

IBM Training

Watson Studio AI Services

Visual Recognition Service

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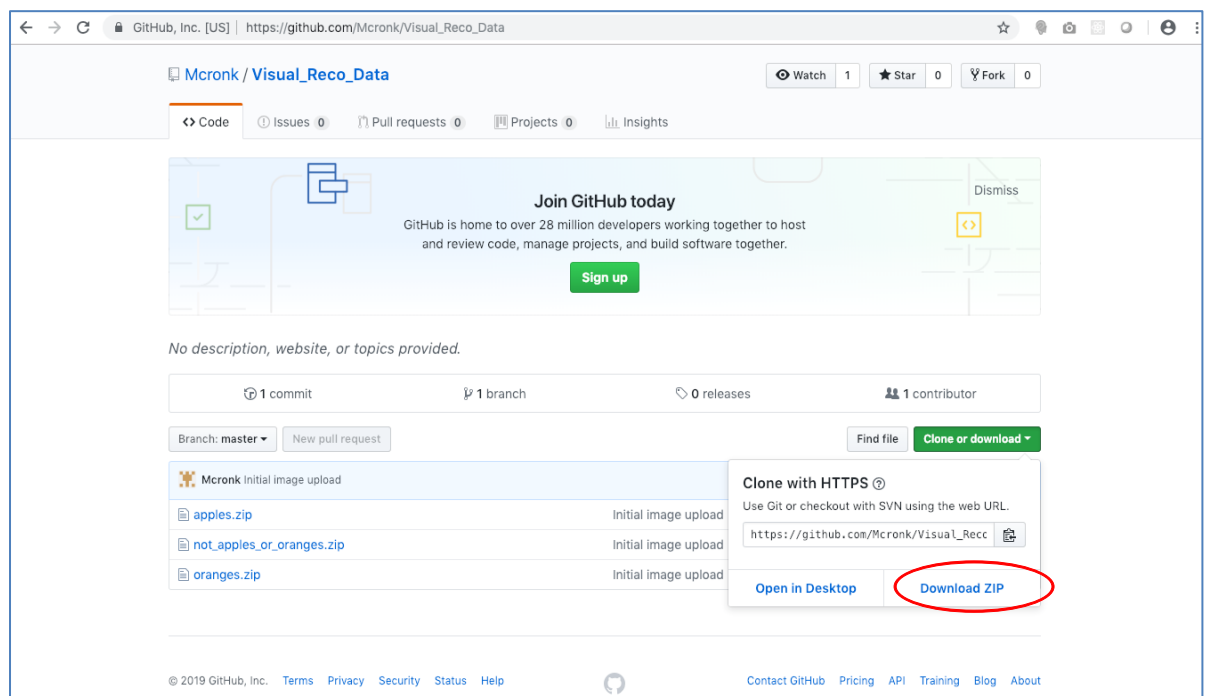
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Configure a Visual Recognition Service in Watson Studio

This lab guide is intended to provide you with hands-on experience in using the Watson AI Visual Recognition service in the Watson Studio data science platform.

1. Open Firefox or Chrome and navigate to https://github.com/Mcronk/Visual_Reco_Data
2. Click on “Clone or download” and “Download ZIP”



3. Unzip the zip file on your Desktop.
4. Click on the Watson Studio browser tab.

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5. Click on your Watson Studio project. Note the project name will be different.

The screenshot shows the IBM Watson Studio dashboard. At the top, there's a navigation bar with the IBM Watson Studio logo, an 'Upgrade' button, and the user's account 'John Doe's Account'. Below the navigation bar, there's a 'Get started' dropdown. The main content area has a blue header with the text 'Start by creating a project' and a sub-header 'A project is how you organize your resources to work with data and collaborate with team members'. Below this, there's a 'Create a project' button. Further down, there's a section titled 'Recently updated projects' with a 'View all (1)' link and a 'New project' button. A table lists the projects, with the first row highlighted in a red circle:

NAME	ROLE	COLLABORATORS	DATE CREATED	LAST UPDATED
Visual Recognition Project	Admin	JD	Jan 21, 2019	Jan 21, 2019

