

# Parasoft SOAtest

## Automate Codeless API Testing

### Accelerate Delivery With Efficient Test Automation

Today's distributed software environments mean a variety of APIs with every interface your software touches, from microservices to mobile. Each of these APIs needs to be continuously tested to ensure the software functions as it should. SOAtest automates the continuous testing of complex systems by creating codeless API test scenarios from UI action recordings and recorded traffic.

SOAtest efficiently transforms your existing test artifacts into security, performance, or web accessibility tests to increase reusability and reduce redundancy. Build a foundation of automated tests that can be executed as part of continuous integration and DevOps pipelines. SOAtest reduces test maintenance by updating tests when APIs change.

Integrate SOAtest into your continuous delivery pipeline to ensure that your applications have an acceptable level of risk. Security and load/performance testing are often left to the end of the development cycle, even though they present the greatest risk of delayed releases. Integrate this testing earlier into your SDLC to reduce corporate risks associated with performance outages and security breaches.

### Drive Quality With Modern Testing Practices

Reduce the cost of developing high-quality software without sacrificing time to market.

#### Continuous Testing

Automate the execution of API, performance, security, and web accessibility tests as part of your continuous delivery pipeline, leveraging CI infrastructure such as Azure DevOps, Jenkins, Bamboo, and TeamCity to provide a faster feedback loop for test development and management.

#### Agile

Accelerate the feedback process required in Agile methodology by associating test cases with requirements and integrating test results with requirements and issue management systems, like Jira, to continuously validate level of risk.

#### AI-Driven API Test Creation

Use AI to increase test team productivity. Rapidly and easily craft rich end-to-end API test scenarios from recorded API traffic using the Parasoft Recorder Chrome extension and the Parasoft SOAtest Smart API Test Generator. Leverage Generative AI through integration with various LLM providers such as OpenAI or Azure OpenAI to quickly create test scenarios based on service definition files and human language prompts. Increase test thoroughness and make API testing easier for less-technical team members.

#### Modern Test Environments

Execute your tests and view results within the context of the test environment, while controlling the behavior of constrained dependencies to ensure predictability by leveraging service virtualization.

### Enable Continuous Testing

- » Automate complex scenarios across multiple endpoints (services, databases, mobile, web UI, sensors, ESBs) from a single intuitive user interface.
- » Automatically generate codeless API tests that are robust, reusable, and easily shareable.
- » Leverage AI to create powerful API test scenarios in less time than with other tools.
- » Rapidly refactor tests impacted by API schema changes with Parasoft Change Advisor.
- » Satisfy nonfunctional requirements by repurposing existing test cases for performance, security, and web accessibility testing.
- » Increase test velocity by stabilizing test environments with integrated service virtualization.

"With Parasoft SOAtest, we're able to kill two birds with one stone. You test the feature. When satisfied with the result, immediately generate a regression suite and your automation is ready. You don't have to do the testing twice anymore. It's all done in one shot. That's a huge advantage. Parasoft helps us increase test coverage and increase the granularity of our testing. That helps ensure that our clients are always receiving a very high quality product."



## Take Control of Functional Testing

### End-to-End Testing

From a single intuitive interface, Parasoft SOAtest automates end-to-end test scenarios across multiple layers and a variety of endpoints, such as REST APIs, GraphQL, Kafka, SOAP services, databases, Web UIs, ESBs, mobile, and more. SOAtest reduces the time it takes to create and execute data-driven test scenarios by providing a visual test-creation mechanism to handle common testing challenges like complex assertions, looping, data extraction, or data generation. Its Smart API Test Generator creates complete API test scenarios for you using artificial intelligence.

### Web UI Testing

Parasoft SOAtest enables nontechnical testers with no-code automated web UI test creation and execution for cross-browser validation. It removes the barriers to automated web testing by isolating and testing for correct functionality across multiple browsers without requiring scripting.

### Accessibility Testing

Easily validate that your web application satisfies program requirements for end user accessibility by reusing existing Parasoft SOAtest web UI tests for accessibility testing through SOAtest's built-in integration with the Deque axe-core plugin. Run accessibility tests as a part of your CI/CD pipeline to help teams adhere with WCAG 2.2 and publish results to Parasoft DTP for trend analysis over time.

### Microservices Testing

Parasoft SOAtest provides a comprehensive solution for testing microservices with support for many protocols, including HTTP(S), REST, RabbitMQ, gRPC, GraphQL,

and Kafka, and message formats like JSON, XML, and protocol buffers to fully test microservices. Integrate SOAtest with Parasoft Virtualize to remove environmental constraints and isolate microservices for repeatable automated testing. Reduce the risk of untested microservices by measuring code coverage in end-to-end and integration testing scenarios for applications that involve multiple distributed microservices.

### Responsive to Changes

As your API testing strategy scales, the library of test cases will grow, and when the APIs being tested change, the tests will need to be updated. Parasoft SOAtest's Change Advisor identifies changes in API interfaces accessed by your tests and helps to automatically update them to reflect the changes.

