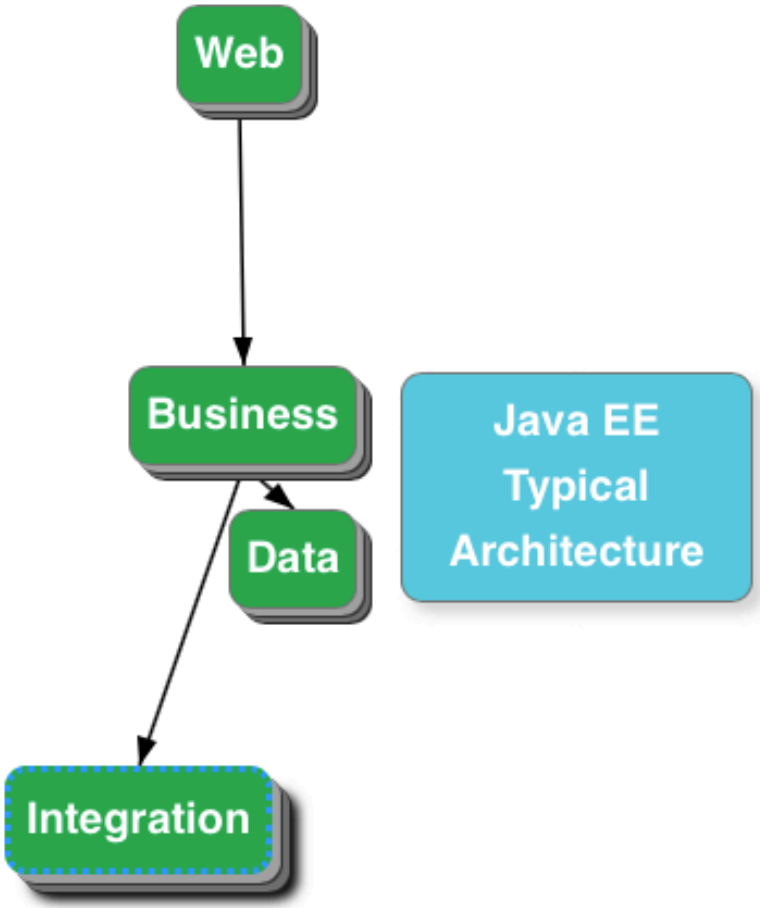
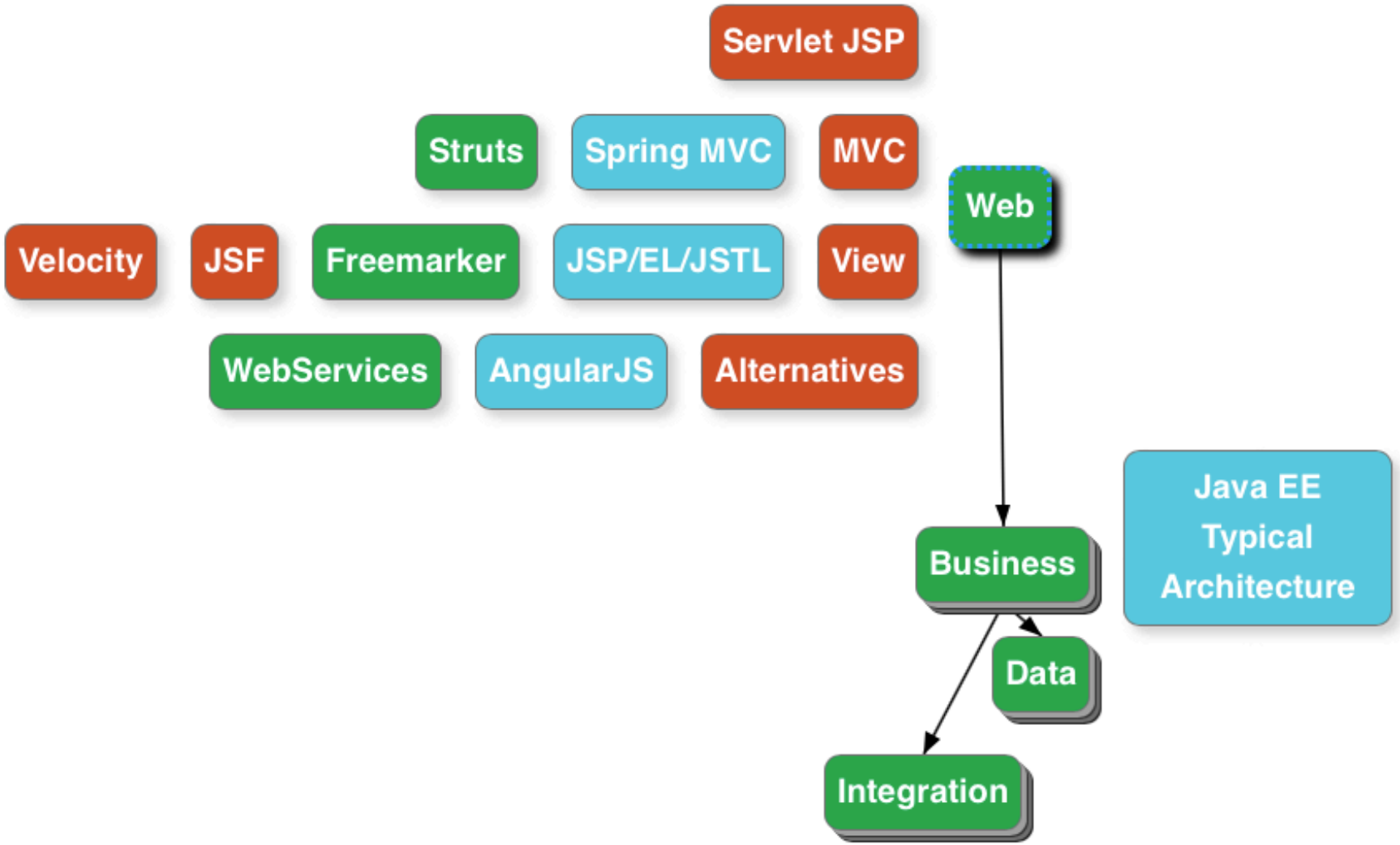
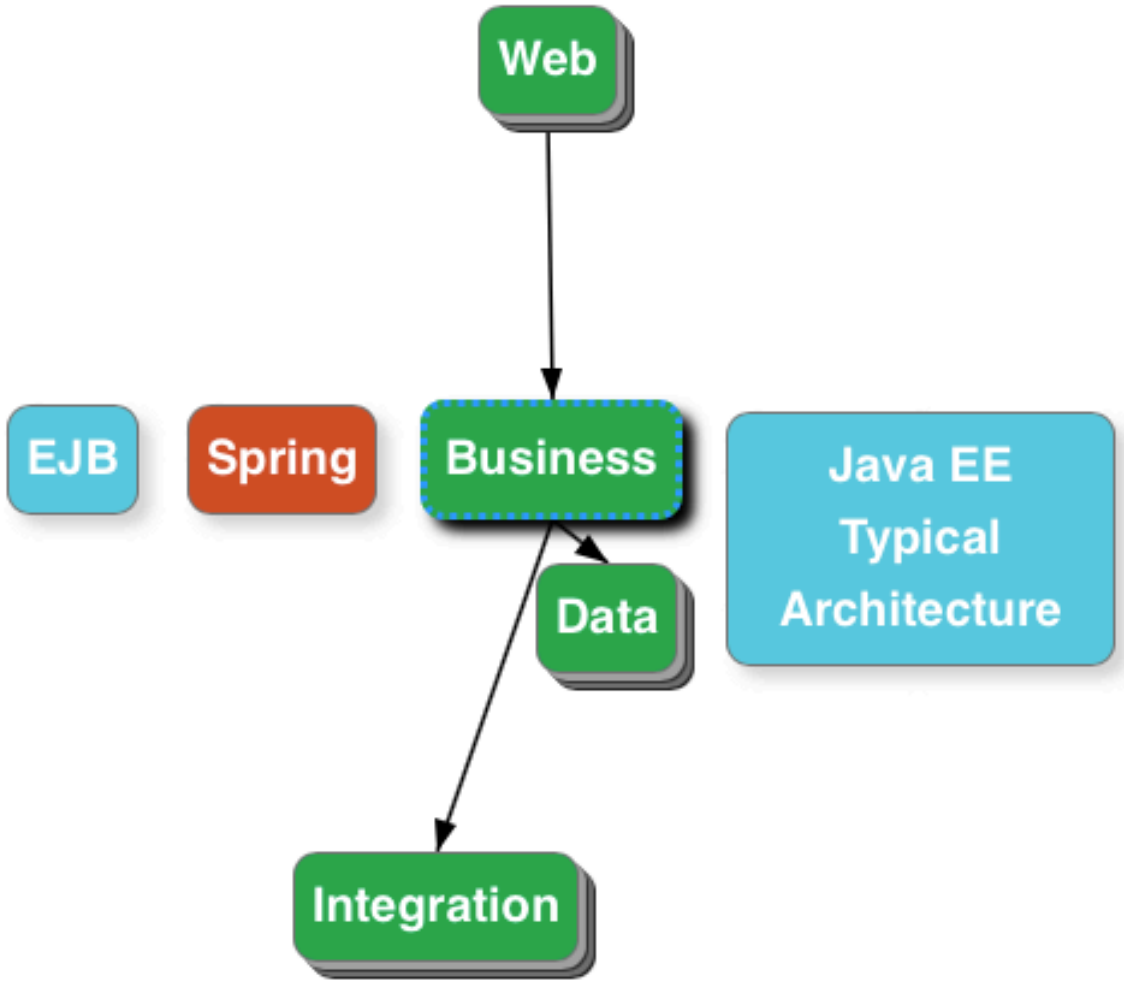
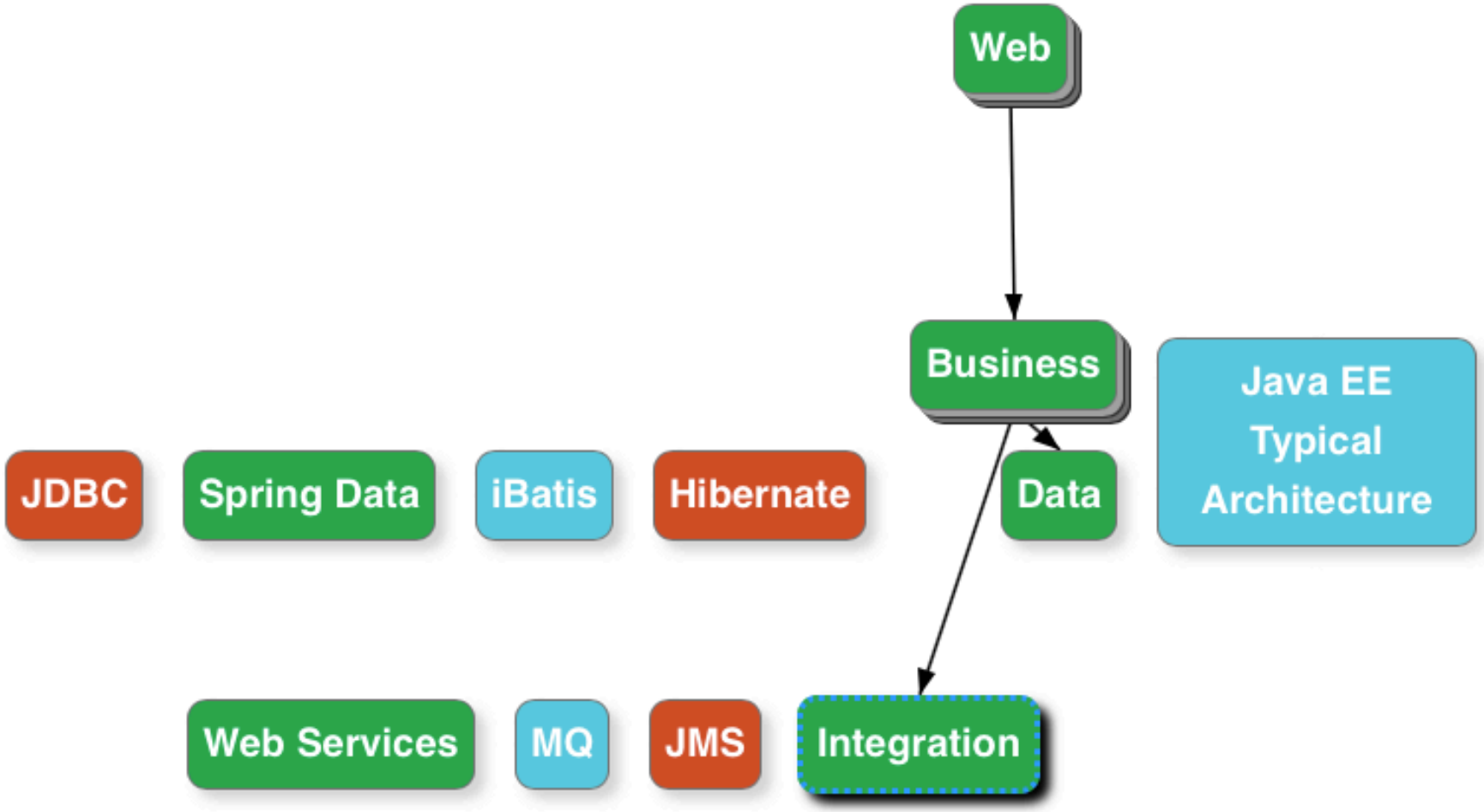
Demystifying Java EE

