

Splunk® for Developers

Customize and Extend the Power of Splunk Enterprise

HIGHLIGHTS

- Use Splunk to accelerate development and testing cycles
- Integrate Splunk with your enterprise applications for real-time insights across your organization
- Rapidly build big data applications using familiar languages, frameworks and tools

Empowering Developers to Customize and Extend Splunk

Splunk software is the platform for machine data. It is the easy, fast and resilient way to collect, analyze and secure the massive streams of machine data generated by your IT systems and technology infrastructure—whether it's physical, virtual or in the cloud. Developers can tap into the power of Splunk software to debug and troubleshoot applications during development and test cycles, integrate data from Splunk into custom applications and build real-time big data applications. The Splunk software development kits (SDKs) make it easy for developers to customize and extend the power of Splunk.

Developers can extend the Splunk platform to:

- Run real-time searches and retrieve Splunk data from line-of-business systems like customer service applications to gain insights into user experience and system health
- Integrate data and visualizations like charts and tables from Splunk into BI tools and reporting dashboards to support business decision making
- Build mobile applications with real-time KPI dashboards and alerts powered by Splunk
- Visualize and analyze data logged directly to Splunk from remote devices and applications via TCP, UDP and HTTP
- Build customer-facing dashboards in your applications powered by user-specific data in Splunk
- Programmatically extract data from Splunk for long-term data warehousing

Accelerate Development and Test

Even with the widespread adoption of agile development methodology, issues that are difficult to identify, locate and fix can slow down the development and testing process. Splunk increases the speed and efficiency of development and testing by providing a central interface for developers and QA engineers to quickly find and fix bugs wherever they appear in the stack. Every developer can use Splunk to get applications through development and testing and into production faster. Splunk's powerful search language and data visualization tools allow developers to trace transactions across multiple machines in real time and monitor their applications for anomalies and outliers.

Splunk enables developers to build intelligence into their apps and gain analytics insights without needing additional analytics tools. In addition to debugging data, logging semantic data can significantly enrich virtually all applications. Semantic logging with human readable events, clear key-value pairs and consistent time-stamps can provide insight into customer activity and behavior, product and service usage, and transactions that truly record the state of the business.

Splunk delivers key capabilities out-of-the-box to make large volumes of machine data, including application logs, readily accessible, searchable and valuable for application development and testing:

- Collect, index and harness any type of machine data from multiple sources
- Trace transactions, monitor continuous integration and analyze customer behavior
- Get improved visibility and understanding of performance data for large-scale stress testing

Splunk in Action

Retailer Target uses Splunk Enterprise to monitor activity from code commit through production. Splunk helps Target ensure the real-time health and stability of their IT environment as well as providing critical insight into the continuous integration processes they employ for DevOps agility and responsiveness.



“We use Splunk to monitor the full software development cycle—from version control commits, to continual integration builds, to agile issue tracking tools, to continual deployment stats. All of the data combined can be used to illustrate the health of development efforts in real time.”

—Dan Cundiff, Sr. Technical Architect, Target

Integrate Splunk Data

Splunk SDKs make it faster and more efficient to program against the Splunk REST API using constructs and syntax familiar to developers experienced with Java, Python, JavaScript and PHP. This makes it easier to integrate data from Splunk with other applications across the enterprise. Integrating Splunk data with other business applications allows various stakeholders to access operational insights in ways that are specifically meaningful to their role and function. For example, call center support representatives can use Splunk search results in their current CSR tools to more quickly identify issues, resulting in lower support costs and higher customer satisfaction.

- The Splunk SDKs for Python, Java, C#, JavaScript, PHP and Ruby enable developers to search, manage and visualize Splunk data via custom and third party applications
- The Splunk REST API returns data in JSON, ATOM XML or CSV formats
- Log to Splunk from any application residing on any device or machine
- Build a custom UI for Splunk on any web stack

Splunk in Action

Comcast needed to empower their customer service representatives with real-time data from their next-generation DVR devices to proactively identify and resolve issues before customers were aware of any problems and called customer service. Using the Splunk SDK for Java, Comcast's development team integrated Splunk into their existing CSR application, enabling customer service representatives to query Splunk for real-time usage data to identify any errors in the logs which they could quickly address remotely.

Before Splunk, DVR box daemons were batch polled once a day, which was much less effective in identifying errors, leading to higher call volume and lower customer satisfaction.



"Splunk lets us find and fix issues on a customer's DVR before anyone makes a phone call."

—Travis Parchman, Operations, Comcast

Build Real-time Data Applications

Machine-generated data is the fastest growing, most complex and yet most valuable segment of big data. All websites, communications, networking and complex IT infrastructures generate massive streams of data every second of every day, in an array of unpredictable formats that are difficult to process and analyze by traditional methods or in a timely manner.

The Splunk SDKs enable developers to rapidly build real-time big data applications on the Splunk platform. These applications can effectively harness machine-generated data to deliver valuable insights like clickstream analysis, IT early-warning notifications, security and fraud protection, user behavior awareness and trends in customer preferences. The Splunk SDKs deliver a

familiar developer experience by providing programmatic access to Splunk's data-processing pipeline, storage technology, and management facilities to let developers get started and get productive with Splunk quickly.

Splunk offers developers a host of capabilities to rapidly build big data applications:

- Fast, efficient development—you don't have to do a large scale development effort for big data
- No need to write MapReduce jobs—just get data into Splunk and analyze
- Simple data ingestion via TCP, UDP, HTTP or Splunk's universal forwarder agent
- Enables free form search, exploration and analysis of real-time and historical data
- Late-binding schema allows for faster, more flexible data insight gathering
- Scales efficiently to any data volume using commodity hardware

Splunk in Action

Socialize enables mobile developers to instantly add social features to their apps and leverage Splunk for MapReduce and big data analysis of over 7 million API requests per day and one million actions per month. Socialize uses the REST API to extract customer-specific data and insights out of Splunk for display in their customer reporting dashboard.



"Splunk eliminates the need to write large MapReduce jobs to get meaningful information out of our data. This means we can get powerful stats and information to our key stakeholders in a fraction of the time."

—Isaac Mosquera, CTO, Socialize

Resources

<http://dev.splunk.com> – documentation, tutorials, case studies and more

<https://github.com/splunk> – free downloads of the SDKs, code samples and more

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