

# CheckOut Payment Gateway

## Environment Setup:

1. Run scripts on Ms SQL Server instance found in the root project directory under "Scripts" folder
2. Setup read/write access for tables and make sure to set up a proper username/password
3. Insert data in tables
4. Open and build the solution through visual studio (Visual Studio 2017 recommended)

## Processing a payment:

5. Requests are sent to CheckOutPaymentGatewayWrapper using CheckOutPaymentGatewayClient (Windows Form App)
6. CheckOutPaymentGatewayWrapper contacts CheckOutPaymentGatewayAPI through ProcessPayment method with process model as attribute
7. API engine performs the calls and manipulation
8. Response is returned

## Retrieving a payment's details

1. Requests are sent to CheckOutPaymentGatewayWrapper using CheckOutPaymentGatewayClient (Windows Form App)
2. CheckOutPaymentGatewayWrapper contacts CheckOutPaymentGatewayAPI through GetTransactions method with the merchant unique identifier
3. API engine performs the calls and get data
4. Data with proper response are returned

## Assumptions

1. Valid and existent MerchantId needs to be used to retrieve data
2. Card number needs to be in proper format
3. Card number is validated through Luhn's formula

## Enhancements

4. Proper and more robust validations need to be added
5. Logger needs to be added everywhere
6. Use of try-catch for often for powerful API and engine
7. Code refactoring for reusability
8. Unit testing