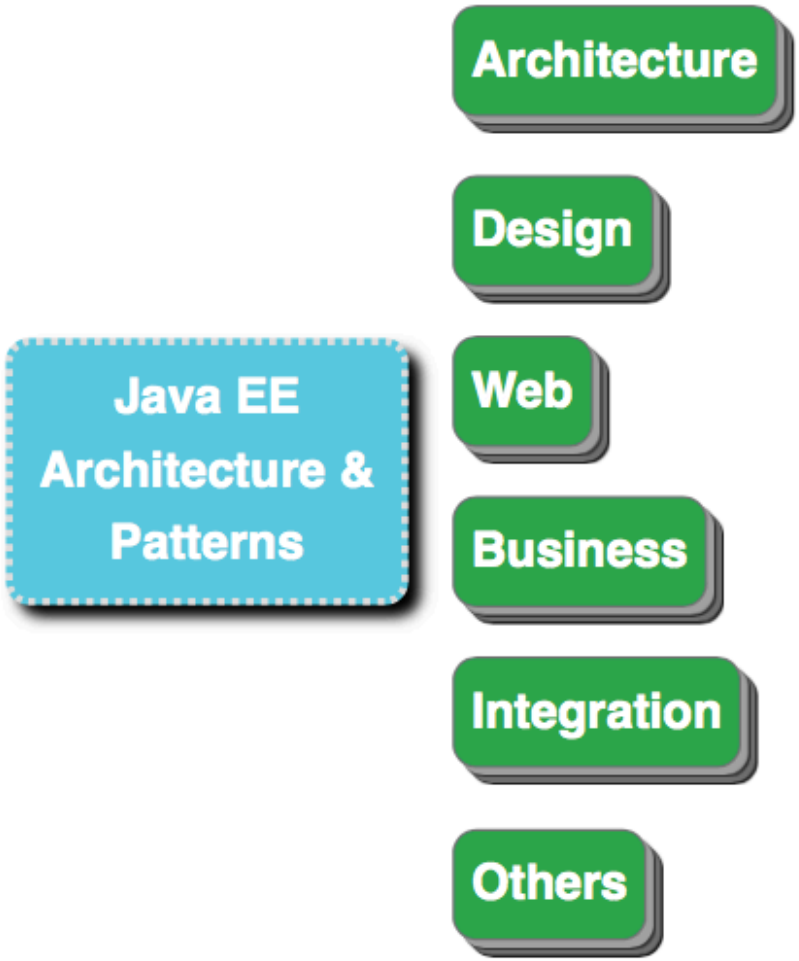
In 28 Minutes

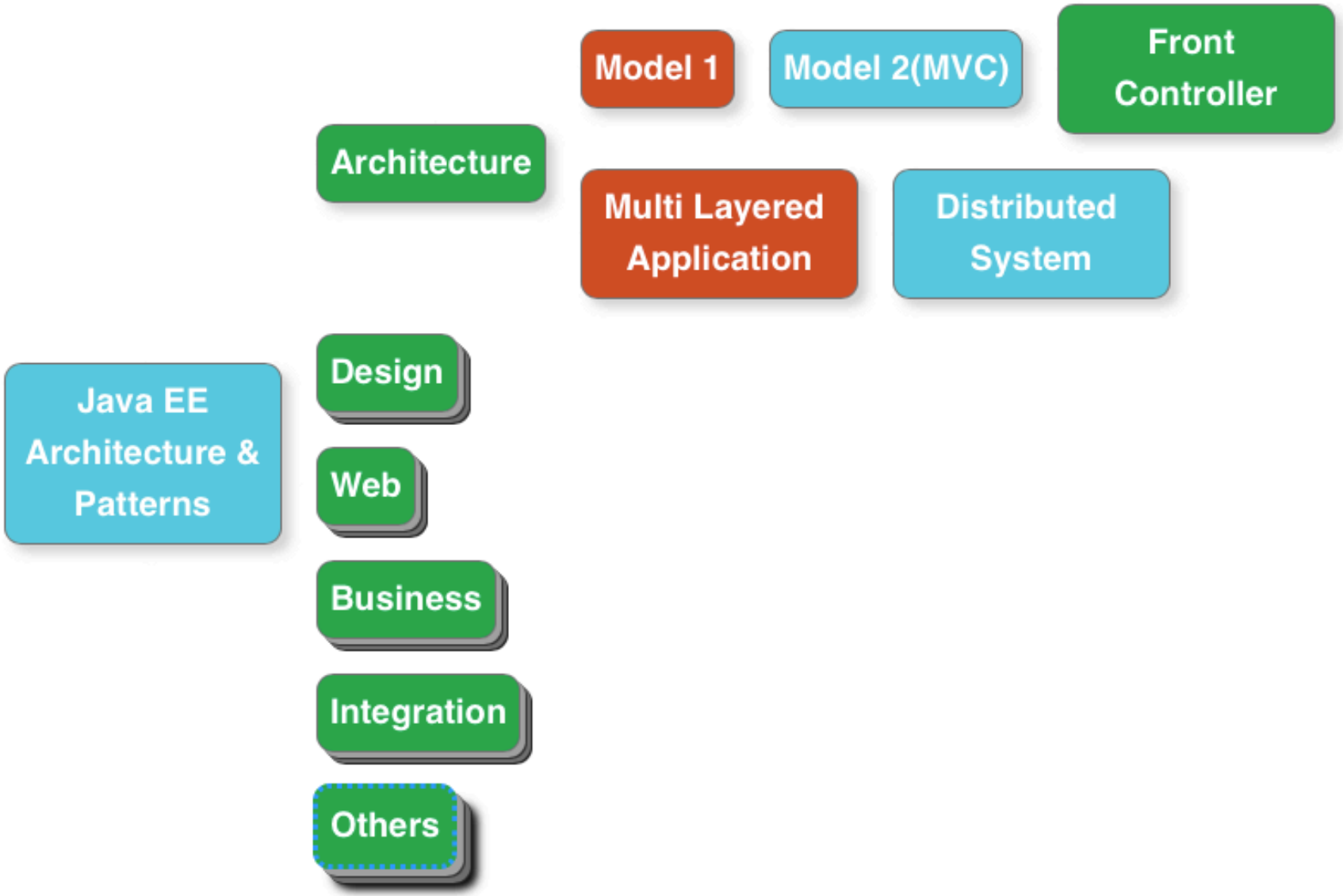

Web
Business
Data
Integration
Java EE
Typical
Architecture

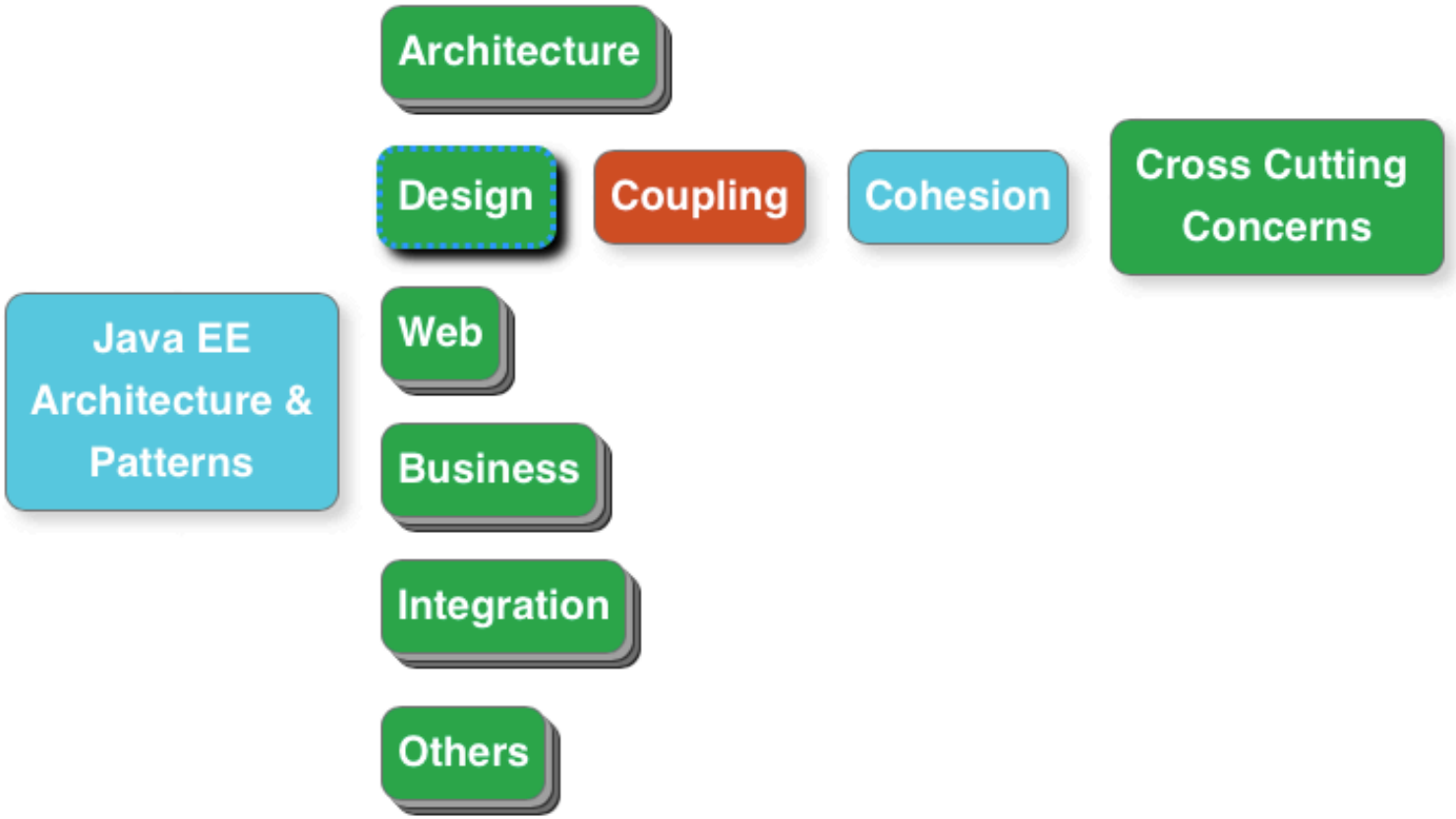

Servlet JSP
Struts
Spring MVC
MVC
Web
Velocity
JSF
Freemarker
JSP/EL/JSTL
View
WebServices
AngularJS
Alternatives
Java EE
Typical
Architecture
Business
Data
Integration

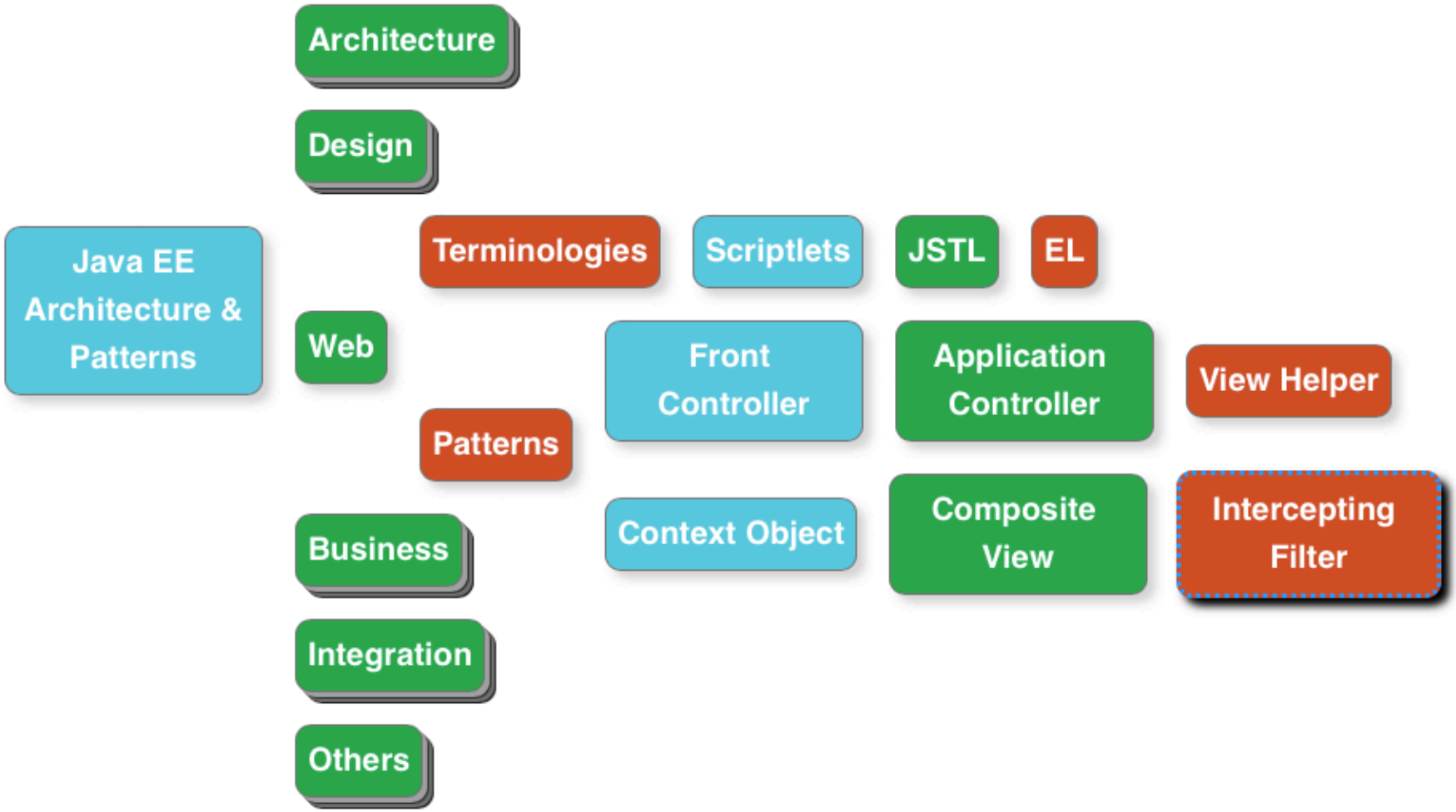

Web
EJB
Spring
Business
Java EE
Typical
Architecture
Data
Integration

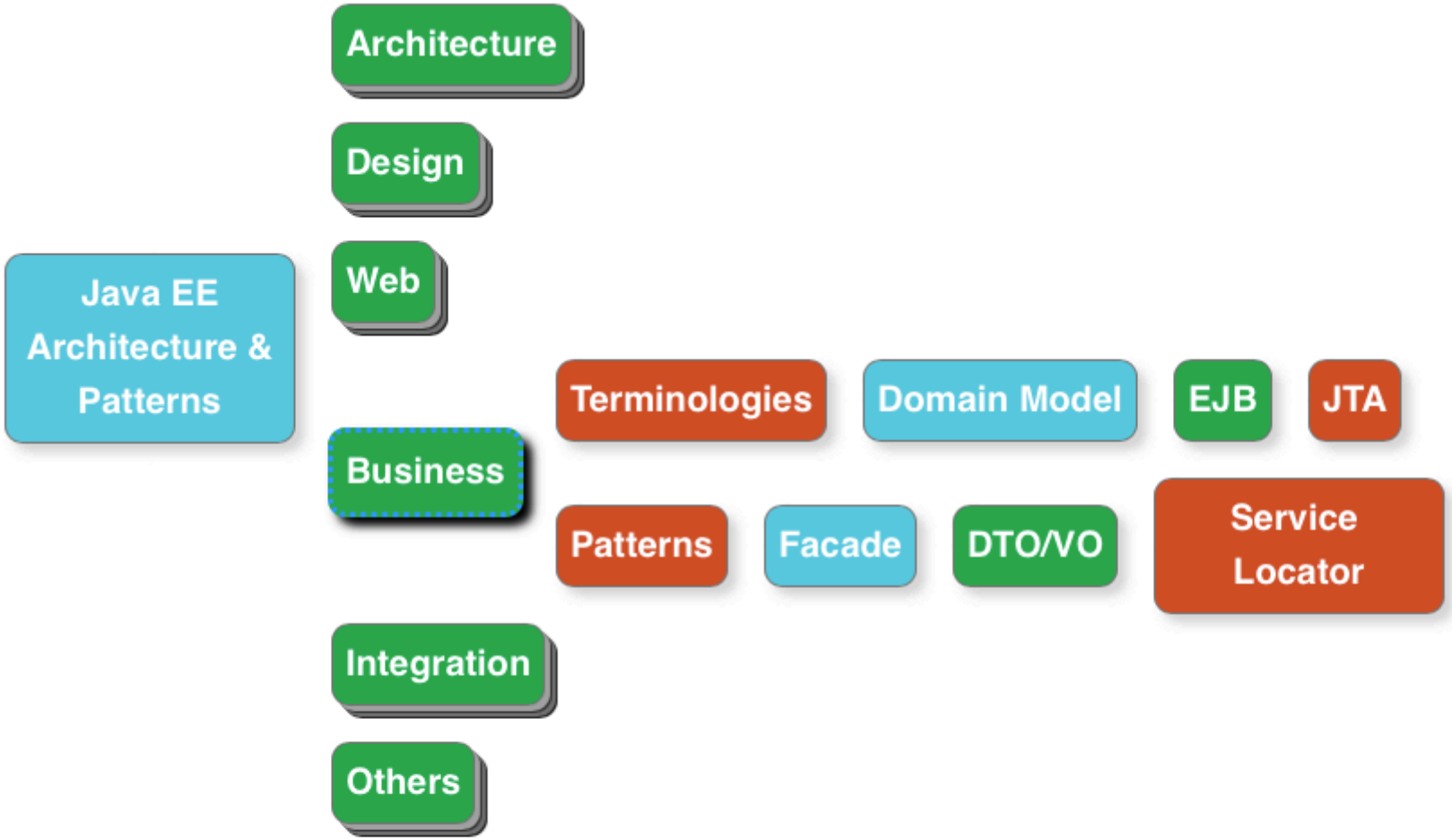

Web
Business
Data
Java EE
Typical
Architecture
JDBC
Spring Data
iBatis
Hibernate
Web Services
MQ
JMS
Integration

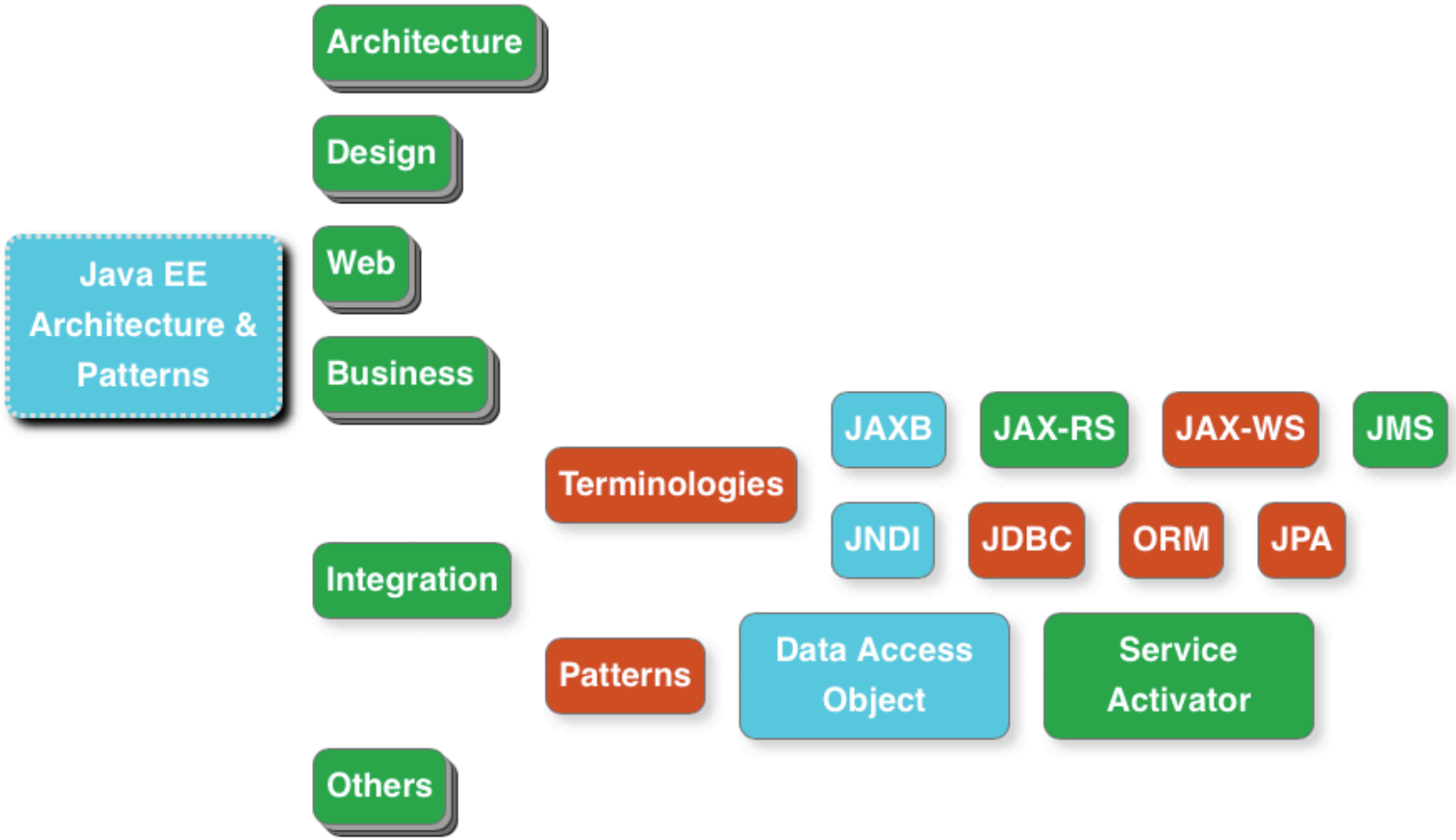

Java EE Architecture & Patterns
Architecture
Design
Web
Business
Integration
Others

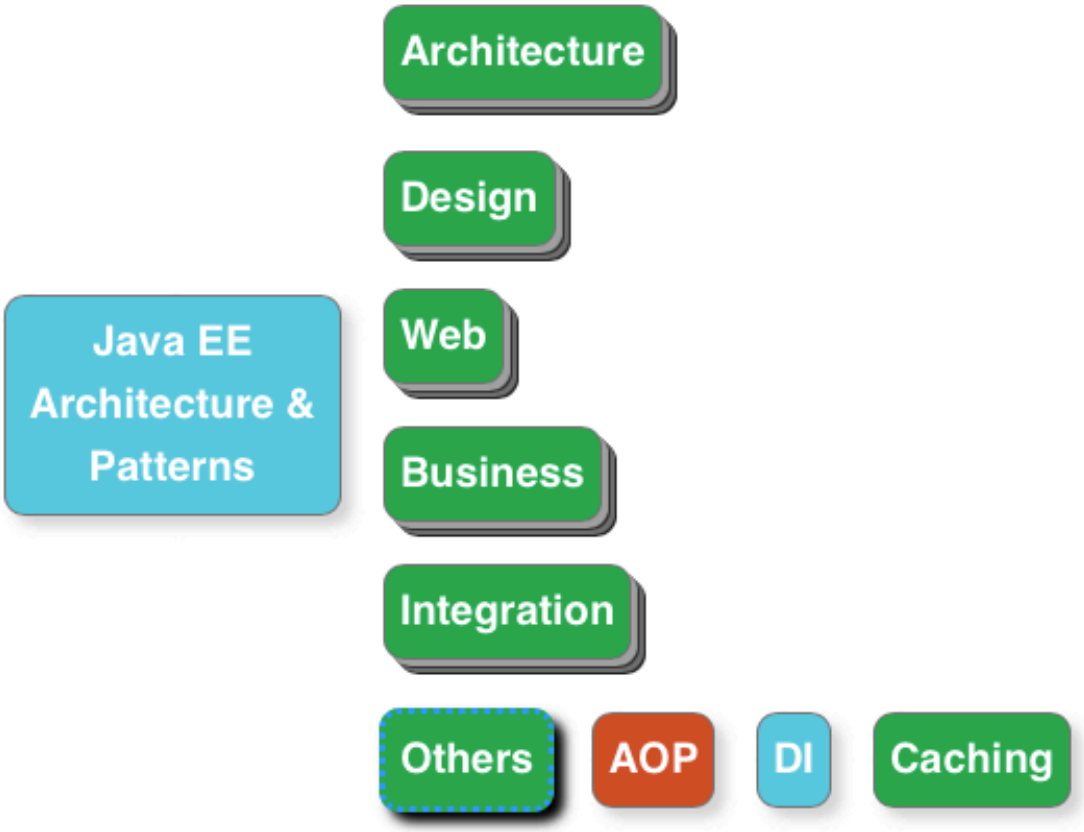

Java EE Architecture & Patterns
Architecture
Model 1
Model 2(MVC)
Front Controller
Multi Layered Application
Distributed System
Design
Web
Business
Integration
Others

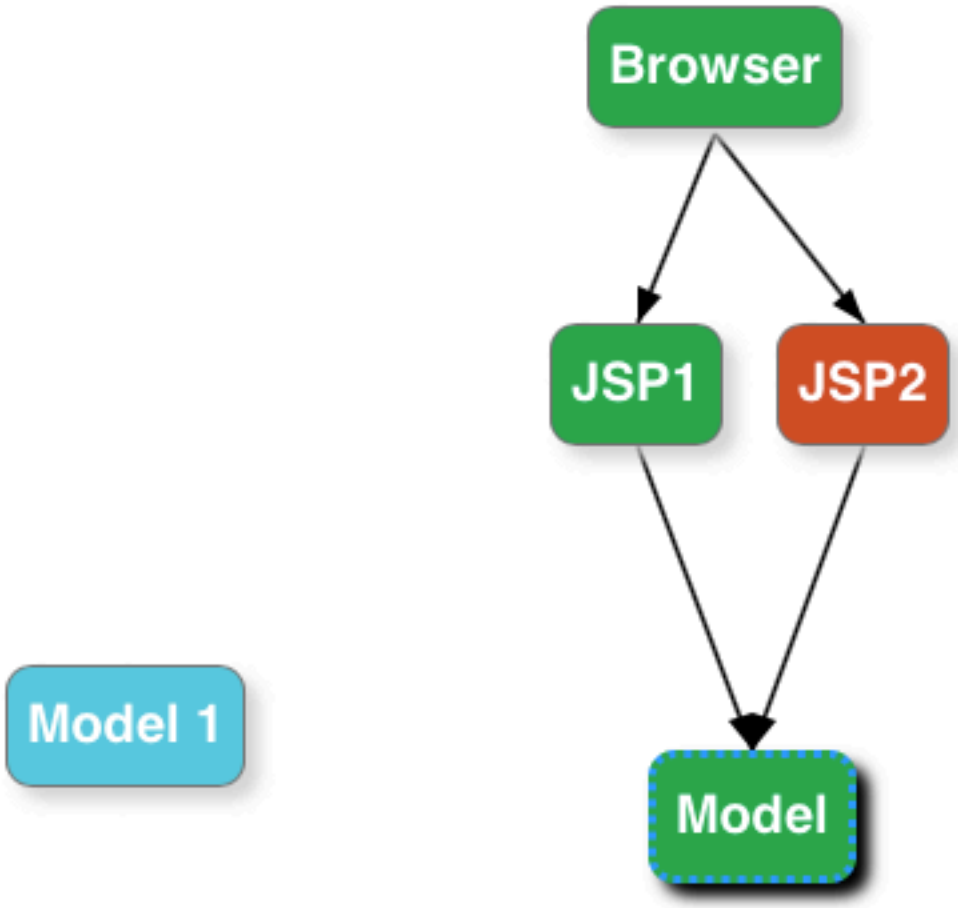

Java EE Architecture & Patterns
Architecture
Design
Coupling
Cohesion
Cross Cutting Concerns
Web
Business
Integration
Others

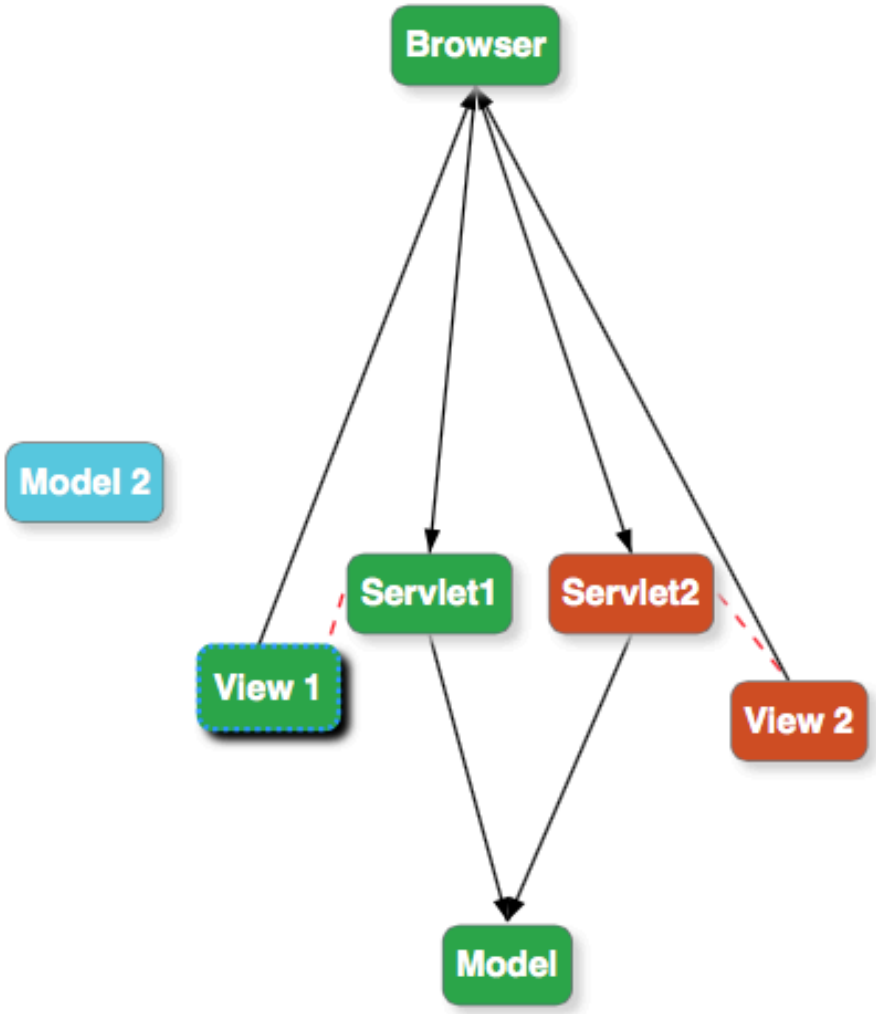

Java EE Architecture & Patterns
Architecture
Design
Web
Terminologies
Scriptlets
JSTL
EL
Front Controller
Application Controller
View Helper
Patterns
Context Object
Composite View
Intercepting Filter
Business
Integration
Others


Java EE Architecture & Patterns
Architecture
Design
Web
Business
Integration
Others
Terminologies
Domain Model
EJB
JTA
Patterns
Facade
DTO/VO
Service Locator


Java EE Architecture & Patterns
Architecture
Design
Web
Business
Integration
Others
Terminologies
JAXB
JAX-RS
JAX-WS
JMS
JNDI
JDBC
ORM
JPA
Patterns
Data Access Object
Service Activator

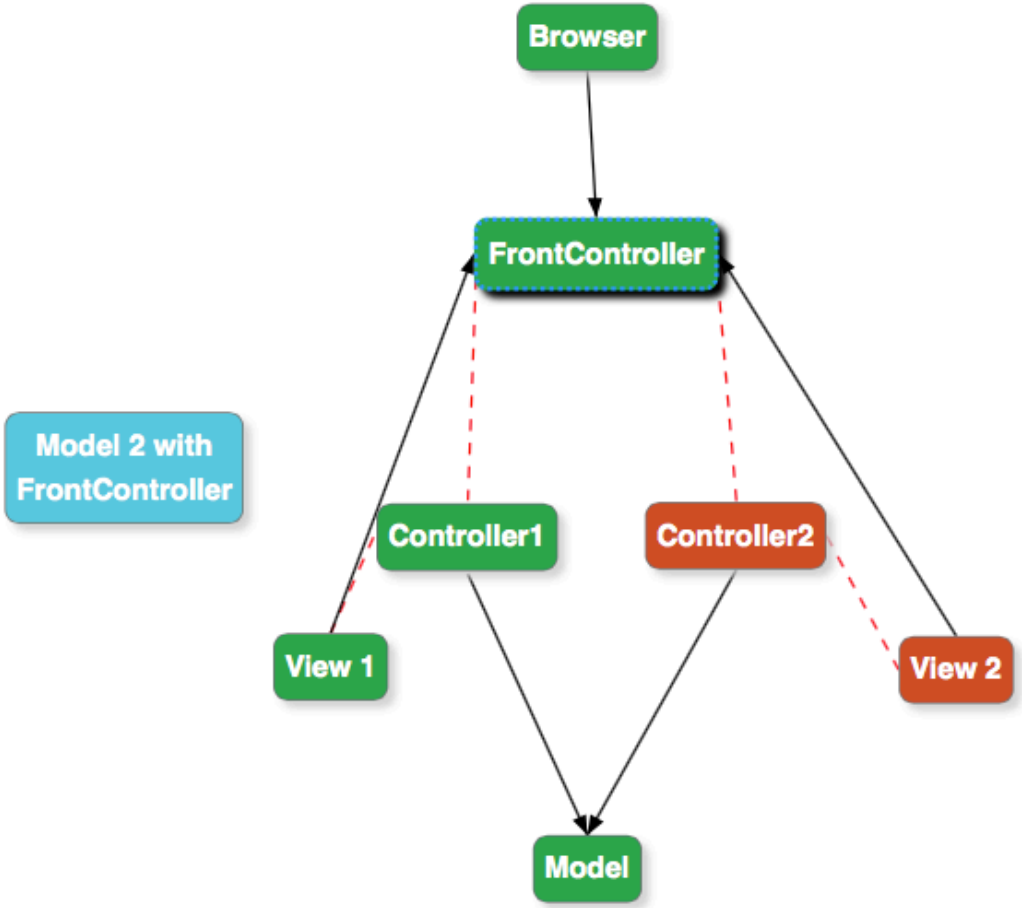

Java EE Architecture & Patterns
Architecture
Design
Web
Business
Integration
Others
AOP
DI
Caching

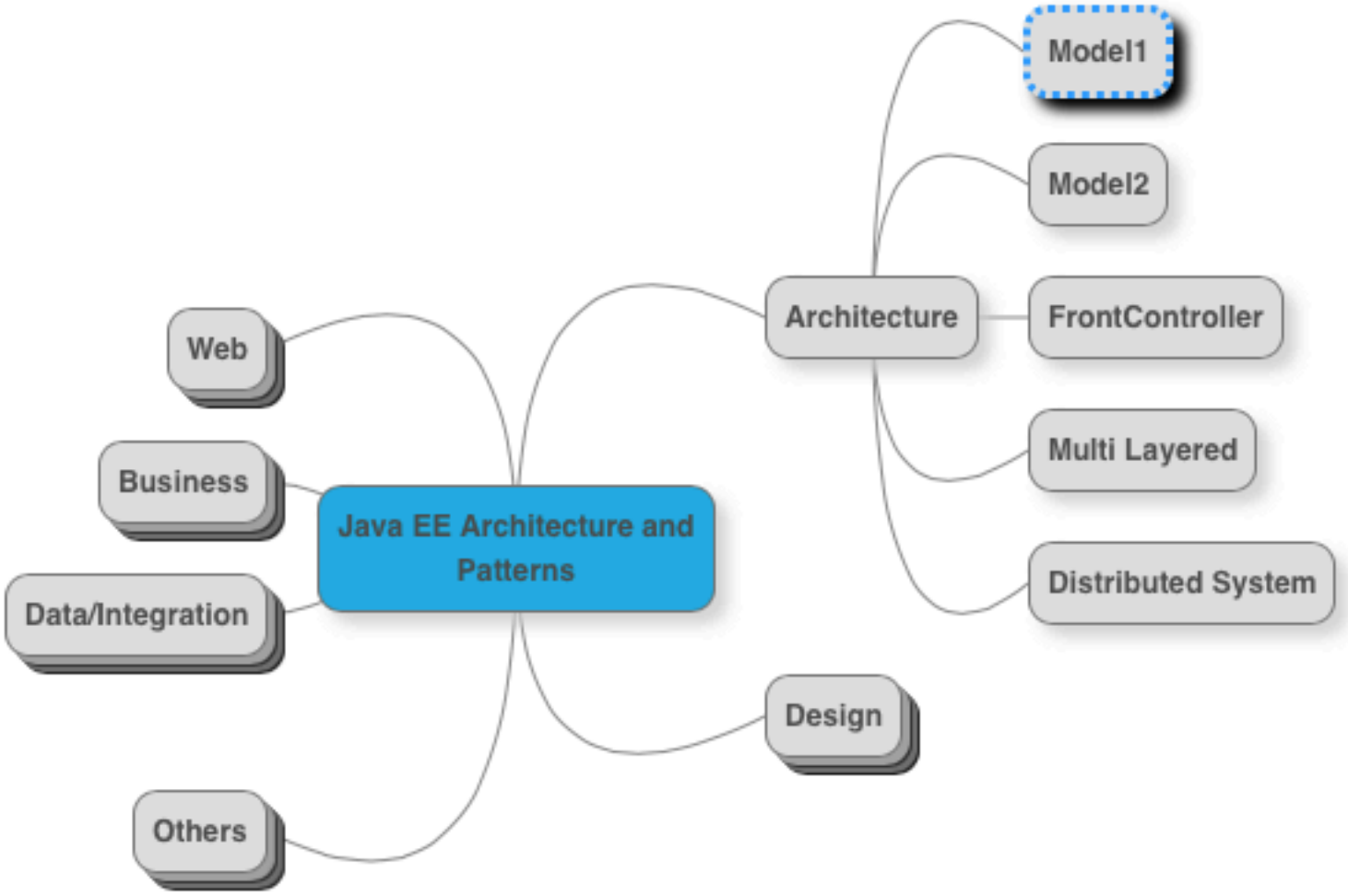

Browser
JSP1
JSP2
Model 1
Model

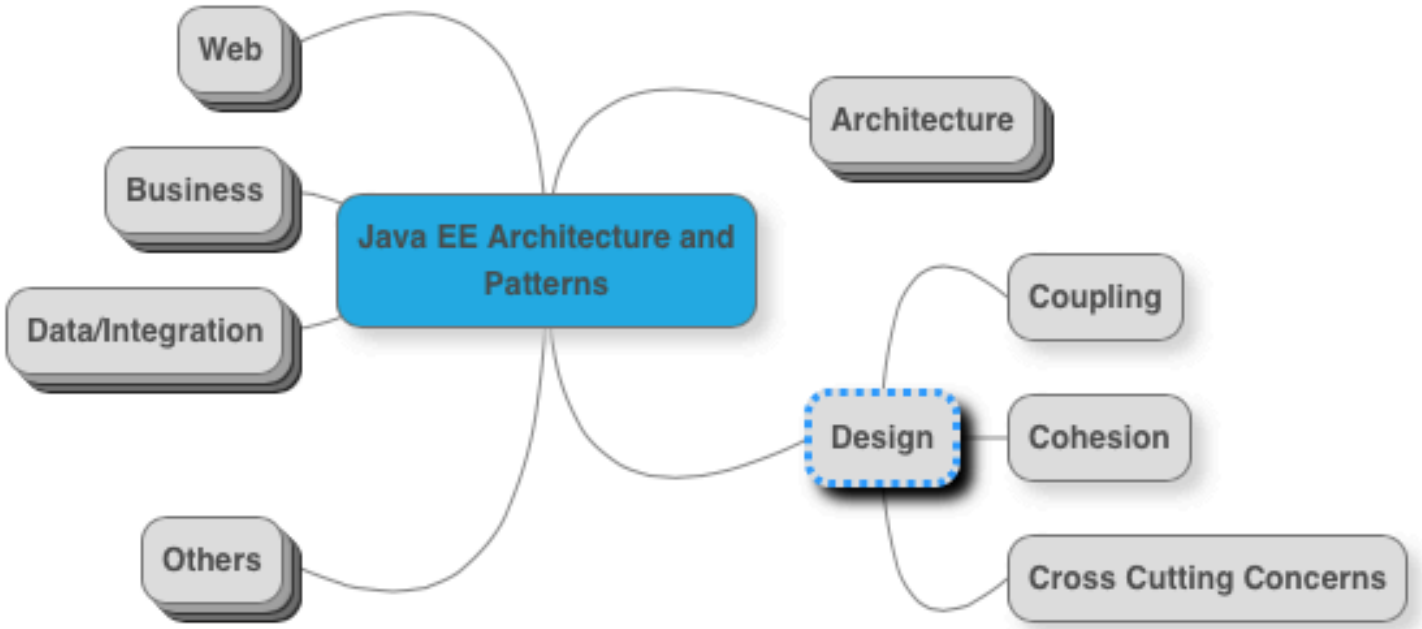

Browser
Model 2
Servlet1
Servlet2
View 1
View 2
Model

Front Contoller

Handles Data Binding, Handler Mapping, View Resolvers and a lot of other functionality.




