Spring Review

* Spring is a lightweight Java Framework for creating Enterprise applications
* Spring is very modular.
  + Spring CORE
  + Spring AOP
  + Spring WEB
    - Spring MVC
  + Spring DATA
  + Spring ACTUATOR
* Spring Boot is not a module of Spring
* Spring Boot is an opinionated version of spring
  + Convention over configuration
    - Does a lot of configuration for you behind the scenes
  + Embedded tomcat server
  + Designed to let you develop as quickly as possible with minimal code

Spring Core (Main module)

* Every Spring application must have Spring CORE
  + IoC (Inversion of Control) Container
  + This container holds all of your beans
    - It performs dependency injection between your beans
    - Controls your bean lifecycles
    - How many instances of this bean exist at a time
      * Singleton vs prototype
  + IoC Container aka
    - Old Spring – Bean Factory
      * Only xml configuration
    - New Spring – Application Context
      * Allows for annotation configuration of spring
* How spring recognizes your beans
  + @bean over a method in a @Configuration
  + @Component or any of its stereotypes
  + Stereotype is a specific type of component
    - Controller
    - Service
    - Repository
  + Automatically registers the class as a singleton bean

Scopes of a bean

* Singleton – one instance of the bean in the entire container
* Default scope
  + Services
  + Controllers
  + Repositories
* Prototypes – 0 to infinite instances of this bean in the container
* Request – The bean is created once per request
  + HttpRequest
  + HttpResponse
    - Not necessarily related to scope
    - Spring creates a new thread per http request
* Portlet – something to do with portlets
  + I have never used it

Modules of Spring

* Spring DATA
  + Persistence
* Spring AOP
  + Aspect Oriented Programming
* Spring MVC/WEB
  + API layer of your application
  + Handles http request and responses
* Spring Security
  + Everything you could ever want to make your application secure
  + I’ve been told it’s the gold standard in web server security
* Spring Actuator
  + Set of dev tools and API endpoints
  + Useful only during development