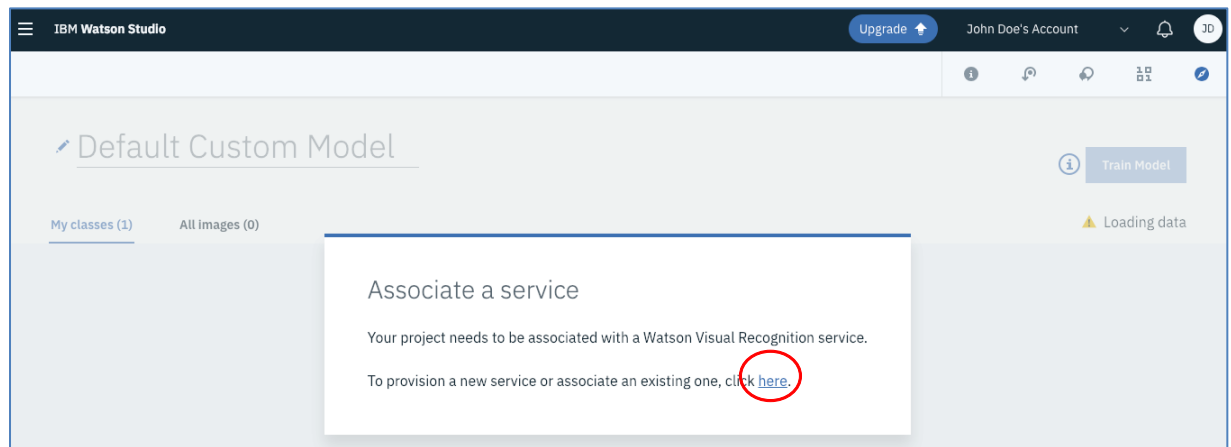
6. Click on “Add to project”

The screenshot shows the 'Visual Recognition Project' page in IBM Watson Studio. The navigation bar at the top includes the IBM Watson Studio logo, an 'Upgrade' button, and the user's account 'John Doe's Account'. Below the navigation bar, there's a 'Launch IDE' button and a red circle around the 'Add to project' button. The main content area has tabs for 'Overview', 'Assets', 'Environments', 'Bookmarks', 'Deployments', 'Access Control', and 'Settings'. The 'Assets' tab is selected, showing a search bar and a 'Data assets' section. Below the 'Data assets' section, there's a table with columns 'NAME', 'TYPE', 'CREATED BY', 'LAST MODIFIED', and 'ACTIONS'. The table is empty, and a message says 'You don't have any Data assets yet.'

