

Practical - 9: Create Azure computer vision service to recognise different objects in a given image.

Azure Computer Vision is a cloud-based service provided by Microsoft Azure that enables developers to integrate advanced computer vision capabilities into their applications. This service uses artificial intelligence and machine learning to analyze visual content in different ways, including image analysis, text recognition, and object detection.

Here are some key features and use cases of Azure Computer Vision:

Image Analysis: Azure Computer Vision can analyze images to extract information such as objects, tags, adult content, and more. This analysis can be used for tasks like content moderation, cataloging images, and generating metadata.

Optical Character Recognition (OCR): The service can extract text from images and documents, making it useful for digitizing printed or handwritten text, translating content, and text-based content search.

Object Detection: Azure Computer Vision can identify and locate objects within images. This is valuable for applications like robotics, inventory management, and security systems.

Image Classification: It can classify images into predefined categories or tags, which is useful for organizing and categorizing large sets of images.

Handwriting Recognition: This feature can recognize handwritten text in images, which is useful in applications like digitizing historical documents or processing handwritten forms.

Face Detection and Analysis: Azure Computer Vision can detect faces in images and provide details about facial attributes, such as age, gender, emotion, and more. This is commonly used for applications like user authentication and sentiment analysis.

Content Moderation: The service can automatically flag and filter inappropriate or offensive content in images and documents, making it suitable for content platforms, social media, and forums.

Custom Vision Models: Developers can train custom machine learning models using Azure Custom Vision to suit specific image recognition needs, including specific objects or visual content unique to their application.

Step 1: Create the computer vision service on Azure

Microsoft Azure

Search resources, services, and docs (G+)

[Home](#) > [All resources](#) > [Create a resource](#) > [Marketplace](#) >

Create Computer Vision

[Basics](#) [Network](#) [Identity](#) [Tags](#) [Review + create](#)

Boost content discoverability, accelerate text extraction, and create products that more people can use by embedding vision capabilities in your apps. Use visual data processing to label content (from objects to concepts), extract printed and handwritten text, recognize familiar subjects like brands and landmarks, and moderate content. No machine learning expertise is required.

[Learn more](#)

Project Details

Subscription *

Pay-As-You-Go

Resource group *

[Create new](#)

Azure AI services resource creation requires subscription registration, we detected that your selected subscription did not register Cognitive services resource type before, we will help you to register Cognitive services resource type when you select a subscription in subscription dropdown. Click to learn more how to check registration state for your selected subscription.

Previous

Next

Review + create

Create Computer Vision

Region

North Europe

Name *

demo8097

Pricing tier *

Free F0 (20 Calls per minute, 5K Calls per month)

[View full pricing details](#)

Responsible AI Notice

Microsoft provides technical documentation regarding the appropriate operation applicable to this Azure AI service that is made available by Microsoft. Customer acknowledges and agrees that they have reviewed this documentation and will use this service in accordance with it. This Azure AI services is intended to process Customer Data that includes Biometric Data (as may be further described in product documentation) that Customer may incorporate into its own systems used for personal identification or other purposes. Customer acknowledges and agrees that it is responsible for complying with the Biometric Data obligations contained in the Online Services DPA.

[Online Services DPA](#)

[Responsible Use of AI documentation for Spatial Analysis](#)

By checking this box I certify that I have reviewed and acknowledge the all the terms above.

☒

Previous

Next

Review + create

Step 2: Install postman tool on your machine

Postman is a popular and widely used API testing and development tool. It provides a user-friendly graphical interface for making HTTP requests to APIs and analyzing the responses. Postman is designed to simplify the process of testing APIs, automating testing, and documenting APIs.

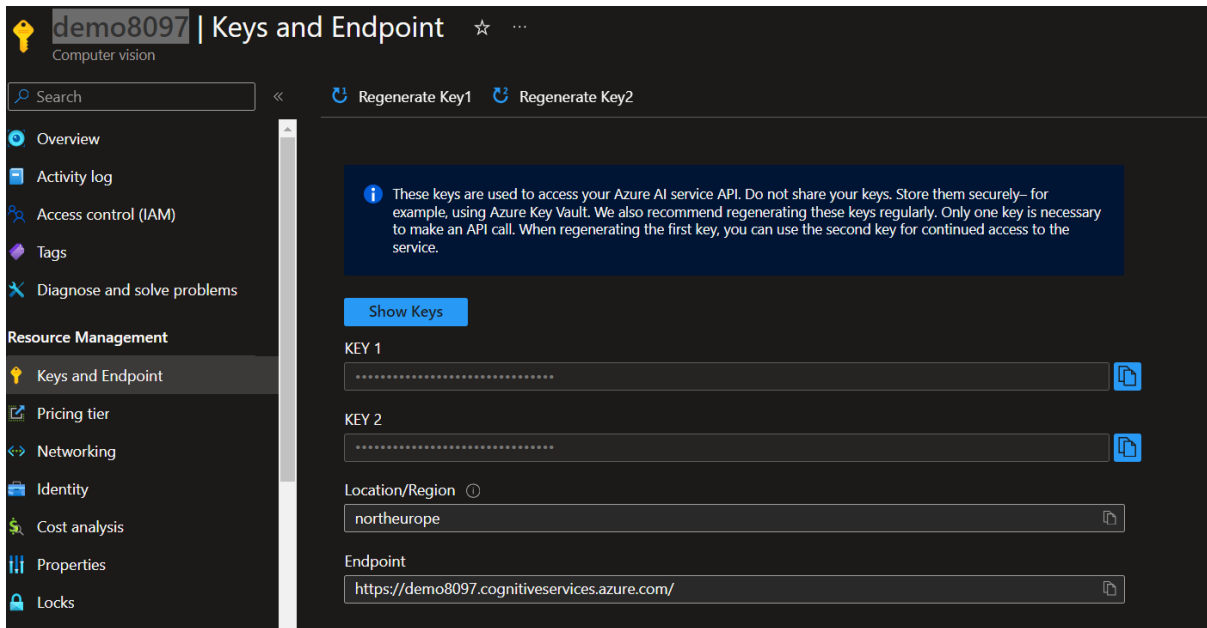
Step 3: Take some images from websites to recognise the objects.