Model1
Model2
Architecture
FrontController
Multi Layered
Distributed System
Web
Business
Java EE Architecture and Patterns
Data/Integration
Design
Others


Web
Business
Data/Integration
Others
Java EE Architecture and Patterns
Architecture
Design
Coupling
Cohesion
Cross Cutting Concerns

Java EE Architecture and Patterns
Architecture
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JSTL
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FrontController
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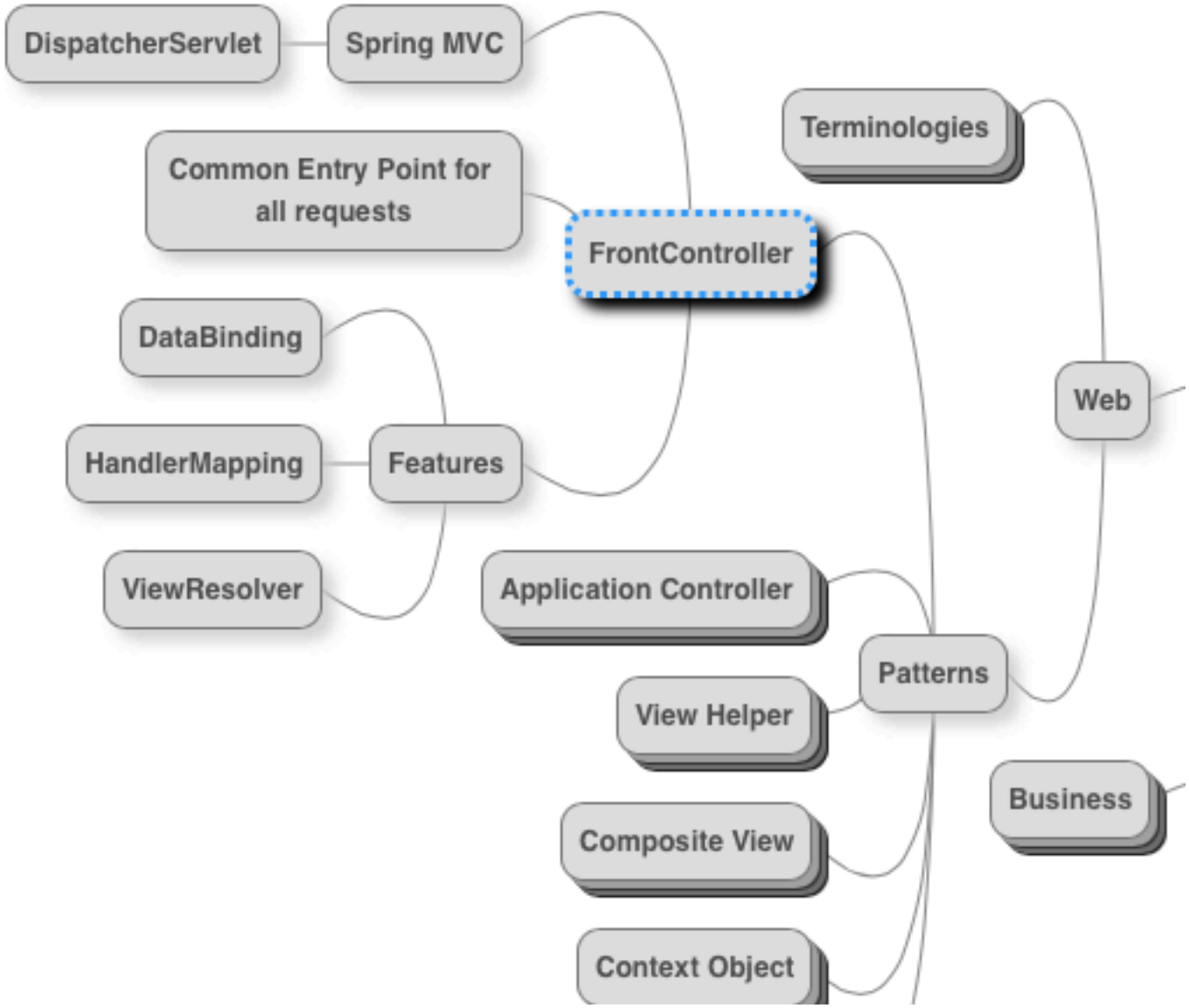
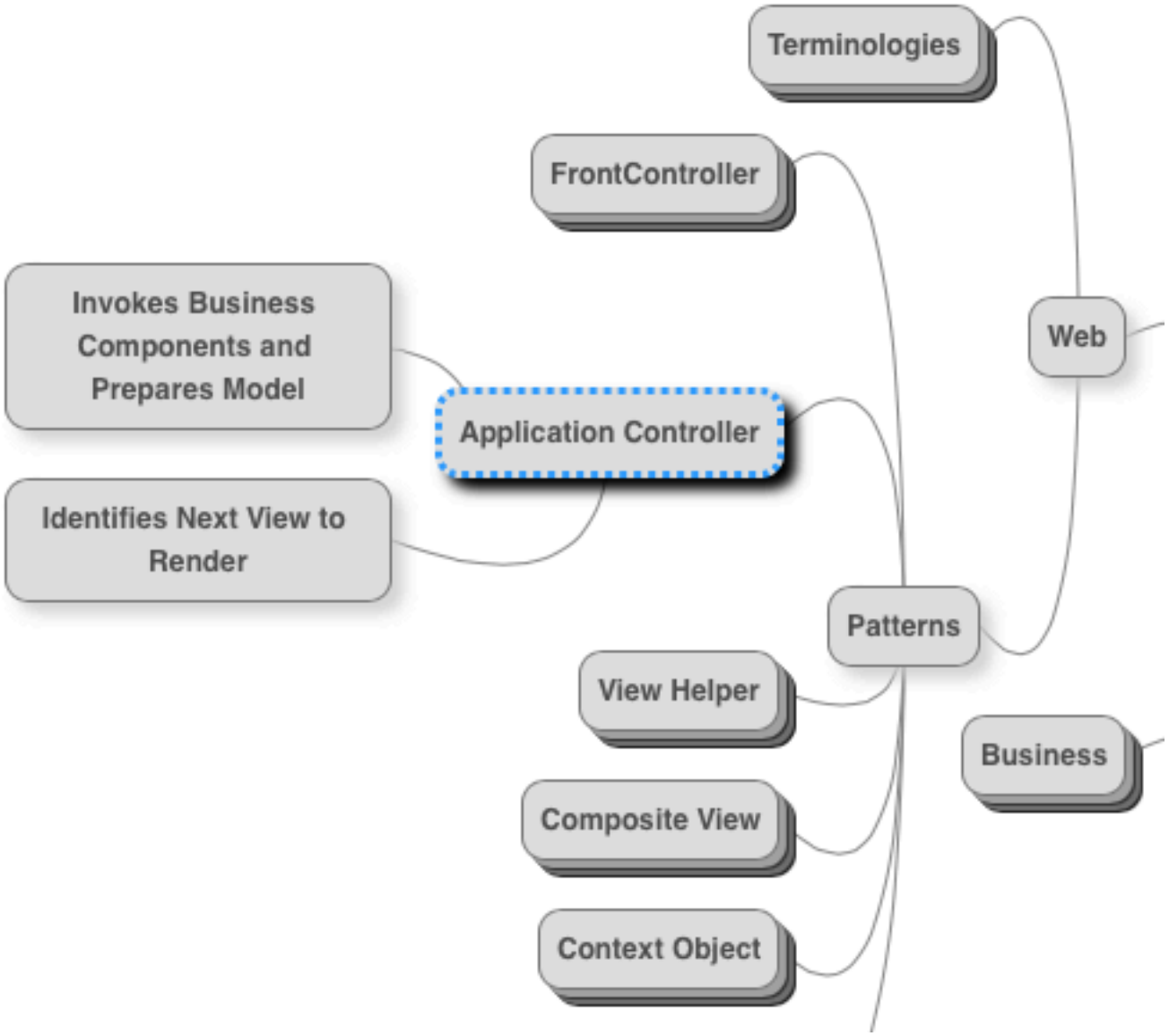
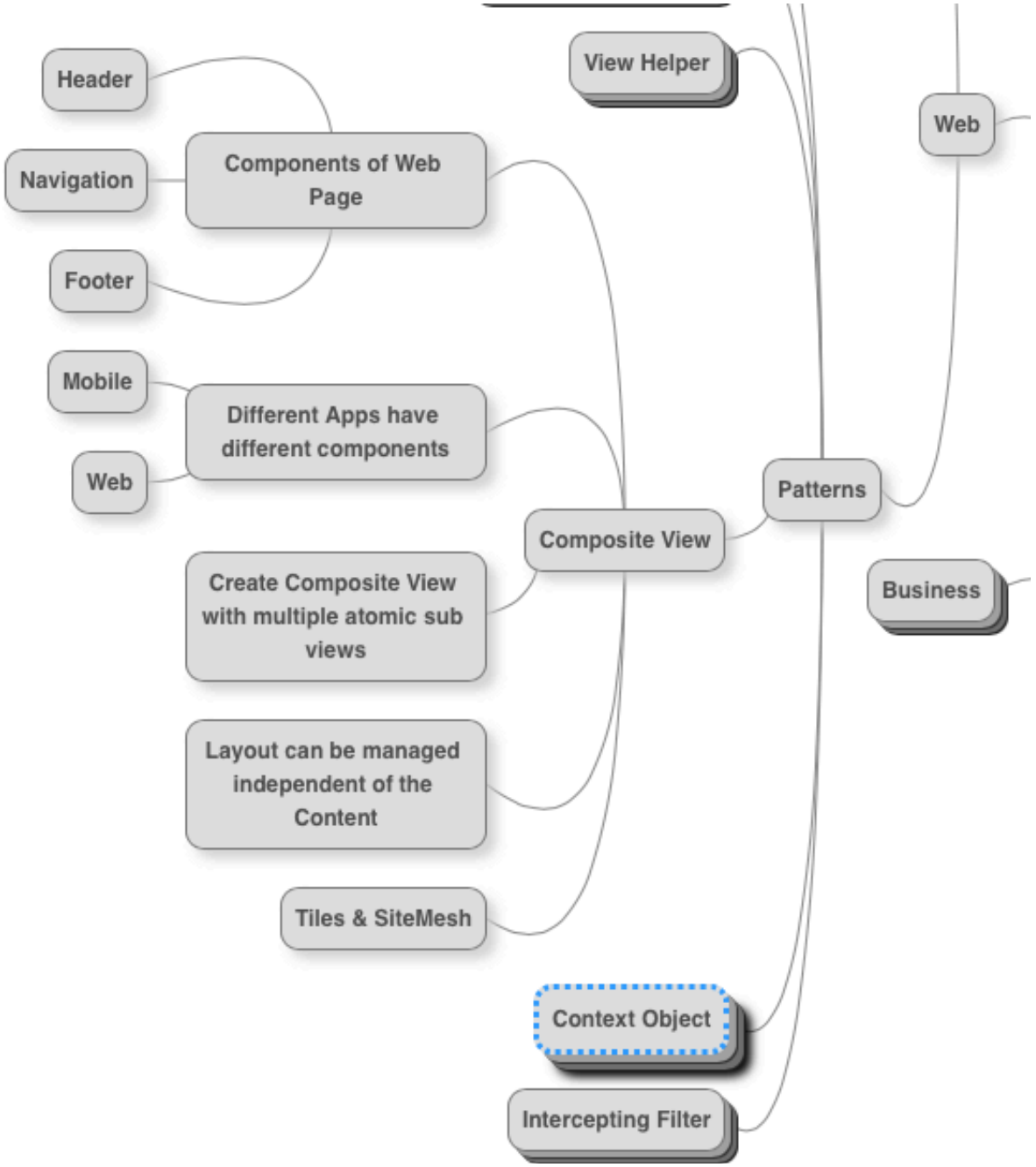
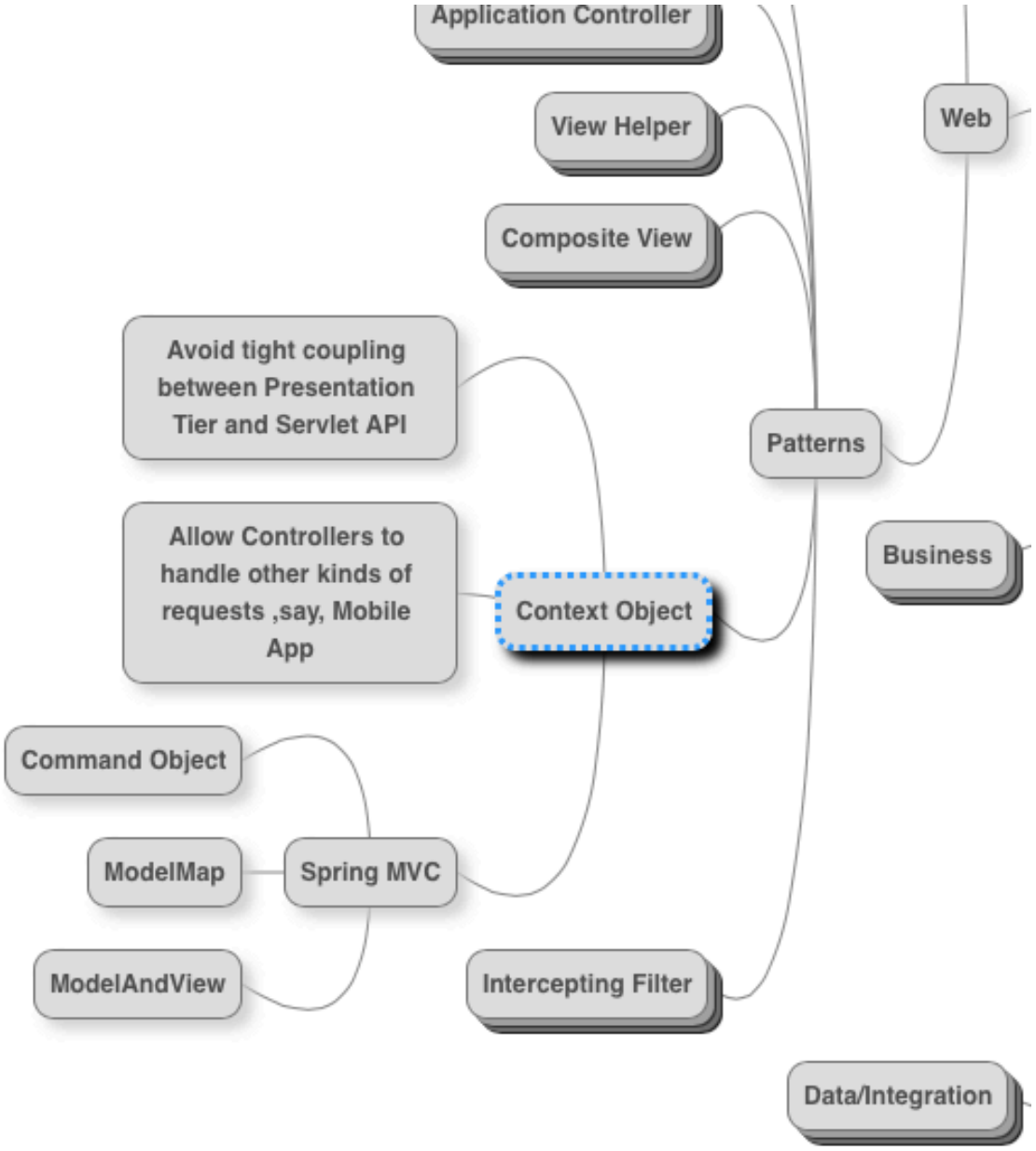
View Helper
Composite View
Context Object
Intercepting Filter

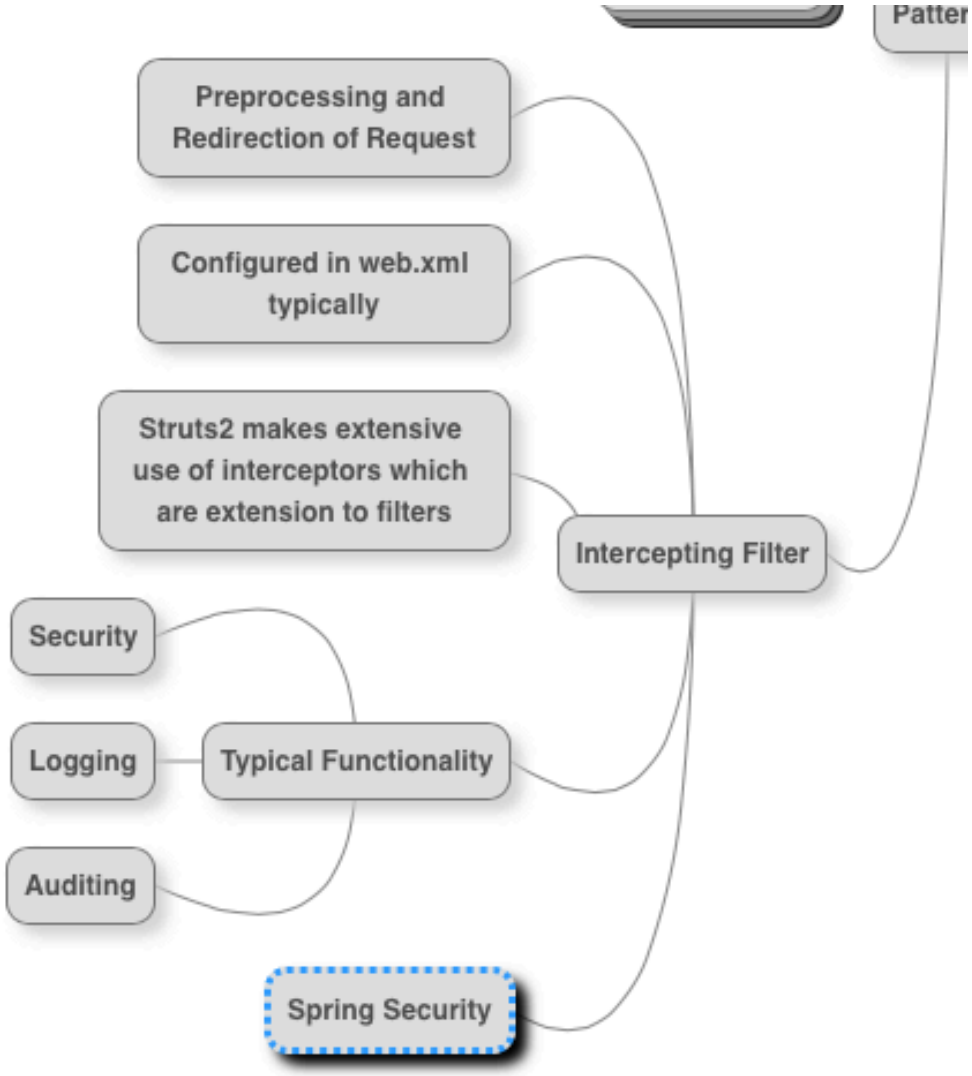

DispatcherServlet
Spring MVC
Common Entry Point for all requests
FrontController
Terminologies
DataBinding
HandlerMapping
Features
ViewResolver
Web
Application Controller
Patterns
View Helper
Business
Composite View
Context Object

