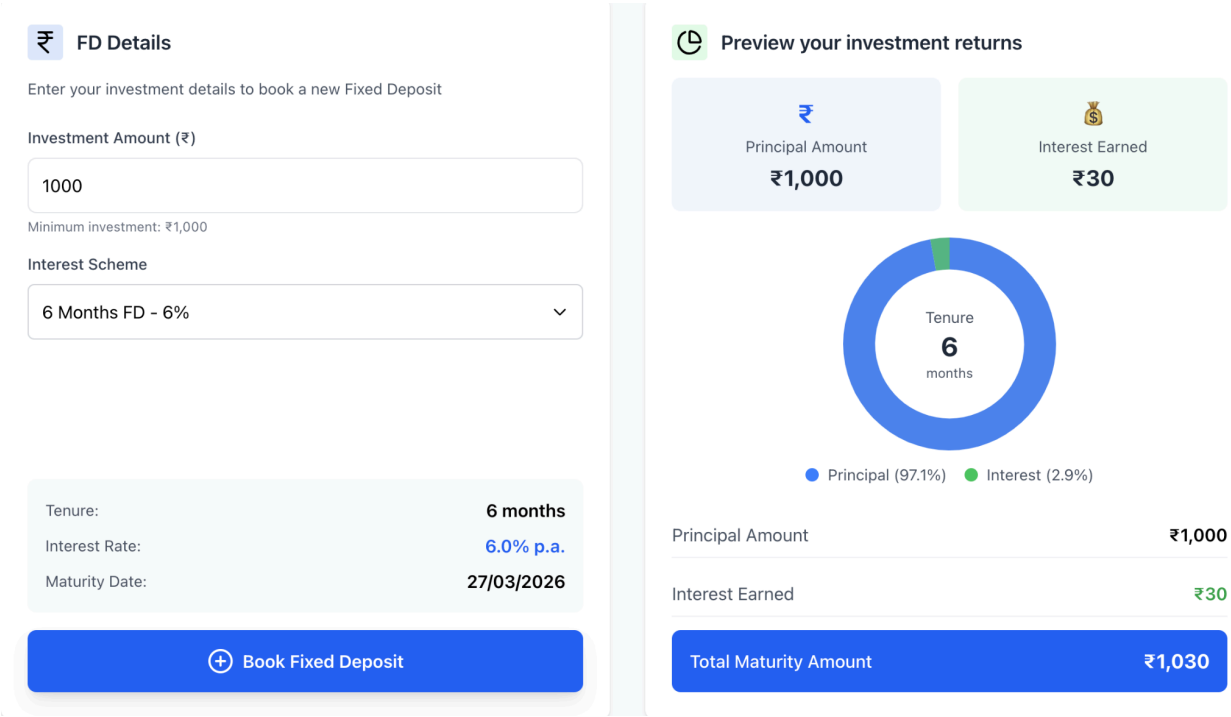
Calculation



STATUS - MATUTRED

CASE 1 :

The formula for Simple Interest is:

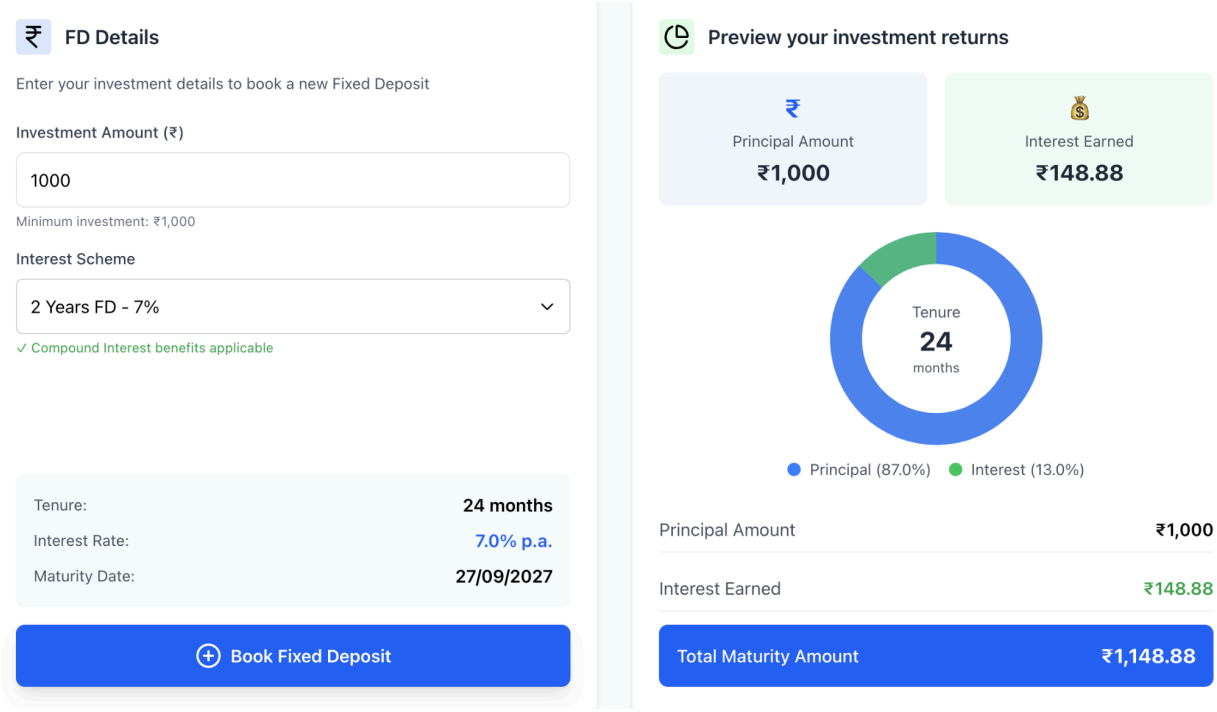
$$I = \frac{ptr}{100}$$

Where:

- p is the **Principal** amount (1000).
- t is the **Time** in years.
- r is the **Rate** of interest per annum (6.0).

$$I = \frac{1000 \times 0.5 \times 6.0}{100} = 30.0$$

CASE 2 :



Compound Interest Calculation

The future value (A) is calculated using the formula:

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

1. Future Value (A)

- **Principal (P):** 1000
- **Annual Rate (r):** 0.07
- **Time (t):** 2 years
- **Compounding Frequency (n):** 4 (quarterly)

$$A = 1000\left(1 + \frac{0.07}{4}\right)^{4\times 2}$$
$$A = 1000(1.0175)^{8}$$
$$A \approx 1148.88$$

