

## Topic

### Machine learning model deployment with IBM cloud watson Studio

#### PHASE 3 :

#### Development Part 1

**Start building the machine learning model using IBM Cloud Watson Studio.**

**Define the predictive use case (e.g., customer churn prediction) and select a relevant dataset**

#### **Aim:**

Machine learning model using IBM Cloud Watson Studio, but I can't directly interact with the platform. However, I can provide you with the general steps:

#### **Define the Predictive Use Case:**

Start by clearly defining your predictive use case. For example, you mentioned "customer churn prediction." Specify what you want to predict, such as which customers are likely to churn.

## Some Industries Using Predictive Analytics



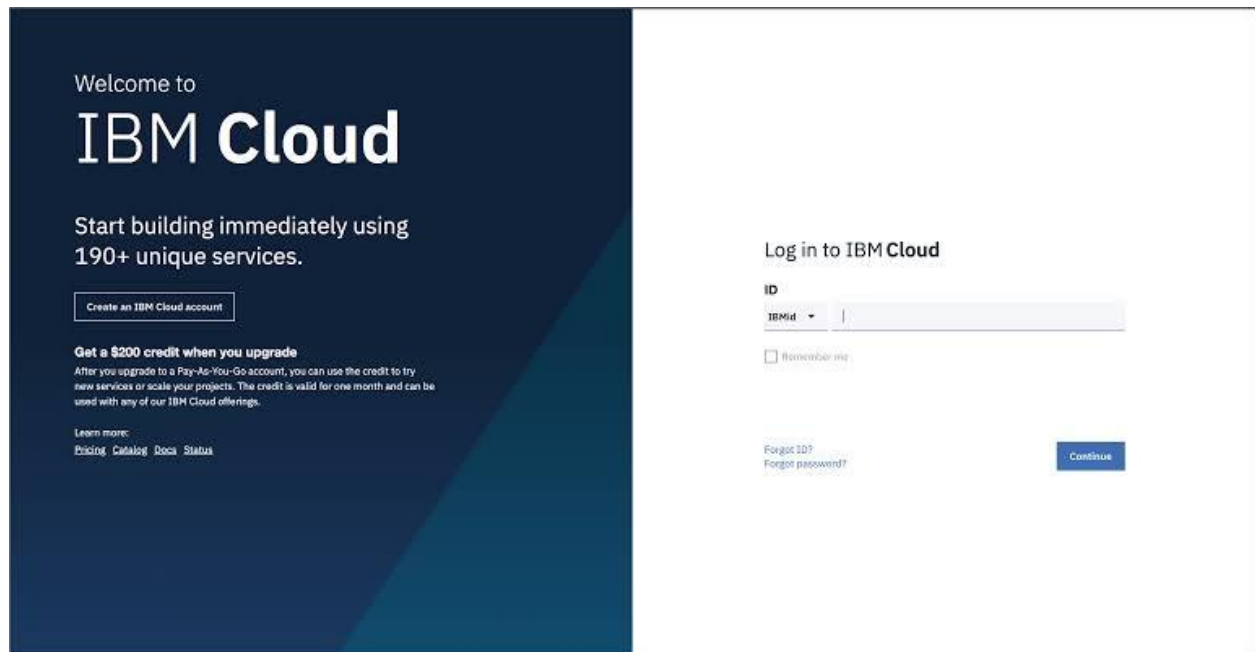
### Select a Relevant Dataset:

Find a dataset that is relevant to your use case. You might want to use historical customer data with information like demographics, transaction history, and churn status. You can find datasets on platforms like Kaggle or UCI Machine Learning Repository.

A screenshot of a software interface titled 'Select Relevant Features'. It contains two main sections: 'Score' and 'Strategy'. The 'Score' section has a dropdown menu currently set to 'Information Gain'. The 'Strategy' section has two radio button options: 'Fixed:' and 'Percentile:'. The 'Fixed:' option is selected, and its corresponding input field contains the value '10'. The 'Percentile:' option is unselected, and its corresponding input field contains the value '75,00%'. Both input fields have small up and down arrow buttons to the right of them.

