

## Model

*Package in package "*

Model  
Version Phase 1.0 Proposed  
User created on 11/1/2023. Last modified 11/1/2023

## Application

*Package in package 'Model'*

Application  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 6/30/2023

## Big picture diagram

*Class diagram in package 'Application'*

Big picture  
Version 1.0  
User created on 7/6/2023. Last modified 7/6/2023

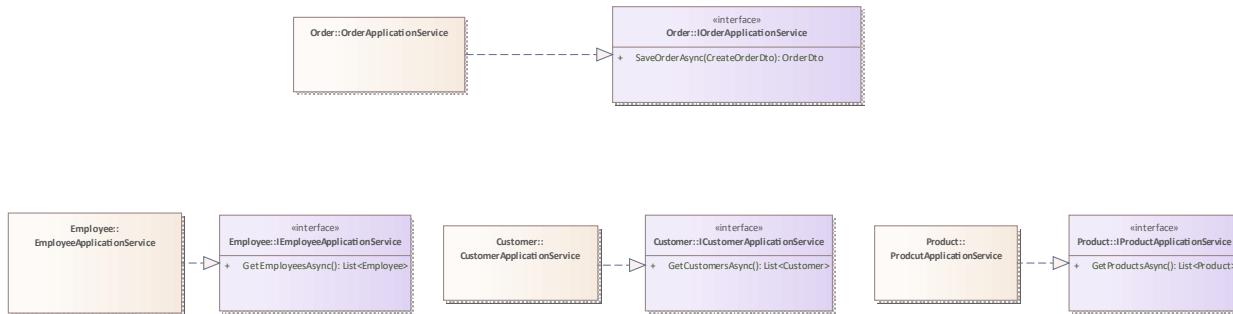


Figure 1: Big picture

## OrderApplicationService

*Class in package 'Order'*

OrderApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

OUTGOING STRUCTURAL RELATIONSHIPS	
<p>➡ Realization from OrderApplicationService to IOrderApplicationService</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>	

## IOrderApplicationService

*Interface in package 'Order'*

IOrderApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### INCOMING STRUCTURAL RELATIONSHIPS

- ➡ Realization from OrderApplicationService to IOrderApplicationService

[ Direction is 'Source -> Destination'. ]

#### OPERATIONS

- ◊ SaveOrderAsync (orderDto : CreateOrderDto) : OrderDto Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## ProductApplicationService

Class in package 'Product'

ProductApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### OUTGOING STRUCTURAL RELATIONSHIPS

- ⬅ Realization from ProductApplicationService to IProductApplicationService

[ Direction is 'Source -> Destination'. ]

## IProductApplicationService

Interface in package 'Product'

IProductApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### INCOMING STRUCTURAL RELATIONSHIPS

- ➡ Realization from ProductApplicationService to IProductApplicationService

[ Direction is 'Source -> Destination'. ]

#### OPERATIONS

- ◊ GetProductsAsync () : List<Product> Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## EmployeeApplicationService

Class in package 'Employee'

EmployeeApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### OUTGOING STRUCTURAL RELATIONSHIPS

↳ Realization from EmployeeApplicationService to IEmployeeApplicationService

[ Direction is 'Source -> Destination'. ]

## IEmployeeApplicationService

*Interface in package 'Employee'*

IEmployeeApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### INCOMING STRUCTURAL RELATIONSHIPS

→ Realization from EmployeeApplicationService to IEmployeeApplicationService

[ Direction is 'Source -> Destination'. ]

#### OPERATIONS

❖ GetEmployeesAsync () : List<Employee> Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## CustomerApplicationService

*Class in package 'Customer'*

CustomerApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### OUTGOING STRUCTURAL RELATIONSHIPS

↳ Realization from CustomerApplicationService to ICustomerApplicationService

[ Direction is 'Source -> Destination'. ]

## ICustomerApplicationService

*Interface in package 'Customer'*

ICustomerApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

#### INCOMING STRUCTURAL RELATIONSHIPS

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Realization from CustomerApplicationService to ICustomerApplicationService  [ Direction is 'Source -&gt; Destination'. ]</p>
OPERATIONS
<p>◆ GetCustomersAsync () : List&lt;Customer&gt; Public  [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]</p>

## Customer

Package in package 'Application'

Customer  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

### Customer application service diagram

Class diagram in package 'Customer'

Customer application service  
Version 1.0  
User created on 7/6/2023. Last modified 7/6/2023

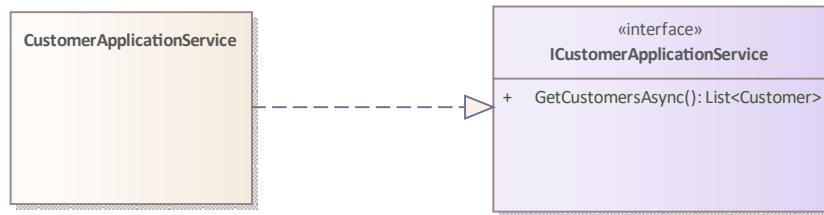


Figure 2: Customer application service

## CustomerApplicationService

Class in package 'Customer'

CustomerApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>⬅ Realization from CustomerApplicationService to ICustomerApplicationService  [ Direction is 'Source -&gt; Destination'. ]</p>

## ICustomerApplicationService

Interface in package 'Customer'

ICustomerApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

### INCOMING STRUCTURAL RELATIONSHIPS

- ➡ Realization from CustomerApplicationService to ICustomerApplicationService  
[ Direction is 'Source -> Destination'. ]

### OPERATIONS

- ❖ GetCustomersAsync () : List<Customer> Public  
[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Employee

Package in package 'Application'

Employee  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

### Employee application service diagram

Class diagram in package 'Employee'

Employee application service  
Version 1.0  
User created on 7/6/2023. Last modified 7/6/2023

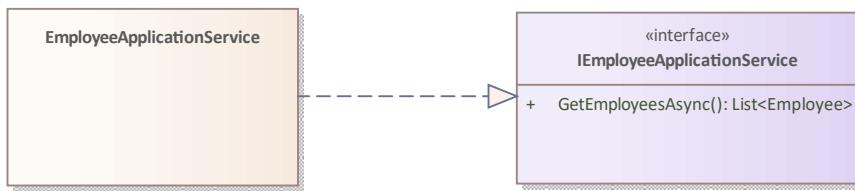


Figure 3: Employee application service

## EmployeeApplicationService

Class in package 'Employee'

EmployeeApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>➡ Realization from EmployeeApplicationService to IEmployeeApplicationService [ Direction is 'Source -&gt; Destination'. ]</p>

## IEmployeeApplicationService

Interface in package 'Employee'

IEmployeeApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Realization from EmployeeApplicationService to IEmployeeApplicationService [ Direction is 'Source -&gt; Destination'. ]</p>

## OPERATIONS

**OPERATIONS**

- ◆ GetEmployeesAsync () : List<Employee> Public
  - [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Order

*Package in package 'Application'*

Order  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 6/30/2023

### Order application service diagram

*Class diagram in package 'Order'*

Order application service  
Version 1.0  
User created on 6/30/2023. Last modified 7/6/2023

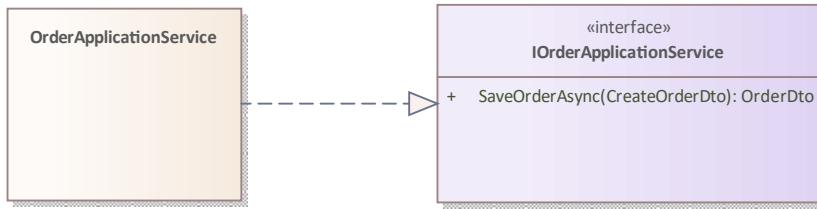


Figure 4: Order application service

### OrderApplicationService

*Class in package 'Order'*

OrderApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>⬅ Realization from OrderApplicationService to IOrderApplicationService</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

### IOrderApplicationService

*Interface in package 'Order'*

IOrderApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Realization from OrderApplicationService to IOrderApplicationService</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

### OPERATIONS

**OPERATIONS**

- ◆ SaveOrderAsync (orderDto : CreateOrderDto ) : OrderDto Public  
[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Product

*Package in package 'Application'*

Product  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

### Product application service diagram

*Class diagram in package 'Product'*

Product application service  
Version 1.0  
User created on 7/6/2023. Last modified 7/6/2023



Figure 5: Product application service

### ProductApplicationService

*Class in package 'Product'*

ProductApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>↳ Realization from ProductApplicationService to IProductApplicationService</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

### IProductApplicationService

*Interface in package 'Product'*

IProductApplicationService  
Version 1.0 Phase 1.0 Proposed  
User created on 7/6/2023. Last modified 7/6/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>↗ Realization from ProductApplicationService to IProductApplicationService</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

### OPERATIONS

**OPERATIONS**

- ◆ GetProductsAsync () : List<Product> Public
  - [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Use cases

Package in package 'Application'

Use cases  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

### OMS use cases diagram

Use Case diagram in package 'Use cases'

OMS use cases  
Version 1.0  
User created on 10/23/2023. Last modified 10/23/2023

