

## **RAPIDPAY CREDIT CARD MANAGEMENT -RESTFUL WEB API**

### **1. CreditCardController.CS**

This controller contains two POST requests and one GET request. For all three methods, API key is validated at the beginning.

#### **a) HTTP POST - Create card**

If the API is valid, 15 digit card number is generated along with a 3 digit cvv number and expiry date (3 years from Today()).

Before storing the credit card details in the in-memory, the credit card number is checked if the same number already exists . If not, details will be stored in the Dictionary.

#### **b) HTTP POST - Pay Card**

If the API is valid, credit card details will be fetched from the request body.

Expiry date and CVV of the credit card will be compared with the ones stored in the Dictionary. If valid, the amount will be paid with the same credit card.

For the payment process, a random decimal between 0 and 2 will be generated.

The fee price is the last fee amount multiplied by the recent random decimal.

If Last Fee Amount is null , it will be taken as 0. After the payment , the credit card balance will be updated in the Dictionary.

#### **c) HTTP GET- Get the balance**

If the API is valid, the credit card number will be fetched from the request body. Balance of the credit card number is checked in the Dictionary. If the balance is null, credit card details are not found in the Dictionary or it has a zero balance.

API body request can have card number, cvv, expiry date and amount.

### **2. CreditCard.CS**

This credit card model class contains credit card details like CardNumber, Expirydate, CVV, Balance, LastAmountFee.

### **3. DBConfig.CS**

This is the startup file where the services are configured.

### **4. GeneratePaymentFee.CS**

This is a multi-threaded singleton class for generating random decimal between 0 and 2 to calculate the credit card fees .

### **5. InMemoryDB.CS**

It contains a Dictionary DicCreditCards to store all the credit card details . It contains an arraylist which has some dummy API key values.

- a) CheckAPI- This method checks the API key getting from the request header with the API keys stored in the arraylist.

- b) CheckCreditCard- Checks if the credit card number exists in the Dictionary. Return true if exists.
- c) AddUpdateCreditCard- This method is used to add/update credit card details in the Dictionary.
- d) GetCreditCardDetails- This method retrieves the credit card details when credit card number is provided.