

[Cloud Vision API Product Search](#)

Creating your reference images & indexing

Reference images are images containing various views of your products. The following recommendations apply:

- Make sure the size of the file doesn't exceed the maximum size (20MB).
- Consider viewpoints that logically highlight the product and contain relevant visual information.
- Create reference images that supplement any missing viewpoints. For example, if you only have images of the right shoe in a pair, provide mirrored versions of those files as the left shoe.
- Upload the highest resolution image available.
- Show the product against a white background.
- Convert PNGs with transparent backgrounds to a solid background.

Images must be stored in a [Google Cloud Storage](https://cloud.google.com/storage/) (<https://cloud.google.com/storage/>) bucket. If you're authenticating your image create call with an API key, the bucket must be public. If you're authenticating with a service account, that service account must have read access on the bucket.

Creating a single reference image

You can add a reference image to an existing product. This then allows you to search for the product by the image.

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Before using any of the request data below, make the following replacements:

- ***project-id***: Your GCP project ID.
- ***location-id***: A valid location identifier. Valid location identifiers are: `us-west1`, `us-east1`, `eu-west1`, and `asia-east1`.
- ***product-id***: The ID for the product that is associated with a reference image. This ID is either randomly set or specified by the user at product creation time.

- **cloud-storage-image-uri**: the path to a valid image file in a Cloud Storage bucket. You must at least have read privileges to the file. Example:

- `gs://storage-bucket/filename.jpg`

★ **Note:** The **boundingPolys** field is optional. If you don't specify a bounding box, Cloud Vision API will try to infer regions of interest in the image that are compatible with the **productCategory** on the parent product.

HTTP method and URL:

POST `https://vision.googleapis.com/v1/projects/project-id/locations/location-id/pr`

Request JSON body:

```
{
  "uri": "cloud-storage-image-uri",
  "boundingPolys": [
    {
      "vertices": [
        {
          "x": X_MIN,
          "y": Y_MIN
        },
        {
          "x": X_MAX,
          "y": Y_MIN
        },
        {
          "x": X_MAX,
          "y": Y_MAX
        },
        {
          "x": X_MIN,
          "y": Y_MAX
        }
      ]
    }
  ]
}
```

To send your request, choose one of these options:

CURL

POWERSHELL

Note: If you are not executing the command below from [Cloud Shell](https://cloud.google.com/shell/docs) (<https://cloud.google.com/shell/docs>) or [Compute Engine](https://cloud.google.com/compute/docs) (<https://cloud.google.com/compute/docs>), ensure you have set the [GOOGLE_APPLICATION_CREDENTIALS](https://cloud.google.com/docs/authentication/production) (<https://cloud.google.com/docs/authentication/production>) environment variable to your service account private key file path.

Save the request body in a file called `request.json`, and execute the following command:

```
curl -X POST \  
-H "Authorization: Bearer "$(gcloud auth application-default print-access-token) \  
-H "Content-Type: application/json; charset=utf-8" \  
-d @request.json \  
https://vision.googleapis.com/v1/projects/project-id/locations/location-id/produ
```

If the request is successful, the server returns a `200 OK` HTTP status code and the response in JSON format.

You should see output similar to the following. The example request specified a single `boundingPoly` in the image. The vertices for the bounding box are *not* normalized; the vertex values are the actual pixel values, and *not* relative to the original image and scaled from 0 to 1. These vertices have the following values: [(33,22),(282,22),(282,278),(33,278)].

```
{  
  "name": "projects/project-id/locations/location-id/products/product-id/reference",  
  "uri": "gs://storage-bucket/filename.jpg",  
  "boundingPolys": [  
    {  
      "vertices": [  
        {  
          "x": 33,  
          "y": 22  
        },  
        {  
          "x": 282,  
          "y": 22  
        },  
        {  
          "x": 282,  
          "y": 278  
        }  
      ]  
    }  
  ]  
}
```

```
    },  
    {  
      "x": 33,  
      "y": 278  
    }  
  ]  
}  
]  
}
```

Creating multiple reference images with bulk import

You can also create reference images at the same time you create a product set and multiple products.

Create reference images in bulk by passing the Google Cloud Storage location of a CSV file to the **import**

(<https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.productSets/import>)

method. Thus, the CSV file *and* the images it points to must both be in a Google Cloud Storage bucket.

If you're authenticating your bulk import call with an **API key**, this CSV source file must be public.

