

SOFTWARE ENGINEERING

Class 8

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INTRO TO DESIGN PATTERNS

TOPICS

- Overview
- Creational Design Patterns
- Structural Design Patterns
- Behavioral Design Patterns

OVERVIEW

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Object Oriented Design

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- Identify the objects and their responsibilities

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- Identify how they are structured

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- Identify the objects and their responsibilities
- Identify how they are structured
- Identify how they interact

OVERVIEW

Object Oriented Design

- Identify the objects and their responsibilities
- Identify how they are structured
- Identify how they interact
- Identify how they behave

OVERVIEW

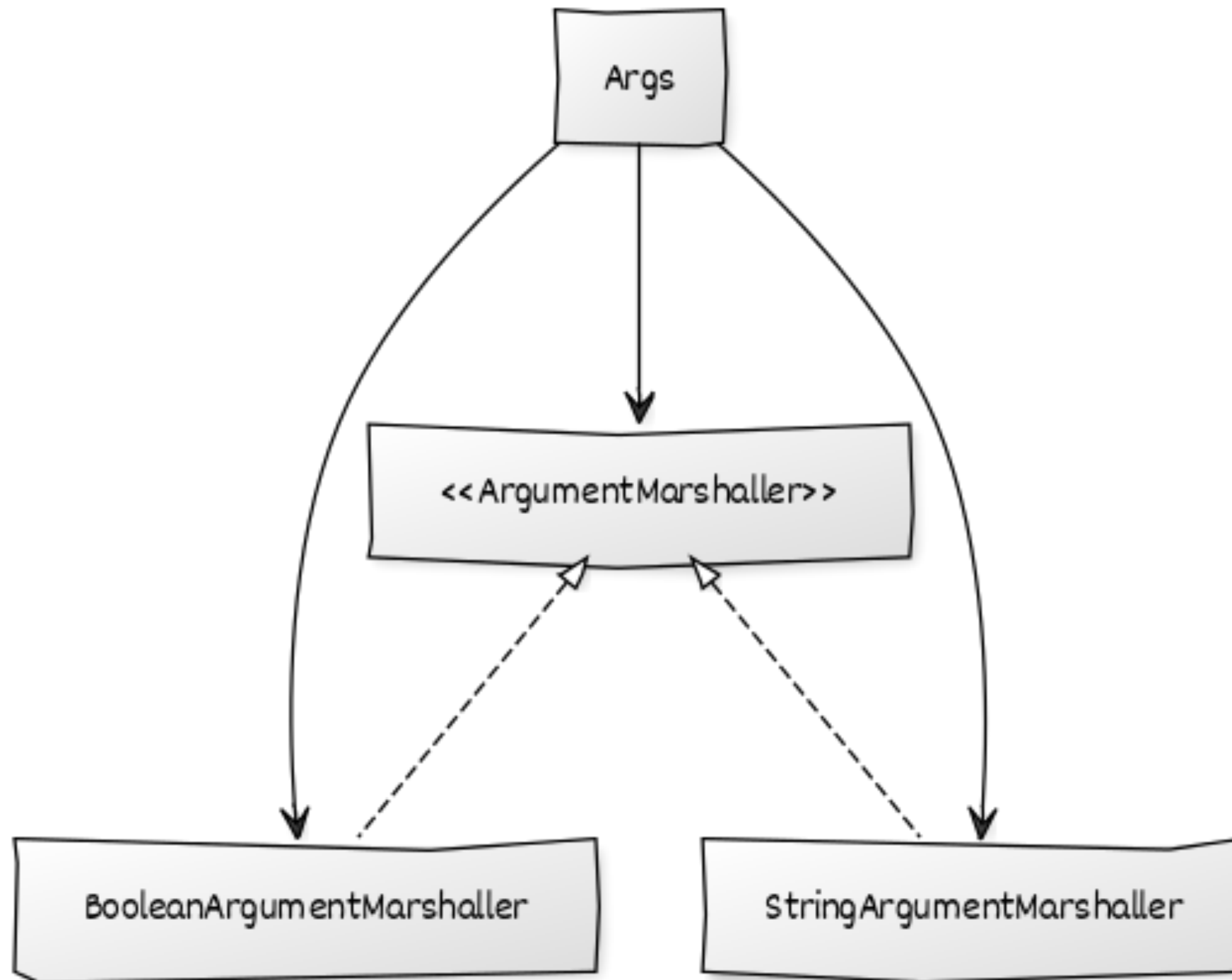
Args

<<ArgumentMarshaller>>

BooleanArgumentMarshaller

StringArgumentMarshaller

OVERVIEW



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A **design pattern** is a general, reusable solution to a commonly occurring design problems

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Design Pattern Categories

(Based on purpose)

- Creational Design Patterns
- Structural Design Patterns
- Behavioral Design Patterns

OVERVIEW

Design Pattern Categories

(Based on scope)

- Class based Design Patterns
- Object based Design Patterns

OVERVIEW



Class Types

OVERVIEW

Class Types

- Concrete Classes

OVERVIEW

Class Types

- Concrete Classes
- Abstract Classes

OVERVIEW

Class Types

- Concrete Classes
- Abstract Classes
- Interfaces

CREATIONAL

Creational Design Patterns

- Encapsulate knowledge about which concrete classes are being used
- Encapsulate knowledge about how concrete classes are created.

CREATIONAL

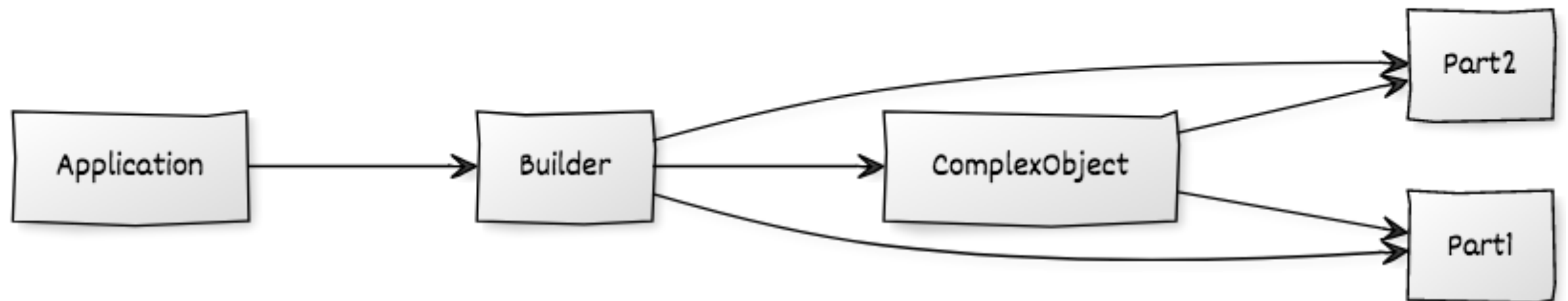
Builder Pattern

Builder pattern delegates creation of a complex object to another object.

CREATIONAL

Builder Pattern

Builder pattern delegates creation of a complex object to another object.



CREATIONAL

Builder Pattern Example

```
Locale aLocale = new Locale.Builder()  
    .setLanguage("sr")  
    .setScript("Latn")  
    .setRegion("RS")  
    .build();
```