DEVELOPMENT PART -1

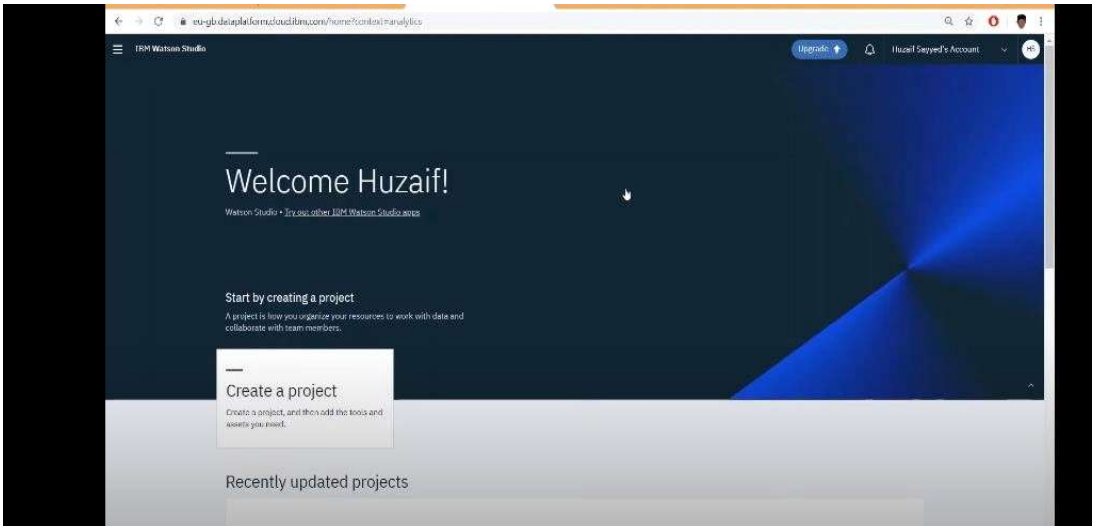
INTRODUCTION:

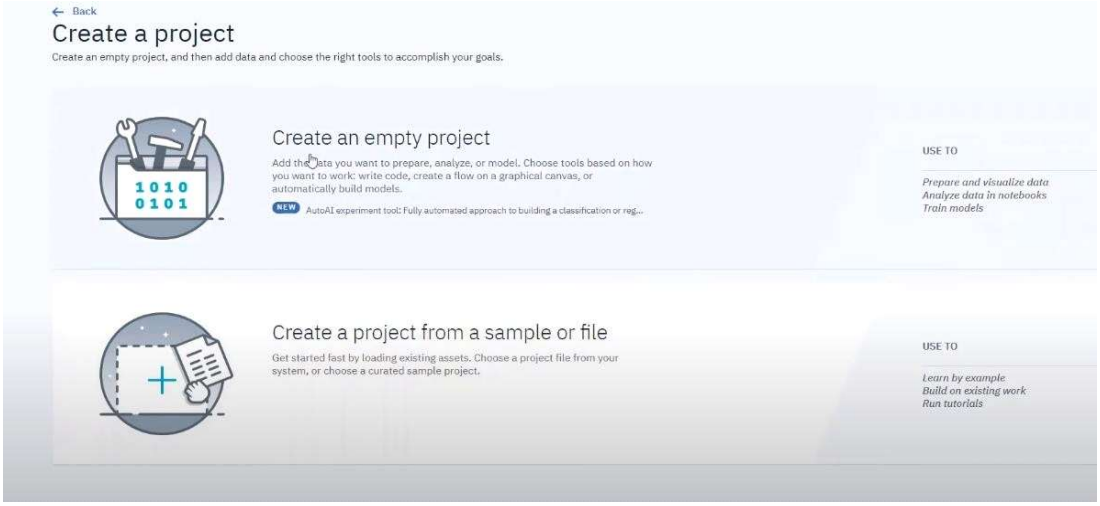
In this project, we will explore the development of an image recognition system using **IBM Watson Visual Recognition**, a powerful cloud-based service provided by **IBM**. IBM Watson Visual Recognition is designed to help you create custom image recognition models and leverage pre-trained models for the analysis and classification of images. This service can be applied to a wide range of applications, from automating visual content categorization to improving user experiences through image recognition technology.

