Step 1. write exception class

WorkSpace - Ebanking_ToTrainee/src/main/java/com/infy/ebanking/exception/EbankingException.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer
Ebanking_ToTrainee (in EBanking_ToTrai
src/main/java
com.infy.ebanking
com.infy.ebanking.api
EbankingAPI.java
com.infy.ebanking.dto
com.infy.ebanking.entity
Card.java
Customer.java
com.infy.ebanking.exception
EbankingException.java
com.infy.ebanking.repository
CardRepository.java
CustomerRepository.java
com.infy.ebanking.service
EbankingService.java
EbankingServiceImpl.java
com.infy.ebanking.utility
ErrorInfo.java
ExceptionControllerAdvice.jav
com.infy.ebanking.validator
src/main/resources
Customer.java
Ebanking_Tab...
CardDTO.java
CardReposito...
CustomerRepo...
*EbankingAPI...
EbankingServ...
EbankingExc...
1 package com.infy.ebanking.exception;
2
3 public class EbankingException extends Exception {
4
5 /**
6 *
7 */
8 private static final long serialVersionUID = 1L;
9 // write your code here
10
11 public EbankingException(String message) {
12 super(message);
13 // TODO Auto-generated constructor stub
14 }
15
16 }
17

WorkSpace - Ebanking_ToTrainee/src/main/java/com/infy/ebanking/entity/Card.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

- Ebanking_ToTrainee (in EBanking_ToTrai
  - src/main/java
    - com.infy.ebanking
    - com.infy.ebanking.api
      - EbankingAPI.java
    - com.infy.ebanking.dto
    - com.infy.ebanking.entity
      - Card.java
      - Customer.java
    - com.infy.ebanking.exception
      - EbankingException.java
    - com.infy.ebanking.repository
      - CardRepository.java
      - CustomerRepository.java
    - com.infy.ebanking.service
      - EbankingService.java
      - EbankingServiceImpl.java
    - com.infy.ebanking.utility
      - ErrorInfo.java
      - ExceptionControllerAdvice.jav
    - com.infy.ebanking.validator
  - src/main/resources
  - JRE System Library [JavaSE-17]

Card.java | Customer.java | Ebanking_Tab... | CardDTO.java | CardReposito... | CustomerRepo... | EbankingServ... | EbankingExc...

```java
package com.infy.ebanking.entity;

import java.time.LocalDate;

@Entity
@Table(name = "card")
public class Card {

    @Id
    @GeneratedValue(strategy = GenerationType.IDENTITY)
    private Integer cardNo;
    private String cardType;
    private Integer minBalance;
    private LocalDate expiryDate;
    @OneToOne(cascade = CascadeType.ALL)
    @JoinColumn(name = "customer_id")
    private Customer customer;

    public Integer getCardNo() {
        return cardNo;
    }

    public void setCardNo(Integer cardNo) {
        this.cardNo = cardNo;
    }

    public String getCardType() {
        return cardType;
```

Validator Class

WorkSpace - EBanking_ToTrainee/src/main/java/com/infy/ebanking/validator/CardValidator.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

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    - com.infy.ebanking.entity
    - com.infy.ebanking.exception
    - com.infy.ebanking.repository
    - com.infy.ebanking.service
    - com.infy.ebanking.utility
    - com.infy.ebanking.validator
      - CardValidator.java
  - src/main/resources
  - JRE System Library [JavaSE-17]
  - Maven Dependencies
  - bin
  - log
  - src
  - target
  - verification
  - verificationResources
  - DetailedReport.json
  - mvnw
  - mvnw.cmd
  - OverallReport.json
  - pom.xml
  - VerificationTool.jar

EbankingAPI.java | EbankingServiceImpl.java | EbankingApplication.java | Ebanking_TableScripts.sql | CardValidator.java | CardRepository.java

```java
package com.infy.ebanking.validator;

import com.infy.ebanking.dto.CardDTO;

public class CardValidator {

    public static void validate(CardDTO cardDTO) throws EbankingException {
        // write your code here
        if (Boolean.FALSE.equals((isValidCardType(cardDTO.getCardType())))) {
            throw new EbankingException("Validator.INVALID_CARDTYPE");
        }
    }

    public static Boolean isValidCardType(String cardType) {
        // write your code here
        String regex ="platinum|gold|silver";
        if(cardType==null) {
            return false;
        } else if(!cardType.matches(regex)){
            return false;
            }
        else {
            return true;
        }
        }
}
```

WorkSpace - EBanking_ToTrai...

