**Project Initialization and Setup:**

1. **Initialize a new project** leveraging your in-depth knowledge of stocks, especially the US stock market, and consider the goal of building a comprehensive (e2e) stock-related website.
2. **Establish an API connection** to online stock data using the provided API key: NEXT\_PUBLIC\_POLYGON\_API\_KEY=Ik4AGCpavkhjJfuptm8Dn9shpYS0c9cY. Assume this key needs to be securely integrated into the project environment (e.g., as an environment variable).
3. **Target Real-time Mode:** Ensure all data fetching and display mechanisms are designed to operate in real-time, reflecting up-to-date stock information.
4. **NodeJS Environment:** Recognize that a NodeJS environment is available in the C:\stock directory, suggesting this is the intended platform for backend logic or potentially a full-stack application.

**Website Header and Global Indicators:**

1. **Logo Integration:**
   * Locate the logo file at c:\dstock\public\logo.png.
   * Align the logo to the left after a 10% grid margin from the left edge of the page.
   * Set the logo's dimensions to 200x200 pixels.
2. **Main Title:**
   * Position the main title line with the logo immediately to its right.
   * Use the font Bahnschrift Light with a font size of 60.
   * Ensure the vertical alignment of the title matches the logo.
   * The title content will be dynamically determined based on the website's overall theme (e.g., "Real-Time Stock Insights").
3. **Global Trend Indicators:**
   * Below the main title and logo, display the current trend of the following indicators in a single line:
     + S&P 500
     + Nasdaq 100
     + Dow Jones
     + Russell 2000
     + Gold
     + Silver
     + EUR/USD
     + EUR/ILS
     + USD/ILS
   * Fetch real-time data for these indicators.
   * Visually indicate the trend (e.g., using color or arrows) based on recent price movement.
   * Apply a dark gray background to the section containing these indicators.

**Page Layout:**

1. **Grid System:** Divide the page into four horizontal sections:
   * Two 5% grid columns are on the left.
   * A left panel occupies 25% of the page width.
   * A right panel occupies 40% of the page width.
   * Strategy in 25% of the page width
   * Close with 5% grid
2. **Spacing:** Maintain a 20px gap between all these sections.
3. Set the overall page background to a light gray shade.

**Left Panel Functionality:**

1. **Initial Title:**
   * Inside a box at the top of the left panel, display an initial title.
   * Use Bahnschrift Light font, a font size of 40, and black color.
   * The title content should be relevant to the panel's function (e.g., "Stock Analysis Tools").
2. **Select stock:**
   * Implement a stock picker field that allows users to:
     + Browse a comprehensive list of stocks from the US stock exchange (Nasdaq and US stock), displaying the trade name and symbol.
     + Search for specific stocks by name and symbol.
   * Connect this selection to an online database of Wall Street stocks.
3. **Investment Amount Field:**
   * Provide a numerical input field where users can enter an amount of money (in dollars) to simulate an investment.
   * Set the default value of this field to 100.
4. Two buttons for Buy and Sell
5. **Analysis Button:**
   * Add a button that, when clicked, triggers the stock analysis based on the selected stock and the entered investment amount using the investment strategy defined later.
6. **Real-time Stock Ticker:**
   * Below the analysis button, insert a real-time ticker displaying a list of American stocks.
   * For each stock, show its price and indicate whether it is rising (green) or falling (red) using a 12-point font.
7. **Top 5 Most Profitable Stocks:**
   * + Post-develop the strategy and pick the best stock in the market.
     + Only the stocks with potential will applied with a green arrow up
8. **Investment Portfolio Table:**
   * Create a table to track the user's investments.
   * Each time a new investment analysis is performed, add a new row to this table when clicking on the buy or sell button recording:
     + The timestamp of the investment.
     + The initially invested amount.
     + The current value of the investment (based on real-time stock price).
     + The percentage of profit or loss.
     + Add a button to delete the row.
     + If part of the amount was sold, please leave the remaining amount
   * Format the profit/loss percentage in green for gains and red for losses.

**Right Panel Functionality:**

1. **Dynamic Graph Display:**
   * In the right panel, display the following based on the stock selected in the stock picker:
     + A Japanese candlestick chart visualizing the stock's price history.
     + Short-term trend indicators (as determined by the investment strategy).
     + Long-term trend indicators (as determined by the investment strategy).

