

## What is a pattern?

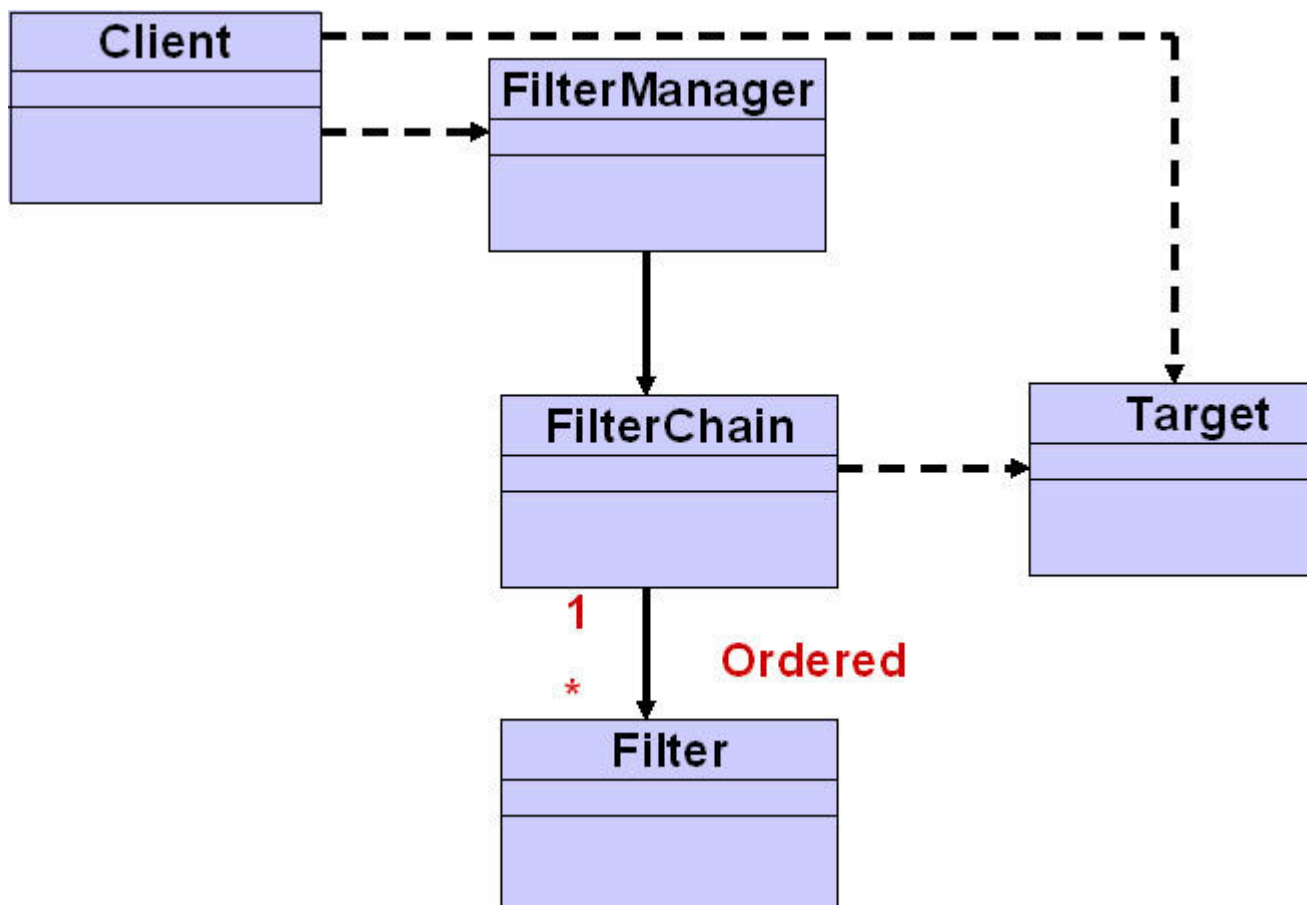
- A pattern enable us to document a known recurring problem and its solution in a particular context.
- Each pattern is a three-part rule, which expresses a relation between a certain context, a problem, and a solution.