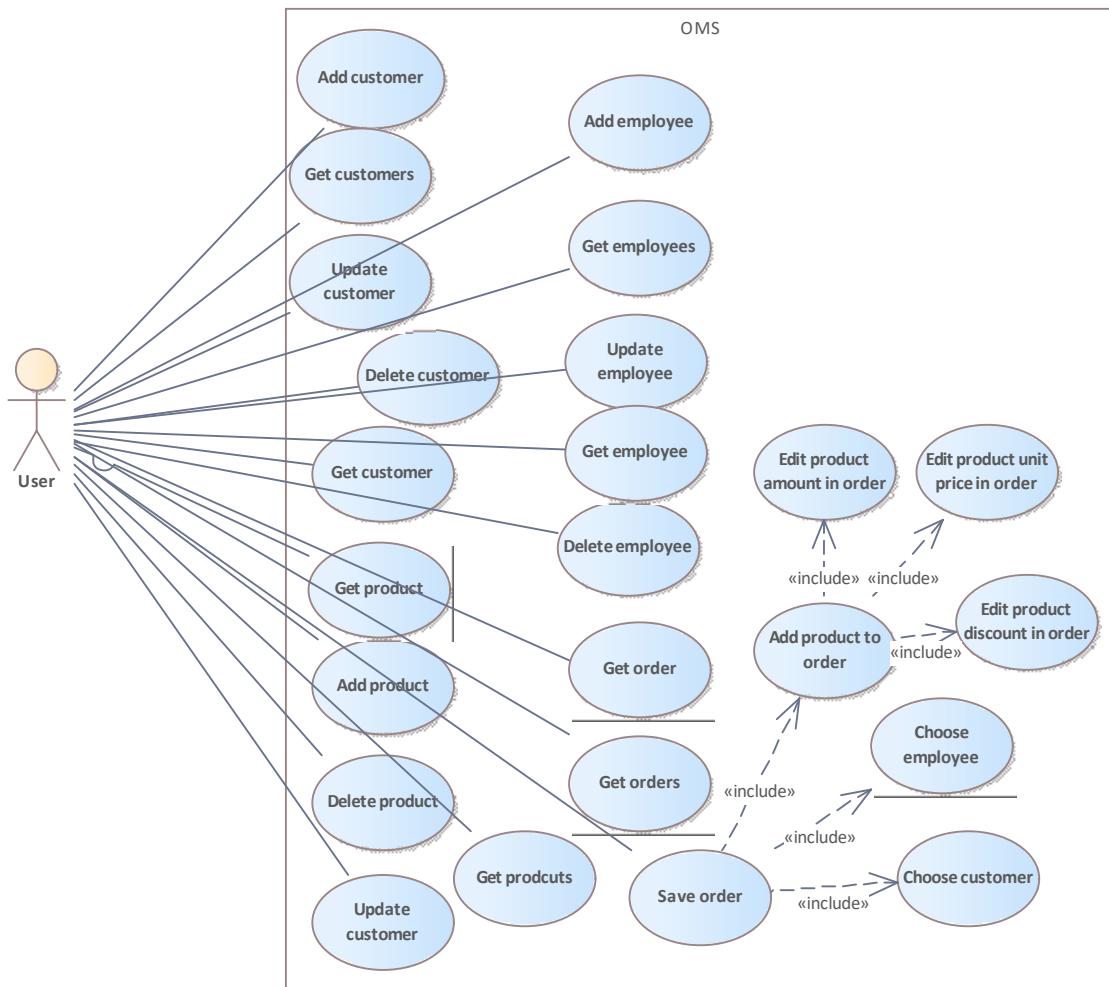


Figure 6: OMS use cases

## OMS

Boundary in package 'Use cases'

OMS  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023  
Extends

## User

Actor in package 'Use cases'

User  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

ASSOCIATIONS	
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Get order
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Update customer
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Get customer
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Add employee
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Get customers
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Delete product
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Delete employee
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Get employee
 Association (direction: Unspecified)	Source: Public (Actor) User Target: Public (UseCase) Get customers

<b>ASSOCIATIONS</b>	
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Update customer
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Get products
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Update employee
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Get employees
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Delete customer
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Add customer
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Get product
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Get orders
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Add product
/ Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Save order

## Add customer

UseCase in package 'Use cases'

Add customer  
 Version 1.0 Phase 1.0 Proposed  
 User created on 10/23/2023. Last modified 10/23/2023

ASSOCIATIONS	
 Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Add customer

## Add employee

UseCase in package 'Use cases'

Add employee  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

ASSOCIATIONS	
 Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Add employee

## Add product

UseCase in package 'Use cases'

Add product  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

ASSOCIATIONS	
 Association (direction: Unspecified)	
Source: Public (Actor) User	Target: Public (UseCase) Add product

## Add product to order

UseCase in package 'Use cases'

Add product to order  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

CONNECTORS	
 <b>Include</b> «include»   Source -> Destination From:      Add product to order : UseCase, Public To:          Edit product discount in order : UseCase, Public	

CONNECTORS
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:    Add product to order : UseCase, Public            To:       Edit product amount in order : UseCase, Public</p>
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:    Add product to order : UseCase, Public            To:       Edit product unit price in order : UseCase, Public</p>
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:    Save order : UseCase, Public            To:       Add product to order : UseCase, Public</p>

## Choose customer

UseCase in package 'Use cases'

Choose customer

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

CONNECTORS
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:    Save order : UseCase, Public            To:       Choose customer : UseCase, Public</p>

## Choose employee

UseCase in package 'Use cases'

Choose employee

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

CONNECTORS
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:    Save order : UseCase, Public            To:       Choose employee : UseCase, Public</p>

## Delete customer

UseCase in package 'Use cases'

Delete customer

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS** Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Delete customer

**Delete employee**

UseCase in package 'Use cases'

Delete employee

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS** Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Delete employee

**Delete product**

UseCase in package 'Use cases'

Delete product

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS** Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Delete product

**Edit product amount in order**

UseCase in package 'Use cases'

Edit product amount in order

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**CONNECTORS** **Include** «include» Source -> Destination

From: Add product to order : UseCase, Public

To: Edit product amount in order : UseCase, Public

## Edit product discount in order

UseCase in package 'Use cases'

Edit product discount in order

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

### CONNECTORS

↗ **Include** «include»    Source -> Destination

From: Add product to order : UseCase, Public

To: Edit product discount in order : UseCase, Public

## Edit product unit price in order

UseCase in package 'Use cases'

Edit product unit price in order

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

### CONNECTORS

↗ **Include** «include»    Source -> Destination

From: Add product to order : UseCase, Public

To: Edit product unit price in order : UseCase, Public

## Get customer

UseCase in package 'Use cases'

Get customer

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

### ASSOCIATIONS

↗ Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get customer

## Get customers

UseCase in package 'Use cases'

Get customers

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

### ASSOCIATIONS

**ASSOCIATIONS**

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get customers

## **Get customers**

UseCase in package 'Use cases'

Get customers

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS**

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get customers

## **Get employee**

UseCase in package 'Use cases'

Get employee

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS**

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get employee

## **Get employees**

UseCase in package 'Use cases'

Get employees

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS**

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get employees

## **Get order**

UseCase in package 'Use cases'

Get order  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get order

## Get orders

UseCase in package 'Use cases'

Get orders  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get orders

## Get products

UseCase in package 'Use cases'

Get products  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Get products

## Get product

UseCase in package 'Use cases'

Get product  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

**ASSOCIATIONS**

Source: Public (Actor) User

Target: Public (UseCase) Get product

***Save order****UseCase in package 'Use cases'*

Save order

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**CONNECTORS** **Include** «include» Source -> Destination

From: Save order : UseCase, Public

To: Choose employee : UseCase, Public

 **Include** «include» Source -> Destination

From: Save order : UseCase, Public

To: Choose customer : UseCase, Public

 **Include** «include» Source -> Destination

From: Save order : UseCase, Public

To: Add product to order : UseCase, Public

**ASSOCIATIONS** Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Save order

***Update customer****UseCase in package 'Use cases'*

Update customer

Version 1.0 Phase 1.0 Proposed

User created on 10/23/2023. Last modified 10/23/2023

**ASSOCIATIONS** Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Update customer

***Update customer****UseCase in package 'Use cases'*

Update customer  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Update customer

## ***Update employee***

*UseCase in package 'Use cases'*

Update employee  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

#### ASSOCIATIONS

 Association (direction: Unspecified)

Source: Public (Actor) User

Target: Public (UseCase) Update employee

## ***Use Case1***

*UseCase in package 'Use cases'*

Use Case1  
Version 1.0 Phase 1.0 Proposed  
User created on 10/23/2023. Last modified 10/23/2023

## Domain

*Package in package 'Model'*

Domain  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## Big Picture diagram

*Class diagram in package 'Domain'*

Big Picture  
Version 1.0  
User created on 6/12/2023. Last modified 6/13/2023

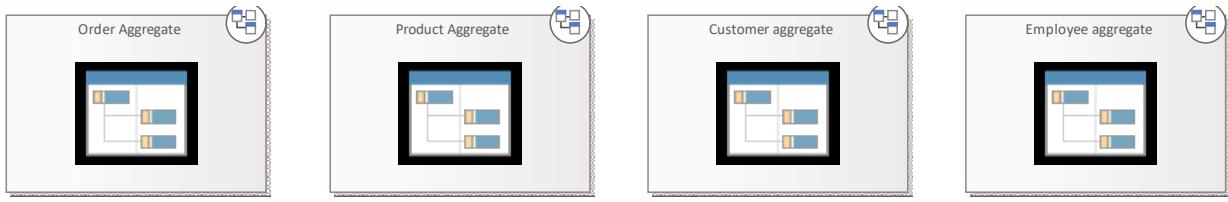


Figure 7: Big Picture

## Text

*Text «NavigationCell» in package 'Domain'*

Text  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023  
Alias Order Aggregate  
Extends

