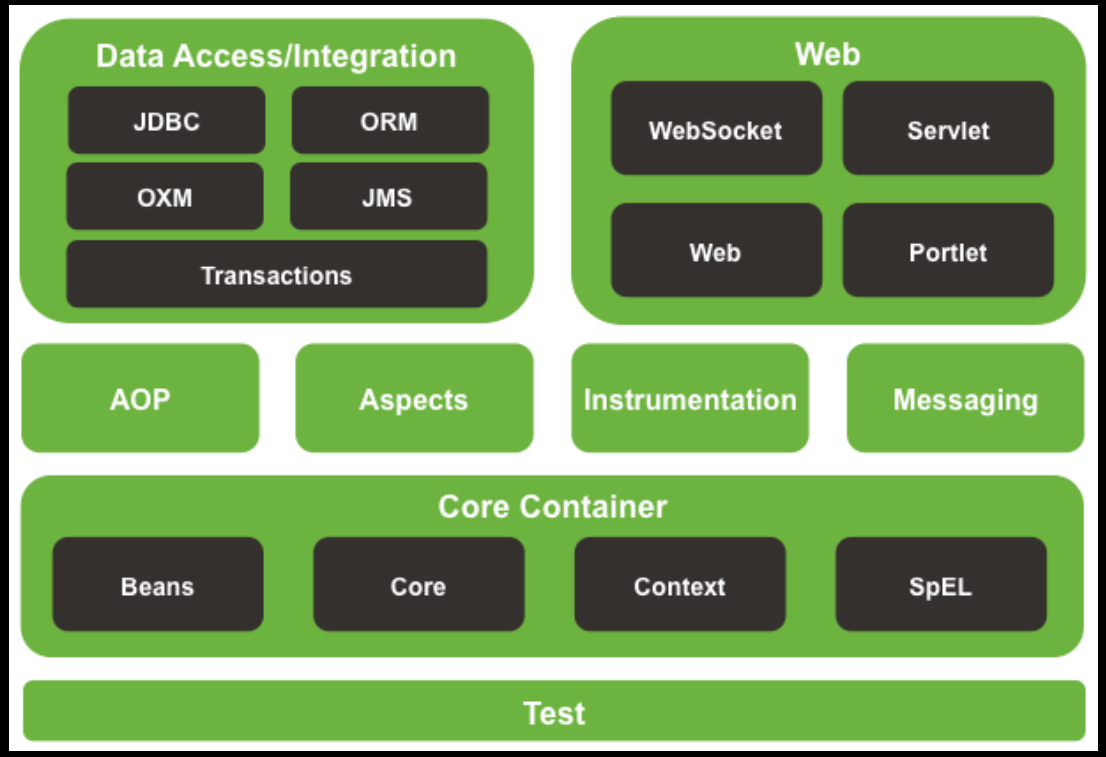
Why learn the Spring Framework?

