

# Object Oriented Analysis & Design

## 面向对象分析与设计

### Lecture\_08 通用的职责分配软件原则 GRASP (二)

主讲: 姜宁康 博士



## ■ 3、GRASP原则八: 间接 Indirection

- 若两个对象直接连接, 导致耦合太紧, 如何解决?

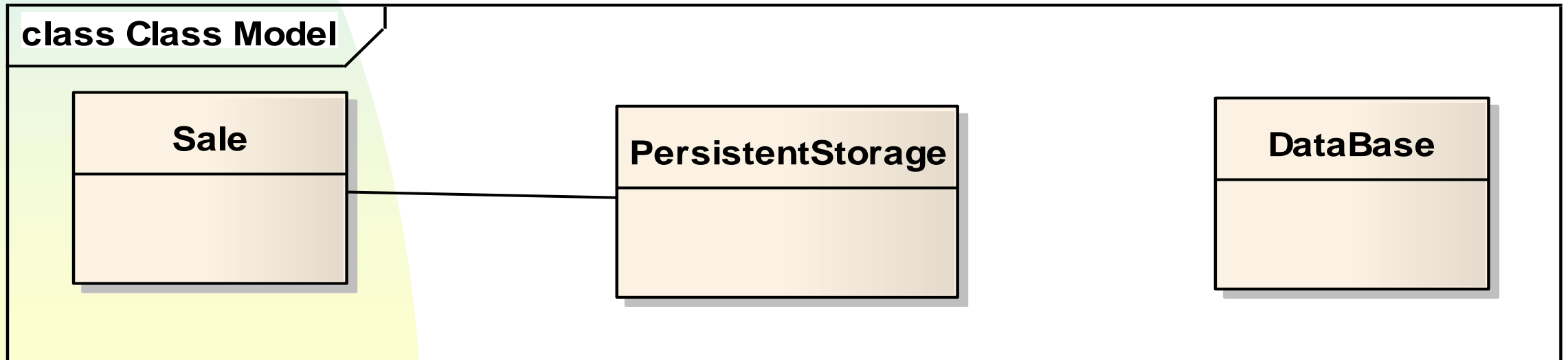
## 3.1 GRASP rule8: Indirection 间接

- **Name: Indirection**

- **Problem:** 把职责分配到哪里可以避免两个或者多个对象之间的直接耦合？如何解耦对象以保持较高的可重用性？ Where to assign a responsibility to avoid direct coupling between two or more objects? How to de-couple objects so that reuse potential remains higher
- **Solution:** 把职责分配给一个中介对象，隔离对象与其他构件或者服务，使它们不产生直接耦合 Assign the responsibility to an intermediate object to mediate between other components or services so that they are not directly coupled
  - 因为中介对象是一种特殊的作用，一般对象与中间对象之间的直接耦合，相对比较简单

