
FINANCIAL ASSET MANAGEMENT

Project Members -

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Problem Background :

The investment market is immense with plenty of options to invest in! The concern we have identified is that many people invest in various schemes provided by the market like investment in the stock market, mutual funds, emerging market of cryptocurrency, real estates, etc. However, investors lack a singular platform where they can store their data, analyze their investments and prepare for next sets of investments based on the returns. The data is abundant but less exposure to insightful information. With this background on the problem in our mind, we aim to solve it!

Problem Statement :

Investors do not have an integrated view of their investments which, if they had, would leverage them to make rapid investment decisions to track their economic growth - present and future.

Proposed Solution :

- ☐ To create admin and customers users profiles and give them appropriate database access with **GRANT** query.
- ☐ To create **TABLE & VIEW** in the database with income & investment attributes with data segregation via **NORMALISATION** of different investment portfolios of customers such as Investments in Real Estate, Stocks, Mutual Funds, Cryptocurrency etc.

- ☐ To bulk upload the data with the help of **CSV** files in respective tables.
 - ☐ Track the investments - whether it is making a profit or going into loss with the help of **SQL** queries, **JOINS** and Functions.
 - ☐ To calculate the returns either profit or loss which are the **SQL FUNCTIONS** of all assets on how the investment is performing with respect to the customer expectations.
 - ☐ To write the **STORED PROCEDURES** to give continuous on how his investments are performing.
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End Result :

- ☐ Bringing the investment data of customers in one place.
 - ☐ Customer's data is stored in structured format so it is readily accessible and easy to retrieve.
 - ☐ Data stored in Oracle cloud which is far more secure and easy to access at an affordable price.
 - ☐ It may give investors an idea how investment is performing with respect to their expectations or future goals.
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Entity Details :

Entity Name	Entity Definition	Entity Linkage With Others
Customer Details	Customer Detail has all the information of the customers who are using the application. Whenever any new customer sign's up on the application - he will be made to choose a unique ID (Customer_ID). Along with all the basic information this table also holds its login information. All attributes in this table are NOT NULL.	In this application, Customer ID is going to play a very important role. It is a Primary Key in this table - and it is used as a foreign key in all the assets tables. Customer ID used as a foreign key in all assets tables establishes a relationship between an Individual and all its assets.
Income Expense Details	Customers will enter all the basic details related to the income, investment and expense details. All the fields in this table are mandatory.	This table is important to know the investment capacity and it will help to calculate the overall profit report.
Feedback	Feedback will play an imperative role when it comes to improving our database function. We aim to achieve this by taking routined check in with the customer via Feedback Table. It has a rating feature as well which will determine on a particular scale how much we are being optimal to our users and keep improving on the same.	The Feedback table has Feedback_ID as a primary key. Here, we have linked it with the customer table, for us to get a proper view of each customer attribute, by keeping Customer_ID as a foreing key.
Stock Portfolio Details	The Stock Portfolio table will hold the information about the customer's investments in stocks. It has Customer ID as a foreign key which establishes a relation with the customer table.	Here,Stock_Portfolio_ID which is the unique key of this table will be used as a foreign key in the Stock Investment Details table. It will be used to establish a relationship between these two tables.
Stock Investment Details	The Stock Investment Details table holds the information of all the unique stocks held by the customer. This table has Stock_Portfolio_ID as a foreign key which will establish a relationship with the Stock Portfolio Details.	This table can be used to access information about all the stocks held by an Individual by performing various queries.

Mutual Funds Portfolio Details	The MutualFunds Portfolio table will hold the information about the customer's investments in mutual funds. It has Customer ID as a foreign key which establishes a relation with the customer table.	Here,Mutual_Portfolio_ID which is the unique key of this table will be used as a foreign key in the Mutual Funds Investment Details table. It will be used to establish a relationship between these two tables.
Mutual Funds Investment Details	The Mutual Funds Investment Details table holds the information of all the unique mutual funds held by the customer. This table has Mutual_Portfolio_ID as a foreign key which will establish a relationship with the Mutual Funds Portfolio Details.	This table can be used to access information about all the mutual funds held by an Individual by performing various queries operation.
Cryptocurrency Portfolio Details	Cryptocurrency portfolioTable is intended to have imperative information about the total amount of investments done by the customer into multiple crypto currencies as well as tells about current value and profit/loss of the same investments.	This table has Portfolio_ID as a Primary key and Customer_ID as foreign key which links it with the customer table.
Cryptocurrency Investment Details	Cryptocurrency Investment Details has details about various cryptocurrency(such as Bitcoin, Ethereum, Ripple etc.) that are held by the Customer. Apart from this, it has other details such as Buy_Value,units, current_value, profit_lossFlag that are important to calculate the benefit or loss that the customer is bearing due to any related investments into Crypto.	We have kept Crypto_ID as a primary key for this table. Also, the idea here is to connect the Portfolio table via portfolio id that is why we have portfolio id as Foreign key and provides prompt linkage between both the Portfolio(Crypto) and investments(Crypto) tables.
Real Estate Portfolio Details	The purpose of the Real Estate Portfolio Details table is to maintain the net investment value, current value and profit or loss result of each customer in real estate assets.	Here, Property_Portfolio_ID which is the unique key of this table will be used as a foreign key in the Property Investment Details table. It will be used to establish a relationship between these two tables.
Real Estate Investment Details	The Real Estate Investment Details Table holds the information of all the	We have kept Property_ID as a primary key for this table.