## Text

*Text «NavigationCell» in package 'Domain'*

Text  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023  
Alias Product Aggregate  
Extends

## Text

*Text «NavigationCell» in package 'Domain'*

Text  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023  
Alias Customer aggregate  
Extends

## Text

Text «NavigationCell» in package 'Domain'

Text  
Version 1.0 Phase 1.0 Proposed  
User created on 6/13/2023. Last modified 6/13/2023  
Alias Employee aggregate  
Extends

## ABP Types

Package in package 'Domain'

ABP Types  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## Entity

Class in package 'ABP Types'

Entity with composite key

Entity  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

INCOMING STRUCTURAL RELATIONSHIPS
➡ Generalization from OrderDetail to Entity [ Direction is 'Source -> Destination'. ]

## Entity<int>

Class in package 'ABP Types'

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS
➡ Generalization from Customer to Entity<int> [ Direction is 'Source -> Destination'. ]
➡ Generalization from Employee to Entity<int> [ Direction is 'Source -> Destination'. ]

INCOMING STRUCTURAL RELATIONSHIPS	
⇒ Generalization from Order to Entity<int>	[ Direction is 'Source -> Destination'. ]
⇒ Generalization from Product to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ Id : int Public	[ Is static True. Containment is Not Specified. ]

## Entity<int>

Class in package 'ABP Types'

Entity with single key

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS	
⇒ Generalization from Category to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ Id : int Public	[ Is static True. Containment is Not Specified. ]

## ValueObject

Class in package 'ABP Types'

ValueObject  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

INCOMING STRUCTURAL RELATIONSHIPS	
⇒ Generalization from AddressObject to ValueObject	[ Direction is 'Source -> Destination'. ]

## Common

*Package in package 'Domain'*

Common  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

### Common diagram

*Class diagram in package 'Common'*

Common  
Version 1.0  
User created on 6/12/2023. Last modified 6/12/2023

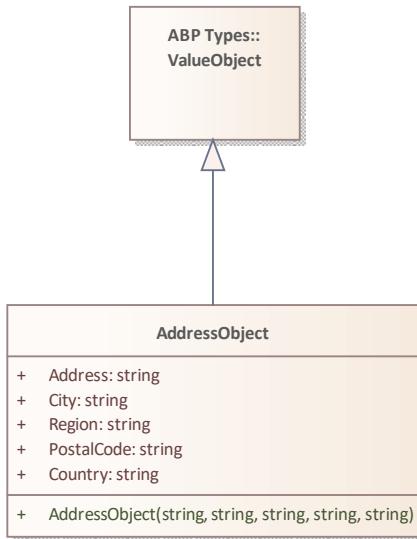


Figure 8: Common

## ValueObject

*Class in package 'ABP Types'*

ValueObject  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Generalization from AddressObject to ValueObject</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

## AddressObject

*Class in package 'Common'*

AddressObject

OUTGOING STRUCTURAL RELATIONSHIPS	
↳ Generalization from AddressObject to ValueObject	[ Direction is 'Source -> Destination'. ]
ATTRIBUTES	
◆ Address : string Public	[ Is static True. Containment is Not Specified. ]
◆ City : string Public	[ Is static True. Containment is Not Specified. ]
◆ Region : string Public	[ Is static True. Containment is Not Specified. ]
◆ PostalCode : string Public	[ Is static True. Containment is Not Specified. ]
◆ Country : string Public	[ Is static True. Containment is Not Specified. ]
OPERATIONS	
❖ AddressObject (Address : string , Region : string , City : string , PostalCode : string , Country : string ) : Public	[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Customer

Package in package 'Domain'

Customer  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## Domain manager

Package in package 'Customer'

Domain manager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

## Domain manager diagram

Class diagram in package 'Domain manager'

Domain manager  
Version 1.0  
User created on 6/25/2023. Last modified 6/25/2023

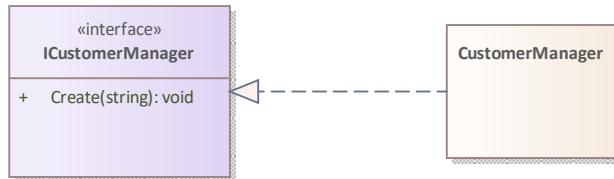


Figure 9: Domain manager

## CustomerManager

Class in package 'Domain manager'

CustomerManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>➡ Realization from CustomerManager to ICustomerManager</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

## ICustomerManager

Interface in package 'Domain manager'

ICustomerManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

**INCOMING STRUCTURAL RELATIONSHIPS**

➡ Realization from CustomerManager to ICustomerManager

[ Direction is 'Source -> Destination'. ]

**OPERATIONS**

❖ Create (name : string) : void Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Entity

*Package in package 'Customer'*

Entity  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

### Customer aggregate diagram

*Class diagram in package 'Entity'*

Customer aggregate  
Version 1.0  
User created on 6/12/2023. Last modified 10/10/2023

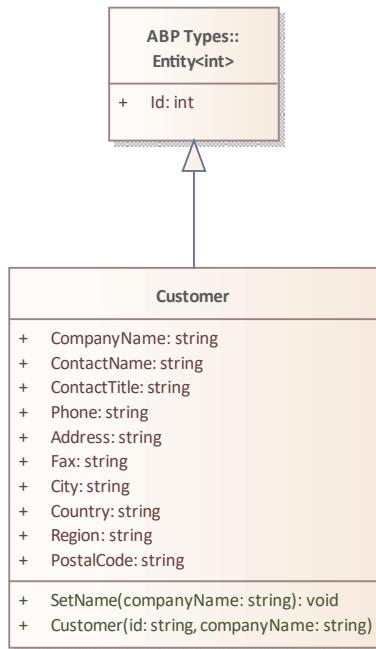


Figure 10: Customer aggregate

## Entity<int>

*Class in package 'ABP Types'*

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Generalization from Customer to Entity&lt;int&gt;</p> <p style="text-align: right;">[ Direction is 'Source -&gt; Destination'. ]</p>
<p>➡ Generalization from Employee to Entity&lt;int&gt;</p> <p style="text-align: right;">[ Direction is 'Source -&gt; Destination'. ]</p>

INCOMING STRUCTURAL RELATIONSHIPS	
➡ Generalization from Order to Entity<int>	[ Direction is 'Source -> Destination'. ]
➡ Generalization from Product to Entity<int>	[ Direction is 'Source -> Destination'. ]
ATTRIBUTES	
◆ Id : int Public	[ Is static True. Containment is Not Specified. ]

## Customer

Class in package 'Entity'

Customer  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/25/2023

OUTGOING STRUCTURAL RELATIONSHIPS	
⬅ Generalization from Customer to Entity<int>	[ Direction is 'Source -> Destination'. ]
ATTRIBUTES	
◆ CompanyName : string Public	[ Is static True. Containment is Not Specified. ]
◆ ContactName : string Public	[ Is static True. Containment is Not Specified. ]
◆ ContactTitle : string Public	[ Is static True. Containment is Not Specified. ]
◆ Phone : string Public	[ Is static True. Containment is Not Specified. ]
◆ Address : string Public	[ Is static True. Containment is Not Specified. ]
◆ Fax : string Public	[ Is static True. Containment is Not Specified. ]

ATTRIBUTES	
◆ City : string	Public [ Is static True. Containment is Not Specified. ]
◆ Country : string	Public [ Is static True. Containment is Not Specified. ]
◆ Region : string	Public [ Is static True. Containment is Not Specified. ]
◆ PostalCode : string	Public [ Is static True. Containment is Not Specified. ]

OPERATIONS	
◆ SetName (companyName : string)	: void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ Customer (id : string , companyName : string)	: Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Employee

Package in package 'Domain'

Employee  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## Employee aggregate diagram

Class diagram in package 'Employee'

Employee aggregate  
Version 1.0  
User created on 6/12/2023. Last modified 10/10/2023

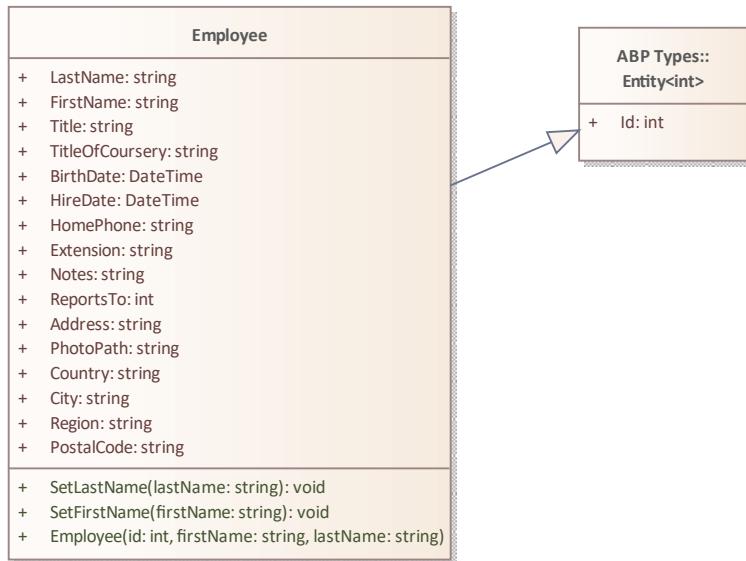


Figure 11: Employee aggregate

## Entity<int>

Class in package 'ABP Types'

