Training & Testing Model on IBM cloud

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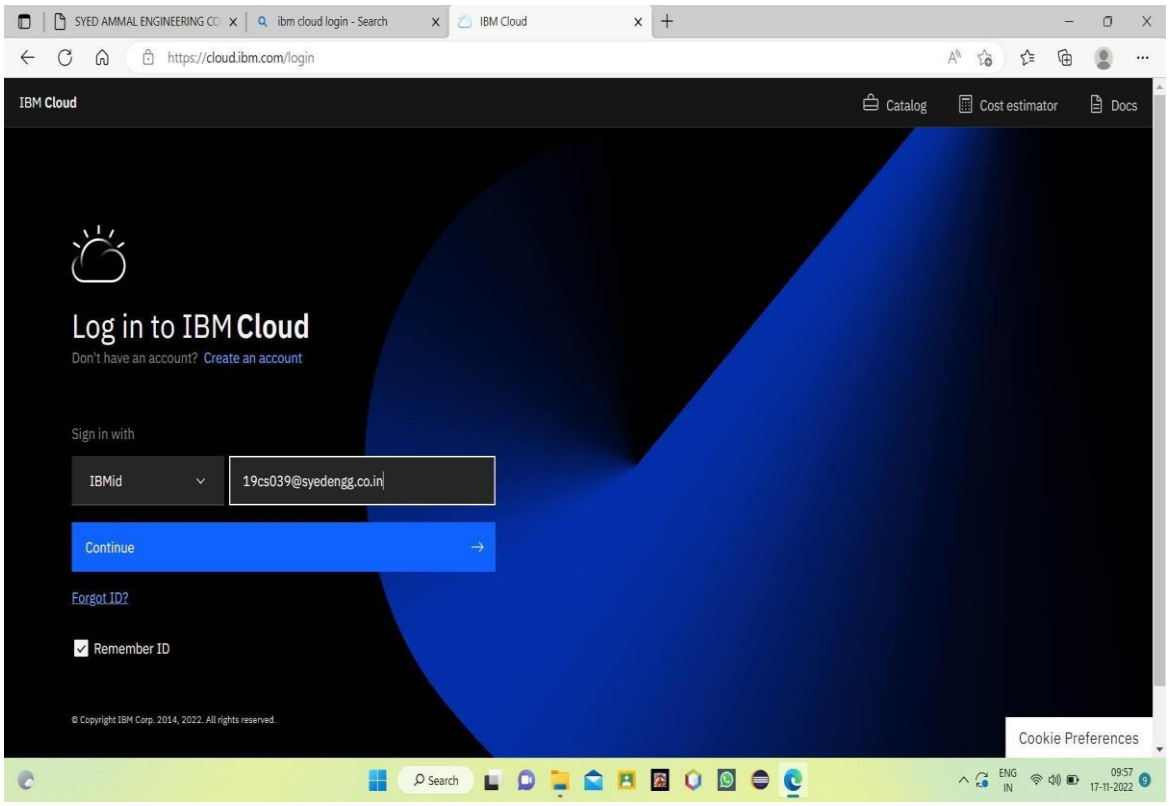
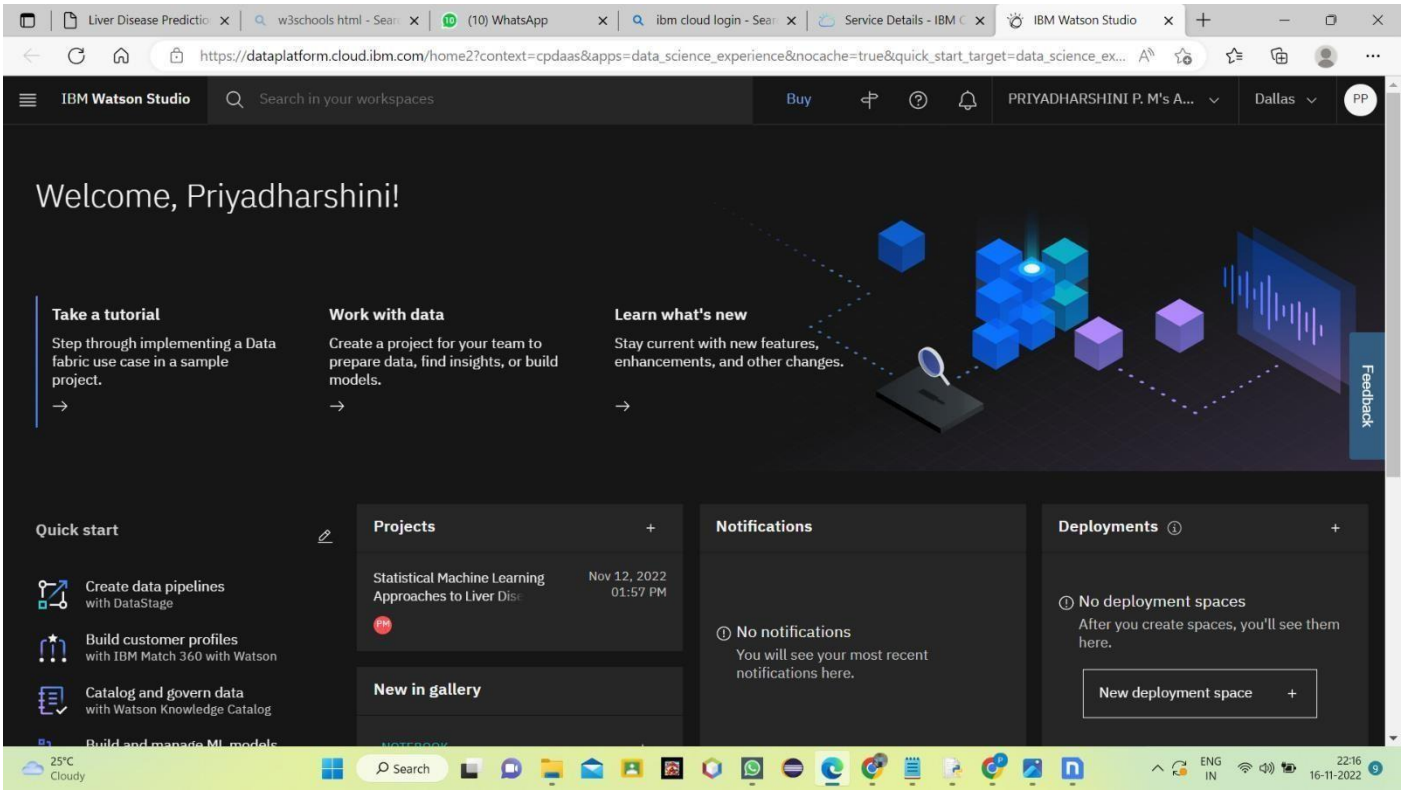
1.Register & Login IBM cloud

