REAL TIME COMMUNICATION SYSTEM POWERED BY AI FOR SPECIALLY ABLED

Deployment sequence report

PRESETNTED BY : TEAM ID-PNT2022TMID26077

Sanjay p

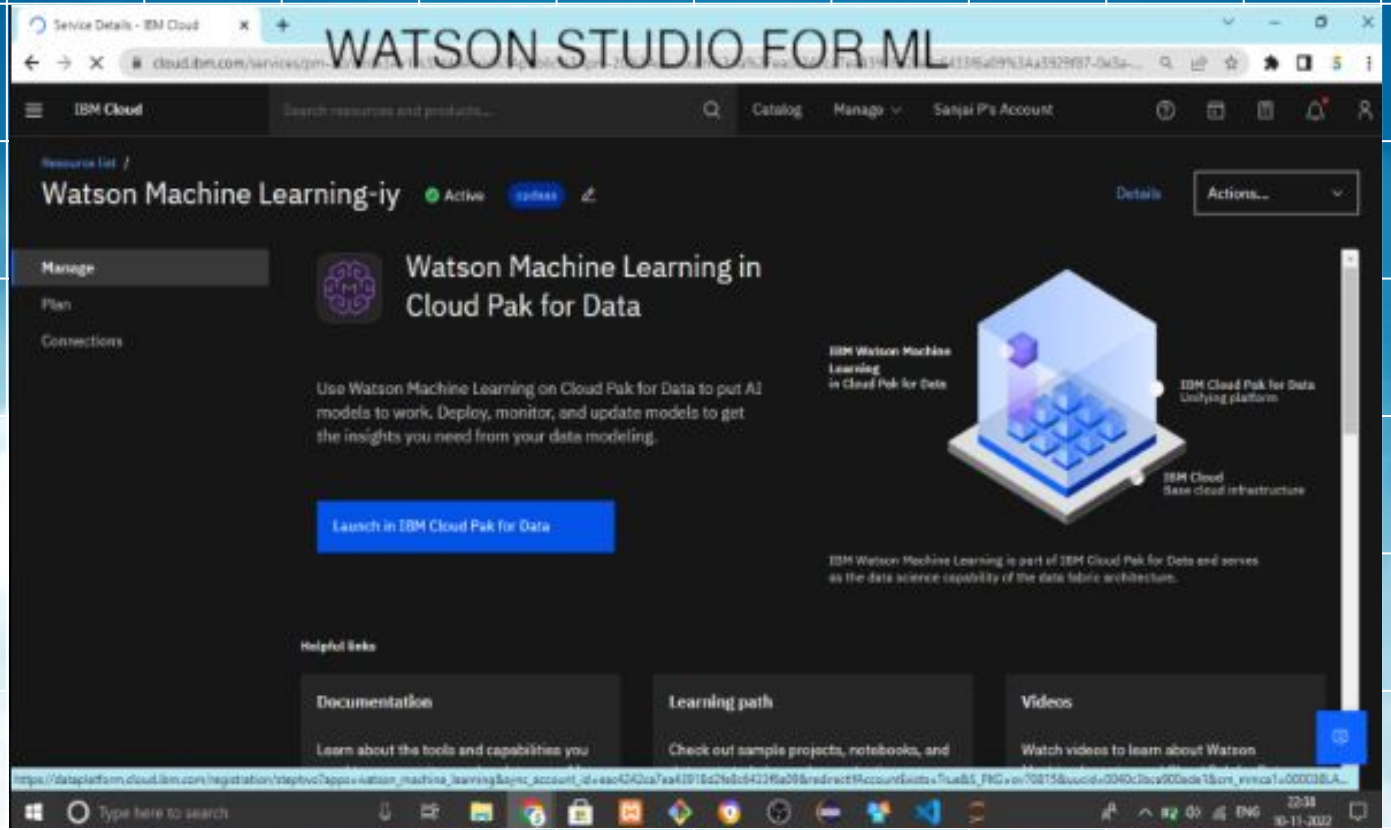
Sanjai raj

Rupesh v

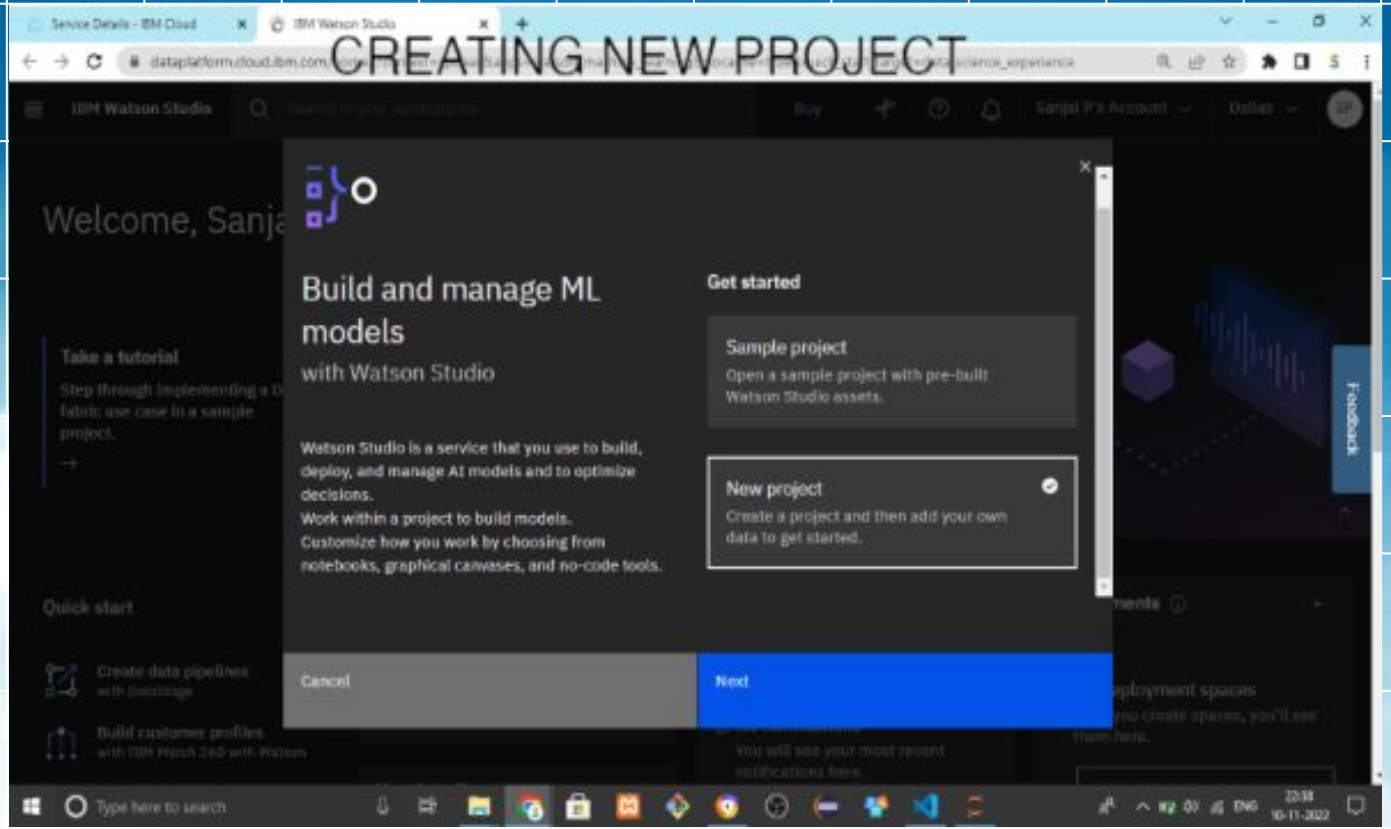
Rithwin

IBM CLOUD LOGIN

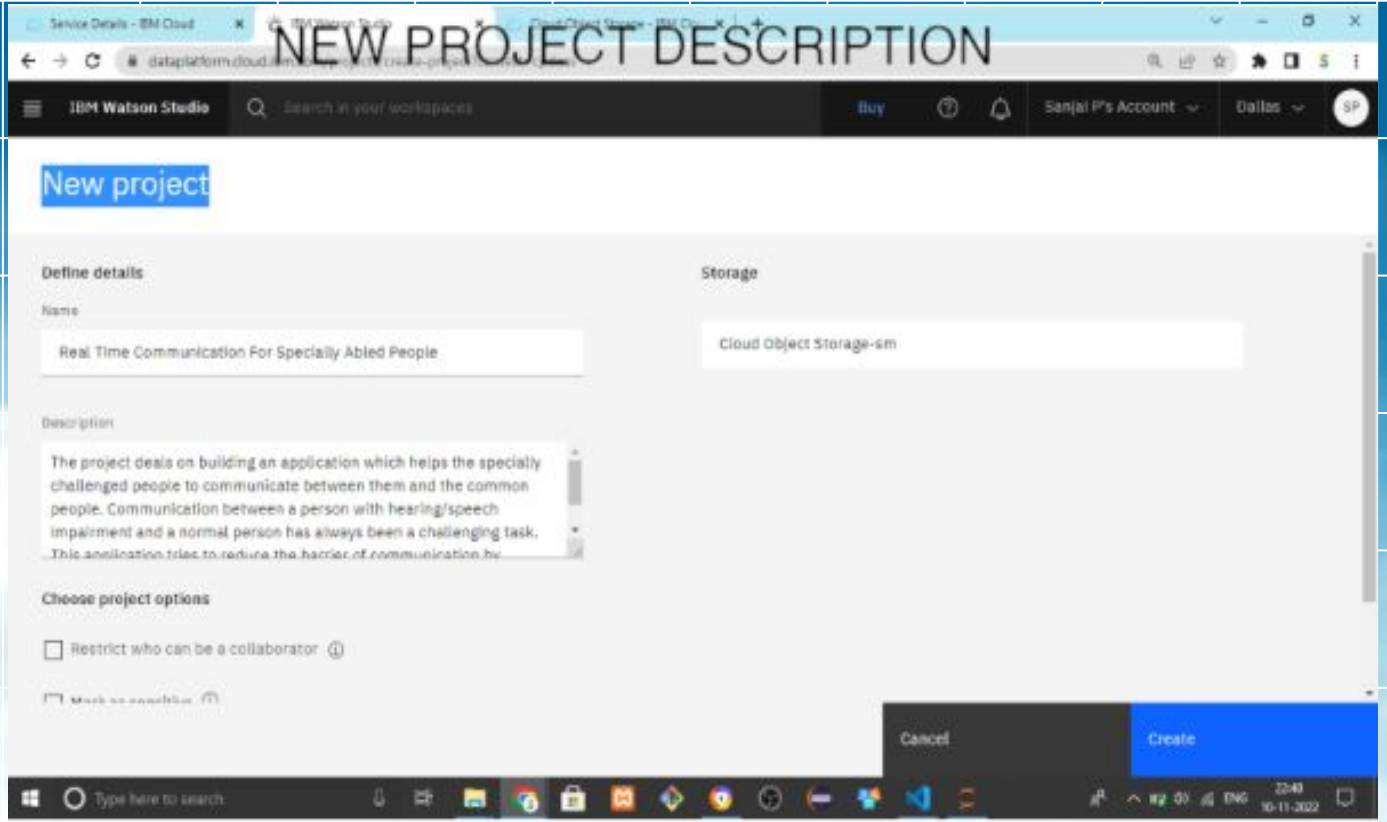
WATSON STUDIO FOR ML



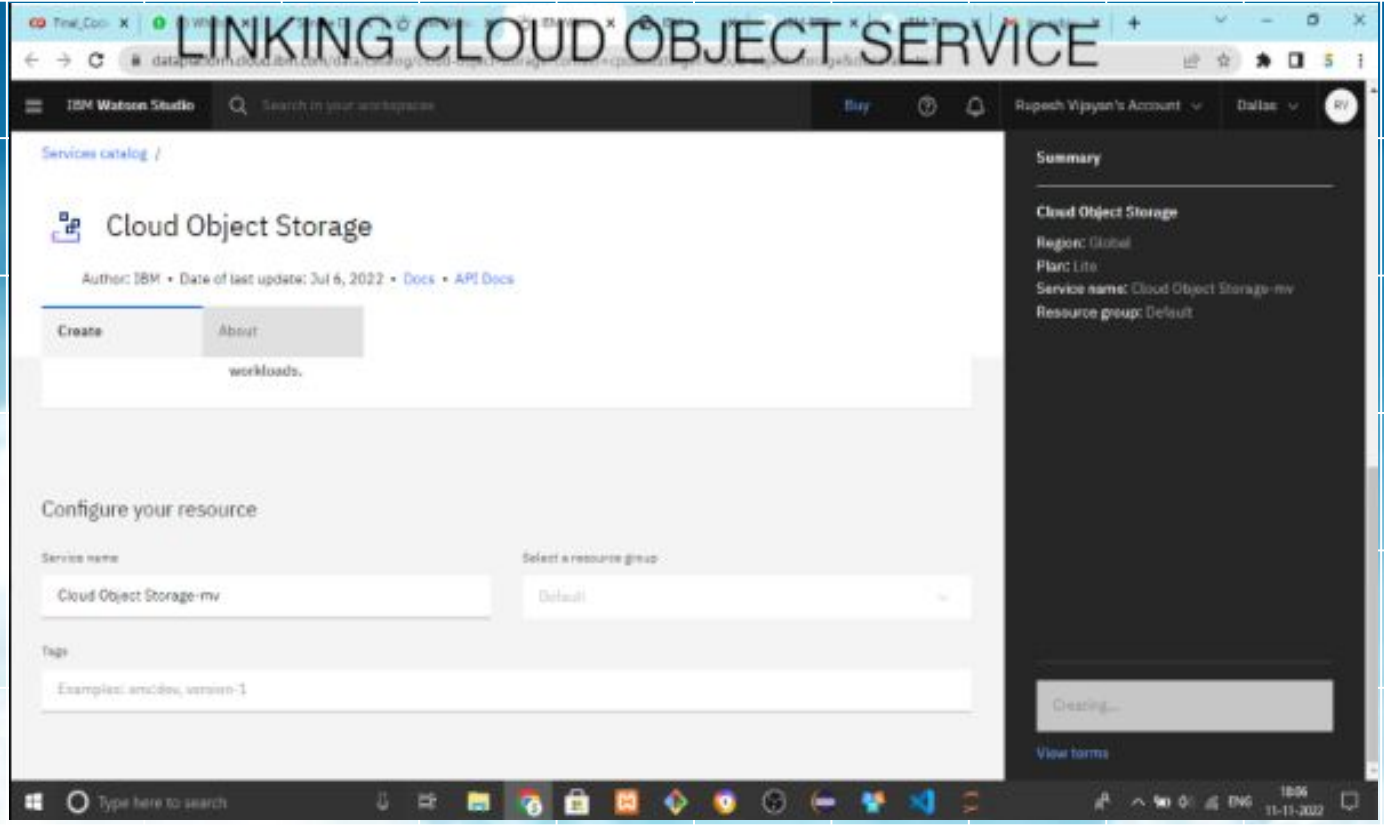
CREATING NEW PROJECT



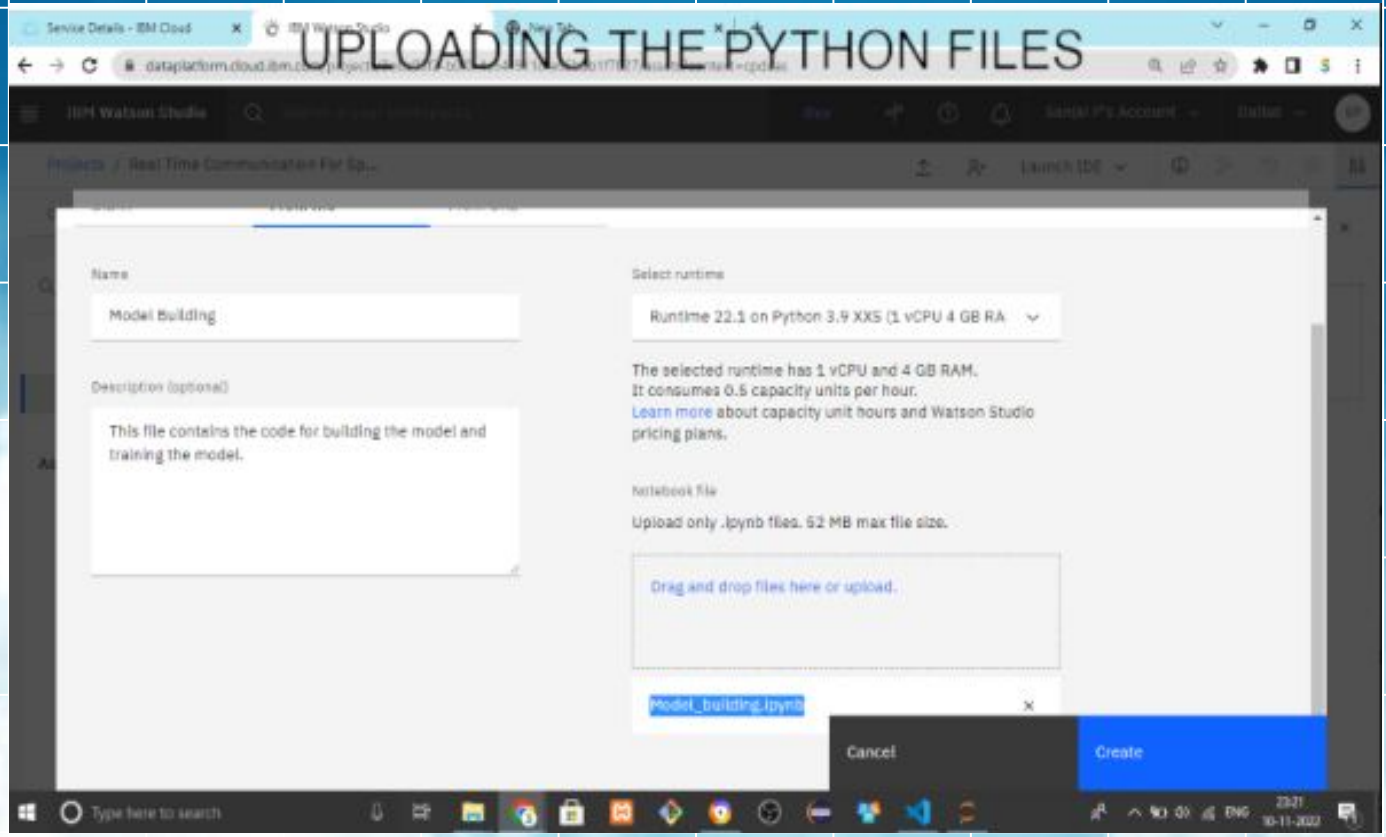
NEW PROJECT DESCRIPTION



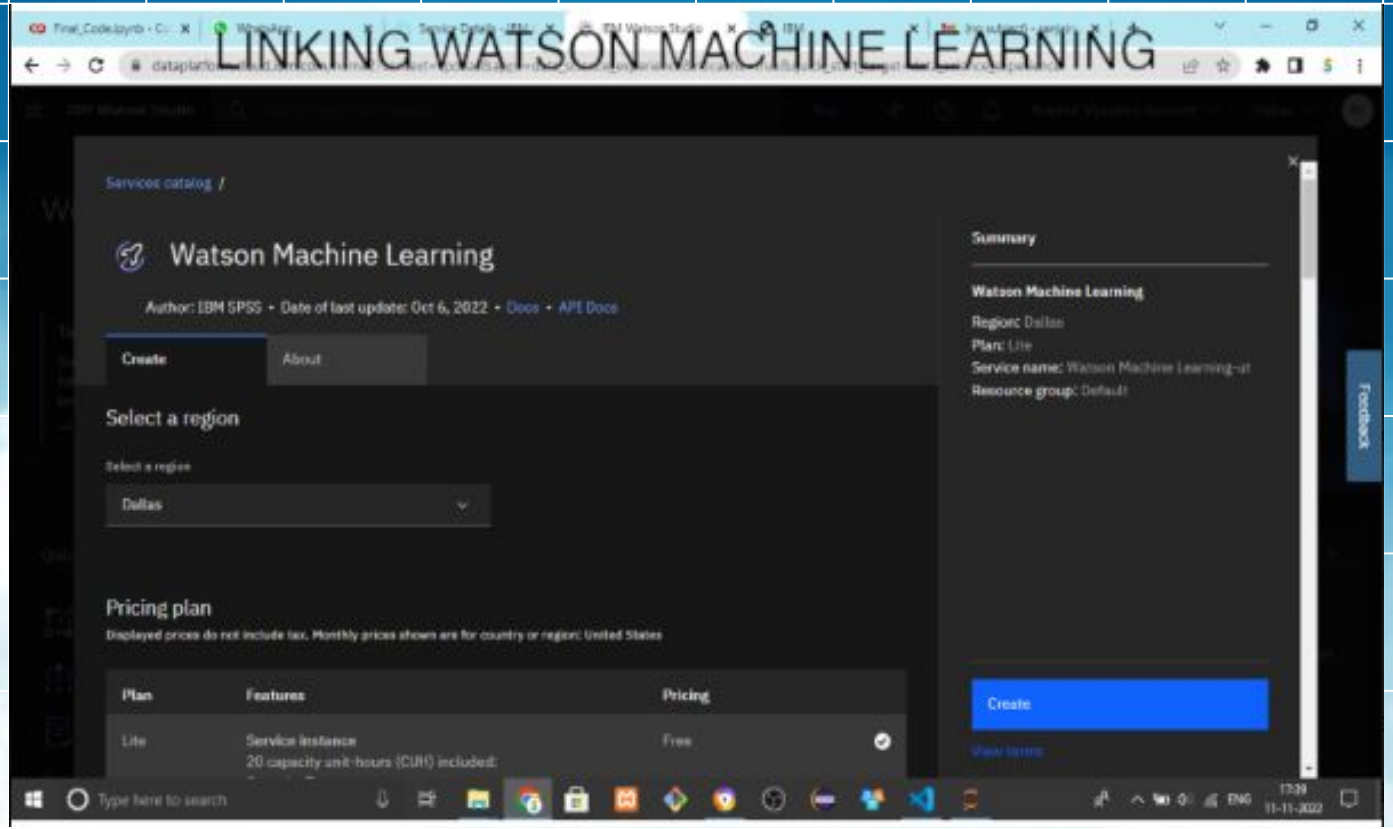