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS	
➡ Generalization from Customer to Entity<int>	[ Direction is 'Source -> Destination'. ]
➡ Generalization from Employee to Entity<int>	[ Direction is 'Source -> Destination'. ]
➡ Generalization from Order to Entity<int>	[ Direction is 'Source -> Destination'. ]

INCOMING STRUCTURAL RELATIONSHIPS	
➡ Generalization from Product to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ Id : int Public	[ Is static True. Containment is Not Specified. ]

## Employee

Class in package 'Employee'

Employee  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

OUTGOING STRUCTURAL RELATIONSHIPS	
◀ Generalization from Employee to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ LastName : string Public	[ Is static True. Containment is Not Specified. ]
◆ FirstName : string Public	[ Is static True. Containment is Not Specified. ]
◆ Title : string Public	[ Is static True. Containment is Not Specified. ]
◆ TitleOfCoursery : string Public	[ Is static True. Containment is Not Specified. ]
◆ BirthDate : DateTime Public	[ Is static True. Containment is Not Specified. ]
◆ HireDate : DateTime Public	[ Is static True. Containment is Not Specified. ]
◆ HomePhone : string Public	[ Is static True. Containment is Not Specified. ]

ATTRIBUTES	
◆ Extension : string	Public [ Is static True. Containment is Not Specified. ]
◆ Notes : string	Public [ Is static True. Containment is Not Specified. ]
◆ ReportsTo : int	Public [ Is static True. Containment is Not Specified. ]
◆ Address : string	Public [ Is static True. Containment is Not Specified. ]
◆ PhotoPath : string	Public [ Is static True. Containment is Not Specified. ]
◆ Country : string	Public [ Is static True. Containment is Not Specified. ]
◆ City : string	Public [ Is static True. Containment is Not Specified. ]
◆ Region : string	Public [ Is static True. Containment is Not Specified. ]
◆ PostalCode : string	Public [ Is static True. Containment is Not Specified. ]
OPERATIONS	
◆ SetLastName	(lastName : string) : void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ SetFirstName	(firstName : string) : void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ Employee	(id : int, firstName : string, lastName : string) : Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Order

*Package in package 'Domain'*

Order  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

### Order Aggregate diagram

*Class diagram in package 'Order'*

Order Aggregate  
Version 1.0  
User created on 6/12/2023. Last modified 10/10/2023

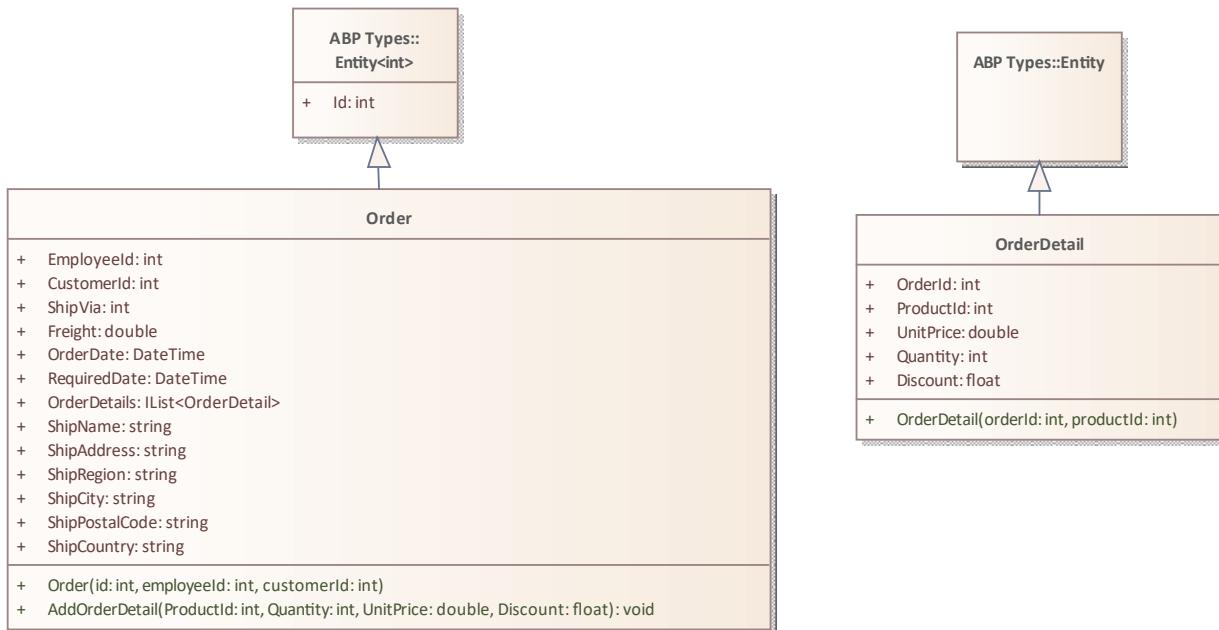


Figure 12: Order Aggregate

## Entity

*Class in package 'ABP Types'*

Entity with composite key

Entity  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

INCOMING STRUCTURAL RELATIONSHIPS	
➡ Generalization from OrderDetail to Entity	[ Direction is 'Source -> Destination'. ]

## Entity<int>

*Class in package 'ABP Types'*

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS	
→ Generalization from Customer to Entity<int>	[ Direction is 'Source -> Destination'. ]
→ Generalization from Employee to Entity<int>	[ Direction is 'Source -> Destination'. ]
→ Generalization from Order to Entity<int>	[ Direction is 'Source -> Destination'. ]
→ Generalization from Product to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ Id : int Public	[ Is static True. Containment is Not Specified. ]

**Order***Class in package 'Order'*

Order  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

OUTGOING STRUCTURAL RELATIONSHIPS	
← Generalization from Order to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ EmployeeId : int Public	[ Is static True. Containment is Not Specified. ]
◆ CustomerId : int Public	[ Is static True. Containment is Not Specified. ]
◆ ShipVia : int Public	

ATTRIBUTES	
◆ Freight : double	Public [ Is static True. Containment is Not Specified. ]
◆ OrderDate : DateTime	Public [ Is static True. Containment is Not Specified. ]
◆ RequiredDate : DateTime	Public [ Is static True. Containment is Not Specified. ]
◆ OrderDetails : IList<OrderDetail>	Public [ Is static True. Containment is Not Specified. ]
◆ ShipName : string	Public [ Is static True. Containment is Not Specified. ]
◆ ShipAddress : string	Public [ Is static True. Containment is Not Specified. ]
◆ ShipRegion : string	Public [ Is static True. Containment is Not Specified. ]
◆ ShipCity : string	Public [ Is static True. Containment is Not Specified. ]
◆ ShipPostalCode : string	Public [ Is static True. Containment is Not Specified. ]
◆ ShipCountry : string	Public [ Is static True. Containment is Not Specified. ]

OPERATIONS	
◆ Order (id : int , employeeId : int , customerId : int )	: Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ AddOrderDetail (ProductId : int , Quantity : int , UnitPrice : double , Discount : float )	: void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## OrderDetail

Class in package 'Order'

## OrderDetail

Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## OUTGOING STRUCTURAL RELATIONSHIPS

↳ Generalization from OrderDetail to Entity

[ Direction is 'Source -> Destination'. ]

## ATTRIBUTES

◆ OrderId : int Public

[ Is static True. Containment is Not Specified. ]

◆ ProductId : int Public

[ Is static True. Containment is Not Specified. ]

◆ UnitPrice : double Public

[ Is static True. Containment is Not Specified. ]

◆ Quantity : int Public

[ Is static True. Containment is Not Specified. ]

◆ Discount : float Public

[ Is static True. Containment is Not Specified. ]

## OPERATIONS

◆ OrderDetail (orderId : int , productId : int ) : Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Product

Package in package 'Domain'

Product  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/12/2023

## Domain managers

Package in package 'Product'

Domain managers  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

## Domain managers diagram

Class diagram in package 'Domain managers'

Domain managers  
Version 1.0  
User created on 6/25/2023. Last modified 6/25/2023

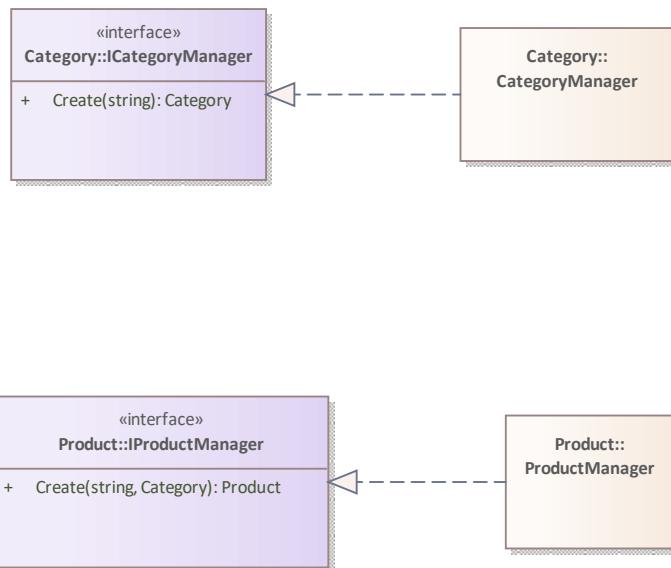


Figure 13: Domain managers

## CategoryManager

Class in package 'Category'

CategoryManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

### OUTGOING STRUCTURAL RELATIONSHIPS

**OUTGOING STRUCTURAL RELATIONSHIPS**

⬅ Realization from CategoryManager to ICategoryManager

[ Direction is 'Source -> Destination'. ]