Executing your complete test suite for every incremental build is time-consuming and becomes a bottleneck in the CI/CD pipeline. Within its smart test execution capabilities, Parasoft SOAtest uses test impact analysis to identify and execute only the tests necessary to validate the changes between builds, including changes in downstream microservices, for quicker feedback from the CI/CD pipeline.

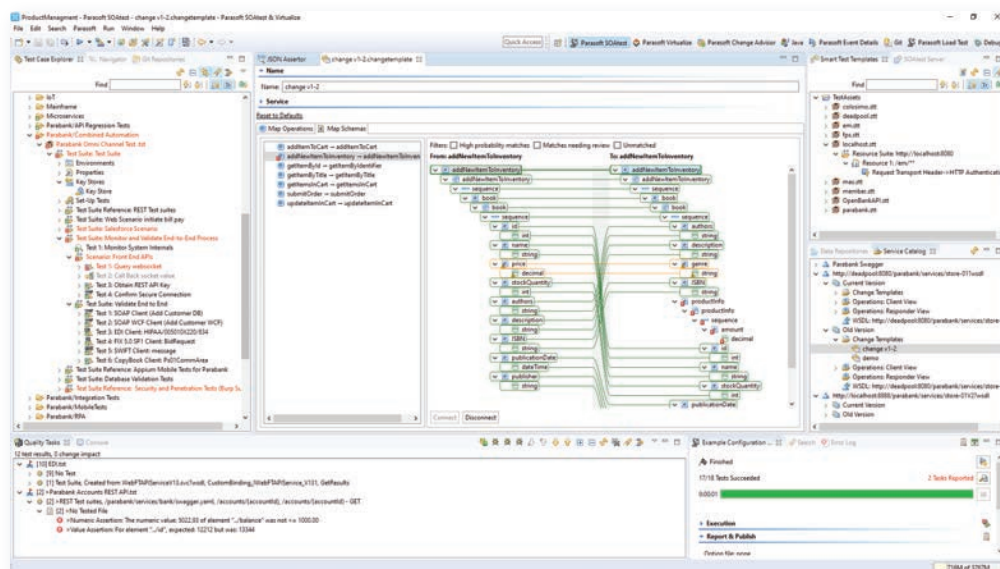
### Ensure Test Completeness

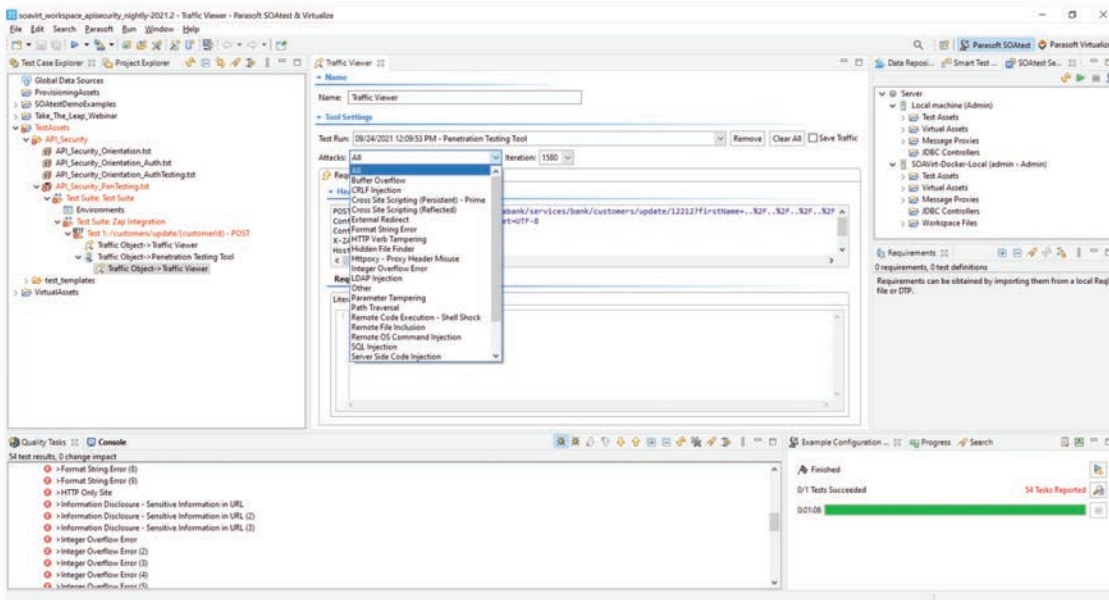
Easily identify test coverage gaps by collecting code coverage from all of your testing practices, such as unit, API, web UI, integration, end-to-end, manual, and more. Merge and correlate code coverage to identify areas of low coverage and high risk and create targeted test strategies to increase test coverage, mitigate release risk due to untested code, and ensure the application is release-ready.

### Extensive Interoperability

Whether working with APIs, microservices, or web services, Parasoft SOAtest provides teams with confidence to thoroughly test any interface by supporting more than 120 industry protocols and message types.

