

## Hello Custom Training: Project Dashboard:

The screenshot shows the Google Cloud Platform Project Dashboard. On the left, there's a sidebar with links for Marketplace, Billing, APIs & Services, Support, IAM & Admin, Getting started, Release Notes, Security, Compliance, and Anthos. Under COMPUTE, there are links for App Engine, Compute Engine, Kubernetes Engine, Cloud Functions, Cloud Run, and VMware Engine. The main dashboard has several sections: Project info (Project name: custom-predictions, Project ID: custom-predictions, Project number: 426755469584), API APIs (Requests (requests/sec) chart from 11:30 to 12:15), Google Cloud Platform status (All services normal), Billing (Estimated charges USD \$0.00 for the period Mar 1 – 10, 2021), Monitoring (Set up alerting policies, Create uptime checks, View all dashboards, Go to Monitoring), and Error Reporting (No sign of any errors). At the bottom, there's a toolbar with icons for different Google services and a status bar showing the date and time.

## Model:

The screenshot shows the Google Cloud Platform AI Platform (Unified) interface. The left sidebar includes options for Dashboard, Datasets, Labeling tasks, Notebooks, Training, Models (which is selected), Endpoints, and Batch predictions. The main area displays a table for the 'hello\_custom' model, showing details like Name (hello\_custom), ID (867470693850152960), Models (1), Region (us-central1), Last updated (Mar 10, 2021, 12:39:43 PM), API (Sample request), Notification, Metadata, and Encryption (Google-managed key). Below the table, there's a 'Test your model' section with a 'PREVIEW' button, a JSON request input field containing `{"instances": [ {"sample\_key": "sample\_value"} ]}`, and a 'PREDICT' button. At the bottom, there's a Cloud Shell terminal window showing '(custom-predictions)'.

## Endpoint:

San Jose State... Request data for... Bhuvana Basapu... Hello Custom Tr... Untitled docume... DeepLearning/A... Endpoints ~ AI Pl... Logs Explorer ~... python 3.x - (gcl... Clas s Diagram ~... csis.pace.edu/~... hello\_custom ~ A... +

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AI Platform (Unified) Endpoints PREVIEW CREATE ENDPOINT REFRESH

Dashboard Datasets Labeling tasks Notebooks Training Models Endpoints Batch predictions

Endpoints are machine learning models made available for online prediction requests. Endpoints are useful for timely predictions from many users (for example, in response to an application request). You can also request batch predictions if you don't need immediate results.

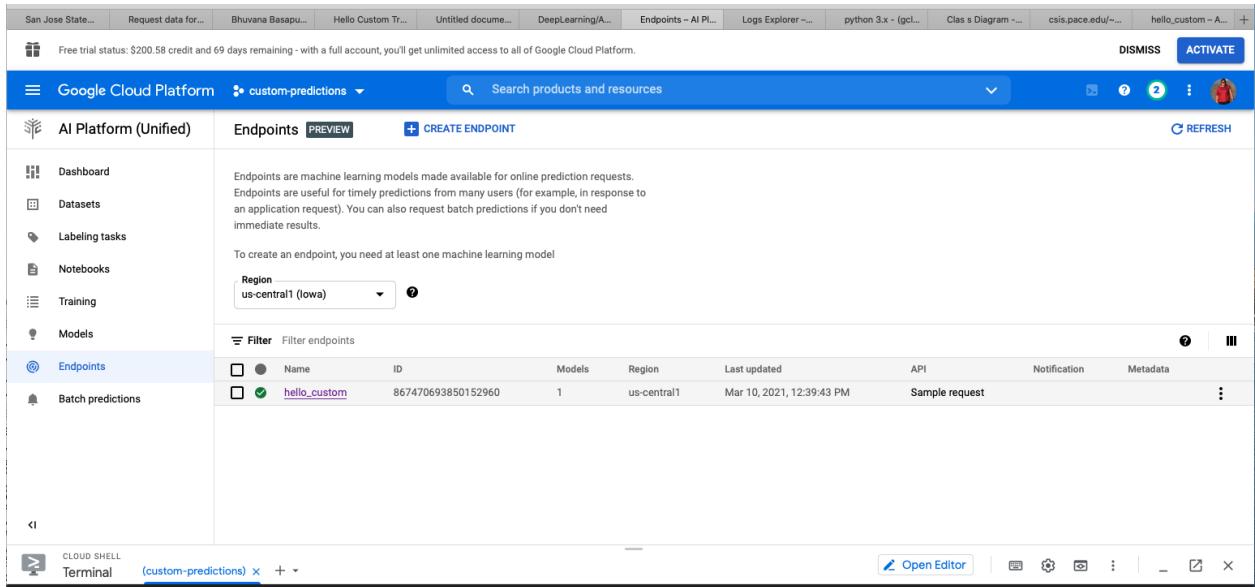
To create an endpoint, you need at least one machine learning model.

