Table of Content

Get the shopping cart info

In Scope

get current shopping cart from backend and display shopping cart info: price, amount for each product, total of the products

Out of Scope

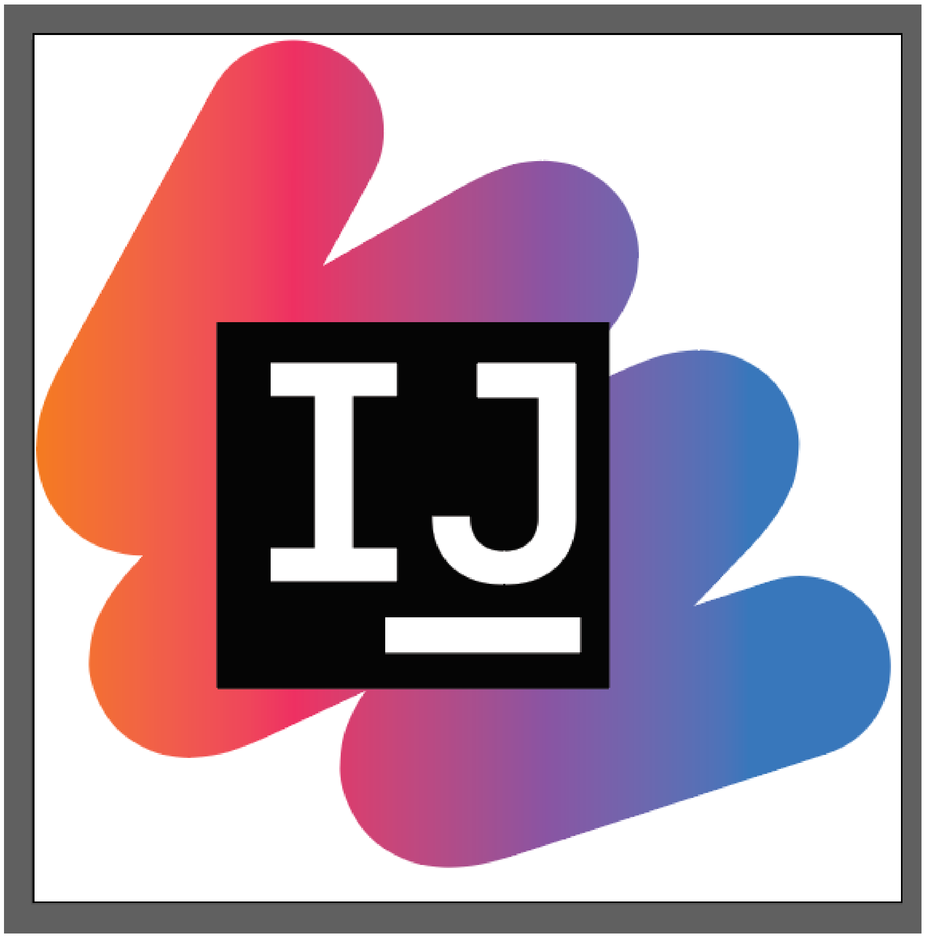
- product info is getting from the external system

AC 1

when i am a customer, i can see a message saying 'Your shopping cart is empty' when i haven't add any products, so that i can add more products

Example William is reviewing his shopping cart without adding any product

Mockup



Flow 1-1 render empty shopping cart

Processes

- **Process 1-1 | Web.UiComponent | ~ [60] mins** add 'ShoppingCart' page add 'shopping cart' icon in menu which can redirect user to 'Shopping Cart' page click 'shopping cart' and entering the 'Shopping Cart' page

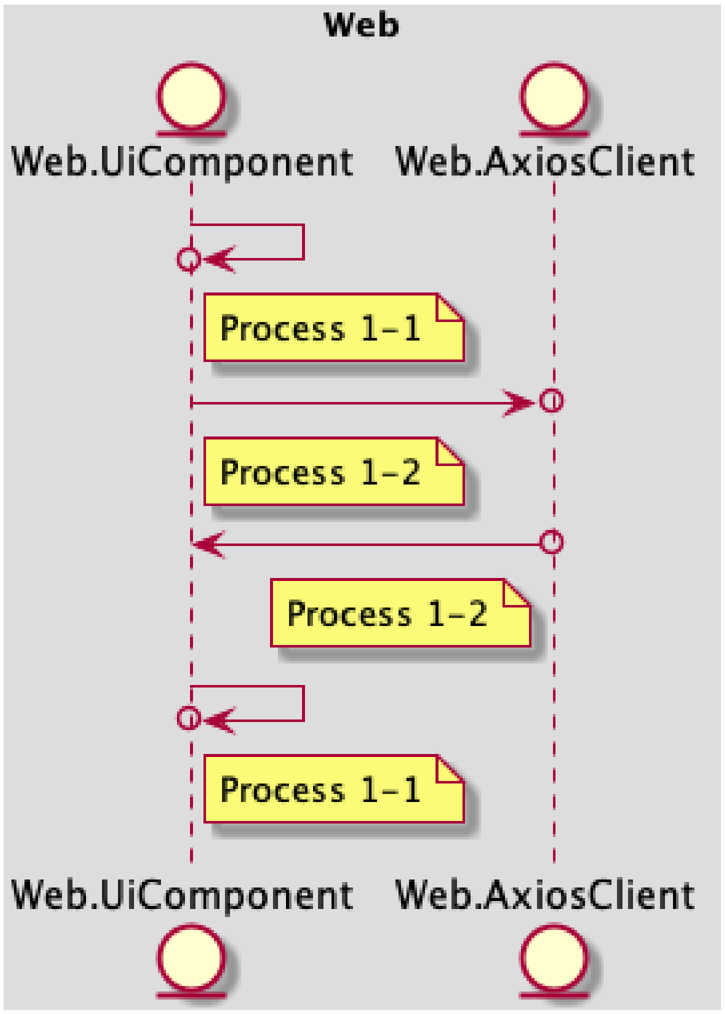
```
interface ShoppingCartProps {
    items: ProductDto[]
}
```

- **Process 1-2 | Web.UiComponent, depends on Mock<Web.AxiosClient> | ~ [60] mins** call the api *Web.UiComponent -> Mock<Web.AxiosClient>* return empty object

---

- **Process 1-1 | Web.UiComponent | ~ [60] mins** display message 'Your shopping cart is empty!'