The Spring Framework Modules



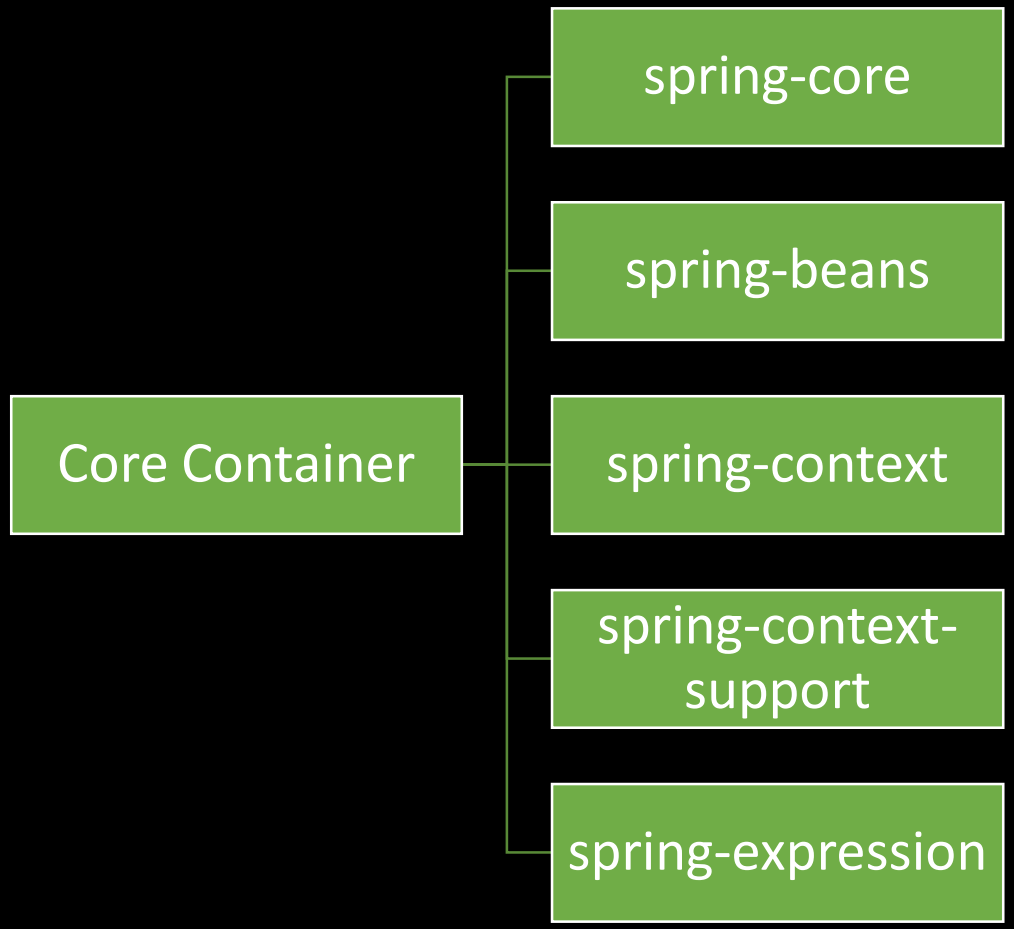
Spring is huge. In fact, this is a whole container of frameworks that allow you to perform tasks of any complexity - from working with the database to testing procedures.

The Spring Framework 5.0 consists of features organized into about 20 modules.

These modules are grouped into:

- Core Container,
- Data Access/Integration,
- Web,
- AOP (Aspect Oriented Programming),
- Instrumentation,
- Messaging,
- Test.

