# Metrics monitoring

such as request rate and response time,qps.

<https://dzone.com/articles/go-microservices-part-15-monitoring-with-prometheu>

**prometheus** is an open-source toolkit for monitoring and alerting based on an embedded [times-series](https://en.wikipedia.org/wiki/time_series_database" \t "https://dzone.com/articles/_blank)database, a query dsl and various mechanics for scraping metrics data off endpoints.

in practice, from our perspective that boils down to:

* a standardized format that services use to expose metrics.
* client libraries for exposing the metrics over http.
* server software for scraping metrics endpoints and storing the data in the time-series database.
* a restful api for querying the time-series data that can be used by the built-in gui as well as 3rd-party applications such as grafana.

Alerting with Prometheus is separated into two parts. Alerting rules in Prometheus servers send alerts to an Alertmanager. The [Alertmanager](https://prometheus.io/docs/alerting/latest/alertmanager/) then manages those alerts, including silencing, inhibition, aggregation and sending out notifications via methods such as **email**, on-call notification systems, and chat platforms.

# Health check

The springboot Actuator module provides useful insight into the Spring environment for a running application with functions for health checking and metrics gathering by exposing multiple endpoints over HTTP and JMX

# Log monitor

****ELK. Elasticsearch, Logstash, and Kibana — three different tools usually used together. They are used for searching, analyzing, and visualizing log data in real-time.****

# tracing monitor

Zipkin. A distributed tracing system that helps gather timing data for every request propagated between independent services. It has simple management console where we can find a visualization of the time statistics generated by subsequent services.

# Spring Boot Actuator(poc)

Spring Boot includes a number of additional features to help you monitor and manage your application when you push it to production.