Synthetic Monitoring × APM

End-to-End Visibility at Your Fingertips

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01   **The challenge**

Today, customers expect a seamless, secure experience when using your applications—regardless of scale. However, issues and errors will inevitably surface at different layers of your stack. You need the confidence to know you can locate where problems have occurred quickly enough to reduce any disruption to your business. Even better, you need to catch issues proactively—before they have a chance to impact your customers. Common monitoring and testing tools can provide visibility into individual parts of your applications. For example, they may help frontend teams surface a UI issue. But without complementary and unified insights into your backend services and infrastructure, it becomes difficult to track the root cause of the issue if it's further down your stack. This introduces more tools and required skills to your team's workflows, harming productivity and contributing to situations where you're spending more time fighting fires and less time on development work that drives the business forward.

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02   **The solution**

Unified, end-to-end visibility into your entire stack lets you run your business with confidence by enabling your teams to detect and remediate issues quickly and effectively. Datadog Synthetic Monitoring and Datadog APM provide this confidence by seamlessly integrating monitoring and testing of your frontend with backend telemetry as requests traverse your environment.

Datadog Synthetic Monitoring offers self-healing browser tests to reduce alert fatigue and enable teams to focus on only the most important issues, as well as API endpoint tests that help you track service uptime. Datadog APM collects distributed traces of requests as they propagate from frontend devices across your backend services and databases. The two products work seamlessly together to provide full-stack visibility while allowing you to monitor your applications both proactively and reactively—all on a single, unified platform. Together, they offer:

- A unified platform for full-stack visibility

- Proactive monitoring and testing for a flawless end-user experience and reliable endpoint uptime

- Powerful tools and visualizations for enhanced developer experience and productivity

Key benefits of Datadog Synthetic Monitoring and APM

- Leverage the power of a single, unified platform for full-stack visibility into your applications and services, while also expediting root cause analysis and lowering MTTR by seamlessly correlating relevant metrics, logs, and network data with synthetic test runs and application traces.

- Proactively monitor your endpoints and critical user transactions to achieve a flawless end-user experience.