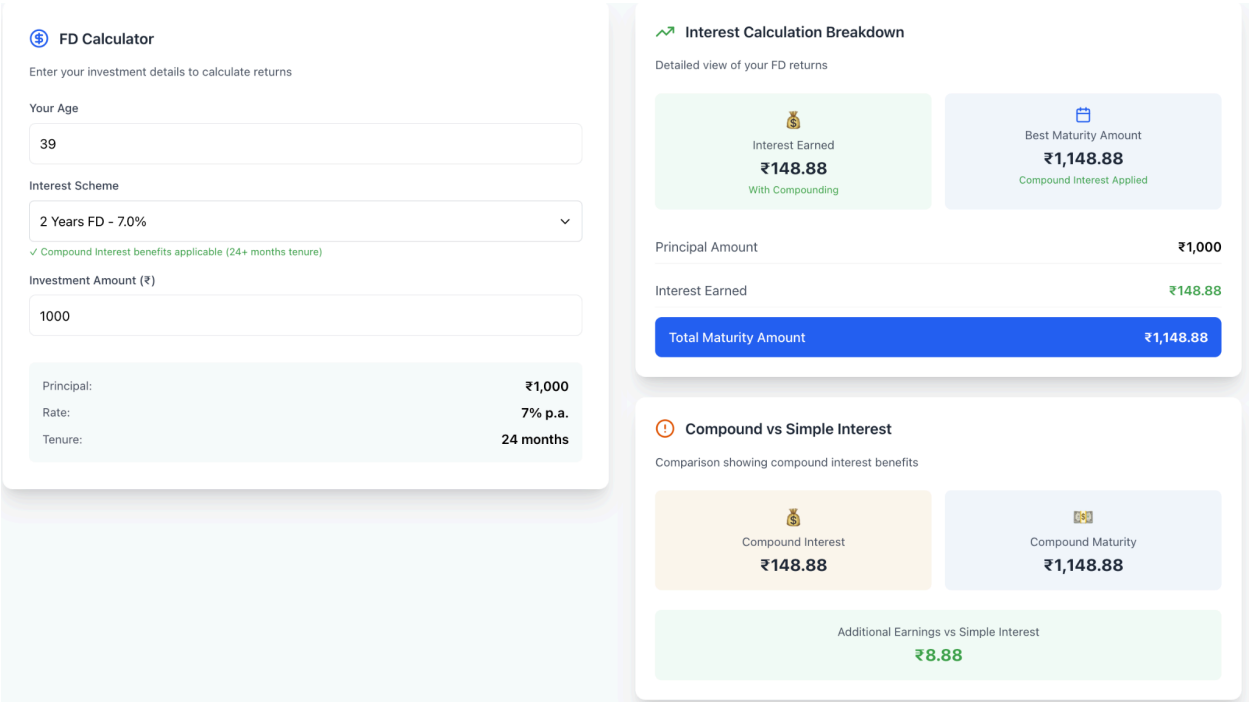
SIMPLE vs COMPOUND

The **Simple Interest (I)** is 140.0.

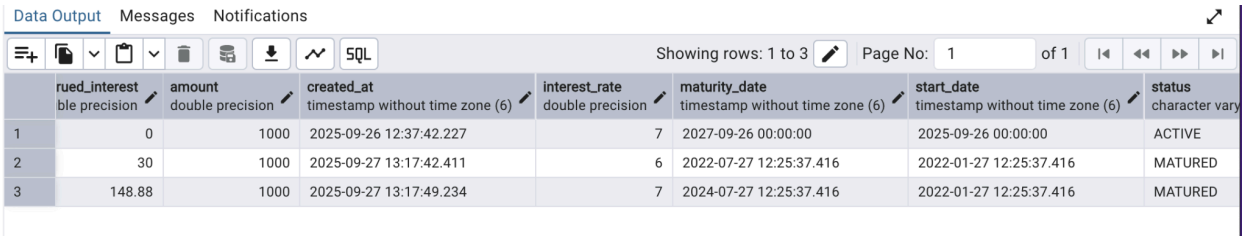
$$I = \frac{1000 \times 2 \times 7.0}{100}$$

$$I = 140.0$$

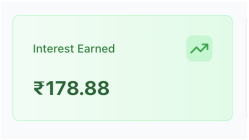
Difference = 1148.88 - (1000+140.0) = 8.88



INSERTING DUMMY DATA



	rued_interest ble precision	amount double precision	created_at timestamp without time zone (6)	interest_rate double precision	maturity_date timestamp without time zone (6)	start_date timestamp without time zone (6)	status character vary
1	0	1000	2025-09-26 12:37:42.227	7	2027-09-26 00:00:00	2025-09-26 00:00:00	ACTIVE
2	30	1000	2025-09-27 13:17:42.411	6	2022-07-27 12:25:37.416	2022-01-27 12:25:37.416	MATURED
3	148.88	1000	2025-09-27 13:17:49.234	7	2024-07-27 12:25:37.416	2022-01-27 12:25:37.416	MATURED



= 148.88 + 30 ;

STATUS - BROKEN

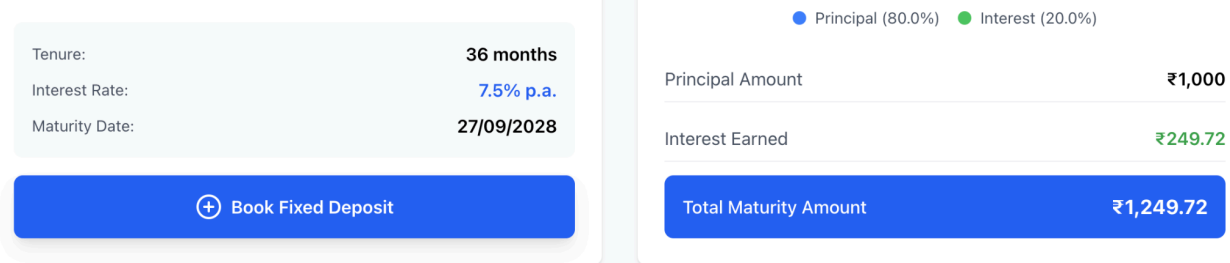
Case 1: Breaks within in 3 months (No accrued interest)