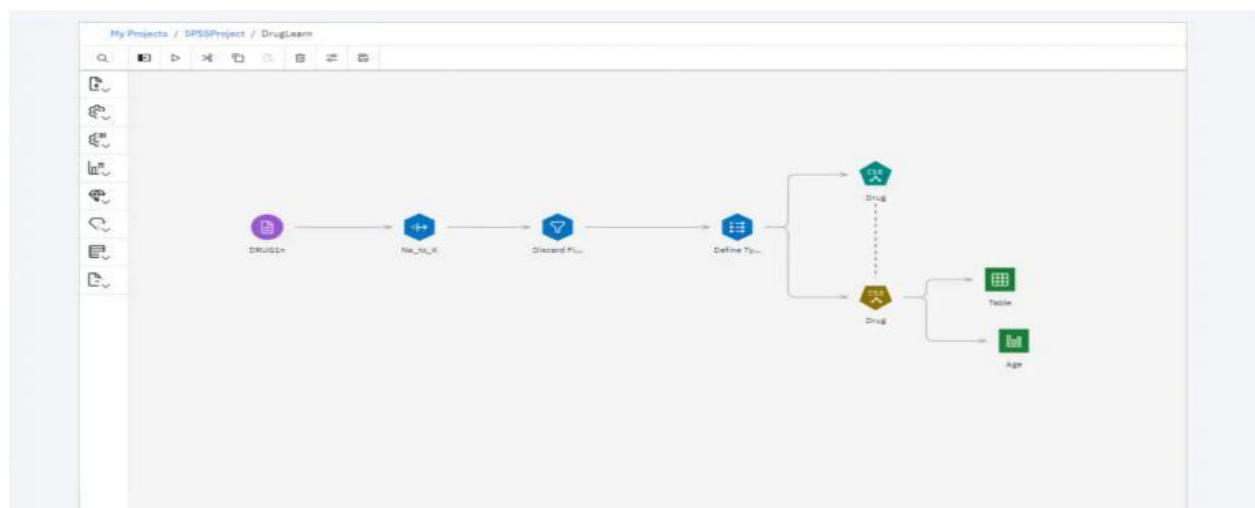
## Create an IBM Cloud Account:

If you don't have one already, sign up for an IBM Cloud account.



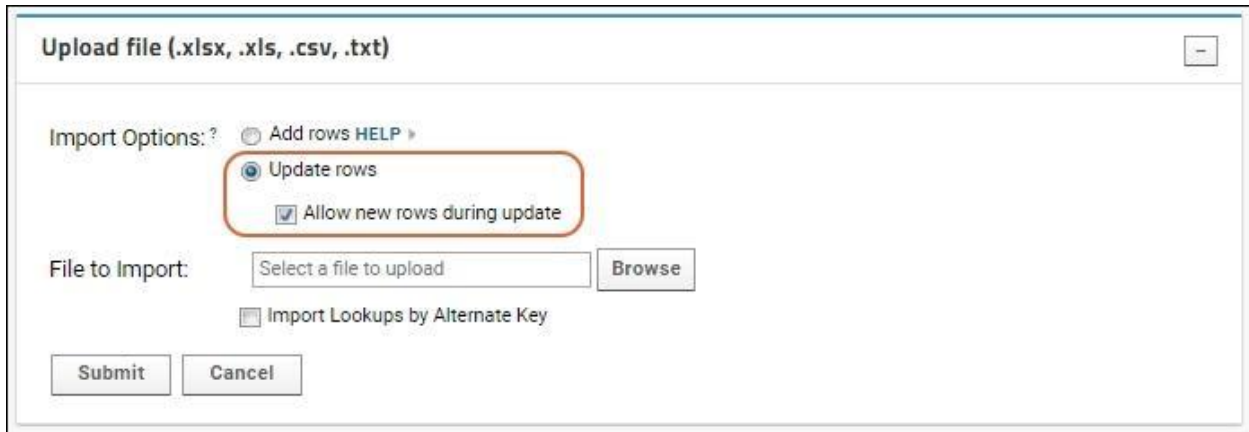
## Set Up Watson Studio:

Once you have an IBM Cloud account, you can set up Watson Studio. Follow the platform's documentation for creating a Watson Studio project.



