

Spring Framework: Spring Boot Actuator

USING ACTUATOR ENDPOINTS TO MONITOR, MANAGE,
AND INTROSPECT



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Overview



What is Spring Boot Actuator?

Differences between 1.x and 2.x

How to get started

Actuator endpoints

Most commonly used endpoints in-depth



What is Spring Boot Actuator?





Spring Boot Actuator
in action



What is an actuator?



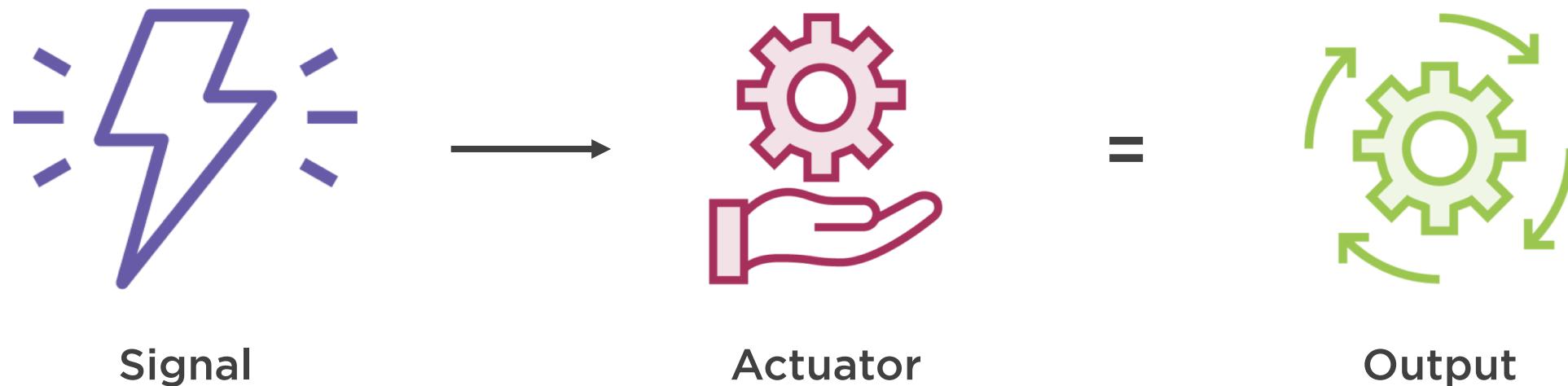
Actuator

An **actuator** is a component ... responsible for ... controlling a mechanism or system

- Wikipedia



An Actuator Receives a Signal and Generates Output



Describing Spring Boot Actuator



**Spring Boot Actuator lets you
monitor and interact, or control,
your application**



Spring Boot Actuator's Benefits

Automatically built-in features

Production ready



Differences in Versions



Fundamentally, the
concepts in Spring Boot
Actuator 1.x and 2.x
are the same



Differences

Spring Boot Actuator 1.x

Spring MVC

Extension-based

Hierarchical metrics

Custom metrics collector

Less secure by default

Spring Boot Actuator 2.x

Spring MVC, JAX-RS, and Webflux

Annotation-driven

Hierarchical & dimensional metrics

MicroMeter-based metrics collection

More secure by default



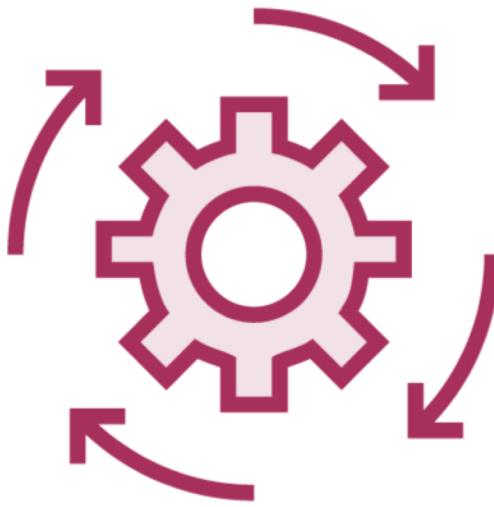
Getting Started Using Spring Boot Actuator