From given link we can Register and afterwards login the IBM cloud using credentials.



2.Opening IBM Watson Studio

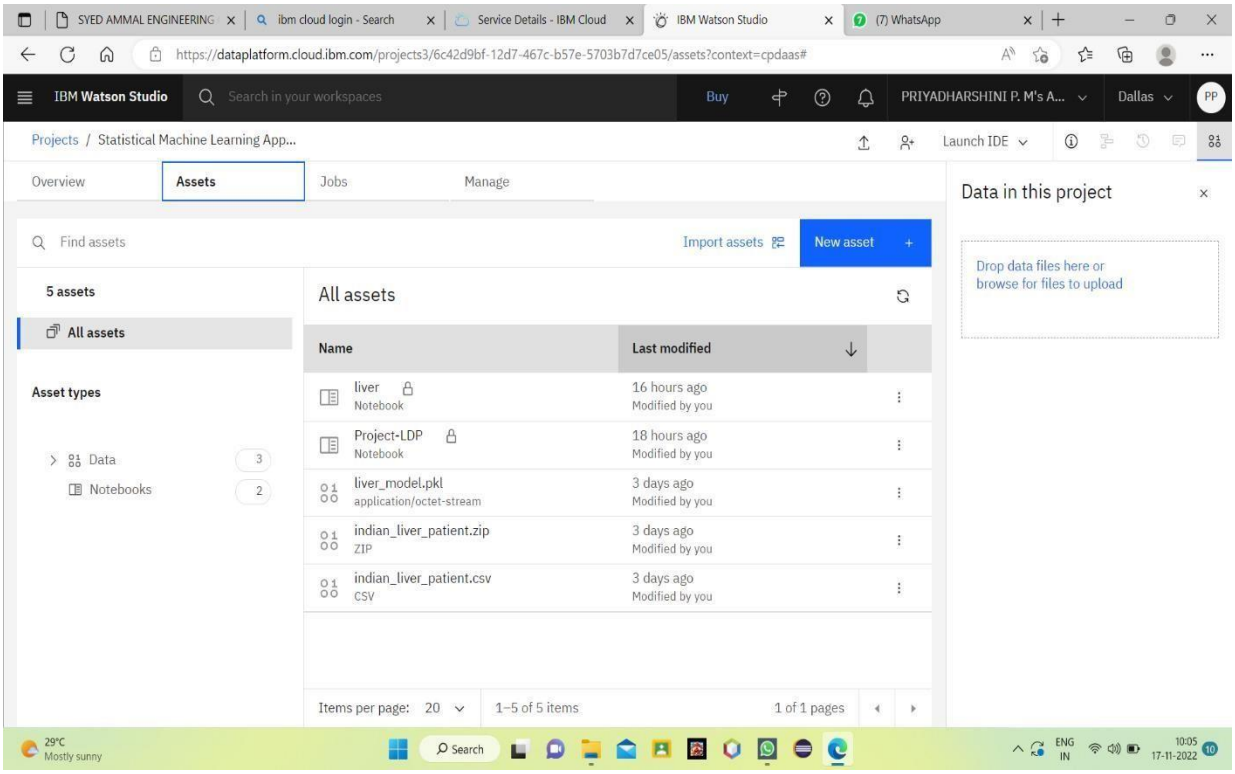
To Run our model we use IBM watson studio inside we will create our own new project.



