**Q1.**[**Spring**](https://www.edureka.co/blog/spring-tutorial/)**vs Spring Boot**

|  |  |
| --- | --- |
| **Spring** | **Spring** Boot |
| A web application framework based on Java | A module of Spring |
| Provides tools and libraries to create customized web applications | Used to create a Spring application project which can just run/ execute |
| Spring is more complex than Spring Boot | Spring Boot is less complex than the Spring framework |
| Takes an unopinionated view | Takes an opinionated view of a platform |

**Q2. What is Spring Boot and mention the need for it?**

Spring Boot is a Spring module that aims to simplify the use of the Spring framework for Java development. It is used to create stand-alone Spring-based applications that you can just run. So, it basically removes a lot of configurations and dependencies. Aiming at the Rapid Application Development, Spring Boot framework comes with the auto-dependency resolution, embedded HTTP servers, auto-configuration, management endpoints, and [Spring Boot CLI](https://www.edureka.co/blog/spring-boot-setup-helloworld-microservices-example/).

So, if you ask me why should anybody use Spring Boot, then I would say, Spring Boot not only improves productivity but also provides a lot of conveniences to write your own business logic.

**Q3. Mention the advantages of Spring Boot**

The advantages of Spring Boot are as follows:

* Provides auto-configuration to load a set of default configuration for a quick start of the application
* Creates stand-alone applications with a range of non-functional features that are common to large classes of projects
* It comes with embedded tomcat, servlet containers jetty to avoid the usage of WAR files
* Spring Boot provides an opinionated view to reduce the developer effort and simplify maven configurations
* Provides CLI tool to develop and test applications
* Comes with Spring Boot starters to ensure dependency management and also provides various security metrics
* Consists of a wide range of APIs for monitoring and managing applications in dev and prod.
* Integrates with Spring Ecosystem like Spring [JDBC](https://www.edureka.co/blog/connect-mysql-database-in-java), Spring ORM, Spring Data, Spring Security easily by avoiding boilerplate code.

**Q4. Mention a few features of Spring Boot.**

Few important features of Spring Boot are as follows:

1. Spring CLI – Spring Boot CLI allows you to Groovy for writing Spring boot application and avoids boilerplate code.
2. Starter Dependency – With the help of this feature, Spring Boot aggregates common dependencies together and eventually improves productivity
3. Auto-Configuration – The auto-configuration feature of Spring Boot helps in loading the default configurations according to the project you are working on. In this way, you can avoid any unnecessary WAR files.
4. Spring Initializer – This is basically a web application, which can create an internal project structure for you. So, you do not have to manually set up the structure of the project, instead, you can use this feature.
5. Spring Actuator –  This feature provides help while running Spring Boot applications.
6. Logging and Security – The logging and security feature of Spring Boot, ensures that all the applications made using Spring Boot are properly secured without any hassle.

**Q5. Explain how to create a Spring Boot application using Maven.**

Well, there are various approaches to [create a Spring Boot application](https://www.edureka.co/blog/microservices-with-spring-boot) using maven, but if I have to name a few, then following are the ways to create a Spring Boot project/ application using [maven](https://www.edureka.co/blog/maven-in-java/):

* Spring Boot CLI
* Spring Starter Project Wizard
* Spring Initializr
* Spring Maven Project

**Q6. Mention the possible sources of external configuration.**

There is no doubt in the fact that Spring Boot allows the developers to run the same application in different environments. Well, this is done with the support it provides for external configuration. It uses environment variables, properties files, command-line arguments, YAML files, and system properties to mention the required configuration properties. Also, the @value annotation is used to gain access to the properties. So, the most possible sources of external configuration are as follows:

* **Application Properties –** By default, Spring Boot searches for the application properties file or its YAML file in the current directory, classpath root or config directory to load the properties.
* **Command-line properties –** Spring Boot provides command-line arguments and converts these arguments to properties. Then it adds them to the set of environment properties.
* **Profile-specific properties –**  These properties are loaded from the application-{profile}.properties file or its YAML file. This file resides in the same location as that of the non-specific property files and the{profile} placeholder refers to an active profile.

