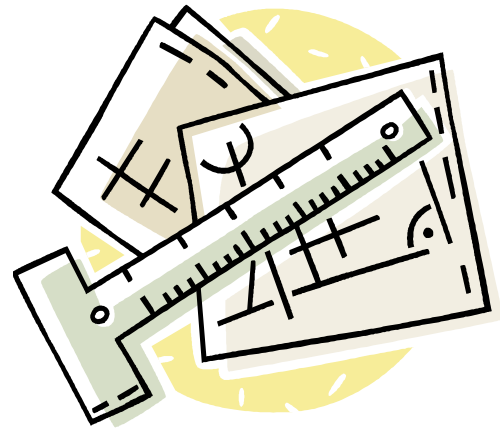


Introduction

- **Structural Diagrams**
- **Class Diagram**
- **Component Diagram**
- **Package Diagram**
- **Deployment Diagram**

Structural Diagrams



Structural Diagrams

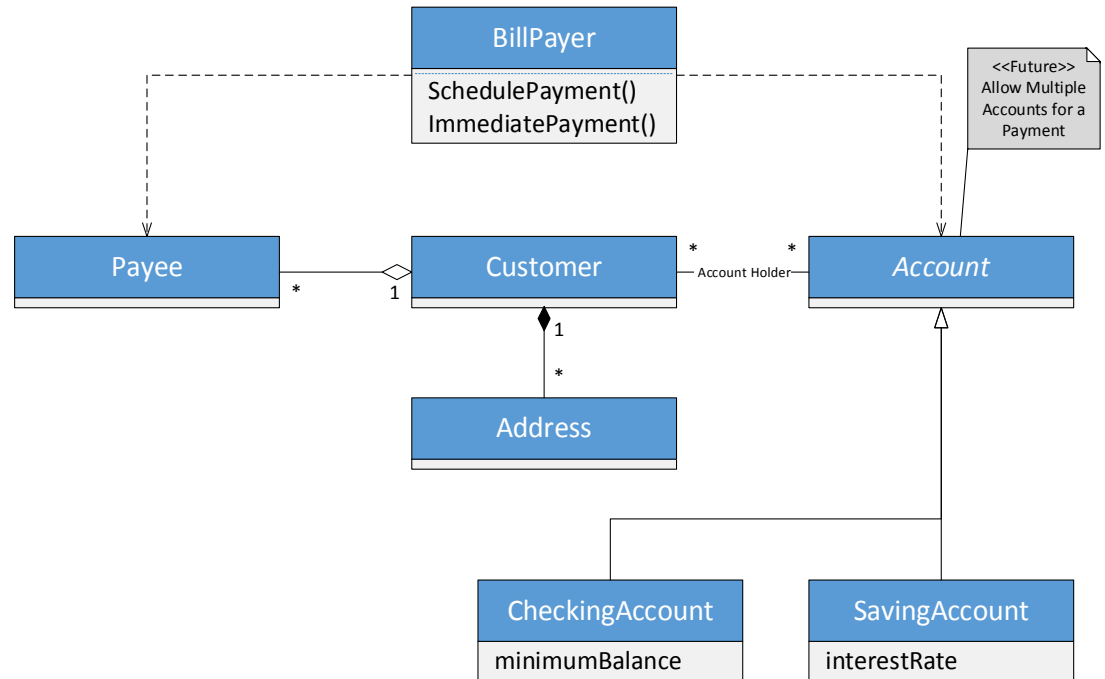
- Project Vocabulary
- Structural Relationships
- Architectural Diagrams



Class Diagram

- Vocabulary
- Relationships

“Boxes and Lines”



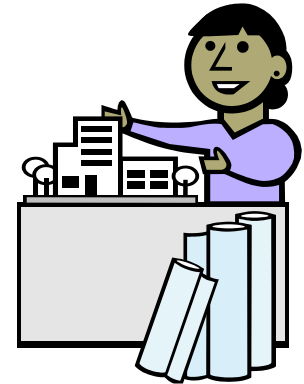
Common Users of Class Diagrams



Product Owner



Business Analyst



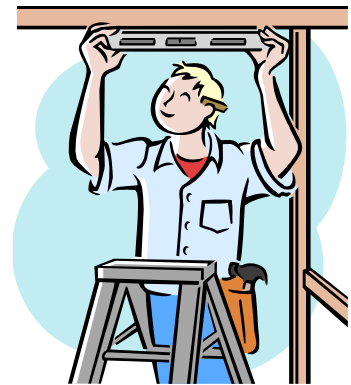
Architect



Operations



Quality Assurance

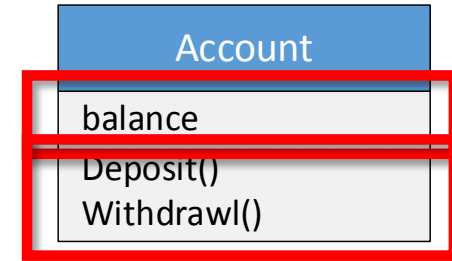


Developer

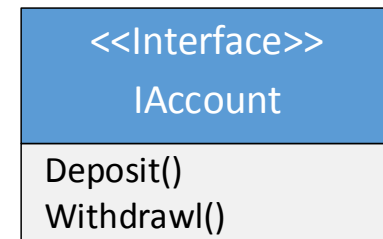
Classes and Interfaces

■ Class

- Represents an Entity (Noun)
 - Attributes
 - Operations
- Omit Details if not required