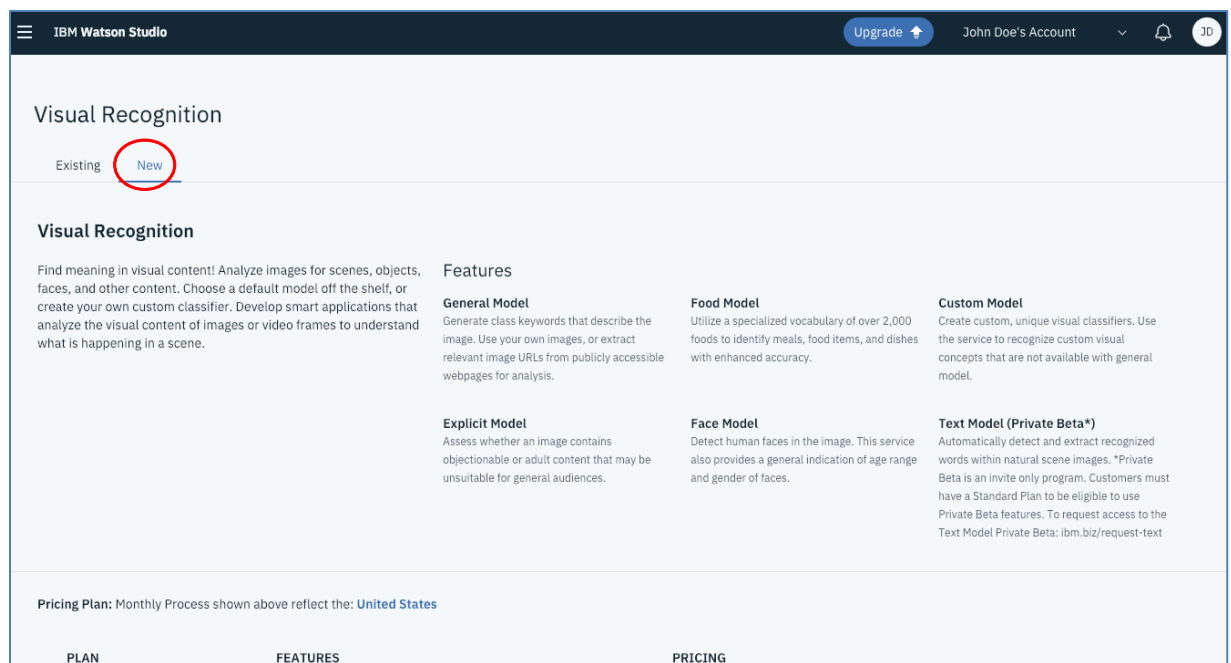
7. Click on Visual Recognition Model

The screenshot shows the 'AVAILABLE ASSET TYPES' section in IBM Watson Studio. It displays a grid of asset types: DATA, DASHBOARD, EXPERIMENT, SYNTHESIZED NEURAL NET..., VISUAL RECOGNITION MO., CONNECTED DATA, NATURAL LANGUAGE CLAS..., DATA REFINERY FLOW, NOTEBOOK, WATSON MACHINE LEARNI..., and STREAMS FLOW. The 'VISUAL RECOGNITION MO.' asset type is highlighted with a red circle. A tooltip for the 'Visual Recognition model' is visible, stating: 'Visual Recognition model. Classify image content with the custom classifiers that you define.'

You will be prompted to create or associate a new Visual Recognition Service. Click on the blue link to provision a new service.



8. Ensure that the New tab is selected and scroll down.



9. Ensure that the Lite option is selected.

10. Click Create.

The screenshot shows the IBM Watson Studio interface. At the top, there's a navigation bar with the IBM Watson Studio logo, an 'Upgrade' button, and a user profile 'John Doe's Account'. Below this is a table with three columns: PLAN, FEATURES, and PRICING. The 'Lite' plan is selected, indicated by a blue dot and a red circle. The 'Standard' plan is also visible with its features and pricing. At the bottom right, there are 'Cancel' and 'Create' buttons, with the 'Create' button highlighted by a red circle.

PLAN	FEATURES	PRICING
<input checked="" type="radio"/> Lite	1,000 Events per month towards: Pre-trained model classification (General, Face, Food, Explicit) (images) Custom Model classification (images) Custom Model training (images) 2 Custom Models 1 Lite Plan instance per IBM Cloud Organization Free Exports to Core ML	Free
<input type="radio"/> Standard	Image Tagging Events Pay per Use Face Detection Events Pay per Use Training Events Pay per Use Custom Tagging Events Pay per Use Food Tagging Events Pay per Use Explicit Tagging Events Pay per Use	\$0.002 USD/GeneralTagging \$0.004 USD/FaceRecognition \$0.1 USD/Training \$0.002 USD/CustomTagging \$0.002 USD/FoodTagging \$0.002 USD/ExplicitTagging

The Lite Plan gets you started with 1,000 events (images) per month and the ability to train two Custom Models. Users wishing to use more premium features or increase usage must upgrade to a Standard Plan or a Subscription Plan.

Cancel **Create**

11. Keep the defaults and click Confirm.

The screenshot shows a 'Confirm Creation' dialog box. It contains four fields: 'Region' (US South), 'Plan' (Lite), 'Resource group' (Default), and 'Service name' (watson-vision-combined-ww). At the bottom right, there are 'Cancel' and 'Confirm' buttons, with the 'Confirm' button highlighted by a red circle.