Region us-central1 (Iowa)

Filter endpoints

Name	ID	Models	Region	Last updated	API	Notification	Metadata
hello_custom	867470693850152960	1	us-central1	Mar 10, 2021, 12:39:43 PM	Sample request		

CLOUD SHELL Terminal (custom-predictions) Open Editor



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AI Platform (Unified) hello\_custom-custom-job

COLLAPSE ALL EXPAND ALL

CPU utilization

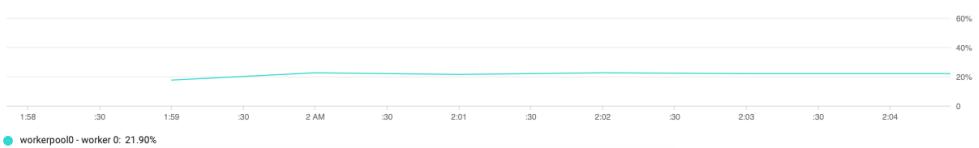
Percent



workerpool0 - worker 0: 53.42%

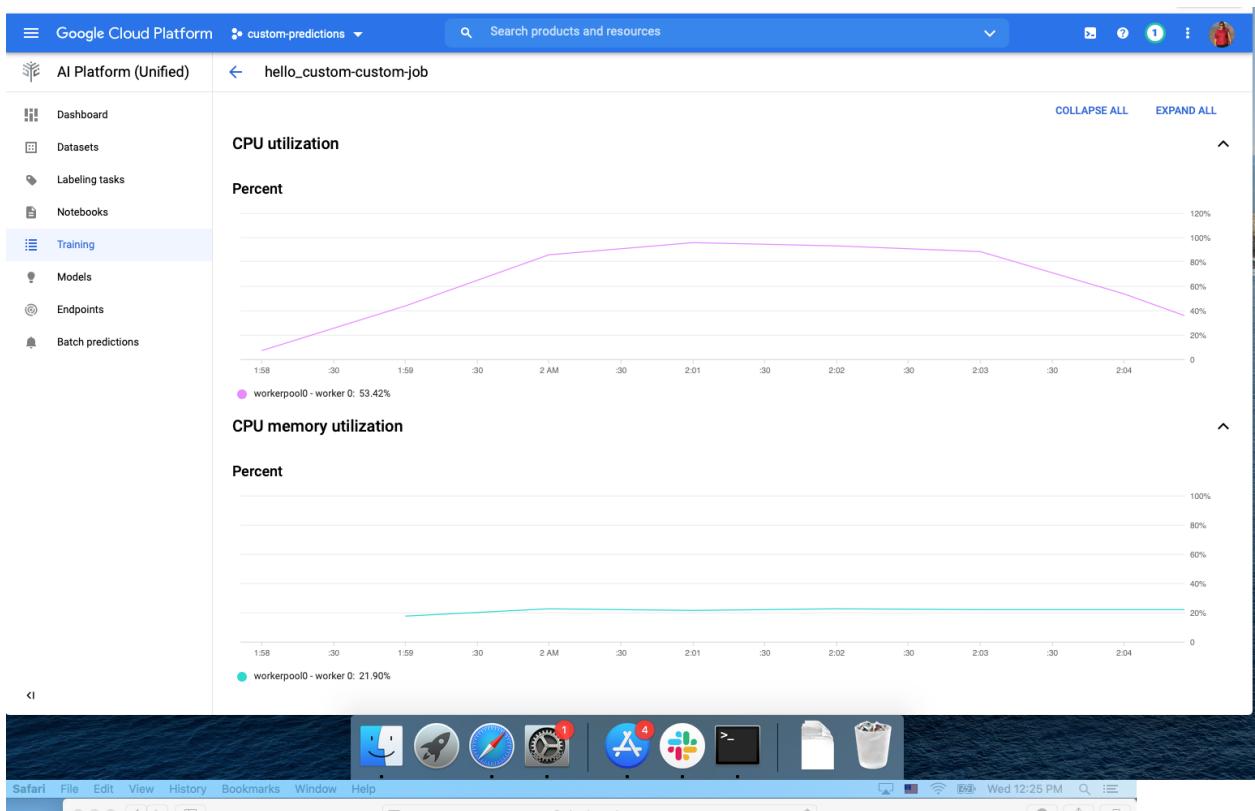
CPU memory utilization

Percent



workerpool0 - worker 0: 21.90%

Safari File Edit View History Bookmarks Window Help



## Model:

The screenshot shows the Google Cloud Platform AI Platform (Unified) interface. The left sidebar is titled "AI Platform (Unified)" and includes options like Dashboard, Datasets, Labeling tasks, Notebooks, Training, Models (which is selected), Endpoints, and Batch predictions. The main content area is titled "hello\_custom" and has tabs for "DEPLOY & TEST" (selected), "BATCH PREDICTIONS", and "MODEL PROPERTIES". Under "DEPLOY & TEST", there's a section titled "Deploy your model" with a note about endpoints and a "DEPLOY TO ENDPOINT" button. Below it is a table with columns: Name, ID, Models, Region, Last updated, API, Notification, Metadata, and Encryption. A message states "No active endpoints containing this model". Under "Test your model", there are two bullet points: "In order to test your model, you will need to deploy it first. [Pricing guide](#)" and "Your model must be successfully deployed to an endpoint before you can test it." At the bottom, the browser toolbar shows "Safari" and other Mac OS X icons.

## Deploying cloud function:

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AI Platform (Unified) Endpoints PREVIEW + CREATE ENDPOINT

Dashboard Datasets

CLOUD SHELL Terminal (custom-predictions) Open Editor

```
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ ENDPOINT_ID="867470693850152960"
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ PROJECT_ID="426755469584"