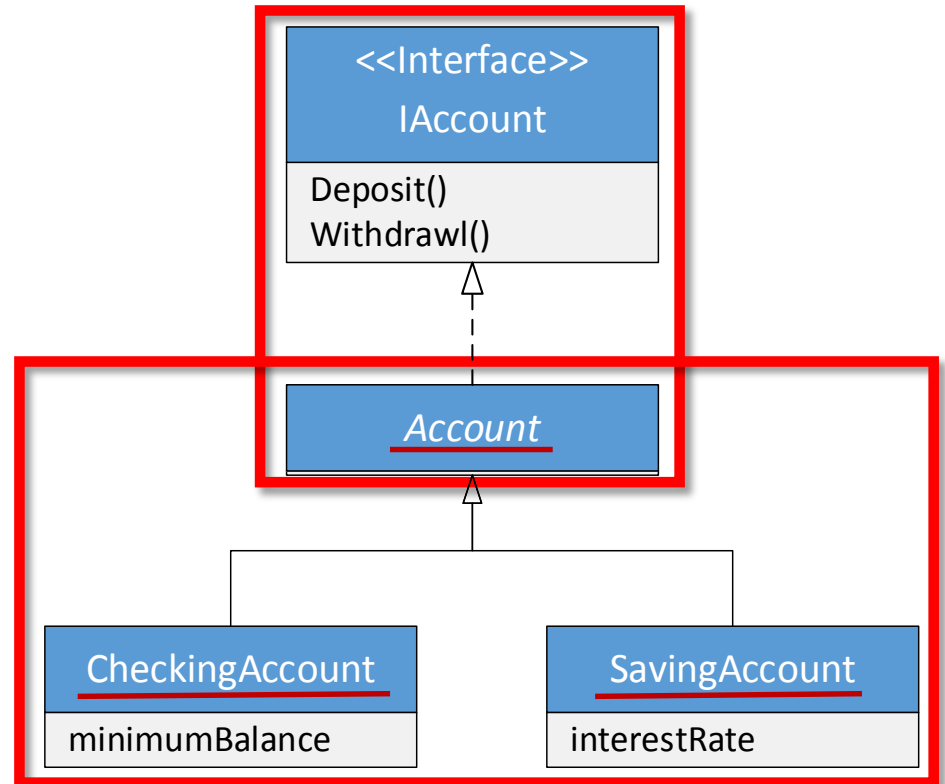


■ Interface



Implementation and Inheritance

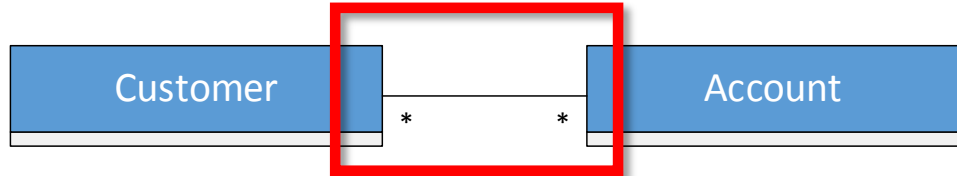
- Implement Interface
- Inheritance ("Is A")
 - Abstract Class
 - Concrete Class



