

TRAIN THE MODEL ON IBM

Team ID	PNT2022TMID32553
Project Name	Smart Lender - Applicant Credibility Prediction for Loan Approval

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TRAIN THE ML MODEL ON IBM:

The screenshot shows the IBM Watson Studio interface. The top navigation bar includes the IBM logo, search bar, and user profile. The main workspace displays a Jupyter notebook with the following code:

```
In [128]: from sklearn.preprocessing import LabelEncoder
le=LabelEncoder()
data.Gender=le.fit_transform(data.Gender)
data.Marital_Status=le.fit_transform(data.Marital_Status)
data.Dependents=le.fit_transform(data.Dependents)
data.Education=le.fit_transform(data.Education)
data.Employment=le.fit_transform(data.Employment)
data.Property_Area=le.fit_transform(data.Property_Area)
data.Loan_Status=le.fit_transform(data.Loan_Status)

In [129]: x=data.drop(columns=['Loan_Status'])
y=data.Loan_Status
from sklearn.preprocessing import scale
x_scaled=pd.DataFrame(scale(x),columns=x.columns)
x_scaled.head()
```

The output of the code is a DataFrame with the following columns: Gender, Marital_Status, Dependents, Education, Employment, ApplicantIncome, CoapplicantIncome, LoanAmount, Loan_Amount_Term, Credit_History, and Property_Area. The data is displayed in a table format.

INTEGRATE FLASK WITH SCORING END POINT:

The screenshot shows the IBM Watson Studio interface. The top navigation bar includes the IBM logo, search bar, and user profile. The main workspace displays the 'Models' section, which is currently showing the 'API reference' tab. The API reference tab displays the following information:

- API key: https://us-south.ml.cloud.ibm.com/ml/v4/deployments/528ad7e3-19ce-45d0-a551-a0d18c978e03?space_id=d8fedd0-369a-4479-81cd-13b4cc9b1263&context=cpdaas
- API key: IAM
- Code snippets: Python

The code snippets section shows the following code:

```
import requests

# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "your API key"
token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":
API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})
m1token = token_response.json()["access_token"]

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + m1token}

# NOTE: manually define and pass the array(s) of values to be scored in the next line
payload_scoring = {'input_data': [{'fields': [array_of_input_fields], 'values': [array_of_values_to_be_score

response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/528ad7e3-19ce-45d0-a55
headers={'Authorization': 'Bearer ' + m1token})
```