SPRING FRAMEWORK

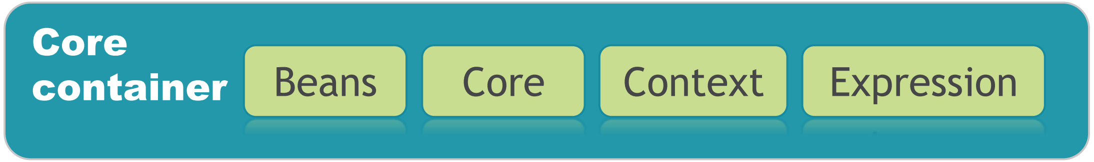
ARCHITECTURE

APRIL, 2015

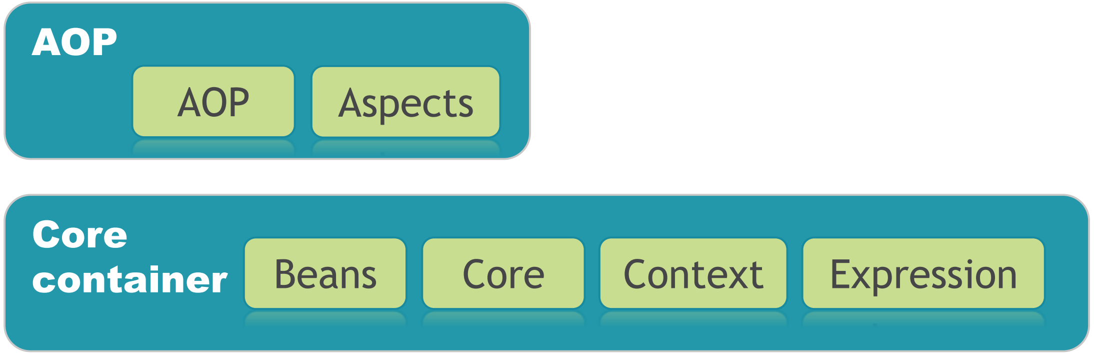
WHAT IS SPRING?

- Lightweight jar libraries
- Container
  - Manages lifecycle of objects
- Framework
  - Classes and utilities for application creation
- Dependency Injection (Inversion of Control)
  - Objects get their dependencies and do not create them
- AOP (aspect oriented programming)
  - Separation of cross-cutting concerns into separate modules

SPRING MODULES



SPRING MODULES



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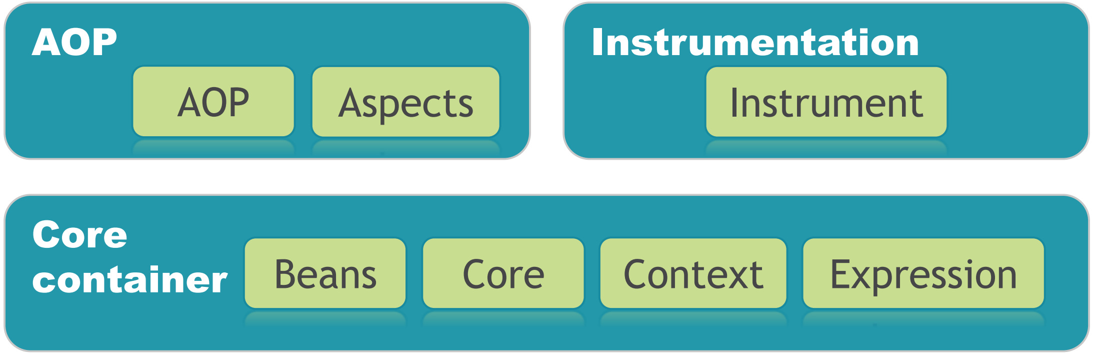

