

Stock Price Prediction using KNIME

Steps :

1. **Imported Dataset:** Loaded *ADANI_PORTS_EQ_NSE_MINUTE.csv* into KNIME using the **CSV Reader** node.
2. **Data Preprocessing:** Cleaned and structured the data; selected key columns like *DateTime, Open, High, Low, Close, Volume*.
3. **Feature Engineering:** Used **Lag Column** node to create past price values (lags) as input features.
4. **Calculated Change Ratios:** Applied **Math Formula** node to compute price return and volume change for trend detection.
5. **Column Renaming & Filtering:** Renamed generated lag columns and filtered unnecessary fields.
6. **Data Partitioning:** Split dataset into **training (70%)** and **testing (30%)** sets using the **Partitioning** node.
7. **Model Training:** Trained a **Linear Regression** model using the **Linear Regression Learner** node with *Close* as the target variable.
8. **Prediction:** Predicted stock prices on test data using the **Linear Regression Predictor** node.
9. **Model Evaluation:** Evaluated performance using **Numeric Scorer** node (R^2 , RMSE, MAE metrics).
10. **Result Interpretation:** Analyzed correlation between predicted and actual prices to assess model accuracy and trend-following ability.