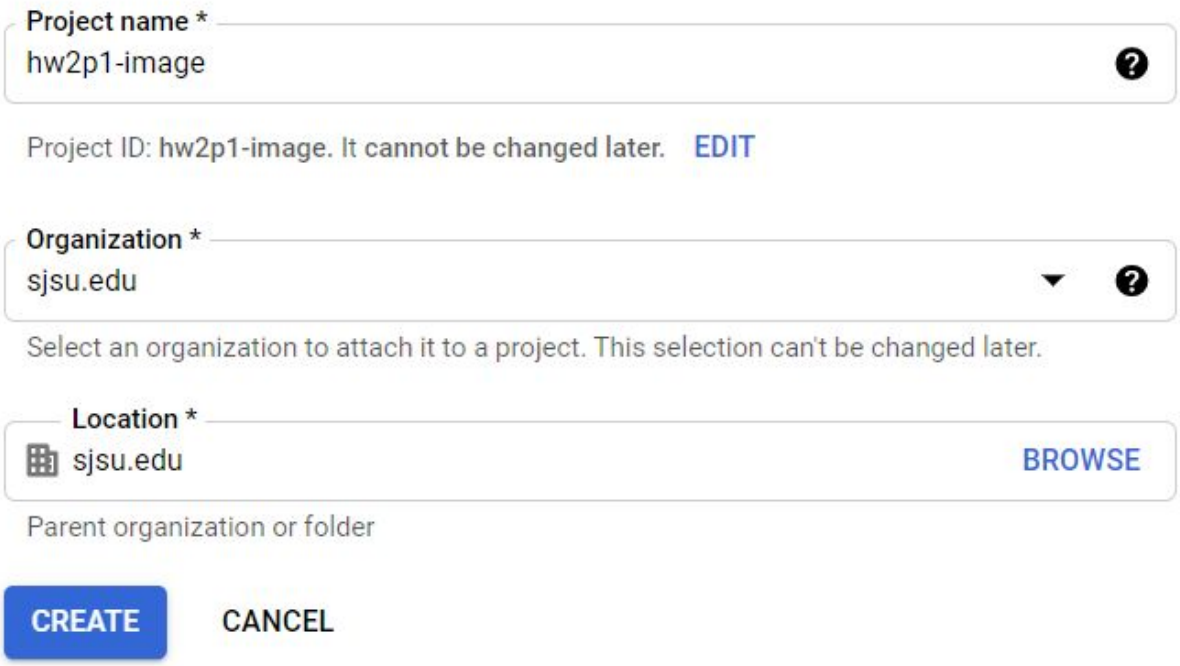
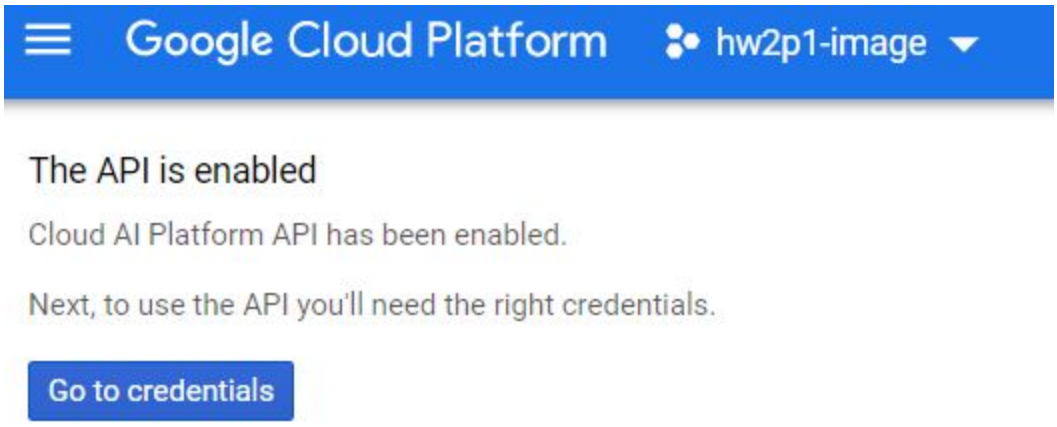
1. Image