Confirm Creation

Region
US South

Plan
Lite

Resource group
Default

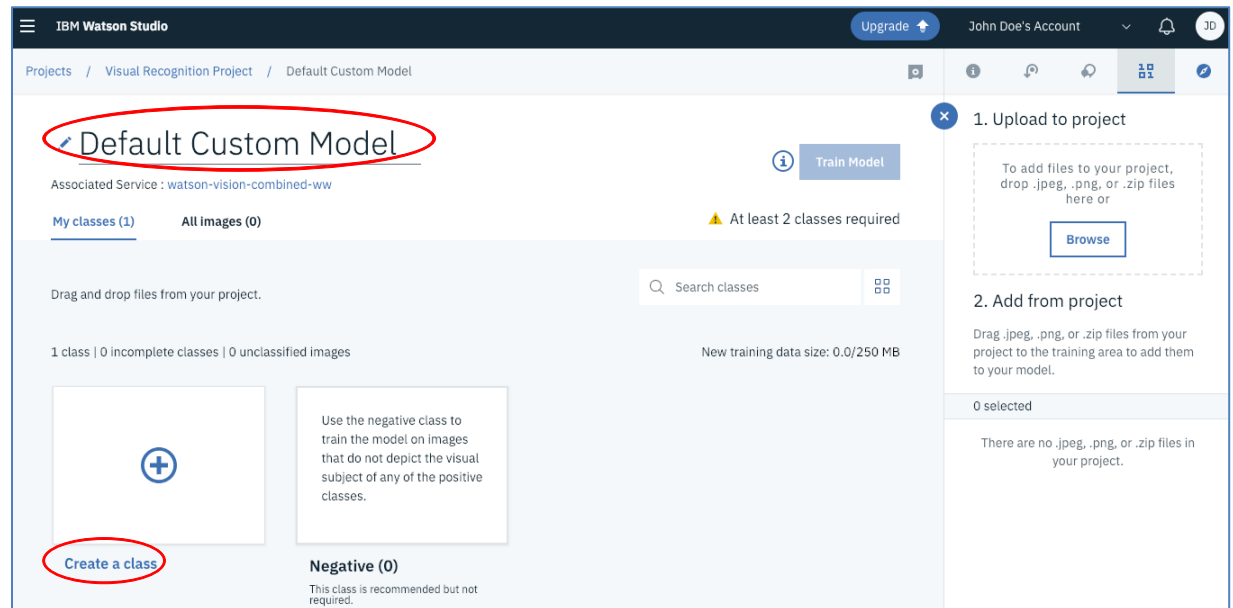
Service name
watson-vision-combined-ww

Cancel **Confirm**

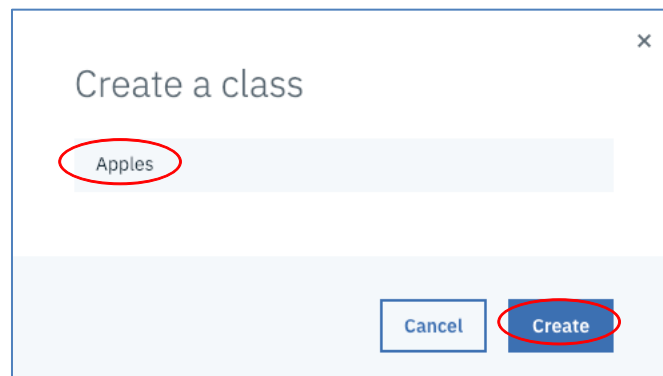
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12. You will be brought to your visual recognition service dashboard within Watson Studio.
13. Give your Visual recognition model a name and click Create a class.