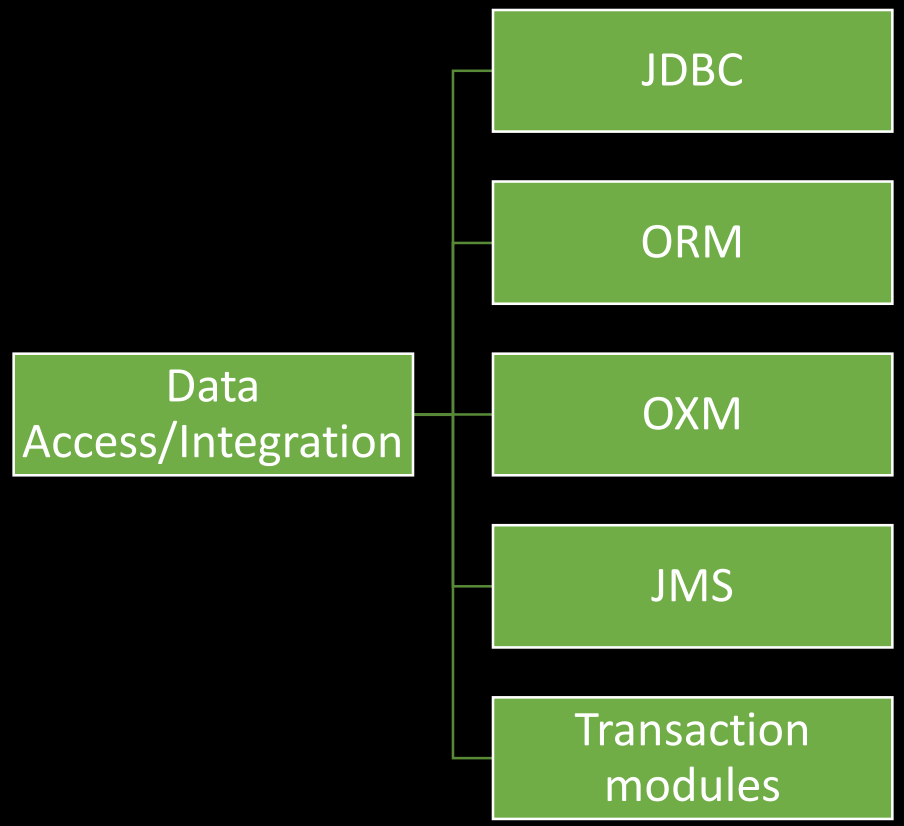
Core Container



The ***Core Container*** consists of the spring-core, spring-beans, spring-context, spring-context-support, and spring-expression (Spring Expression Language) modules.

- The ***spring-core*** and spring-beans modules provide the fundamental parts of the framework, including the IoC and Dependency Injection features. The BeanFactory is a sophisticated implementation of the factory pattern. It removes the need for programmatic singletons and allows you to decouple the configuration and specification of dependencies from your actual program logic.
- The Context (***spring-context***) module builds on the solid base provided by the Core and Beans modules: it is a means to access objects in a framework-style manner that is similar to a JNDI registry.
- The ApplicationContext interface is the focal point of the Context module. ***spring-context-support*** provides support for integrating common third-party libraries into a Spring application context.
- The ***spring-expression*** module provides a powerful Expression Language for querying and manipulating an object graph at runtime.

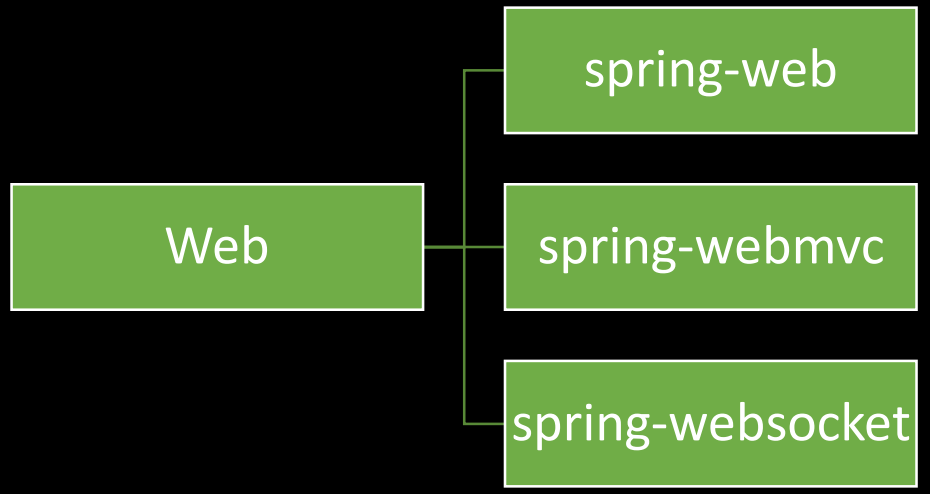
Data Access/Integration



The ***Data Access/Integration*** layer consists of the JDBC, ORM, OXM, JMS, and Transaction modules.

- The ***spring-jdbc*** module provides a JDBC-abstraction layer that removes the need to do tedious JDBC coding and parsing of database-vendor specific error codes.
- The ***spring-tx*** module supports programmatic and declarative transaction management for classes that implement special interfaces and for *all your POJOs (Plain Old Java Objects)*.
- The ***spring-orm*** module provides integration layers for popular object-relational mapping APIs, including JPA and Hibernate.
- The ***spring-oxm*** module provides an abstraction layer that supports Object/XML mapping implementations.
- The ***spring-jms*** module (Java Messaging Service) contains features for producing and consuming messages.