Sequence Diagram

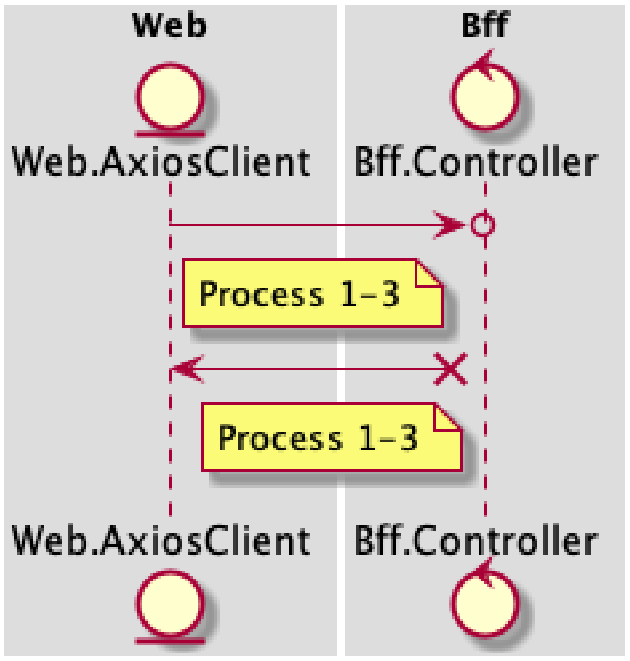


Flow 1-2 call bff api

Processes

- **Process 1-3 | Web.AxiosClient, depends on Fake<Bff.Controller>** | ~ [**0**] **mins** > GET /shoppingCart *Web.AxiosClient -> Fake<Bff.Controller>* < 404 NOT_FOUND

Sequence Diagram

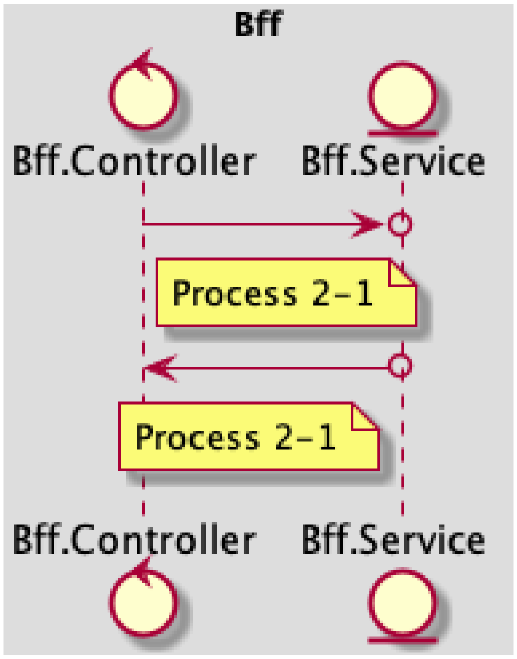


Flow 1-3 call service to get dto

Processes

- **Process 2-1 | Bff.Controller, depends on Mock<Bff.Service>** | ~ [**60**] **mins** retrieve user id from authentication header *Bff.Controller -> Mock<Bff.Service>* throw not found exception and respond with 404

Sequence Diagram



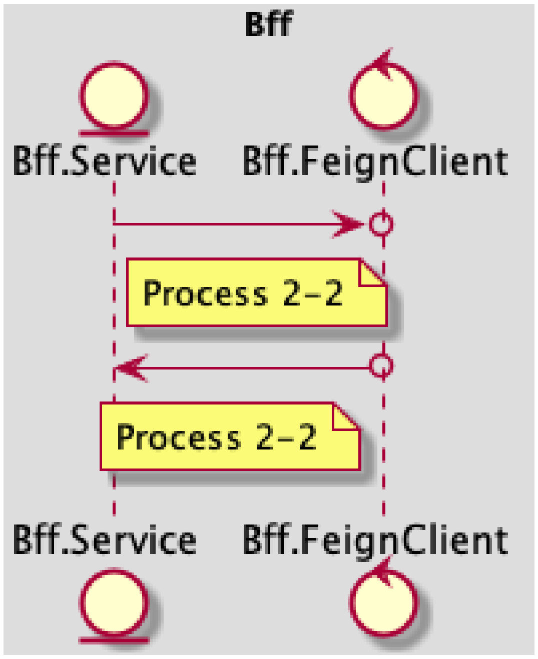
Flow 1-4 call feign client to get dto

Processes

- **Process 2-2 | Bff.Service, depends on Mock<Bff.FeignClient> | ~ [60] mins** call feign client with user id *Bff.Service -> Mock<Bff.FeignClient>* throw not found exception

---

Sequence Diagram

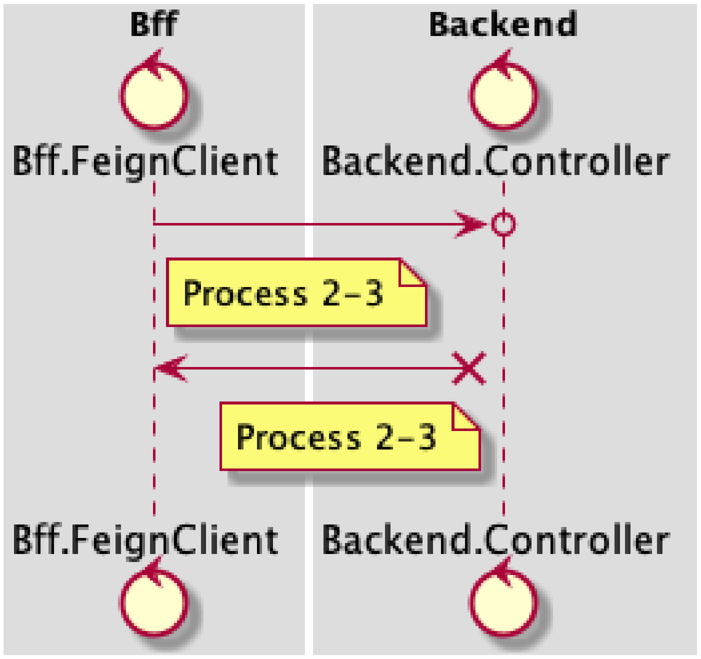


Flow 1-5 call backend to get dto

Processes

- **Process 2-3 | Bff.FeignClient, depends on Fake<Backend.Controller>** | ~ **[60] mins** > GET /shoppingCart *Bff.FeignClient -> Fake<Backend.Controller>* < 404 NOT_FOUND

