Stock Market Application Table's Scripts

```sql
CREATE TABLE Users (
    UserId INT PRIMARY KEY IDENTITY,
    Username VARCHAR(100) UNIQUE NOT NULL,
    Email VARCHAR(255) UNIQUE NOT NULL,
    PasswordHash VARCHAR(255) NOT NULL,
    Role VARCHAR(50) DEFAULT 'User',
    CreatedAt DATETIME DEFAULT GETDATE()
);


CREATE TABLE UserTokens (
    TokenId INT PRIMARY KEY IDENTITY,
    UserId INT FOREIGN KEY REFERENCES Users(UserId),
    Token VARCHAR(MAX),
    Expiry DATETIME,
    IsRevoked BIT DEFAULT 0
);


CREATE TABLE Stocks (
    StockId INT PRIMARY KEY IDENTITY,
    TickerSymbol VARCHAR(10) UNIQUE NOT NULL,
    CompanyName VARCHAR(255),
    Sector VARCHAR(100),
    Exchange VARCHAR(50)
);


CREATE TABLE UserHoldings (
    HoldingId INT PRIMARY KEY IDENTITY,
    UserId INT FOREIGN KEY REFERENCES Users(UserId),
    StockId INT FOREIGN KEY REFERENCES Stocks(StockId),
    Quantity INT NOT NULL,
    PurchasePrice DECIMAL(18,2) NOT NULL,
    PurchaseDate DATE NOT NULL
);
```

```
CREATE TABLE Watchlist (
    WatchlistId INT PRIMARY KEY IDENTITY,
    UserId INT FOREIGN KEY REFERENCES Users(UserId),
    StockId INT FOREIGN KEY REFERENCES Stocks(StockId),
    AddedDate DATETIME DEFAULT GETDATE()
);


CREATE TABLE StockPrices (
    PriceId INT PRIMARY KEY IDENTITY,
    StockId INT FOREIGN KEY REFERENCES Stocks(StockId),
    Price DECIMAL(18,2),
    PriceDate DATETIME
);
```

Summary of Tables

Table Name	Purpose
Users	Authentication and user profile
UserTokens	Session/token management (optional)
Stocks	Master stock list
UserHoldings	User's purchased stocks
Watchlist	Stocks user is watching
StockPrices	Cached or simulated stock prices

List of Indexes to be created: -

```
CREATE NONCLUSTERED INDEX IX_Users_Email ON Users(Email);
CREATE NONCLUSTERED INDEX IX_Users_Username ON Users(Username);

CREATE NONCLUSTERED INDEX IX_UserTokens_UserId ON UserTokens(UserId);
```

```
CREATE        NONCLUSTERED        INDEX        IX_UserTokens_Token        ON
UserTokens(Token);

CREATE        NONCLUSTERED        INDEX        IX_Stocks_TickerSymbol        ON
Stocks(TickerSymbol);

CREATE        NONCLUSTERED        INDEX        IX_UserHoldings_UserId        ON
UserHoldings(UserId);
CREATE        NONCLUSTERED        INDEX        IX_UserHoldings_StockId        ON
UserHoldings(StockId);

CREATE        NONCLUSTERED        INDEX        IX_Watchlist_UserId        ON
Watchlist(UserId);
CREATE        NONCLUSTERED        INDEX        IX_Watchlist_StockId        ON
Watchlist(StockId);

CREATE        NONCLUSTERED        INDEX        IX_StockPrices_StockId        ON
StockPrices(StockId);
CREATE        NONCLUSTERED        INDEX        IX_StockPrices_PriceDate        ON
StockPrices(PriceDate);
```

Summary Table

Table	Column(s)	Reason for Indexing
Users	Email, Username	Fast login, uniqueness checks
UserTokens	UserId, Token	Fast lookup, validation, revocation
Stocks	TickerSymbol	Fast stock lookup
UserHoldings	UserId, StockId	Fast user/stock-based queries
Watchlist	UserId, StockId	Fast user/stock-based queries
StockPrices	StockId, PriceDate	Fast price retrieval, historical queries