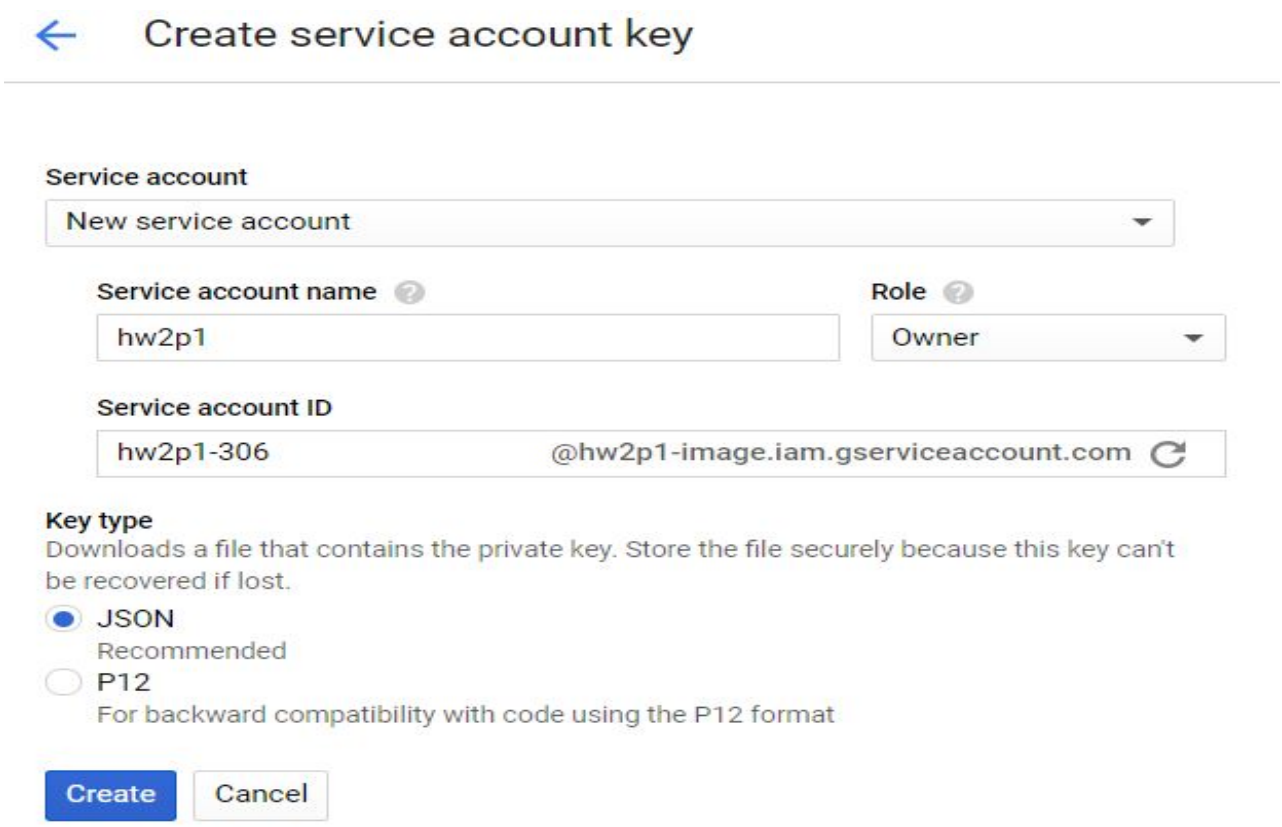
1. Project id: hw2p1-image



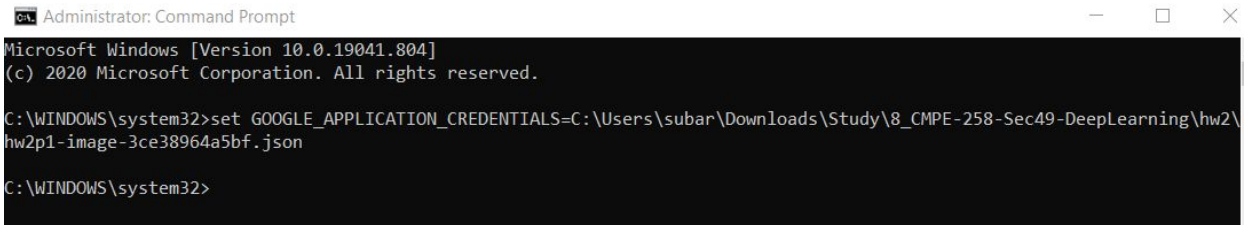
2. API is enabled



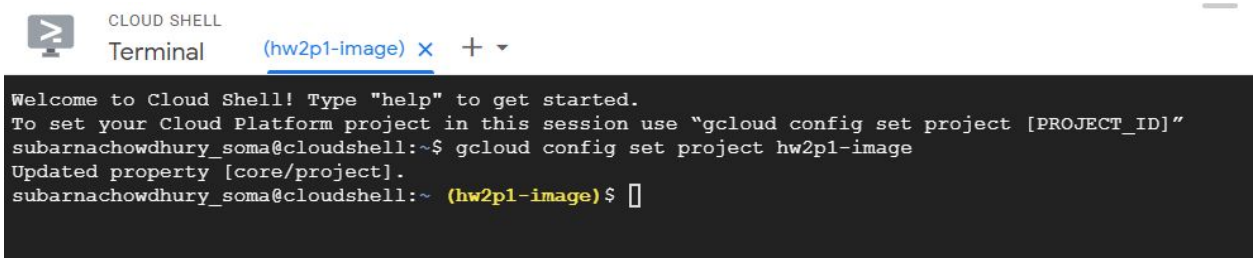