Sequence Diagram

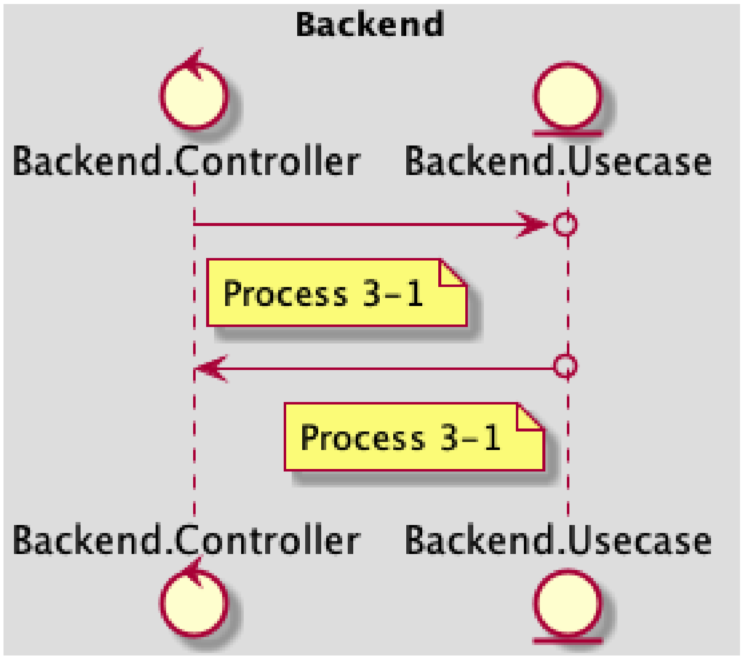


Flow 1-6 call usecase

Processes

- **Process 3-1** | **Backend.Controller, depends on Mock<Backend.Usecase>** | ~ **[60] mins** call usecase to find the shopping cart by user id *Backend.Controller -> Mock<Backend.Usecase>* throw not found exception and respond with 404

Sequence Diagram

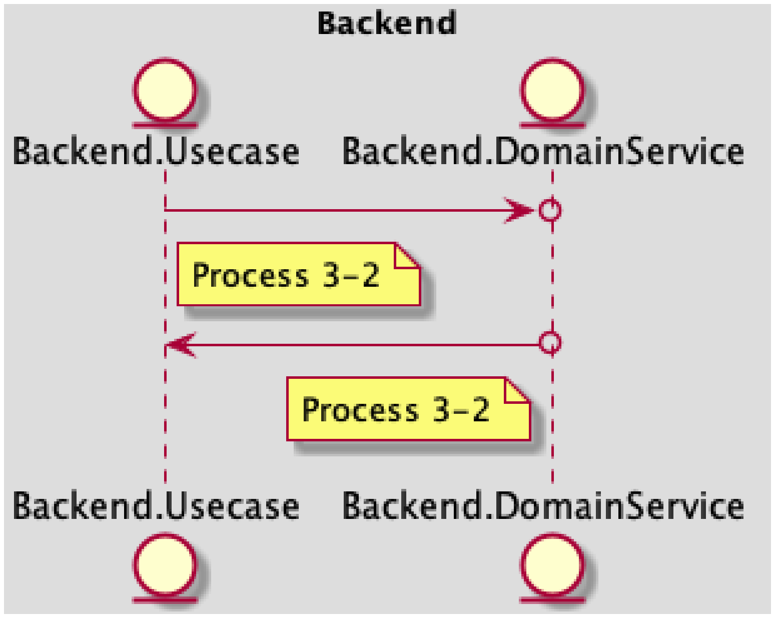


Flow 1-7 call domain service

Processes

- **Process 3-2 | Backend.Usecase, depends on Mock<Backend.DomainService> | ~ [60] mins**

Sequence Diagram

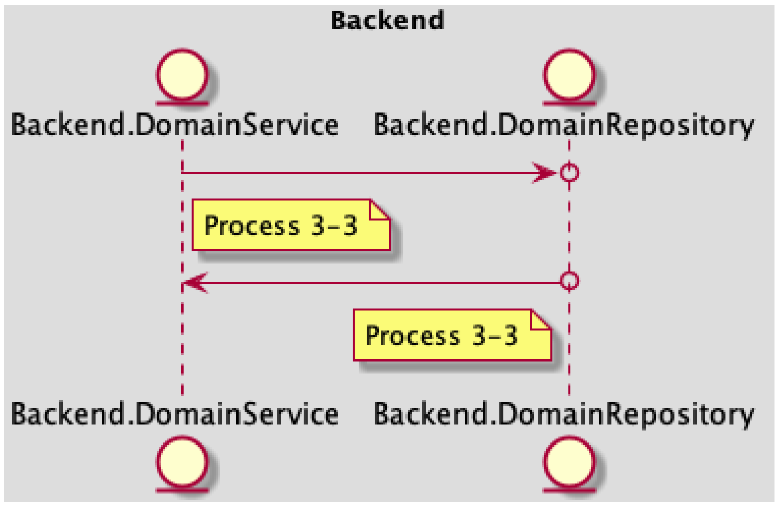


Flow 1-8 call repository

Processes

- **Process 3-3 | Backend.DomainService, depends on Mock<Backend.DomainRepository> | ~ [60] mins**

