Microservices with Spring Boot

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Who am I?

- Java Developer and Architect
- Internet Architect with Garmin International
- Spring Core Certified Professional on 3.0 and 4.0
- 13+ years of software development experience
- 6 years of professional Spring Experience

Agenda

- Discuss what Microservices are, patterns, etc.
- Discuss Spring Boot, and what it's focus is
- Walk through a couple of simple example Microservices
- As time permits, discuss the Netflix additions ot Spring Cloud and how it dramatically changes the game

What is a Microservice

“In short, the microservice architectural style is an approach to developing a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API. These services are built around business capabilities and independently deployable by fully automated deployment machinery. There is a bare minimum of centralized management of these services, which may be written in different programming languages and use different data storage technologies.

~ Martin Fowler

What does that mean

- Consider very specific business, data, or translation logic as individual services.
- Deploy them on individual application servers
  - Scale individual services at will
- Data services often have their own datasources that are not shared, again for scaling

Concerns

- Artifact Explosion
    - Can become more difficult to manage builds and deployments
        - Version management concerns, passive changes become even more critical
    - SCM can also grow significantly more complex as well

Benefits

- Separation of concerns!!!!!
- Scalability - horizontally and globally
  - Only scale those elements that need the scale
- Faster deployments and builds
- More testable application services

Reality

- This isn’t an easy switch
- Need automated build systems and deployment models
- Platforms like cloud foundry help with this a bunch
- Culture changes!!!!

Spring Boot

Why Spring Boot

- Rapid development cycle
    - Consider all of the time spent just setting up the skeleton of an application to get it running
    - Treat applications like processes, not embedded systems - Systems Administrator benefits
    - DevOps

How to get Started

- STS example
- http://start.spring.io example
- Walk Through Spring Boot

Example Project