

DATABASE SCHEMA

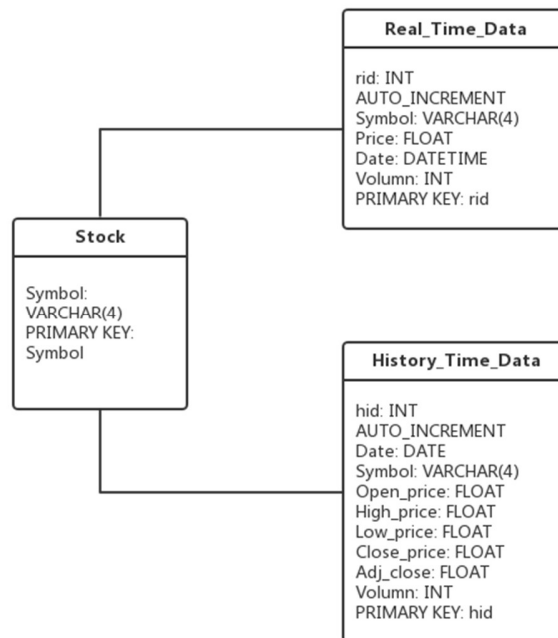


Figure 1 Database Schema

In total, three tables are created to store data in database “stockDB”. Table “stock” stores the basic information of each stock, table “Real_Time_Data” stores the real time data for each stock, including symbol, close price, date(date and time) and volume, and table “History_Time_Data” stores the history time data, including date, symbol, open price, high price, low price, close price, adjusted price and volume for each stock. “Symbol” in table “Real_Time_Data” and “History_Time_Data” are the foreign keys which reference to “symbol” in table “stock”.

SQL:

```
CREATE DATABASE stockDB;
```

```
CREATE TABLE stock(  
    symbol VARCHAR(4) NOT NULL,  
    PRIMARY KEY(symbol));
```

```
CREATE TABLE Real_Time_Data(  
    rid INT UNSIGNED AUTO_INCREMENT NOT NULL,  
    symbol VARCHAR(4) NOT NULL,  
    stock_date DATE,  
    stock_time TIME,  
    price FLOAT,  
    volume INT,  
    PRIMARY KEY(rid),
```

```
FOREIGN KEY(symbol)
REFERENCES stock(symbol)
        ON DELETE CASCADE
);
```

```
CREATE TABLE History_Time_Data(
    hid INT UNSIGNED AUTO_INCREMENT NOT NULL,
    symbol VARCHAR(4) NOT NULL,
    stock_date DATE,
    open_price FLOAT,
    high_price FLOAT,
    low_price FLOAT,
    close_price FLOAT,
    volume INT,
    PRIMARY KEY(hid),
    FOREIGN KEY(symbol)
REFERENCES stock(symbol)
        ON DELETE CASCADE
);
```