## Import Your Dataset:

Upload your dataset to your Watson Studio project.



Upload file (.xlsx, .xls, .csv, .txt)

Import Options: ? ☐ Add rows [HELP »](#)

☒ Update rows

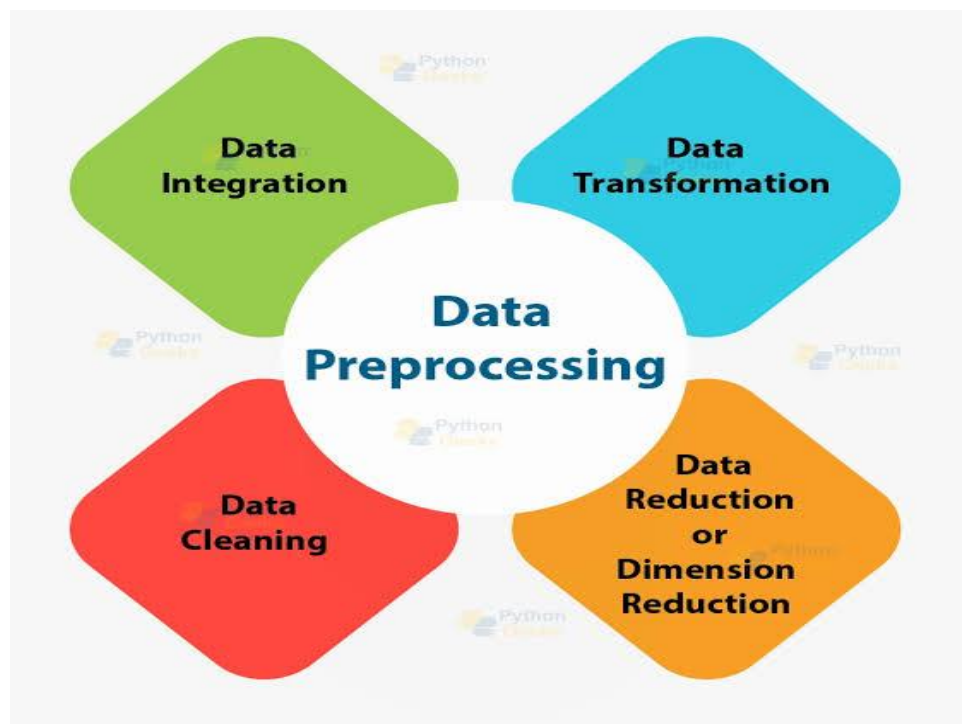
☒ Allow new rows during update

File to Import:

☐ Import Lookups by Alternate Key

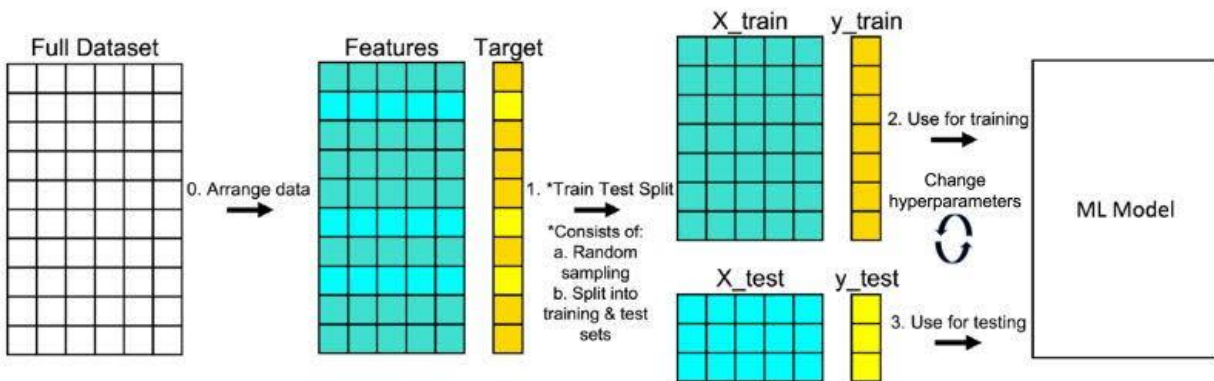
## Data Preprocessing:

Prepare and clean the data. This may involve handling missing values, encoding categorical variables, and scaling numerical features.