10000	2025-09-27 13:28:37.119	6	2026-03-27 00:00:00	2025-09-27 00:00:00	BROKEN

Case 2:

isCompoundEligible && applicableMonths >= 24
compound is actually compounded quaterly(4times) per year , based on scheme whose tenure is >= 24 months
But if broken before 24months (he/she may already have compounded interest , so
In this case we recalculate and apply only simple interest up to that time period

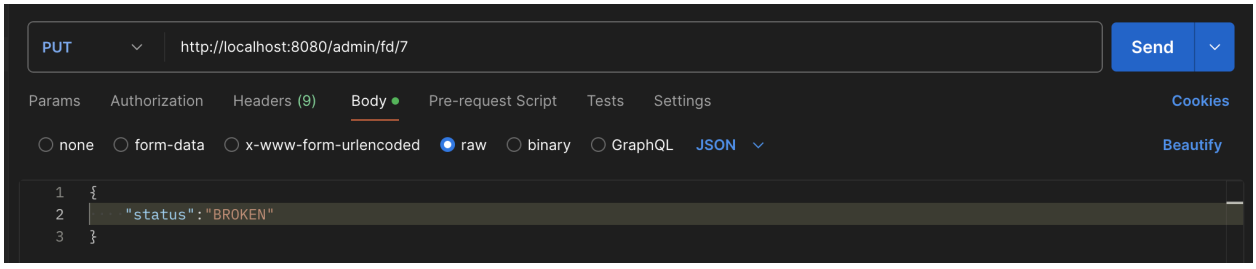
Example : lets book compound interest and break it after 1year



Accured interest is calculated with same interets , but payout is reduced by penalty

So instead of 1249.72 , we get only 75

Postman



In Database

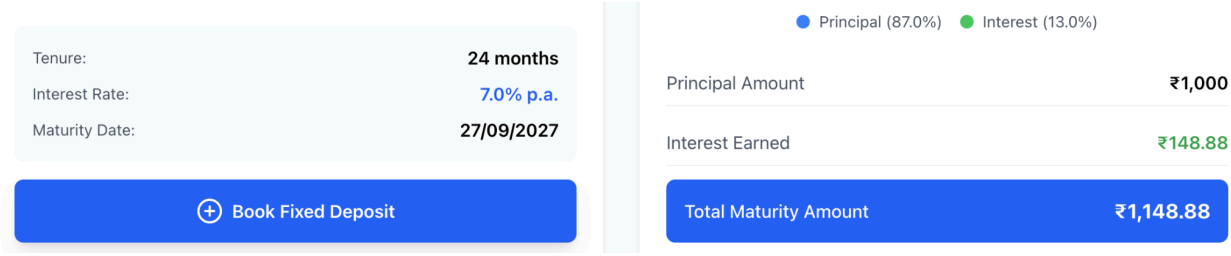
7	75	1000	2025-09-27 13:37:59.217	7.5	2027-09-27 12:25:37.416	2024-09-27 12:25:37.416	BROKEN

STATUS - ACTIVE/PENDING

Case 1: Pending state goes to BROKEN state (same example as above)

Case 2: we need to calculate interest accrued until today (irrespective of maturity date)

Example : if fd is taken for 2 years , so after 1year he should be able to see half of final maturity Amount



So after one year interest earned should be 71.89

$$A = 1000\left(1 + \frac{0.07}{4}\right)^{4\times 1}$$
$$A = 1000(1.0175)^4$$
$$A \approx 1071.86$$

71.86	1000	2025-09-27 15:40:03.143	7	2026-09-27 00:00:00	2024-09-26 00:00:00	ACTIVE