Technical Round: EMI Processing

Note:

- The code must be follow repository and service pattern.
- There should be a separate screen(form) for calculating Loan EMI.
- The data should be stored dynamically in DB.

1) Create a table named loan_details with the following fields using migrations

clientid-- This is client id

num_of_payment-- This is the total number of payments client has to make (Like EMI)

first_payment_date-- This is the start date of payment(YYYY-MM-DD)

last_payment_date-- This is the end date of payment(YYYY-MM-DD)

loan_amount-- This is the total amount to be paid by client (Sum of all EMI)

2) Add data to the table loan_details using seeds.

clientid	num_of_payment	first_payment_date	last_payment_date	loan_amount
1001	12	2018-06-29	2019-05-29	1550.00
1003	7	2019-02-15	2019-08-15	6851.94
1005	17	2017-11-09	2019-03-09	1800.01

3) Create a User table named user

4) Add a user to the user table using seeds.
username: developer
password: Test@Password123#

5) Create a basic Laravel based admin page that logs in with this user - Using Laravel Auth Login.

6) Create a page where we display the data of table loan_details

7) Create a page that initially has a button named Process Data.

a) Initially the page will be blank.

b) When the Process Data button is clicked, we need to create a table named emi_details dynamically with the below details. If the table already exists, delete the table and recreate it. **Use RAW Query. Not Laravel Query.**

Column 1 – clientid

Dynamic columns - We need to create columns for all months - based on the min first_payment_date and max last_payment_date of all the entire loan_details table.

NOTE:

- The below given example is just for your understanding of the logic and not connected with the actual loan_details table.
- Consider the below row in loan_details as example

Clientid	num_of_payment	first_payment_date	last_payment_date	loan_amount
1	2	2019-02-15	2019-03-15	100
2	3	2019-03-16	2019-05-16	200

Here min first_payment_date= 2019-02-15 and max last_payment_date= 2019-05-16, the resulting columns will be:

2019_Feb
2019_Mar
2019_Apr
2019_May

c) Next we process each row in the loan_details table, and add it into the emi_details table as row.
- EMI amount =loan_amount/num_of_payment.
- We then save each EMI amount into the corresponding months
- For Clientid 1: EMI = 100/2 = 50
- For Clientid 2: EMI = 200/3 = 66.67

Therefore, values for columns emi_details table for the client would be

Clientid	2019_Feb	2019_Mar	2019_Apr	2019_May
1	50.00	50.00	0.00	0.00
2	0.00	66.67	66.67	66.66 (Adjusted)

NOTE:

- We need to make sure that the total EMI amount should be exactly equal to the total loan amount.
- In this example it is adjusted to 66.66 in the last month for client id 2.

d) Display the data of table emi_details in the page.
e) When the Process Data button is clicked, again the Steps 6 & 7 should be repeated.