E-Stock Market

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1 PROBLEM STATEMENT

E-Stock Market Application is a Restful Microservice application, where it allows users to manage the stocks like create, view stock price details and company details.

The core modules of E-Stock Market app are:

- Allows to add a new company detail and a new stock price detail
- Allows to delete an existing company with all stock details
- Allows to search the company or stock based on company code
- Allows to display all company information or all stock detail
- Allows displaying max, min and average stock prices between the stipulated time periods. For this purpose, there should be a frontend SPA created using React
- For mobile application use flutter

The scope includes developing the application using tool chain mentioned below.

2 PROPOSED E-STOCK MARKET WIREFRAME

UI needs improvisation and modification as per given use case.

LOGO	Add Company		List All Companies		<Company Code>	Search

Company Code	Comp001
Company Name	Company1

FROM   <start date>   to   <end date>

Stock Price	Date	TIME
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>
<price>	<date>	<time>

MIN	<min>
MAX	<max>
AVG	<avg>

3 BUSINESS REQUIREMENTS:

As an application developer, develop microservices with below guidelines:

:

User Story #	User Story Name	User Story

US_01	Company Registration	As a user I am be able to register a new company in E-Stock Market application
		
		Acceptance criteria:
		1. As a user I am be able to furnish following details at the time of company registration
		    a. Company Code
		    b. Company Name
		    c. Company CEO
		    d. Company Turnover
		    e. Company Website
		    f. Stock Exchange it is enlisted in (BSE, NSE etc)
		2. All details fields are be mandatory
		3. Company Code must be unique
		4. Company Turnover must be greater than 10Cr.

US_02	Add Stock Price	As a user I am be able to add stock price for any company Acceptance criteria: • Stock price must be a fractional value. • Date & Time of the stock price is automatically fetched from server system
US_03	View and delete Company Details	As a user I am able to view and delete details of company. Acceptance criteria: • If a single company, details are demanded it show complete details of company along with latest stock price. • If all company details are demanded it t show list of all companies with their latest stock price • If company is deleted, it also deletes all stock price data associated with the company.
US_04	View Stock Details	As a user I am able to view stock details of company Acceptance criteria: a. List of stock price of a company is viewed based on start date and end date. b. Along with listing the stock price, application display max, min and average stock price between mentioned time frame c. UI should provide a drop-down to select company d. UI should provide options to select start date and end date

		e. UI should then show the stock details as table along with max, min and average stock price between mentioned time frame

4 PROPOSED REST ENDPOINTS TO BE EXPOSED

4.1 REST APIs:

POST	/api/v1.0/market/company/register	Register a new company
GET	/api/v1.0/market/company/info/<companycode>	Fetches the Company Details
GET	/api/v1.0/market/company/getall	Fetches all the Company Details
DELETE	/api/v1.0/market/company/delete/<companycode>	Deletes a company
POST	/api/v1.0/market/stock/add/<companycode>	Add new stock price
GET	/api/v/1.0/market/stock/get/<companycode>/<startdate>/<enddate>	Fetches Stock Price List

Use Creational design pattern for composing the model object to be sent back as response on following end-point:

a. **/api/v/1.0/market/stock/get/<companycode>/<startdate>/<enddate>**
(Fetches stock price list)

5 EXPECTED DELIVERABLES

5.1 ENGINEERING CONCEPTS (SECURITY & IDENTITY):

1. As an Application Developer:
   a. Restrict the access over all write operation (secured operations) by adding authentication
   b. Secure all Rest EndPoints by configuring SSL Certificate for Cloud

5.2 PRODUCTS & FRAMEWORK (DATABASE & STORAGE):

1. As an application developer:
   a. Ensure Application is implementing ORM with .Net Core
   b. Use SQL SERVER for maintaining

6 PLATFORM

Use above Business Requirements to implement the below.

1. Use Azure to deploy application on cloud.
2. Use Azure SQL Server as a database for the Application.

3. Use Azure Functions and DB to build a backend process for handling requests for E-Stock Market App.
4. Use Azure Service to send email to company after stock is listed.

Note: Minimum 2APIs (UI+Backend) to be hosted in cloud