3. Authentication Setup



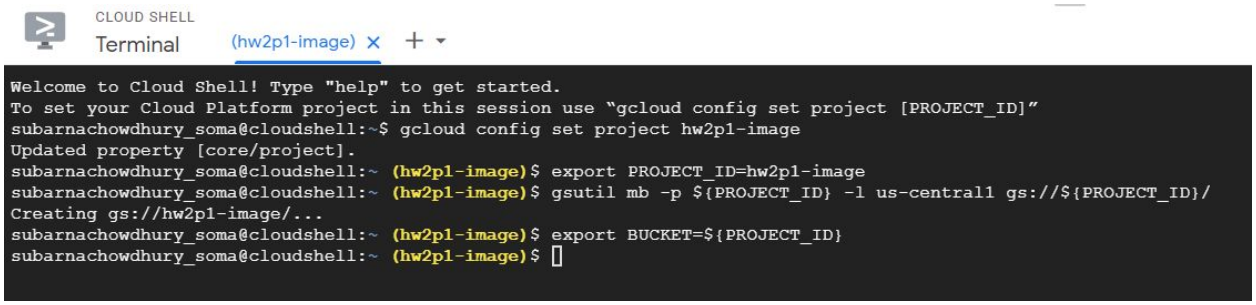
4. Set environment variable



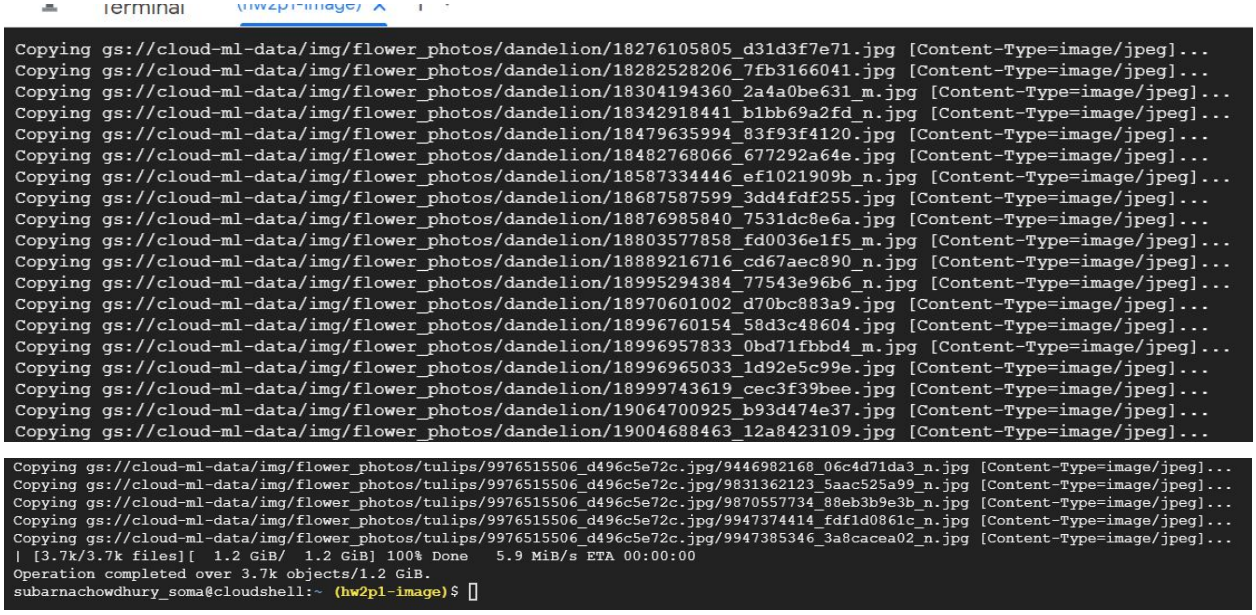
5. Cloud Console:



6. Created Google Cloud Storage Bucket

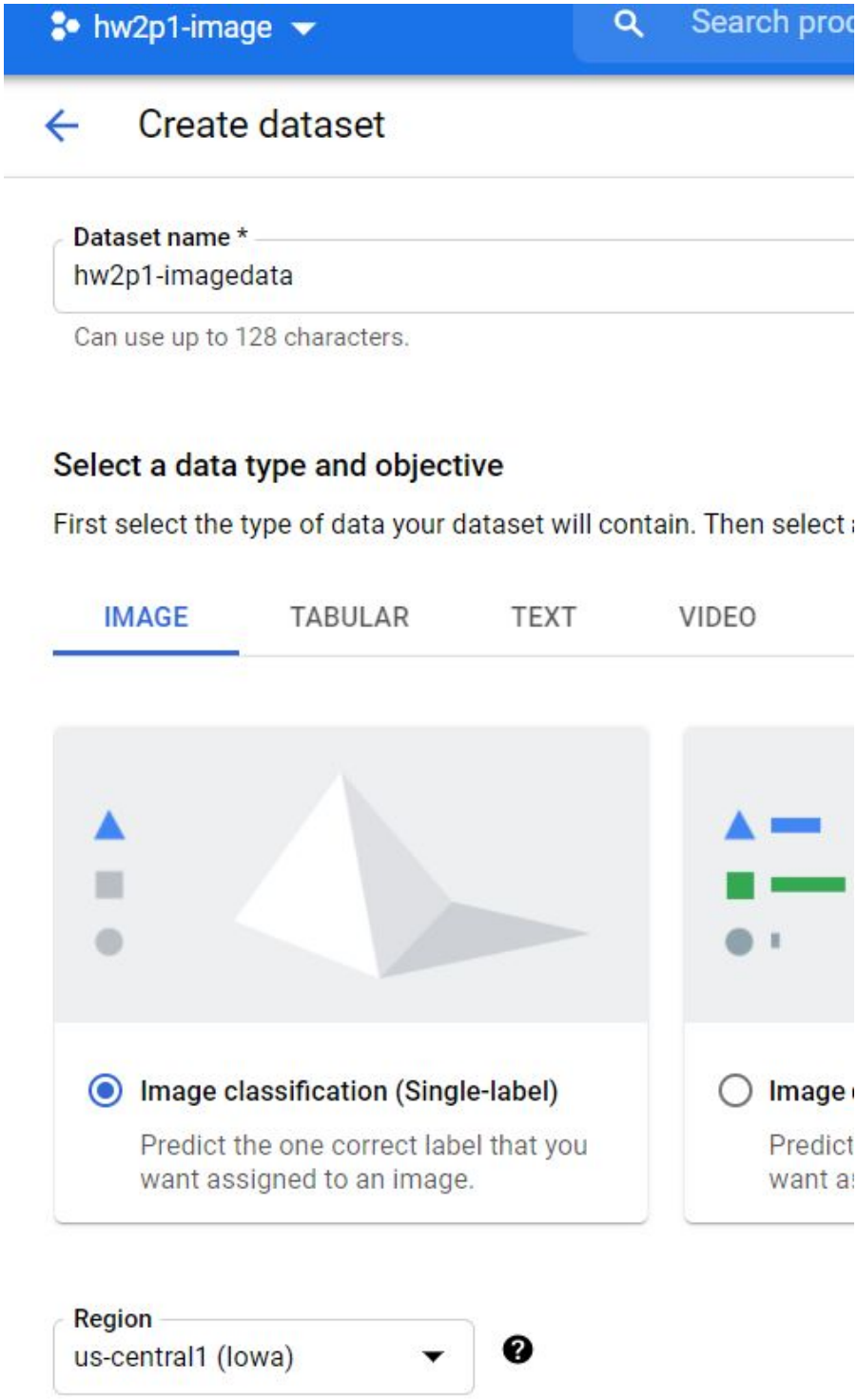


7. Copying data set to storage:

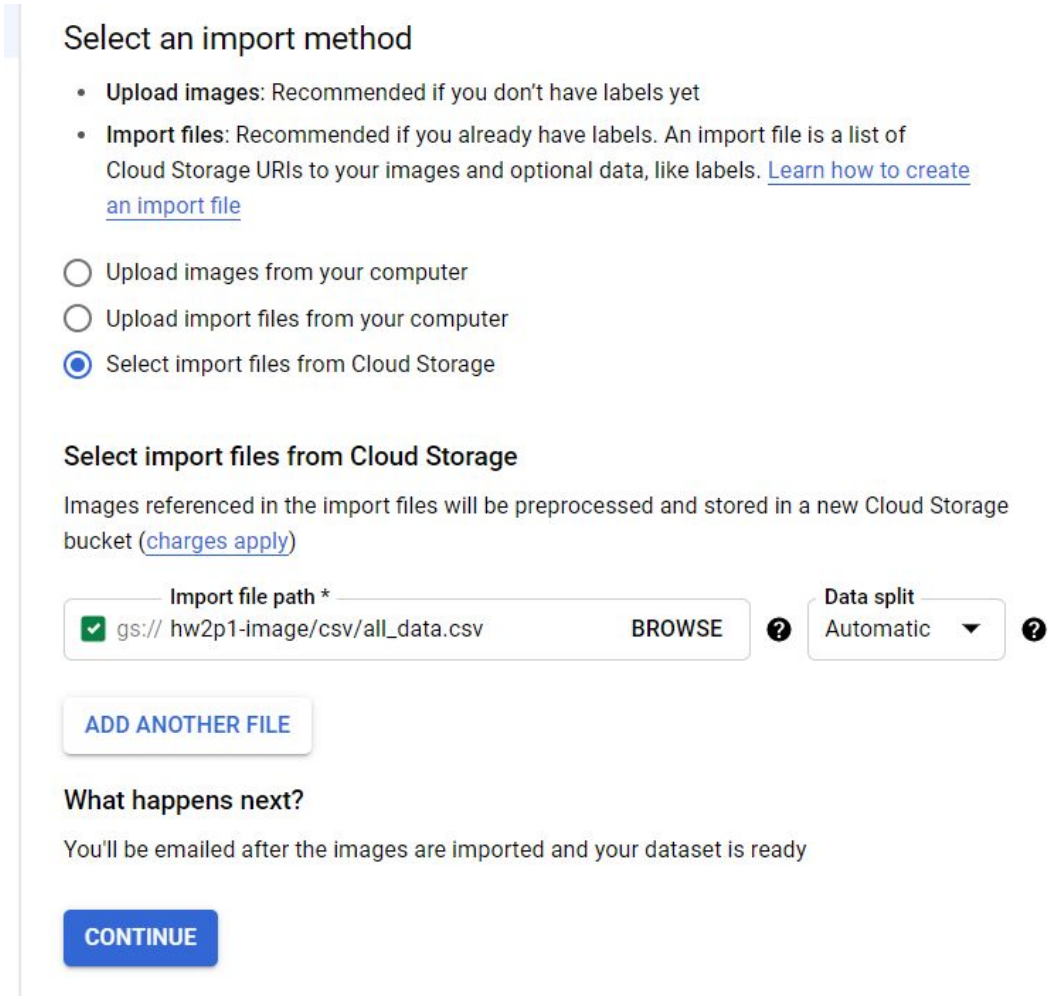


8. Created all_data.csv file with image and labels

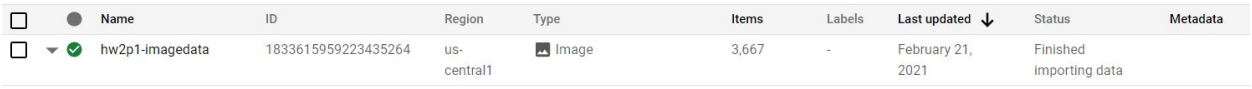
9. Create Dataset 'hw2p1-imagedata'



10. Import Data from Storage

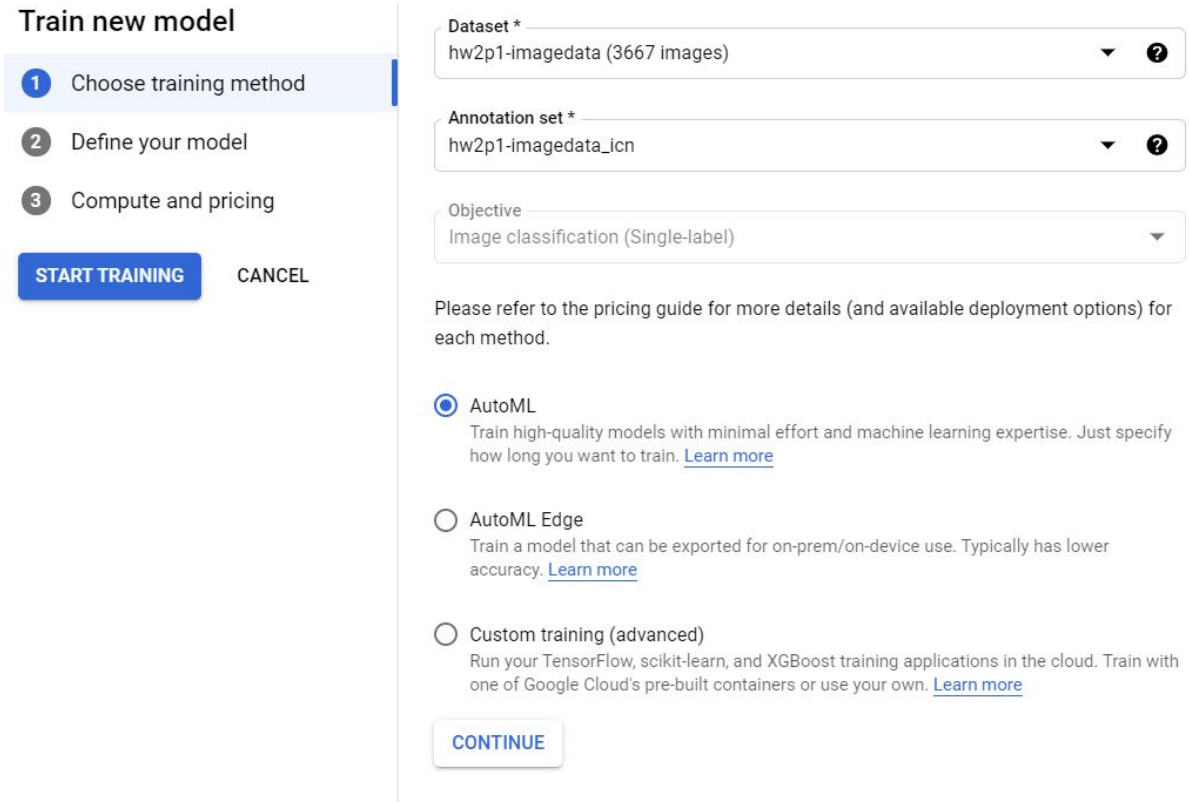


11. Finished Importing Data

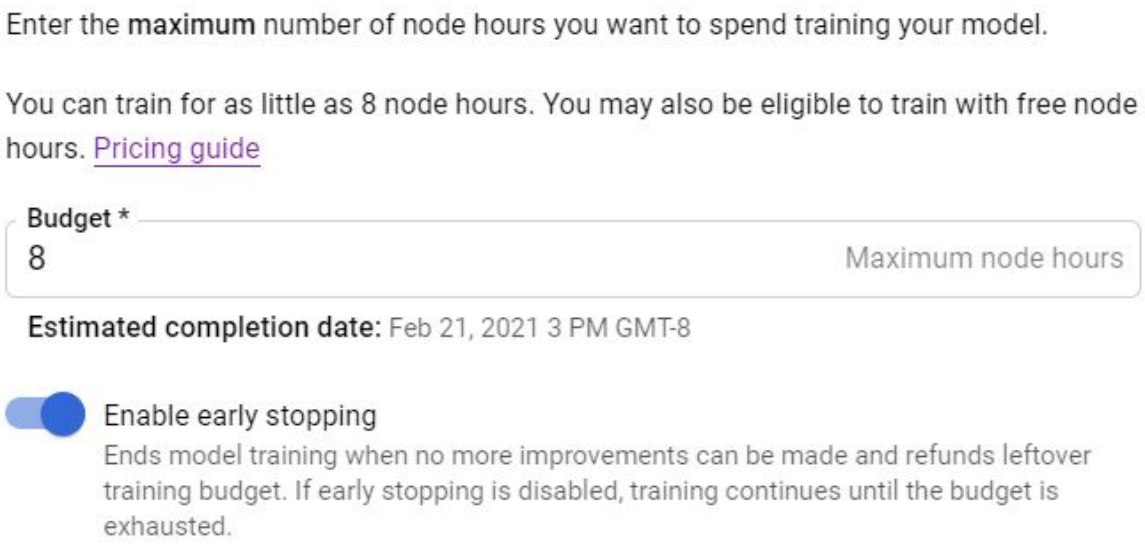


Name	ID	Region	Type	Items	Labels	Last updated	Status	Metadata
hw2p1-imagedata	1833615959223435264	us-central1	Image	3,667	-	February 21, 2021	Finished importing data	

