MICROSOFT AND SAUCE LABS FOR MODERN SOFTWARE DELIVERY

AUTOMATE TESTING WITH VISUAL STUDIO TEAM SERVICES (VSTS) AND TEAM FOUNDATION SERVER (TFS)

The key to efficient software delivery is a fully integrated tool chain. And the key to faster releases at a higher quality is automated testing. That is why using a comprehensive development environment driven by Visual Studio Team Services (VSTS), combined with a tight integration with the Sauce Labs Automated Testing Platform, is the easiest way for development teams to optimize their CI workflows and expand their use of Visual Studio and Azure tooling.

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BEFORE THE INTEGRATED ENVIRONMENT

Many modern delivery chains are leveraging the latest tooling and processes, but still fall victim to one or more manual steps to get from code to production. This leaves them exposed to human error and human speed, which ultimately prevents them from fully embracing DevOps.

More frequent, faster and higher quality releases are key to enabling true DevOps. Releasing more without addressing quality can bring development environments to their knees quickly. Comprehensive quality is addressed with several types of testing, namely unit, load, and functional. Both unit and load testing are built into the VSTS suite, but functional testing is not. Consequently, users have to run the tests externally from the Microsoft environment.

Organizations improve collaboration and accelerate builds with VSTS, but find themselves stuck when it comes time to implement continuous integration (CI) and delivery (CD) processes. There's a gap between build and release. That gap is functional testing, and it is often manually run or scaled back to meet accelerated release schedules.

ABOUT SAUCE LABS

Sauce Labs offers the world's largest cloud-based platform for automated testing of web and mobile applications. Developers can leverage Sauce Labs to automate the execution of tests, obtain results, and capture screenshots and videos of bugs across a broad set of desktop browser and OS combinations, mobile emulators and simulators and real devices.. Sauce Labs is used by many of the world's largest organizations and supports secure and massively parallel testing with the reporting, analytics and management features that enterprises demand.

ABOUT THE INTEGRATION

With 50 million tests run a month, there is no question that Sauce Labs technology is solving major challenges in test automation. However, this testing needs to integrate tightly with release automation and collaboration tools. Sauce Labs customers are building applications on the Microsoft stack, and Microsoft customers are looking for test automation that fits into their established flows. That is why Microsoft partnered with Sauce Labs to build an integration with VSTS and TFS that allows organizations to leverage the power of Sauce Labs testing within their comprehensive development environments.

The integration is the quickest way to extend the functionality of VSTS / TFS to cover all stages of software delivery and support the adoption and expansion of the Microsoft development environment.

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HOW IT WORKS

The Sauce Labs for VSTS plugin handles the authentication, communication, test runs, and reporting results from the Sauce Labs test automation infrastructure to the customer's VSTS environment.

For many organizations, leveraging the plugin is as easy as installing, configuring, and queuing the first build. They are able to run their existing suite of tests built on top of the ubiquitous and open-source test automation frameworks Selenium and Appium. Because Sauce Labs uses the standard versions of Selenium and Appium, you can easily run all your existing tests by simply pointing to our Cloud and entering your credentials.

Organizations that are familiar with VSTS / TFS but are not yet using automated testing, or that are not familiar with Sauce Labs but are interested in modern software delivery, would first create an account with Sauce Labs. They would then create Selenium or Appium test scripts in the language and frameworks of their choice and integrate automated testing into their existing VSTS / TFS pipelines. Below are detailed steps:

- Install the free Sauce plugin for VSTS from the Visual Studio Marketplace
  http://tinyurl.com/h9t9ode

- Build a new template definition or modify an existing one

- Add "Sauce Labs Configuration" and "Stop Sauce Labs Connect" steps to the definition

- Modify "Sauce Labs Configuration" plugin settings

  - Authenticate to your Sauce Labs account

  - Enable or disable Sauce Connect Proxy™

- Modify "Stop Sauce Labs Connect" plugin settings and enable it if you are using Sauce Connect Proxy