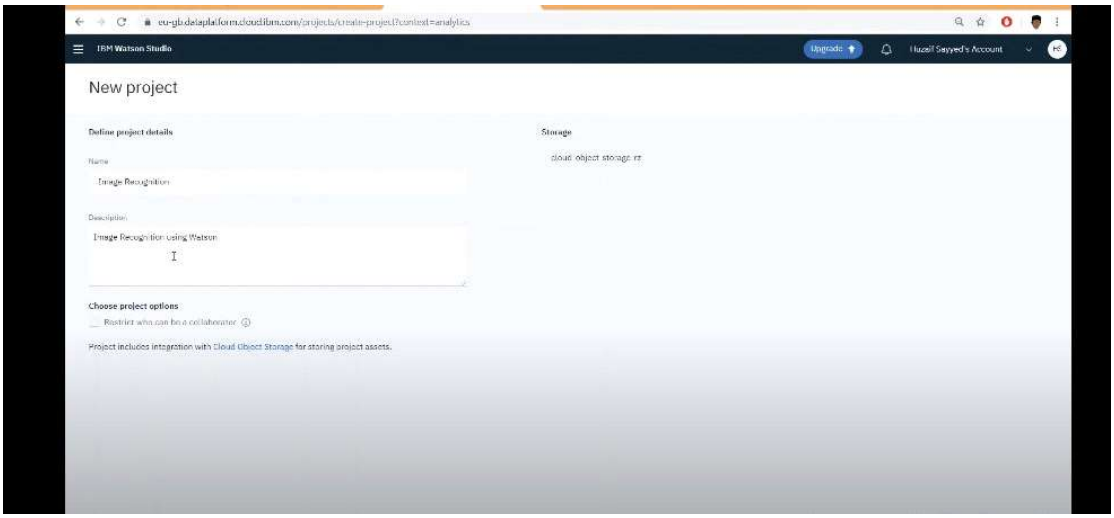
Steps:

- **Sign up for IBM Watson Services:**

  Sign up for IBM Watson services and proceed to create an instance of Watson Visual Recognition on the IBM Cloud platform.


IBM Watson Studio
Upgrade
Huzaif Sayyed's Account
Welcome Huzaif!
Watson Studio • Try out other IBM Watson Studio apps
Start by creating a project
A project is how you organize your resources to work with data and collaborate with team members.
Create a project
Create a project, and then add the tools and assets you need.
Recently updated projects


Back
Create a project
Create an empty project, and then add data and choose the right tools to accomplish your goals.
1010
0101
Create an empty project
Add the data you want to prepare, analyze, or model. Choose tools based on how you want to work: write code, create a flow on a graphical canvas, or automatically build models.
NEW
AutoAI experiment tool: Fully automated approach to building a classification or reg...
USE TO
Prepare and visualize data
Analyze data in notebooks
Train models
Create a project from a sample or file
Get started fast by loading existing assets. Choose a project file from your system, or choose a curated sample project.
USE TO
Learn by example
Build on existing work
Run tutorials