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ INPUT_DATA_FILE="INPUT-JSON"
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ gcloud functions deploy classify_flower \
--region us-central1 \
--source=funciton \
--runtime=python37 \
--memory=2048M \
--trigger-http \
--allow-unauthenticated \
--entry-point=classify_flower --update-type=HTTP --update-id=$ENDPOINT_ID
Deploying function (may take a while - up to 2 minutes)...#
For Cloud Build StackDriver Logs, visit: https://console.cloud.google.com/logs/viewer?project=custom-predictions&advancedFilter=resource.type%3Dbuild%0Aresource.labels.build_id%3D$ENDPOINT_ID
Deploying function (may take a while - up to 2 minutes)...done.
availableMemoryMb: 2048
buildId: 697db037-e040-470f-914a-947f326f4b2
entryPoint: classify_flower
environmentVariables:
ENDPOINT_ID: "867470693850152960"
httpsTrigger:
  securityLevel: SECURE_OPTIONAL
  url: https://us-central1-custom-predictions.cloudfunctions.net/classify_flower
ingressSettings: ALLOW_ALL
labels:
  deployment-tool: cli-gcloud
name: projects/custom-predictions/locations/us-central1/functions/classify_flower
runtime: python37
serviceAccountEmail: custom-predictions@appspot.gserviceaccount.com
sourceUploadUrl: https://storage.googleapis.com/gcf-upload-us-central1-529dc4cc-9afe-4b28-a821-f5896c50968d/a72d2a3a-144a-454b-8415-146e761d09af.zip?GoogleAccessId=service-426755469584@gcf-admin-
robot.iam.gserviceaccount.com&Expires=1615419294&Signature=cpmj3bBo4vnJ6jt4prMu4HTxJ0KXNLeFyerst2BaQeeT0kcjyQVEnrnxGpB4j0z2PfXJHPOYmg7PN%2B%2B11MsLRxpQfg4ebLhR04bwCNjM
Y59mnlkxrSClR3o89WkytowYZylal9sGycyCAQWvftlGEyYAS1H%2BgpIJy2htGRM%2F2FycyknDifwvo4ntIYN1lQebsYSKuCoOsFRWv81lGbQComb52aaDpvA2Z8N5IpNmum8VwDxS0wF4I27ckFz2sOPhdwOBz%2BYN7p5wjShAFERzcH0wrdG3Kdpfupi0T
Y59mnlkxrSClR3o89WkytowYZylal9sGycyCAQWvftlGEyYAS1H%2BgpIJy2htGRM%2F2FycyknDifwvo4ntIYN1lQebsYSKuCoOsFRWv81lGbQComb52aaDpvA2Z8N5IpNmum8VwDxS0wF4I27ckFz2sOPhdwOBz%2BYN7p5wjShAFERzcH0wrdG3Kdpfupi0T
timeout: 60s
updateTime: '2021-03-10T23:06:45.202Z'
versionId: '5'
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$
```

