

[Cloud Vision API Product Search](#)

Searching for Products

Once you have [created your product set](#)

(<https://cloud.google.com/vision/product-search/docs/create-product>) and the product set has been indexed, you can query the product set using the Cloud Vision API.

Matching product search

You can find similar products to a given image by passing the image's Google Cloud Storage URI, web URL, or [base64 encoded string](#)

(<https://cloud.google.com/vision/product-search/docs/base64>) to Cloud Vision API Product Search. Refer to the [Usage Limits](#) (<https://cloud.google.com/vision/docs/limits>) for maximum request size and quota information.

See the [Understanding search responses & multi-detection](#)

(<https://cloud.google.com/vision/product-search/docs/searching-response>) topic for an example of single product detection and multi-detection of products in an image.

Search using a local image

The following samples read a local file and query the API by including inline the raw image bytes (base64 encoded image) in the request.

[REST & CMD LINE](#)

[C#](#)

[GO](#)

[MORE](#) ▾

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

- **base64-encoded-image**: The base64 representation (ASCII string) of your binary image data. This string should look similar to the following string:

- `/9j/4QAYRXhpZgAA...9tAVx/zDQDlGxn//2Q==`

Visit the [base64 encode](#) (<https://cloud.google.com/vision/product-search/docs/base64>) topic for more information.

- **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-set-id**: The ID for the product set you want to run the operation on.

Field-specific considerations:

- `features.maxResults` - The maximum number of results to be returned.
- `imageContext.productCategories` - The product category to search in. Currently you can only specify one product category (homegoods, apparel, toys, packaged goods, and general).
- `imageContext.filter` - A key-value filtering expression (or multiple expressions) for product label. Format: "key=value". Filtering key-value pairs can be linked with AND or OR expressions: "color=blue AND style=mens", or "color=blue OR color=black". If using the OR expression **all keys in the expression must be the same**.

HTTP method and URL:

POST <https://vision.googleapis.com/v1/images:annotate>

Request JSON body:

```
{
  "requests": [
    {
      "image": {
        "content": base64-encoded-image
      },
      "features": [
        {
          "type": "PRODUCT_SEARCH",
          "maxResults": 5
        }
      ],
      "imageContext": {
        "productSearchParams": {
          "productSet": "projects/project-id/locations/location-id/productSets/pro
          "productCategories": [
            "apparel"
          ],
          "filter": "style = womens"
        }
      }
    }
  ]
}
```

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/images:annotate
```

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

The response JSON includes the two following result types:

- **productSearchResults** - Contains a list of matching products for the entire image. In the sample response the matching products are: `product_id65`, `product_id35`, `product_id34`, `product_id62`, `product_id32`.
- **productGroupedResults** - Contains bounding box coordinates and matching items for *each* product identified in the image. In the following response there is only one product identified, followed by matching products in the sample product set: `product_id65`, `product_id35`, `product_id34`, `product_id93`, `product_id62`.

Note that while there is overlap in the two result types, there may also be differences (for example, `product_id32` and `product_id93` in the response).

Note: Zero coordinate values omitted. When the API detects a coordinate ("x" or "y") value of 0, *that coordinate is omitted in the JSON response*. Thus, a response with a bounding poly around the entire image would be

`[{"x": 1}, {"x": 1, "y": 1}, {"y": 1}]`. For more information, see the [API Reference documentation](https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#boundingpoly) (<https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#boundingpoly>)

Response

```
{
  "responses": [
    {
      "productSearchResults": {
        "indexTime": "2019-09-04T21:03:35.662099907Z",
        "results": [
          {
            "product": {
              "name": "projects/project-id/locations/location-id/products/product_",
              "displayName": " ",
              "productCategory": "apparel",
              "productLabels": [
                {
                  "key": "style",
                  "value": "women"
                },
                {
                  "key": "category",
                  "value": "dress"
                }
              ]
            },
            "score": 0.38946953,
            "image": "projects/project-id/locations/location-id/products/product_i"
          },
          {
            "product": {
              "name": "projects/project-id/locations/location-id/products/product_",
              "displayName": " ",
              "productCategory": "apparel",
              "productLabels": [
                {
                  "key": "style",
                  "value": "women"
                },
                {
                  "key": "category",
                  "value": "dress"
                }
              ]
            },
            "score": 0.3847863,
```