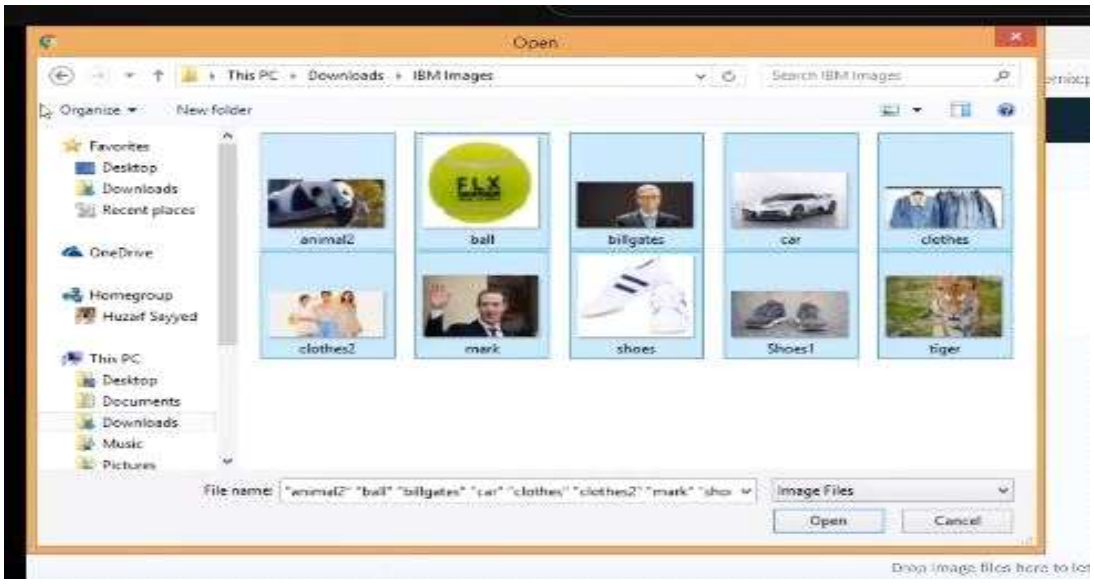


Create an project by clicking **“create”** on the bottom.

- **Collect and Prepare Your Data:**

  Compile a dataset of images for recognition and classification. Organize the dataset meticulously, with clear labels and categorization. If you're developing a custom model, group the images into relevant categories or classes.

  Select minimum of 10 images to upload and test.



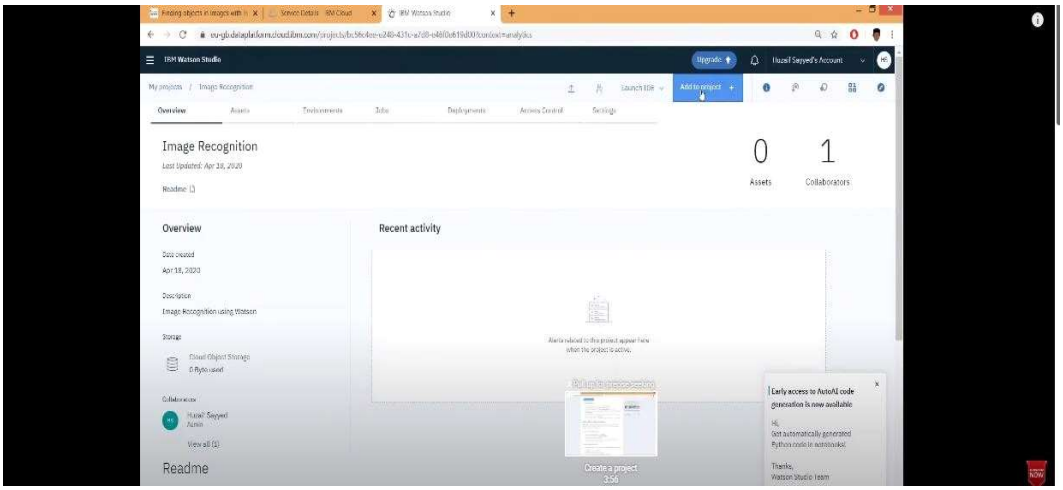
- **Create a Custom Model (Optional):**

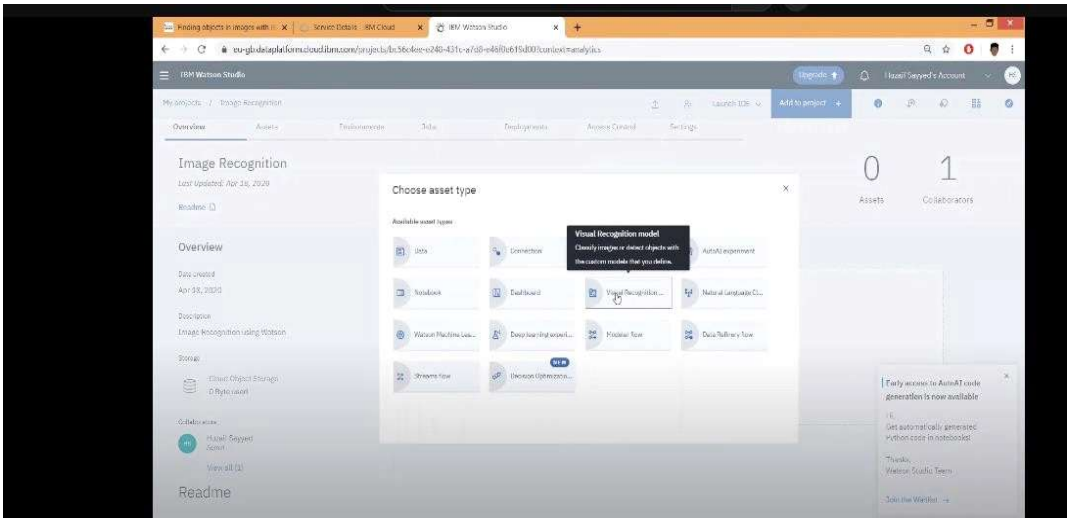
In situations where you need to identify particular objects or categories not included in pre-trained models, you have the option to develop your own custom model. This is particularly valuable for scenarios such as identifying your company's products or distinct objects.