**Q7. Can you explain what happens in the background when a Spring Boot Application is “Run as Java Application”?**

When a Spring Boot application is executed as “Run as Java application”, then it automatically launches up the tomcat server as soon as it sees, that you are developing a web application. To learn more about Java, it’s recommended to join [Java training course](https://www.edureka.co/java-j2ee-training-course) today at Edureka.

**Q8. What are the Spring Boot starters and what are available the starters?**

Spring Boot starters are a set of convenient dependency management providers that can be used in the application to enable dependencies. These starters, make development easy and rapid. All the available starters come under the org.springframework.boot group. Few of the popular starters are as follows:

* spring-boot-starter: – This is the core starter and includes logging, auto-configuration support, and YAML.
* spring-boot-starter-jdbc – This starter is used for HikariCP connection pool with JDBC
* spring-boot-starter-web – Is the starter for building web applications, including RESTful, applications using Spring MVC
* spring-boot-starter-data-jpa – Is the starter to use Spring Data JPA with Hibernate
* spring-boot-starter-security – Is the starter used for Spring Security
* spring-boot-starter-aop: This starter is used for aspect-oriented programming with AspectJ and  Spring AOP
* spring-boot-starter-test: Is the starter for testing Spring Boot applications

**Q9. Explain Spring Actuator and its advantages.**

Spring Actuator is a cool feature of Spring Boot with the help of which you can see what is happening inside a running application. So, whenever you want to debug your application, and need to analyze the logs you need to understand what is happening in the application right? In such a scenario, the Spring Actuator provides easy access to features such as identifying beans, CPU usage, etc. The Spring Actuator provides a very easy way to access the production-ready REST points and fetch all kinds of information from the web. These points are secured using Spring Security’s content negotiation strategy.

**Q10. What is Spring Boot dependency management?**

Spring Boot dependency management is basically used to manage dependencies and configuration automatically without you specifying the version for any of that dependencies.

**Q11. Mention the minimum requirements for a Spring boot System.**

* Java 8 +
* Spring Framework 5.1.9 +

**Explicit build support**

* Maven 3.3+
* Gradle 4.4+

**Servlet Container Support**

* Tomcat 9.0 – Servlet Version 4.0
* Jetty 9.4 –  Servlet Version 3.1
* Undertow 2.0 – Servlet Version 4.0

**Q12. Explain what is thymeleaf and how to use thymeleaf?**

Thymeleaf is a server-side Java template engine used for web applications. It aims to bring natural template for your web application and can integrate well with Spring Framework and HTML5 Java web applications. To use Thymeleaf, you need to add the following code in the pom.xml file:

|  |  |
| --- | --- |
| 1  2  3  4 | <dependency>  <groupId>org.springframework.boot</groupId>  <artifactId>spring-boot-starter-thymeleaf</artifactId>  </dependency> |

**Q13. Can we change the port of the embedded Tomcat server in Spring boot?**

Yes, we can change the port of the embedded tomcat server by using the application properties file. In this file, you have to add a property of “server.port” and assign it to any port you wish to. For example, if you want to assign it to 8081, then you have to mention server.port=8081. Once you mention the port number, the application properties file will be automatically loaded by Spring Boot and the required configurations will be applied on to the application.

**Q14. What is the need for Spring Boot DevTools?**

Spring Boot Dev Tools are an elaborated set of tools and aims to make the process of developing an application easier. If the application runs in the production, then this module is automatically disabled, repackaging of archives are also excluded by default. So, the Spring Boot Developer Tools applies properties to the respective development environments.  To include the DevTools, you just have to add the following dependency into the pom.xml file:

|  |  |
| --- | --- |
| 1  2  3  4 | <dependency>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-devtools</artifactId>  </dependency> |

**Q15. Mention the steps to create a Spring Boot project using Spring  Initializer.**

Spring Initializr is a web tool provided by Spring. With the help of this tool, you can create Spring Boot projects by just providing project details. The following steps need to be followed to create a Spring Boot project using Spring Initializer:

* Choose the maven project and the required dependencies. Then, fill in the other required details like Group, Artifact, and then click on Generate Project.
* Once the project is downloaded, extract the project onto your system
* Next, you have to import this project using the import option on the Spring Tool Suite IDE
  + While importing the project, remember that you have to choose the project type to be Maven and the source project should contain the pom.xml file.

