

Spring

Lesson 1: Introduction to Spring Platform and environment

- 1) Discuss Spring Boot usage.
- 2) Which spring module is helpful to develop the application to be connected with third party applications
- 3) Discuss spring boot features.

Lesson 2: Introduction to Spring Framework, IoC

- 1) Discuss the Life cycle of Beans in Spring factory container
- 2) Discuss all the ways of bean initialization and destruction(through xml,implementing interface & using annotations @PostConstruct, @PreDestroy)
- 3) Discuss all the features of Application context(eg internalization,ect) and BeanFactory(responsibilities)
- 4) Discuss the bean scopes and prototyping and singleton behavior
- 5) Discuss PropertyPlaceholderConfigurer
- 6) Discuss all the annotations @ComponentScan, @EnableAutoConfiguration, @Configuration, @Component, @Controller, @Repository,@service,@AutoWired
- 7) Discuss <context:component-scan> and <context:annotation-config>.
- 8) Discuss dependency injection.i.e Constructor injection(by index and by type)and Setter injection
- 9) Discuss using collections for injection
- 10) Discuss getBean()
- 11) Discuss all the three spring layers
- 12) Discuss on spring architecture.
- 13) Dependency injection/ IoC pg 2-12,2-13
- 14) How many ways a spring bean can be configured?
- 15) Responsibilities of IoC container
- 16) Go thru the Demo codes of day 1 for xmls configuration and autowiring thru xml
- 17) Different types of injection
- 18) Inner beans and Outer beans - Can i use inner beans also ?
- 19) Drawback of inner bean
- 20) Autowiring types
- 21) Difference between application context and Bean factory(I18N,etc)
- 22) Go through the life cycle of bean factory and Applicaiton context
- 23) Bean scopes, What is the default bean scope
- 24) Bean factory PostProcessor- discuss
- 25) Dispatcher Servlet is the frontcontroller.
- 26) Go through the complete syntax of viewResolver tag
- 27) discuss on multiple spring config files using listener class in web.xml

Lesson 4: Spring MVC framework

- 1) Discuss Spring MVC Lifecycle
- 2) Discuss ViewResolver
- 3) handleRequest(or userdefined method) that returns ModelAndView
("index","msg",values).....Discuss each parameter
 - a. (msg is the model name,index is the jsp view name and values is the model data)
- 4) Discuss InternalResourceView
- 5) Discuss Configuring the ContextLoaderListener in web.xml
- 6) Discuss the below annotations @RequestMapping(discuss both at class level and method level with code), @Controller, @RequestParam, @ModelAttribute
- 7) Discuss @Valid,@Size,@NotNull,@Pattern,@Email annotations
- 8) Discuss bindingResult.hasErrors()
- 9) Discuss @PathVariable
- 10) Discuss view resolver with suffix and prefix properties
- 11) <property name="prefix" value="/jsp/" />
- 12) <property name="suffix" value=".jsp" />
- 13) </bean>
- 14) View Resolver maps logical view names into view objects
- 15) Discuss <context:property-placeholder location="classpath:jdbc.properties" />
- 16) Discuss <mvc:annotation-driven ../>
- 17) . Importance of @Valid
- 18) RESTful RESTless
- 19) discuss on return new ModelAndView(...) parameters
- 20) discuss on @RequestParam

Sample code

@RequestMapping

```
Public class LoginController{
```

```
@RequestMapping("loadForm")
```

```
public String loadData(){ } }
```

<http://localhost:8080/projectname/loadForm.obj>

ii) @RequestParam

@Controller

```
Public class LoginController{
```

```
@RequestMapping("checkLogin")
```

```
public String isValidUser(@RequestParam("username" String uname){} }
```

URL need to be used for making the request for the above mentioned controller is

<http://localhost:8080/projectname/checkLogin.obj?username=capgemini>

Lesson-5-Spring with JPA

- 1) Which tag definition is used in the xml file to configure the entity Manager Factory Bean?List down the nested tag definition for that bean definition.
- 2) List down the annotation require to inject the entity manager bean in DAO
- 3) Which tag is used in the xml to handle the transactions via annotations?
- 4) Which annotation is used in spring to inject the EntityManagerFactory?
- 5) Which tag is require in xml to configure Spring Data ?
- 6) List the names of interfaces used to interact JPA at Runtime.

JPA With Hibernate

Lesson-3-

- 1) Explain the significance of EntityManagerFactory and EntityManager and explain about the functions available in JPA2.0 EntityManager?
- 2) Explain the life cycle of entity in JPA ORM?
- 3) Explain the Significance of @Entity, @Table, @ID, @Column, @Transient annotation?
- 4) Explain about the important 9 functions of EntityManager.
- 5) Which xml file we require for JPA persistence configuration for specifying the database information?
- 6) Which 3 mapping strategies are used in JPA for mapping the inherited classes?List all the annotation and their parameter for mapping all type of strategies.