3.Adding Assests

Once we create a new project named Liver

Then we will Add some Assets like Python Notebook with extension of .ipynb

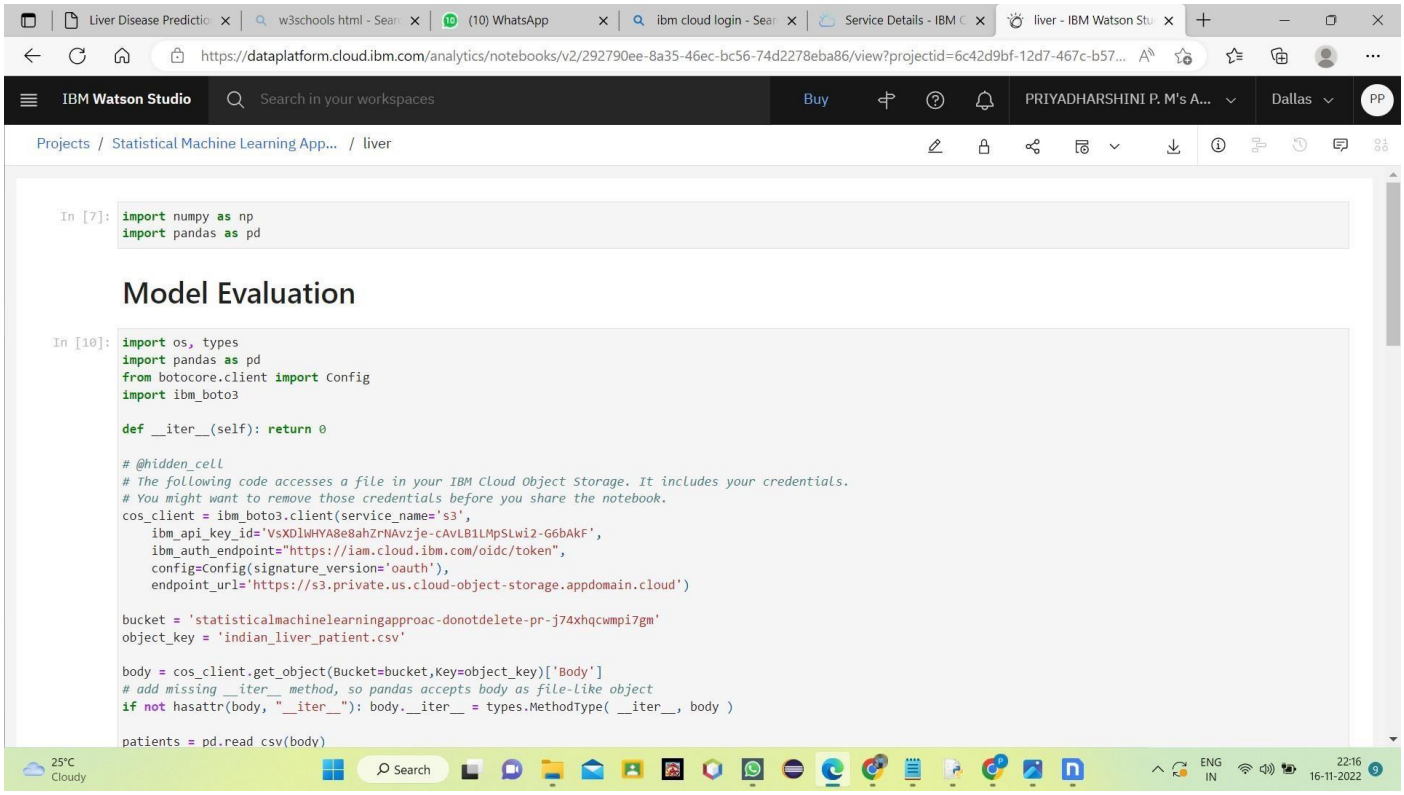


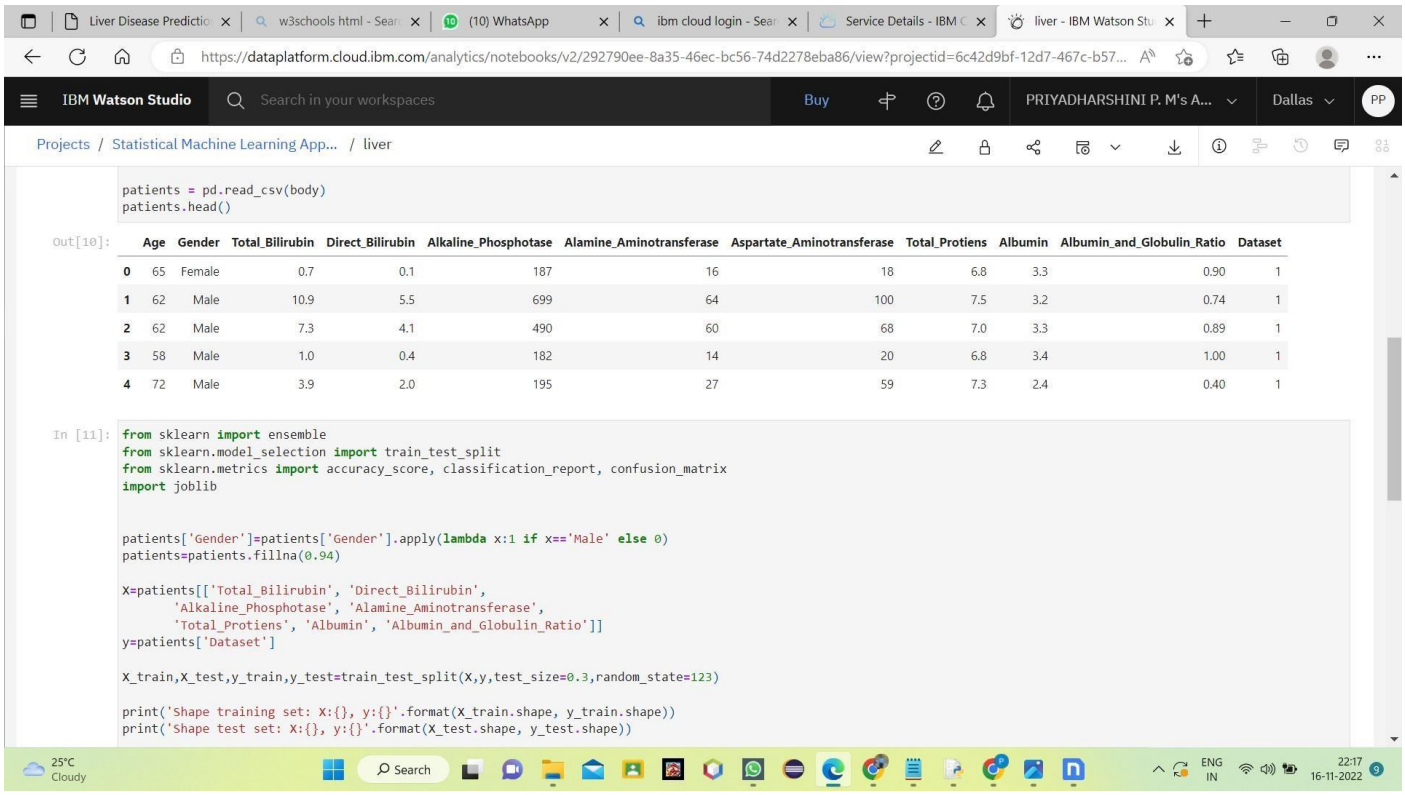
4 .Opening notebook file

At the end we will open the note book file and after we download the dataset once we download it into zip file or we will add the file into data assests.

