

**Intern Assignment :**  
**API to create Loan Product attributes**  
**and calculate emi api**

**Aim :**

- Create an api to insert Loan product data into a database table. This api will be used to manage (create / update loan product attributes like rate of interest etc)
- Create an api for calculating loan emi based on parameters like : Loan tenure, product type, loan amount etc

**Task Information in Details**

**Step 1:** Create a Product table in relational DB(Postgres)

Attributes:

**Product id**

**Product name**  
**Principal amount**  
**Tenure**  
**Rate of interest**  
**isActive (flag boolean 0 or 1)**  
**CreatedBy**  
**CreatedOn (datetime)**  
**UpdatedBy**  
**UpdatedOn (datetime)**

**Step 2:**Insert Values in Product Table in Db  
using api **Sample**

Product id	Product name	Principal amount	Tenure(months)	Rate of Interest(per annum)
1	Personal loan	50000	18	7.5
2	Business	60000	24	12

**Step 3:** Create an Api to calculate Emi based on loan amount, tenure, rate of interest for a particular product.

$$EMI = P \times r \times (1 + r)^n / ((1 + r)^n - 1)$$

where P= Loan amount, r= interest rate, n=tenure in number of months.

Principal Amount	100000
Interest rate	10%
Tenure in number of months	12
EMI	8792

**Note : Error handling is mandatory**

**Bonus Points:**

- Api should have proper success and failure code and description to be returned

- Cache (redis, hibernate secondary cache etc) product attribute data , this cache should be refreshed if underlying Product data / attributes are changed by the other api.
- Integration of swagger to test out api and see request / response
- Microservice need to be containerized using docker and a docker version is provided