**ICategoryManager**

*Interface in package 'Category'*

ICategoryManager

Version 1.0 Phase 1.0 Proposed

User created on 6/25/2023. Last modified 6/25/2023

**INCOMING STRUCTURAL RELATIONSHIPS**

➡ Realization from CategoryManager to ICategoryManager

[ Direction is 'Source -> Destination'. ]

**OPERATIONS**

❖ Create (name : string) : Category Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**ProductManager**

*Class in package 'Product'*

ProductManager

Version 1.0 Phase 1.0 Proposed

User created on 6/25/2023. Last modified 6/25/2023

**OUTGOING STRUCTURAL RELATIONSHIPS**

⬅ Realization from ProductManager to IProductManager

[ Direction is 'Source -> Destination'. ]

**IProductManager**

*Interface in package 'Product'*

IProductManager

Version 1.0 Phase 1.0 Proposed

User created on 6/25/2023. Last modified 6/25/2023

**INCOMING STRUCTURAL RELATIONSHIPS**

➡ Realization from ProductManager to IProductManager

[ Direction is 'Source -> Destination'. ]

**OPERATIONS**

- ❖ Create (name : string , category : Category ) : Product Public
  - [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**Category***Package in package 'Domain managers'*

Category  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

**CategoryManager***Class in package 'Category'*

CategoryManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

**OUTGOING STRUCTURAL RELATIONSHIPS**

- ↳ Realization from CategoryManager to ICategoryManager
  - [ Direction is 'Source -> Destination'. ]

**ICategoryManager***Interface in package 'Category'*

ICategoryManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

**INCOMING STRUCTURAL RELATIONSHIPS**

- ➡ Realization from CategoryManager to ICategoryManager
  - [ Direction is 'Source -> Destination'. ]

**OPERATIONS**

- ❖ Create (name : string ) : Category Public
  - [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Product

Package in package 'Domain managers'

Product  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

### ProductManager

Class in package 'Product'

ProductManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

OUTGOING STRUCTURAL RELATIONSHIPS
↳ Realization from ProductManager to IProductManager [ Direction is 'Source -> Destination'. ]

### IProductManager

Interface in package 'Product'

IProductManager  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

INCOMING STRUCTURAL RELATIONSHIPS
→ Realization from ProductManager to IProductManager [ Direction is 'Source -> Destination'. ]

OPERATIONS
❖ Create (name : string , category : Category ) : Product Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Entities

Package in package 'Product'

Entities  
Version 1.0 Phase 1.0 Proposed  
User created on 6/25/2023. Last modified 6/25/2023

### Product Aggregate diagram

Class diagram in package 'Entities'

Product Aggregate  
Version 1.0  
User created on 6/12/2023. Last modified 10/10/2023

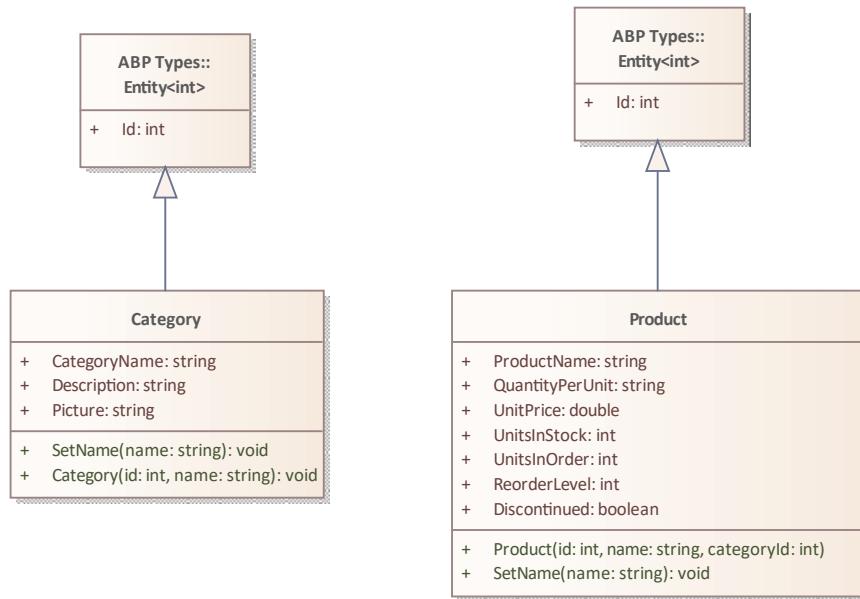


Figure 14: Product Aggregate

### Entity<int>

Class in package 'ABP Types'

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Generalization from Customer to Entity&lt;int&gt;</p> <p style="text-align: right;">[ Direction is 'Source -&gt; Destination'. ]</p>
<p>➡ Generalization from Employee to Entity&lt;int&gt;</p> <p style="text-align: right;">[ Direction is 'Source -&gt; Destination'. ]</p>
<p>➡ Generalization from Order to Entity&lt;int&gt;</p> <p style="text-align: right;">[ Direction is 'Source -&gt; Destination'. ]</p>

**INCOMING STRUCTURAL RELATIONSHIPS**

➡ Generalization from Product to Entity<int>

[ Direction is 'Source -> Destination'. ]

**ATTRIBUTES**

◆ Id : int Public

[ Is static True. Containment is Not Specified. ]

**Entity<int>**

*Class in package 'ABP Types'*

Entity with single key

Entity<int>  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 10/10/2023

**INCOMING STRUCTURAL RELATIONSHIPS**

➡ Generalization from Category to Entity<int>

[ Direction is 'Source -> Destination'. ]

**ATTRIBUTES**

◆ Id : int Public

[ Is static True. Containment is Not Specified. ]

**Category**

*Class in package 'Entities'*

Category  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/25/2023

**OUTGOING STRUCTURAL RELATIONSHIPS**

⬅ Generalization from Category to Entity<int>

[ Direction is 'Source -> Destination'. ]

**ATTRIBUTES**

◆ CategoryName : string Public

[ Is static True. Containment is Not Specified. ]

ATTRIBUTES	
◆ Description : string Public	[ Is static True. Containment is Not Specified. ]
◆ Picture : string Public	[ Is static True. Containment is Not Specified. ]

OPERATIONS	
◆ SetName (name : string) : void Public	[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ Category (id : int, name : string) : void Public	[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Product

Class in package 'Entities'

Product  
Version 1.0 Phase 1.0 Proposed  
User created on 6/12/2023. Last modified 6/25/2023

OUTGOING STRUCTURAL RELATIONSHIPS	
↳ Generalization from Product to Entity<int>	[ Direction is 'Source -> Destination'. ]

ATTRIBUTES	
◆ ProductName : string Public	[ Is static True. Containment is Not Specified. ]
◆ QuantityPerUnit : string Public	[ Is static True. Containment is Not Specified. ]
◆ UnitPrice : double Public	[ Is static True. Containment is Not Specified. ]
◆ UnitsInStock : int Public	[ Is static True. Containment is Not Specified. ]
◆ UnitsInOrder : int Public	[ Is static True. Containment is Not Specified. ]
◆ ReorderLevel : int Public	[ Is static True. Containment is Not Specified. ]

ATTRIBUTES
<p>◆ Discontinued : boolean Public [ Is static True. Containment is Not Specified. ]</p>
OPERATIONS
<p>◆ Product (id : int , name : string , categoryId : int ) : Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]</p> <p>◆ SetName (name : string ) : void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]</p>

## Interaction between layers

Package in package 'Model'

Interaction between layers  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

## Edit state of product in real time

Package in package 'Interaction between layers'

Edit state of product in real time  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

## Edit number of product in order in real time

Package in package 'Edit state of product in real time'

Edit number of product in order in real time  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

## Edit number of product in order in real time diagram

Activity diagram in package 'Edit number of product in order in real time'

Edit number of product in order in real time  
Version 1.0  
User created on 7/17/2023. Last modified 7/19/2023



Figure 15: Edit number of product in order in real time

## Final

ActivityFinal in package 'Edit number of product in order in real time'

INCOMING BEHAVIORAL RELATIONSHIPS
→ ControlFlow from Update Order ViewModel to Final
→ ControlFlow from Edit number of products on all other instances of application to Final

## Initial

ActivityInitial in package 'Edit number of product in order in real time'

**OUTGOING BEHAVIORAL RELATIONSHIPS** ControlFlow from Initial to Add product to order**Add product to order***Action in package 'Edit number of product in order in real time'*

Add product to order  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS** ControlFlow from Add product to order to Edit product number in order**INCOMING BEHAVIORAL RELATIONSHIPS** ControlFlow from Initial to Add product to order**Edit number of products on all other instances of application***Action in package 'Edit number of product in order in real time'*

Edit number of products on all other instances of application  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS** ControlFlow from Edit number of products on all other instances of application to Final**INCOMING BEHAVIORAL RELATIONSHIPS** ControlFlow from Send notification that number of products changed to Edit number of products on all other instances of application**Edit product number in order***Action in package 'Edit number of product in order in real time'*

Edit product number in order  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS**

**OUTGOING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Edit product number in order to Send notification that number of products changed

**INCOMING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Add product to order to Edit product number in order

**Final**

*ActivityFinal in package 'Edit number of product in order in real time'*

**INCOMING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Update Order ViewModel to Final

↳ ControlFlow from Edit number of products on all other instances of application to Final

**Initial**

*ActivityInitial in package 'Edit number of product in order in real time'*

**OUTGOING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Initial to Add product to order

**Recieve notification on another client**

*Action in package 'Edit number of product in order in real time'*

Recieve notification on another client  
 Version 1.0 Phase 1.0 Proposed  
 User created on 7/17/2023. Last modified 7/17/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Recieve notification on another client to Update Order ViewModel