Relationships

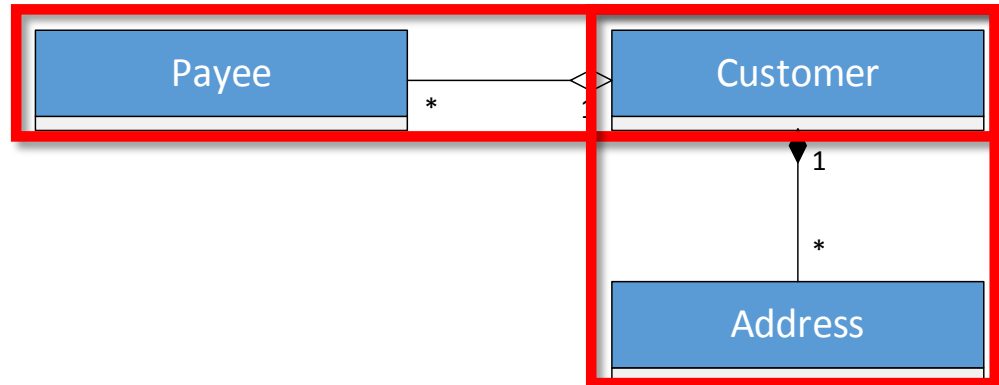
- **Basic ("Has A")**

- Multiplicity



- **Aggregation**

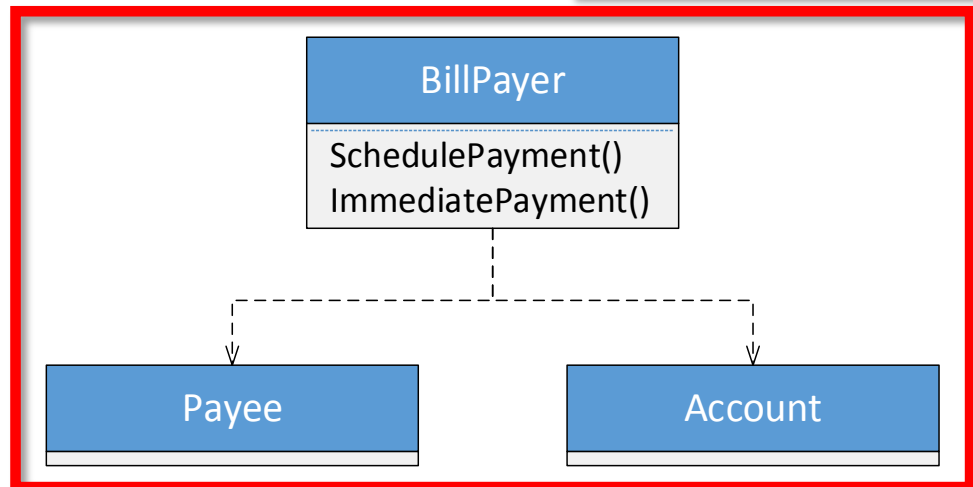
- Whole - Part



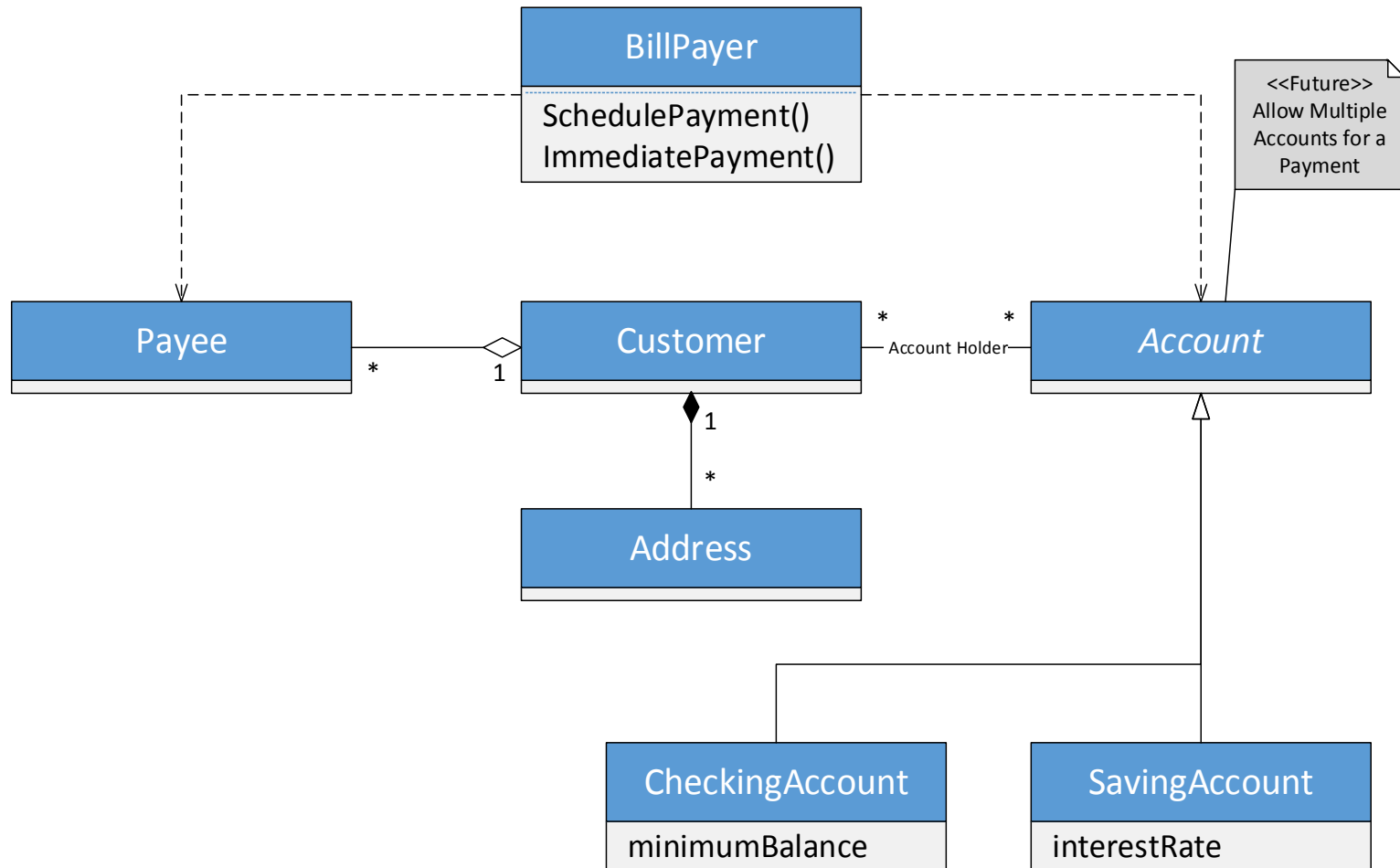
- **Composition**

- Ownership

- **Uses**

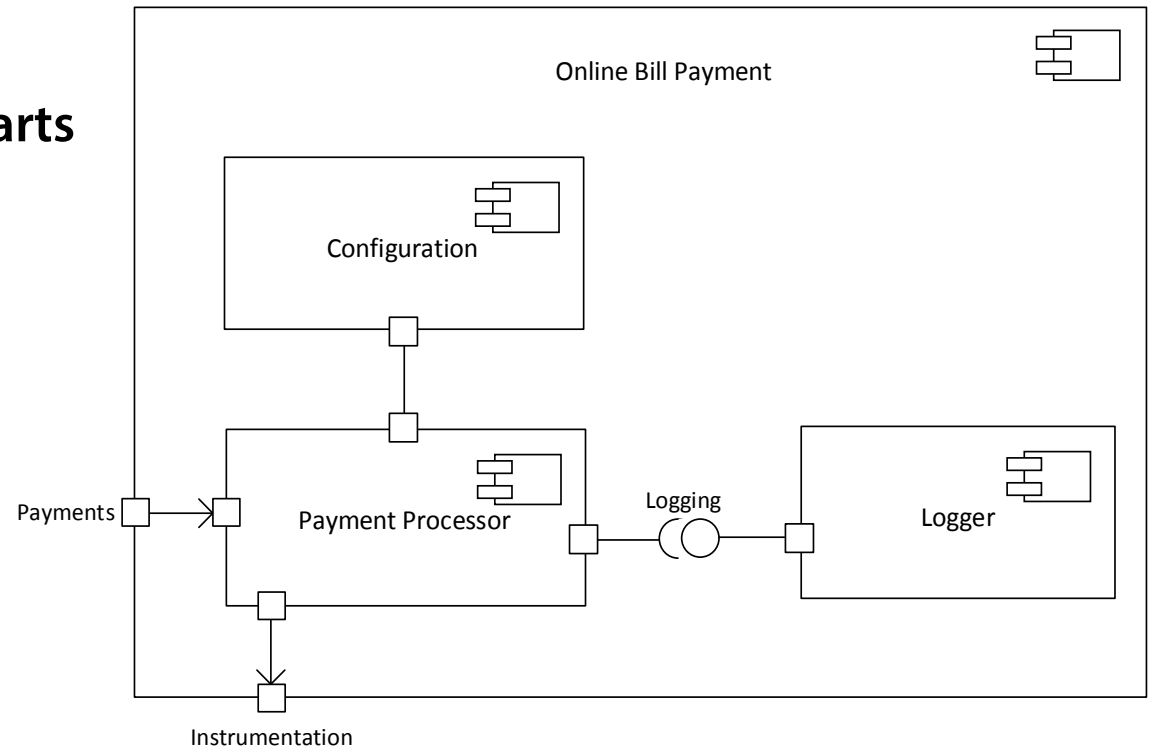


Basic Class Diagram



Component Diagram

- Identify Interfaces
