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Recitation 101

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What is an API?

An API (Application Programming Interface) is an interface (a set of commands/subroutines) for a computer program to interact with an external application/server to collect data from it or create new data.

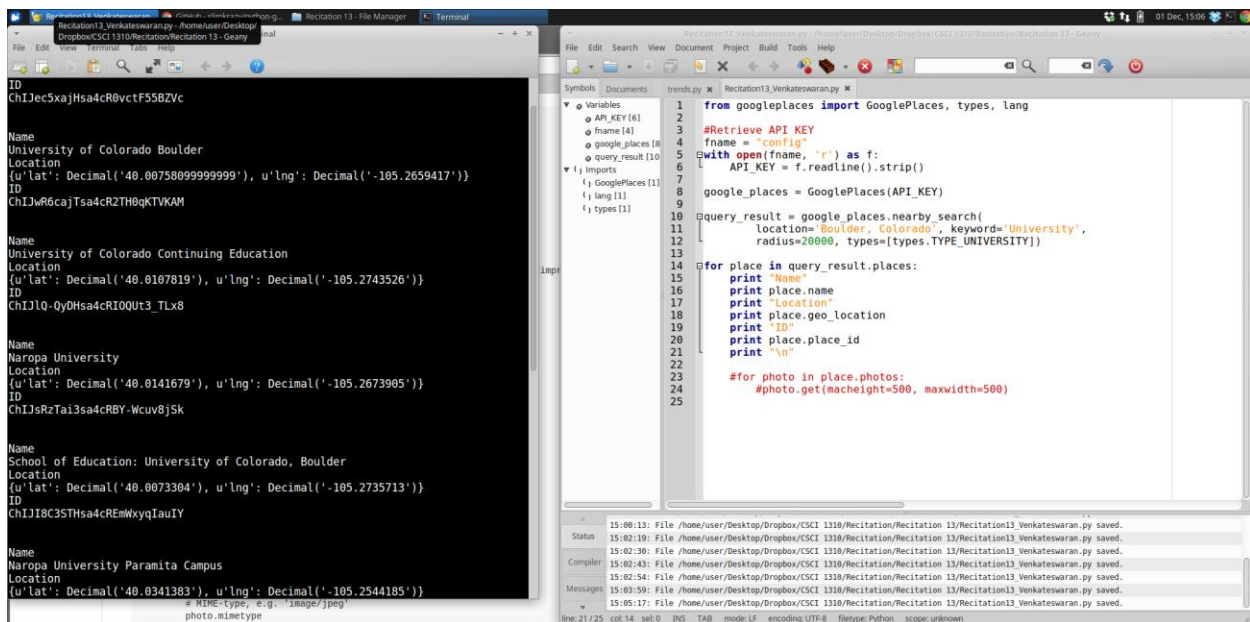
What is an API Key?

An API Key is a credential that is used to access the said server. This is enforced for security purposes and restrict the number of queries a program can make. Usually, it comes with an API Secret and both of these must be kept confidential – especially when sharing code on platforms like GitHub and deploying applications on a website. It must not be readable by another human.

What can you accomplish with an API?

Many interesting things can be done using API's. We can collect data from external databases to analyze them (like the final project). We can also create new data – like posting on twitter without using a browser. For example, we can search for locations, display a map with a custom marker, calculate custom routes with the google maps API. With the Facebook API, we can create a custom bot to automate chatting with clients. Often, companies devise market strategies using Google analytics API. We can also create custom features for our product.

Screenshot



```
1 from googleplaces import GooglePlaces, types, lang
2
3 #Retrieve API KEY
4 fname = "config"
5 with open(fname, 'r') as f:
6     API_KEY = f.readline().strip()
7
8 google_places = GooglePlaces(API_KEY)
9
10 query_result = google_places.nearby_search(
11     location='Boulder, Colorado', keyword='University',
12     radius=20000, types=[types.TYPE_UNIVERSITY])
13
14 for place in query_result.places:
15     print "Name"
16     print place.name
17     print "Location"
18     print place.geo_location
19     print "ID"
20     print place.place_id
21     print "\n"
22
23 #for photo in place.photos:
24     #photo.get(maxheight=500, maxwidth=500)
25
```

```
ID
ChIJec5xajHsa4cR0vctf55B2Vc

Name
University of Colorado Boulder
Location
{'u'lat': Decimal('40.00738099999999'), 'u'lng': Decimal('105.2659417')}
ID
ChIJwR6cajTsa4cR2TH0qKTVKAM

Name
University of Colorado Continuing Education
Location
{'u'lat': Decimal('40.0107819'), 'u'lng': Decimal('105.2743526')}
ID
ChIJlQ-0yDhsa4cR10QUt3_TLx8

Name
Naropa University
Location
{'u'lat': Decimal('40.0141679'), 'u'lng': Decimal('105.2673905')}
ID
ChIJsrZai3sa4cRBY-Wcuv8j5K

Name
School of Education: University of Colorado, Boulder
Location
{'u'lat': Decimal('40.0073384'), 'u'lng': Decimal('105.2735713')}
ID
ChIJ8C3THsa4cREmWxyqIauIY

Name
Naropa University Paramita Campus
Location
{'u'lat': Decimal('40.0341383'), 'u'lng': Decimal('105.2544185')}
RIME-type, e.g. "image/jpeg"
photo.mimetype
```