

Diagrams and Design

Fact Table:

Column Name	Data Type	Description
transaction_id	INT (PK)	Unique identifier for each transaction.
stock_id	INT (FK)	Foreign key to the Stock dimension table
date_id	INT (FK)	Foreign key to the Date dimension table
open_price	DECIMAL	Opening price of the stock
close_price	DECIMAL	<u>Closing</u> price of the stock.
high_price	DECIMAL	Highest price of the stock.
low_price	DECIMAL	Lowest price of the stock
volume	INT	Number of shares traded
rsi	DECIMAL	Relative Strength Index
sma	DECIMAL	Simple Moving Average
bollinger_band	DECIMAL	Bollinger Band value

Dimension Tables:

Stock Dimension Table: This table contains information about individual stocks (companies).

Column Name	Data Type	Description
stock_id	INT (PK)	Unique identifier for each stock
stock_symbol	VARCHAR	Stock ticker symbol (e.g., AAPL, TSLA)
company_name	VARCHAR	Name of the company (e.g., Apple Inc.)
sector	VARCHAR	Sector the company belongs to (e.g., Technology)
currency	VARCHAR	Currency in which the stock is traded (e.g., USD)
exchange	VARCHAR	Stock exchange (e.g., NASDAQ, NYSE)

Date Dimension Table: It contains a record for every day in your data’s time range, with attributes like day, week, month, quarter, and year

Column Name	Data Type	Description
date_id	INT (PK)	Unique identifier for each date.
full_date	DATE	The full date (YYYY-MM-DD)
day_of_week	VARCHAR	Day of the week (e.g., Monday)
month	VARCHAR	Month (e.g., January)
quarter	VARCHAR	Quarter (e.g., Q1, Q2, Q3, Q4)
year	INT	Year (e.g., 2023)
is_holiday	BOOLEAN	Whether the date is a holiday

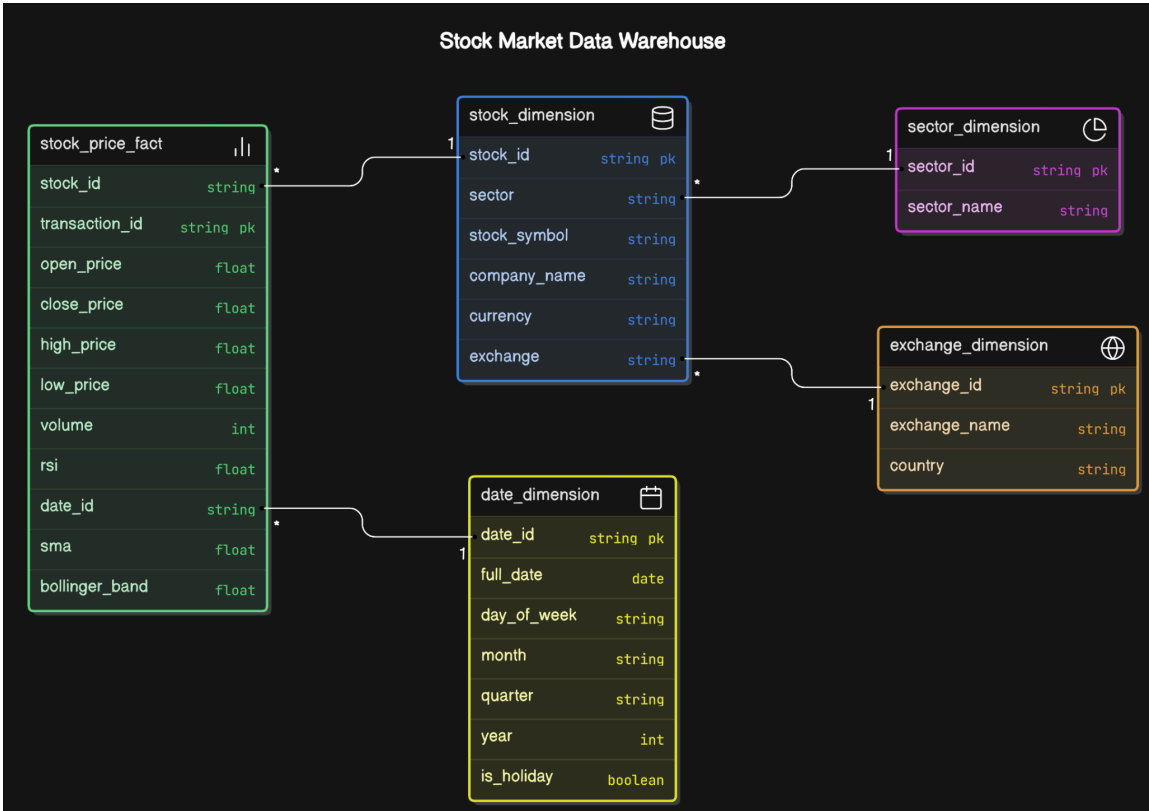
Sector Dimension Table: This table categorizes the companies by their business sectors (e.g., Technology, Healthcare).

Column Name	Data Type	Description
sector_id	INT (PK)	Unique identifier for each sector.
sector_name	VARCHAR	Name of the sector (e.g., Technology)

Exchange Dimension Table: This table contains details about stock exchanges (e.g., NASDAQ, NYSE).

Column Name	Data Type	Description
exchange_id	INT (PK)	Unique identifier for each exchange
exchange_name	VARCHAR	Name of the stock exchange (e.g., NASDAQ)
country	VARCHAR	Country of the <u>stock exchange</u>

ERD Diagrams:



This Stock Price Data Warehouse design captures essential stock trading data by organizing it into a fact table and several dimension tables in a star schema.

ETL Outline:

