

**Reviews:**

Version	Date	Reviewer	Comments
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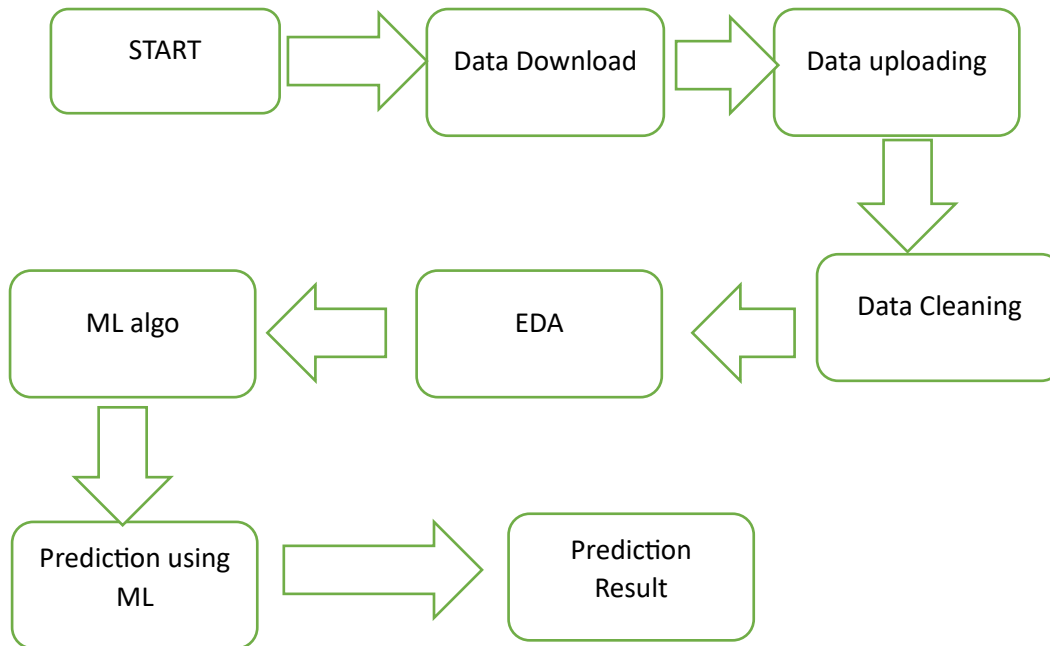
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## Architecture



## Architecture Description

**Start:** The process begins with initiating the task of predicting backorders and planning. This involves gathering the necessary resources and defining the objectives and requirements of the project.

**Data Download:** Obtain the required dataset containing historical data related to inventories, supply chain, and sales.

**Data Uploading:** Upload the downloaded dataset to the analysis environment or platform where the modeling process will take place.

**Data Cleaning:** Perform data cleaning procedures to ensure the dataset is reliable and suitable for analysis. This includes handling missing values, dealing with outliers, correcting inconsistencies, and transforming data types if necessary.

**Exploratory Data Analysis (EDA):** Conduct an in-depth exploration of the dataset to gain insights and understand the underlying patterns, trends, and relationships between variables.

**Machine Learning Algorithm Selection:** machine learning algorithm for the backorder prediction task. Consider algorithms such as Random Forest, Decision Trees, Logistic Regression, Gradient Boosting, or others based on the problem requirements and characteristics of the dataset.

**Model Training:** Train the selected machine learning algorithm using the cleaned and preprocessed dataset. This involves splitting the data into training and testing sets, feeding the training data into the algorithm, and optimizing the model parameters to improve its predictive performance.

**Prediction using Machine Learning Algorithm:** Apply the trained model to the unseen data (testing set) to predict backorders for each product. The algorithm utilizes the features of the product, such as inventory levels, sales history, and supply chain information, to make predictions.

**Prediction Result:** Evaluate and analyze the prediction results obtained from the machine learning algorithm. Assess the model's accuracy, precision, recall, F1-score, and any other relevant evaluation metrics. Compare the predicted backorders with the actual backorders to measure the model's performance.