the technical headache when creating and maintaining their Oracle product ecosystem. These new processes and tools empower product owners to transform testing intent into test cases without requiring the traditional technical know-how to write or edit code.

Low-code testing tools additionally testing teams with unmatched workflow flexibility to:

- **Perform Rapid End-to-End Testing:** Product owners can access hundreds of prebuilt test cases across the Oracle module and add them to any test scenario with a single click. These test cases

may be written in plain English when using natural language processing (NLP) to manage critical business processes such as Hire to Retire, Opportunity to Customer, Record to Report, or Procure to Pay.

- **Autonomously Identify Objects and Self-Heal:** Ideally, modern Oracle testing tools must be able to self-heal dynamic forms, objects, and frames using machine learning, thereby reducing test script maintenance by over 80%. Regression suites in Oracle must stay up-to-date after each release regardless of being performed by Oracle, third-party integrations, or internal product teams.
- **Automate Seamless API Testing:** You can increase the coverage and reliability of API testing with low/no-code testing by ensuring that powerful API tools work in parallel to precisely detect and diagnose bugs. This orchestration significantly accelerates time to resolution. Ultimately, Oracle app owners gain the confidence to accelerate releases and integrate APIs across the Oracle landscape with reduced risk.

AI-powered low-code/no-code testing can drive out a tremendous amount of technical challenges when innovating and delivering new products using Oracle. We are talking about the opportunity to drive out a major structural cost center—technical debt – and replace it with an infrastructure that is not only more efficient, but more effective in terms of scalability, coverage, awareness of change, actionability to change, and all the downstream impacts that will accrue thereto, including the holy grail of end-user customer delight and digital confidence.

The Path to Competitive Advantage

The status quo demands that the current path to scale and economic viability runs through the territory of the cloud. However, this is an uncertain proposition for many reasons that are all too familiar with executives and managers that have reached the scale of their digital endeavors given the proverbial glass ceiling established by the scarce talent pool.

The ever-shrinking global landscape is rapidly eroding the margins of labor arbitrage, as the market for elite knowledge workers tightens month-by-month. As a proposition of scarcity and cost, business leaders are looking for a more manageable growth strategy. [The U.S. Bureau of Labour Statistics](#) calculated in 2020, that the unemployment rate of software professionals was 1.9%.

Competitive advantage in this territory will go to the organizations who drive their variable cost structures to zero utilizing cloud technology, while incrementally scaling their coverage and reducing their exposure to change disruption. This positions Oracle as a product that will continually see adoption while posing a challenge to customers who need to find ways to sustainably maintain their growing technical infrastructure, non-technically.

Software Teams, Reimagined

From now on, organizations will define and predict their own success to the degree they challenge themselves to master complexity and complex systems. Above all, this will mean mastering outcomes, not tasks.

Software innovation will be driven by creative problem solvers while circumventing traditional software designers and developers, and highly technical QA personnel. Conspicuously, these teams will not only not be able to afford the complexity of Selenium Script Developers, they simply do not have time to sustain this inefficiency in their current Oracle environments.

Early adopters have begun laying down the blueprints for successful transformation when building with Oracle – necessary capabilities include:

1. **Low Code:** Systems that only require the user to possess basic knowledge of the intent, and the user story development.
2. **Smart Systems:** Change detection and autonomous script correction and healing intelligence.
3. **High Leverage IP:** Allow for greater exposure and inclusion of Business Analysts into development processes. As the demand for technical skills is supplanted by a demand for business acumen during critical steps of development to ensure that shippable products support the business case.

Today, Tomorrow

AutonomIQ solves modern-day challenges of Oracle environments with an intuitive and easy-to-use low code product. The user interface removes common pains found in traditional Oracle testing frameworks and has added advantages such as cross-browser/cross-platform execution, smart recommendation systems, dashboards and reporting.