↳ ControlFlow from Recieve notification on another client to Update repository on another client

**INCOMING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Send notification that number of products changed to Recieve notification on another client

## Recieve notification that number of product changed

Action in package 'Edit number of product in order in real time'

Recieve notification that number of product changed  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

## Send notification that number of products changed

Action in package 'Edit number of product in order in real time'

Send notification that number of products changed  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

OUTGOING BEHAVIORAL RELATIONSHIPS
↳ ControlFlow from Send notification that number of products changed to Recieve notification on another client
↳ ControlFlow from Send notification that number of products changed to Edit number of products on all other instances of application

INCOMING BEHAVIORAL RELATIONSHIPS
↗ ControlFlow from Edit product number in order to Send notification that number of products changed

## Update Order ViewModel

Action in package 'Edit number of product in order in real time'

Update Order ViewModel  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

OUTGOING BEHAVIORAL RELATIONSHIPS
↳ ControlFlow from Update Order ViewModel to Final

INCOMING BEHAVIORAL RELATIONSHIPS
↗ ControlFlow from Update repository on another client to Update Order ViewModel
↗ ControlFlow from Recieve notification on another client to Update Order ViewModel

## Update repository on another client

Action in package 'Edit number of product in order in real time'

Update repository on another client  
Version 1.0 Phase 1.0 Proposed  
User created on 7/17/2023. Last modified 7/17/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Update repository on another client to Update Order ViewModel

**INCOMING BEHAVIORAL RELATIONSHIPS**

↳ ControlFlow from Recieve notification on another client to Update repository on another client

## Interaction between services when edit product number

Package in package 'Edit state of product in real time'

Interaction between services when edit product number  
 Version 1.0 Phase 1.0 Proposed  
 User created on 7/17/2023. Last modified 7/17/2023

## Interaction between services when edit product number diagram

Interaction diagram in package 'Interaction between services when edit product number'

Interaction between services when edit product number  
 Version 1.0  
 User created on 7/17/2023. Last modified 9/28/2023

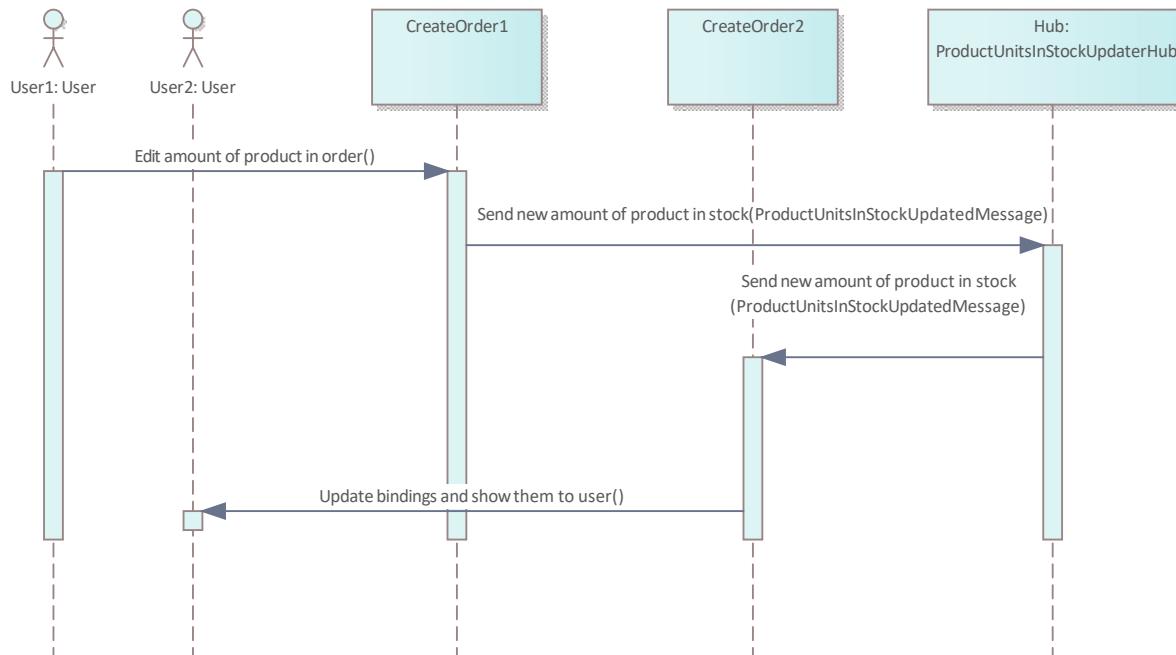


Figure 16: Interaction between services when edit product number

INTERACTION MESSAGES	
<p>✉ 1.0 'Edit amount of product in order' from 'User1: User' sent to 'CreateOrder1'.</p> <p>Synchronous Call. Returns void.</p>	[ Return is False. Iteration is False. New group is False. ]
<p>✉ 1.1 'Send new amount of product in stock' from 'CreateOrder1' sent to 'Hub: ProductUnitsInStockUpdaterHub'.</p> <p>Synchronous Call. Returns void.</p>	[ Return is False. Iteration is False. New group is False. ]

**1.2 'Send new amount of product in stock'** from 'Hub: ProductUnitsInStockUpdaterHub' sent to 'CreateOrder2'.

Synchronous Call. Returns void.

[ Return is False. Iteration is False. New group is False. ]

**1.3 'Update bindings and show them to user'** from 'CreateOrder2' sent to 'User2: User'.

Synchronous Call. Returns void.

[ Return is False. Iteration is False. New group is False. ]

## User

*Actor in package 'Interaction between services when edit product number'*

User

Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

## Hub

*Object in package 'Interaction between services when edit product number'*

Hub

Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

## CreateOrder1

*Sequence in package 'Interaction between services when edit product number'*

Class in presentation layer. Contain UI and UI logic for creating order

CreateOrder1

Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

### OUTGOING BEHAVIORAL RELATIONSHIPS

Name: Send new amount of product in stock

Sequence from CreateOrder1 to Hub

### INCOMING BEHAVIORAL RELATIONSHIPS

Name: Edit amount of product in order

Sequence from User1 to CreateOrder1

## CreateOrder2

*Sequence in package 'Interaction between services when edit product number'*

Class in presentation layer. Contain UI and UI logic for creating order

CreateOrder2  
Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

#### OUTGOING BEHAVIORAL RELATIONSHIPS

Name: Update bindings and show them to user

↳ Sequence from CreateOrder2 to User2

#### INCOMING BEHAVIORAL RELATIONSHIPS

Name: Send new amount of product in stock

↗ Sequence from Hub to CreateOrder2

## User1

*Sequence in package 'Interaction between services when edit product number'*

User1  
Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

#### OUTGOING BEHAVIORAL RELATIONSHIPS

Name: Edit amount of product in order

↳ Sequence from User1 to CreateOrder1

## User2

*Sequence in package 'Interaction between services when edit product number'*

User2  
Version 1.0 Phase 1.0 Proposed  
User created on 9/28/2023. Last modified 9/28/2023

#### INCOMING BEHAVIORAL RELATIONSHIPS

Name: Update bindings and show them to user

↗ Sequence from CreateOrder2 to User2

## Services for updating number of products

Package in package 'Edit state of product in real time'

Services for updating number of products  
 Version 1.0 Phase 1.0 Proposed  
 User created on 7/17/2023. Last modified 7/17/2023

### Services for updating number of products diagram

Class diagram in package 'Services for updating number of products'

Services for updating number of products  
 Version 1.0  
 User created on 7/17/2023. Last modified 7/19/2023



Figure 17: Services for updating number of products

## ProductUnitsInStockUpdatedMessage

Class in package 'Services for updating number of products'

ProductUnitsInStockUpdatedMessage  
 Version 1.0 Phase 1.0 Proposed  
 User created on 7/17/2023. Last modified 7/19/2023

ATTRIBUTES
<span style="color: #0070C0;">◆</span> ProductId : int Public <small>[ Is static True. Containment is Not Specified. ]</small>
<span style="color: #0070C0;">◆</span> NewUnitsInStockNumber : int Public <small>[ Is static True. Containment is Not Specified. ]</small>

## ProductUnitsInStockUpdaterHub

Class in package 'Services for updating number of products'

ProductUnitsInStockUpdaterHub  
 Version 1.0 Phase 1.0 Proposed  
 User created on 7/17/2023. Last modified 7/19/2023

OPERATIONS
<span style="color: #0070C0;">◆</span> UpdateProductUnitsInStock (message : ProductUnitsInStockUpdatedMessage) : void Public <small>[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]</small>

<b>OPERATIONS</b>

## Order creation

Package in package 'Interaction between layers'

Order creation  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

## Order creation sequence diagram

Package in package 'Order creation'

Order creation sequence diagram  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

## Order creation diagram

Interaction diagram in package 'Order creation sequence diagram'