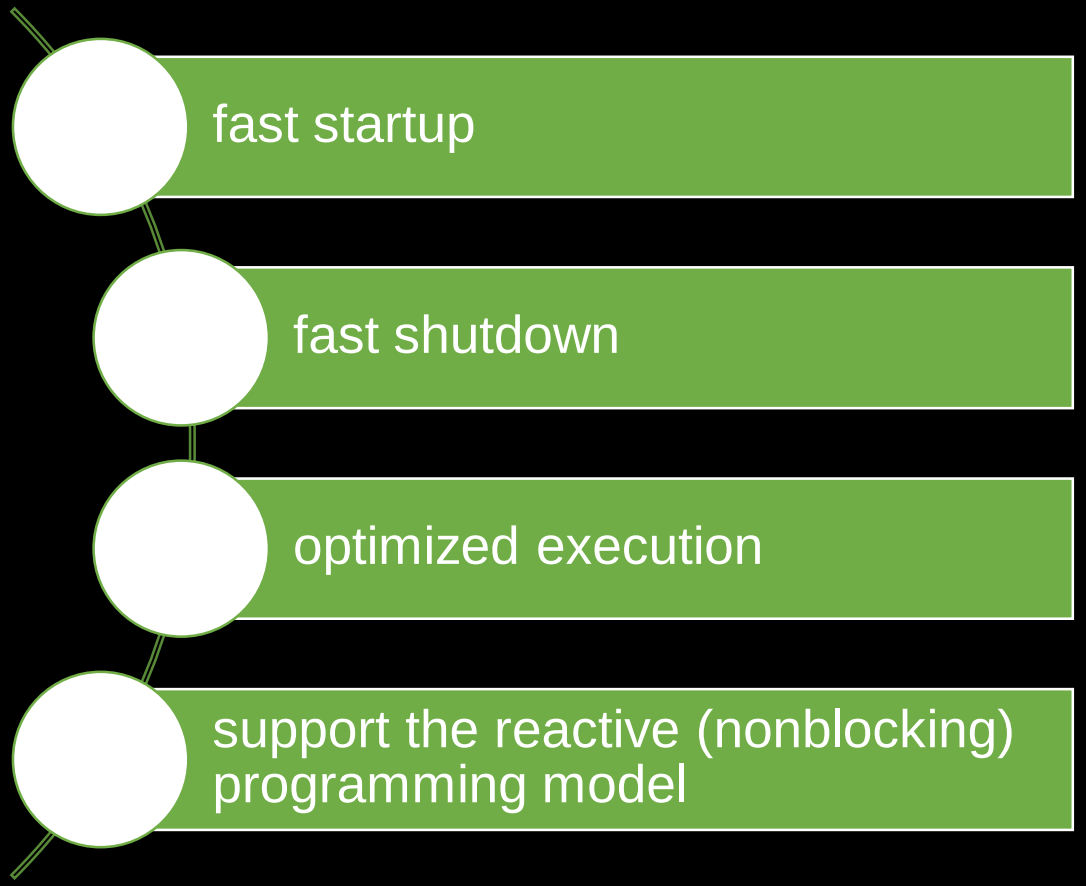
Web



The *Web* layer consists of the spring-web, spring-webmvc and spring-websocket modules.

- The ***spring-web*** module provides basic web-oriented integration features such as multipart file upload functionality and the initialization of the IoC container using Servlet listeners and a web-oriented application context. It also contains an HTTP client and the web-related parts of Spring's remoting support.
- The ***spring-webmvc*** module (also known as the *Web-Servlet* module) contains Spring's model-view-controller (MVC) and REST Web Services implementation for web applications.

Spring is fast



Framework engineers care deeply about performance. With Spring, you'll notice fast startup, fast shutdown, and optimized execution, by default. Increasingly, Spring projects also support the reactive (nonblocking) programming model for even greater efficiency. Developer productivity is Spring's superpower. Spring Boot helps developers build applications with ease and with far less toil than other competing paradigms. Embedded web servers, auto-configuration, and "fat jars" help you get started quickly, and innovations like LiveReload in Spring DevTools mean developers can iterate faster than ever before. You can even start a new Spring project in seconds, with the Spring Initializr at start.spring.io.

Spring is secure

- The Spring committers work with security professionals to patch and test any reported vulnerabilities
- Third-party dependencies are monitored closely
- Regular updates are issued to help keep your data and applications as safe as possible
- Easy to integrate with industry-standard security schemes
- Deliver trustworthy solutions that are secure by default

Spring is supportive

- quickstarts
- guides & tutorials
- videos
- meetups
- support
- formal training and certification