- Define replaceable parts



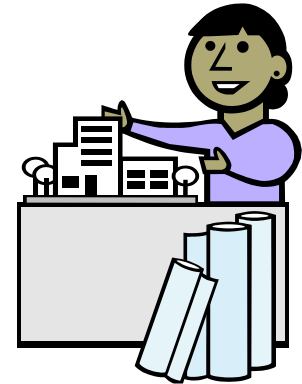
Common Users of Component Diagrams



Product Owner



Business Analyst



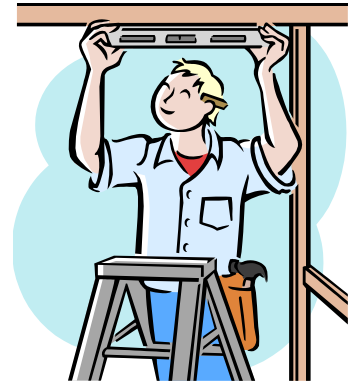
Architect



Operations



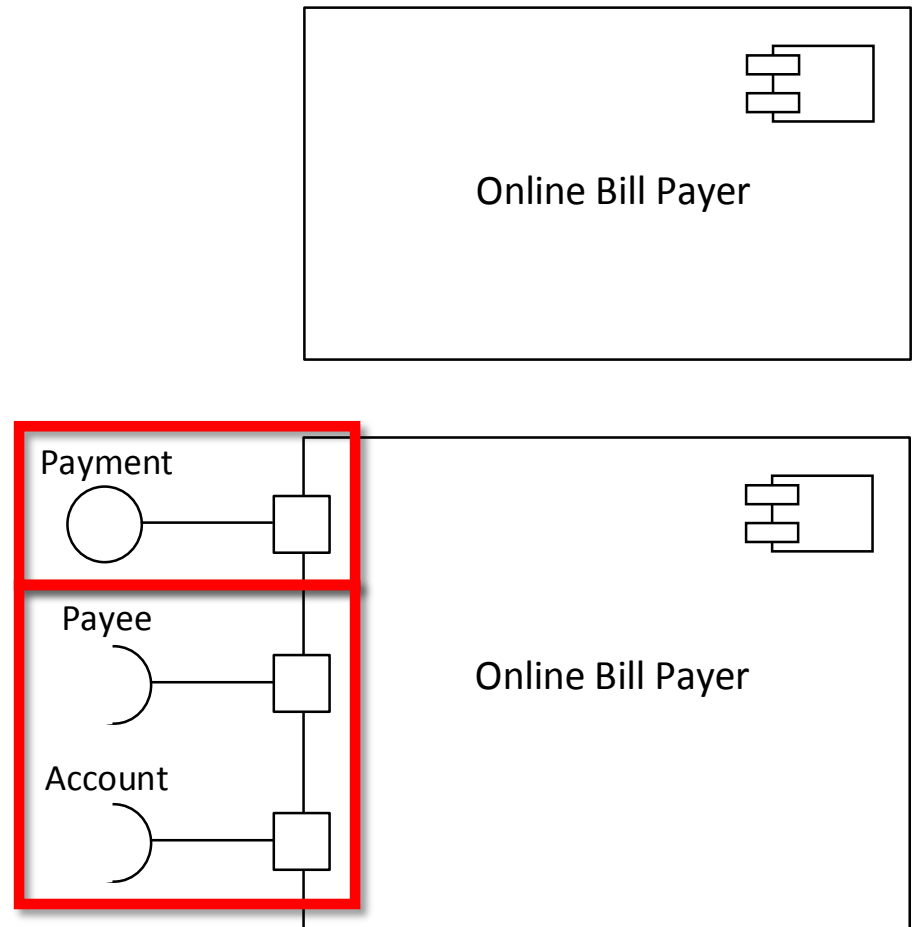
Quality Assurance



Developer

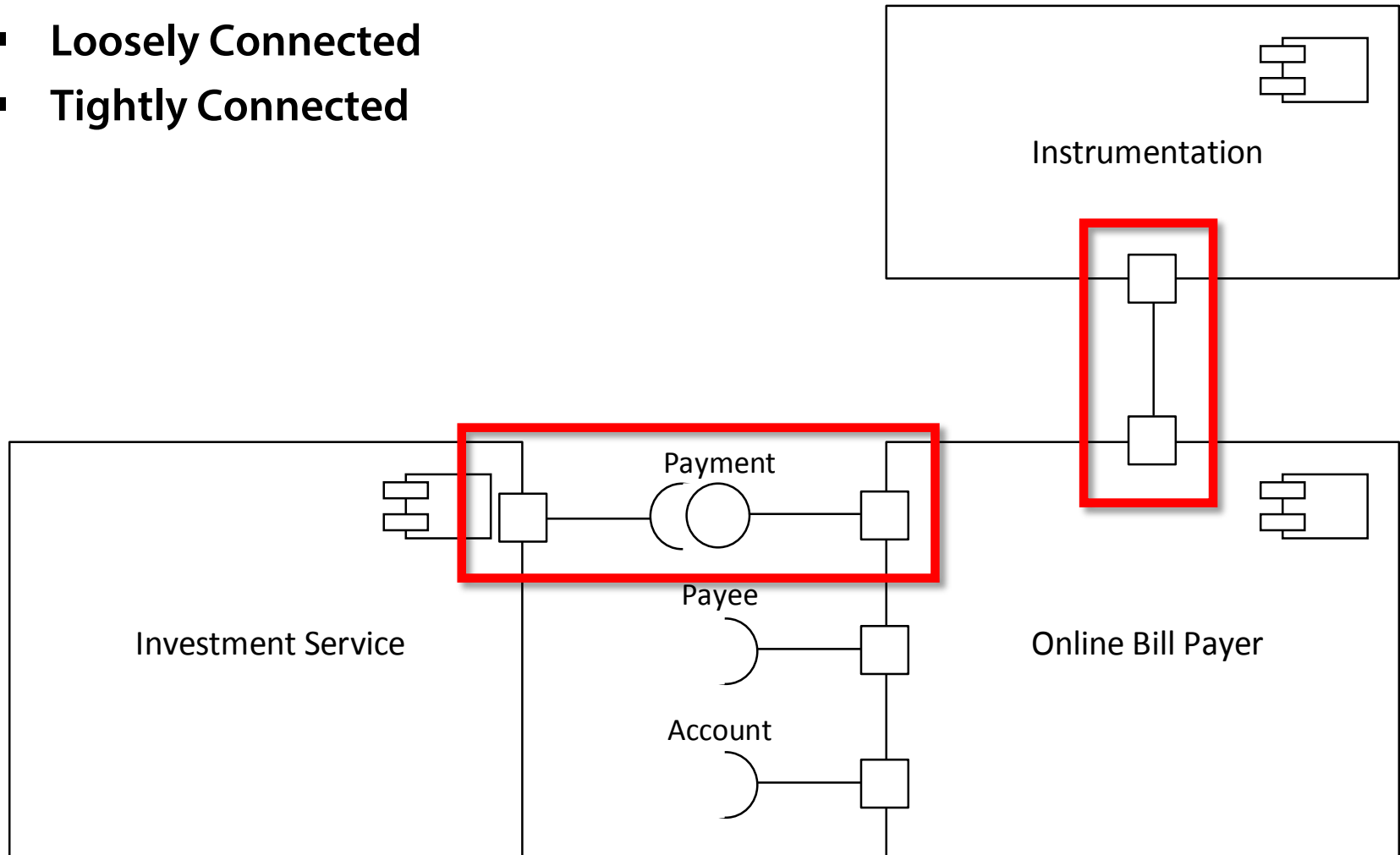
Basic Component

- **Component**
- **Interfaces**
 - Realized