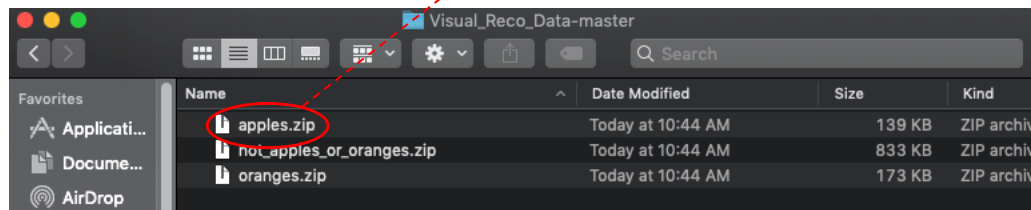
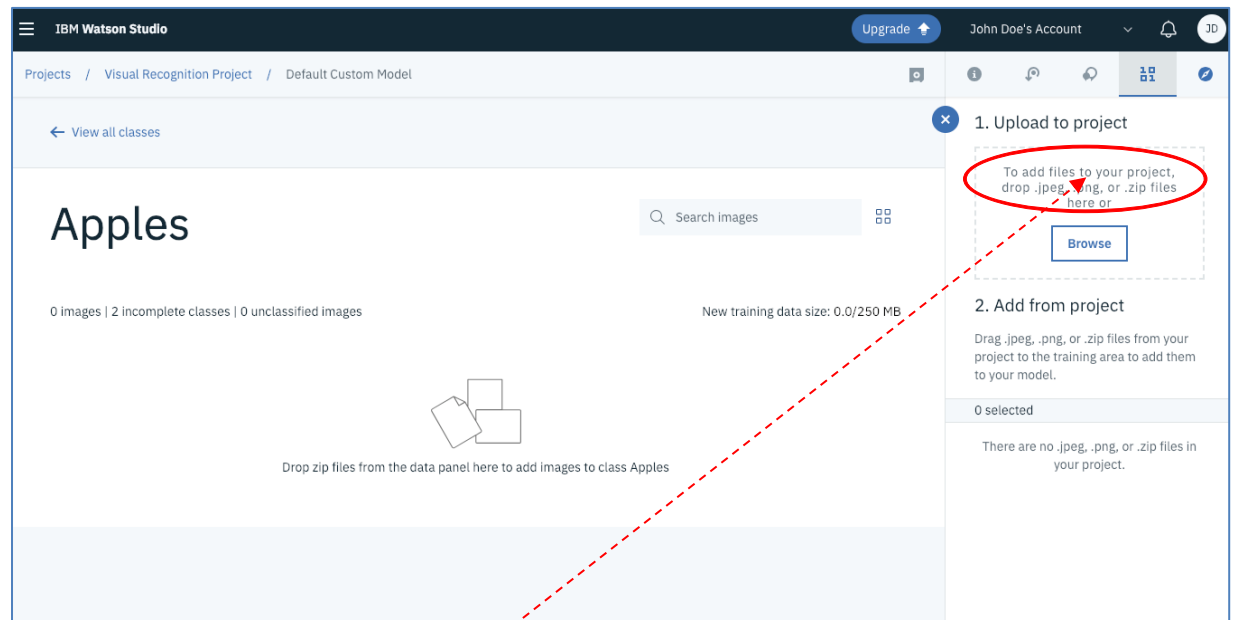


14. We are going to compare Apples and Oranges. Name the class “Apples” and click Create.

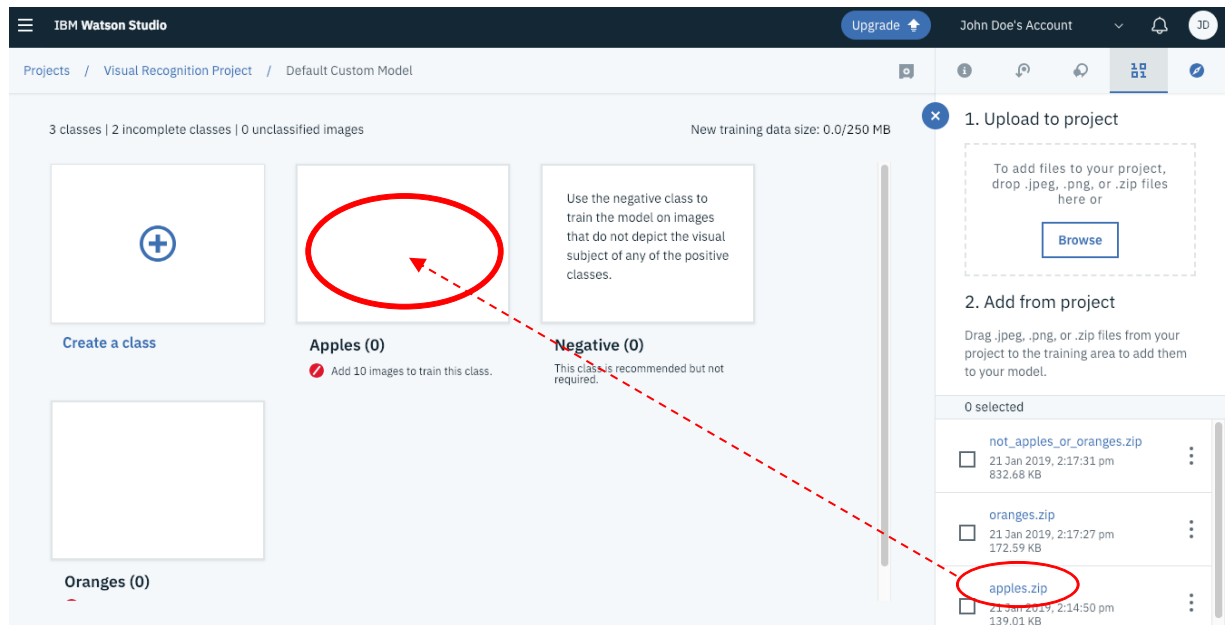


15. Create another class named “Oranges”
16. Your dashboard should now contain two classes and Negative. You may need to scroll down to see all your classes.
17. Click on Apples.

