```python
In [3]: import pandas as pd
        import matplotlib.pyplot as plt
        from prophet import Prophet
```

```python
In [4]: file_path = r"C:\Users\HP\OneDrive\Desktop\NLP\Data\ML471_S4_Datafile_Practice.c
        df = pd.read_csv(file_path)
```

```python
In [5]: df['Date'] = pd.to_datetime(df['Date'])

        prophet_df = df[['Date', 'Close', 'Volume']].copy()
        prophet_df.rename(columns={'Date': 'ds', 'Close': 'y'}, inplace=True)
```

```python
In [6]: train_size = int(len(prophet_df) * 0.8)
        train_df = prophet_df.iloc[:train_size]
        test_df = prophet_df.iloc[train_size:]
```

```python
In [7]: model = Prophet(
            yearly_seasonality=True,
            weekly_seasonality=False,
            daily_seasonality=False,
            interval_width=0.95
        )

        model.add_regressor('Volume')
```

Out[7]: <prophet.forecaster.Prophet at 0x18de22f48c0>

```python
In [8]: model.fit(train_df)
```

08:47:26 - cmdstanpy - INFO - Chain [1] start processing
08:47:26 - cmdstanpy - INFO - Chain [1] done processing

Out[8]: <prophet.forecaster.Prophet at 0x18de22f48c0>

```python
In [9]: future = model.make_future_dataframe(
            periods=len(test_df),
            freq='M'
        )

        future['Volume'] = prophet_df['Volume'].values
```

c:\Users\HP\AppData\Local\Programs\Python\Python312\Lib\site-packages\prophet\for
ecaster.py:1875: FutureWarning: 'M' is deprecated and will be removed in a future
version, please use 'ME' instead.
  dates = pd.date_range(

```python
In [10]: forecast = model.predict(future)
```

```python
In [11]: fig = model.plot(forecast)

         plt.scatter(
             prophet_df['ds'],
             prophet_df['y'],
             color='black',
             s=10,
             label='Observed'
         )
```

```
plt.title("Prophet-Based Stock Price Forecast with Trading Volume")
plt.xlabel("Date")
plt.ylabel("Close Price")
plt.legend()
plt.show()
```