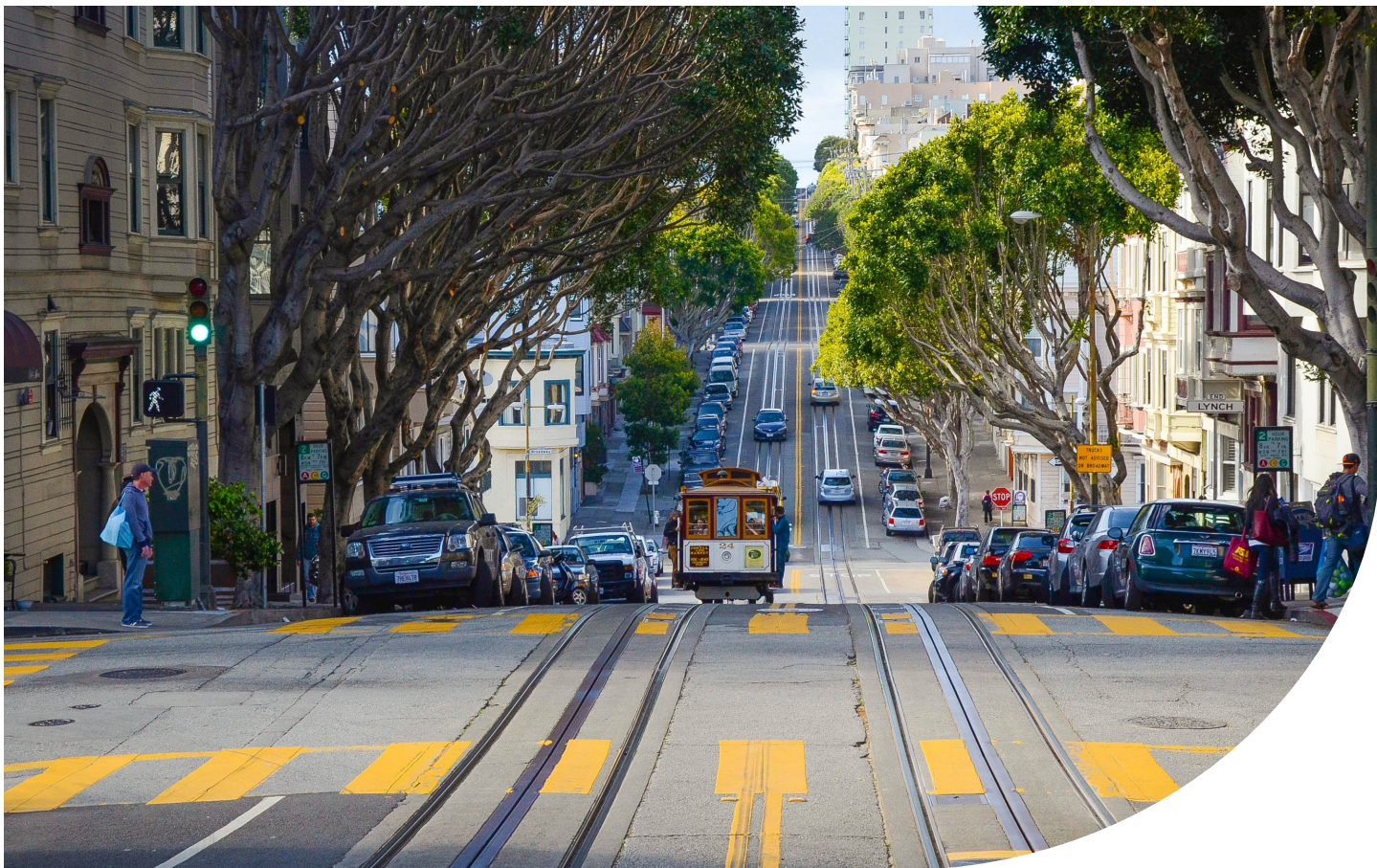
The tool allows users to become productive with AI-powered automation in a short period of time, leaving the tedious work to the robots and freeing up their valuable time to focus on bigger tasks

AutonomIQ delivers a winning formula to Oracle teams: remove bottlenecks to innovation and delivery by encouraging simplicity in an environment overwhelmed by complexity. Furthermore, it expedites the delivery of an elevated user experience and digital confidence that surpasses customer expectations, surprises them exclusively on the positive side, and drives community expansion, resilience, and growth. Lastly, this allows teams to overcome the challenges with automated testing and seeding the positive outcomes of test automation from day one and into the future.

About Sauce Labs and AutonomIQ

As the engine of low-code testing in the Sauce Labs DevOps Testing Toolchain, AutonomIQ empowers citizen testers, and IT professionals to automate their functional testing and thoroughly test both the UI and APIs in their Oracle applications. With our AI-driven and codeless studio, our customers and partners can significantly shorten test sprints, improve code quality, achieve running full regression cycles, and keep the regression suite up-to-date after each release. Find out more by visiting www dot Sauce Labs dot com and sign-up for your free demo today.

AutonomIQ delivers transformation projects faster without compromising quality. You can deploy AutonomIQ locally on-premises or in the cloud or hybrid cloud. AutonomIQ is available out-of-the-box with preset Oracle-specific test assets, and offers unmatched workflow flexibility.



About Sauce Labs

Sauce Labs is the leading provider of continuous test and error reporting solutions that gives companies confidence to develop, deliver and update high quality software at speed. The Sauce Labs Continuous Testing Cloud identifies quality signals in development and production, accelerating the ability to release and update web and mobile applications that look, function and perform exactly as they should on every browser, operating system and device, every single time. Sauce Labs is a privately held company funded by TPG, Salesforce Ventures, IVP, Adams Street Partners, and Riverwood Capital.

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