	<p>unique stocks held by the customer. This table has Property_Portfolio_ID as a foreign key which will establish a relationship with the Real Estate Portfolio Details.</p>	<p>Also, the idea here is to connect the Portfolio table via portfolio id that is why we have portfolio id as Foreign key and provides prompt linkage between both the Portfolio(Property) and investments(Property) tables.</p>
Total Investment Management	<p>The Final Investment Table will hold the information about the customer's holistic investment stating total profit/loss, unibase coefficient , best performing asset. It has Customer ID as a primary key which establishes a relation with the customer table.</p>	<p>This table can be used to calculate various factors about the customer's income investment by performing various queries operation</p>

Document Entity and Attributes with Data types defined :

Table Name - Customer Details			
Column Name	Constraints	Datatype	Comments
Customer_ID	PK	VARCHAR2(10)	Unique customer ID
Customer_Name	NOT NULL	VARCHAR2(40)	Customer's name
Date_of_Birth	NOT NULL	DATE	Date of Birth of customer
Age	NOT NULL	NUMBER(2)	Age of the customer
Contact_Number	NOT NULL	NUMBER(10)	Contact number of customer
Zip_Code	NOT NULL	NUMBER(5)	Zip code of customer's address
State	NOT NULL	VARCHAR2(20)	State residency of customer
Retirement_Age	NOT NULL	NUMBER(2)	Retirement Age of customer
Email_ID	NOT NULL	VARCHAR2(50)	Email Id of customer
Address	NOT NULL	VARCHAR2(50)	Address of customer
Password	NOT NULL	VARCHAR2(8)	Password of customer
Security_Answer1	NOT NULL	VARCHAR2(40)	Answer to Security question 1
Security_Answer2	NOT NULL	VARCHAR2(40)	Answer to Security question 2

Table Name - Income-Expenses Table			
Column Name	Constraints	Datatype	Comments
Customer_ID	FK	VARCHAR2(10)	Unique customer ID
Primary_Income	NOT NULL	NUMBER(10)	Primary income of customer
Secondary_Income		NUMBER(10)	Secondary income of customer
Total_Income	NOT NULL	NUMBER(10)	Primary_Income + Secondary_Income
Expenditure	NOT NULL	NUMBER(10)	Expenses of the customer
Investment_Value	NOT NULL	NUMBER(10)	Total investment value of customer

Table Name - Feedback Table			
Column Name	Constraints	Datatype	Comments
Feedback_ID	PK	VARCHAR2(10)	Unique customer ID
Customer_ID	FK	VARCHAR2(10)	Unique feedback ID
Rating	NOT NULL	NUMBER(5)	Rating given by the customer
Feedback	NOT NULL	VARCHAR2(200)	Feedback in words

Table Name - Stock Portfolio Details			
Column Name	Constraints	Datatype	Comments
Portfolio ID	UK	VARCHAR2(10)	Unique portfolio ID for stocks
Customer ID	FK	NUMBER(10)	Unique customer ID
Amount of Money Invested	NOT NULL	NUMBER(200)	Money Invested by customer in stocks
Current Value	NOT NULL	NUMBER(200)	Current Value of total stocks
Total Profit/Loss	NOT NULL	NUMBER(100)	Profit or Loss for all the stocks
Total Dividend		NUMBER(10)	Dividend received from all the stocks

Table Name - Stock Investment Details			
Column Name	Constraints	Datatype	Comments
Stock ID	UK	VARCHAR2(10)	ID of Stock
Portfolio_ID	FK	VARCHAR2(10)	ID of customer
Stock_Name	NOT NULL	VARCHAR2(40)	Stock name e.g Apple Inc Common stock
Ticker Symbol	NOT NULL	CHAR(15)	Symbol of the company
Buy_Value	NOT NULL	NUMBER(10)	The value at which stock was bought e.g \$131.805
Units	NOT NULL	NUMBER(100)	number of shares of that company
Latest_Value	NOT NULL	NUMBER(10)	Latest value per stock e.g \$141.805
Current_Value	NOT NULL	NUMBER(10)	Current value = per unit price * no of units
Exchange	NOT NULL	VARCHAR2(20)	e.g NASDAQ
Dividend Yield(%)		VARCHAR(10)	Extra money that one gets every quarter if he/she is holding on to the company (there is formula to calculate it) = dividend/price per share (*100)
Profit_Loss Flag	NOT NULL	Boolean	YES / NO flag