18. Drag and drop the zip file named “apples.zip” into the Upload to project box towards the top right of your page.

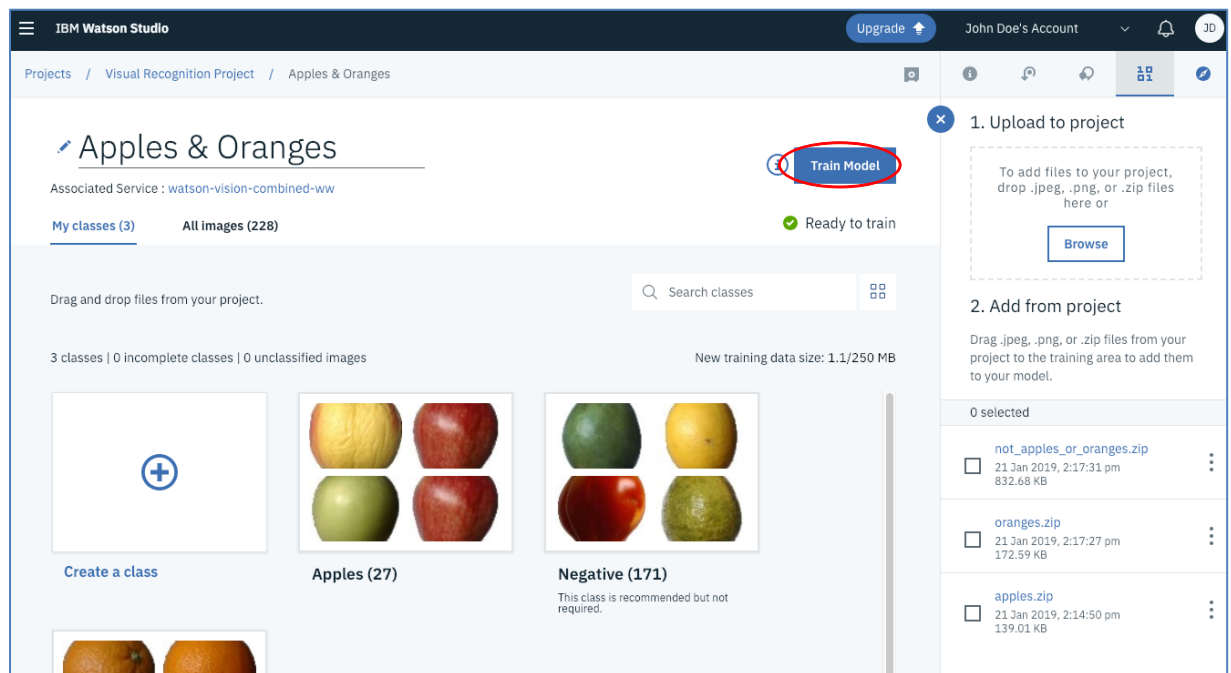


19. Repeat step 19 for “oranges.zip” and “not_apples_or_oranges.zip”
20. Click on apples.zip in the bottom right hand of your Watson Studio page and drag it to the Apples class.