 - Required

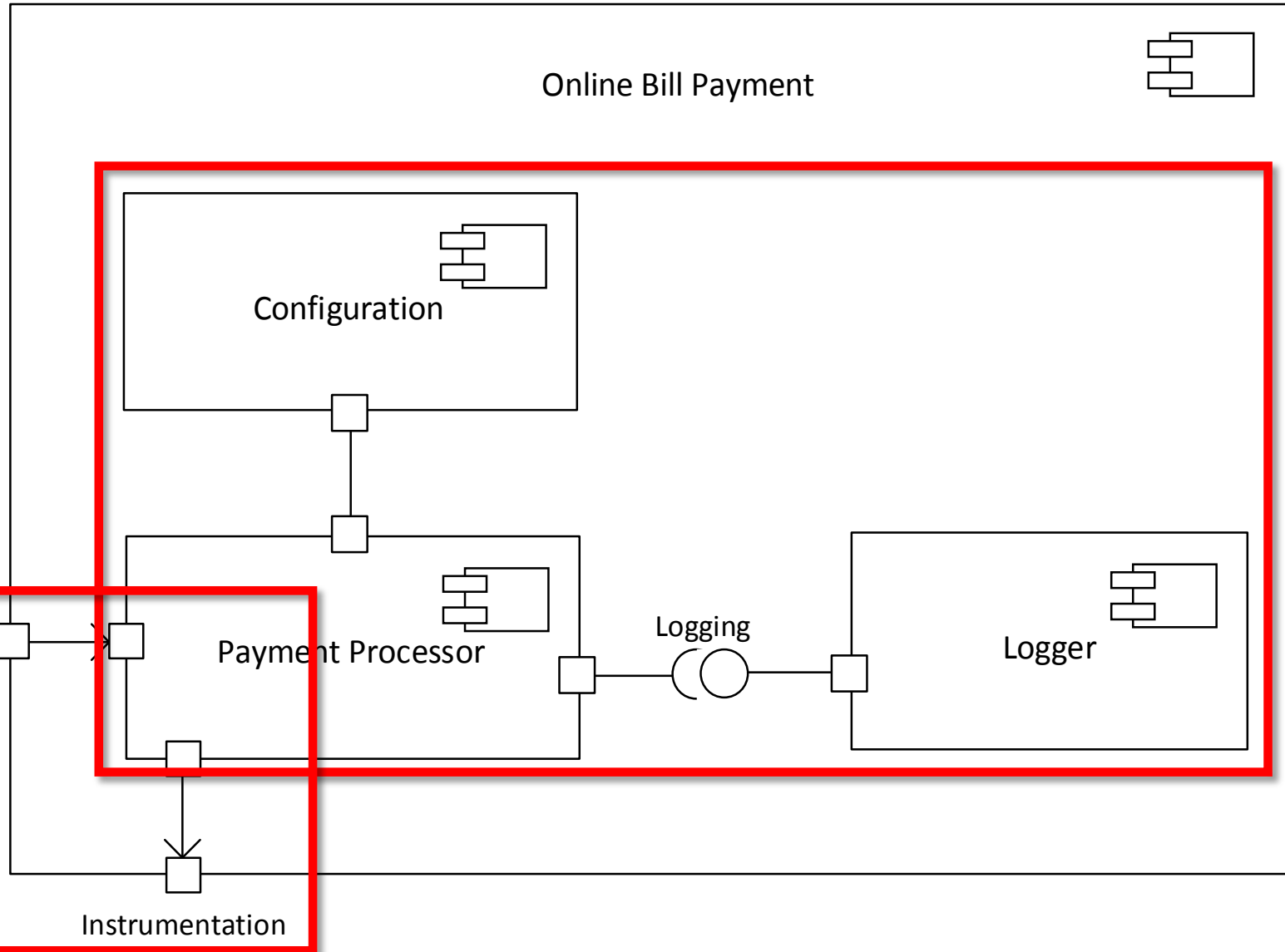


Connected Components

- Loosely Connected
- Tightly Connected

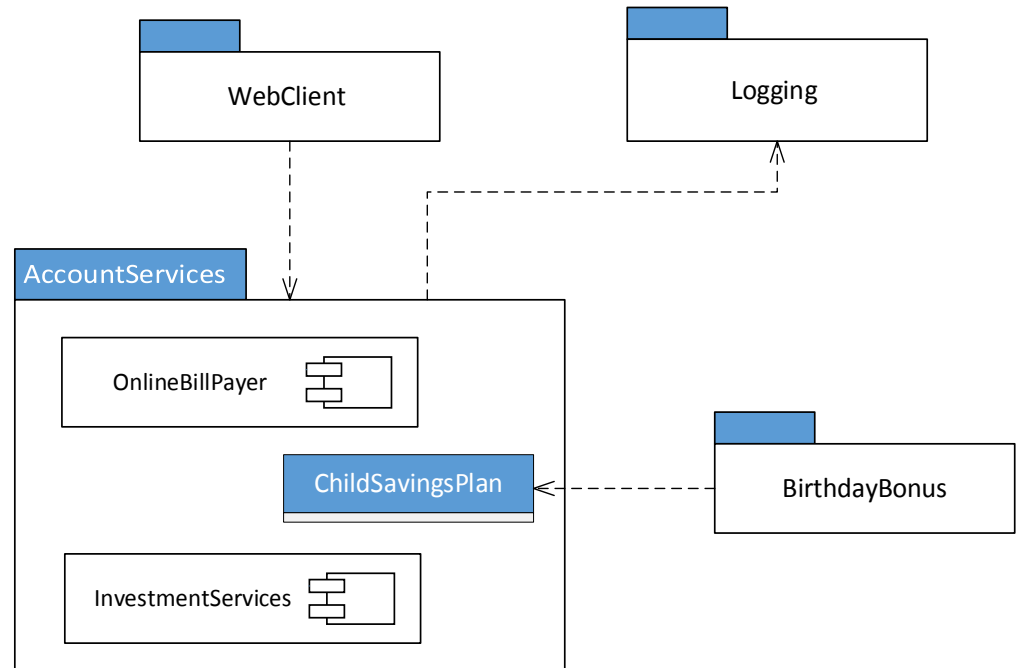


Basic Component Diagram



Package Diagram

- Logical Container
- Support Large Models



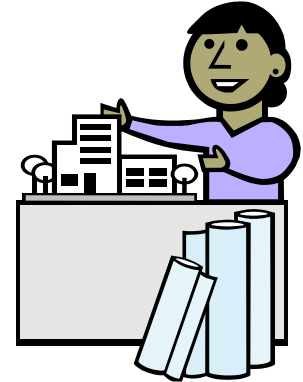
Common Users of Package Diagrams



Product Owner



Business Analyst