Sequence Diagram



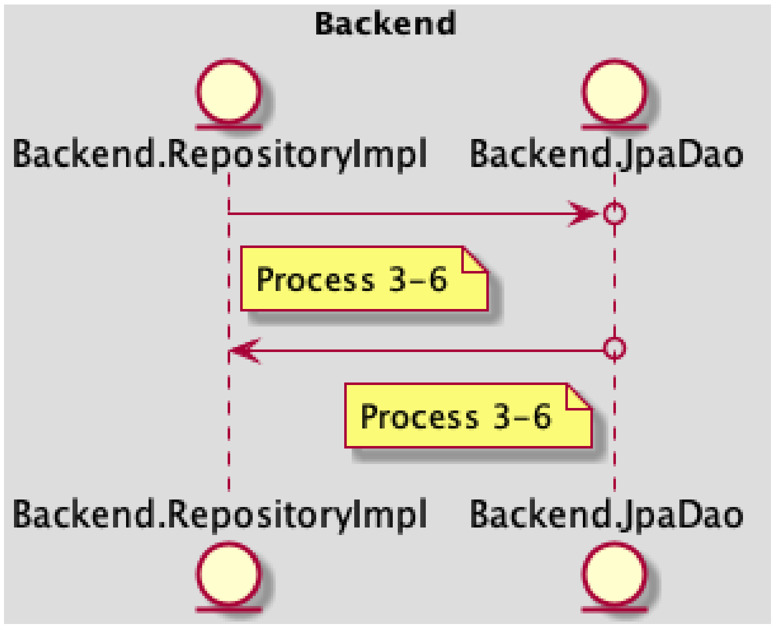
Flow 1-9 implement repository and inject the implementation

Processes

- **Process 3-6 | Backend.RepositoryImpl, depends on Mock<Backend.JpaDao> | ~ [60] mins** implement domain repository and search shopping cart in db *Backend.RepositoryImpl* -> *Mock<Backend.JpaDao>* returns null

---

Sequence Diagram



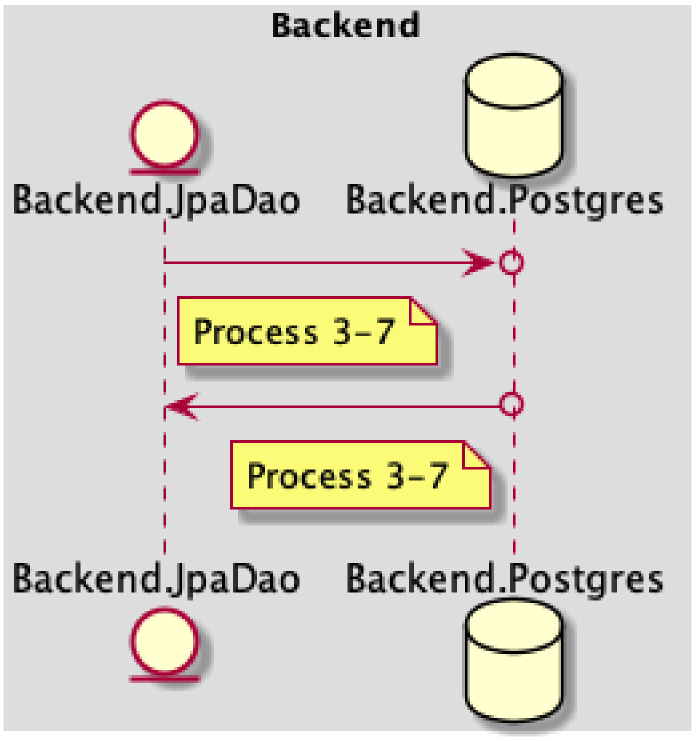
Flow 1-10 verify the sql

Processes

- **Process 3-7** | Backend.JpaDao, depends on Mock<Backend.Postgres> | ~ [60] mins

---

Sequence Diagram

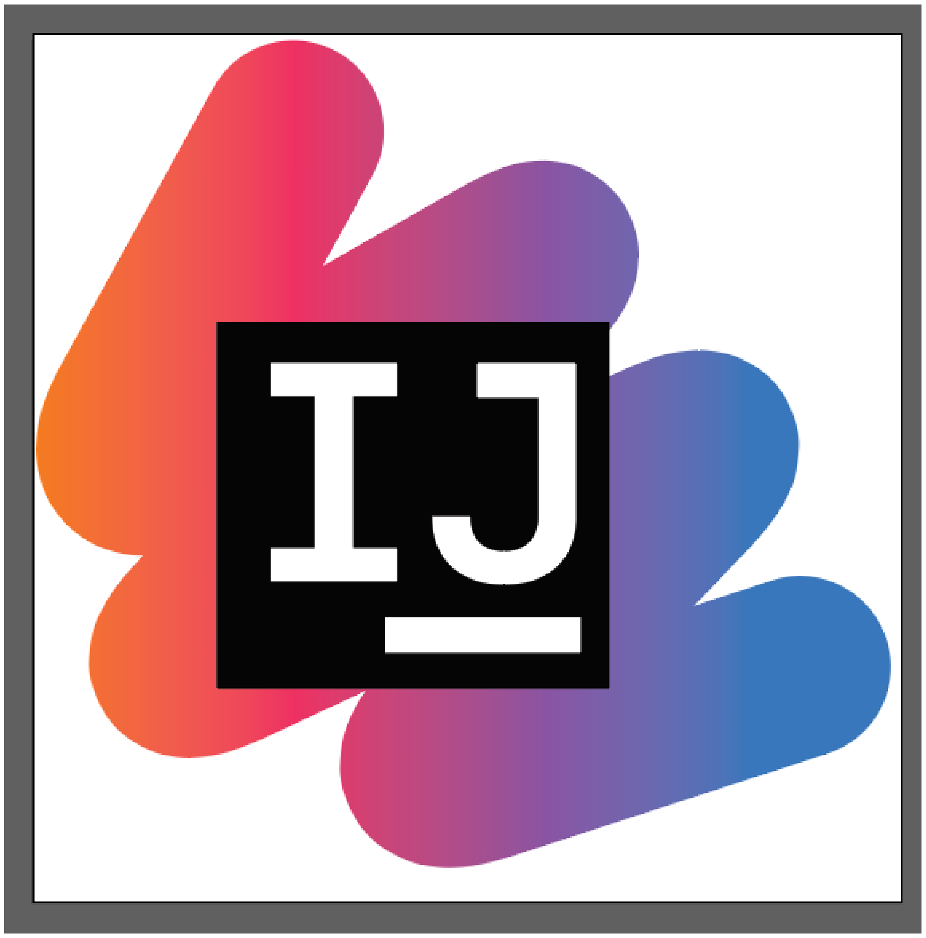


AC 2

when i am a customer, i can see my shopping cart with the products that i added before, so that i can review the amount and total price of them