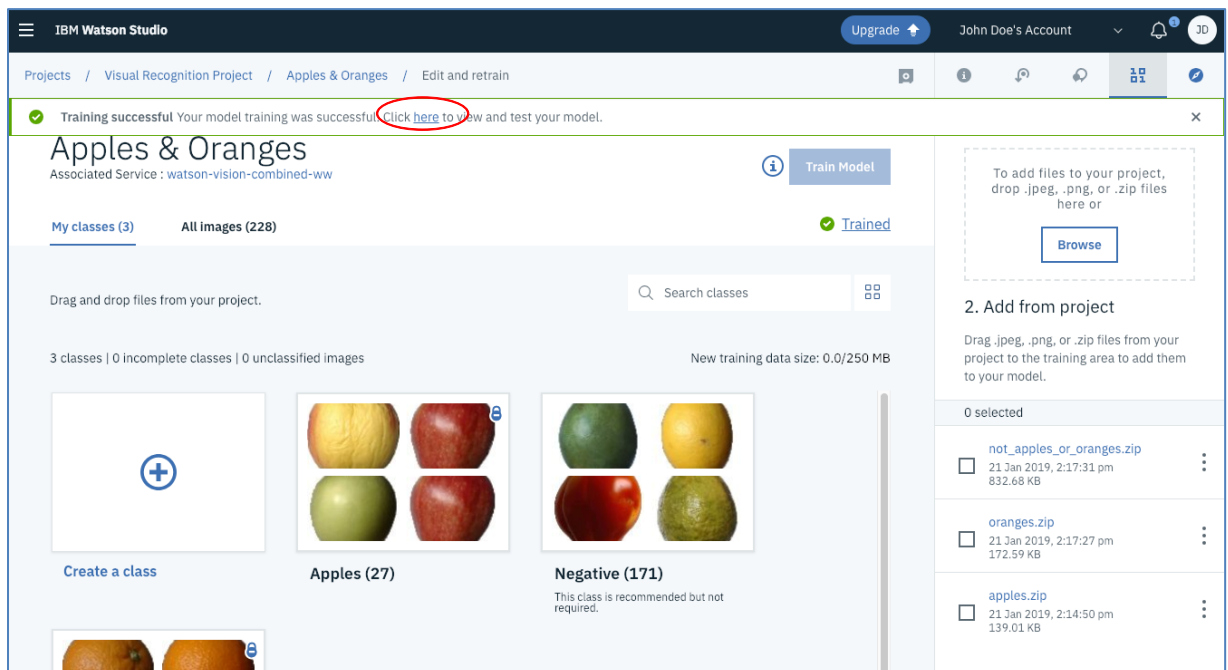


21. This will load files into the model.
22. Drag “Oranges.zip” to the Oranges class and “not_apples_or_oranges.zip” to the Negatives class. The Negatives class is meant to contrast the classes we create so the model knows when it is given a picture that is, in this case, neither an apple nor an orange.

23. Once your images have finished loading, click on Train Model. Both the loading and the training may take a few minutes. You may want to move on to Lab 8 while the model trains.



24. Once the model is finished training, click on the link that appears at the top to bring you to the test page.



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25. Click on the Test tab.

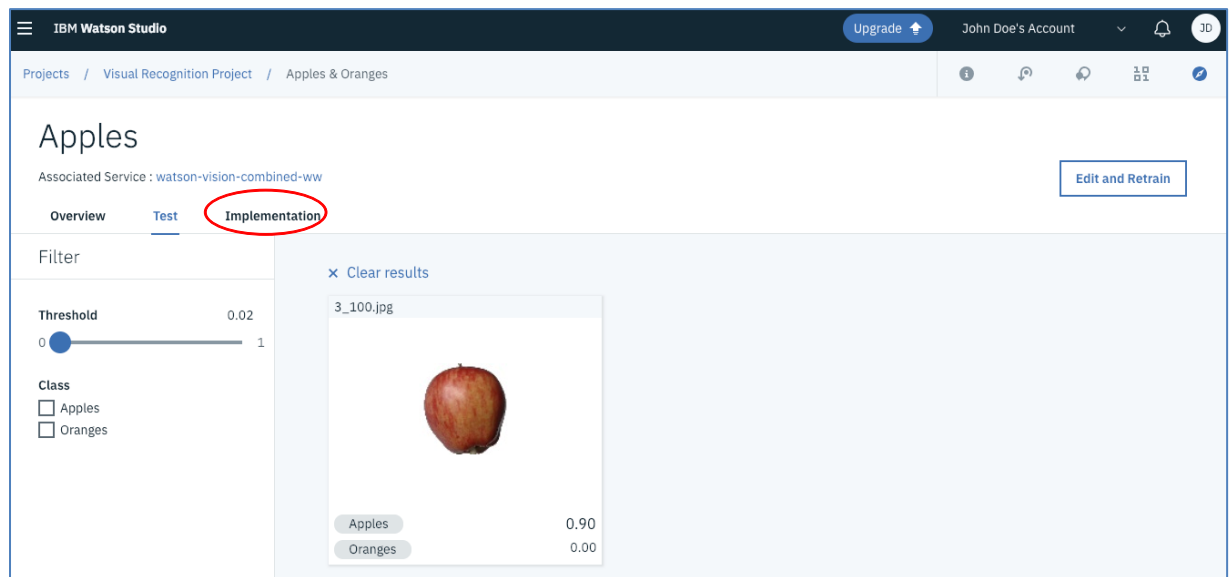
The screenshot shows the IBM Watson Studio interface for a project named 'Apples & Oranges'. The main heading is 'Apples'. Below it, the associated service is 'watson-vision-combined-ww'. There are three tabs: 'Overview', 'Test' (which is circled in red), and 'Implementation'. A button labeled 'Edit and Retrain' is in the top right. The 'Summary' section contains a table with the following data:

Summary	
Model ID	Apples_465683510
Status	Ready
Explanation	This model is ready for use.
Created on	1/21/2019, 2:27:58 PM
Number of classes	2
Number of images	228

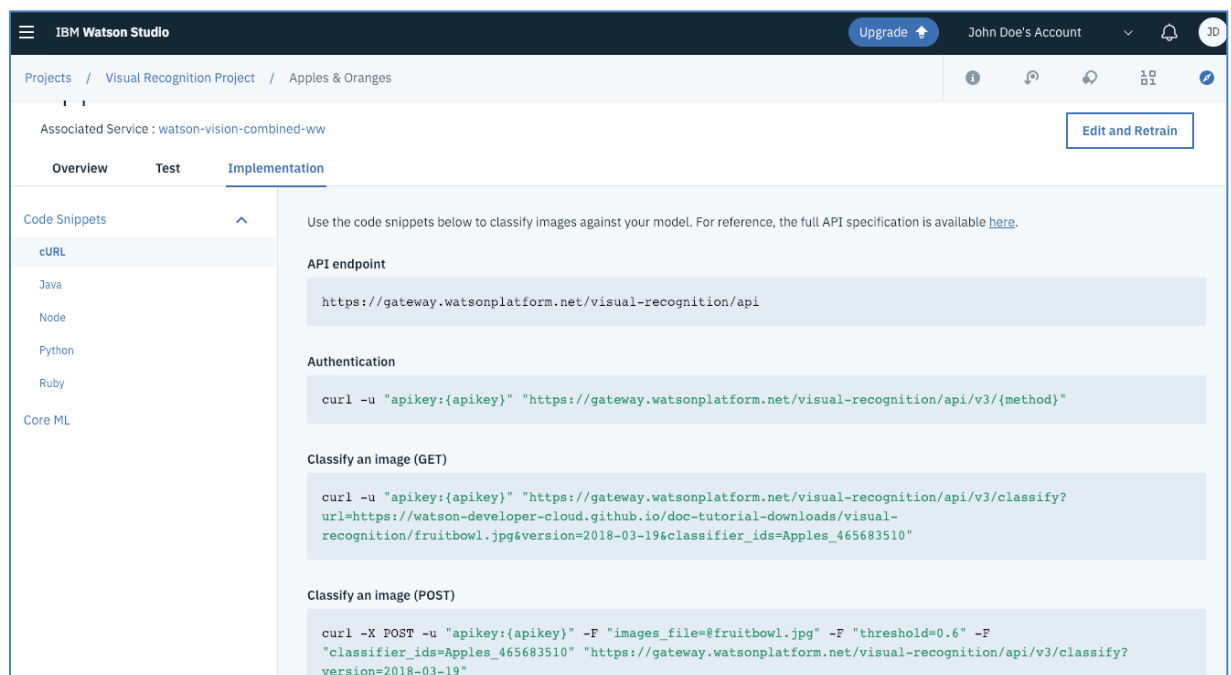
26. Click browse and select an image from the “test_images” folder you downloaded at the beginning of the lab.

The screenshot shows the same IBM Watson Studio interface, but the 'Test' tab is selected (circled in red). On the left, there is a 'Filter' section with a 'Threshold' slider set to 0.0 and a 'Class' dropdown. The main area is a large light blue box with a document icon and the text 'Drop image files here to let the classifier analyze them, or browse to select files.' The word 'browse' is circled in red.

27. Click on the Implementation tab.



28. You will be brought to a page of pre-built API calls, curl requests, and implementations in common web-oriented languages.



This model is now exposed for integration with applications within Watson Studio and with external systems. Examples of where this image classifier can now be used include any existing analytics pipelines, Jupyter Notebooks, and/or with mobile applications.

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