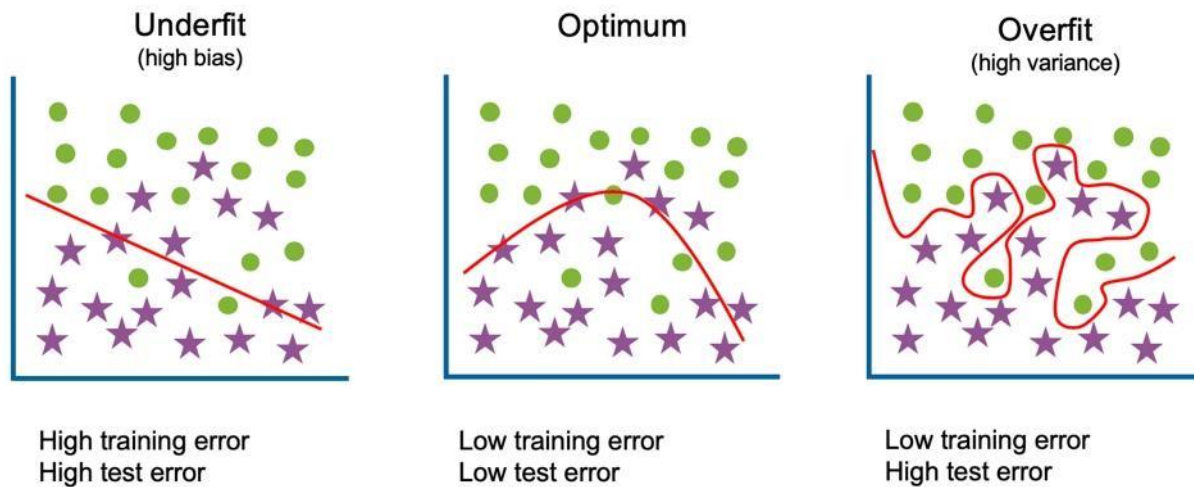
## Split Data for Training and Testing:

Split your dataset into a training set and a testing set to evaluate the model's performance.



## Select and Configure Machine Learning Algorithms:

- Choose appropriate machine learning algorithms for your use case. Configure and fine-tune them as needed.
- Machine learning algorithms learn from examples. If you have good data, the more examples you provide, the better the model is at finding patterns in the data. However, be cautious of overfitting. As described in the first table, overfitting is where a model can accurately make predictions for data that it was trained on but can't generalize to other data.
- Overfitting is why you split your data into training data, validation data, and test data. Validation data and test data are often referred to interchangeably, but they have distinct purposes.