Example William is reviewing his shopping cart after added some products

Mockup



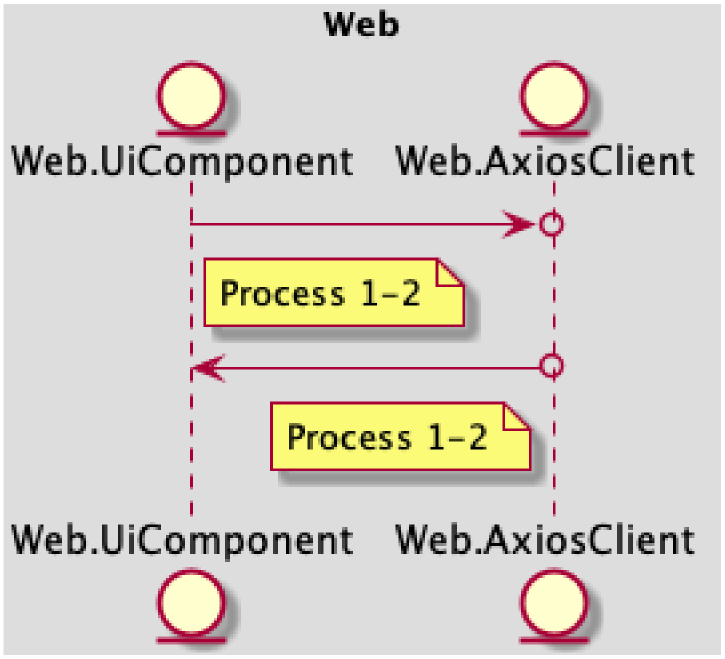
Flow 2-1 render shopping cart

Processes

- **Process 1-2 | Web.UiComponent, depends on Mock<Web.AxiosClient> | ~ [60] mins** click 'the shopping cart' icon *Web.UiComponent* -> *Mock<Web.AxiosClient>* receive response with shopping cart info display the product list and the total price

---

Sequence Diagram

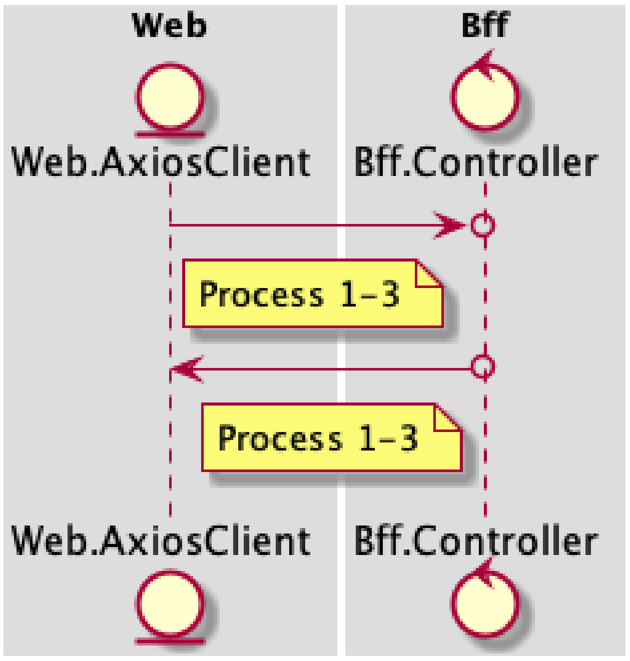


Flow 2-2 call bff api

Processes

- **Process 1-3 | Web.AxiosClient, depends on Fake<Bff.Controller>** | ~ **[0] mins** > GET /shoppingCart *Web.AxiosClient -> Fake<Bff.Controller>* < 200 OK

Sequence Diagram

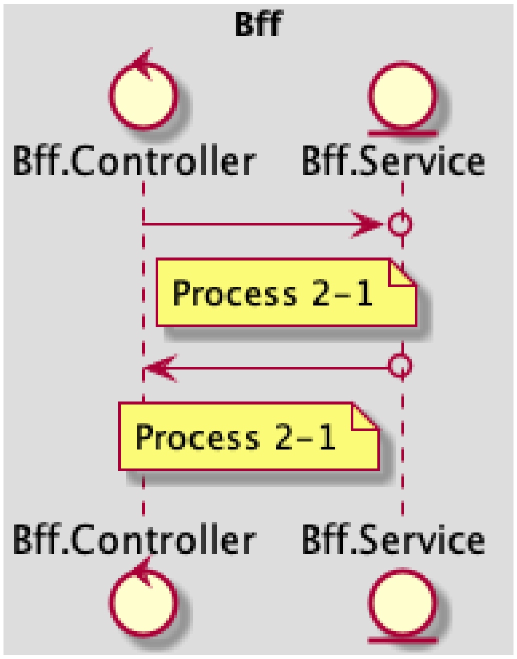


Flow 2-3 call service

Processes

- **Process 2-1 | Bff.Controller, depends on Mock<Bff.Service> | ~ [60] mins** retrieve user id from authentication header *Bff.Controller -> Mock<Bff.Service>*

