

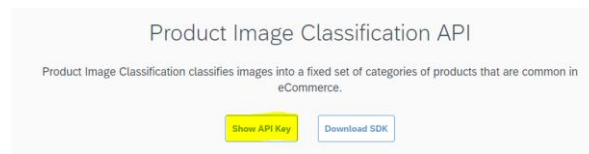
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Exploring the SAP Leonardo Product Image Classification API

- 1- Go to [SAP Leonardo Product Image Classification API](#) in the SAP API Business Hub.
- 2- Sign in with your **SAP s-user**
- 3- Press **Show API Key** and take note of the API Key.



- 4- Explore the **inference_sync** method and press on Try out:

POST

/inference_sync

Try out

Code Snippet

The Product Image Classification service (synchronous) accepts **archive files** with .zip extension, multiple **image files** on different image formats like .jpeg, .png, .tif, or .bmp as input and returns a classification list with its probabilities.

Parameters

Try out

Name	Description
files	This parameter is required.
file (formData)	<p>The list of file(s) to be uploaded.</p> <p>Either one archive file, one image file, or multiple image files are supported:</p> <ul style="list-style-type: none"> Image files - <i>different image formats, such as .jpeg, .png, .tif, or .bmp</i> Archive files - <i>one file with the format '/zip'</i>

- 5- Upload an image of your choice, execute and check the results:

200

Response body

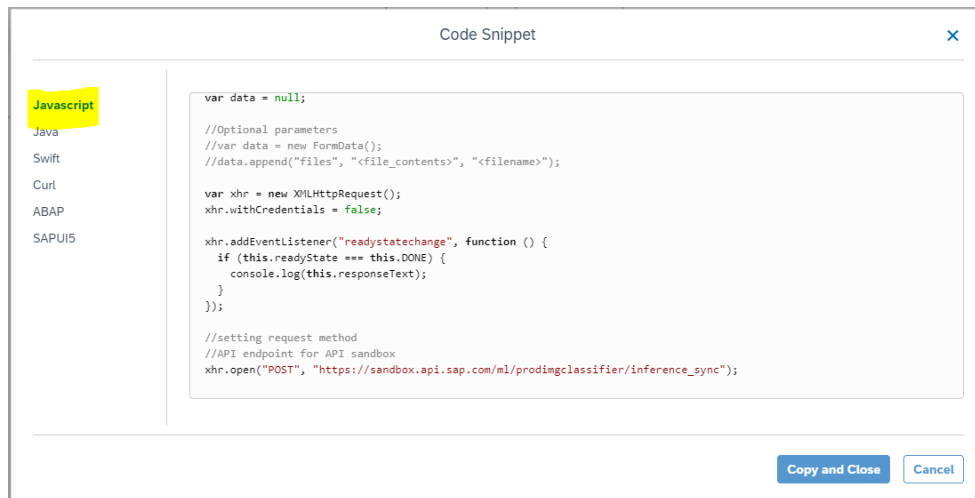
```

{
  "_id": "5b88a66e-04f4-4676-ac15-ce5de48d357e",
  "predictions": [
    {
      "name": "hp-printer.jpg.jpg",
      "results": [
        {
          "label": "notebooks & accessories",
          "score": 0.998468
        },
        {
          "label": "tablets",
          "score": 0.001295
        },
        {
          "label": "computer monitors & workstations",
          "score": 0.000185
        },
        {
          "label": "keyboards",
          "score": 0.000033
        }
      ]
    }
  ]
}

```

Download

6- Press **Code Snippet** (top on the right) to check how to call the API in different languages:



Exploring the Google Custom Search Engine API

- 1- Sign in your Google account and create your [Custom Search Engine](#)
- 2- Add your e-commerce favorite sites and specify your language and search engine name. **Create.**

New search engine

Enter the site name and click "Create" to create a search engine for your site. [Learn more](#)

▸ Edit search engine

▼ Help

- Help Center
- Help forum
- Blog
- Documentation
- Terms of Service
- Visit Help Forum (Ask a question)
- Send Feedback

Sites to search

You can add any of the following:

Individual pages: `www.example.com/page.html`
Entire site: `www.mysite.com/*`
Parts of site: `www.example.com/docs/*` or `www.example.com/docs/`
Entire domain: `*.example.com`

If you want to search pages over entire web containing specific schema.org markups, click on "advanced" below.