## Common Characteristics of a Pattern

- Patterns prevent reinventing wheel
- Patterns are reusable artifacts.
- Patterns communicate design and best practices.
- Patterns are observed through experience.

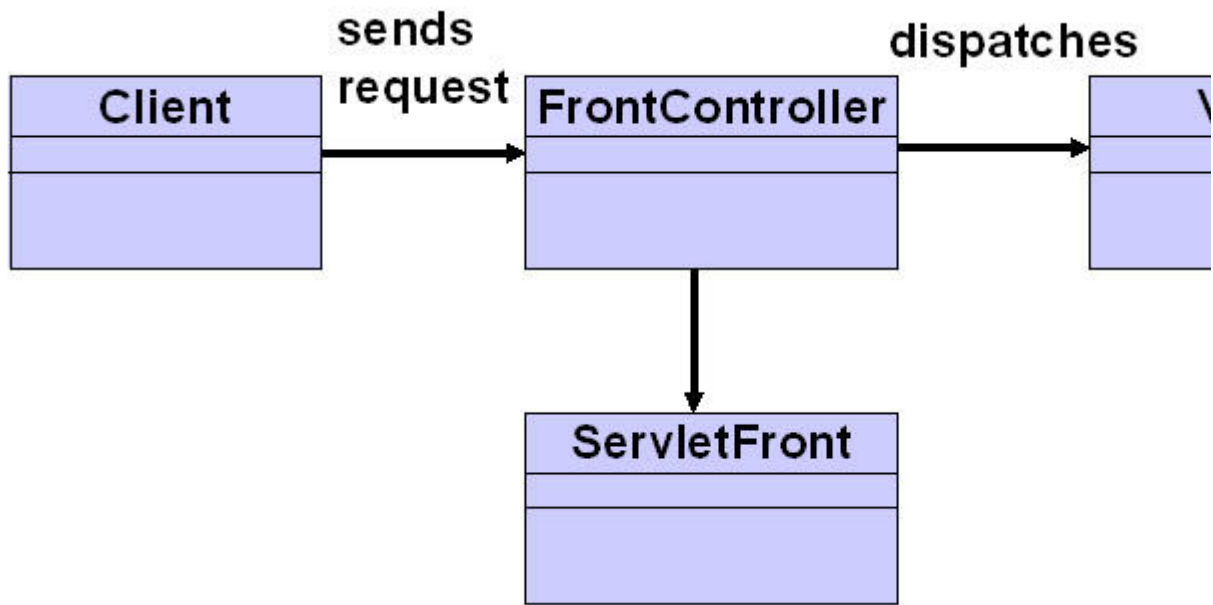
## Interception Filter

- We want to intercept and manipulate a request and a response before and after the request is processed.
- Centralized common processing
- Loosely coupled with core request process
- Examples logging, authentication, compression
- Components independent of each other