Sequence Diagram

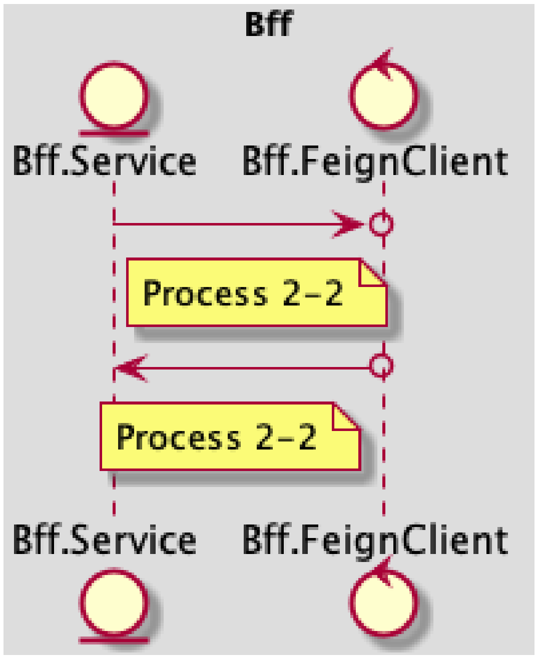


Flow 2-4 call feign client

Processes

- **Process 2-2 | Bff.Service, depends on Mock<Bff.FeignClient> | ~ [60] mins**

Sequence Diagram

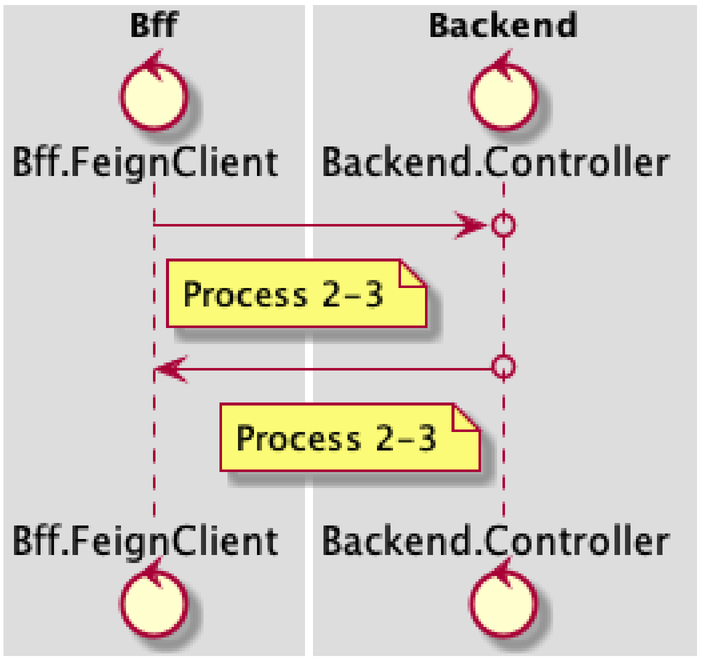


Flow 2-5 call backend api

Processes

- **Process 2-3 | Bff.FeignClient, depends on Fake<Backend.Controller> | ~ [60] mins** > GET /shoppingCart *Bff.FeignClient -> Fake<Backend.Controller>* < 200 OK

Sequence Diagram

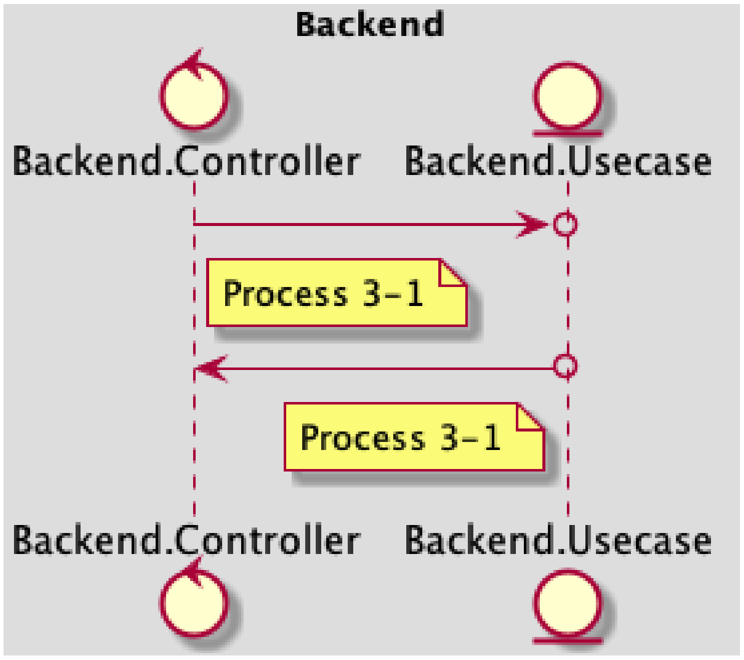


Flow 2-6 call usecase

Processes

- **Process 3-1 | Backend.Controller, depends on Mock<Backend.Usecase> | ~ [60] mins** call usecase to find the shopping cart by user id *Backend.Controller -> Mock<Backend.Usecase>*

Sequence Diagram



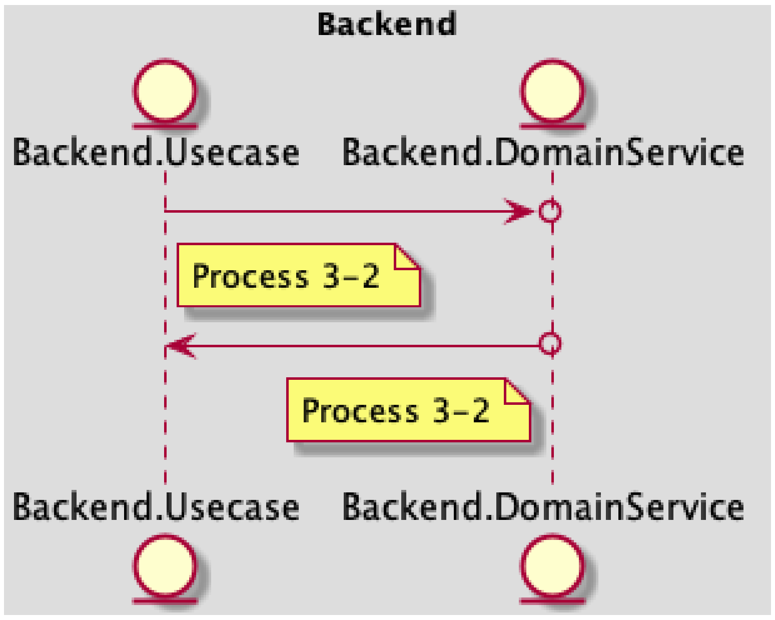
Flow 2-7 call domain service

Processes

- **Process 3-2** | Backend.Usecase, depends on Mock<Backend.DomainService> | ~ [60] mins