Easily identify changes in test cases with a visual color-coded comparison.





Move API security testing earlier in the development process. Perform penetration testing with Parasoft SOAtest's integration with OWASP ZAP for seamless dynamic application security testing (DAST).

## Perform API Security Testing With Parasoft SOAtest + DAST

APIs are the building blocks of modern applications. If the APIs aren't secure, the system isn't secure. However, having a consistent API testing strategy that spans from development through test to the AppSec team can be challenging. Parasoft SOAtest extends its API testing platform with a seamless integration of dynamic application security testing (DAST) to perform penetration testing as part of the development workflow.

### Integrate Penetration Testing Into Your API Testing Strategy

Penetration testing is critical to uncover security holes in your application. Parasoft SOAtest helps teams prevent security vulnerabilities through API penetration testing and execution of complex authentication, encryption, and access control test scenarios. Approach security testing earlier and address critical security defects before they are buried deep in the release.

### Bring Your Own Policy (BYOP)

With SOAtest, you can use your existing API functional tests and OWASP ZAP tests to run security penetration tests in your automated CI process. Import custom OWASP ZAP scan policies into SOAtest and pair them with existing API testing scenarios to automate API security testing as part of continuous monitoring activities. This provides complete visibility into emerging threats that can be leveraged back into developer functional testing.

### Easily Define Your Attack Vectors

There are specific areas of your application that you want to attack but they are buried under multiple web or API steps.

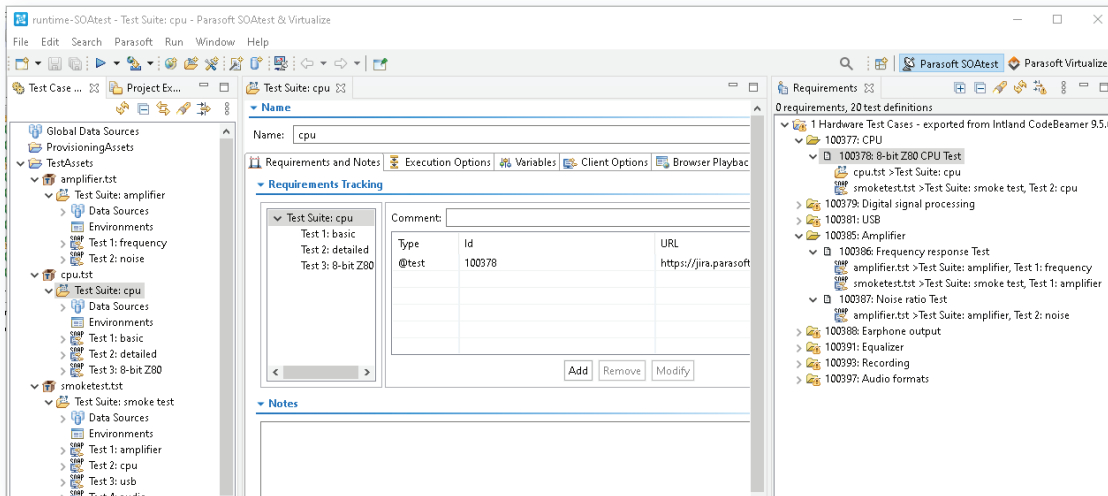
With Parasoft SOAtest, you can define the steps needed to get your application in the state where it could be penetrated and then launch your attack.

### Run Security Tests as Part of Continuous Integration

Security tests can be run as part of an automated CI process through the command line or through integration with CI systems like Azure DevOps, Jenkins, TeamCity, Bamboo, and others. This automation allows you to discover vulnerabilities as soon as they are injected into the application—otherwise, they may not be found until much later when they're more expensive to fix.

### View Results & Reports for Penetration Testing

Parasoft collects code coverage data as penetration tests are run and aggregates that data with the overall code and test coverage data collected by all testing practices, such as unit and functional tests. Security test results are reported through Parasoft DTP to make them visible to stakeholders in the same way that functional test data are displayed and reviewed. This complete view of testing is essential, especially in Agile, for stakeholders to make informed decisions that will impact the business.



Associate requirements with API test cases to view test coverage and enable smart test execution.

## Traceability

Gain insights into your application's test coverage with traceability workflows. Import requirements from your requirements management system to map the associated test cases to those requirements. With user stories correlated to test cases, which are also aligned to the code, Parasoft SOAtest identifies the tests to run when changes are made to the code and reports on what requirements are impacted.



Reuse your Parasoft SOAtest functional tests to verify application performance and functionality under heavy load.

## Load & Performance Testing

Parasoft Load Test takes the tests from SOAtest and runs them under load to validate your application's performance under stress. It verifies that your services meet specific quality-of-service metrics and shows where performance bottlenecks exist. Load and performance testing can be fully automated and run continuously as a performance regression test, enabling constant validation and providing immediate feedback on the impact of change against SLAs.

## Reach Quality Goals

Parasoft SOAtest can help your team improve API test quality and speed up software delivery. [Request a demo today.](#)