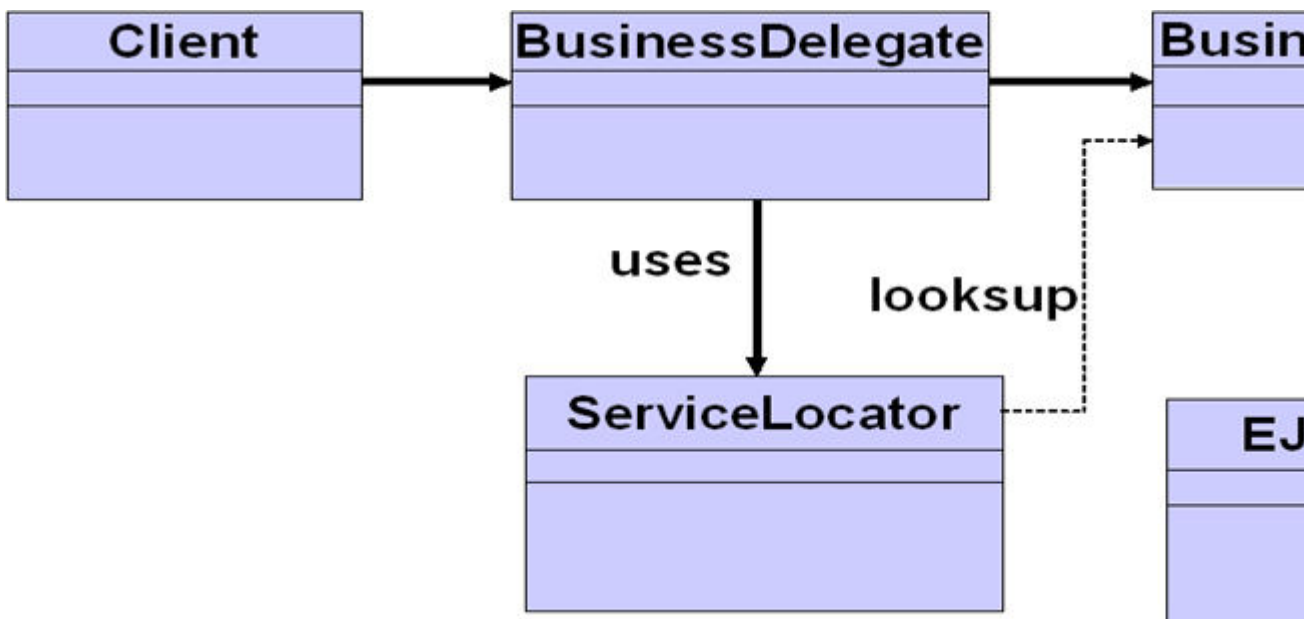
## Front Controller

- Used when we need a centralized access point for view selection and navigation.
- Centralizes control logic that might otherwise be duplicated.
- Authorization, logging etc. can be performed.
- Selection of view based on the type of client etc can be implemented.