Once, all the above steps are followed you will see that the Spring Boot project is created with all the required dependencies.

**Q16. Mention the steps to connect Spring Boot application to a database using JDBC.**

Spring Boot starter projects provide the required libraries to connect the application with JDBC. So, for example, if you just have to create an application  and connect it with [MySQL](https://www.edureka.co/blog/mysql-tutorial/) database, you can follow the below steps:

**Step 1:** Create a database in MySQL

|  |  |
| --- | --- |
| 1 | CREATE DATABASE example; |

**Step 2:**Then you have to create a table inside this database.

|  |  |
| --- | --- |
| 1 | CREATE TABLE customers(customerid INT PRIMARY KEY NOT NULL AUTO\_INCREMENT, customername VARCHAR(255)); |

**Step 3:** Now, create a Spring Boot project and provide the required details

**Step 4:** Add the JDBC, MySQL and web dependencies.

**Step 5:** Once the project is created, you have to configure the database into application properties

|  |  |
| --- | --- |
| 1  2  3  4 | spring.datasource.url=jdbc:mysql://localhost:3306/example  spring.datasource.username=root  spring.datasource.password=edureka  spring.jpa.hibernate.ddl-auto=create-drop |

**Step 6:** The main application.java class should have the following code:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9 | package com.edureka;  import org.springframework.boot.SpringApplication;  import org.springframework.boot.autoconfigure.SpringBootApplication;  @SpringBootApplication  public class SampleApplication {      public static void main(String[] args) {          SpringApplication.run(SampleApplication.class, args);      }  } |

**Step 7:** Next, you have to create a controller to handle the HTTP requests, by mentioning the following code:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15 | package com.edureka;  import org.springframework.web.bind.annotation.RequestMapping;  import org.springframework.beans.factory.annotation.Autowired;  import org.springframework.jdbc.core.JdbcTemplate;  import org.springframework.web.bind.annotation.RestController;  @RestController  public class JdbcController {  @Autowired  JdbcTemplate jdbc;  @RequestMapping("/insert")  public String index(){  jdbc.execute("insert into customers(name)values('Aryya')");  return "Data Entry Successful";  }  } |

**Step 8:** Finally, execute this project as a Java application.  
**Step 9:** Next, open the URL (localhost:8080/insert), and you will see the output as Data Entry Successful. You can also go forward and check if the data is entered into the table.

**Q17. How to enable HTTP/2 support in Spring Boot?**

You can enable the HTTP/2 support in Spring Boot by: server.http2.enabled=true

**Q18.  What are the @RequestMapping  and @RestController annotation in Spring Boot used for?**

|  |  |
| --- | --- |
| **@RequestMapping** | **@RestController** |
| This annotation is used to provide the routing information and tells to Spring that any HTTP request must be mapped to the respective method. | This annotation is used to add the @ResponseBody and @Controller annotation to the class |
| To use this annotation, you have to import org.springframework.web.  bind.annotation.RequestMapping; | To use this annotation, you have to import org.springframework.web.  bind.annotation.RestController; |

**Example:** Consider you have a method example() which should map with /example URL.

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10 | package com.edureka;  import org.springframework.web.bind.annotation.RequestMapping;  import org.springframework.web.bind.annotation.RestController;  @RestController  public class SampleController {  @RequestMapping("/example")  public String example(){  return"Welcome To Edureka";  }  } |

**Q19. What is Spring Boot CLI and how to execute the Spring Boot project using boot CLI?**

Spring Boot CLI is a tool supported by the official [Spring Framework](https://www.edureka.co/blog/what-is-spring-framework/). The steps to execute a Spring Boot project are as follows:

* Download the CLI tool from the official site and extract the zip file. The bin folder present in the Spring setup is used to execute the Spring Boot application.
* Since Spring Boot CLI executes groovy files, you need to create a groovy file for Spring Boot application. So, to do that, open terminal and change the current directory to the bin folder. Now, open a groovy file (for example Sample.groovy)
* In this file create a controller as follows:

@RestController public class Sample {

@RequestMapping("/example")

String index(){

<h1>"Welcome To Edureka"</h1>;

} }

* Then execute the groovy file by mentioning:

|  |  |
| --- | --- |
| 1 | ./spring run Sample.groovy; |

Once, the project is executed go to the URL(localhost:8080:/example) and you will see the output as **Welcome To Edureka**

In case you are facing any challenges with these Spring Boot interview questions, please comment on your problems in the comment section below.

**Q20. Mention the differences between JPA and**[**Hibernate.**](https://www.edureka.co/blog/what-is-hibernate-in-java/)

|  |  |
| --- | --- |
| **JPA** | **Hibernate** |
| JPA is a Data Access Abstraction used to reduce the amount of boilerplate code | Hibernate is an implementation of Java Persistence API and offers benefits of loose coupling |

**Q21. How can we create a custom endpoint in Spring Boot Actuator?**

To create a custom endpoint in Spring Boot 2.x, you can use the @Endpoint annotation. Spring Boot also exposes endpoints using @WebEndpointor, @WebEndpointExtension over HTTP with the help of [Spring MVC](https://www.edureka.co/blog/spring-mvc-tutorial/), [Jersey](https://www.edureka.co/blog/java-web-services-tutorial/), etc.

**Q22. Explain Spring Data.**

Spring Data aims to make it easy for the developers to use relational and non-relational databases, cloud-based data services, and other data access technologies. So, basically, it makes it easy for data access and still retains the underlying data.

**Q23. What do you understand by auto-configuration in Spring Boot and how to disable the auto-configuration?**

Auto-configuration is used to automatically configure the required configuration for the application. For example, if you have a data source bean present in the classpath of the application, then it automatically configures the [JDBC template](https://www.edureka.co/blog/connect-mysql-database-in-java). With the help of auto-configuration, you can create a Java application in an easy way, as it automatically configures the required beans, controllers, etc.

To disable the auto-configuration property, you have to exclude attribute of @EnableAutoConfiguration, in the scenario where you do not want it to be applied.

|  |  |
| --- | --- |
| 1 | @EnableAutoConfiguration(exclude={DataSourceAutoConfiguration.class}) |

If the class is not on the classpath, then to exclude the auto-configuration, you have to mention the following code:

|  |  |
| --- | --- |
| 1 | @EnableAutoConfiguration(excludeName={Sample.class}) |

Apart from this, Spring Boot also provides the facility to exclude list of auto-configuration classes by using the spring.autoconfigure.exclude property. You can go forward, and add it either in the application.properties or add multiple classes with comma-separated.

**Q24. What are the differences between @SpringBootApplication and @EnableAutoConfiguration annotation?**

|  |  |
| --- | --- |
| **@SpringBootApplication** | **@EnableAutoConfiguration** |
| Used in the main class or bootstrap class | Used to enable auto-configuration  and component scanning in your project |
| It is a combination of @Configuration, @ComponentScan and @EnableAutoConfiguration annotations. | It is a combination of @Configuration and @ComponentScan annotations |

**Q25. What are the steps to deploy Spring Boot web applications as JAR and WAR files?**

To deploy a Spring Boot web application, you just have to add the following plugin in the pom.xml file:

|  |  |
| --- | --- |
| 1  2  3  4 | <plugin>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-maven-plugin</artifactId>  </plugin> |