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Search

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API Class

WorkSpace - EBanking_ToTrainee/src/main/java/com/infy/ebanking/api/EbankingAPI.java - Eclipse IDE

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Project Explorer

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    - com.infy.ebanking.entity
    - com.infy.ebanking.exception
    - com.infy.ebanking.repository
    - com.infy.ebanking.service
    - com.infy.ebanking.utility
    - com.infy.ebanking.validator
  - src/main/resources
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  - Maven Dependencies
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  - DetailedReport.json
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  - OverallReport.json
  - pom.xml
  - VerificationTool.jar

EbankingAPI.java | EbankingServiceImpl.java | EbankingApplication.java | Ebanking_TableScripts.sql | CardValidator.java | CardRepository.java

```
3  import java.util.List;
25 @RestController
26 @RequestMapping("/ebanking")
27 @Validated
28 public class EbankingAPI {
29     @Autowired
30     private EbankingService ebankingService;
31     @Autowired
32     private Environment environment;
33
34     @PostMapping(value = "/card" , consumes = "application/json")
35     public ResponseEntity<String> addCard(  @Valid @RequestBody  CardDTO cardDTO) throws EbankingException {
36         // write your code here
37         Integer card = ebankingService.addCard(cardDTO);
38         String message = environment.getProperty("API.ALLOCATION_SUCCESS")+" "+card;
39
40         return new ResponseEntity<String>(message , HttpStatus.CREATED);
41     }
42     @GetMapping(value = "/customers/{cardType}")
43     public ResponseEntity<List<CustomerDTO>> getCustomersByCardType( @PathVariable   String cardType) throws EbankingEx
44         // write your code here
45         List<CustomerDTO> byCardType = ebankingService.getCustomersByCardType(cardType);
46
47         return new ResponseEntity<>(byCardType , HttpStatus.OK);
48     }
49     @DeleteMapping(value = "/customer")
50     public ResponseEntity<String> cancelCard( @RequestParam(name = "cardNo")  Integer cardNo) throws EbankingException
51         // write your code here
52          ebankingService.cancelCard(cardNo);
53         String message = environment.getProperty("API.CARD_CANCELLED_SUCCESS");
54
55         return new ResponseEntity<>(message,HttpStatus.OK);
56     }
57
58 }
59
```

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Card DTO

WorkSpace - Ebanking_ToTrainee/src/main/java/com/infy/ebanking/dto/CardDTO.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Card.java | Customer.java | Ebanking_Tab... | ValidationM... | CardDTO.java | CardValidato... | application.... | CardReposito... | *EbankingAPI... | ExceptionCo... | EbankingServ...

```
6  import javax.validation.constraints.Min;
7  import javax.validation.constraints.NotNull;
8
9  import com.infy.ebanking.entity.Card;
10
11 public class CardDTO {
12
13     private Integer cardNo;
14
15     @NotNull(message = "{card.cardType.notpresent}")
16     private String cardType;
17
18     @NotNull(message = "{card.minBalance.notpresent}")
19     @Min(value = 1000, message = "{card.minBalance.invalid}")
20     private Integer minBalance;
21
22     @NotNull(message = "{card.expiryDate.notpresent}")
23     private LocalDate expiryDate;
24
25     @NotNull(message = "{card.customer.notpresent}")
26     @Valid
27     private CustomerDTO customerDTO;
28
29     public Integer getCardNo() {
30         return cardNo;
31     }
32
33     public void setCardNo(Integer cardNo) {
```

Service class of ebanking

WorkSpace - EBanking_ToTrainee/src/main/java/com/infy/ebanking/service/EbankingServiceImpl.java - Eclipse IDE