Order creation  
Version 1.0  
User created on 7/5/2023. Last modified 7/5/2023

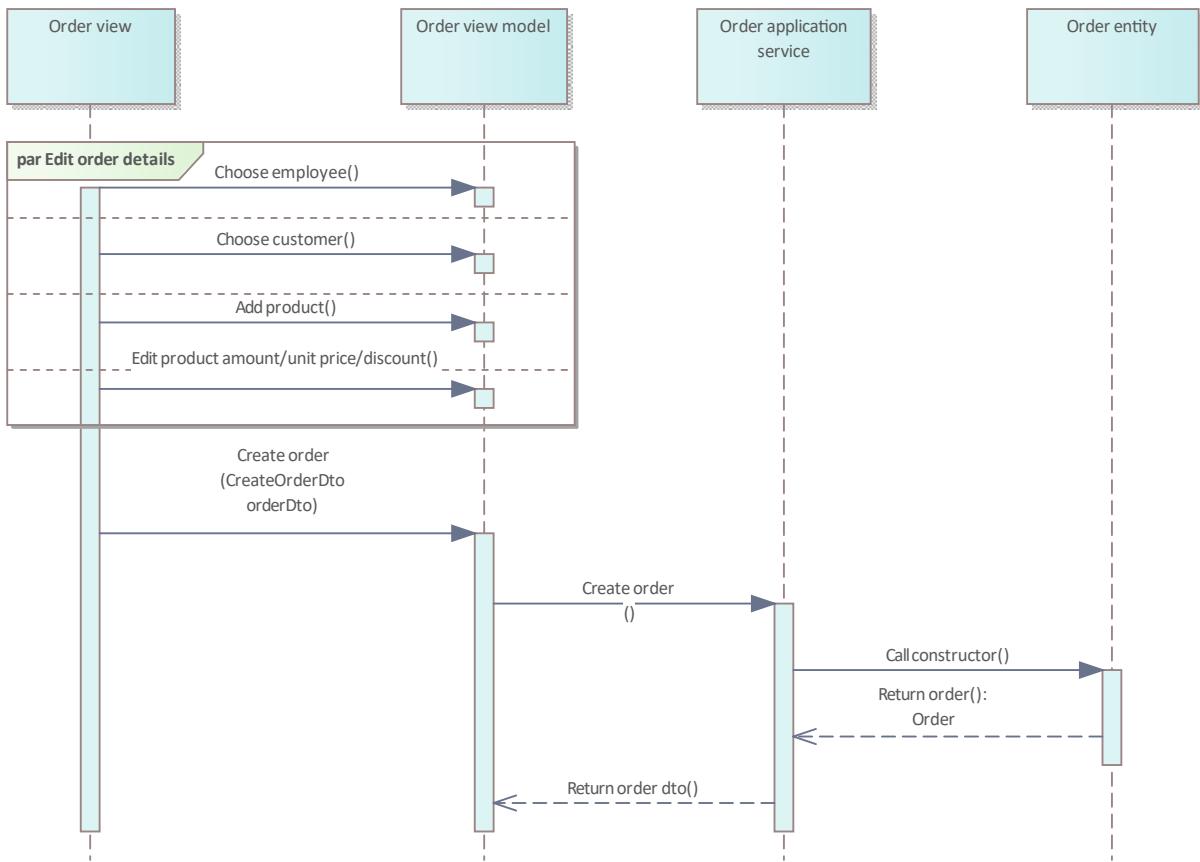


Figure 18: Order creation

### INTERACTION MESSAGES

<b>✉ 1.0 'Choose employee'</b> from 'Order view' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.1 'Choose customer'</b> from 'Order view' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.2 'Add product'</b> from 'Order view' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.3 'Edit product amount/unit price/discount'</b> from 'Order view' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.4 'Create order'</b> from 'Order view' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.5 'Create order'</b> from 'Order view model' sent to 'Order application service'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.6 'Call constructor'</b> from 'Order application service' sent to 'Order entity'.	Synchronous Call. Returns void. [ Return is False. Iteration is False. New group is False. ]
<b>✉ 1.7 'Return order'</b> from 'Order entity' sent to 'Order application service'.	Synchronous Call. Returns Order. [ Return is True. Iteration is False. New group is False. ]
<b>✉ 1.8 'Return order dto'</b> from 'Order application service' sent to 'Order view model'.	Synchronous Call. Returns void. [ Return is True. Iteration is False. New group is False. ]

## Edit order details

*InteractionFragment in package 'Order creation sequence diagram'*

Edit order details  
Version 1.0 Phase 1.0 Proposed

## Employee application service

*Sequence in package 'Order creation sequence diagram'*

Employee application service  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

## Order application service

*Sequence in package 'Order creation sequence diagram'*

Order application service  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

OUTGOING BEHAVIORAL RELATIONSHIPS
Name: Call constructor ↳ Sequence from Order application service to Order entity
Name: Return order dto ↳ Sequence from Order application service to Order view model

INCOMING BEHAVIORAL RELATIONSHIPS
Name: Return order ↗ Sequence from Order entity to Order application service
Name: Create order ↗ Sequence from Order view model to Order application service

## Order entity

*Sequence in package 'Order creation sequence diagram'*

Order entity  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

OUTGOING BEHAVIORAL RELATIONSHIPS
Name: Return order ↳ Sequence from Order entity to Order application service
INCOMING BEHAVIORAL RELATIONSHIPS
Name: Call constructor

**INCOMING BEHAVIORAL RELATIONSHIPS**

Sequence from Order application service to Order entity

**Order view**

*Sequence in package 'Order creation sequence diagram'*

Order view

Version 1.0 Phase 1.0 Proposed

User created on 7/5/2023. Last modified 7/5/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS**

Name: Edit product amount/unit price/discount

Sequence from Order view to Order view model

Name: Choose employee

Sequence from Order view to Order view model

Name: Add product

Sequence from Order view to Order view model

Name: Create order

Sequence from Order view to Order view model

Name: Choose customer

Sequence from Order view to Order view model

**Order view model**

*Sequence in package 'Order creation sequence diagram'*

Order view model

Version 1.0 Phase 1.0 Proposed

User created on 7/5/2023. Last modified 7/5/2023

**OUTGOING BEHAVIORAL RELATIONSHIPS**

Name: Create order

Sequence from Order view model to Order application service

**INCOMING BEHAVIORAL RELATIONSHIPS**

Name: Edit product amount/unit price/discount

Sequence from Order view to Order view model

Name: Choose employee

Sequence from Order view to Order view model

INCOMING BEHAVIORAL RELATIONSHIPS
Name: Add product ↳ Sequence from Order view to Order view model
Name: Return order dto ↳ Sequence from Order application service to Order view model
Name: Create order ↳ Sequence from Order view to Order view model
Name: Choose customer ↳ Sequence from Order view to Order view model

## Order DTOs

Package in package 'Order creation'

Order DTOs  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

## Order DTOs diagram

Class diagram in package 'Order DTOs'

Order DTOs  
Version 1.0  
User created on 7/5/2023. Last modified 7/5/2023



Figure 19: Order DTOs

## CreateOrderDto

Class in package 'Order DTOs'

CreateOrderDto  
Version 1.0 Phase 1.0 Proposed  
User created on 7/5/2023. Last modified 7/5/2023

ATTRIBUTES
◆ CustomerId : int Public [ Is static True. Containment is Not Specified. ]
◆ EmployeeId : int Public [ Is static True. Containment is Not Specified. ]
◆ OrderDetails : List<OrderDetails> Public [ Is static True. Containment is Not Specified. ]

## UI

Package in package 'Model'

UI

Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 6/30/2023

## Order

Package in package 'UI'

Order

Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 6/30/2023

## Create Order

Package in package 'Order'

Create Order

Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

## Class diagram

Package in package 'Create Order'

Class diagram

Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

## Create order class view diagram

Class diagram in package 'Class diagram'

Create order class view

Version 1.0

User created on 9/17/2023. Last modified 9/17/2023

CreateOrder	
+ Employees: ObservableCollection<EmployeeDto>	
+ Products: ObservableCollection<ProductDto>	
+ Customers: ObservableCollection<CustomerDto>	
+ CreateOrder(employeeApplicationService, productApplicationService, customerApplicationService)	
# OnAfterRenderAsync(firstRender): Task	
- FillProductsAsync(): Task	
- FillCustomersAsync(): Task	
- FillEmployeesAsync(): Task	

Figure 20: Create order class view

**CreateOrder***Class in package 'Class diagram'*

CreateOrder  
Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

ATTRIBUTES	
◆ Employees : ObservableCollection<EmployeeDto>	Public [ Is static True. Containment is Not Specified. ]
◆ Products : ObservableCollection<ProductDtoObservable>	Public [ Is static True. Containment is Not Specified. ]
◆ Customers : ObservableCollection<CustomerDto>	Public [ Is static True. Containment is Not Specified. ]

OPERATIONS	
◆ CreateOrder (employeeApplicationService : IEmployeeApplicationService , productApplicationService : IProductApplicationService , customerApplicationService : ICustomerApplicationService )	Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ OnAfterRenderAsync (firstRender : bool )	Task Protected [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ FillProductsAsync ()	Task Private [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ FillCustomersAsync ()	Task Private [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
◆ FillEmployeesAsync ()	Task Private [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## ProductDtoObservable

Package in package 'Create Order'

ProductDtoObservable  
Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

### ProductDtoObservable diagram

Class diagram in package 'ProductDtoObservable'

ProductDtoObservable  
Version 1.0  
User created on 9/17/2023. Last modified 9/17/2023



Figure 21: ProductDtoObservable

## ProductDto

Class in package 'ProductDtoObservable'

ProductDto  
Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

INCOMING STRUCTURAL RELATIONSHIPS
<p>➡ Generalization from ProductDtoObservable to ProductDto</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

## ProductDtoObservable

Class in package 'ProductDtoObservable'

ProductDtoObservable  
Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

OUTGOING STRUCTURAL RELATIONSHIPS
<p>⬅ Generalization from ProductDtoObservable to ProductDto</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>
<p>⬅ Realization from ProductDtoObservable to INotifyPropertyChanged</p> <p>[ Direction is 'Source -&gt; Destination'. ]</p>

**INotifyPropertyChanged***Interface in package 'ProductDtoObservable'*

INotifyPropertyChanged  
Version 1.0 Phase 1.0 Proposed  
User created on 9/17/2023. Last modified 9/17/2023

INCOMING STRUCTURAL RELATIONSHIPS
→ Realization from ProductDtoObservable to INotifyPropertyChanged [ Direction is 'Source -> Destination'. ]

## Use cases

Package in package 'Order'

Use cases  
Version 1.0 Phase 1.0 Proposed  
User created on 7/13/2023. Last modified 7/13/2023

## Order view diagram

Use Case diagram in package 'Use cases'

Order view  
Version 1.0  
User created on 6/30/2023. Last modified 7/31/2023

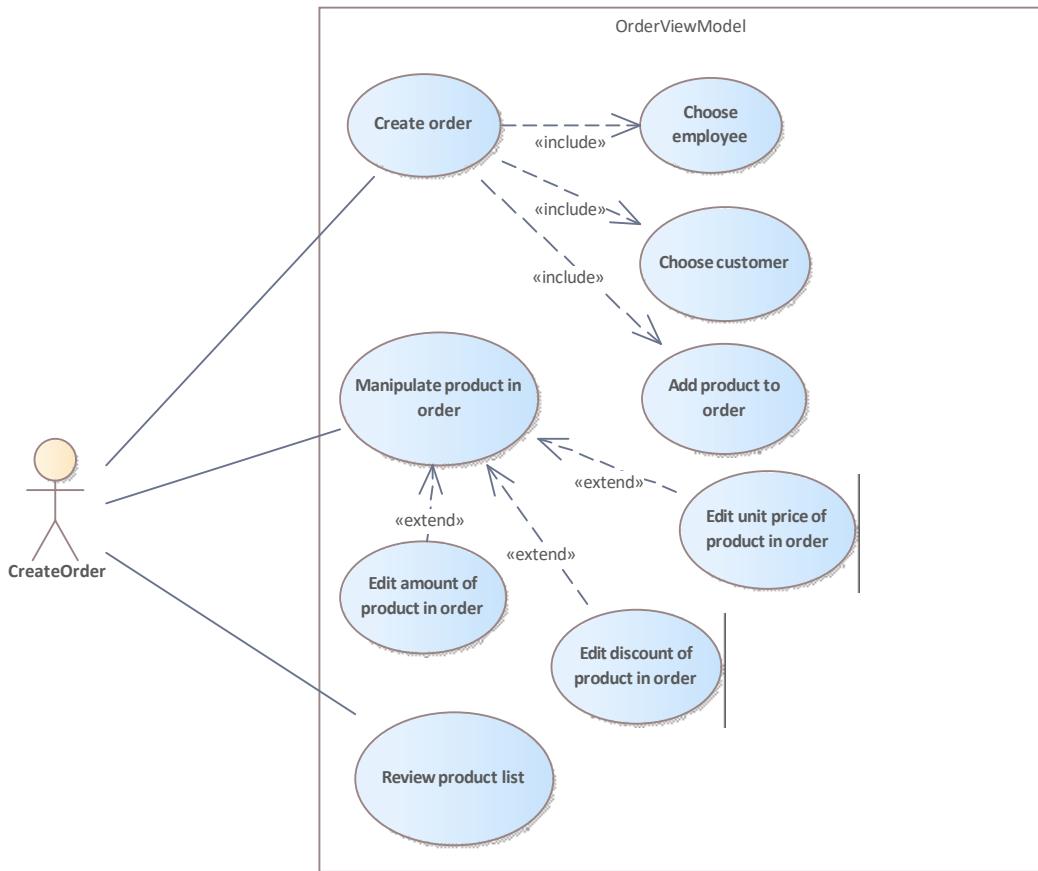


Figure 22: Order view

## OrderViewModel

Boundary in package 'Use cases'

OrderViewModel  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 6/30/2023  
Extends

## CreateOrder

*Actor in package 'Use cases'*

CreateOrder  
 Version 1.0 Phase 1.0 Proposed  
 User created on 6/30/2023. Last modified 9/17/2023

ASSOCIATIONS	
 Association (direction: Unspecified)	
Source: Public (Actor) CreateOrder	Target: Public (UseCase) Manipulate product in order
 Association (direction: Unspecified)	
Source: Public (Actor) CreateOrder	Target: Public (UseCase) Review product list
 Association (direction: Unspecified)	
Source: Public (Actor) CreateOrder	Target: Public (UseCase) Create order

## Add product to order

*UseCase in package 'Use cases'*

Add product to order  
 Version 1.0 Phase 1.0 Proposed  
 User created on 6/30/2023. Last modified 7/13/2023

CONNECTORS	
 <b>Include</b> «include» Source -> Destination From: Create order : UseCase, Public To: Add product to order : UseCase, Public	

## Choose customer

*UseCase in package 'Use cases'*

Choose customer  
 Version 1.0 Phase 1.0 Proposed  
 User created on 6/30/2023. Last modified 7/13/2023

CONNECTORS	
 <b>Include</b> «include» Source -> Destination From: Create order : UseCase, Public To: Choose customer : UseCase, Public	

## Choose employee

*UseCase in package 'Use cases'*

Choose employee  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 7/13/2023

CONNECTORS
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:     Create order : UseCase, Public            To:       Choose employee : UseCase, Public</p>

## Create order

*UseCase in package 'Use cases'*

Create order  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 7/13/2023

CONNECTORS
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:     Create order : UseCase, Public            To:       Choose employee : UseCase, Public</p>
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:     Create order : UseCase, Public            To:       Add product to order : UseCase, Public</p>
<p>↗ <b>Include</b> «include»    Source -&gt; Destination            From:     Create order : UseCase, Public            To:       Choose customer : UseCase, Public</p>

ASSOCIATIONS
<p>↙ Association (direction: Unspecified)            Source: Public (Actor) CreateOrder                      Target: Public (UseCase) Create order</p>

## Edit amount of product in order

*UseCase in package 'Use cases'*

Edit amount of product in order  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 7/13/2023

CONNECTORS
------------

**CONNECTORS** **Extend** «extend» Source -> Destination

From: Edit amount of product in order : UseCase, Public  
To: Manipulate product in order : UseCase, Public

**Edit discount of product in order***UseCase in package 'Use cases'*

Edit discount of product in order

Version 1.0 Phase 1.0 Proposed

User created on 6/30/2023. Last modified 7/13/2023

**CONNECTORS** **Extend** «extend» Source -> Destination

From: Edit discount of product in order : UseCase, Public  
To: Manipulate product in order : UseCase, Public

**Edit unit price of product in order***UseCase in package 'Use cases'*

Edit unit price of product in order

Version 1.0 Phase 1.0 Proposed

User created on 6/30/2023. Last modified 7/13/2023

**CONNECTORS** **Extend** «extend» Source -> Destination

From: Edit unit price of product in order : UseCase, Public  
To: Manipulate product in order : UseCase, Public

**Manipulate product in order***UseCase in package 'Use cases'*

Manipulate product in order

Version 1.0 Phase 1.0 Proposed

User created on 6/30/2023. Last modified 7/13/2023

**CONNECTORS** **Extend** «extend» Source -> Destination

From: Edit amount of product in order : UseCase, Public  
To: Manipulate product in order : UseCase, Public

CONNECTORS
<p>↗ Extend «extend» Source -&gt; Destination From: Edit discount of product in order : UseCase, Public To: Manipulate product in order : UseCase, Public</p>
<p>↗ Extend «extend» Source -&gt; Destination From: Edit unit price of product in order : UseCase, Public To: Manipulate product in order : UseCase, Public</p>

ASSOCIATIONS
<p>↖ Association (direction: Unspecified) Source: Public (Actor) CreateOrder      Target: Public (UseCase) Manipulate product in order</p>

## Review product list

UseCase in package 'Use cases'

Review product list  
Version 1.0 Phase 1.0 Proposed  
User created on 6/30/2023. Last modified 7/13/2023

ASSOCIATIONS
<p>↖ Association (direction: Unspecified) Source: Public (Actor) CreateOrder      Target: Public (UseCase) Review product list</p>

## [View model](#)

*Package in package 'Order'*

View model  
Version 1.0 Phase 1.0 Proposed  
User created on 7/13/2023. Last modified 7/17/2023

## **View Model diagram**

*Class diagram in package 'View model'*

View Model  
Version 1.0  
User created on 7/13/2023. Last modified 7/13/2023



Figure 23: View Model

## **OrderViewModel**

*Class in package 'View model'*

OrderViewModel  
Version 1.0 Phase 1.0 Proposed  
User created on 7/13/2023. Last modified 7/13/2023

ATTRIBUTES	
◆ Products : List<Product>	Public [ Is static True. Containment is Not Specified. ]
◆ Customers : List<Customer>	Public [ Is static True. Containment is Not Specified. ]
◆ Employees : List<Employee>	Public [ Is static True. Containment is Not Specified. ]
◆ CurrentCustomer : Customer	Public [ Is static True. Containment is Not Specified. ]
◆ CurrentEmployee : Employee	Public [ Is static True. Containment is Not Specified. ]

ATTRIBUTES
◆ OrderDetails : List<OrderDetailDto> Public [ Is static True. Containment is Not Specified. ]
◆ Order : OrderDto Public [ Is static True. Containment is Not Specified. ]
OPERATIONS
◆ SaveOrder () : void Public [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]