Metrics, StatsD, CloudWatch, & Web Application

Introduction

StatsD can be used to instrument your application (for example, count the number of times your APIs are called) and publish those metrics to AWS CloudWatch.

What is StatsD?

<u>StatsD</u> <u>(https://github.com/etsy/statsd)</u> is a simple daemon developed and released by Etsy to aggregate and summarize application metrics. With StatsD, applications are to be instrumented by developers using language-specific <u>client libraries</u> <u>(https://github.com/etsy/statsd/wiki#client-implementations)</u>. These libraries will then communicate with the StatsD daemon using its dead-simple protocol, and the daemon will then generate aggregate metrics and relay them to virtually any graphing or monitoring backend.

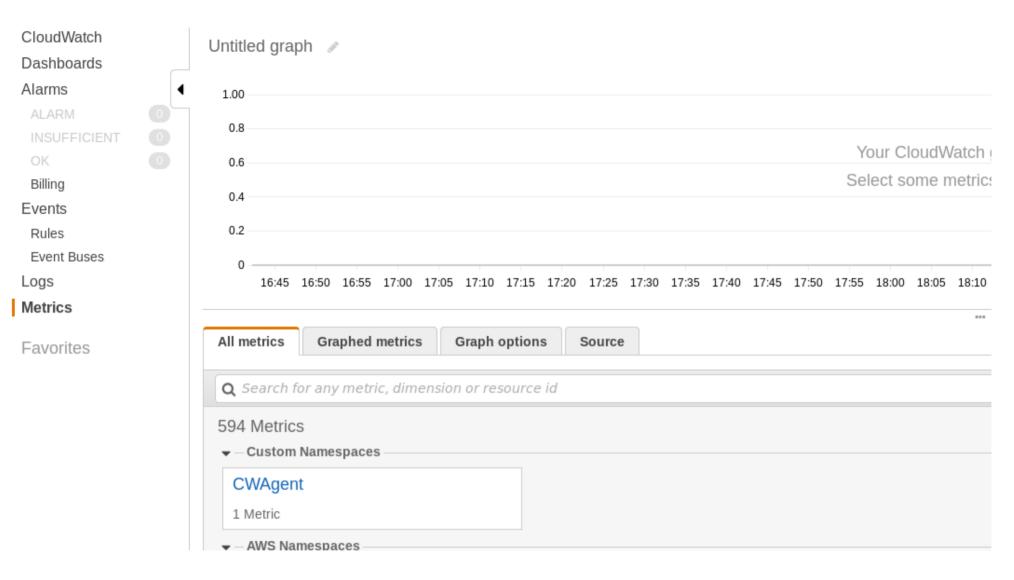
How Does StatsD Work?

- 1. You instrument your code with one of the many StatsD libraries corresponding to your app language.
- 2. StatsD allows you to capture different types of metrics such as Gauges, Counters, Timing Summary Statistics, and Sets.
- 3. The StatsD client library then sends each individual call to the StatsD server over a UDP datagram.
- 4. The StatsD daemon will then listen to the UDP traffic from all application libraries, aggregate data over time, and "flush" it at the desired interval to the backend of your choice.
- 5. The monitoring backend will turn your metrics from a stream of numbers on the wire into usable charts and alert you when needed.

What do you need to do?

- 1. Pick a StatsD <u>client library</u> ((https://github.com/etsy/statsd/wiki#client-implementations) for your application based on the programming language. Go through the documentation to see how to connect to StatsD daemon.
- 2. Modify your application to add counters and publish the counters using the StatsD client instance created in step 1. Your StatsD daemon is usually running on localhost on port 8125.
- 3. Update your CloudWatch configuration to run a StatsD daemon on your EC2 instances. An example configuration can be found https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/CloudWatch-Agent-custom-metrics-statsd.html).
- 4. Update your code and CloudWatch configuration on the EC2 instance to see your new metrics published to CloudWatch.

Screenshots



Custom Metrics



Graph Showing Metrics