Language ⓘ

Name of the search engine

▸ Advanced Options

By clicking 'Create', you agree with the [Terms of Service](#).

- 3- Go to Control Panel

Congratulations!

You've successfully created your Custom search engine.

Add it to your site	<input type="button" value="Get code"/>
View it on the web	<input type="text" value="Public URL"/>
Modify your search engine	<input type="text" value="Control Panel"/>

- 4- Make sure Image Search is **enabled** and take note of the Search Engine ID (**cx**)

This screenshot shows the configuration page for a Google Custom Search Engine. It includes fields for 'Edition' (Free, with ads), 'Search engine ID' (007466190731287191812:b...-ylu), and 'Public URL' (https://cse.google.com/cse?cx=007466190731287191812:b...-ylu). There are also toggle switches for 'Image search' (ON) and 'Safe Search' (OFF). Buttons for 'Get code' and 'Copy to clipboard' are visible.

- 5- In programmatic Access press Get Started.

This screenshot shows the 'Programmatic Access' section with two options: 'Custom Search JSON API' (Limit of 10,000 queries per day) and 'Custom Search Site Restricted JSON API' (No daily query limit). Both options have a 'Get started' button.

- 6- You need to get a key in order to consume the Custom Search Engine API. Press **GET A KEY**

Custom Search JSON API requires the use of an API key. An API key is a way to identify your client to Google.

- Custom Search Engine (free edition) users: **GET A KEY**

- 7- Create a new project and press **NEXT**.

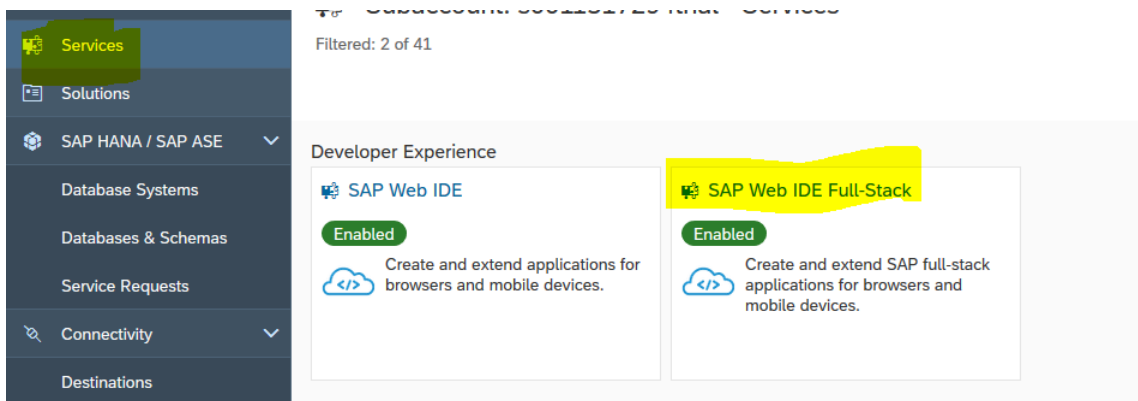
This screenshot shows the 'Enable Custom Search API' dialog. It prompts the user to 'Enter new project name' with the text 'LeonardoDemo' entered. At the bottom, there are 'BACK', 'CANCEL', and 'NEXT' buttons.