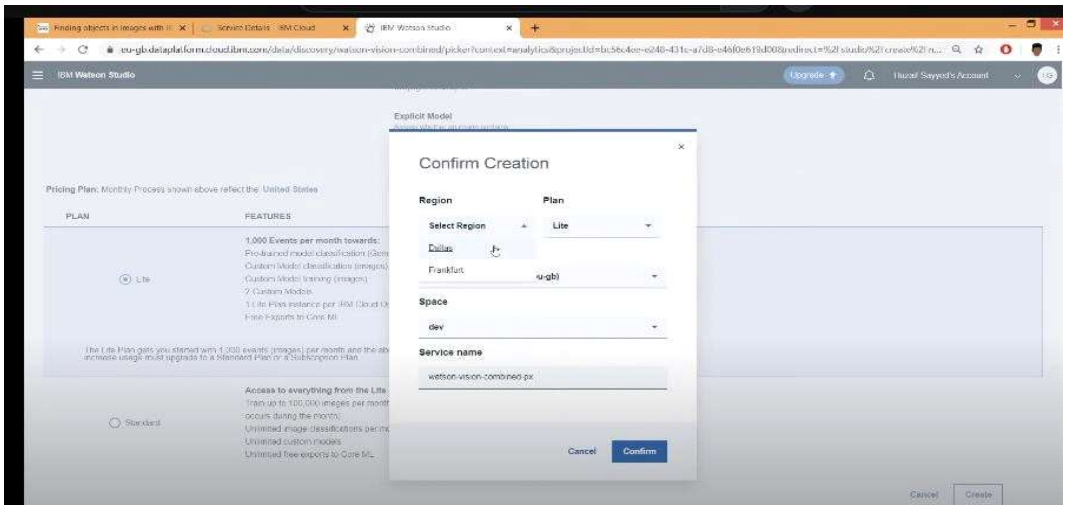
- Access your Watson Visual Recognition instance on the IBM Cloud platform.
- Establish a new project and upload your carefully labeled dataset.
- Train the custom model using this dataset, allowing it to learn and recognize the specified objects or categories accurately.

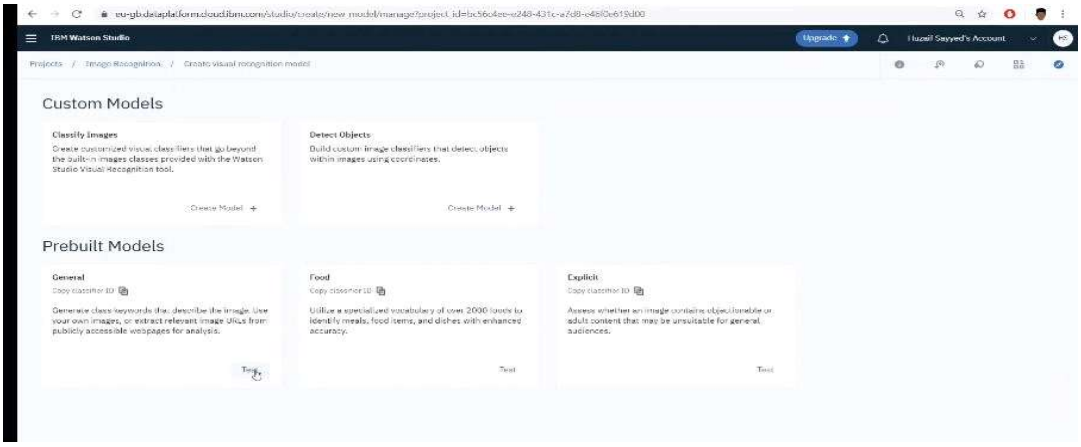
- **Use Pre-Trained Models (Optional):**