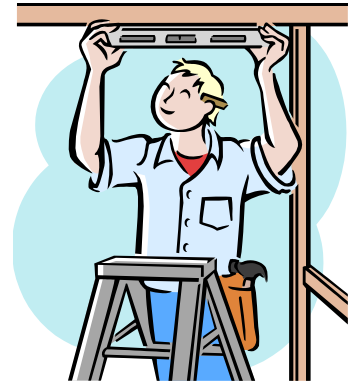
Architect



Operations



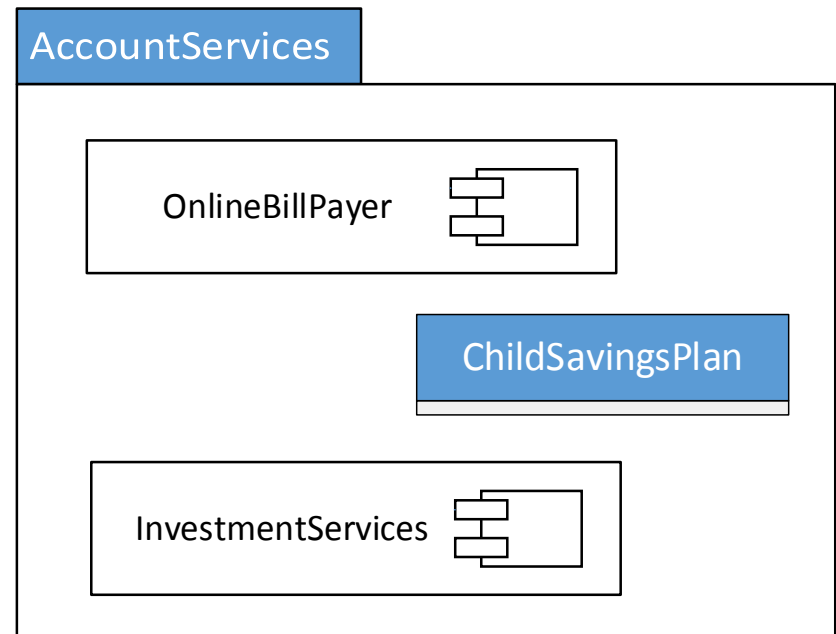
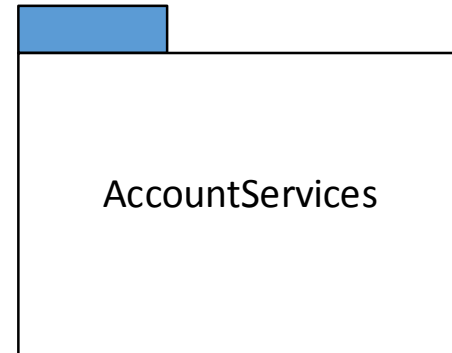
Quality Assurance



Developer

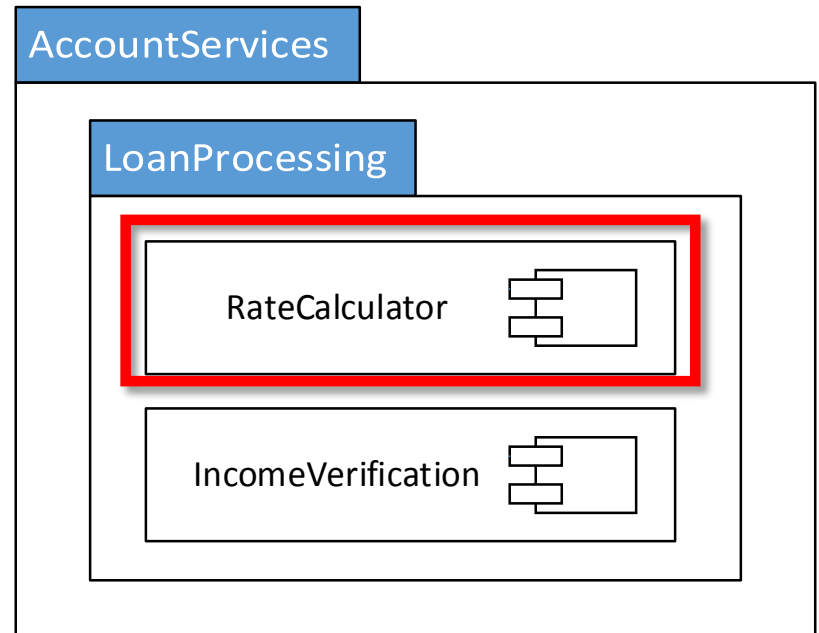
Simple Packages

- **Basic**
- **Showing (relevant) elements**
- **Can Contain**
 - Classes
 - Interfaces
 - Components
 - Nodes
 - Diagrams
 - Packages
 - Etc.



