Spring

It was **developed by Rod Johnson in 2003**. Spring framework makes the easy development of JavaEE application. Spring is a lightweight framework. It can be thought of as a framework of frameworks because it provides support to various frameworks such as Struts, Hibernate, Tapestry, EJB, JSF etc. The framework, in broader sense, can be defined as a structure where we find solution of the various technical problems.

The Spring framework comprises several modules such as IOC, AOP, DAO, Context, ORM, WEB MVC etc.

### **Inversion Of Control (IOC) and Dependency Injection**

These are the design patterns that are used to remove dependency from the programming code. They make the code easier to test and maintain. In Spring framework, **IOC container** is responsible to inject the dependency. We provide metadata to the IOC container either by XML file or annotation.

#### **Advantage of Dependency Injection**

* makes the code loosely coupled so easy to maintain
* makes the code easy to test

Spring Boot

Spring Boot is a Spring module which provides RAD (Rapid Application Development) feature to Spring framework. It uses convention over configuration software design paradigm that means it decrease the effort of developer.

## **Advantages of Spring Boot**

* Create stand-alone Spring applications that can be started using java -jar.
* Embed Tomcat, Jetty or Undertow directly. You don't need to deploy WAR files.
* It provides opinionated 'starter' POMs to simplify your Maven configuration.
* It automatically configure Spring whenever possible.
* It provides production-ready features such as metrics, health checks and externalized configuration.
* Absolutely no code generation and no requirement for XML configuration.

# Introduction: What is DML, DDL, DCL and TCL in SQL Server

**DML**

DML is abbreviation of **Data Manipulation Language**. It is used to retrieve, store, modify, delete, insert and update data in database.

Examples: SELECT, UPDATE, INSERT statements

**DDL**

DDL is abbreviation of **Data Definition Language**. It is used to create and modify the structure of database objects in database.

Examples: CREATE, ALTER, DROP statements

**DCL**

DCL is abbreviation of **Data Control Language**. It is used to create roles, permissions, and referential integrity as well it is used to control access to database by securing it.

Examples: GRANT, REVOKE statements

**TCL**

TCL is abbreviation of **Transactional Control Language**. It is used to manage different transactions occurring within a database.

Examples: COMMIT, ROLLBACK statements