**Investment Strategy Implementation (To be used for analysis and trend identification):**

1. **Step 1: Define Investment Goals and Risk Tolerance:**
   * Acknowledge the hybrid approach of combining short-term and long-term strategies for maximum returns.
   * Consider a risk tolerance of 1-2% of the portfolio per position and comfort with volatile sectors.
   * Allocate a hypothetical portfolio (e.g., 60% long-term, 40% short-term) for analysis.
   * Implement the concept of setting stop-loss levels (e.g., 5-10% below entry price) for risk management in the simulated analysis.
2. **Step 2: Build a Foundation with Fundamental Analysis (for filtering):**
   * Utilize key fundamental metrics to filter stocks for technical analysis:
     + Earnings Growth (>10% annually for long-term).
     + P/E Ratio (compare to industry averages).
     + Debt-to-Equity (<1.0 for most sectors).
     + Dividend Yield (2-4% for long-term consideration).
   * Access and process fundamental data for US stocks (potentially through the API or another data source).
   * Create a hypothetical watchlist of 20-30 US stocks from leading sectors based on strong fundamentals.
3. **Step 3: Master Technical Analysis Tools (for trend and entry/exit points):**
   * **3.1 Japanese Candlestick Patterns:**
     + Identify and interpret bullish reversal (Hammer, Bullish Engulfing, Morning Star), bearish reversal (Shooting Star, Bearish Engulfing, Evening Star), and continuation (Doji, Marubozu) patterns.
     + Apply these patterns to daily/weekly charts for long-term and 1-hour/15-minute charts for short-term analysis.
     + Consider volume spikes as confirmation.
   * **3.2 MACD (Moving Average Convergence Divergence):**
     + Calculate and interpret the MACD line, Signal line, and Histogram.
     + Identify bullish (MACD crosses above Signal) and bearish (MACD crosses below Signal) signals.
     + Recognize divergence between price and MACD as potential reversals.
     + Apply MACD to daily charts for swing trading and weekly charts for long-term trends.
   * **3.3 RSI (Relative Strength Index):**
     + Calculate and interpret overbought (>70) and oversold (<30) conditions.
     + Identify buy signals (RSI < 30 with the bullish candlestick) and sell signals (RSI > 70 with the bearish candlestick).
     + Recognize divergence between price and RSI as potential reversals.
     + Use 14-day settings for most stocks and 7-day for volatile stocks in short-term trading.
   * **3.4 Advanced Models:**
     + Understand and potentially apply (depending on AI capabilities):
       - Bollinger Bands (volatility).
       - Fibonacci Retracement (support/resistance).
       - Ichimoku Cloud (trend, momentum, support/resistance).
       - Volume-weighted average Price (VWAP - fair price).
4. **Step 4: Develop a Screening Process (for identifying trading opportunities):**
   * **Short-Term:**
     + Screen for high volatility (ATR > 3%) and volume (>1M shares daily).
     + Look for stocks near key support/resistance or showing reversal patterns.
   * **Long-Term:**
     + Screen for stocks in strong sectors with consistent uptrends (above 200-day MA).
     + Prioritize low RSI divergence and stable MACD trends.
5. **Step 5: Create a Trading Plan (for entry/exit and risk management):**
   * **Entry Rules:** Define conditions for entering long-term (above 200-day MA, neutral RSI, bullish candlestick) and short-term (pullbacks to Fibonacci, MACD crossover, volume confirmation) positions.
   * **Exit Rules:** Define conditions for exiting long-term (deteriorating fundamentals, bearish reversal) and short-term (profit targets at 2-3x risk, bearish MACD crossover) trades.
   * **Risk Management:** Implement position sizing (no more than 1-2% risk per trade) and stop-loss orders (5-10% below entry).
6. **Step 6: Backtest and Optimize (conceptually for strategy evaluation):**
   * Understand the importance of testing the strategy on historical data (at least 5 years).
   * Consider key metrics like win rate (>60%), risk/reward ratio (>2:1), and maximum drawdown (<20%).
7. **Step 7: Execute Trades and Monitor (simulated for the website):**
   * Simulate trade execution based on the defined entry and exit rules.
   * Monitor short-term positions daily/hourly and long-term positions monthly/quarterly (using real-time data).
   * Maintain a record of simulated trades (entry, exit, rationale, outcome) for the portfolio table.
8. **Step 8: Continuous Learning and Adaptation (as an AI capability):**
   * Stay updated with market news and sentiment.
   * Understand advanced models and concepts (Machine Learning, CAPM, Beta).
   * Consider community insights (though direct interaction is not possible).

**Strategy Application and Output:**

1. **Apply the Step-by-Step Strategy:** When a user selects a stock and clicks the "analysis button," apply the defined investment strategy to that stock using real-time and historical data.
2. **Generate Textual Output:** Provide a summary of the analysis, including:
   * Fundamental analysis insights relevant to the selected stock.
   * Technical analysis findings based on candlestick patterns, MACD, RSI, and potentially advanced models.
   * Simulated trade recommendations (buy/sell signals) with rationale.
   * Suggested entry and exit points.
   * Stop-loss recommendations.
   * Risk/reward assessment for potential trades.
3. **Generate Visual Output (for the right panel):**
   * **Japanese Candlestick Chart:** Display a real-time candlestick chart for the selected stock, allowing users to choose different timeframes (e.g., daily, weekly, hourly).
   * **Technical Indicators:** Overlay the relevant technical indicators (MACD, RSI, and potentially Bollinger Bands, Fibonacci levels, Ichimoku Cloud, and VWAP) on the chart.
   * **Trend Lines and Annotations:** If the analysis identifies significant trends or patterns, visually represent them on the chart (e.g., trend lines, support/resistance levels, pattern highlights).

**Additional Considerations:**

1. **User Experience:** While not explicitly a design task, consider the user experience when presenting the data and analysis. Ensure clarity, intuitive navigation, and easy-to-understand visualizations.
2. **Performance:** Optimize data fetching and processing for efficient real-time updates and chart rendering.
3. **Error Handling:** Implement mechanisms to handle potential API requests or data processing errors.

Learn my layout and scan in the web what is the correct chart to display

I ask you to start building it step by step one post one with full instruction.  
Go from the left panel to the right panel.  
Divide the code under the c:\dstock\ components folder in different JS files.