```
"image": "projects/project-id/locations/location-id/products/product_i
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/product_
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.33896044,
  "image": "projects/project-id/locations/location-id/products/product_i
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/product_
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.32509044,
  "image": "projects/project-id/locations/location-id/products/product_i
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/product_
    "displayName": " ",
    "productCategory": "apparel",
```

```
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.3237155,
  "image": "projects/project-id/locations/location-id/products/product_i
},
"productGroupedResults": [
  {
    "boundingPoly": {
      "normalizedVertices": [
        {
          "x": 0.00458825,
          "y": 0.11000001
        },
        {
          "x": 0.988353,
          "y": 0.11000001
        },
        {
          "x": 0.988353,
          "y": 0.9290588
        },
        {
          "x": 0.00458825,
          "y": 0.9290588
        }
      ]
    },
    "results": [
      {
        "product": {
          "name": "projects/project-id/locations/location-id/products/prod
          "displayName": " ",
          "productCategory": "apparel",
          "productLabels": [
            {
```

```
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.41785678,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.3803885,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  }
}
```

```
    ]
  },
  "score": 0.36055994,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "shoe"
      },
      {
        "key": "kids",
        "value": "true"
      }
    ]
  },
  "score": 0.33286288,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.32263064,
```



```
    "image": "projects/project-id/locations/location-id/products/produ
  }
],
"objectAnnotations": [
  {
    "mid": "/m/01d40f",
    "name": "Dress",
    "score": 0.95488
  }
]
}
]
```

Search using a remote image

You also have the option of finding similar products to a given image by specifying the Google Cloud Storage URI to the image.

[REST & CMD LINE](#)[C#](#)[GO](#)[MORE ▾](#)

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

- ***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:
 -
- ***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-set-id***: The ID for the product set you want to run the operation on.

Field-specific considerations:

- `features.maxResults` - The maximum number of results to be returned.
- `imageContext.productCategories` - The product category to search in. Currently you can only specify one product category (homegoods, apparel, toys, packaged goods, and general).

- `imageContext.filter` - A key-value filtering expression (or multiple expressions) for product label. Format: "key=value". Filtering key-value pairs can be linked with AND or OR expressions: "color=blue AND style=womens", or "color=blue OR color=black". If using the OR expression **all keys in the expression must be the same**.

HTTP method and URL:

POST <https://vision.googleapis.com/v1/images:annotate>

Request JSON body:

```
{
  "requests": [
    {
      "image": {
        "source": {
          "gcsImageUri": "cloud-storage-image-uri"
        }
      },
      "features": [
        {
          "type": "PRODUCT_SEARCH",
          "maxResults": 5
        }
      ],
      "imageContext": {
        "productSearchParams": {
          "productSet": "projects/project-id/locations/location-id/productSets/pro"
          "productCategories": [
            "apparel"
          ],
          "filter": "style = womens"
        }
      }
    }
  ]
}
```

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/images:annotate
```

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

The response JSON includes the two following result types:

- `productSearchResults` - Contains a list of matching products for the entire image. In the sample response the matching products are: `product_id65`, `product_id35`, `product_id34`, `product_id62`, `product_id32`.
- `productGroupedResults` - Contains bounding box coordinates and matching items for *each* product identified in the image. In the following response there is only one product identified, followed by matching products in the sample product set: `product_id65`, `product_id35`, `product_id34`, `product_id93`, `product_id62`.

Note that while there is overlap in the two result types, there may also be differences (for example, `product_id32` and `product_id93` in the response).