- Reduce testing fatigue and ease cross-functional team collaboration to enhance the developer experience and scale productivity.
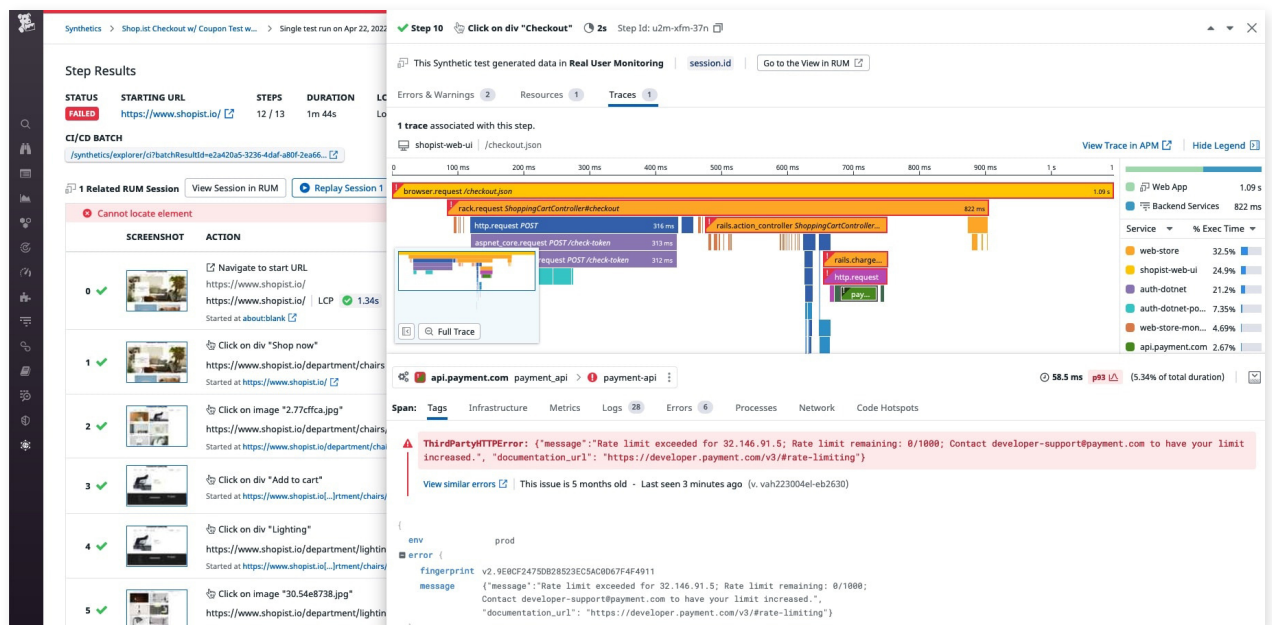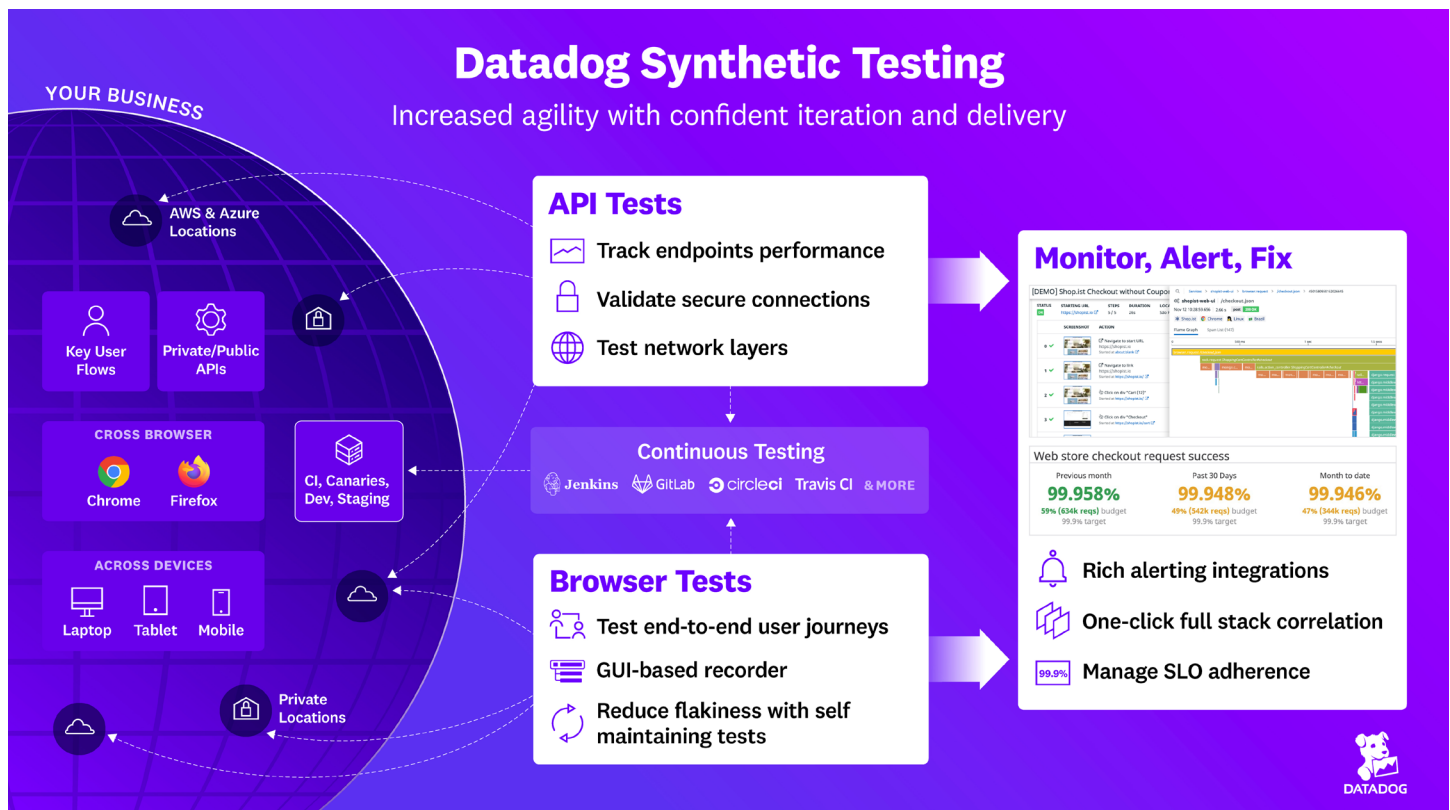

03

Leverage the power of a single, unified platform

Traditional synthetic monitoring solutions may surface frontend issues like poor Core Web Vitals performance without providing complementary telemetry to find the root cause wherever it is in your stack. You must therefore pivot between multiple monitoring and testing tools to find the source of the problem, resulting in increased MTTR and downtime.