5.Insert File code

Then we will create a new cell and insert the code into it.





```
patients = pd.read_csv(body)
patients.head()
```

Out[10]:

	Age	Gender	Total_Bilirubin	Direct_Bilirubin	Alkaline_Phosphotase	Alamine_Aminotransferase	Aspartate_Aminotransferase	Total_Protiens	Albumin	Albumin_and_Globulin_Ratio	Dataset
0	65	Female	0.7	0.1	187	16	18	6.8	3.3	0.90	1
1	62	Male	10.9	5.5	699	64	100	7.5	3.2	0.74	1
2	62	Male	7.3	4.1	490	60	68	7.0	3.3	0.89	1
3	58	Male	1.0	0.4	182	14	20	6.8	3.4	1.00	1
4	72	Male	3.9	2.0	195	27	59	7.3	2.4	0.40	1

In [11]:

```
from sklearn import ensemble
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score, classification_report, confusion_matrix
import joblib


patients['Gender']=patients['Gender'].apply(lambda x:1 if x=='Male' else 0)
patients=patients.fillna(0.94)

X=patients[['Total_Bilirubin', 'Direct_Bilirubin',
       'Alkaline_Phosphotase', 'Alamine_Aminotransferase',
       'Total_Protiens', 'Albumin', 'Albumin_and_Globulin_Ratio']]
y=patients['Dataset']

X_train,X_test,y_train,y_test=train_test_split(X,y,test_size=0.3,random_state=123)

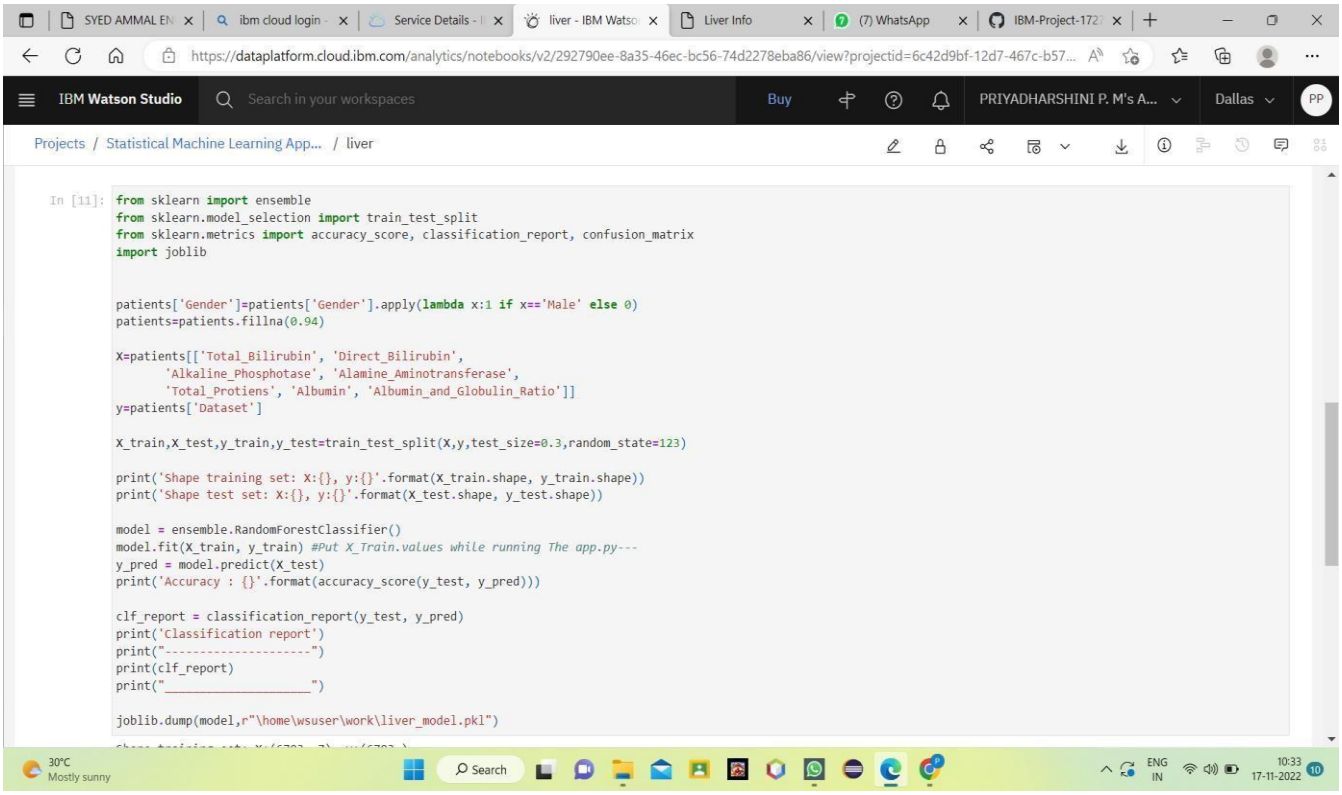
print('Shape training set: X:{}, y:{}'.format(X_train.shape, y_train.shape))
print('Shape test set: X:{}, y:{}'.format(X_test.shape, y_test.shape))
```