AOP

AOP

Aspects

Instrumentation

Instrument

Core container

Beans

Core

Context

Expression

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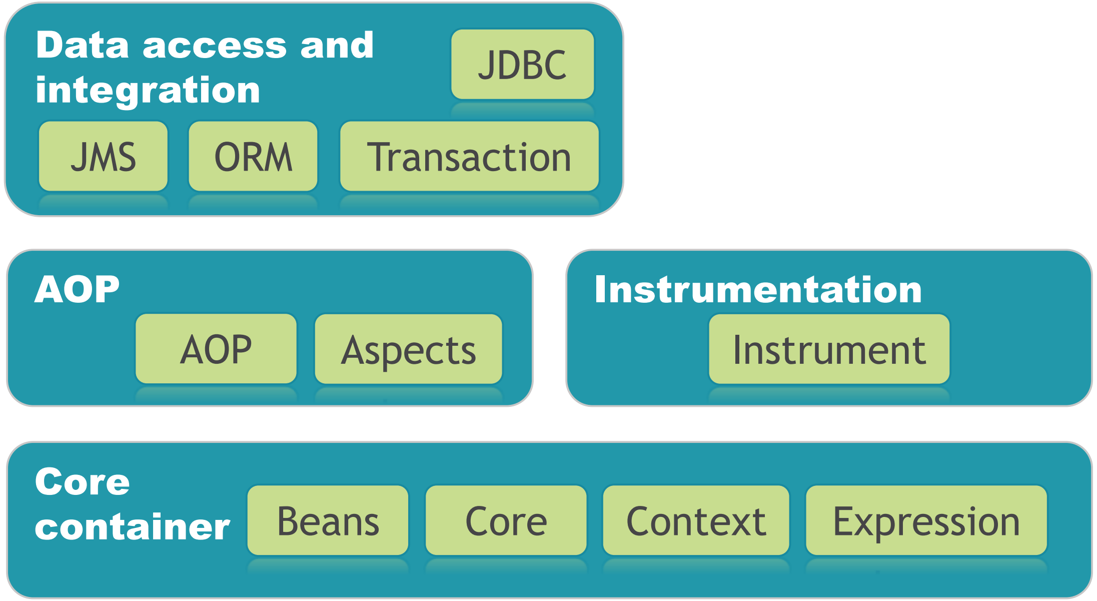

Data access and integration

JDBC

JMS

ORM

Transaction

AOP

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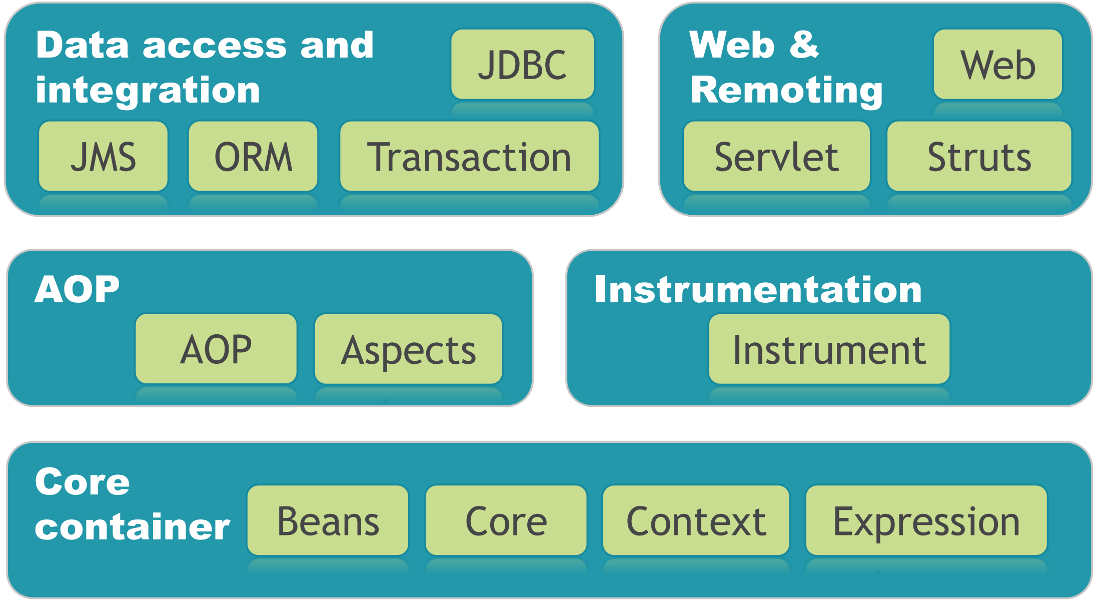