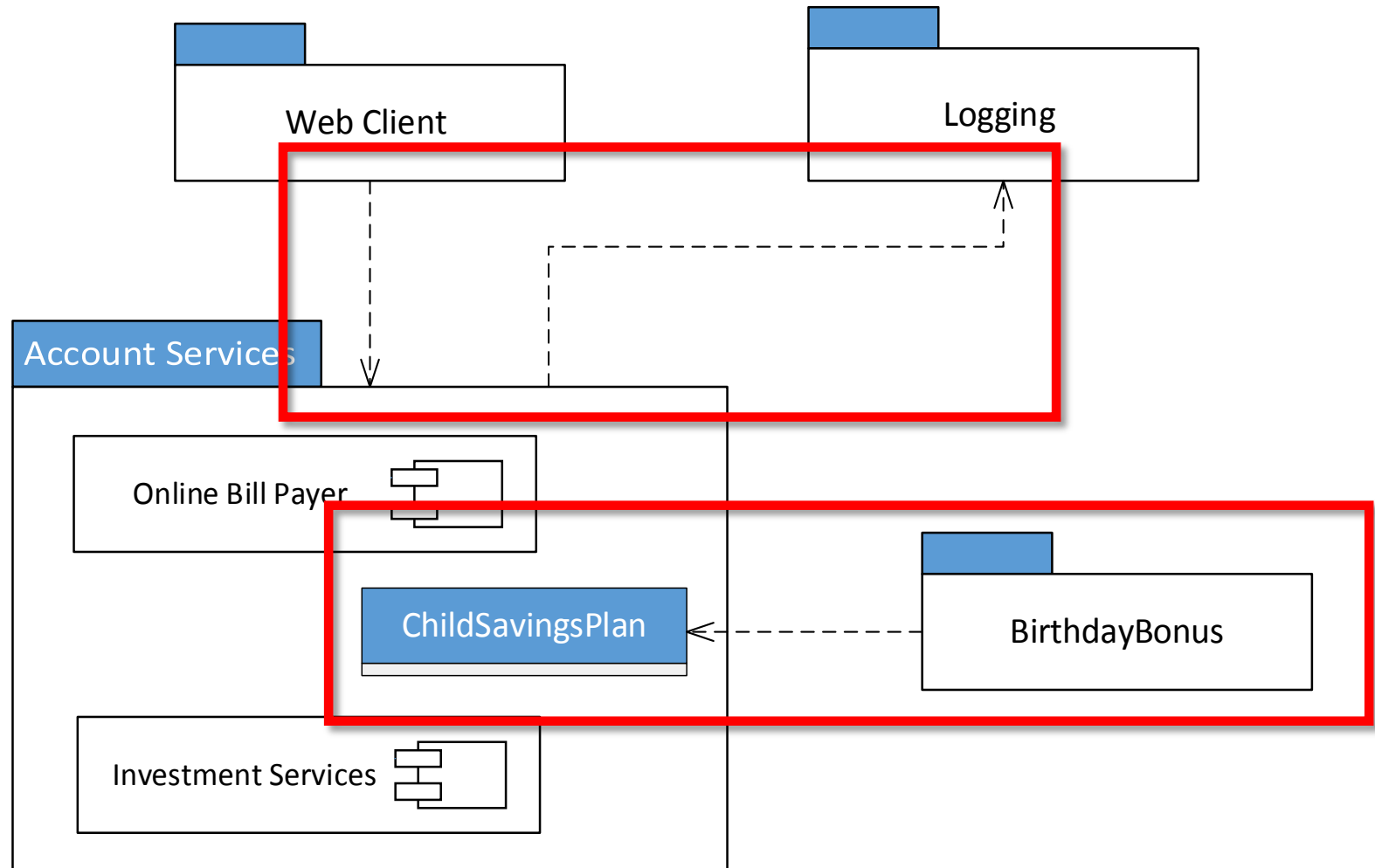
Nested Packages

- **Contained Packages**
 - Maximum 2 or 3 deep
- **Packages define scope**
- **Qualified Names**
 - Use double colon - ::



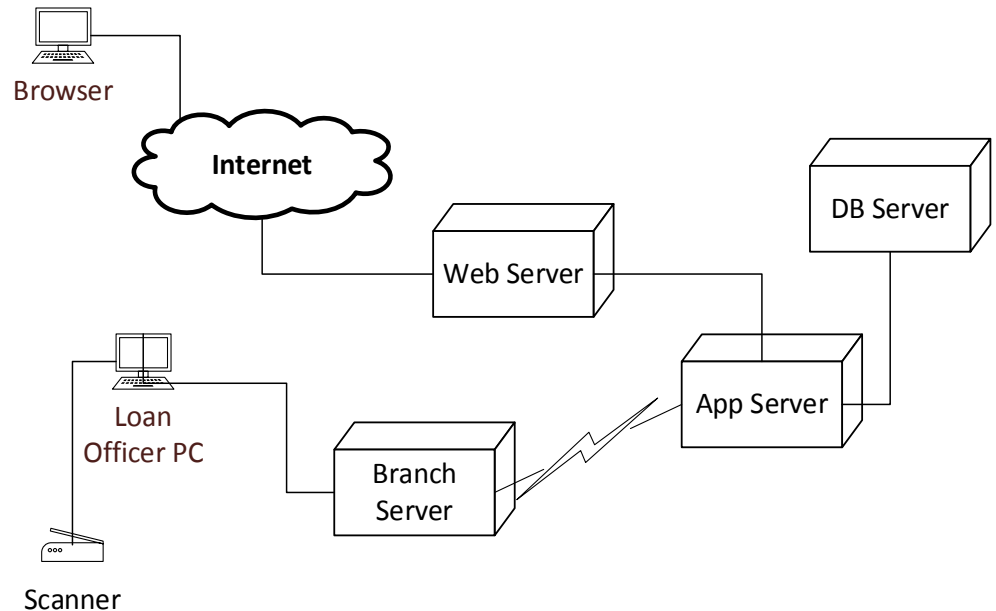
`AccountServices::LoanProcessing::RateCalculator`

Basic Package Diagram



Deployment Diagram

- Map Components to Physical Systems
- View Special Devices
- Visualize Hardware and Network Dependencies