---

Sequence Diagram

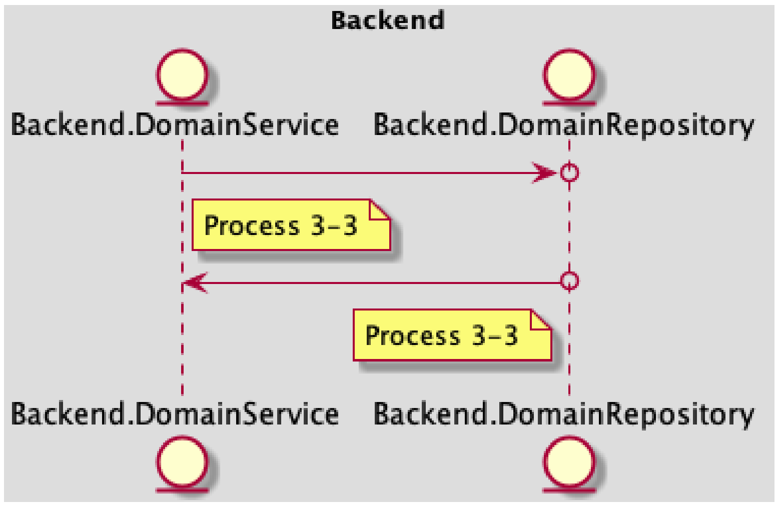


Flow 2-8 call domain repo

Processes

- **Process 3-3 | Backend.DomainService, depends on Mock<Backend.DomainRepository> | ~ [60] mins**

Sequence Diagram



Flow 2-9 call dao and client to collect data

Processes

- **Process 3-6 | Backend.RepositoryImpl, depends on Mock<Backend.JpaDao> | ~ [60] mins**

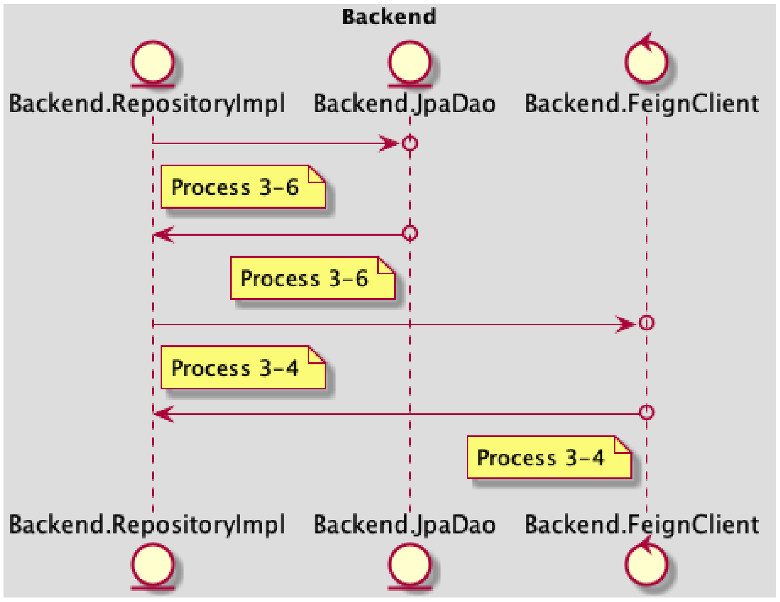
  ```
                      implement domain repository and search shopping cart in db
                      get shopping cart with product id
  ```

  Backend.RepositoryImpl -> Mock<Backend.JpaDao>

- **Process 3-4 | Backend.RepositoryImpl, depends on Mock<Backend.FeignClient> | ~ [60] mins** get product by id *Backend.RepositoryImpl -> Mock<Backend.FeignClient>* returns shopping cart

  ---

Sequence Diagram

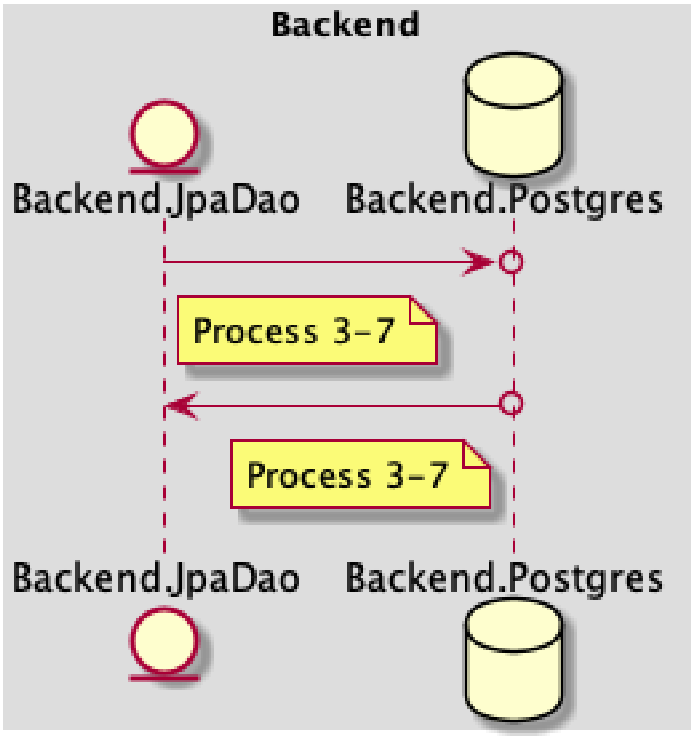


Flow 2-10 call db

Processes

- **Process 3-7 | Backend.JpaDao, depends on Mock<Backend.Postgres> | ~ [60] mins** use h2 *Backend.JpaDao -> Mock<Backend.Postgres>*