- 8- Take note of the API KEY

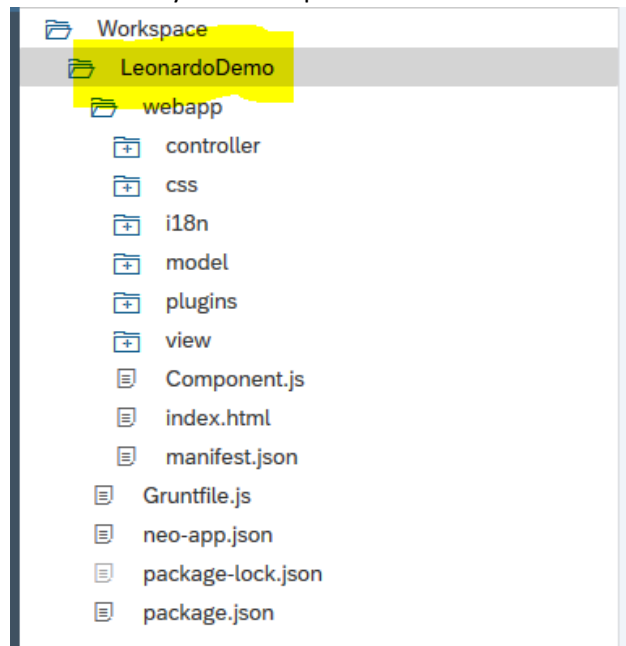
This screenshot shows the 'You're all set!' dialog. It states 'You're ready to start developing with Custom Search API' and displays the 'YOUR API KEY' as 'AIzaSyD7tcQ0IcFDhZpvdnKrm7ca5Xyuh...'. A 'DONE' button is at the bottom right.

Fiori App on SAP Cloud Platform

- 1- Go to the [Github repository](#) and download the Fiori Sample App
- 2- Download the LeonardoDemo zip file.
- 3- Sign in your [SAP Cloud Platform Trial](#) account
- 4- Go to services and then enable and go to the **WebIDE** service.



- 5- Import the Zip you have downloaded into your workspace.



- 6- Go to Workspace->LeonardoDemo->webapp->controller->Home.controller.js and specify the three keys you obtained in previous steps (SAP API Key, cx, google API KEY)

```
sap.ui.define([
    "sap/ui/core/mvc/Controller",
    "sap/ui/model/json/JSONModel",
    "../plugins/jquery-image-blob.min",
    "sap/m/MessageToast"
], function(Controller, JSONModel, imageblob, MessageToast) {
    "use strict";

    return Controller.extend("ml1leonardoBlogM1-controller.Home", {
        googleAPICx: "<google_search_engine_id> (cx)",
        googleAPIKey: "<google_api_key>",
        sapLeonardoAPIKey: "<sap_api_key>",

        googleAPIEndPoint: "https://www.googleapis.com/customsearch/v1",
        sapLeonardoAPIEndPoint: "https://sandbox.api.sap.com/ml/prodimgclassifier/inference_sync",

        aImgList: {
            "imgGoogleCollection": [],
            "imgLeonardoCollection": []
        },
        iCounter: 0,
    });
});
```

7- Check the rest of the code.




8- Run the app and play with it..

SAP Leonardo Machine Learning - Image Product Classification

Hide Filter Bar Filters **Go**

Search String: Date Restriction: Leonardo Classification: ☒ Leonardo Categorization: ☐

Products

Product	Description	Link	Leonardo Label	Leonardo Score
	Amazon.com: HP 15-F222WM 15.6" Touch Screen Laptop (Intel ...	www.amazon.com	notebooks & accessories	99.8 ▲ %
	Amazon.com: HP 15.6-inch Laptop PC, AMD Quad-Core APU 2.0 ...	www.amazon.com	notebooks & accessories	99.3 ▲ %
	Amazon.com: HP OfficeJet Pro 6978 All-in-One Wireless Printer with ...	www.amazon.com	printers & accessories	97.9 ▲ %

Images classified by SAP Leonardo!