- Add build triggers in VSTS / TFS - and view results as the tests complete

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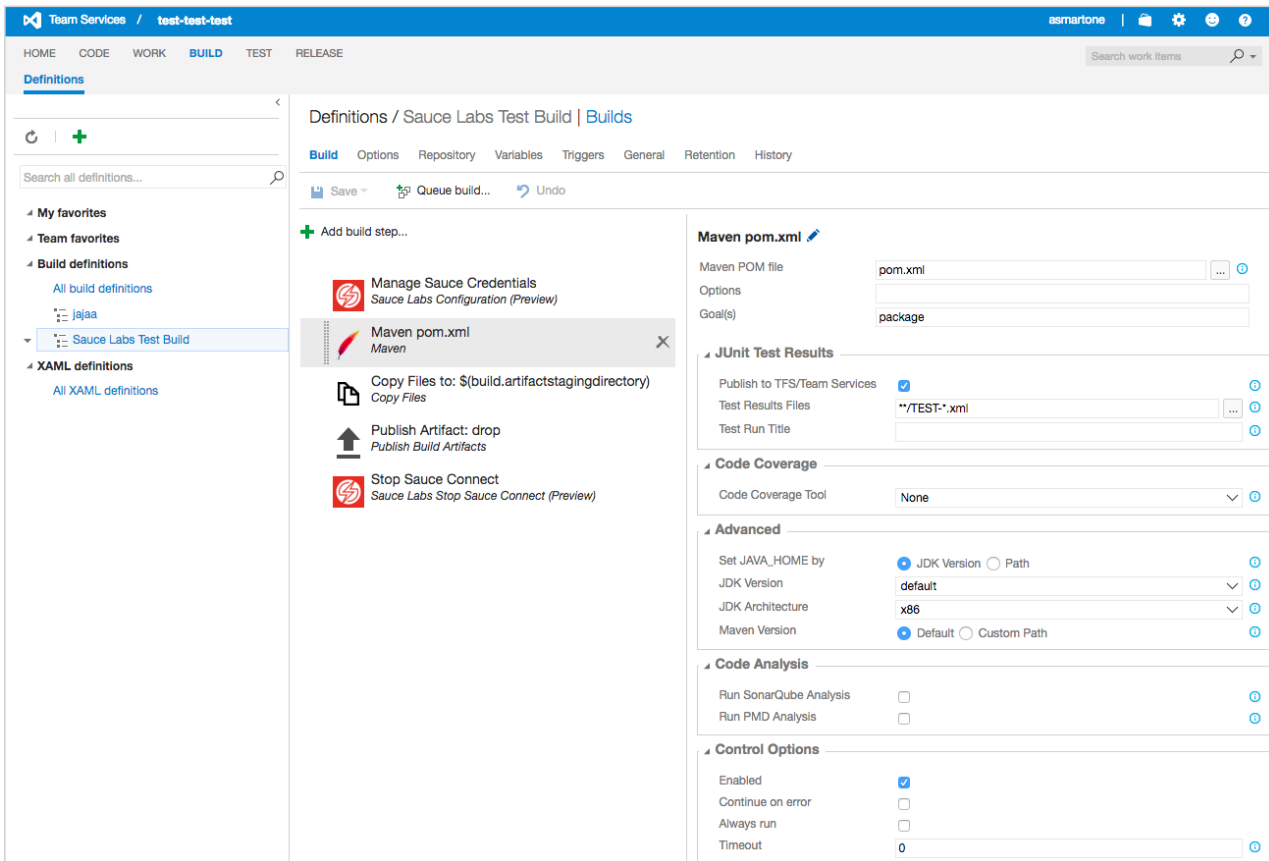
Screen shot showing build definition screen.
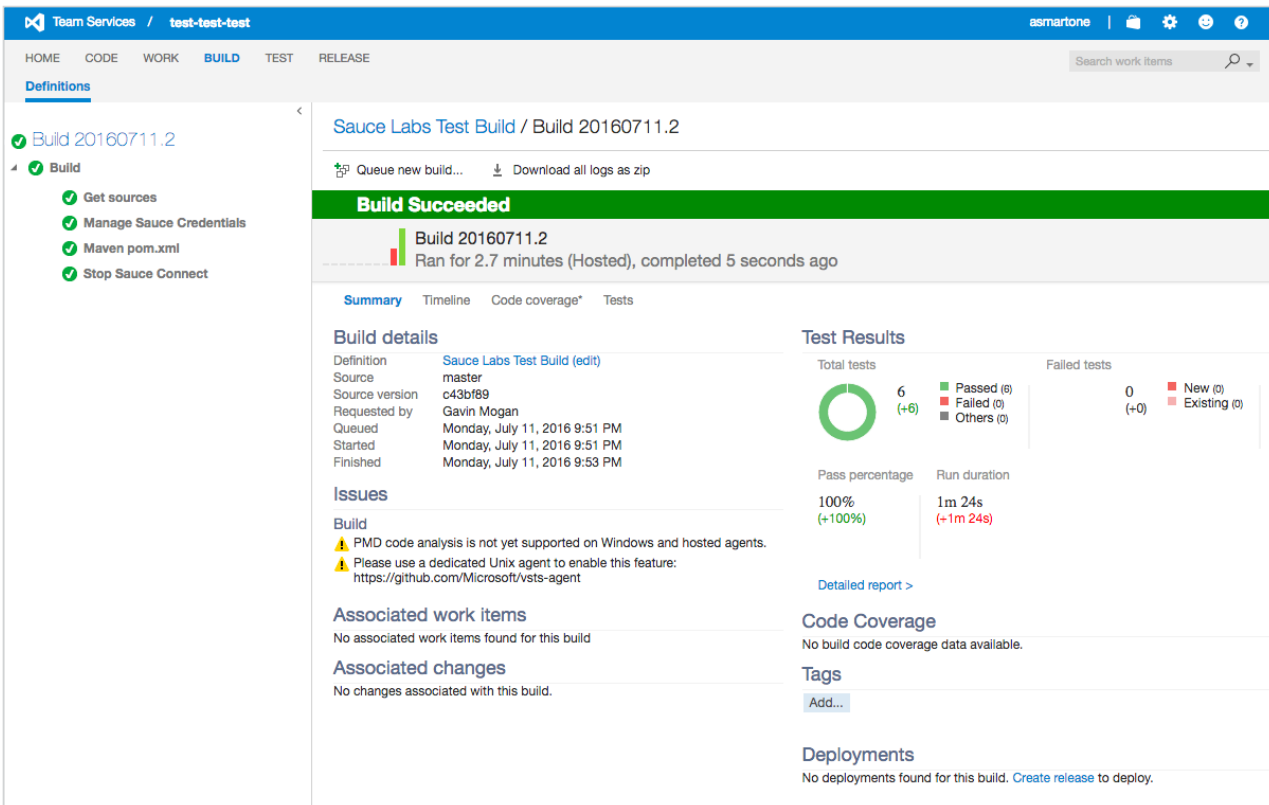
Screen shot showing build test results page with details, pass rate, test time and more.