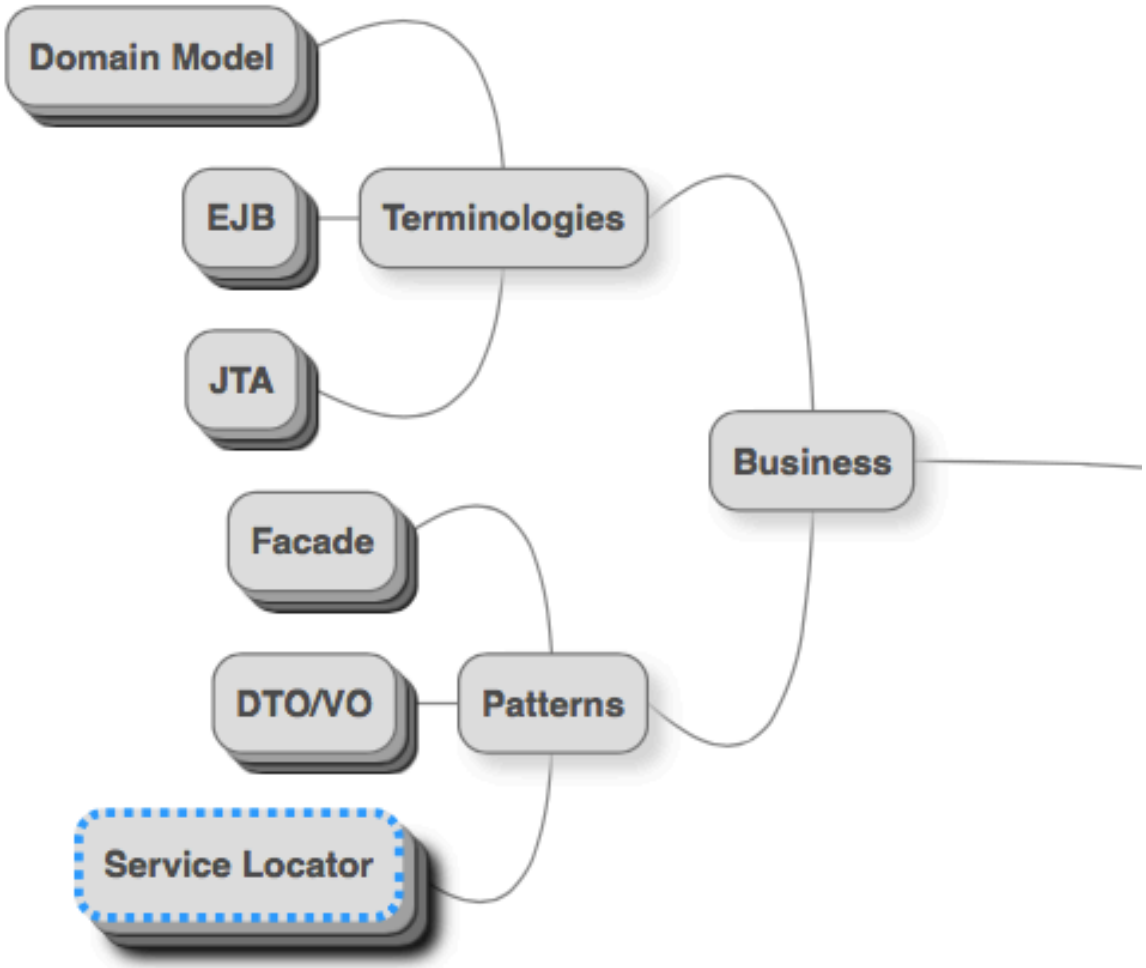

Terminologies
FrontController
Invokes Business Components and Prepares Model
Application Controller
Identifies Next View to Render
Web
Patterns
View Helper
Business
Composite View
Context Object

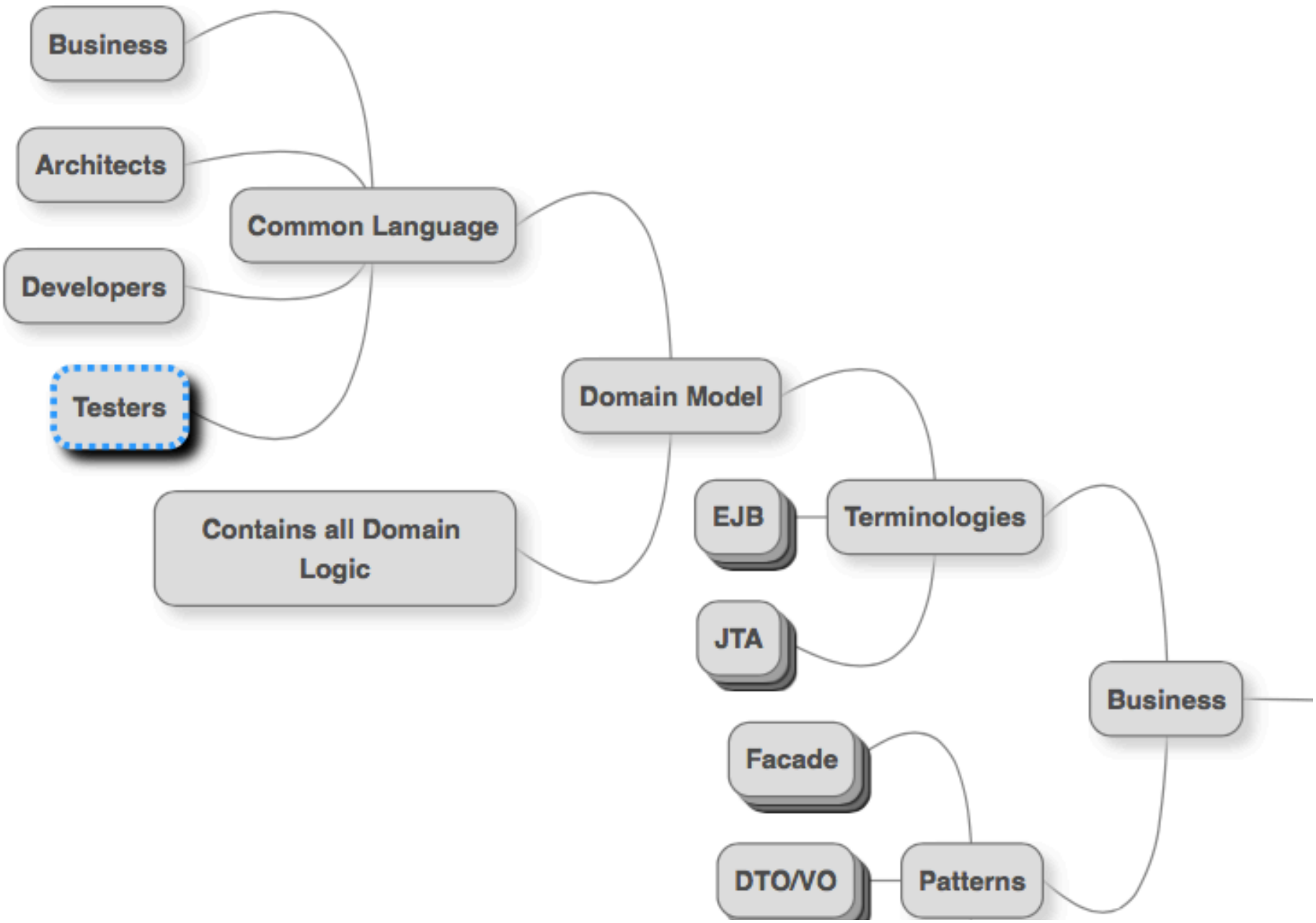
Terminologies
Form Binding
FrontController
Dates
Formatting
Application Controller
Currency
Web
View are Becoming More Complex
Display Items in a List
Form Validation
View Helper
Patterns
These are not really Business Logic
Business
JSTL
Tag Libraries
Types
Spring Tags
Composite View
Context Object

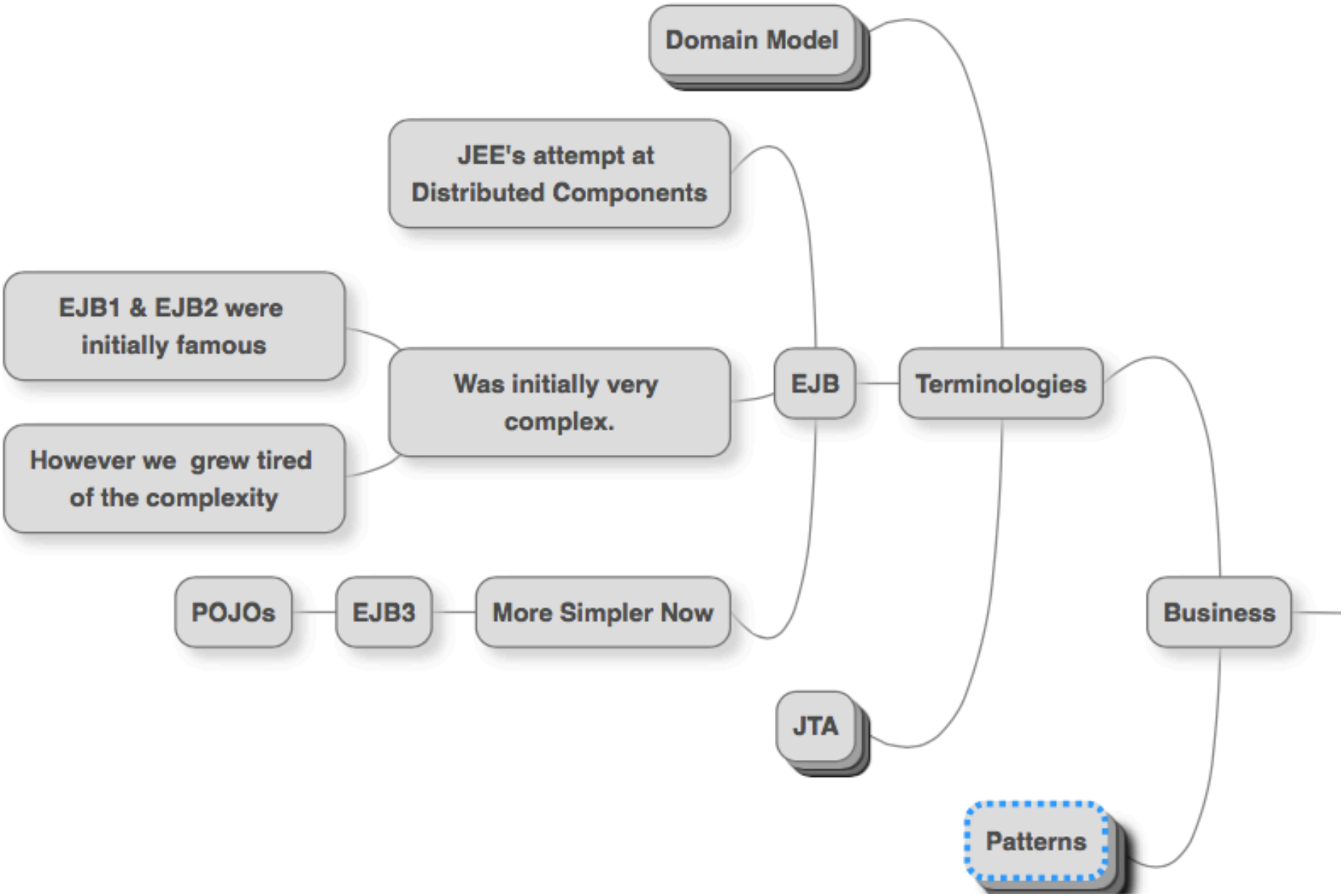

Header
Navigation
Footer
Components of Web Page
Mobile
Web
Different Apps have different components
Create Composite View with multiple atomic sub views
Layout can be managed independent of the Content
Tiles & SiteMesh
Composite View
View Helper
Context Object
Intercepting Filter
Patterns
Web
Business

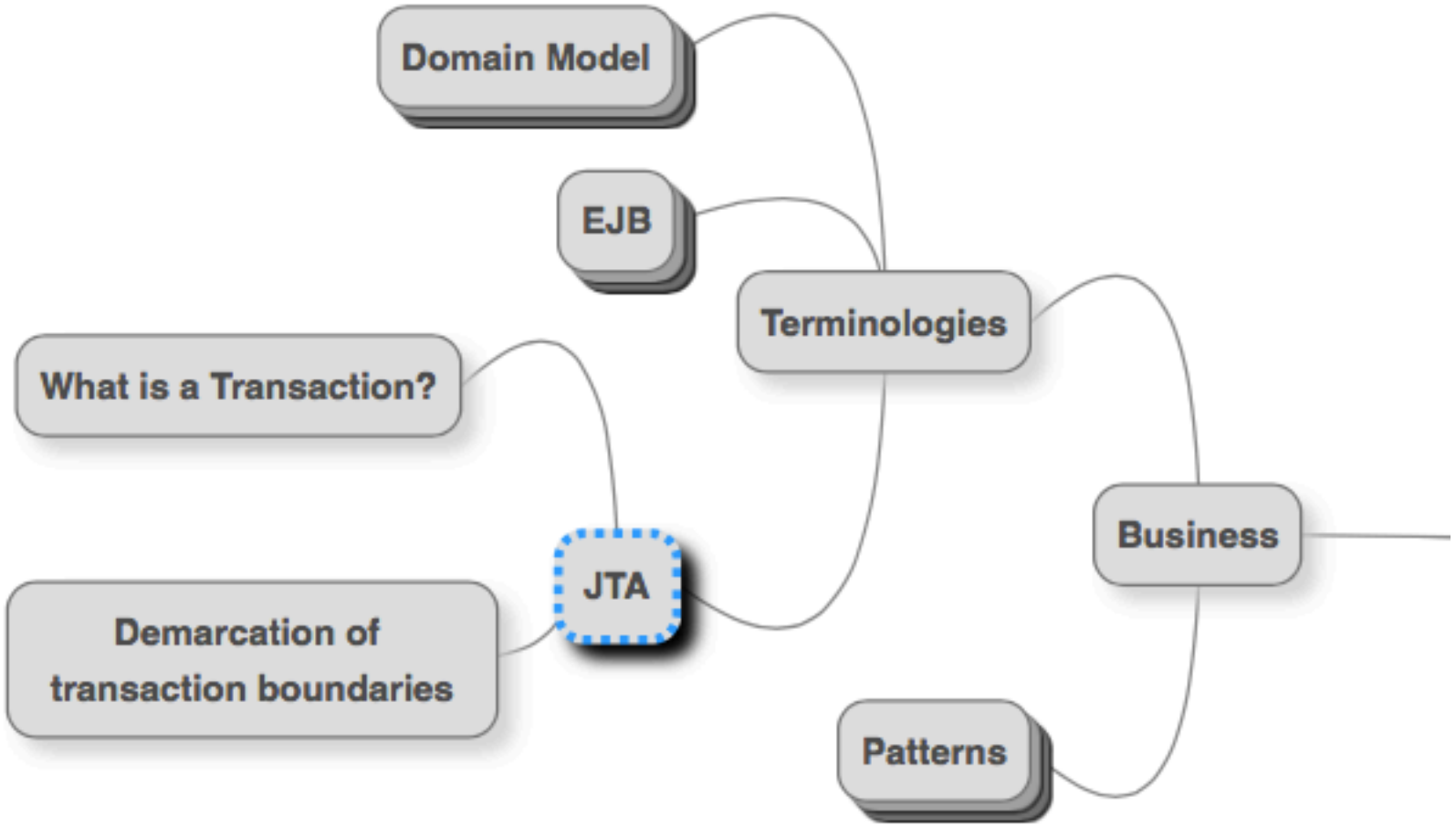

Application Controller
View Helper
Web
Composite View
Avoid tight coupling between Presentation Tier and Servlet API
Patterns
Allow Controllers to handle other kinds of requests ,say, Mobile App
Business
Context Object
Command Object
ModelMap
Spring MVC
ModelAndView
Intercepting Filter
Data/Integration

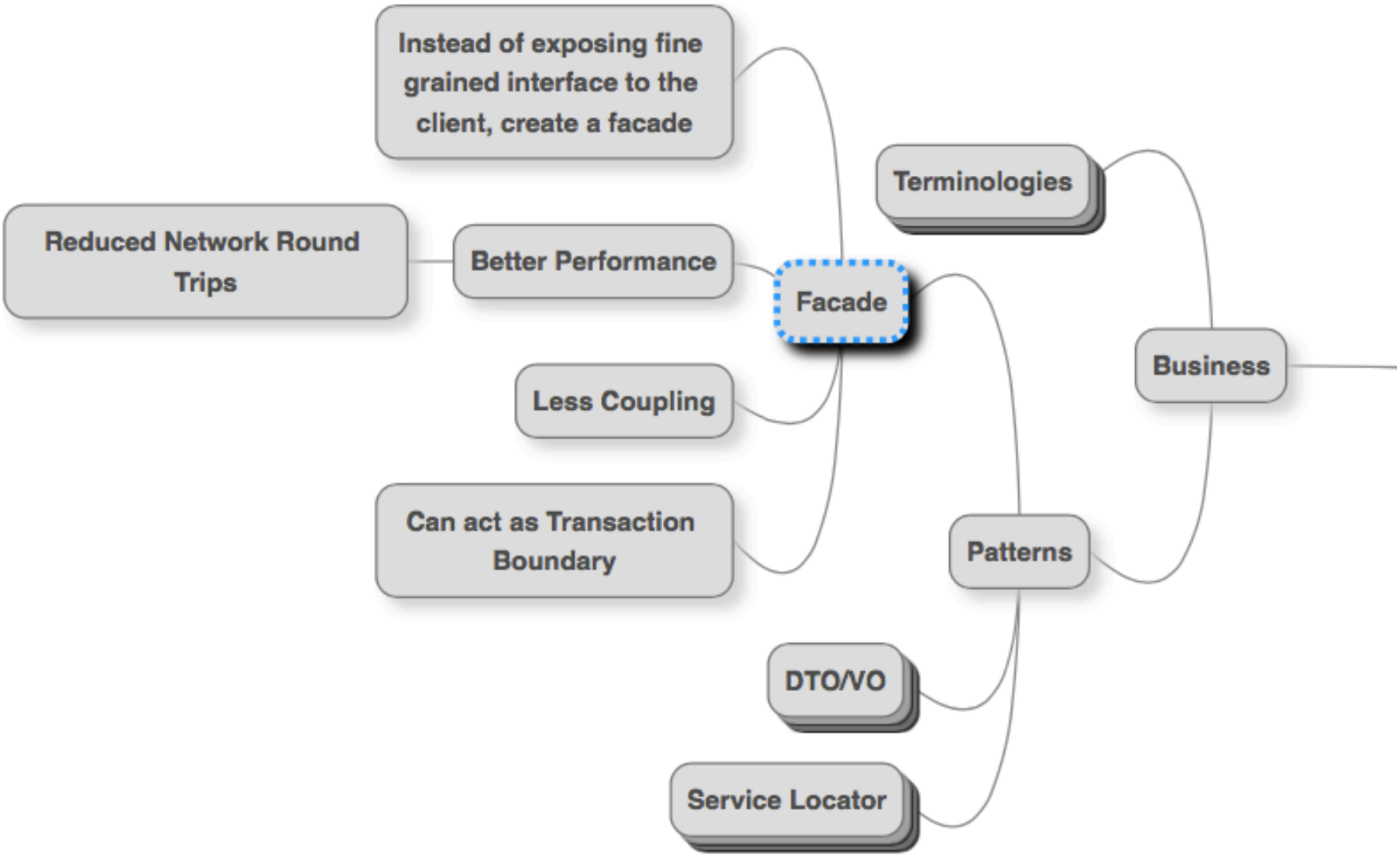

Patter
Preprocessing and Redirection of Request
Configured in web.xml typically
Struts2 makes extensive use of interceptors which are extension to filters
Intercepting Filter
Security
Logging
Typical Functionality
Auditing
Spring Security