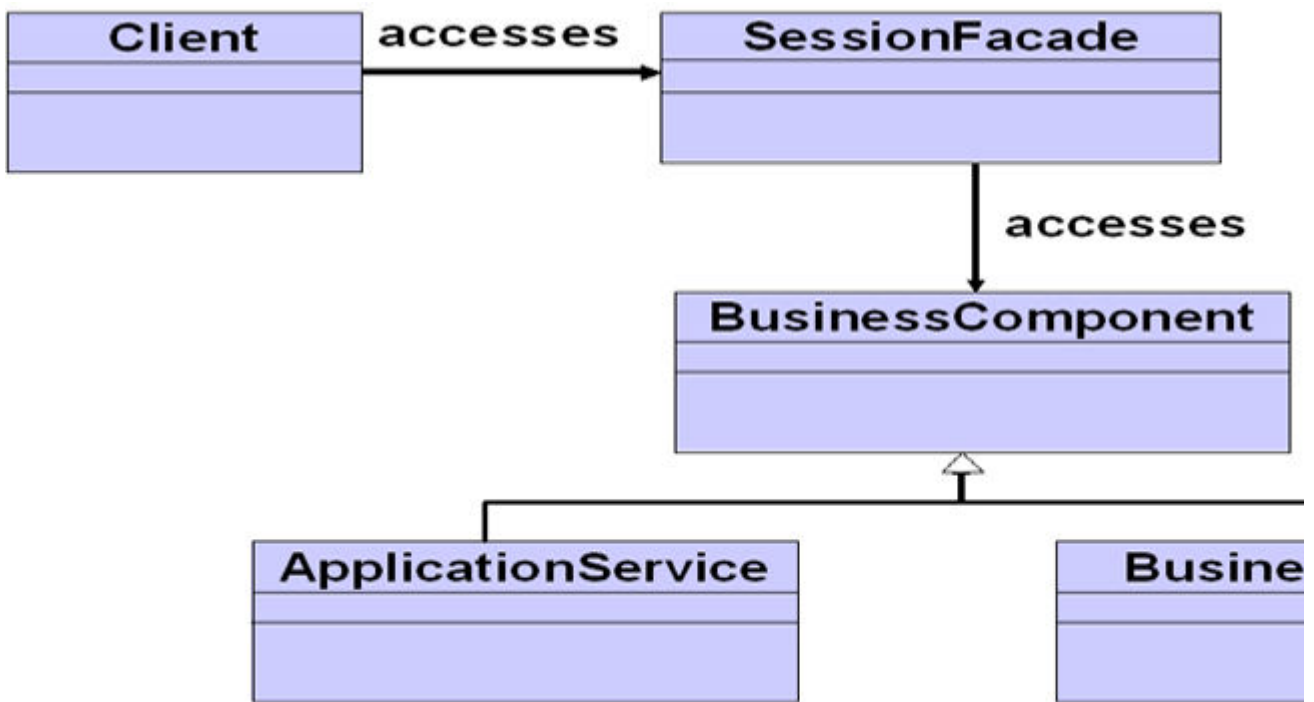
## Business Delegate

- Reduces coupling between presentation-tier and business tier.
- Hides underlying implementation of business.
- Client becomes transparent to naming and lookup services.
- Intercepts low-level exceptions and generates application-level exceptions.
- Can cache results.



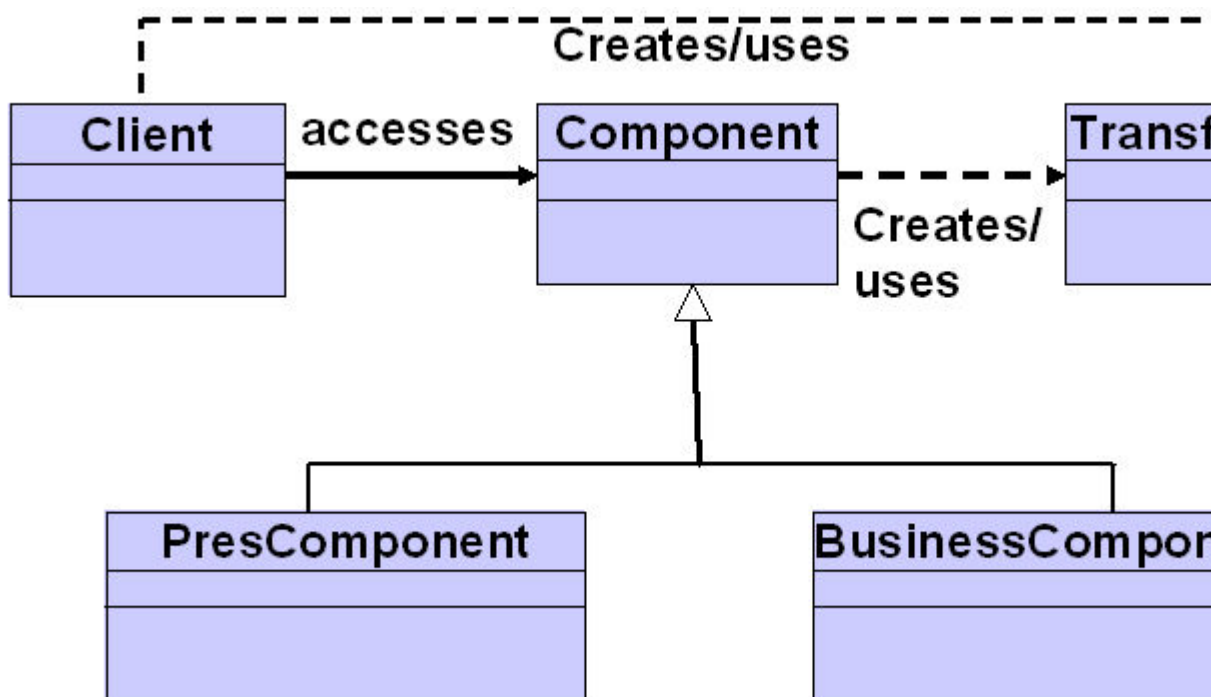
## Session Facade

- Allows to isolate client from business components to provide loose coupling.
- Client uses session façade to access business services.
- A session bean may be used to access entities



## Transfer Object

- Used when a component in one tier has to access a collection of items in another tier.
- Object carries multiple data elements from one tier to another.
- Object is passed by value using serialization.



## Data Access Object

- Abstracts and encapsulate all access to the persistence store.
- Regardless of type of data source, DAO provides a uniform API to its clients.
- For ex, DAO uses JDBC internally without exposing any exception or objects of java.sql and provides simple methods to access data in the database.