LINKING CLOUD OBJECT SERVICE



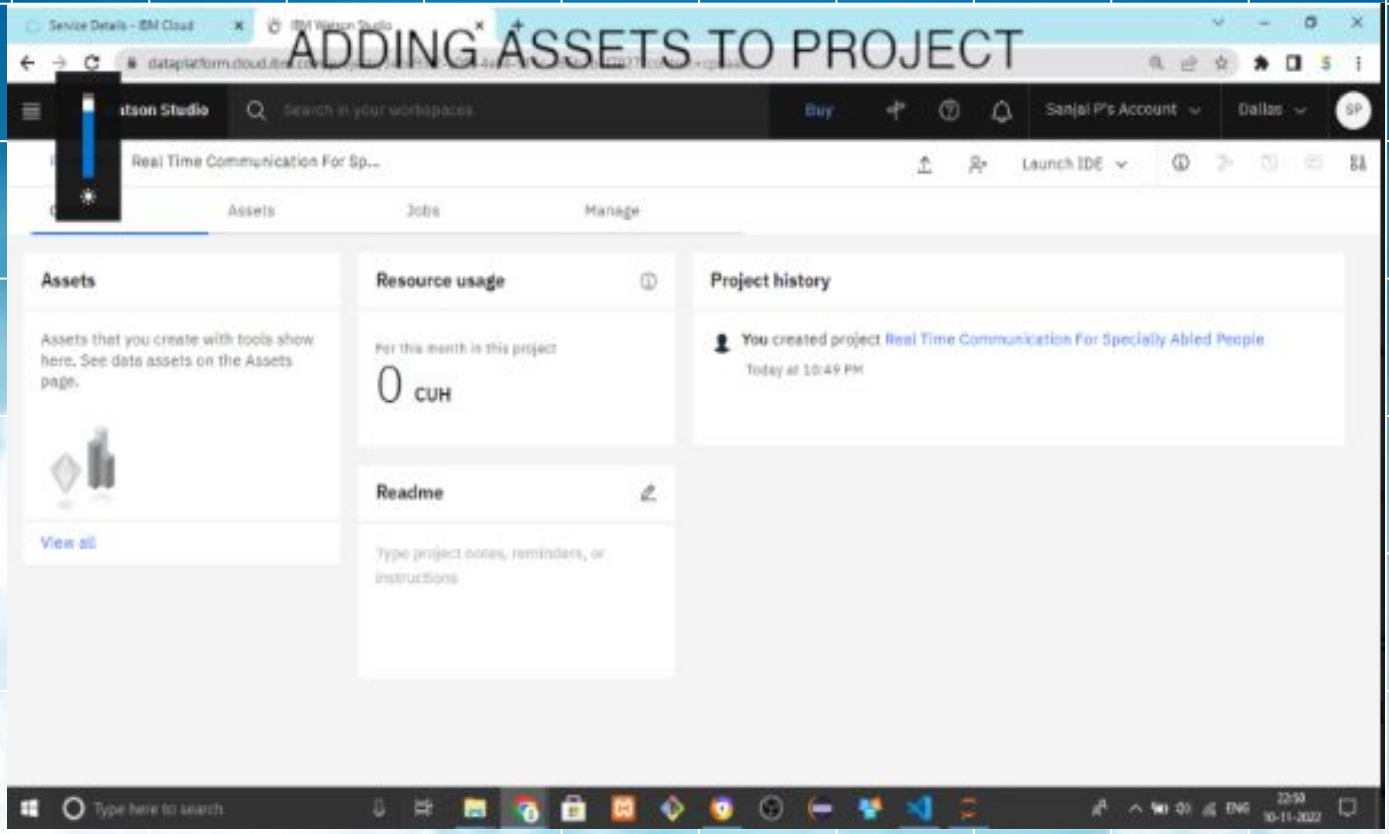
UPLOADING THE PYTHON FILES



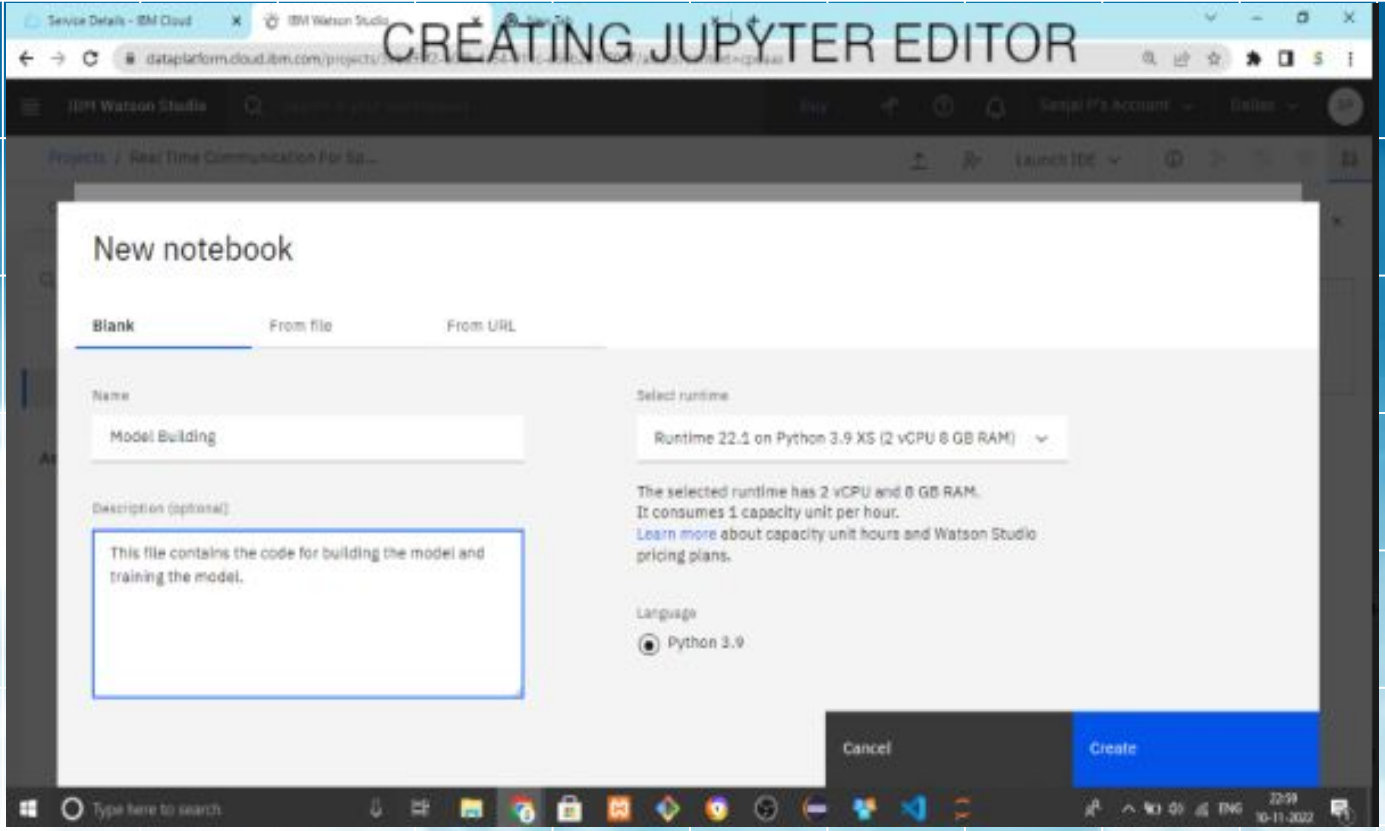
LINKING WATSON MACHINE LEARNING



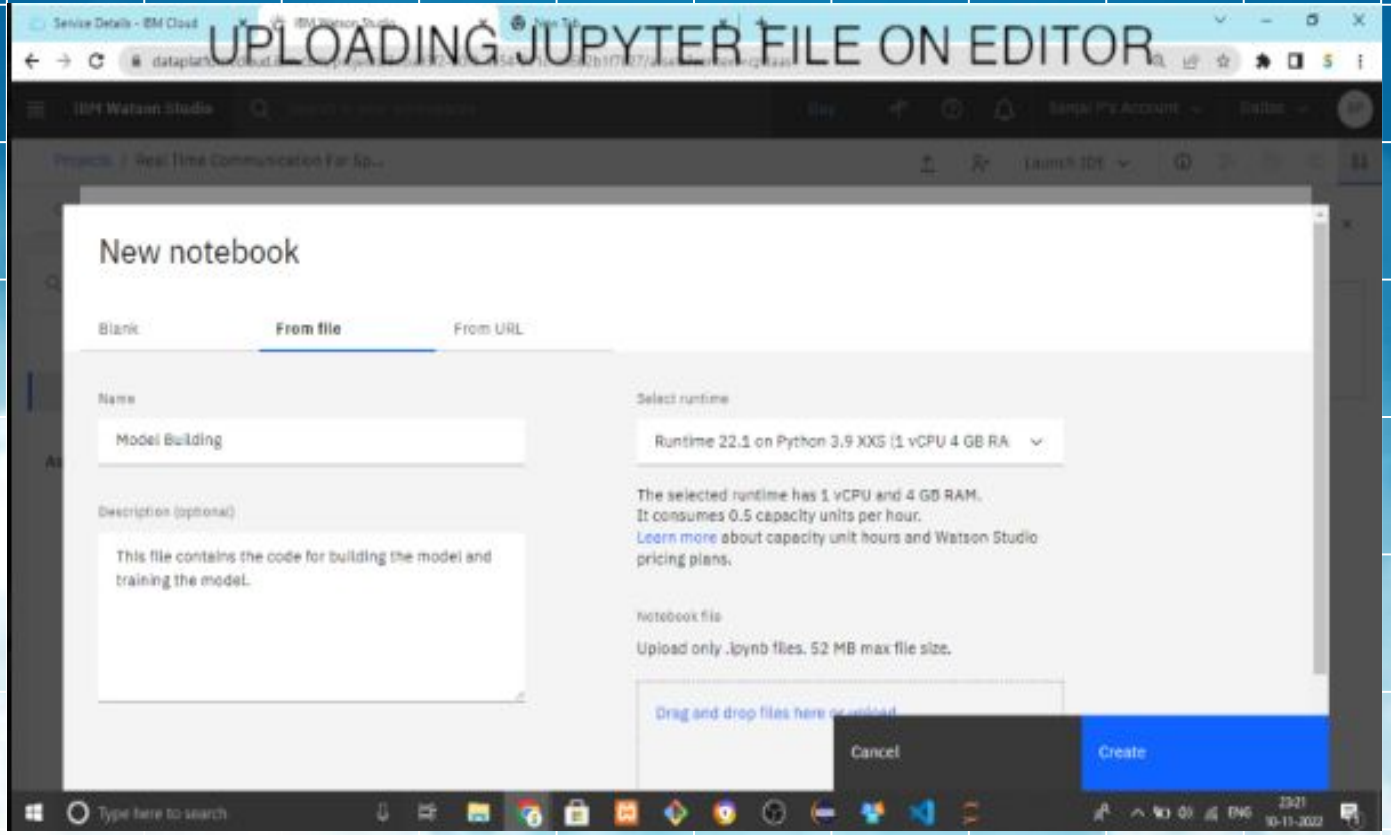
ADDING ASSETS TO PROJECT

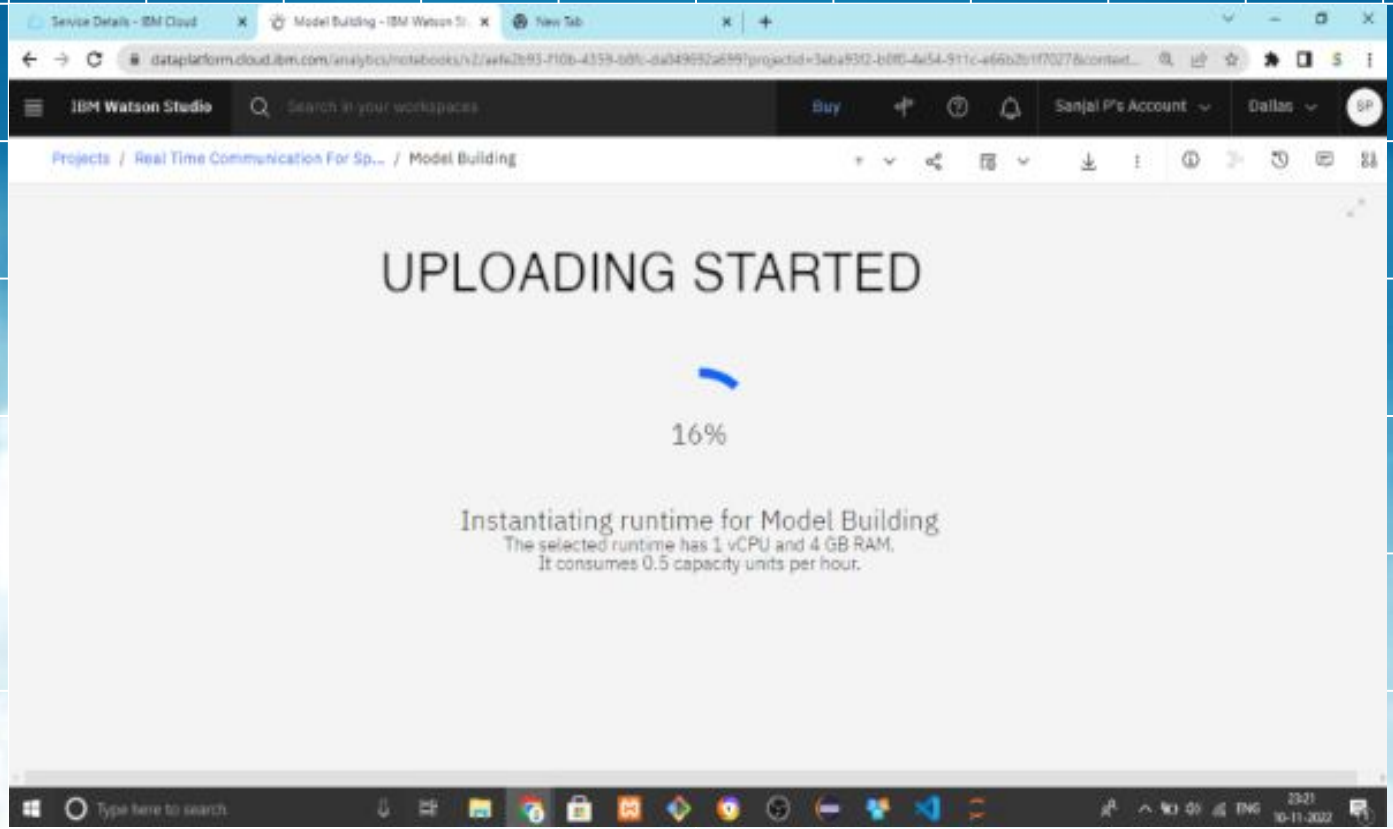


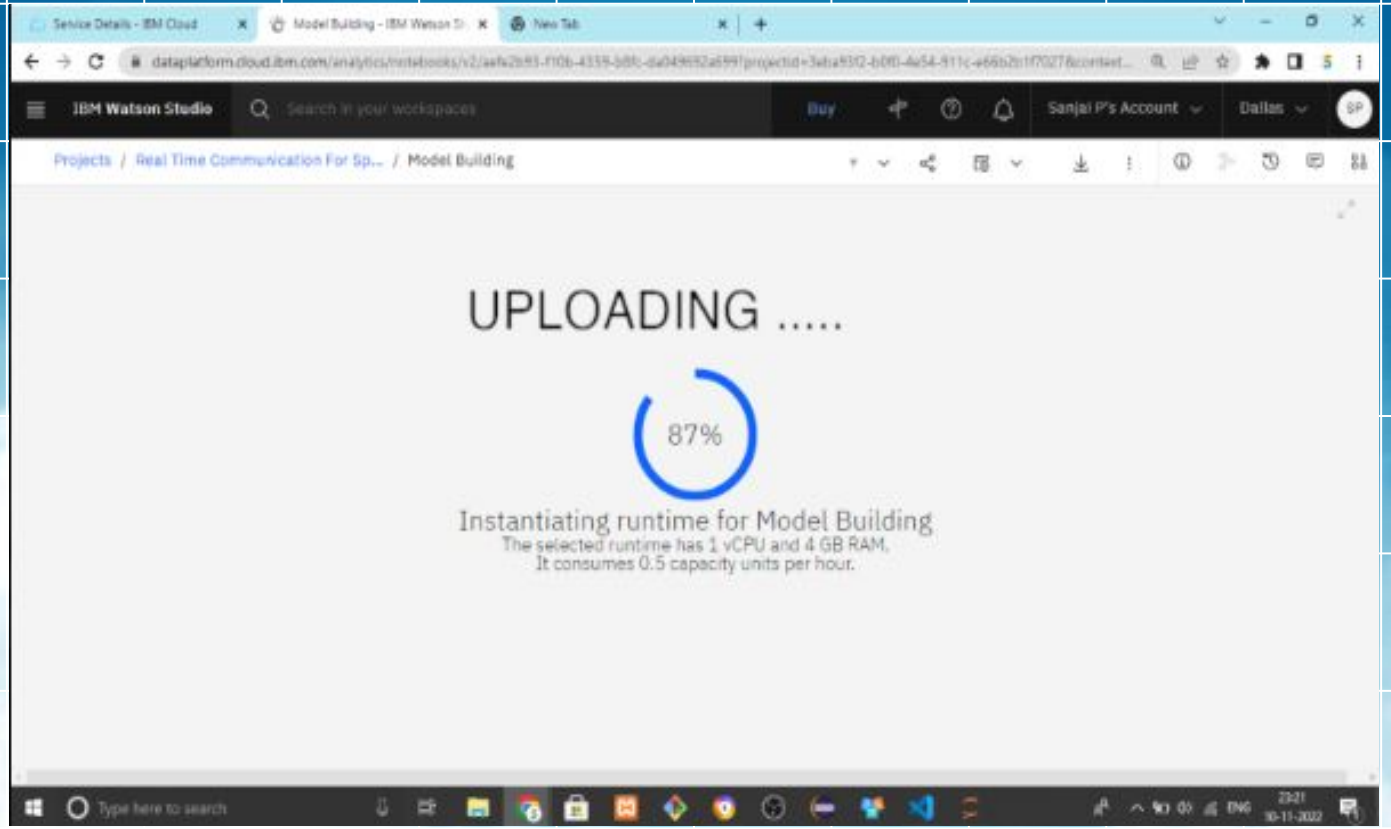
CREATING JUPYTER EDITOR



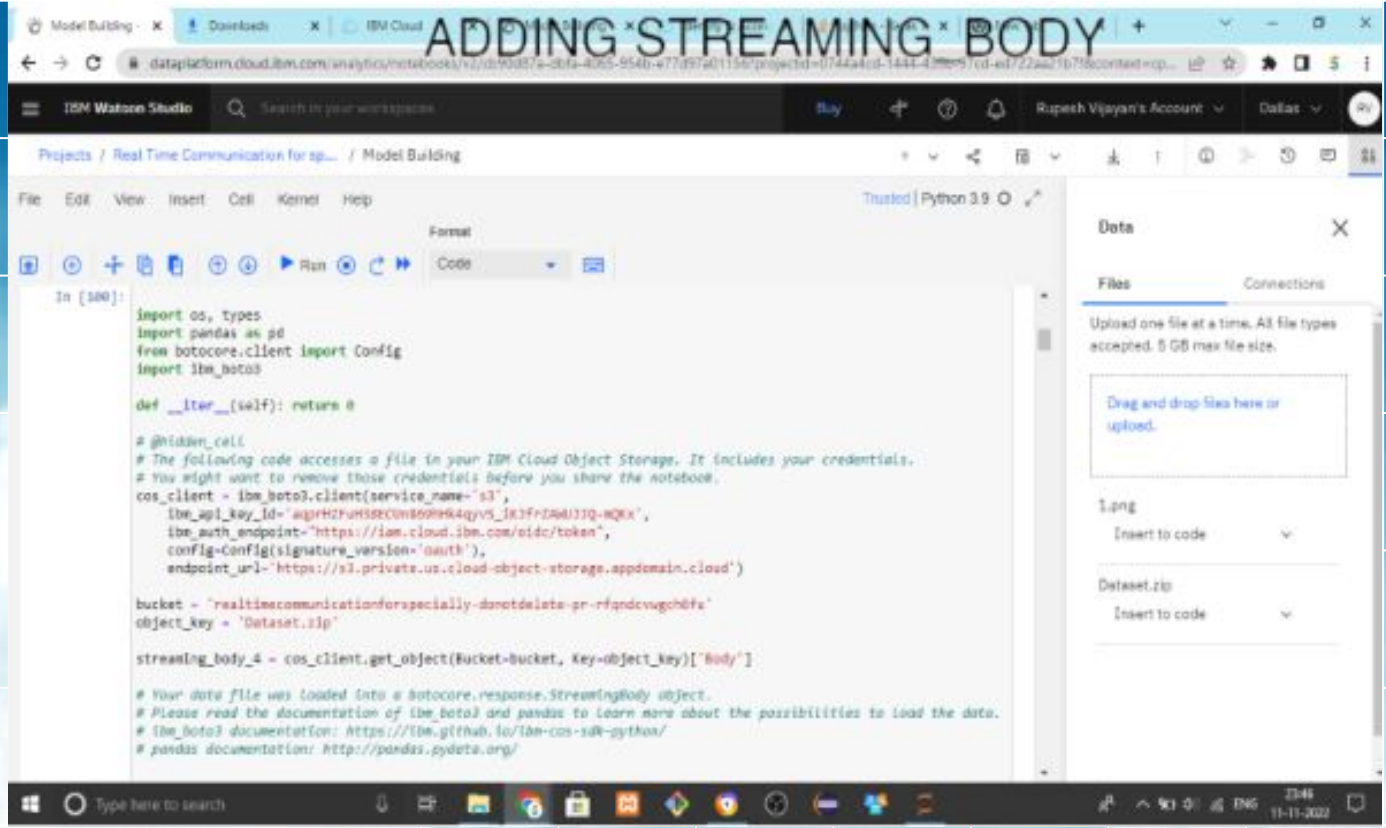
UPLOADING JUPYTER FILE ON EDITOR

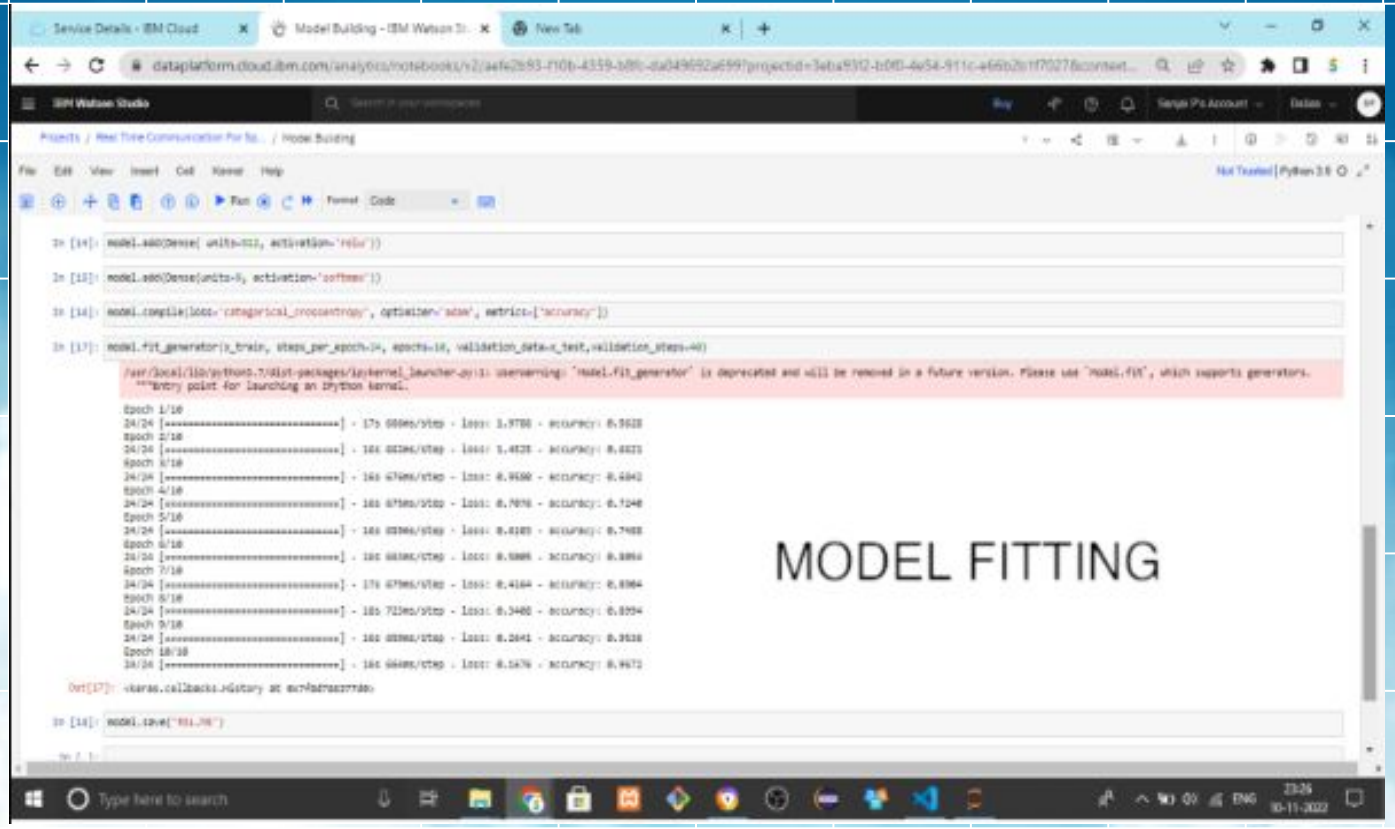