Sequence Diagram

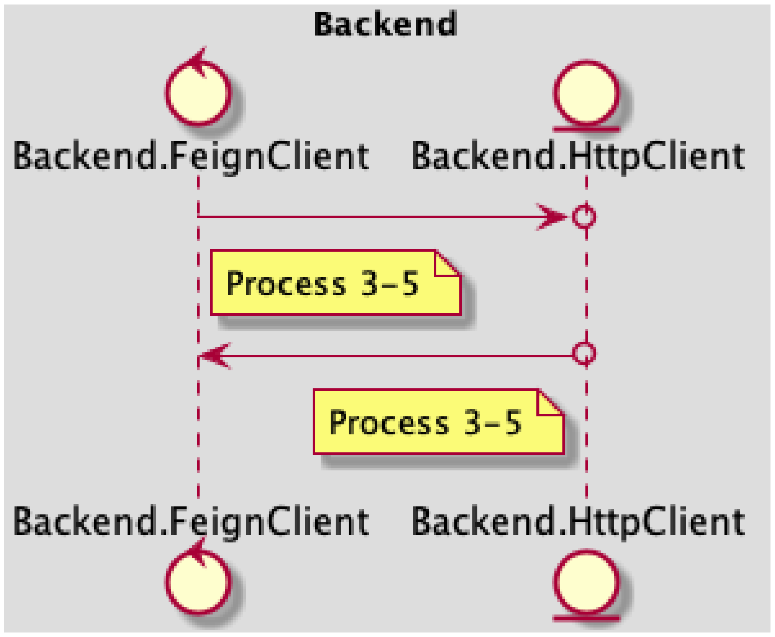


Flow 2-11 call api

Processes

- **Process 3-5 | Backend.FeignClient, depends on Mock<Backend.HttpClient> | ~ [60] mins** use Wiremock *Backend.FeignClient -> Mock<Backend.HttpClient>*

Sequence Diagram



AC 3

dsl demo

Mockup

Links

- Google 1
- Google 2

Flow 3-1 nested calls

Processes

- **Process 1-2 | Web.UiComponent, depends on Mock<Web.AxiosClient> | ~ [60] mins** click *Web.UiComponent -> Mock<Web.AxiosClient>* send request

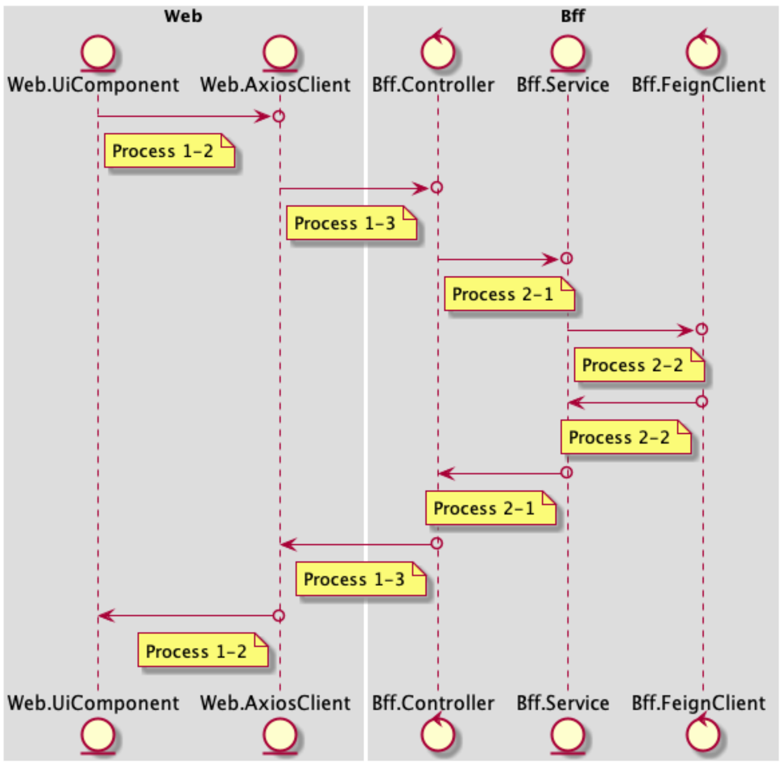
---

- **Process 1-3 | Web.AxiosClient, depends on Fake<Bff.Controller> | ~ [0] mins** > GET /go-google *Web.AxiosClient -> Fake<Bff.Controller>* < 200 OK

- **Process 2-1 | Bff.Controller, depends on Mock<Bff.Service> | ~ [60] mins** execute *Bff.Controller -> Mock<Bff.Service>*

- **Process 2-2 | Bff.Service, depends on Mock<Bff.FeignClient> | ~ [60] mins** > GET /go-google *Bff.Service -> Mock<Bff.FeignClient>* < 200 OK

Sequence Diagram



API Schema

Get ShoppingCart

GET /shoppingCart

- 200 OK
- 404 NOT_FOUND

Project Process Definition

Web

Process 1-1 | UiComponent => Real<UiComponent>

- Just import related ui component, testing with snapshot

Process 1-2 | UiComponent => Mock<AxiosClient>

- Mock axios client
- Call axios client, assert component state

Process 1-3 | AxiosClient => Fake<Bff.Controller>

- Fake api endpoint
- Call fake api, assert the response and error handling is correct

Bff

Process 2-1 | Controller => Mock<Service>

- Mock service
- Call service, verify the expected input parameters and assert the expected output return

Process 2-2 | Service => Mock<FeignClient>

- Mock feign client
- Call feign client, verify the expected input parameters and assert the expected output return

Process 2-3 | FeignClient => Fake<Backend.Controller>

- Setup endpoints in wiremock with fake payload
- Setup wiremock's url as base url
- Call upstream endpoints and verify the data object that formatted from json is expected

Backend

Process 3-1 | Controller => Mock<Usecase>

- Mock usecase
- Call usecase, verify the expected input parameters and assert the expected output return

Process 3-2 | Usecase => Mock<DomainService>

- Mock domain service
- Call domain service, verify the expected input parameters and assert the expected output return

Process 3-3 | DomainService => Mock<DomainRepository>

- Mock domain repository
- Call domain repository, verify the expected input parameters and assert the expected output return

Process 3-4 | RepositoryImpl => Mock<FeignClient>

- Mock feign client
- Call feign client, verify the expected input parameters and assert the expected output return

Process 3-5 | FeignClient => Mock<HttpClient>

- Fake http client (using wiremock)
- Call http client, stub the request and response and assert the expected response status and payload

Process 3-6 | RepositoryImpl => Mock<JpaDao>

- Mock jpa dao
- Call jpa dao, verify the expected input parameters and assert the expected output return

Process 3-7 | JpaDao => Mock<Postgres>

- Fake db (using h2 or docker)
- Call fake db, init some test data and assert the execution result set is expected