By using the above plugin, you will get a JAR executing the package phase. This JAR will contain all the necessary libraries and dependencies required. It will also contain an embedded server. So, you can basically run the application like an ordinary JAR file.  
**Note:** The packaging element in the pom.xml file must be set to **jar** to build a JAR file as below:

|  |  |
| --- | --- |
| 1 | <packaging>jar</packaging> |

Similarly, if you want to build a WAR file, then you will mention

|  |  |
| --- | --- |
| 1 | <packaging>war</packaging> |

**Q.26 Can you give an example for ReadOnly as true in Transaction management?**

Example for ReadOnly as TRUE in transaction management could be as follows:

Consider a scenario, where you have to read data from the database. For example, let us say you have a customer database, and you want to read the customer details such as customerID, and customername. To do that, you will set**read-only on the transaction** as we do not want to check for the changes in the entities.

**Q27. Can you explain how to deploy to a different server with Spring Boot?**

To deploy a different server with Spring Boot, follow the below steps:

* Generate a WAR from the project
* Then, deploy the WAR file onto your favorite server

Note: The steps to deploy the WAR file on the server is dependent on the server you choose.

**Q28: What is the best way to expose custom application configuration with Spring Boot?**

One way to expose the custom application [configuration in Spring](https://www.edureka.co/blog/spring-tutorial/) Boot is by using the **@Value annotation**. But, the only problem with this annotation is that all the configuration values will be distributed throughout the application. Instead, you can use a centralized approach.

By centralized approach, I mean that you can define a configuration component using the @ConfigurationProperties as follows:

|  |  |
| --- | --- |
| 1  2  3  4  5  6 | @Component  @ConfigurationProperties("example")  public class SampleConfiguration {  private int number;  private boolean value;  private String message; |

According to the above snippet, the values configured in application.properties will be as follows:

|  |  |
| --- | --- |
| 1  2  3 | example.number: 100  example.value: true  example.message: Dynamic Message |

**Q29. Can we create a non-web application in Spring Boot?**

Yes, we can create a non-web application by removing the web dependencies from the classpath along with changing the way Spring Boot creates the application context.

**Q 30. What are the steps to connect an external database like MySQL or Oracle?**

To connect an external database, you have to follow the below steps:

* Start by adding the dependency for MySQL Connector to pom.xml
* Then remove H2 Dependency from pom.xml
* Now, set up your [MySQL database](https://www.edureka.co/blog/mysql-tutorial/) and configure your connection to the MySQL database
* Restart your project

**What are the Spring Boot key components?**

Here are the key components of Spring Boot:

1. Auto-configuration: One of the most attractive features of Spring Boot is its ability to automatically configure your application based on the dependencies you’ve added to your project. For example, if you have a MySQL database driver on your classpath, Spring Boot auto-configures a DataSource.
2. Starter Dependencies: Spring Boot provides a set of starter projects to simplify your build configuration. These starters bring in all the dependencies you’ll need for a specific type of application. For instance, if you are developing a web application, you can add the spring-boot-starter-web dependency to your project, and it will include all necessary dependencies.
3. Embedded Servers: Spring Boot has embedded Tomcat, Jetty, and Undertow servers, meaning you don’t need to deploy WAR files. Your Spring Boot application can be a standalone application with an embedded server.
4. Actuator: The Spring Boot Actuator module provides production-ready features to help you monitor and manage your application. It includes features like health checks, metrics gathering, HTTP tracing, etc.
5. CLI (Command Line Interface): This is another key component of Spring Boot, which is optional. The CLI allows you to develop Spring Boot applications using Groovy. It simplifies the code structure by automatically adding all the necessary annotations and imports.

**Why Spring Boot over Spring?**

Due to the following reasons:

* Simplicity & Speed: Spring Boot simplifies the bootstrapping and development process of Spring applications. It’s easier and quicker to set up a new Spring application with Spring Boot, which makes it ideal for beginners and for situations where speed of development is important.
* Auto-configuration: Spring Boot offers ‘auto-configuration’ which takes the guesswork out of configuring Spring applications. It can automatically provide configuration properties based on what it sees on your application’s classpath. For example, if Spring Boot detects HSQLDB on your classpath, it will automatically configure an in-memory database for you.
* Embedded Servers: Spring Boot applications can include an embedded servlet container (like Tomcat, Jetty, or Undertow), allowing them to be packaged as standalone executable JARs. This is very convenient for microservice architectures and for cloud-based deployment, as there is no need for external servlet containers.