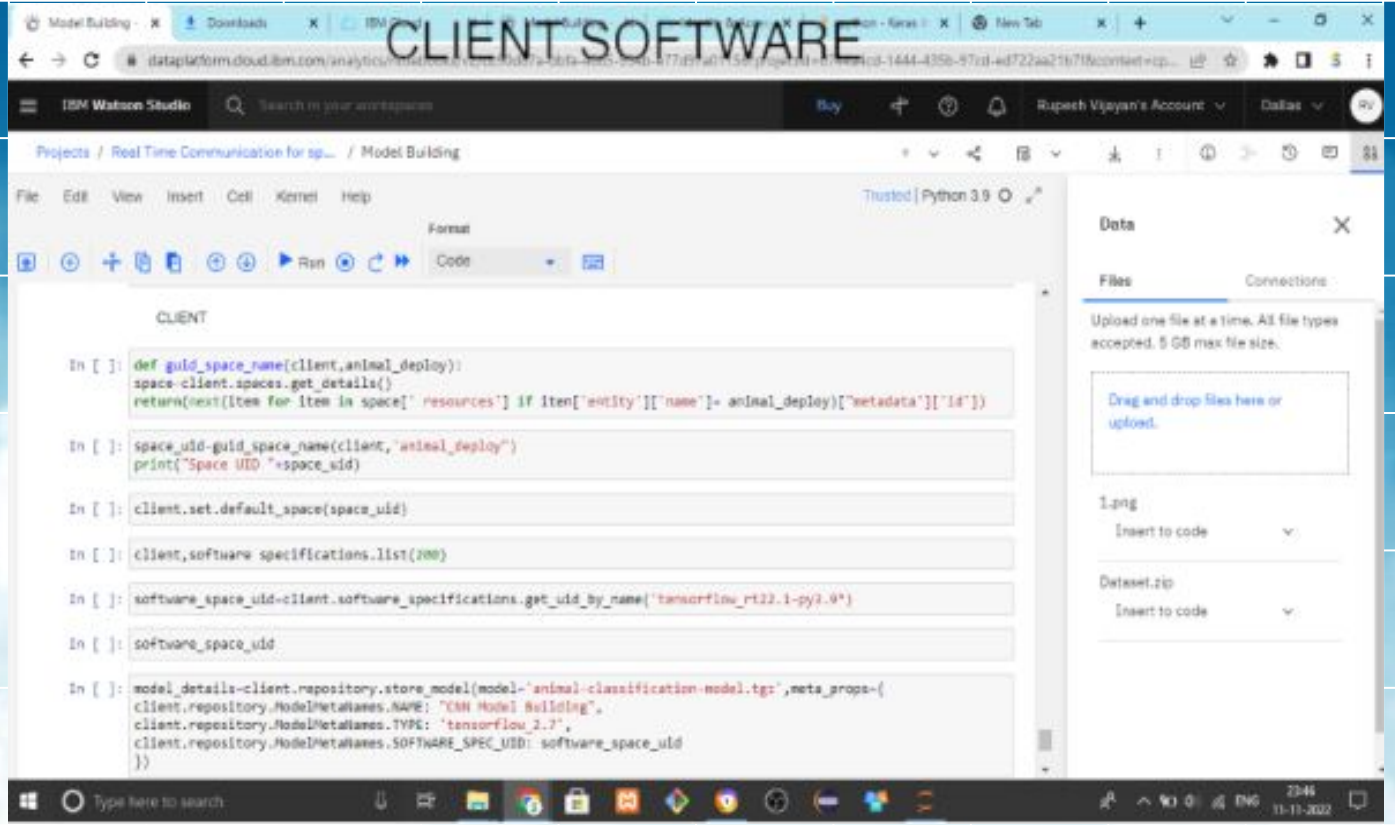


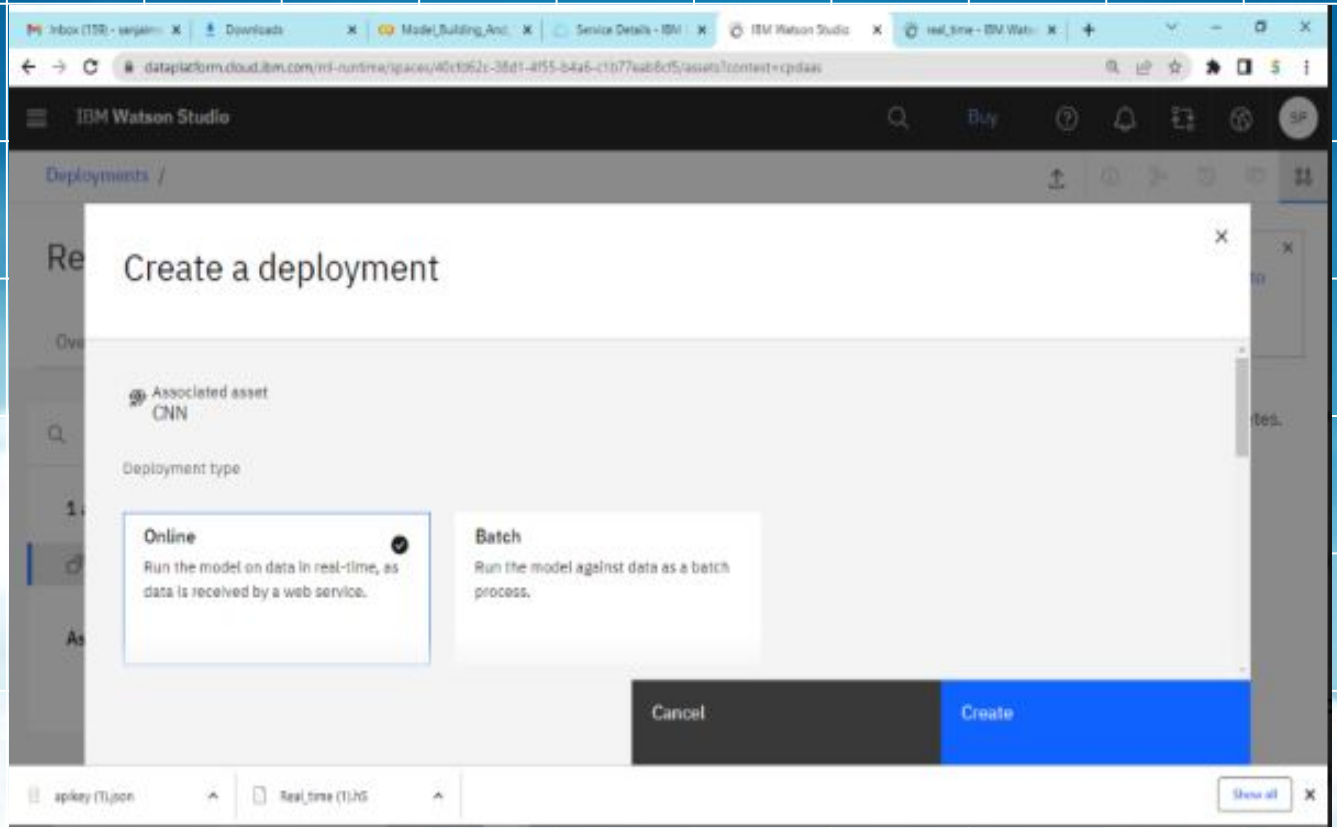
ADDING STREAMING BODY

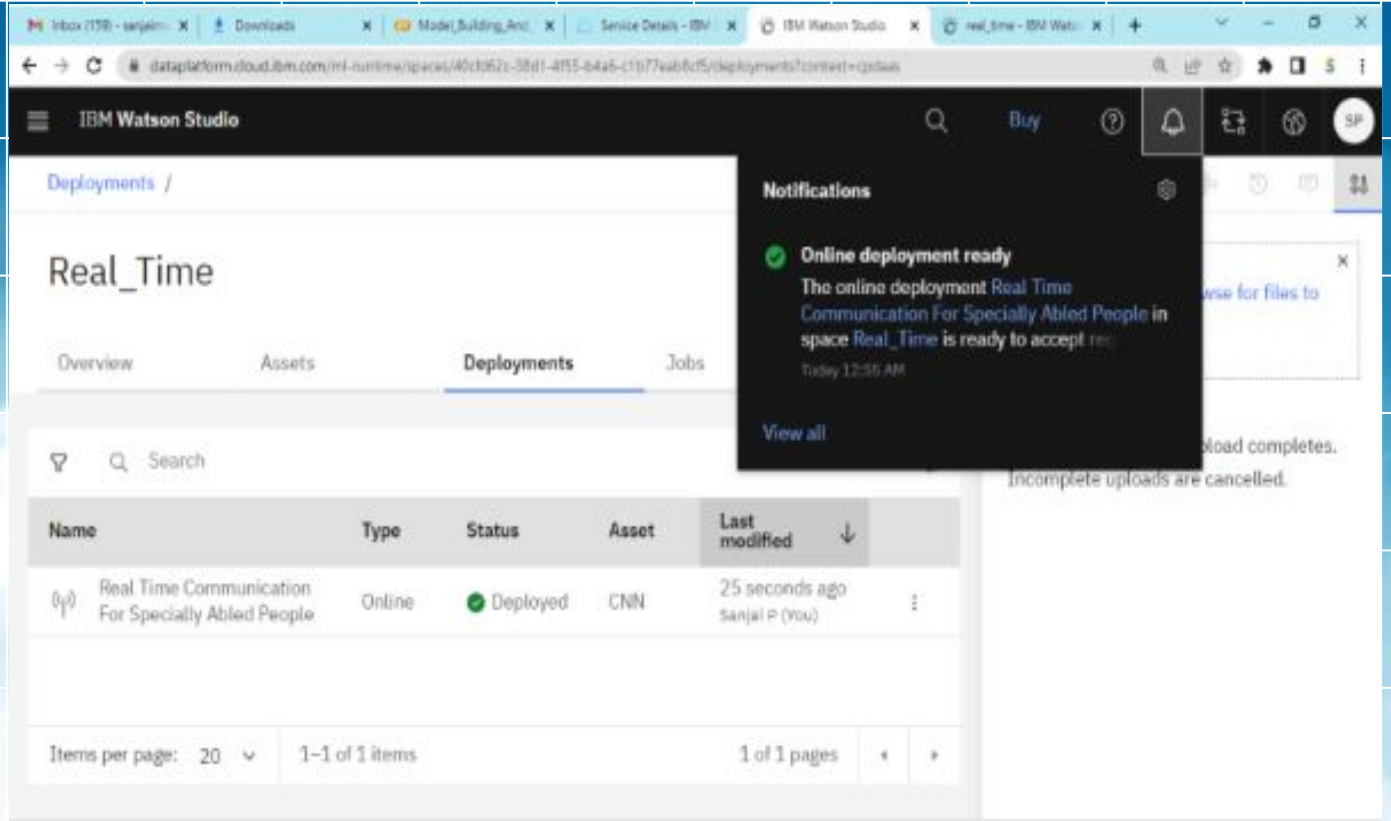


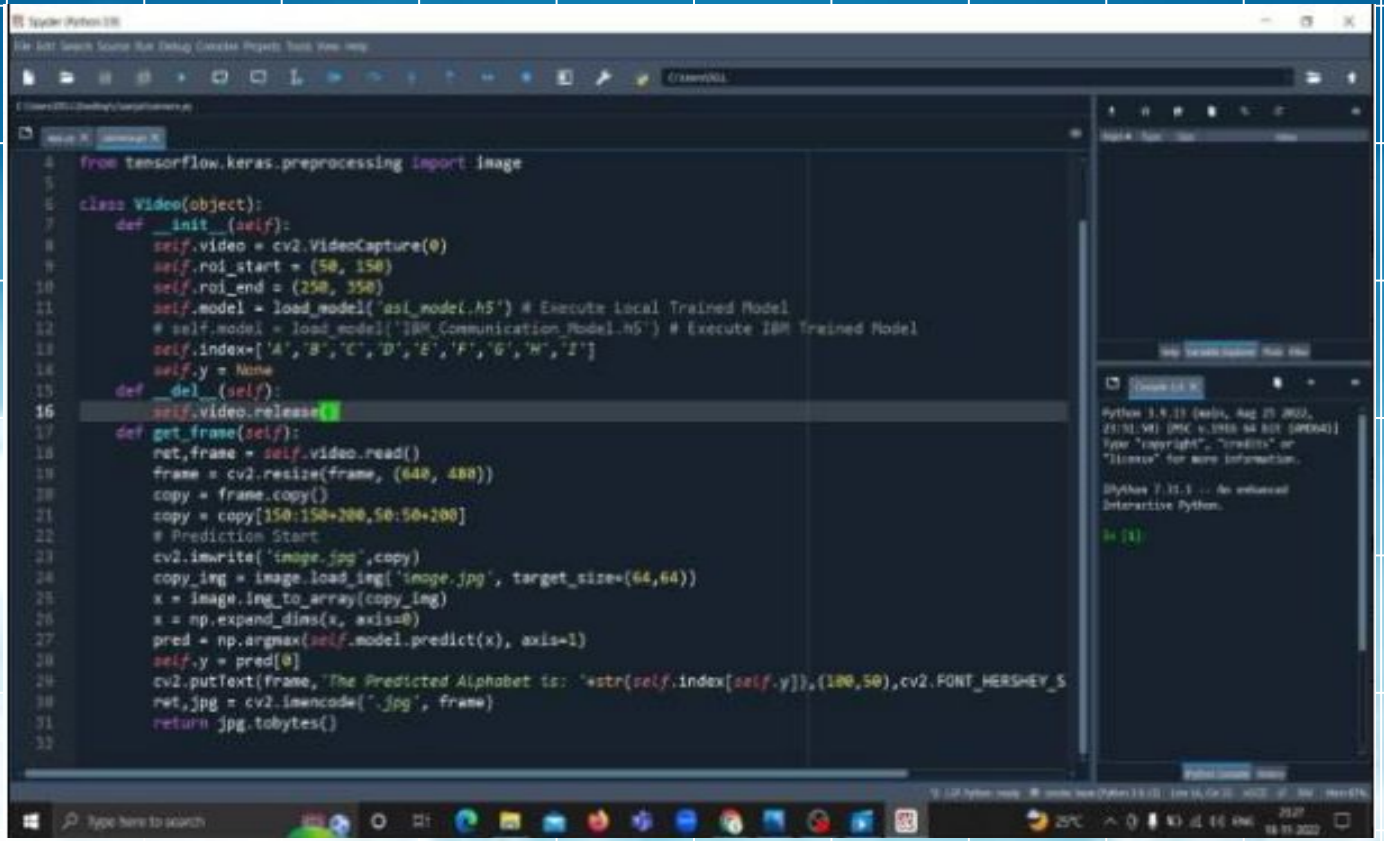


CLIENT SOFTWARE



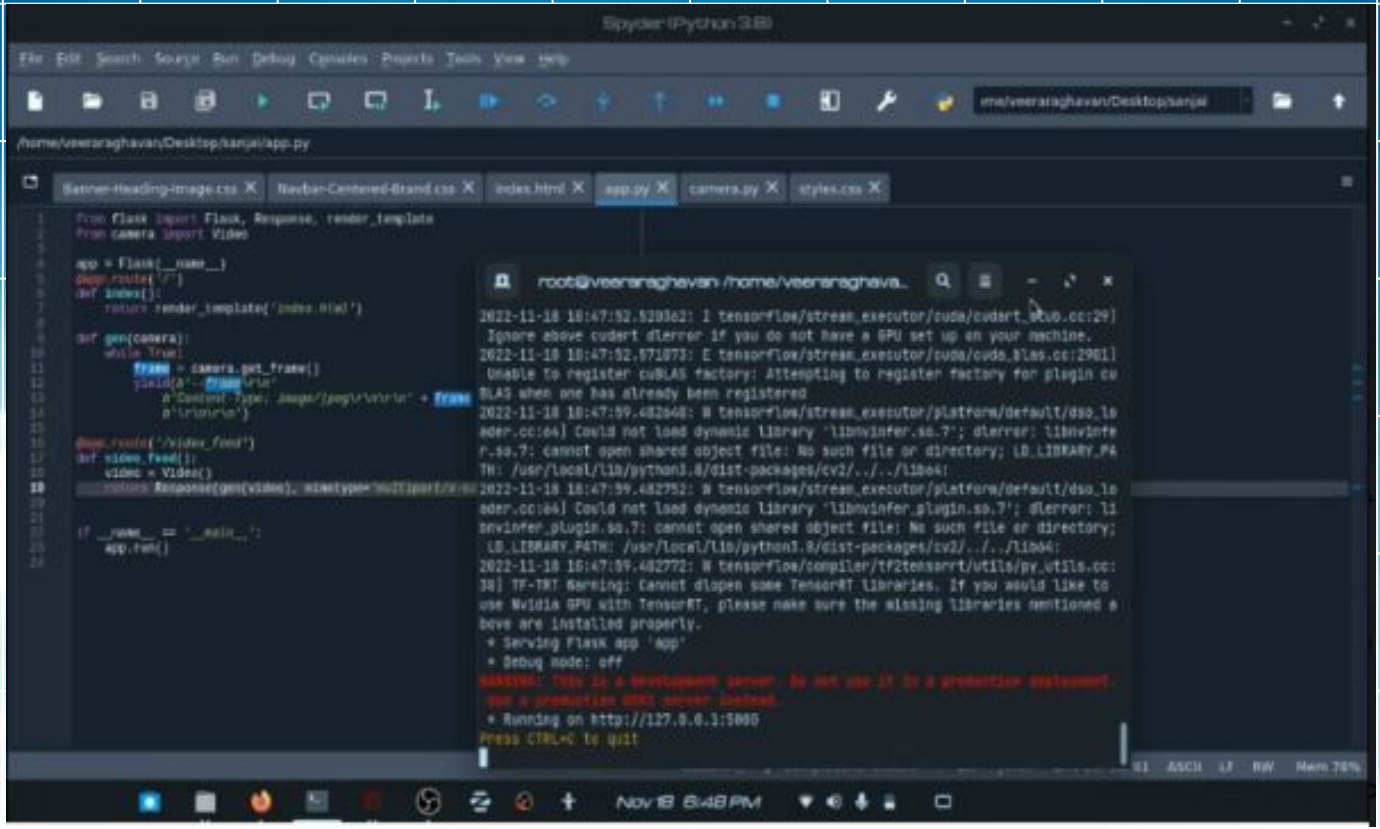


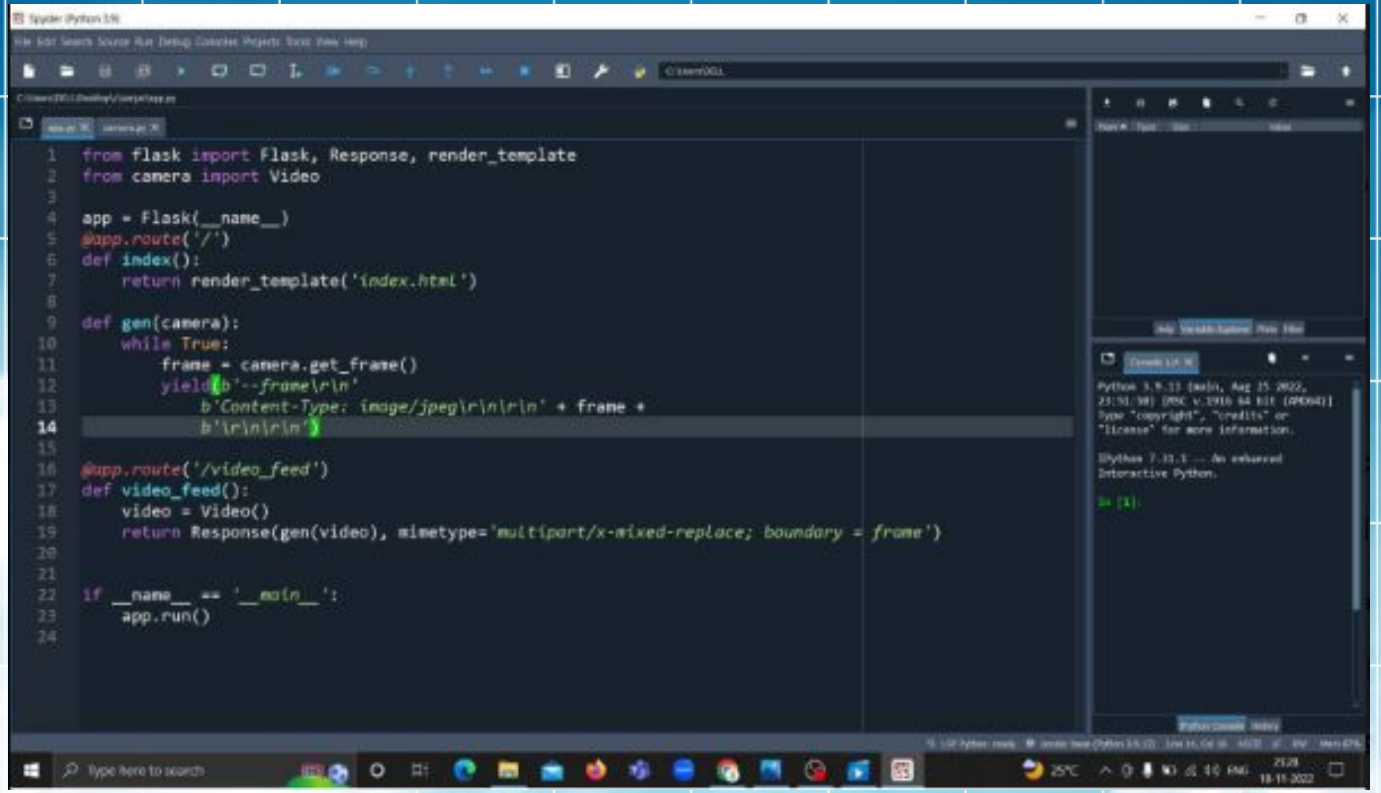


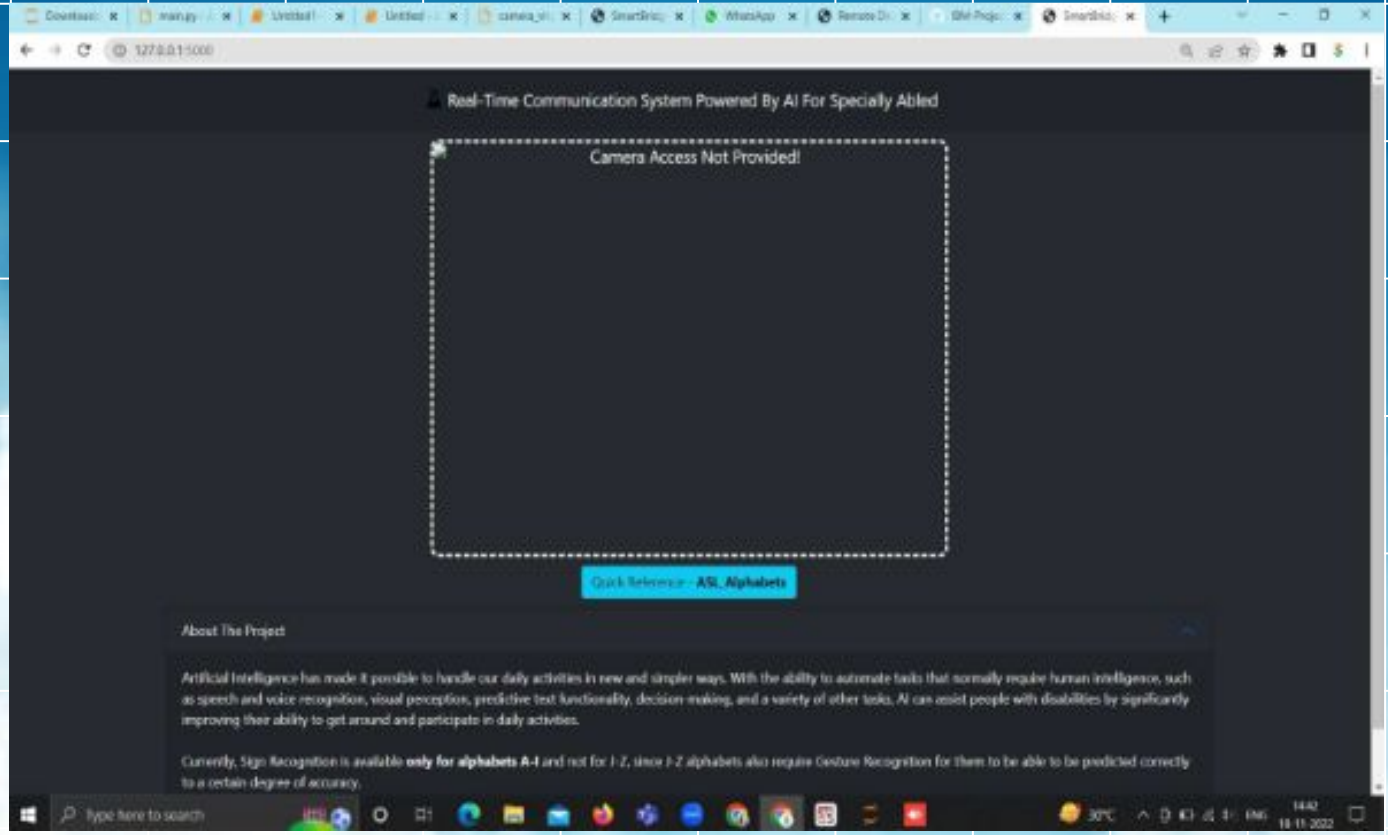


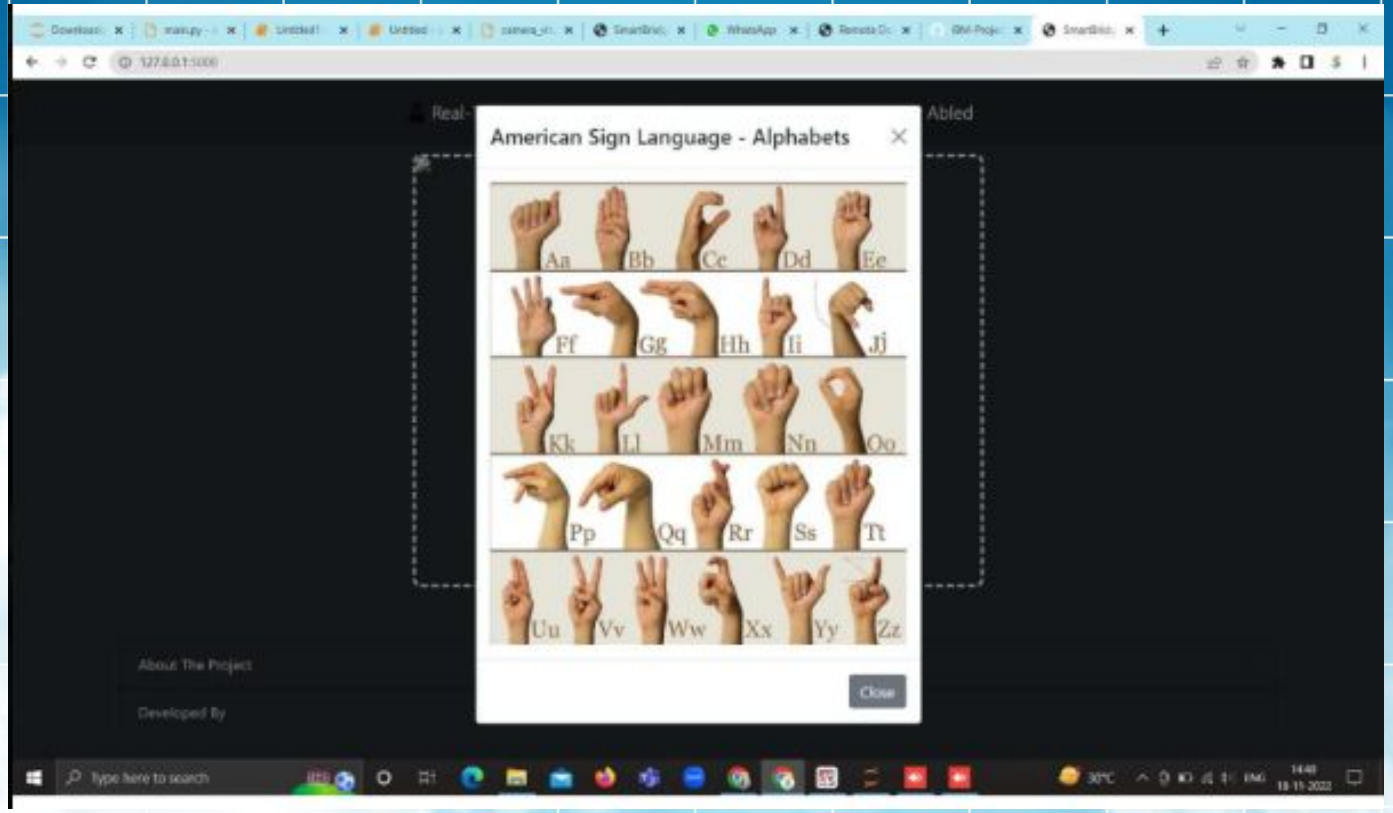
```python
from tensorflow.keras.preprocessing import image

class Video(object):
    def __init__(self):
        self.video = cv2.VideoCapture(0)