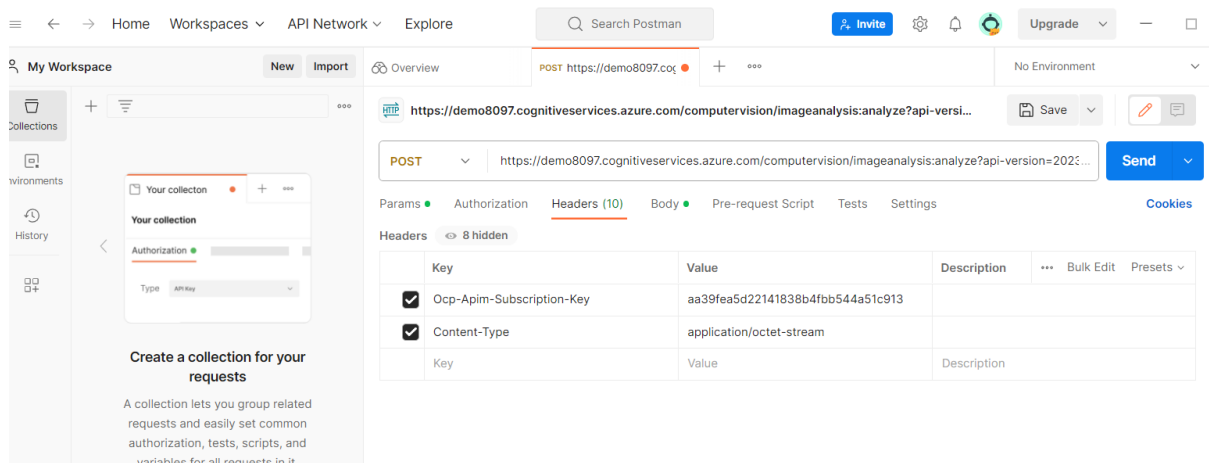
VectorStock®

VectorStock.com/1095259

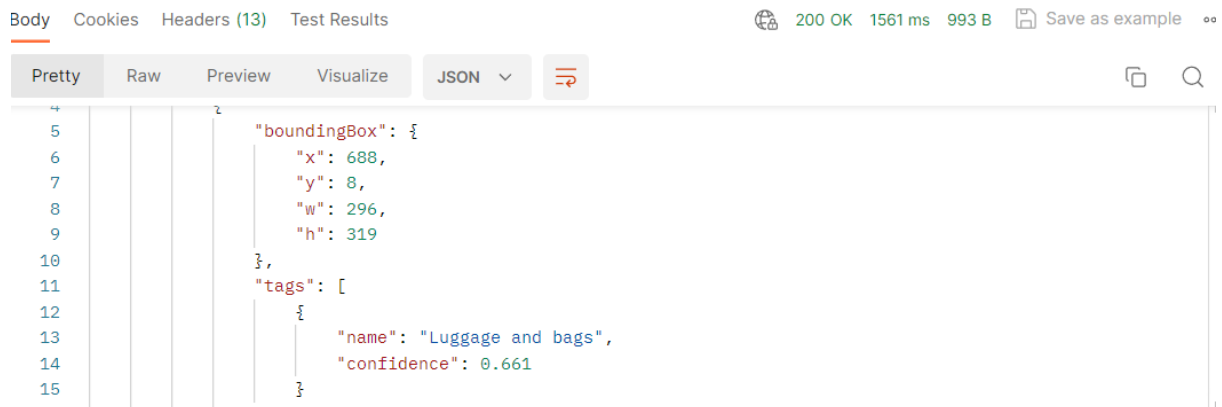
Step 4: From the postman tool, call the Azure Computer vision service through endpoints and keys.



1. For the request, ensure the method used is POST and below is the request URL
<https://demo8097.cognitiveservices.azure.com/computervision/imageanalysis/analyze?api-version=2023-02-01-preview&features=objects>
2. You need to add the following headers to the request
 - a. Ocp-Apim-Subscription-Key - <Your resource key>
 - b. Content-Type - application/octet-stream



Step 5: Select the image and call the API



```
4
5      "boundingBox": {
6        "x": 688,
7        "y": 8,
8        "w": 296,
9        "h": 319
10     },
11     "tags": [
12       {
13         "name": "Luggage and bags",
14         "confidence": 0.661
15       }
16     ]
17   }
18 }
```

In the image above we do have bags. So it is recognising bags with a confidence of 0.661.

Azure Computer Vision can be accessed via APIs, making it easy to integrate into various applications, including web and mobile applications. It can be used in industries such as healthcare, e-commerce, finance, and manufacturing, among others, to automate tasks that involve visual data analysis and processing. Developers can use Azure's pre-built models or create custom models based on their specific requirements.