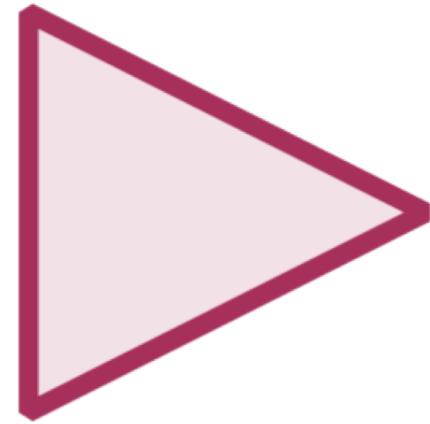
Getting Started is Easy



Using Maven



Using Gradle



Using
Spring Initializr
(start.spring.io)



Using Spring Boot Actuator with Maven

pom.xml

```
<dependencies>
  <dependency>
    <groupId>org.springframework.boot</groupId>
    <artifactId>spring-boot-starter-actuator</artifactId>
  </dependency>
</dependencies>
```

Using Spring Boot Actuator with Gradle

build.gradle

```
dependencies {  
    compile("org.springframework.boot:spring-boot-starter-actuator")  
}
```

Actuator Endpoints

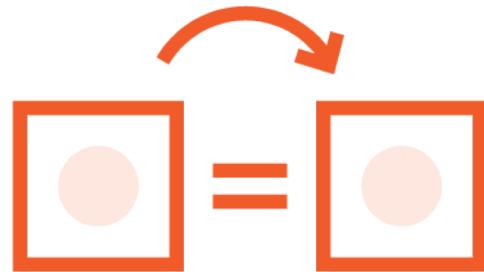


Getting the Demo Code



Fork

and / or

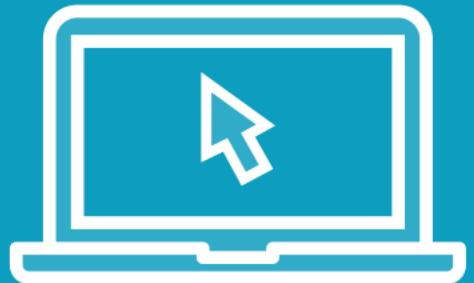


Clone

<https://github.com/dustinschultz/todo-app.git>



Demo



Getting acquainted with the demo code

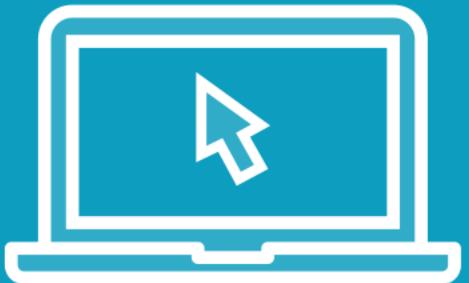




What is an actuator endpoint?



Demo



What actuator endpoints are included with Spring Boot by default?



Most Common Endpoints and How They're Used

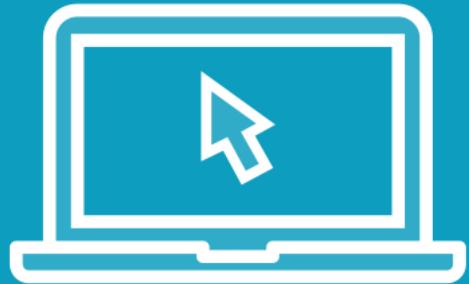
Health Endpoint

Metrics Endpoint

Loggers Endpoint



Demo



Endpoints in Action:

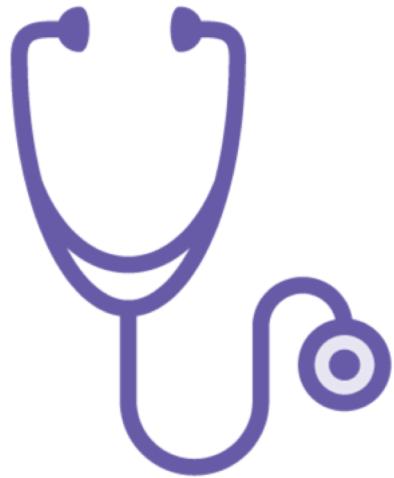
**Health, Metrics, Logger, and Configprops
Endpoint**