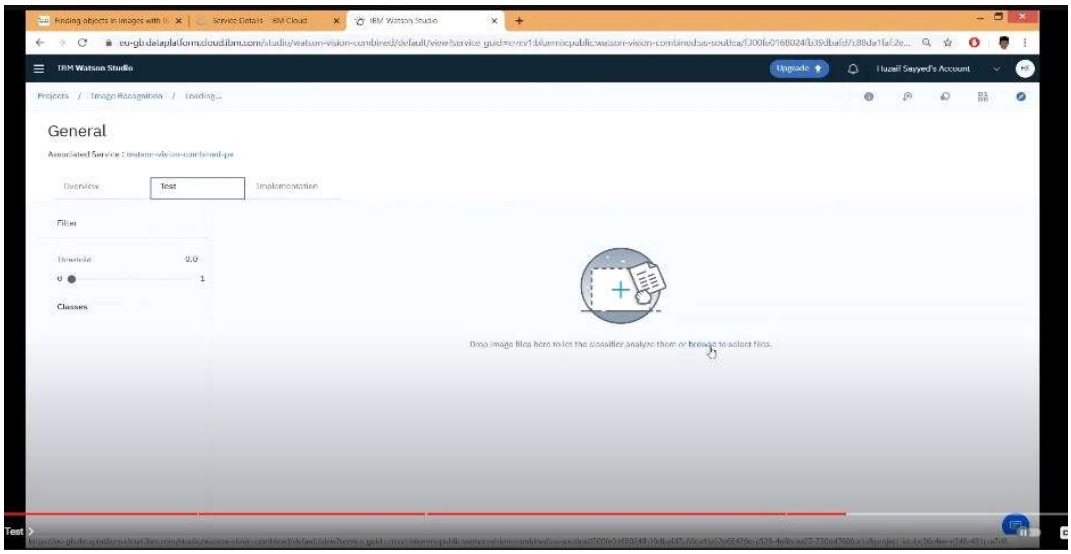
  If your recognition requirements align with the pre-trained models available through Watson Visual Recognition, you can bypass the custom model training process and make use of the ready-made models. Simply select the relevant pre-trained model and click **"add to project".**





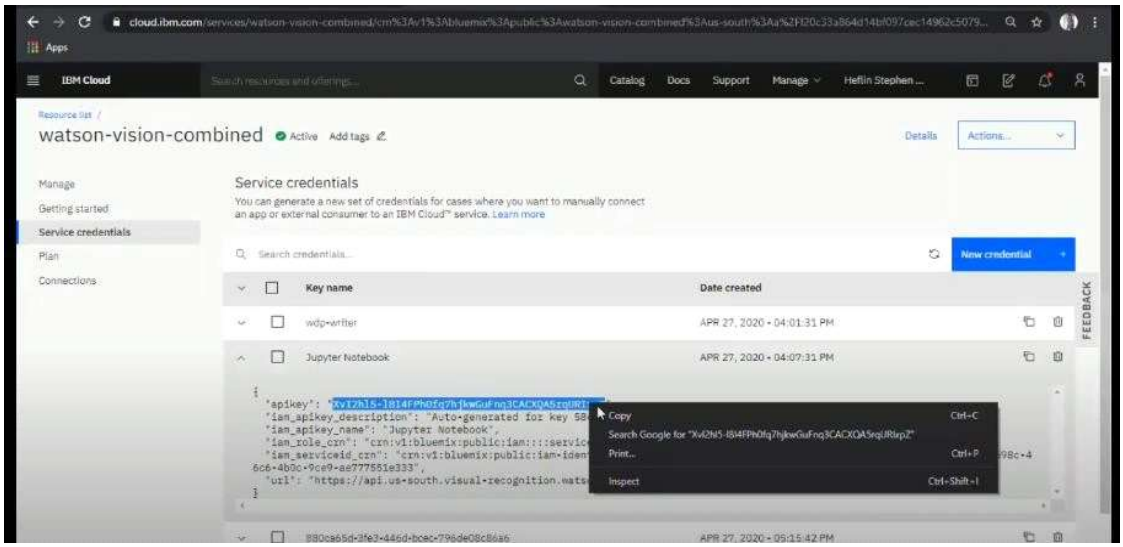

IBM Watson Studio
Confirm Creation
Region
Plan
Select Region
Lite
Dallas
Frankfurt
Space
dev
Service name
watson-vision-combined-px
Cancel
Confirm