Know About the directory by using pwd command.

```
In [1]: pwd
Out[1]: '/home/wsuser/work'
```

6.Train the Model in IBM Watson Studio

After Completion of these stuffs we will move forward to start Train the model.



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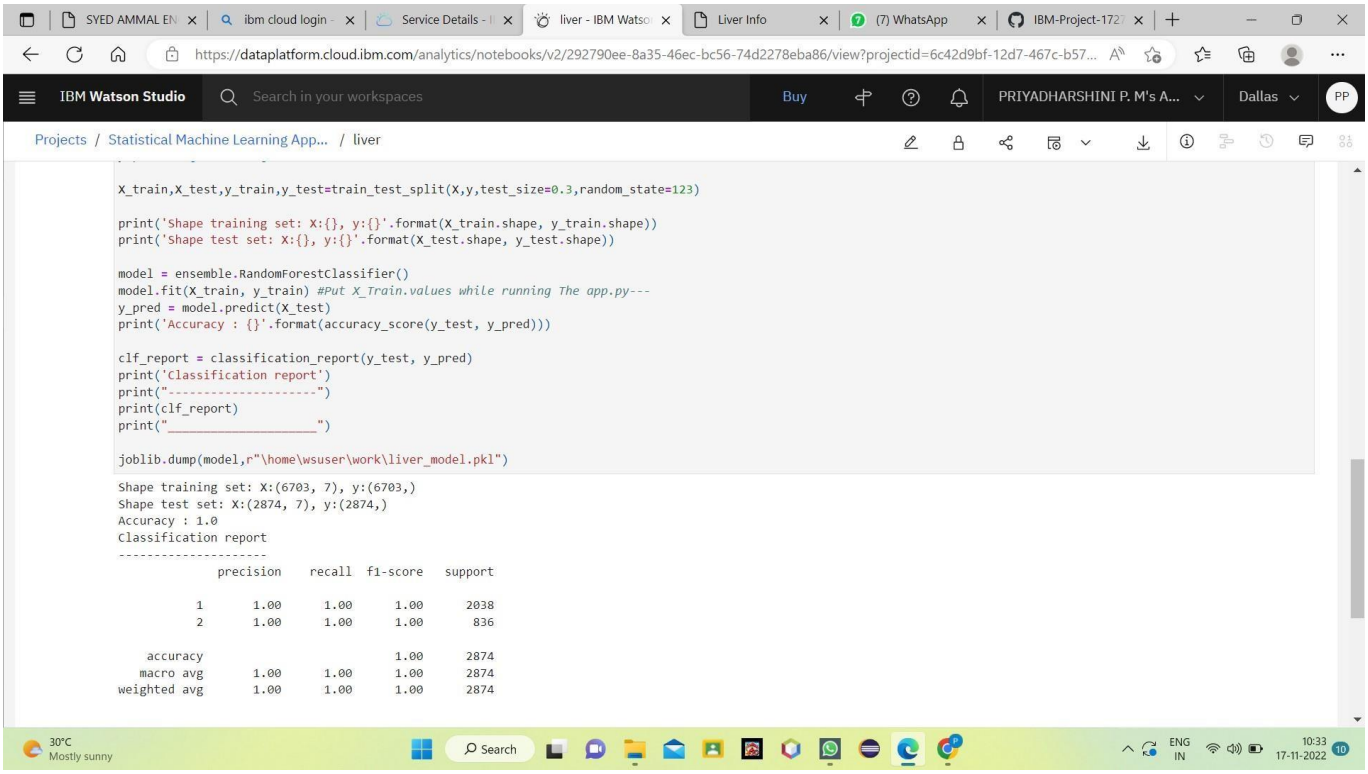
print('Shape training set: X:{}, y:{}'.format(X_train.shape, y_train.shape))
print('Shape test set: X:{}, y:{}'.format(X_test.shape, y_test.shape))

