* Spring-Modules:

Spring Modules

```
Spring Framework
├── Spring Core
│   ├── Core    beans    Context    SpEL
│
├── AOP    Aspect    Instrumentation    Messaging
│
├── Data Access / Integration
│   ├── JDBC    ORM
│   ├── JMS    OXM
│
├── Web
│   ├── Web    Servlet
│   ├── Portlet    WebSocket
│
└── Test
```
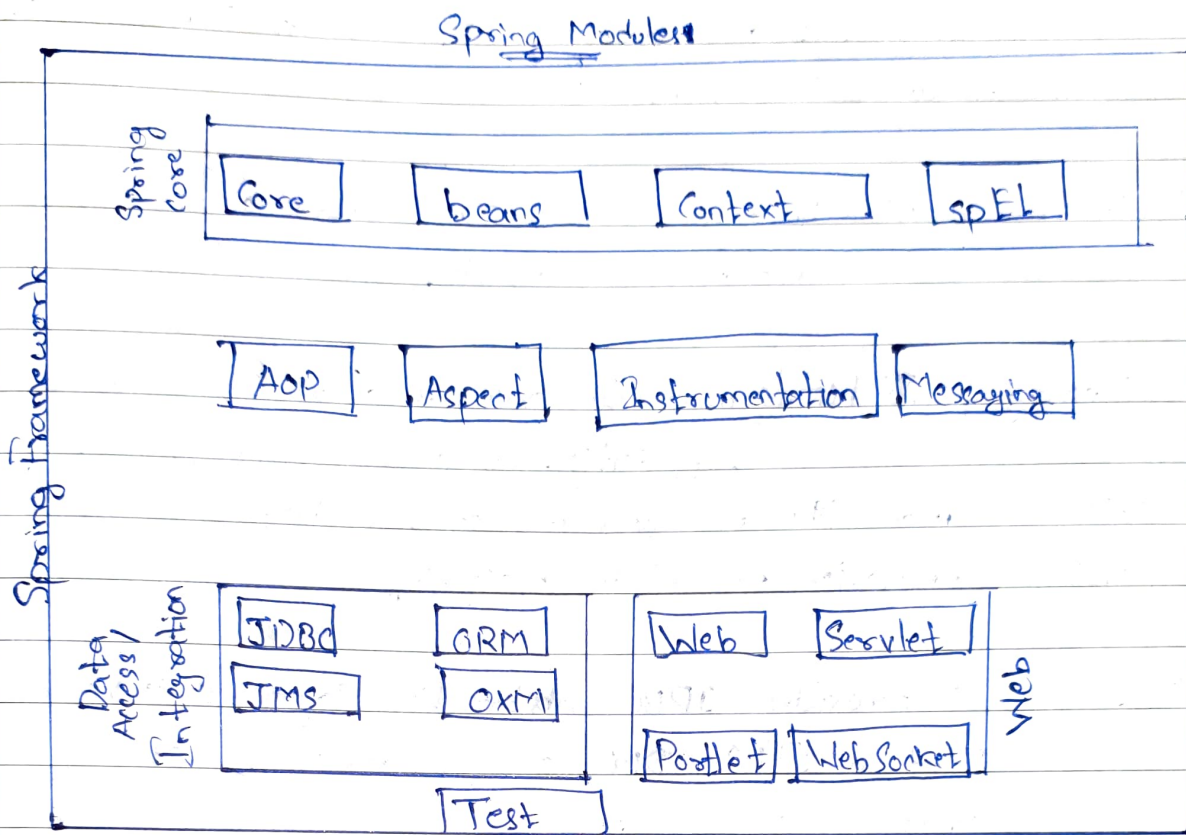
→ Spring core & spring Bean provide fundamental parts of the framework like IOC & ~~DeI~~ Dependency injection.

→ Context inherits the features from the bean module. (it also adds some more features like ~~installation~~ ~~f~~ event proposation, resource loading & transparent creation of context).

→ SpEL: It's a powerful ~~ex~~ expression language that supports querying & manipulating an object graph at runtime. The language syntax is similar to Unified EL but offer additional features, most notably ~~is~~ method invocation & basic string templating functionality.

→ **AOP (Aspect-oriented programming):** It helps in breaking down the logic of the program into several distinct parts called as concern. The cross-cutting concern helps in increasing the modularity & separate it from the business logic of an application.

→ **Instrumentation:** It provides us class intrumentation supports & class loader instrumentation.

→ **Messaging:** This is used to serve as a foundation for messaging based application (used for messaging app. developing). We can map the messages with the help of method by various annotation present in messaging.

→ **JDBC:** It provides JDBC abstraction layer that removes the need of JTDS JDBC code & passing database vendor specific error code.

→ **ORM:** For using any ORM Tool like Hybernet, etc we have to use these module. It provides integration layer through which we can integrate another ORM tool in our project.

→ **Spring Oxm:** It provides an abstraction layer that supports object xml mapping. It makes ease to map It makes to ease the mapping between java objects & XML documents. OXM (object XML mapping) It is extensible & hence it provides integration with various popular frameworks like Castors JAXB, Xml Beans, & xStream.

→ Jms: (Java messaging services.) We can produce & consume the

= messages using JMS.

→ Web: All the modules in Web are used to build Web

application.

→ Test: It provides Junit & Test engine. (providing testing features.)