        self.roi_start = (50, 150)
        self.roi_end = (250, 350)
        self.model = load_model('asl_model.h5') # Execute Local Trained Model
        # self.model = load_model('IBM_Communication_Model.h5') # Execute IBM Trained Model
        self.index=['A','B','C','D','E','F','G','H','I']
        self.y = None
    def __del__(self):
        self.video.release()
    def get_frame(self):
        ret,frame = self.video.read()
        frame = cv2.resize(frame, (640, 480))
        copy = frame.copy()
        copy = copy[150:150+200,50:50+200]
        # Prediction Start
        cv2.imwrite('image.jpg',copy)
        copy_img = image.load_img('image.jpg', target_size=(64,64))
        x = image.img_to_array(copy_img)
        x = np.expand_dims(x, axis=0)
        pred = np.argmax(self.model.predict(x), axis=1)
        self.y = pred[0]
        cv2.putText(frame,'The Predicted Alphabet is: '+str(self.index[self.y]),(100,50),cv2.FONT_HERSHEY_S
        ret,jpg = cv2.imencode('.jpg', frame)
        return jpg.tobytes()
```




from flask import Flask, Response, render_template
from camera import Video
app = Flask(__name__)
@app.route('/')
def index():
return render_template('index.html')
def gen(camera):
while True:
frame = camera.get_frame()
yield(b'--frame\r\n'
b'Content-Type: image/jpeg\r\n\r\n' + frame +
b'\r\n\r\n')
@app.route('/video_feed')
def video_feed():
video = Video()
return Response(gen(video), mimetype='multipart/x-mixed-replace; boundary = frame')
if __name__ == '__main__':
app.run()


Real-Time Communication System Powered By AI For Specially Abled
Camera Access Not Provided!
Quick Reference - ASL_Alphabets
About The Project
Artificial Intelligence has made it possible to handle our daily activities in new and simpler ways. With the ability to automate tasks that normally require human intelligence, such as speech and voice recognition, visual perception, predictive text functionality, decision making, and a variety of other tasks, AI can assist people with disabilities by significantly improving their ability to get around and participate in daily activities.
Currently, Sign Recognition is available only for alphabets A-I and not for J-Z, since J-Z alphabets also require Gesture Recognition for them to be able to be predicted correctly to a certain degree of accuracy.
Type here to search


American Sign Language - Alphabets
Aa
Bb
Cc
Dd
Ee
Ff
Gg
Hh
Ii
Jj
Kk
Ll
Mm
Nn
Oo
Pp
Qq
Rr
Ss
Tt
Uu
Vv
Ww
Xx
Yy
Zz
Close
About The Project
Developed By
Type here to search