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Project Explorer

EBanking_ToTrainee

EbankingAPI.java | EbankingServiceImpl.java | EbankingApplication.java | Ebanking_TableScripts.sql | CardValidator.java | CardRepository.java

```
26    private CustomerRepository customerRepository;
27    @Autowired
28    private CardRepository cardRepository;
29
30    @Override
31    public Integer addCard(CardDTO cardDTO) throws EbankingException {
32        // write your code here
33        CardValidator.validate(cardDTO);
34        Optional<Customer> byId = customerRepository.findById(cardDTO.getCustomerDTO().getCustomerId());
35        Customer customer = byId.orElseThrow(()->new EbankingException("Service.CUSTOMER_NOT_FOUND"));
36
37        Card byCustomer = cardRepository.findByCustomer(customer);
38
39
40        if (byCustomer!=null) {
41            throw new EbankingException("Service.CUSTOMER_CARD_EXIST");
42        }
43
44
45            Card  card  =CardDTO.prepareEntity(cardDTO);
46            card.setCustomer(customer);
47
48            if (cardDTO.getCardType().matches("platinum")) {
49                cardDTO.setMinBalance(20000);
50
51            }else if (cardDTO.getCardType().matches("gold")) {
52                cardDTO.setMinBalance(15000);
53
54            }
55            else if (cardDTO.getCardType().matches("silver")) {
56                cardDTO.setMinBalance(10000);
57            }
58            cardRepository.save(card);
59            return card.getCardNo();
60        }
```

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Project Explorer

EBanking_ToTrainee

EbankingAPI.java | EbankingServiceImpl.java | EbankingApplication.java | Ebanking_TableScripts.sql | CardValidator.java | CardRepository.java

```
62
63
64      @Override
65      public List<CustomerDTO> getCustomersByCardType(String cardType) throws EbankingException {
66          // write your code here
67          List<Card> byCardType = cardRepository.findByCardType(cardType);
68          if (byCardType.isEmpty()) {
69              throw new EbankingException("Service.NO_CARDS_FOUND");
70
71          }
72         List<CustomerDTO> dtoList = new ArrayList<>();
73         for (Card c:byCardType) {
74             CustomerDTO custDTO = CustomerDTO.prepareDTO(c.getCustomer());
75             dtoList.add(custDTO);
76         }
77          return dtoList;
78      }
79
80      @Override
81      public void cancelCard(Integer cardNo) throws EbankingException {
82          // write your code here
83          Optional<Card> byId = cardRepository.findById(cardNo);
84          Card card = byId.orElseThrow(()->new EbankingException ("Service.CARD_NOT_AVAILABLE"));
85          LocalDate today = LocalDate.now();
86          if (card.getExpiryDate().isEqual(today)|| card.getExpiryDate().isBefore(today)) {
87              card.setCustomer(null);
88              cardRepository.delete(card);
89          }else {
90              throw new EbankingException("Service.CANNOT_CANCEL_CARD");
91          }
92
93      }
94
95  }
96
97
```

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Card Reposoitory

WorkSpace - Ebanking_ToTrainee/src/main/java/com/infy/ebanking/repository/CardRepository.java - Eclipse IDE

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    - com.infy.ebanking.entity
      - Card.java
      - Customer.java
    - com.infy.ebanking.exception

Customer.java | Ebanking_Tab... | CardDTO.java | CardValidato... | CardReposito... | *EbankingAPI... | ExceptionCo... | EbankingServ...

```
1  package com.infy.ebanking.repository;
2
3  import java.util.List;
9
10 public interface CardRepository extends CrudRepository<Card, Integer> {
11     // write your code here
12     Card findByCustomer (Customer customer);
13     List<Card> findByCardType (String cardType);
14
15 }
16
```

Customer Repository

WorkSpace - Ebanking_ToTrainee/src/main/java/com/infy/ebanking/repository/CustomerRepository.java - Eclipse IDE

File Edit Source Refactor Navigate Search Project Run Window Help

Project Explorer

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    - com.infy.ebanking.api
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    - com.infy.ebanking.dto
    - com.infy.ebanking.entity
      - Card.java
      - Customer.java
    - com.infy.ebanking.exception
    - com.infy.ebanking.repository
      - CardRepository.java
      - CustomerRepository.java
    - com.infy.ebanking.service
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Customer.java | Ebanking_Tab... | CardDTO.java | CardValidato... | CardReposito... | CustomerRepo... | *EbankingAPI... | EbankingServ...

```
1  package com.infy.ebanking.repository;
2
3  import org.springframework.data.repository.CrudRepository;
6
7  public interface CustomerRepository extends CrudRepository<Customer,Integer> {
8
9  }
10
```

VMware Horizon Client | MYSUIADMBENCHC

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