## 3.2 Indirection: 案例1

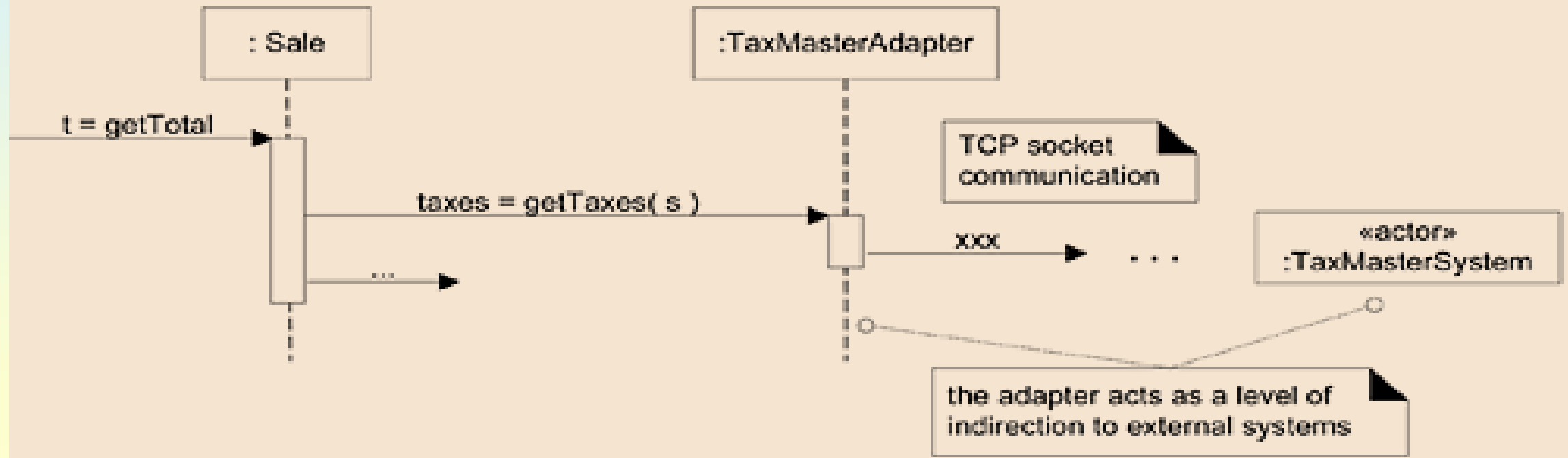
- Introduce a **PersistentStorage** class in order to decouple the **Sale** from the relational database services
  - The **PersistentStorage** acts as a intermediary between the **Sale** and database



## 3.2 Indirection: 案例2

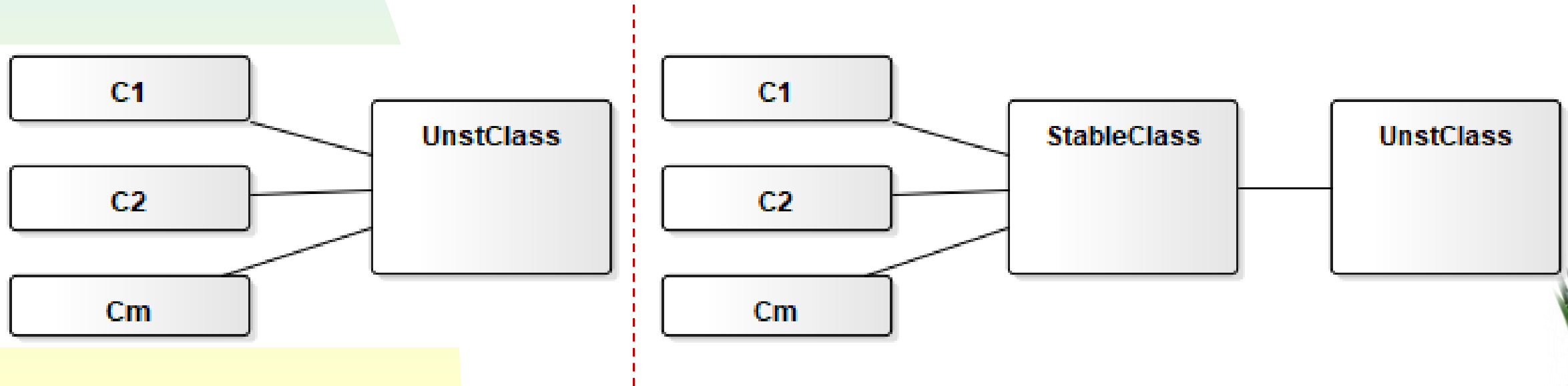
- Introduce a TaxAdapter class in order to decouple the Sale from an external (potentially remote) tax-calculating class

Figure 25.10. Indirection via the adapter



## 3.2 Indirection: 案例3

- Avoid creating multiple couplings to an unstable class
  - $C1 \leftrightarrow \text{UnstClass}$ ,
  - $C2 \leftrightarrow \text{UnstClass}, \dots$ ,
  - $Cm \leftrightarrow \text{UnstClass}$ .
- Instead, devise a mediator stable class **StableClass**, and use it to connect indirectly  $C1, \dots, Cm$  with **UnstClass**





■ **本讲结束**