Data access and integration

JDBC

JMS

ORM

Transaction

Web & Remoting

Web

Servlet

Struts

AOP

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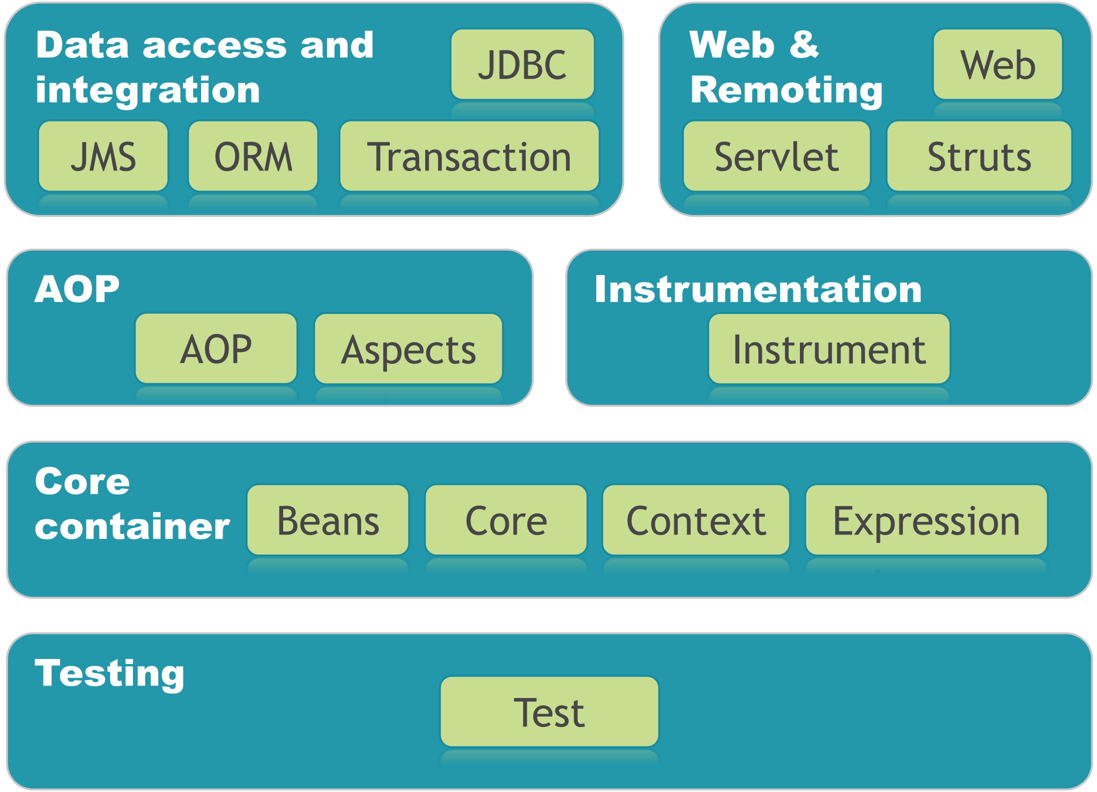


SPRING MODULES

DIY

- Create Maven Project
  - **groupId**: com.epam.spring
  - **artifactId**: com.epam.spring.core
- In pom.xml add dependencies for Spring modules:
  - spring-context
  - spring-context-support
  - spring-tx
  - spring-jdbc

