Real Device Access API

Move beyond framework constraints to full device freedom

Real Device Access API, the industry's first modern programmable mobile cloud, provides developers with deep, device-level control to accelerate AI-driven workflows. This framework-agnostic approach bypasses the constraints of standard testing frameworks to unlock custom use cases and AI-ready workflows—while eliminating the drain of in-house testing. With low-latency device access at cloud-scale security, deep observability, and persistent session models, teams can reclaim innovation time and build a future-proof foundation that modern mobile engineering needs.

This API is designed to reduce engineering drain, provide a future-proof infrastructure access, and accelerate innovation cycles by integrating easily with emerging technologies such as AI-driven platforms.

Core Capabilities and Controls

Comprehensive File Management

Directly manage files on test devices using simple API commands.

Push Data: Push configuration files, user profiles, or datasets to the device before a test (e.g., POST /rdc/v2/sessions/<id>/device/pushFile).

Retrieve Logs/Assets: Pull log files, diagnostic files, crash reports, or data generated by your application for external validation.

Performance Metric Monitoring

Gain direct visibility into core performance metrics by measuring the exact duration and success of app installations and launches.

Track Installation Time: Measure the exact duration of app installation to detect regressions caused by increased application file size.

Measure Launch Speed: Monitor the time it takes for your app to launch.

Detect Launch Crashes: Immediately identify builds that fail to launch successfully by checking the API response.

Granular Session Management

Full control over creating, retrieving, and deleting sessions with configurable lengths up to 24 hours.

Custom Cleanup Control: Configure session cleanup to specify which services to start, which assets (logs, video) to retain, and which apps to uninstall.

Device Reboot: Allows rebooting the device (for private devices only) when deleting a session using "restartDevice": true.

Advanced Extensibility

Custom Appium Drivers

Bridge the gap between the Sauce Labs cloud and your testing ecosystem by running custom Appium drivers. You can acquire a device via the Real Device Access API, set up a local Appium server, install custom drivers, and connect to the device via the provided adb/WDA connection.

Test Non-Standard Platforms: Automate devices requiring specialized Appium drivers, such as smart TVs or automotive infotainment systems.

Extend Existing Drivers: Run a forked version of a standard driver (like XCUITest or UIAutomator2) with custom commands, patches, or optimizations.

WebDriverAgent

Gain flexibility in iOS testing by using your own fork of WebDriverAgent.

Unlock Custom Automation: Execute proprietary commands and interactions using your own modified WDA version.

Improve Test Stability: Pin your test suite to a specific, known-good version of WDA to ensure consistent behavior and eliminate flakiness caused by updates to the default version.

HTTP Proxy / Port Forwarding

This feature allows network traffic to be forwarded to the device, serving a similar purpose to command-line tools like adb port-forward for Android or iProxy for iOS (HTTP/S support is currently supported).

Debug Network & DNS Issues: Make HTTP requests through the device to diagnose how it resolves network requests.

Interact with On-Device Servers: Communicate directly with custom HTTP servers running on the device, such as mock backends or proprietary test harnesses.

Unlock Advanced Mobile Use Cases

Soak Testing for Continuous Usage

An engineer in retail needs to validate app stability over 12 hours of continuous usage (simulating a delivery driver's shift).

Precision Performance Benchmarking

A banking app needs to know exactly how long the login process takes on a Galaxy S24 vs. a Pixel 8.

Natural Language Test Execution (MCP)

A Product Manager wants to "sanity check" a build without writing code.

Synthetic Monitoring Production Loops

Running a "Login -> Check Balance" smoke test every 5 minutes, 24/7, to monitor production health.

Proprietary / Custom Driver Execution

A customer uses a heavily modified fork of WDA or a niche framework that requires a specific companion app running on the device.

Self-Healing Autonomous Agents

An AI Agent is testing a shopping app. Suddenly, a native OS "Rate this App" pop-up appears, covering the "Buy" button. This breaks standard Appium scripts because the pop-up isn't part of the app's code.

Destructive Root Detection & Malware Testing

A security team needs to verify their banking app correctly blocks users if "Developer Options" are enabled or if a specific "Malware Package" is present.

The Real Device Access API Benefits

Framework Freedom	The Real Device Access API provides direct, unmediated access to Sauce Labs Private Devices—decoupling device control from any single automation framework or testing philosophy.
Unmatched Device Control	Get local-device precision with cloud-scale security. Execute raw adb and xcrun commands, modify system states mid-session, and use custom drivers (WDA/UIA2).
Maximized Efficiency	Achieve persistent high-performance sessions. Eliminate the reboot and reacquisition overhead by using session caching to run sequential tests without constant resets. Ideal for soak tests, long-running workflows, continuous validation, and monitoring.
Enhanced Observability	Don't just see that a test failed—see why. Access live WebSocket streams of system logs, network traffic, and high-fidelity video and reduce MTTR with real-time visibility into exact failure causes.
Ultimate Versatility	Whether you're integrating custom gaming drivers, specialized accessibility tools, or forked versions of WDA, this API offers the "local lab feel" at a global cloud scale.
Future-Ready for AI	Architecture built for autonomous AI workflows and agents. Low-latency video and visual control surfaces enable Agentic AI workflows across mobile, Automotive, and TV. The MCP-ready architecture allows AI agents to treat devices as native tools.

Take control of your release cycles.

Start engaging with your test data today to uncover the insights you've been missing.

Schedule a conversation

Sauce Labs is the leading cloud-hosted platform for AI-driven automated testing of web and mobile applications, enabling fast delivery of high-quality software across the development lifecycle. Founded by the creators of Selenium, Sauce Labs has been the testing leader for over 17 years and now runs over 1 billion tests annually. Trusted by Fortune 500 companies like Toyota, Walmart, Verizon, and Fidelity Investments, its scalable, secure platform supports testing across thousands of operating systems, browsers, and devices while meeting the highest compliance standards.