

Conceptual Architecture



Components:

- AppUI
 - Interactive user interface;
 - Users are able to search and view stock data (stock information, stock graphic visuals, etc.);
- Admin Panel
 - Administrator Interface;
 - Admins are able to manage and configure stock-related data;
- Stocks Service

- Intermediary service between the user interface (AppUI) and the backend;
 - Processes user requests to search for stock data;
 - Forwards data for further handling;
- Admin Service
 - Handles administrative tasks through the Admin Panel (e.g. managing stock data, managing system configurations etc.);
 - Interfaces with the Stock Information Manager for managing the backend data;
- Stocks Finder
 - Searches and retrieves stock data requested by the Stock Service;
 - Interacts with the Database to fetch necessary information;
- Stocks Information Manager
 - Manages and organizes stock data stored in the Database;
 - Used for adding, updating, or maintaining stock data;
- Database
 - Central repository for storing the raw stock data scraped by the Scraping Service from the Macedonian Stock Exchange Website and processed data by other services;
- Scraping Service
 - Responsible for extracting real-time stock data from the Macedonian Stock Exchange Website;
 - It gathers, processes, and stores this data in the Database for future use;
- Macedonian Stock Exchange Website
 - External data source from which stock information is retrieved by the Scraping Service.

Data flow:

- User Request:
 - Users send requests through the AppUI, which are processed by the Stocks Service and forwarded to the Stocks Finder.
 - The Finder fetches relevant stock data from the Database and responds.
- Admin Management:
 - Administrators interact with the Admin Service through the Admin Panel.
 - The Admin Service manages stock data using the Stocks Information Manager, which interacts with the Database.
- Data Collection:
 - The Scraping Service regularly retrieves stock data from the Macedonian Stock Exchange Website and stores it in the database.
 - This data is then used by the Stocks Finder and Stocks Information Manager as needed.