**What is the starter dependency of the Spring boot module?**

Here are some of the commonly used Spring Boot Starter dependencies:

* spring-boot-starter-web: It is used for building web, including RESTful, applications using Spring MVC. It uses Tomcat as the default embedded container.
* spring-boot-starter-data-jpa: It simplifies the development of Spring applications that use data access technologies, relational databases, and distributed databases providing powerful capabilities such as Spring Data JPA, Hibernate, DataSource setup, and others.
* spring-boot-starter-security: It is used for Spring Security. It is a powerful and customizable authentication and access-control framework.
* spring-boot-starter-test: It is used for testing Spring Boot applications with libraries including JUnit, Hamcrest and Mockito.
* spring-boot-starter-data-rest: It is used to expose simple RESTful services using Spring Data REST.

**What does the @SpringBootApplication annotation do internally?**

The @SpringBootApplication annotation is a convenience annotation in Spring Boot that adds all of the following:

* @Configuration: Designates this class as a configuration class. Configuration classes are the heart of Java-based application configuration in Spring. They can use @Bean annotated methods to specify bean definitions.
* @EnableAutoConfiguration: Enables Spring Boot’s auto-configuration feature, which attempts to automatically configure your application based on the dependencies in its classpath. For example, if Spring MVC is on the classpath, this annotation flags the application to be web-applicable and activates key behaviors like setting up a DispatcherServlet.
* @ComponentScan: Enables component scanning. This allows Spring to automatically discover other components, configurations and services in the same package as the one where the @SpringBootApplication is placed, allowing it to automatically manage them (i.e., create bean instances for your classes at application startup).

**What is the purpose of using @ComponentScan in the class files?**

@ComponentScan is an annotation that is used with @Configuration to tell Spring the packages to scan for annotated components. Annotated components include other @Configuration classes, as well as @Component, @Service, @Repository, @Controller, and @RestController, among others.When Spring finds these components, it automatically registers the beans in the application context.

**What is Spring Initializer ?**

Spring Initializr is a web-based tool provided by the Spring team, which allows users to quickly bootstrap a Spring Boot application. It’s designed to help you start a new Spring Boot project within seconds.

You can access Spring Initializr through the following URL: https://start.spring.io/. Some IDEs, like IntelliJ IDEA and Spring Tools Suite (STS), have integrated support for Spring Initializr, which means you can create a new project via Initializr right from within the IDE.

**What are the Spring Boot key components?**

* Spring Boot Starters: Pre-configured sets of dependencies grouped together to simplify your build configuration.
* Autoconfiguration: Automatically configures Spring application based on the jar dependencies present on the classpath.
* Embedded Servers: Allows you to create standalone, self-contained Spring applications that can be run without needing to deploy on an external server.
* Spring Boot Actuator: Provides built-in production-ready features like health checks and metrics.
* Externalized Configuration: Allows the separation of configuration from code, enabling the same application to run in different environments.
* Spring Boot CLI: A command-line tool to quickly create and run Spring applications using Groovy scripts.
* Spring Boot Test: Provides utilities and annotations to simplify the testing of Spring applications.

**Q31. Mention the advantages of the YAML file than Properties file and the different ways to load YAML file in Spring boot.**

The advantages of the YAML file than a properties file is that the data is stored in a hierarchical format. So, it becomes very easy for the developers to debug if there is an issue. The SpringApplication class supports the YAML file as an alternative to properties whenever you use the SnakeYAML library on your classpath. The different ways to load a YAML file in Spring Boot is as follows:

* Use YamlMapFactoryBean to load YAML as a Map
* Use YamlPropertiesFactoryBean to load YAML as Properties

**Q32. How is Hibernate chosen as the default implementation for JPA without any configuration?**

When we use the Spring Boot Auto Configuration, automatically the spring**-boot-starter-data-jpa**dependency gets added to the pom.xml file. Now, since this dependency has a transitive dependency on JPA and Hibernate, Spring Boot automatically auto-configures Hibernate as the default implementation for JPA, whenever it sees Hibernate in the classpath.

