# Annotations in Spring Boot and Lombok

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| Annotation | Library | Explanation |
| @Configuration | Spring Boot | Marks a class as a configuration class that defines beans using @Bean. |
| @Bean | Spring Boot | Declares a Spring bean that will be managed by the Spring container. |
| @Service | Spring Boot | Marks a class as a service component in the service layer. |
| @RestController | Spring Boot | Combines @Controller and @ResponseBody to define RESTful web services. |
| @RequestMapping | Spring Boot | Maps HTTP requests to specific handler methods in a controller. |
| @PutMapping | Spring Boot | Handles HTTP PUT requests in REST controllers. |
| @RequestHeader | Spring Boot | Binds request headers to method parameters. |
| @PathVariable | Spring Boot | Binds URL path parameters to method parameters in controllers. |
| @Autowired | Spring Boot | Performs dependency injection automatically. |
| @Valid | Spring Boot | Enables validation on method parameters or fields. |
| @RequestBody | Spring Boot | Maps the request body to a method parameter in a REST controller. |
| @Tag | Spring Boot (Swagger) | Used in Swagger (OpenAPI) documentation to group APIs. |
| @Value | Spring Boot | Injects values from application.properties into a field or method. |
| @ControllerAdvice | Spring Boot | Handles global exception handling for controllers. |
| @ExceptionHandler | Spring Boot | Defines methods to handle specific exceptions globally or per controller. |
| @Entity | Spring Boot (JPA) | Marks a class as a JPA entity, mapping it to a database table. |
| @Id | Spring Boot (JPA) | Marks a field as the primary key of a JPA entity. |
| @GeneratedValue | Spring Boot (JPA) | Configures how the primary key is automatically generated. |
| @Column | Spring Boot (JPA) | Specifies column properties in a JPA entity. |
| @ManyToOne | Spring Boot (JPA) | Defines a many-to-one relationship between entities. |
| @JoinColumn | Spring Boot (JPA) | Specifies the foreign key column for relationships. |
| @JsonIgnore | Spring Boot (Jackson) | Excludes a field from JSON serialization and deserialization. |
| @OneToOne | Spring Boot (JPA) | Defines a one-to-one relationship between entities. |
| @OneToMany | Spring Boot (JPA) | Defines a one-to-many relationship between entities. |
| @NotNull | Spring Boot (Validation) | Ensures a field cannot be null during validation. |
| @Size | Spring Boot (Validation) | Defines size constraints on a field for validation. |
| @Embedded | Spring Boot (JPA) | Specifies that a class is embedded within another entity. |
| @ElementCollection | Spring Boot (JPA) | Defines a collection of elements that are not entities. |
| @CollectionTable | Spring Boot (JPA) | Specifies the table for an @ElementCollection. |
| @Query | Spring Boot (JPA) | Defines custom JPQL (Java Persistence Query Language) queries. |
| @Param | Spring Boot (JPA) | Binds method parameters in JPQL queries. |
| @Data | Lombok | Generates getters, setters, toString(), equals(), and hashCode() methods. |
| @NoArgsConstructor | Lombok | Generates a no-argument constructor. |
| @AllArgsConstructor | Lombok | Generates a constructor with all fields as parameters. |