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Cloud Storage Bucket details

CLOUD SHELL Terminal (custom-predictions) Open Editor

```
environmentVariables:
ENDPOINT_ID: "867470693850152960"
httpsTrigger:
  securityLevel: SECURE_OPTIONAL
  url: https://us-central1-custom-predictions.cloudfunctions.net/classify_flower
ingressSettings: ALLOW_ALL
labels:
  deployment-tool: cli-gcloud
name: projects/custom-predictions/locations/us-central1/functions/classify_flower
runtime: python37
serviceAccountEmail: custom-predictions@appspot.gserviceaccount.com
sourceUploadUrl: https://storage.googleapis.com/gcf-upload-us-central1-529dc4cc-9afe-4b28-a821-f5896c50968d/a72d2a3a-144a-454b-8415-146e761d09af.zip?GoogleAccessId=service-426755469584@gcf-admin-
robot.iam.gserviceaccount.com&Expires=1615419294&Signature=cpmj3bBo4vnJ6jt4prMu4HTxJ0KXNLeFyerst2BaQeeT0kcjyQVEnrnxGpB4j0z2PfXJHPOYmg7PN%2B%2B11MsLRxpQfg4ebLhR04bwCNjM
Difwvo4ntIYN1lQebsYSKuCoOsFRWv81lGbQComb52aaDpvA2Z8N5IpNmum8VwDxS0wF4I27ckFz2sOPhdwOBz%2BYN7p5wjShAFERzcH0wrdG3Kdpfupi0T
Y59mnlkxrSClR3o89WkytowYZylal9sGycyCAQWvftlGEyYAS1H%2BgpIJy2htGRM%2F2FycyknDifwvo4ntIYN1lQebsYSKuCoOsFRWv81lGbQComb52aaDpvA2Z8N5IpNmum8VwDxS0wF4I27ckFz2sOPhdwOBz%2BYN7p5wjShAFERzcH0wrdG3Kdpfupi0T
status: ACTIVE
timeout: 60s
updateTime: '2021-03-10T23:06:45.202Z'
versionId: '5'
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ PROJECT_ID=custom-predictions
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ BUCKET_NAME=bhuv-custom-image-pred
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ gsutil -m cp -r webapp gs://${BUCKET_NAME}/
Copying file://webapp/index.html [Content-Type=text/html]...
Copying file://webapp/function-url.js [Content-Type=application/javascript]...
Copying file://webapp/index.css [Content-Type=text/css]...
Copying file://webapp/.index.html [Content-Type=text/html]...
Copying file://webapp/main.js [Content-Type=application/javascript]...
Copying file://webapp/image-list.txt [Content-Type=text/plain]...
/ [6/6 files] [133.4 KiB/133.4 KiB] 100% Done
Operation completed over 6 objects/133.4 KiB.
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ gsutil -m acl ch -u AllUsers:R gs://${BUCKET_NAME}/webapp/**
Updated ACL on gs://${BUCKET_NAME}/webapp/.index.html
Updated ACL on gs://${BUCKET_NAME}/webapp/function-url.js
Updated ACL on gs://${BUCKET_NAME}/webapp/index.css
Updated ACL on gs://${BUCKET_NAME}/webapp/image-list.txt
Updated ACL on gs://${BUCKET_NAME}/webapp/index.html
Updated ACL on gs://${BUCKET_NAME}/webapp/main.js
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$ gsutil -m acl ch -u AllUsers:R gs://${BUCKET_NAME}/webapp/**
No changes to gs://${BUCKET_NAME}/webapp/.index.html
No changes to gs://${BUCKET_NAME}/webapp/function-url.js
No changes to gs://${BUCKET_NAME}/webapp/index.css
No changes to gs://${BUCKET_NAME}/webapp/image-list.txt
No changes to gs://${BUCKET_NAME}/webapp/main.js
No changes to gs://${BUCKET_NAME}/webapp/index.html
No changes to gs://${BUCKET_NAME}/webapp/index.css
bhuvanagopalakrishna_basapur@cloudshell:~/hello-custom-sample (custom-predictions)$
```

## WEb app:

storage.googleapis.com

Click on any of the following images to request a prediction from your image classification model.

GET SIX NEW IMAGES



roses



roses



roses



tulips



daisy



daisy



dandelion



tulips



roses



sunflowers



dandelion



dandelion