Note: Zero coordinate values omitted. When the API detects a coordinate ("x" or "y") value of 0, *that coordinate is omitted in the JSON response*. Thus, a response with a bounding poly around the entire image would be

`[{"x": 1}, {"x": 1, "y": 1}, {"y": 1}]`. For more information, see the [API Reference documentation](https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#boundingpoly) (<https://cloud.google.com/vision/product-search/docs/reference/rest/v1/projects.locations.products.referenceImages#boundingpoly>)



Response

```
{
  "responses": [
    {
      "productSearchResults": {
        "indexTime": "2019-09-04T21:03:35.662099907Z",
        "results": [
          {
            "product": {
              "name": "projects/project-id/locations/location-id/products/product_",
              "displayName": " ",
              "productCategory": "apparel",
              "productLabels": [
                {
                  "key": "style",
                  "value": "women"
                },
                {
                  "key": "category",
                  "value": "dress"
                }
              ]
            },
            "score": 0.38946953,
            "image": "projects/project-id/locations/location-id/products/product_i"
          },
          {
            "product": {
              "name": "projects/project-id/locations/location-id/products/product_",
              "displayName": " ",
              "productCategory": "apparel",
              "productLabels": [
                {
                  "key": "style",
                  "value": "women"
                },
                {
                  "key": "category",
                  "value": "dress"
                }
              ]
            },
            "score": 0.3847863,
            "image": "projects/project-id/locations/location-id/products/product_i"
          },
          {

```

```
"product": {
  "name": "projects/project-id/locations/location-id/products/product_
  "displayName": " ",
  "productCategory": "apparel",
  "productLabels": [
    {
      "key": "style",
      "value": "women"
    },
    {
      "key": "category",
      "value": "dress"
    }
  ]
},
"score": 0.33896044,
"image": "projects/project-id/locations/location-id/products/product_i
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/product_
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.32509044,
  "image": "projects/project-id/locations/location-id/products/product_i
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/product_
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
```

```
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.3237155,
  "image": "projects/project-id/locations/location-id/products/product_i
}
],
"productGroupedResults": [
{
  "boundingPoly": {
    "normalizedVertices": [
      {
        "x": 0.00458825,
        "y": 0.11000001
      },
      {
        "x": 0.988353,
        "y": 0.11000001
      },
      {
        "x": 0.988353,
        "y": 0.9290588
      },
      {
        "x": 0.00458825,
        "y": 0.9290588
      }
    ]
  },
  "results": [
    {
      "product": {
        "name": "projects/project-id/locations/location-id/products/prod
        "displayName": " ",
        "productCategory": "apparel",
        "productLabels": [
          {
            "key": "style",
            "value": "women"
          }
        ]
      }
    }
  ]
}
```

```
    {
      "key": "category",
      "value": "dress"
    }
  ]
},
"score": 0.41785678,
"image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.3803885,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.36055994,
```

```
"image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "shoe"
      },
      {
        "key": "kids",
        "value": "true"
      }
    ]
  },
  "score": 0.33286288,
  "image": "projects/project-id/locations/location-id/products/produ
},
{
  "product": {
    "name": "projects/project-id/locations/location-id/products/prod
    "displayName": " ",
    "productCategory": "apparel",
    "productLabels": [
      {
        "key": "style",
        "value": "women"
      },
      {
        "key": "category",
        "value": "dress"
      }
    ]
  },
  "score": 0.32263064,
  "image": "projects/project-id/locations/location-id/products/produ
}
],
```



```
"objectAnnotations": [  
  {  
    "mid": "/m/01d40f",  
    "name": "Dress",  
    "score": 0.95488  
  }  
]
```

Except as otherwise noted, the content of this page is licensed under the [Creative Commons Attribution 4.0 License](https://creativecommons.org/licenses/by/4.0/) (https://creativecommons.org/licenses/by/4.0/), and code samples are licensed under the [Apache 2.0 License](https://www.apache.org/licenses/LICENSE-2.0) (https://www.apache.org/licenses/LICENSE-2.0). For details, see our [Site Policies](https://developers.google.com/terms/site-policies) (https://developers.google.com/terms/site-policies). Java is a registered trademark of Oracle and/or its affiliates.

Last updated December 11, 2019.