**Q33. What do you understand by Spring Data REST?**

Spring Data REST is used to expose the RESTful resources around Spring Data repositories. Consider the following example:

|  |  |
| --- | --- |
| 1  2  3 | @RepositoryRestResource(collectionResourceRel = "sample", path = "sample")  public interface SampleRepository          extends CustomerRepository<sample, Long> { |

Now, to expose the REST services, you can use the POST method in the following way:

|  |  |
| --- | --- |
| 1  2  3 | {  "customername": "Rohit"  } |

Response Content

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10 | {  "customername": "Rohit"  "\_links": {  "self": {  "href": "<a href="http://localhost:8080/sample/1">http://localhost:8080/sample/1</a>"  },  "sample": {  "href": "<a href="http://localhost:8080/sample/1">http://localhost:8080/sample/1</a>"  }  } |

Observe that the response content contains the href of the newly created resource.

**Q34. What is the difference between RequestMapping and GetMapping?**

The @GetMapping is a composed annotation that acts as a shortcut for @RequestMapping(method = RequestMethod.GET). Both these methods support the consumes. The consume options are :

consumes = “text/plain”  
consumes = {“text/plain”, “application/\*”}

**Q35. In which layer, should the boundary of a transaction start?**

The boundary of the transaction should start from the Service Layer since the logic for the business transaction is present in this layer itself.

**Q36.** **How does path=”sample”, collectionResourceRel=”sample” work with Spring Data Rest?**

|  |  |
| --- | --- |
| 1  2  3 | @RepositoryRestResource(collectionResourceRel = "sample", path = "sample")  public interface SampleRepository extends  PagingAndSortingRepository<Sample, Long> |

* path – This section is used to mention the segment under which the resource is to be exported.
* collectionResourceRel – This value is used to generate links to the collection resource.

**Q37. Explain how to register a custom auto-configuration.**

In order to register an auto-configuration class, you have to mention the fully-qualified name under the @EnableAutoConfiguration key META-INF/spring. factories file. Also, if we build the with maven, then this file should be placed in the resources/META-INT directory.

**Q38. How do you Configure Log4j for logging?**

Since Spring Boot supports Log4j2 for logging a configuration, you have to exclude Logback and include Log4j2 for logging. This can be only done if you are using the starters project.

**Q39. Mention the differences between WAR and embedded containers**

|  |  |
| --- | --- |
| WAR | Embedded Containers |
| WAR benefits a considerable measure from Spring Boot | Only one component of Spring Boot and is utilized during improvements |

**Q40. What do you think is the need for Profiles?**

Profiles are used to provide a way to segregate the different parts of the application configuration and make it available for various environments. So, basically, any @Component or a @Configuration can be marked with a @Profile to limit as it is loaded. Consider you have multiple environments,

* Dev
* QA
* Stage
* Production

Now, let’s say, you want to have different application configuration in each of the environments, you can use profiles to have different application configurations for different environments. So, basically, Spring and Spring Boot provide features through which you can specify:

* The active profile for a specific environment
* The configuration of various environments for various profiles.

**Q41. What are the steps to add a custom JS code with Spring Boot?**

The steps to add a custom JS code with Spring Boot are as follows:

* Now, create a folder and name it **static** under the resources folder
* In this folder, you can put the static content in that folder

**Note:** Just in case, the browser throws an unauthorized error, you either disable the security or search for the password in the log file, and eventually pass it in the request header.