SPRING MODULES

POM.XML

DIY

```
<properties>
    <spring.ver>3.2.13.RELEASE</spring.ver>
</properties>

<dependencies>
    <dependency>
      <groupId>org.springframework</groupId>
      <artifactId>spring-context</artifactId>
      <version>${spring.ver}</version>
    </dependency>

   ...
</dependencies>
```

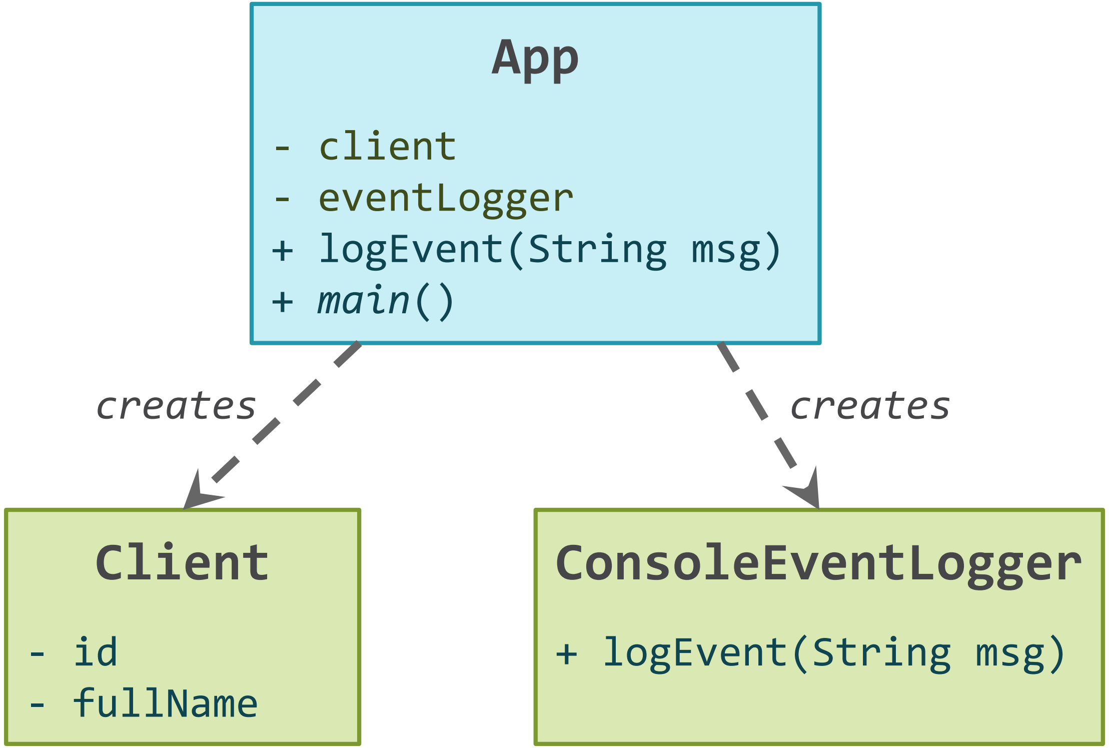
spring-context-support

spring-tx

spring-jdbc

EXAMPLE

DIY



App
- client
- eventLogger
+ logEvent(String msg)
+ *main*()
creates
creates
Client
- id
- fullName
ConsoleEventLogger
+ logEvent(String msg)

EXAMPLE

DIY

```java
public static void main(String[] args) {
    App app = new App();

    app.client = new Client("1", "John Smith");
    app.eventLogger = new ConsoleEventLogger();

    app.logEvent("Some event for user 1");
}

private void logEvent(String msg) {
    String message = msg.replaceAll(
        client.getId(), client.getFullName());
    eventLogger.logEvent(message);
```

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HIGH / TIGHT COUPLING

THANK YOU

YURIY_TKACH@EPAM.COM

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