**Social Media Analytics Lab**

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**Lab 8. Retrieving the user’s LinkedIn Profile and analysing the profile’s connections**

In this lab, you need to access your LinkedIn profile and get the connections and perform some pre-processing steps on the data

1. Access the LinkedIn API and create an app and retrieve the API key and Secret key through the "Developer" section of your account settings by navigating directly to <https://www.linkedin.com/secure/developer>.
2. Use LinkedIn OAuth credentials to receive an access token suitable for development and access your own data

import requests

import string

import random

CLIENT\_ID = ''

CLIENT\_SECRET = ''

REDIRECT\_URI = 'http://localhost'

# Generate a random string to protect against cross-site request forgery

letters = string.ascii\_lowercase

CSRF\_TOKEN = ''.join(random.choice(letters) for i in range(24))

auth\_params = {'response\_type': 'code',

'client\_id': CLIENT\_ID,

'redirect\_uri': REDIRECT\_URI,

'state': CSRF\_TOKEN,

'scope': 'r\_liteprofile,r\_emailaddress,w\_member\_social'}

html = requests.get("https://www.linkedin.com/oauth/v2/authorization",

params = auth\_params)

# Print the link to the approval page

print(html.url)

1. Inspect the address bar of your browser once you reach your redirect page and Copy the code after '&code=...', but don't include '&state=...' and paste it in the code below

AUTH\_CODE =’ ’

ACCESS\_TOKEN\_URL = 'https://www.linkedin.com/oauth/v2/accessToken'

qd = {'grant\_type': 'authorization\_code',

'code': AUTH\_CODE,

'redirect\_uri': REDIRECT\_URI,

'client\_id': CLIENT\_ID,

'client\_secret': CLIENT\_SECRET}

response = requests.post(ACCESS\_TOKEN\_URL, data=qd, timeout=60)

response = response.json()

access\_token = response['access\_token']

print ("Access Token:", access\_token)

print ("Expires in (seconds):", response['expires\_in'])

1. Make a HTTP request to access personal profile

import json

params = {'oauth2\_access\_token': access\_token,

'fields': ["localizedFirstName,localizedLastName,id"]}

response = requests.get('https://api.linkedin.com/v2/me', params = params)

print(json.dumps(response.json(), indent=1))

1. Download your LinkedIn profile data and read the connections data as a CSV file from the URL <https://www.linkedin.com/psettings/member-data>
2. Apply some transformations to the connections dataset and retrieve the following:
   1. Find the list of associated organisations and get the frequency
   2. Find the list of professional titles and the associated frequency