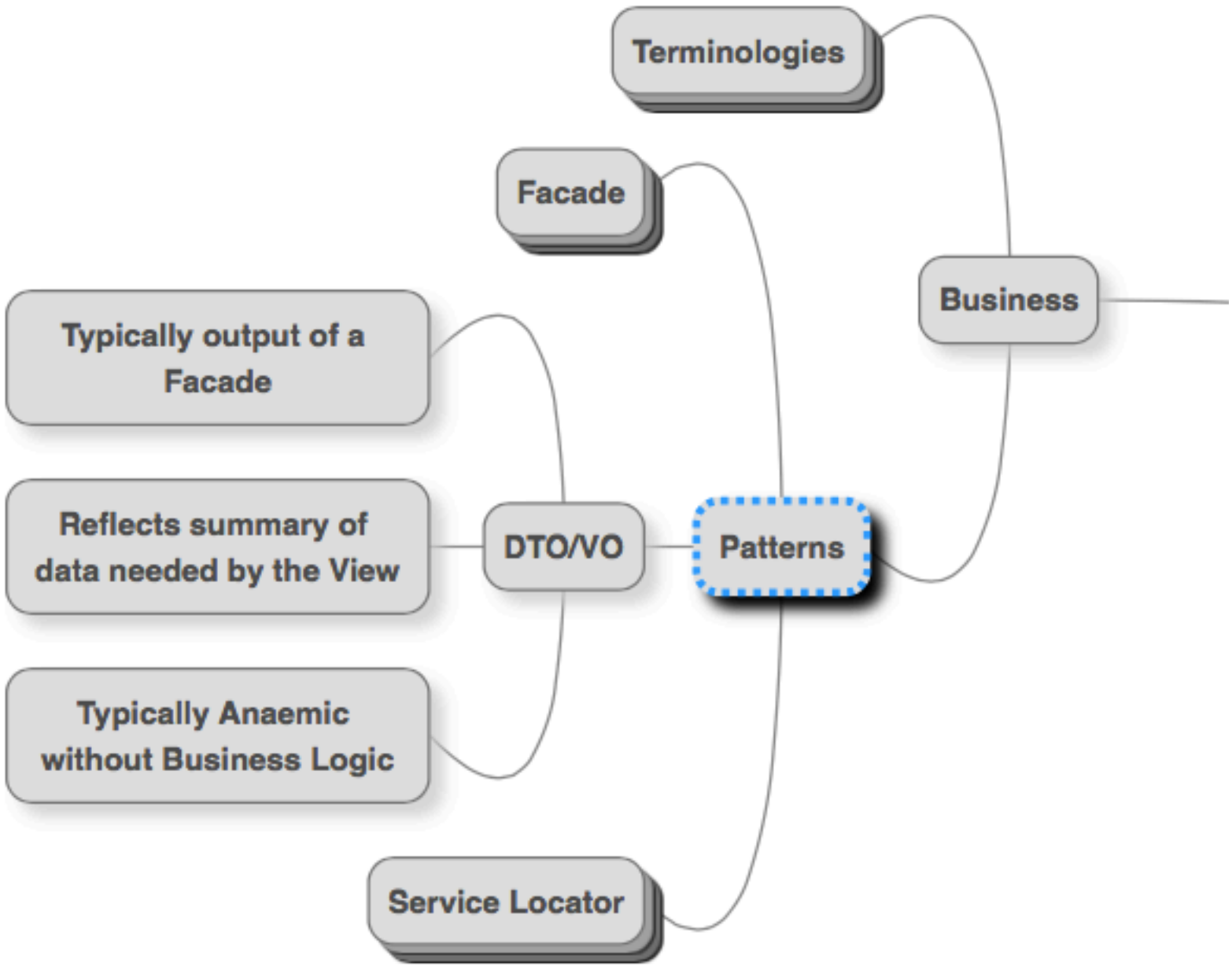

Domain Model
EJB
Terminologies
JTA
Business
Facade
DTO/VO
Patterns
Service Locator

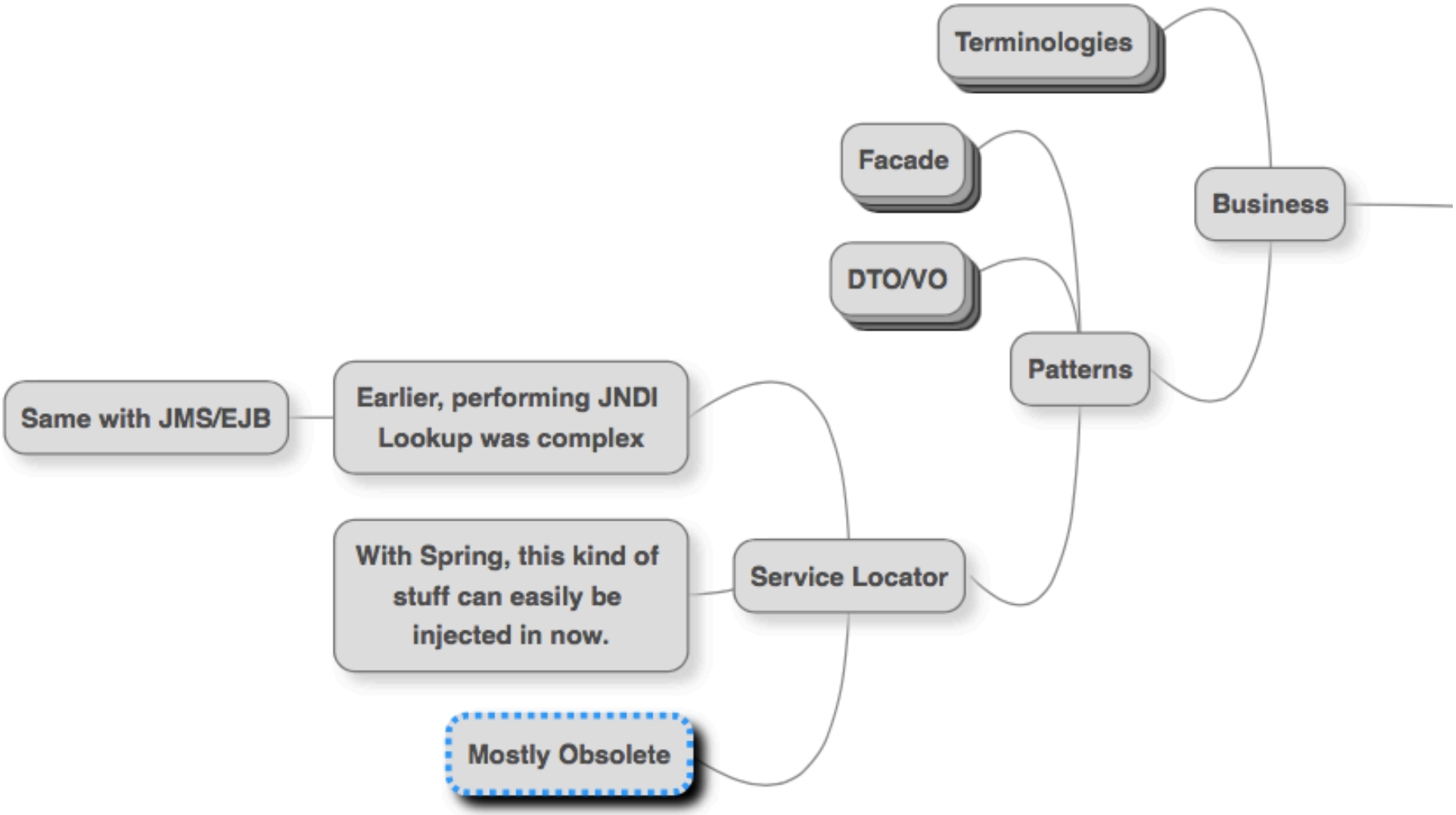

Business
Architects
Developers
Testers
Common Language
Contains all Domain Logic
Domain Model
EJB
Terminologies
JTA
Business
Facade
DTO/VO
Patterns

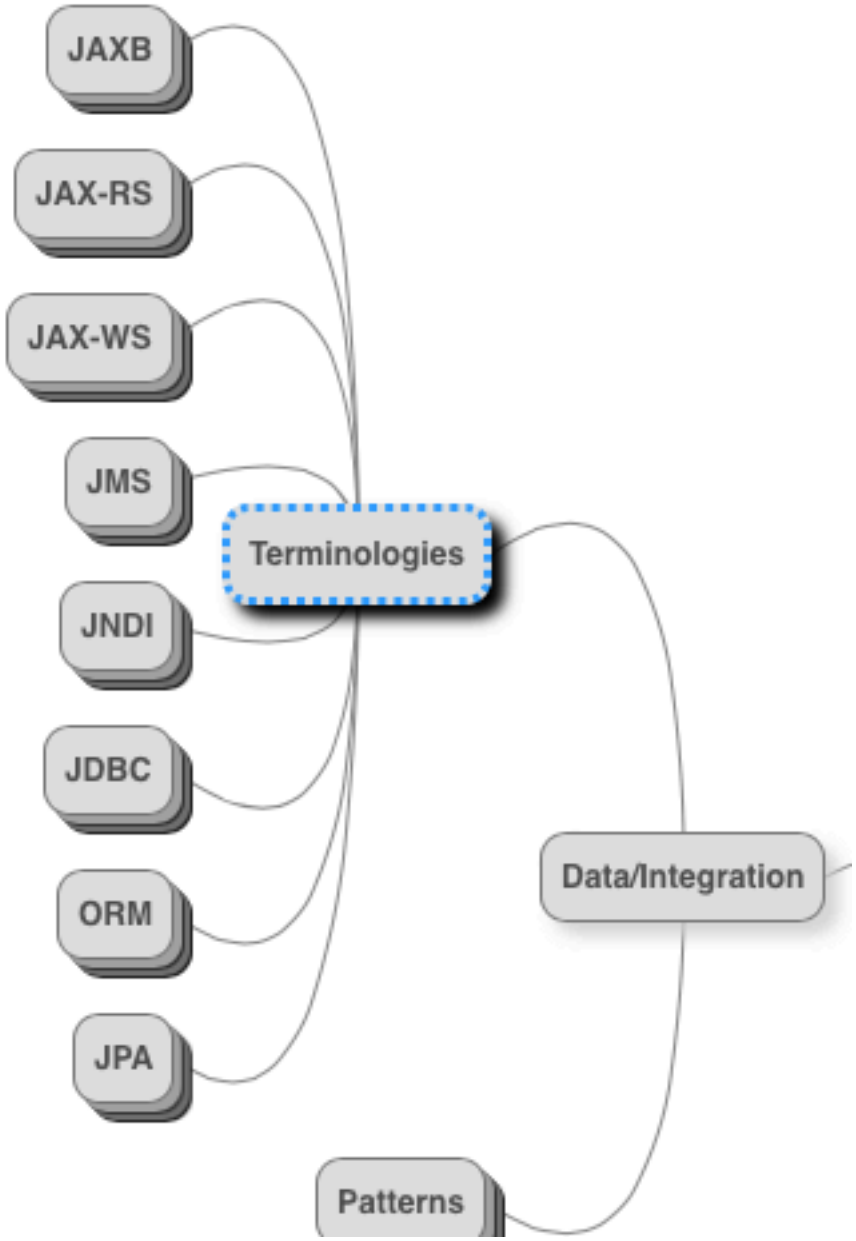

Domain Model
JEE's attempt at Distributed Components
EJB1 & EJB2 were initially famous
Was initially very complex.
However we grew tired of the complexity
EJB
Terminologies
POJOs
EJB3
More Simpler Now
Business
JTA
Patterns

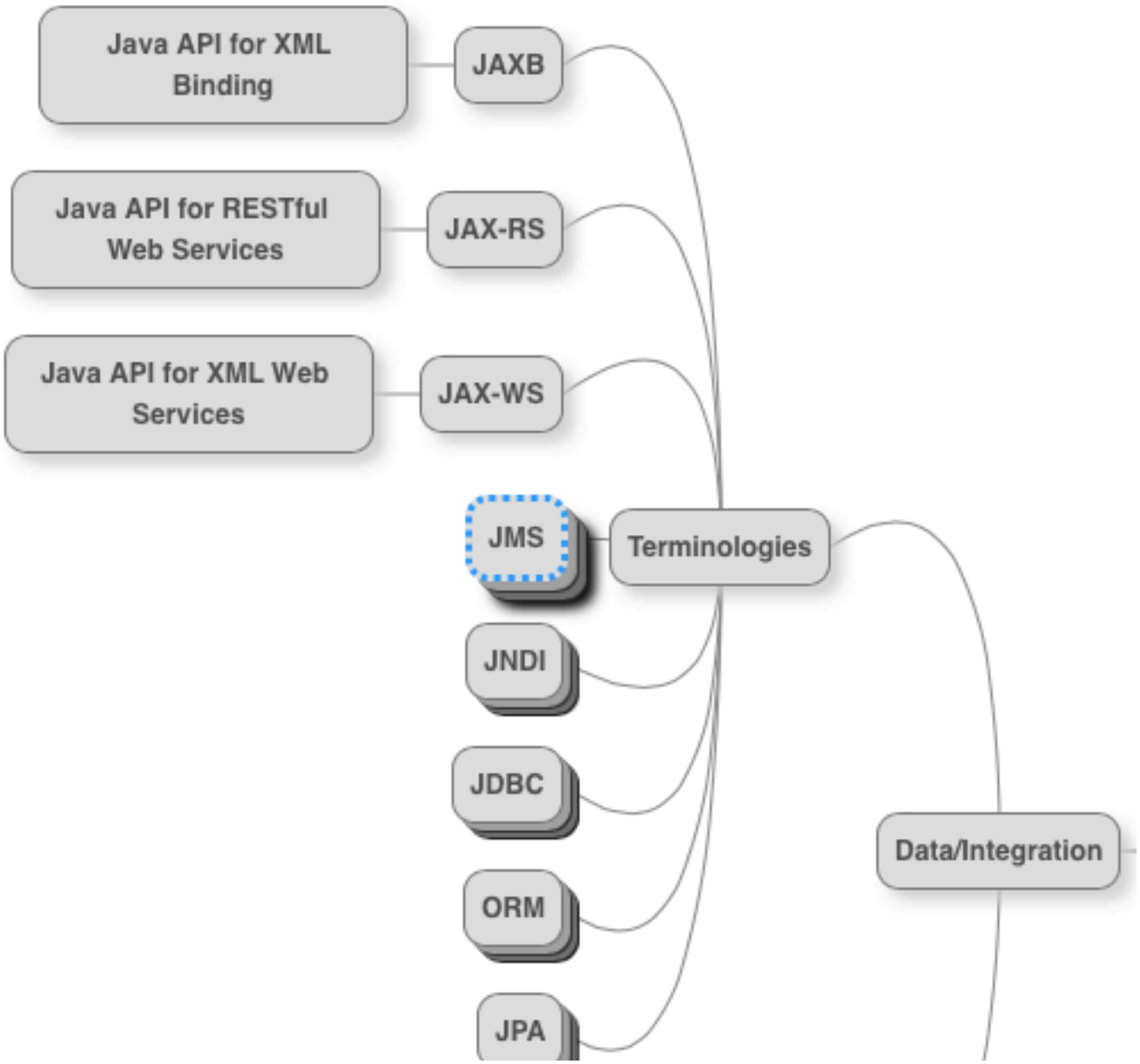

Domain Model
EJB
Terminologies
What is a Transaction?
Business
JTA
Demarcation of transaction boundaries
Patterns