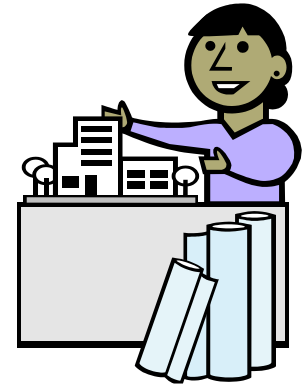
Common Users of Deployment Diagrams



Product Owner



Business Analyst



Architect



Operations



Quality Assurance



Developer

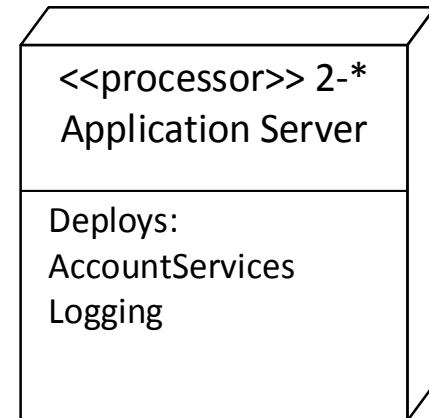
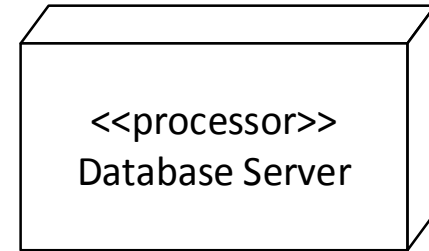
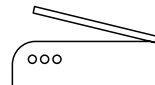
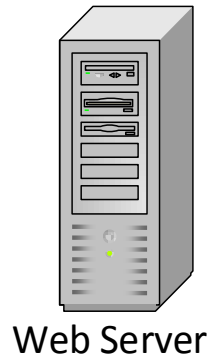
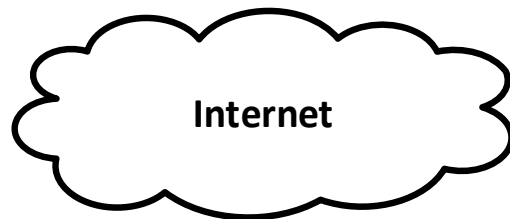
Nodes

- **Processors**

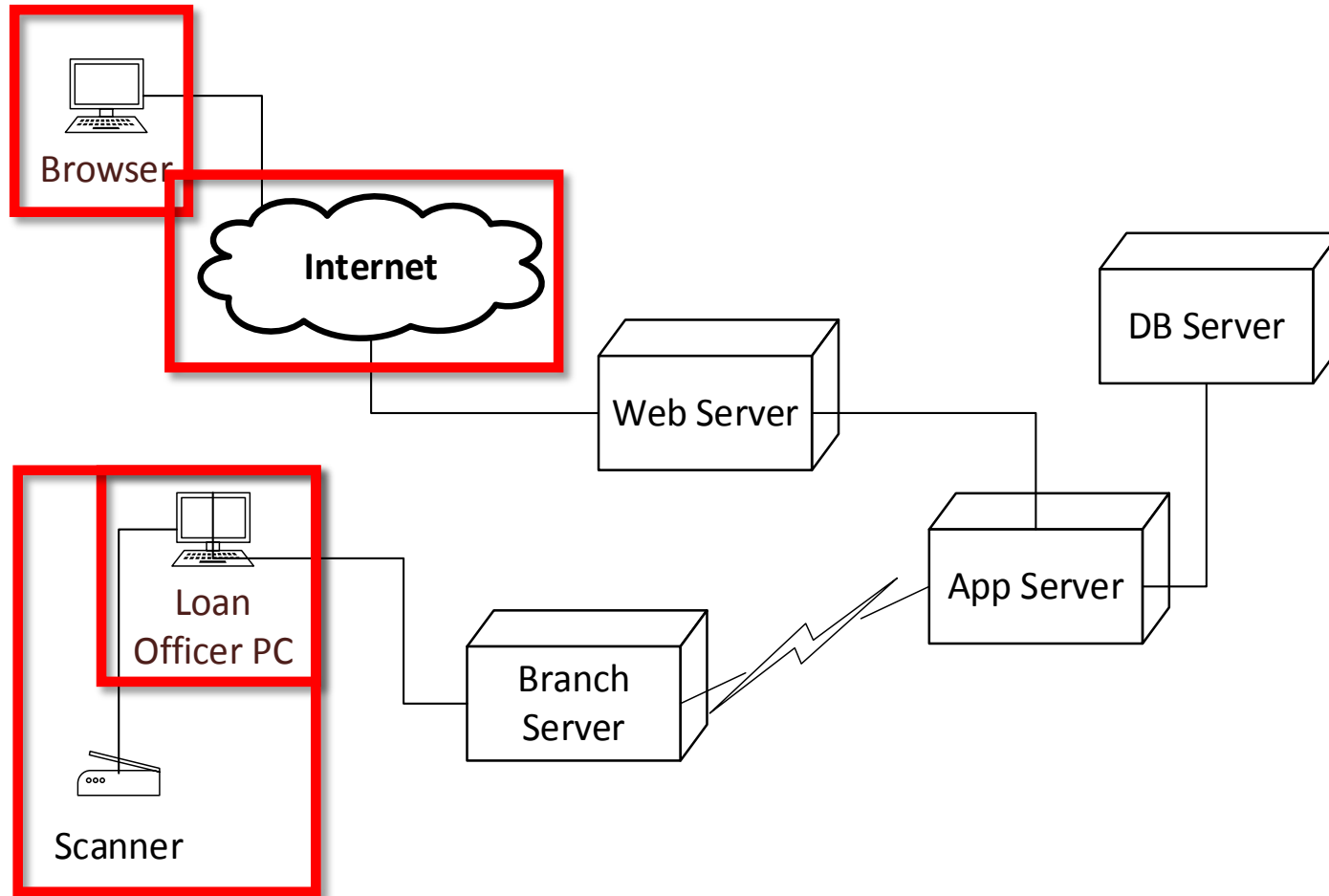
- Cubes
- Stereotyped
- Detailed

- **Devices**

- Networks
- Specialty



Basic Deployment Diagram



Summary

- **Structural Modeling**
 - “Parts” of the system
 - Model what is relevant
- **Class Diagrams**
 - Vocabulary
- **Component Diagrams**
 - “Pluggable” sub-systems
- **Package Diagrams**
 - Support large system models
- **Deployment Diagrams**
 - Physical dependencies