**Q42. How to instruct an auto-configuration to back off when a bean exists?**

To instruct an auto-configuration class to back off when a bean exists, you have to use the @ConditionalOnMissingBean annotation. The attributes of this annotation are as follows:

* **value:** This attribute stores the type of beans to be checked
* **name:** This attribute stores the name of beans to be checked

**Q43. Why is Spring Data REST not recommended in real-world applications?**

Spring Data REST is not recommended in real-world applications as you are exposing your database entities directly as REST Services. While designing RESTful services, the two most important things that we consider is the domain model and the consumers. But, while using Spring Data REST, none of these parameters are considered. The entities are directly exposed. So, I would just say, you can use Spring Data REST, for the initial evolution of the project.

**Q44. What is the error you see if  H2 is not in the classpath?**

If H2 is not present in the classpath, then you see the following error:

Cannot determine embedded database driver class for database type NONE

To resolve this error, add H2 to the pom.xml file, and restart your server.  
The following code snippet can be added to add the dependency:

|  |  |
| --- | --- |
| 1  2  3  4  5 | <dependency>      <groupId>com.h2database</groupId>      <artifactId>h2</artifactId>      <scope>runtime</scope>  </dependency> |

**Q45. What is the way to use profiles to configure the environment-specific configuration with Spring Boot?**

Since it is a known fact that a Profile is nothing but a key to identify an environment lets consider the following two profiles in the example:

* dev
* prod
* Consider the following properties present in the application properties file:

example.number: 100  
example.value: true  
example.message: Dynamic Message

Now, say you want to customize the application.properties for dev profile, then you need to create a file with name application-dev.properties and override the properties that you want to customize. You can mention the following code:

example.message: Dynamic Message in Dev

Similarly, if you want to customize the application.properties for prod profile, then you can mention the following code snippet:

example.message: Dynamic Message in Prod

Once you are done with the profile-specific configuration, you have to set the active profile in an environment. To do that, either you can

* Use -Dspring.profiles.active=prod in  arguments
* Use spring.profiles.active=prod in application.properties file

**Q46. Mention the dependencies needed to start up a JPA Application and connect to in-memory database H2 with Spring Boot?**

The dependencies are needed to start up a JPA Application and connect to in-memory database H2 with Spring Boot

* web starter
* h2
* data JPA starter
* To include the dependencies refer to the following code:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13 | <dependency>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-starter-web</artifactId>  </dependency>  <dependency>      <groupId>com.h2database</groupId>      <artifactId>h2</artifactId>      <scope>runtime</scope>  </dependency>  <dependency>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-starter-data-jpa</artifactId>  </dependency> |

**Q47. What do you understand by Spring Boot supports relaxed binding?**

Relaxed binding, is a way in which, the property name does not need to match the key of the environment property. In Spring Boot, relaxed binding is applicable to the type-safe binding of the configuration properties. For example, if a property in a bean class with the @ConfigurationPropertie annotation is used sampleProp, then it can be bounded to any of the following environment properties:

* sampleProp
* sample-Prop
* sample\_Prop
* SAMPLE\_PROP

**Q48.  Where is the database connection information specified and how does it automatically connect to H2?**

Well, the answer to this question is very simple. It is because of the Spring Boot auto-configuration that, configures the dependencies of the application. So, the database connection information, and automatically connecting the database to H2 is done by the auto-configuration property.

**Q49. What is the name of the default H2 database configured by Spring Boot?**

The name of the default H2 database is **testdb.  Refer below:**

spring.datasource.name=testdb # Name of the datasource.

**Note:** Just incase if you are using H2 in-memory database, then exactly that is the name of Spring Boot which is used to setup your H2 database.

**Q50. Do you think, you can use jetty instead of tomcat in spring-boot-starter-web?**

Yes, we can use jetty instead of tomcat in spring-boot-starter-web, by removing the existing dependency and including the following:

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14 | <dependency>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-starter-web</artifactId>      <exclusions>          <exclusion>              <groupId>org.springframework.boot</groupId>              <artifactId>spring-boot-starter-tomcat</artifactId>          </exclusion>      </exclusions>  </dependency>  <dependency>      <groupId>org.springframework.boot</groupId>      <artifactId>spring-boot-starter-jetty</artifactId>  </dependency> |