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In a typical environment, several more steps will be added to fit the complete workflow that the development team requires.

Screen shot showing test details page and results for each test with access to test videos and logs.

After a test has run, test results can be viewed including videos, screen shots and logs of each test. Further, Test Analytics is designed to help you make sense of your test results and optimize your test resources so you can release software faster. With multidimensional filtering capabilities, you can quickly identify success / failure rates by build, platform, browser, department or user.

While most modern environments will run the plugin in the cloud, it can also be run with on-premises TFS licenses as well. That means it supports private clouds as well as hybrid-cloud scenarios.

KEY FUNCTIONALITY

Combining a best-of-breed development environment with a best-of-breed automated test environment establishes a centralized and comprehensive delivery chain for organizations that will provide:

- A fully integrated and automated delivery chain, with no need to manually run test processes in disparate environments

- The addition of functional testing to the Visual Studio suite

- A secure way of testing applications behind a firewall with Sauce Connect Proxy

- The ability to run in parallel for faster, more comprehensive testing

- View complete test results in the VSTS dashboard

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- Review data in your quality dashboard with access to our comprehensive REST API

- Screenshots, videos, log files and all data for every test

- Gain visibility into your testing and prioritize fixes quickly with Test Analytics

- Test web apps on over 900 browser and OS platforms.

- Test mobile apps on emulators, simulators and over 1,000 real iOS and Android devices.

- Large suite of third-party plugins, including Jenkins, Slack, and more.

More comprehensive development environments mean greater opportunities for customers to expand their use of the entire Microsoft DevOps stack, enabling Microsoft and Sauce Labs to be part of an enterprise's move to modern software development.

EXPANDING VSTS AND MICROSOFT STACK ADOPTION

Microsoft and Microsoft Partners now have a solution to the functional test question. Instead of telling users that functional testing is up to them, they can access a solution that is as easy as activating a plugin. It is also an opportunity to keep a customer's delivery chain contained within VSTS. This means fewer objections and an opportunity for organizations to avoid falling victim to ANY manual step in their modern delivery chain.

Customers of Microsoft will release higher-quality code faster, have a centralized and unified development environment, and be able to focus on improving their product rather than worrying about slow releases and gaps in quality. Existing VSTS users looking to get started with Sauce Labs today should download the Sauce Labs plugin from the Visual Studio Marketplace here: http://tinyurl.com/h9t9ode

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ABOUT SAUCE LABS

Sauce Labs provides the world's largest cloud-based platform for automated testing of web and mobile applications. Sauce Labs runs over 1.5 million tests per day, providing most up to date testing trends along with instant access to all the device and OS combinations listed in this report. Sauce Labs provides the testing for mobile web, hybrid and native apps. Its award-winning service eliminates the time and expense of maintaining an in-house testing infrastructure, freeing development teams of any size to innovate and release better software, faster.

Sauce Labs is a privately held company funded by Toba Capital, Salesforce Ventures, Centerview Capital Technology, IVP and Adams Street Partners. For more information, please visit saucelabs.com.

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