Questions ...

- What is an application context ?
  - How do you create an application context ?
  - What do you use it for once you've got one ?
  - How is a bean defined in a Java configuration?

- What is a pattern ?
  - What is dependency injection ?
  - Why is it useful ?

Questions ...

- How do you do dependency injection with Java Configuration?
  - 2 ways to use multiple `@Configuration` classes
  - 2 ways to import dependencies from another `@Configuration`
- If I invoke `ApplicationContext.getBean()` specifying the same bean id multiple times, what do I get?
  - How can I change this?
  - What are the 5 scopes possible in Spring?

Questions ...

- What is a Profile?
  - Why are they useful?
  - Three ways to associate a bean with a Profile?
  - How is a profile activated?
  - What happens to beans with no profile?
- What is a PropertySource?
  - Name 5 sources for properties
  - How can you access a property?

Questions ...

- What is a Proxy?
  - Name one use of a proxy in Spring?
  - Why is it needed?
- How is dependency injection performed in the bean-file XML
  - What is the advantage of constructor dependency injection?
  - What are the advantages of setter dependency injection?

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Questions ...

- What is a nested or inner bean?
  - Why is it useful?
- How can you reuse XML configuration if several beans need to be configured in a similar way?
- What is lazy initialization?
  - How do you achieve it?
  - When is it useful?
- How can a bean be defined in a bean-file *without* using its constructor?
  - How does a Spring `FactoryBean` work?

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Questions ...

- What are the various actions performed when an application context is created ?
  - What is the difference between a **`BeanFactoryPostProcessor`** and a **`BeanPostProcessor`** ?
  - What are the 2 ways to specify an initializer that runs after properties have been set ?

Questions ...

- Name some configuration annotations ?
  - Are they Spring, JSR-250, JSR-330 ?
  - What is each used for ?

- What are the advantages of XML vs Annotations vs Java Configuration for Spring configuration

- When do you use Spring in testing ?
  - Describe two ways to create an integration test with Spring

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Questions ...

- What is a cross-cutting concern ?
  - What happens if you do not modularize them ?
  - How do you overcome these problems with cross-cutting concerns ?
    - What is a Joinpoint
    - What is a Pointcut Expression
    - What is an Advice
    - What is an Aspect

- Describe the steps to implement an aspect using Spring AOP ?

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Questions

- How many types of advice are there ?

- How do you find out about the current context when the aspect is invoked ?

- What is weaving ?

  - What implementations does Spring use to do weaving ?

Questions ...

- Spring's JDBC Template is an example of what programming principle ?
  - How do you create one ?
  - How many do you need in an application ?
- Using JDBC Template
  - Name 5 ways to query for data using JdbcTemplate ?
  - How do you write to the database?
  - How does JdbcTemplate handle SQL exceptions ?

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Questions

- Why do we use transactions ?
  - What are the ACID properties of a transaction?
- How do you define transactions in Spring ?
  - How ?
  - Where ?
  - How are they implemented ?
  - How do you do transactional testing using JUnit 4

Questions

- What problems does ORM address* ?
  - What issues are involved ?
  - What's the best solution ?
  - Name some features of the various ORM engines ?
- How does JPA map classes to tables ?
  - Given: SELECT c FROM Customer c WHERE …
    How do such JPA queries know what to fetch ?
- What do you need to configure to get JPA and Spring to use the same Transaction ?

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Questions

- How do you use Spring in a Servlet based environment
- Name *FIVE* general features of frameworks like Spring MVC
    - In other words, how does it work ?
- What are the *SIX* steps to implement an @MVC controller and its supporting configuration ?

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Questions

- REST-based web-services:
  - What does REST stand for ? What does it mean ?
  - How would you implement in Spring ? Consider what annotations can be used to help you
  - What can a client use to invoke it ?
- Name at least 2 ways to perform interprocess communication
  - How would you implement them using Spring
    - What protocols are you using
    - How is the data transmitted

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