12. Selecting Training Model:



13. Created model ‘hw2p1-imagedata_model’ and selected pricing for 8hours



14. Got Email Notification about successful training

AI Platform finished training model "hw2p1-imagedata_model" Inbox ×

AI Platform <noreply-aiplatform@google.com> 1:38 PM (7 minutes ago)
to me

Hello AI Platform Customer,

AI Platform finished training model "hw2p1-imagedata_model".
Additional Details:
Operation State: Succeeded
Resource Name:
projects/589827040428/locations/us-central1/trainingPipelines/7068241285483593728

To continue your progress, go back to your training pipeline using
https://console.cloud.google.com/ai/platform/models?_ga=2.63127535.1955457830.1613882938-601871661.1612817001&authuser=1&project=hw2p1-image&supportedpurview=project

Sincerely,
The Google Cloud AI Team

15. Trained Model

Filter models...

Name	ID	Data	Endpoints	Region	Type	Created
hw2p1-imagedata_model	6245102900465369088	hw2p1-imagedata_icn	0	us-central1	Image classification	Feb 21, 2021, 1:17:48 PM

16. Created Deployment Endpoint ‘hw2p2-hello_automl_image’

Endpoint name *
hw2p2-hello_automl_image

Model settings

Add model

Model name *
hw2p1-imagedata_model

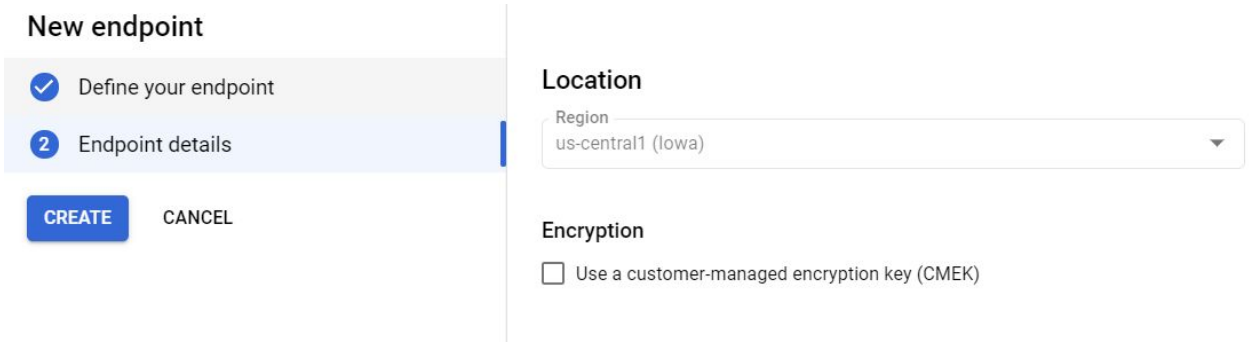
Traffic split *
100 %

AutoML image classification and object detection models require a fixed number of compute nodes per model. If you want to change your compute resources for this model in the future, you will have to create a new endpoint.
Pricing guide

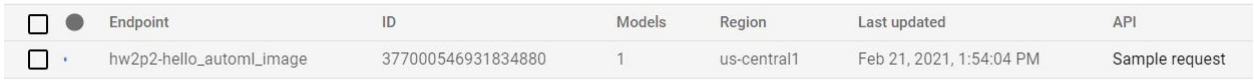
The number of nodes you specify in the input field below will always be ready, and you will be charged continuously for them. Learn more about nodes and prediction cost

Number of compute nodes *
1

The number of nodes to allocate for this endpoint.



17. Model Deployment



Endpoint	ID	Models	Region	Last updated	API
hw2p2-hello_automl_image	377000546931834880	1	us-central1	Feb 21, 2021, 1:54:04 PM	Sample request

18. Successful Deployment

AI Platform finished creating endpoint "hw2p2-hello_automl_image" Inbox ×

AI Platform <noreply-aiplatform@google.com>
to me

Hello AI Platform Customer,

AI Platform finished creating endpoint "hw2p2-hello_automl_image".
Additional Details:
Operation State: Succeeded
Resource Name:
projects/589827040428/locations/us-central1/endpoints/377000546931834880

To continue your progress, go back to your endpoint using
https://console.cloud.google.com/ai/platform/locations/us-central1/models/6245102900465369088/deploy?authuser=1&project=hw2p1-image&supportedpurvie