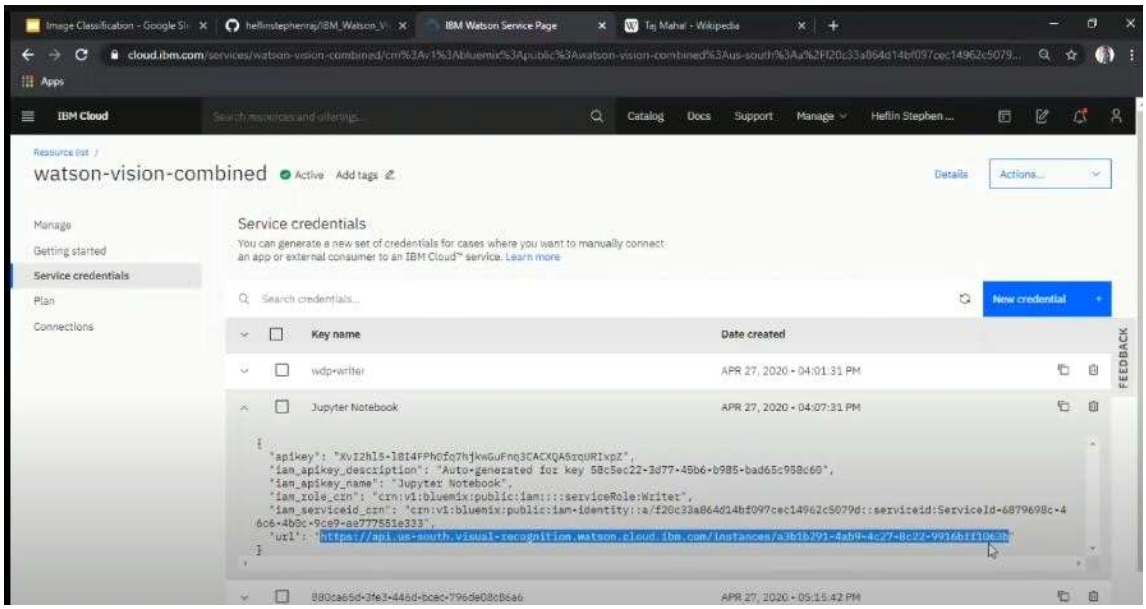

IBM Watson Studio
Custom Models
Classify Images
Detect Objects
Prebuilt Models
General
Food
Explicit


IBM Watson Studio
General
Overview
Test
Implementation
Filter
Classes

- **Obtain API Credentials:**

To access the Watson Visual Recognition service, you must obtain API credentials, which typically include an API Key and a URL. You can locate these credentials in the IBM Cloud dashboard associated with your Watson Visual Recognition instance.





- **Code Implementation:**

Depending on your preferred programming language, you can interact with Watson Visual Recognition through its API. Below is a Python program using the ibm-watson Python SDK:

Program:

```
from ibm_watson import VisualRecognitionV3
from ibm_watson.visual_recognition_v3 import
FileWithMetadata, RecognizeEnums

api_key = 'your_api_key'
service_url = 'your_service_url'

# Create a Watson Visual Recognition client
visual_recognition = VisualRecognitionV3('2018-03-19',
iam_apikey=api_key, url=service_url)

# Use the classify method to analyze an image
with open('image.jpg', 'rb') as image_file:
```

