Using stack traces to detect application errors

Applications and services that run or support the business can experience errors during runtime. These errors are called exceptions and are often handled by the application, but sometimes they are not. If they are serious enough, the application will stop running and, generally, dump a stack trace into the logs as it exits. A stack trace reveals many details about the error and shows the path the error took as it propagated through the various functions in the code stack. This is a rich source of application troubleshooting information. You want to develop some useful searches based on stack traces that you can use to investigate errors as needed.

Data required

Application server data

How to use Splunk software for this use case

Depending on what information you have available, you might find it useful to identify some or all of the following:

- Trends in exceptions and stack traces
- First time seen stack trace
- Trends in application errors over time

Next steps

Measuring impact and benefit is critical to assessing the value of IT operations. The following are example metrics that can be useful to monitor when implementing this use case:

- Error rates by software version
- Error rate trends over time
- Reduction in outage or slowdowns identified by users

This use case is included in the IT Essentials Learn app, which provides more information about how to implement the use case successfully in your IT maturity journey. In addition, these Splunk resources might help you understand and implement this use case:

- Conf talk: Zipkin and Splunk: Tracing transactions across your ecosystem
- Conf talk: How Kronos Consolidated Logging and Infrastructure Monitoring with Splunk
- Blog: Application performance redefined: Meet the new SignalFx Microservices APM
- Add-on: Splunk Add-on for IBM WebSphere Application Server

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• Add-on: Splunk Add-on for Tomcat