Datadog's unified platform brings Synthetic Monitoring and APM together on a single pane of glass, letting you focus on real issues without distractions or unnecessary context switching. You can confidently run your business knowing you have full visibility and can correlate any issue throughout your stack in a single platform. With Synthetic Monitoring and APM, you can:

- Combine proactive monitoring with Synthetics and reactive monitoring with APM in one platform to save time and resources.

- Expedite root cause analysis and lower MTTR by correlating failed synthetic tests and distributed traces with metrics, logs, and network data without switching between multiple tools and windows.

- Save time and increase productivity by removing silos between teams and providing a single source of truth for end-to-end visibility and contextual troubleshooting.

Datadog Synthetic Testing

Increased agility with confident iteration and delivery

YOUR BUSINESS

AWS & Azure Locations

Key User Flows

Private/Public APIs

CROSS BROWSER

Chrome · Firefox

CI, Canaries, Dev, Staging

ACROSS DEVICES

Laptop · Tablet · Mobile

Private Locations

API Tests
- Track endpoints performance
- Validate secure connections
- Test network layers

Continuous Testing

Jenkins · GitLab · circleci · Travis CI · & MORE

Browser Tests
- Test end-to-end user journeys
- GUI-based recorder
- Reduce flakiness with self maintaining tests

Monitor, Alert, Fix

Web store checkout request success

Previous month	Past 30 Days	Month to date
99.958%	**99.948%**	**99.946%**
59% (634k reqs) budget	49% (542k reqs) budget	47% (344k reqs) budget
99.9% target	99.9% target	99.9% target

- Rich alerting integrations
- One-click full stack correlation
- Manage SLO adherence

04

Achieve a flawless end-user experience

While it's important to monitor applications after they're in production, it's also important to prevent potential problems before customers have a chance to encounter them by testing key user transactions even earlier in your development cycle, within your continuous integration/continuous delivery (CI/CD) pipelines.

Datadog Synthetic Monitoring and APM are tightly integrated with one another to bring you dynamic tools and workflows for enhancing your end-user experience. This lets you catch issues at every stage of the development cycle and ship features confidently knowing you have full control over your network, frontend applications, and backend services. With full-stack control, you can:

- Ensure endpoints are performing well by identifying which API endpoints have the highest production traffic in APM and setting targeted synthetic tests with no context switching.

- Find the root cause of issues and optimize code before any customers are impacted by correlating distributed traces generated from synthetic tests in your CI/CD environment with infrastructure metrics, network data, and code profiles.

- Cross browser test to help ensure applications and backend services run effectively no matter which browser a customer is using.

05

Enhance the developer experience and scale productivity

Fostering a healthy developer experience and high productivity are difficult challenges faced by businesses. Writing and maintaining complex test cases along with using siloed tools can exacerbate these problems, leading to difficult onboarding and collaboration, increased knowledge gaps, and overall confusion around the root cause of issues.

Datadog Synthetic Monitoring and APM feature powerful, easy-to-setup tools and out-of-the-box visualizations aimed at removing barriers, increasing productivity, and enabling developers to do their job with confidence. These include:

- Advanced browser test, which offers a code-free web recorder for test setup, resiliency to UI changes, and rich results with step-by-step screenshots. No more testing and alert fatigue, or wasting time on maintaining tests.

- Flame Graph, a visualization for distributed traces within APM and Synthetic Monitoring that lets you correlate service calls with all other types of telemetry to quickly detect bottlenecks and errors anywhere in your stack.

- Deployment Tracking, which allows you to compare code performance between different versions, easily spot faulty deployments, and adopt advanced deployment strategies—such as canary and blue-green—with confidence.

- Request Flow Map, a live tool for visualizing requests between services across your applications. This map is based on 15-minute live data and leverages application traces and tags to provide a real-time, dynamic view of service dependencies in any environment for quickly identifying the root cause of issues.

ⓘ **For more information**

To learn more about how Datadog Synthetic Monitoring and APM work together to help you link browser and API synthetic tests to distributed traces within one unified platform, check out our documentation on the APM integration for Synthetic Monitoring. If you're ready to put this solution into action, you can sign up for a full-featured Datadog trial at https://www.datadoghq.com/free-datadog-trial/.