Sincerely,
The Google Cloud AI Team

Filter endpoints

Endpoint	ID	Models	Region	Last updated	API
hw2p2-hello_automl_image	377000546931834880	1	us-central1	Feb 21, 2021, 2:01:50 PM	Sample request

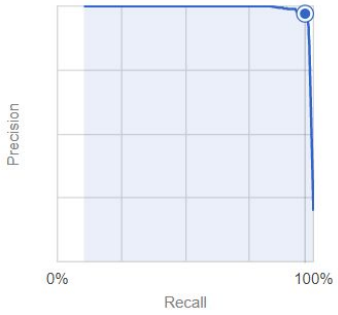
19. After Deployment

Confidence threshold 0.5

All labels

Average precision	0.994
Precision	97%
Recall	96.7%
Created	Feb 21, 2021, 1:38:30 PM
Total images	3,667
Training images	2,933
Validation images	367
Test images	367

Use the slider to see which score threshold works best for your model on the precision-recall tradeoff curve. Learn more about these metrics and graphs



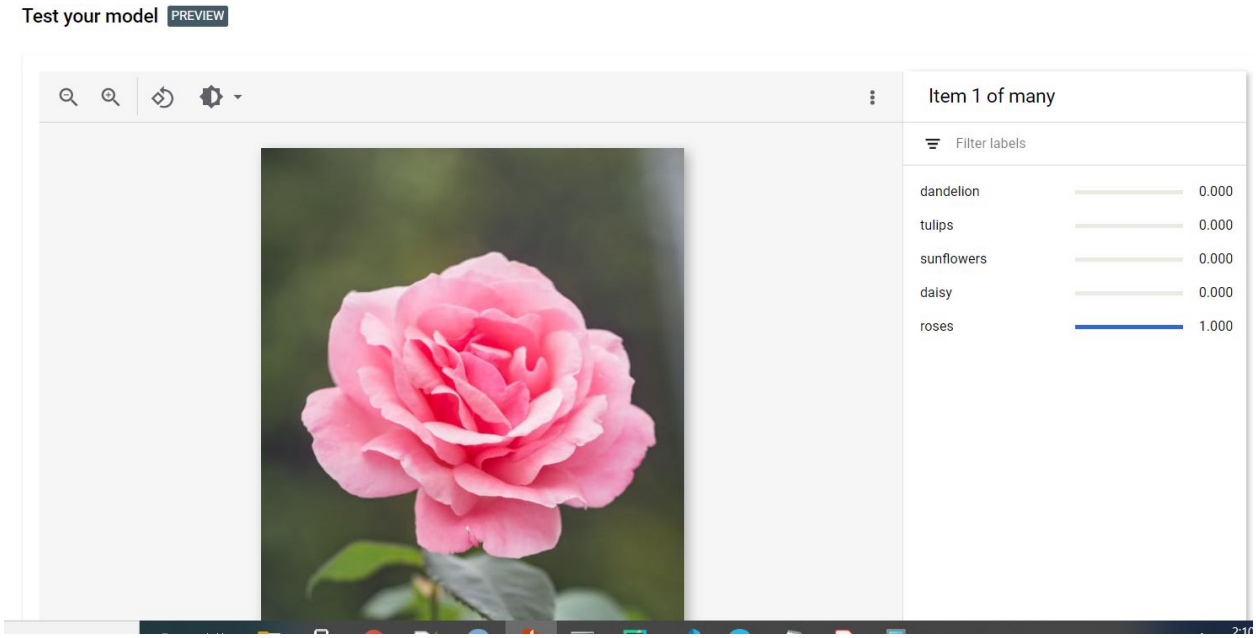
20. Confusion Matrix

Confusion matrix

This table shows how often the model classified each label correctly (in blue), and which labels were m
limited to the 10 most confused labels. You can download the entire confusion matrix as a CSV file.

True label \ Predicted label	dandelion	tulips	sunflowers	daisy	roses
dandelion	98%	—	—	2%	—
tulips	1%	93%	—	1%	5%
sunflowers	—	—	100%	—	—
daisy	2%	—	—	95%	3%
roses	—	2%	—	—	98%

21. Prediction 100% Correct



22. Removed Storage

```
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
Removing gs://hw2p1-image/img/flower_photos/tulips/9976515506_d496c5e72c.j
/ [3.7k/3.7k objects] 100% Done 205.00 objects/s ETA 00:00:00
Operation completed over 3.7k objects.
Removing gs://hw2p1-image/...
subarnachowdhury_soma@cloudshell:~ (hw2p1-image)$
```