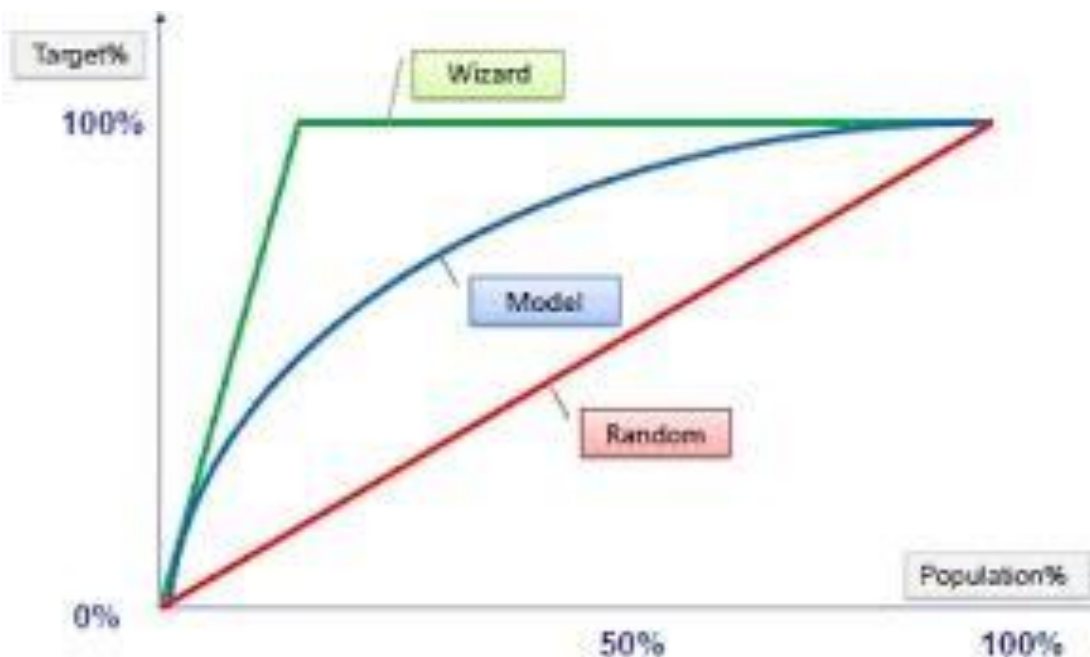


### Train and model:

- Train the machine learning model using the training data.

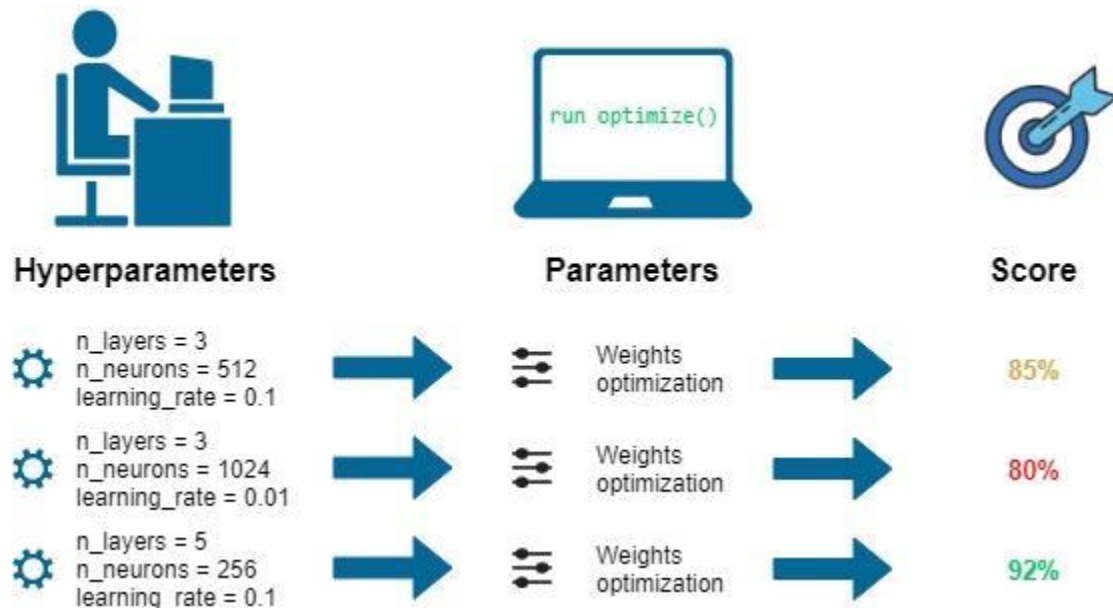
### Evaluate Model Performance:

- Use metrics like accuracy, precision, recall, or F1-score to evaluate how well your model performs on the testing data.