Table Name - Mutual Fund Portfolio Details			
Column Name	Constraints	Datatype	Comments
Portfolio ID	UK	VARCHAR2(10)	ID of portfolio
Customer ID	FK	NUMBER(10)	ID of customer
Amount of Money Invested	NOT NULL	NUMBER(200)	Money Invested by customer in mutual funds
Current Value	NOT NULL	NUMBER(200)	Current Value of total funds
Total Profit/Loss	NOT NULL	NUMBER(100)	Profit or Loss for all the funds
Total Dividend		NUMBER(10)	Dividend received from all the funds

Table Name - Mutual Funds Investment Details			
Column Name	Constraints	Datatype	Comments
MutualFund_ID	PK	VARCHAR2(10)	Fund ID
Portfolio_ID	FK	VARCHAR2(40)	Portfolio ID
Fund_Name	NOT NULL	NUMBER(10)	Fund name e.g L&T Midcap Fund Growth
Ticker Symbol	NOT NULL	CHAR(15)	Symbol of the company
Buy_NAV	NOT NULL	NUMBER(10)	The net asset value at which unit was bought e.g \$13
Total Units	NOT NULL	NUMBER(100)	Number of units bought by the customer
Latest_NAV	NOT NULL	NUMBER(10)	Latest value of per unit e.g \$10
Current_Value	NOT NULL	NUMBER(10)	Current value = per unit price * no of units
Dividend Yield(%)		VARCHAR(10)	Extra money that one gets every quarter if he/she is holding on to the company (there is formula to calculate it) = dividend/price per share (*100)
Profit_Loss Flag	NOT NULL	Boolean	YES / NO flag

Table Name - Crypto Portfolio Details			
Column Name	Constraints	Datatype	Comments
Portfolio ID	UK	VARCHAR2(10)	ID of portfolio
Customer ID	FK	NUMBER(10)	ID of customer
Amount of Money Invested	NOT NULL	NUMBER(200)	Money Invested by customer in cryptocurrency
Current Value	NOT NULL	NUMBER(200)	Current Value of total crypto
Total Profit/Loss	NOT NULL	NUMBER(100)	Profit or Loss for all the cryptos
Total Dividend		NUMBER(10)	Dividend received from all the cryptos

Table Name - Cryptocurrency Investment Details			
Column Name	Constraint	Datatype	Comments

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Crypto_ID	PK	VARCHAR2(10)	Crypto ID
Portfolio_ID	FK	VARCHAR2(40)	Portfolio ID
Crypto_Name	NOT NULL	NUMBER(10)	Crypto name e.g Bitcoin
Symbol	NOT NULL	CHAR(15)	Symbol of the company
Buy_Value	NOT NULL	NUMBER(20)	Latest value of per crypto e.g \$55,596
Units	NOT NULL	NUMBER(20)	Number of crypto of that company
Latest_Price	NOT NULL	NUMBER(20)	Latest value of per crypto e.g \$50,596
Current_Value	NOT NULL	NUMBER(10)	Current value = per unit price * no of units
Exchange	NOT NULL	VARCHAR2(20)	e.g Coinbase, Binance
Profit_Loss Flag	NOT NULL	Boolean	YES / NO flag

Table Name - Property Portfolio Details			
Column Name	Constraints	Datatype	Comments
Property_Portfolio_ID	UK	VARCHAR2(10)	ID of property
Customer ID	FK	NUMBER(10)	ID of customer
Property_Investment_Money	NOT NULL	NUMBER(20)	Money Invested by customer in properties
Property_Current Value	NOT NULL	NUMBER(20)	Current Value of total properties
Property_Profit_Loss	NOT NULL	NUMBER(100)	Profit or Loss for all the properties

Table Name - Property Investment Details			
Column Name	Constraints	Datatype	Comments
Property_ID	PK	VARCHAR2(10)	ID of Property
Portfolio_ID	FK	VARCHAR2(40)	ID of Portfolio
Property_NAME	NOT NULL	VARCHAR2(40)	Name of the property
Property_Address	NOT NULL	VARCHAR(100)	Address of the property
Property_TYPE	NOT NULL	VARCHAR2(20)	Type of the property
Buy_Value	NOT NULL	NUMBER(10)	The value at which property was bought e.g \$13
Area Bought	NOT NULL	NUMBER(10)	Size of Property
Latest_Value	NOT NULL	NUMBER(10)	Latest value of per unit e.g \$10

Table Name - Final Investment Table			
Column Name	Constraints	Datatype	Comments
Customer_ID	PK	NUMBER(10)	ID of customer
Customer_NAME	NOT NULL	VARCHAR(30)	Name of Customer
Total_Profit_Loss	NOT NULL	NUMBER(100)	Calculated Profit or Loss for all the investment
Unibase_Coefficient	NOT NULL	FLOAT(10)	Calculating the coefficient
Best_Performing_Asset	NOT NULL	VARCHAR2(30)	Name of the investment type

Financial Asset Management ER Diagram

