

Difference Between Spring and Hibernate

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Key Difference - Spring vs Hibernate

A [software](#) framework provides a standard way to build and deploy applications. It includes support programs, [compilers](#), code libraries, tools and Application Programming Interfaces (API). It connects all components necessary for the project. The programmer can use pre-defined codes in their programs using frameworks. Some common Java-based frameworks are Spring, Hibernate, Struts, Maven, and JSF. This article discusses the difference between Spring and Hibernate. Spring framework provides a comprehensive programming and configuration model for Java-based enterprise applications. Hibernate is used to interact with the [database](#). It is an Object Relational Mapping (ORM) framework that converts the Java objects to database tables. It allows the programmers to avoid the unfamiliar [SQL](#) types and to work with familiar Java objects. The **key difference** between Spring and Hibernate is that **Spring is a complete and a modular framework for developing Enterprise Applications in Java while Hibernate is an Object Relational Mapping framework specialized in data persisting and retrieving from a database.**

What is Spring?

Spring is an open source project developed by Pivotal Software. It is a complete and a modular framework for developing Enterprise Applications in Java. Java supports [Object Oriented Programming \(OOP\)](#). Generally, the programmer always writes the business logic using Java classes or interfaces. They are also called as Plain Old Java Classes (POJO) and Plain old Java interfaces (POJI). In Spring, the programmer can write the plain old Java classes, and he can provide metadata in the [XML](#) file. The Spring container creates the objects, and the programmer can use these objects in the project. The dependencies for the application is provided by Spring. It is known as dependency injection.



Figure 01: Spring Framework

There are modules in Spring. The modules are grouped together based on their primary features. The core container provides the basic functionality of the framework. The data access modules help to work with datasets. It contains JDBC for connecting to the database. It is also useful for integrating other frameworks such as Hibernate. The JMS in data access module contains features for producing and consuming messages. The web module provides web-oriented integration features and supports Model, View, Controller (MVC) [web development](#). Web socket provides support for two-way communication. Spring supports Aspect Oriented Programming (AOP). It is about cross-cutting concerns, and they are separated from the business logic. Those are some advantages of Spring. Overall, it is a lightweight and comprehensive tool for application development.

What is Hibernate?

Hibernate is a lightweight, Object Relational Mapping (ORM) framework developed by Red Hat. Object Relational Mapping (ORM) is a programming technique that converts data between incompatible type systems. It simplifies the data creation, data manipulation, and data access. The programmer only needs to concern about the business logic. It is not necessary to write plain SQL statements. The object persistence is handled by the Hibernate. Hibernate supports relational database such as [Oracle](#), [MySQL](#), [M, SQL](#), and [PostgreSQL](#).



Figure 02: Hibernate

Hibernate maps Java classes to database tables. If there is an object called student with indexno, name and address, then the ORM framework can convert that object into a relational database table. Then the table name is as student. The columns of the table are indexno, name and address. To map the Java classes to database tables, the programmer only has to some configurations to the XML file. If the programmer wants to change the database tables, it can be easily done using the XML file. Therefore, the programmer can build Java objects without concerning complicated SQL statements. Overall, it is a powerful, high-performance ORM framework. It is the middleware between the application and database.

What are the Similarities Between Spring and Hibernate?

- Both are Spring and Hibernate frameworks for developing Enterprise Applications in Java.
- Both Spring and Hibernate are open source.
- Both Spring and Hibernate are lightweight
- Both Spring and Hibernate are written in Java.
- Both Spring and Hibernate are cross-platform.

What is the Difference Between Spring and Hibernate?

Spring vs Hibernate	
Spring is a complete and a modular framework for developing Enterprise Applications in Java.	Hibernate is an Object Relational Mapping framework specialized in data persisting and retrieving from a database.
Usage	
Spring is useful for transaction management, Aspect Oriented Programming and for dependency injection.	Hibernate provides Object-Relational Persistence and Query service for applications.
Modules	
Spring has a number of modules such as Spring core, Spring MVC, Spring Security, Spring JDBC and many more.	Hibernate is an ORM and does not have modules like Spring.
Developer	
Spring was developed by Pivotal Software.	Hibernate was developed by Red Hat.

Summary - Spring vs Hibernate

Spring is popular framework among Java community. Spring contains the core container, JDBC, MVC and various other features for building an entire application. Hibernate provides the communication between the application and database

through objects without plain SQL. It provides high performance, scalability, and reliability. The difference between Spring and Hibernate is that spring is a complete and a modular framework for developing Enterprise Applications in Java while Hibernate is an Object Relational Mapping framework specialized in data persisting and retrieving from a database. Hibernate is integrated into to Spring framework.

Reference:

- 1.edurekaIN. What Is Spring Framework In Java | Spring Framework Tutorial For Beginners With Examples | Edureka, Edureka!, 31 May 2017. [Available here](#)
- 2.tutorialspoint.com. "Spring Framework Overview." Www.tutorialspoint.com The Point. [Available here](#)
- 3.HIBERNATE TUTORIAL WHAT IS HIBERNATE FRAMEWORK, Interview Dot, 6 Jan. 2015. [Available here](#)

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