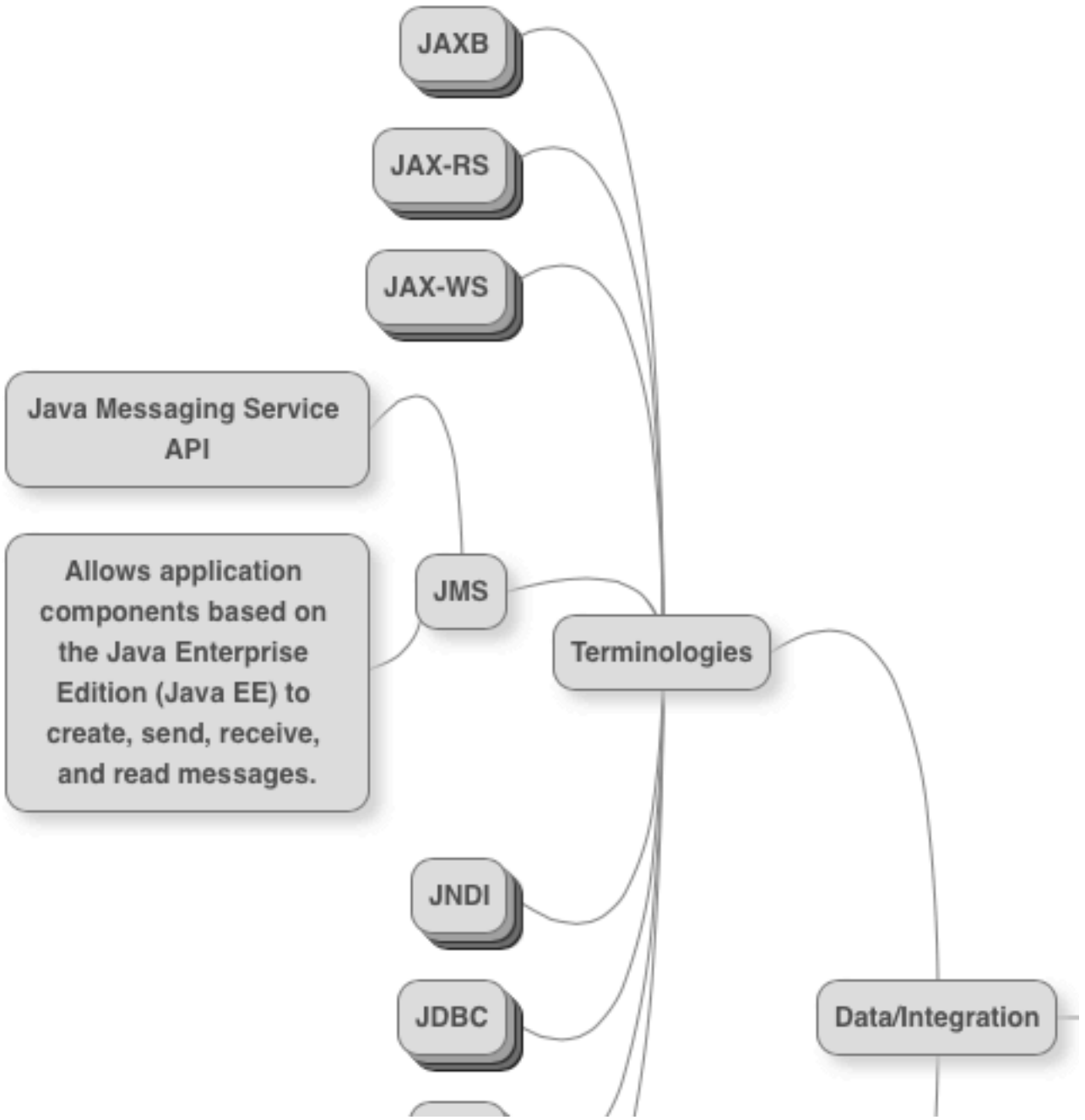

Instead of exposing fine grained interface to the client, create a facade
Terminologies
Reduced Network Round Trips
Better Performance
Facade
Business
Less Coupling
Can act as Transaction Boundary
Patterns
DTO/VO
Service Locator

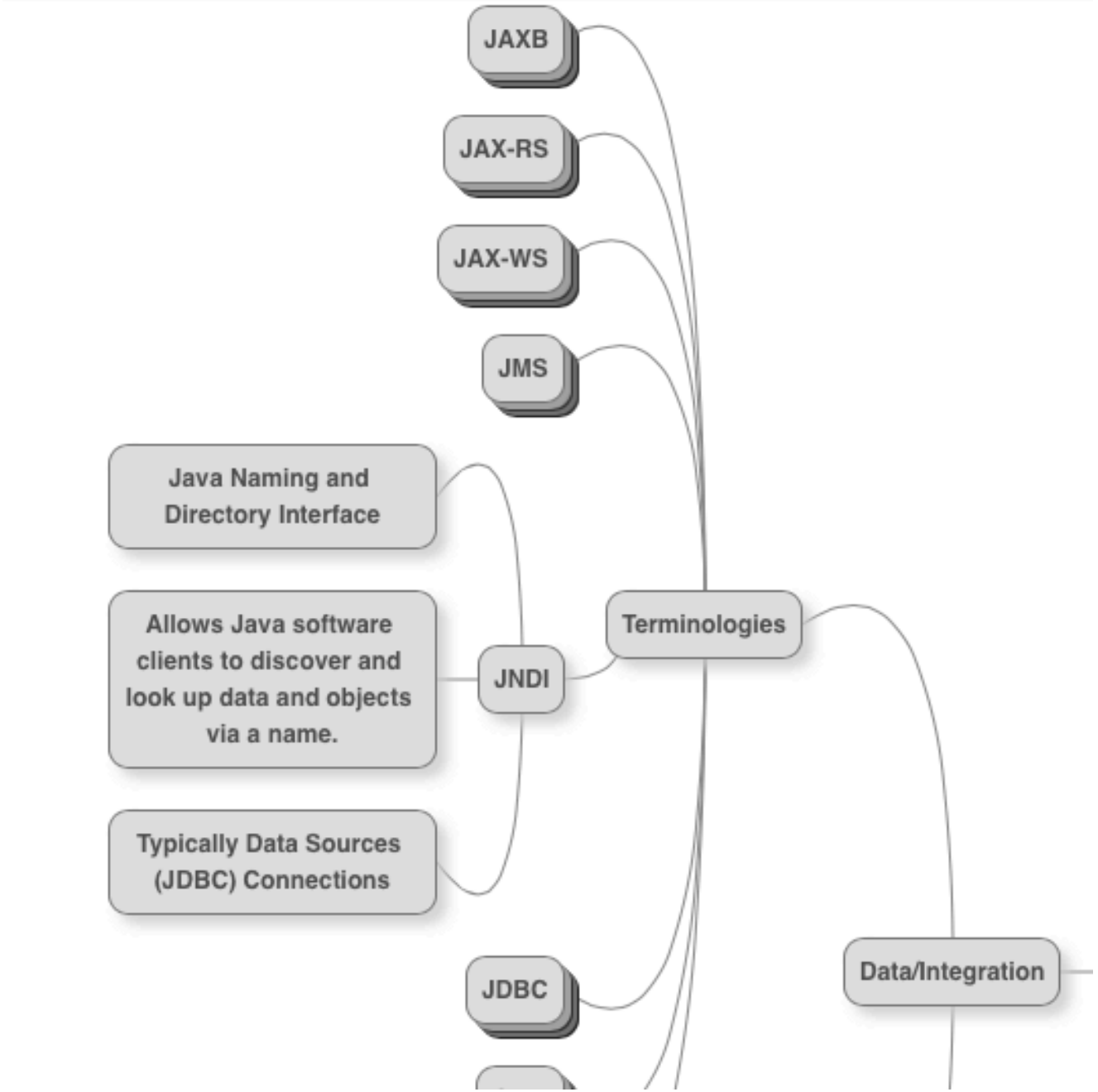

Terminologies
Facade
Business
Typically output of a Facade
Reflects summary of data needed by the View
DTO/VO
Patterns
Typically Anaemic without Business Logic
Service Locator

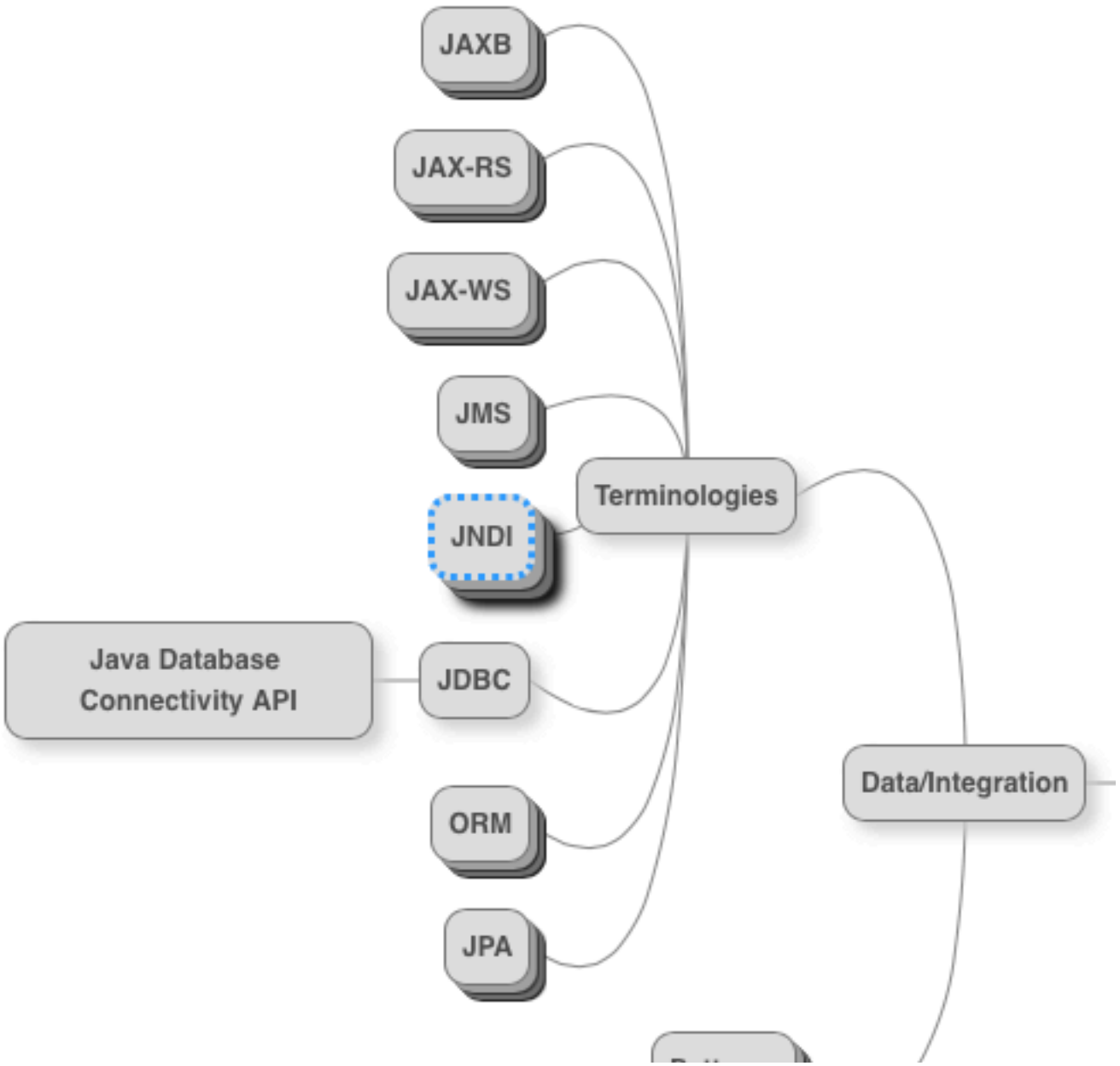

Terminologies
Facade
Business
DTO/VO
Patterns
Same with JMS/EJB
Earlier, performing JNDI Lookup was complex
With Spring, this kind of stuff can easily be injected in now.
Service Locator
Mostly Obsolete

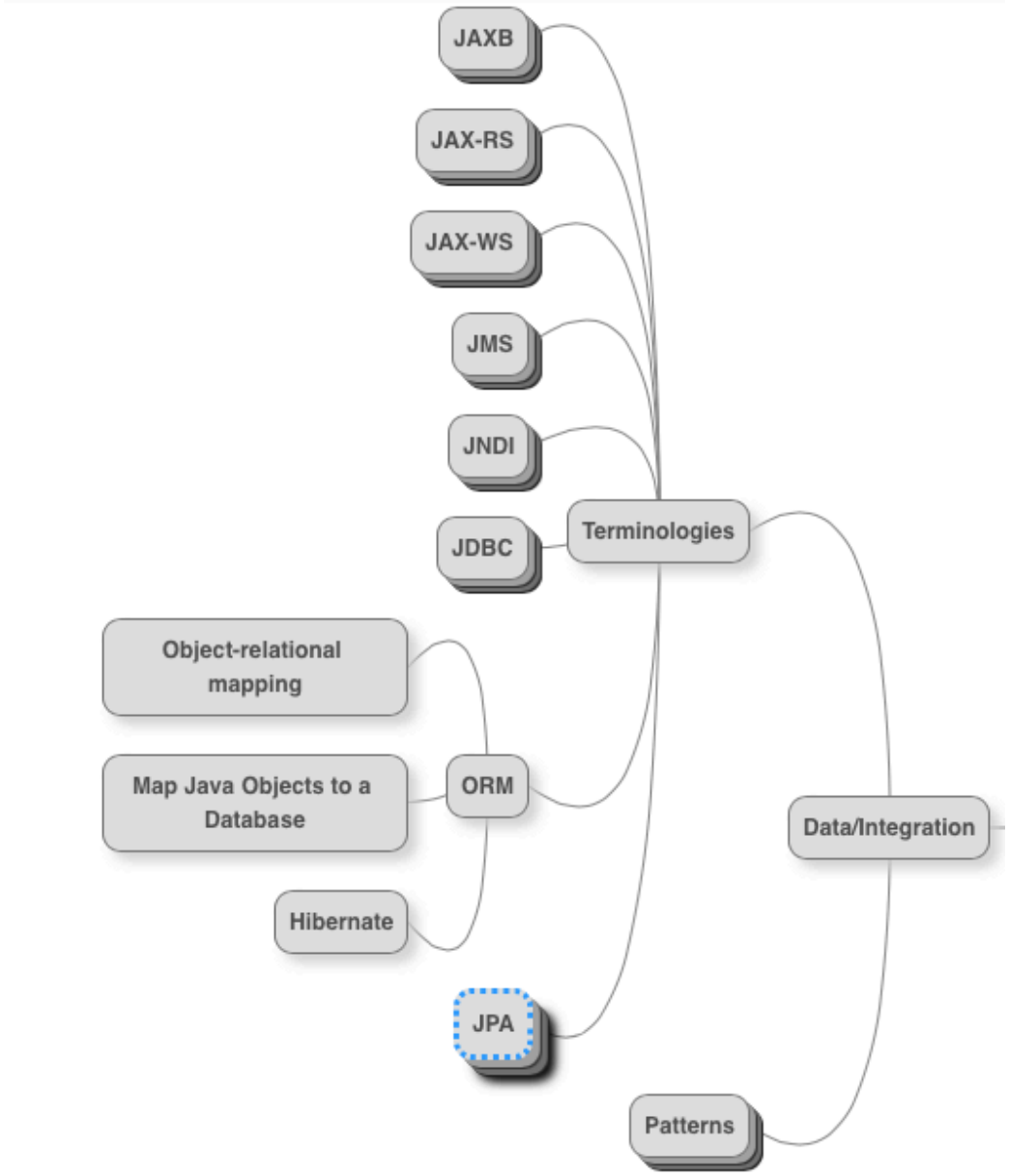

JAXB
JAX-RS
JAX-WS
JMS
Terminologies
JNDI
JDBC
ORM
JPA
Data/Integration
Patterns

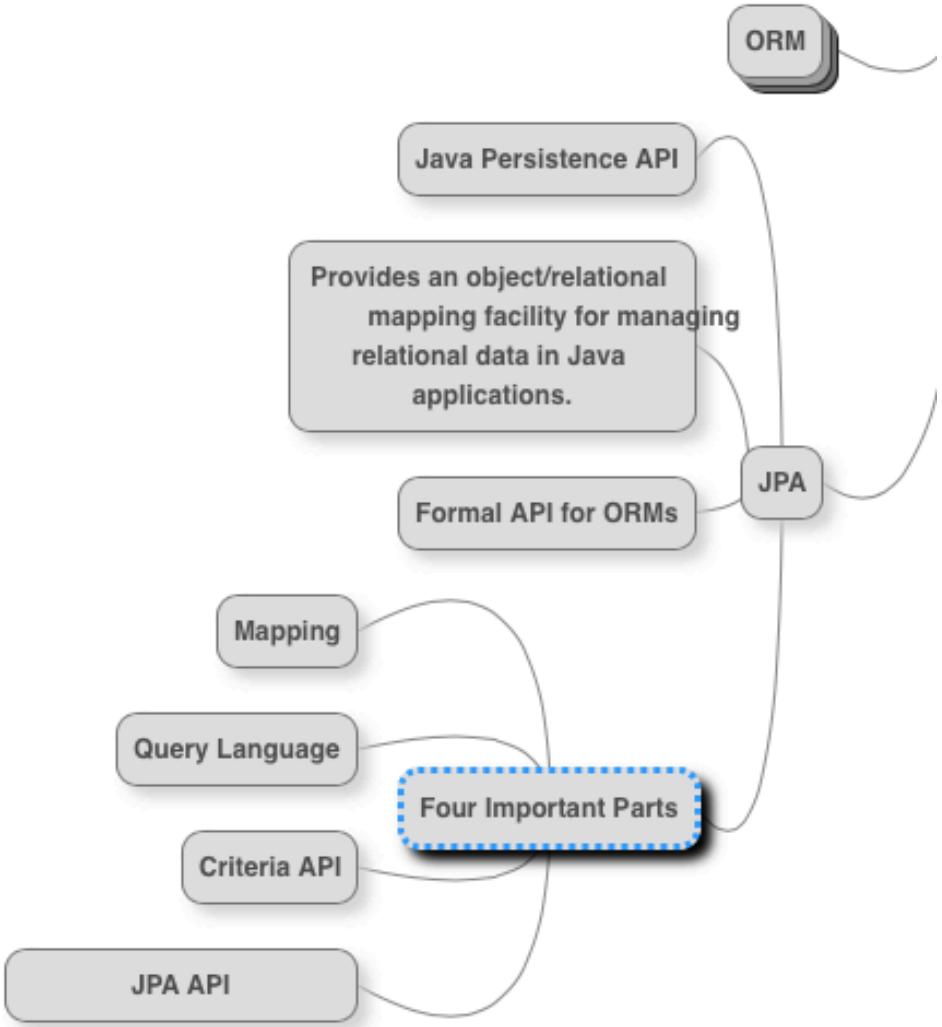

Java API for XML Binding
JAXB
Java API for RESTful Web Services
JAX-RS
Java API for XML Web Services
JAX-WS
JMS
Terminologies
JNDI
JDBC
ORM
JPA
Data/Integration

