

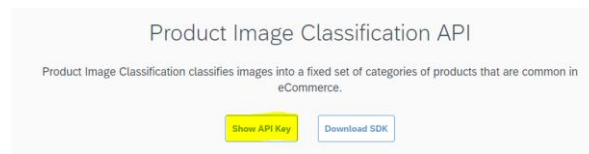
SAP Inside Track Barcelona October 26th 2018 – #sitBCN

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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

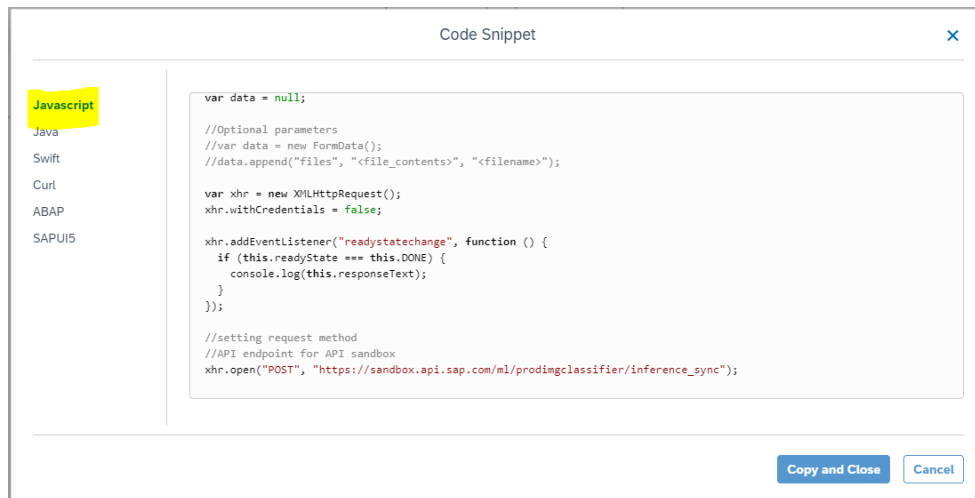
```

{
  "_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**)

Edition Free, with ads.	Get code
Search engine ID 007466190731287191812:b_...-ylu	Copy to clipboard
Public URL https://cse.google.com/cse?cx=007466190731287191812:b_...-ylu	
Image search	ON
Safe Search	OFF

- 5- In programmatic Access press Get Started.

Programmatic Access	
Custom Search JSON API Limit of 10,000 queries per day.	Get started
Custom Search Site Restricted JSON API No daily query limit.	Get started

- 6- You need to get a key in order yo 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**.

Enable Custom Search API

Enter new project name
LeonardoDemo

BACK CANCEL NEXT

- 8- Take note of the API KEY

You're all set!

You're ready to start developing with Custom Search API

YOUR API KEY
AIzaSyD7tcQ0IcFDhZpvdM7cm7ca5Xyuh...

To improve your app's security, restrict this key's usage in the [API Console](#).

DONE

Fiori App on SAP Cloud Platform

- 1- Go to the [Github repository](#) and download the Fiori Sample App
- 2- Download the LeonardoDemo zip file.

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5 commits 1 branch 0 releases 1 contributor GPL-3.0

Branch: master New pull request Create new file Upload files Find file Clone or download

Commit	Message	Time
gharbi79sap Update README.md	Latest commit ab2e542 just now	
LICENSE	Initial commit	14 hours ago
LeonardoDemo.zip	Add files via upload	9 minutes ago
README.md	Update README.md	just now
sitBarcelona 2018 - SAP Leonardo Product Image Classification API Hand...	Add files via upload	9 minutes ago

README.md

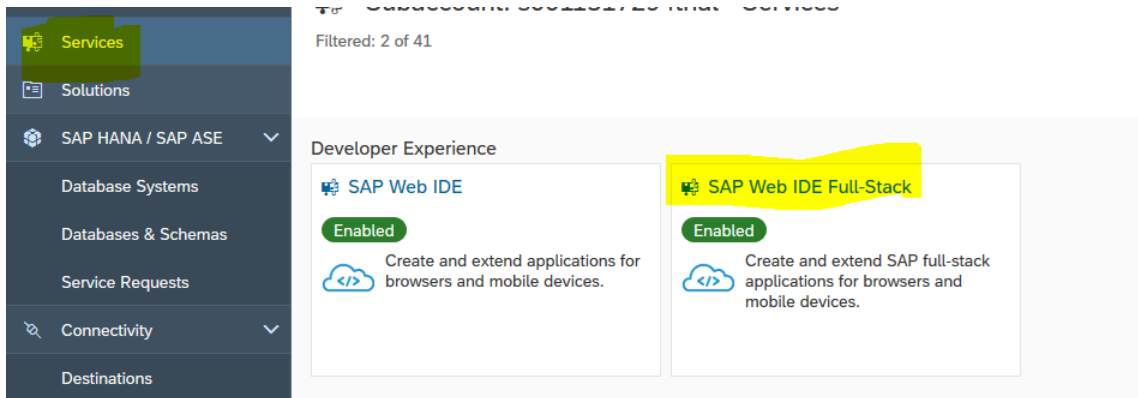
sitBarcelona2018

This is a Demo to show how a Fiori App deployed on the SAP Cloud Platform consumes SAP Leonardo Machine Learning Product Image Classification API and the Google Custom Search Engine API in order to classify images on internet without downloading them to a local server.

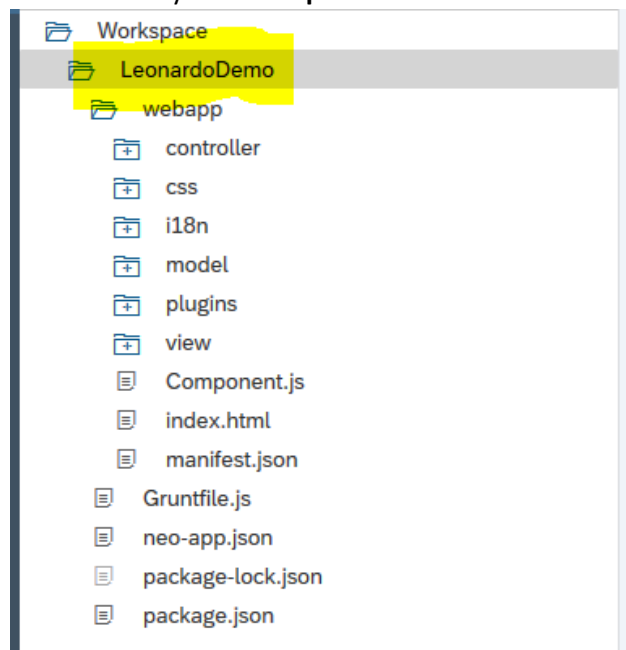
More details in my Blog: <https://blogs.sap.com/2018/04/12/sap-leonardo-machine-learning-product-image-classification-api/>

1 - Download the Fiori app Zip file 2 - Download the Hands-on PDF and follow instructions.

- 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("mlleonardo@ml1.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

Search String: Date Restriction: Leonardo Classification: ☒ Leonardo Categorization: ☐ Hide Filter Bar Filters Go

Products

Product	Description	Link	Leonardo Label	Leonardo Score
	Amazon.com: HP 15-F222WM 15.6\"	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!

9- Check more details in my [SAP Community Blog](#)