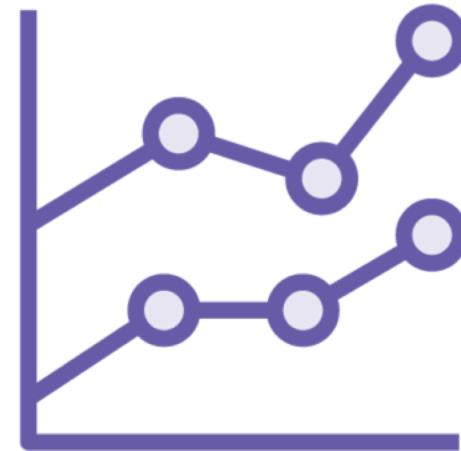
Deep Dive on Commonly Used Actuator Endpoints



What We'll Cover



Health Endpoint



Metrics Endpoint





Deeper Look: Health Endpoint

An endpoint that provides a
surprisingly comprehensive
health check



What's possible with the health endpoint?

The results are
an aggregation
of several
health checks

Some health checks
(indicators) are
auto-configured
by default

Allows for easily
adding custom
health checks



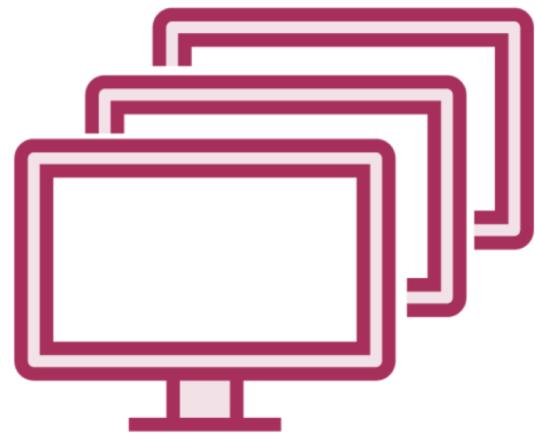


Deeper Look: Metrics Endpoint

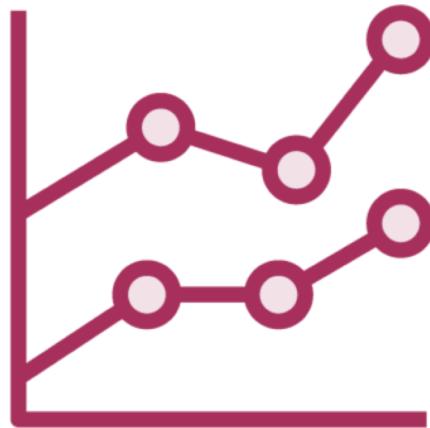
An endpoint that provides detailed, hierarchical, and dimensional metrics that can be pushed or pulled



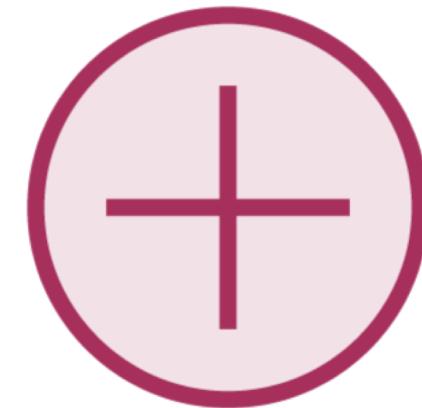
What's Possible with the Metrics Endpoint?



**Built-in support
for many
monitoring systems**



Built-in core metrics



**Ability to add custom
metrics or augment
existing metrics**



Summary



What is an actuator and what is Spring Boot Actuator?

Adding Spring Boot Actuator to your project

Actuator Endpoints

Commonly used actuator endpoints in-depth

