

Relational Model from ER Diagram

Users

Attribute
user_id PK
username UK
email UK
password_hash
first_name
last_name
default_currency
created_at
updated_at
is_active

Categories

Attribute
category_id PK
user_id FK → Users.user_id
category_name
category_description
color_code
icon
is_default
created_at
updated_at

Payment_Methods

Attribute
payment_method_id PK
user_id FK → Users.user_id
method_name
method_type
account_number

provider
is_active
created_at
updated_at

Expenses

Attribute
expense_id PK
user_id FK → Users.user_id
category_id FK → Categories.category_id
payment_method_id FK → Payment_Methods.payment_method_id
amount
currency
description
expense_date
expense_time
location
receipt_url
notes
is_recurring
recurring_id FK → Recurring_Expenses.recurring_id
created_at
updated_at

Recurring_Expenses

Attribute
recurring_id PK
user_id FK → Users.user_id
category_id FK → Categories.category_id
payment_method_id FK → Payment_Methods.payment_method_id
amount
currency
description
frequency_type
frequency_interval
start_date

end_date
next_due_date
is_active
auto_create
created_at
updated_at

Budgets

Attribute
budget_id PK
user_id FK → Users.user_id
category_id FK → Categories.category_id
budget_name
budget_amount
currency
budget_period
start_date
end_date
alert_threshold
is_active
created_at
updated_at

Tags

Attribute
tag_id PK
user_id FK → Users.user_id
tag_name
tag_color
created_at

Expense_Tags

Attribute
expense_tag_id PK
expense_id FK → Expenses.expense_id

tag_id FK → Tags.tag_id
created_at

Currency_Rates

Attribute
rate_id PK
from_currency
to_currency
exchange_rate
rate_date
source
created_at

Reports

Attribute
report_id PK
user_id FK → Users.user_id
report_name
report_type
date_from
date_to
categories (JSON)
tags (JSON)
total_amount
currency
generated_at
is_saved