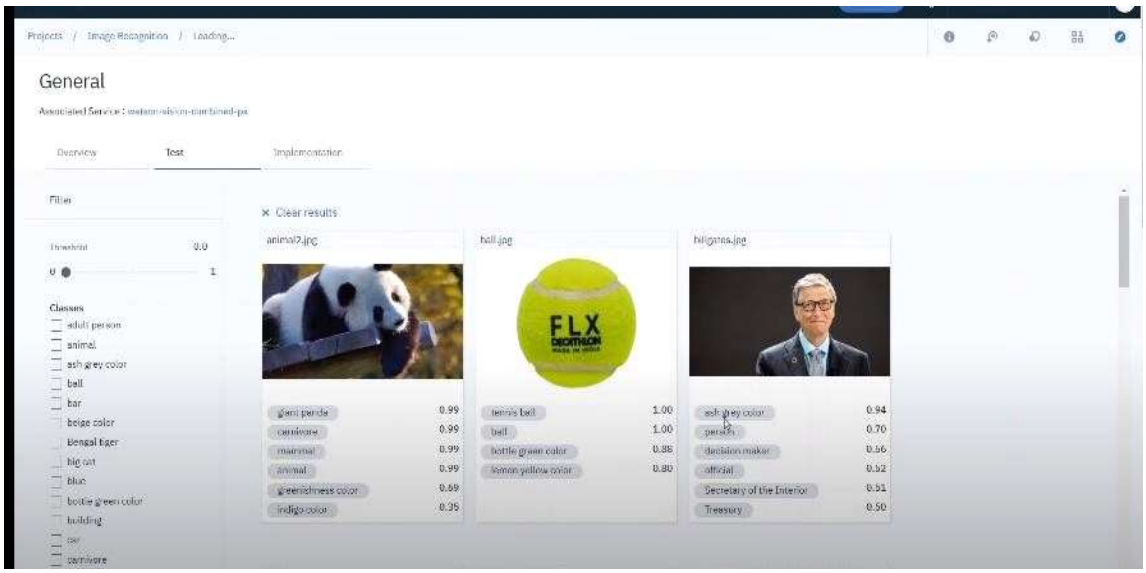
```
classes =
visual_recognition.classify(images_file=FileWithMetadata(ima
ge_file)).get_result()

print(classes)
```

This code demonstrates how to **classify** an image and retrieve the results using the classify method

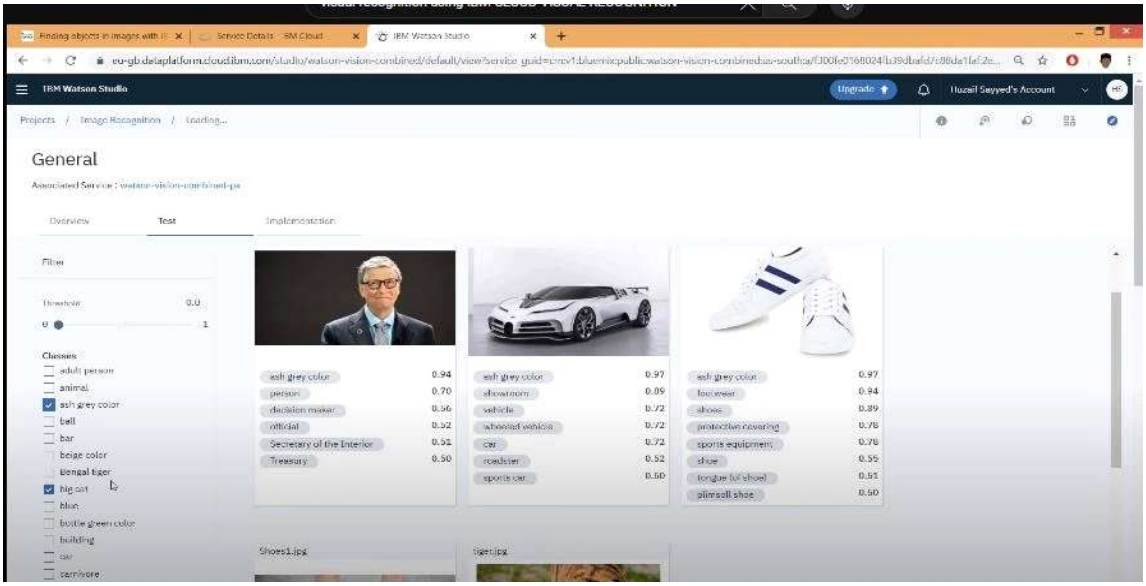
- **Interpret the Results:**

The results returned by Watson Visual Recognition will provide insights into the objects or categories identified within the image. The specific actions or feedback based on this information will depend on the use case at hand.



- **Integrate with Your Application:**

Incorporate the image recognition code seamlessly into your application or service, enabling it to effectively process images and provide valuable results.



- **Test and Iterate:**

Thoroughly test the image recognition system with a diverse range of images. Continuously refine your model or code as necessary to enhance accuracy and performance. Iterate to achieve better results over time.

- **Deploy:**

To conclude, deploy your application or service with the integrated image recognition functionality, making it accessible to users.

These steps should help you to started with implementing imagerecognition using **Watson Visual Recognition**. Customization and fine-tuning may be necessary to meet your specific requirements.