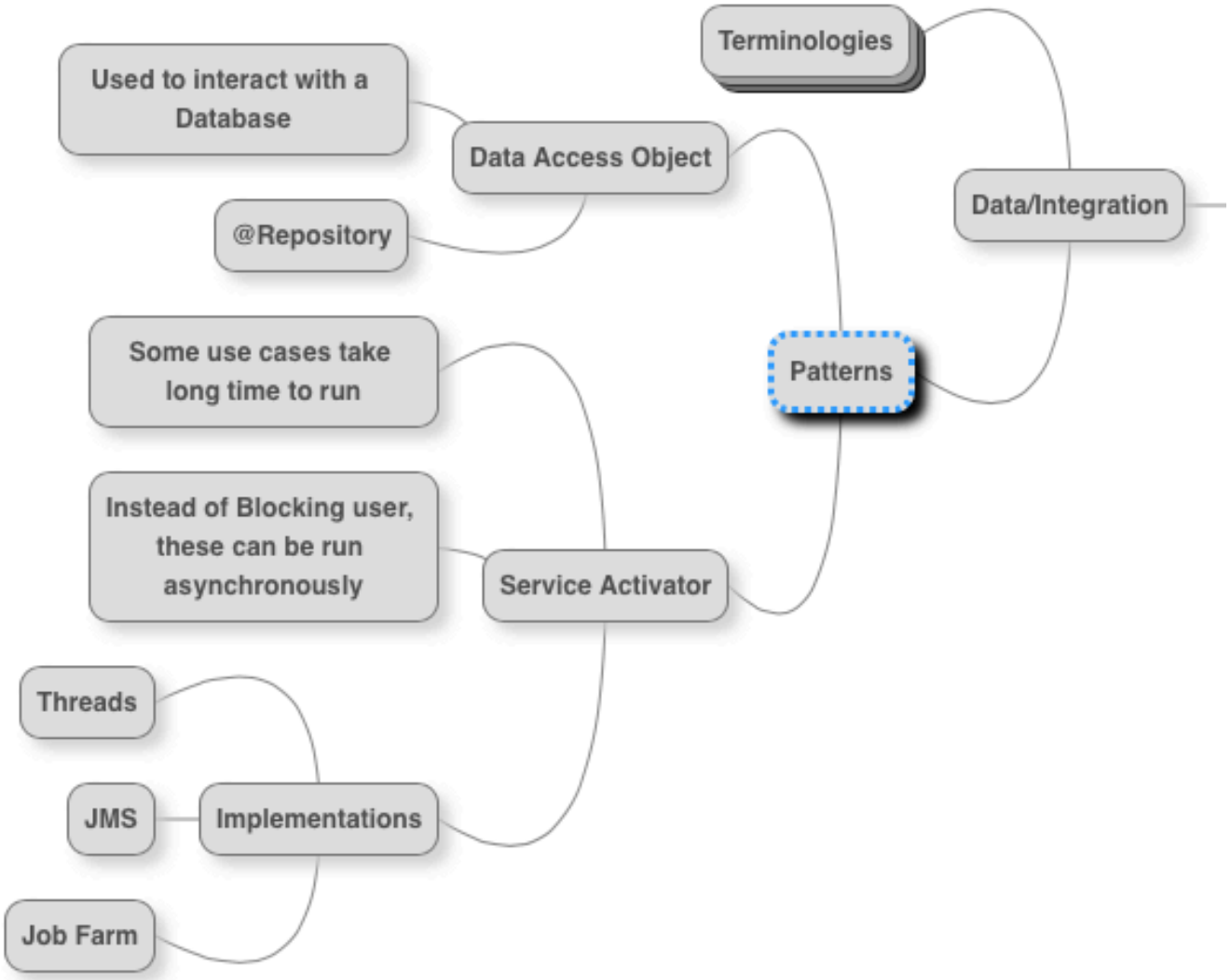

JAXB
JAX-RS
JAX-WS
Java Messaging Service API
Allows application components based on the Java Enterprise Edition (Java EE) to create, send, receive, and read messages.
JMS
Terminologies
JNDI
JDBC
Data/Integration

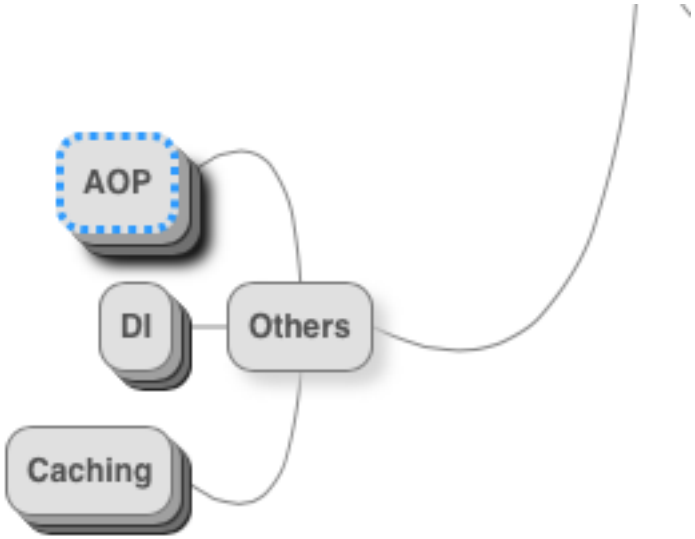

JAXB
JAX-RS
JAX-WS
JMS
Java Naming and Directory Interface
Allows Java software clients to discover and look up data and objects via a name.
Typically Data Sources (JDBC) Connections
JNDI
Terminologies
JDBC
Data/Integration

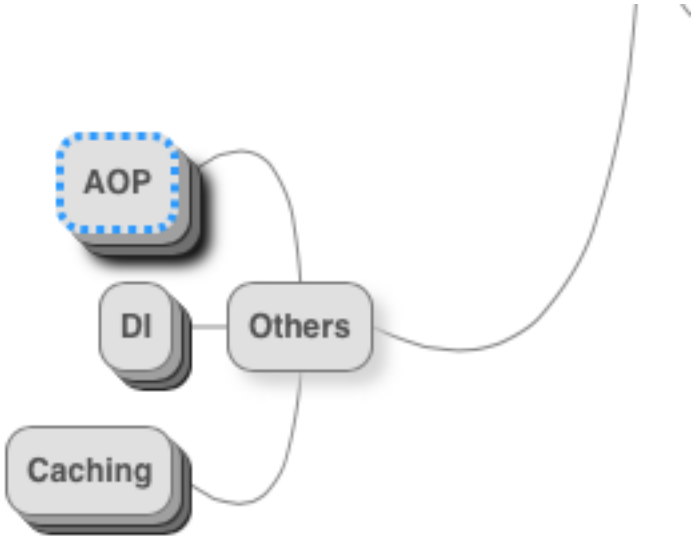

JAXB
JAX-RS
JAX-WS
JMS
JNDI
Terminologies
Java Database
Connectivity API
JDBC
ORM
JPA
Data/Integration


JAXB
JAX-RS
JAX-WS
JMS
JNDI
JDBC
Terminologies
Object-relational mapping
Map Java Objects to a Database
ORM
Hibernate
JPA
Data/Integration
Patterns


ORM
Java Persistence API
Provides an object/relational mapping facility for managing relational data in Java applications.
JPA
Formal API for ORMs
Mapping
Query Language
Four Important Parts
Criteria API
JPA API


Terminologies
Used to interact with a Database
Data Access Object
Data/Integration
@Repository
Some use cases take long time to run
Patterns
Instead of Blocking user, these can be run asynchronously
Service Activator
Threads
JMS
Implementations
Job Farm


AOP
DI
Others
Caching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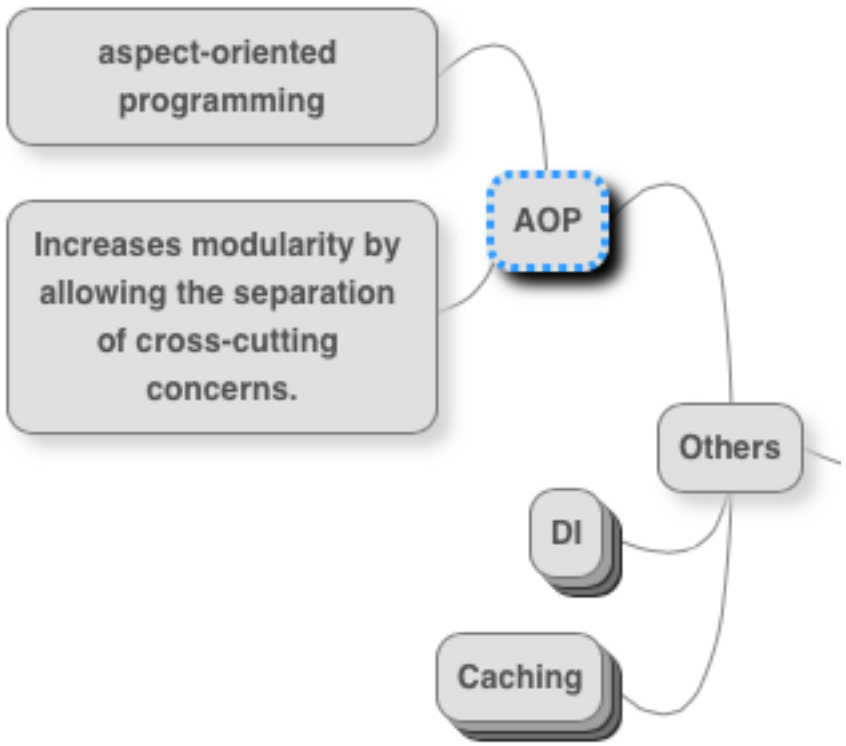
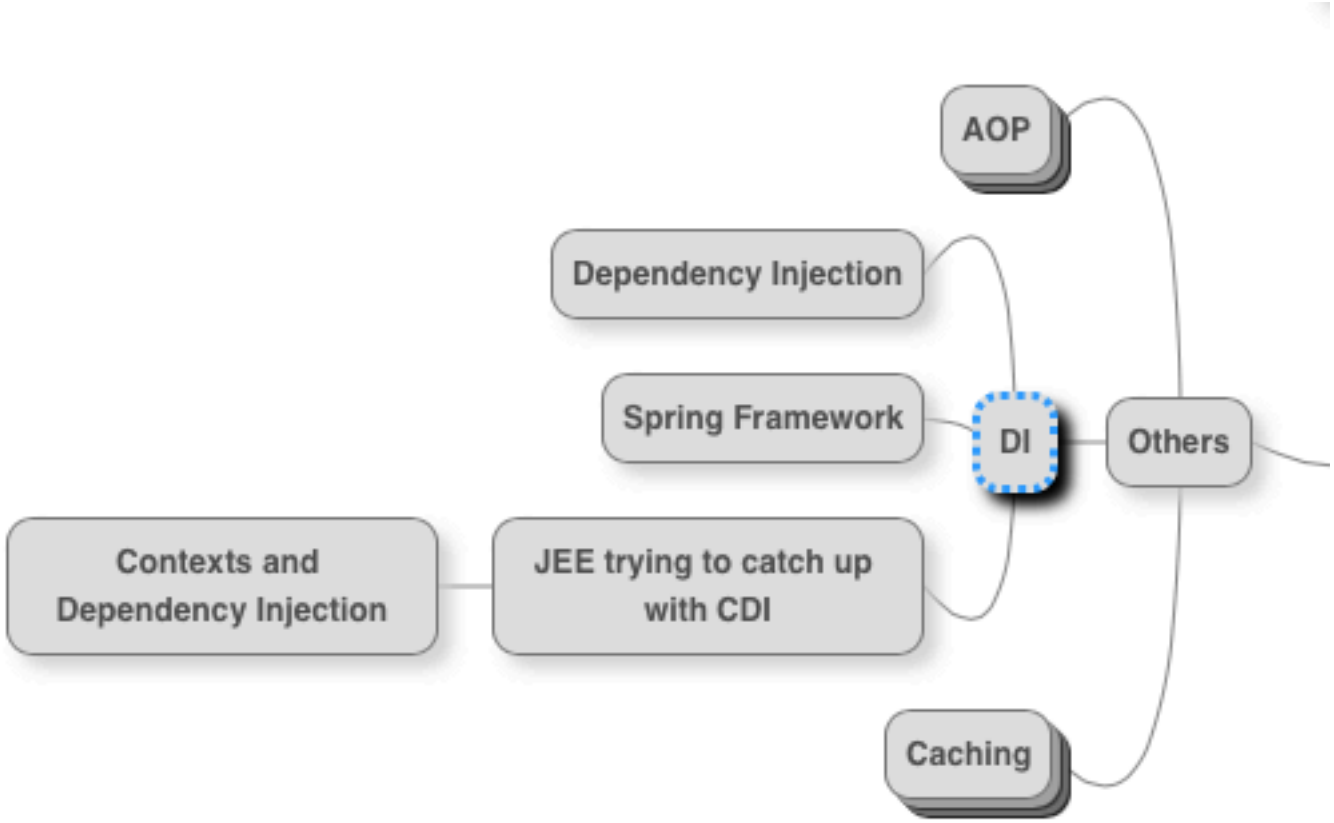
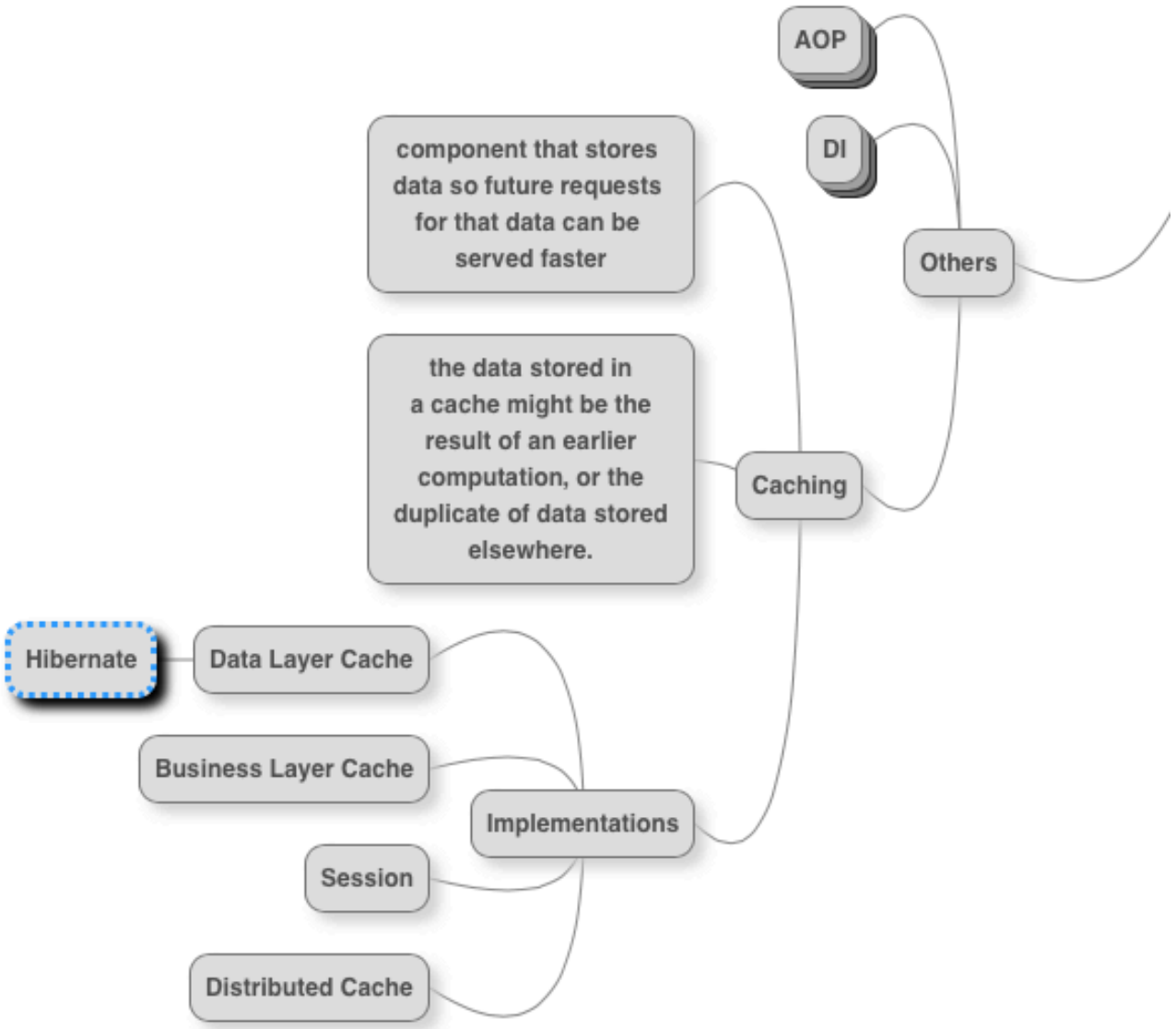

aspect-oriented programming
Increases modularity by allowing the separation of cross-cutting concerns.
AOP
Others
DI
Caching


AOP
Dependency Injection
Spring Framework
DI
Others
Contexts and Dependency Injection
JEE trying to catch up with CDI
Caching


AOP
DI
Others
component that stores data so future requests for that data can be served faster
the data stored in a cache might be the result of an earlier computation, or the duplicate of data stored elsewhere.
Caching
Hibernate
Data Layer Cache
Business Layer Cache
Implementations
Session
Distributed Cache

About in28Minutes

- At in28Minutes, we ask ourselves one question everyday. How do we help you learn effectively - that is more quickly and retain more of what you have learnt?
- We use Problem-Solution based Step-By-Step Hands-on Approach With Practical, Real World Application Examples.
- Our success on Udemy and Youtube (2 Million Views & 12K Subscribers) speaks volumes about the success of our approach.
- While our primary expertise is on Development, Design & Architecture Java & Related Frameworks (Spring, Struts, Hibernate) we are expanding into the front-end world (Bootstrap, JQuery, Angular JS).

Our Beliefs

- Best Courses are interactive and fun.
- Foundations for building high quality applications are best laid down while learning.

Our Approach

- Problem Solution based Step by Step Hands-on Learning
- Practical, Real World Application Examples.
- We use 80-20 Rule. We discuss 20% things used 80% of time in depth. We touch upon other things briefly equipping you with enough knowledge to find out more on your own.
- We will be developing a demo application in the course, which could be reused in your projects, saving hours of your effort.
- We love open source and therefore, All our code is open source too and available on Github.

Useful Links

- Our Website
- Youtube Courses
- Udemy Courses
- Facebook
- Twitter
- Google Plus

Other Courses

- Spring Framework
- Maven
- Eclipse
- Java
  - Java
  - Java Collections
  - Java OOPS Concepts
- Design Patterns
- JUnit
- C
- C Puzzles
- Javascript
- More Courses on Udemy
  - Java Servlets and JSP : Your first web application in 25 Steps
  - Learn Spring MVC in 25 Steps
  - Learn Struts in 25 Steps
  - Learn Hibernate in 25 Steps
  - 10 Steps to Professional Java Developer