If you're authenticating with a **service account**, that service account must have read access on the CSV source file.

CSV format

```
image-uri, [image-id], product-set-id, product-id, product-category, [product-display-name]
```

See the [CSV format](https://cloud.google.com/vision/product-search/docs/csv-format) (<https://cloud.google.com/vision/product-search/docs/csv-format>) how-to topic for more detailed information about formatting your CSV.

Bulk creation request

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Before using any of the request data below, make the following replacements:

- **project-id**: Your GCP project ID.
- **location-id**: A valid location identifier. Valid location identifiers are: `us-west1`, `us-east1`, `eu-west1`, and `asia-east1`.
- **storage-path**: A Cloud Storage bucket/directory where your input CSV file is stored. The requesting user must have at least read permission to the bucket.

HTTP method and URL:

POST `https://vision.googleapis.com/v1/projects/project-id/locations/location-id/pr`

Request JSON body:

```
{
  "inputConfig": {
    "gcsSource": {
      "csvFileUri": "storage-path"
    }
  }
}
```

To send your request, choose one of these options:

CURL

POWERSHELL

Note: If you are not executing the command below from [Cloud Shell](https://cloud.google.com/shell/docs) (<https://cloud.google.com/shell/docs>) or [Compute Engine](https://cloud.google.com/compute/docs) (<https://cloud.google.com/compute/docs>), ensure you have set the [GOOGLE_APPLICATION_CREDENTIALS](https://cloud.google.com/docs/authentication/production) (<https://cloud.google.com/docs/authentication/production>) environment variable to your service account private key file path.

Save the request body in a file called `request.json`, and execute the following command:

```
curl -X POST \
-H "Authorization: Bearer "$(gcloud auth application-default print-access-token)
-H "Content-Type: application/json; charset=utf-8" \
-d @request.json \
https://vision.googleapis.com/v1/projects/project-id/locations/location-id/produ
```

You should see output similar to the following. You can use the operation ID (`f10f34e32c40a710`, in this case) to get the status of the task. For an example, see [Getting an operation's status \(#get-operation\)](#):

```
{
  "name": "projects/project-id/locations/location-id/operations/f10f34e32c40a710"
}
```

After the long-running operation completes you can get the details of the import operation. The response should look similar to the following:

```
{
  "name": "locations/location-id/operations/f10f34e32c40a710",
  "metadata": {
    "@type": "type.googleapis.com/google.cloud.vision.v1.BatchOperationMetadata",
    "state": "SUCCESSFUL",
    "submitTime": "2019-12-06T21:16:04.476466873Z",
    "endTime": "2019-12-06T21:16:40.594258084Z"
  },
  "done": true,
  "response": {
    "@type": "type.googleapis.com/google.cloud.vision.v1.ImportProductSetsResponse",
    "referenceImages": [
      {
        "name": "projects/project-id/locations/location-id/products/product_id0/re",
        "uri": "gs://my-storage-bucket/img_039.jpg"
      },
      {
        "name": "projects/project-id/locations/location-id/products/product_id1/re",
        "uri": "gs://my-storage-bucket/img_105.jpg"
      },
      {
        "name": "projects/project-id/locations/location-id/products/product_id2/re",
        "uri": "gs://my-storage-bucket/img_224.jpg"
      },
      {
        "name": "projects/project-id/locations/location-id/products/product_id3/re",
        "uri": "gs://my-storage-bucket/img_385.jpg"
      }
    ],
    "statuses": [
      {},
      {},
      {},
      {}
    ]
  }
}
```

```
]
}
}
```

Common import error messages include:

- **The number of columns in the csv line should be 8:** If you're not providing a bounding box, the line must end with a comma. For example:

```
"gs://example-reference-images/10002-002/10002-002_B.jpg", "sample-set", "sample-
```

- **Image not found:** Your Google Cloud Storage URI does not resolve to an image file.
- **Access denied:** Either your image or your CSV file does not have the correct permissions. Image files must be accessible by the authentication method used for your request. If you are authenticating with an API Key, then your CSV files must be public.

Indexing

The Product Search index of products is updated approximately every 30 minutes. When images are added or deleted, the change won't be reflected in your Product Search responses until the index is next updated.

To make sure that indexing has completed successfully, check the [indexTime](#)

(<https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.productSets#ProductSet>)

field of a product set.

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