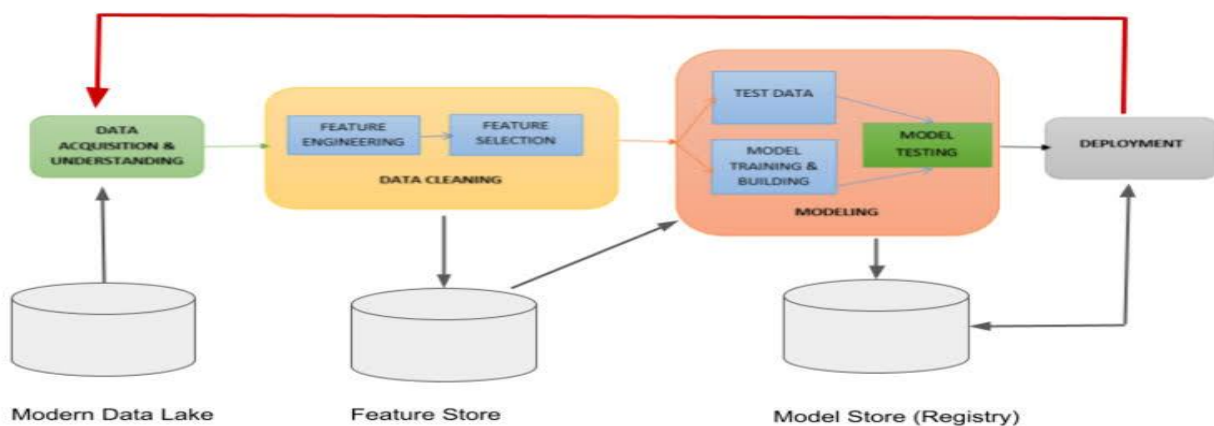
## Tune Hyperparameters:

If needed, fine-tune hyperparameters to improve the model's performance



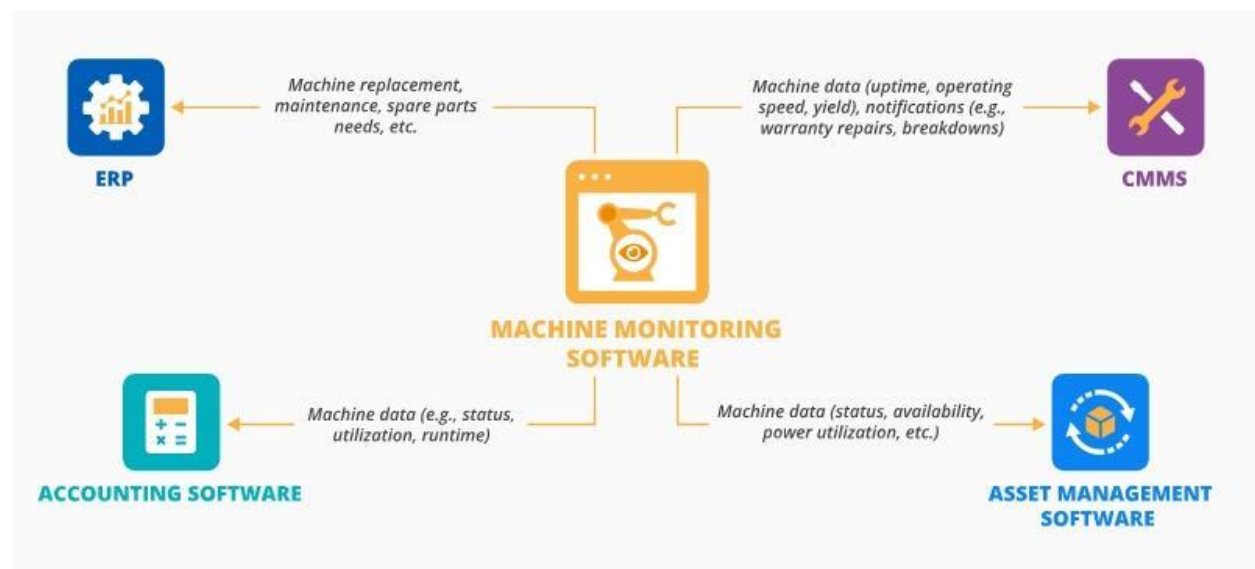
## Deploy the Model:

Once satisfied with the model, you can deploy it within Watson Studio or any other deployment platform.



## Monitor and Maintain:

Continuously monitor the model's performance in a real-world environment and make updates as necessary.



Remember that this is a simplified outline of the process. You should refer to the specific documentation and guides provided by IBM Cloud Watson Studio for detailed steps and assistance.