model = ensemble.RandomForestClassifier()
model.fit(X_train, y_train) #Put X_Train.values while running The app.py---
y_pred = model.predict(X_test)
print('Accuracy : {}'.format(accuracy_score(y_test, y_pred)))

clf_report = classification_report(y_test, y_pred)
print('Classification report')
print("----------------------")
print(clf_report)
print("_____________________")

joblib.dump(model,r"\home\wsuser\work\liver_model.pkl")
```

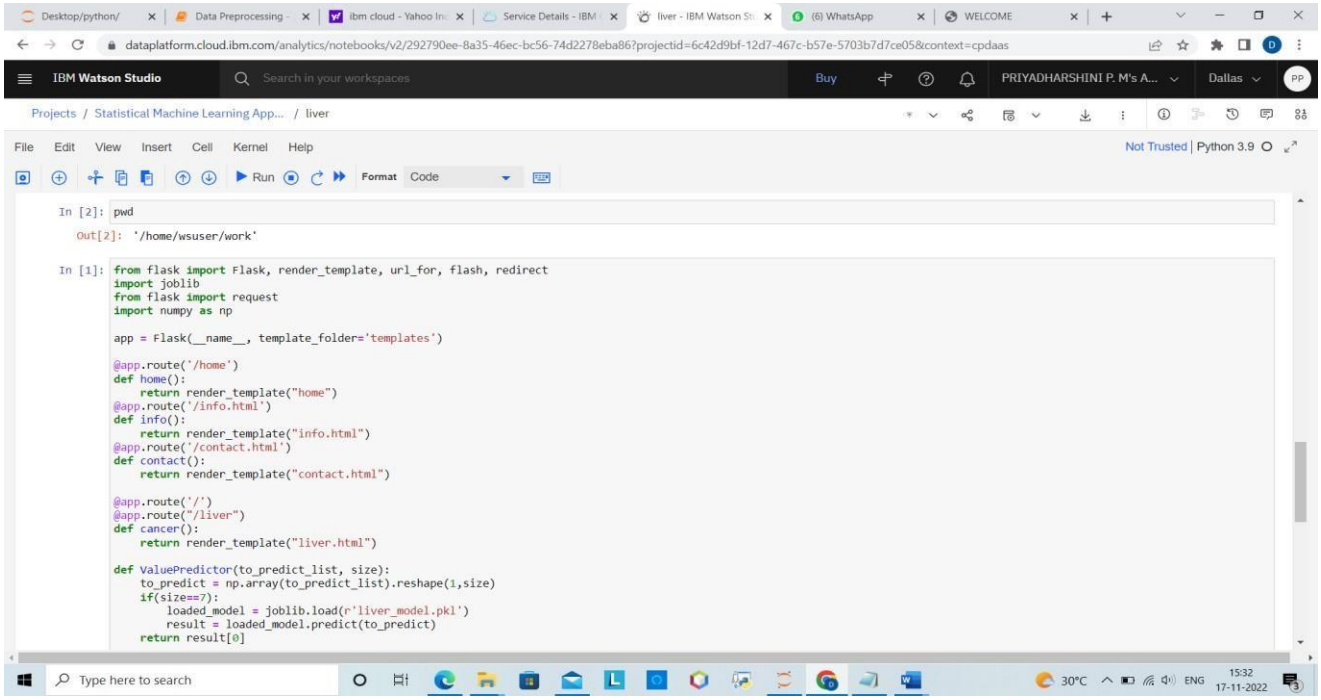
Outcome of the Trained Model will be shown after compiling and summarizing it.



This how the Model was Trained in IBM watson Studio.

7.Testing the Model

At the end of the day we will try to test the model which can give the desired and precise prediction based on the trained model.



This How the Model was tested in IBM Watson Studio.