

Builder Pattern

Yixin Zhang

OO Architecture

- Motivation
- The basic form of object creation could result in design problems or added complexity to the design.
- Intent of Builder Pattern
- Object creation
- Separate the construction of a complex object from its representation

BadExampleOne

```
public class User {  
    Private String firstName;  
    Private String lastName;  
    Private int age;  
    Private String phone;  
    Private String address;  
    Private Gender gender;  
    Private Date loginTime;  
  
    // how to define its constructor?  
    Public User(String f, String l, int a, String p, String a, Gender g, Date t) {  
        //.....  
    }  
}
```

BadExampleTwo

```
public class User {
    Private final String firstName;
    Private final String lastName;
    Private int age;
    Private String phone;
    Private String address;

    // constructor1
    public User(String firstName, String lastname, int age, String phone, String address) {
        this.firstName = firstName;
        this.lastName = lastName;
        this.age = age;
        this.phone = phone;
        this.address = address;
    }
}
```

```
// constructor2
public User(String firstName, String lastname, int age, String
    phone) {
    this(firstName, lastName, age, phone, "")
}
}
```

```
// constructor3
public User(String firstName, String lastname, int age) {
    this(firstName, lastName, age, "")
}
}
```

```
// constructor4
public User(String firstName, String lastname) {
    this(firstName, lastName, 0)
}
}
```

Solution One

```
public class User {
    Private final String firstName;
    Private final String lastName;
    Private int age;
    Private String phone;
    Private String address;

    // constructor
    public User(String firstName, String lastname) {
        this.firstName = firstName;
        this.lastName = lastName;
    }
}
```

getter && setter

```
public void setAge(int age) {  
    this.age = age;  
}
```

```
public void setPhone(String phone) {  
    this.phone = phone;  
}
```

```
public void setAddress(String address)  
{  
    this.address = address;  
}
```

```
public int getAge() {  
    return age;  
}
```

```
public String getPhone() {  
    return phone;  
}
```

```
public String getAddress() {  
    return address;  
}
```

